

KIC 008979190

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})
008979190-01	OBS	No	18.749739	139.528608	266.6	39.562	13.7	28.0	1.27	6183	4.09	105.09
008979190-02	OBS	No	3.478761	132.224168	13.3	14.052	7.8	5.7	1.27	6183	0.55	993.14
008979190-03	OBS	No	3.479387	133.216197	0.0	7.181	10.6	0.0	1.27	6183	0.01	992.90
008979190-04	OBS	No	466.033468	301.097762	50.6	3.489	7.8	2.9	1.27	6183	0.99	1.45
008979190-05	OBS	No	104.560742	133.190727	57.6	13.617	7.7	4.7	1.27	6183	1.14	10.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008979190-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008979190-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
008979190-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008979190-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008979190-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

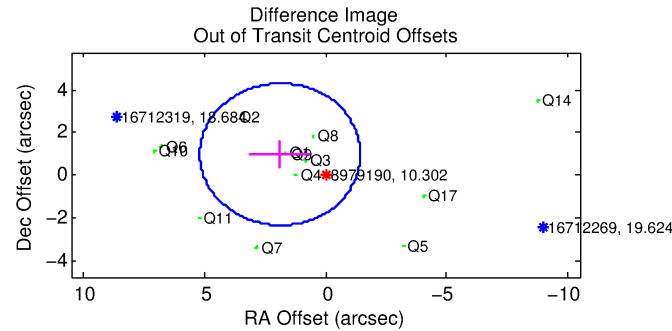
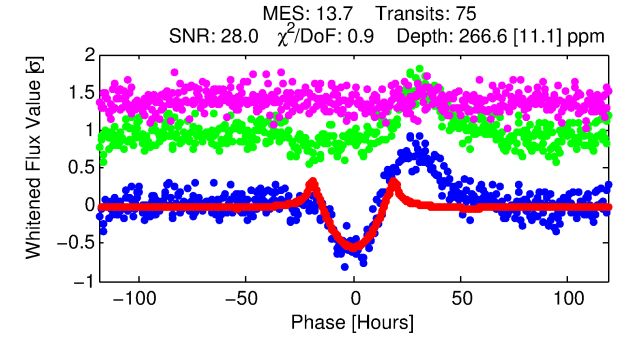
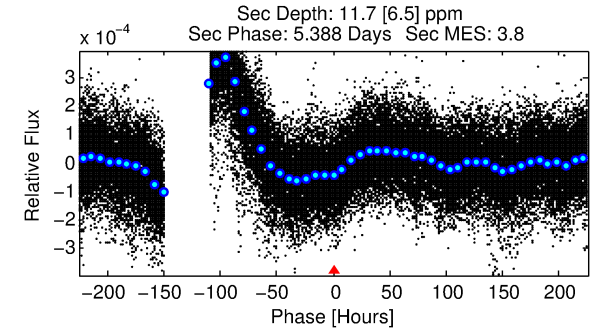
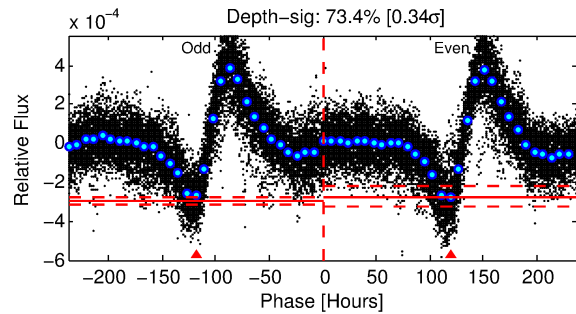
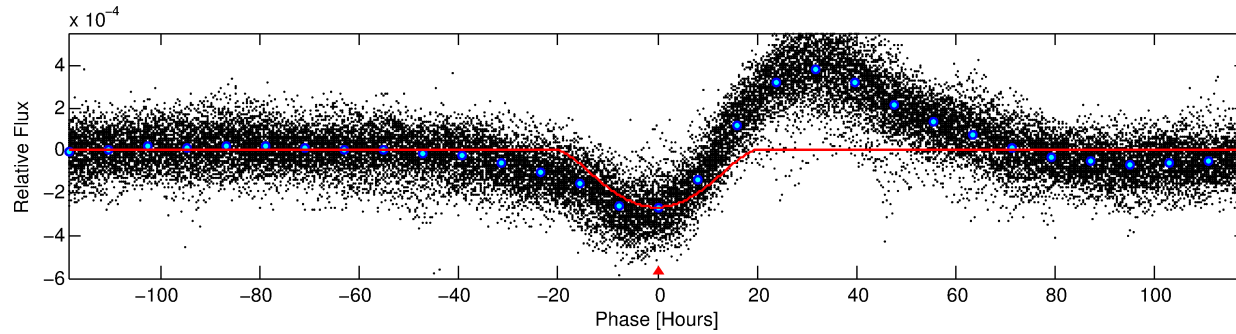
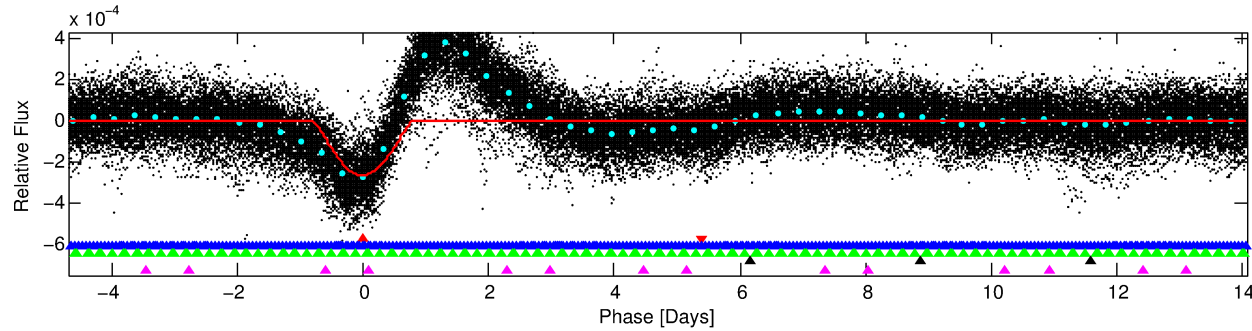
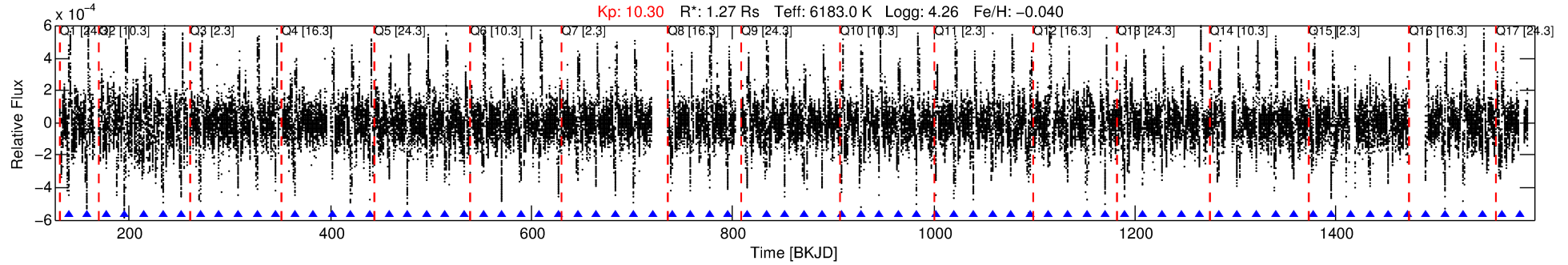
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008979190-01

No Significant Match Found

DV One-Page Summary

KIC: 8979190 Candidate: 1 of 5 Period: 18.750 d



DV Fit Results:

Period = 18.74974 [0.00046] d
Epoch = 139.5286 [0.0204] BKJD
 $R_p/R^* = 0.0294$ [0.0101]
 $a/R^* = 1.35$ [0.04]
 $b = 1.00$ [0.02]
 $\text{Seff} = 105.10$ [41.75]
 $T_{\text{eq}} = 816$ [81] K
 $R_p = 4.09$ [1.88] R_e
 $a = 0.1421$ [0.0359] AU
 $A_g = 7.77$ [7.41] [0.91 σ]
 $T_{\text{eff}} = 2107$ [474] K [2.68 σ]

