

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
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003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
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Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

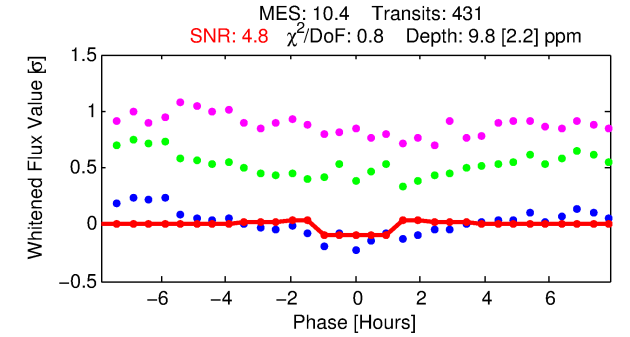
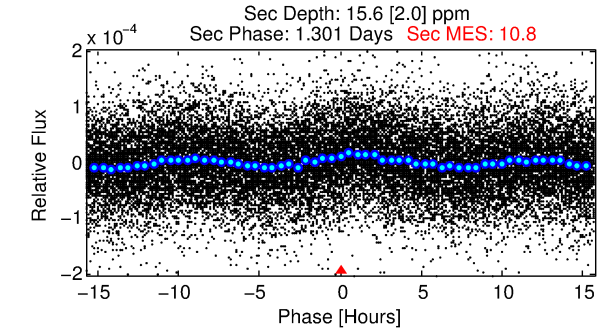
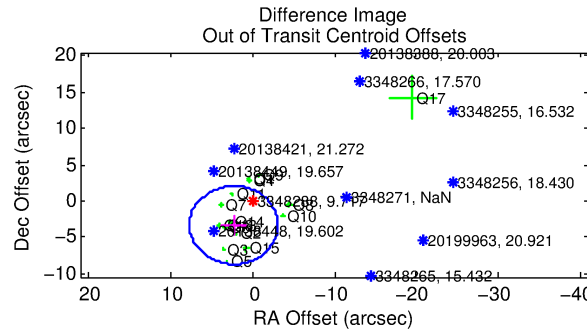
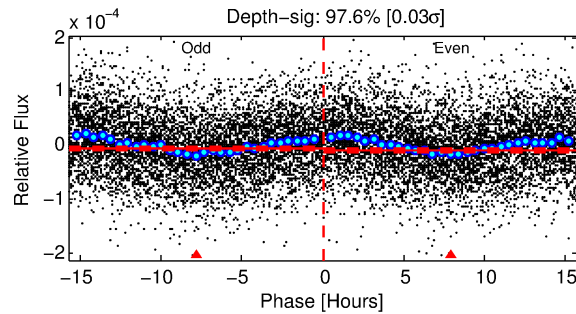
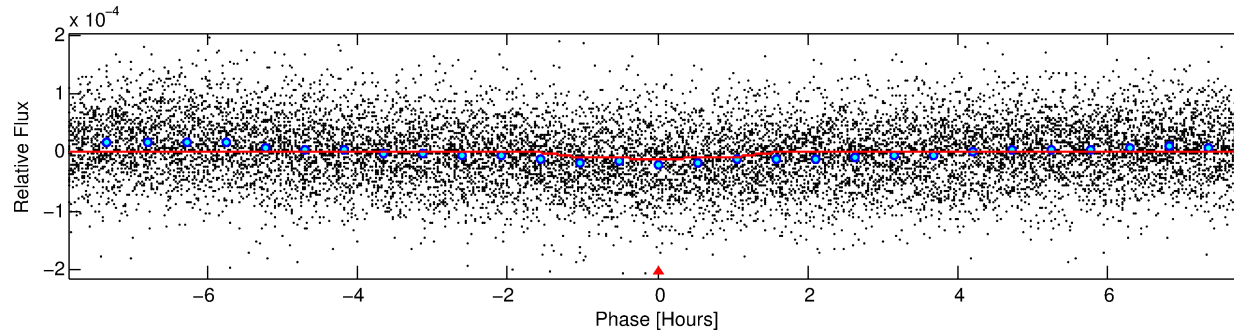
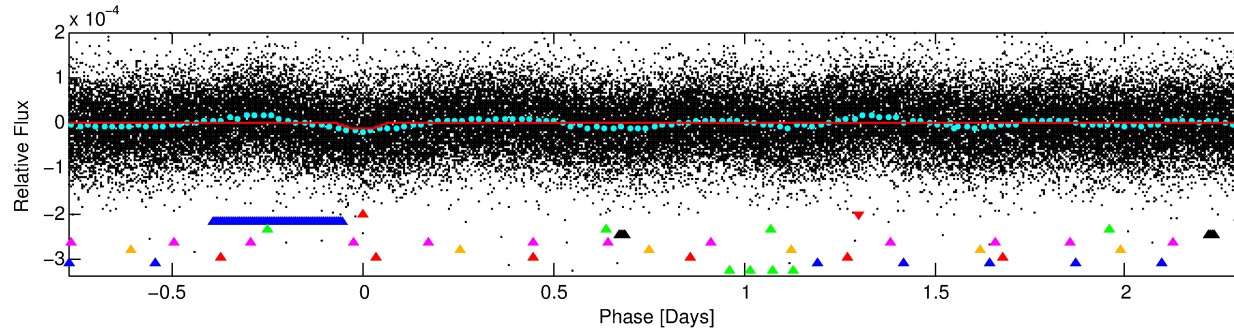
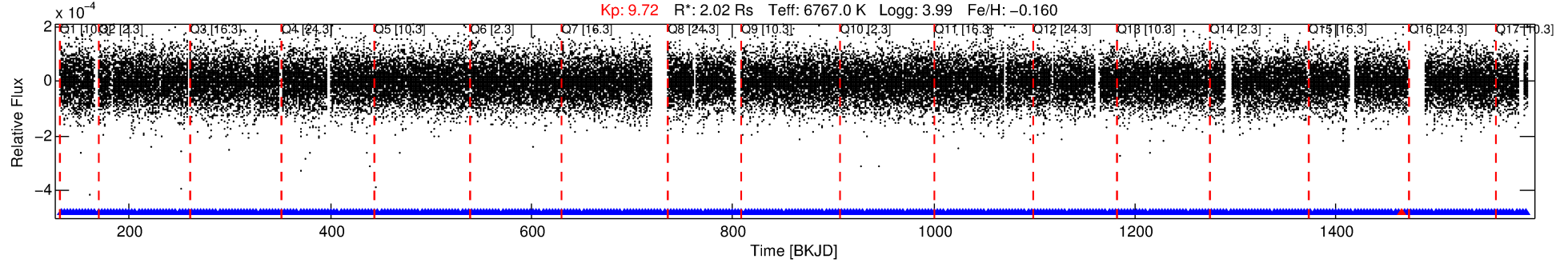
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-01

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 1 of 9 Period: 3.092 d



DV Fit Results:

Period = 3.09213 [0.00003] d
Epoch = 132.1199 [0.0049] BKJD
Rp/R* = 0.0030 [0.0006]
a/R* = 7.07 [6.01]
b = 0.63 [0.84]
Seff = 3474.50 [1472.94]
Teq = 1958 [207] K
Rp = 0.67 [0.24] Re
a = 0.0469 [0.0125] AU
Ag = 42.18 [24.38] [1.69σ]
Teffp = 7714 [815] K [6.84σ]

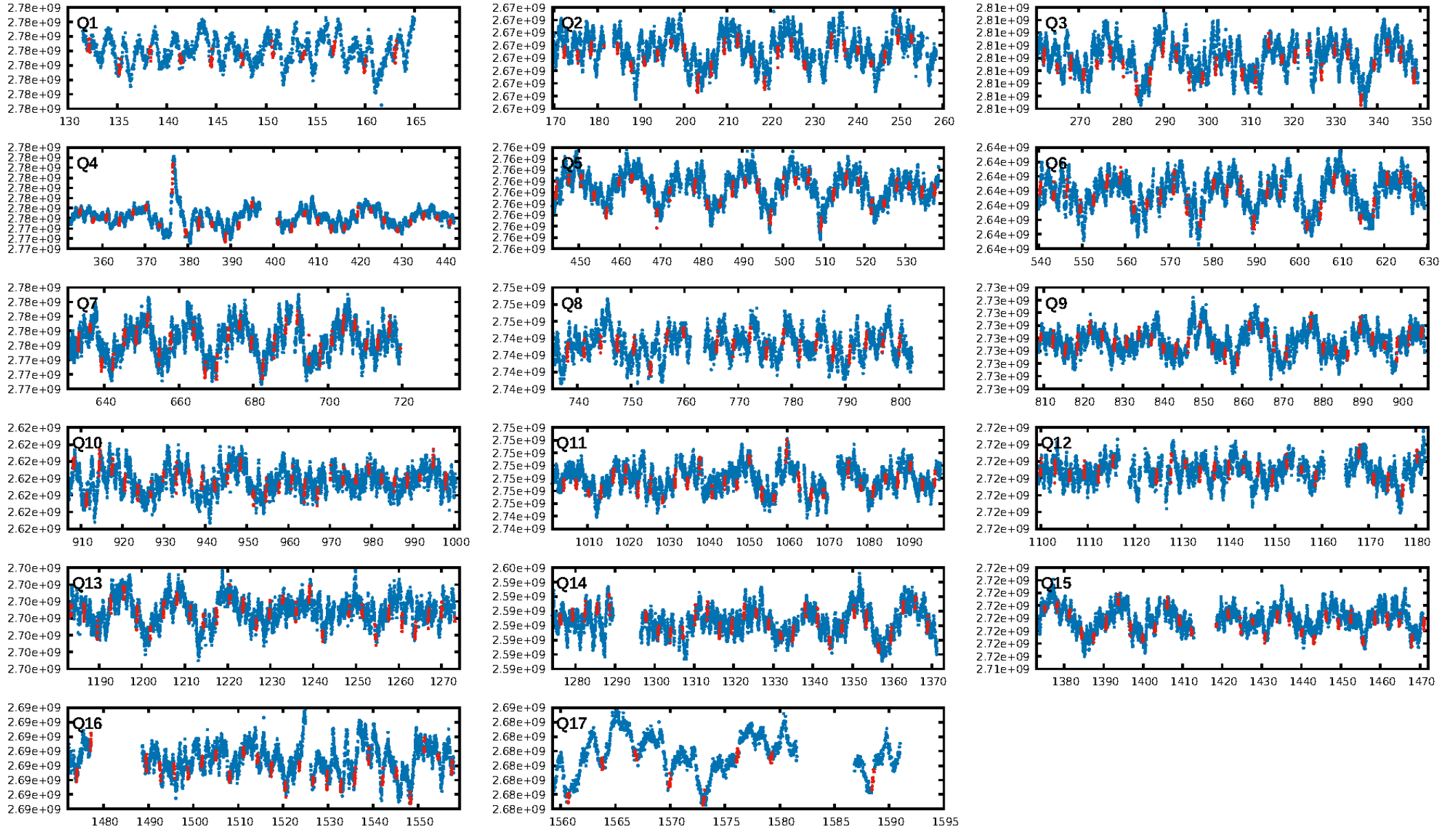
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [73.57σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [411/412]
GhostDiagnostic-chr: N/A
Centroid-sig: 2.0%
Centroid-so: 4.459 arcsec [1.67σ]
OotOffset-rm: 4.071 arcsec [2.27σ]
KicOffset-rm: 4.270 arcsec [2.19σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.00 [0/17]

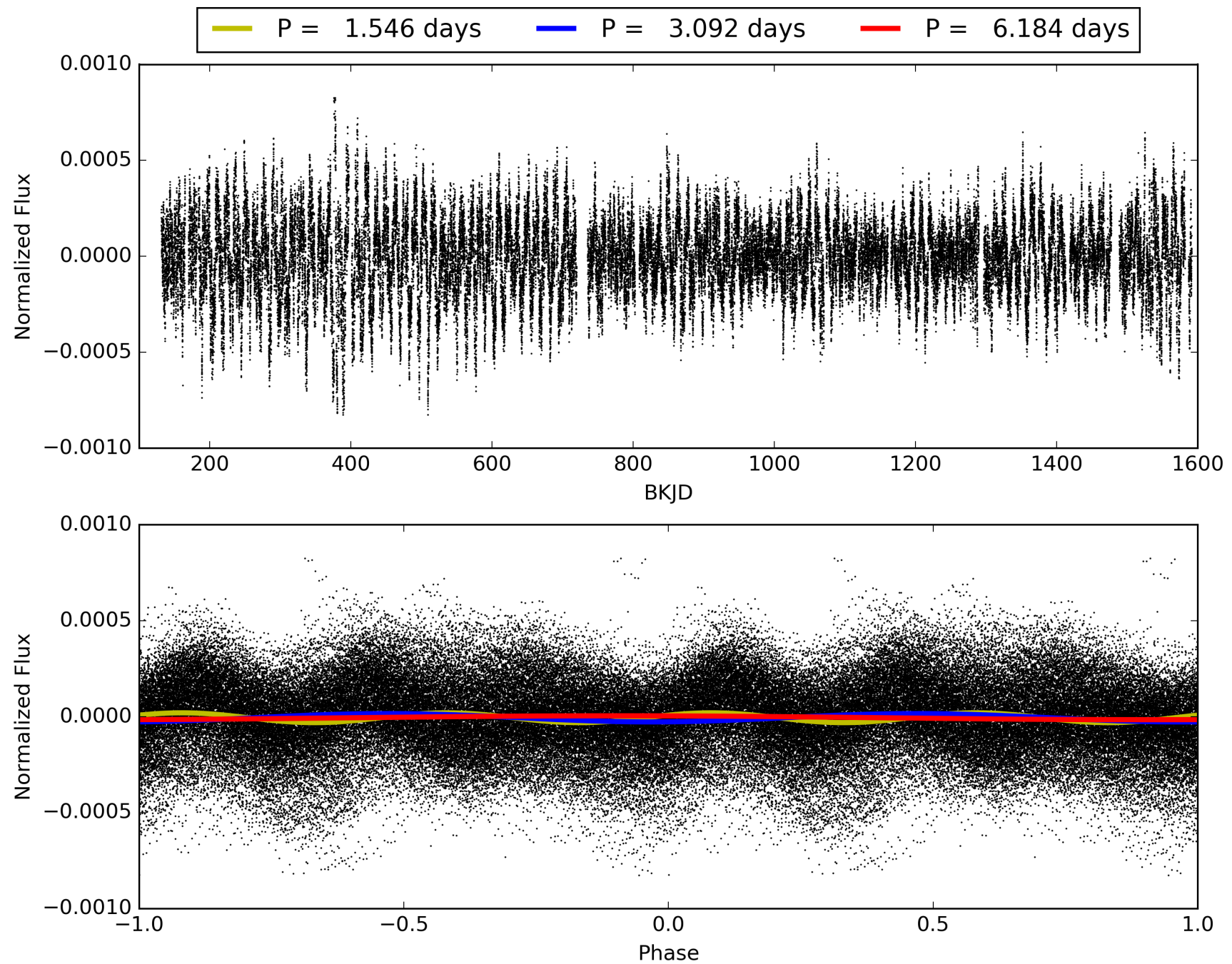
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:56:23 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-01, PDC Light Curves

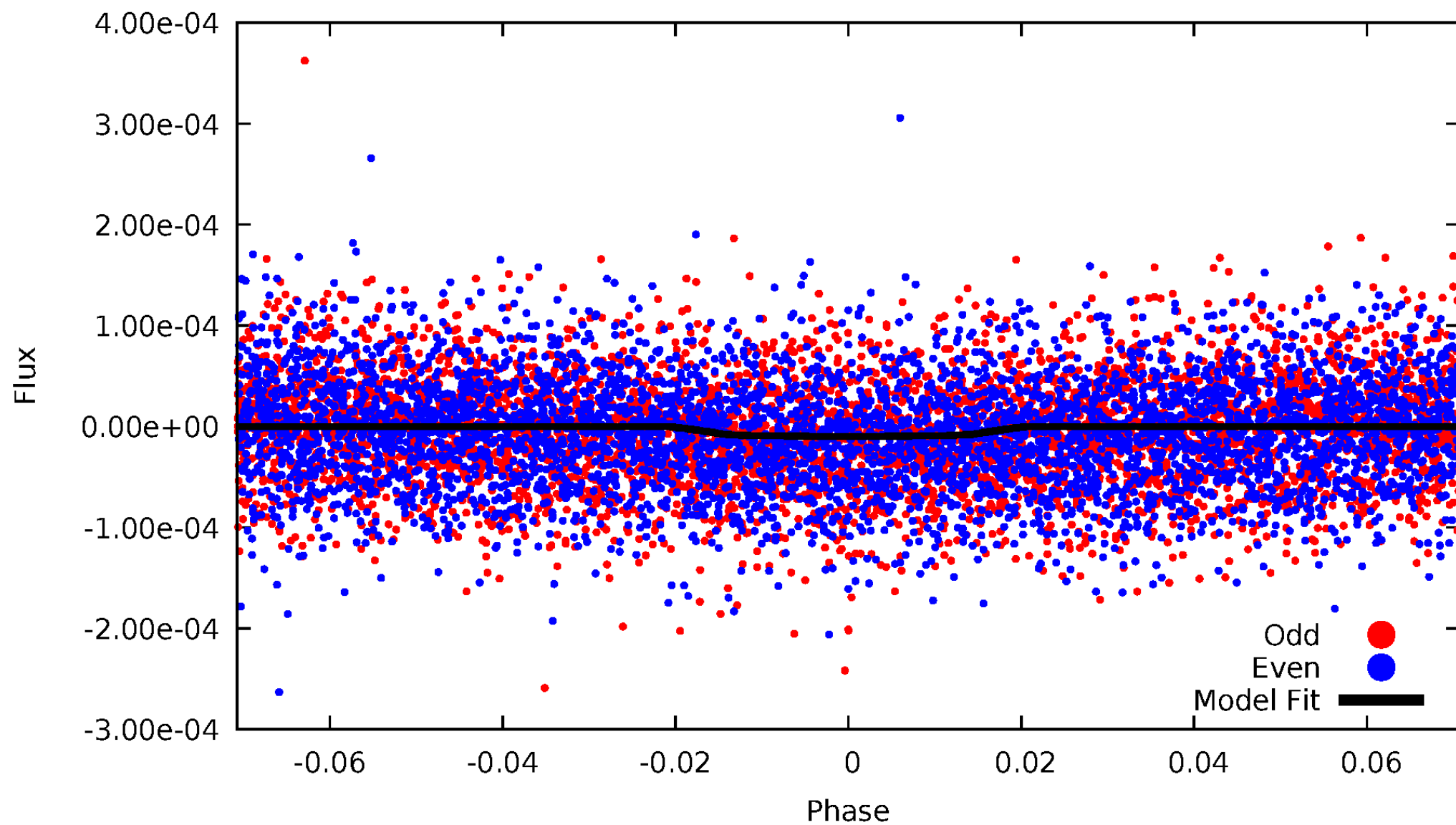


TCE 003348288-01



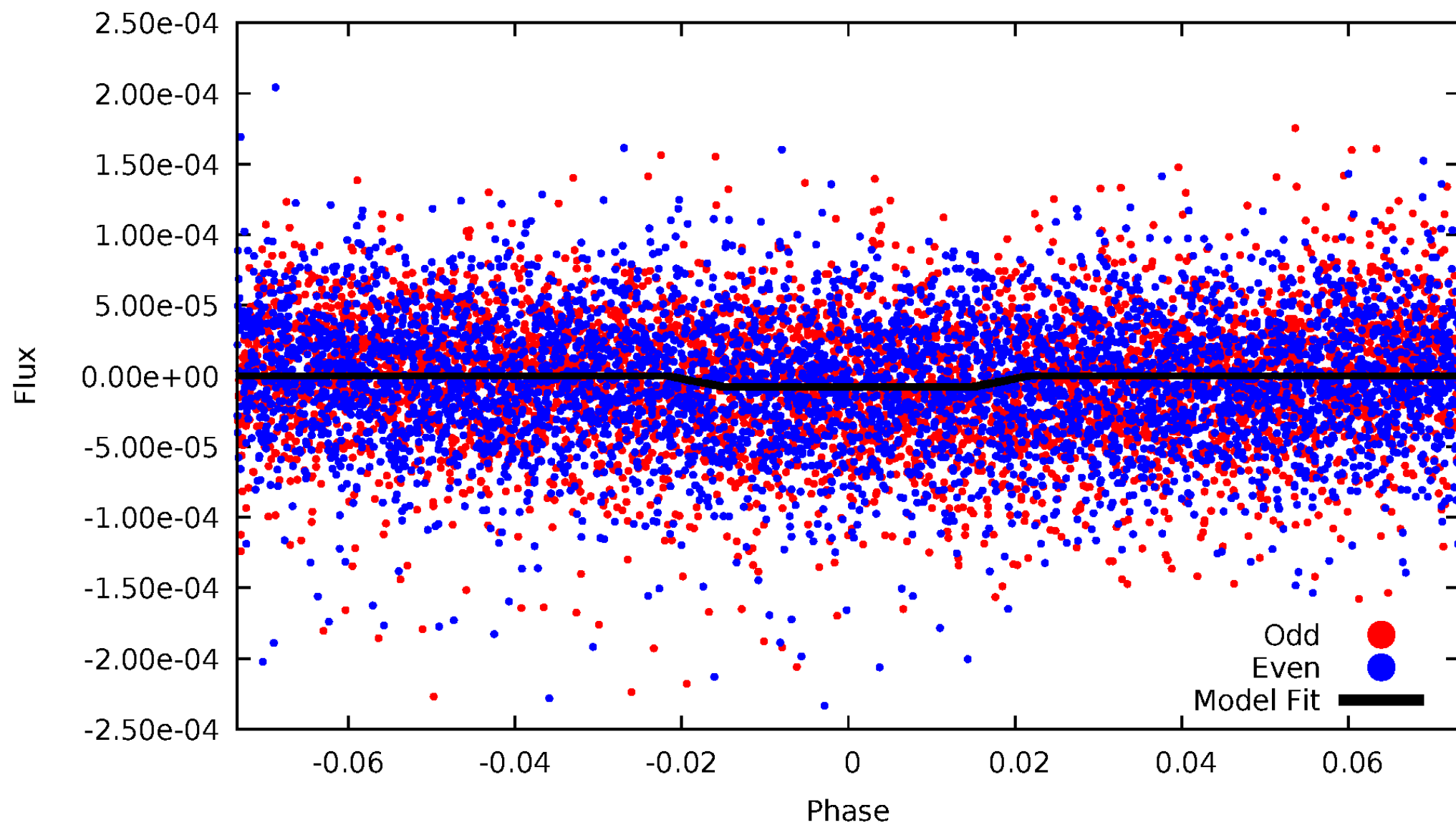
DV Odd/Even

TCE 003348288-01



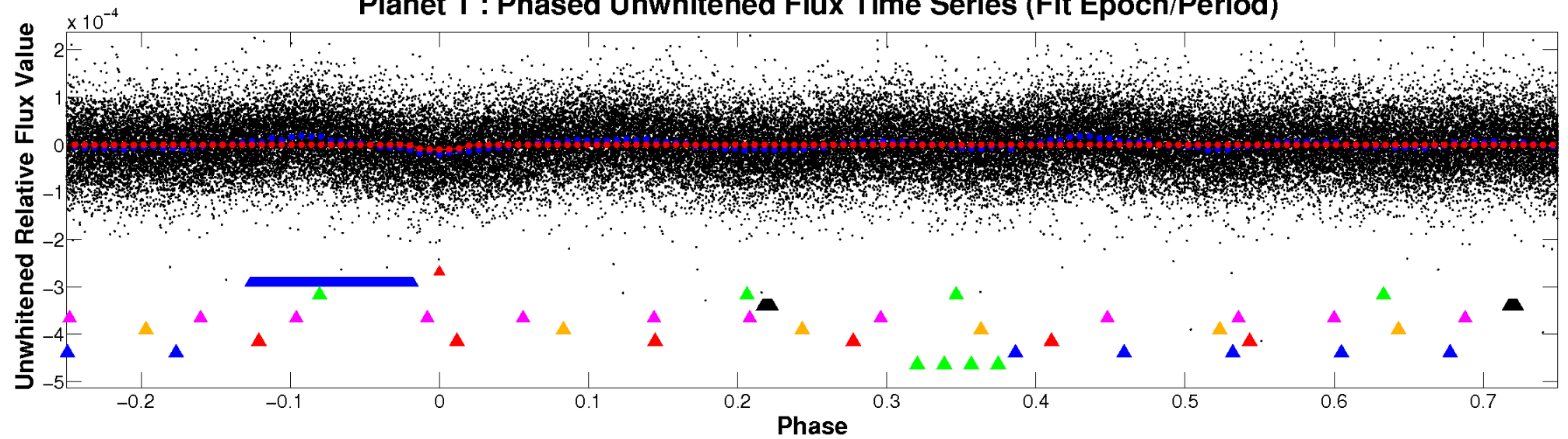
ALT Odd/Even

TCE 003348288-01

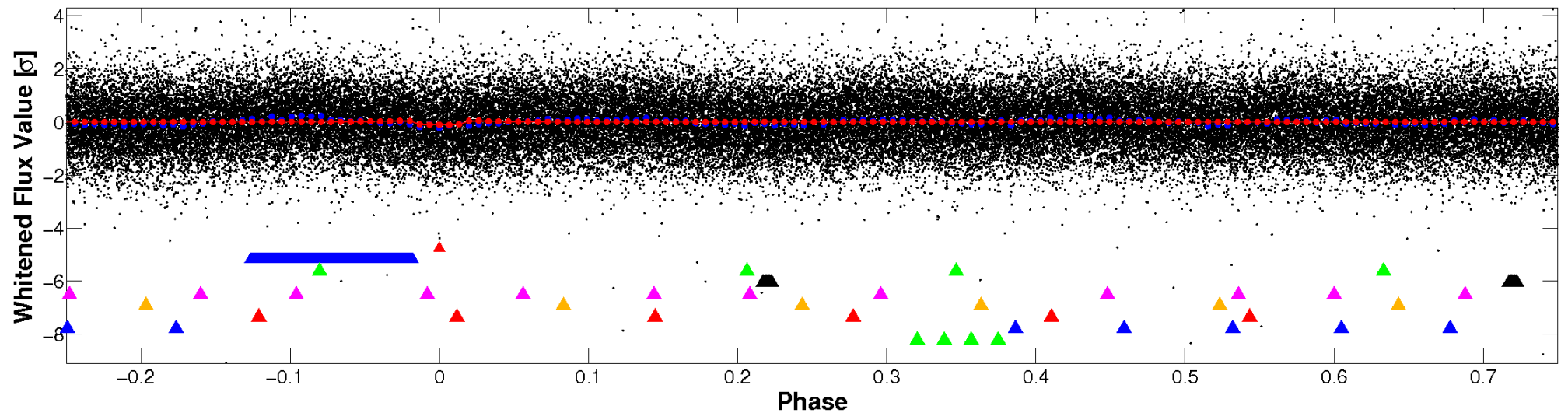


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

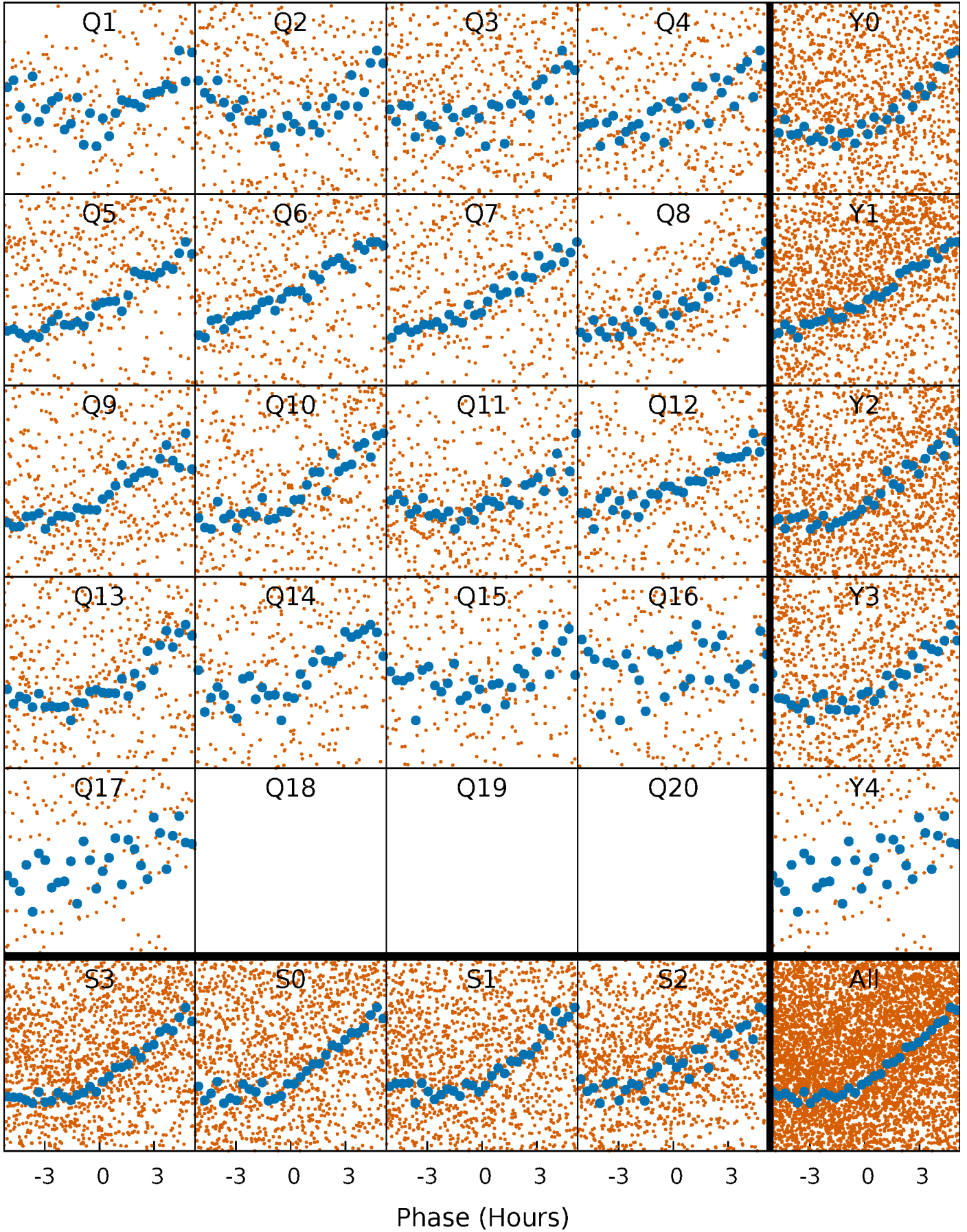


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



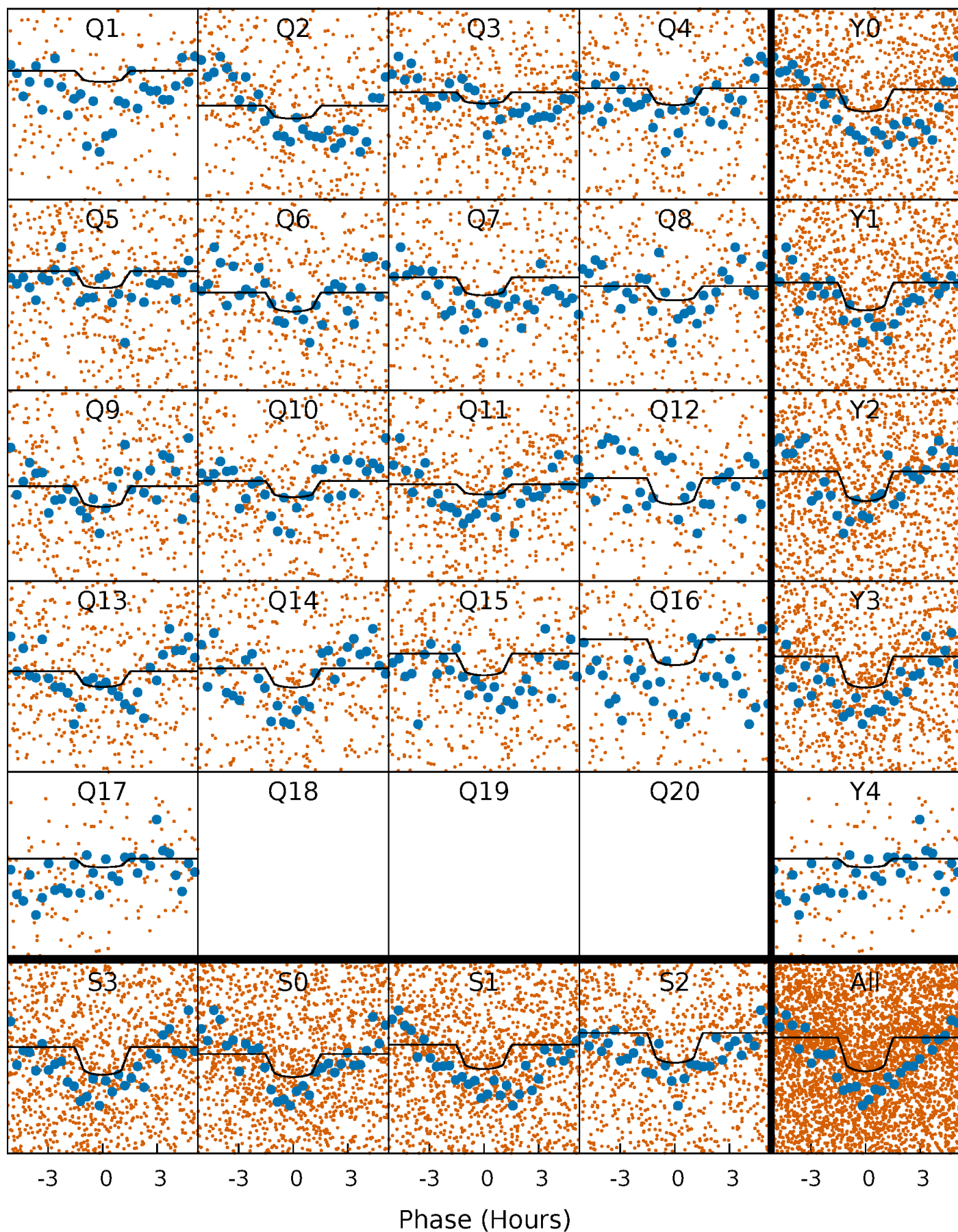
PDC Quarter-Phased Transit Curves

TCE 003348288-01 P= 3.092130 Days $T_0=132.119882$ (BKJD)



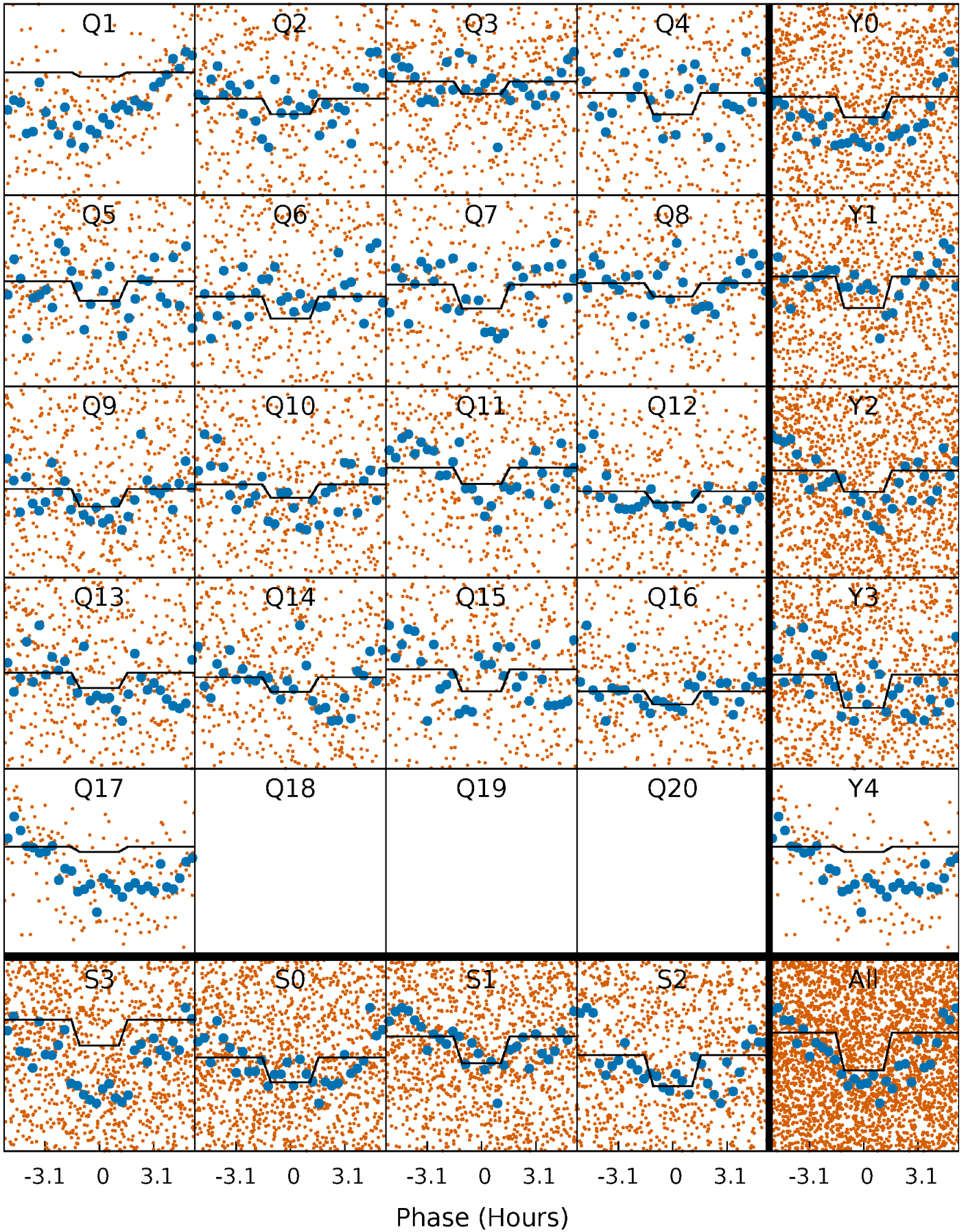
DV Quarter-Phased Transit Curves

TCE 003348288-01 P= 3.092130 Days $T_0=132.119882$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

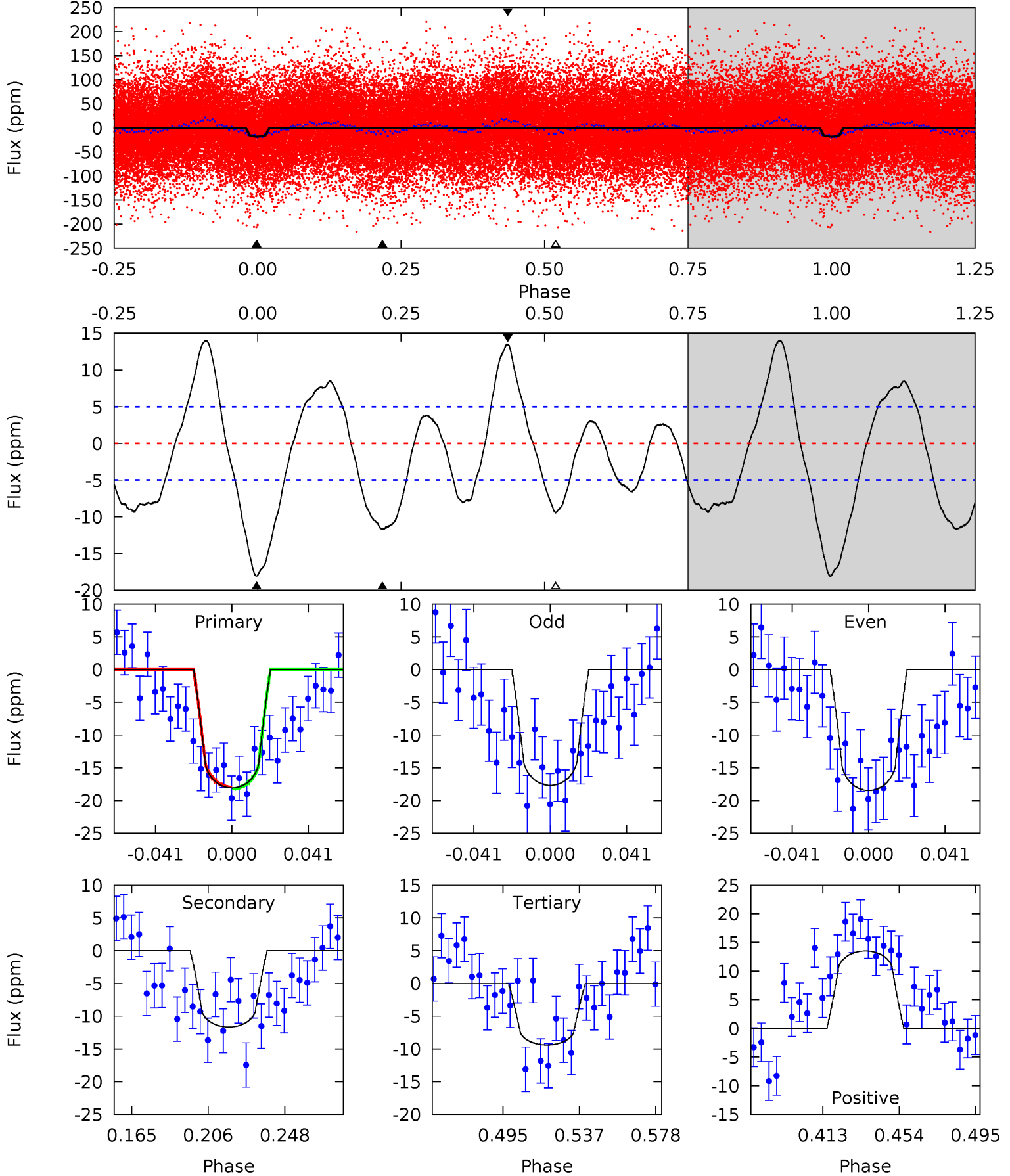
TCE 003348288-01 P= 3.091751 Days $T_0=132.150653$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-01, P = 3.092130 Days, E = 129.027752 Days

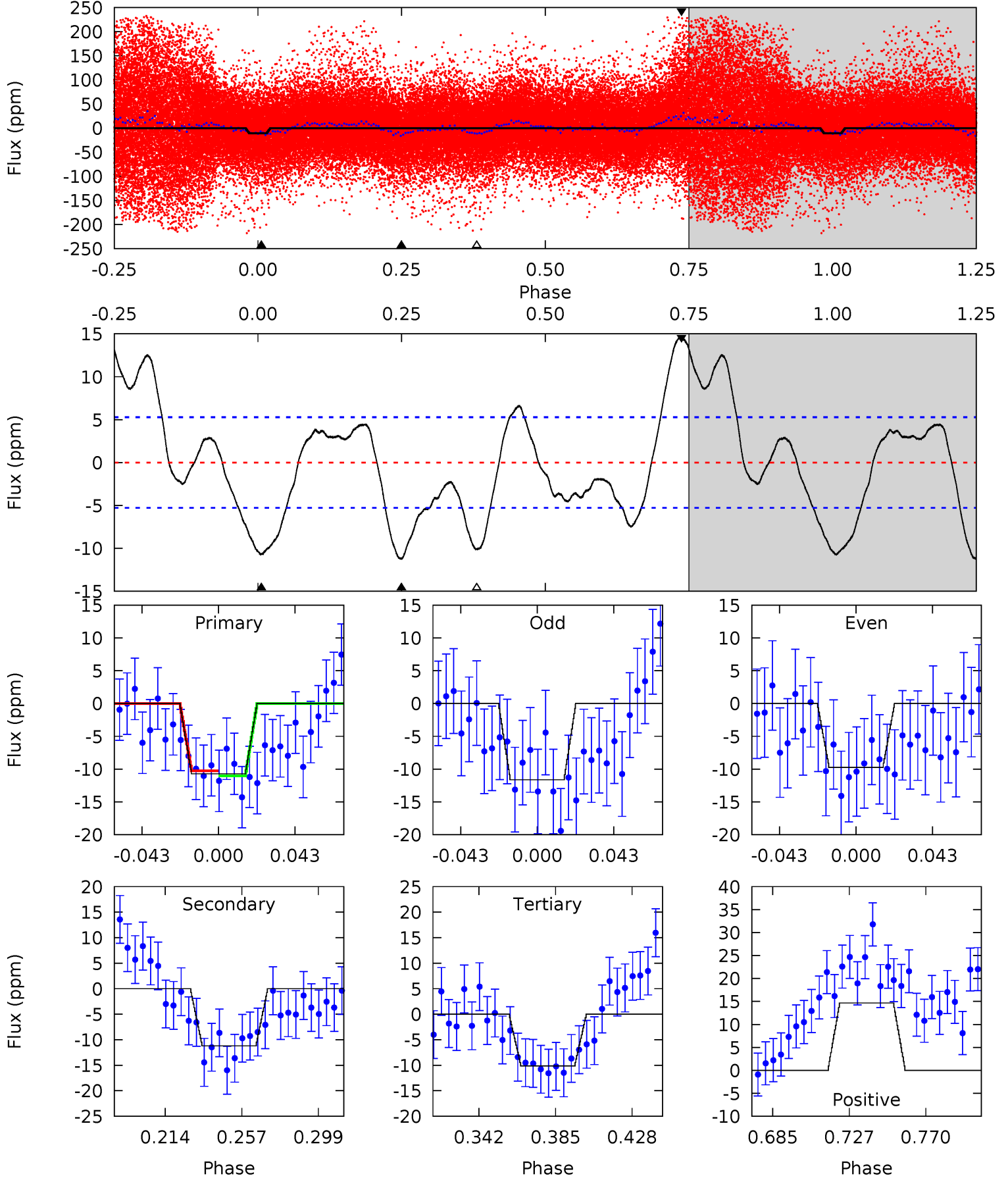
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	11.1	8.97	12.9	4.75	2.04	5.86	8.27	4.35	2.16	-1.76	0.38	1.10	0.44	0.11



Alt Model-Shift Uniqueness Test

003348288-01, P = 3.091751 Days, E = 129.058902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.62	10.1	9.09	13.2	4.74	2.03	5.17	0.53	-3.57	0.97	-3.13	0.86	1.26	0.57	0.34



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 1	$0.65^{+0.17}_{-0.15}$	2715^{+166}_{-213}	7184^{+1011}_{-689}	33^{+22}_{-12}
Alt.	-11 ± 1	$0.59^{+0.16}_{-0.16}$	2703^{+174}_{-211}	7454^{+1296}_{-810}	39^{+30}_{-15}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

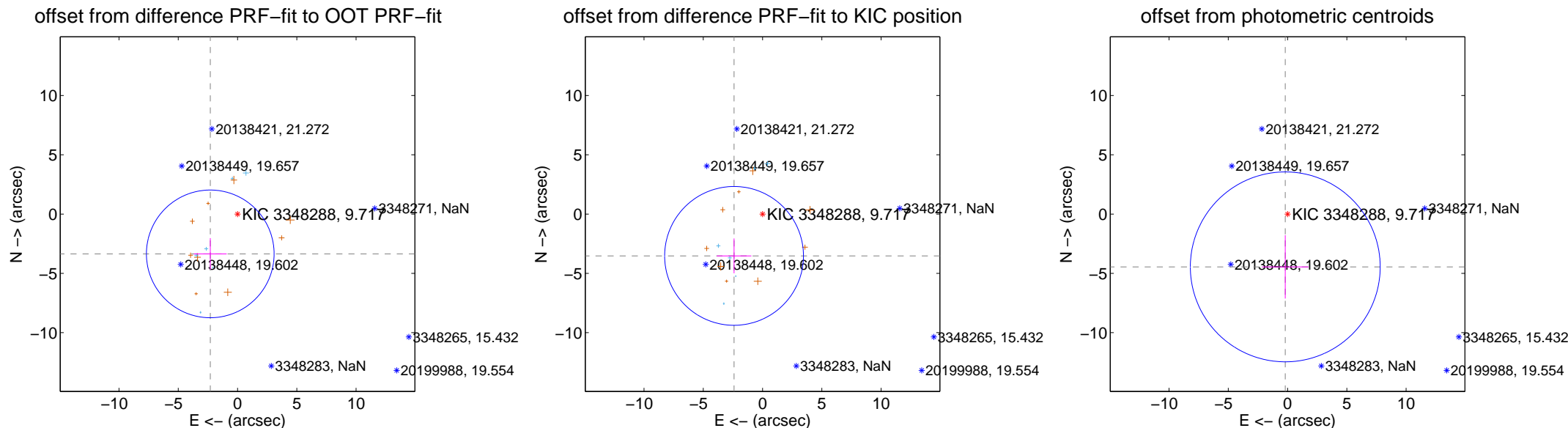
DV Centroid Data

Supplemental centroid analysis for 003348288-01. **Kepler magnitude: 9.72.** Transit SNR 4.83

There are 6 quarters with good PRF difference image offsets

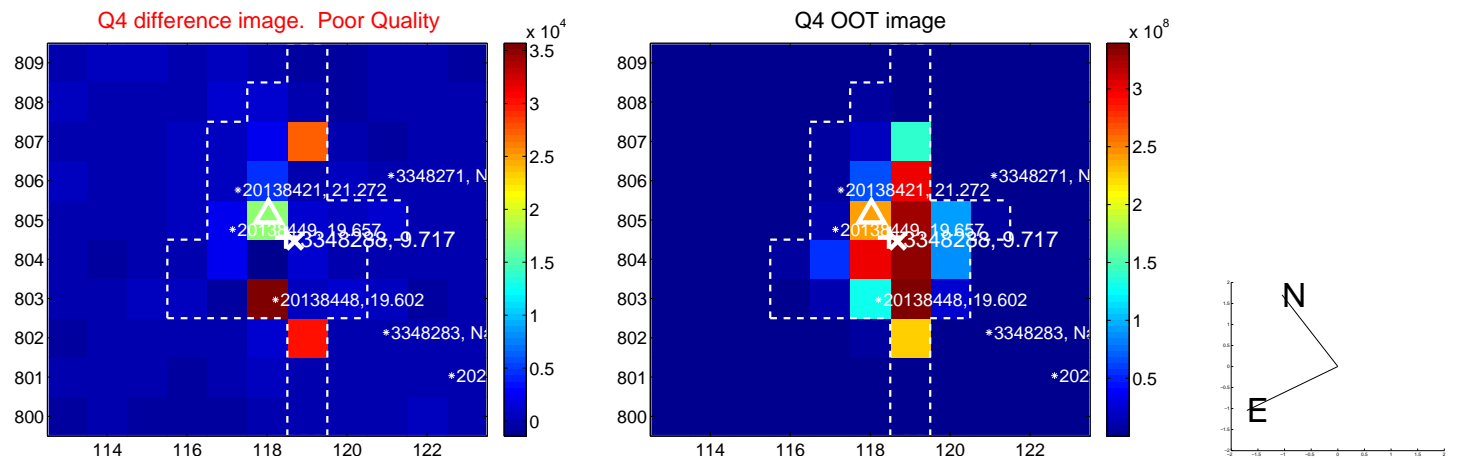
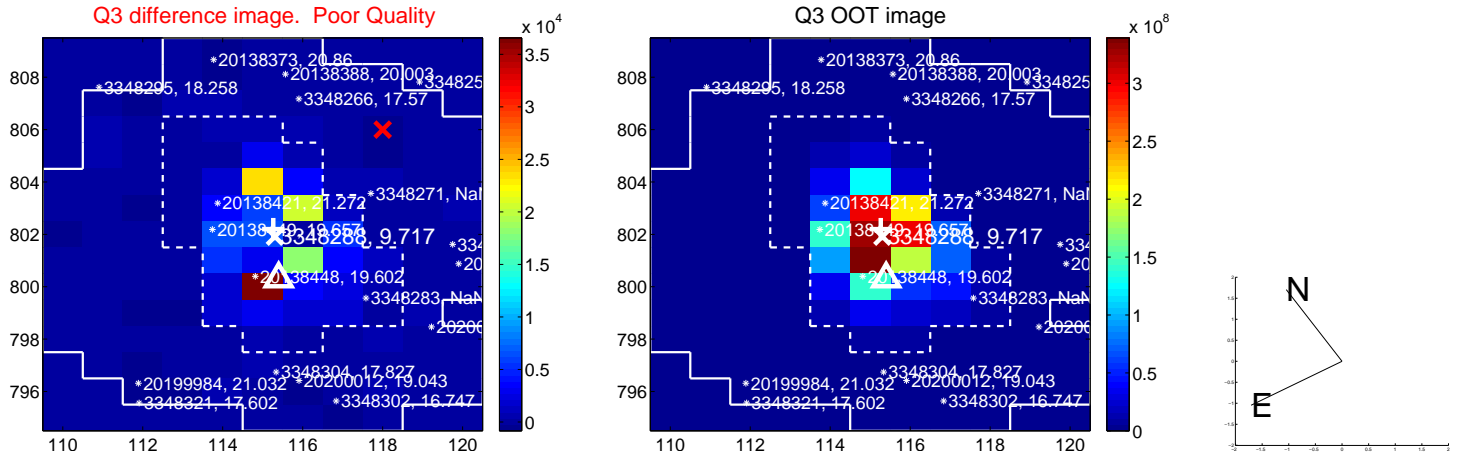
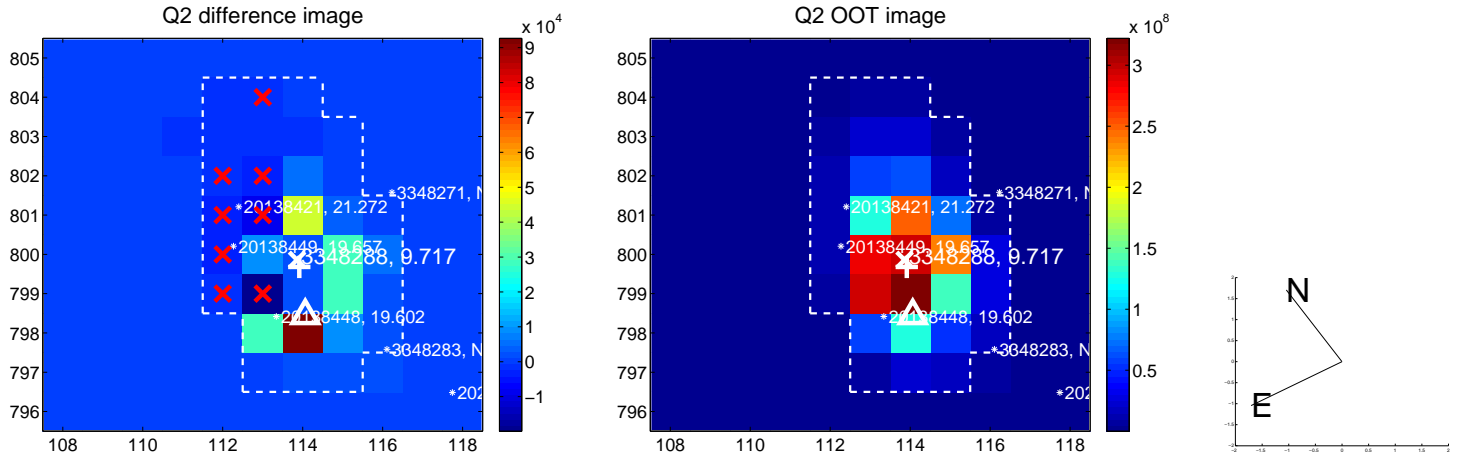
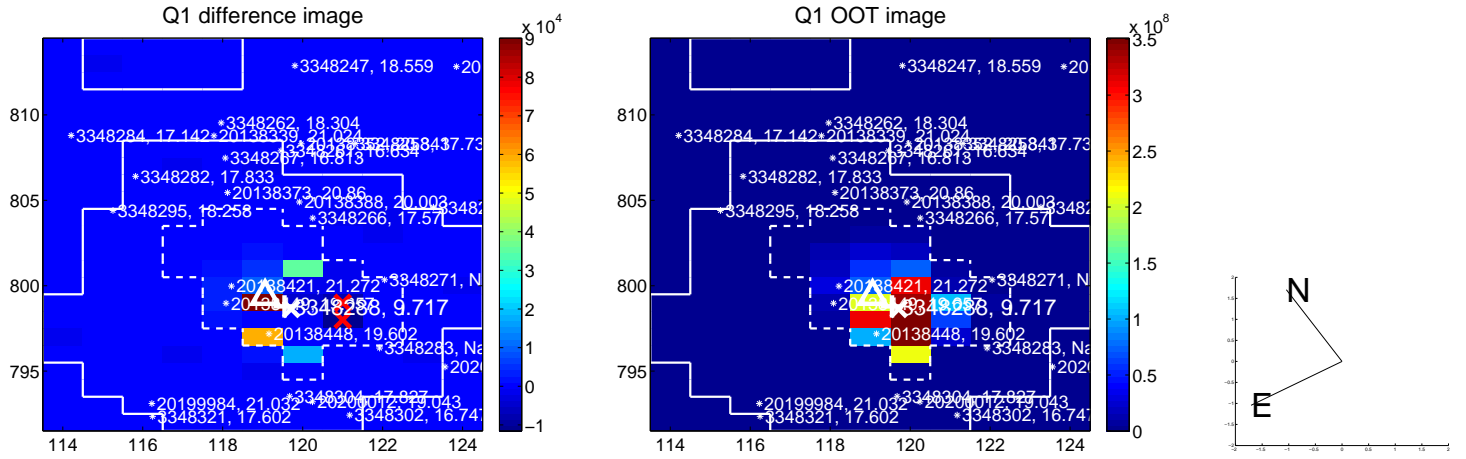
The direct PRF centroid is offset from the target star catalog position by about 0.75 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.071 ± 1.796	2.27	2.301 ± 1.385	-3.358 ± 1.328
PRF-fit source offset from KIC position	4.270 ± 1.952	2.19	2.405 ± 1.459	-3.528 ± 1.470
photometric centroid source offset	4.46 ± 2.67	1.67	0.19 ± 1.97	-4.46 ± 2.67

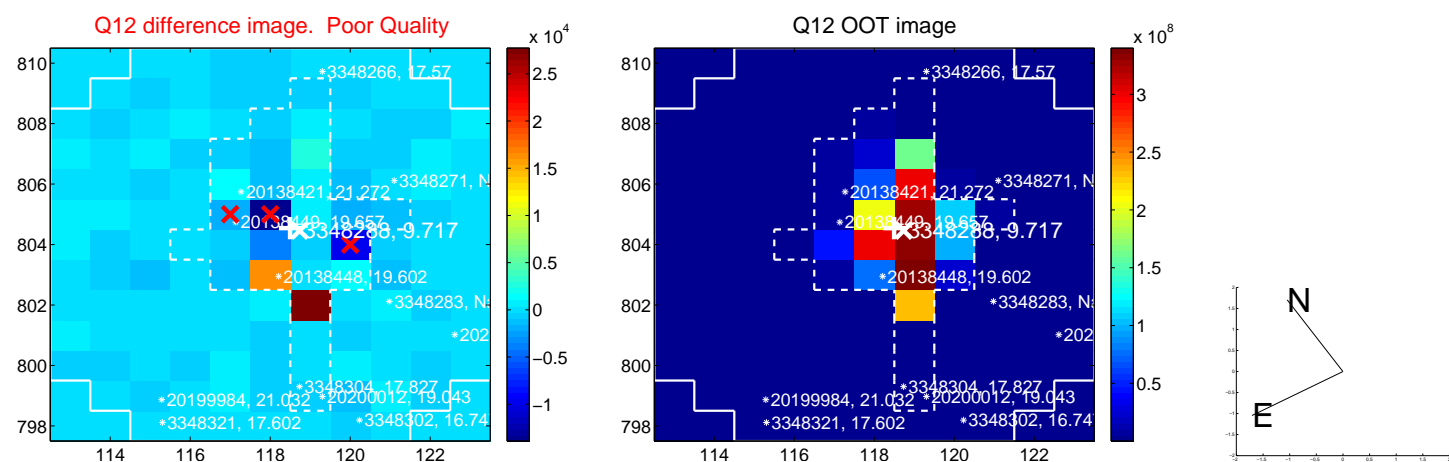
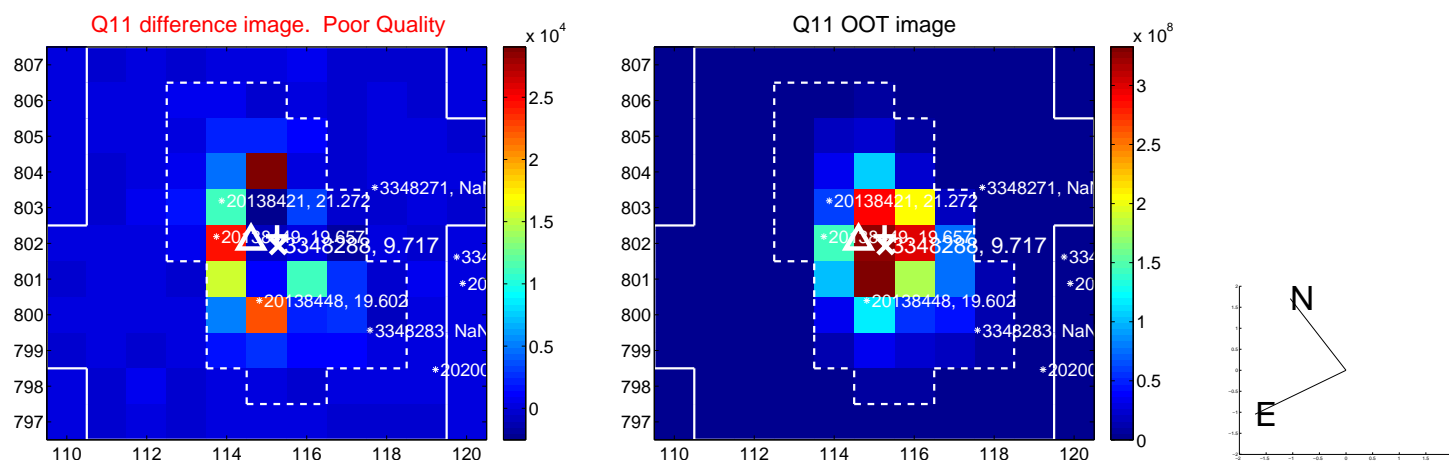
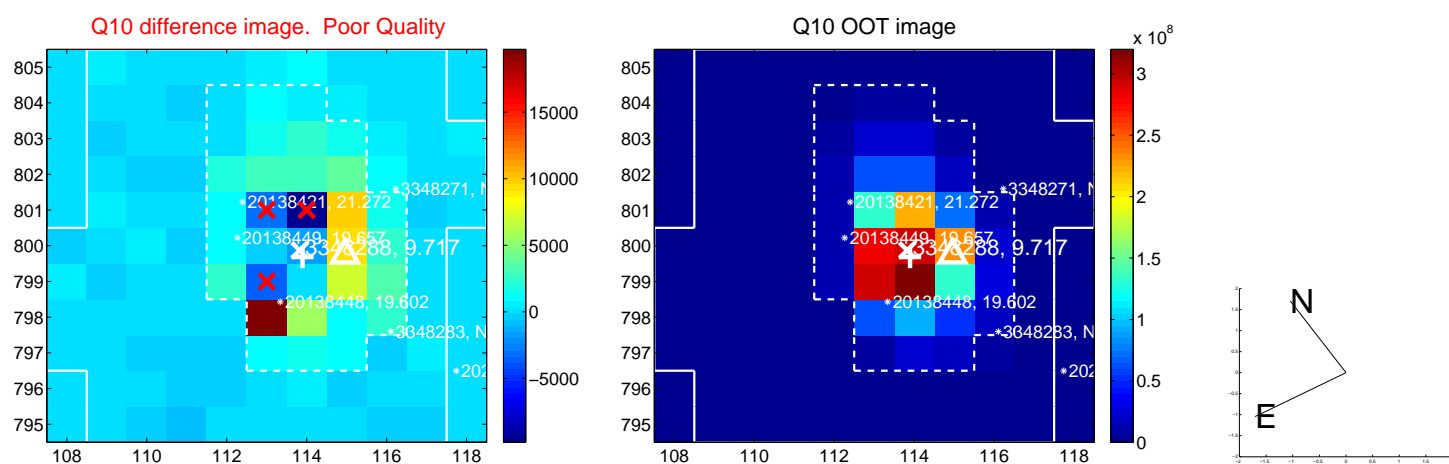
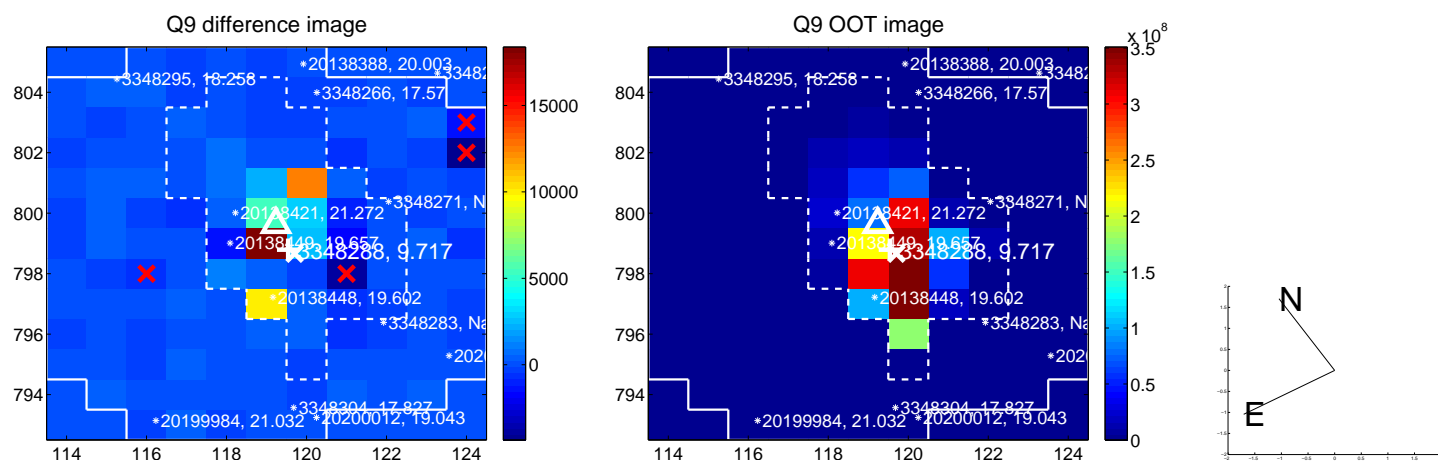


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

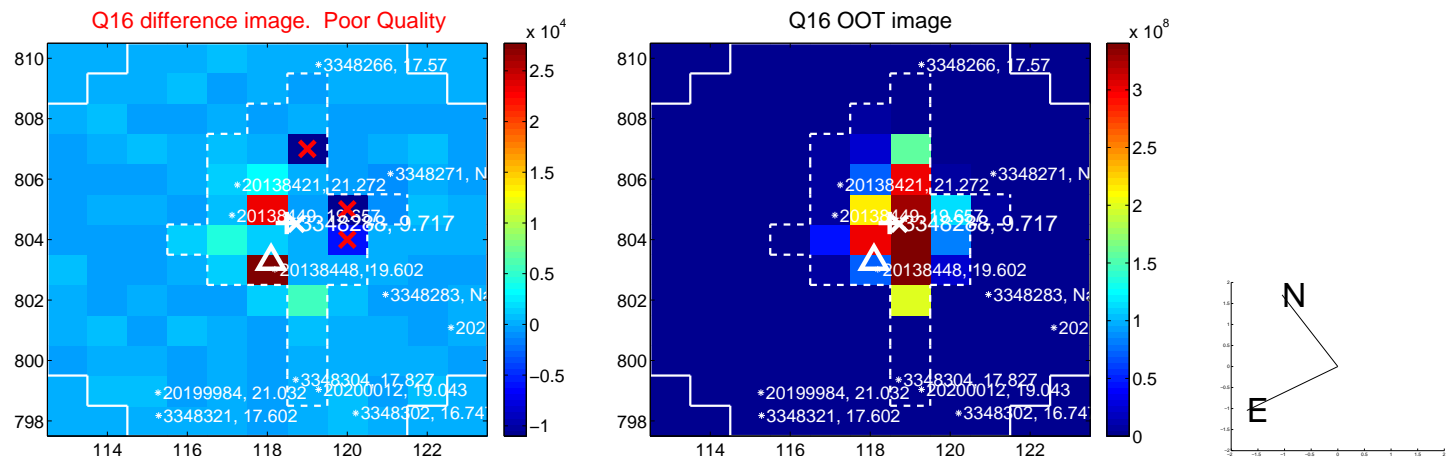
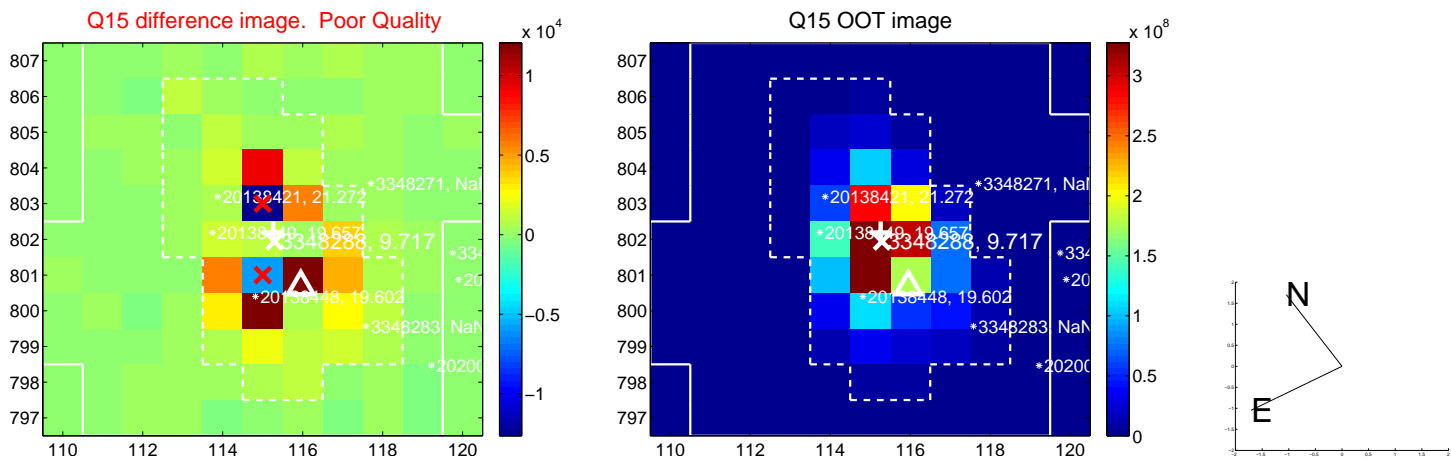
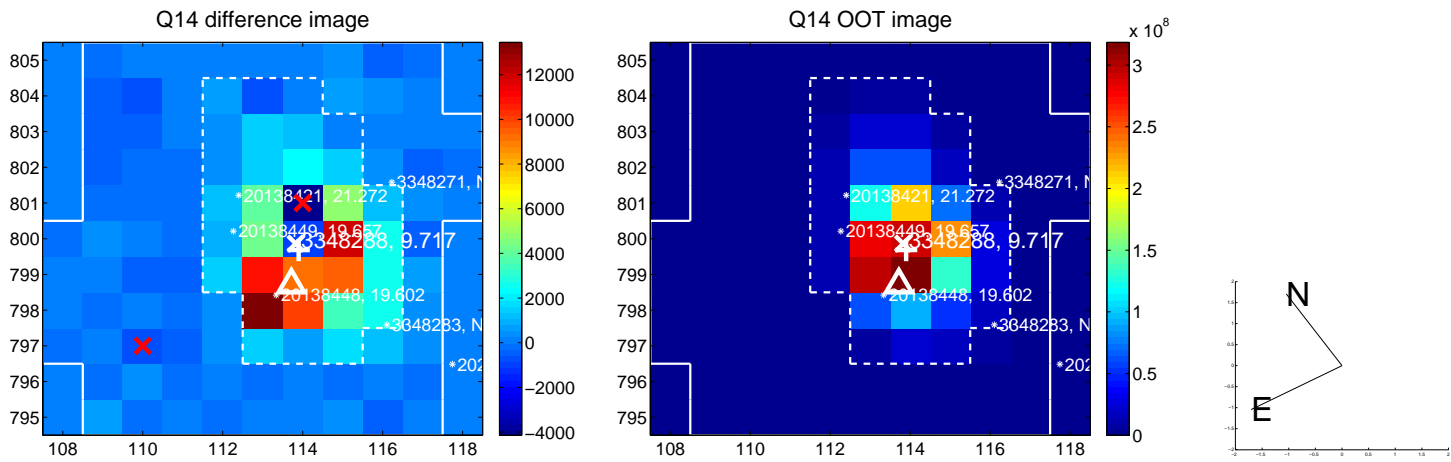
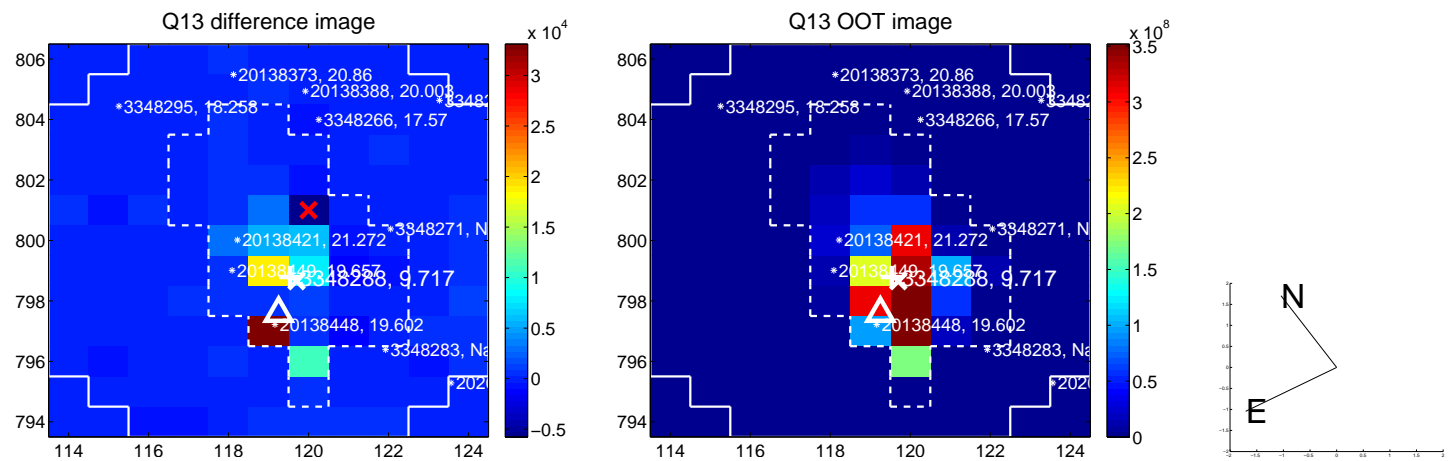
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



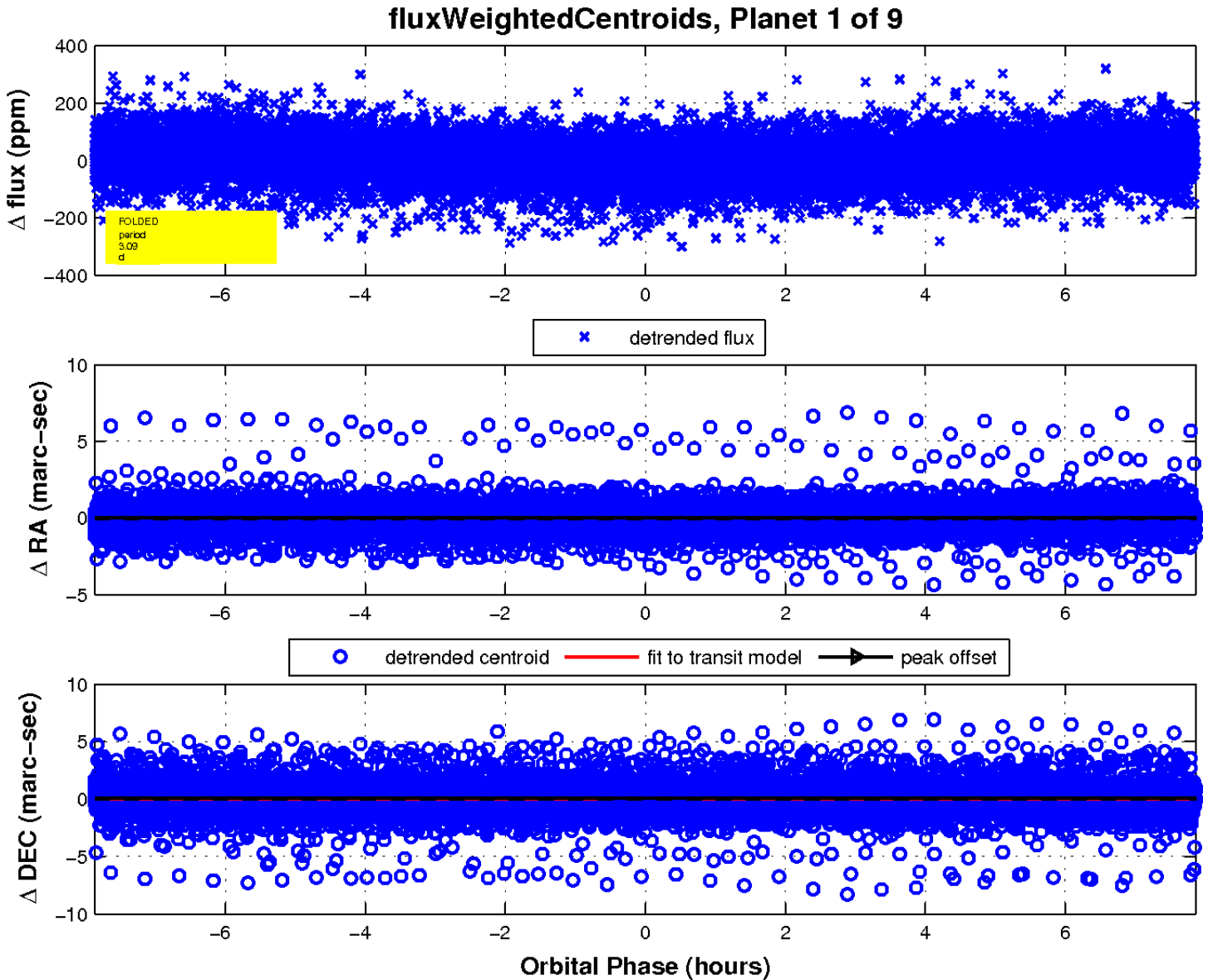
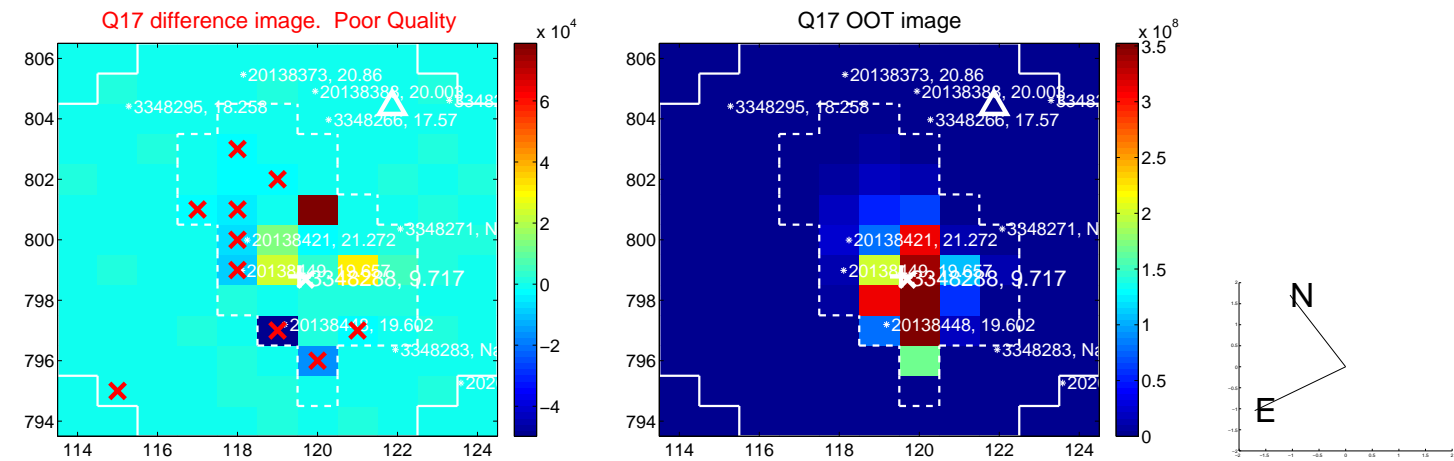
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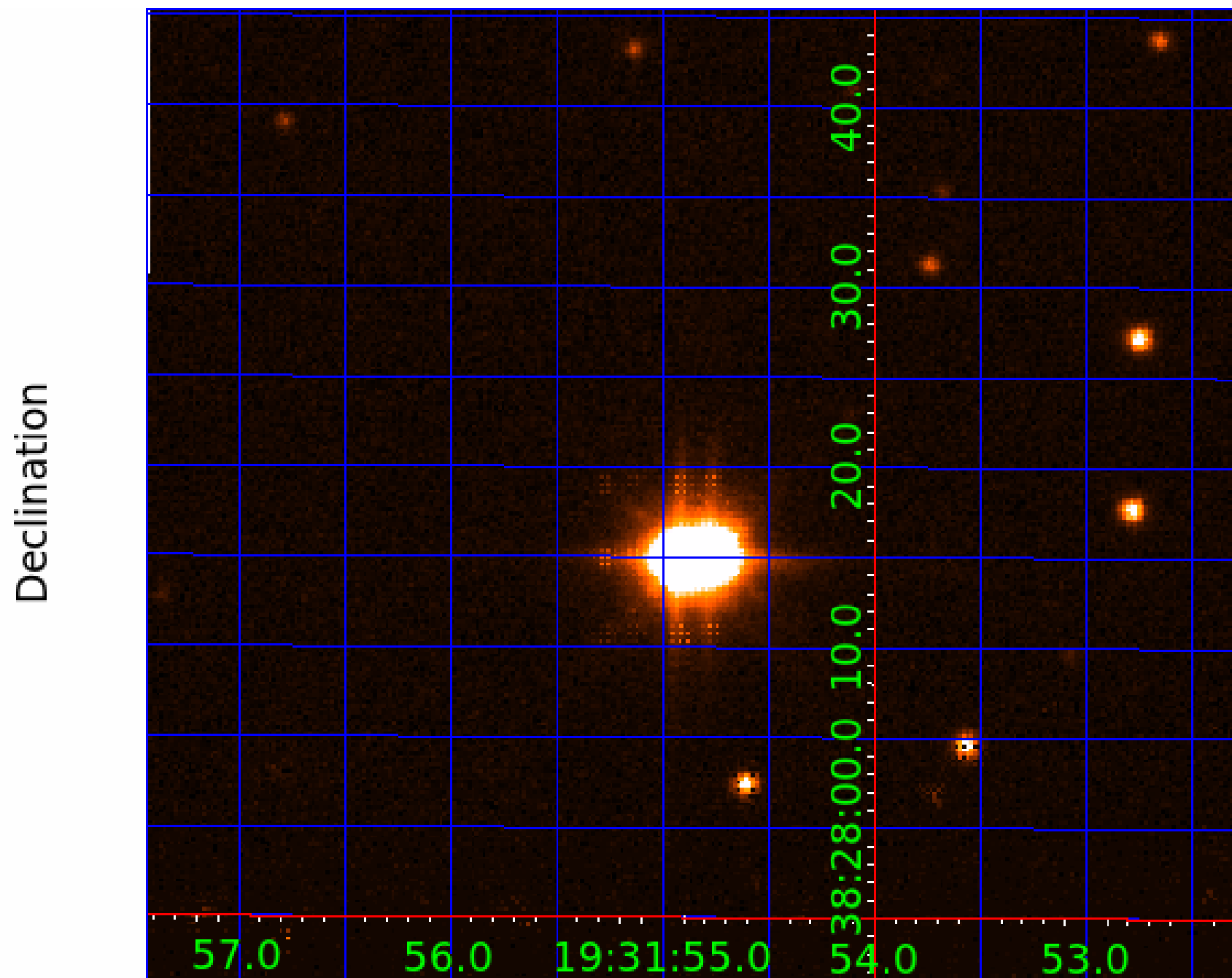
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UKIRT Image



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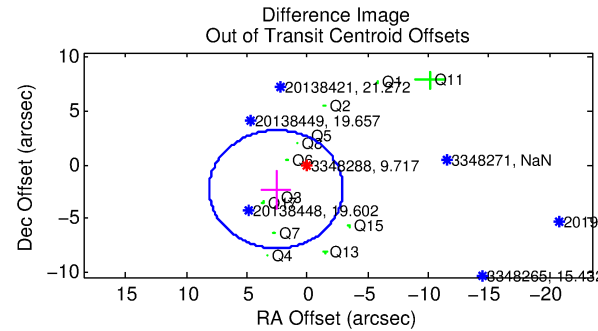
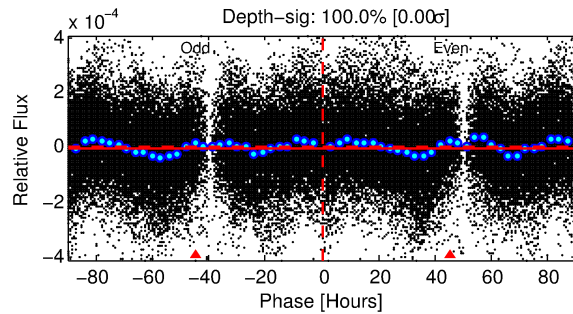
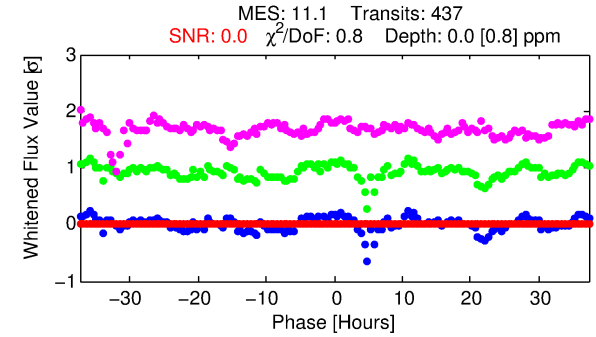
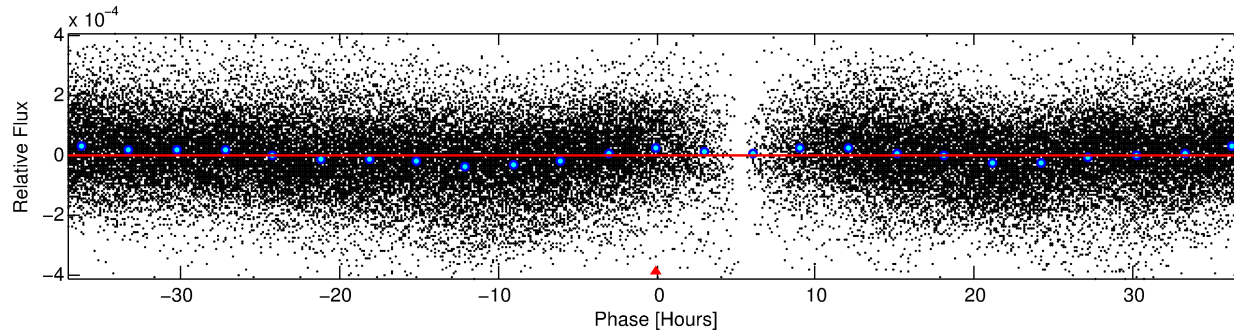
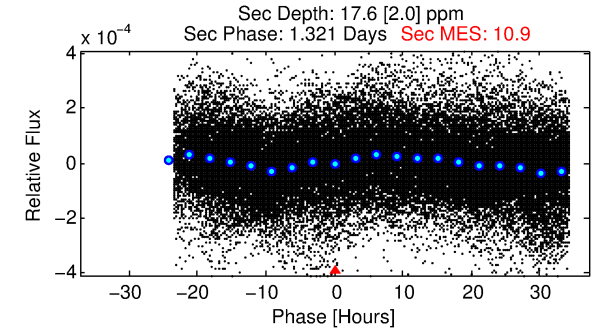
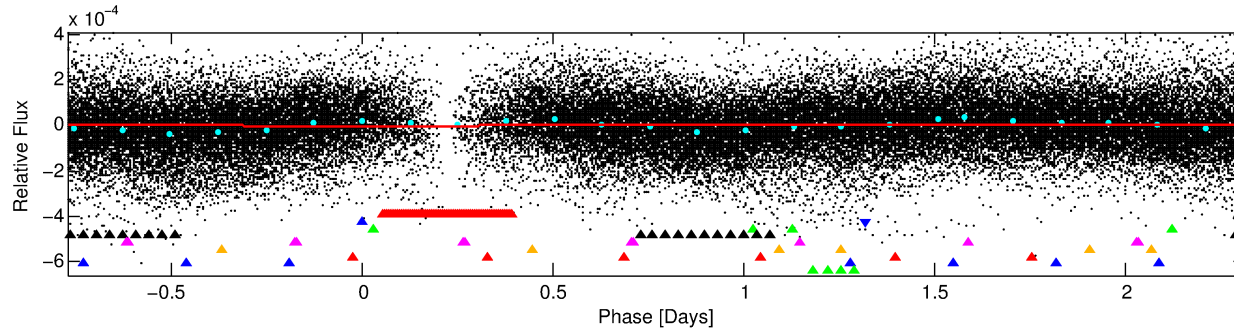
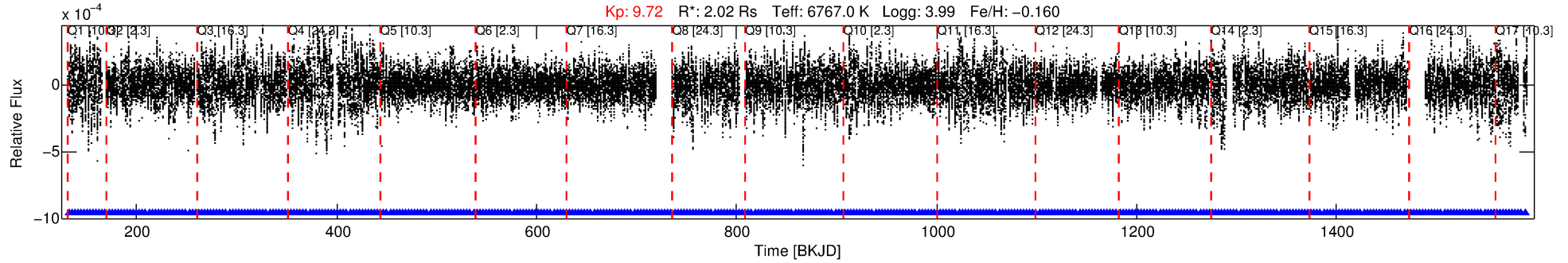
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-02