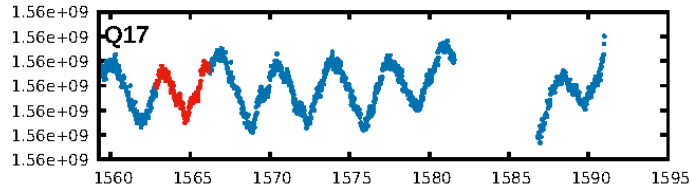
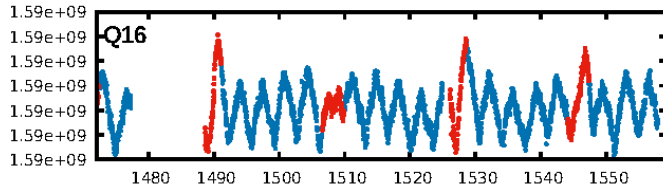
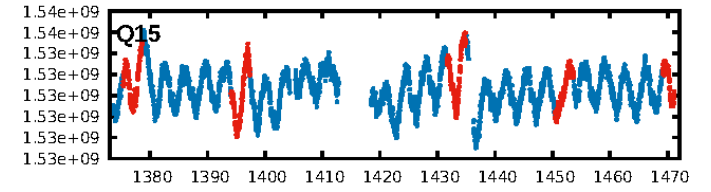
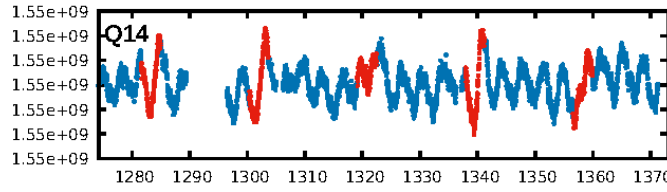
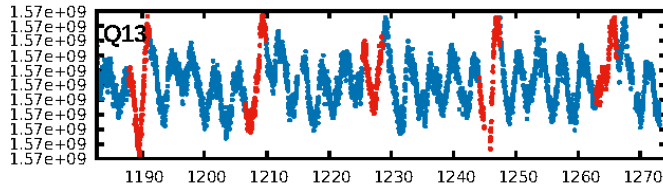
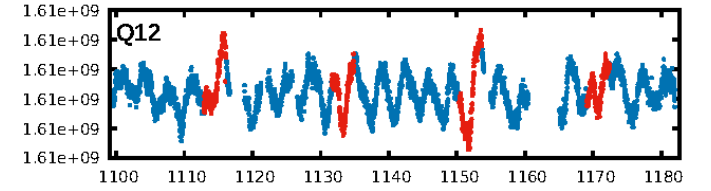
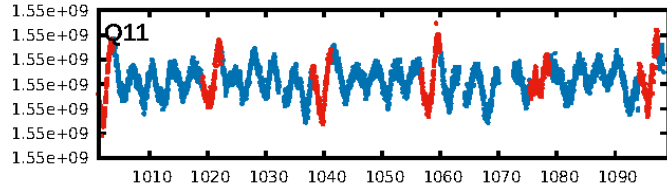
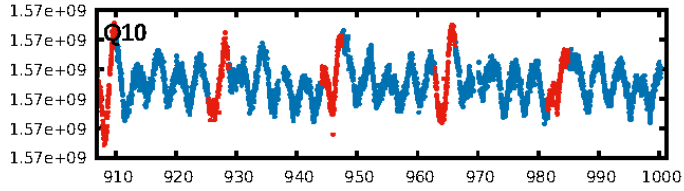
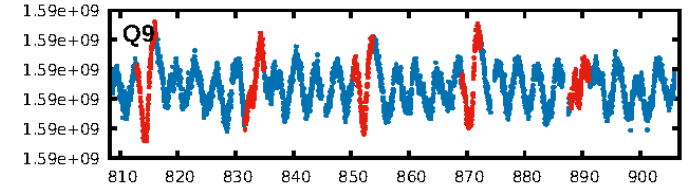
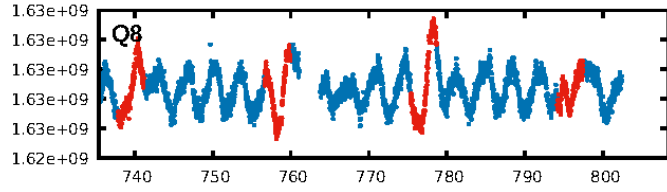
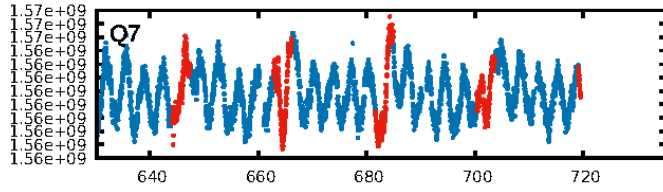
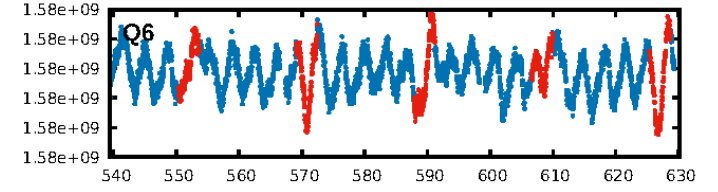
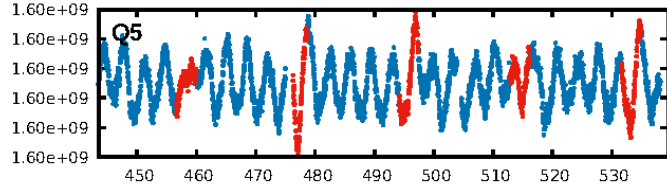
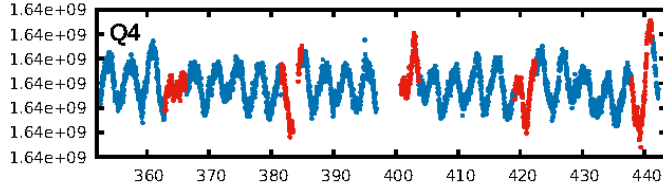
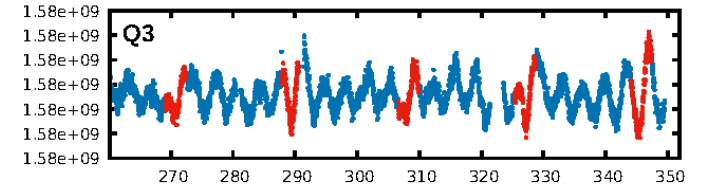
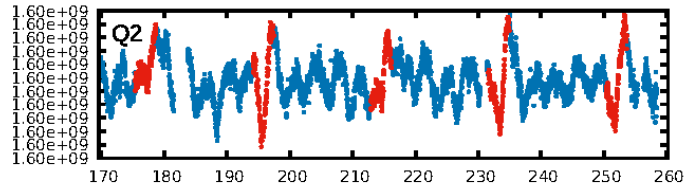
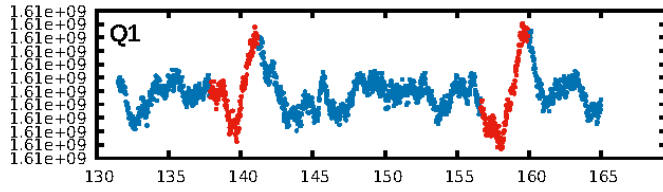
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.11 σ]
LongPeriod-sig: 100.0% [49.22 σ]
ModelChiSquare2-sig: 92.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.01e-18
RollingBand-fgt: 1.00 [72/72]
GhostDiagnostic-chr: 1.269
Centroid-sig: 0.0%
Centroid-so: 0.811 arcsec [4.85 σ]
OotOffset-rm: 2.114 arcsec [1.91 σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-rm: 3.715 arcsec [3.96 σ]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.00 [0/14]

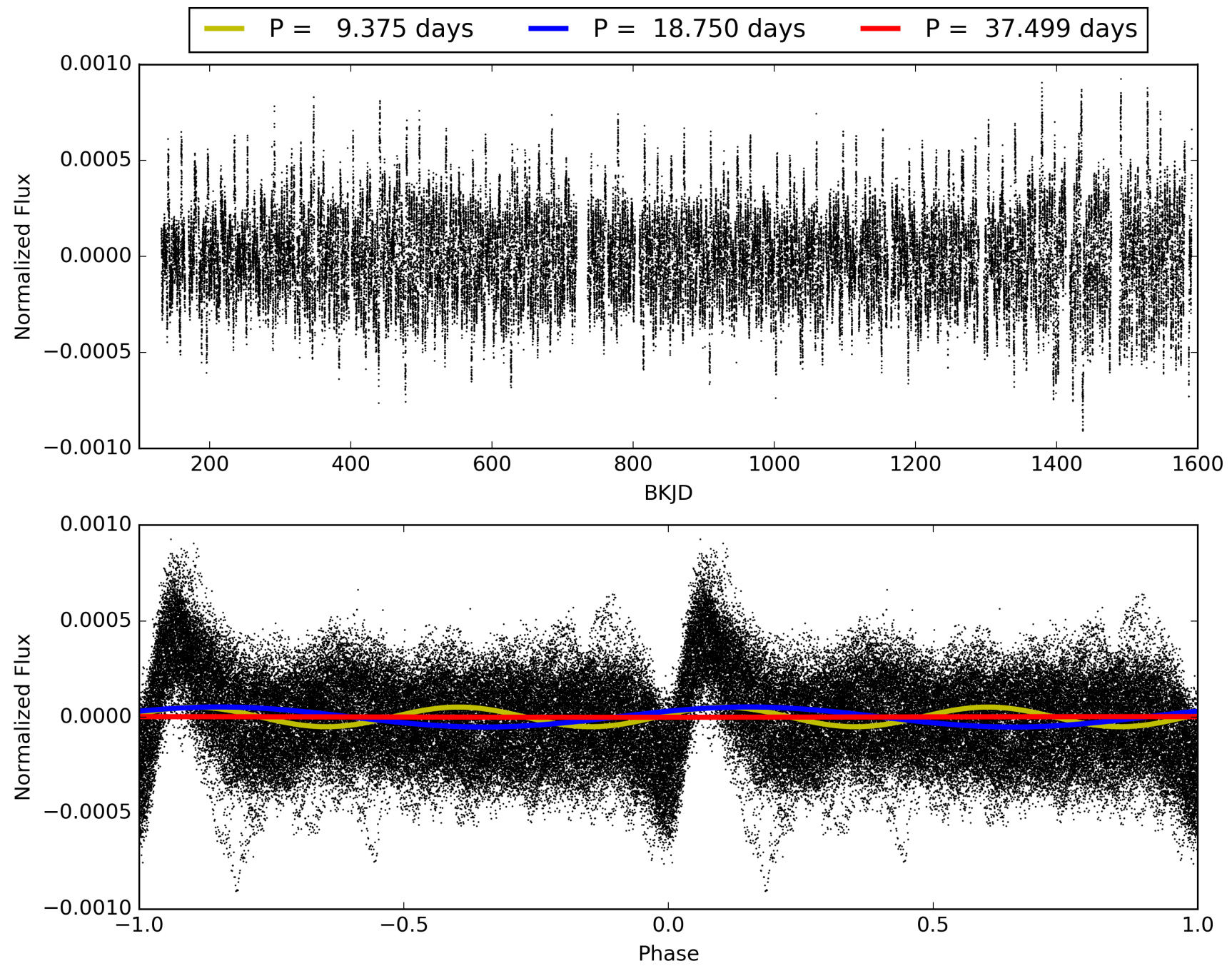
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:52:45 Z