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 2 of 9 Period: 3.091 d



DV Fit Results:

Period = 3.09141 [54348.59031] d
Epoch = 132.0652 [9532877.5629] BKJD
Rp/R* = 0.0000 [3.6965]
a/R* = 1.14 [935606.60]
b = 0.92 [4156308.52]
Seff = 3475.58 [81469870.37]
Teq = 1958 [11473419] K
Rp = 0.00 [814.42] Re
a = 0.0469 [550.1731] AU
Ag = 43520602406.86 [3200652273275958784.00] [10.00σ]
Teffp = 1382602 [25420868213248] K [0.00σ]

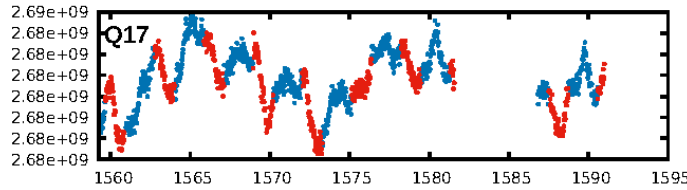
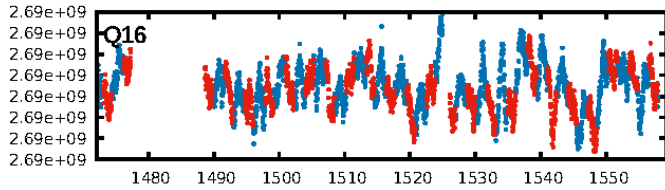
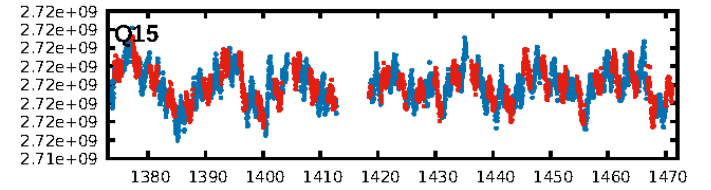
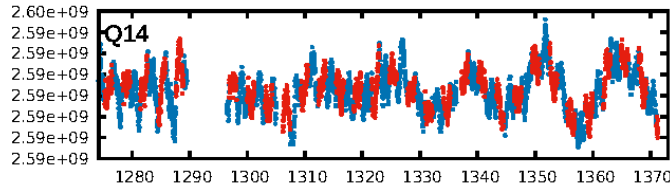
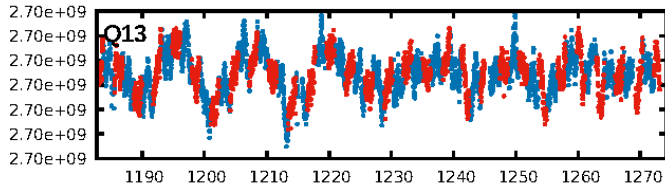
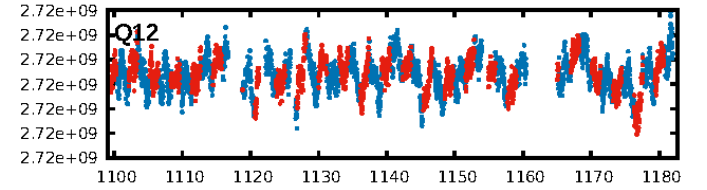
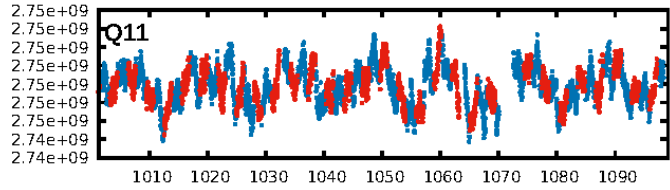
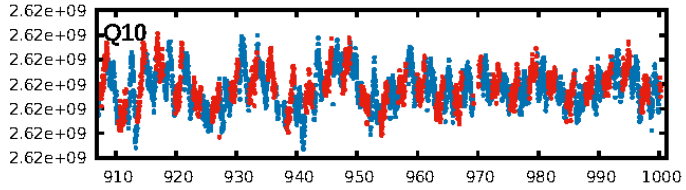
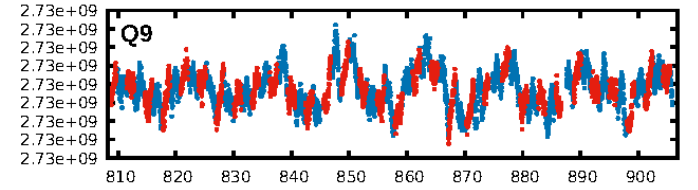
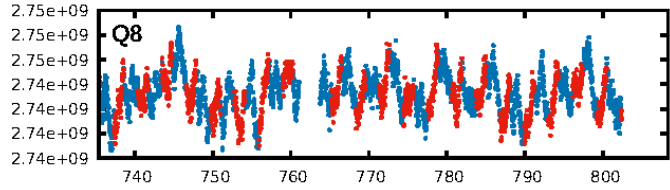
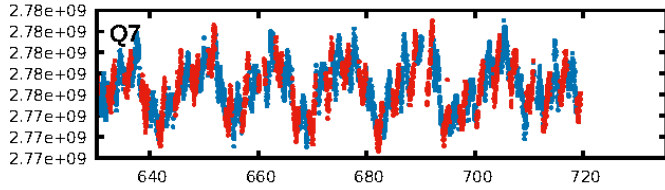
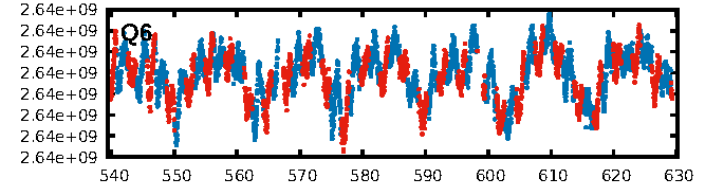
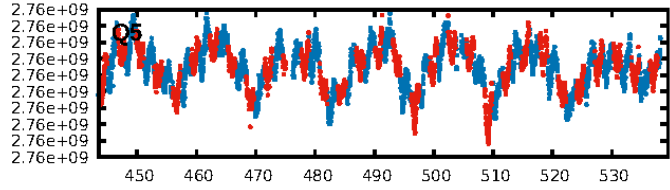
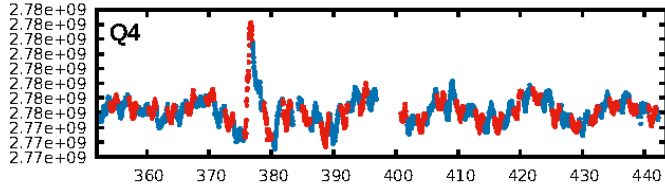
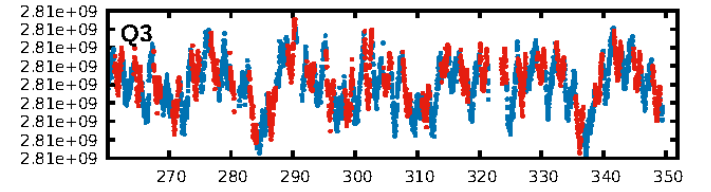
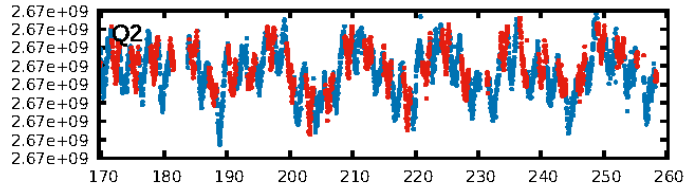
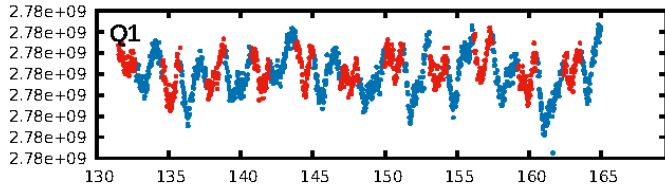
DV Diagnostic Results:

ShortPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [417/417]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OutOffset-rm: 3.458 arcsec [1.88σ]
KicOffset-rm: 2.695 arcsec [1.97σ]
OutOffset-st: 2/4/2/4 [12]
KicOffset-st: 2/4/2/4 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 0.00 [0/17]

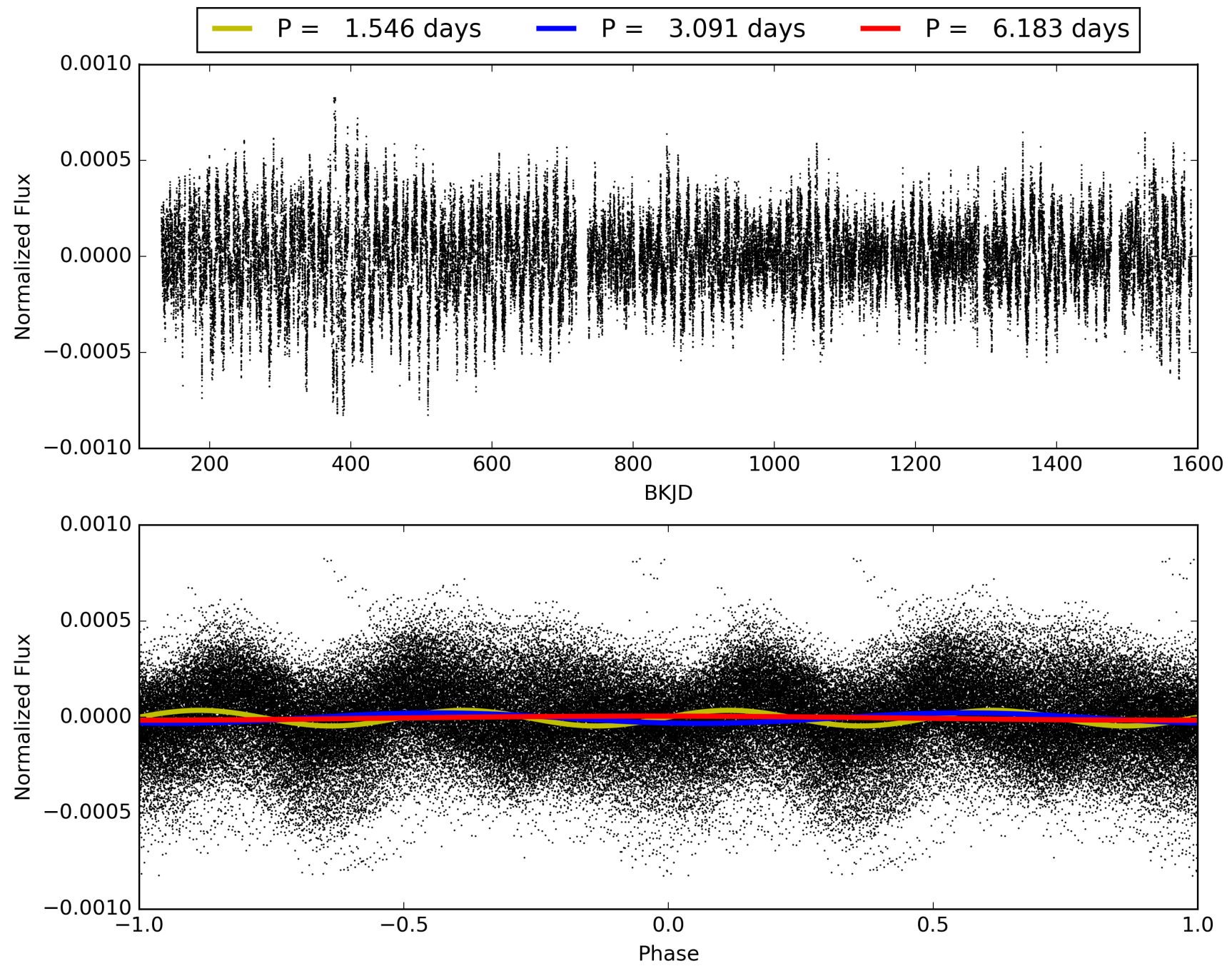
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:56:34 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-02, PDC Light Curves

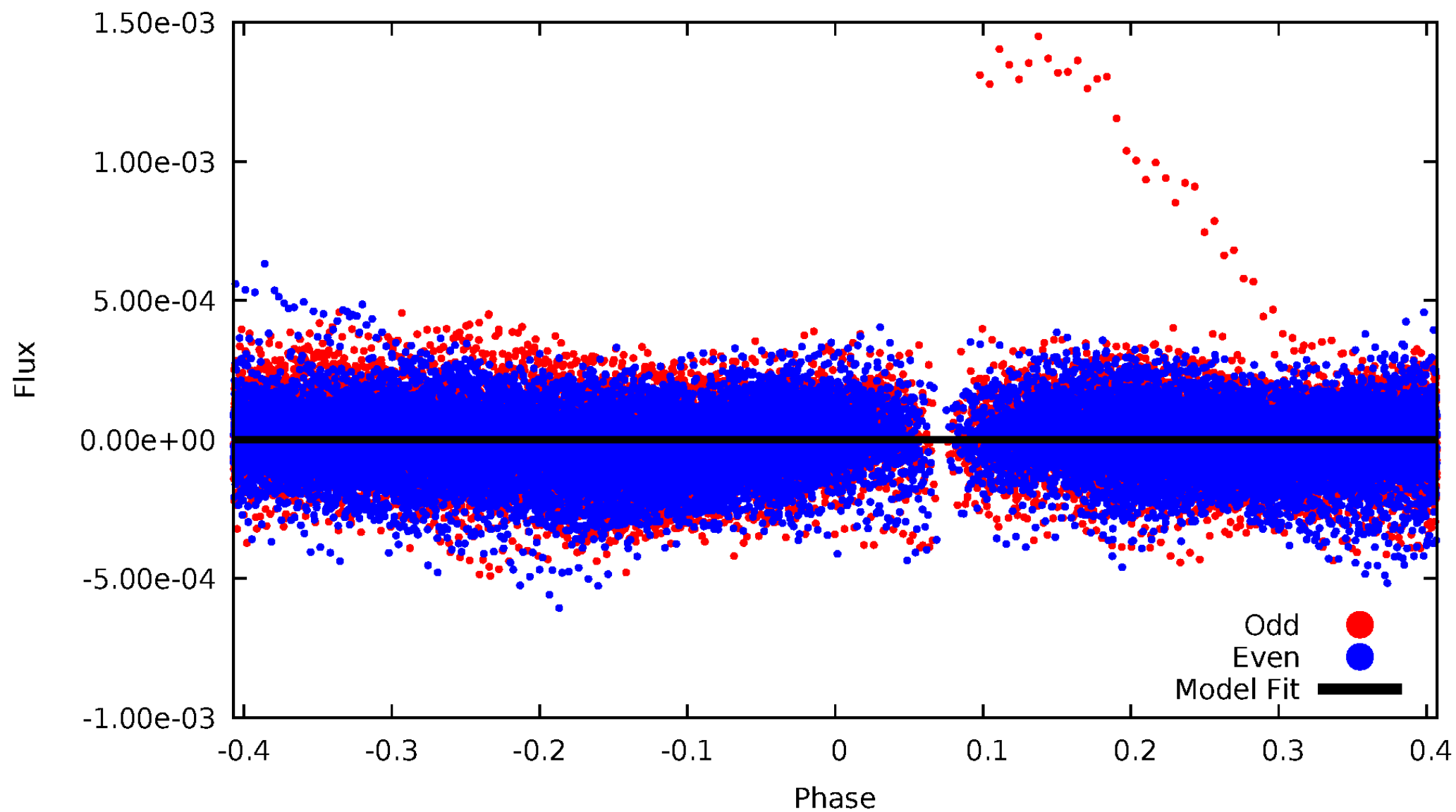


TCE 003348288-02



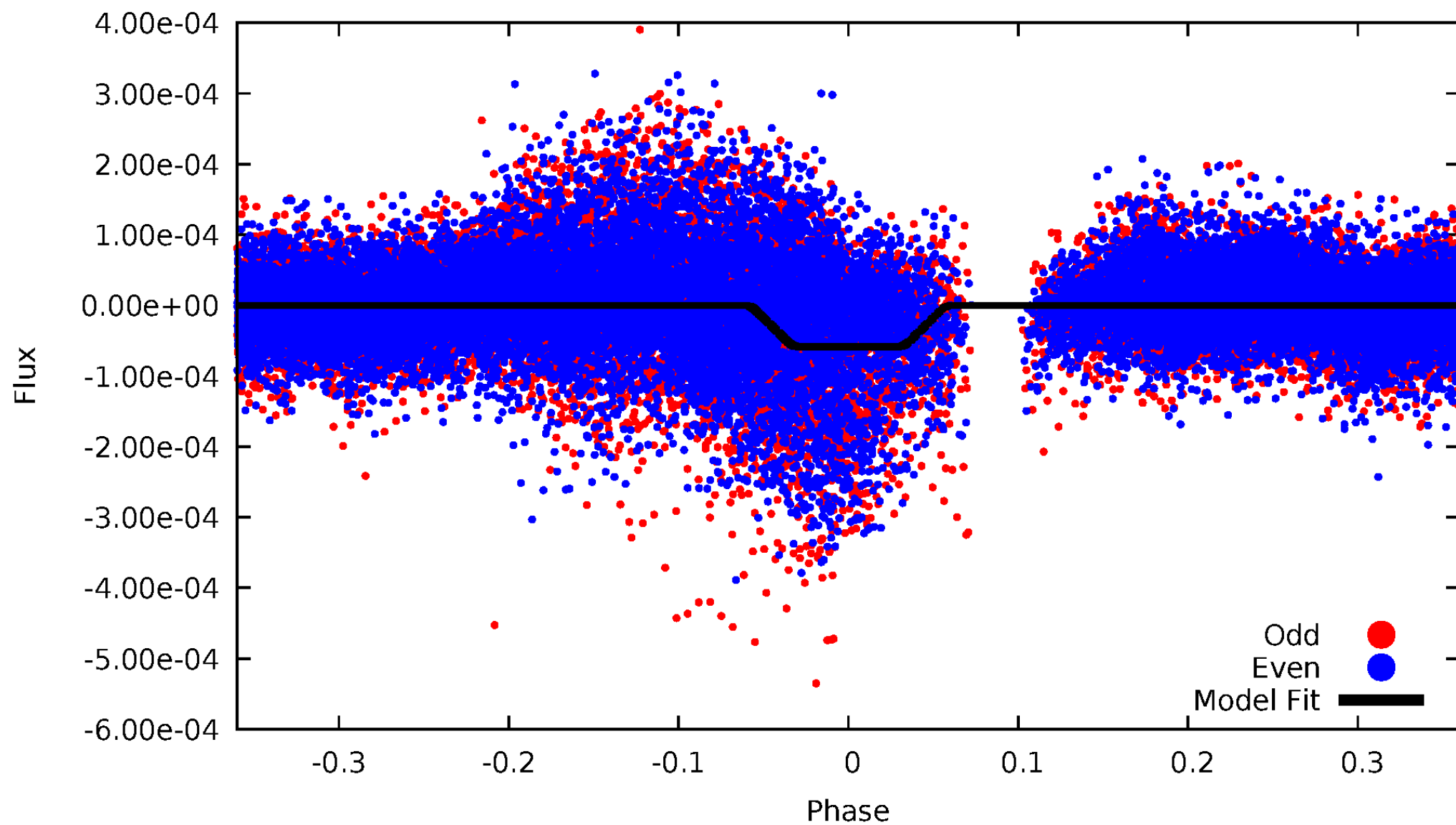
DV Odd/Even

TCE 003348288-02



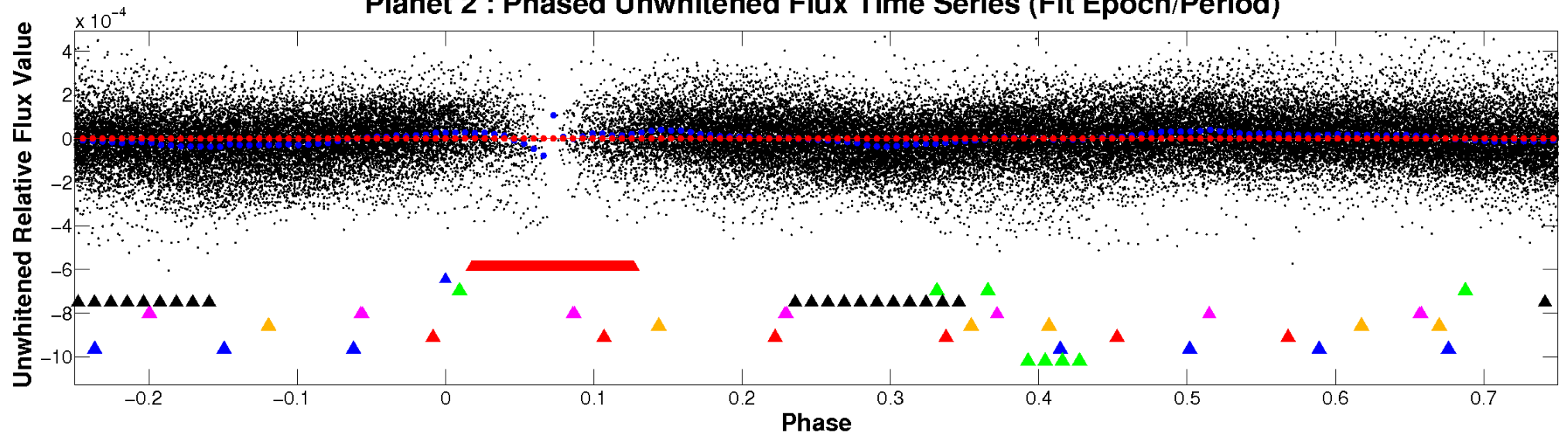
ALT Odd/Even

TCE 003348288-02

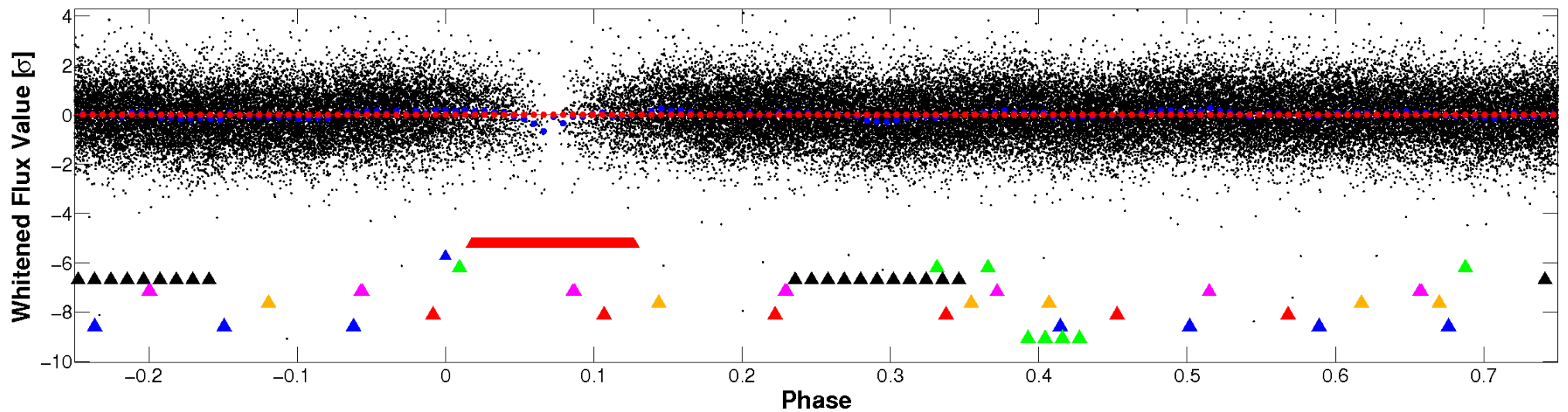


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

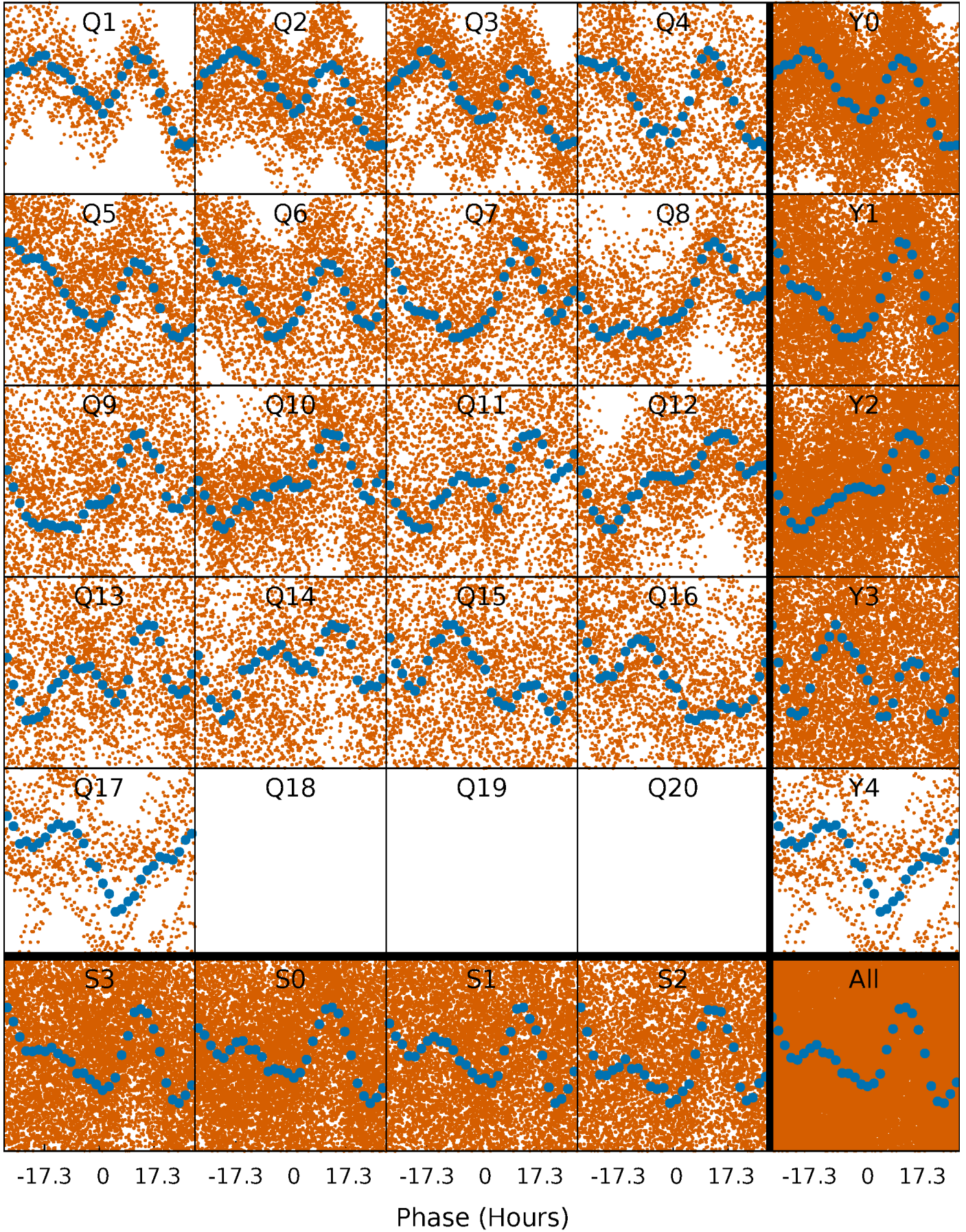


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



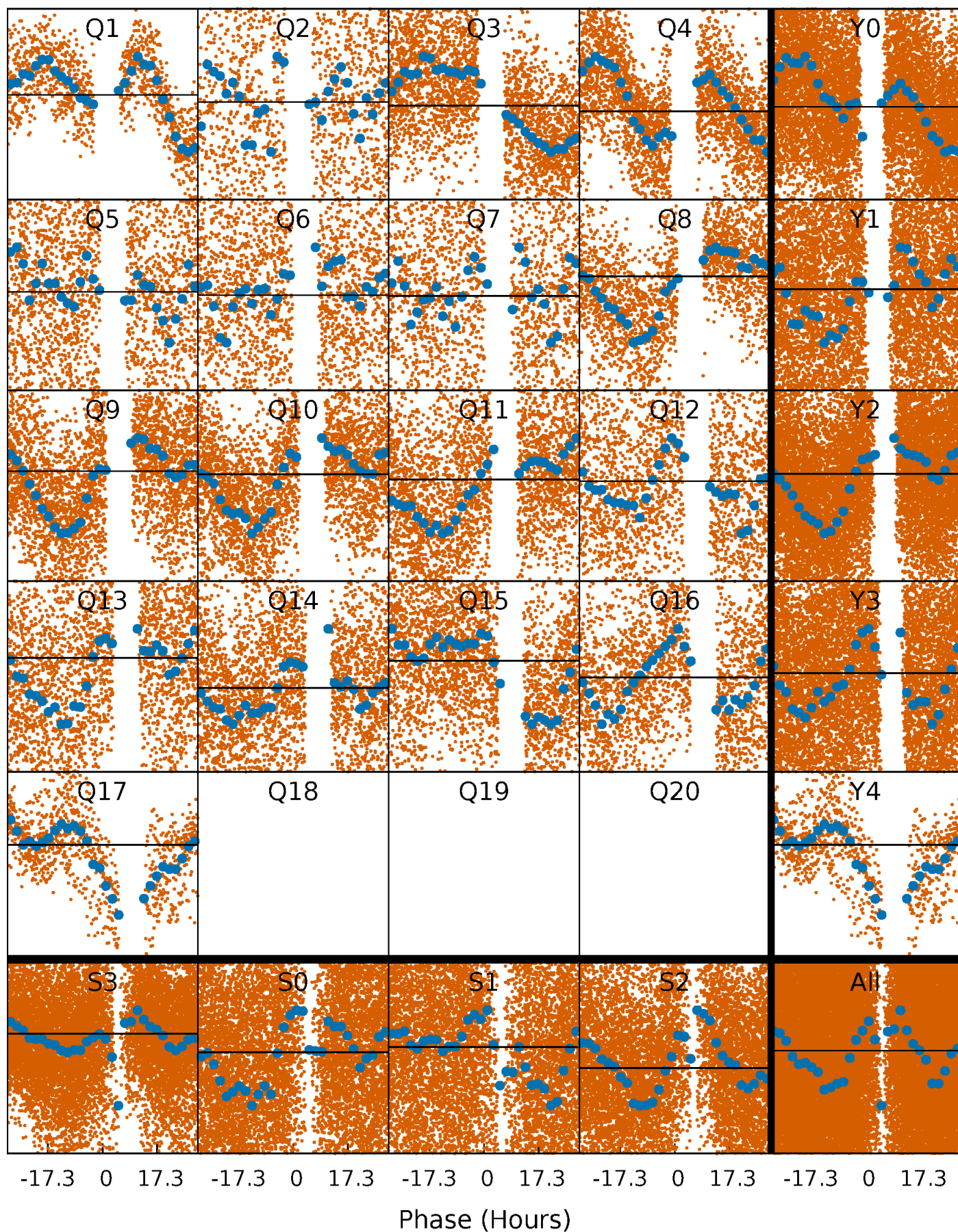
PDC Quarter-Phased Transit Curves

TCE 003348288-02 P= 3.091414 Days $T_0=132.065195$ (BKJD)



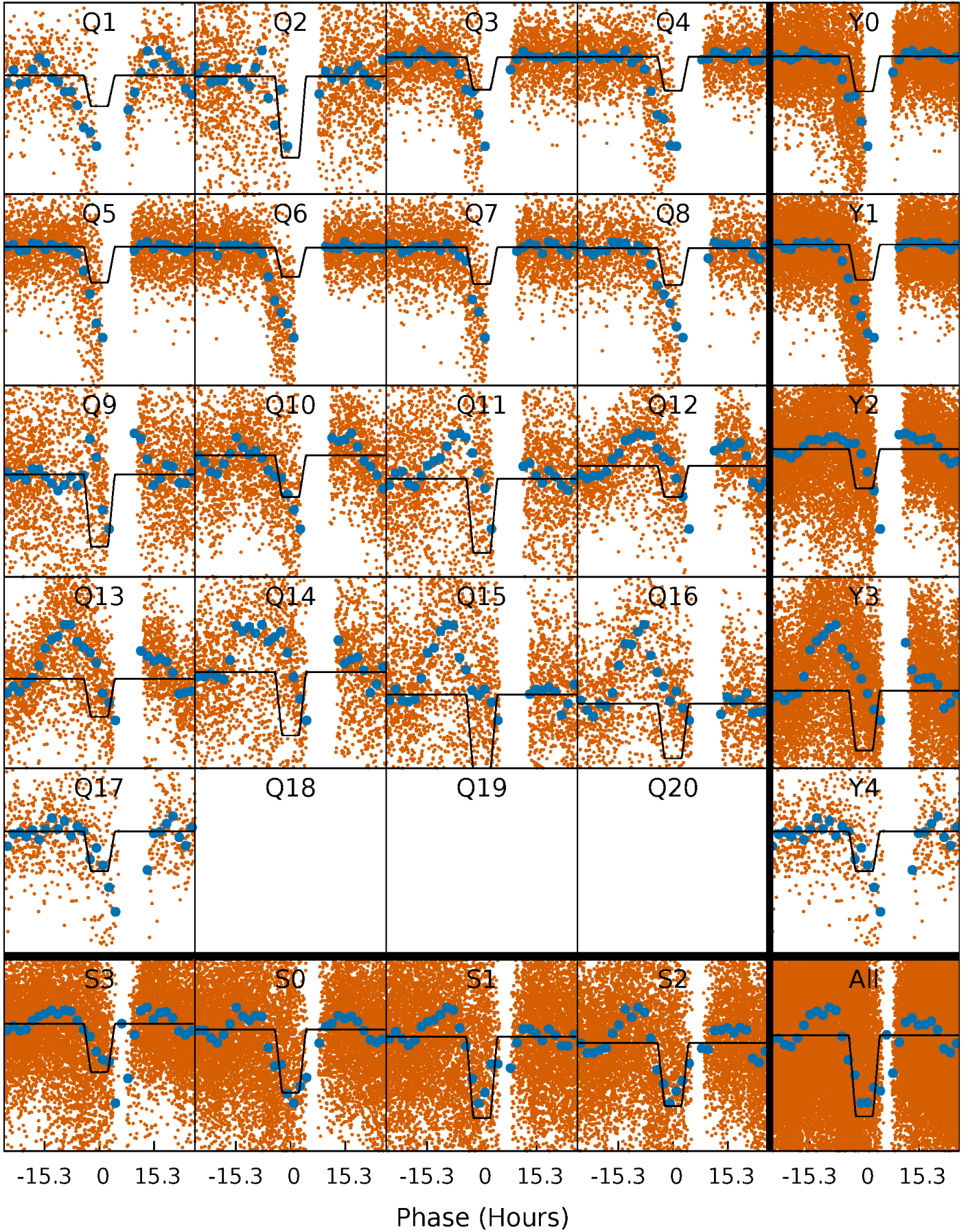
DV Quarter-Phased Transit Curves

TCE 003348288-02 P= 3.091414 Days $T_0=132.065195$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

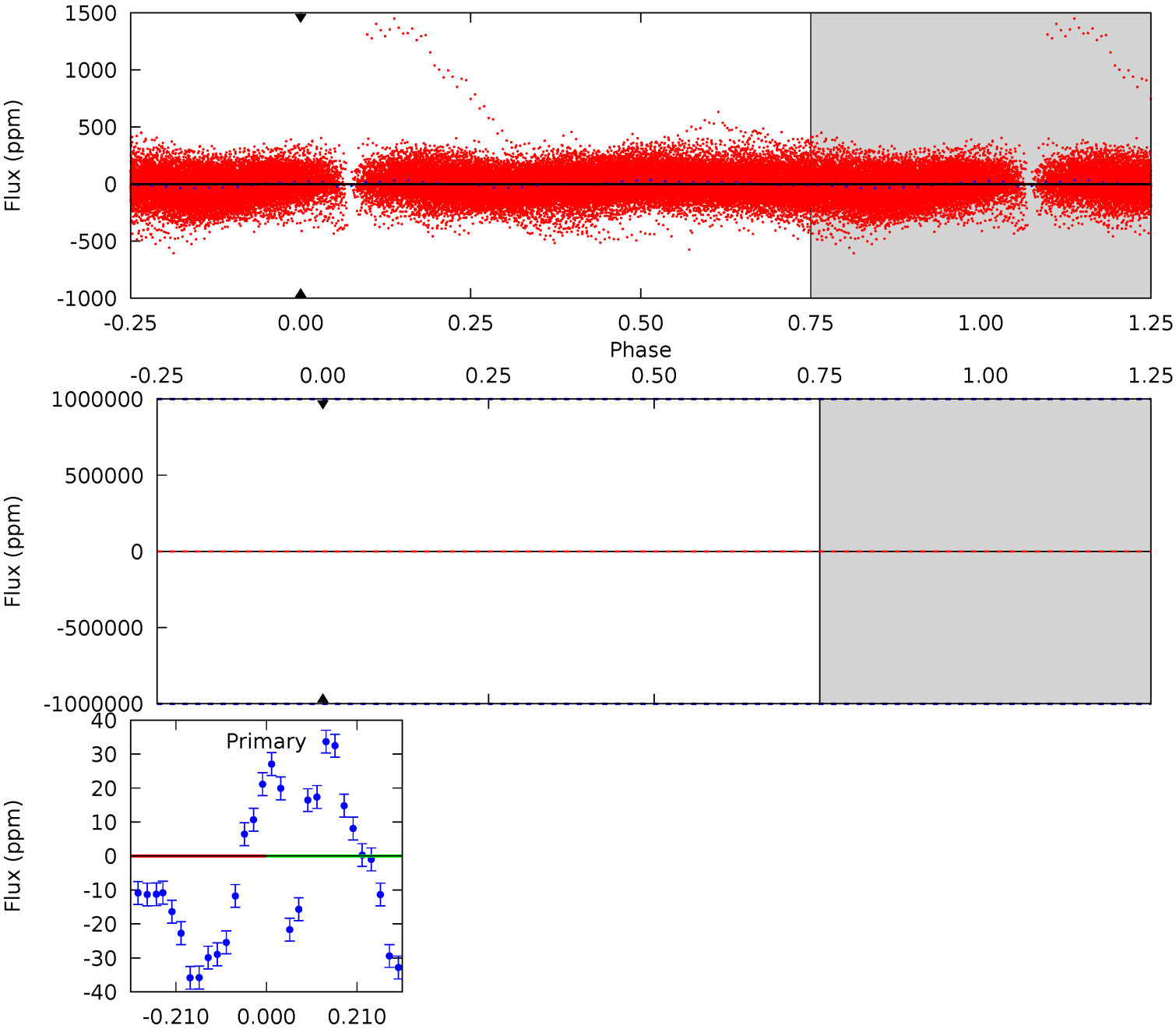
TCE 003348288-02 P= 3.091566 Days $T_0=131.981949$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-02, P = 3.091414 Days, E = 128.973781 Days

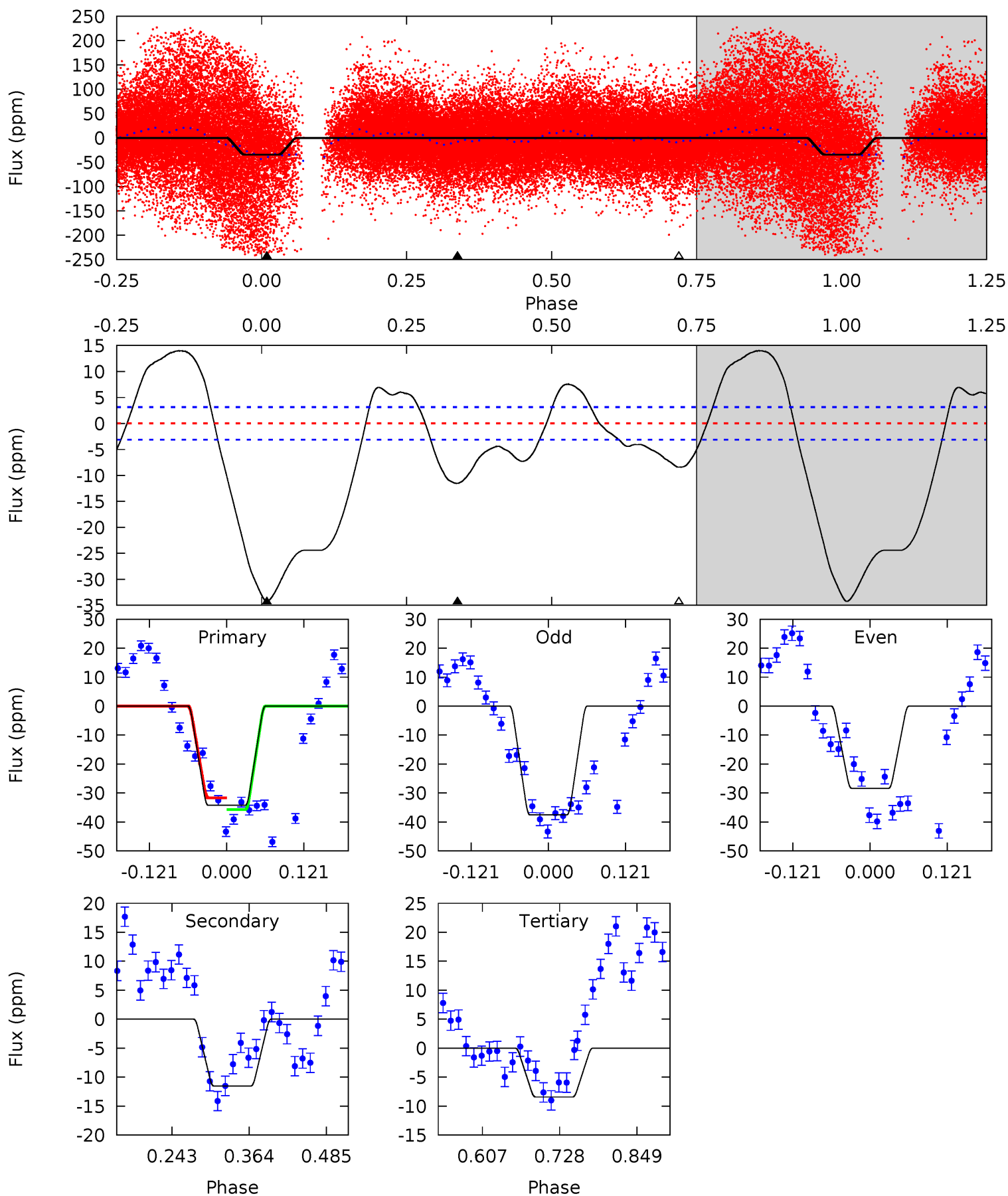
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003348288-02, P = 3.091566 Days, E = 128.890383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	16.6	12.1	0	4.52	1.55	10.9	37.1	49.2	4.46	16.6	6.59	1.93	0.29	2.85



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$509.01^{+555.38}_{-365.58}$	120^{+59}_{-29}	-1936^{+5355}_{-1412}	$-313.980^{+204113.959}_{-224815.797}$
Alt.	-12 ± 1	$538.79^{+547.17}_{-347.71}$	118^{+62}_{-27}	1243^{+221}_{-125}	12^{+108}_{-10}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

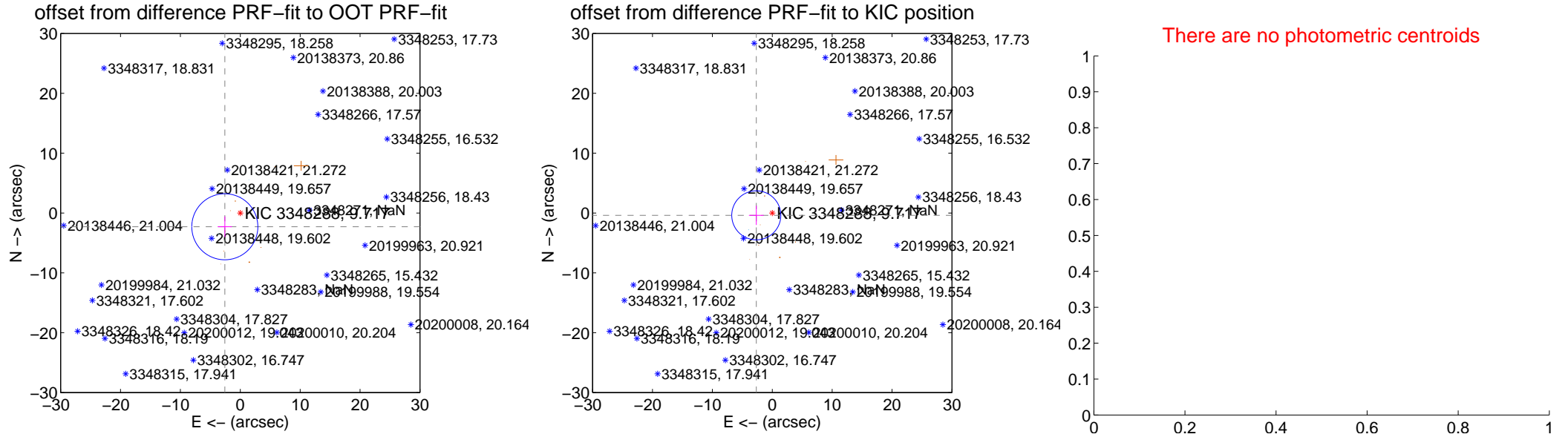
DV Centroid Data

Supplemental centroid analysis for 003348288-02. **Kepler magnitude: 9.72.** Transit SNR 0.00

There are 3 quarters with good PRF difference image offsets

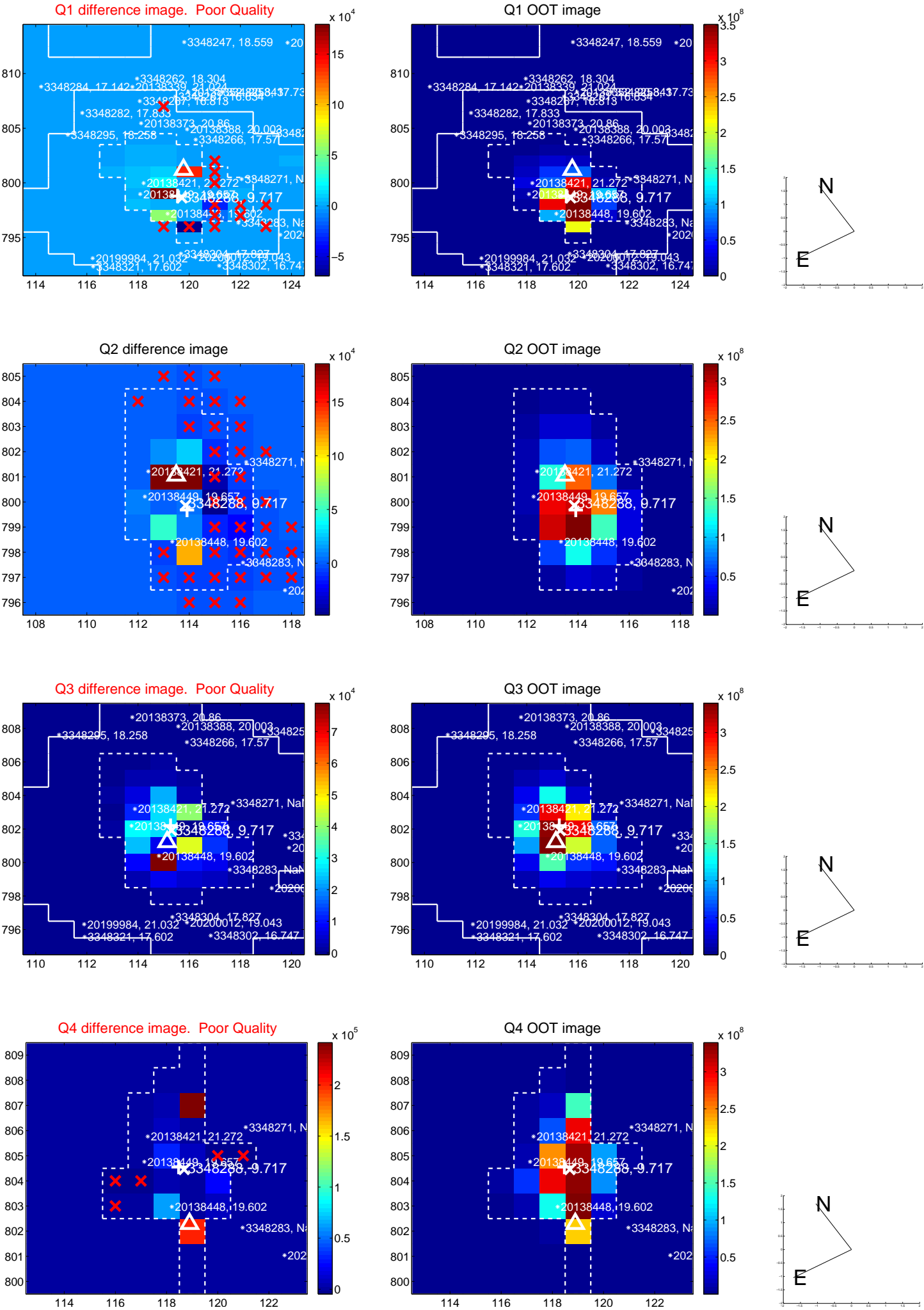
The direct PRF centroid is offset from the target star catalog position by about 0.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.458 ± 1.838	1.88	2.583 ± 1.165	-2.298 ± 1.730
PRF-fit source offset from KIC position	2.695 ± 1.365	1.97	2.668 ± 1.231	-0.384 ± 1.606
photometric centroid source offset	—	—	—	—

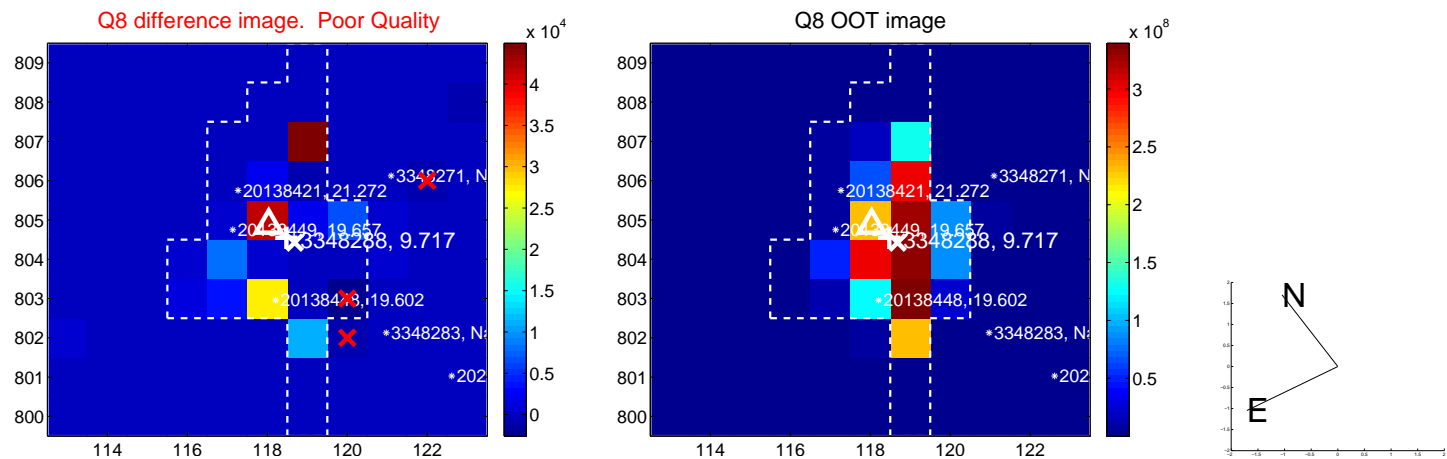
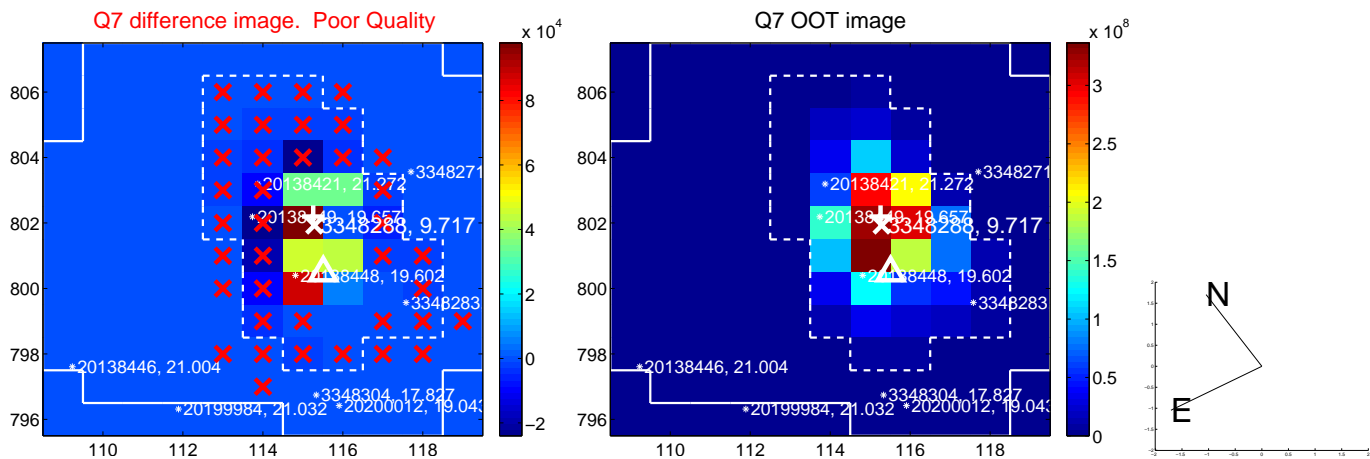
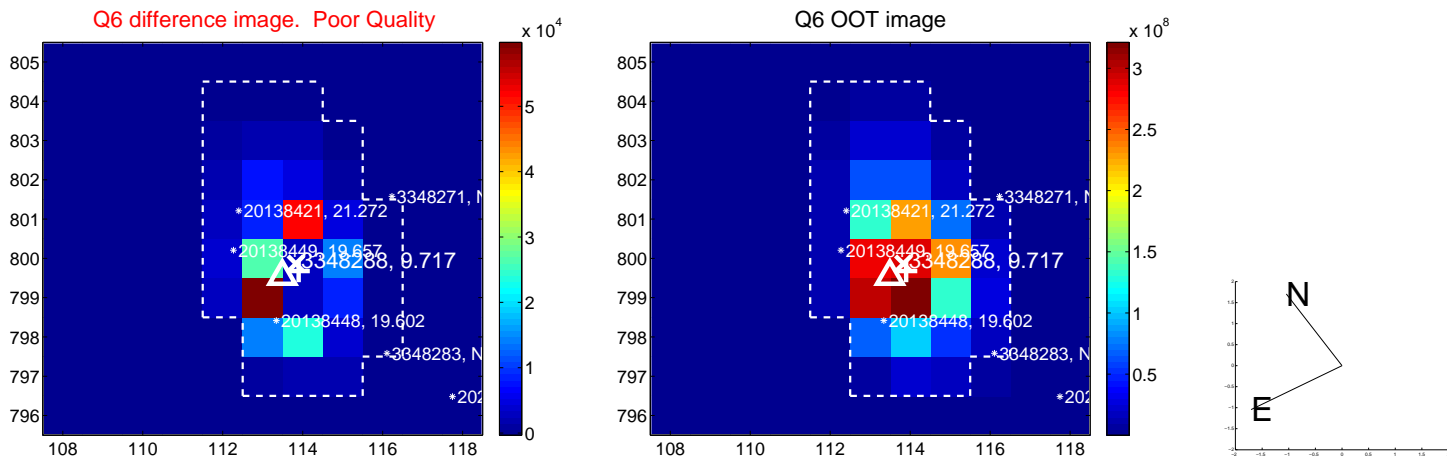
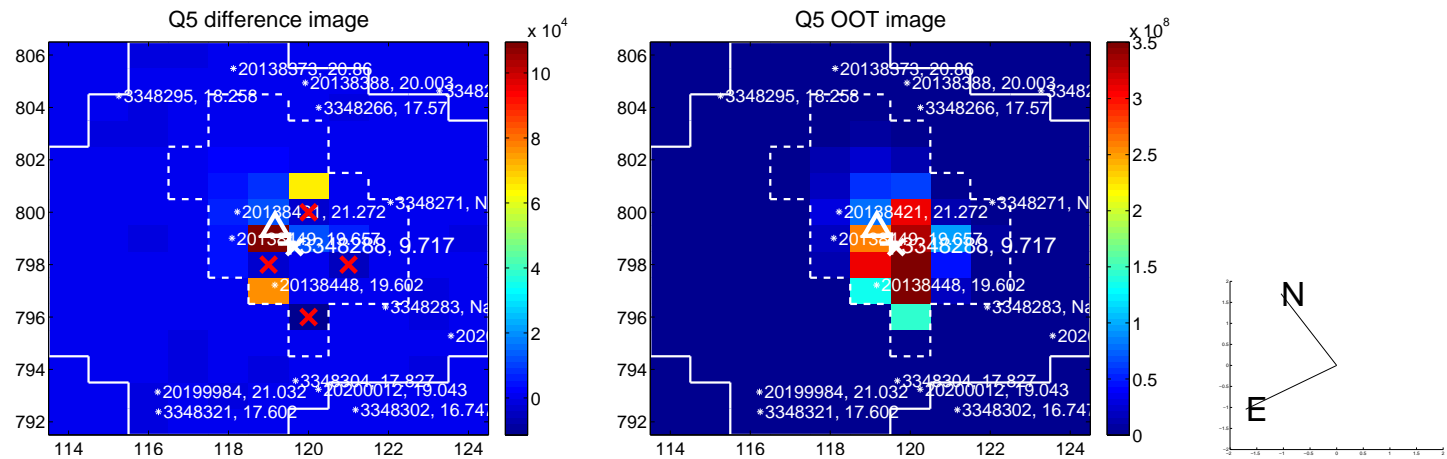


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

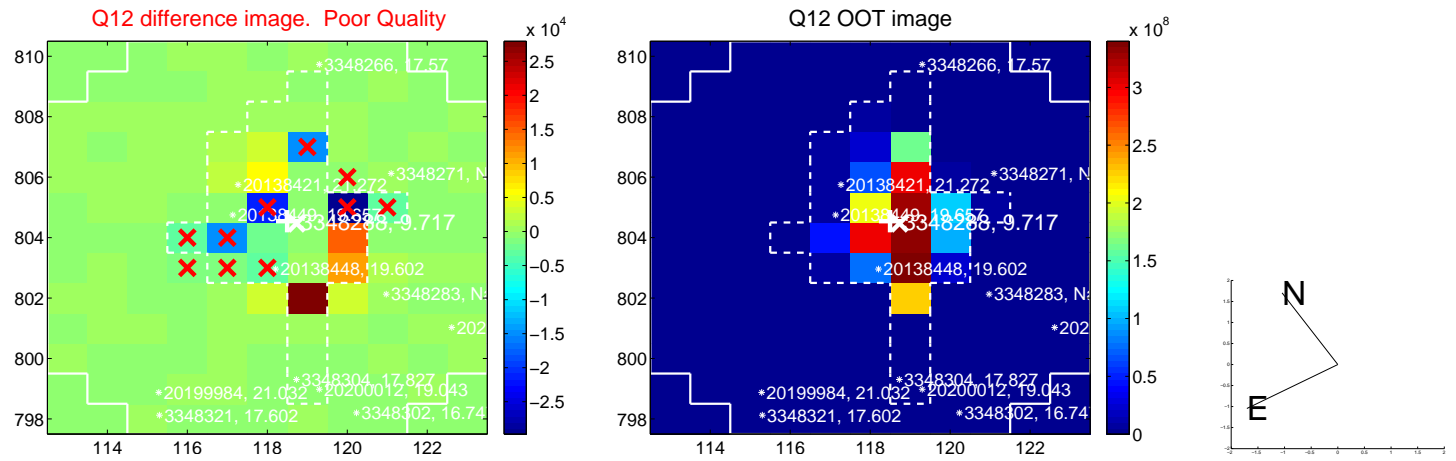
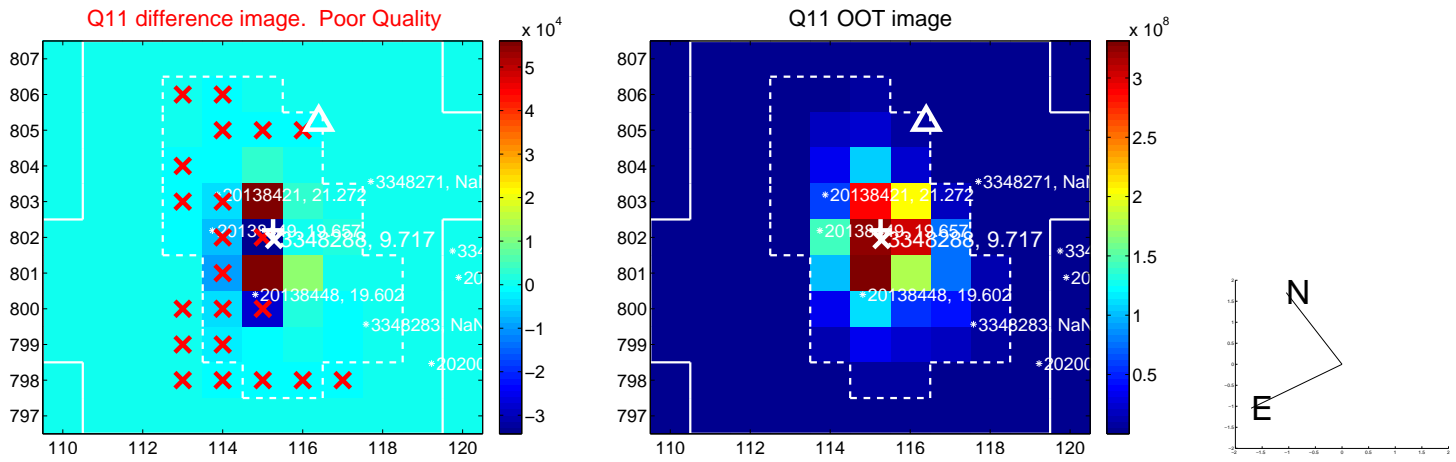
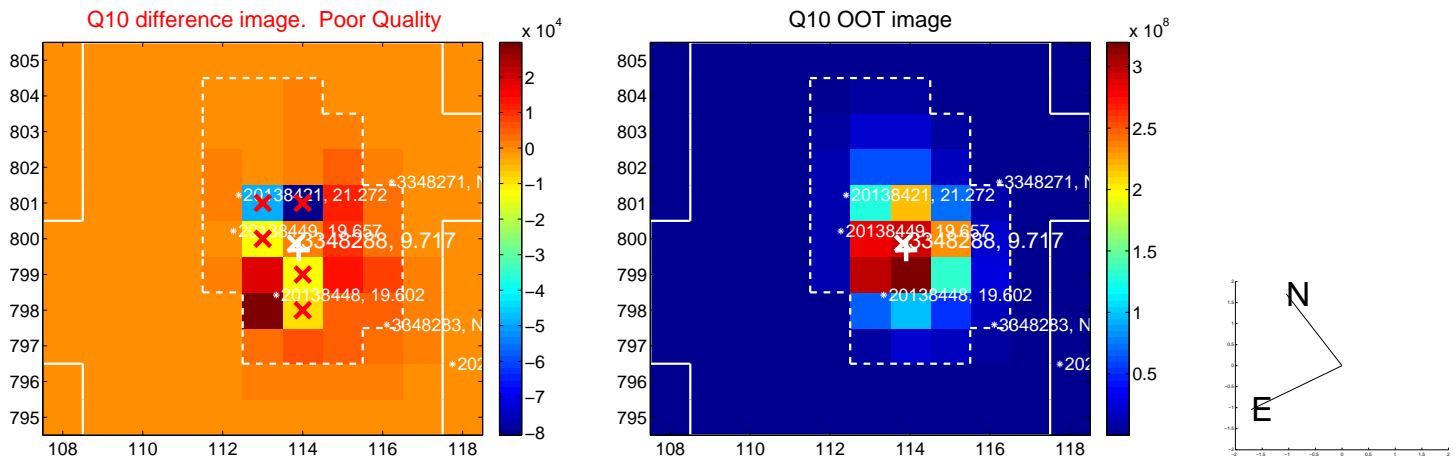
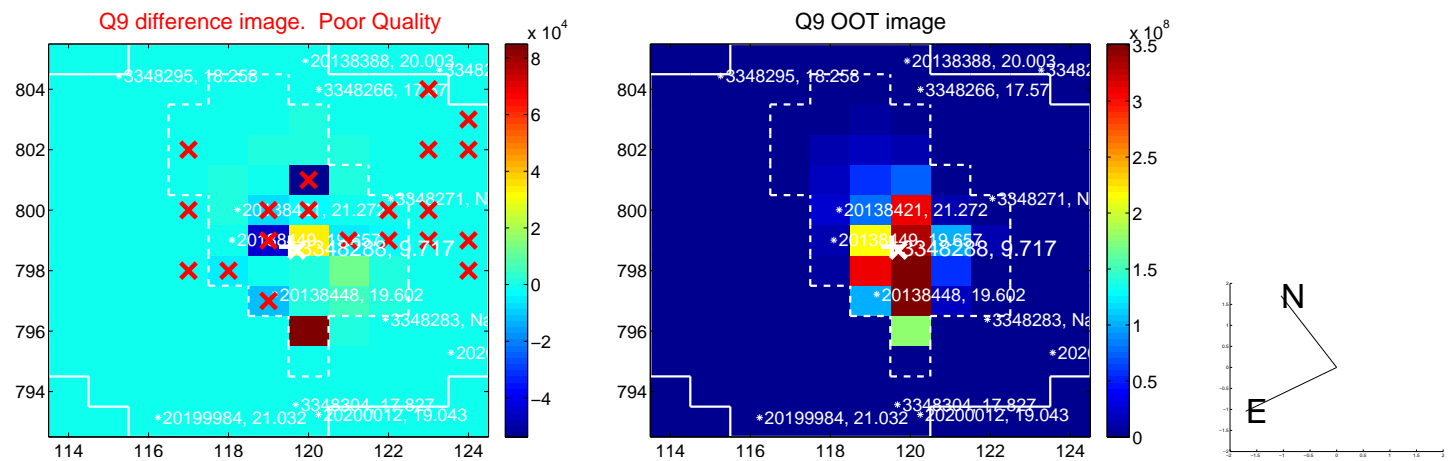
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



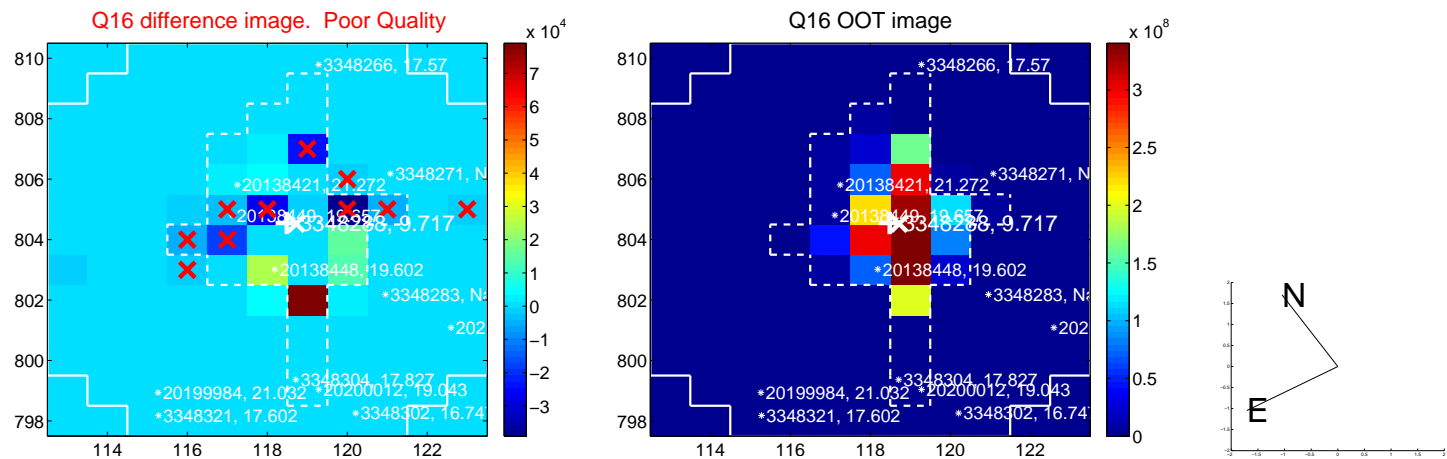
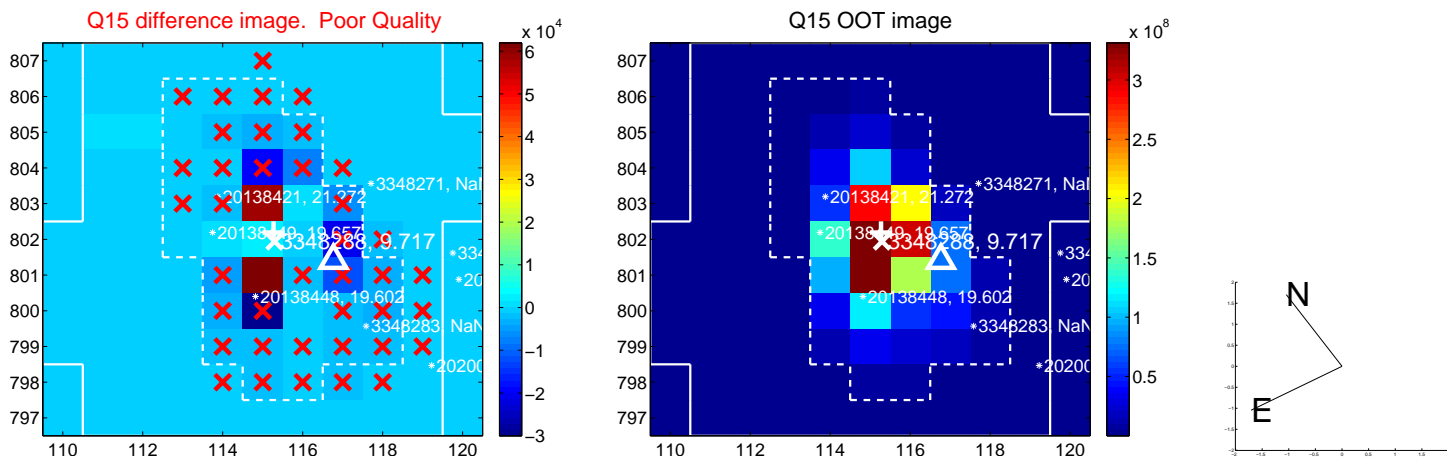
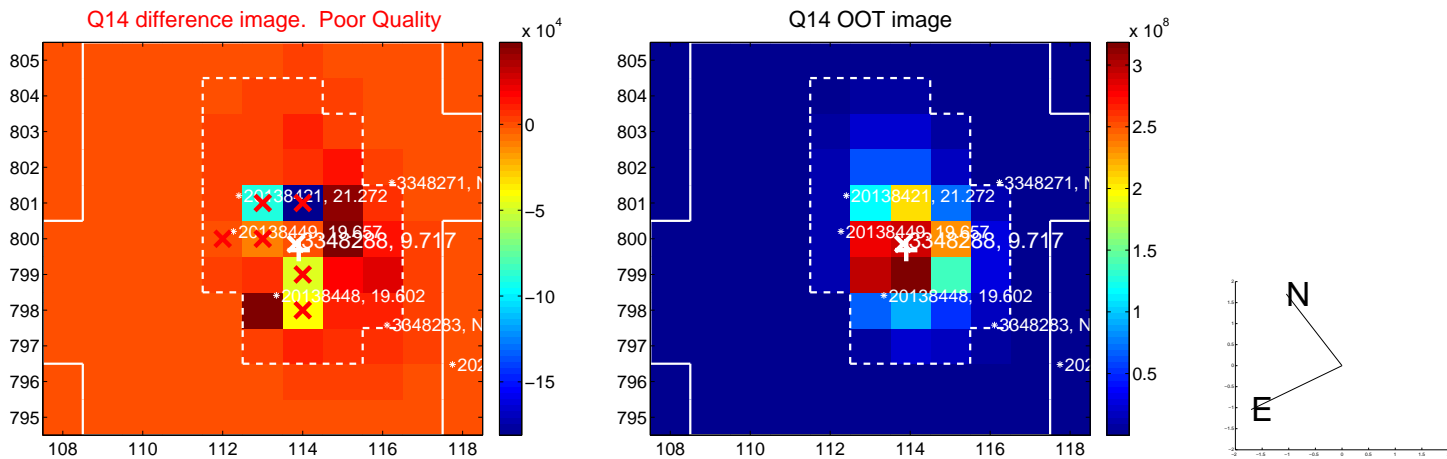
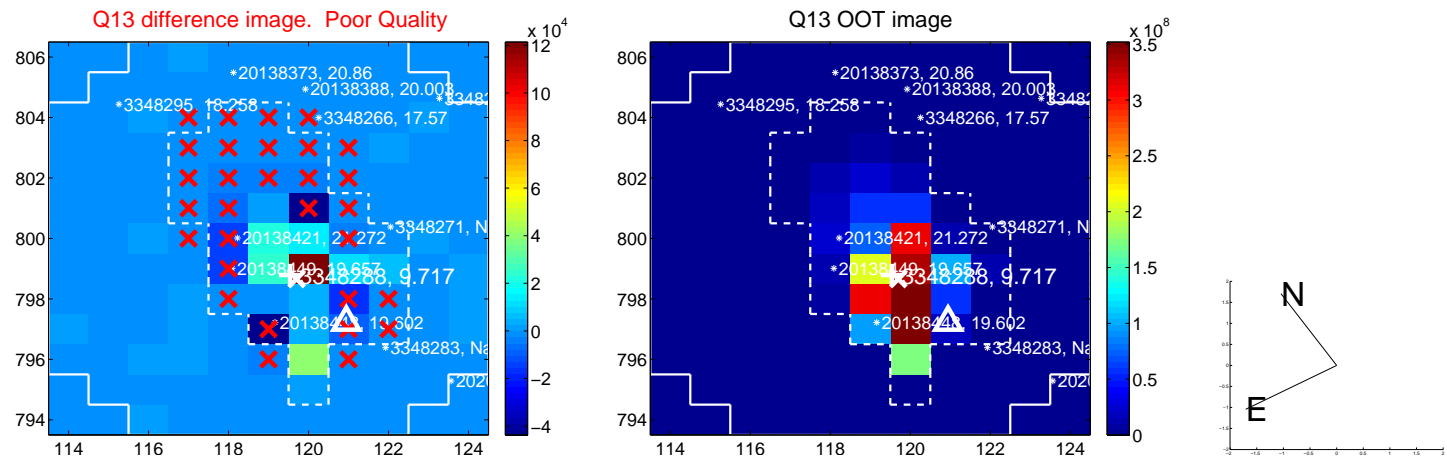
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



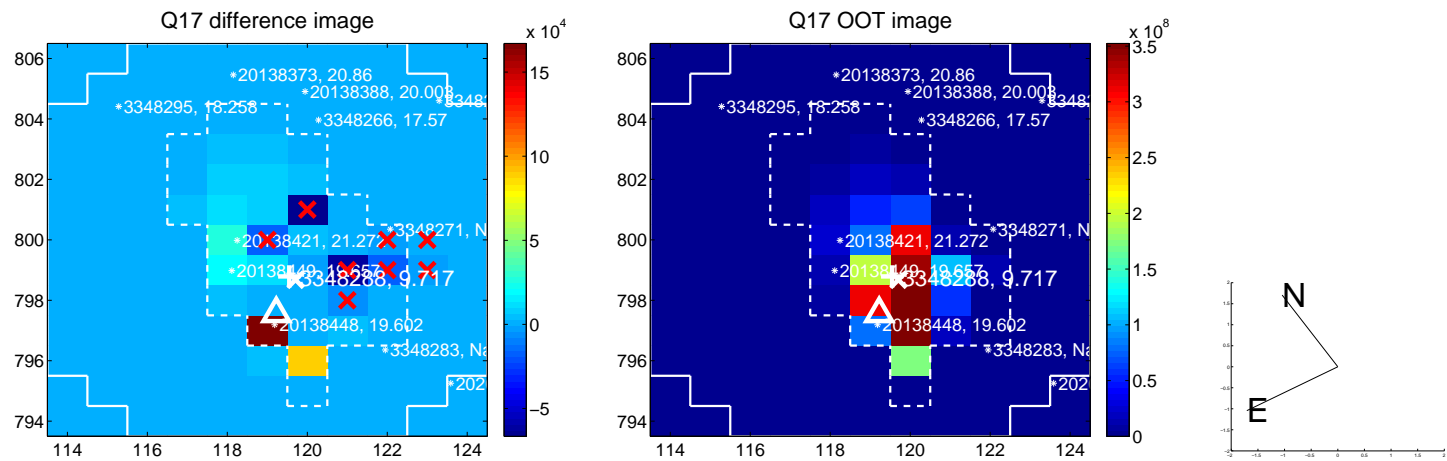
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

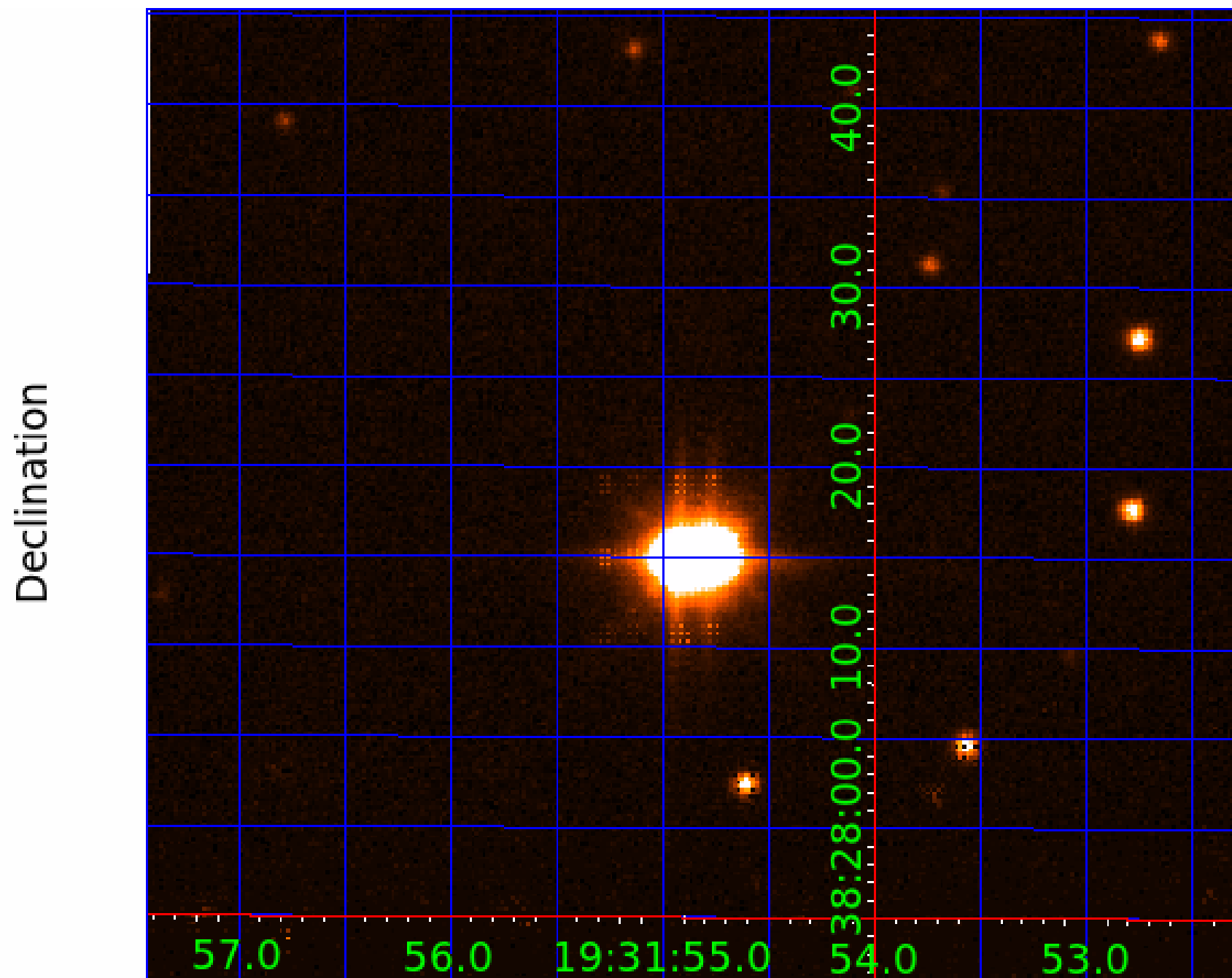


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

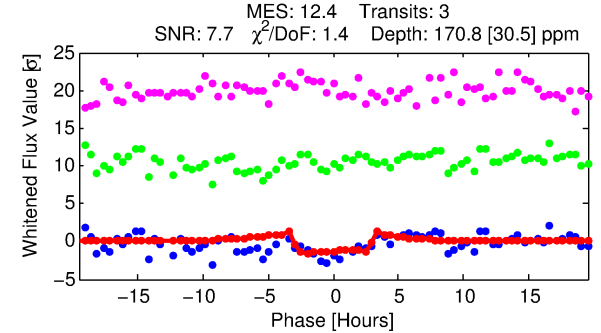
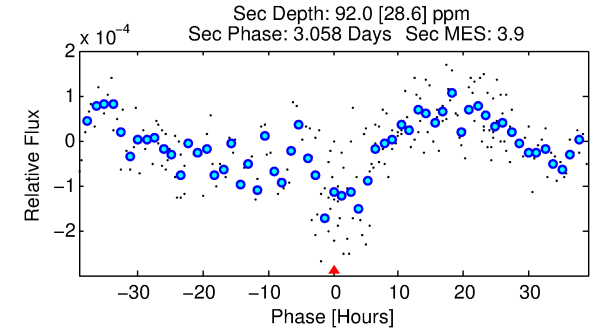
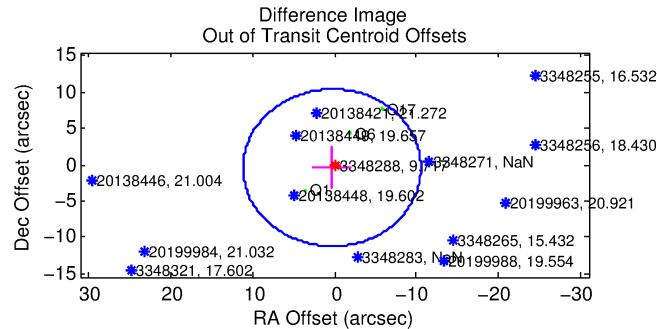
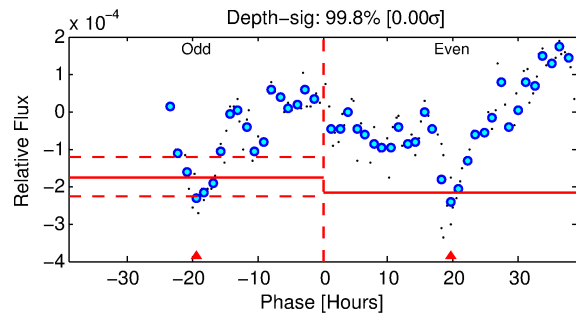
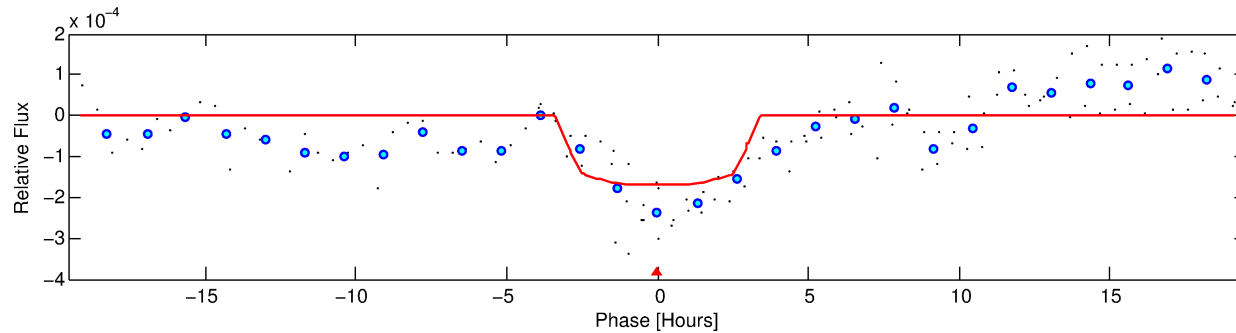
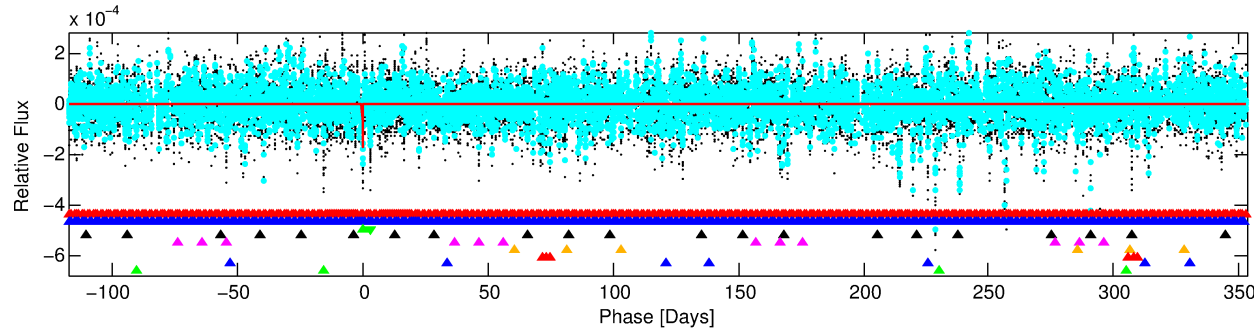
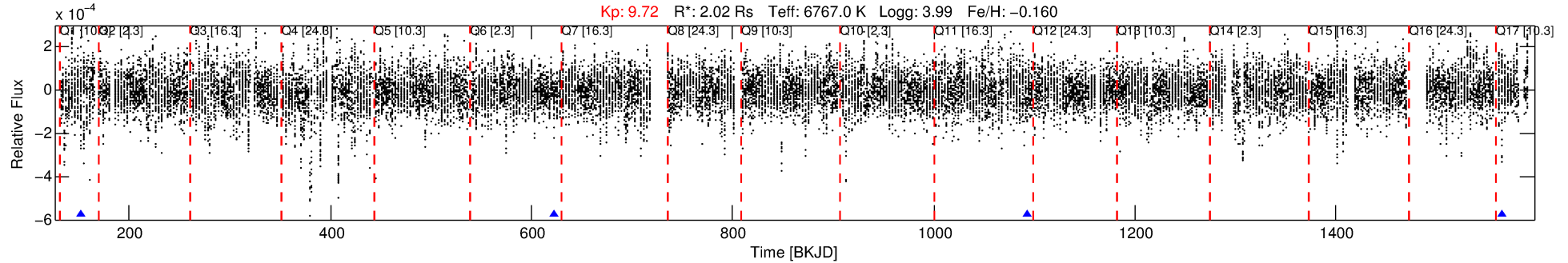
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-03

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 3 of 9 Period: 470.890 d



DV Fit Results:

Period = 470.88994 [0.00504] d
Epoch = 151.7443 [0.0077] BKJD
 R_p/R^* = 0.0141 [0.0049]
 a/R^* = 246.85 [482.42]
 b = 0.91 [0.36]
 Seff = 4.27 [1.81]
 T_{eq} = 367 [39] K
 R_p = 3.10 [1.41] R_e
 a = 1.3389 [0.3561] AU
 A_g = 9457.99 [8192.97] [1.15 σ]
 T_{eff} = 5590 [1078] K [4.84 σ]

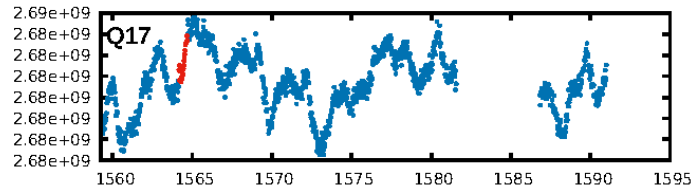
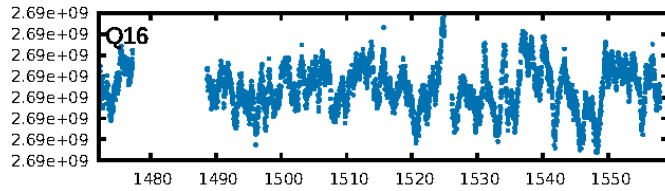
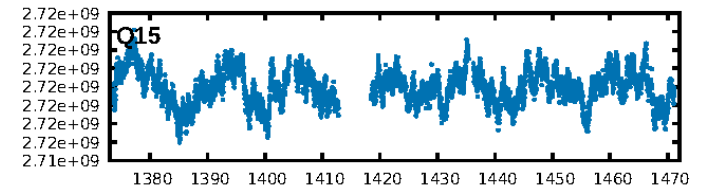
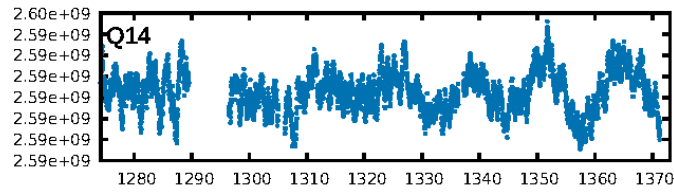
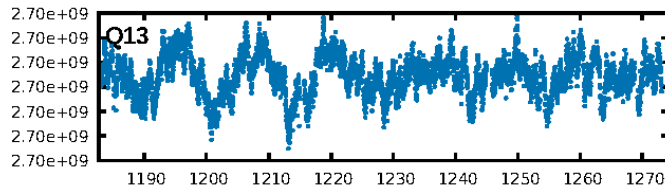
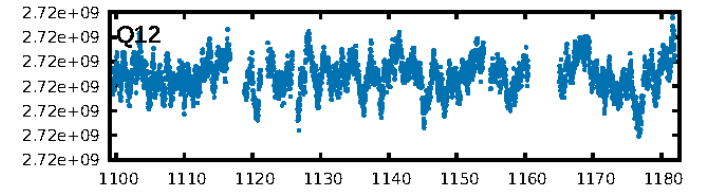
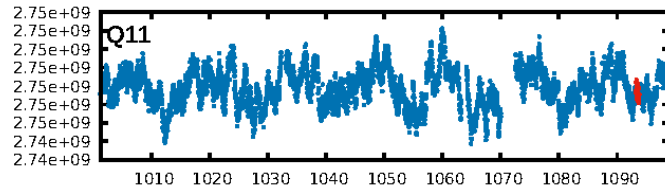
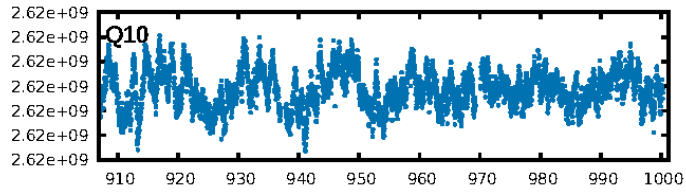
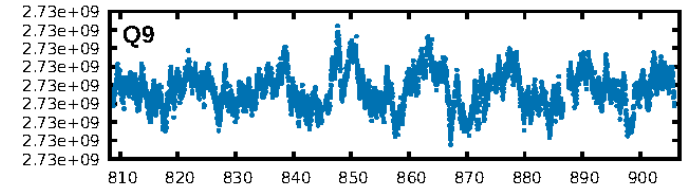
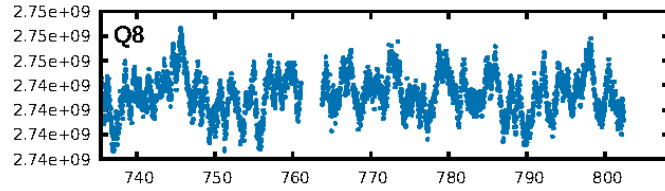
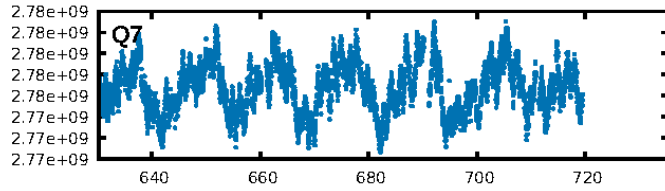
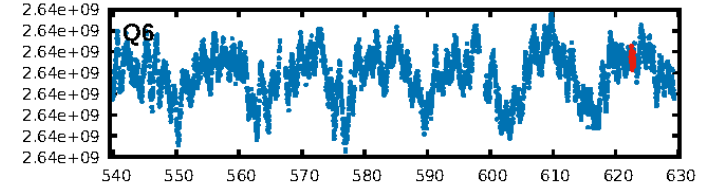
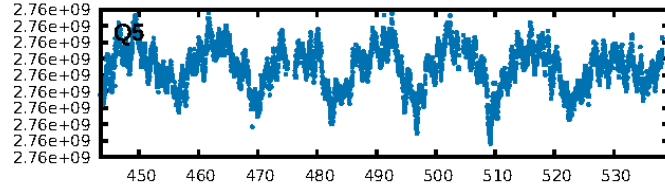
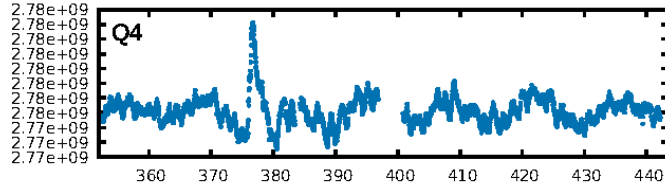
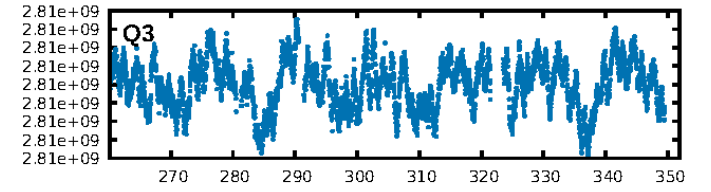
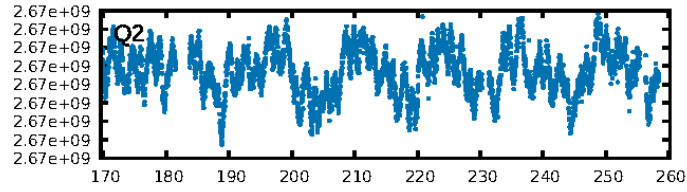
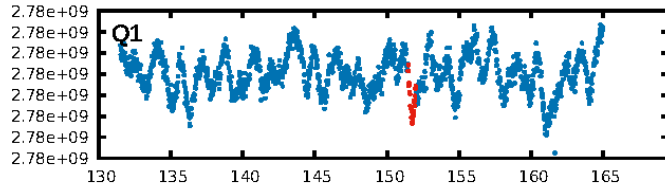
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [219.51 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 75.0%
ModelChiSquareGof-sig: 95.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1/1]
GhostDiagnostic-chr: N/A
Centroid-sig: 88.7%
Centroid-so: 0.315 arcsec [0.25 σ]
OotOffset-rm: 0.528 arcsec [0.15 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 0.529 arcsec [0.17 σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

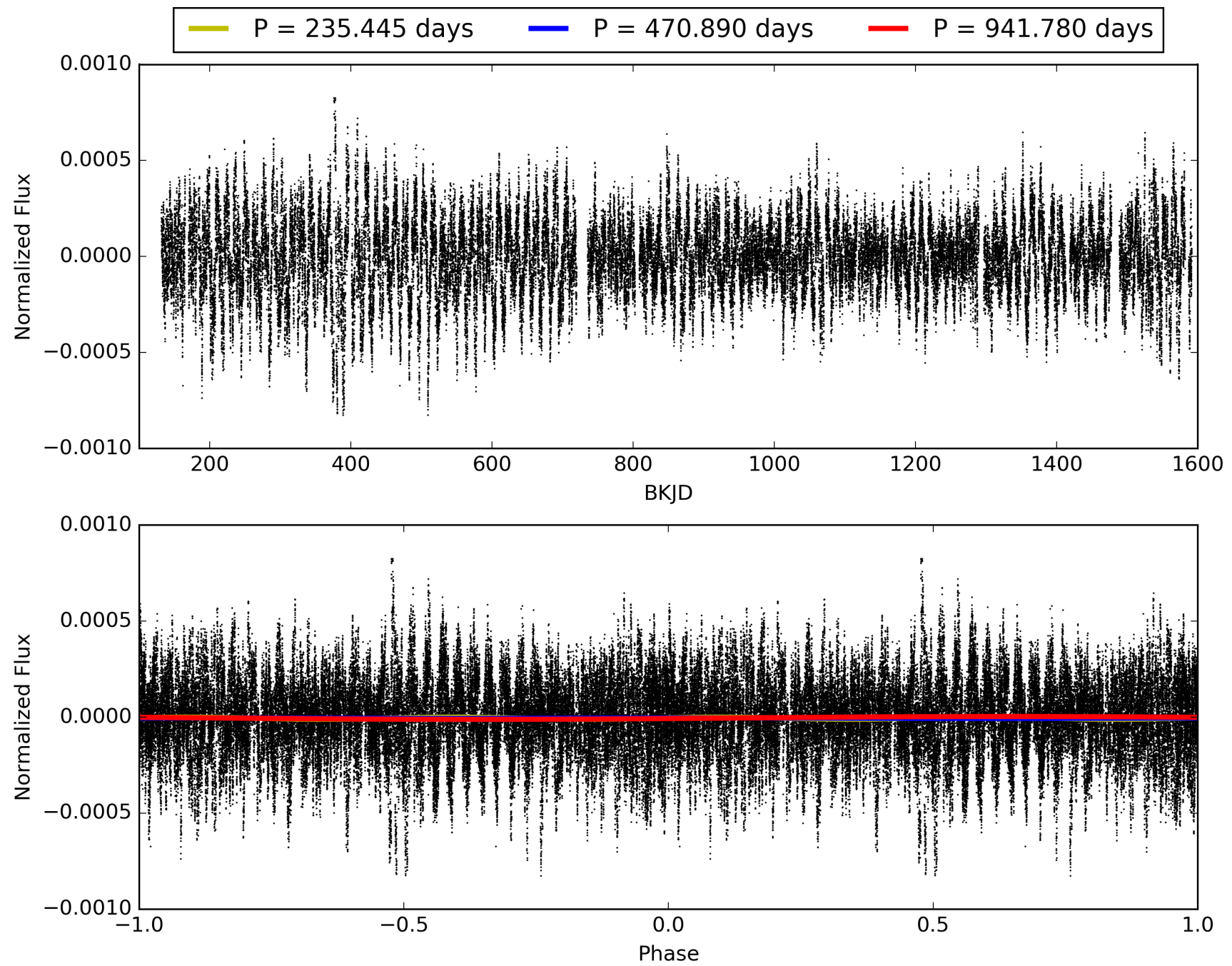
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:56:46 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-03, PDC Light Curves

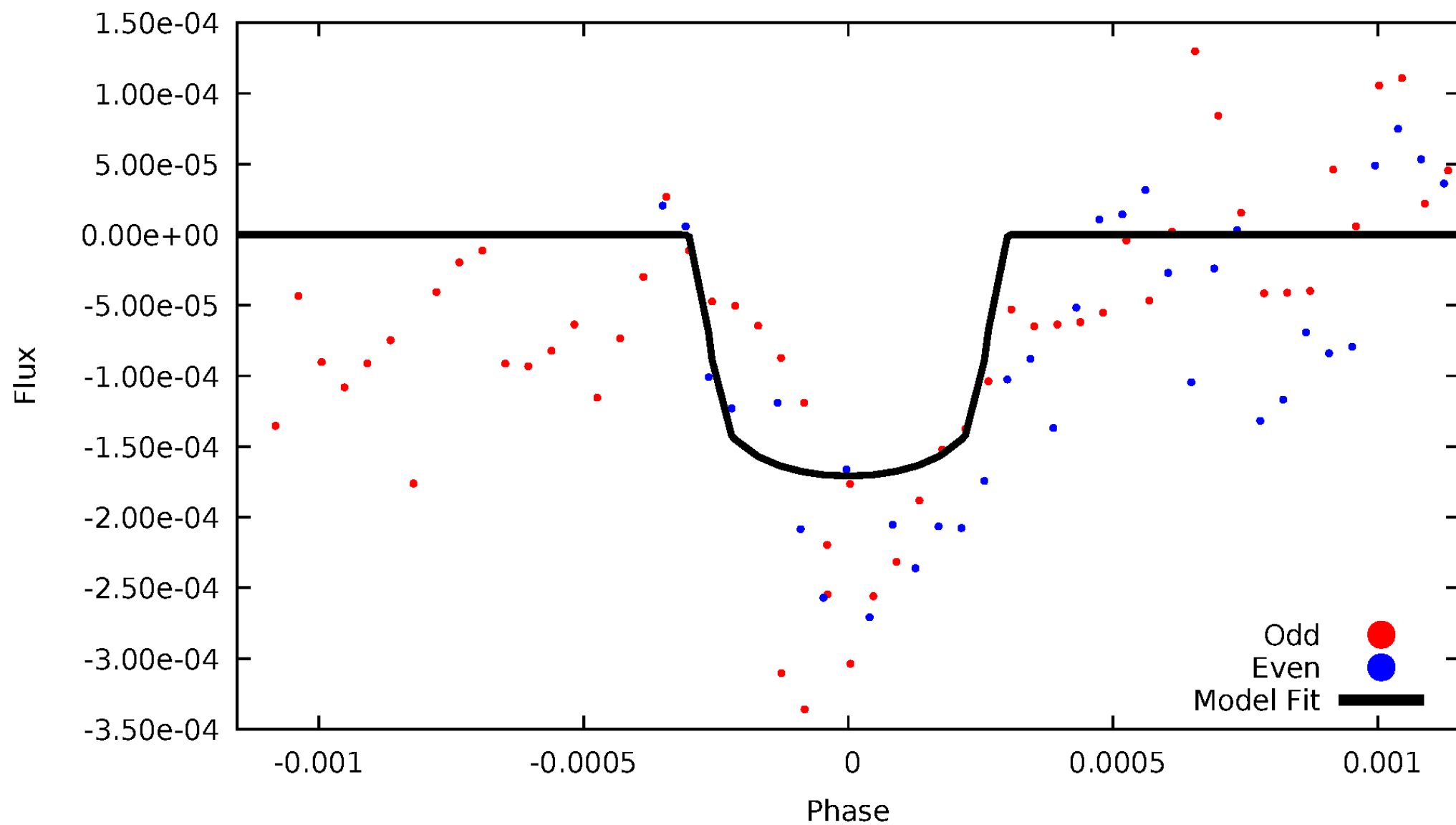


TCE 003348288-03



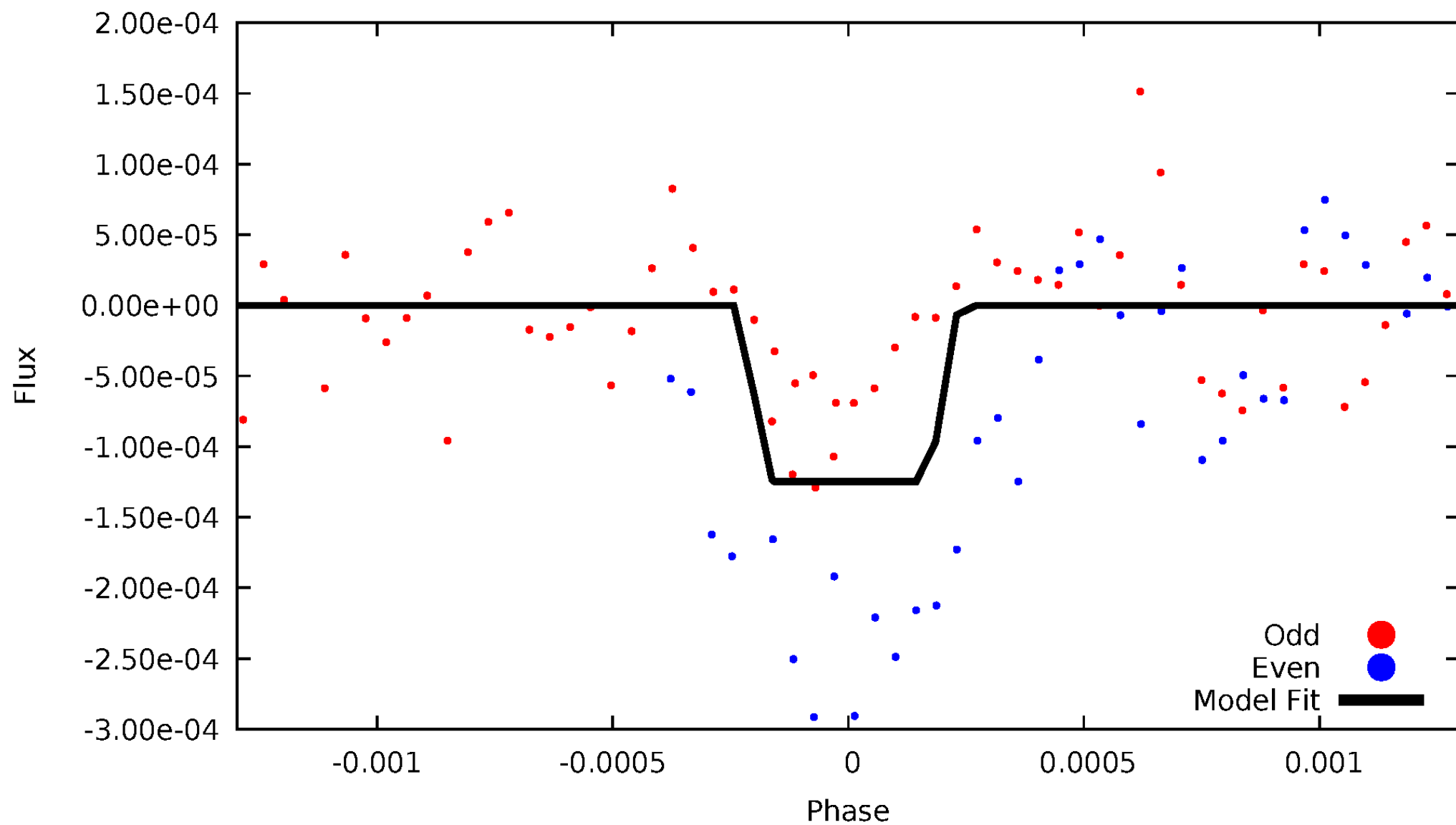
DV Odd/Even

TCE 003348288-03

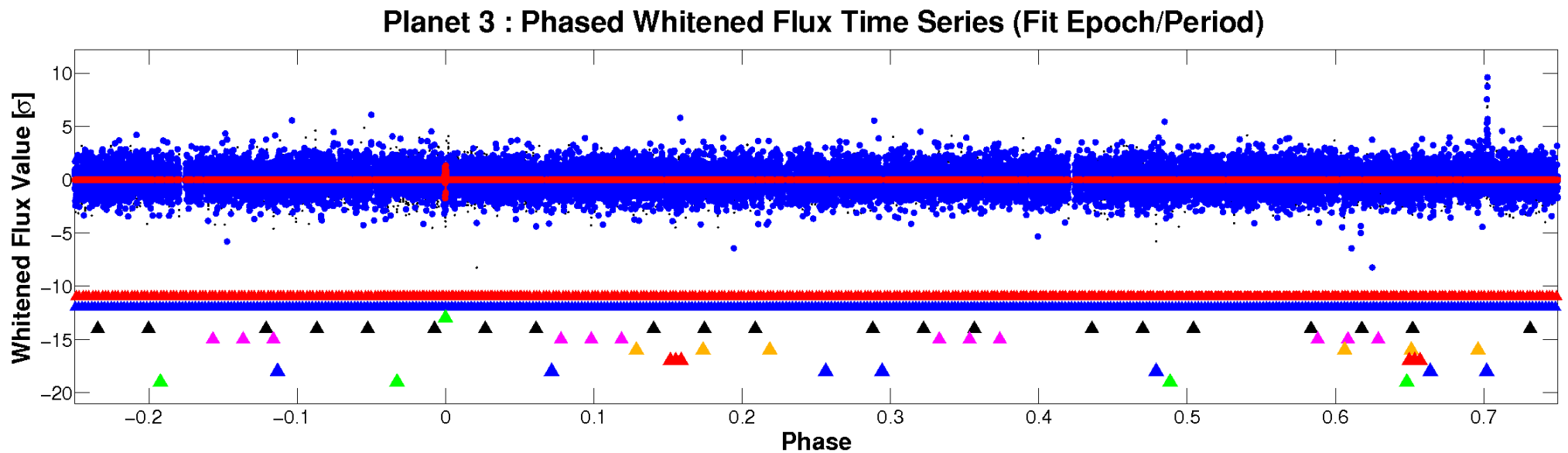
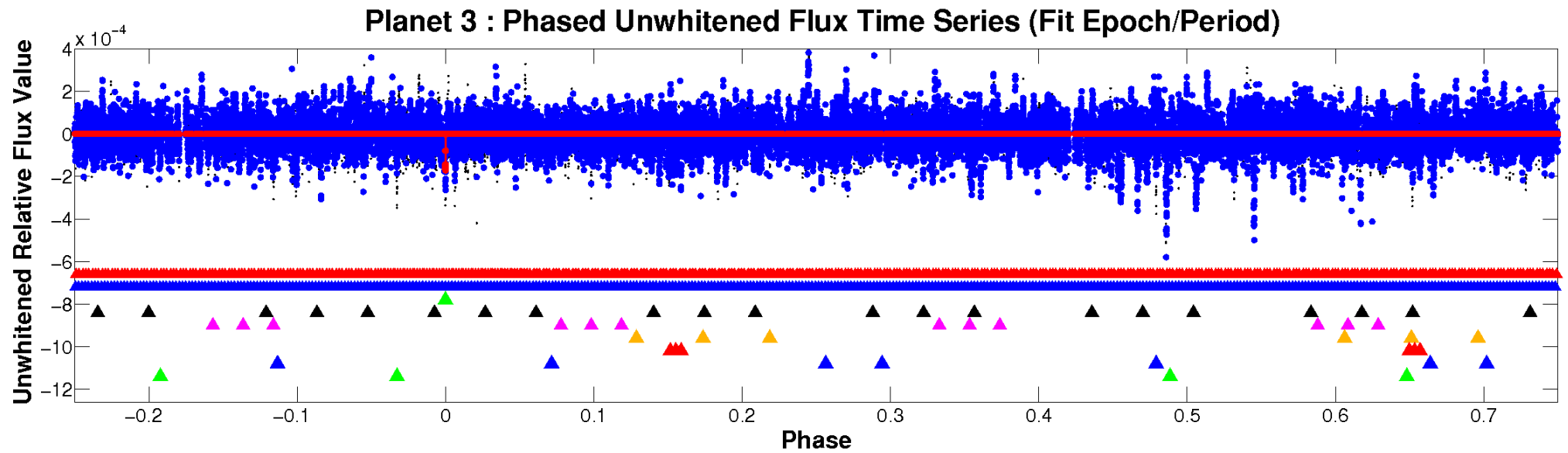


ALT Odd/Even

TCE 003348288-03

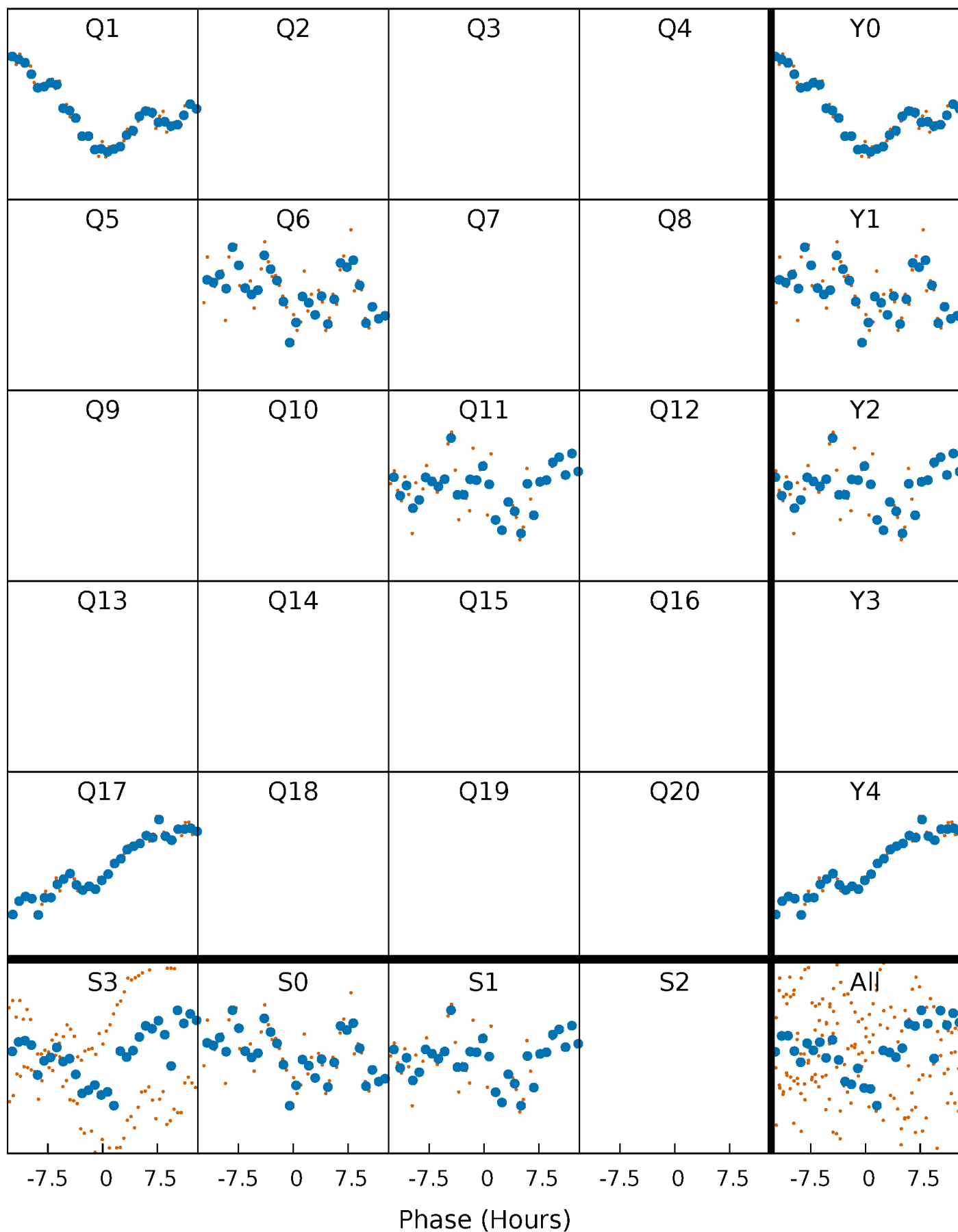


Non-Whitened Vs. Whitened Light Curve



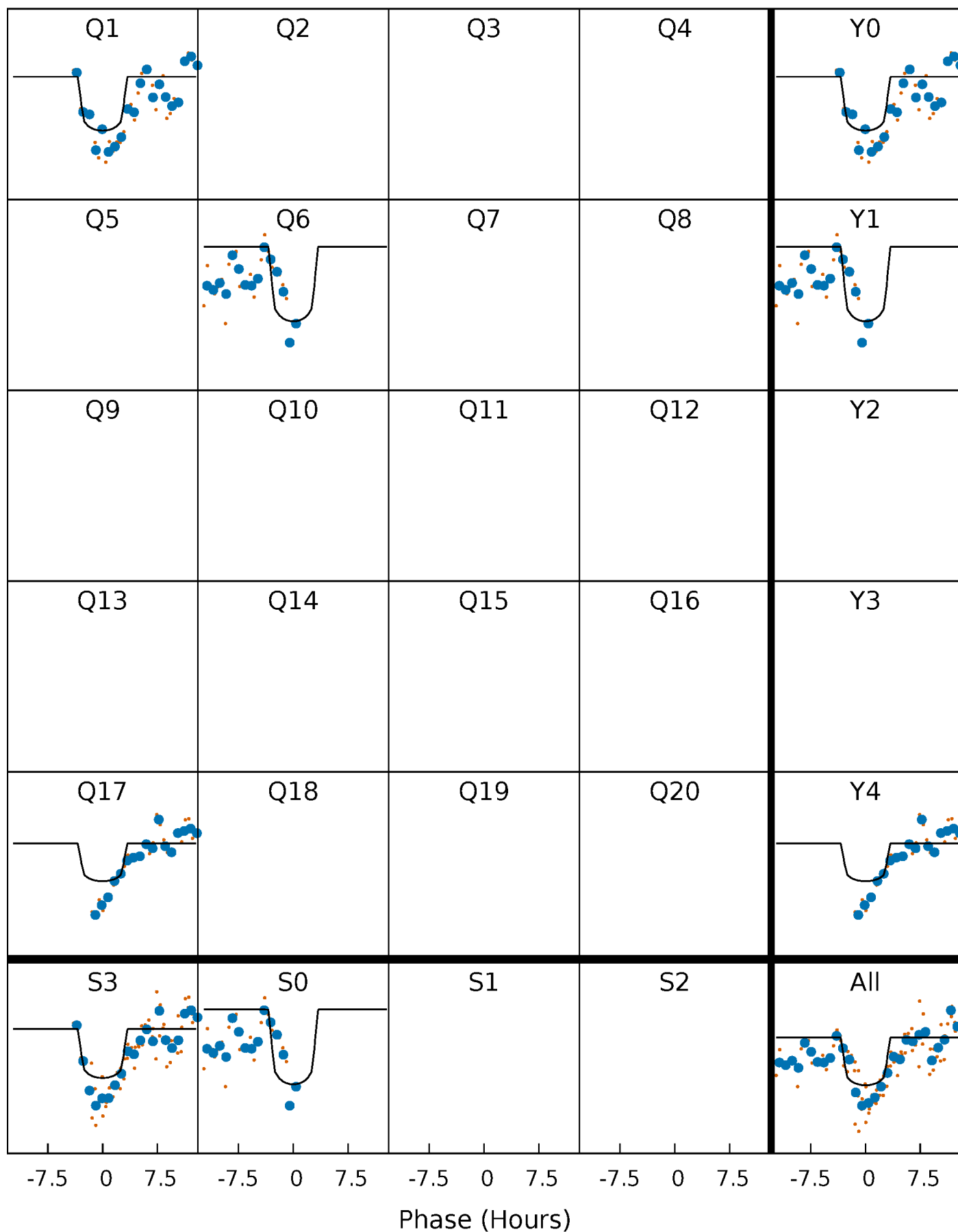
PDC Quarter-Phased Transit Curves

TCE 003348288-03 $P=470.889944$ Days $T_0=151.744283$ (BKJD)



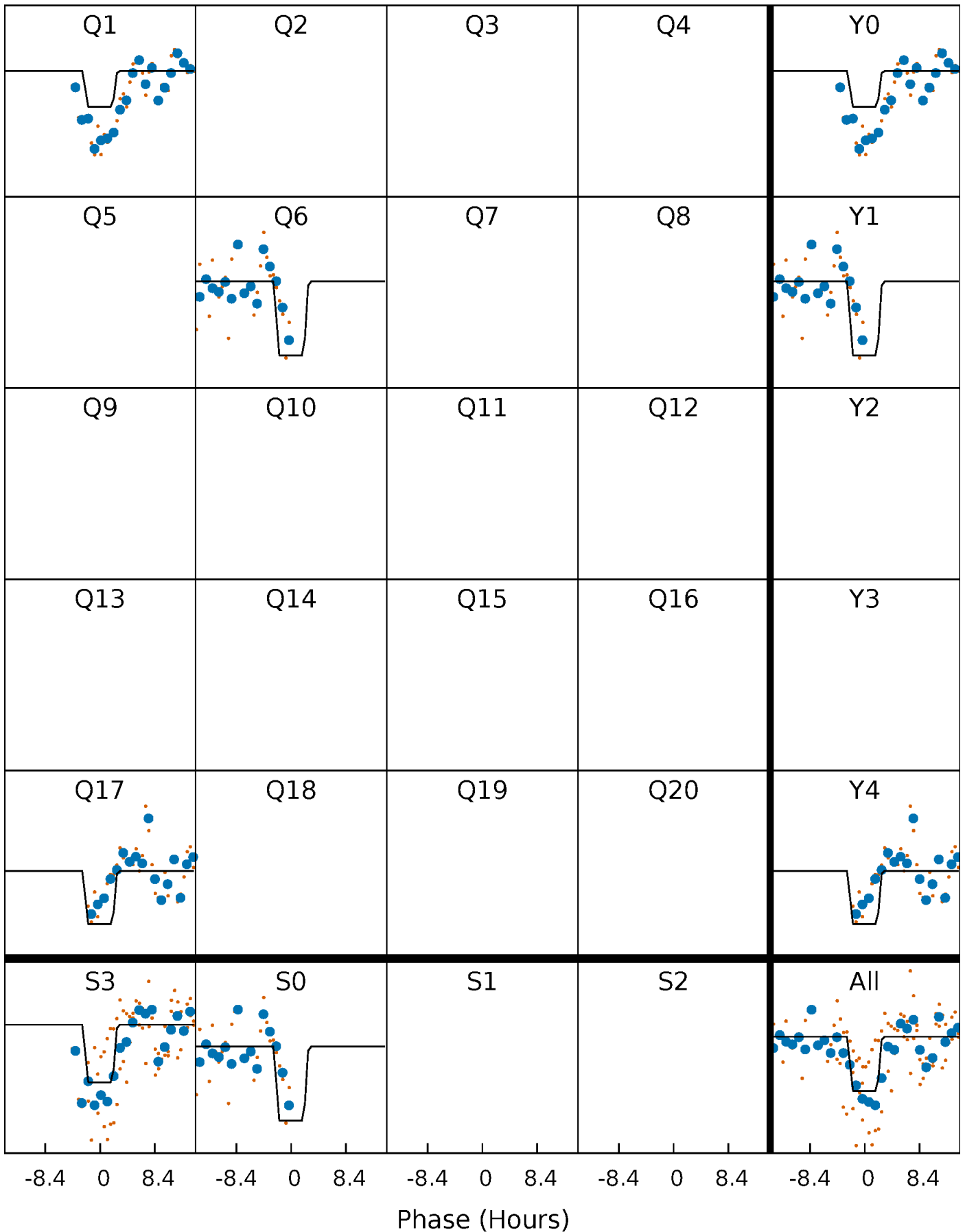
DV Quarter-Phased Transit Curves

TCE 003348288-03 $P=470.889944$ Days $T_0=151.744283$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

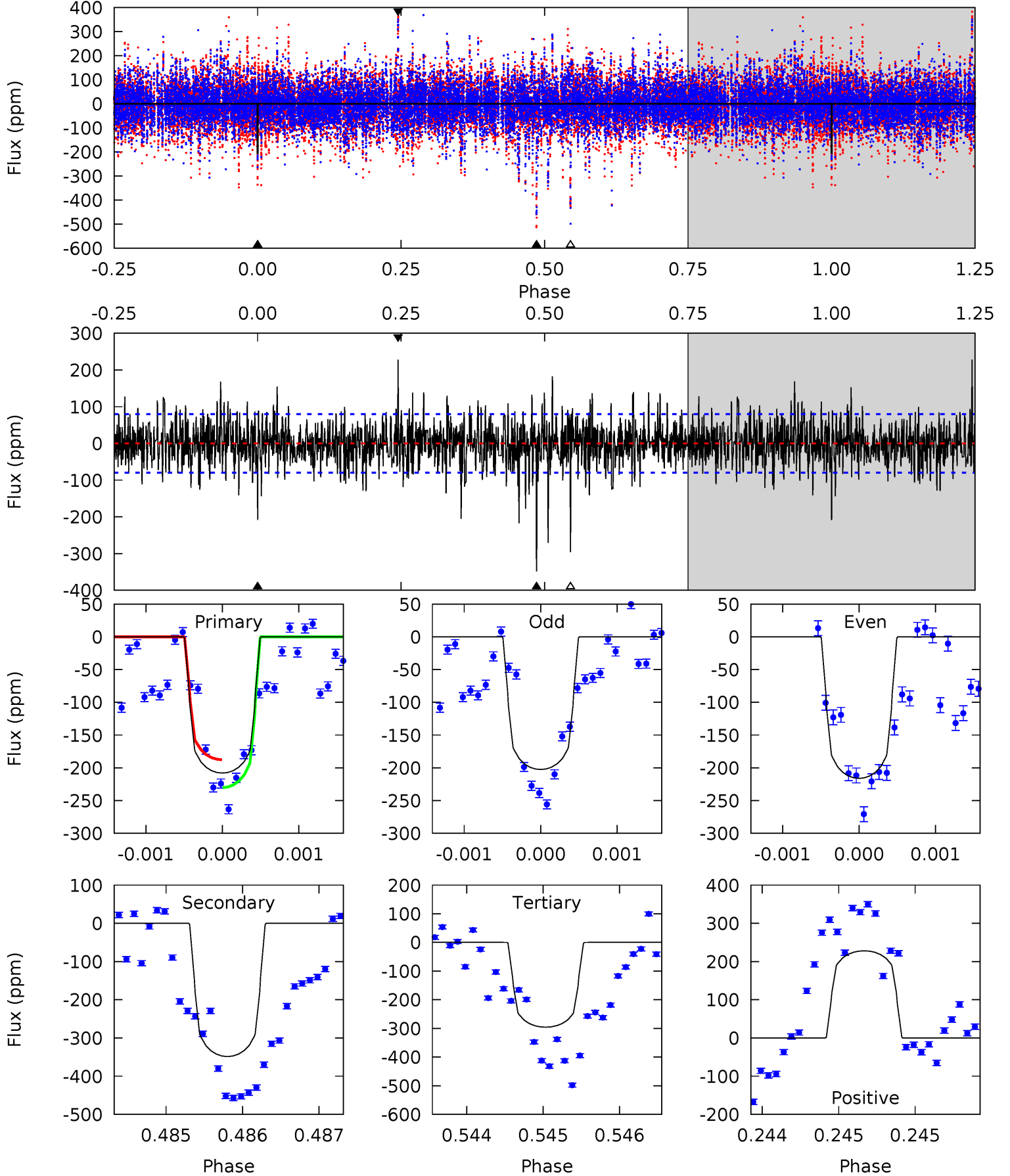
TCE 003348288-03 $P=470.891390$ Days $T_0=151.756737$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-03, P = 470.889944 Days, E = 151.744283 Days

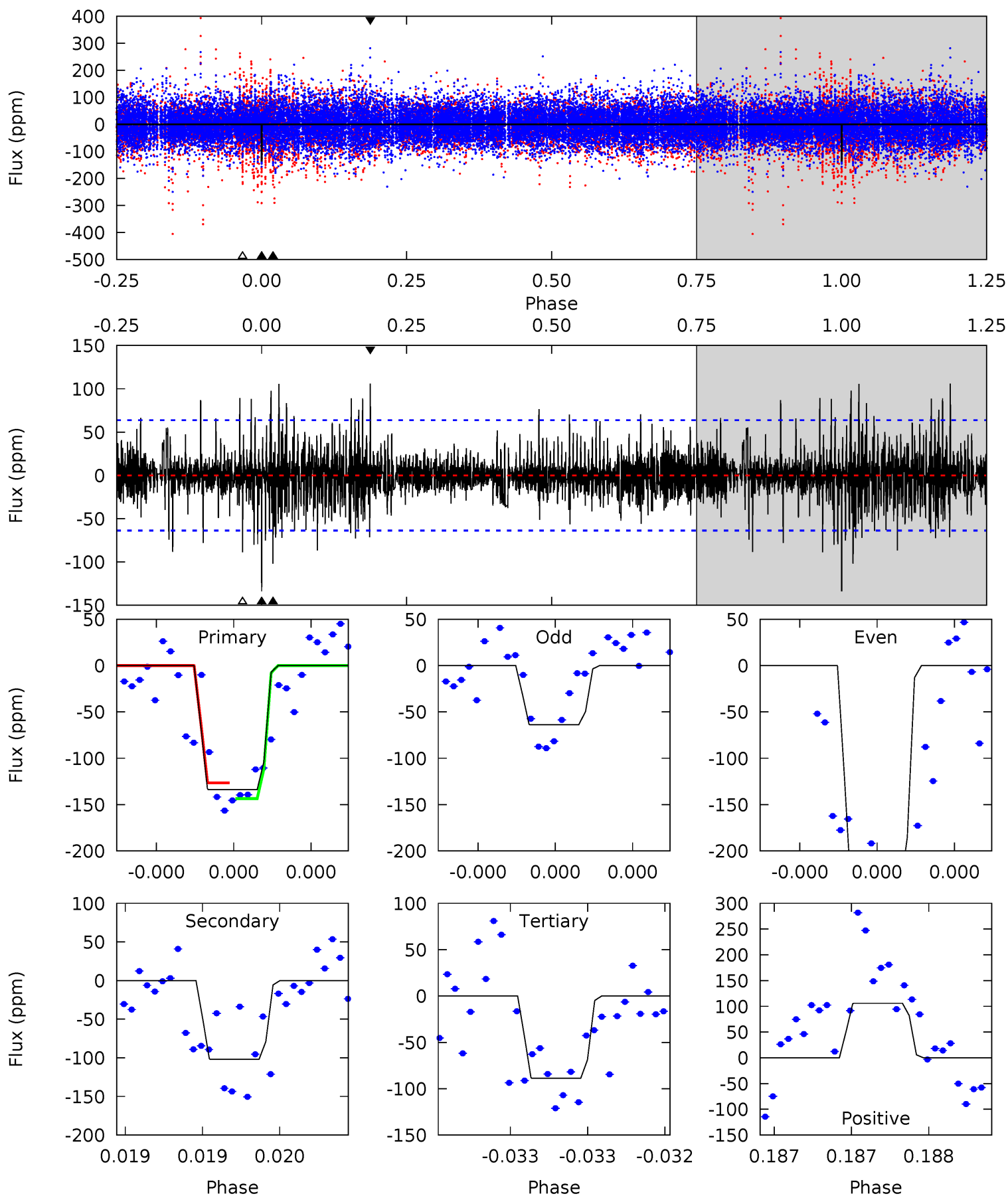
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	24.1	20.5	15.8	5.54	3.43	3.22	-6.08	-1.39	3.66	8.35	0.47	0.92	0.40	1.48



Alt Model-Shift Uniqueness Test

003348288-03, P = 470.891390 Days, E = 151.756737 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	8.93	7.78	9.28	5.58	3.50	1.74	3.95	2.46	1.15	-0.34	7.37	1.80	0.44	0.75



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-349 ± 14	$2.92^{+1.18}_{-1.04}$	507^{+32}_{-40}	8008^{+2771}_{-1285}	40105^{+57290}_{-19910}
Alt.	-102 ± 11	$2.36^{+1.07}_{-1.12}$	506^{+31}_{-40}	6386^{+3008}_{-995}	17838^{+48700}_{-9358}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

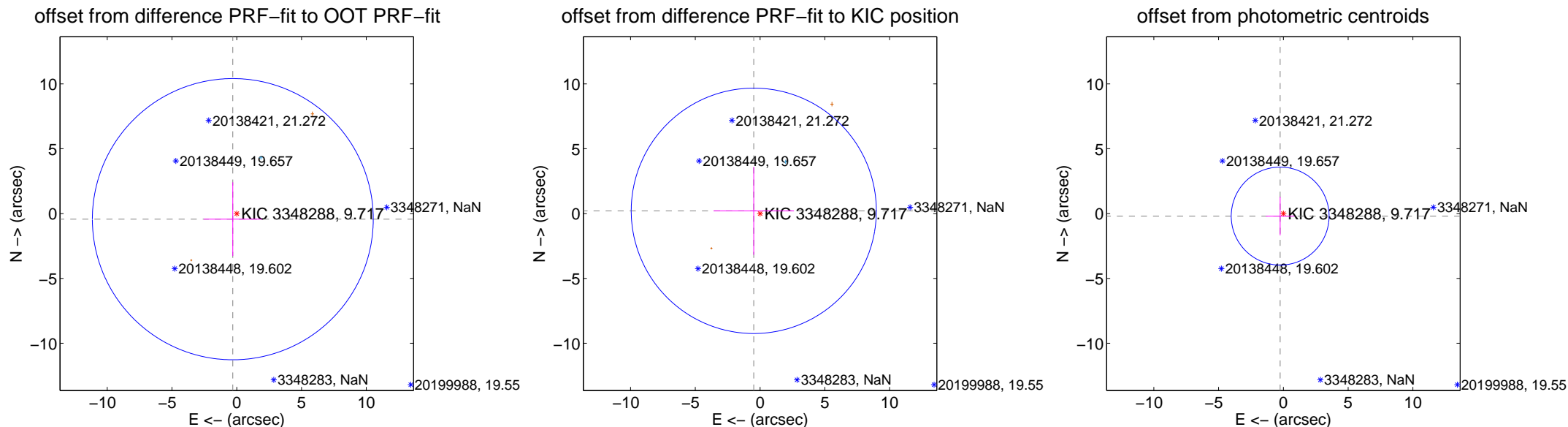
DV Centroid Data

Supplemental centroid analysis for 003348288-03. **Kepler magnitude: 9.72.** Transit SNR 7.74

There are 1 quarters with good PRF difference image offsets

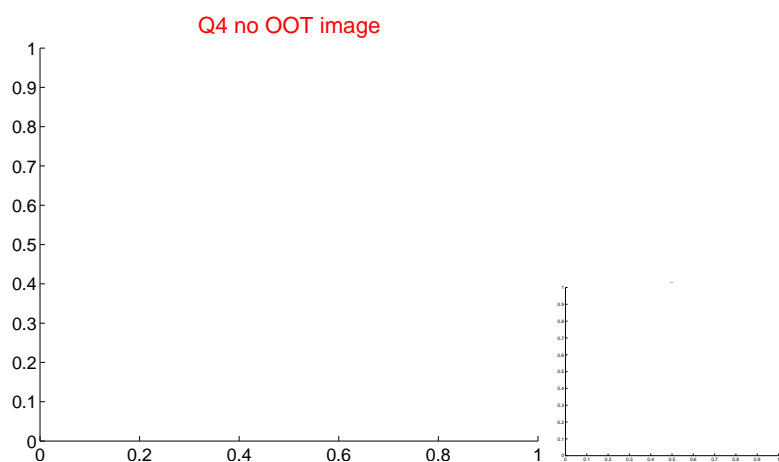
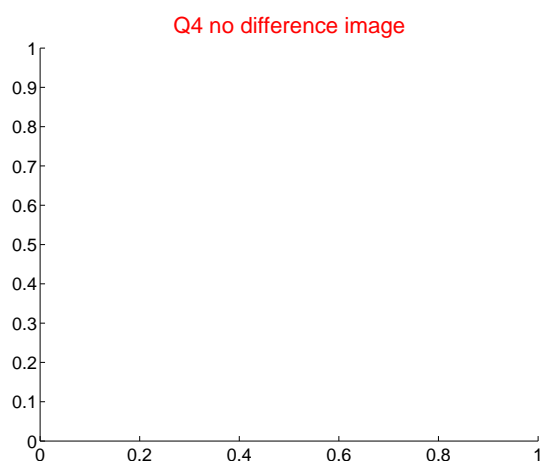
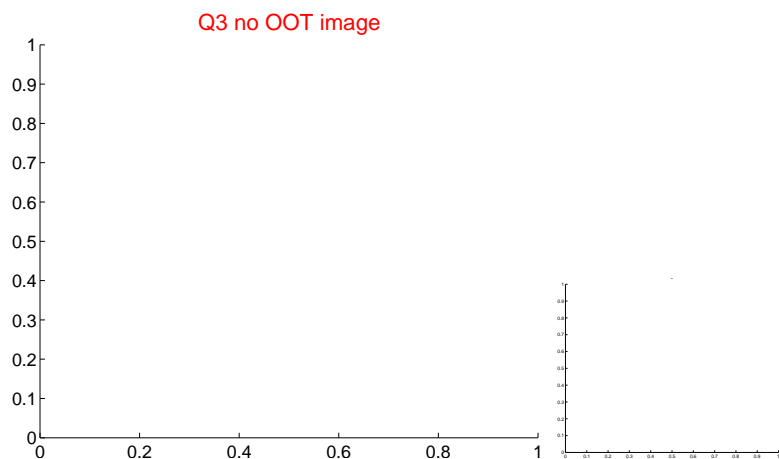
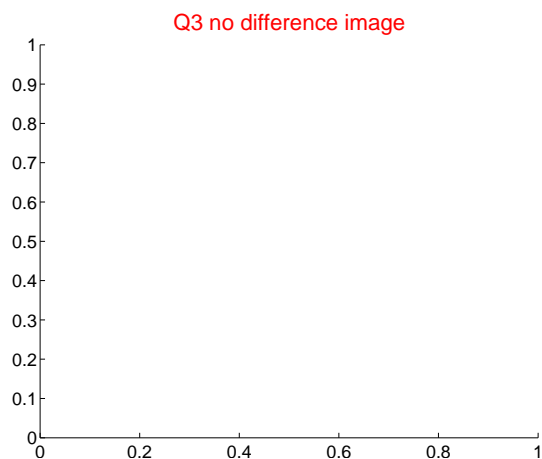
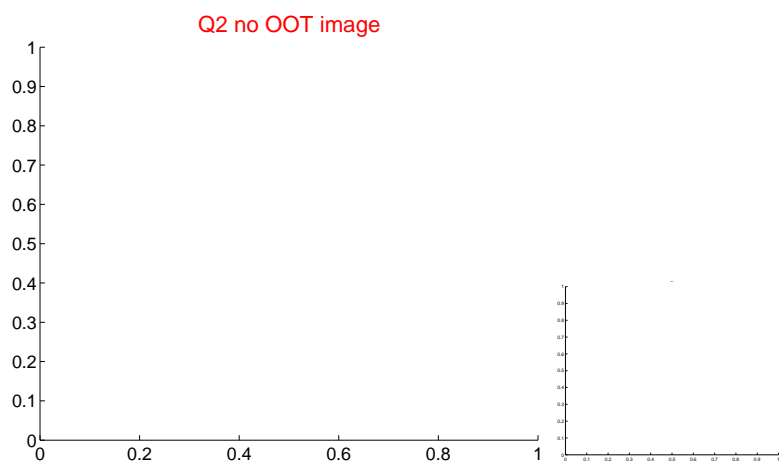
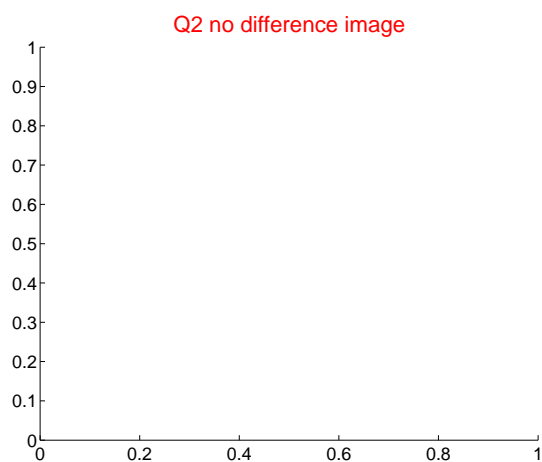
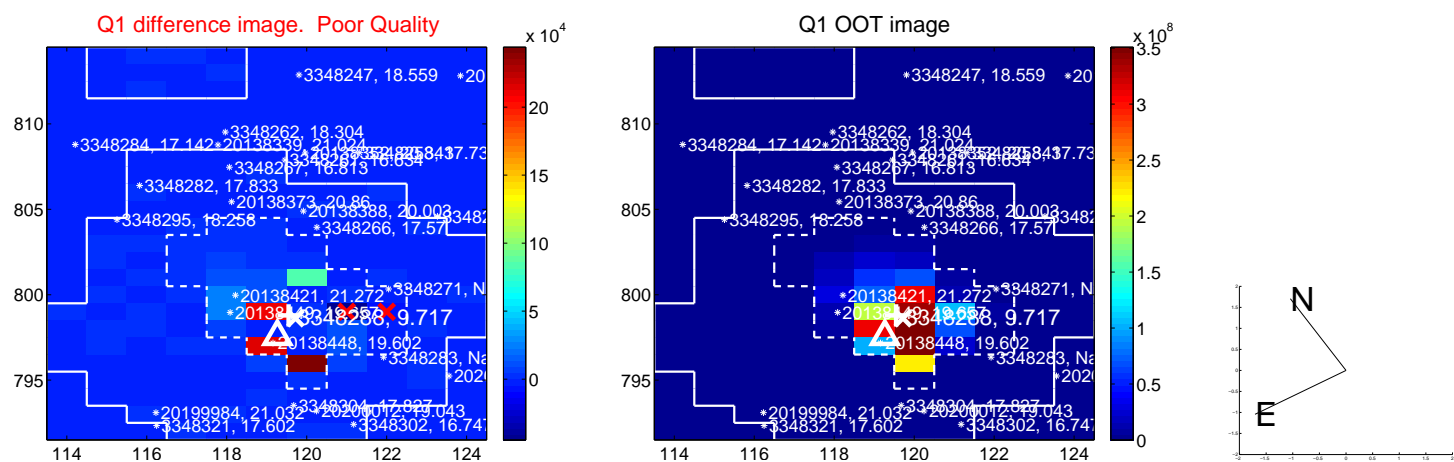
The direct PRF centroid is offset from the target star catalog position by about 0.80 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.528 ± 3.613	0.15	0.304 ± 2.251	-0.432 ± 2.841
PRF-fit source offset from KIC position	0.529 ± 3.153	0.17	0.485 ± 3.106	0.212 ± 3.389
photometric centroid source offset	0.31 ± 1.26	0.25	0.25 ± 1.10	-0.19 ± 1.48



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

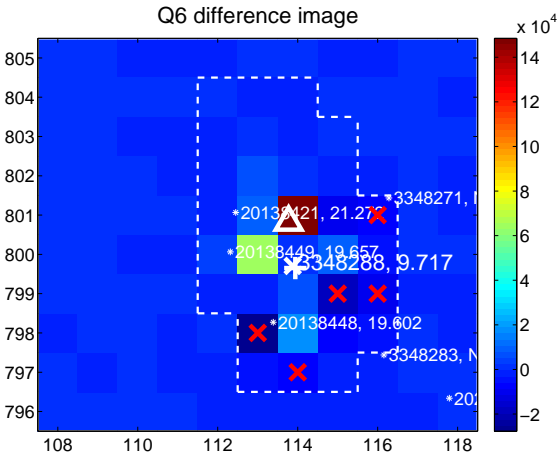
Q5 no difference image



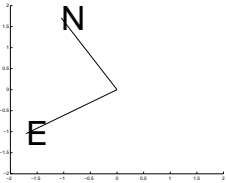
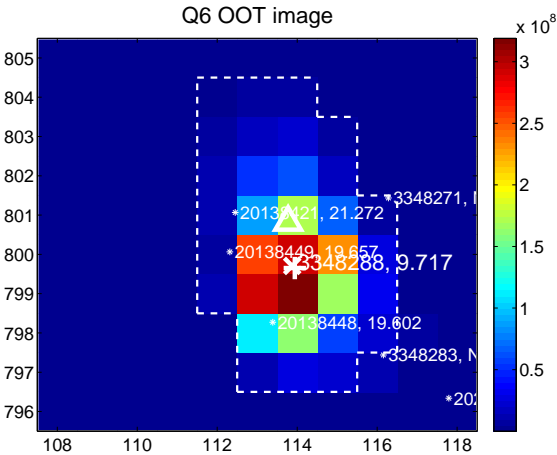
Q5 no OOT image



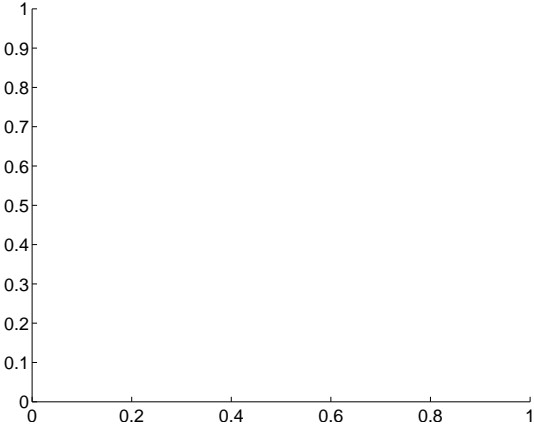
Q6 difference image



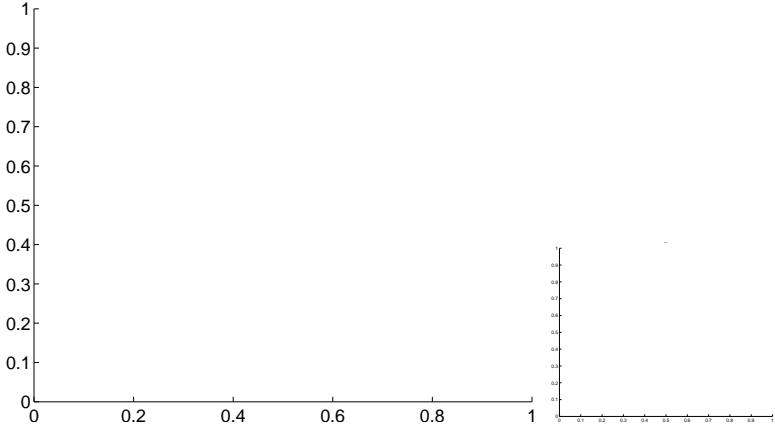
Q6 OOT image



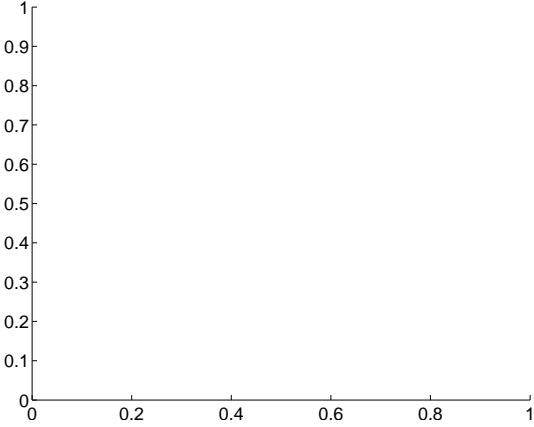
Q7 no difference image



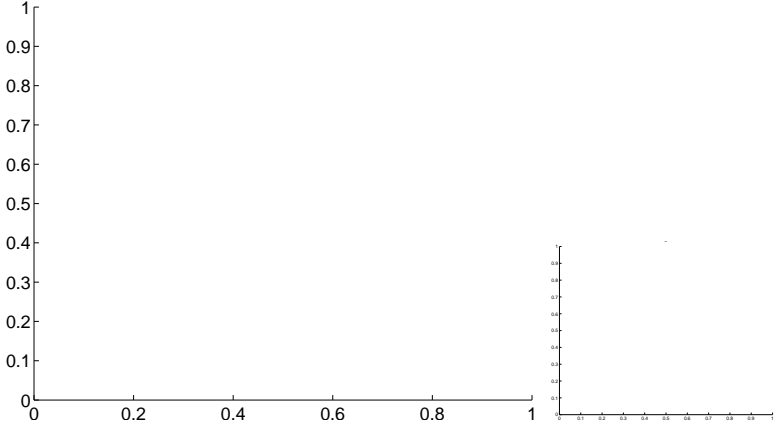
Q7 no OOT image



Q8 no difference image



Q8 no OOT image



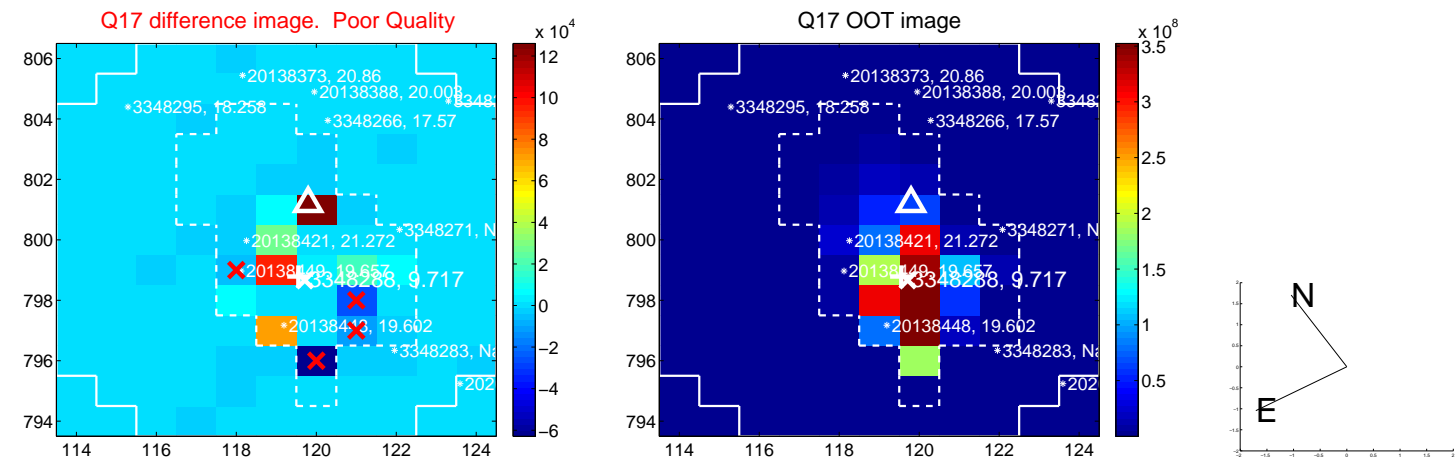
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



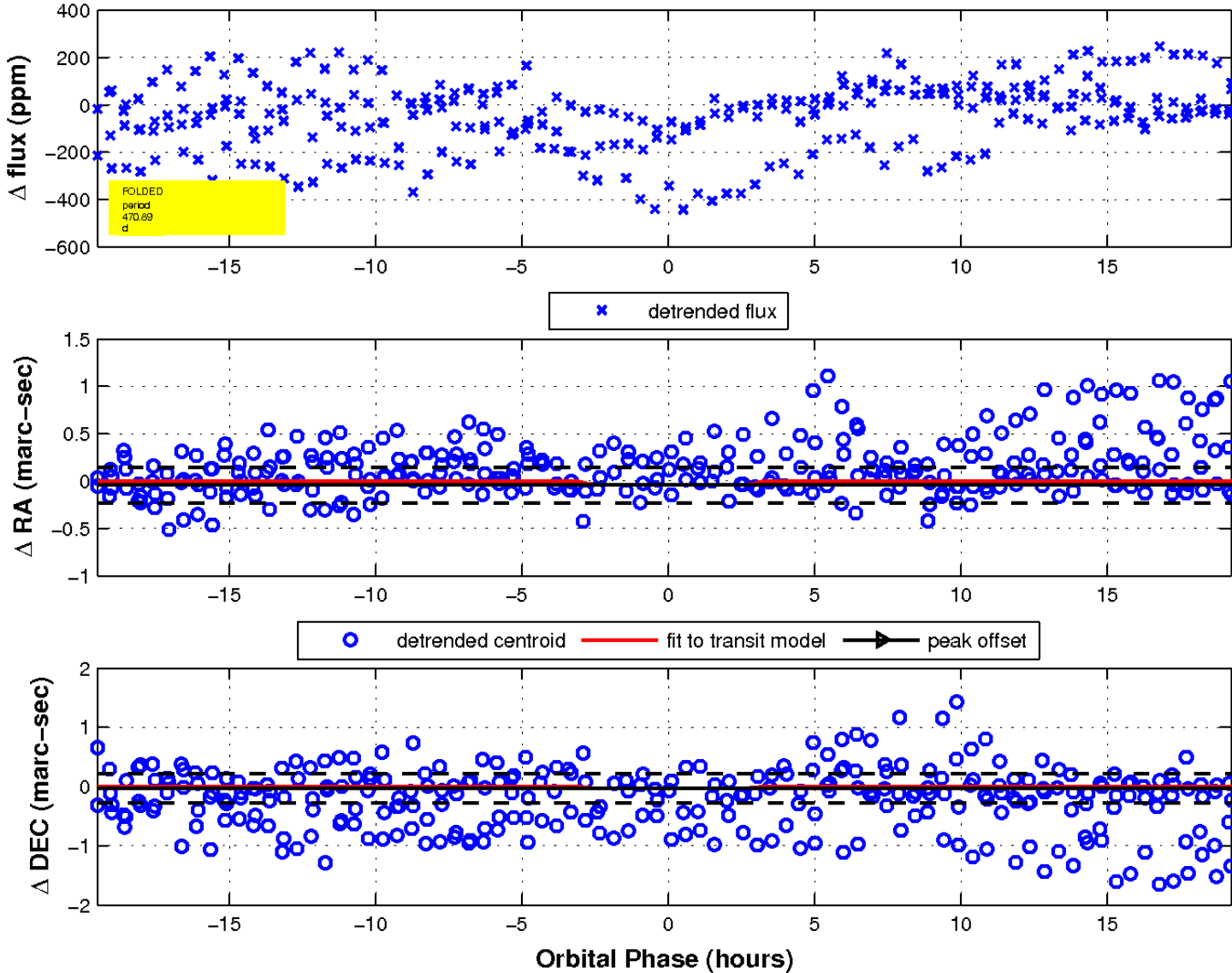
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



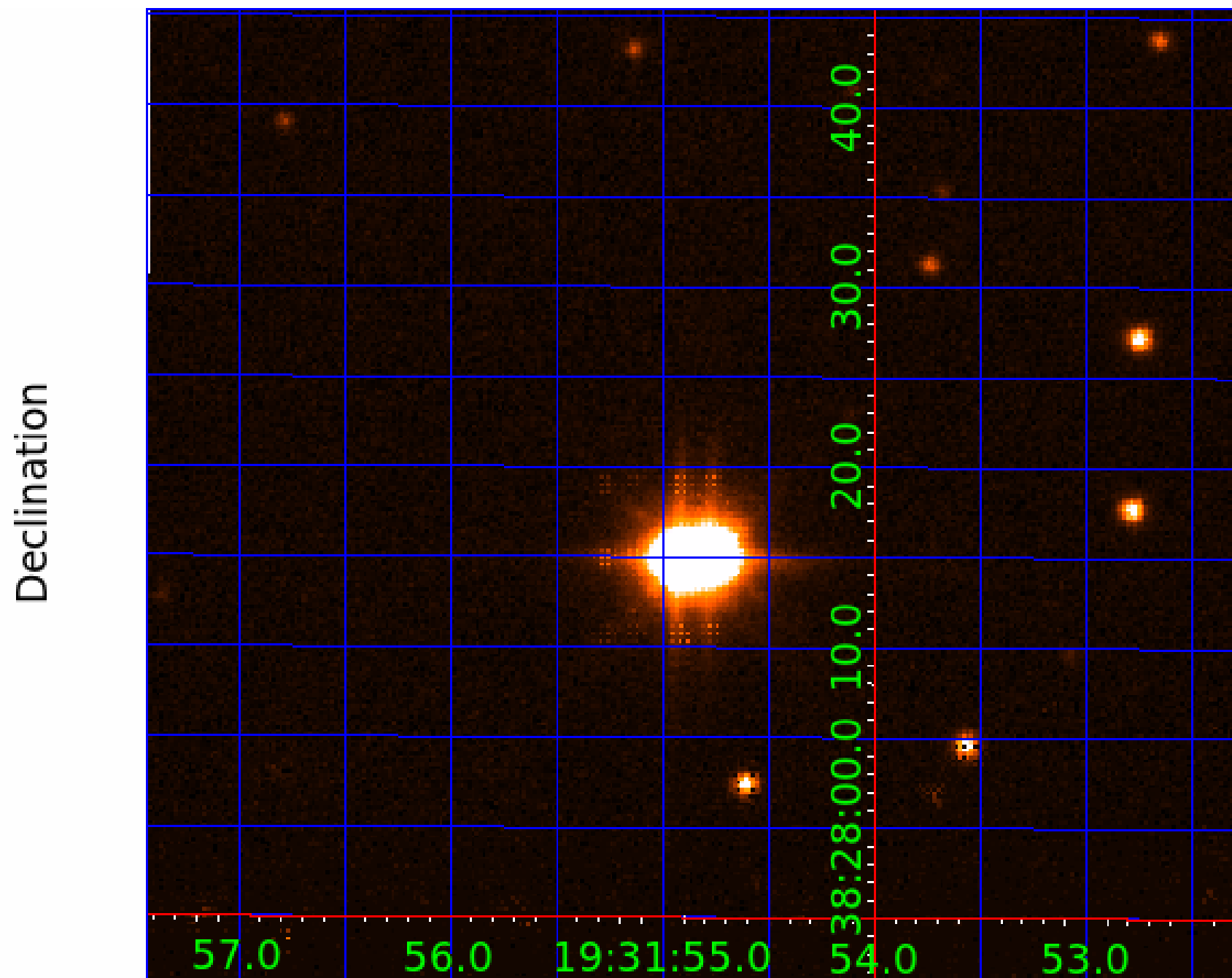
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 9



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

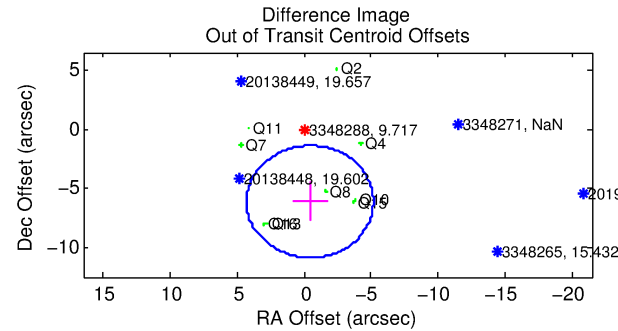
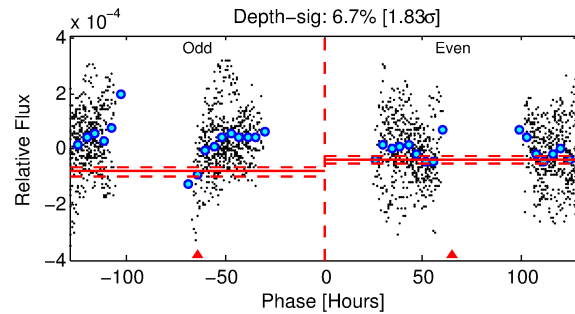
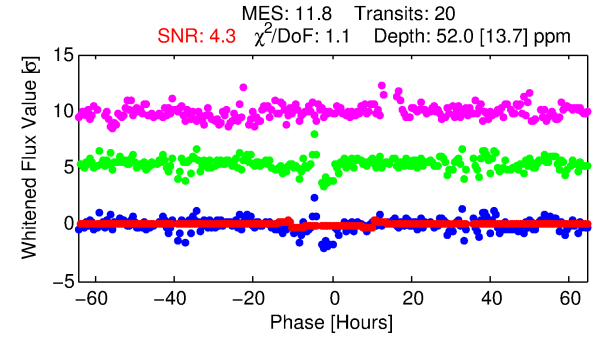
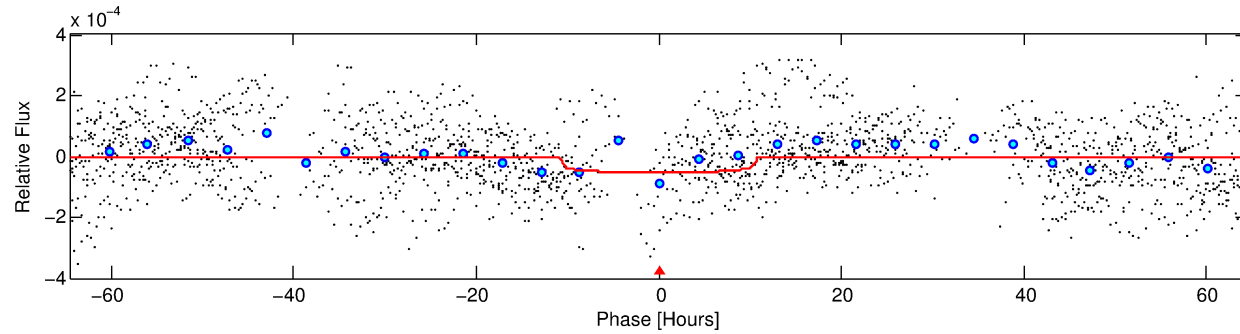
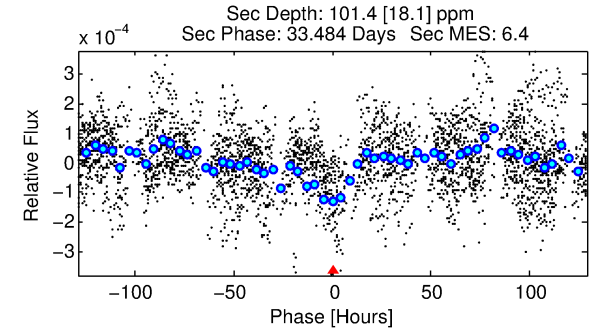
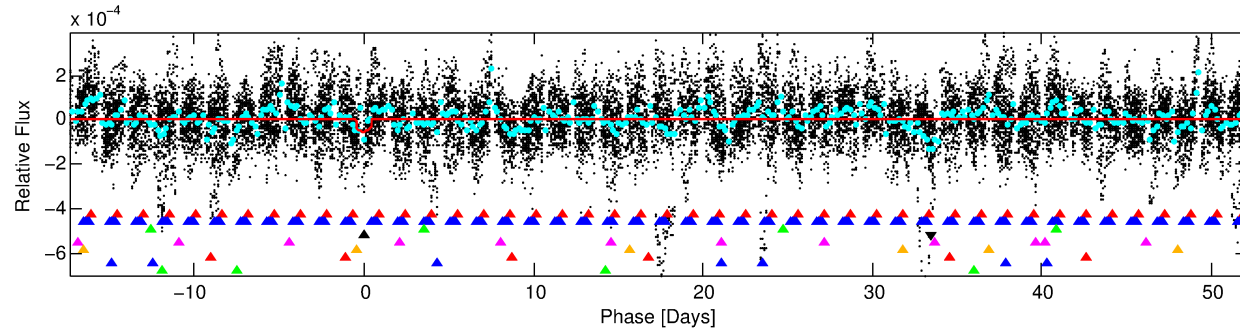
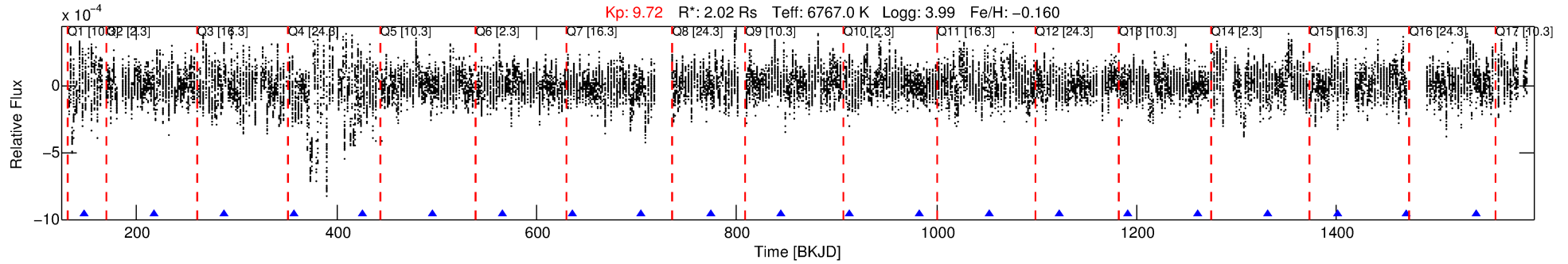
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-04

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 4 of 9 Period: 69.574 d



DV Fit Results:

Period = 69.57386 [0.00152] d
Epoch = 148.2512 [0.0173] BKJD
Rp/R* = 0.0070 [0.0017]
a/R* = 18.21 [18.00]
b = 0.69 [0.77]
Self = 54.70 [23.19]
Teff = 693 [73] K
Rp = 1.55 [0.59] Re
a = 0.3742 [0.0995] AU
Ag = 3236.01 [2101.02] [1.54σ]
Teffp = 8087 [1043] K [7.07σ]

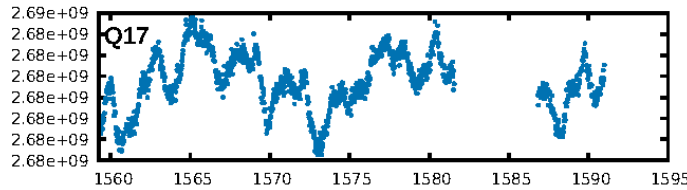
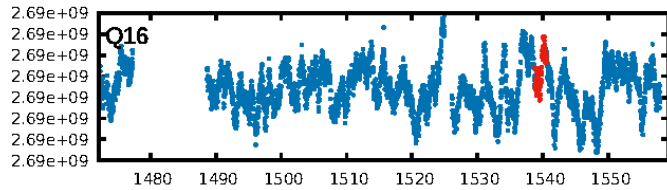
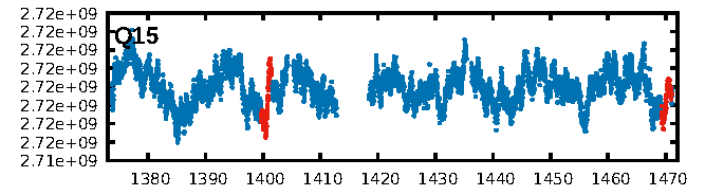
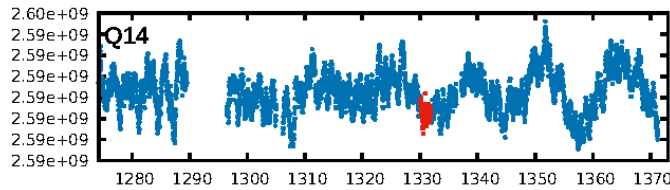
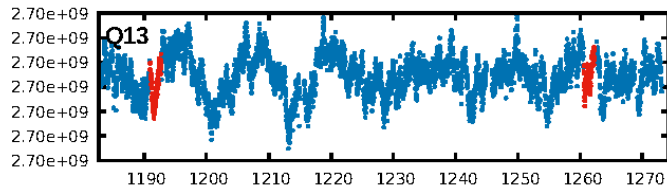
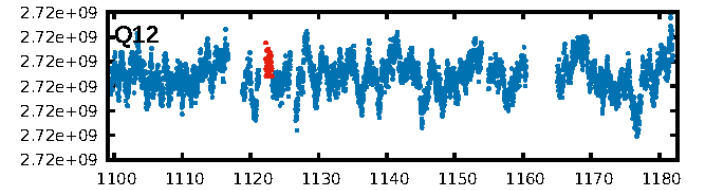
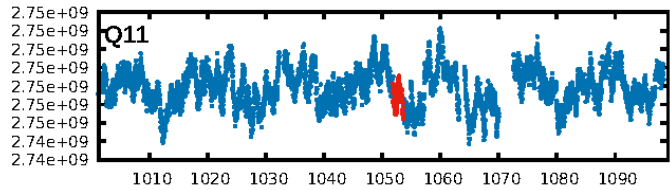
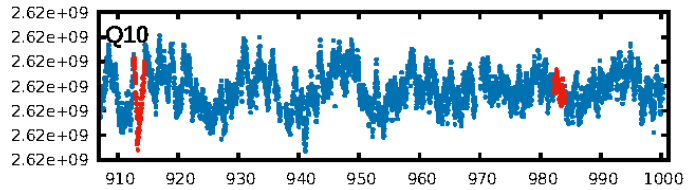
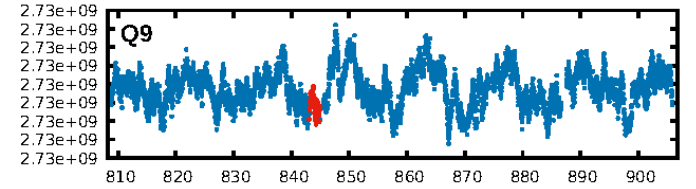
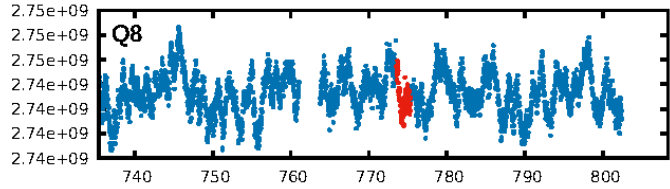
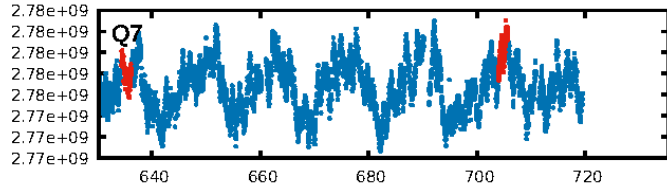
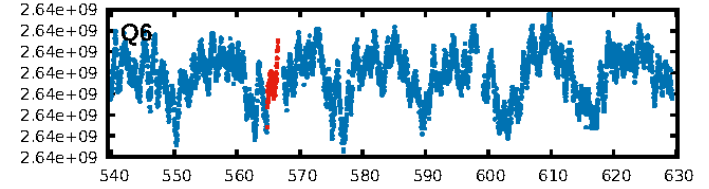
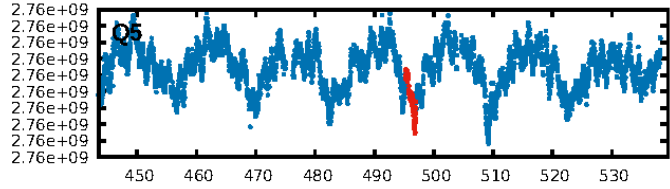
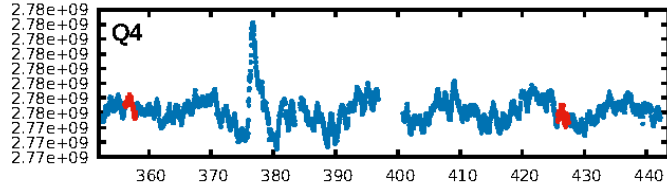
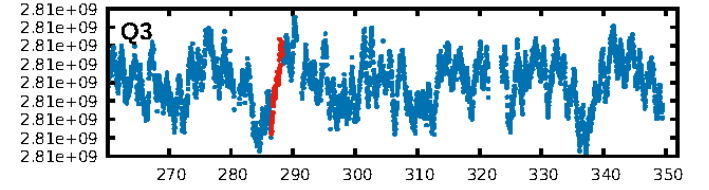
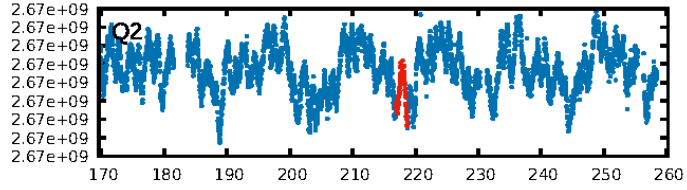
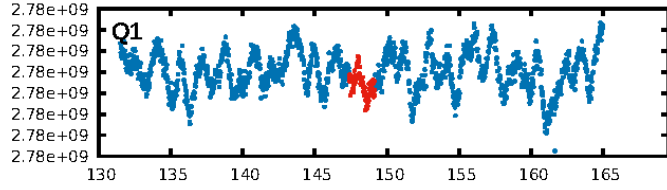
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [73.57σ]
LongPeriod-sig: 100.0% [54.72σ]
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: N/A
Centroid-sig: 1.0%
Centroid-so: 3.289 arcsec [1.88σ]
OotOffset-rm: 6.142 arcsec [3.89σ]
KicOffset-rm: 5.446 arcsec [4.44σ]
OotOffset-st: 2/3/3/1 [9]
KicOffset-st: 2/3/3/1 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.00 [0/13]

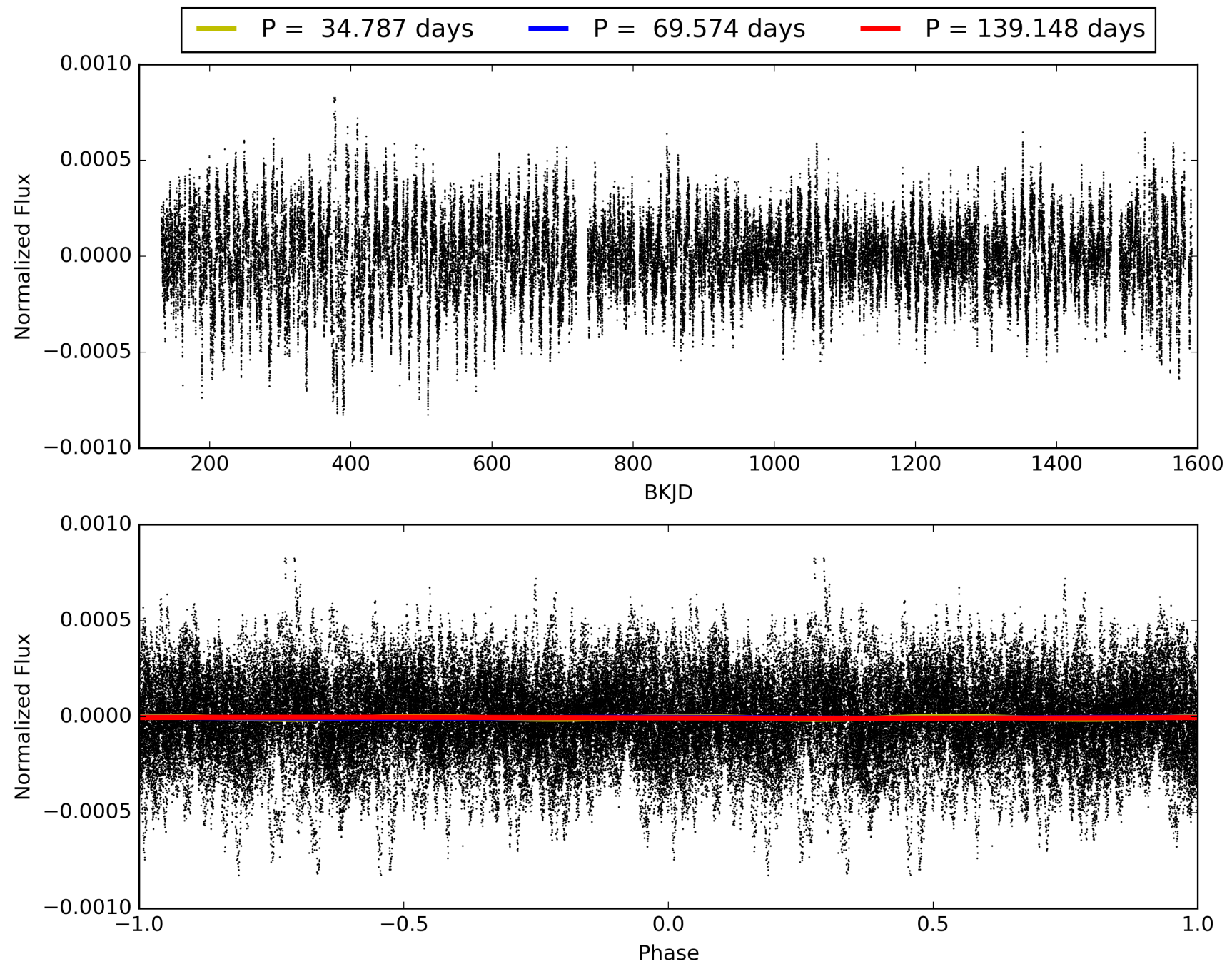
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:56:52 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-04, PDC Light Curves