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

TCE 008979190-01, PDC Light Curves

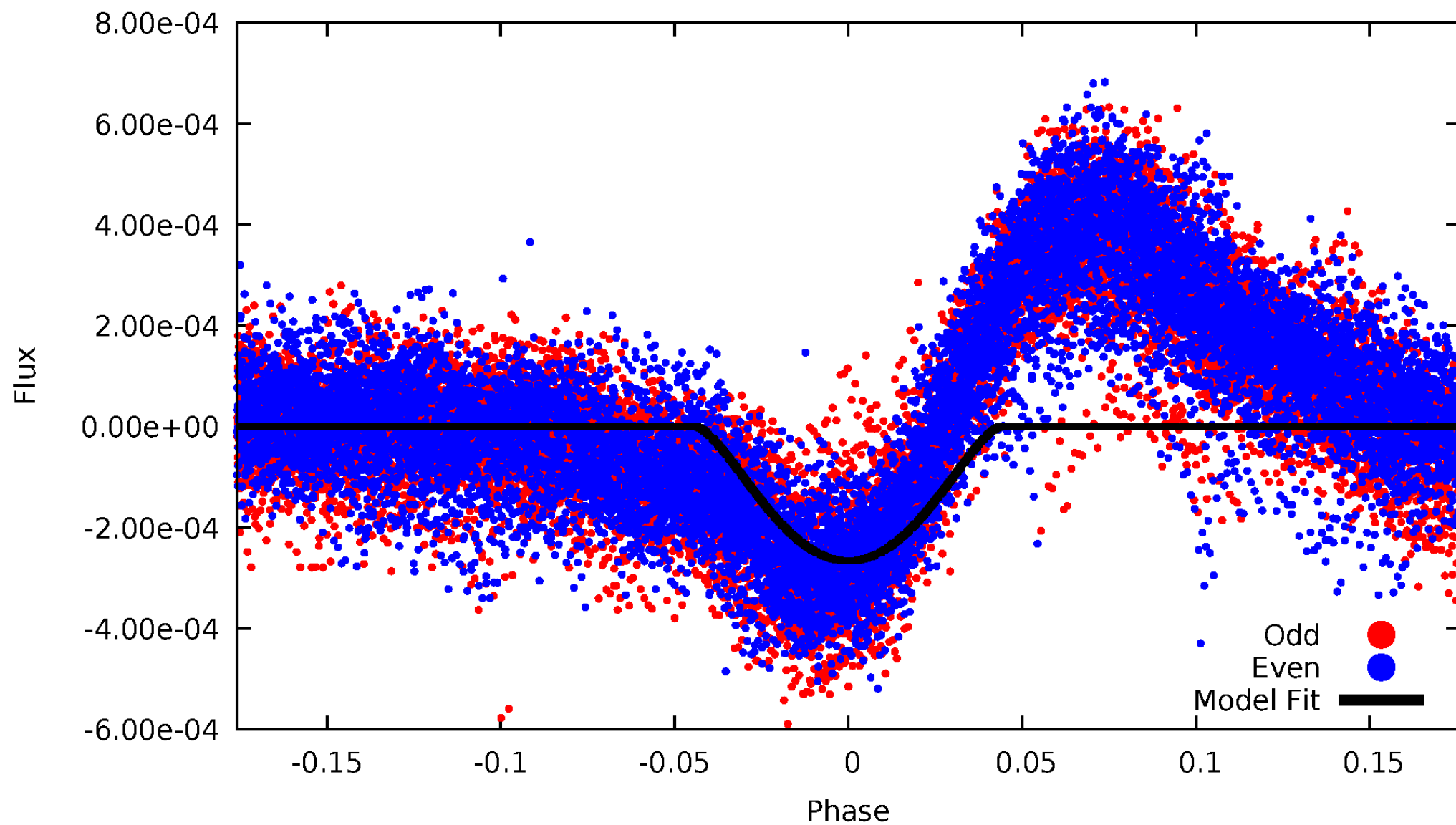


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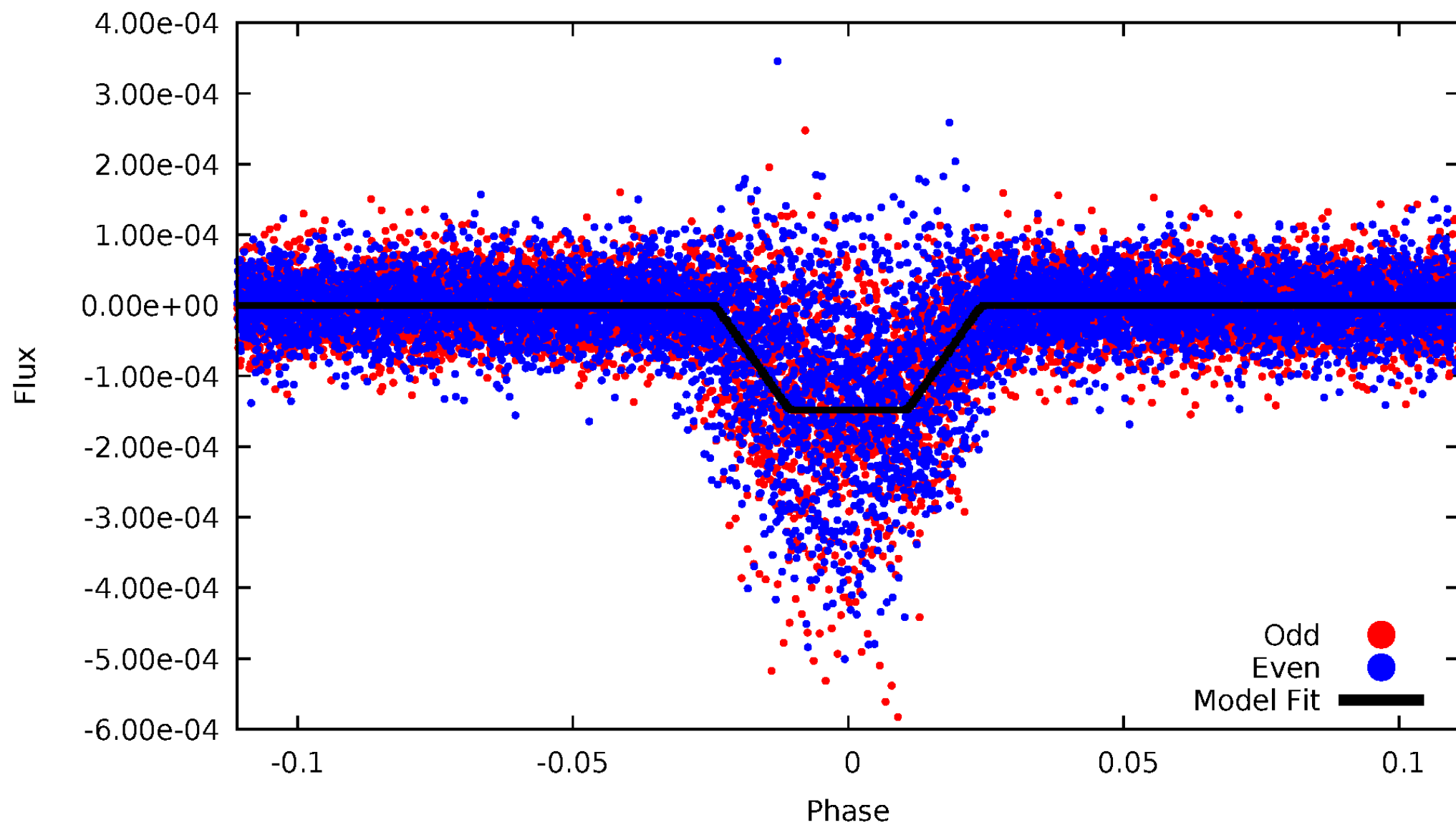
DV Odd/Even