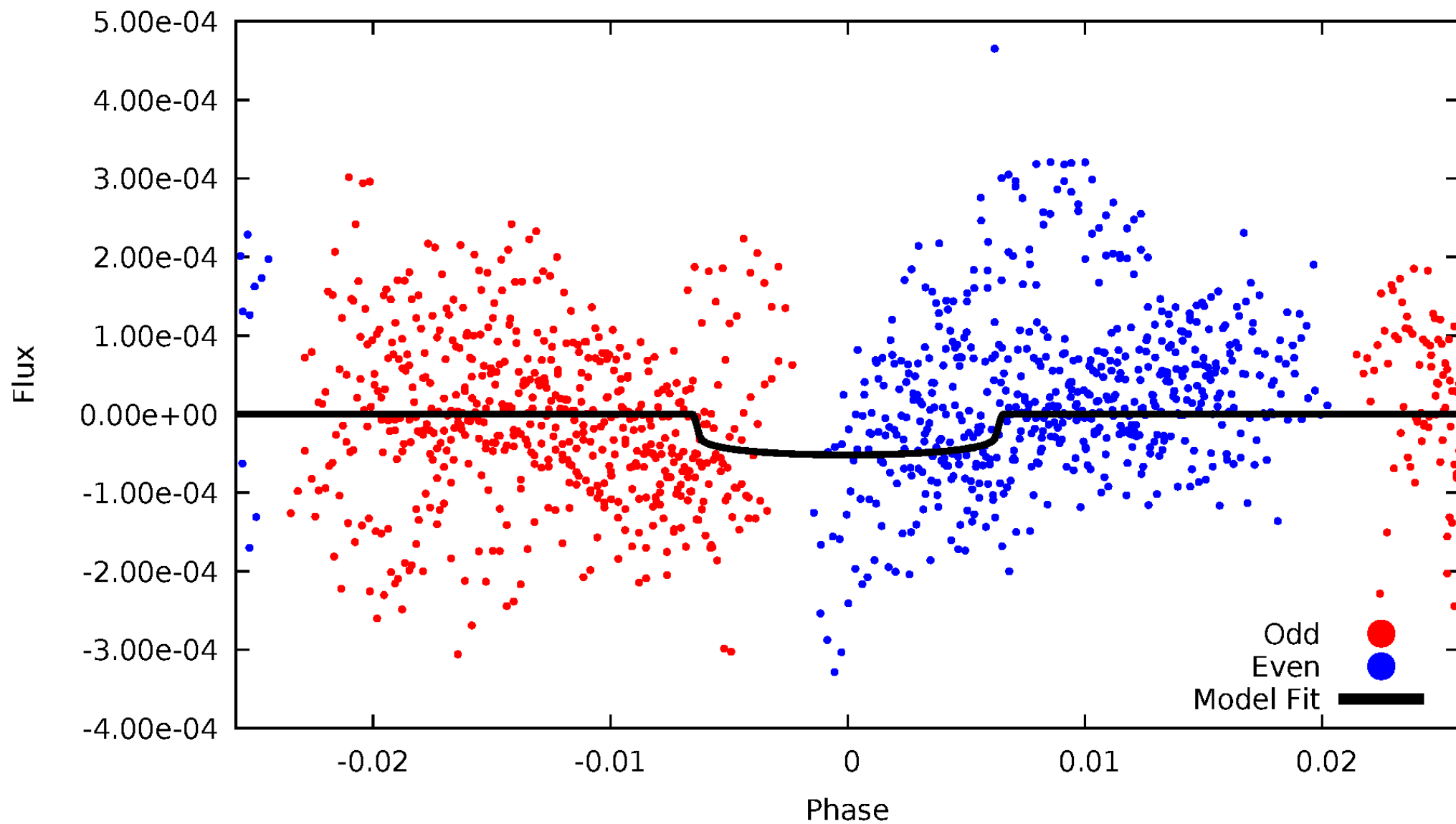


TCE 003348288-04



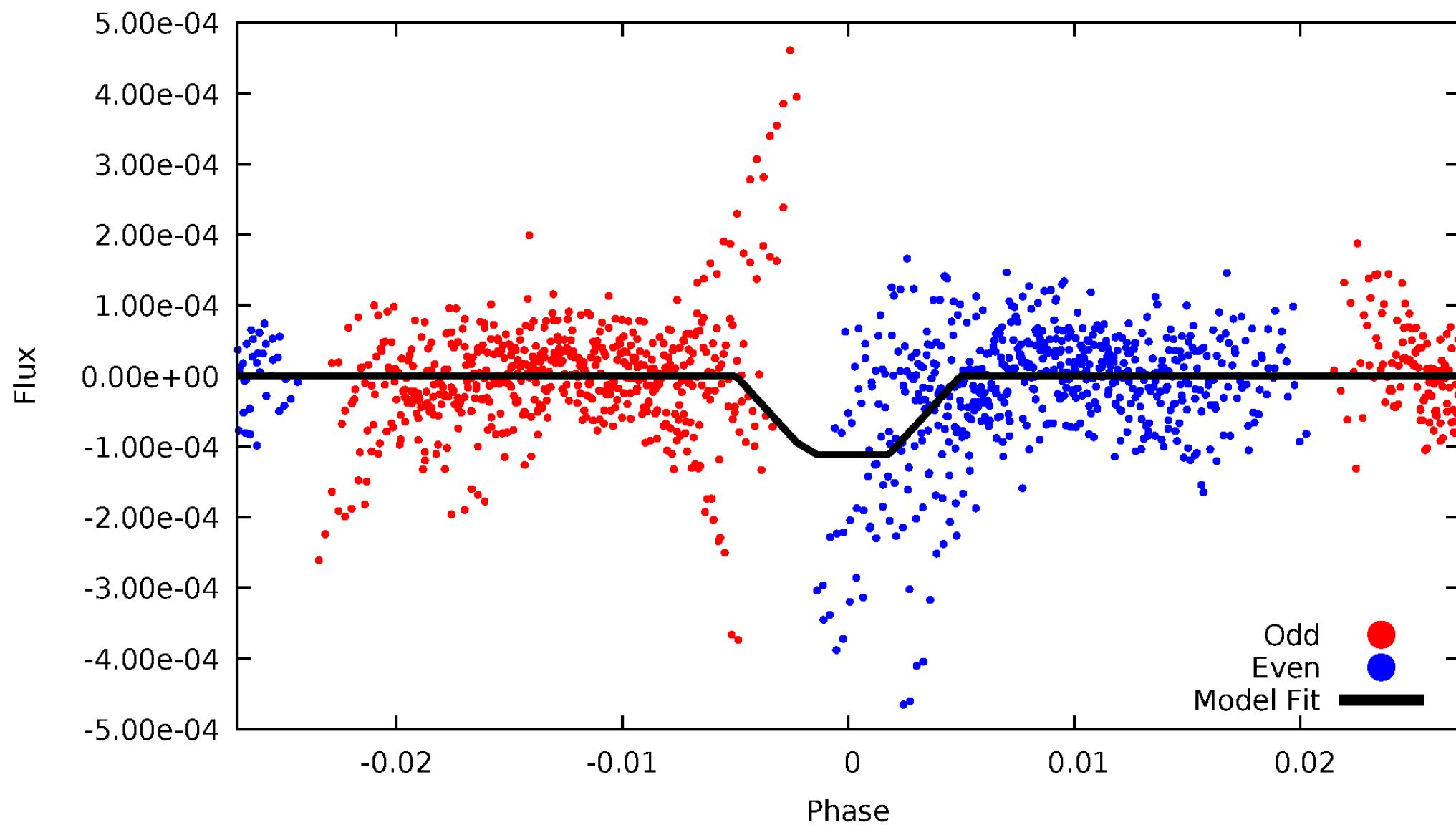
DV Odd/Even

TCE 003348288-04



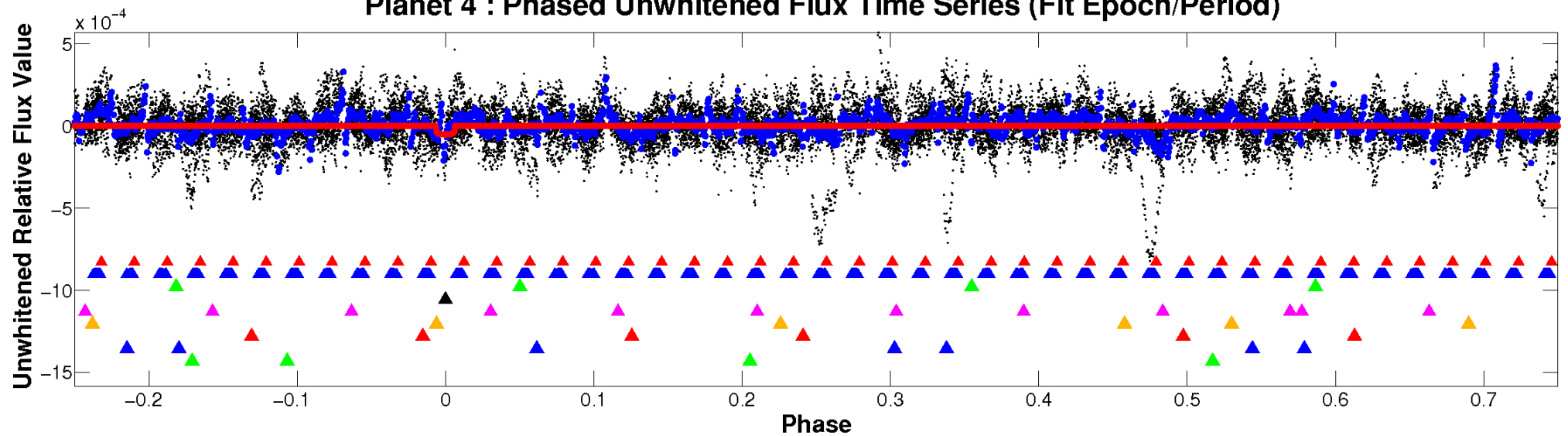
ALT Odd/Even

TCE 003348288-04

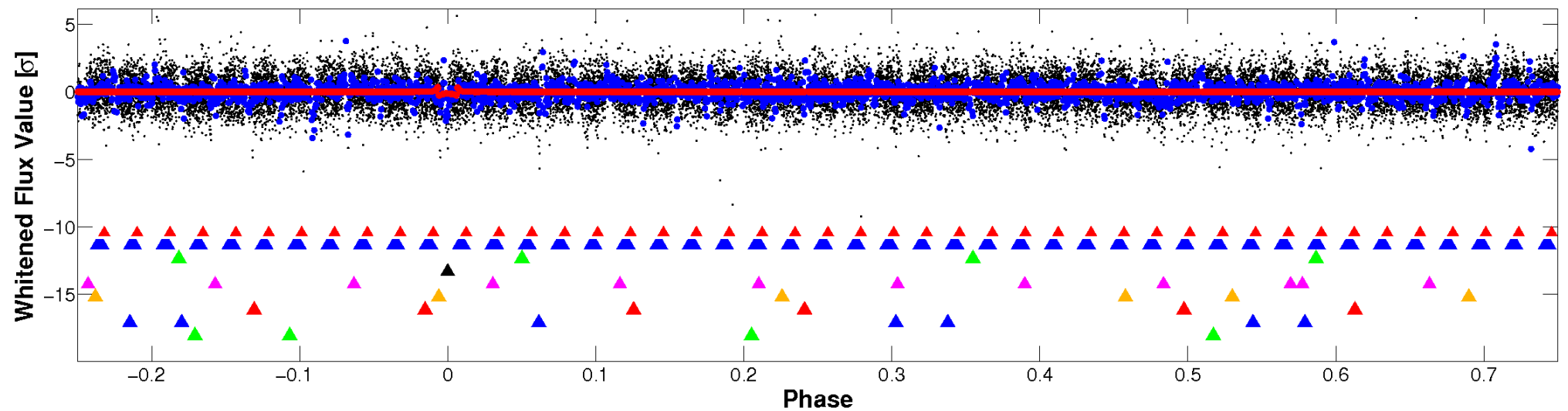


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

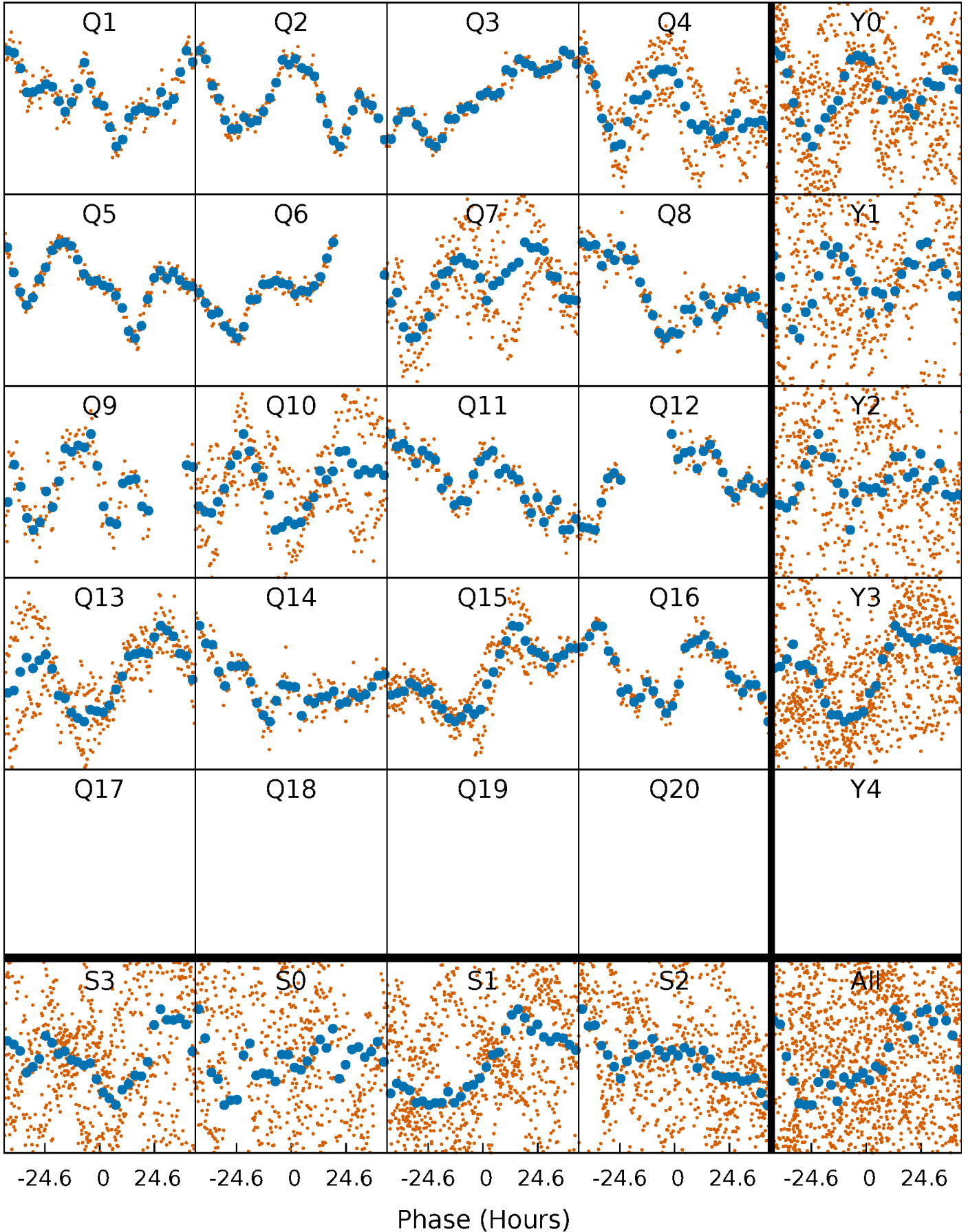


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



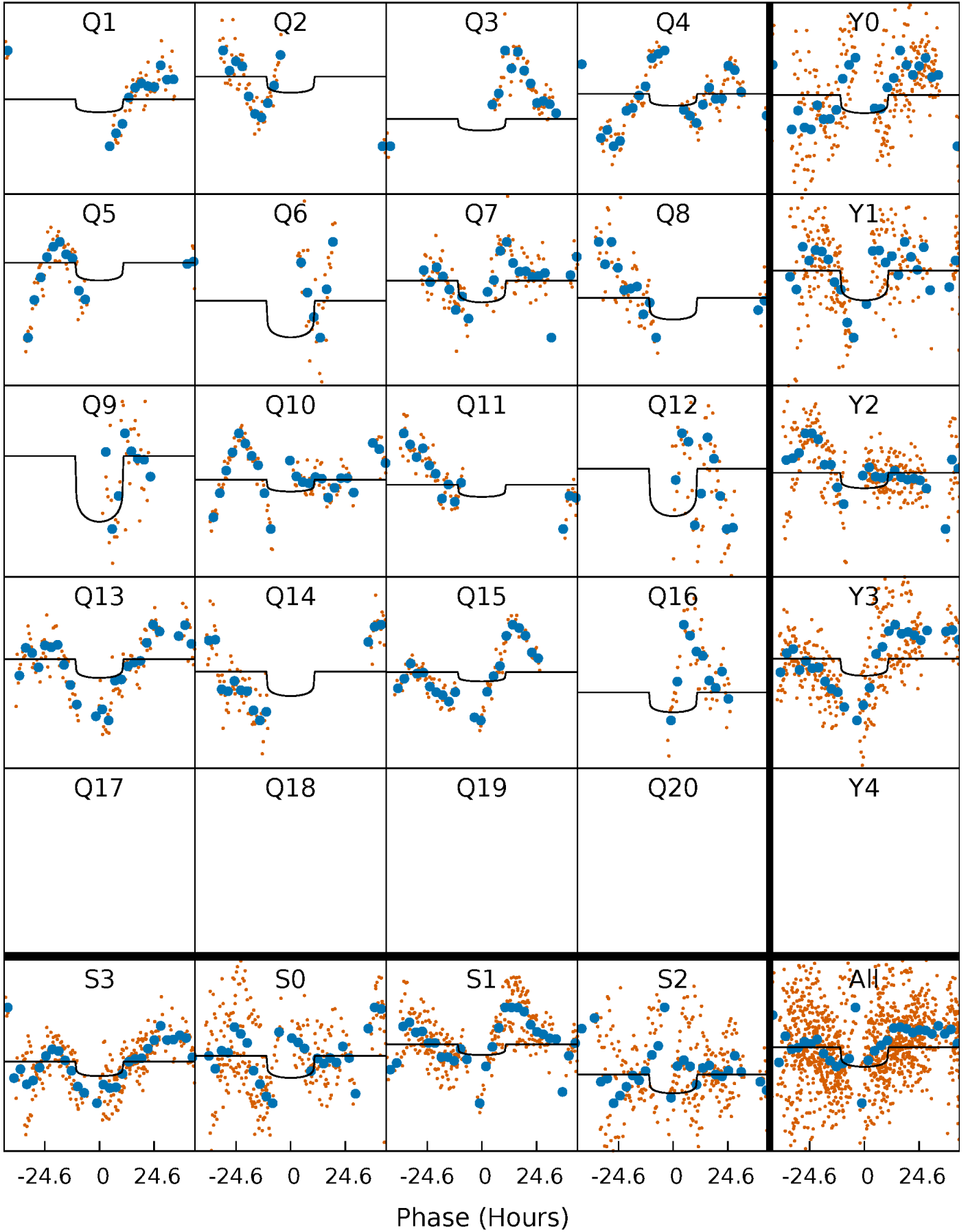
PDC Quarter-Phased Transit Curves

TCE 003348288-04 P= 69.573864 Days $T_0=148.251157$ (BKJD)



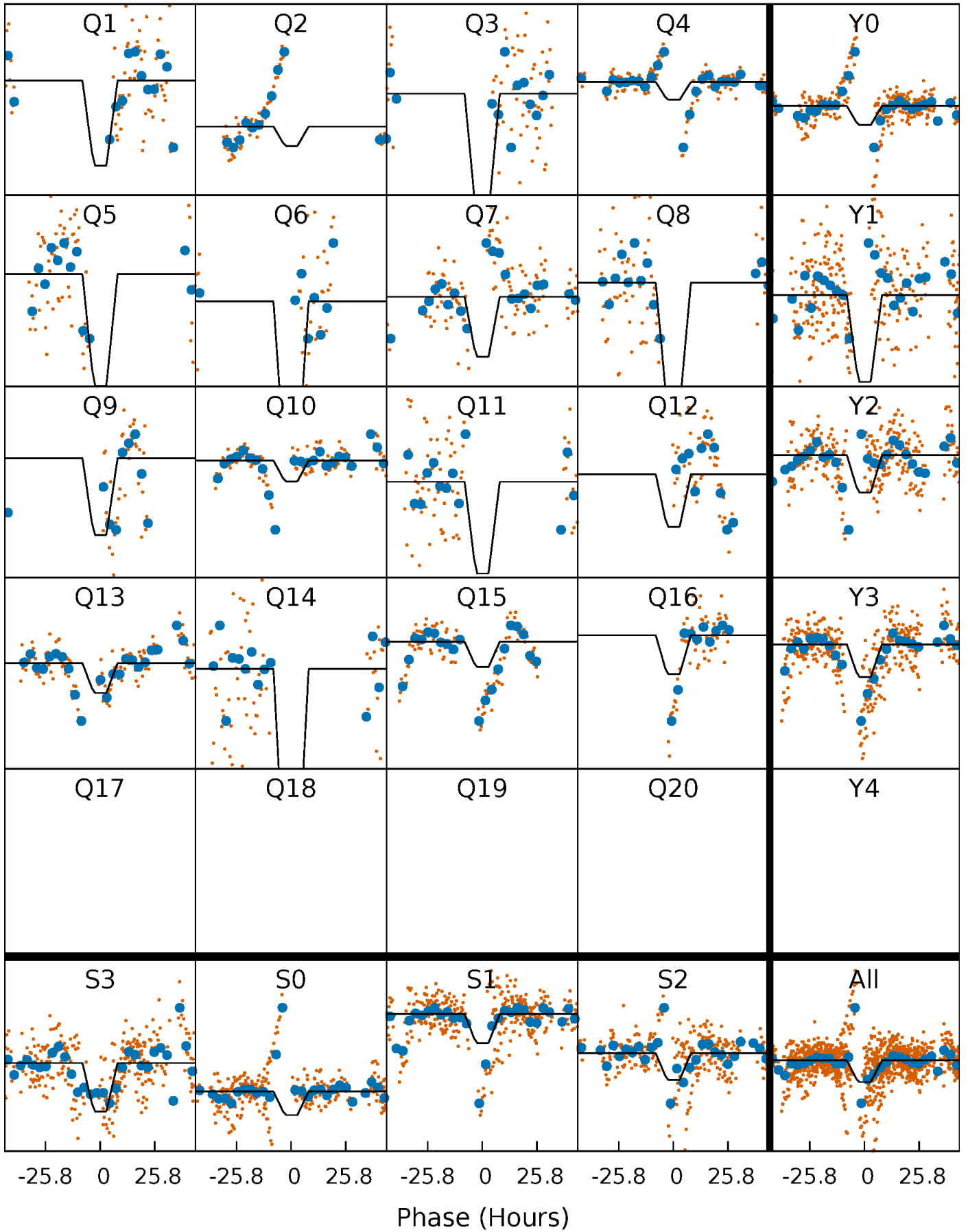
DV Quarter-Phased Transit Curves

TCE 003348288-04 P= 69.573864 Days $T_0=148.251157$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

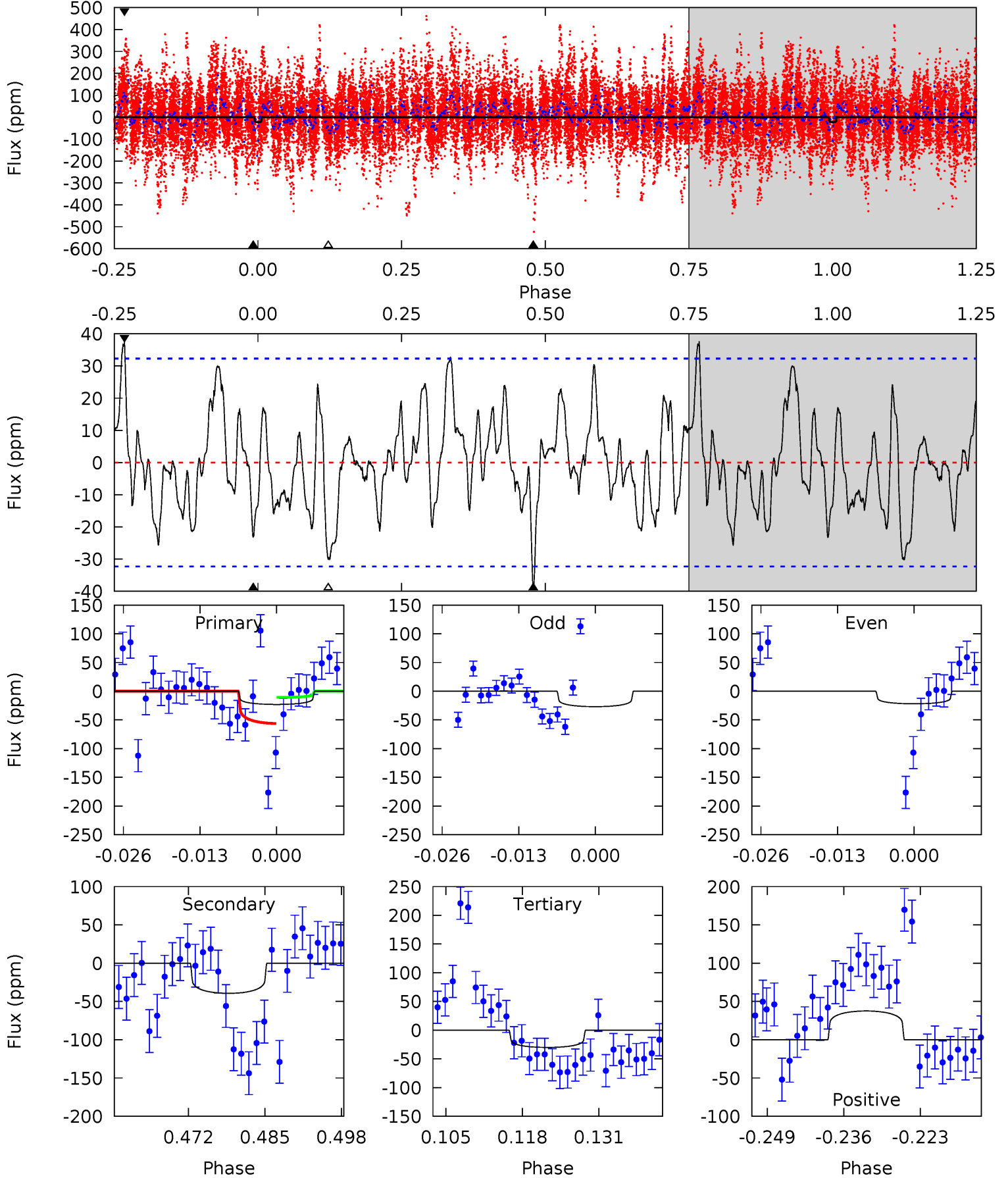
TCE 003348288-04 P= 69.573898 Days $T_0=148.247986$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-04, P = 69.573864 Days, E = 78.677293 Days

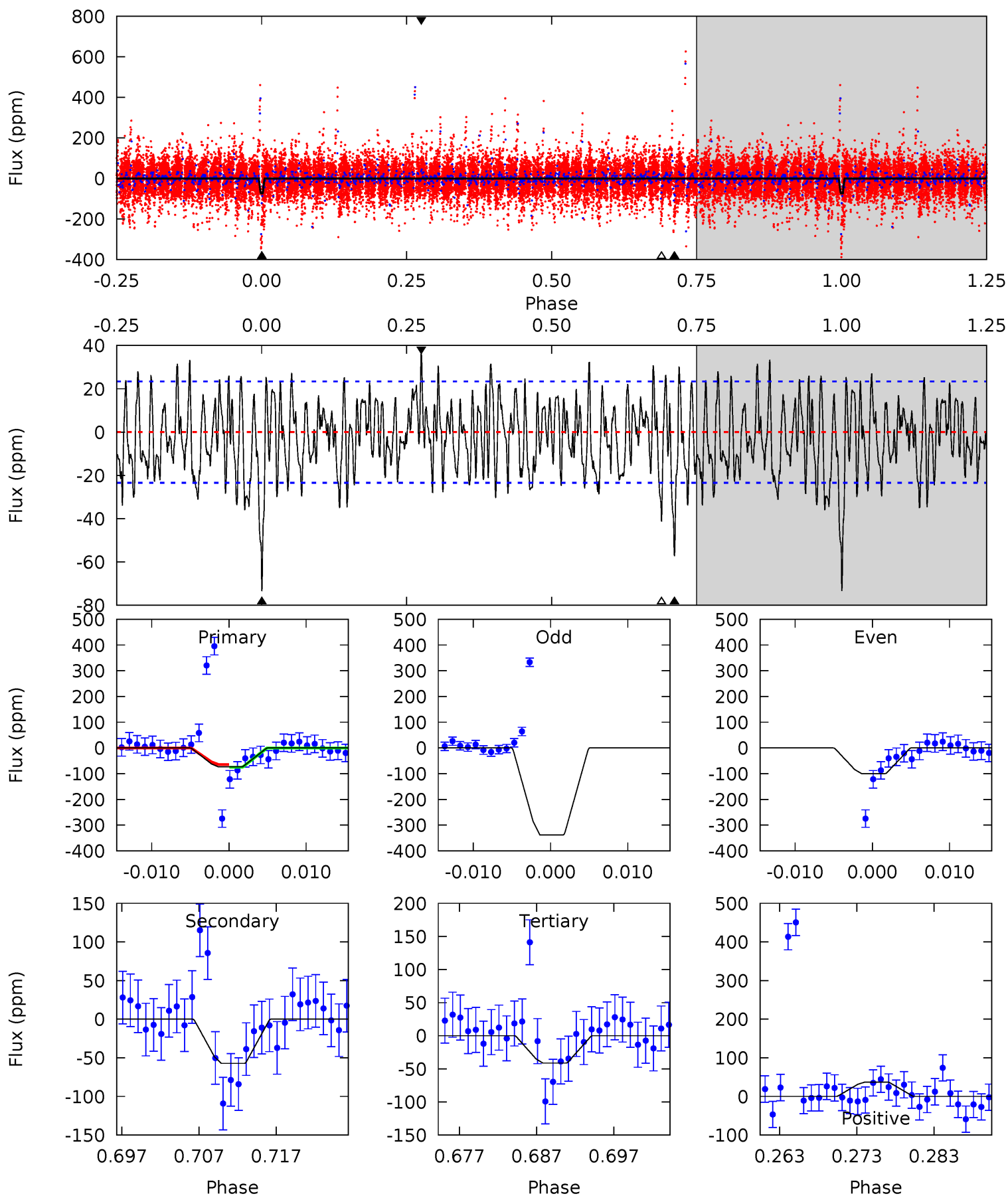
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.56	6.08	4.63	5.79	4.97	2.48	1.98	-1.07	-2.23	1.44	0.29	0.34	0.99	0.49	3.18



Alt Model-Shift Uniqueness Test

003348288-04, P = 69.573898 Days, E = 78.674088 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	12.3	8.88	7.96	5.02	2.57	3.06	6.90	7.82	3.43	4.34	18.1	0.71	0.34	0.94



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-39 ± 6	$1.48^{+0.46}_{-0.40}$	958^{+59}_{-70}	6344^{+1124}_{-691}	1387^{+1242}_{-611}
Alt.	-57 ± 5	$2.21^{+0.53}_{-0.45}$	958^{+58}_{-75}	5701^{+529}_{-387}	869^{+507}_{-293}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

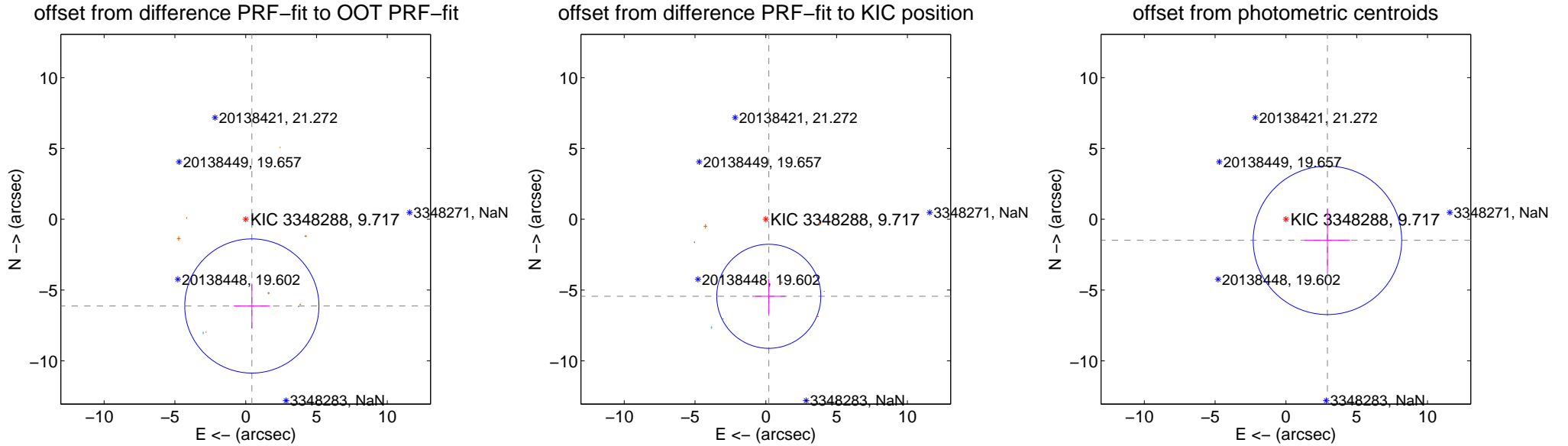
DV Centroid Data

Supplemental centroid analysis for 003348288-04. **Kepler magnitude: 9.72.** Transit SNR 4.31

There are 1 quarters with good PRF difference image offsets

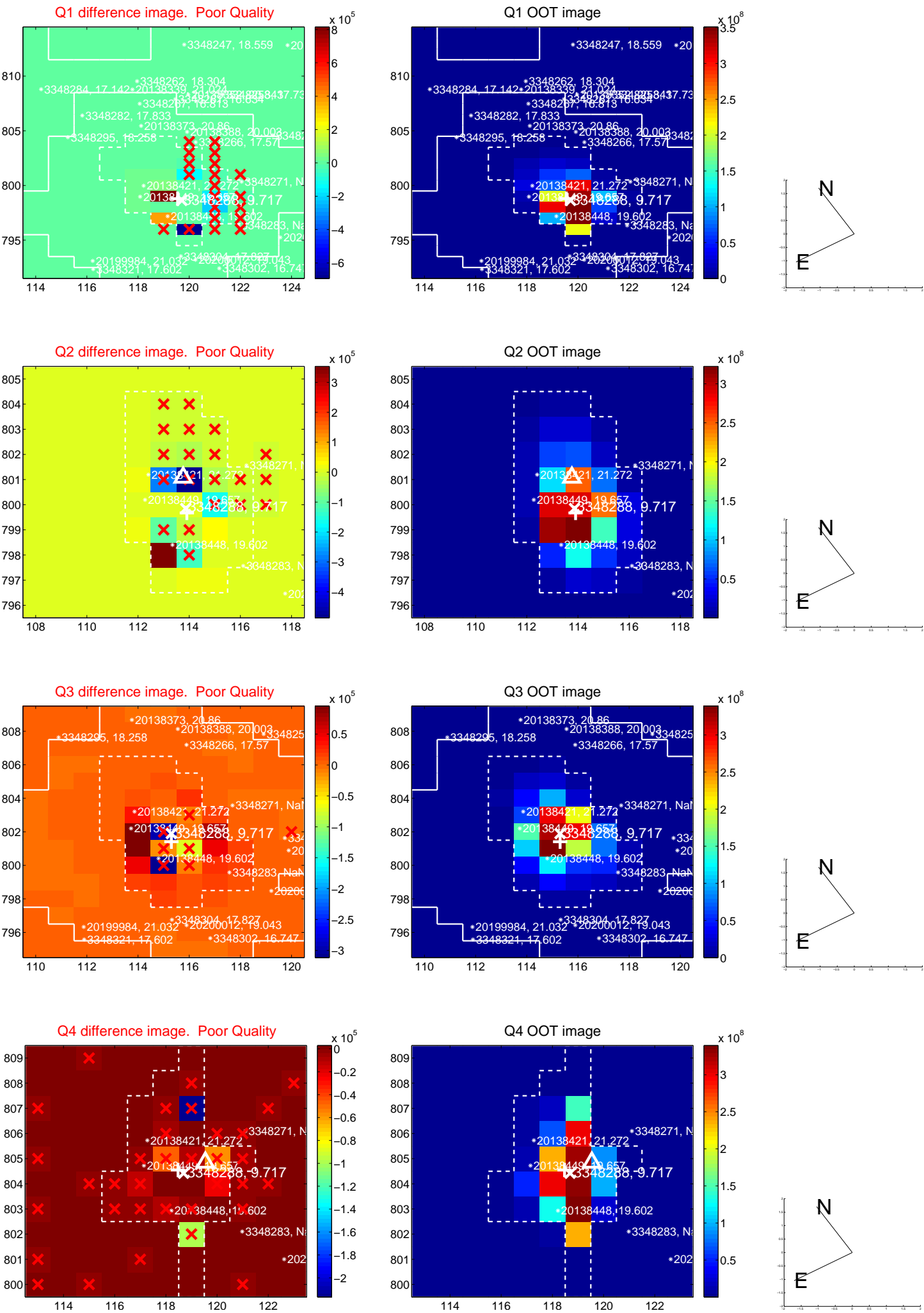
The direct PRF centroid is offset from the target star catalog position by about 0.92 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.142 ± 1.580	3.89	-0.434 ± 1.283	-6.127 ± 1.581
PRF-fit source offset from KIC position	5.446 ± 1.225	4.44	-0.210 ± 1.158	-5.442 ± 1.228
photometric centroid source offset	3.29 ± 1.75	1.88	-2.93 ± 1.60	-1.49 ± 2.24

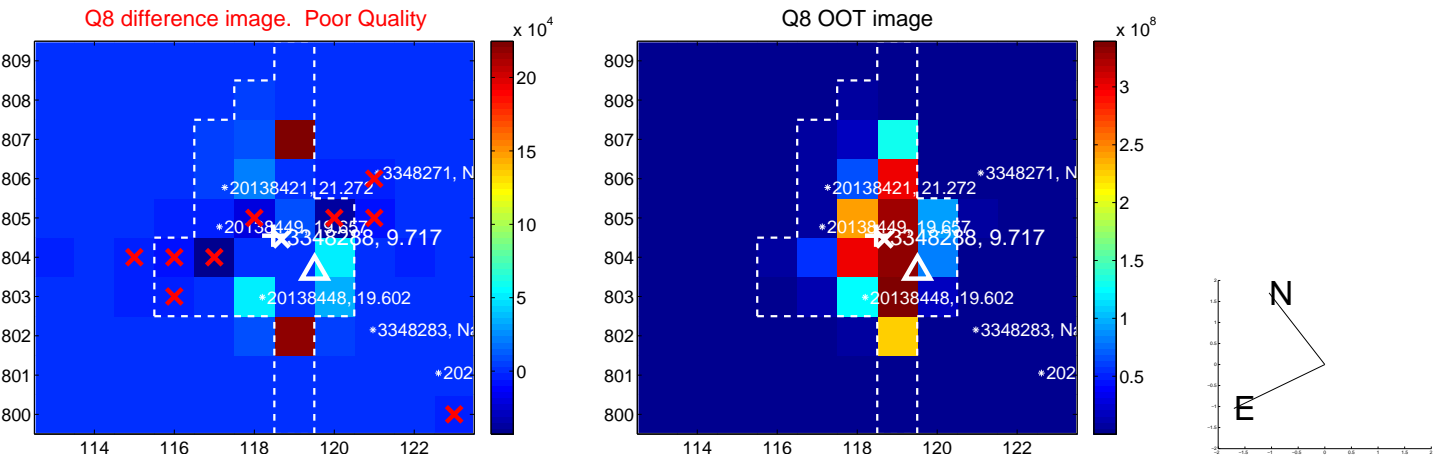
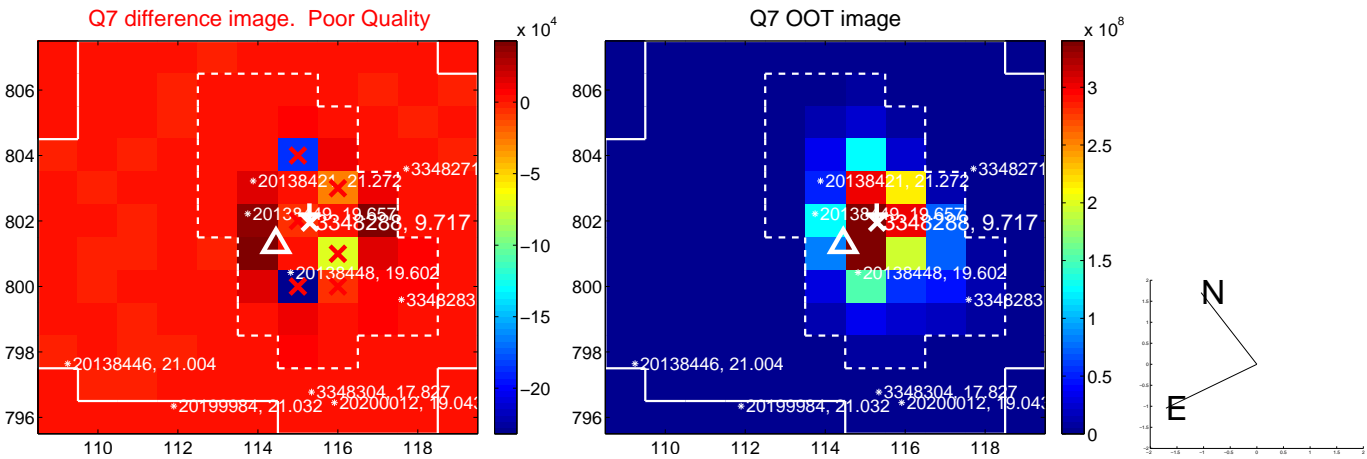
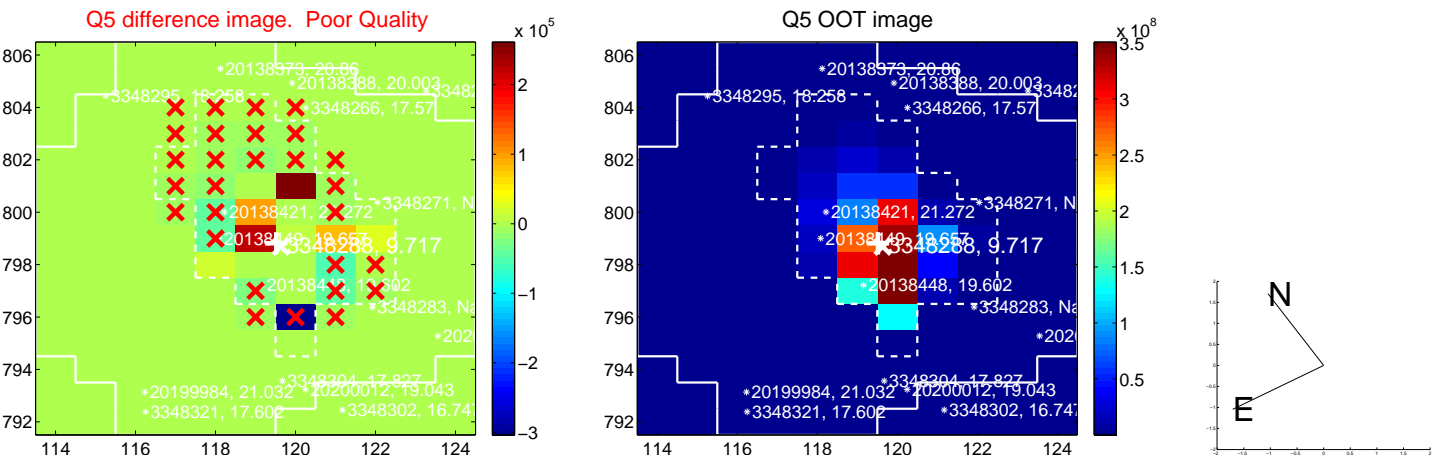


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

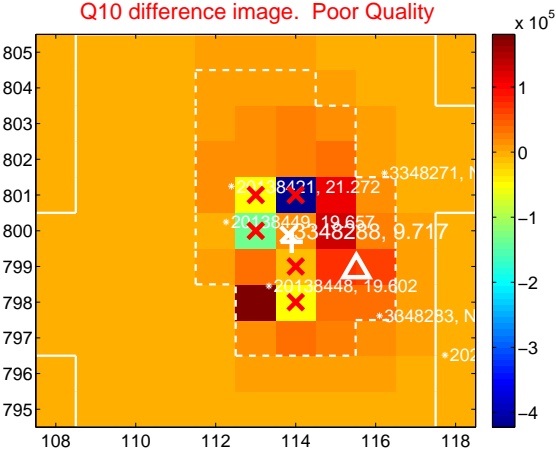
Q9 no difference image



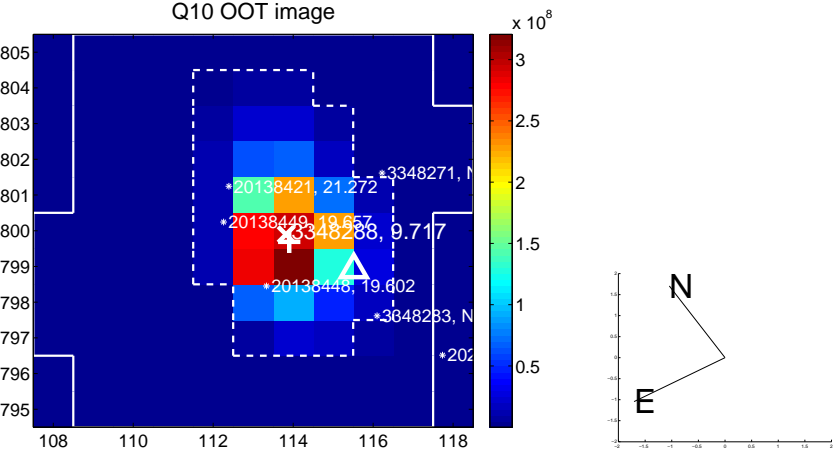
Q9 no OOT image



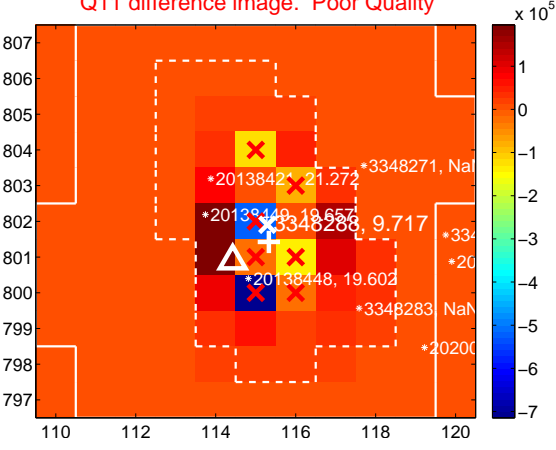
Q10 difference image. Poor Quality



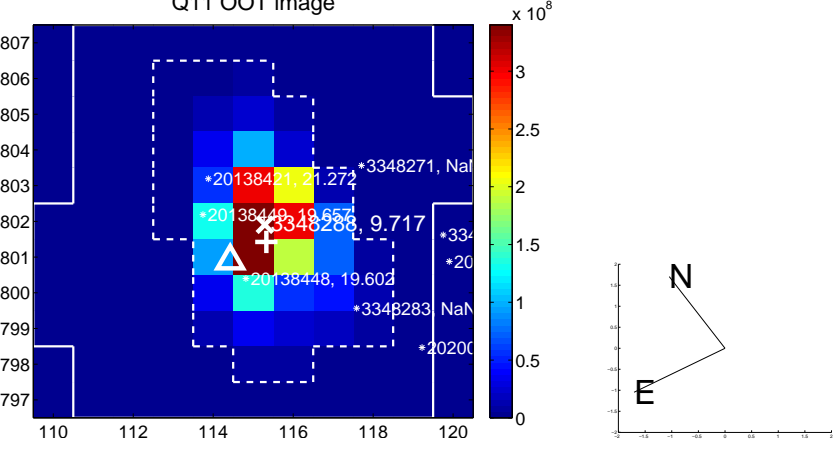
Q10 OOT image



Q11 difference image. Poor Quality



Q11 OOT image



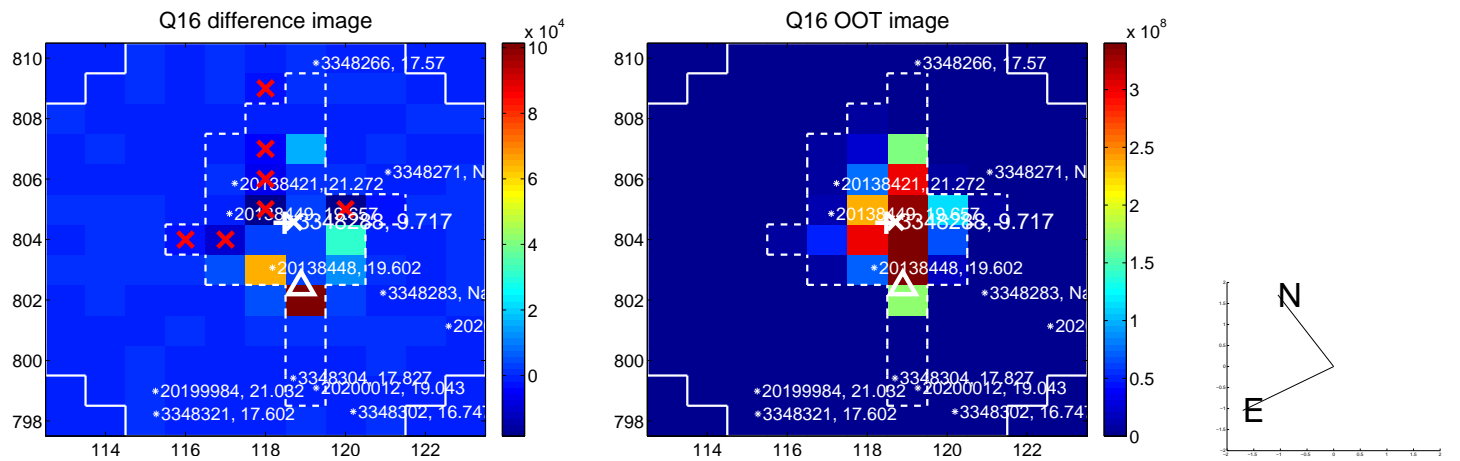
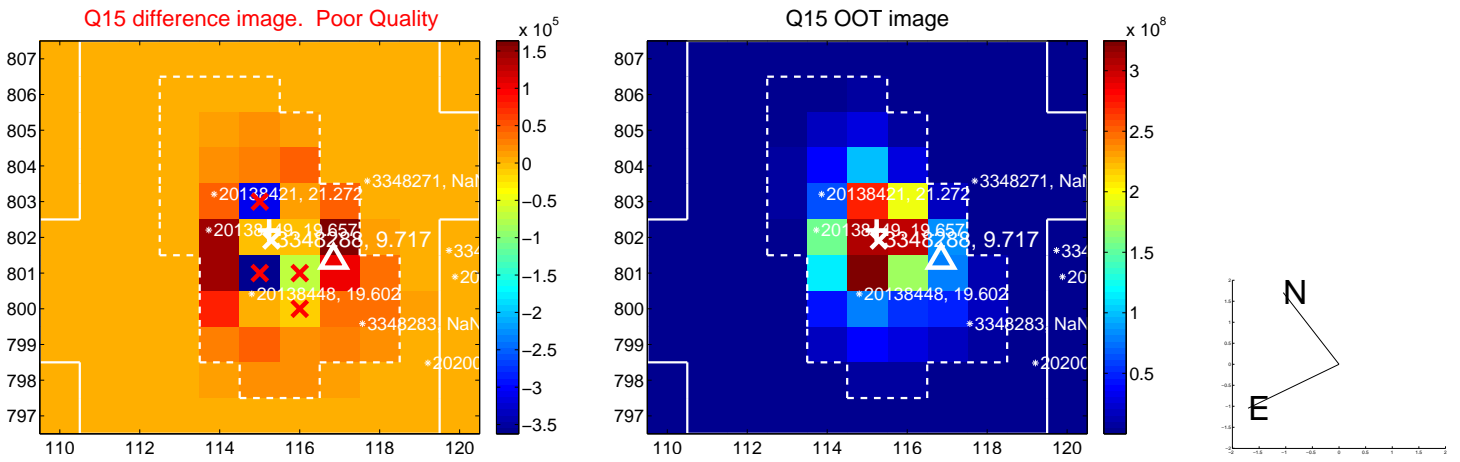
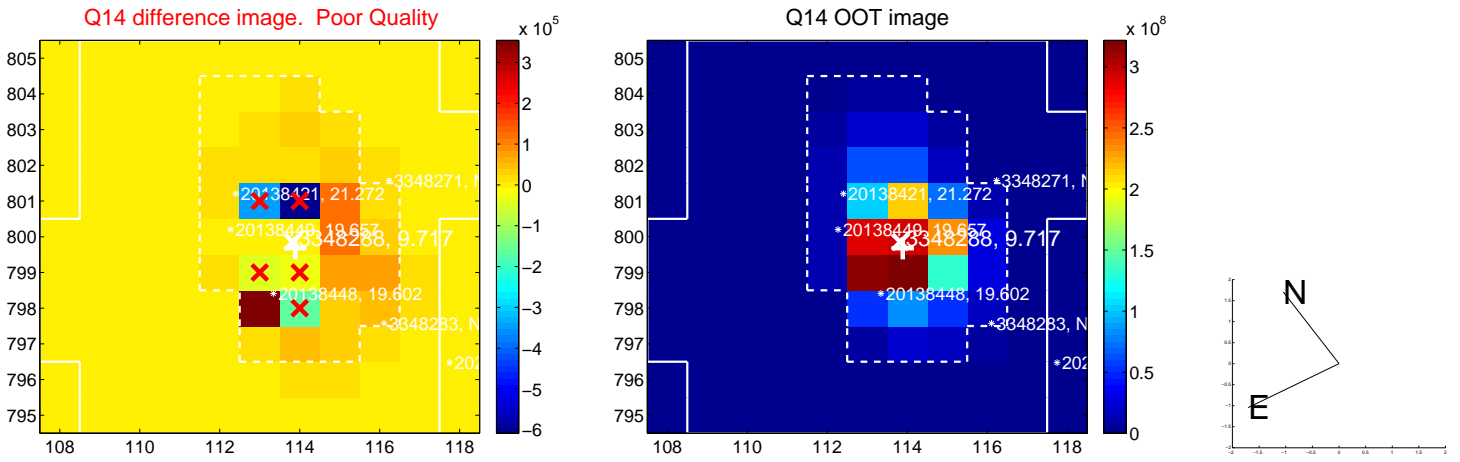
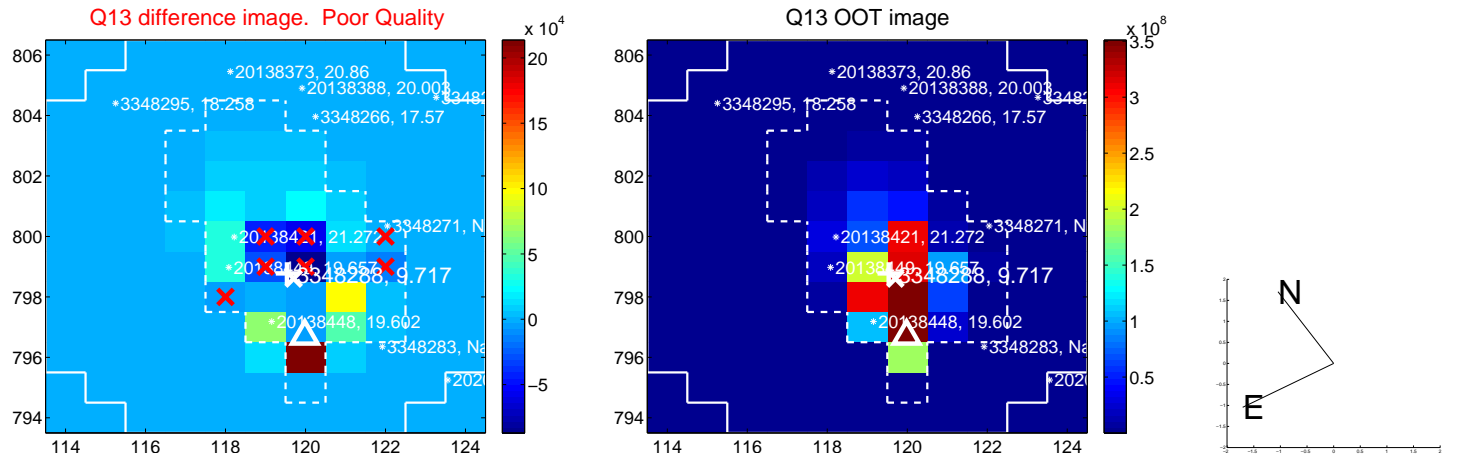
Q12 no difference image



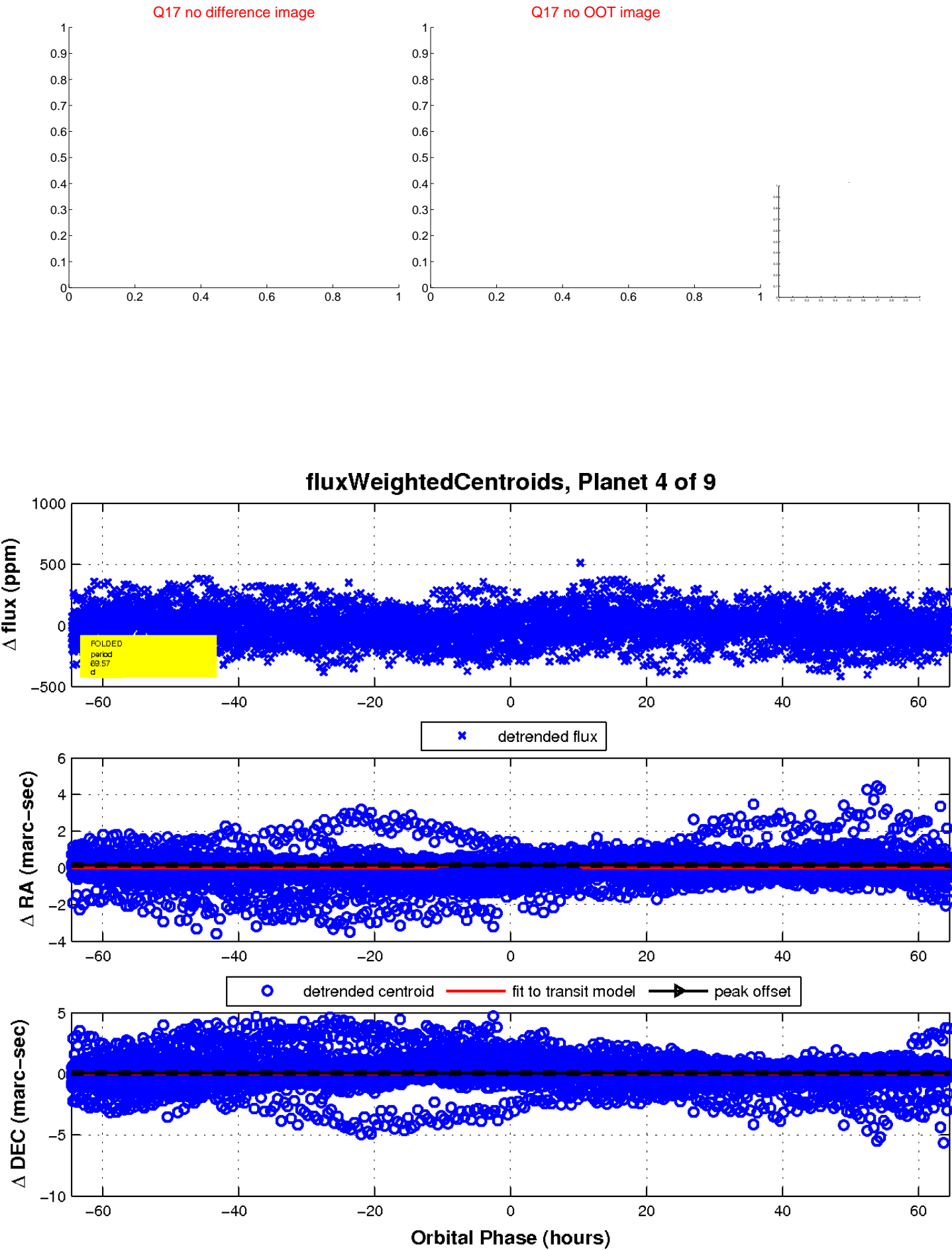
Q12 no OOT image



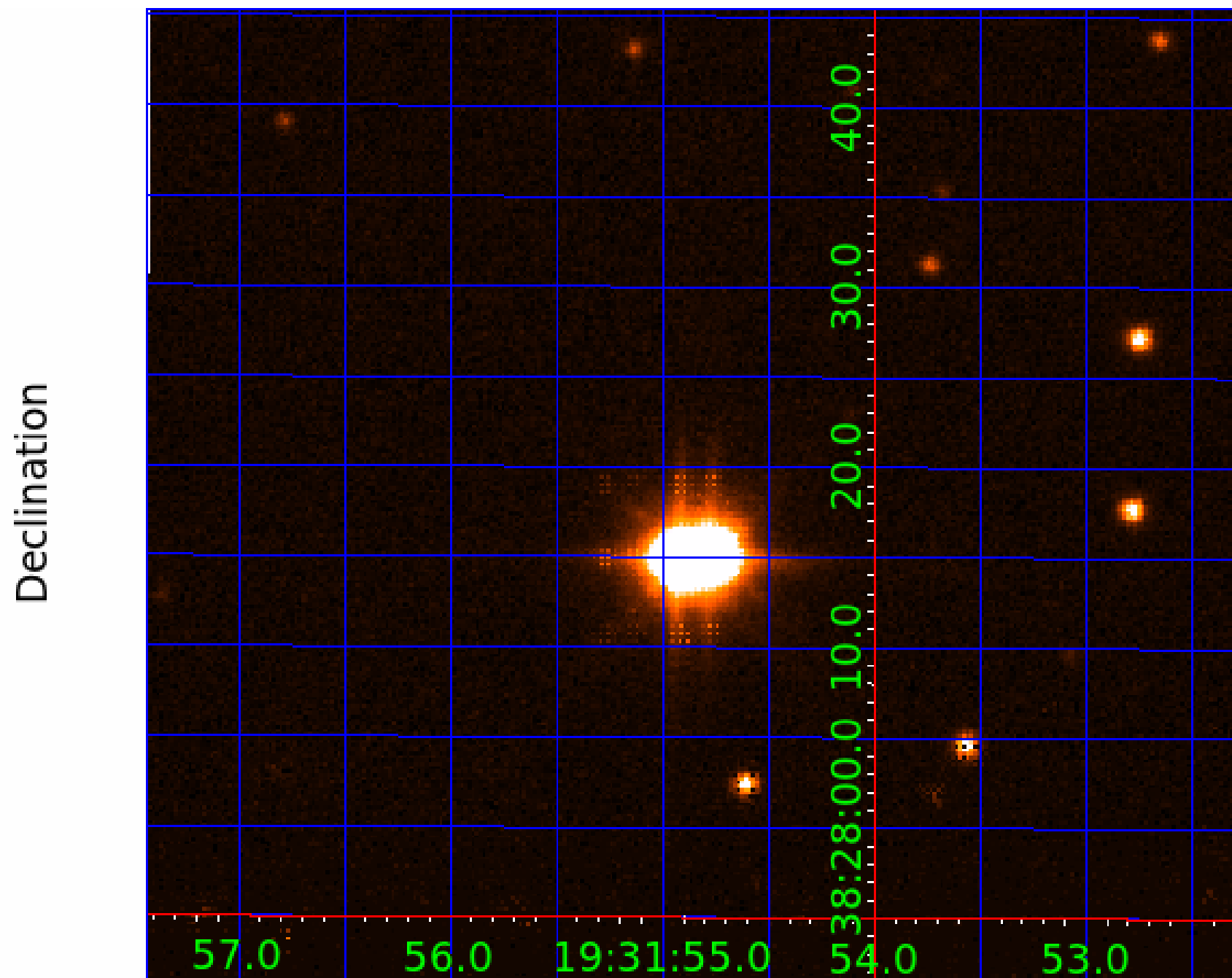
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

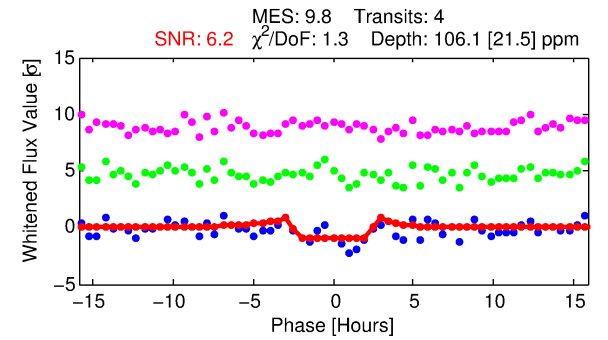
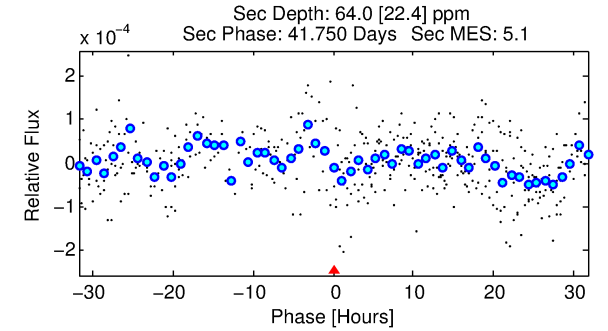
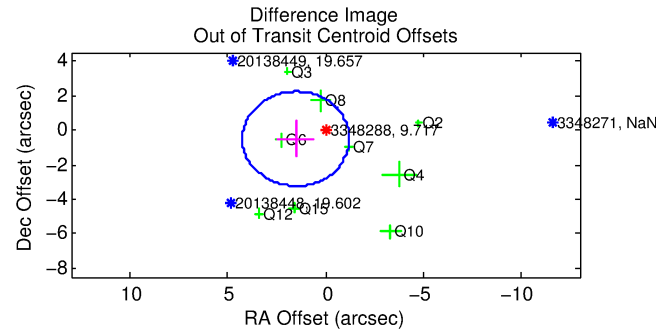
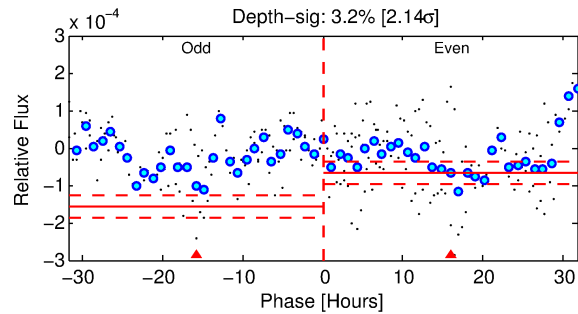
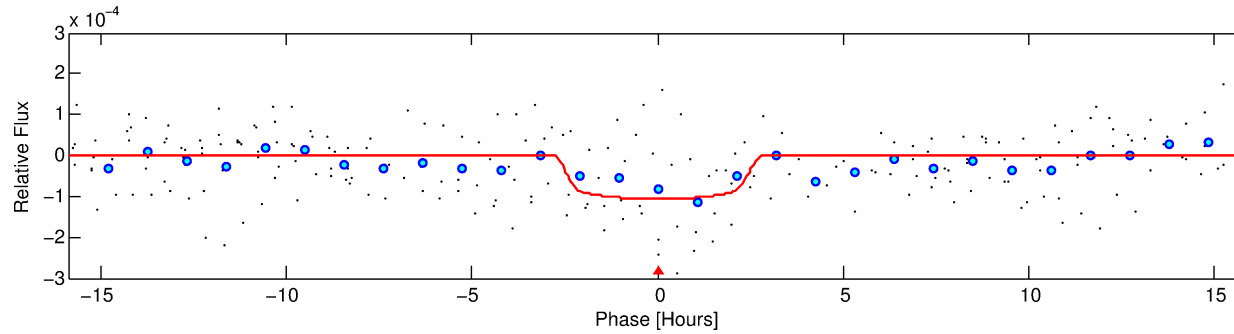
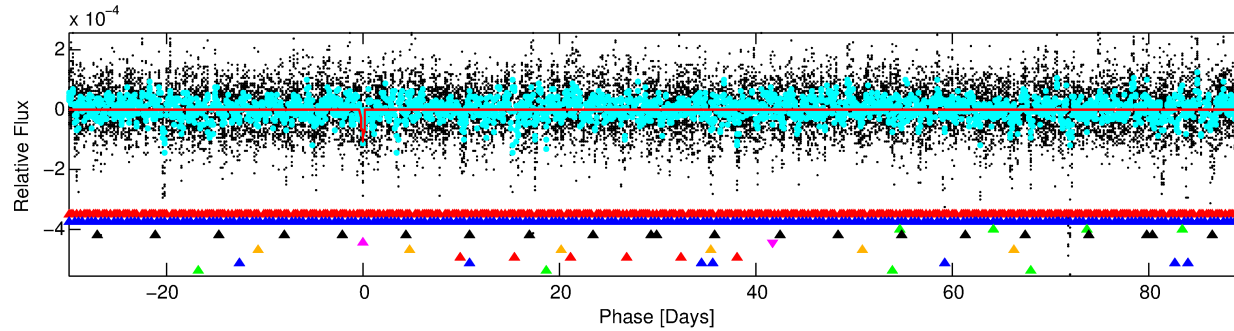
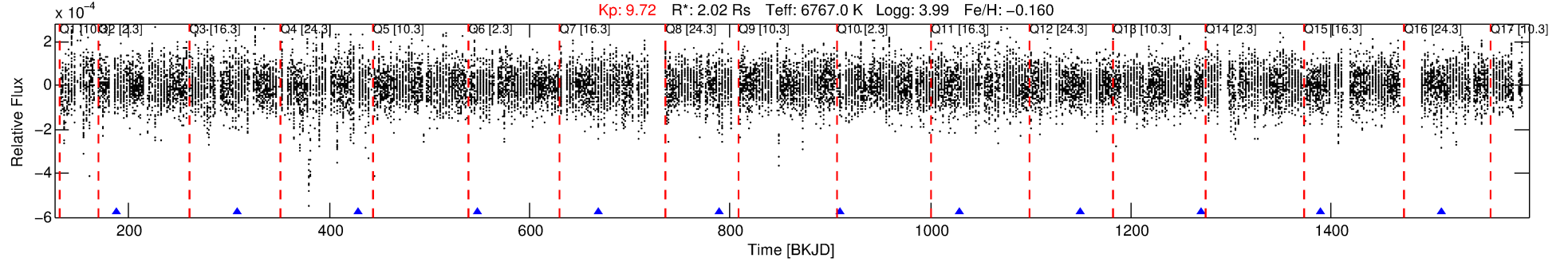
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-05

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 5 of 9 Period: 120.123 d



DV Fit Results:

Period = 120.12299 [0.00208] d
Epoch = 188.4219 [0.0163] BKJD
 $R_p/R^* = 0.0111$ [0.0087]
 $a/R^* = 75.21$ [357.00]
 $b = 0.91$ [0.87]
 $\text{Seff} = 26.41$ [11.20]
 $T_{\text{eq}} = 578$ [61] K
 $R_p = 2.45$ [2.06] R_e
 $a = 0.5385$ [0.1432] AU
 $A_g = 1702.25$ [2831.27] [0.60 σ]
 $T_{\text{eff}} = 5741$ [2319] K [2.23 σ]

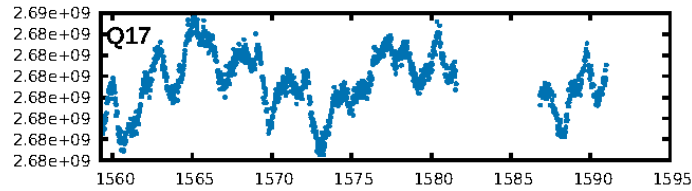
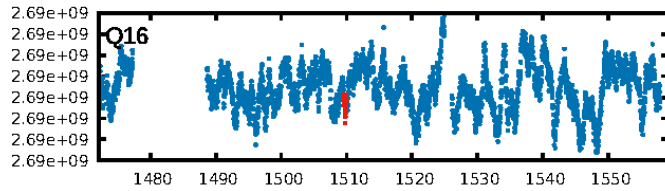
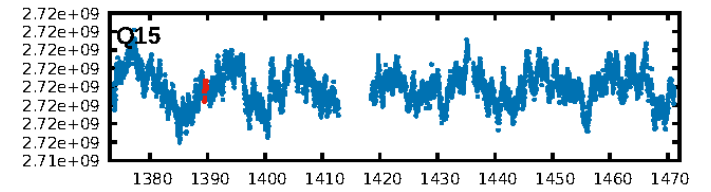
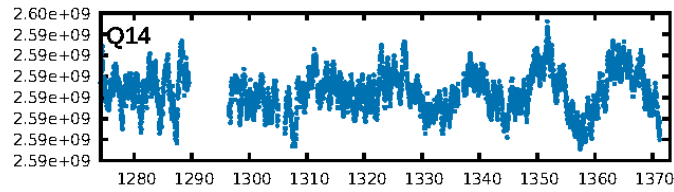
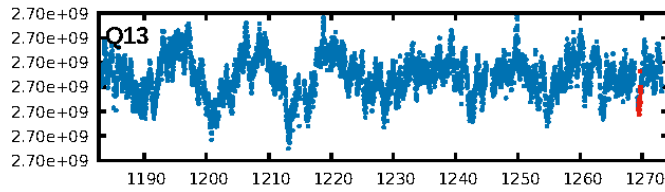
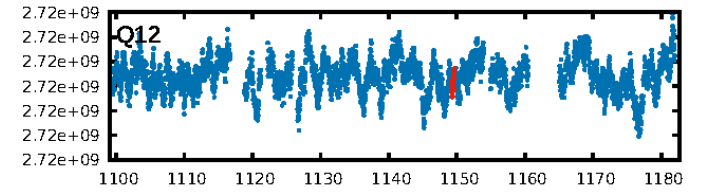
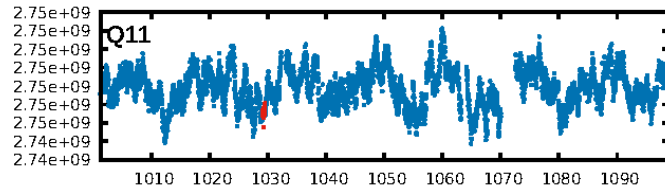
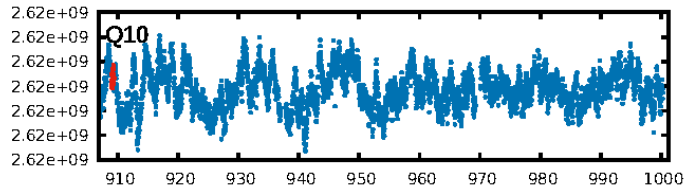
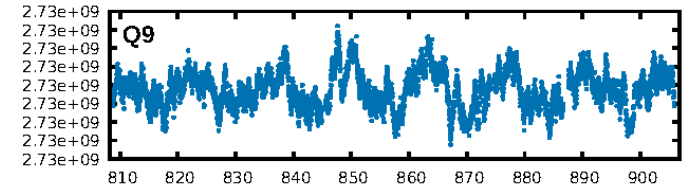
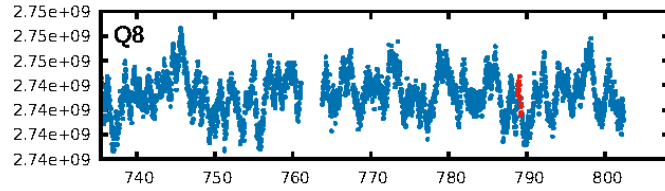
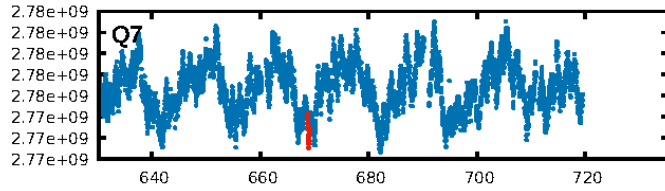
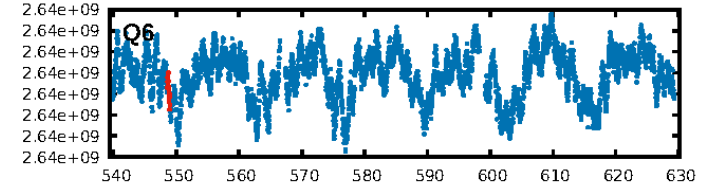
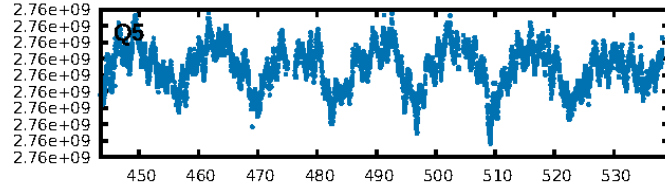
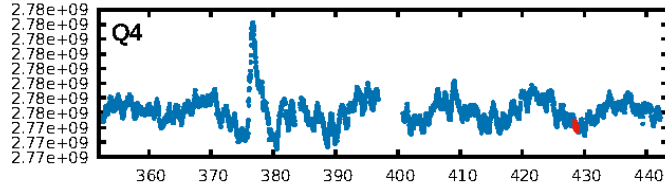
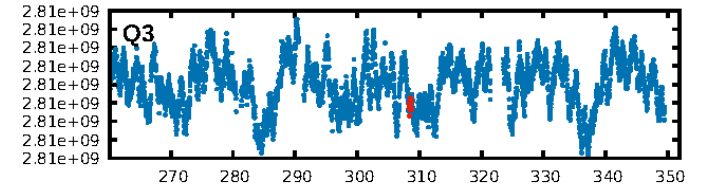
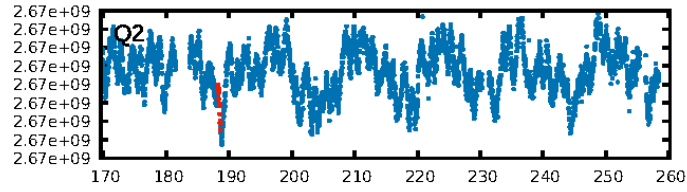
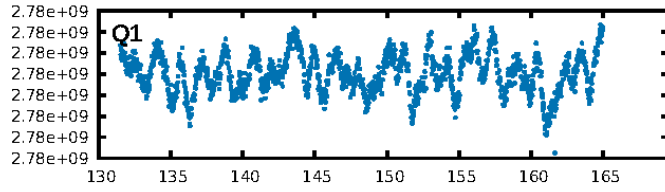
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [54.72 σ]
LongPeriod-sig: 100.0% [255.28 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 51.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 9.6%
Centroid-so: 1.317 arcsec [1.22 σ]
OotOffset-rm: 1.600 arcsec [1.76 σ]
OotOffset-st: 3/3/3/0 [9]
KicOffset-rm: 2.595 arcsec [3.02 σ]
KicOffset-st: 3/3/3/0 [9]
DiffImageQuality-fgm: 0.00 [0/9]
DiffImageOverlap-fno: 0.30 [3/10]

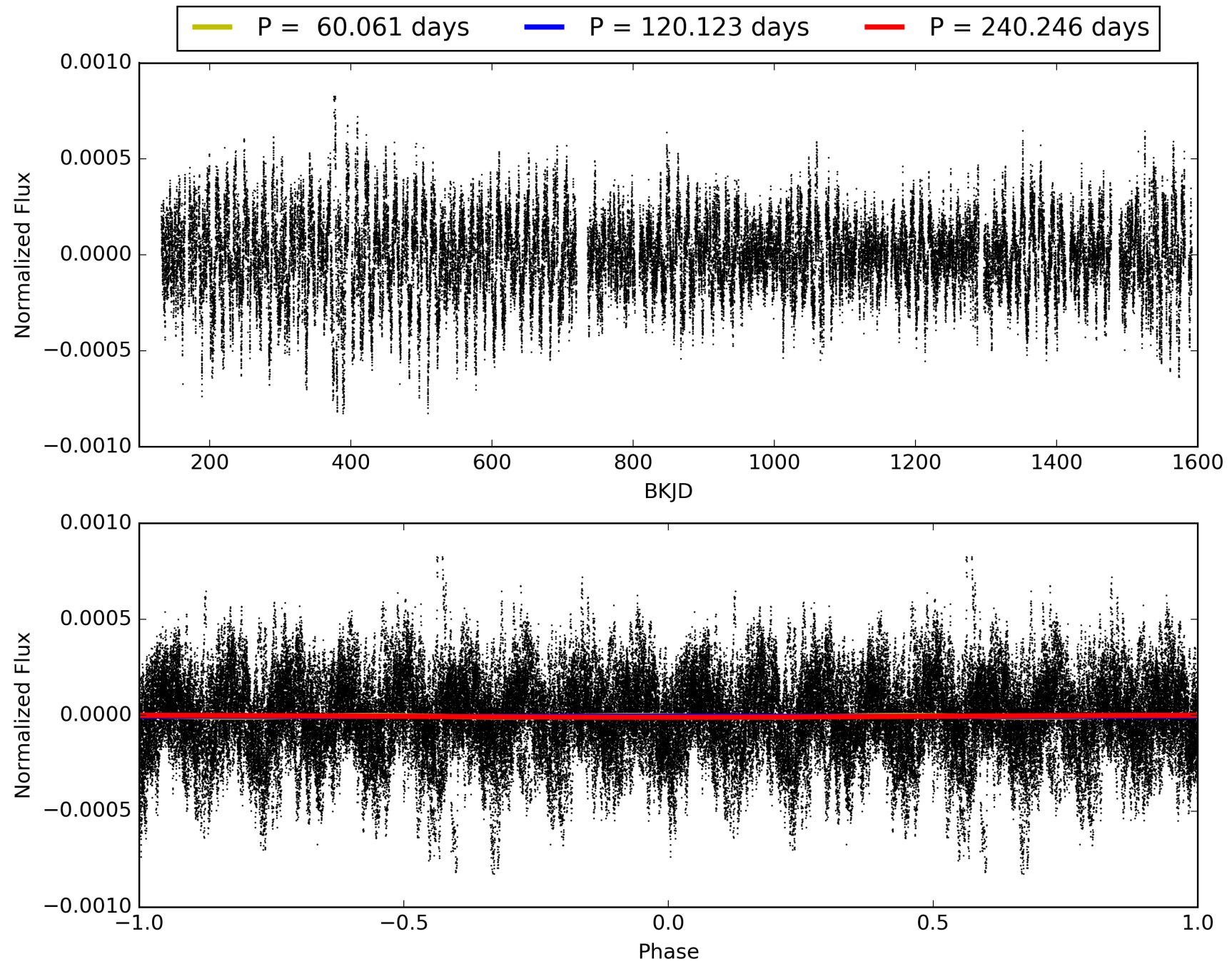
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:56:57 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-05, PDC Light Curves

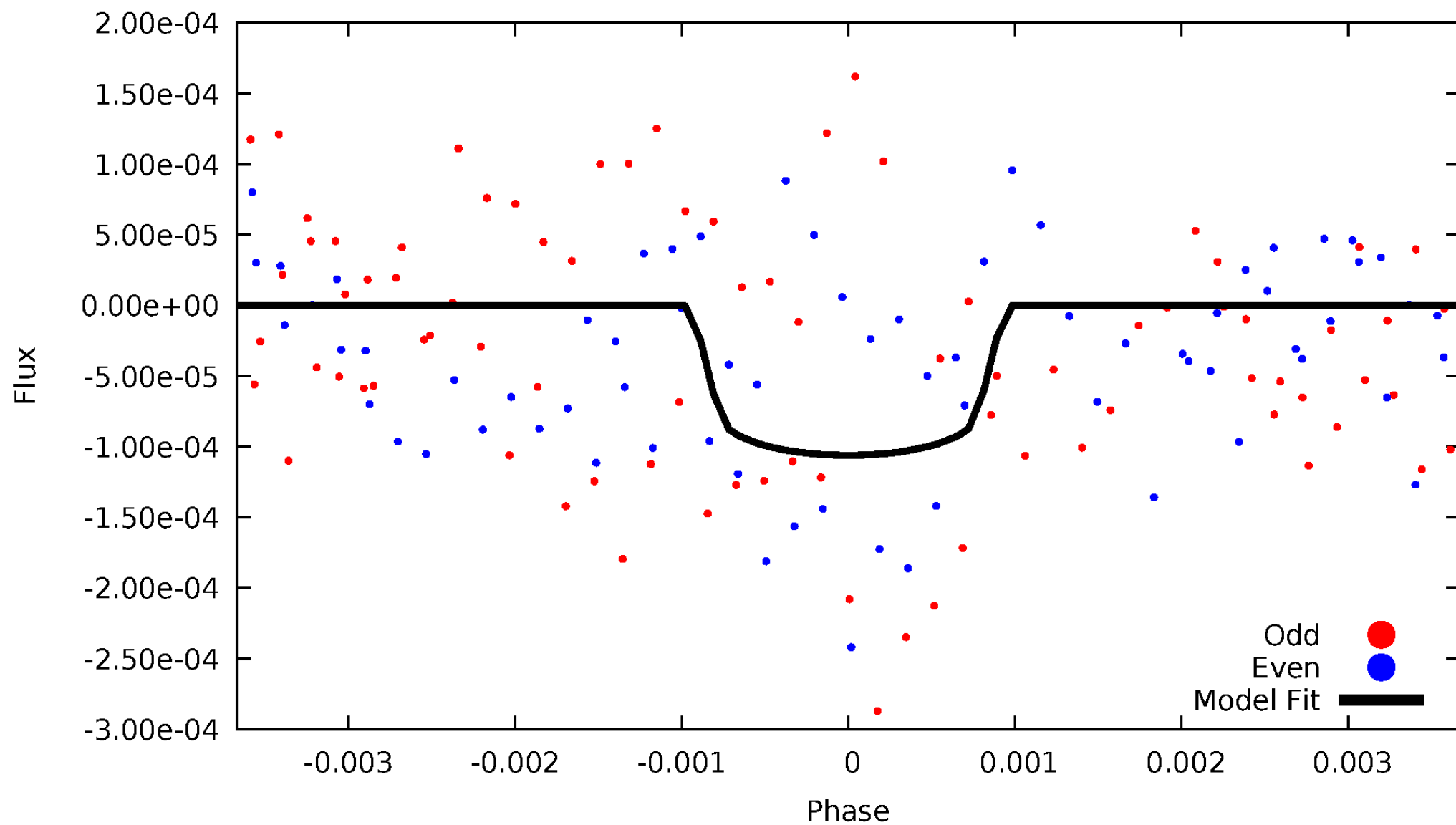


TCE 003348288-05



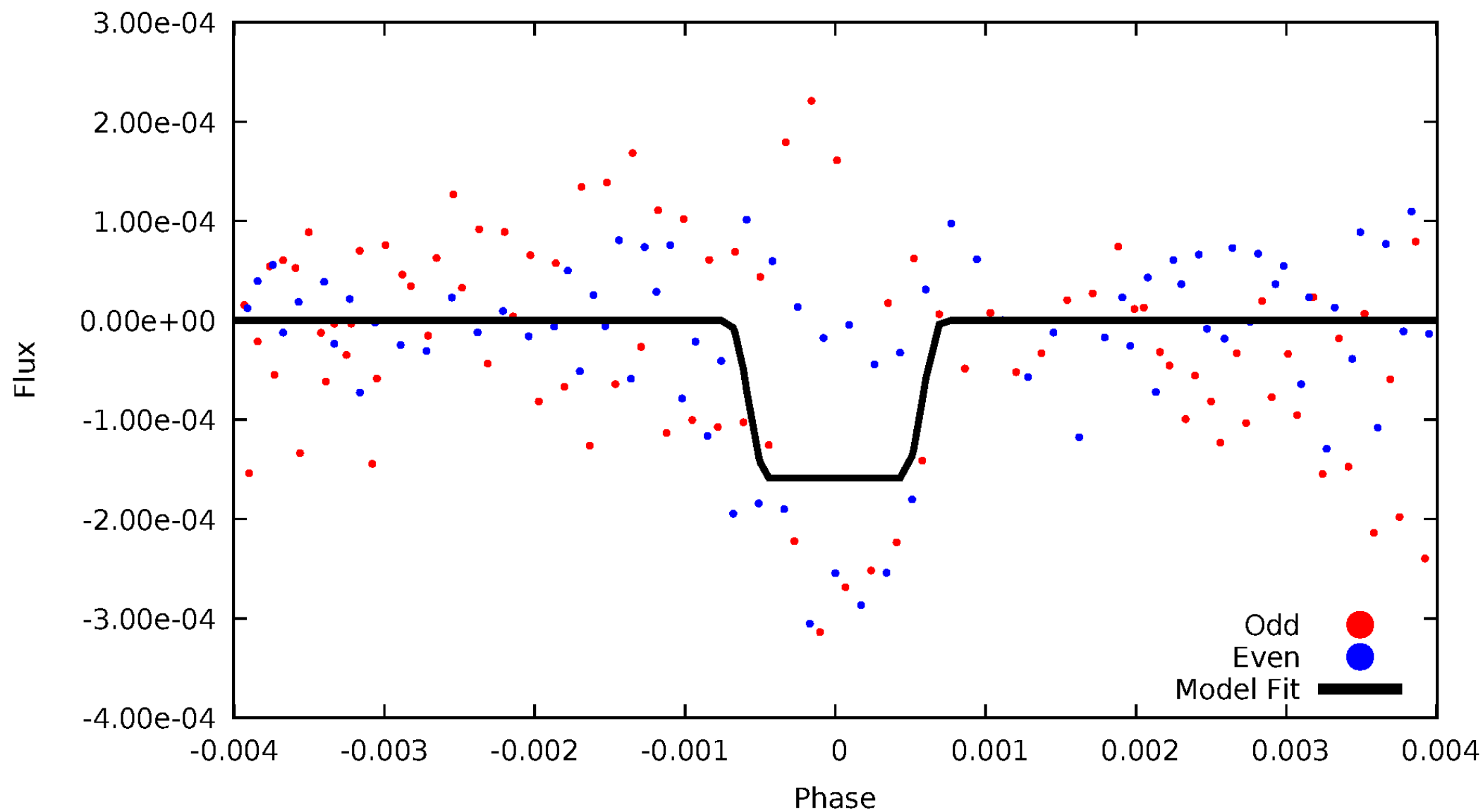
DV Odd/Even

TCE 003348288-05



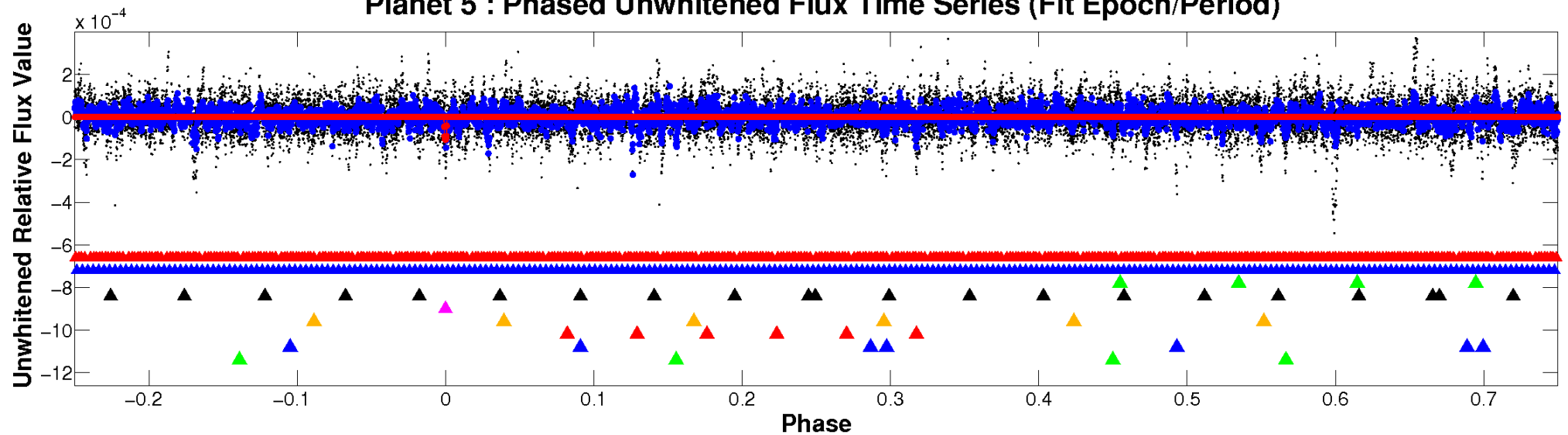
ALT Odd/Even

TCE 003348288-05

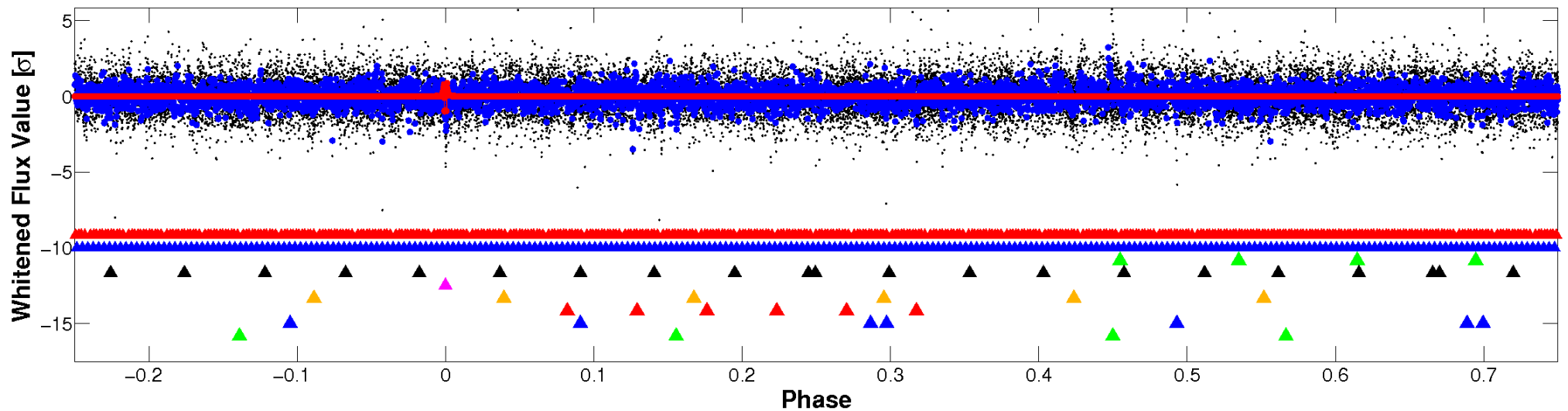


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

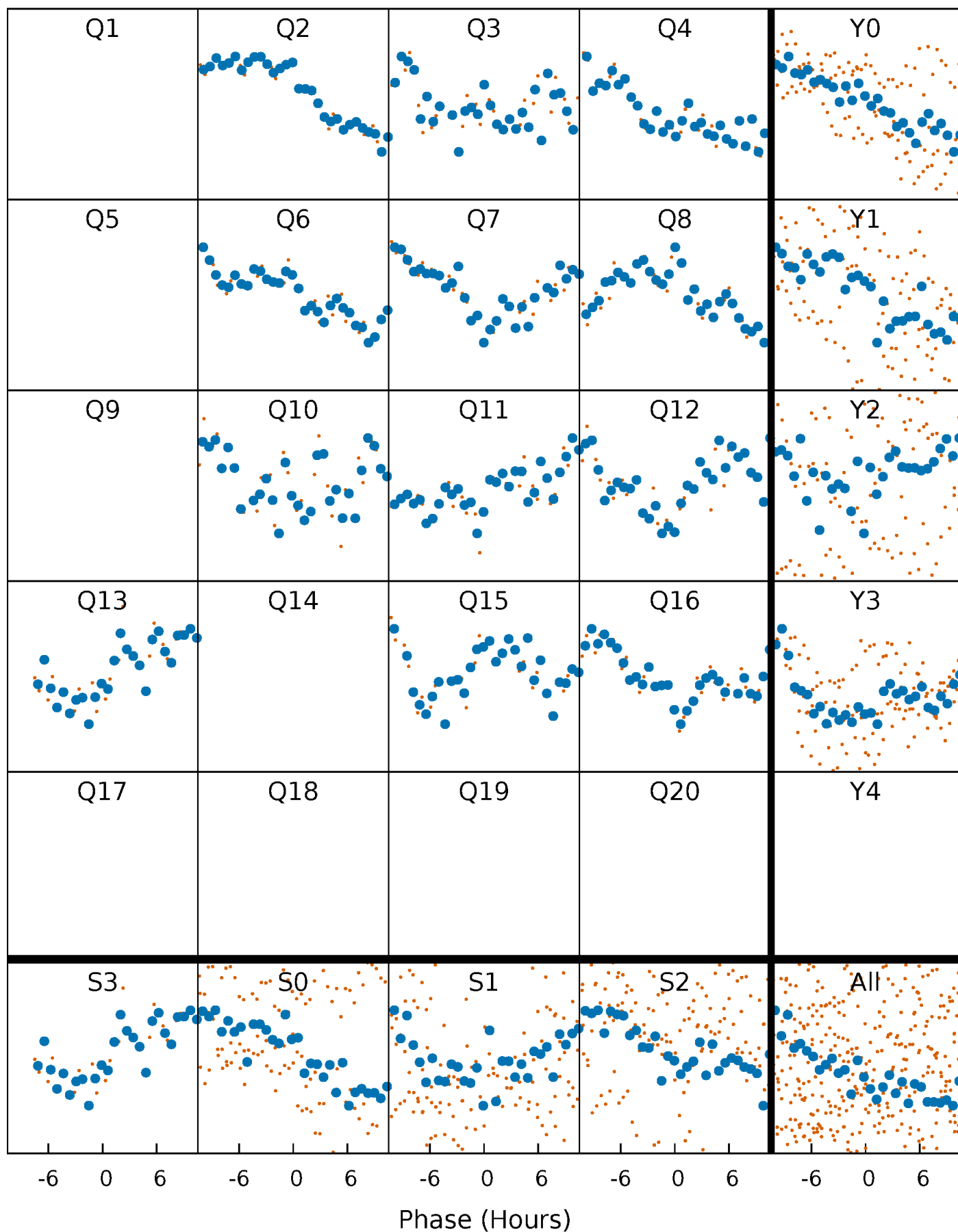


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



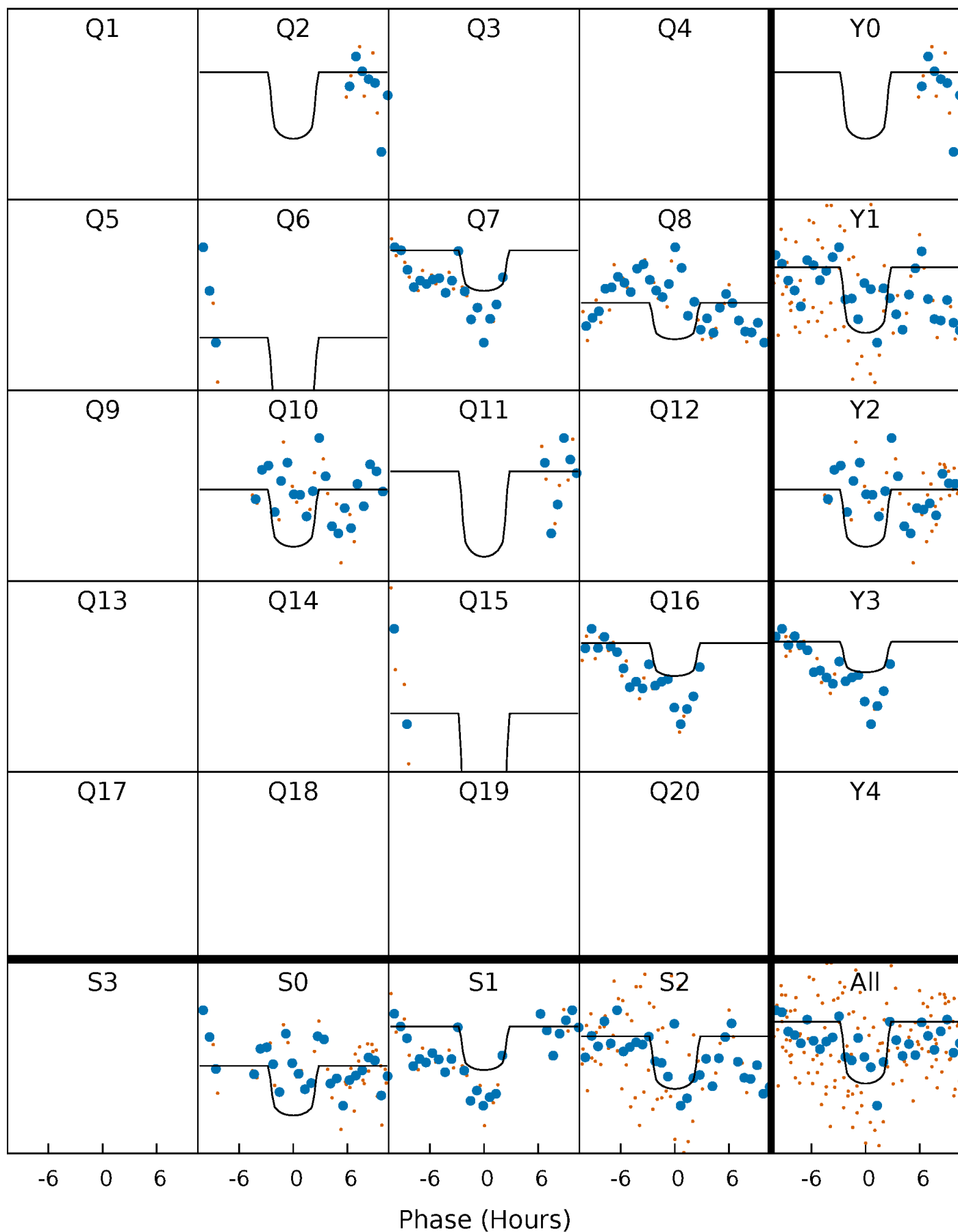
PDC Quarter-Phased Transit Curves

TCE 003348288-05 $P=120.122989$ Days $T_0=188.421852$ (BKJD)