TCE 008979190-01



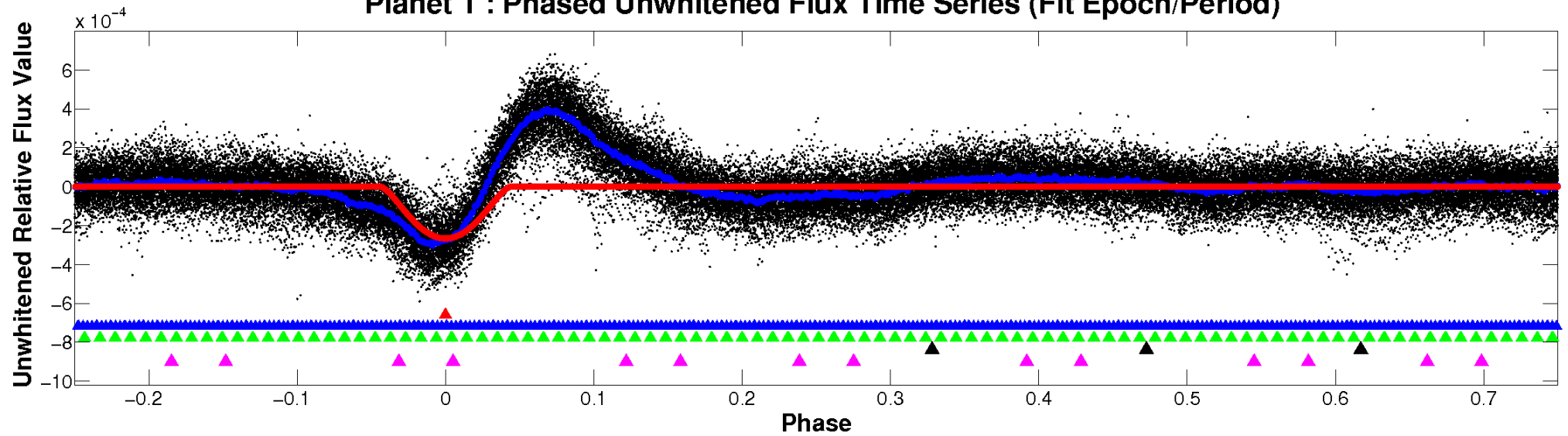
ALT Odd/Even

TCE 008979190-01

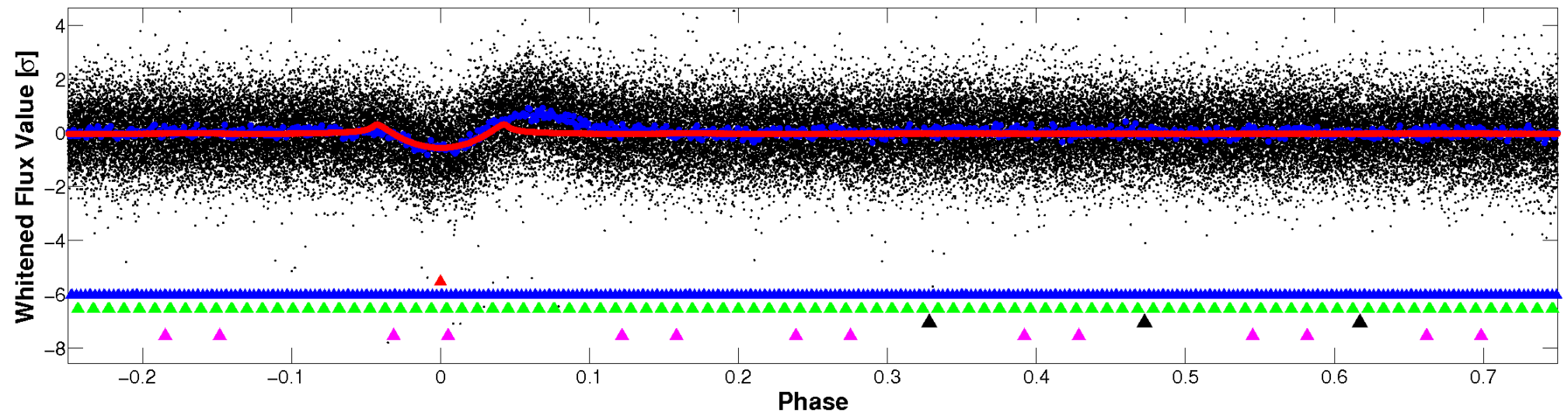


Non-Whitened Vs. Whitened Light Curve

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

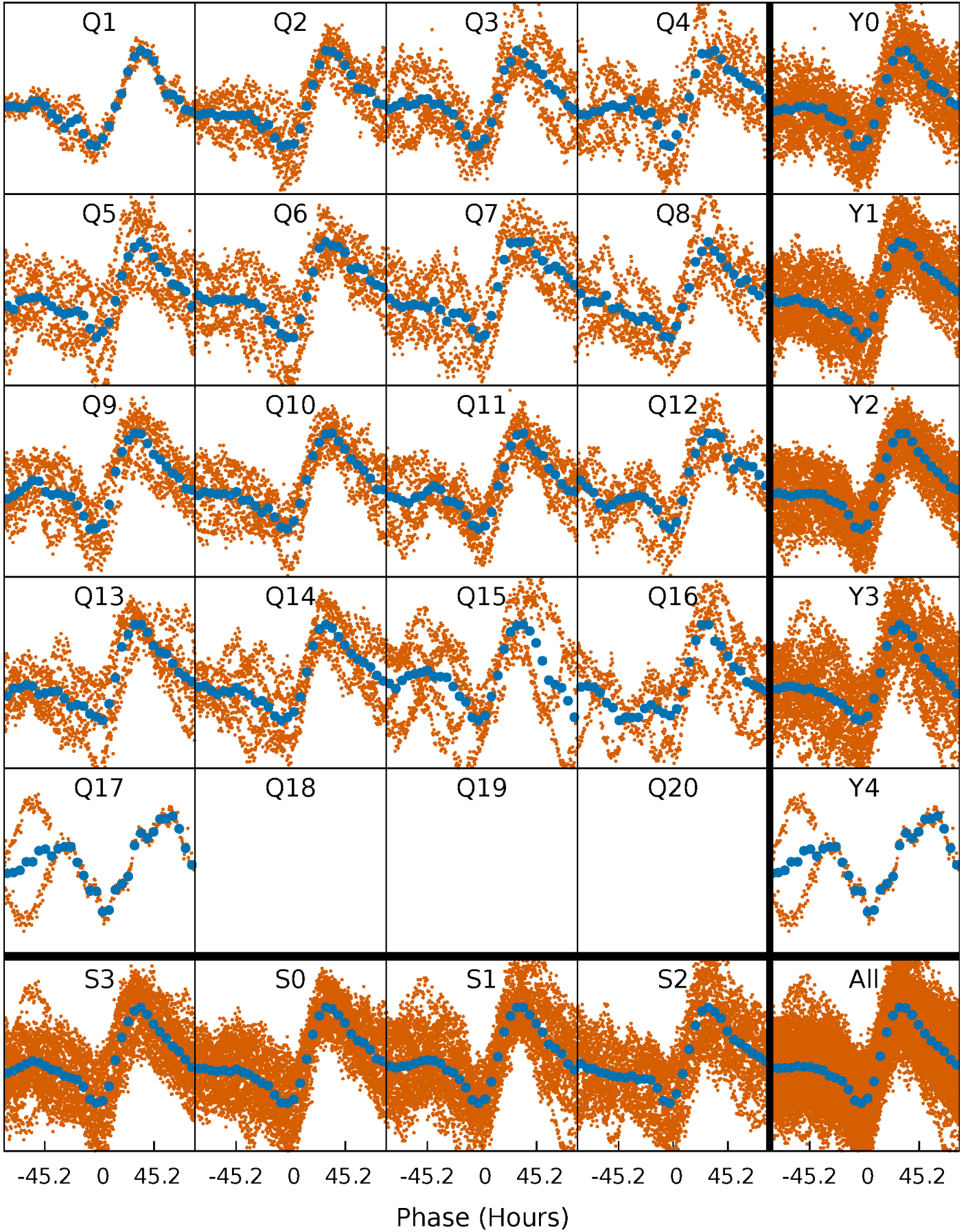


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



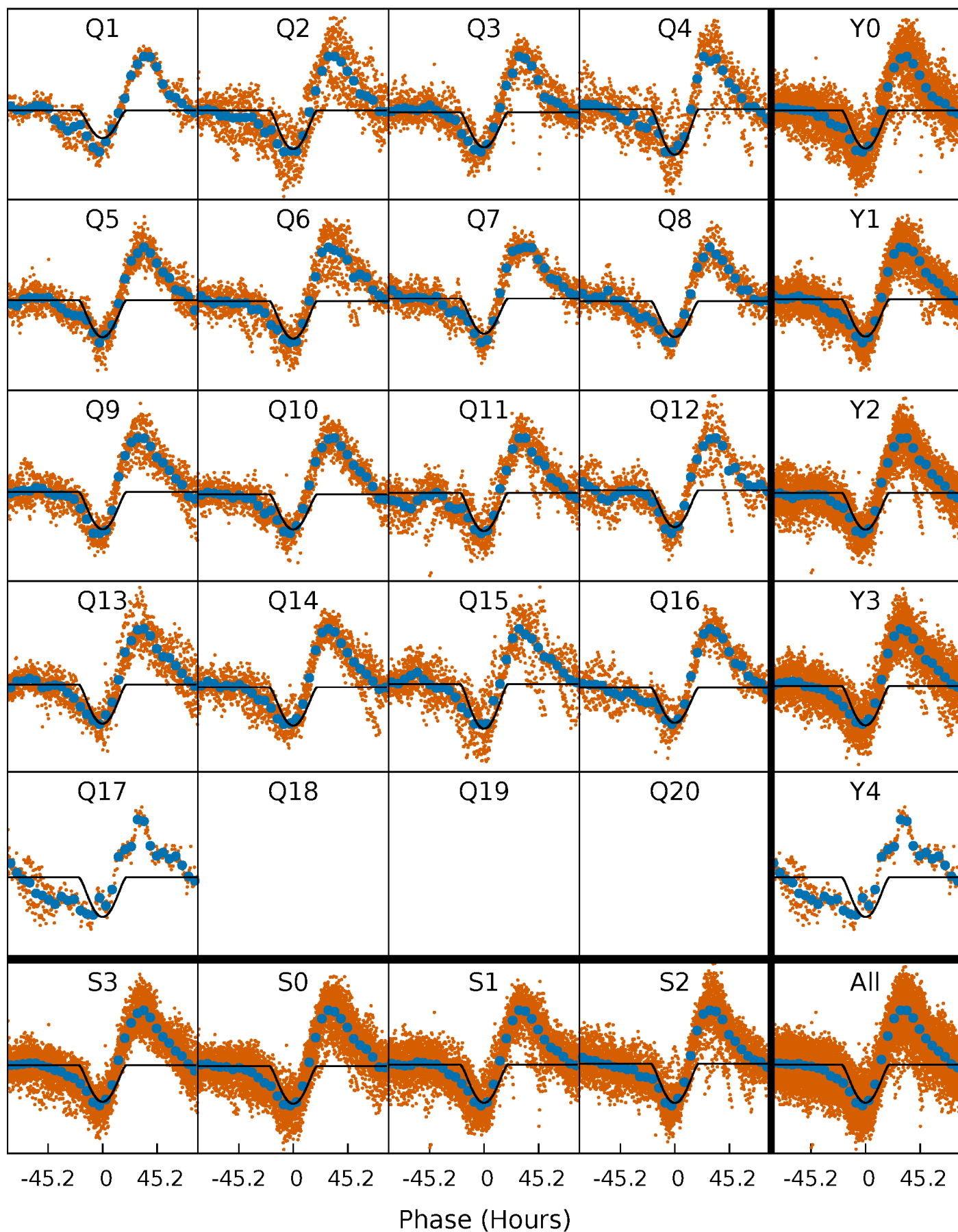
PDC Quarter-Phased Transit Curves

TCE 008979190-01 P= 18.749739 Days $T_0=139.528608$ (BKJD)