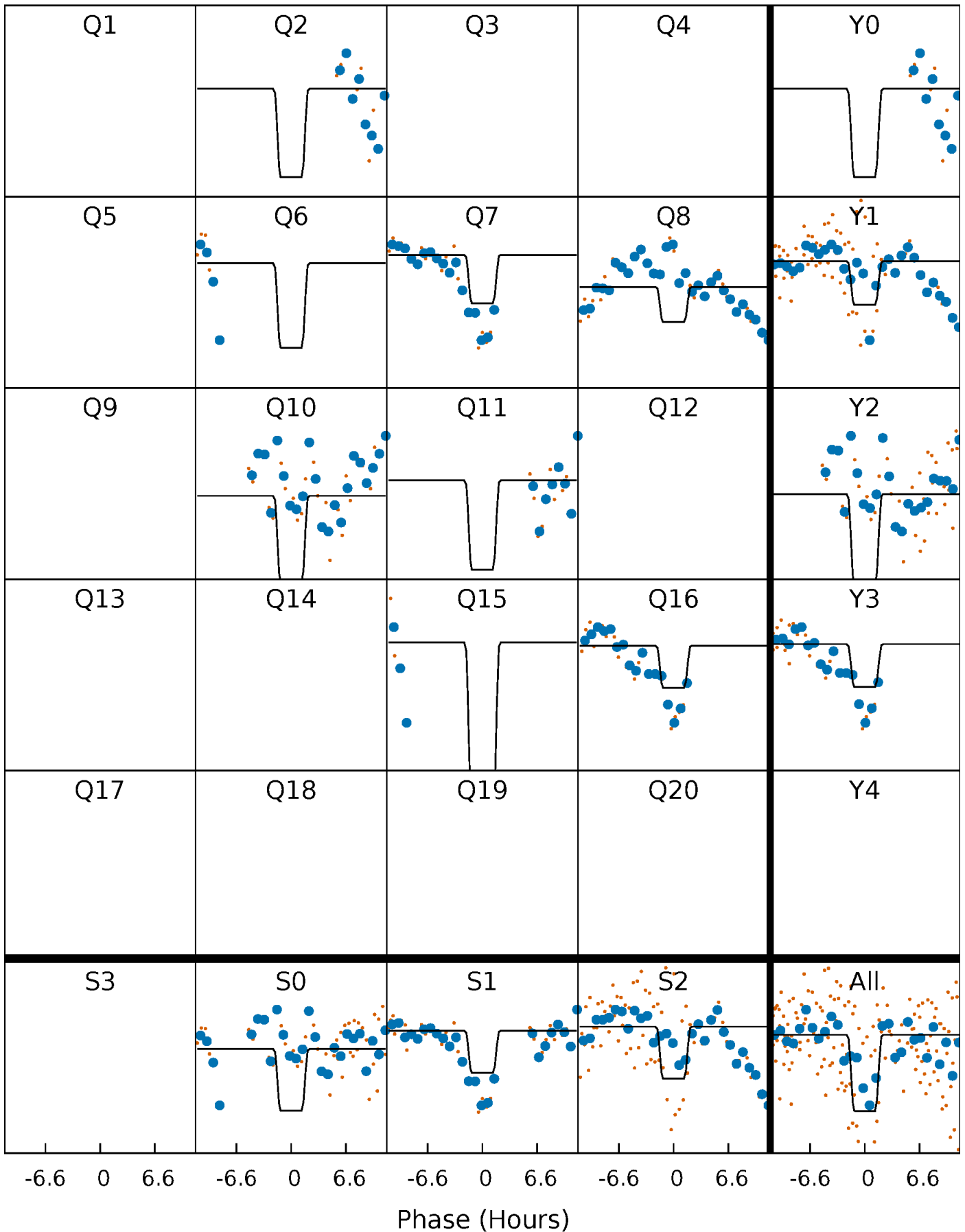
DV Quarter-Phased Transit Curves

TCE 003348288-05 $P=120.122989$ Days $T_0=188.421852$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

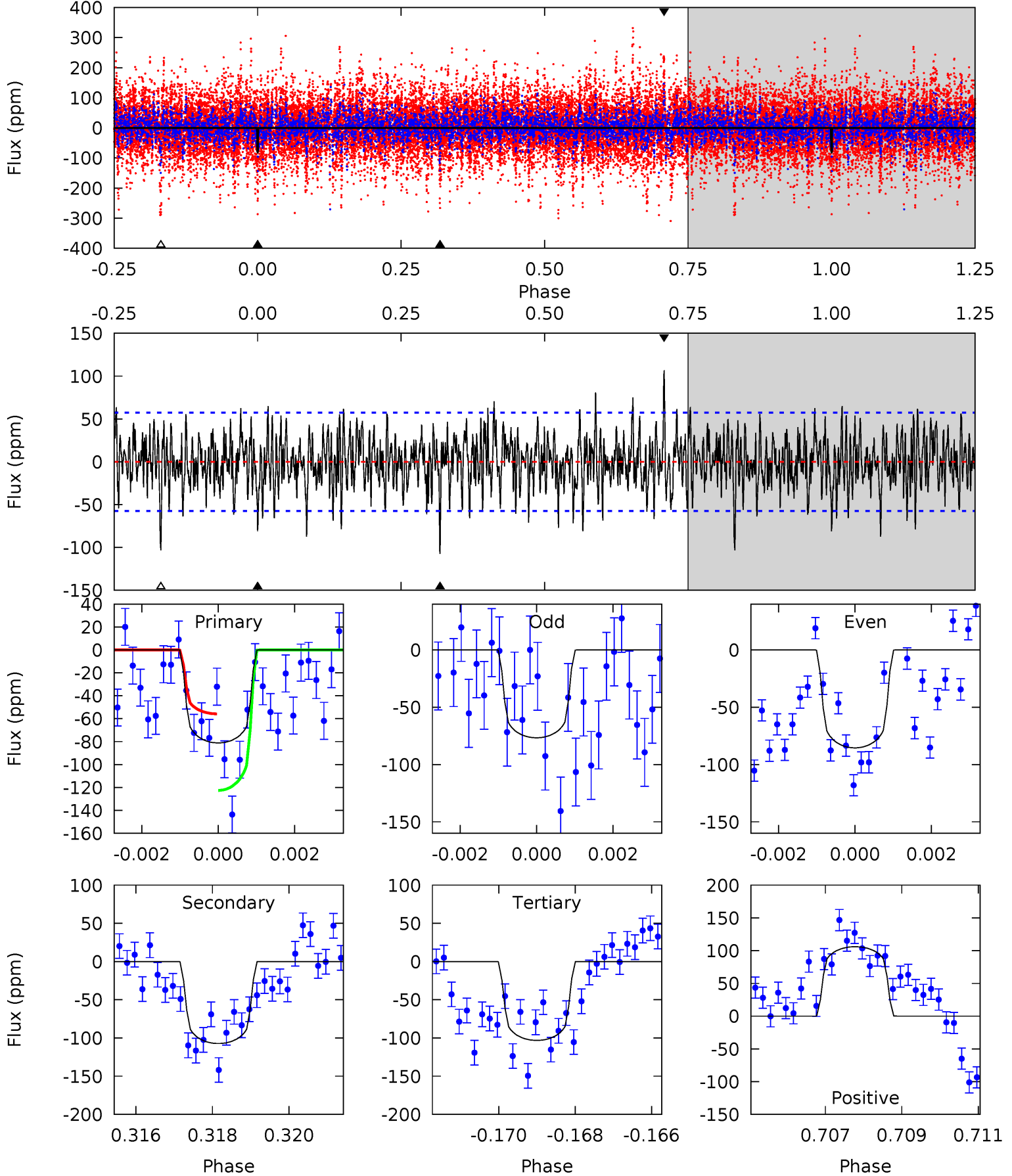
TCE 003348288-05 $P=120.124551$ Days $T_0=188.438045$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-05, $P = 120.122989$ Days, $E = 68.298863$ Days

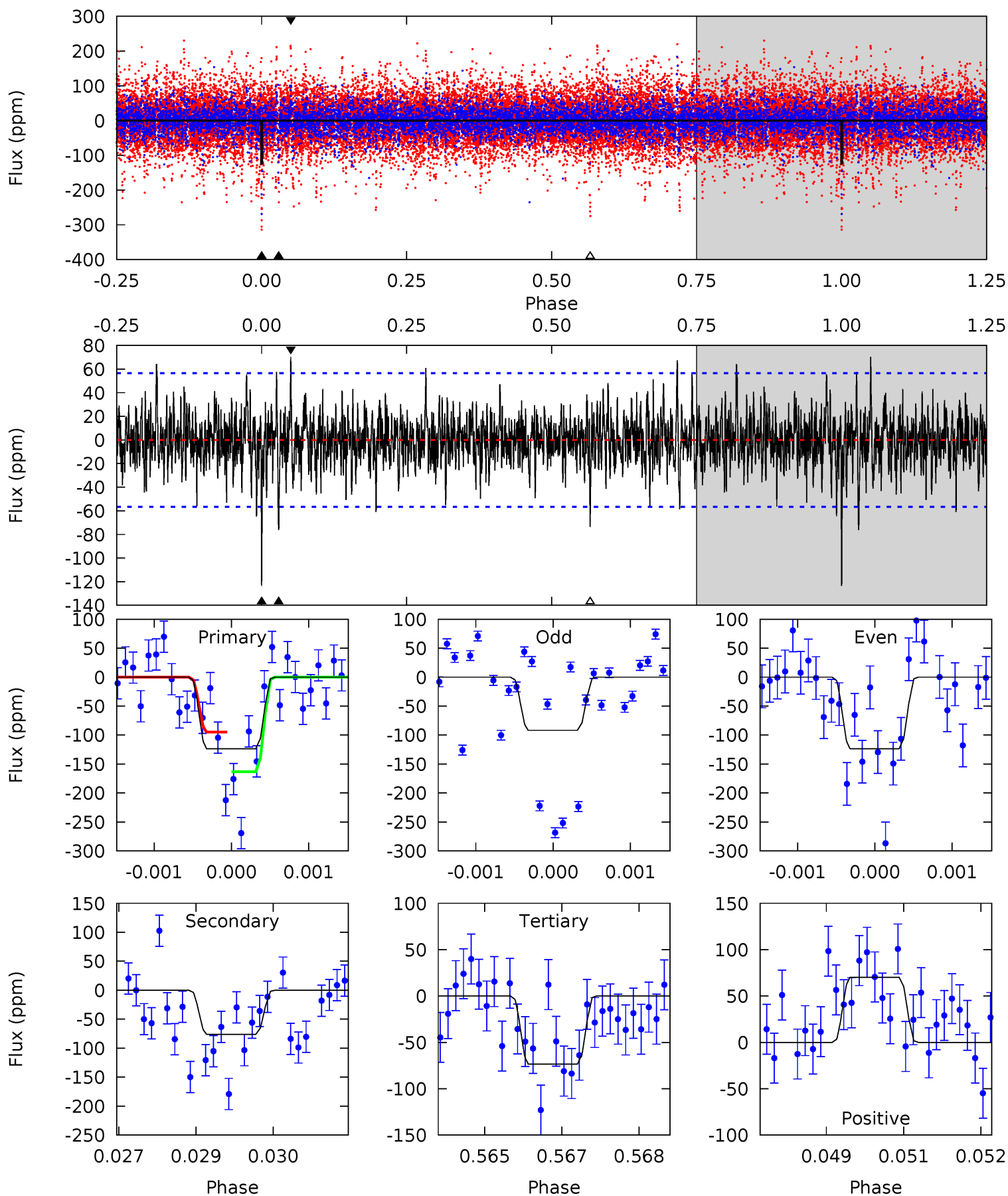
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.54	9.97	9.59	9.85	5.33	3.10	2.39	-2.04	-2.30	0.38	0.12	0.41	0.91	0.50	3.08



Alt Model-Shift Uniqueness Test

003348288-05, P = 120.124551 Days, E = 68.313494 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	7.26	7.01	6.69	5.39	3.20	1.62	4.77	5.09	0.25	0.57	1.51	0.77	0.36	3.21



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-107 ± 11	$2.60^{+1.80}_{-1.58}$	799^{+55}_{-59}	6211^{+4814}_{-1339}	2517^{+13355}_{-1654}
Alt.	-76 ± 10	$2.85^{+2.12}_{-1.54}$	801^{+49}_{-65}	5400^{+2698}_{-1007}	1426^{+5405}_{-931}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

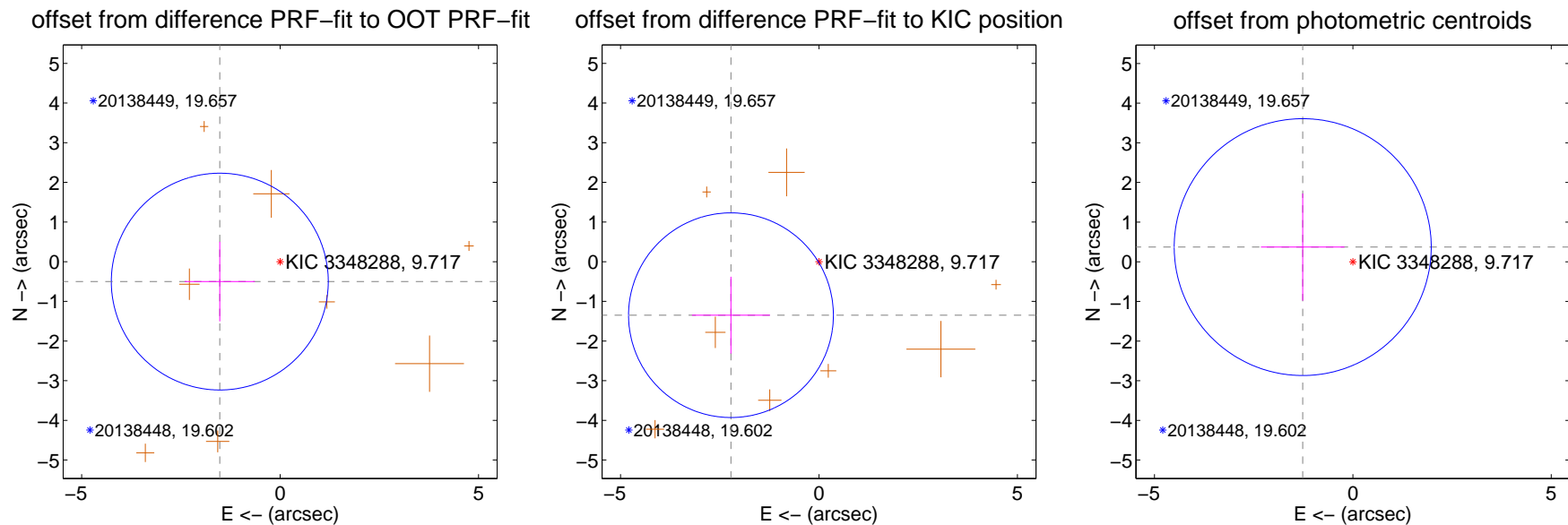
DV Centroid Data

Supplemental centroid analysis for 003348288-05. **Kepler magnitude: 9.72.** Transit SNR 6.17

There are 0 quarters with good PRF difference image offsets

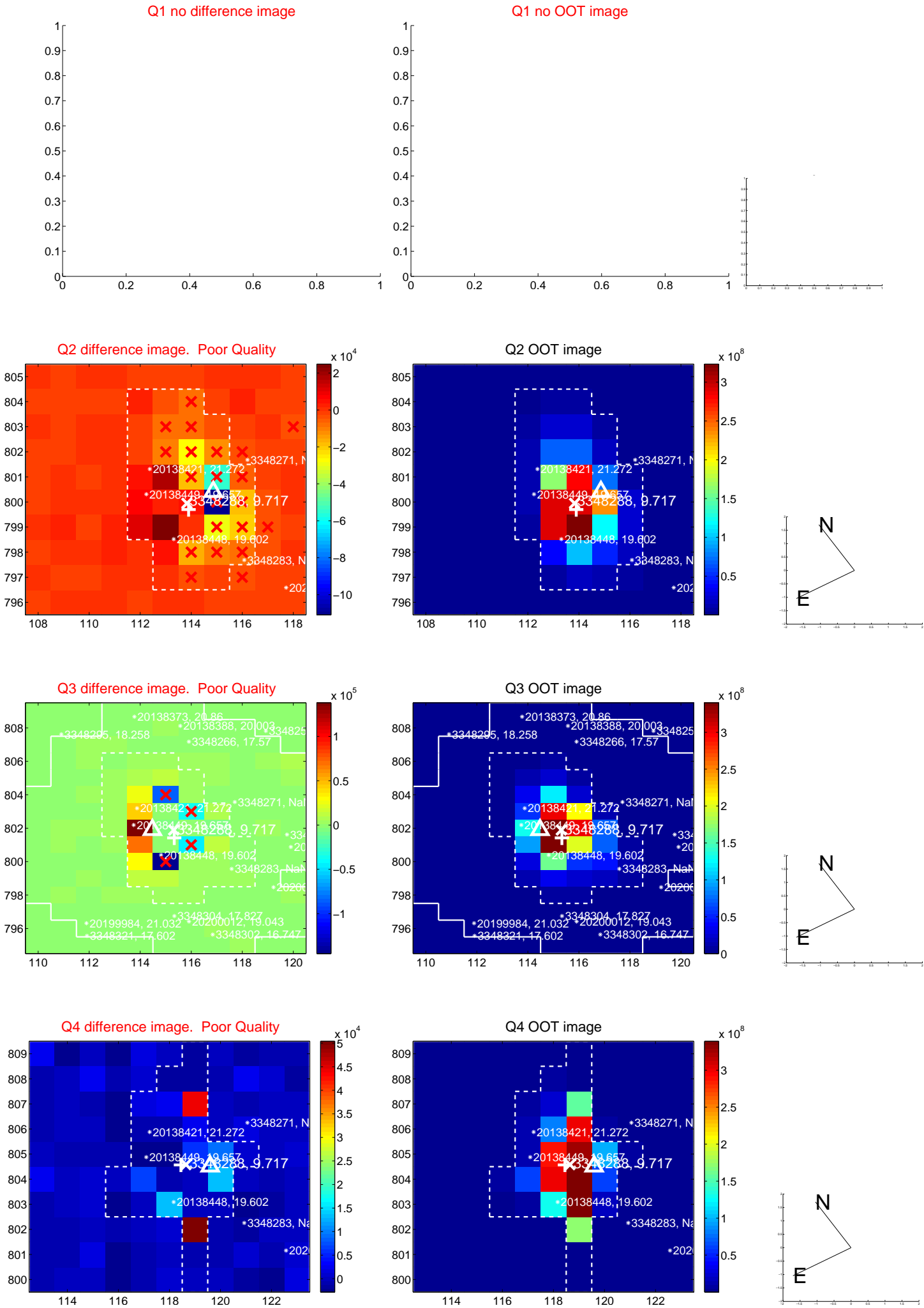
The direct PRF centroid is offset from the target star catalog position by about 1.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.600 ± 0.911	1.76	1.519 ± 0.885	-0.502 ± 1.003
PRF-fit source offset from KIC position	2.595 ± 0.860	3.02	2.217 ± 0.982	-1.349 ± 0.969
photometric centroid source offset	1.32 ± 1.08	1.22	1.26 ± 1.05	0.37 ± 1.35



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

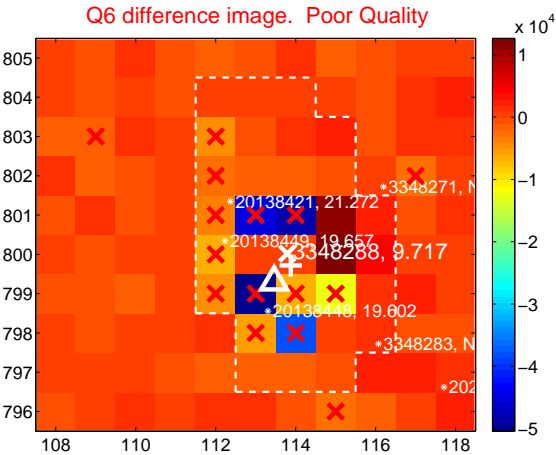
Q5 no difference image



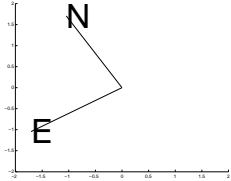
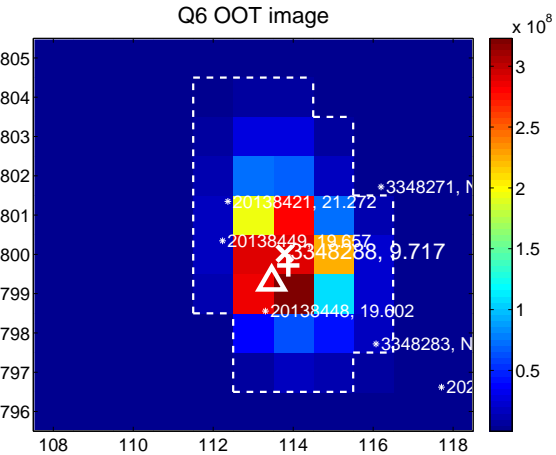
Q5 no OOT image



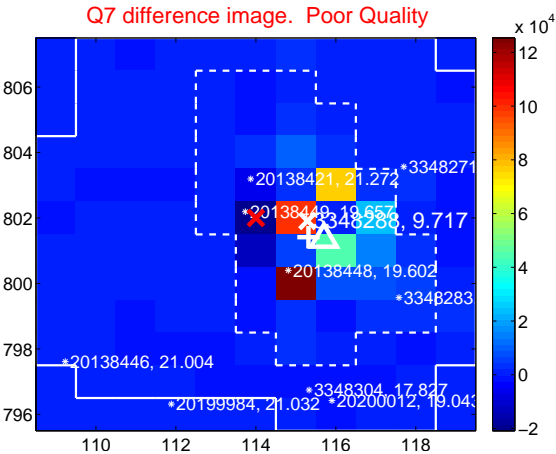
Q6 difference image. Poor Quality



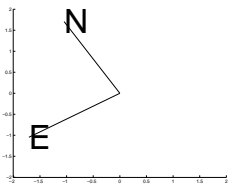
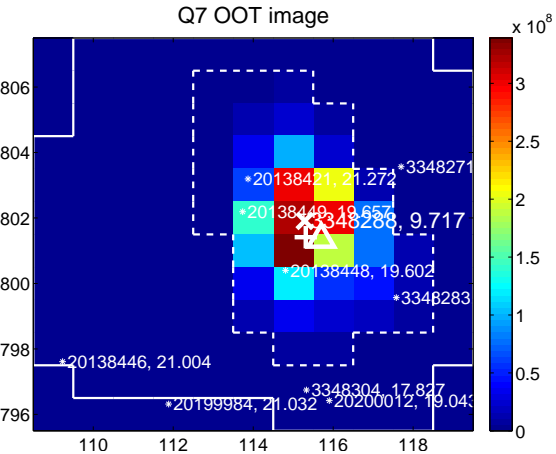
Q6 OOT image



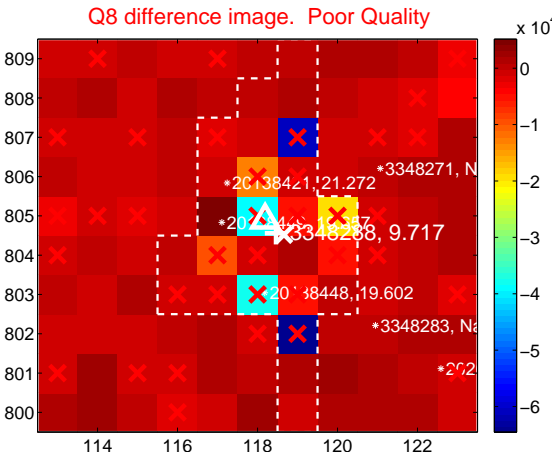
Q7 difference image. Poor Quality



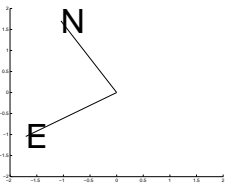
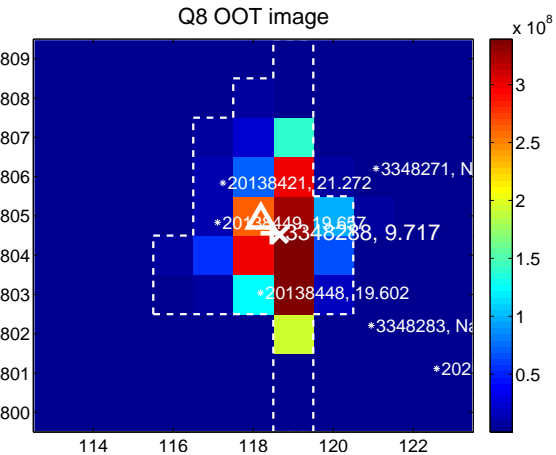
Q7 OOT image



Q8 difference image. Poor Quality



Q8 OOT image



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

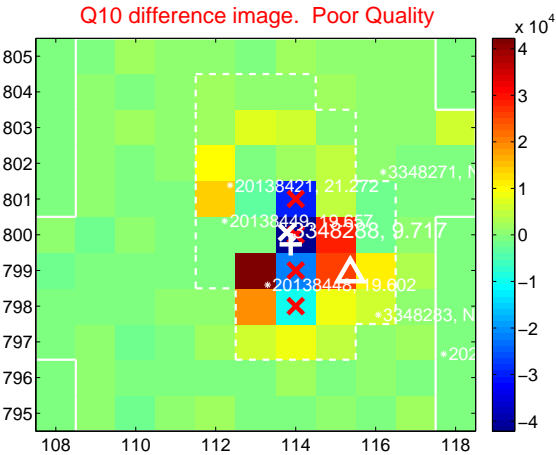
Q9 no difference image



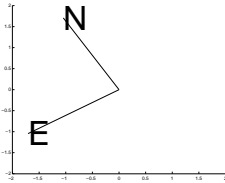
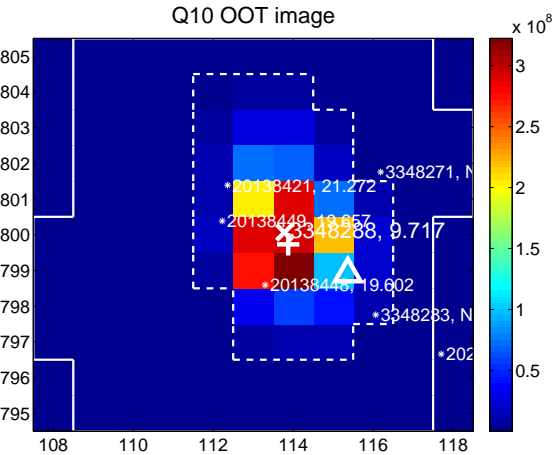
Q9 no OOT image



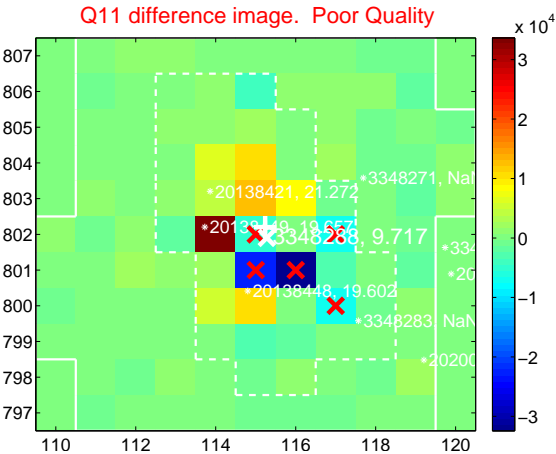
Q10 difference image. Poor Quality



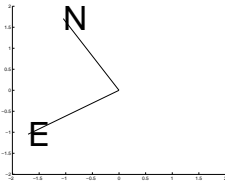
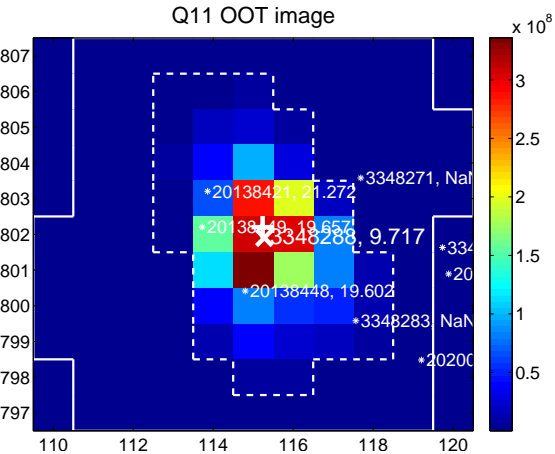
Q10 OOT image



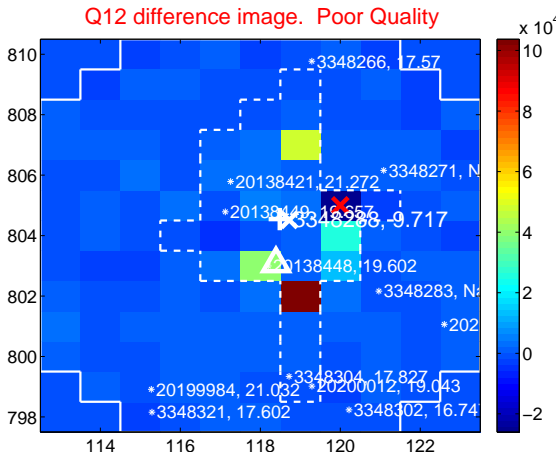
Q11 difference image. Poor Quality



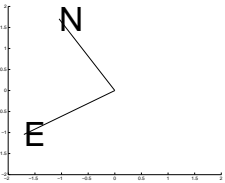
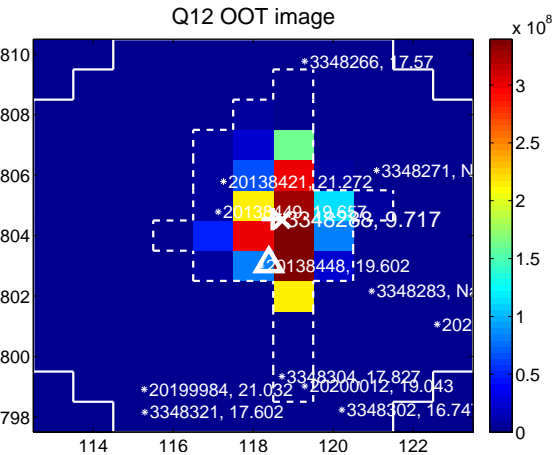
Q11 OOT image



Q12 difference image. Poor Quality



Q12 OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

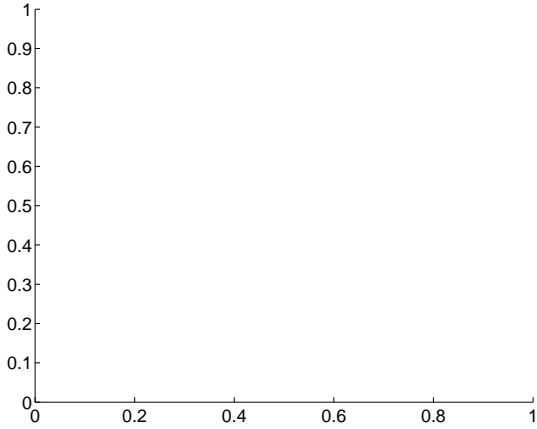
Q13 no difference image



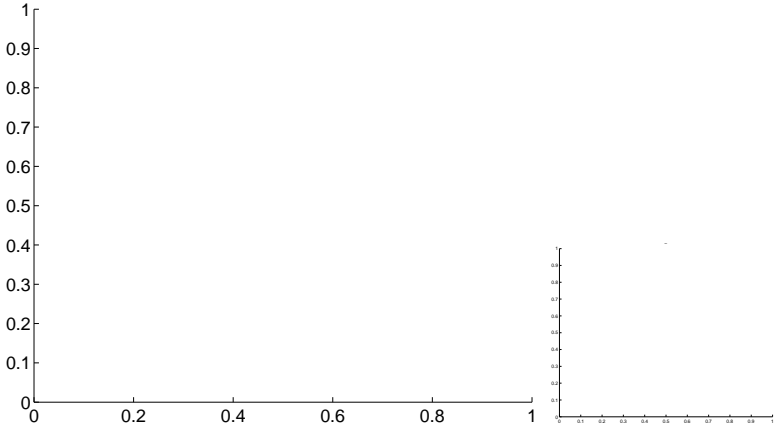
Q13 no OOT image



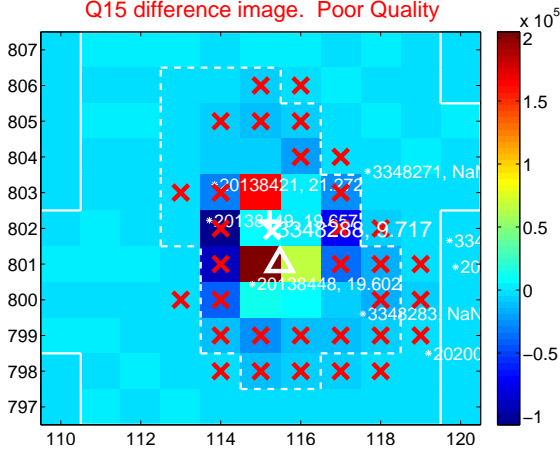
Q14 no difference image



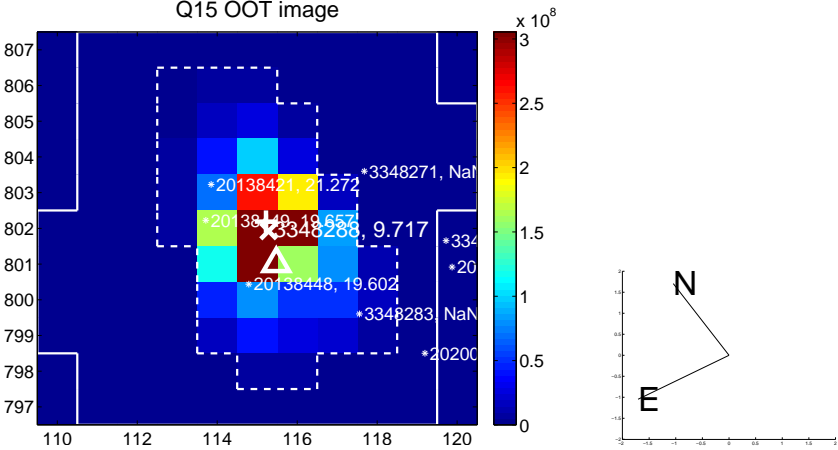
Q14 no OOT image



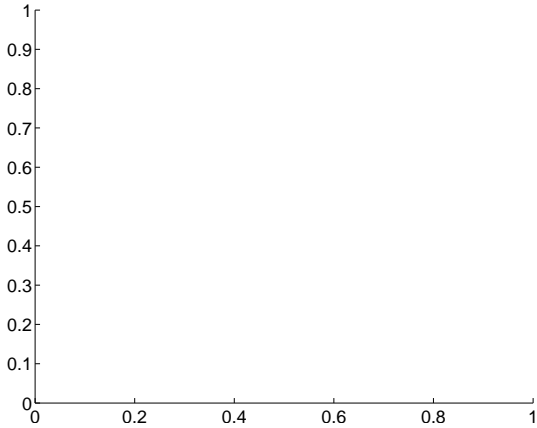
Q15 difference image. Poor Quality



Q15 OOT image



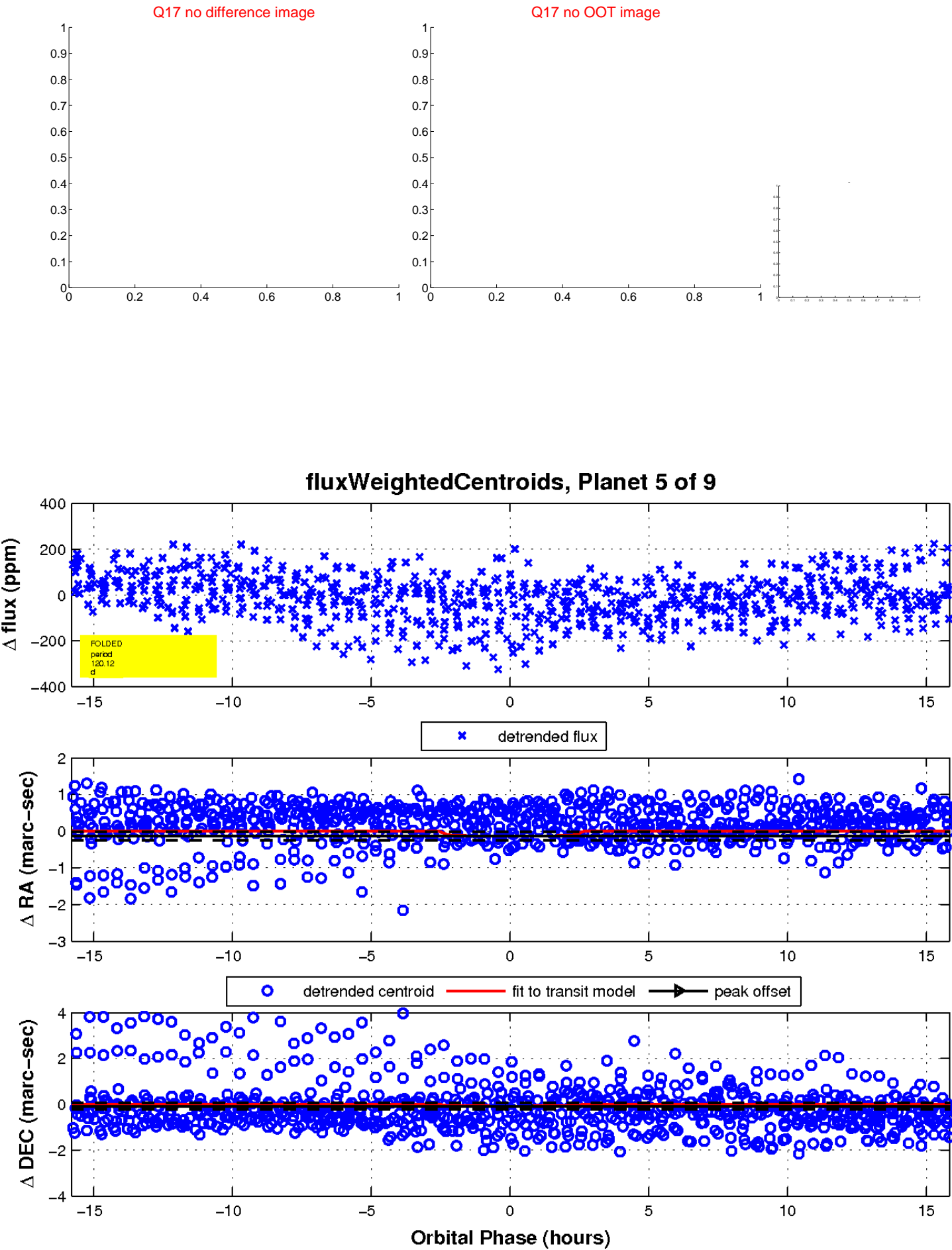
Q16 no difference image



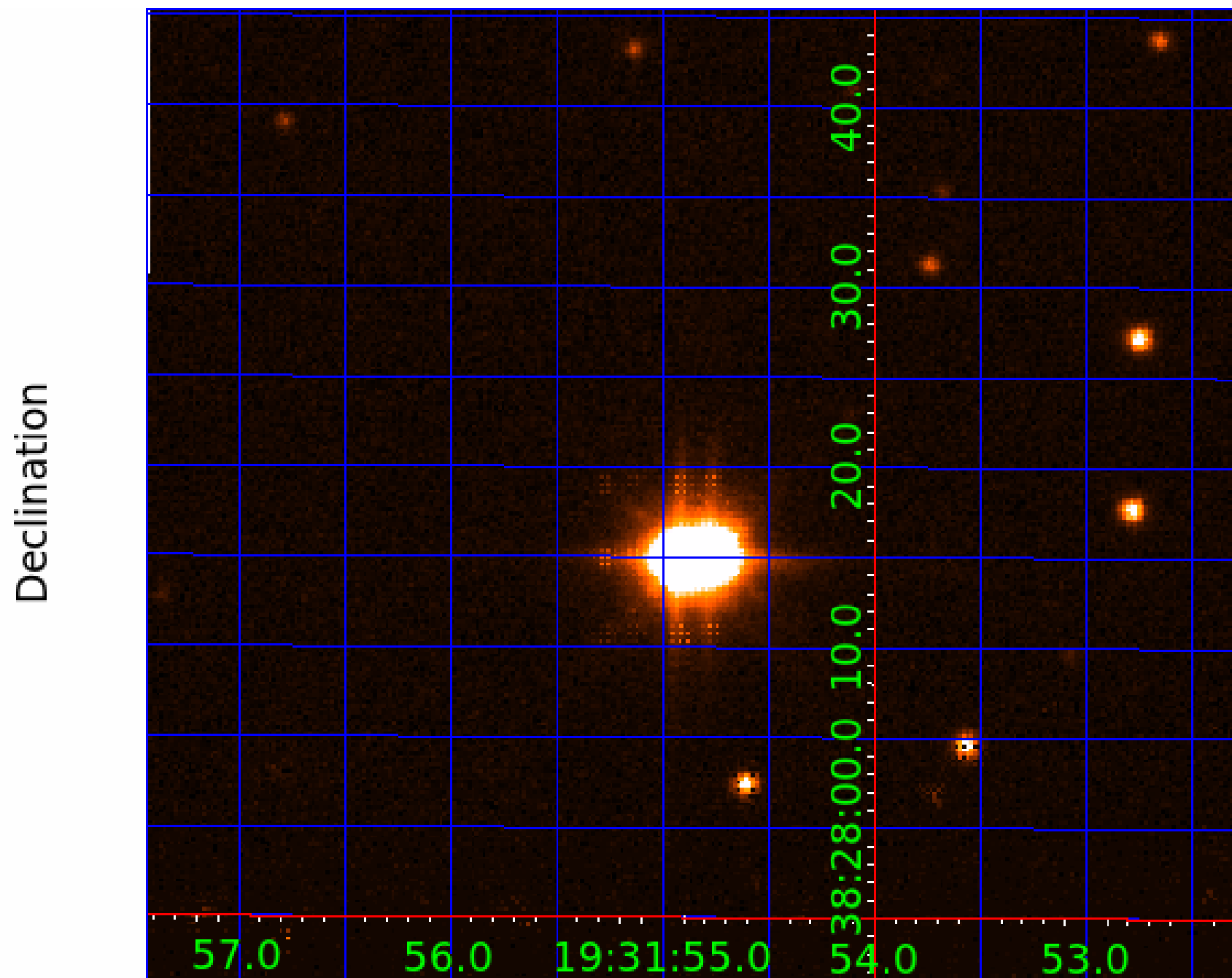
Q16 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

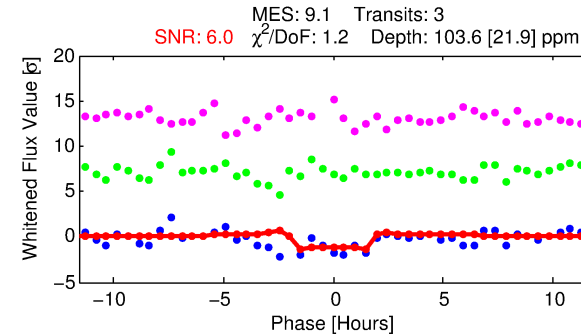
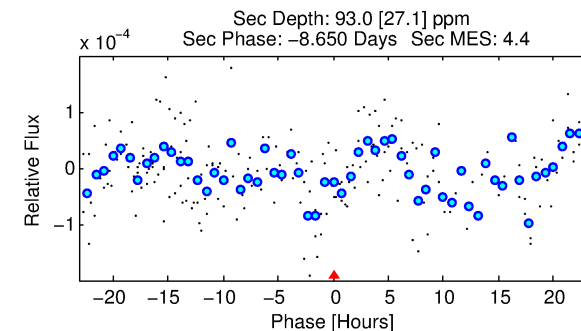
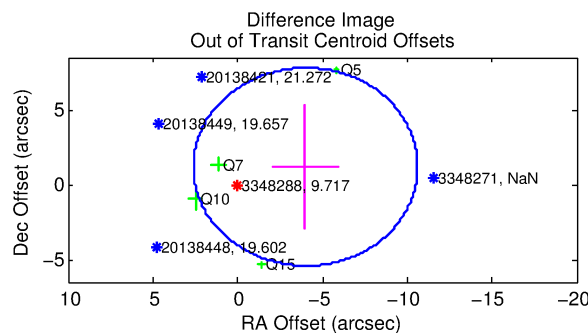
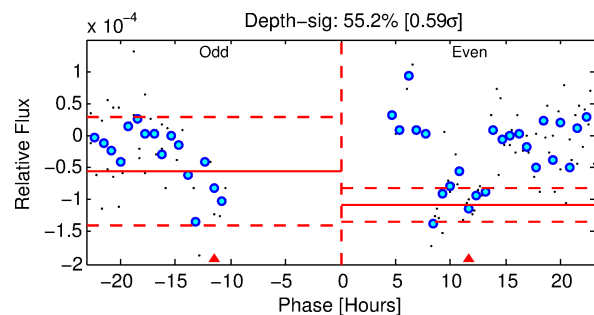
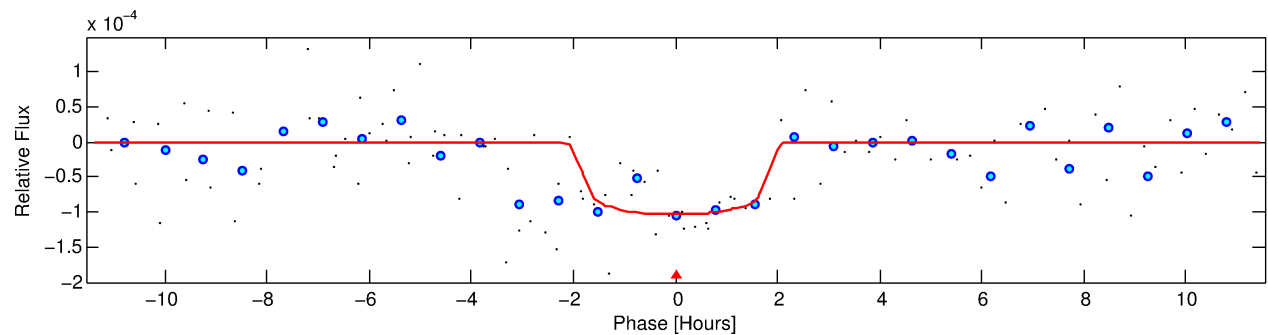
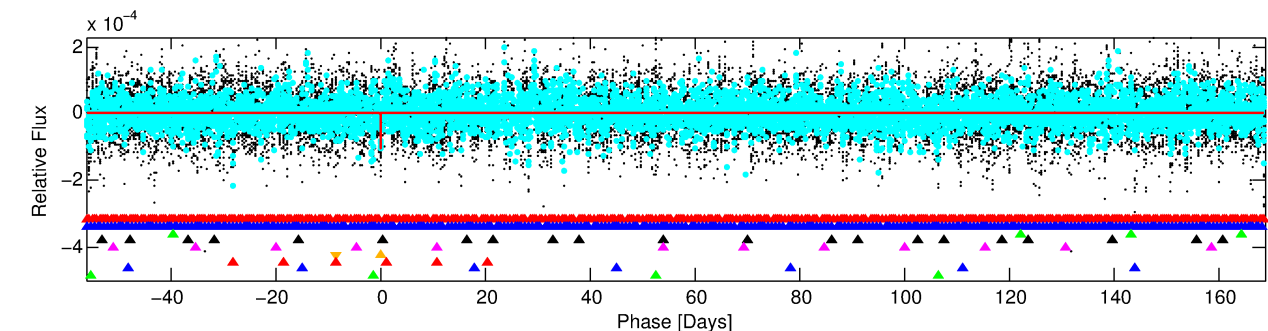
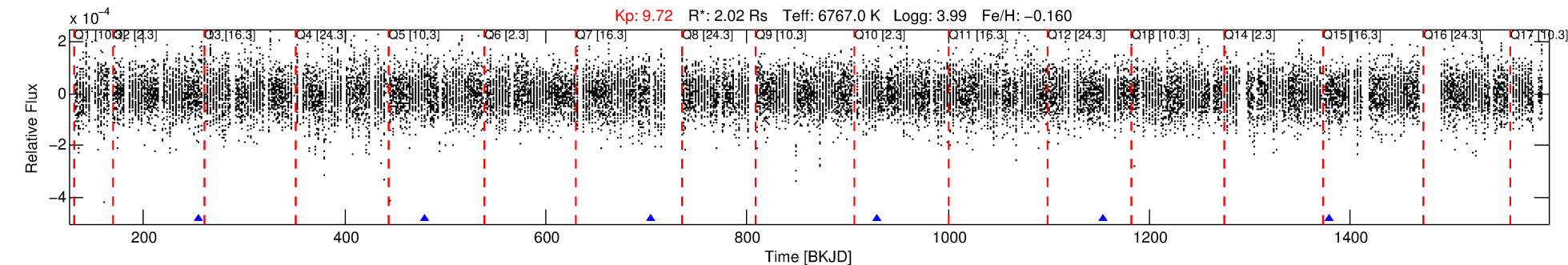
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-06

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 6 of 9 Period: 224.860 d



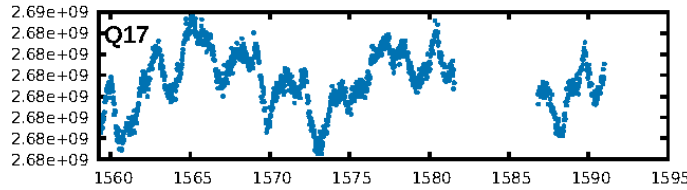
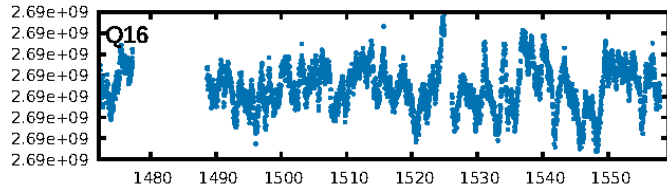
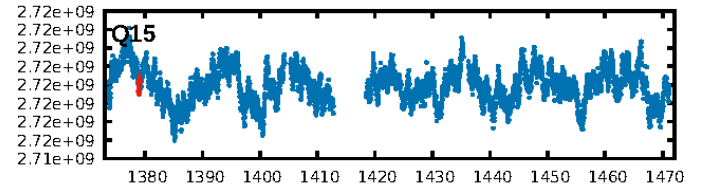
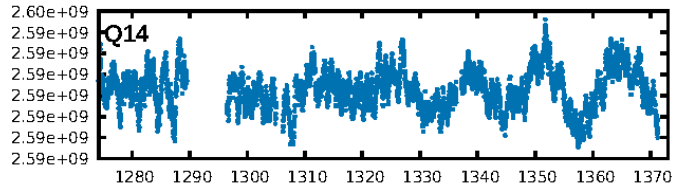
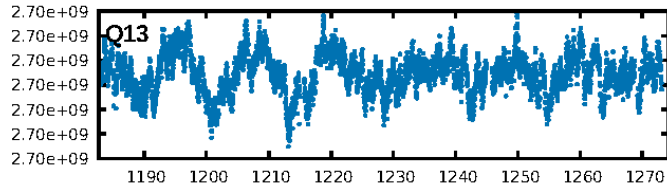
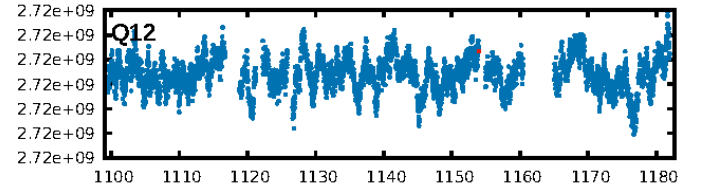
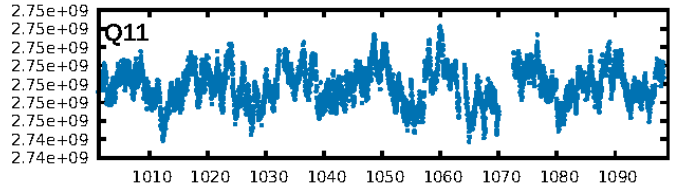
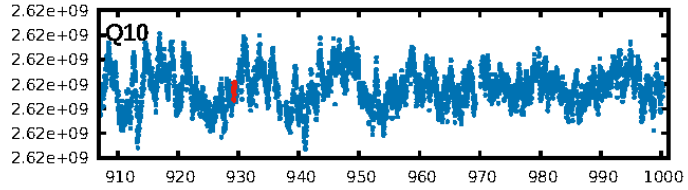
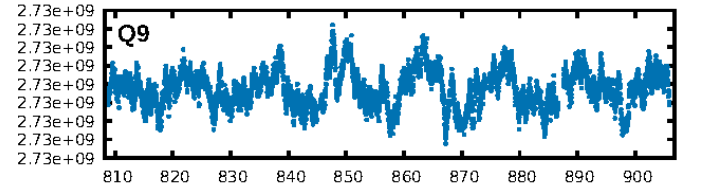
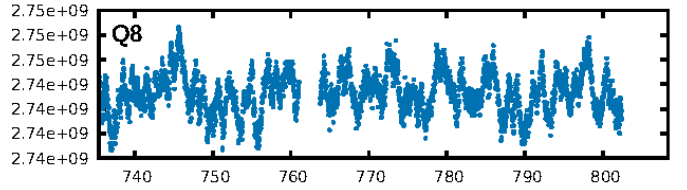
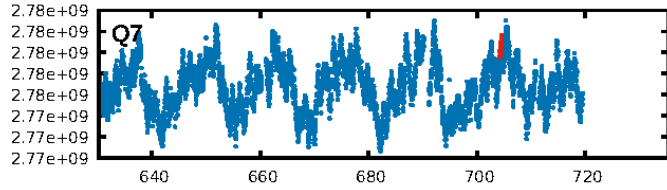
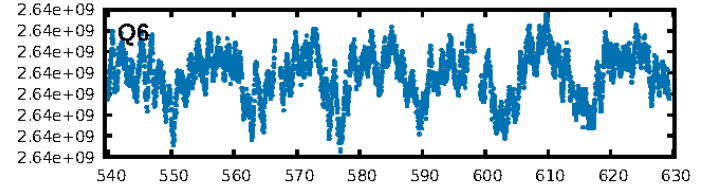
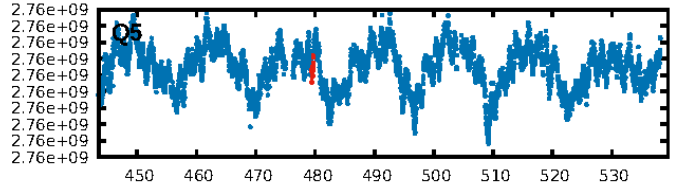
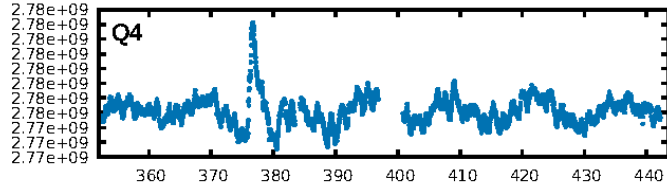
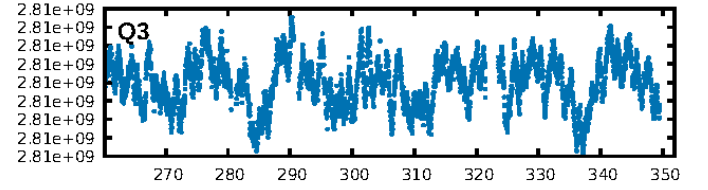
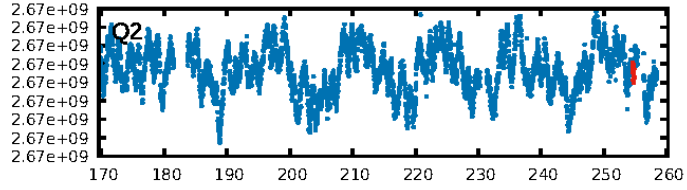
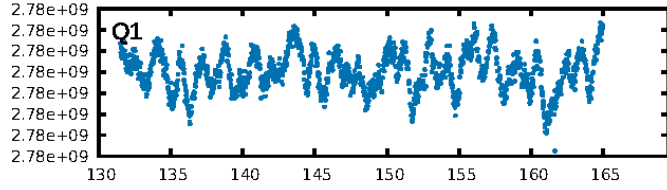
DV Fit Results:

Period = 224.85982 [0.00273] d
Epoch = 254.7017 [0.0094] BKJD
Rp/R* = 0.0105 [0.0083]
a/R* = 242.39 [1107.56]
b = 0.85 [1.48]
Seff = 11.45 [4.85]
Teq = 469 [50] K
Rp = 2.32 [1.96] Re
a = 0.8180 [0.2175] AU
Ag = 6350.29 [10551.60] [0.60 σ]
Teff = 6473 [2612] K [2.30 σ]

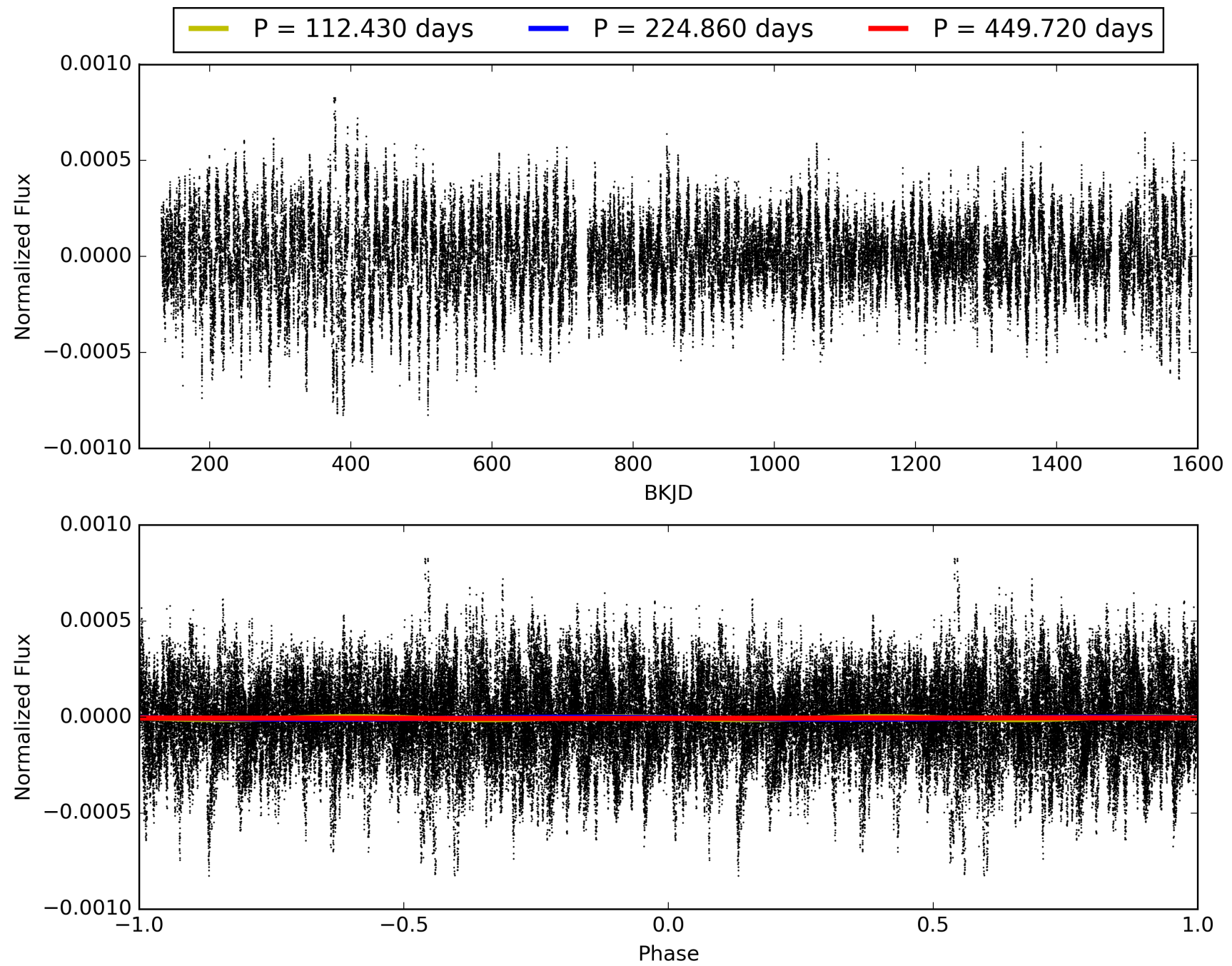
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.67 σ]
LongPeriod-sig: 100.0% [43.38 σ]
ModelChiSquare2-sig: 81.2%
ModelChiSquareGof-sig: 97.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 2.4%
Centroid-so: 3.544 arcsec [1.68 σ]
OotOffset-rm: 4.173 arcsec [1.89 σ]
KicOffset-rm: 4.402 arcsec [1.86 σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.60 [3/5]

TCE 003348288-06, PDC Light Curves

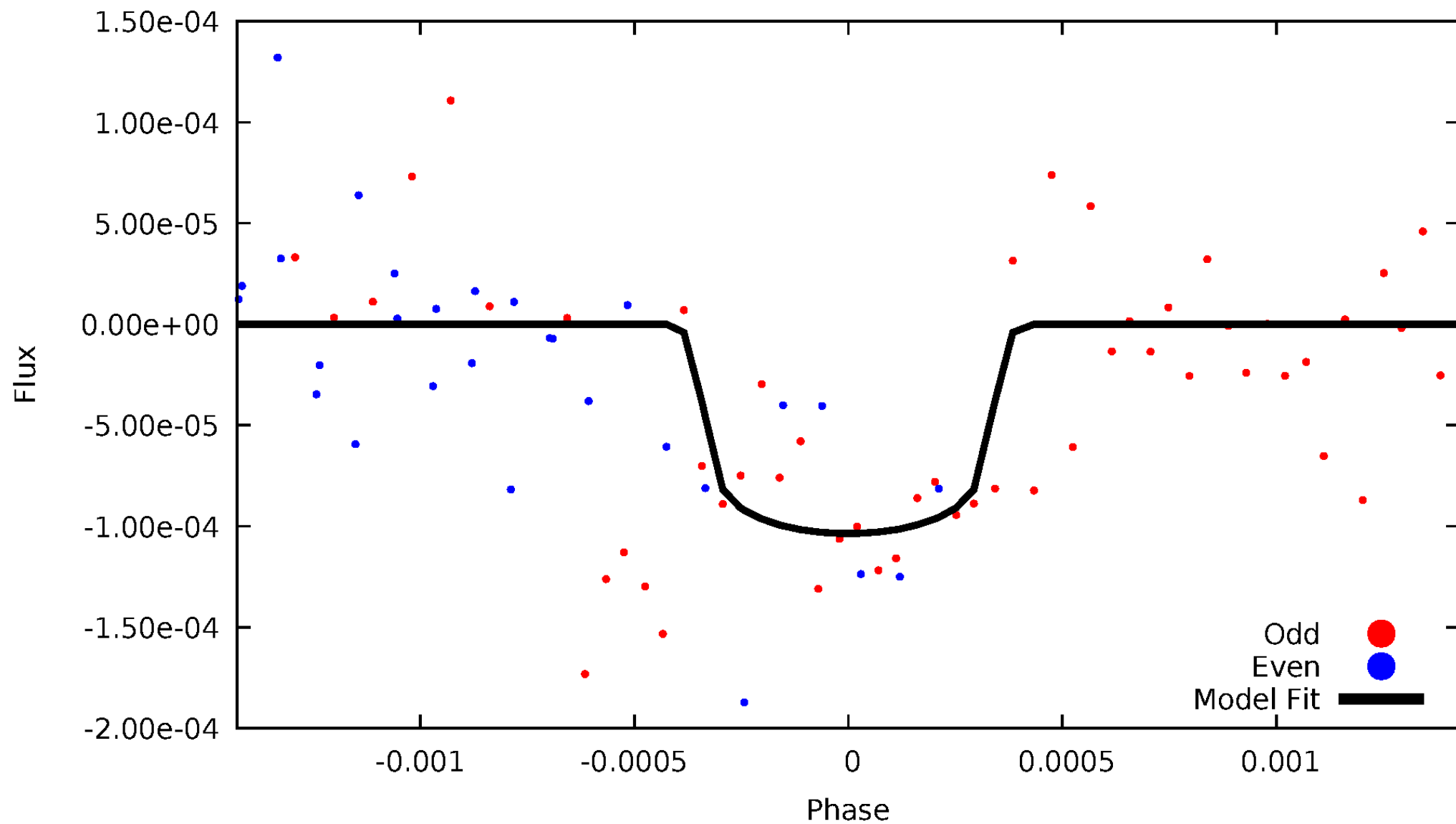


TCE 003348288-06



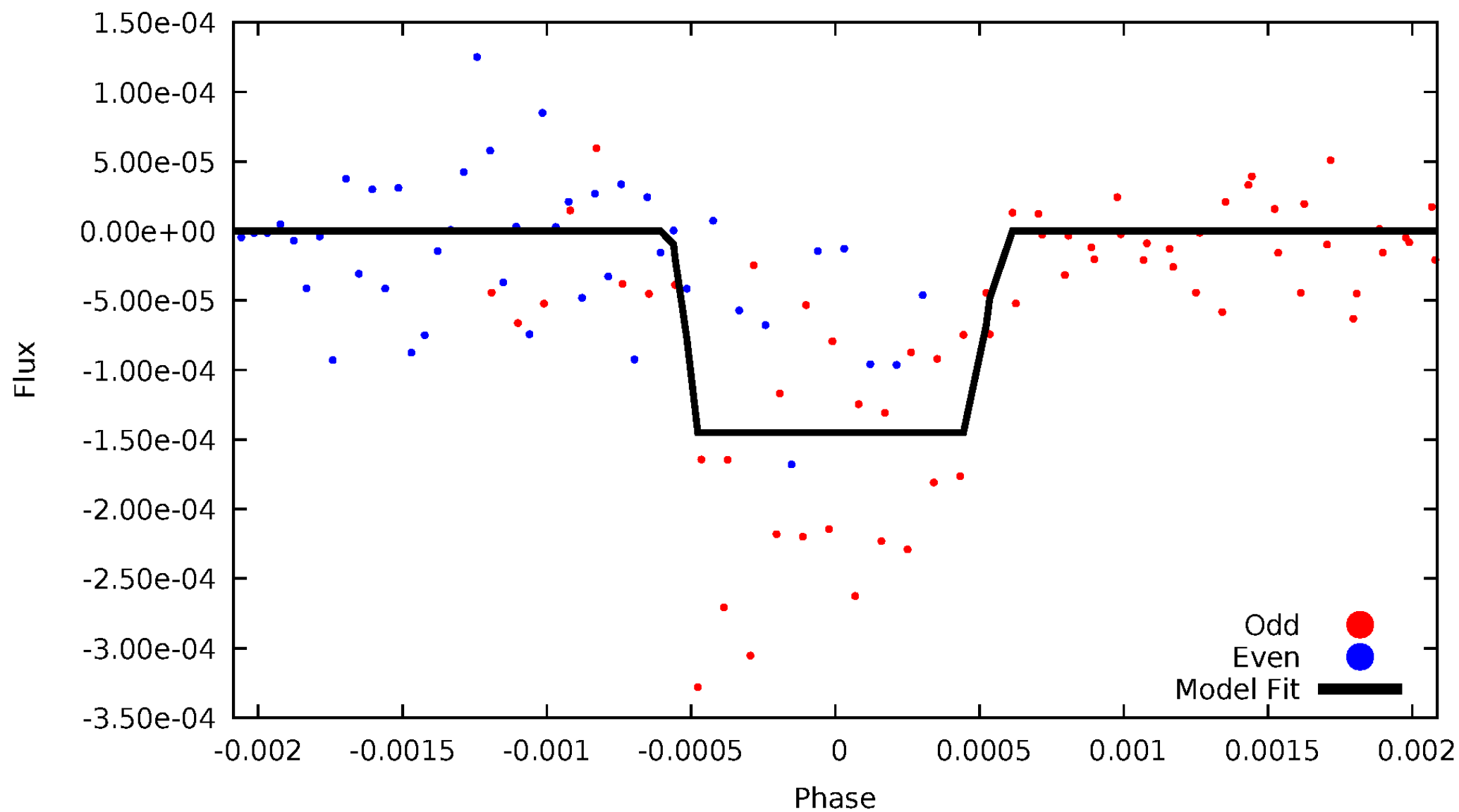
DV Odd/Even

TCE 003348288-06



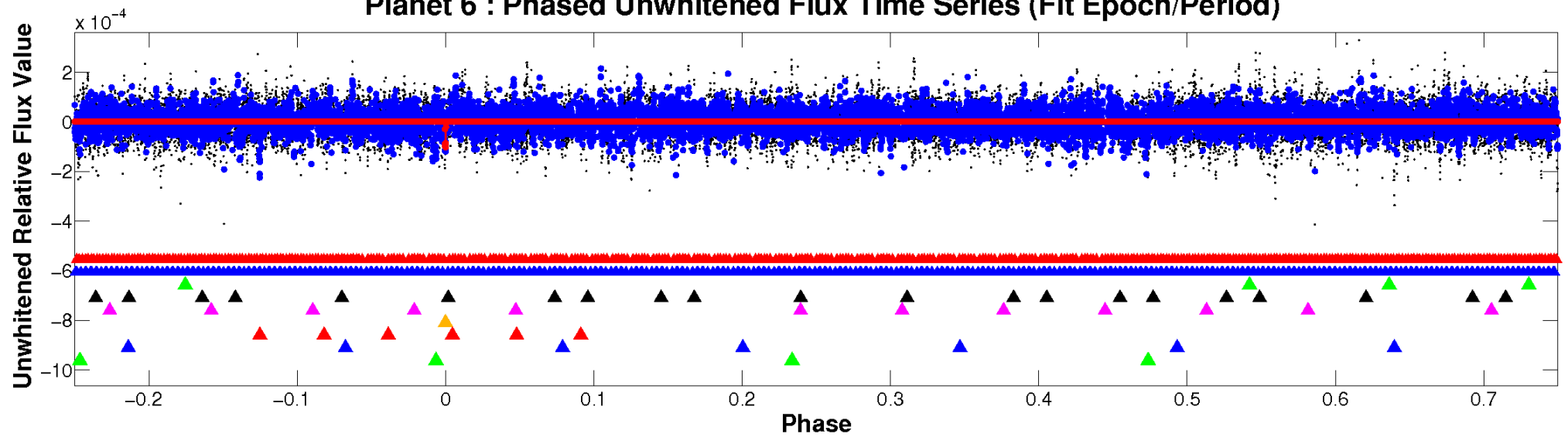
ALT Odd/Even

TCE 003348288-06

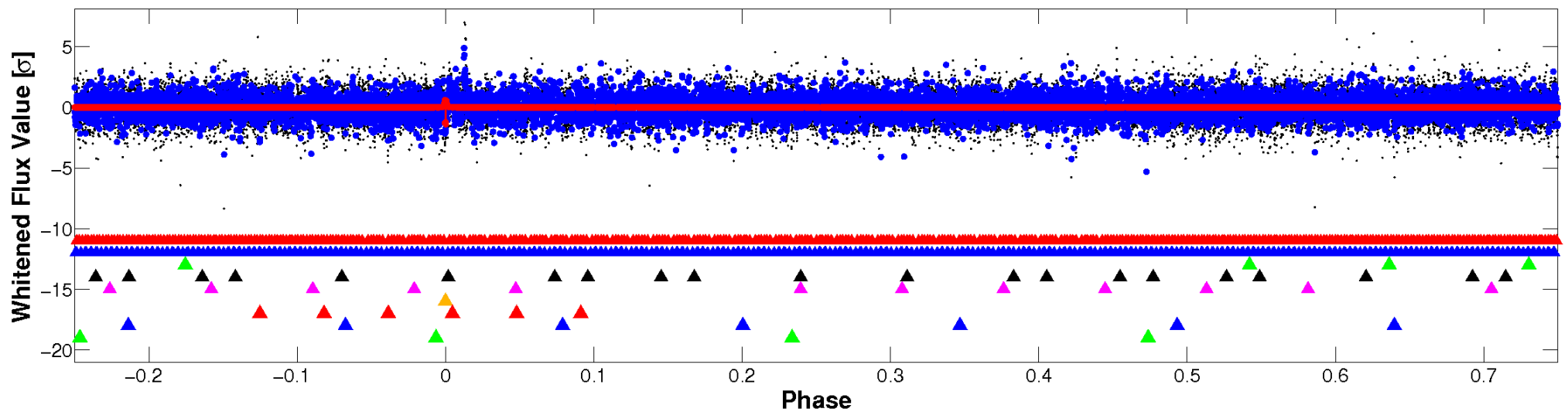


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

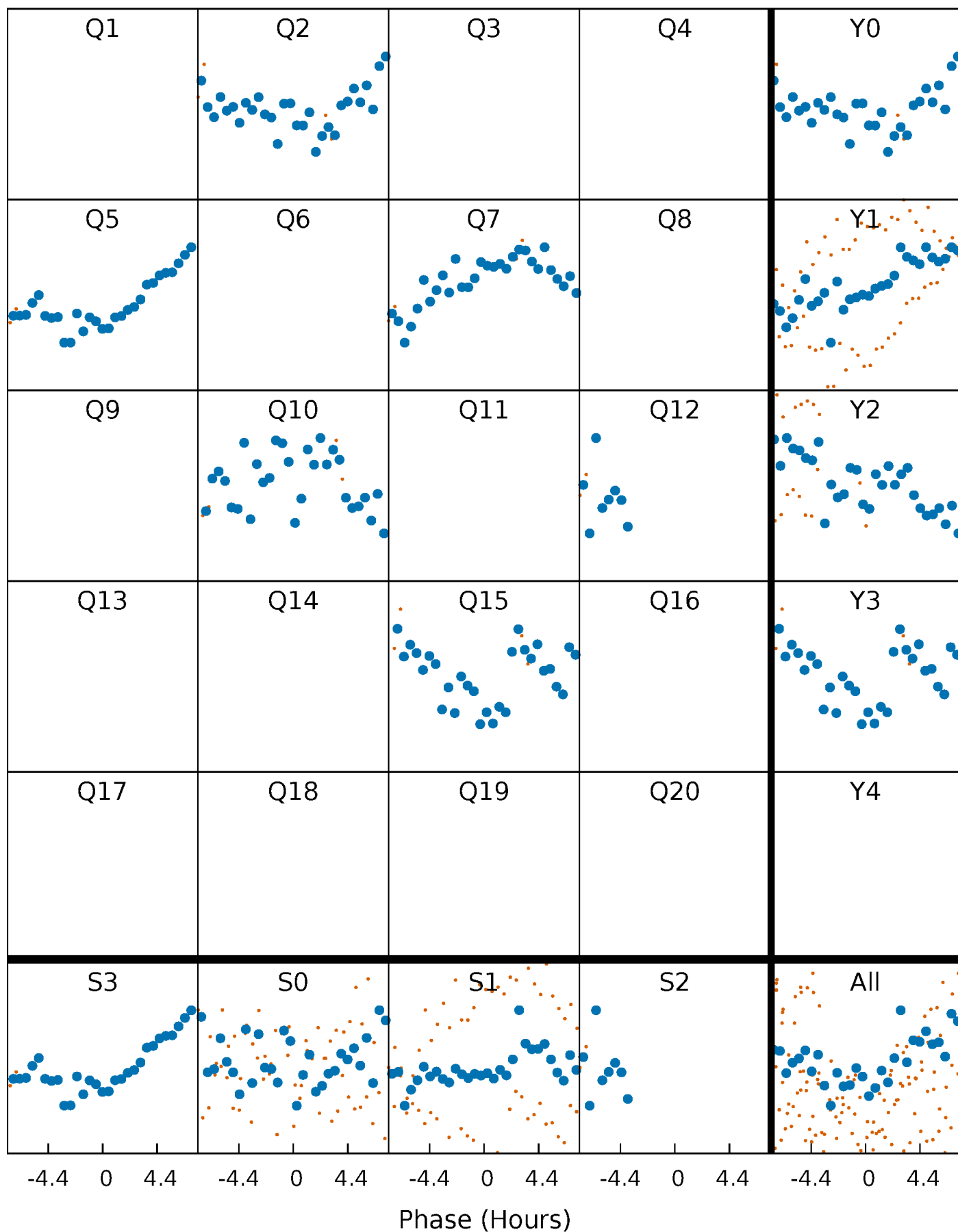


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



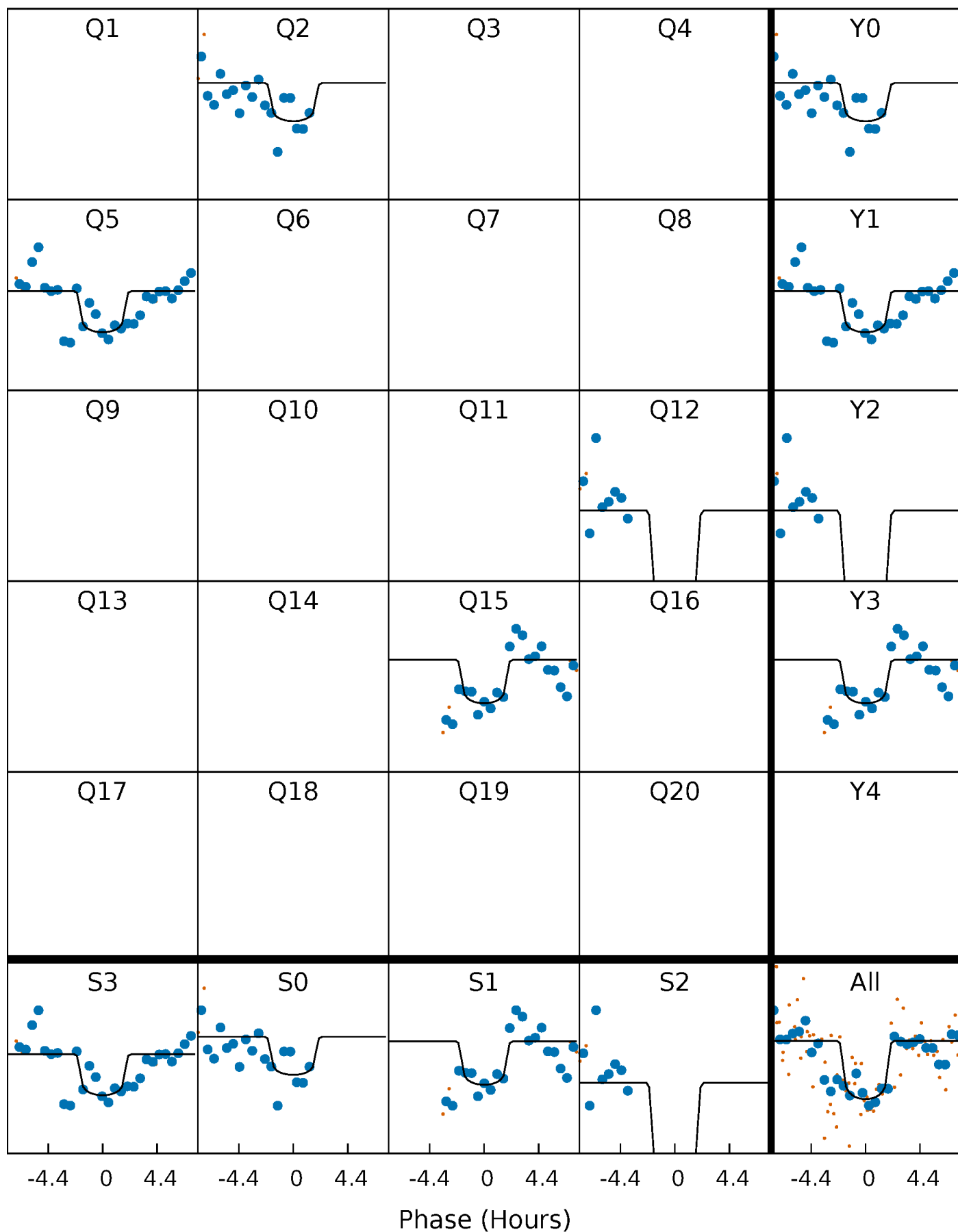
PDC Quarter-Phased Transit Curves

TCE 003348288-06 P=224.859815 Days $T_0=254.701682$ (BKJD)