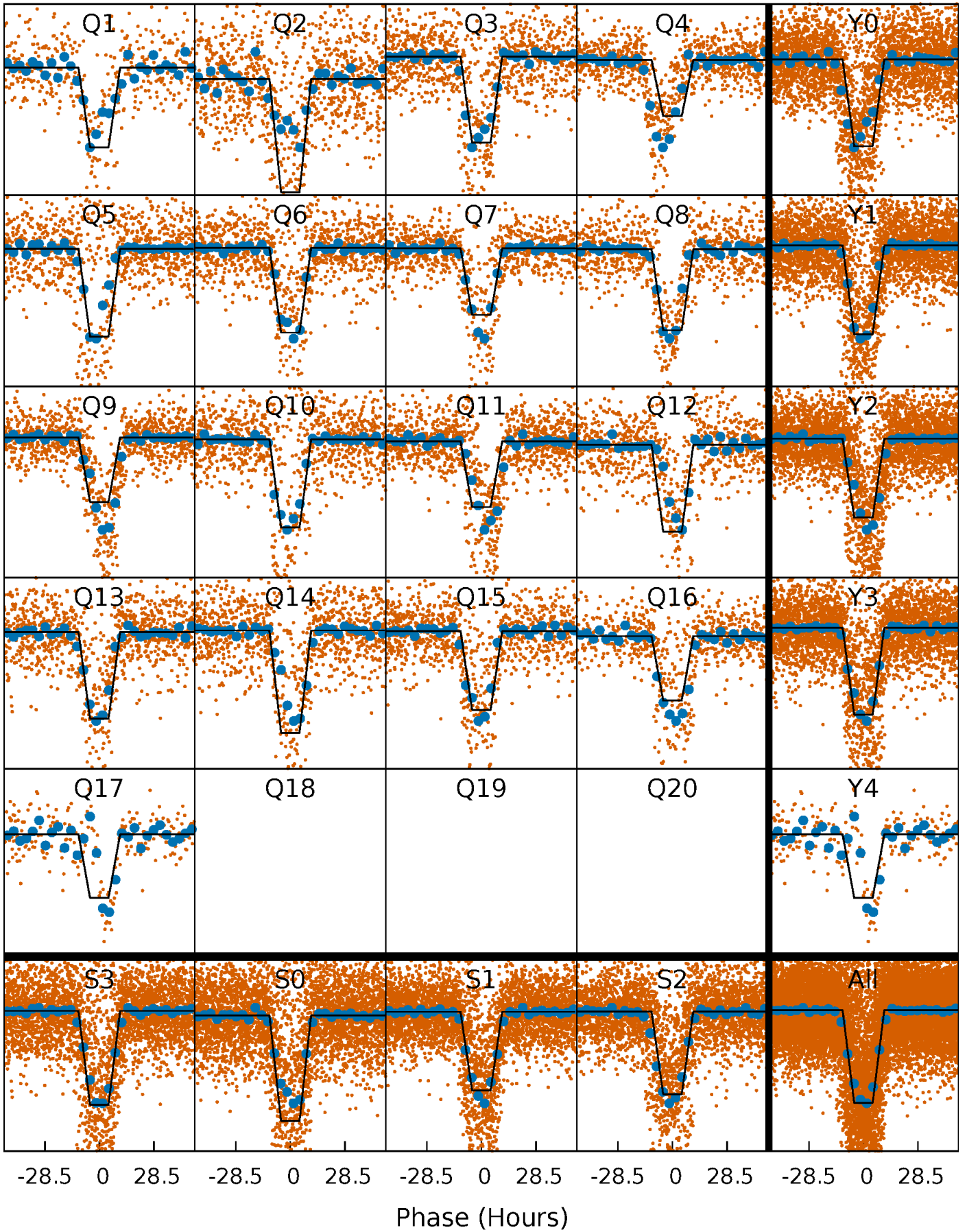
DV Quarter-Phased Transit Curves

TCE 008979190-01 P= 18.749739 Days $T_0=139.528608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

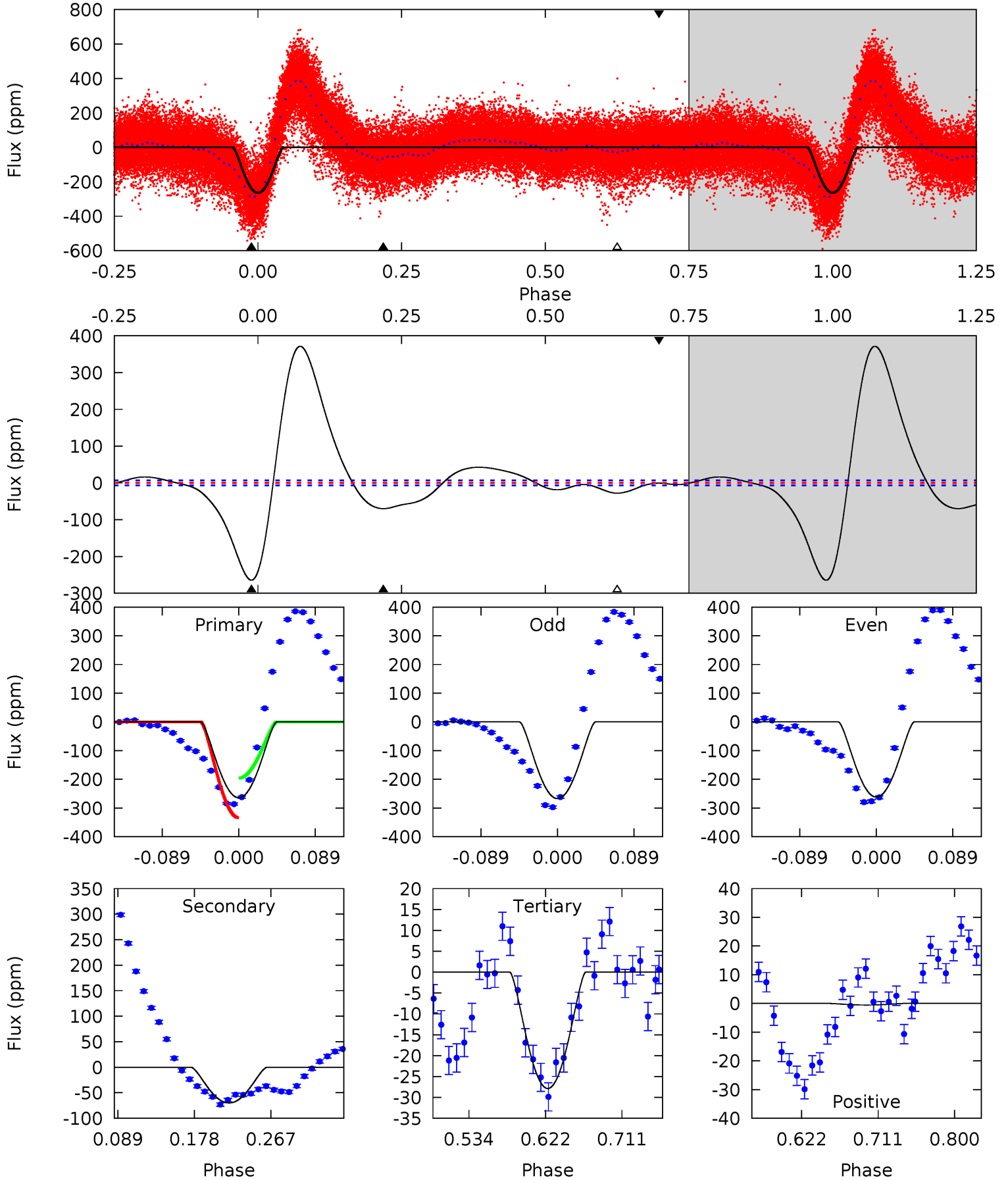
TCE 008979190-01 P= 18.750945 Days $T_0=139.484623$ (BKJD)



DV Model-Shift Uniqueness Test

008979190-01, P = 18.749739 Days, E = 120.778869 Days

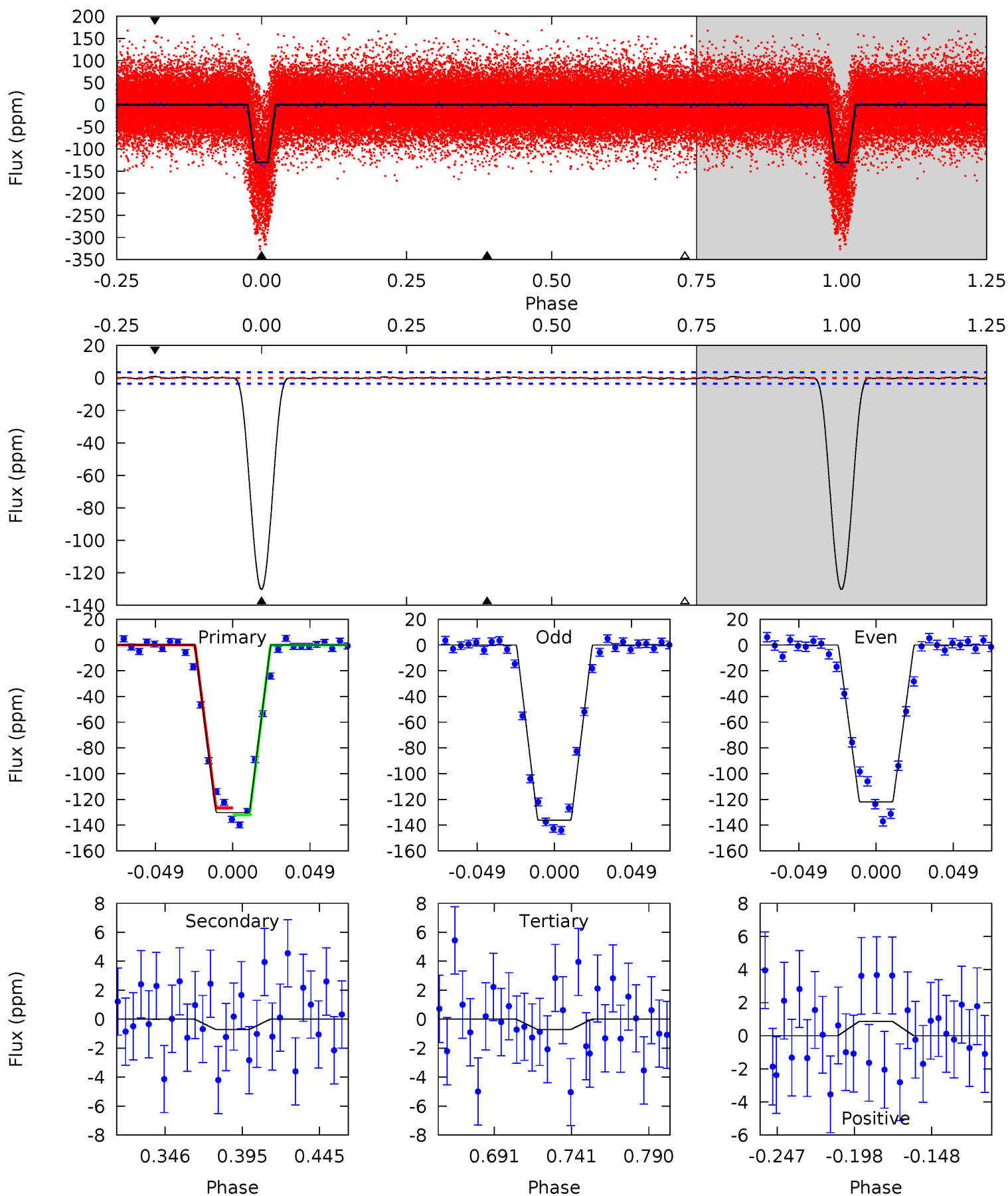
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
179.0	47.4	18.9	-0.36	4.59	1.70	51.4	160.1	179.3	28.5	47.7	1.82	0.98	0.58	49.4