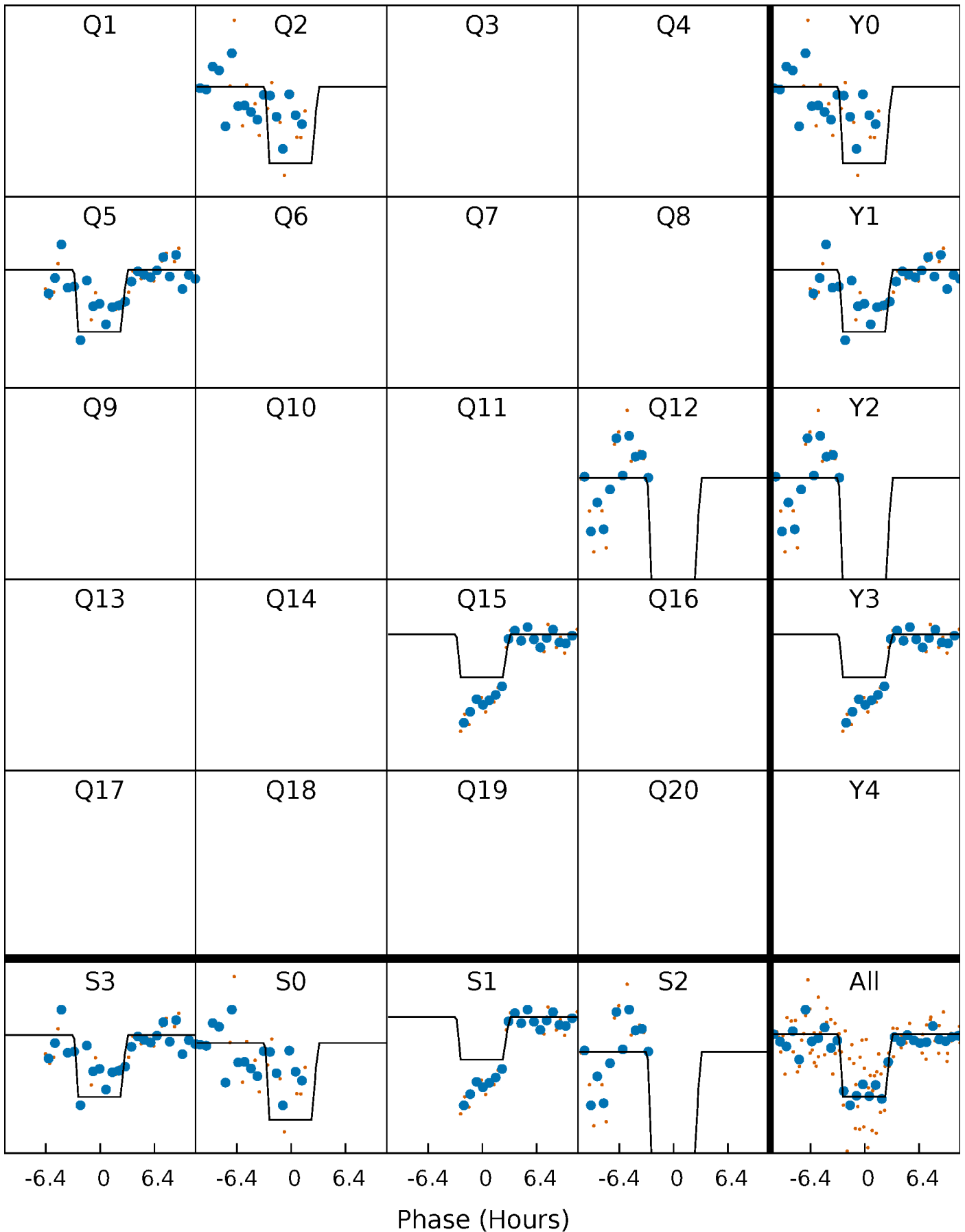
DV Quarter-Phased Transit Curves

TCE 003348288-06 P=224.859815 Days $T_0=254.701682$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

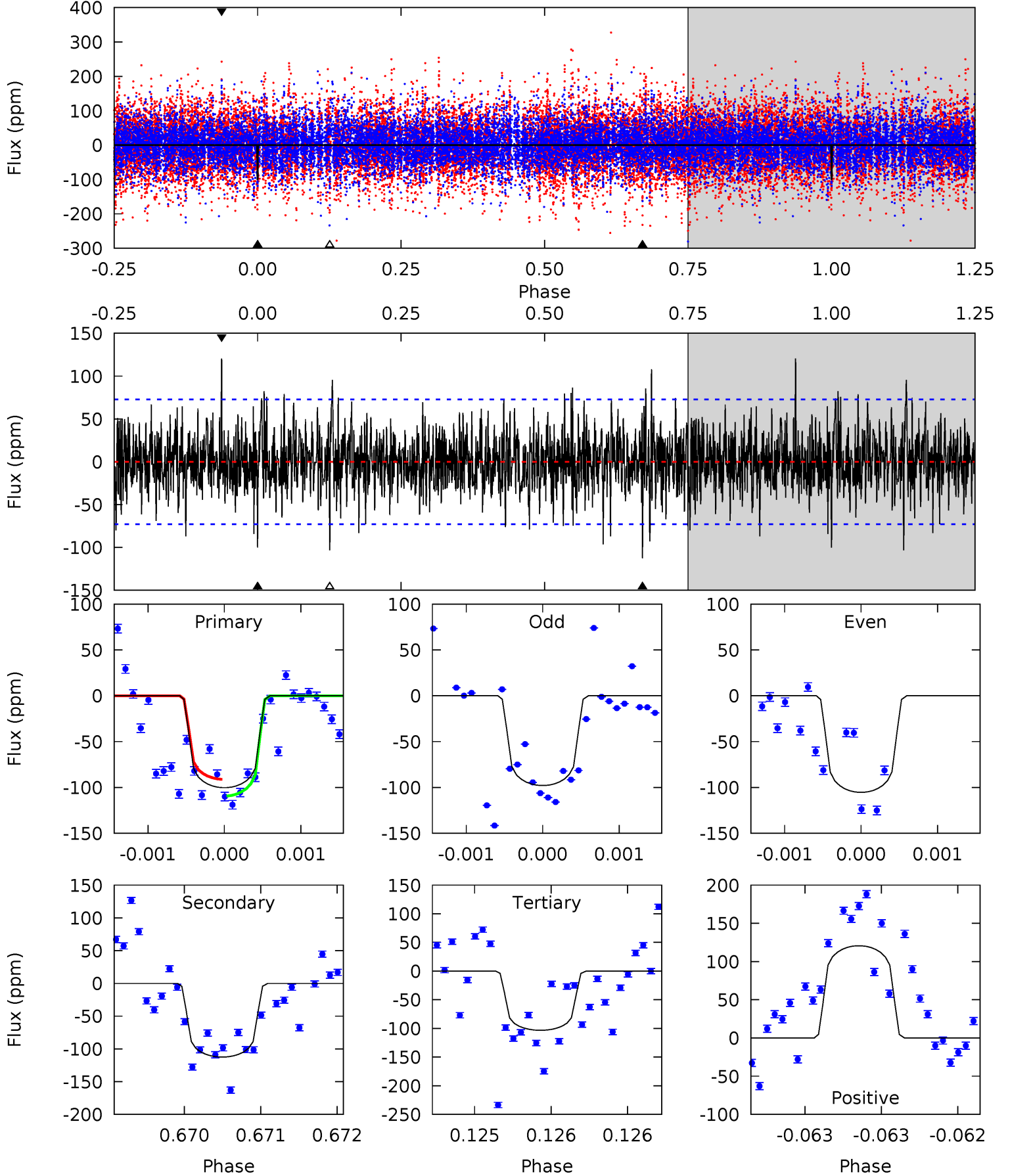
TCE 003348288-06 P=224.857705 Days $T_0=254.680968$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-06, P = 224.859815 Days, E = 29.841867 Days

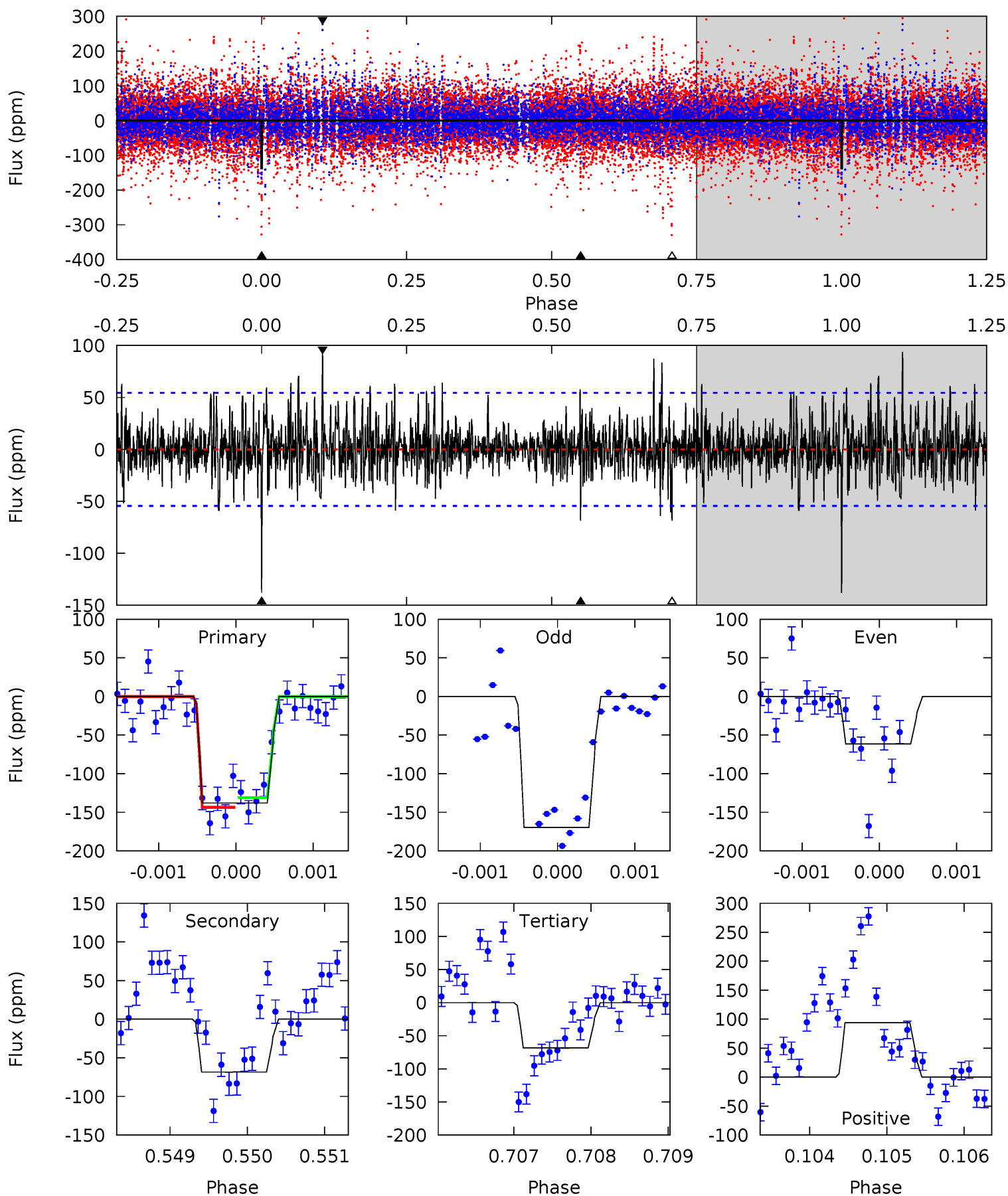
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	8.51	7.82	9.13	5.51	3.38	1.94	-0.23	-1.55	0.69	-0.62	0.26	0.97	0.52	0.69



Alt Model-Shift Uniqueness Test

003348288-06, P = 224.857705 Days, E = 29.823263 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	6.84	6.84	9.37	5.44	3.26	1.71	6.93	4.40	0.00	-2.53	4.80	1.30	0.40	0.63



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-112 ± 13	$2.45^{+1.81}_{-1.44}$	651^{+40}_{-48}	6410^{+4830}_{-1382}	6610^{+35212}_{-4417}
Alt.	-68 ± 10	$2.64^{+1.90}_{-1.48}$	646^{+44}_{-49}	5503^{+3163}_{-1067}	3477^{+15554}_{-2238}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

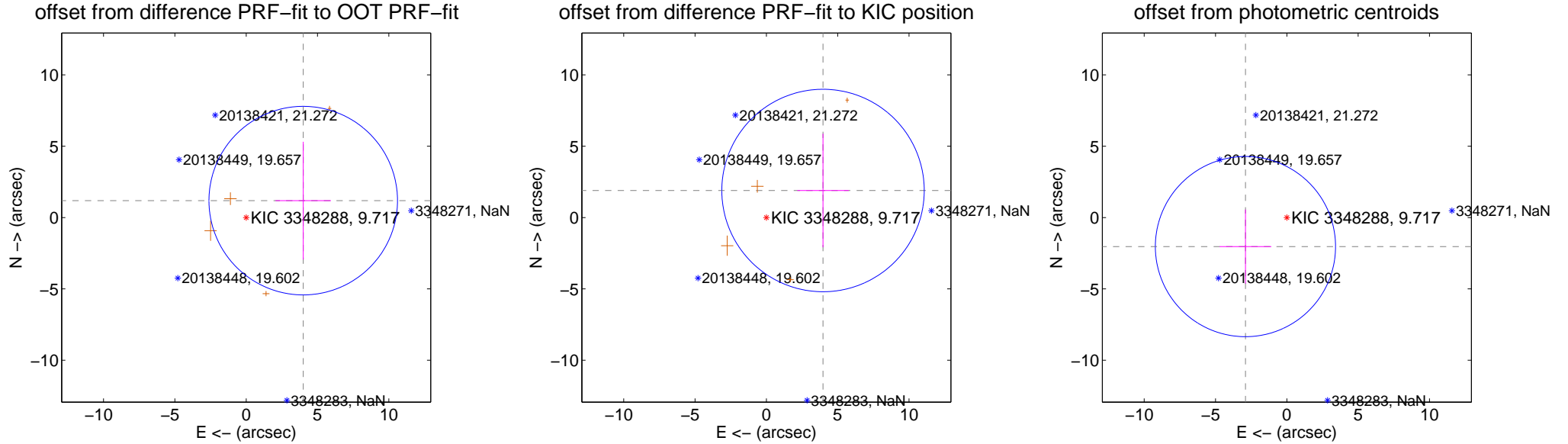
DV Centroid Data

Supplemental centroid analysis for 003348288-06. **Kepler magnitude: 9.72.** Transit SNR 6.01

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.173 ± 2.203	1.89	-4.000 ± 1.945	1.187 ± 4.128
PRF-fit source offset from KIC position	4.402 ± 2.365	1.86	-3.973 ± 1.807	1.896 ± 3.978
photometric centroid source offset	3.54 ± 2.11	1.68	2.90 ± 1.82	-2.03 ± 2.59



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

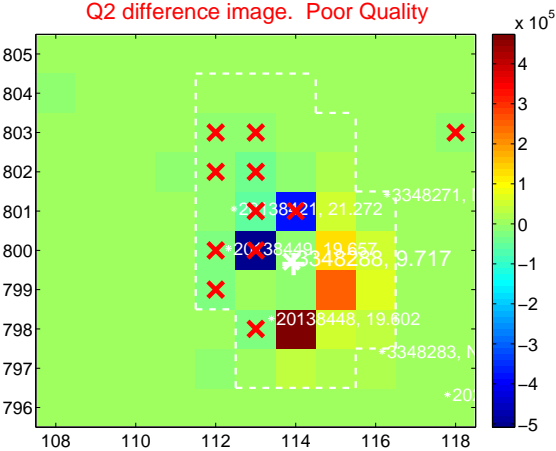
Q1 no difference image



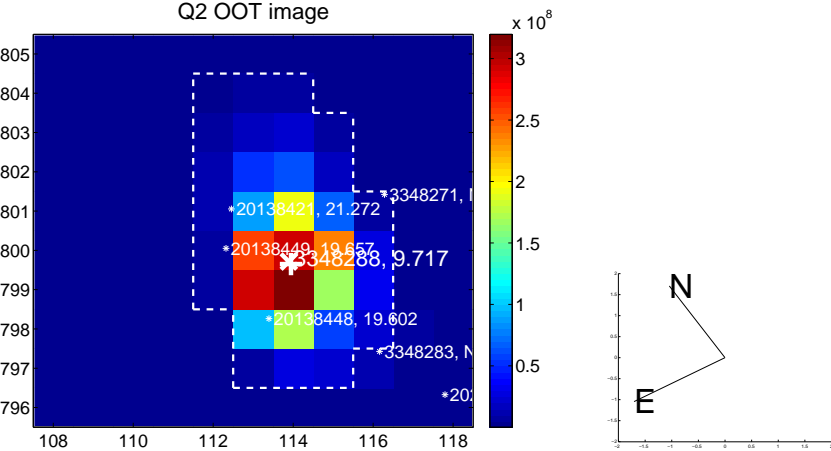
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



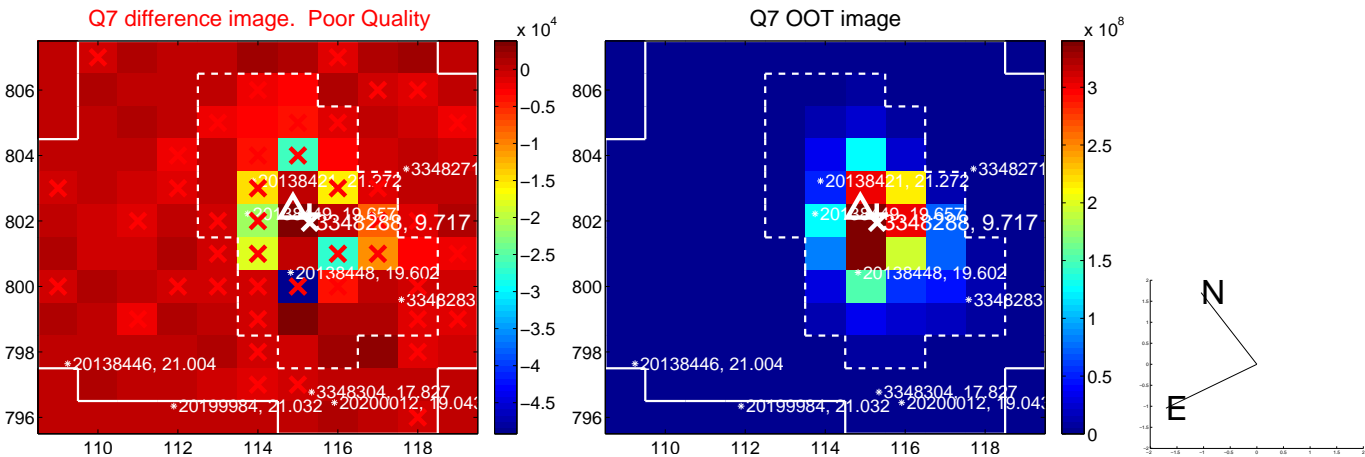
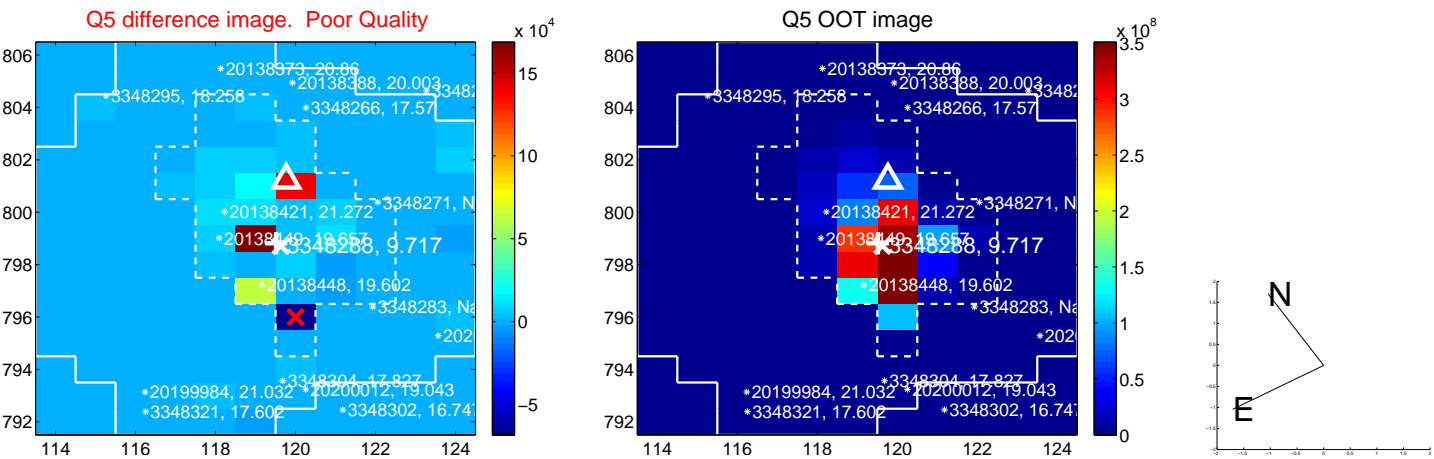
Q4 no difference image



Q4 no OOT image



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

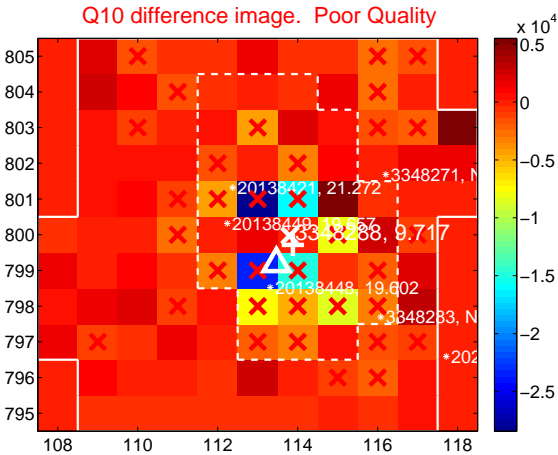
Q9 no difference image



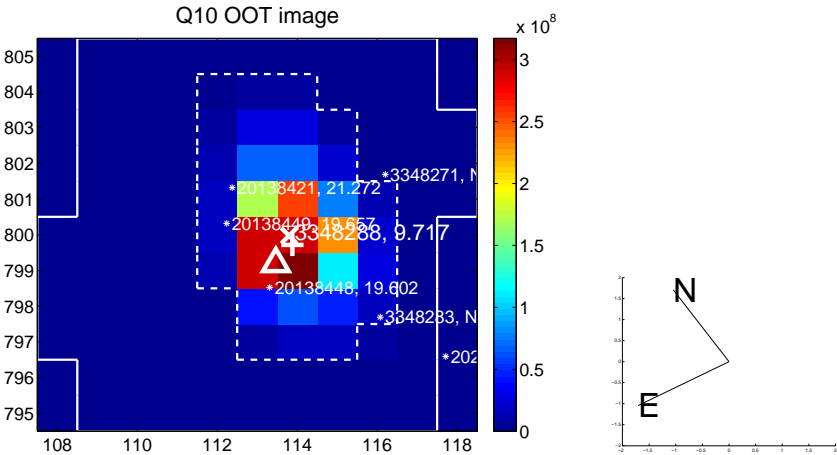
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



Q12 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



Q13 no OOT image



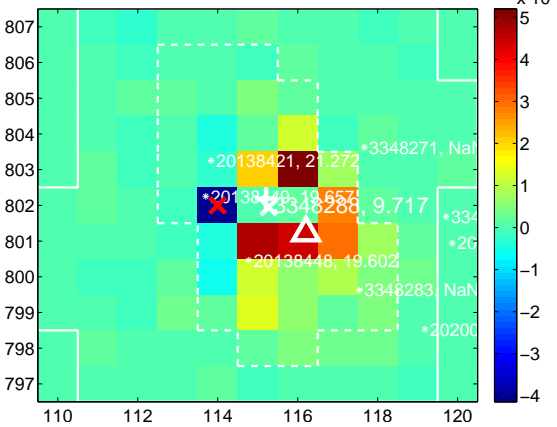
Q14 no difference image



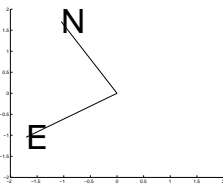
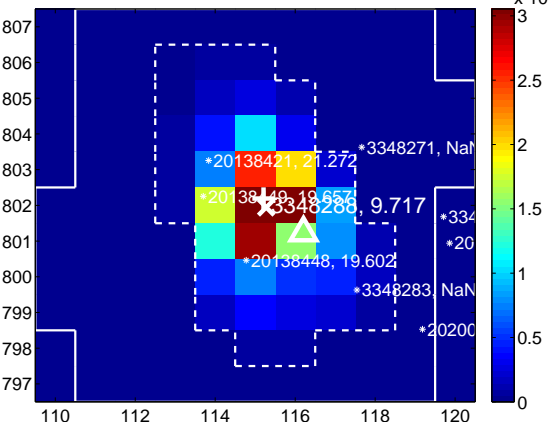
Q14 no OOT image



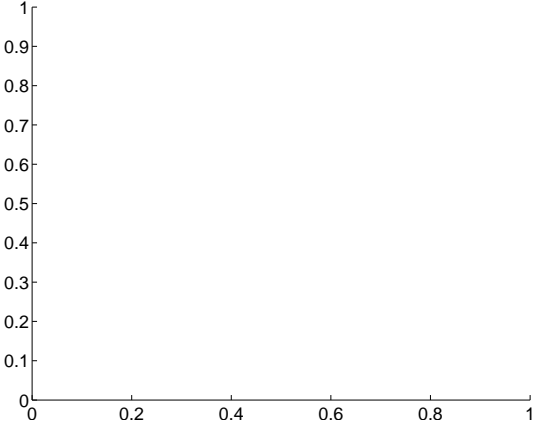
Q15 difference image. Poor Quality



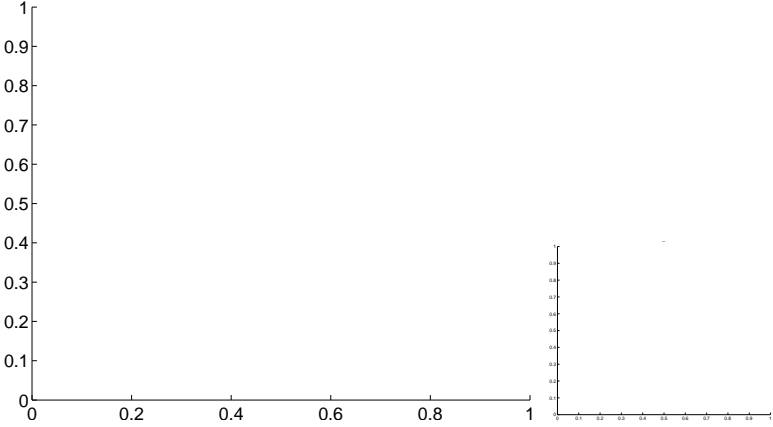
Q15 OOT image



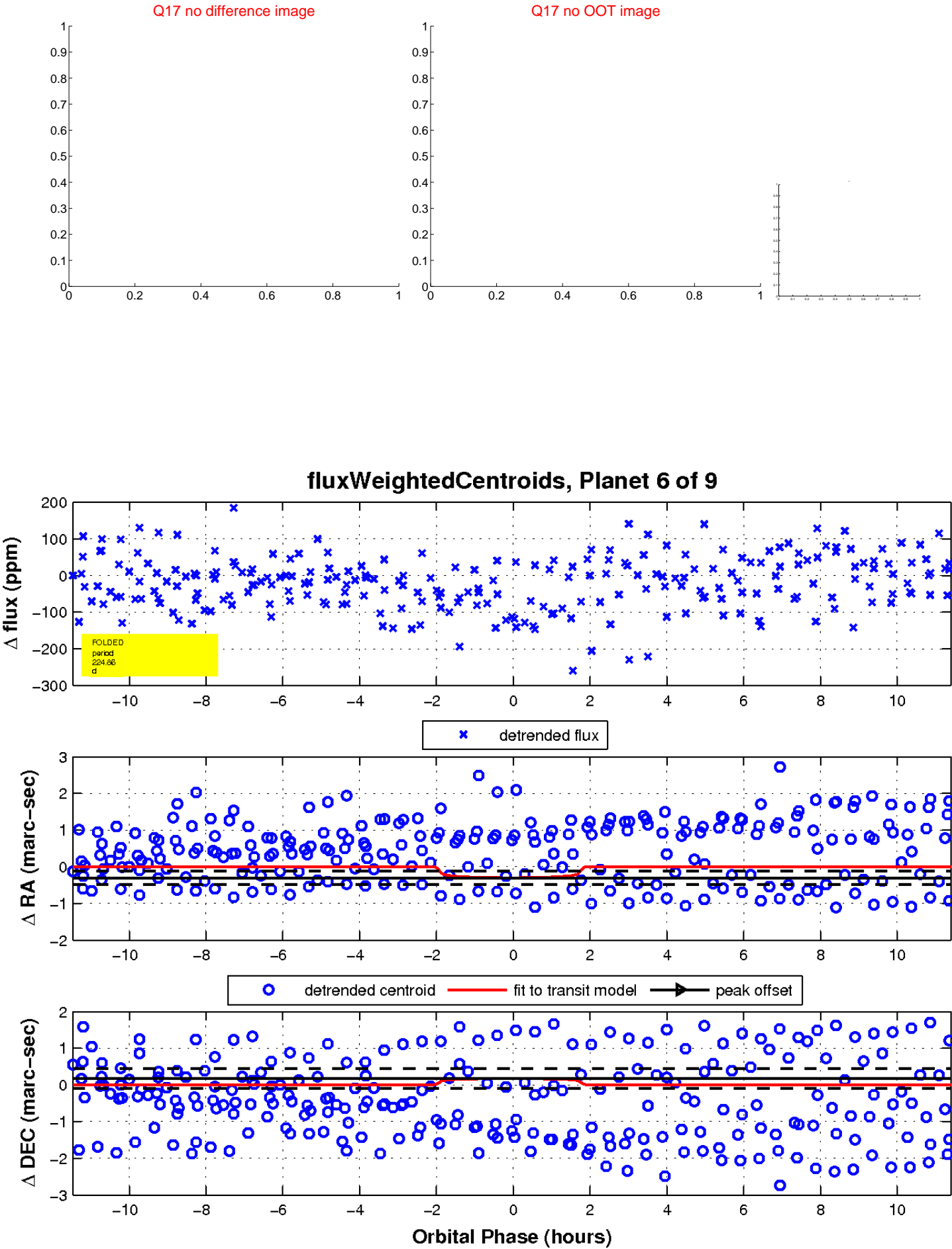
Q16 no difference image



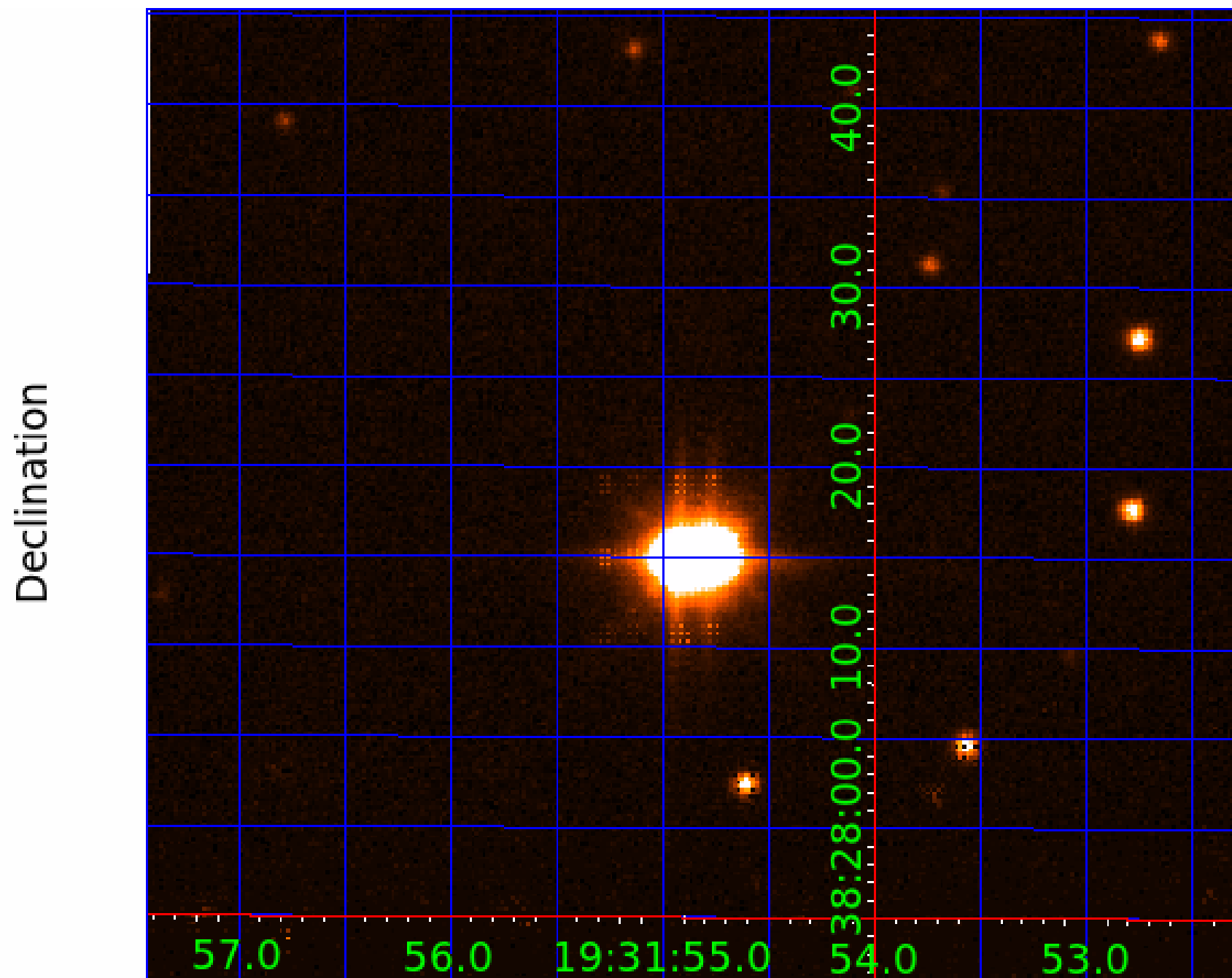
Q16 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

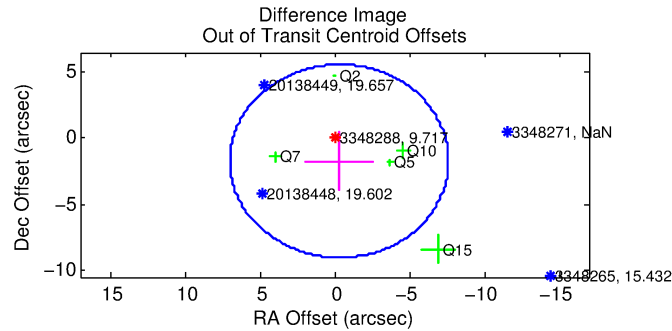
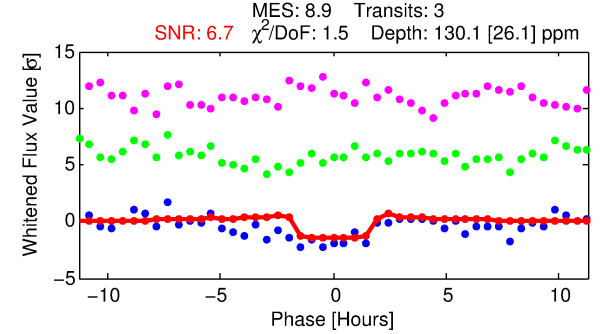
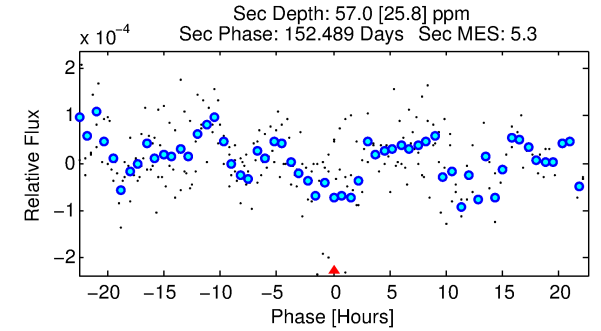
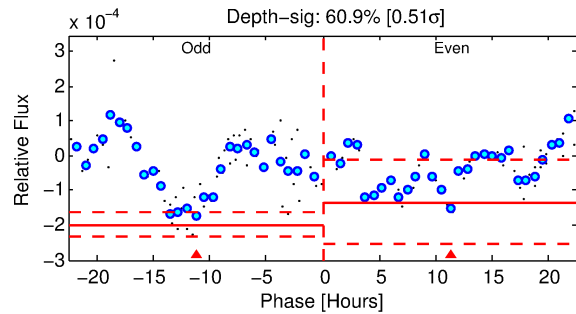
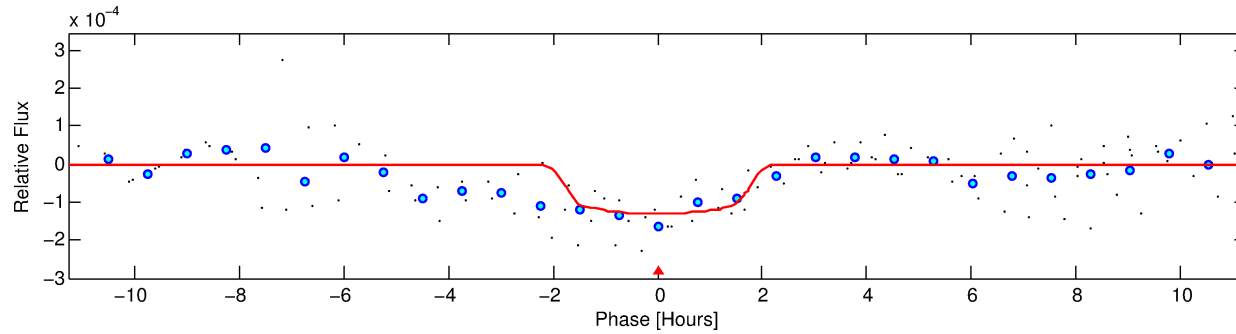
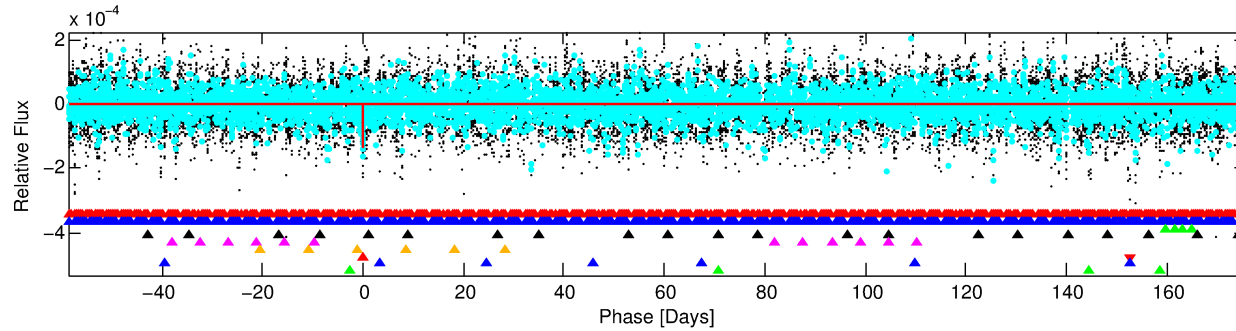
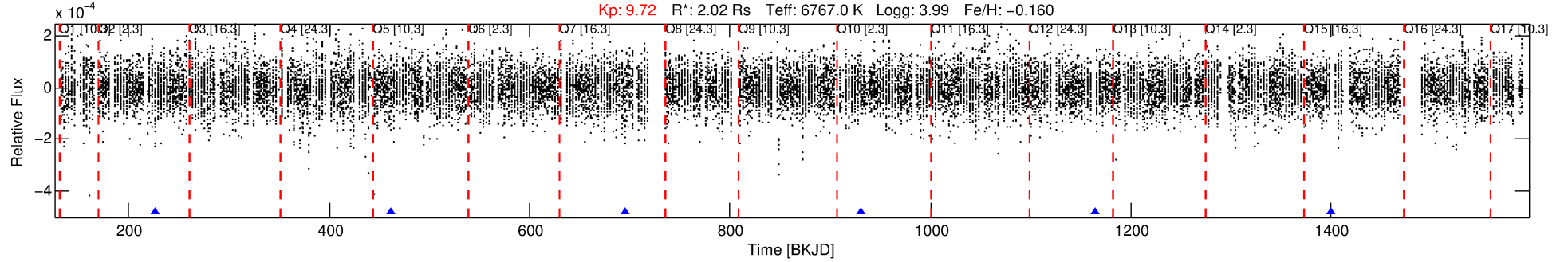
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-07

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 7 of 9 Period: 234.591 d



DV Fit Results:

Period = 234.59098 [0.00611] d
Epoch = 226.5639 [0.0074] BKJD
Rp/R* = 0.0114 [0.0116]
a/R* = 309.05 [1809.41]
b = 0.78 [3.01]
Seff = 10.82 [4.59]
Teq = 462 [49] K
Rp = 2.52 [2.66] Re
a = 0.8414 [0.2238] AU
Ag = 3491.91 [7385.91] [0.47σ]
Teff = 5496 [2856] K [1.76σ]

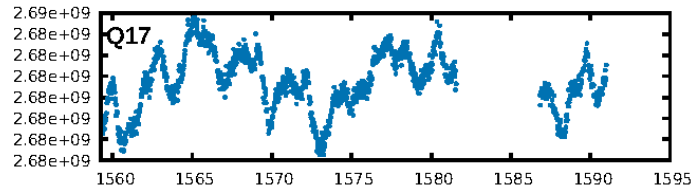
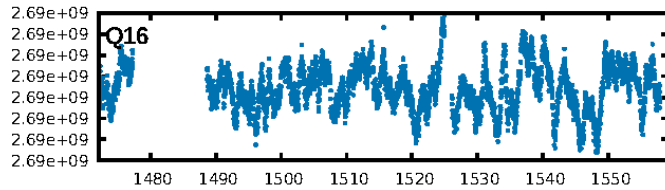
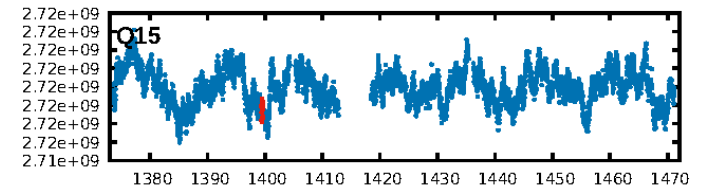
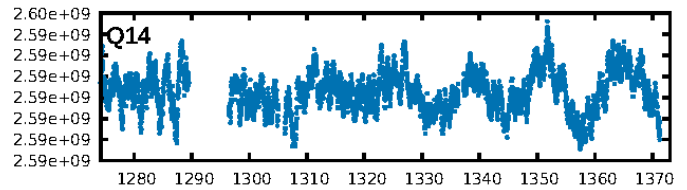
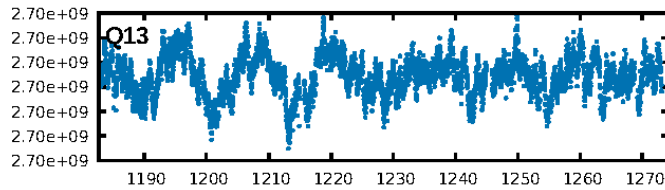
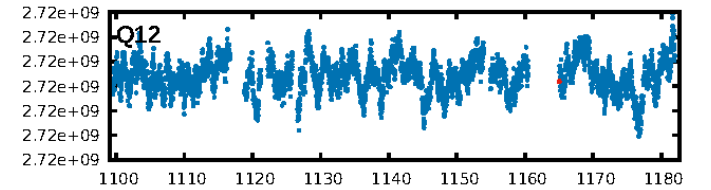
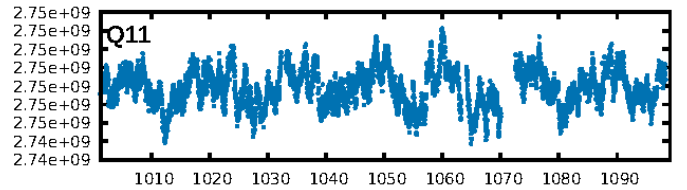
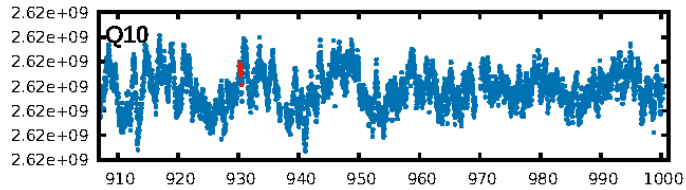
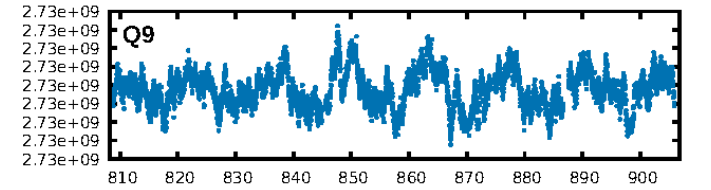
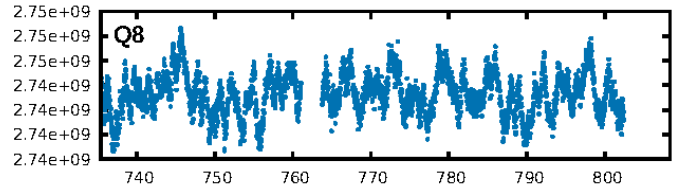
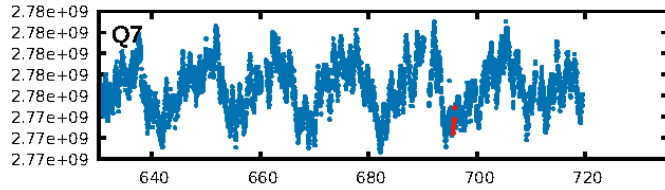
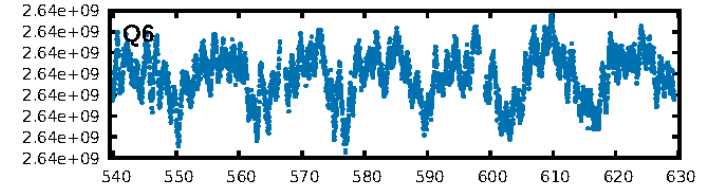
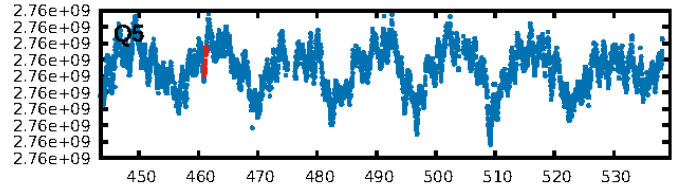
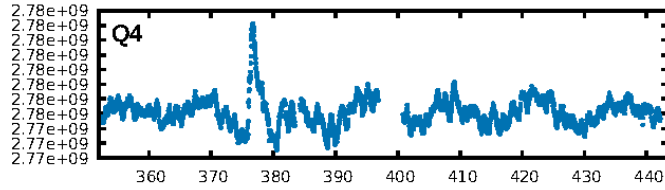
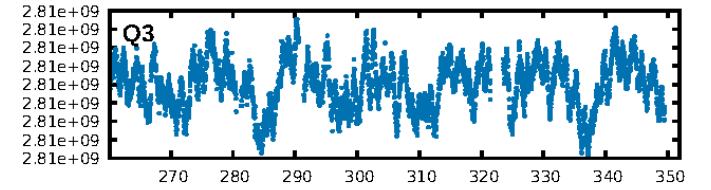
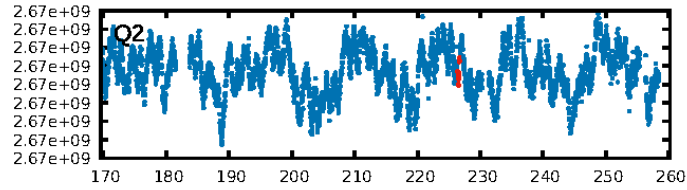
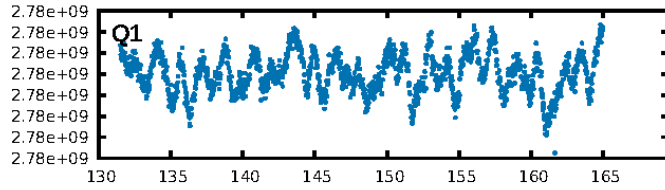
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [43.38σ]
LongPeriod-sig: 100.0% [618.18σ]
ModelChiSquare2-sig: 31.1%
ModelChiSquareGof-sig: 85.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 15.5%
Centroid-so: 1.743 arcsec [1.15σ]
OotOffset-rm: 1.759 arcsec [0.72σ]
OotOffset-st: 2/2/0/1 [5]
KicOffset-rm: 1.276 arcsec [0.67σ]
KicOffset-st: 2/2/0/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.80 [4/5]

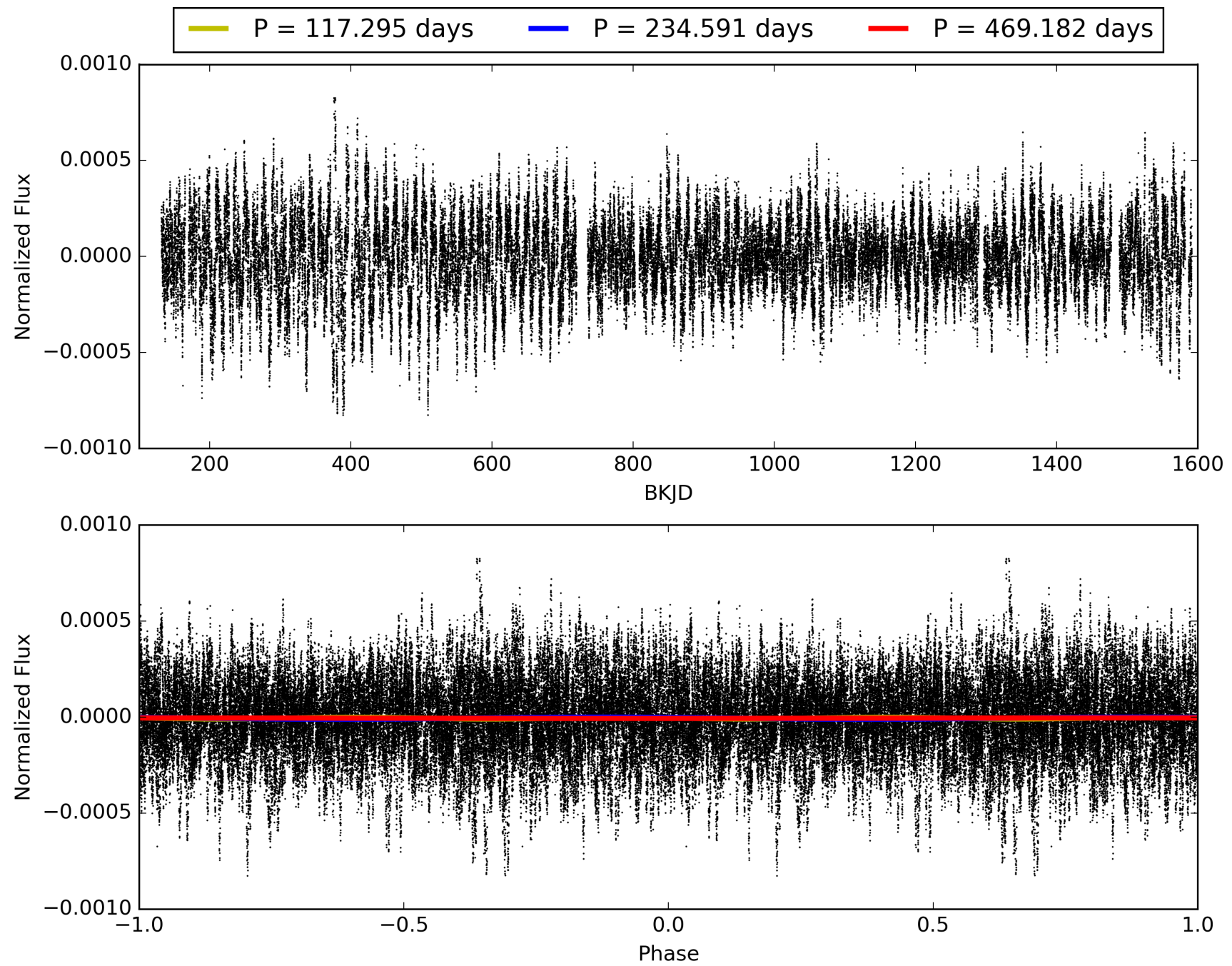
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:57:10 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-07, PDC Light Curves

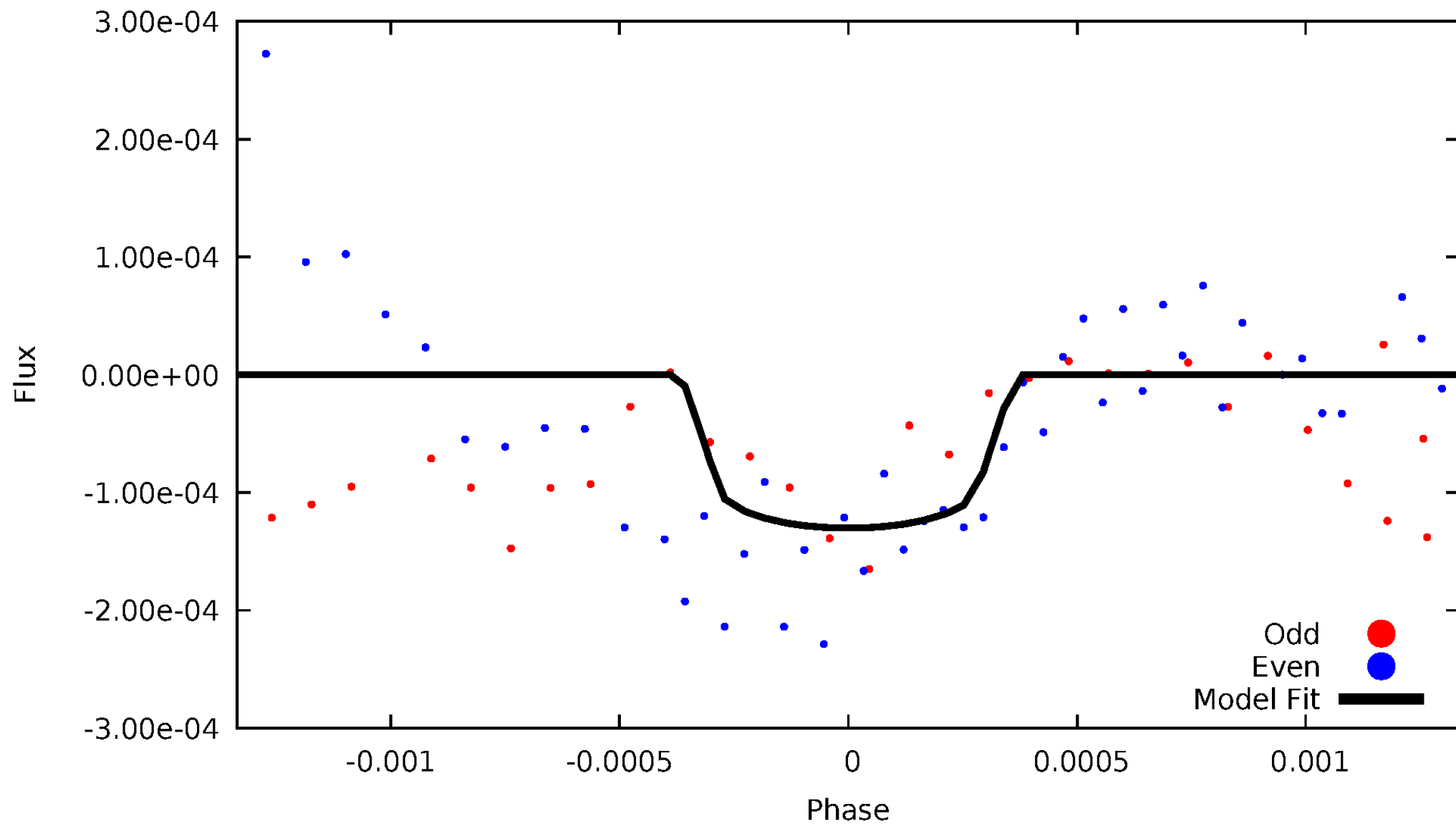


TCE 003348288-07



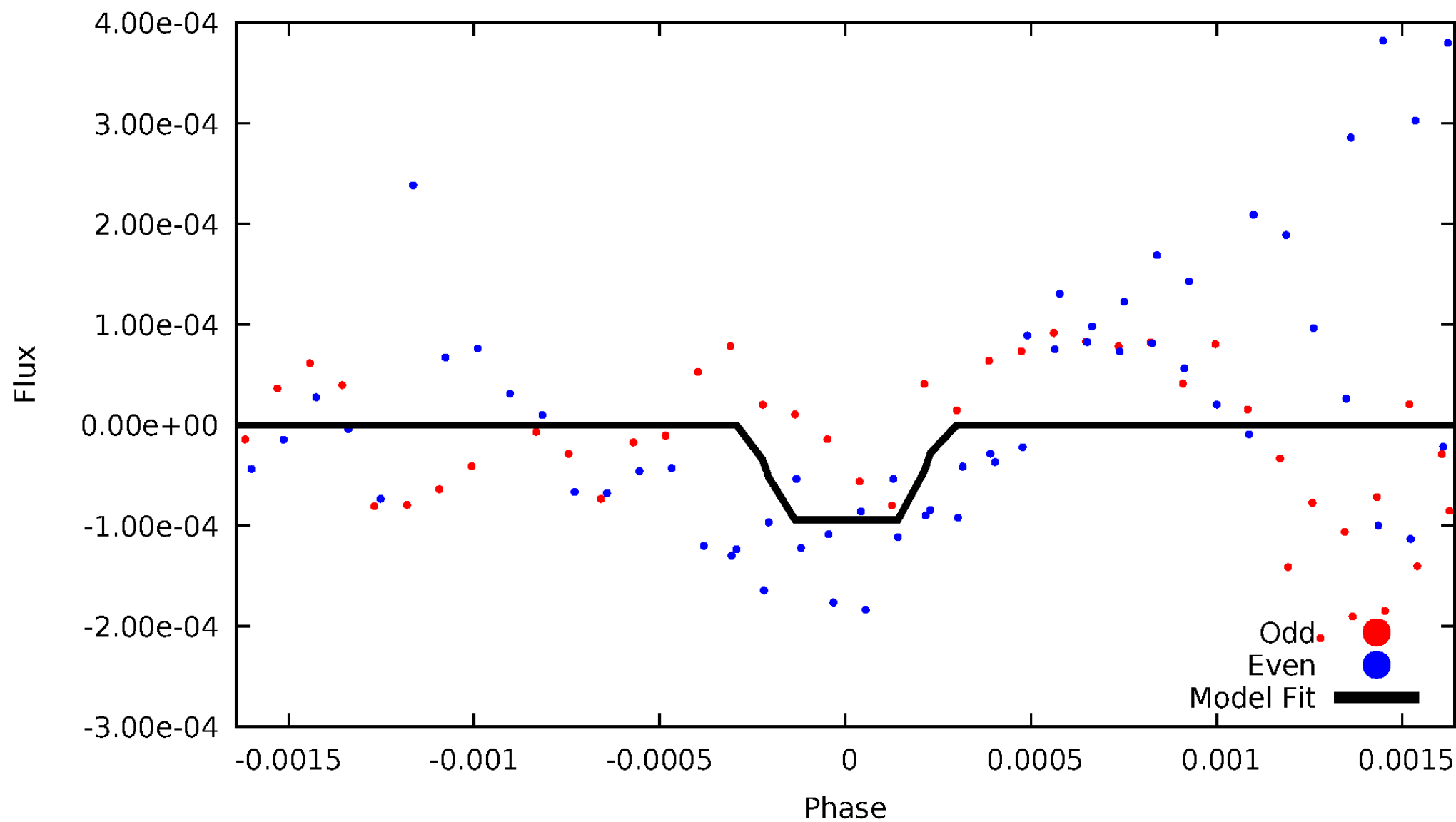
DV Odd/Even

TCE 003348288-07



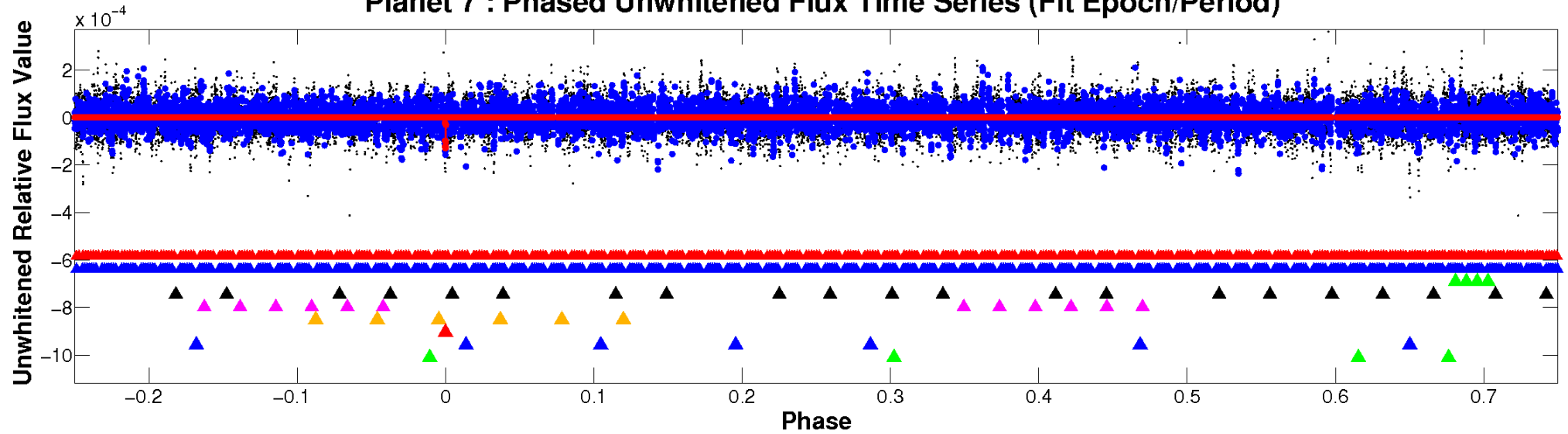
ALT Odd/Even

TCE 003348288-07

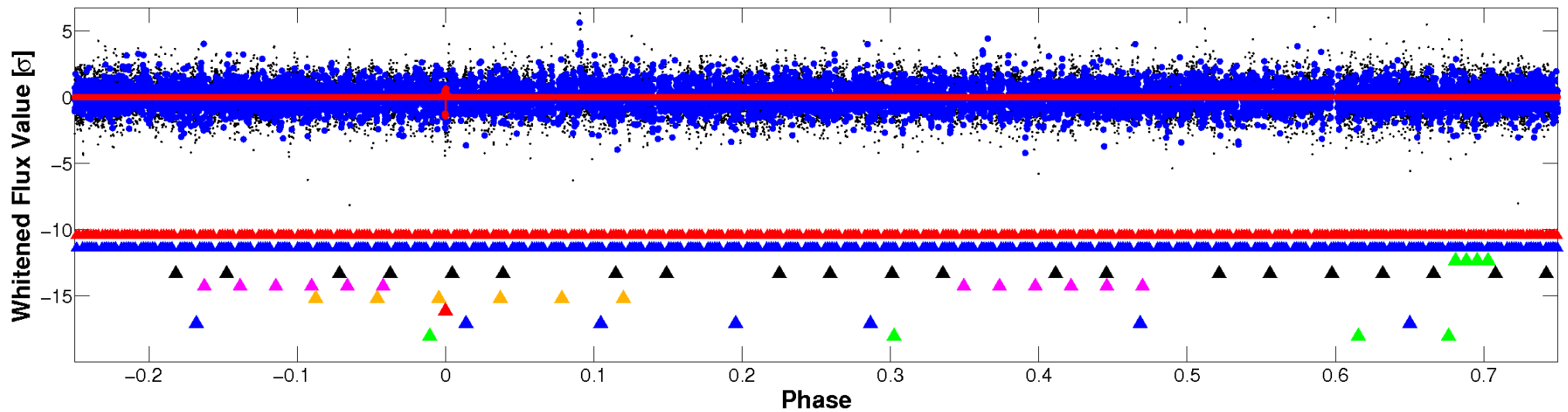


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

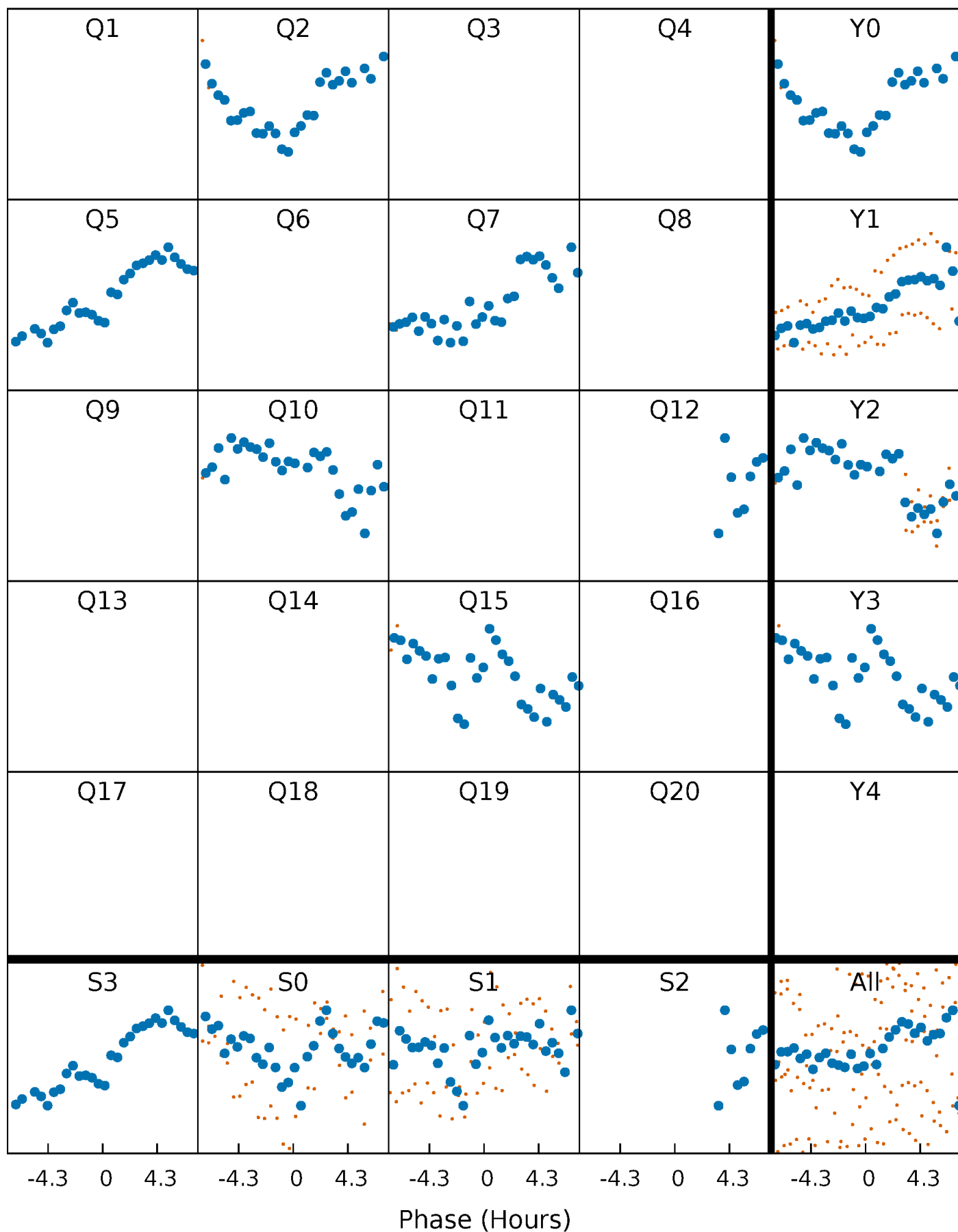


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



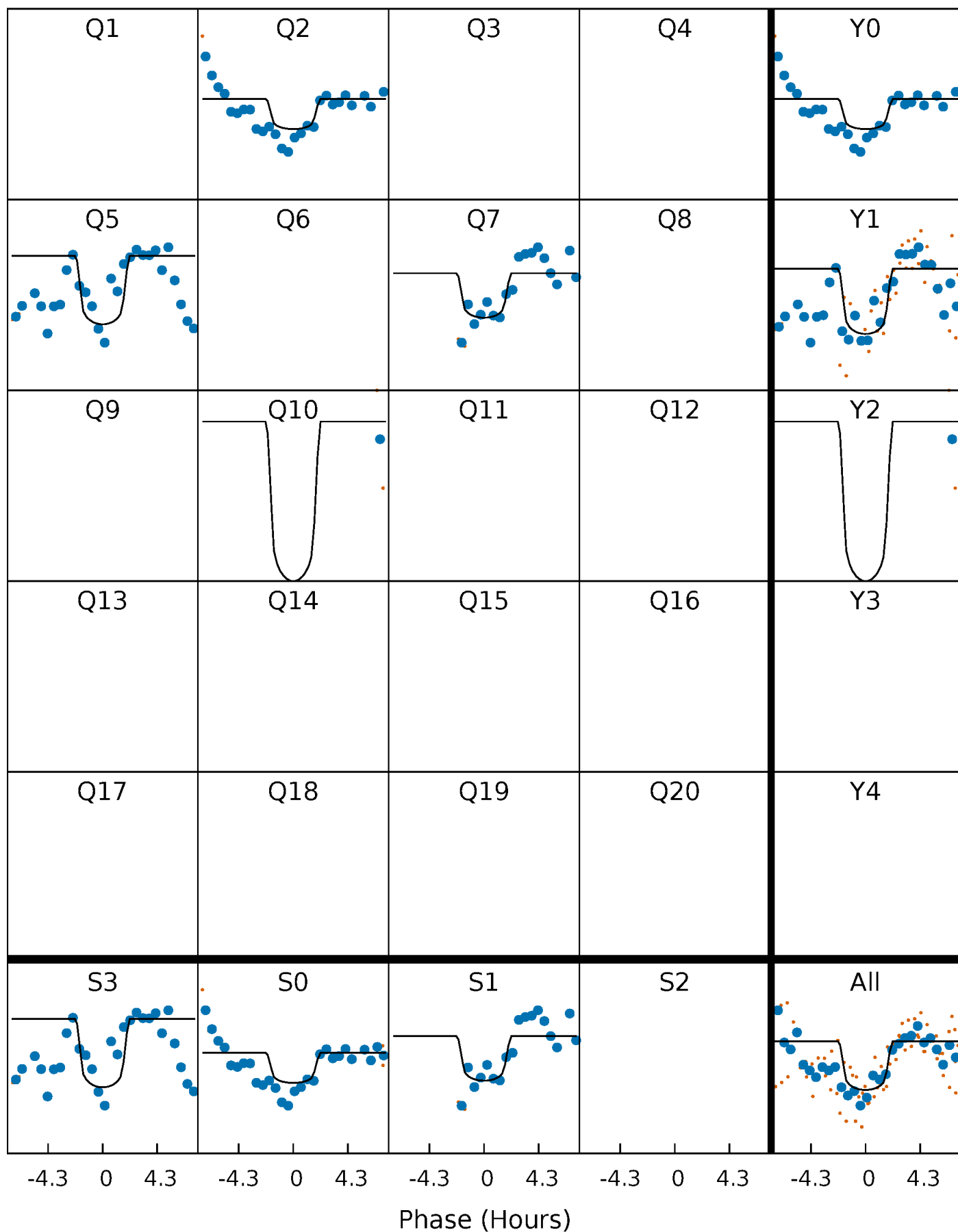
PDC Quarter-Phased Transit Curves

TCE 003348288-07 $P=234.590985$ Days $T_0=226.563932$ (BKJD)



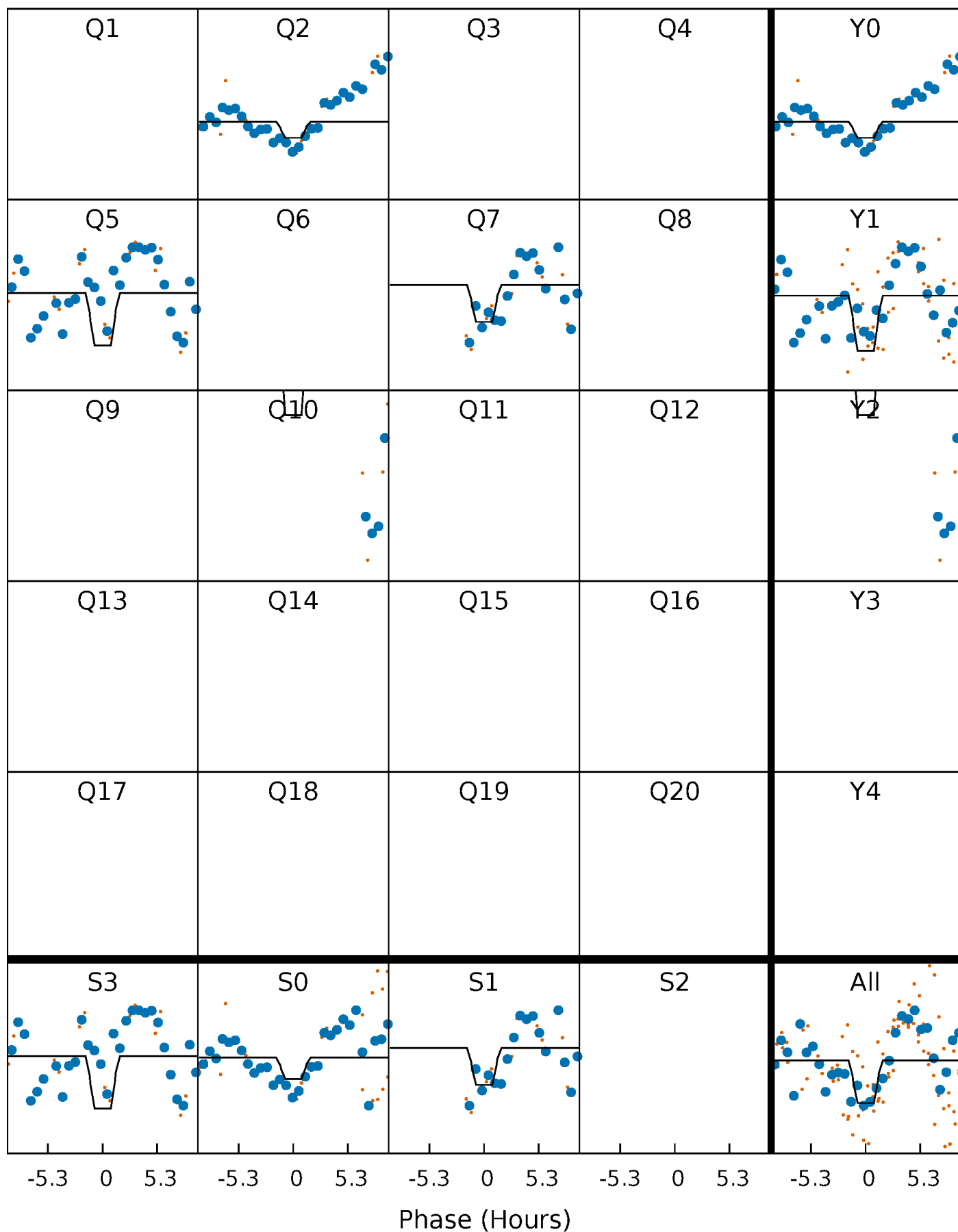
DV Quarter-Phased Transit Curves

TCE 003348288-07 $P=234.590985$ Days $T_0=226.563932$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

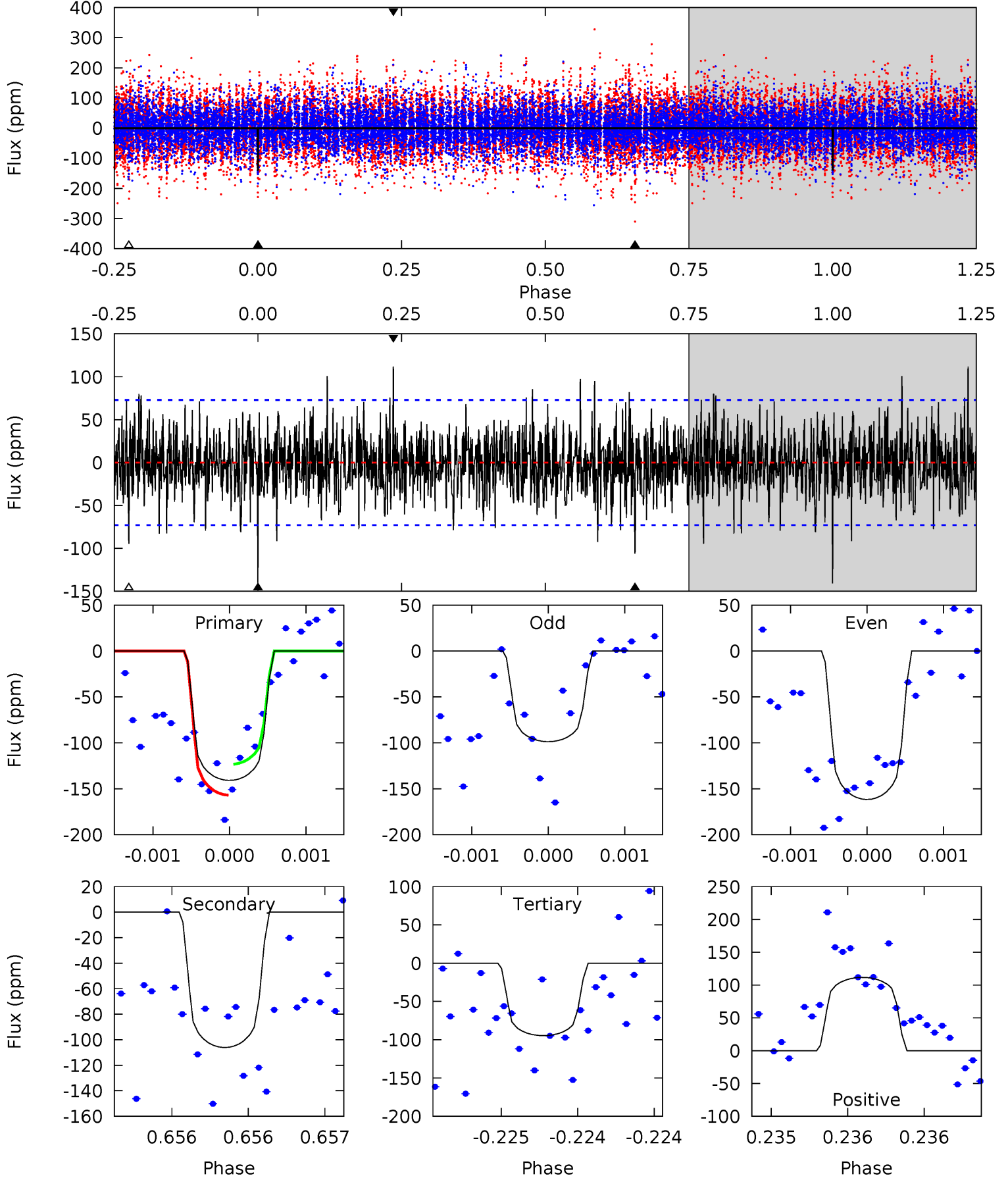
TCE 003348288-07 P=234.597702 Days $T_0=226.538585$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-07, P = 234.590985 Days, E = 226.563932 Days

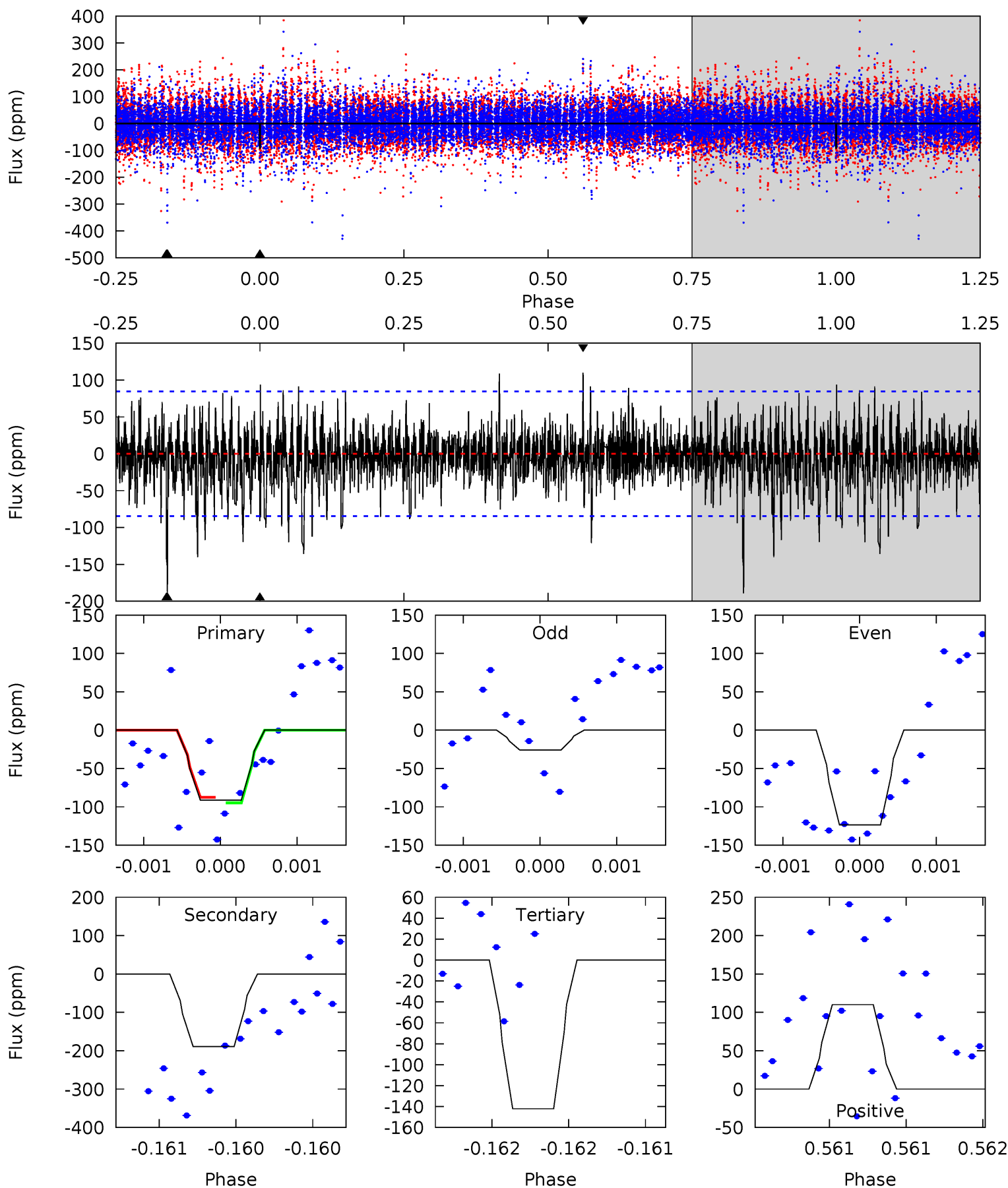
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	8.04	7.17	8.46	5.53	3.41	1.92	3.50	2.22	0.87	-0.42	2.34	1.00	0.44	1.27



Alt Model-Shift Uniqueness Test

003348288-07, P = 234.597702 Days, E = 226.538585 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.00	12.5	9.36	7.24	5.57	3.47	1.69	-3.36	-1.25	3.10	5.22	2.96	0.97	0.37	0.23



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-106 ± 13	$2.96^{+2.39}_{-1.95}$	641^{+38}_{-48}	5865^{+5278}_{-1336}	4701^{+34105}_{-3295}
Alt.	-189 ± 15	$2.69^{+2.35}_{-1.71}$	639^{+40}_{-51}	7159^{+7537}_{-2000}	10035^{+63083}_{-7136}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

DV Centroid Data

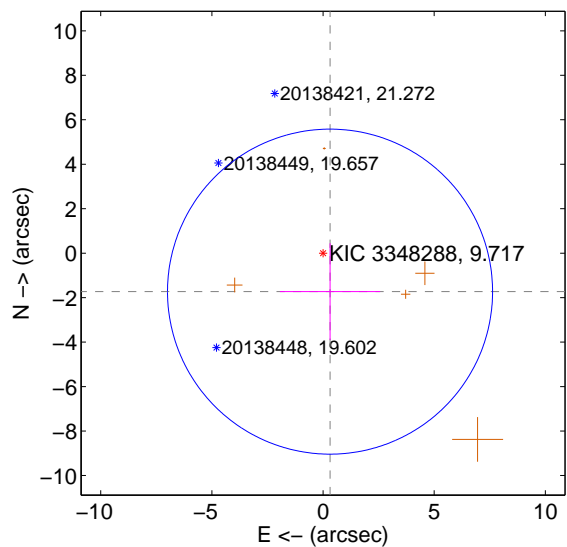
Supplemental centroid analysis for 003348288-07. **Kepler magnitude: 9.72.** Transit SNR 6.66

There are 0 quarters with good PRF difference image offsets

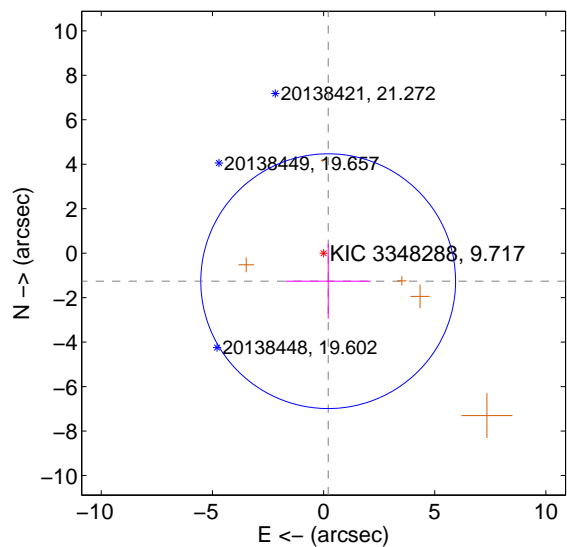
The direct PRF centroid is offset from the target star catalog position by about 1.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.759 ± 2.436	0.72	-0.315 ± 2.253	-1.730 ± 2.175
PRF-fit source offset from KIC position	1.276 ± 1.909	0.67	-0.207 ± 1.913	-1.259 ± 1.689
photometric centroid source offset	1.74 ± 1.51	1.15	1.68 ± 1.46	0.48 ± 2.07

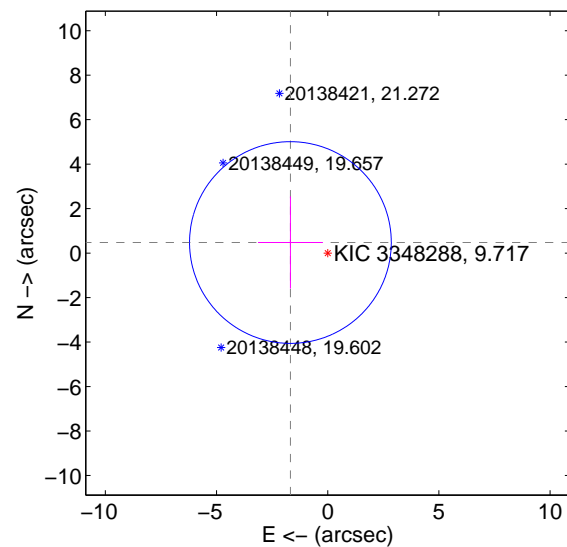
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

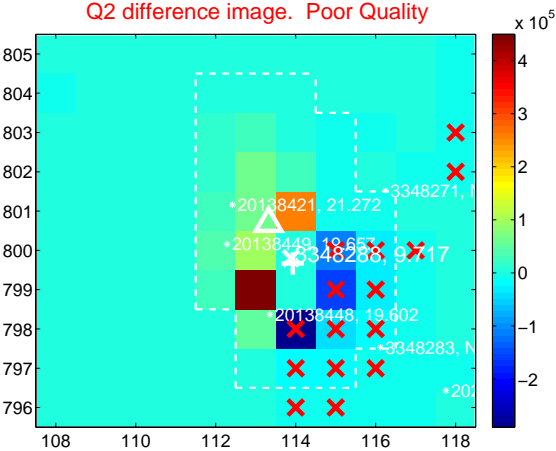
Q1 no difference image



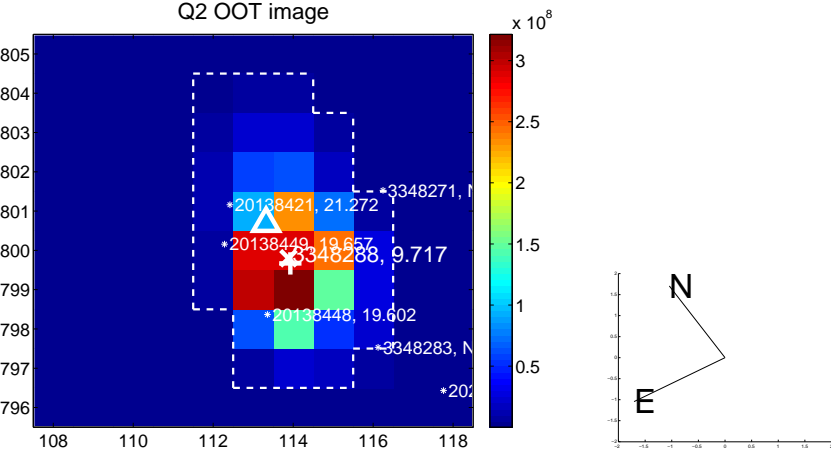
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