Alt Model-Shift Uniqueness Test

008979190-01, P = 18.750945 Days, E = 120.733678 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
174.0	0.95	0.95	1.15	4.71	1.97	0.38	173.0	172.8	0.00	-0.20	9.41	1.04	0.01	3.68



Stellar Parameters For KIC 008979190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6183^{+194}_{-259}	$4.265^{+0.158}_{-0.193}$	$-0.040^{+0.250}_{-0.300}$	$1.273^{+0.391}_{-0.261}$	$1.086^{+0.181}_{-0.148}$	$0.742^{+0.599}_{-0.387}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-21%	+17%/-14%	+81%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008979190-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-70 ± 1	$4.10^{+1.58}_{-1.36}$	1138^{+99}_{-80}	3703^{+554}_{-353}	46^{+57}_{-22}
Alt.	-1 ± 1	$1.88^{+1.34}_{-1.13}$	1141^{+86}_{-82}	2320^{+733}_{-4293}	$1.878^{+11.519}_{-1.887}$

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

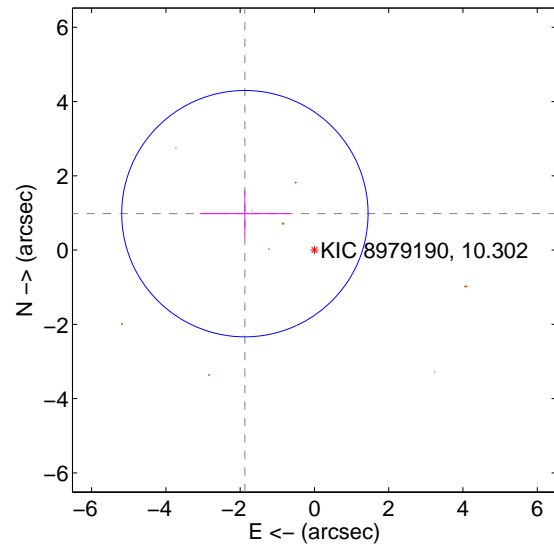
Supplemental centroid analysis for 008979190-01. **Kepler magnitude: 10.30.** Transit SNR 28.03

There are 6 quarters with good PRF difference image offsets

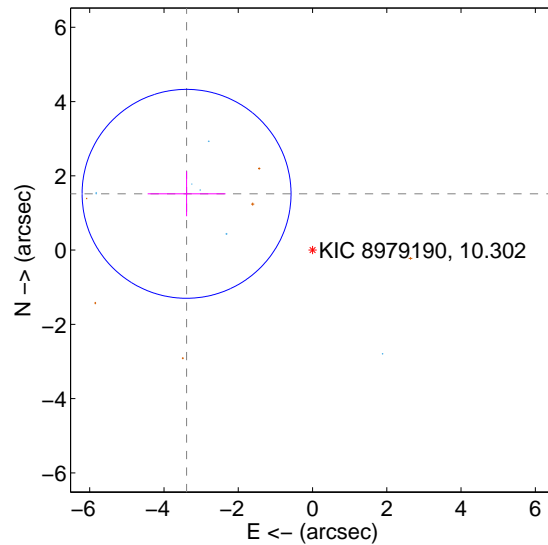
The direct PRF centroid is offset from the target star catalog position by about 1.62 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.114 ± 1.106	1.91	1.873 ± 1.217	0.981 ± 0.628
PRF-fit source offset from KIC position	3.715 ± 0.938	3.96	3.392 ± 1.049	1.515 ± 0.604
photometric centroid source offset	0.81 ± 0.17	4.85	0.45 ± 0.20	0.67 ± 0.15

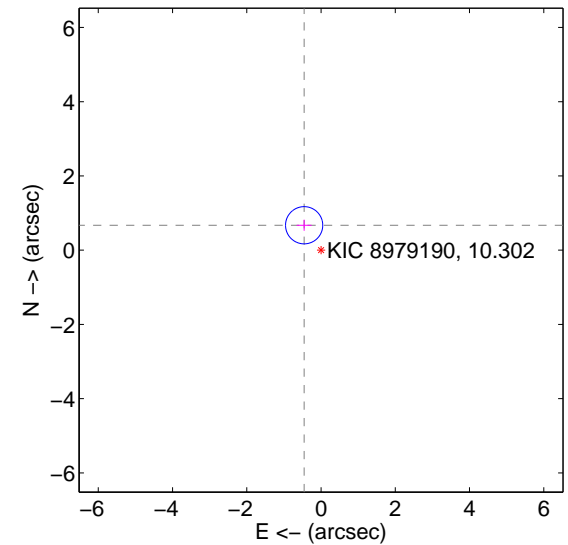
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