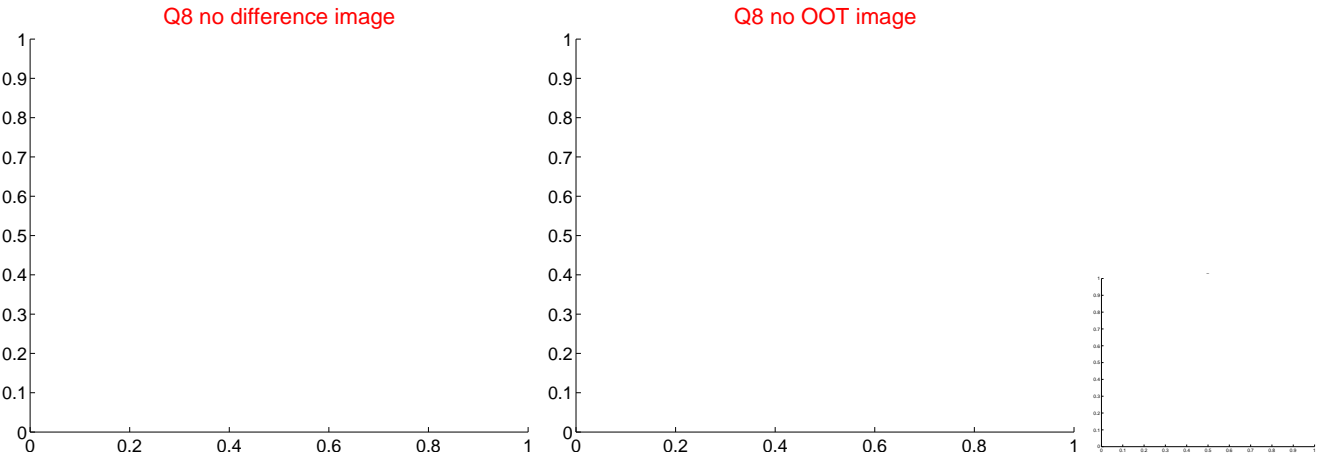
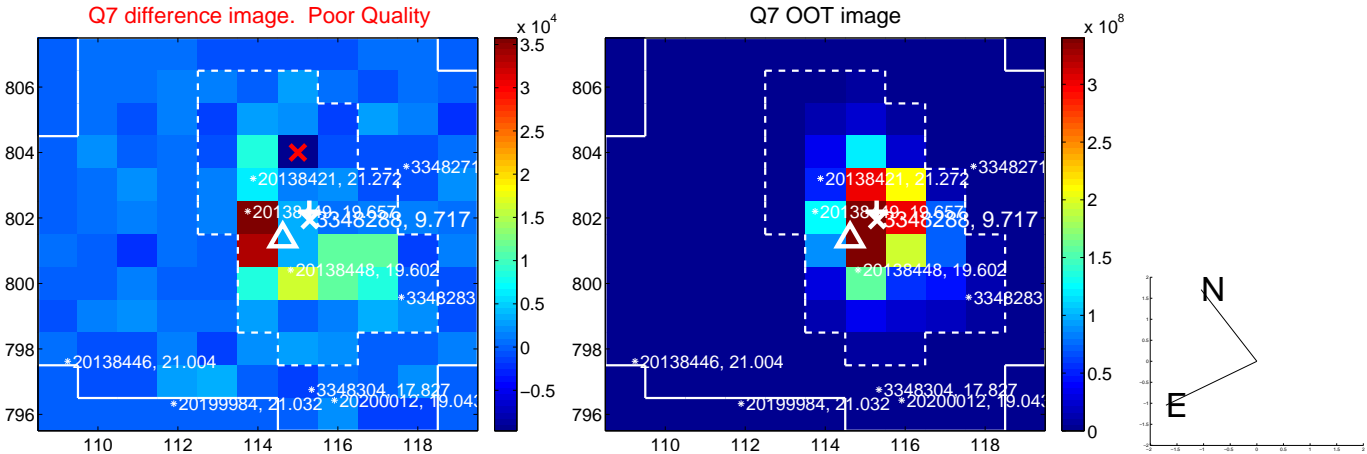
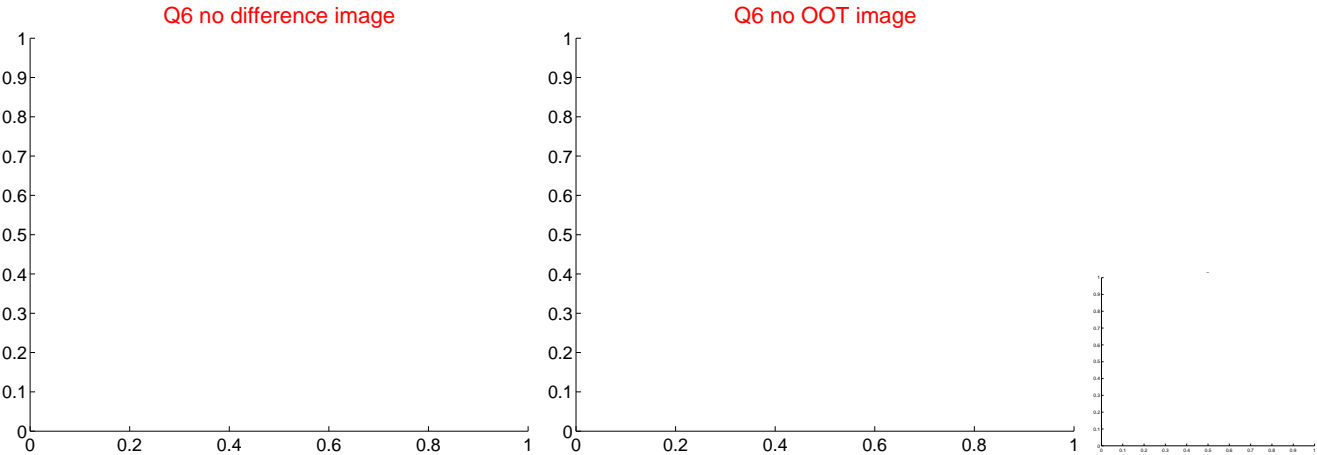
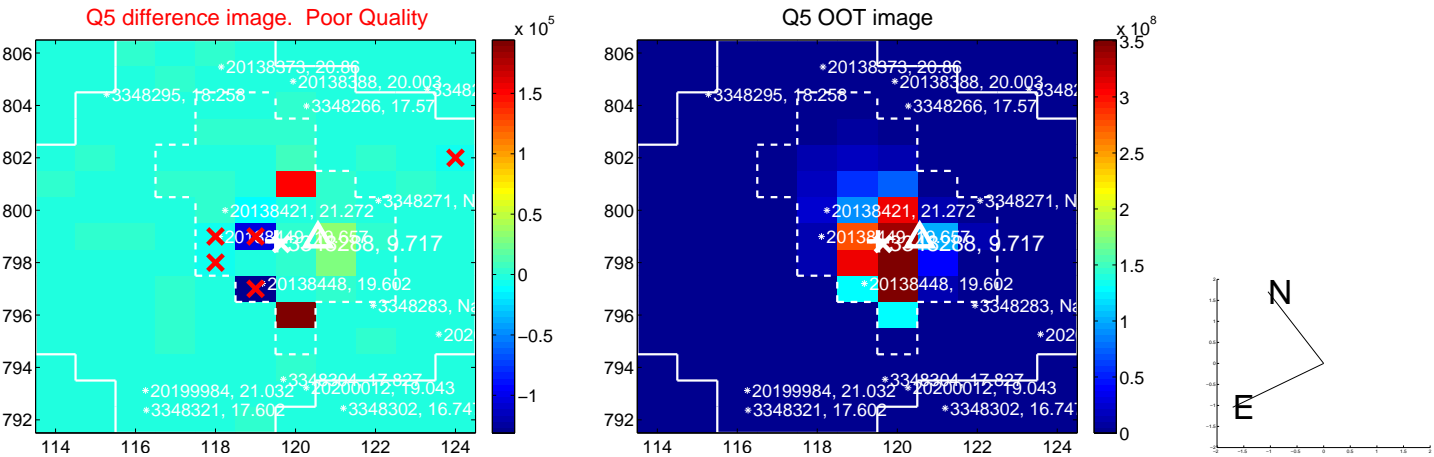
Q4 no difference image



Q4 no OOT image



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

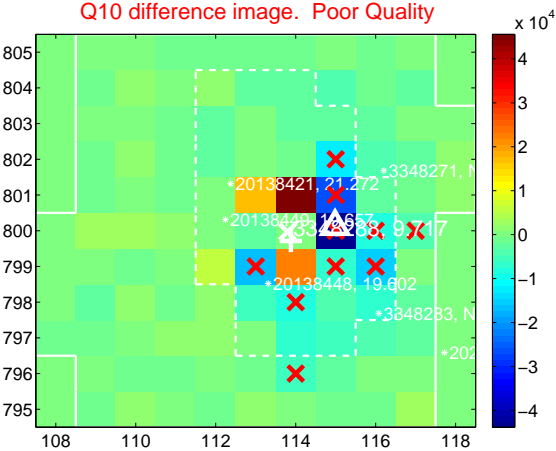
Q9 no difference image



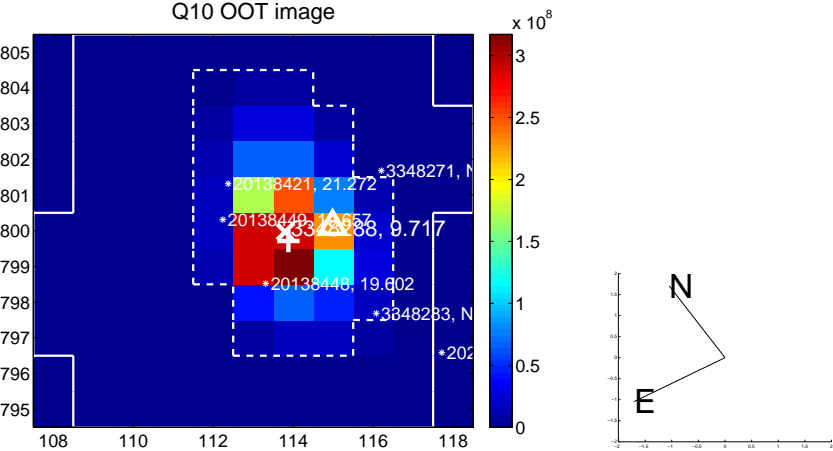
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



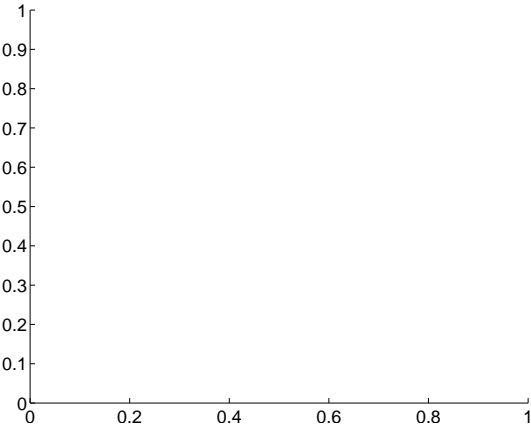
Q11 no difference image



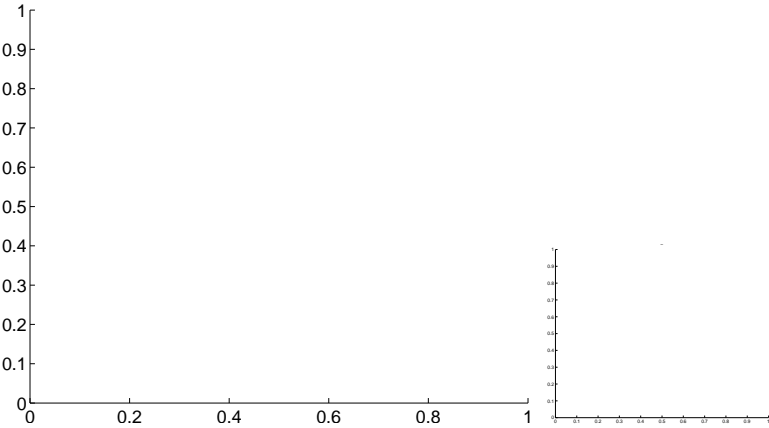
Q11 no OOT image



Q12 no difference image



Q12 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q13 no difference image



Q13 no OOT image



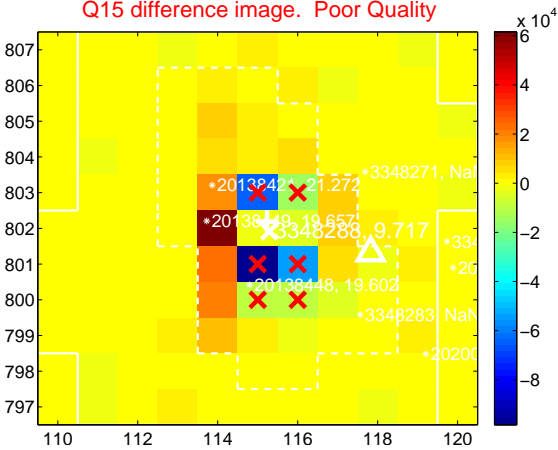
Q14 no difference image



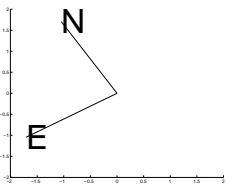
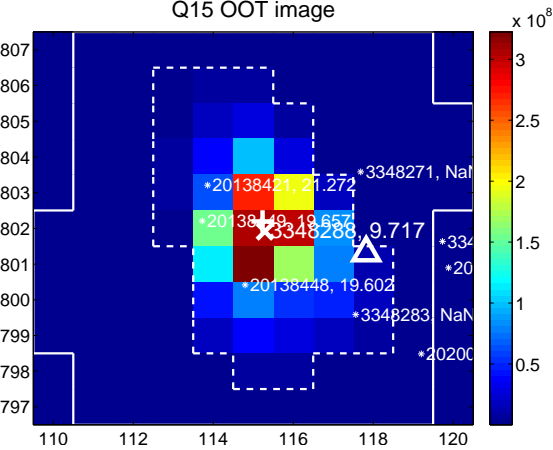
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



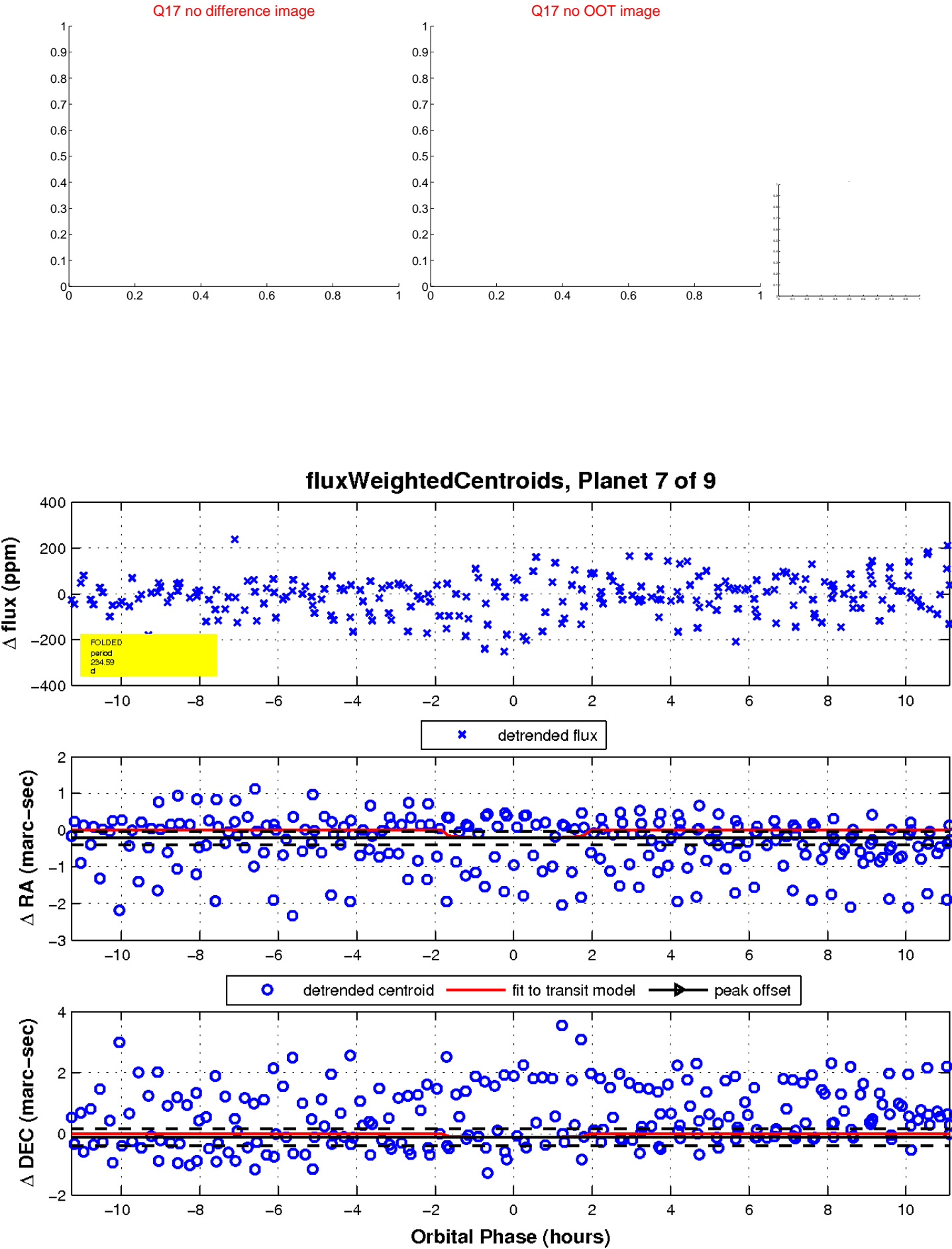
Q16 no difference image



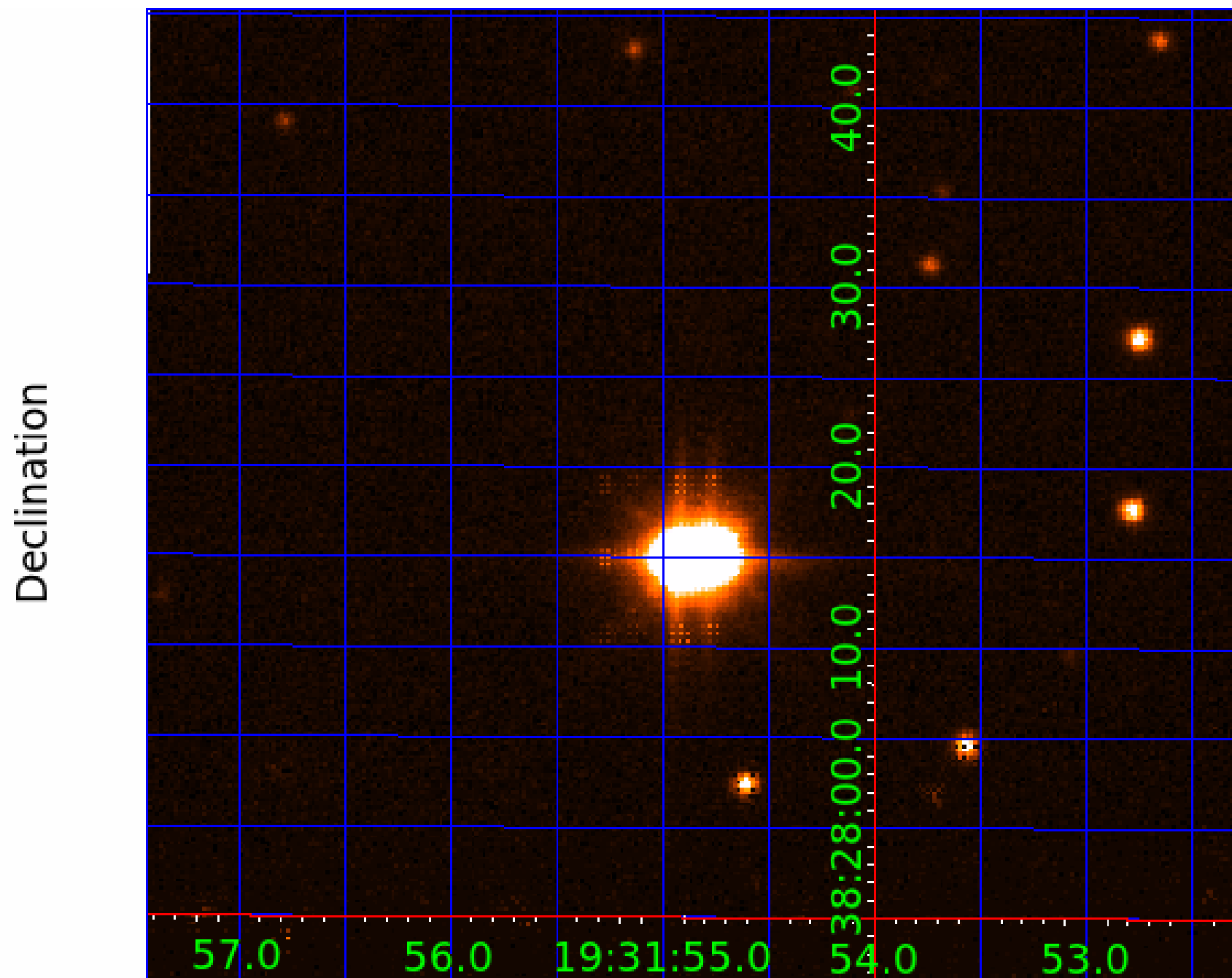
Q16 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

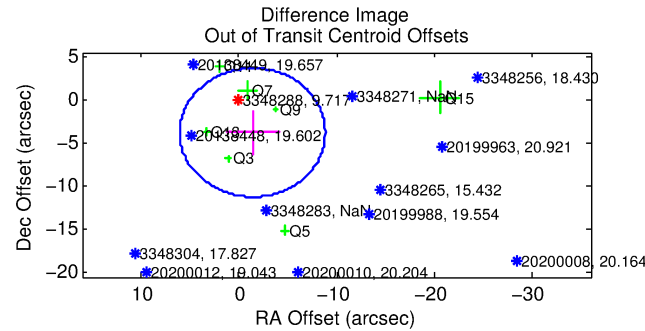
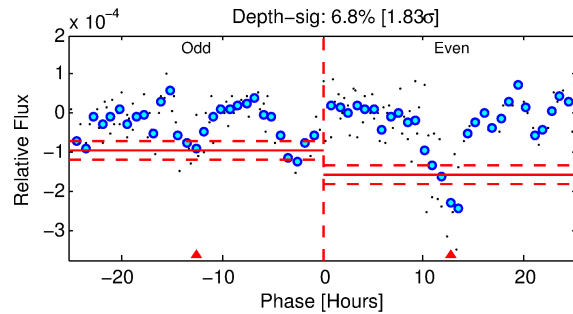
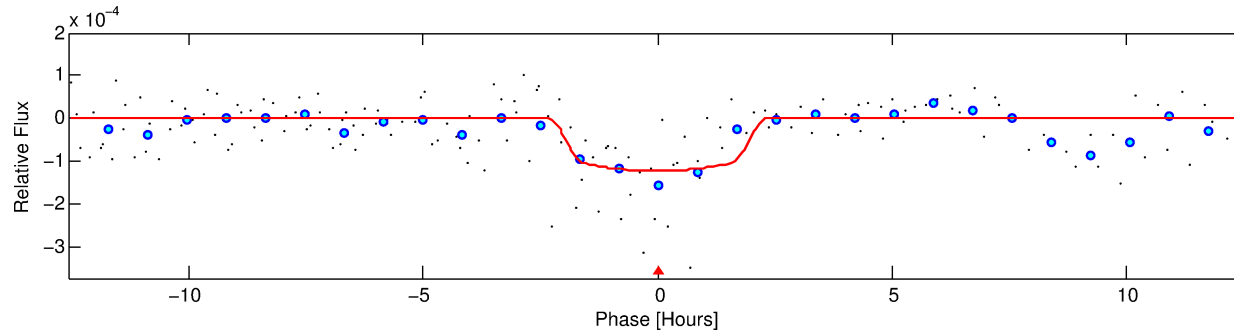
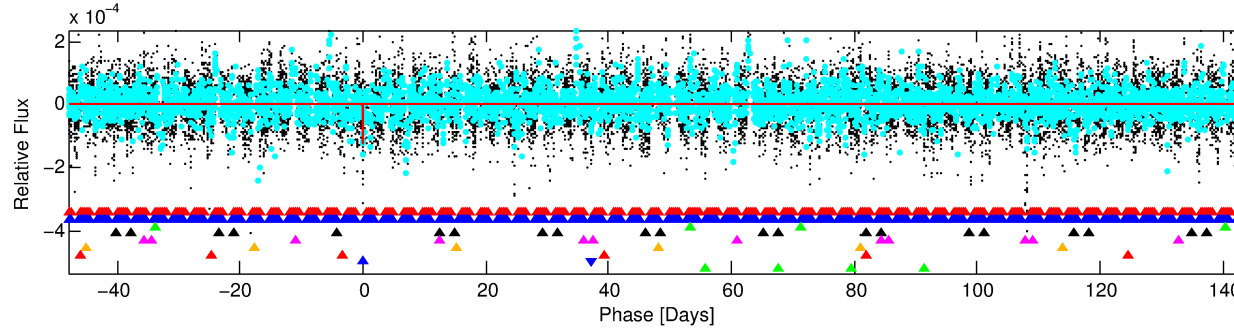
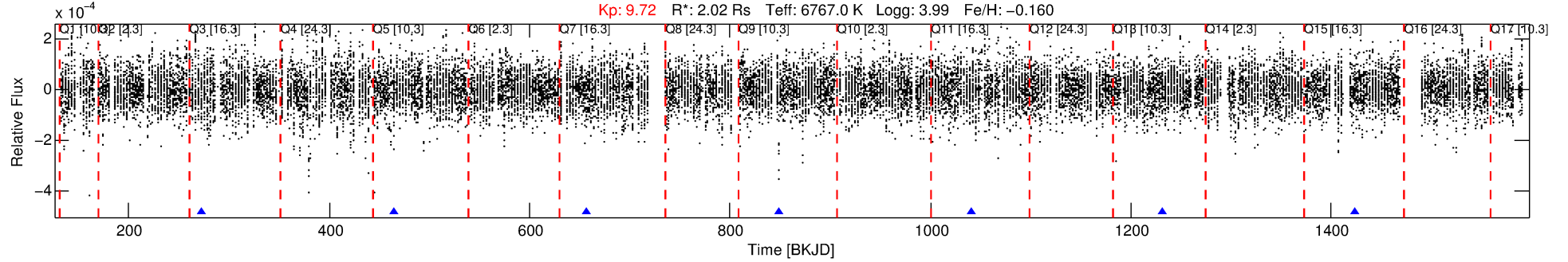
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-08

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 8 of 9 Period: 191.937 d



DV Fit Results:

Period = 191.93736 [0.00353] d
Epoch = 272.4603 [0.0063] BKJD
 $R_p/R^* = 0.0117$ [0.0044]
 $a/R^* = 168.58$ [364.36]
 $b = 0.89$ [0.51]
 $\text{Seff} = 14.14$ [5.99]
 $T_{\text{eq}} = 494$ [52] K
 $R_p = 2.58$ [1.23] R_e
 $a = 0.7360$ [0.1957] AU
 $A_g = 3508.60$ [3134.26] [1.12 σ]
 $T_{\text{eff}} = 5884$ [1179] K [4.57 σ]

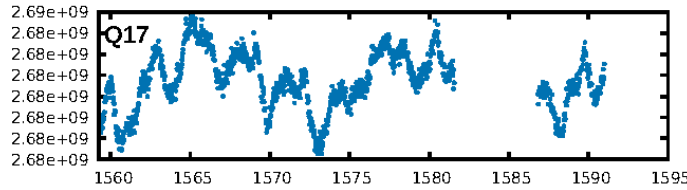
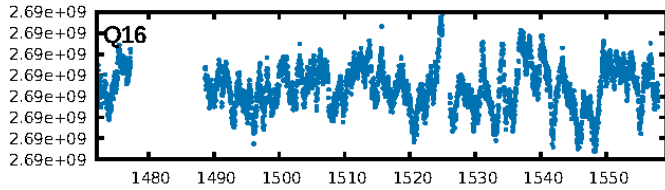
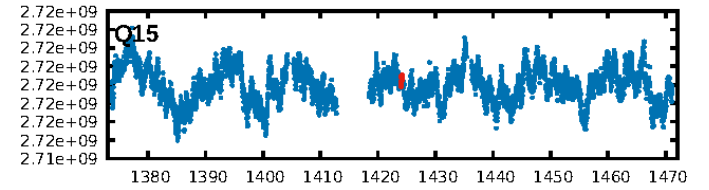
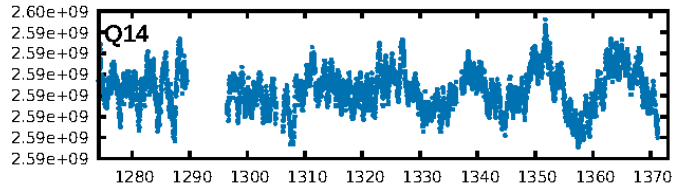
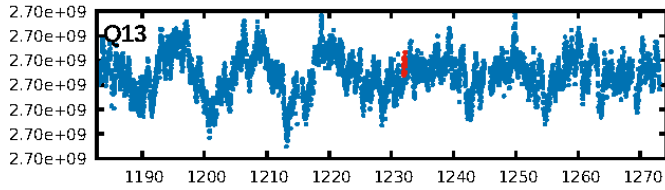
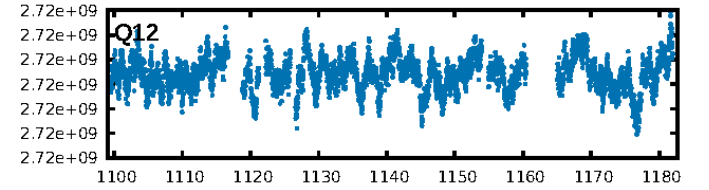
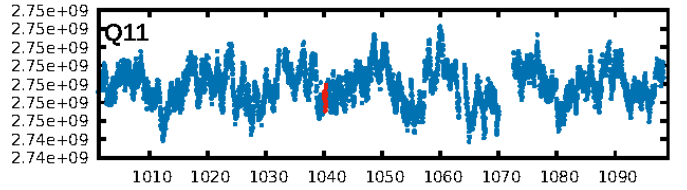
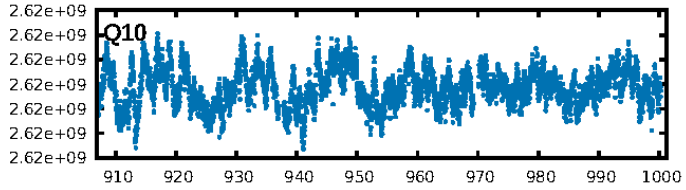
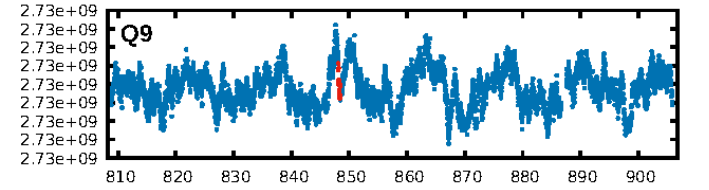
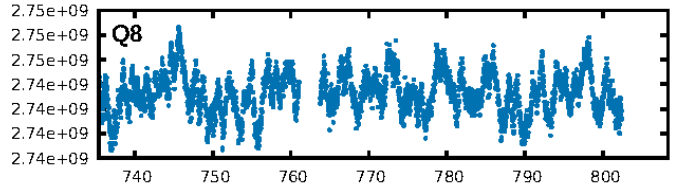
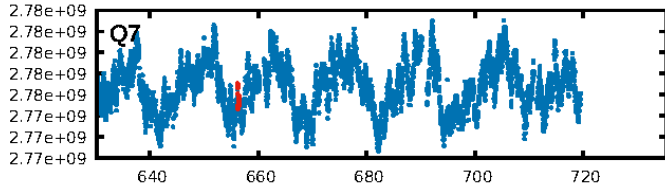
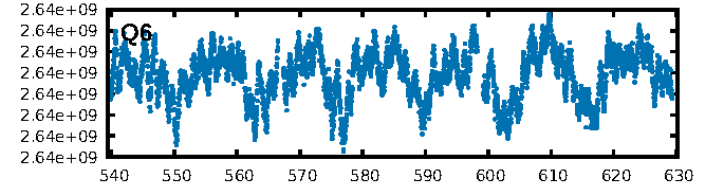
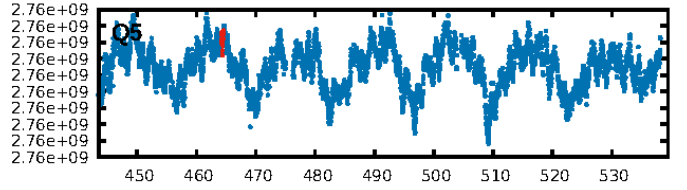
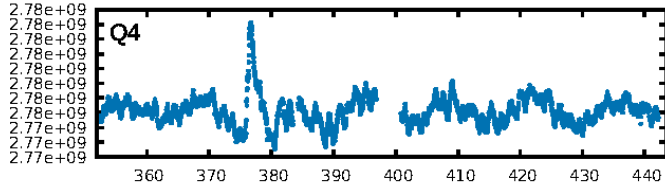
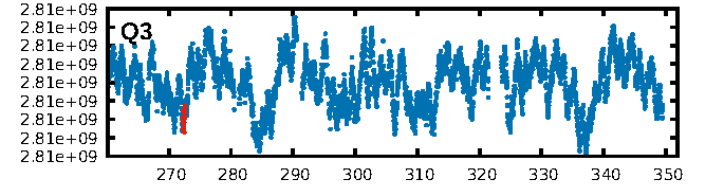
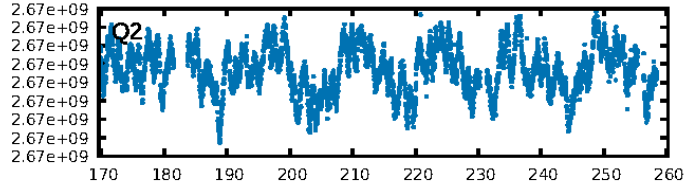
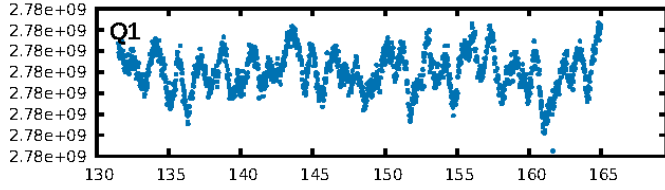
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [255.28 σ]
LongPeriod-sig: 100.0% [138.67 σ]
ModelChiSquare2-sig: 17.1%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: N/A
Centroid-sig: 53.8%
Centroid-so: 1.340 arcsec [0.78 σ]
OotOffset-rm: 4.047 arcsec [1.63 σ]
KicOffset-rm: 3.313 arcsec [1.58 σ]
OotOffset-st: 0/4/0/3 [7]
KicOffset-st: 0/4/0/3 [7]
DiffImageQuality-fgm: 0.00 [0/7]
DiffImageOverlap-fno: 0.71 [5/7]

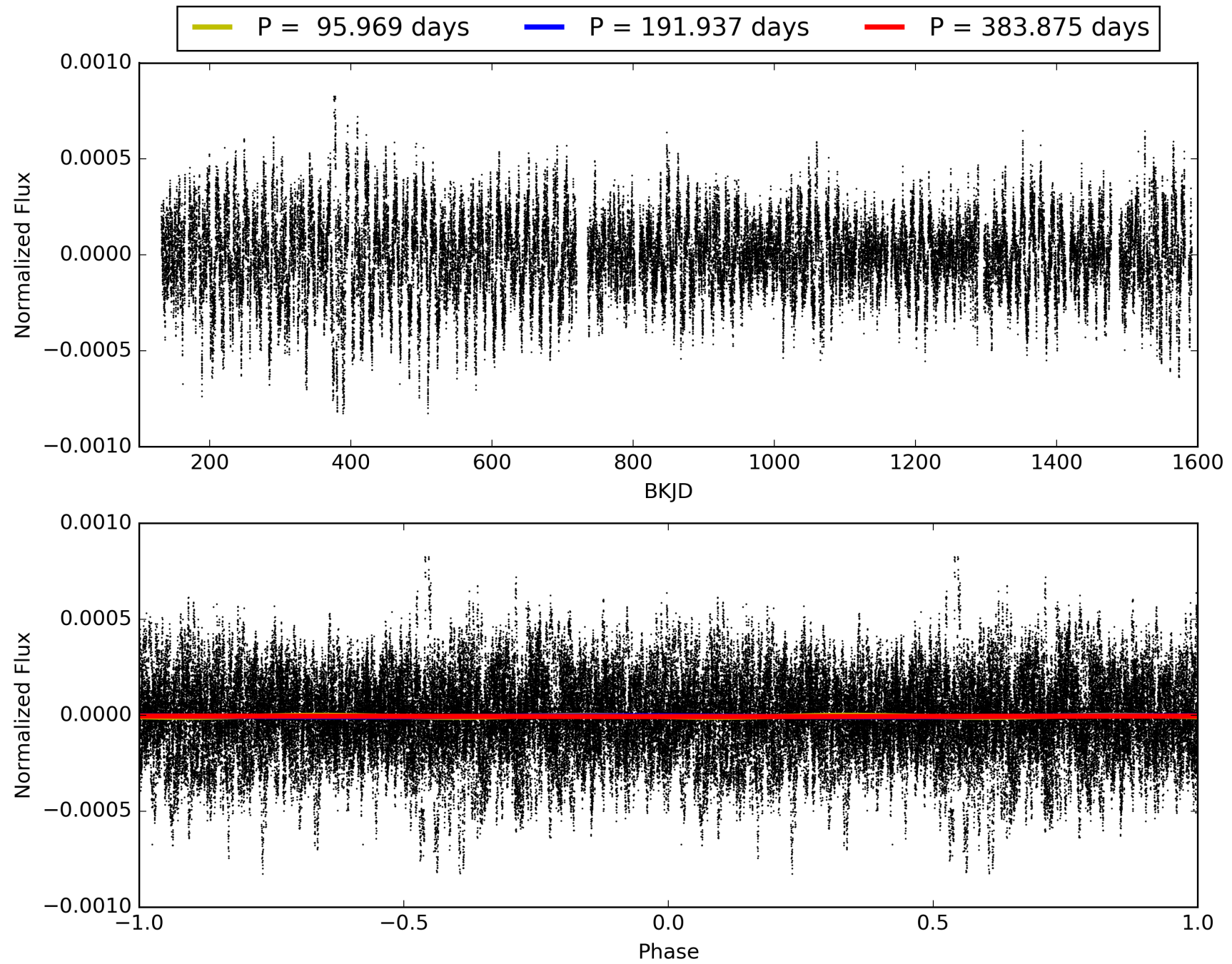
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:57:16 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-08, PDC Light Curves

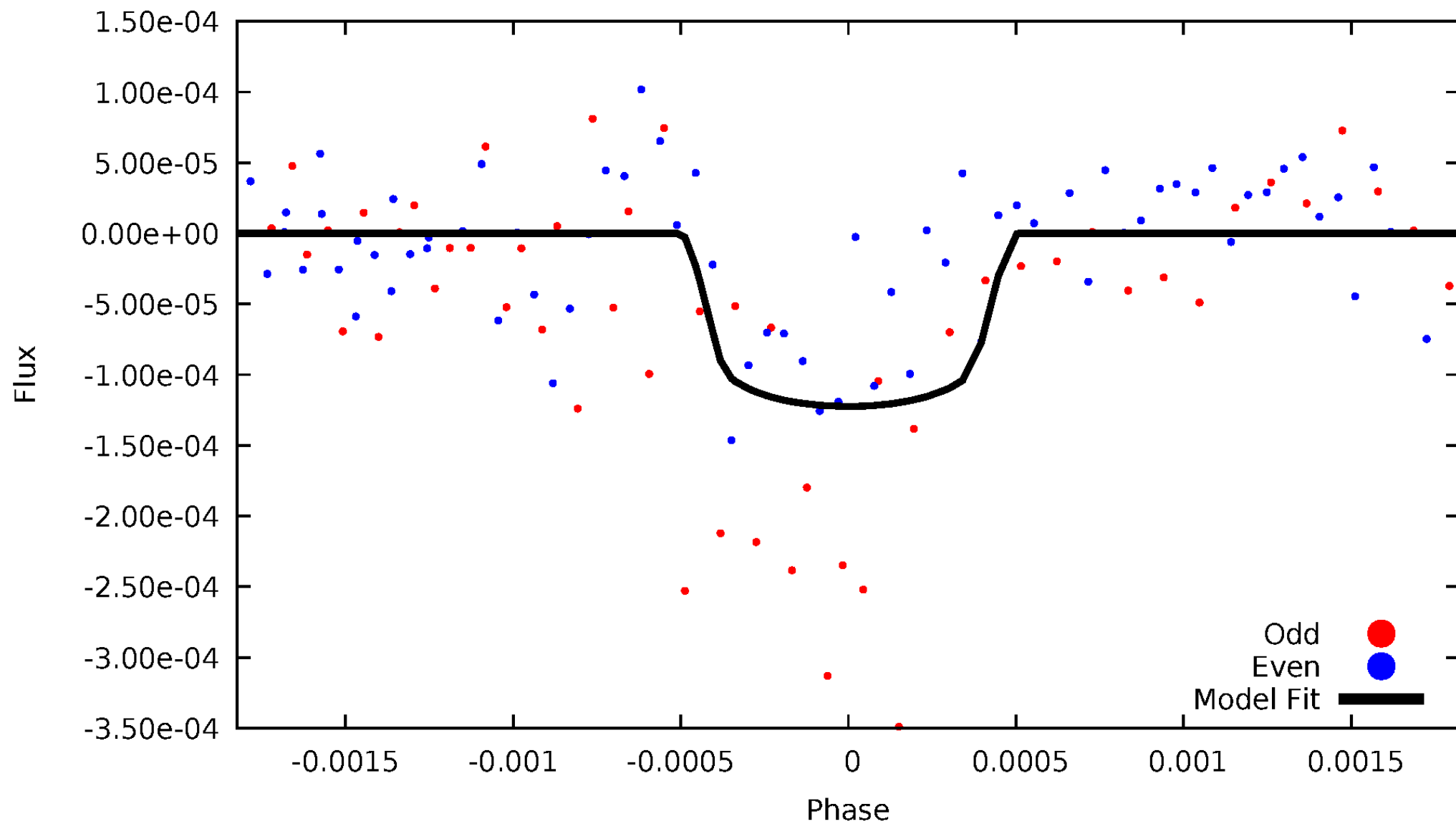


TCE 003348288-08



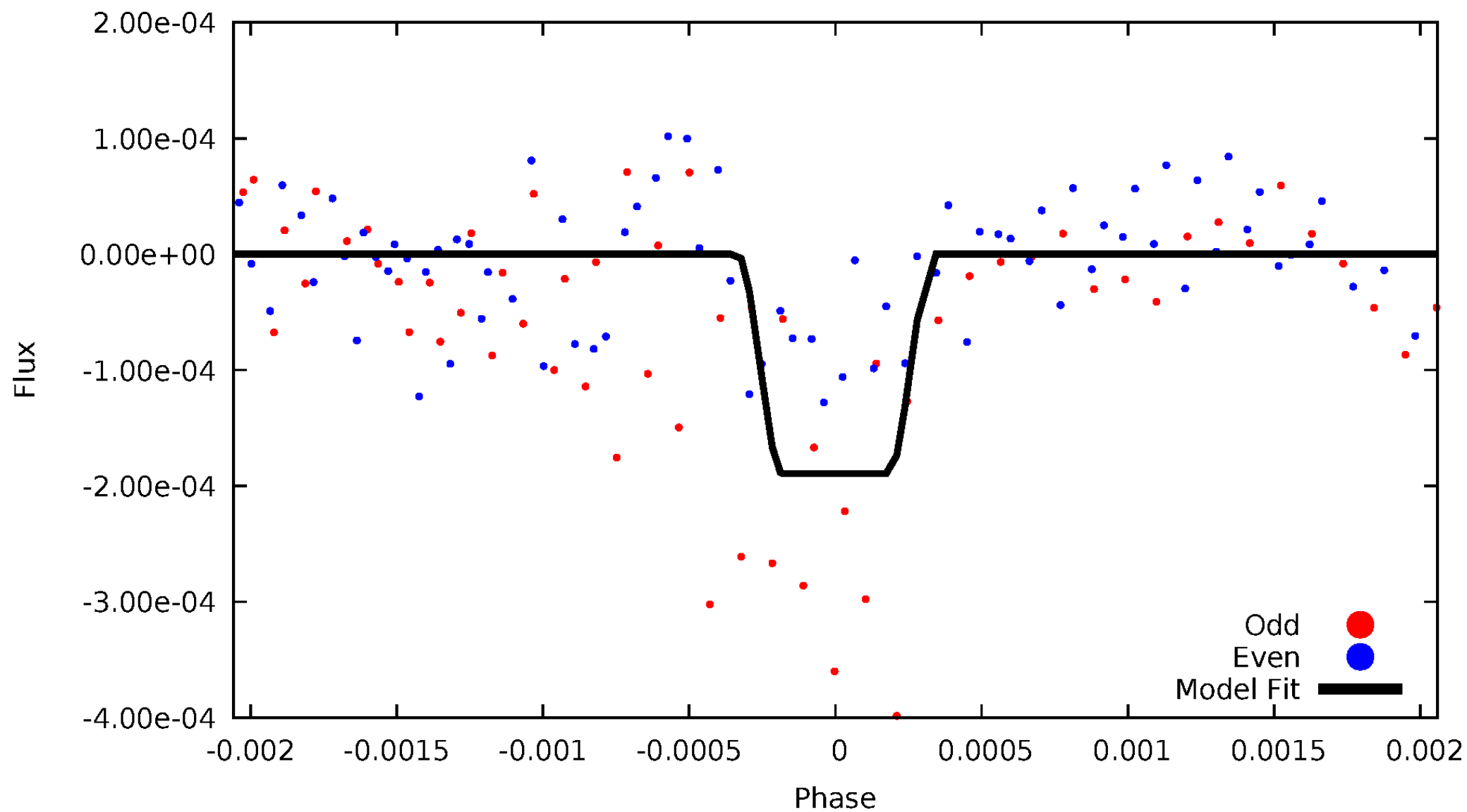
DV Odd/Even

TCE 003348288-08



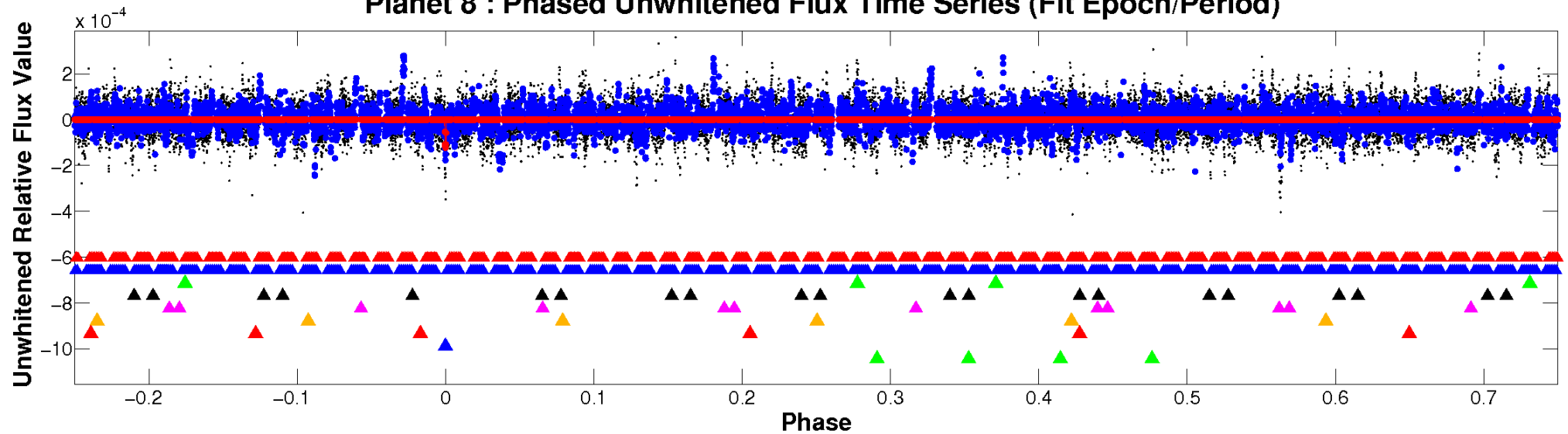
ALT Odd/Even

TCE 003348288-08

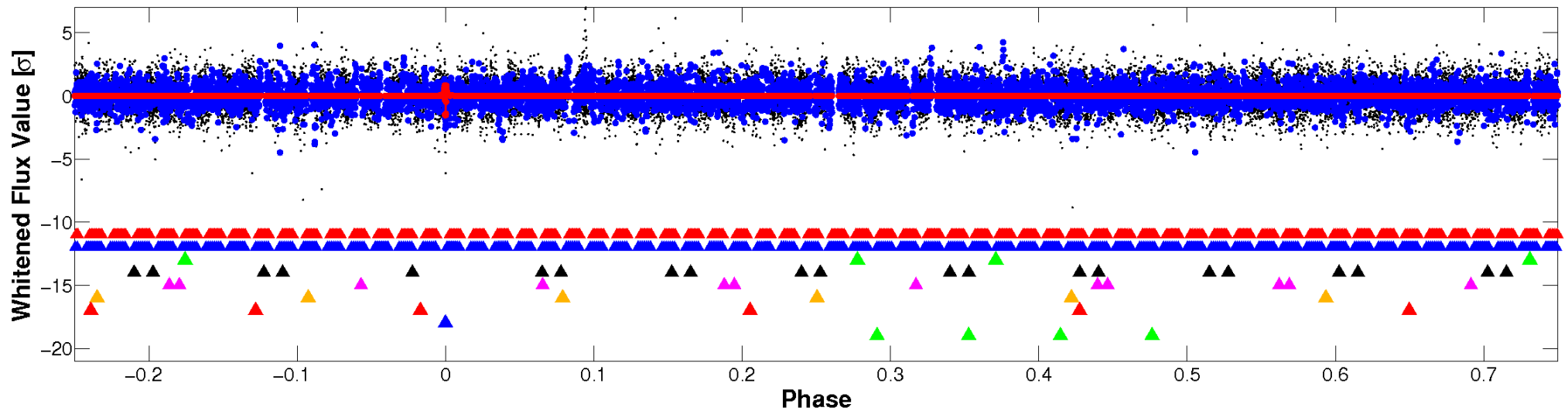


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

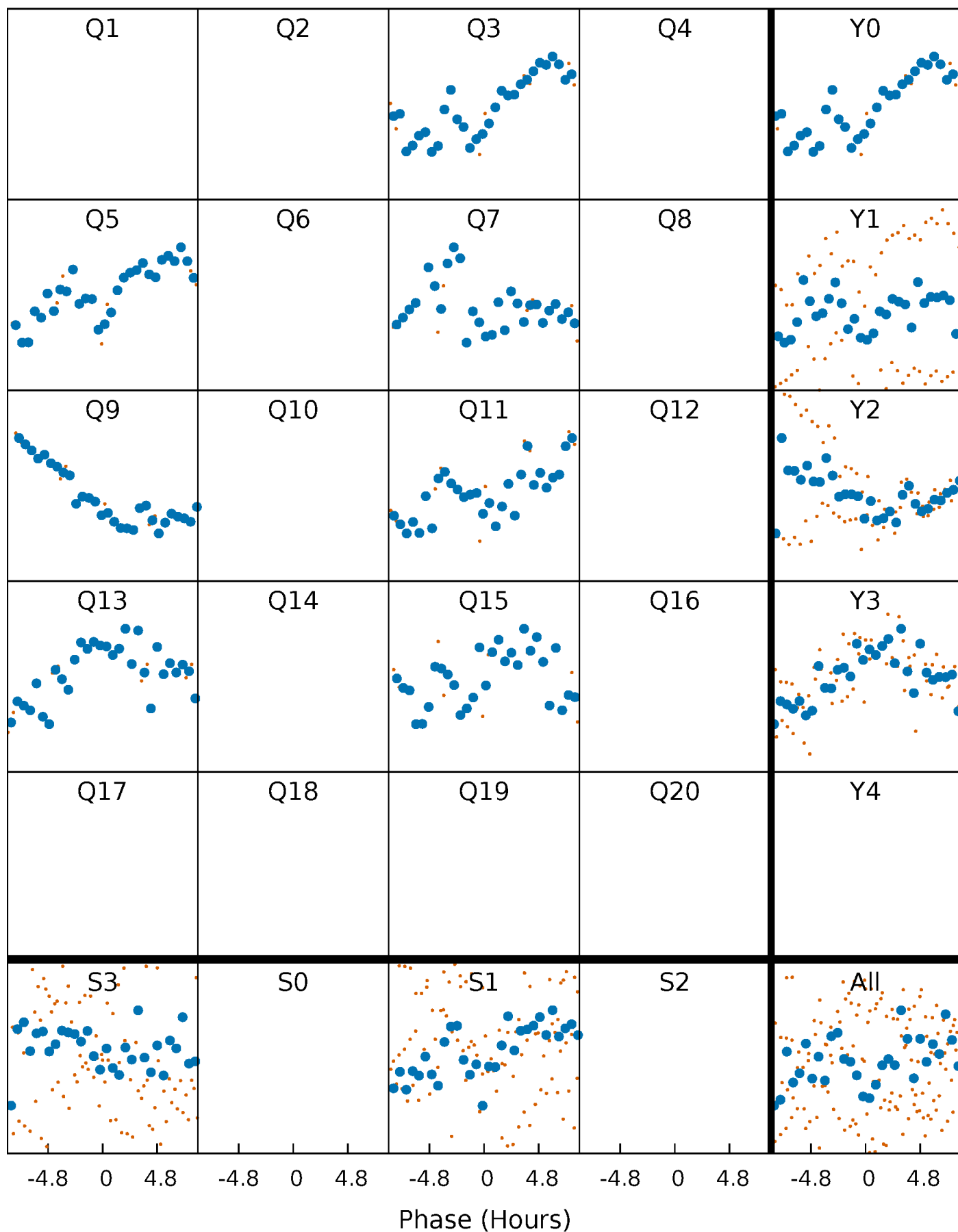


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



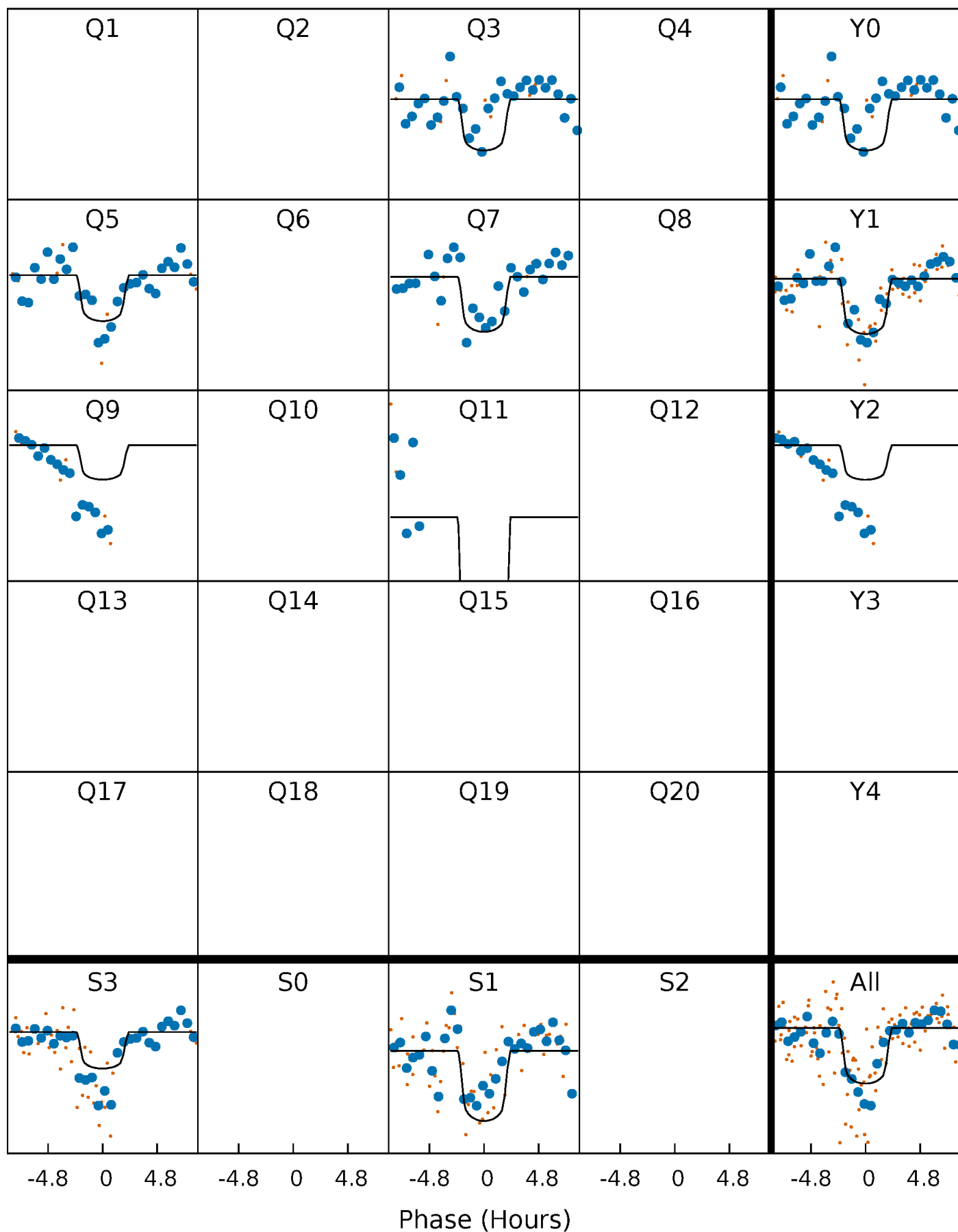
PDC Quarter-Phased Transit Curves

TCE 003348288-08 $P=191.937358$ Days $T_0=272.460324$ (BKJD)



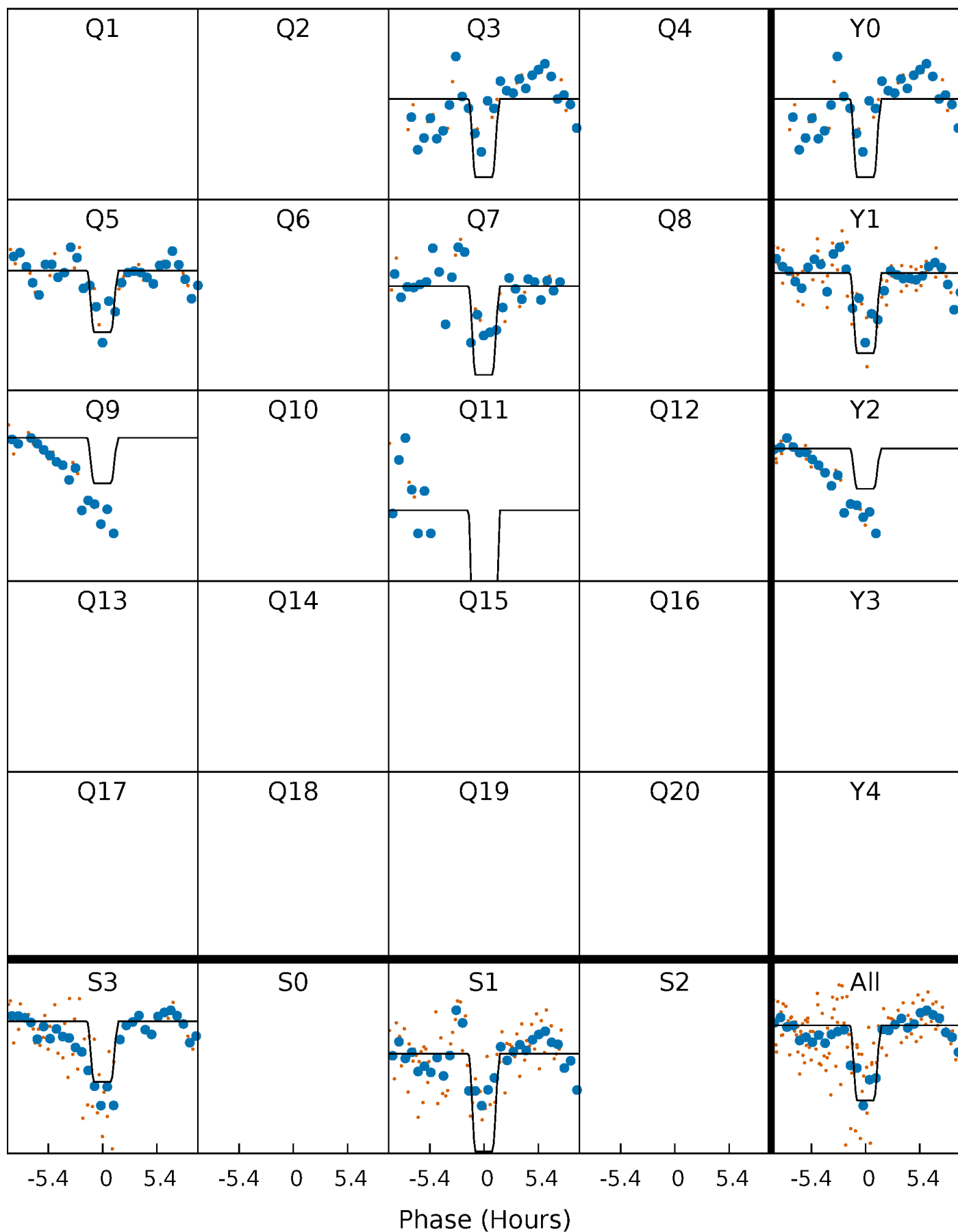
DV Quarter-Phased Transit Curves

TCE 003348288-08 $P=191.937358$ Days $T_0=272.460324$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

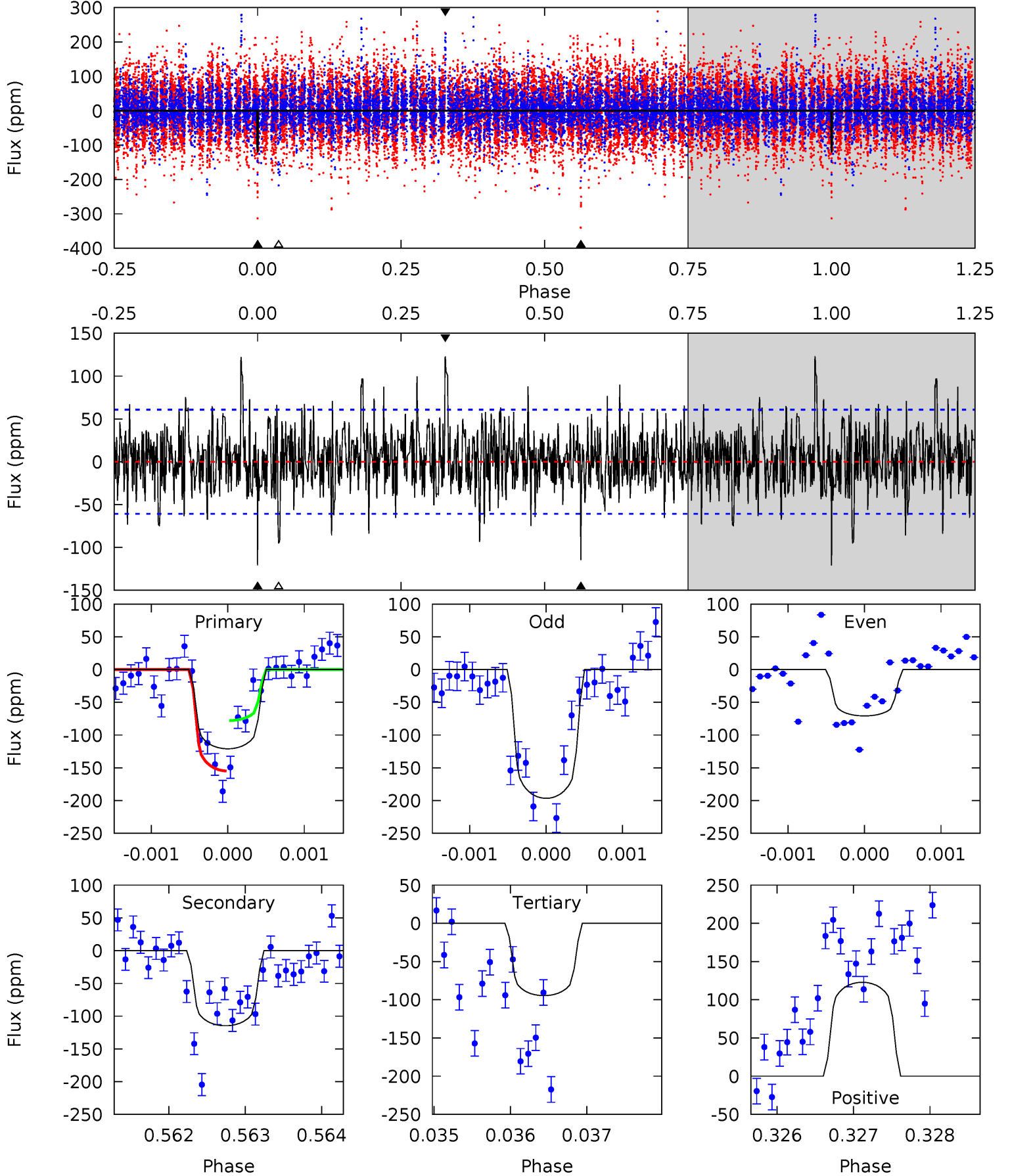
TCE 003348288-08 $P=191.936539$ Days $T_0=272.451555$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-08, P = 191.937358 Days, E = 80.522966 Days

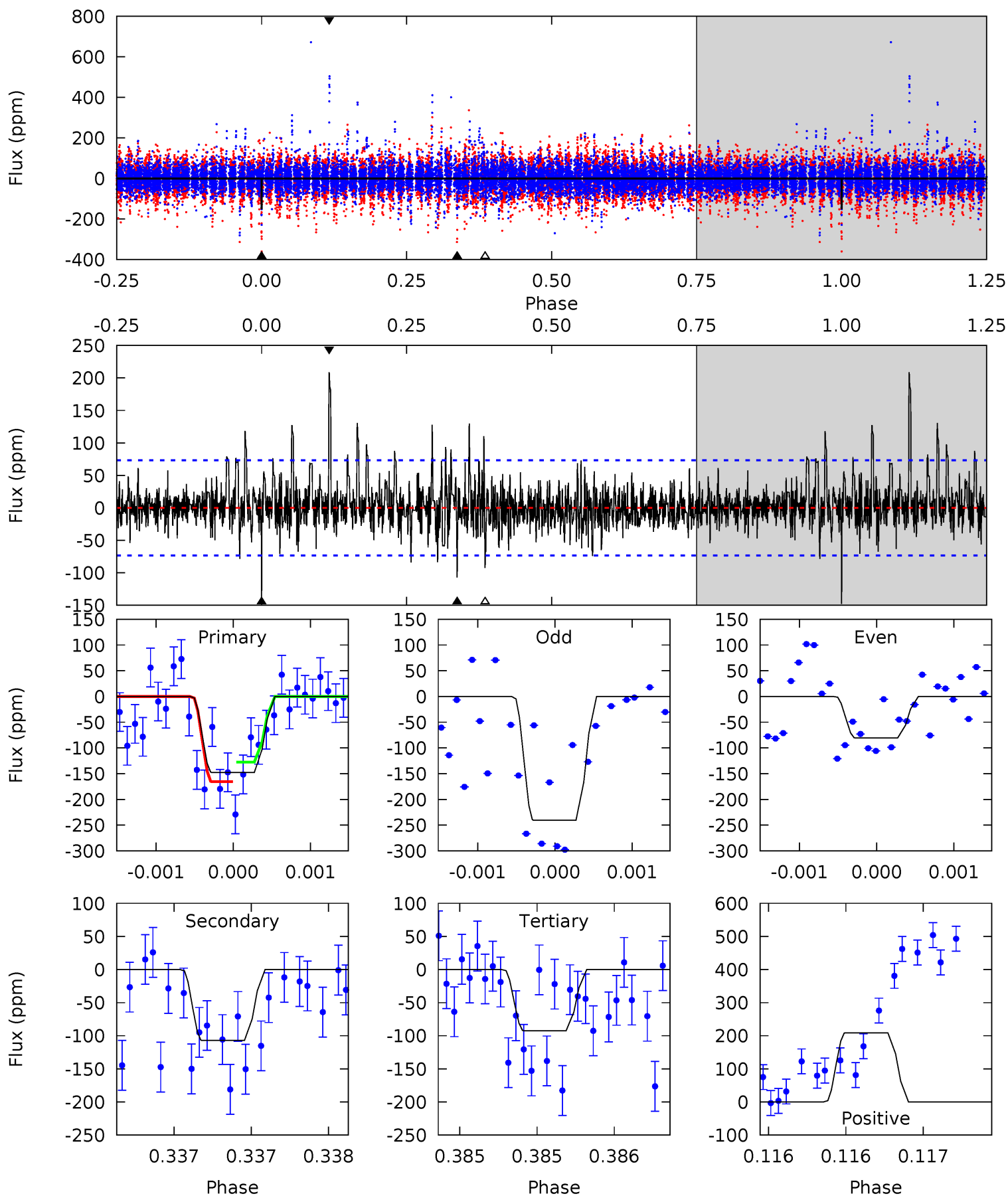
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	10.3	8.48	11.0	5.45	3.29	2.25	2.36	-0.17	1.79	-0.74	5.66	1.23	0.50	3.43



Alt Model-Shift Uniqueness Test

003348288-08, P = 191.936539 Days, E = 80.515016 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	8.08	6.97	15.8	5.53	3.41	1.75	4.18	-4.62	1.10	-7.70	6.15	1.37	0.59	1.44



Stellar Parameters For KIC 003348288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 11	$2.47^{+1.12}_{-0.92}$	681^{+44}_{-52}	6424^{+2034}_{-998}	5446^{+8790}_{-2758}
Alt.	-107 ± 13	$2.90^{+1.00}_{-1.03}$	682^{+41}_{-54}	5845^{+1314}_{-691}	3752^{+5233}_{-1721}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

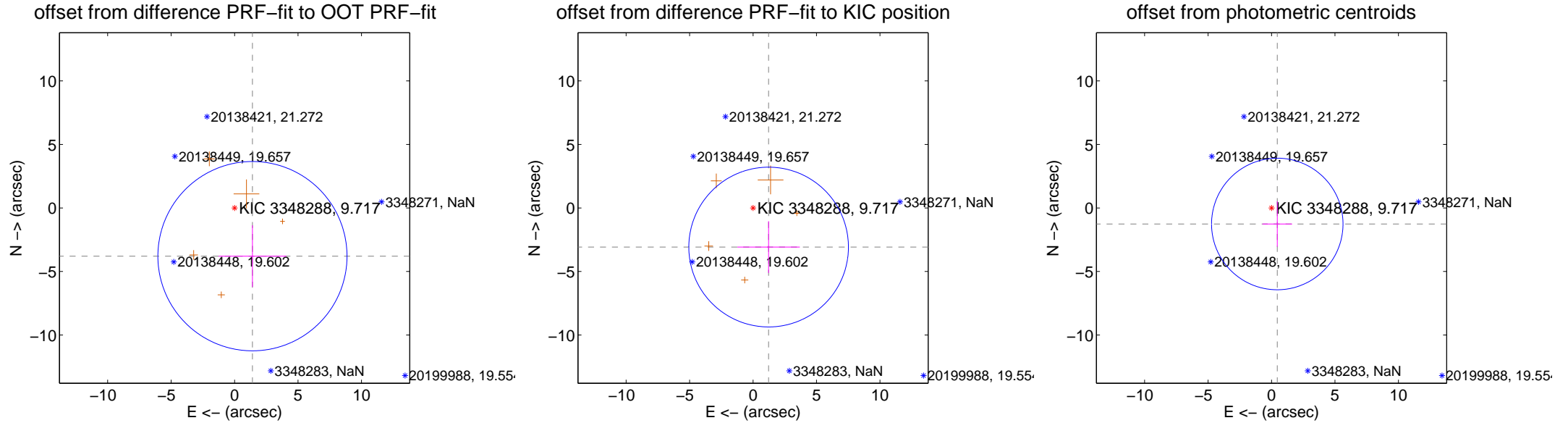
DV Centroid Data

Supplemental centroid analysis for 003348288-08. **Kepler magnitude: 9.72.** Transit SNR 7.92

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.94 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.047 ± 2.483	1.63	-1.408 ± 2.666	-3.794 ± 2.426
PRF-fit source offset from KIC position	3.313 ± 2.095	1.58	-1.227 ± 2.462	-3.078 ± 2.036
photometric centroid source offset	1.34 ± 1.73	0.78	-0.45 ± 1.17	-1.26 ± 1.79



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

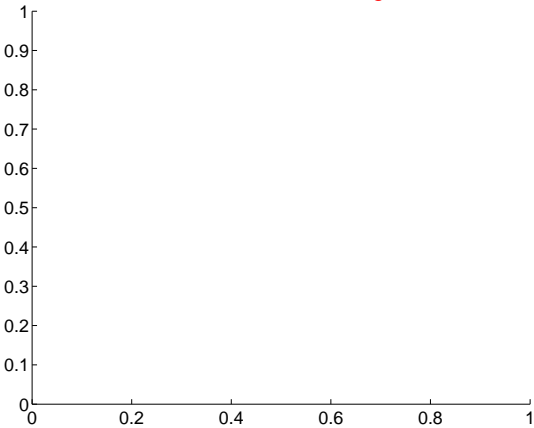
Q1 no difference image



Q1 no OOT image



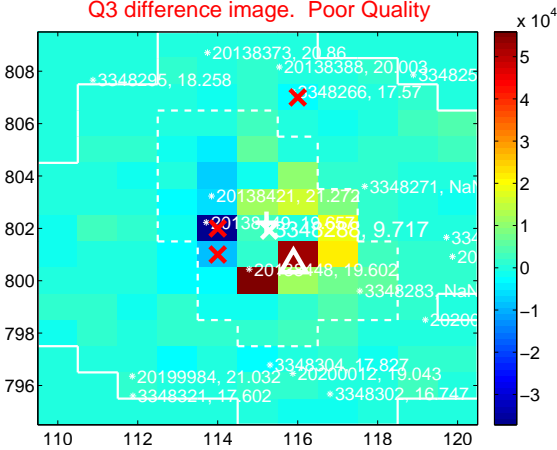
Q2 no difference image



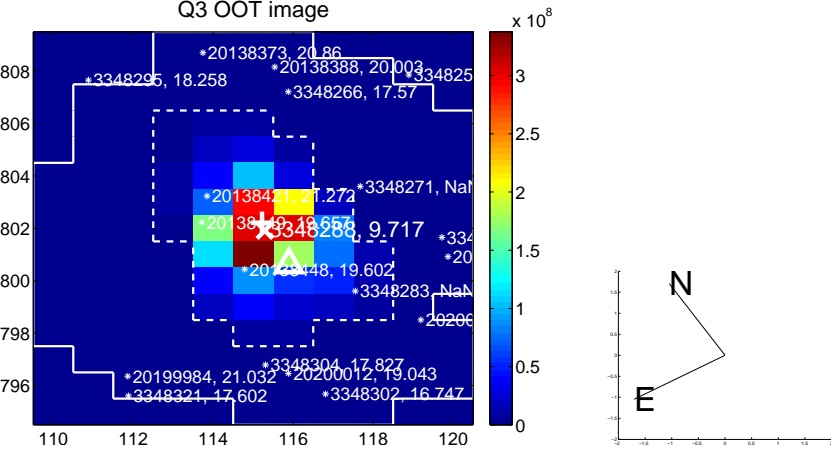
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



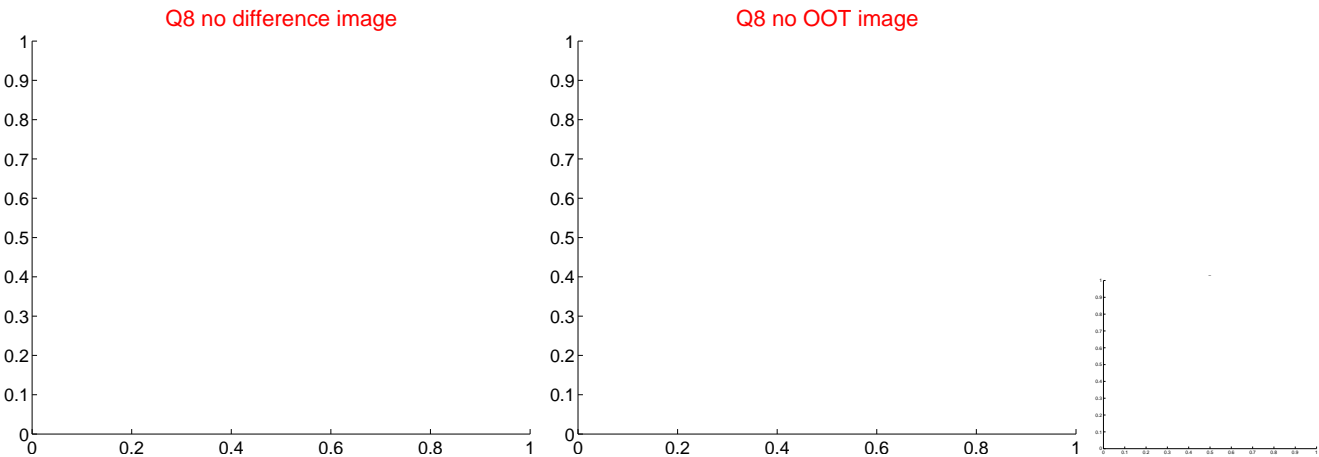
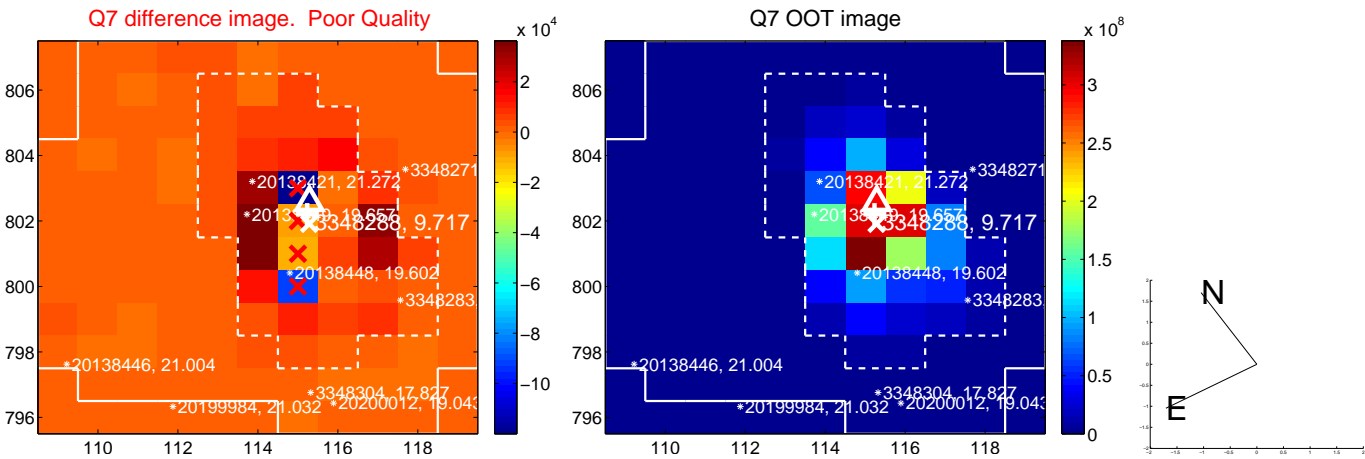
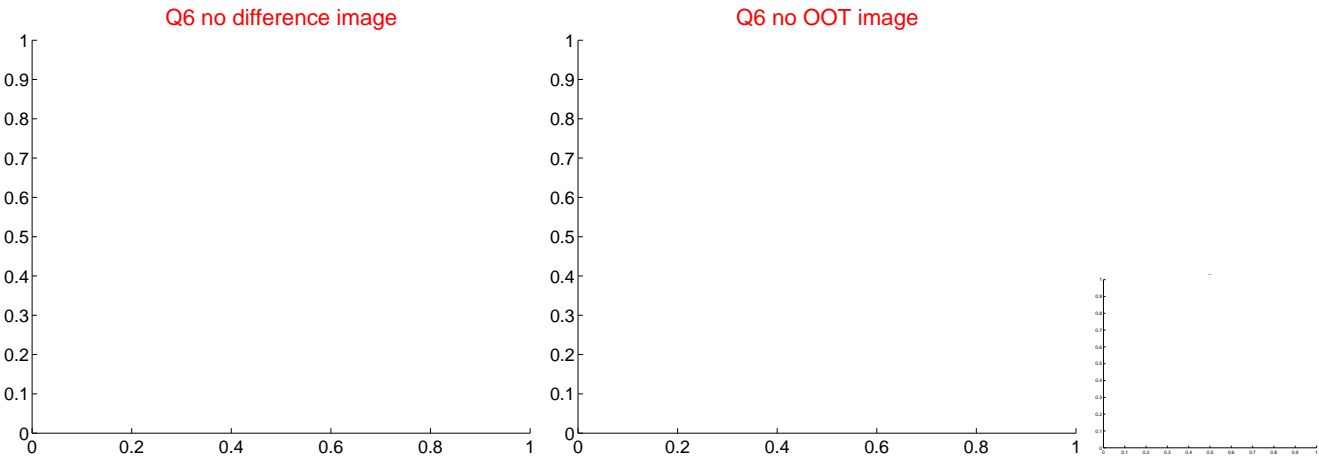
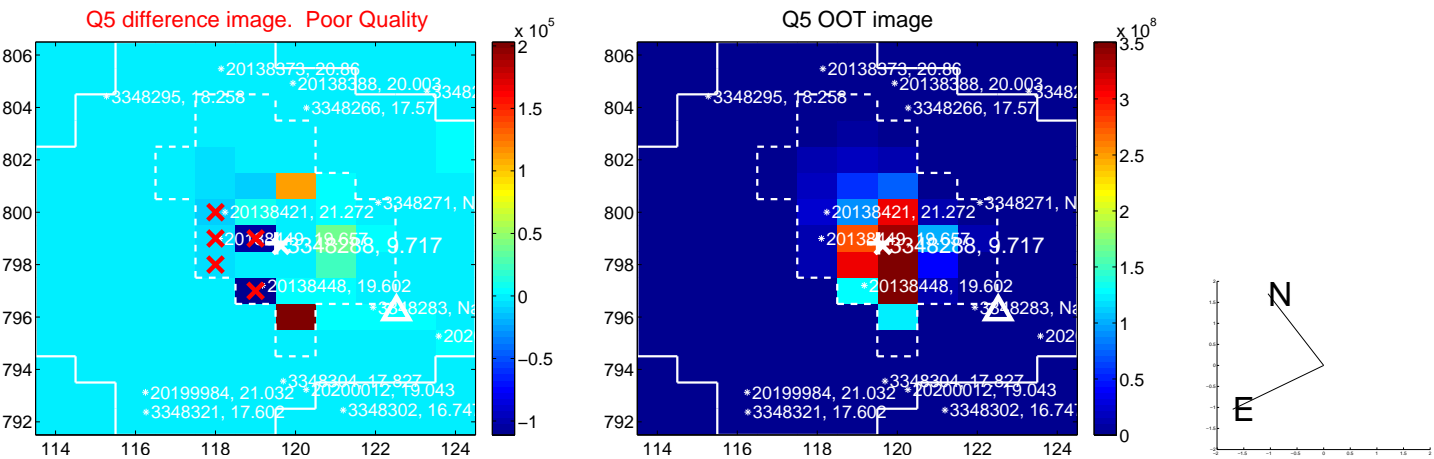
Q4 no difference image



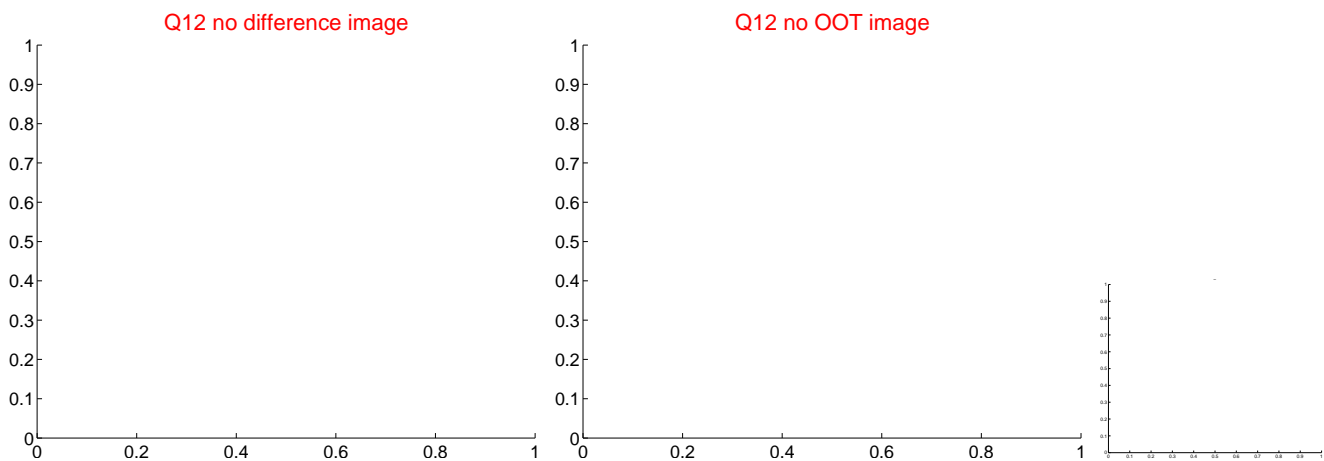
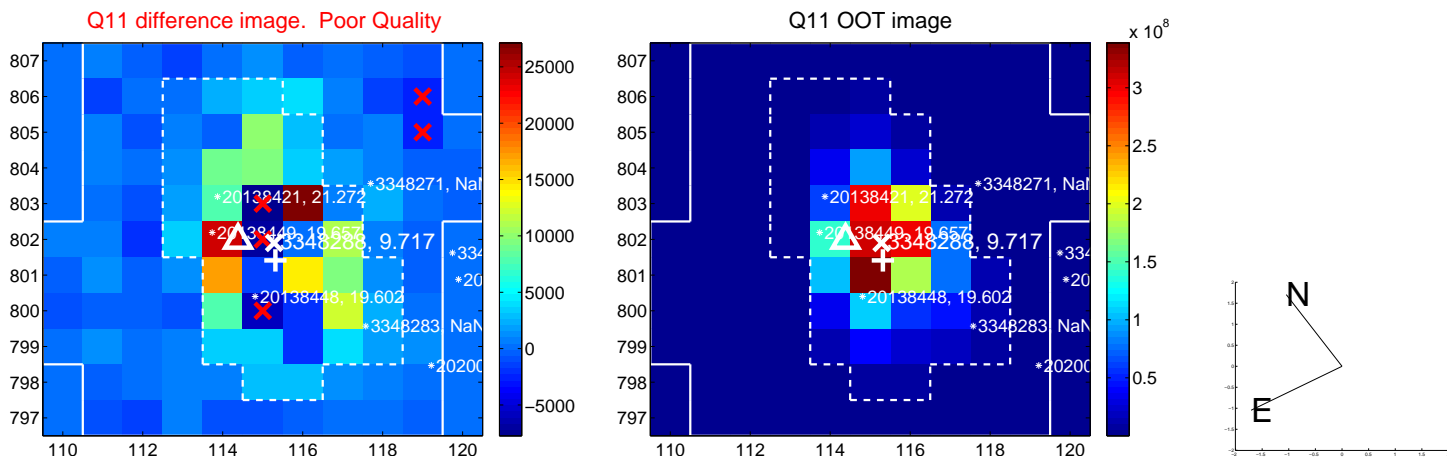
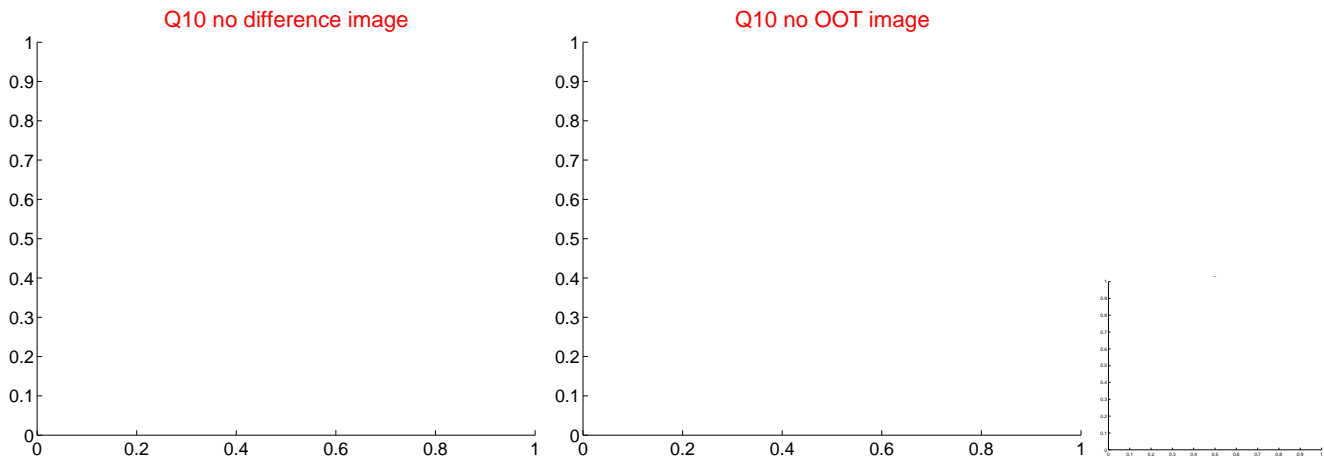
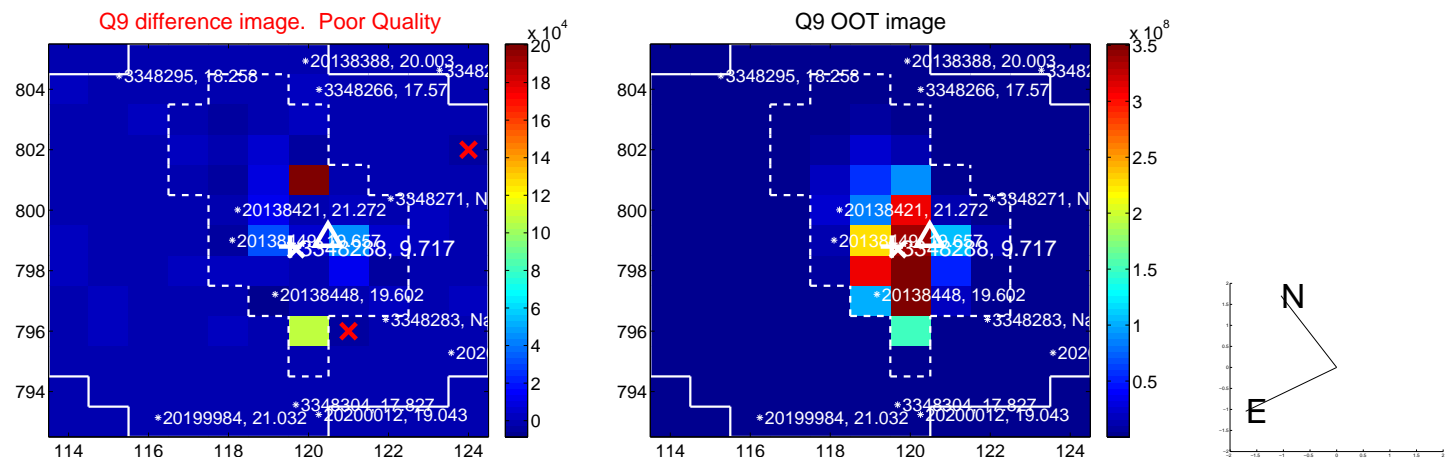
Q4 no OOT image