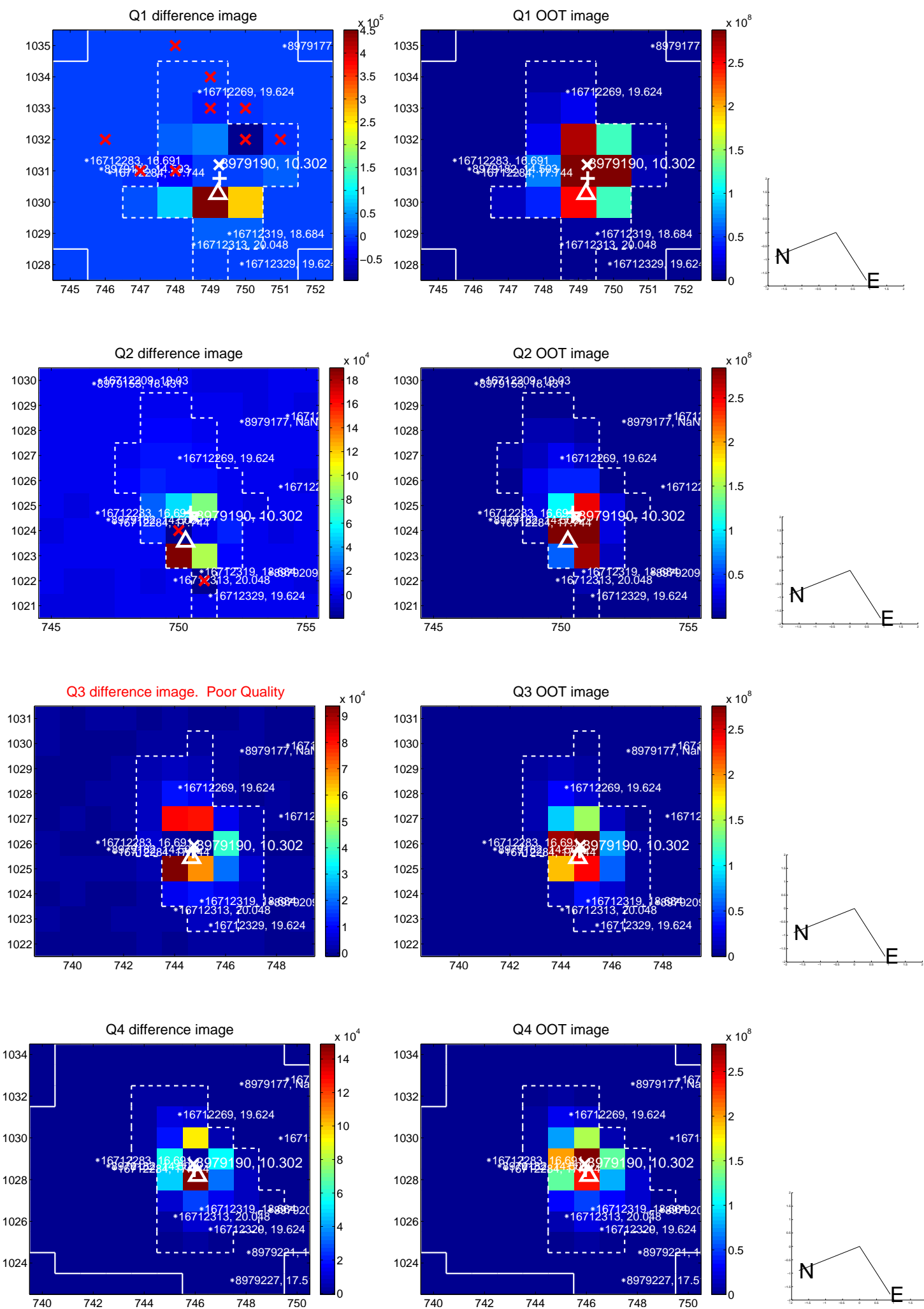


offset from photometric centroids

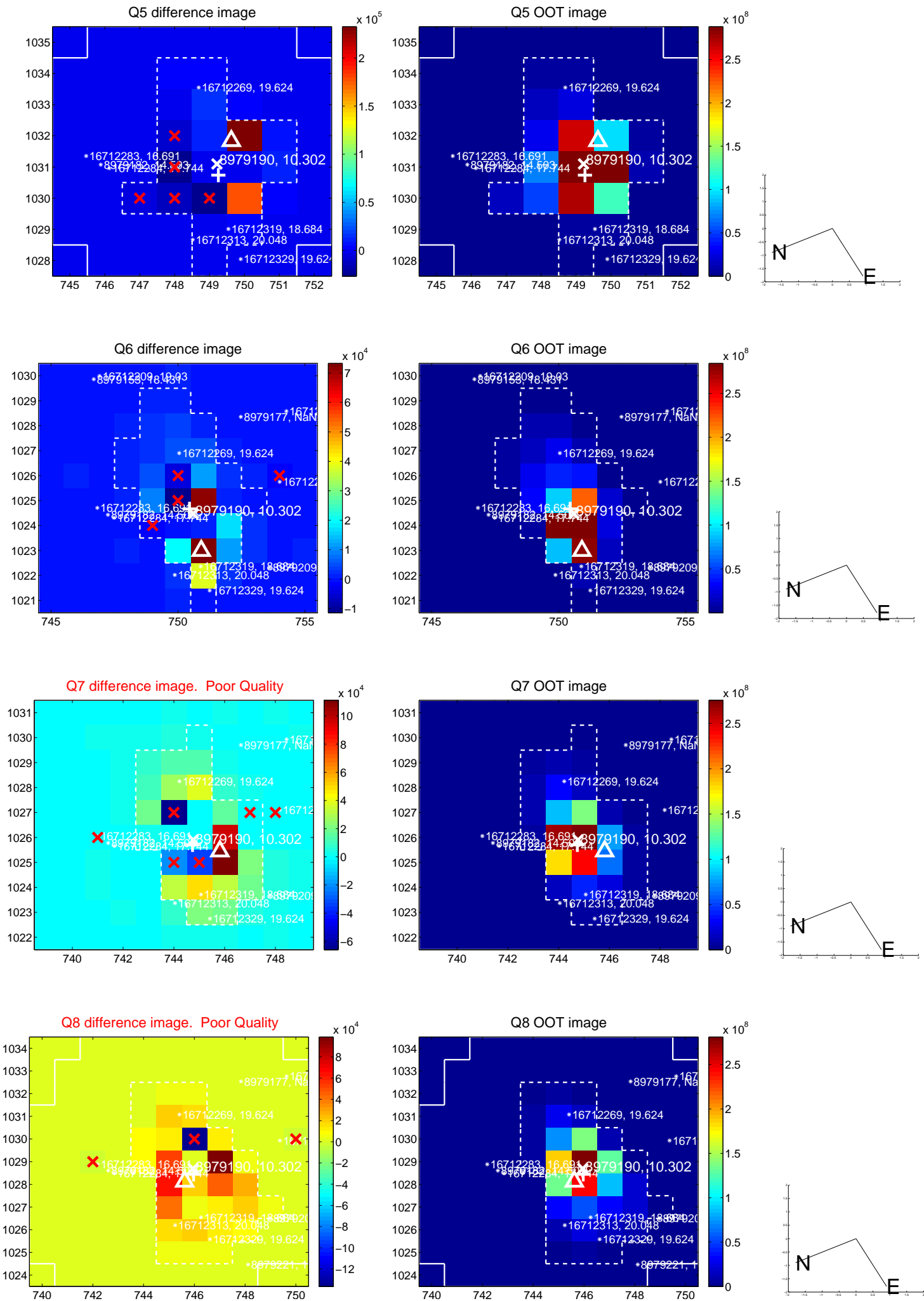


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

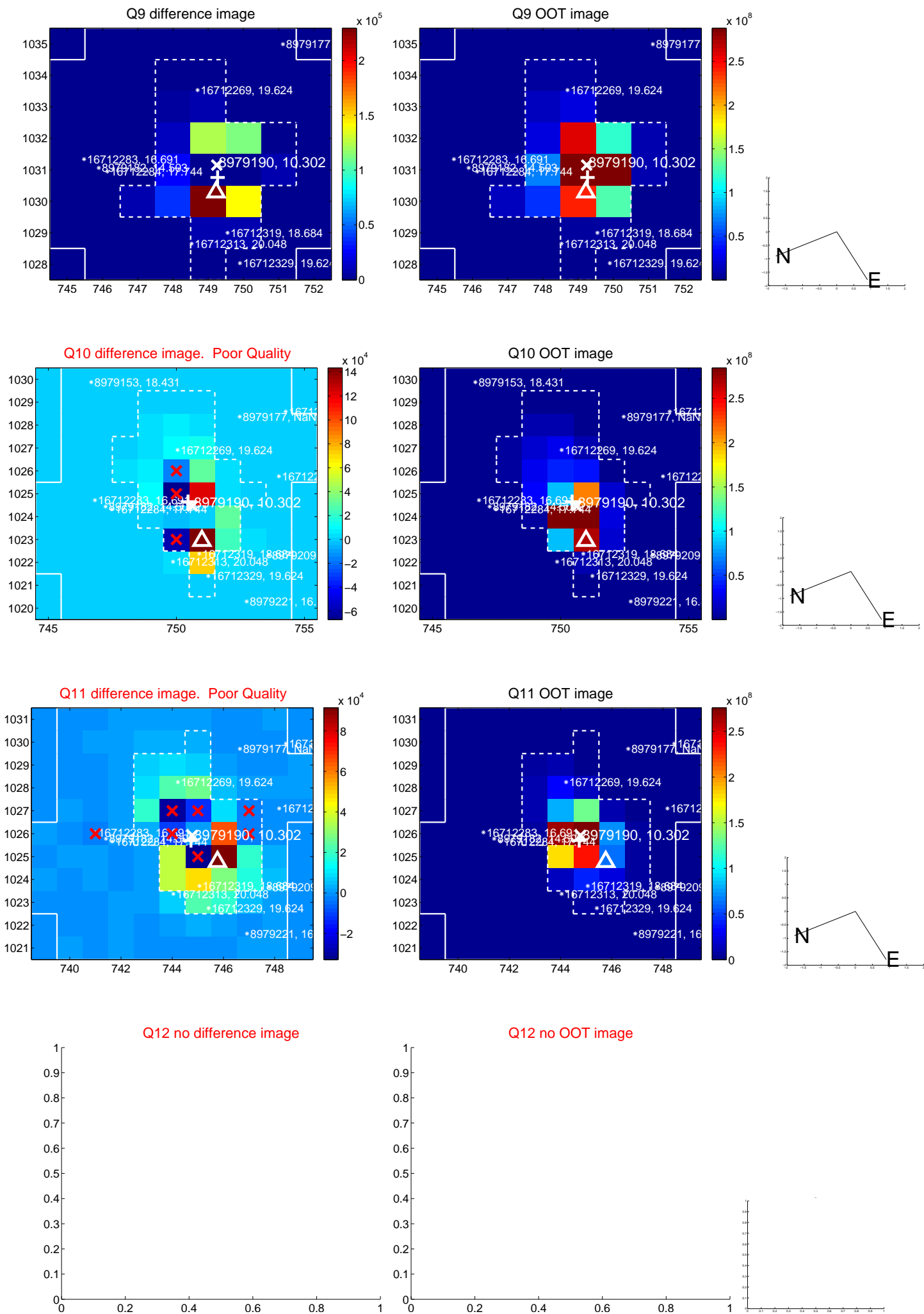
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