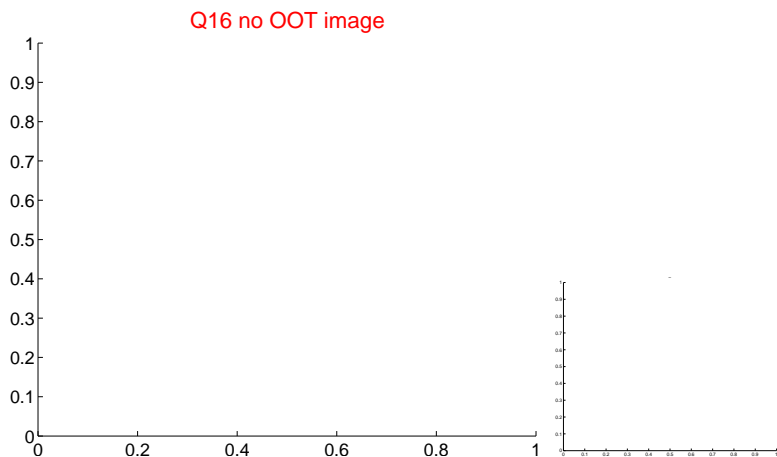
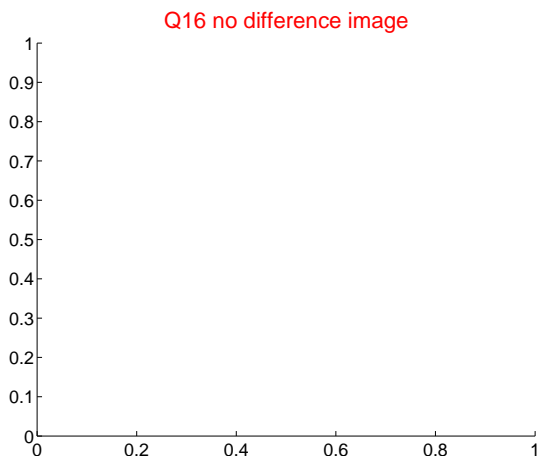
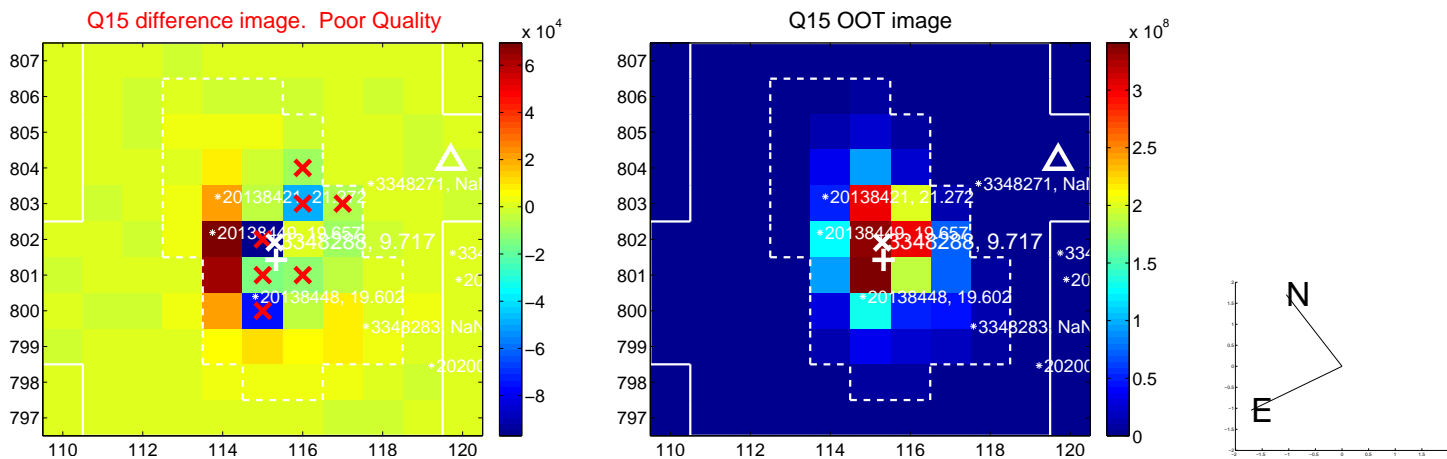
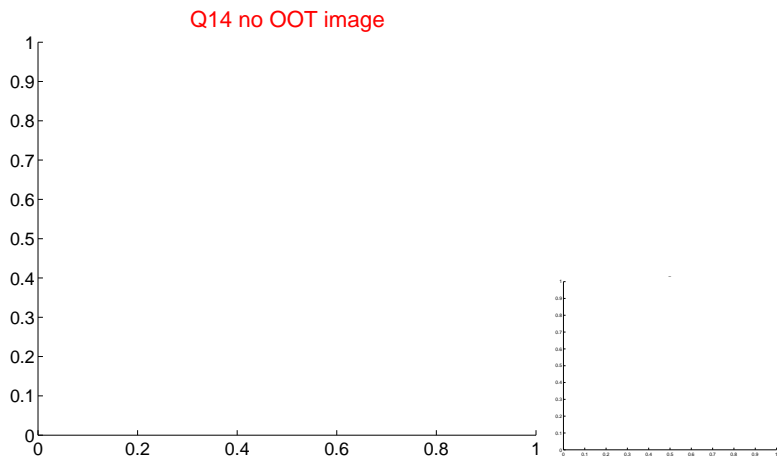
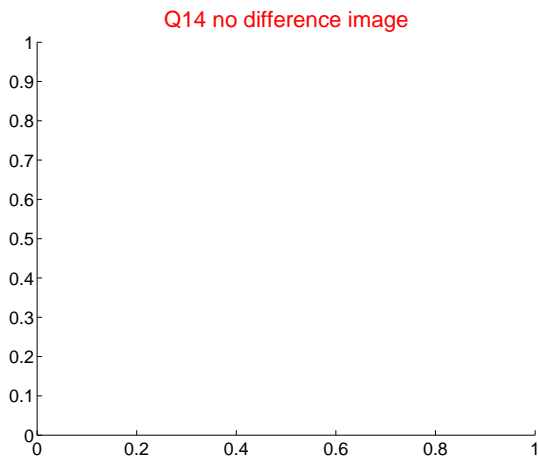
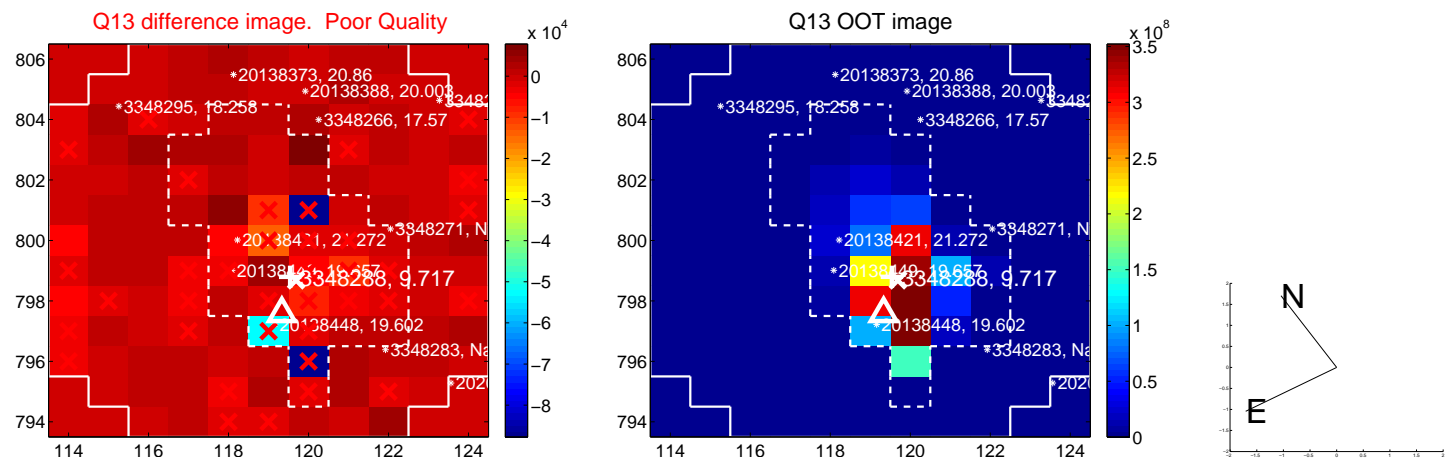
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



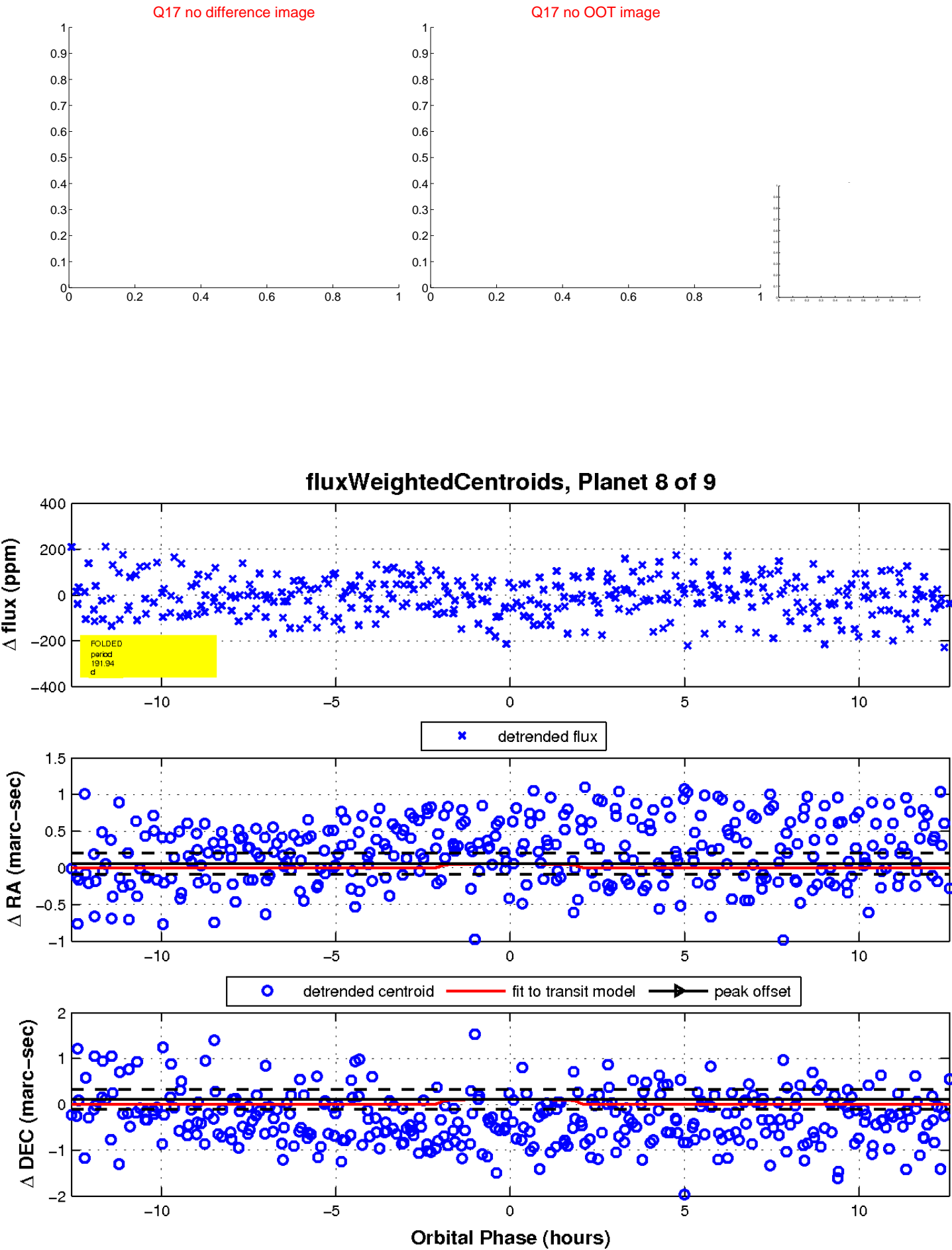
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



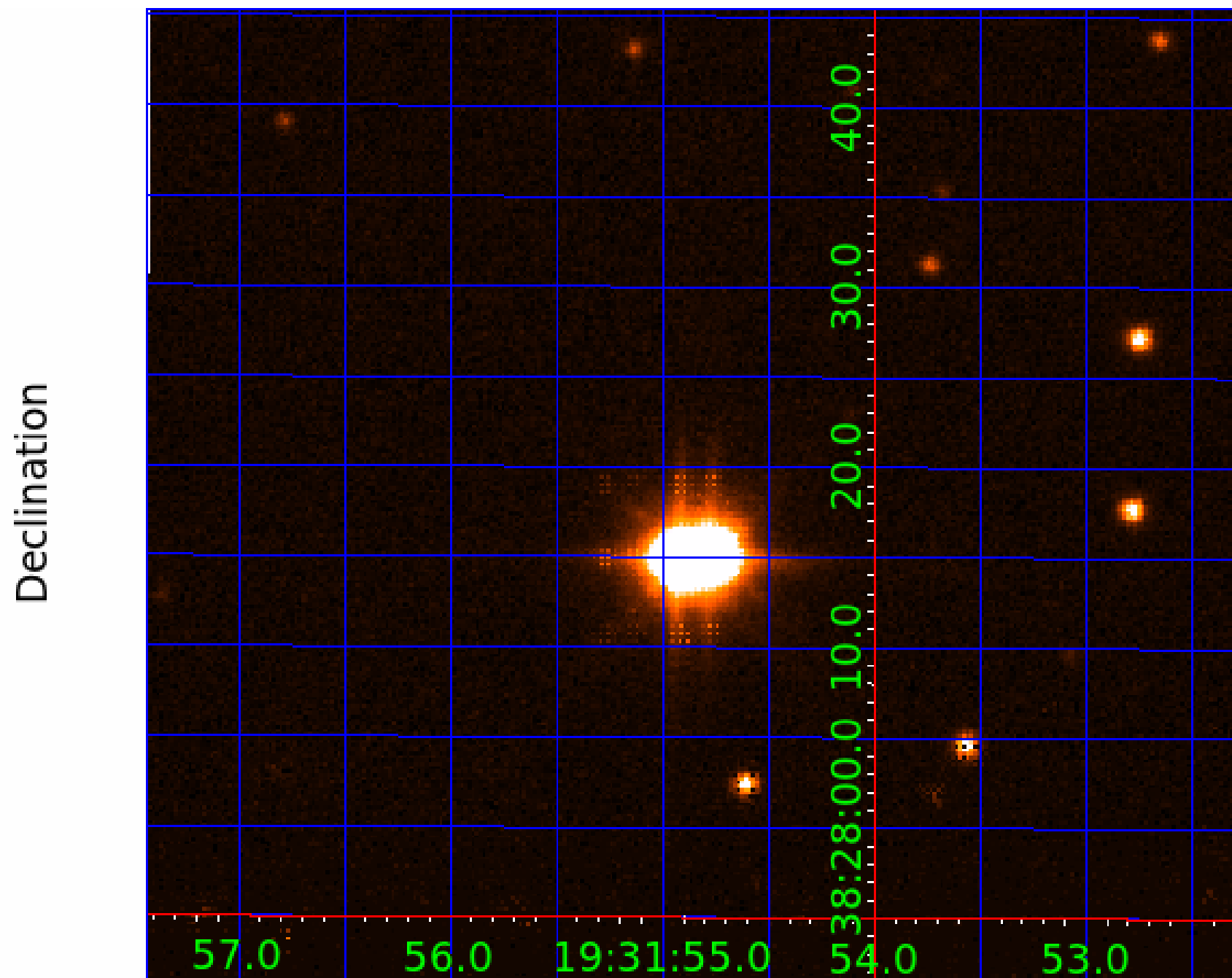
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
003348288-01	OBS	No	3.092130	132.119883	9.8	2.623	10.4	4.8	2.02	6767	0.67	3474.51
003348288-02	OBS	No	3.091414	132.065195	0.0	15.099	11.1	0.0	2.02	6767	0.00	3475.58
003348288-03	OBS	No	470.889944	151.744283	170.8	6.520	12.4	7.7	2.02	6767	3.10	4.27
003348288-04	OBS	No	69.573864	148.251157	52.0	21.529	11.8	4.3	2.02	6767	1.55	54.70
003348288-05	OBS	No	120.122989	188.421852	106.1	5.288	9.8	6.2	2.02	6767	2.45	26.41
003348288-06	OBS	No	224.859815	254.701682	103.6	3.853	9.1	6.0	2.02	6767	2.32	11.45
003348288-07	OBS	No	234.590985	226.563932	130.1	3.760	8.9	6.7	2.02	6767	2.52	10.82
003348288-08	OBS	No	191.937358	272.460324	122.3	4.198	9.3	7.9	2.02	6767	2.58	14.14
003348288-09	OBS	No	395.736757	136.370776	38.2	5.000	8.6	-1.0	2.02	6767	1.26	5.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003348288-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003348288-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003348288-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
003348288-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

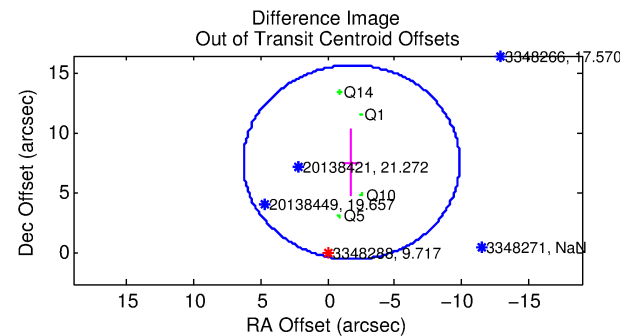
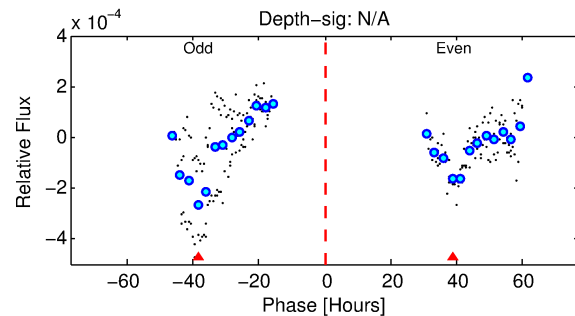
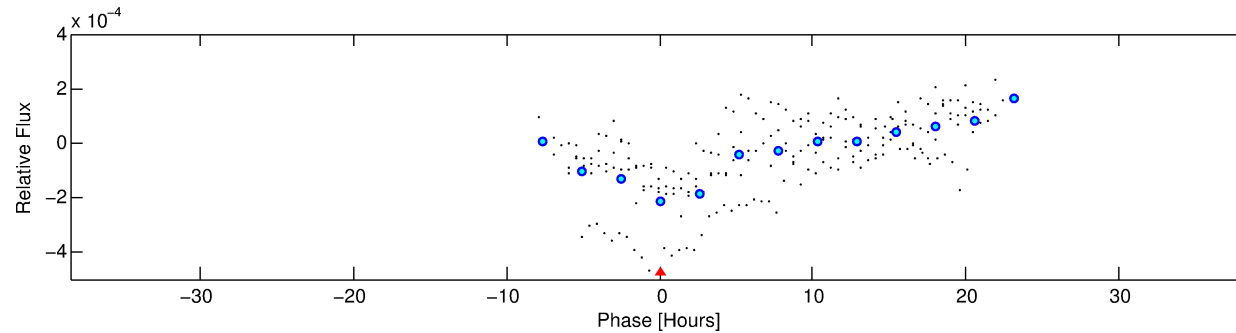
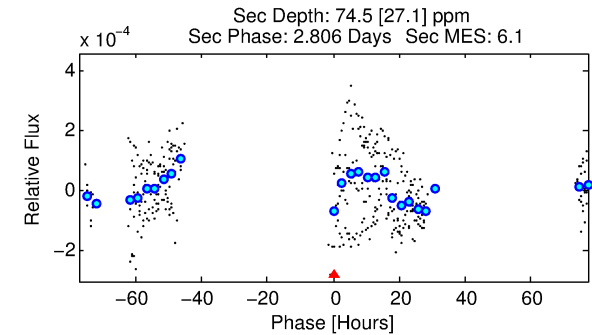
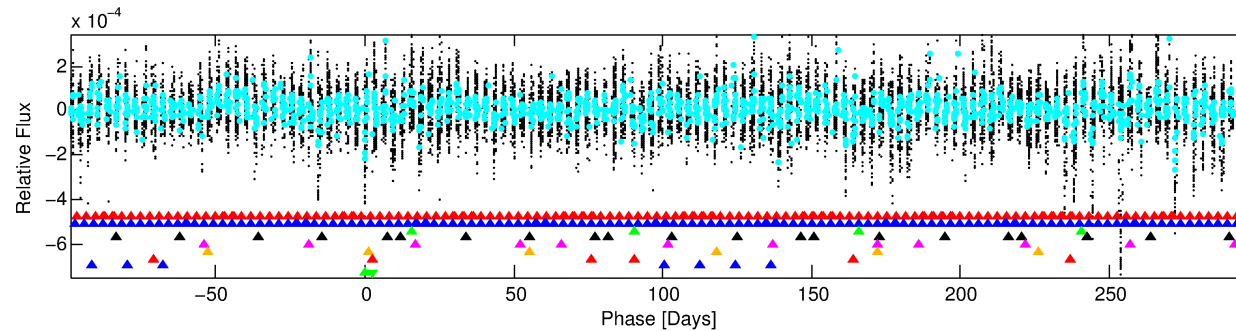
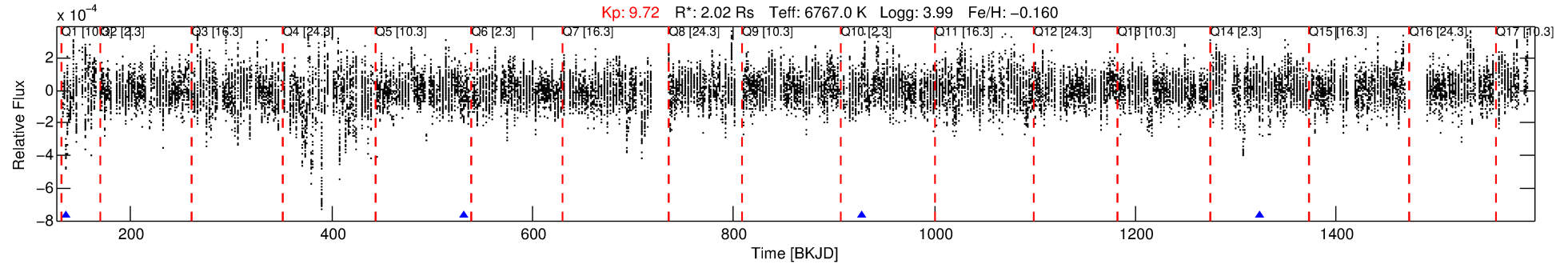
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003348288-09

No Significant Match Found

DV One-Page Summary

KIC: 3348288 Candidate: 9 of 9 Period: 395.737 d



TPS TCE Results:

Period = 395.73676 d
Epoch = 136.3708 BKJD

DV fit results are unavailable

DV Diagnostic Results:

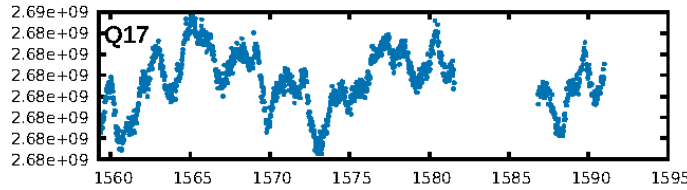
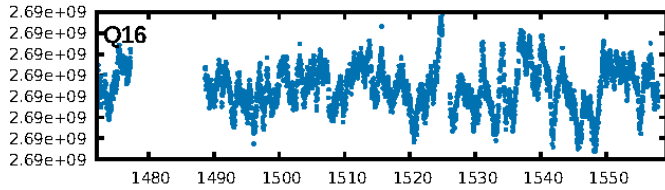
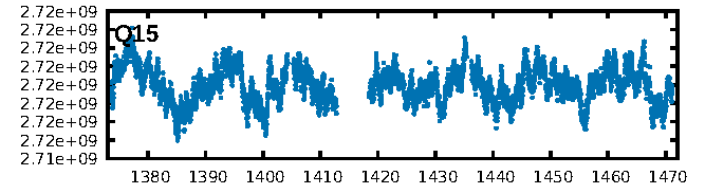
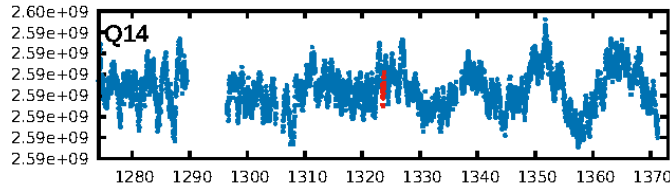
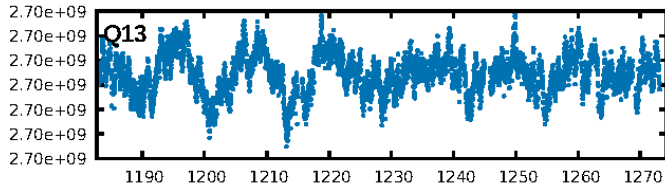
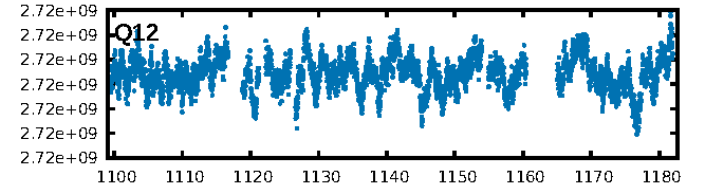
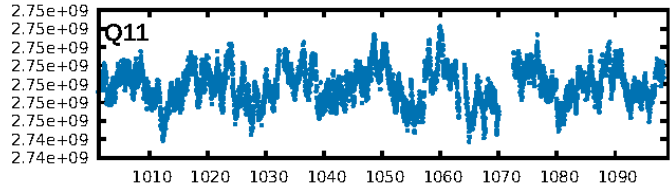
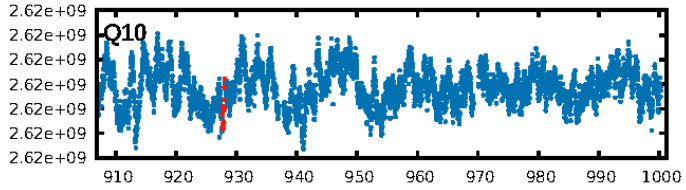
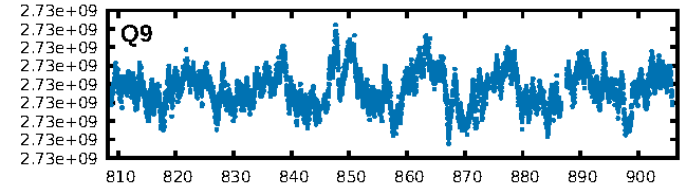
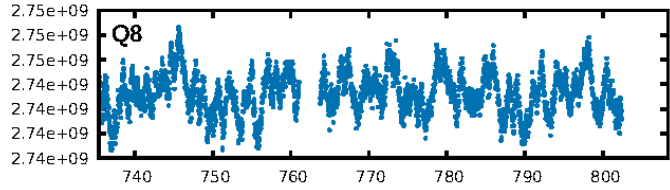
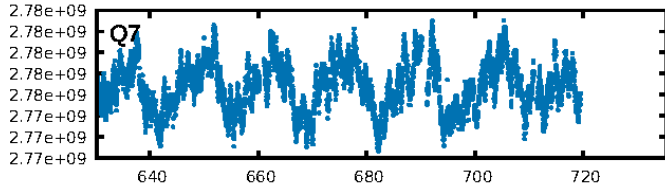
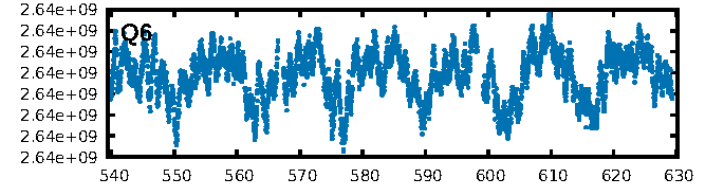
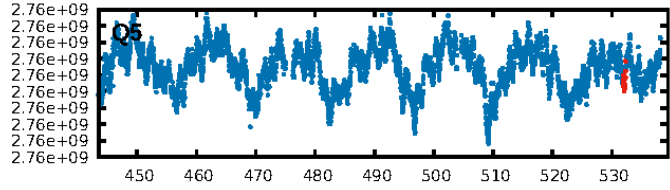
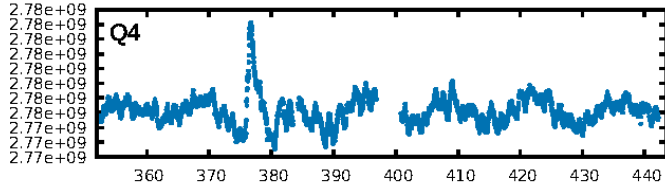
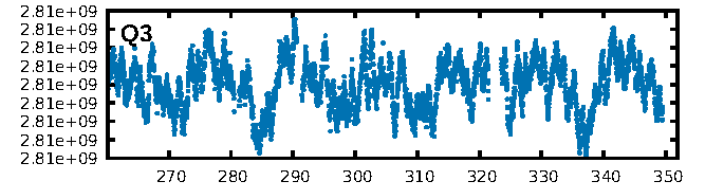
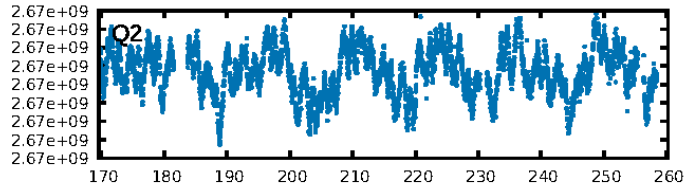
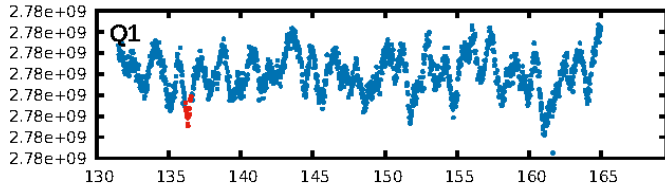
ShortPeriod-sig: 100.0% [618.18 σ]
LongPeriod-sig: 100.0% [219.51 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A

Centroid-sig: 0.0%
Centroid-so: 3.642 arcsec [2.22 σ]
OotOffset-rm: 7.823 arcsec [2.90 σ]
OotOffset-st: 2/0/0/2 [4]
KicOffset-rm: 8.371 arcsec [3.15 σ]
KicOffset-st: 2/0/0/2 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.25 [1/4]

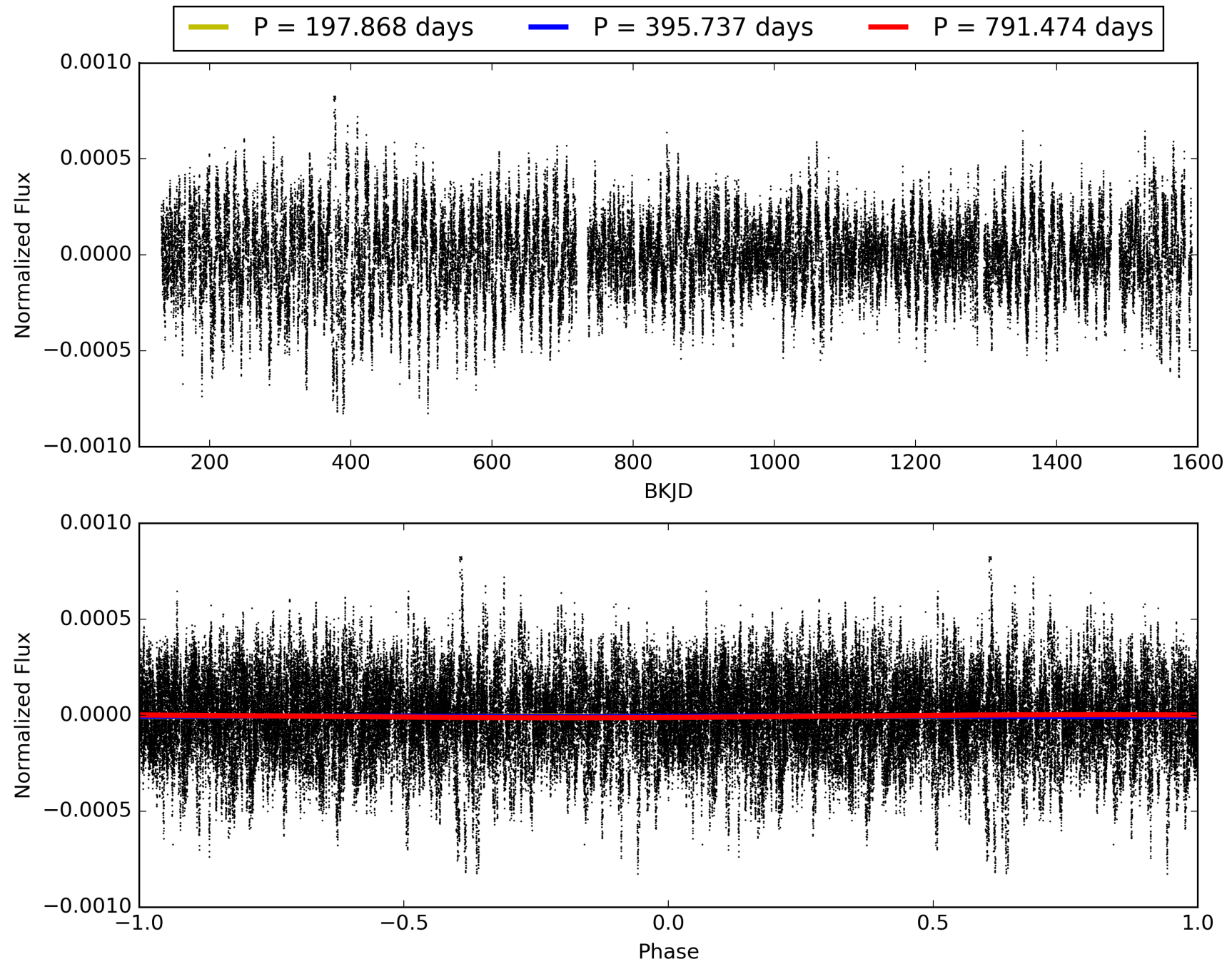
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:57:21 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003348288-09, PDC Light Curves

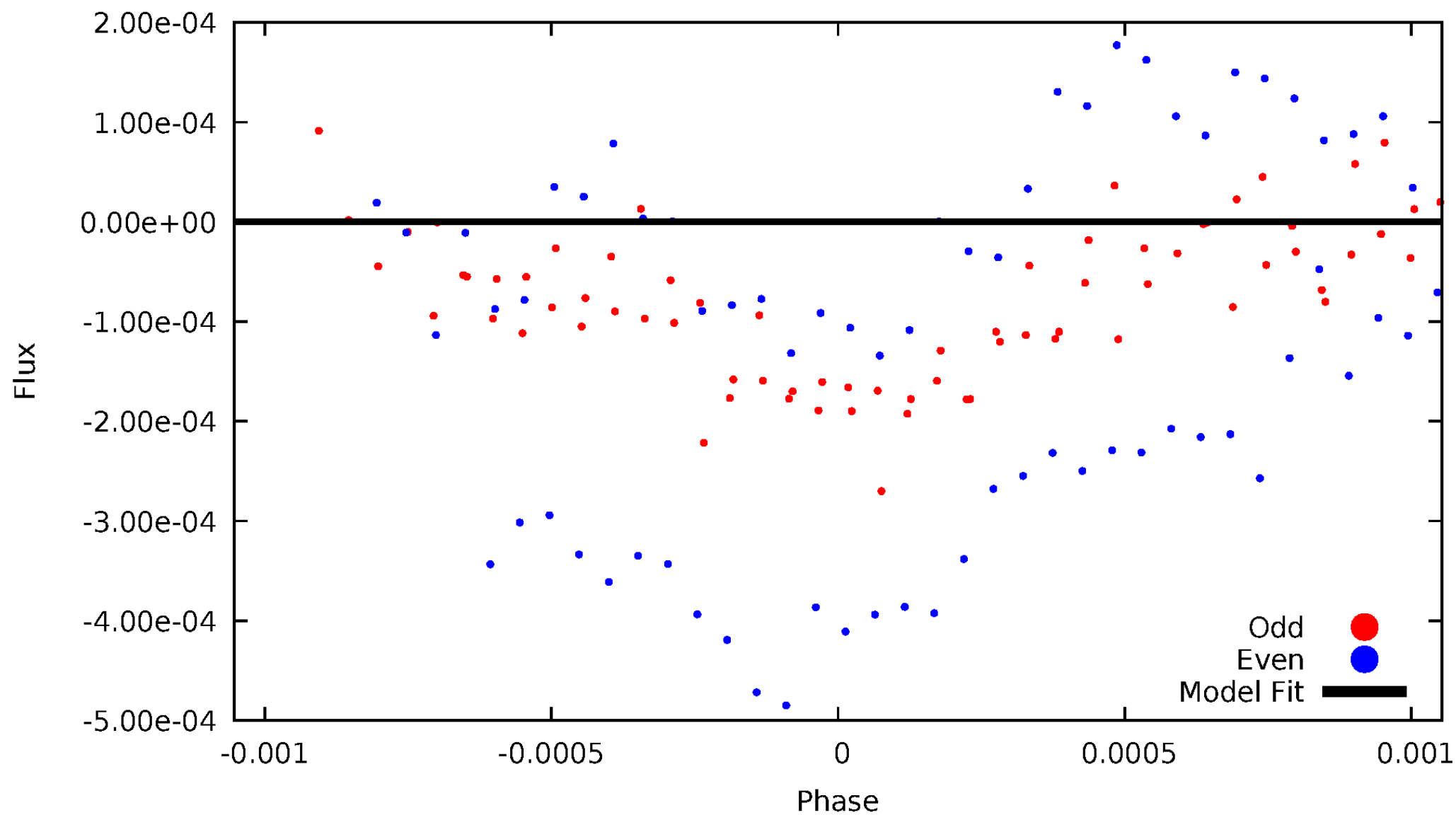


TCE 003348288-09



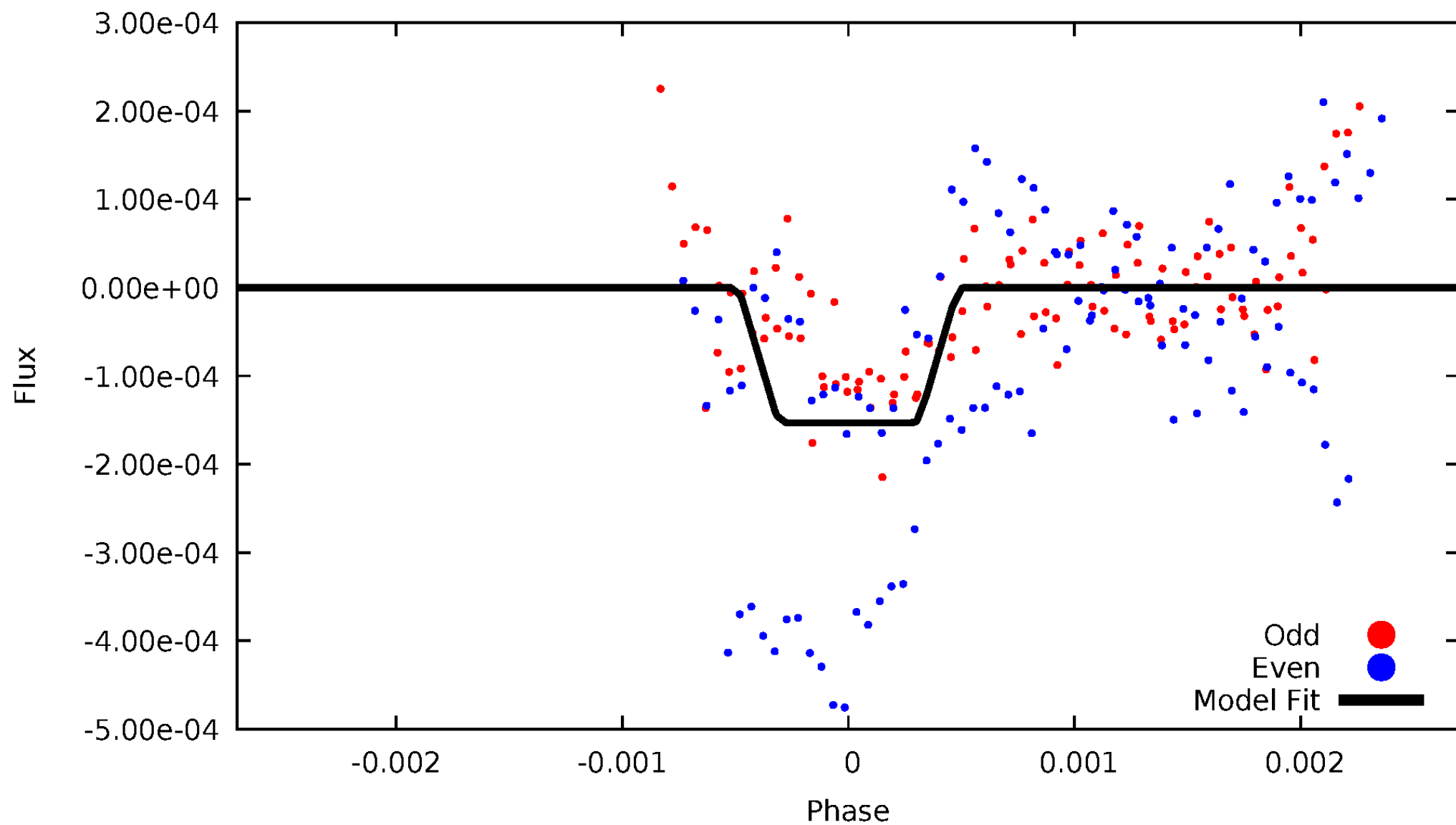
DV Odd/Even

TCE 003348288-09



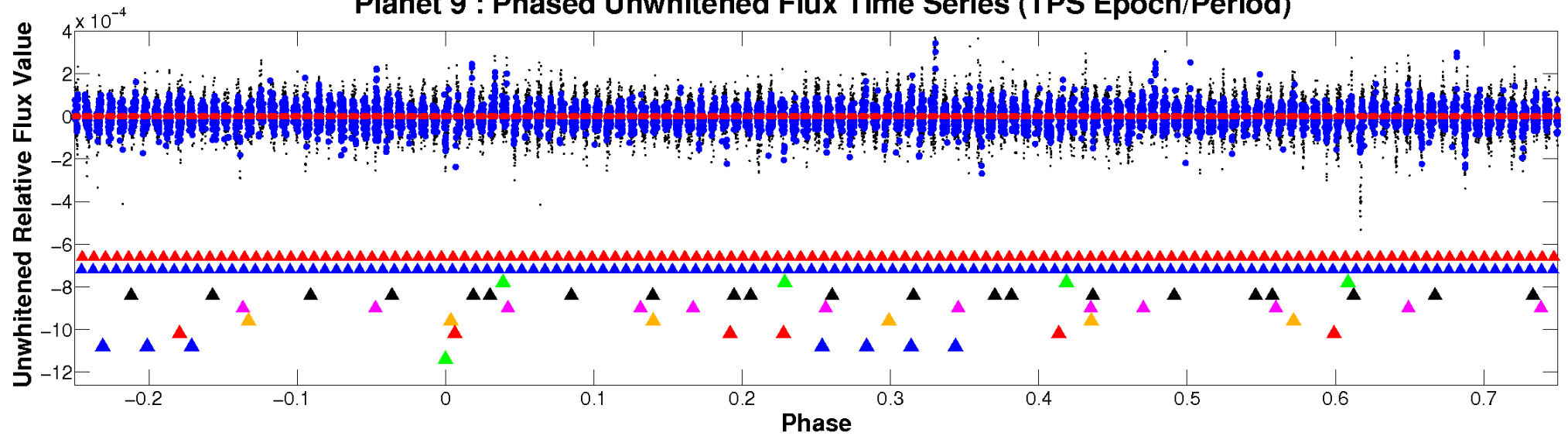
ALT Odd/Even

TCE 003348288-09

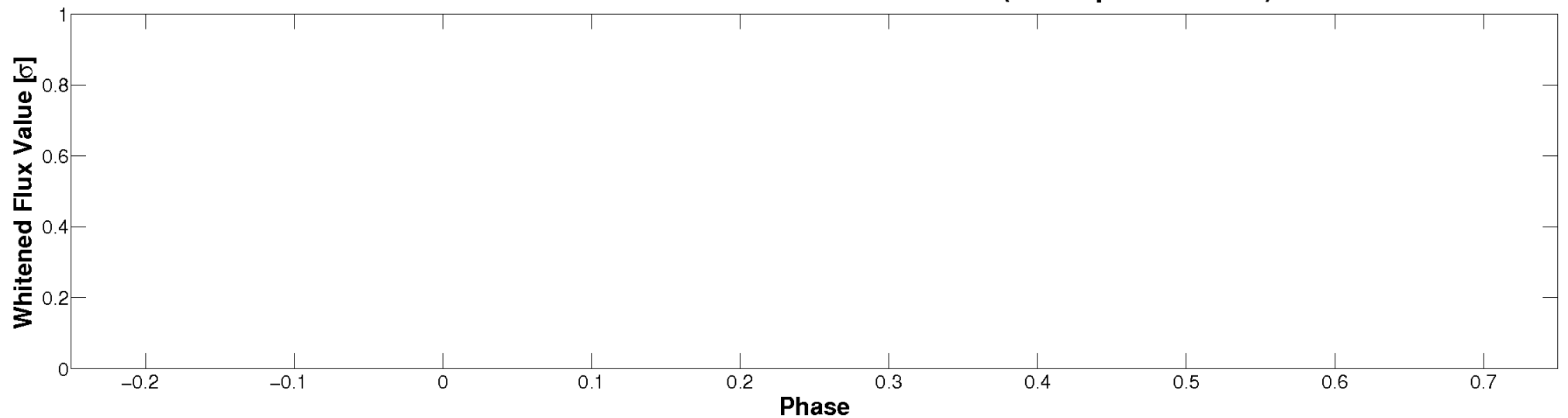


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

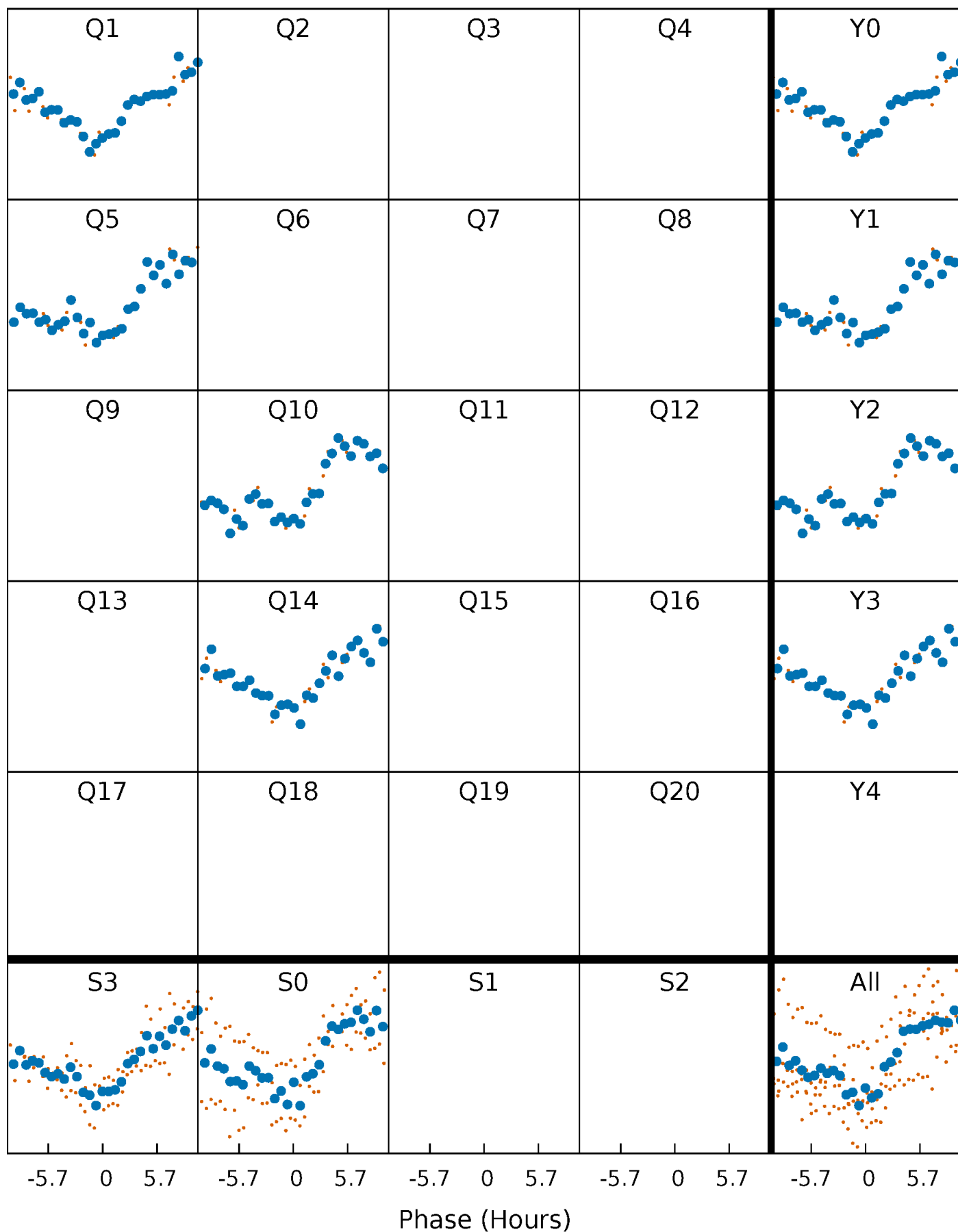


Planet 9 : Phased Whitened Flux Time Series (TPS Epoch/Period)



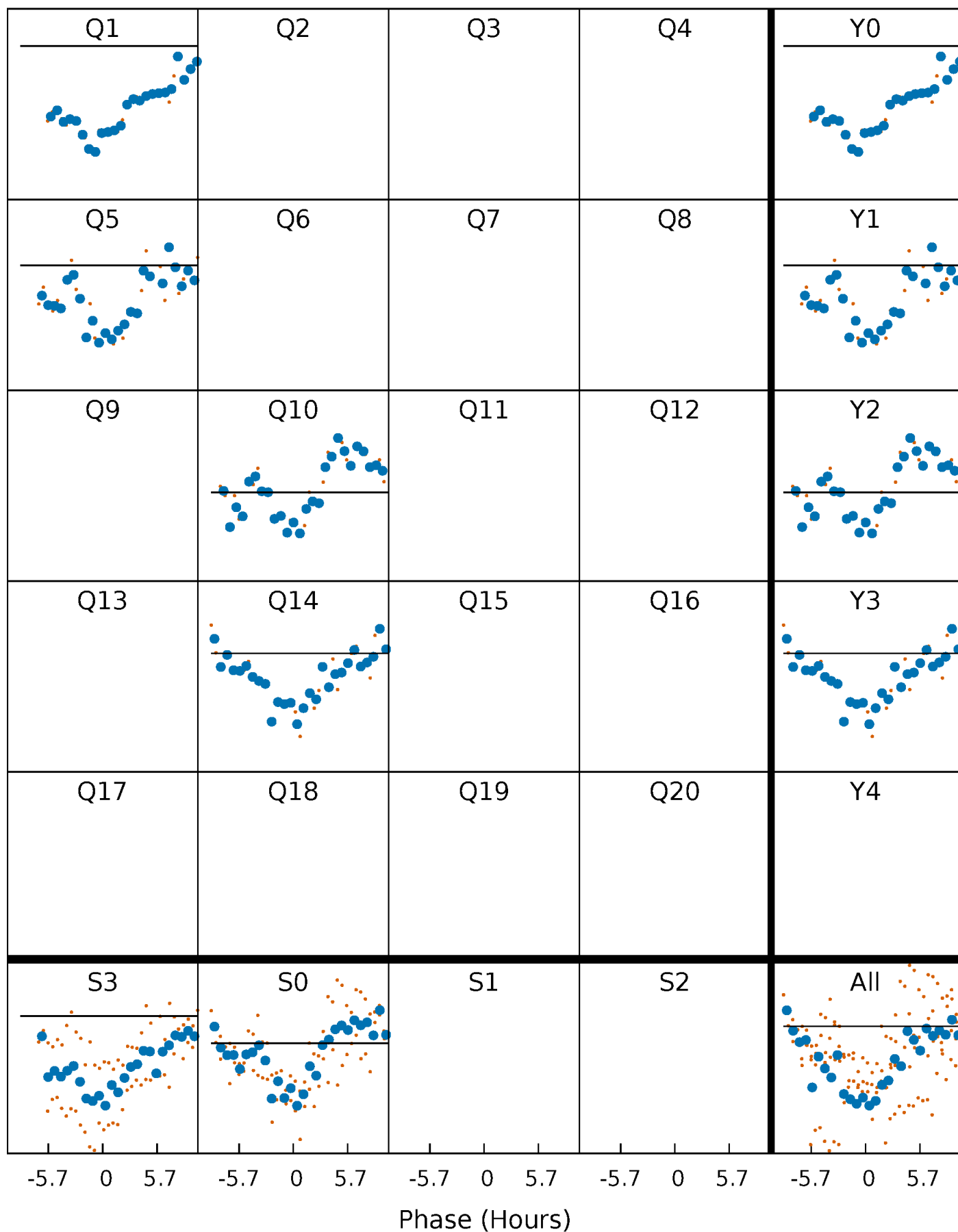
PDC Quarter-Phased Transit Curves

TCE 003348288-09 $P=395.736757$ Days $T_0=136.370776$ (BKJD)



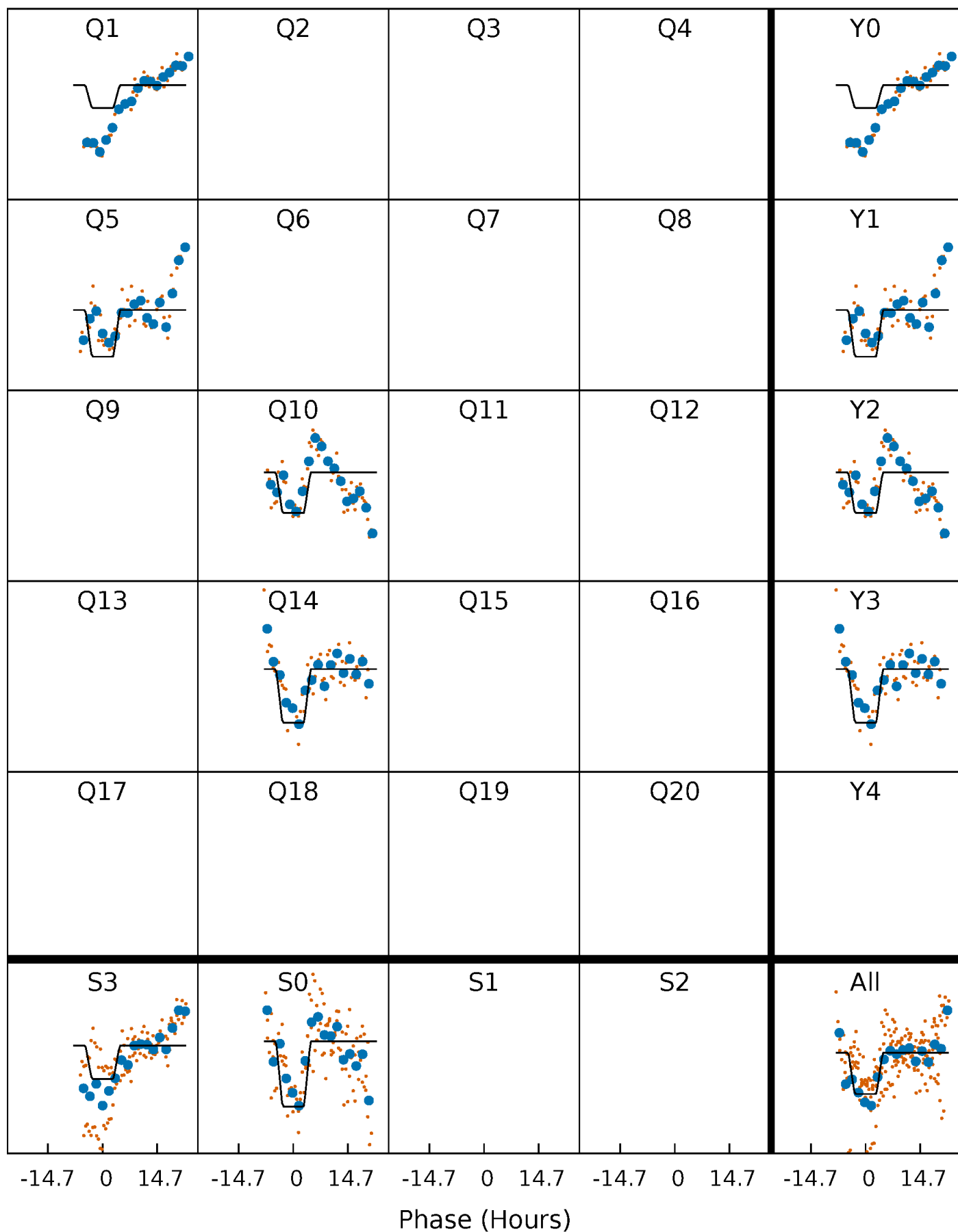
DV Quarter-Phased Transit Curves

TCE 003348288-09 $P=395.736757$ Days $T_0=136.370776$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

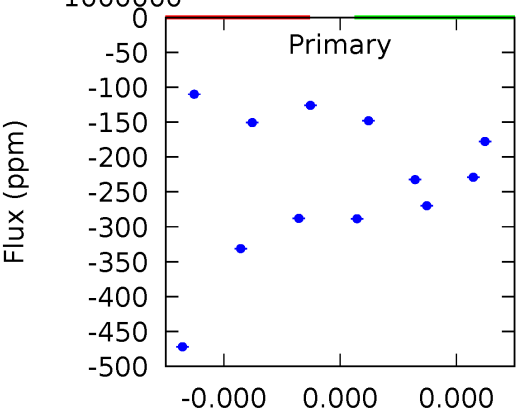
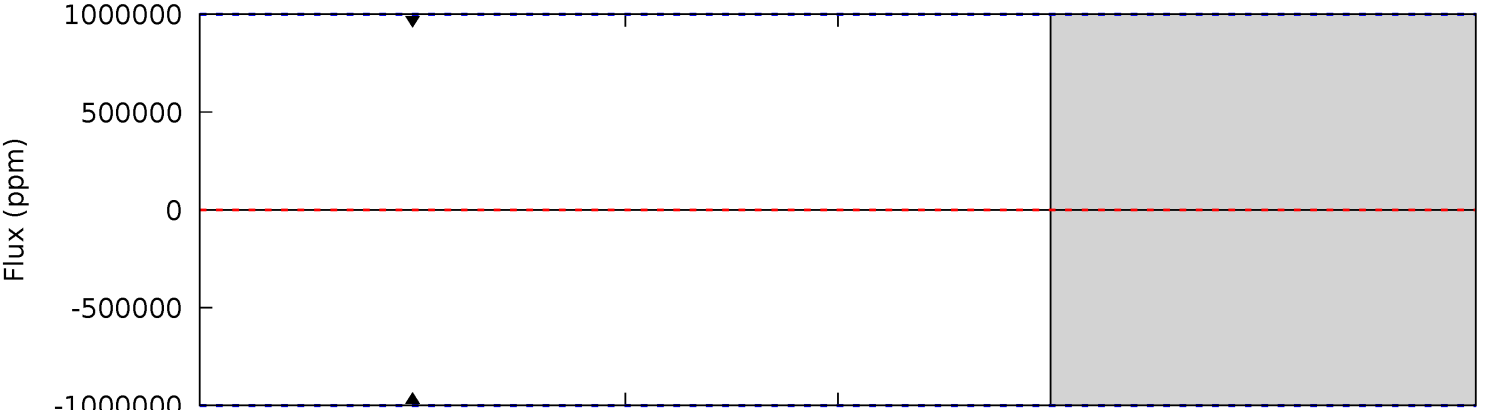
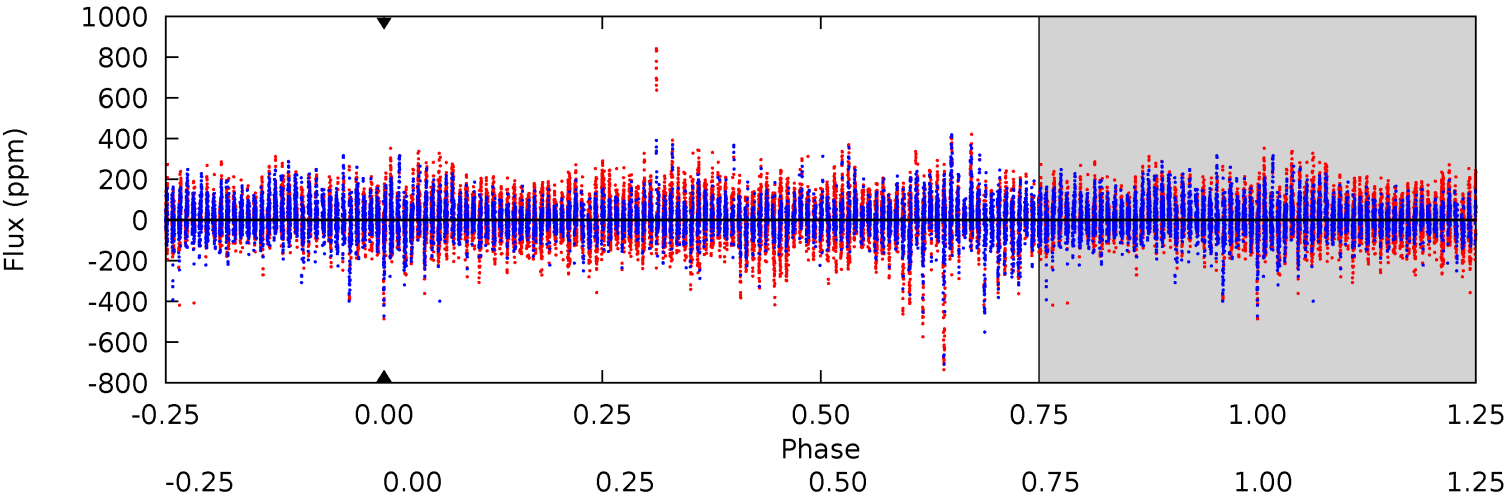
TCE 003348288-09 P=395.736757 Days $T_0=136.341178$ (BKJD)



DV Model-Shift Uniqueness Test

003348288-09, P = 395.736757 Days, E = 136.370776 Days

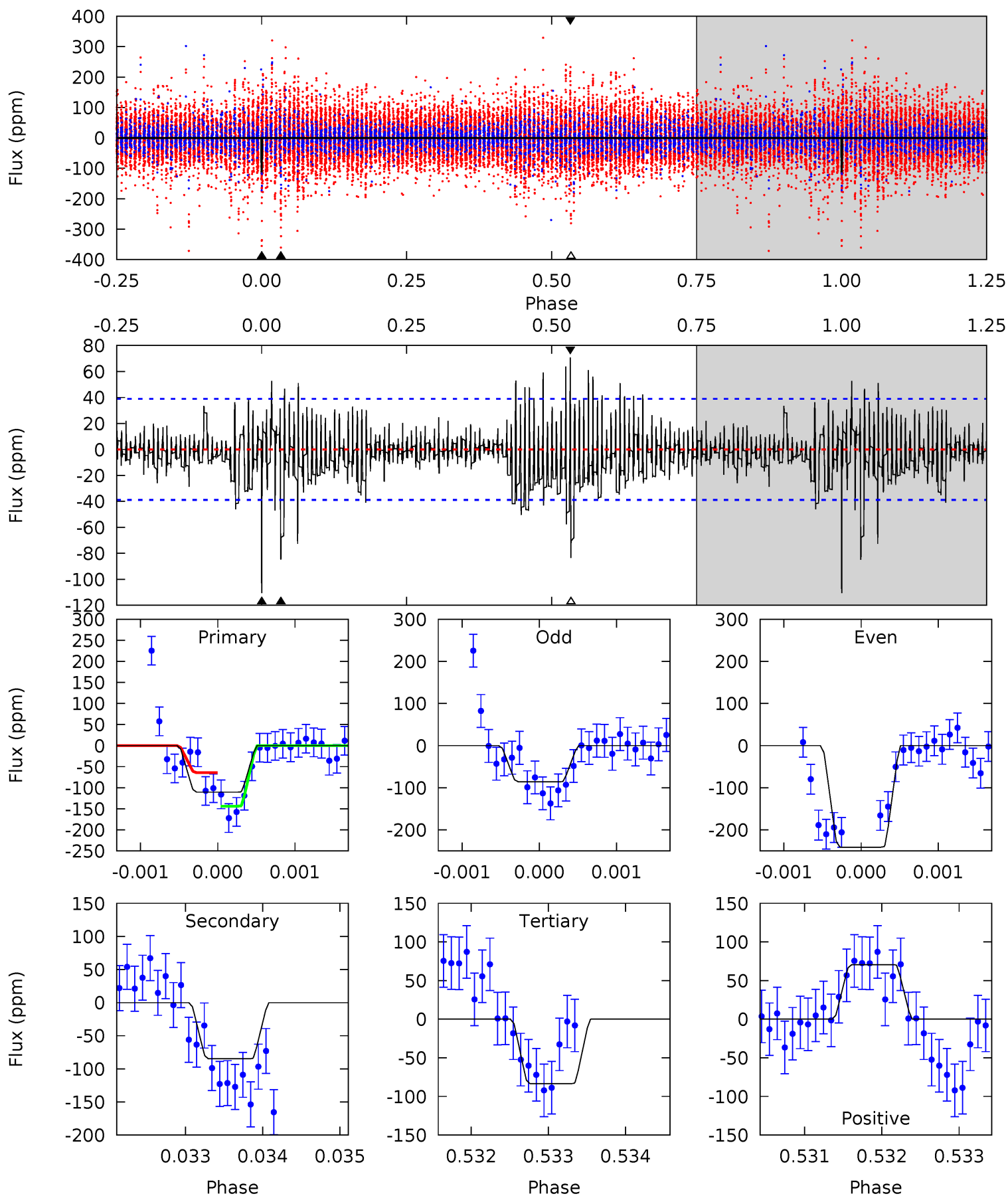
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003348288-09, P = 395.736757 Days, E = 136.341178 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	11.9	11.7	9.90	5.45	3.29	2.32	3.80	5.61	0.18	1.99	11.6	1.69	0.39	5.50



Stellar Parameters For KIC 003348288

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6767^{+153}_{-187}	$3.987^{+0.234}_{-0.126}$	$-0.160^{+0.300}_{-0.250}$	$2.019^{+0.446}_{-0.594}$	$1.445^{+0.172}_{-0.257}$	$0.247^{+0.351}_{-0.095}$
	+2%/-3%	+6%/-3%	+188%/-156%	+22%/-29%	+12%/-18%	+142%/-38%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003348288-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$14.63^{+16.60}_{-10.10}$	539^{+32}_{-41}	4659^{+34295}_{-38286}	$3507^{+756508}_{-612164}$
Alt.	-85 ± 7	$14.54^{+17.71}_{-10.14}$	536^{+34}_{-39}	3092^{+1542}_{-583}	309^{+3026}_{-246}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

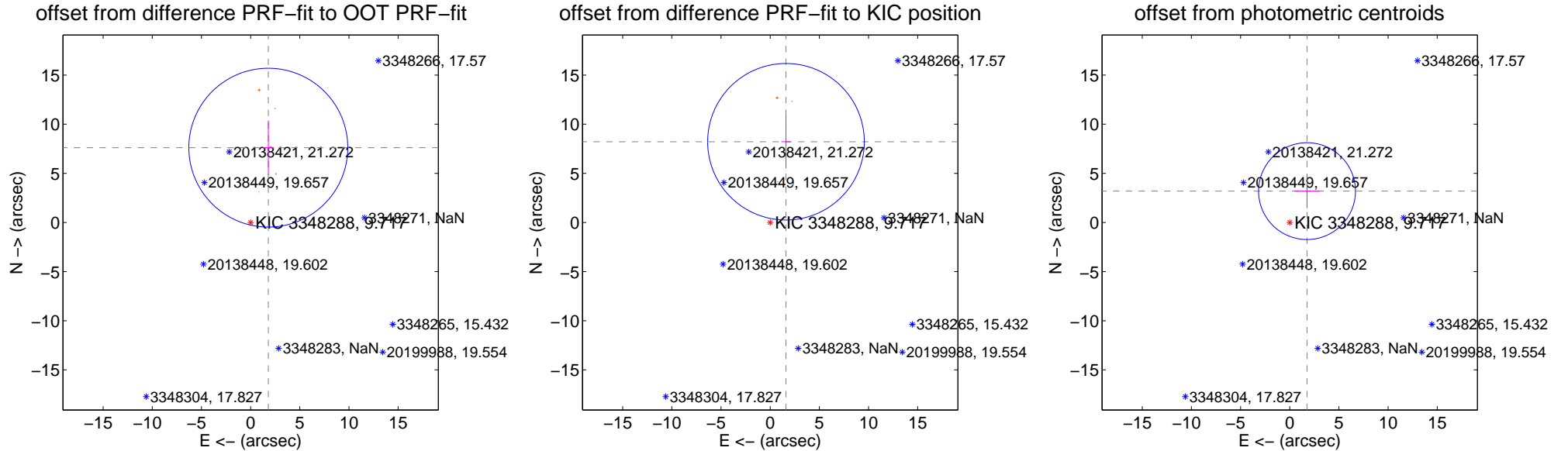
DV Centroid Data

Supplemental centroid analysis for 003348288-09. **Kepler magnitude: 9.72.** Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

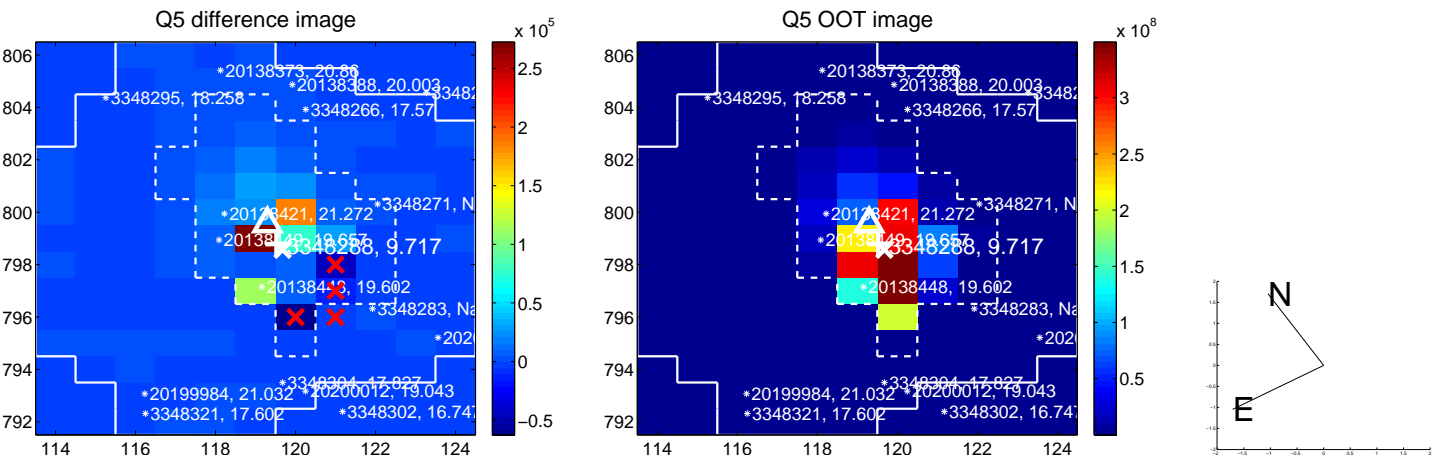
The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.823 ± 2.694	2.90	-1.798 ± 0.547	7.614 ± 2.765
PRF-fit source offset from KIC position	8.371 ± 2.655	3.15	-1.606 ± 0.485	8.216 ± 2.703
photometric centroid source offset	3.64 ± 1.64	2.22	-1.76 ± 1.28	3.19 ± 1.74



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

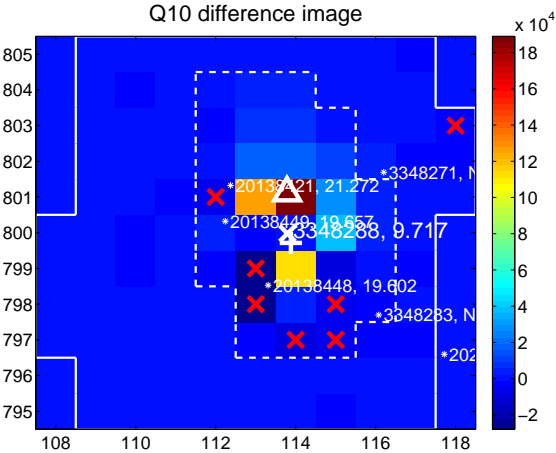
Q9 no difference image



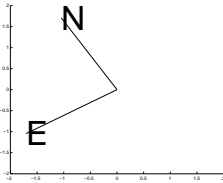
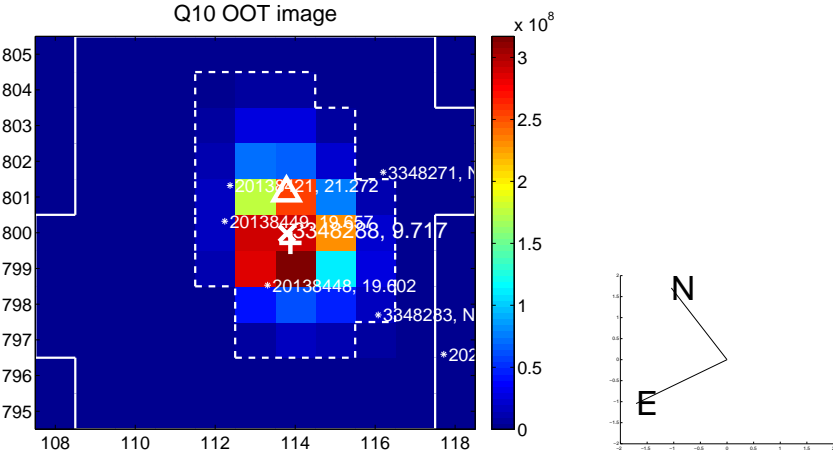
Q9 no OOT image



Q10 difference image



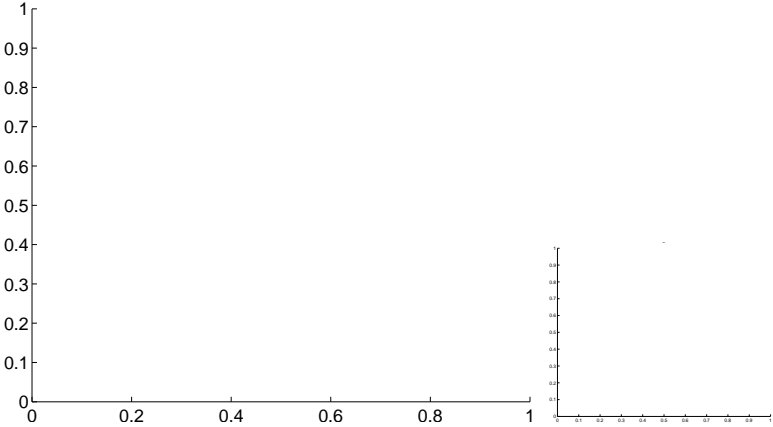
Q10 OOT image



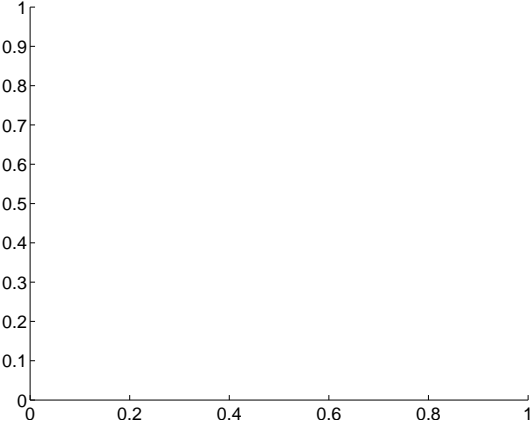
Q11 no difference image



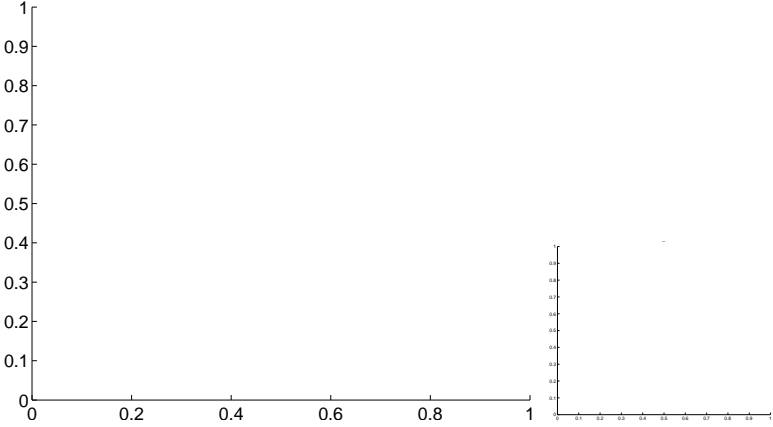
Q11 no OOT image



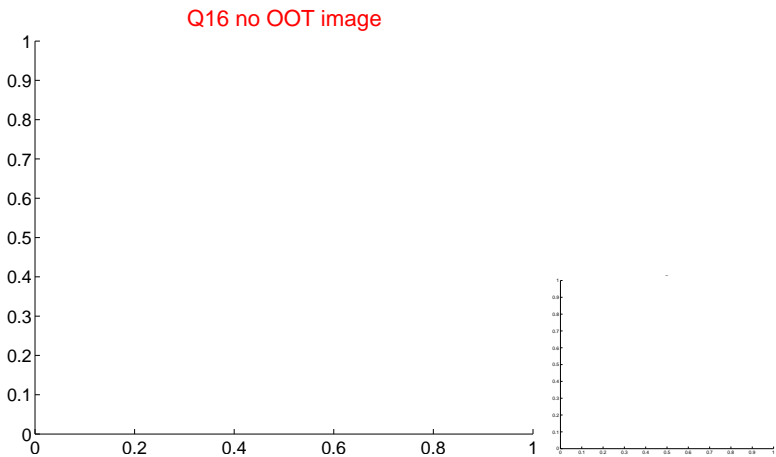
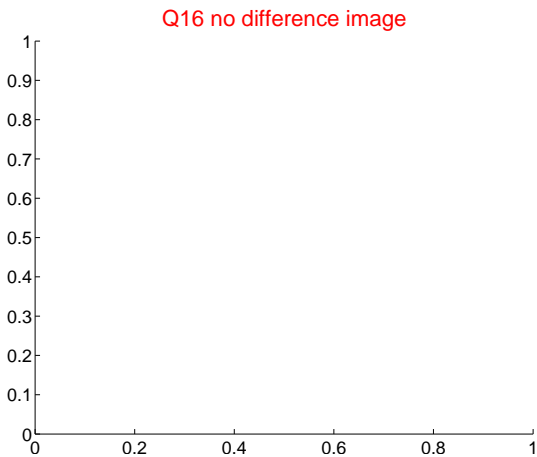
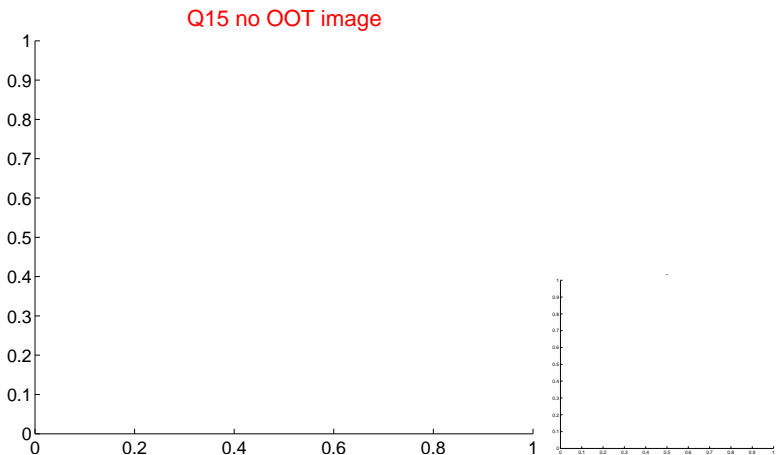
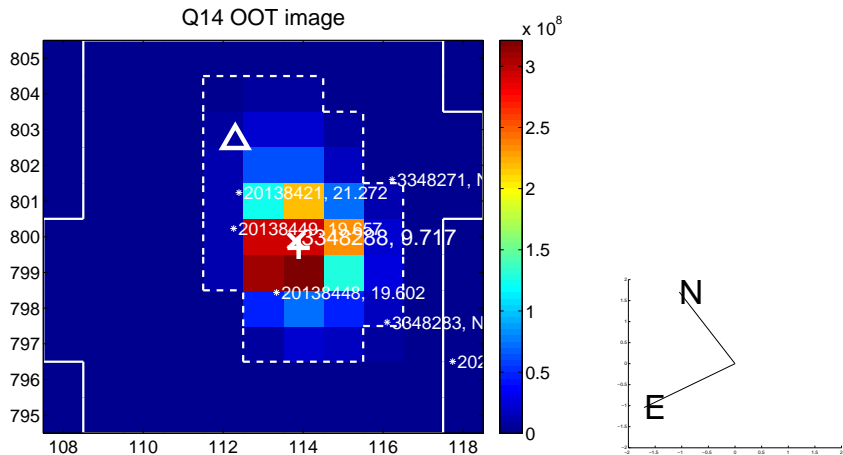
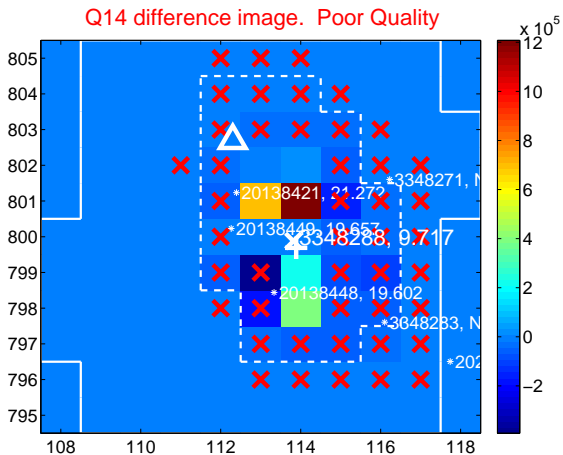
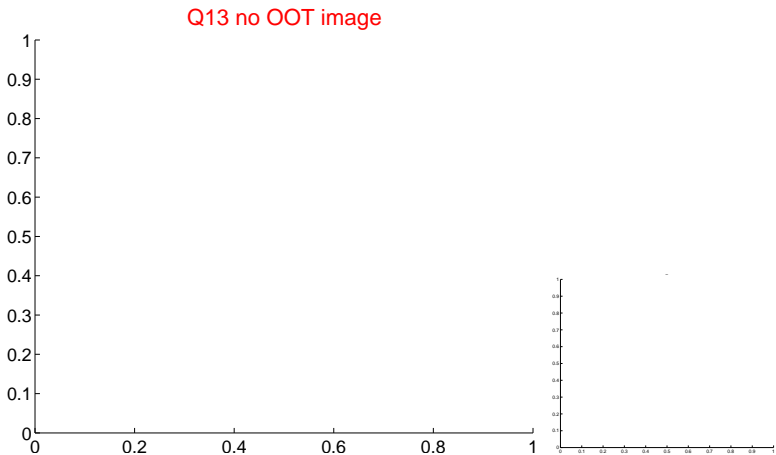
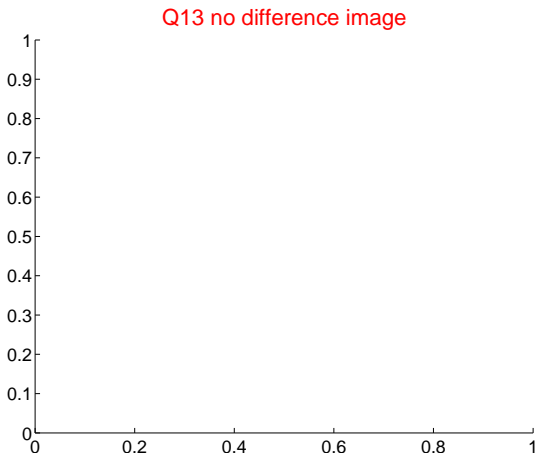
Q12 no difference image



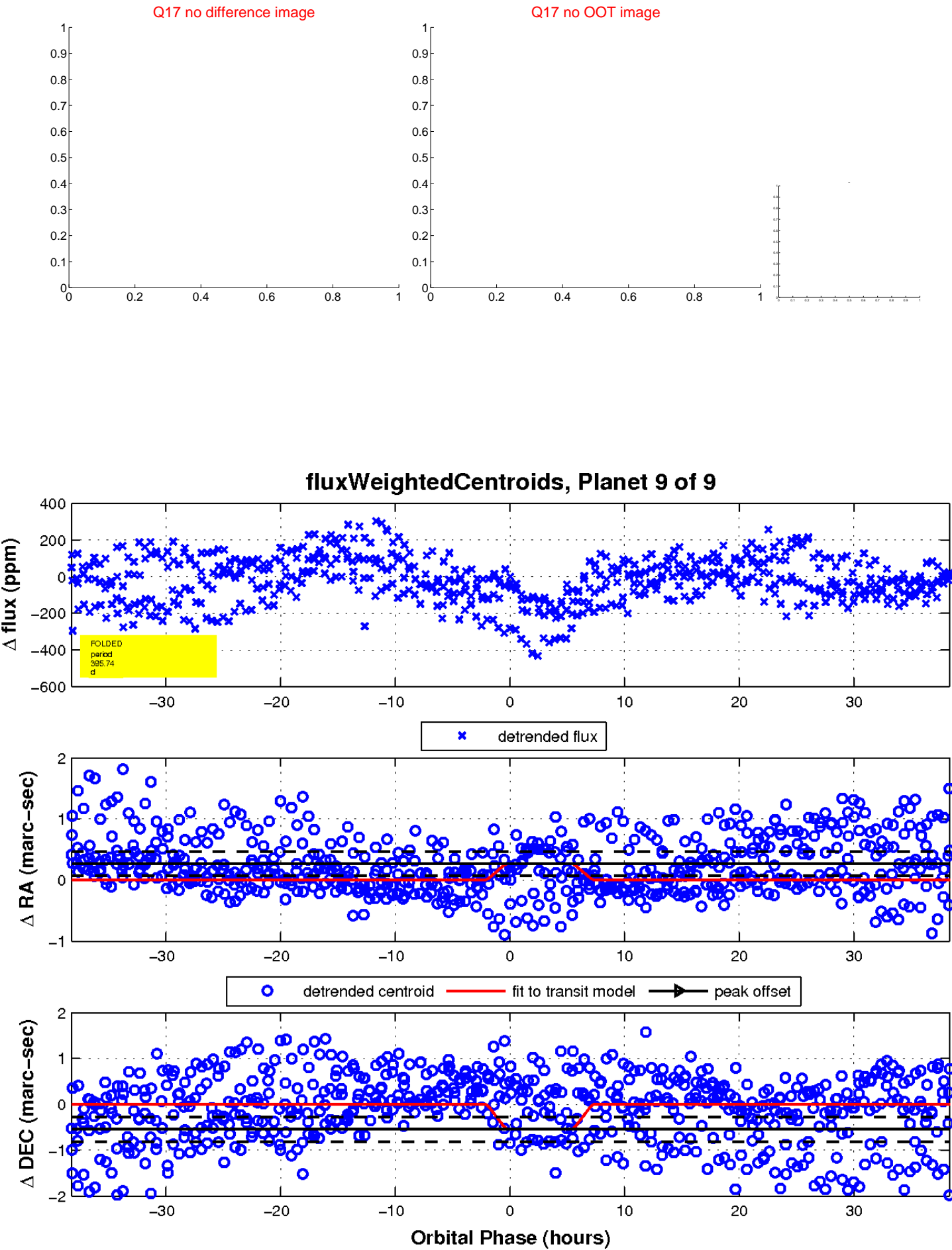
Q12 no OOT image



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