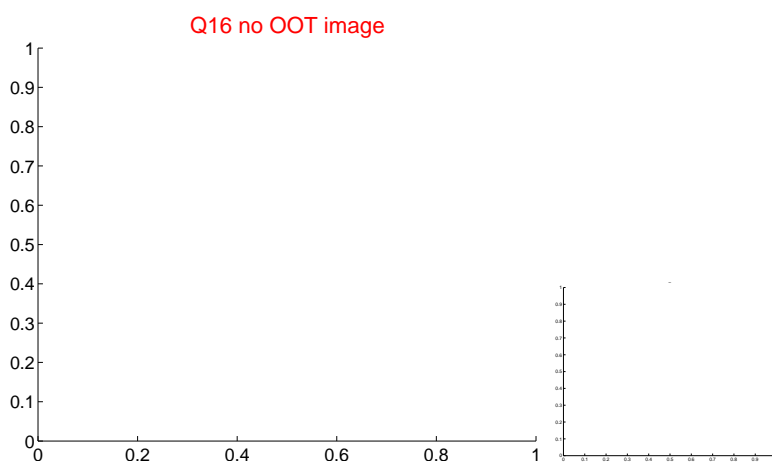
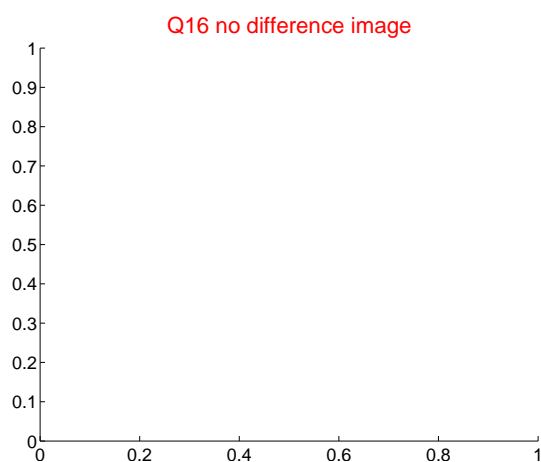
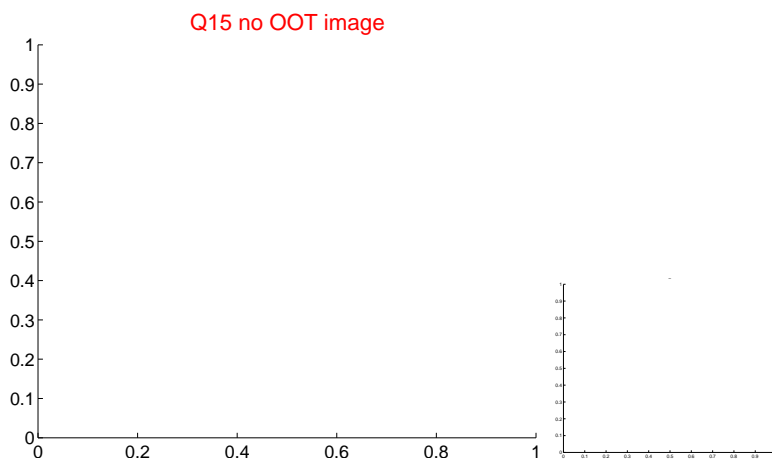
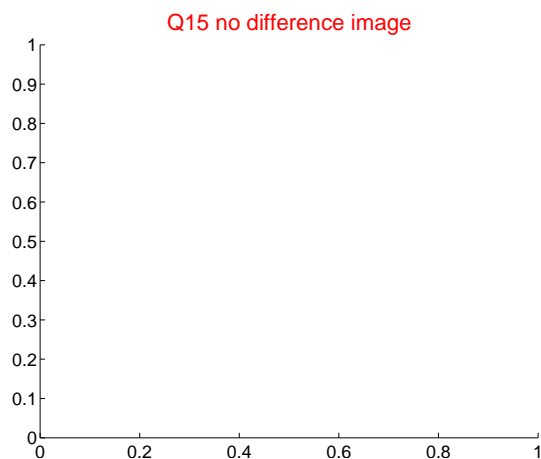
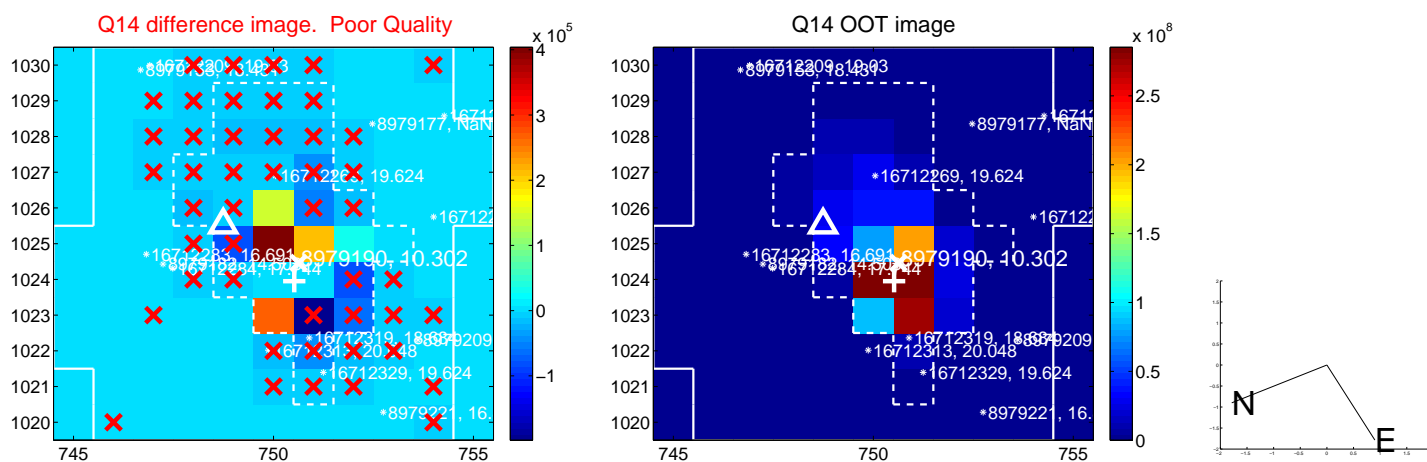
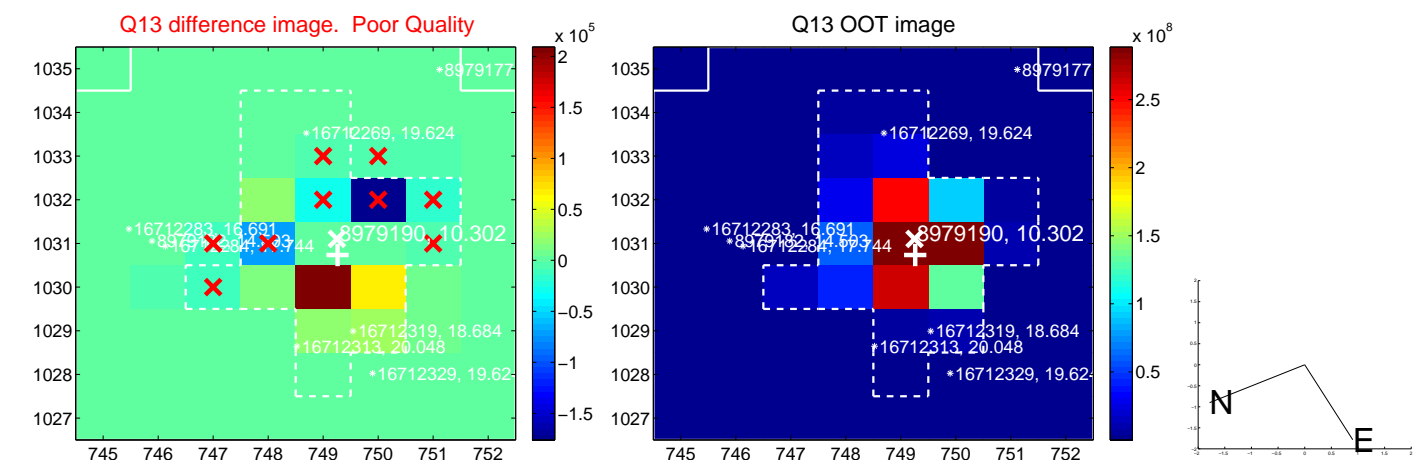
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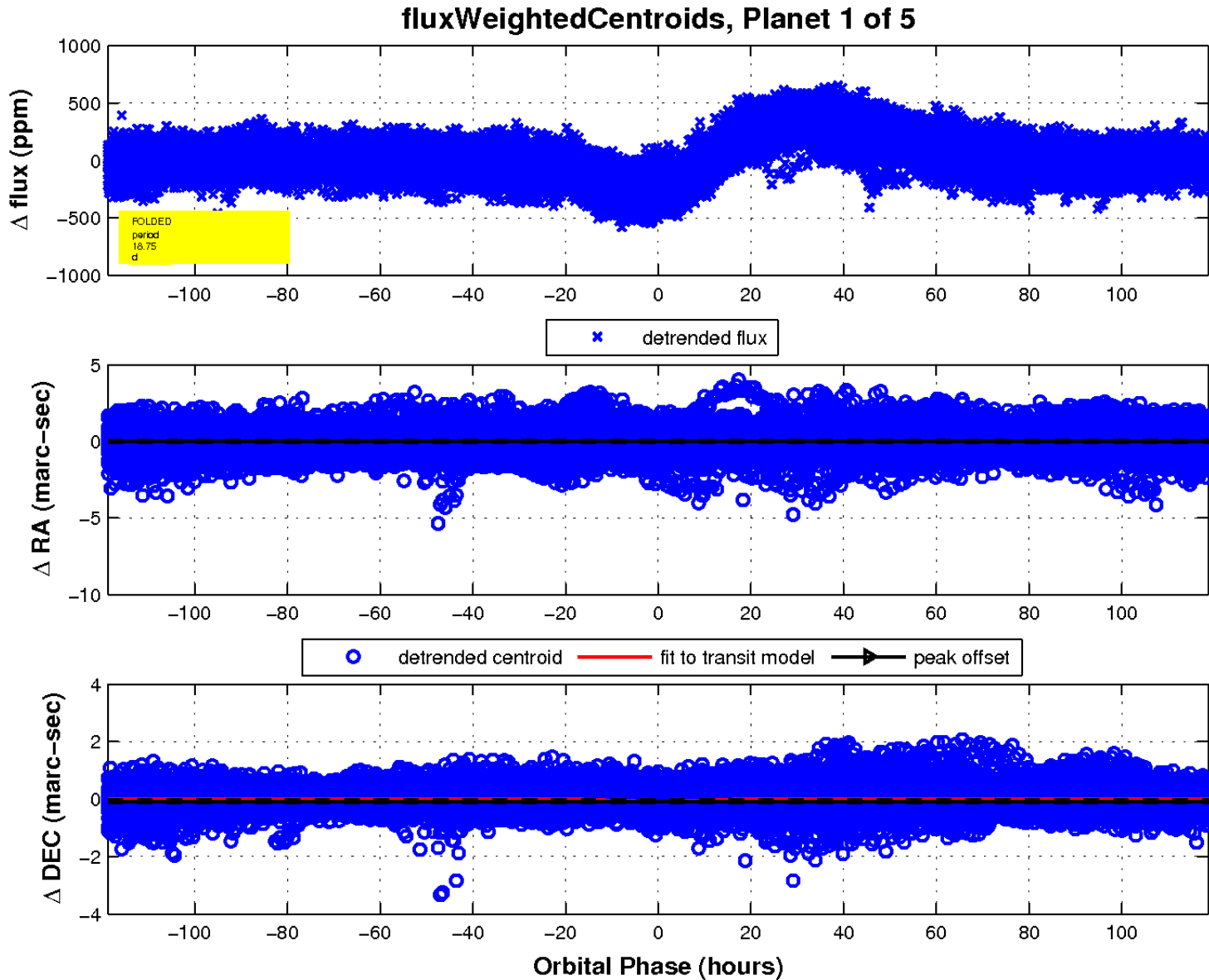
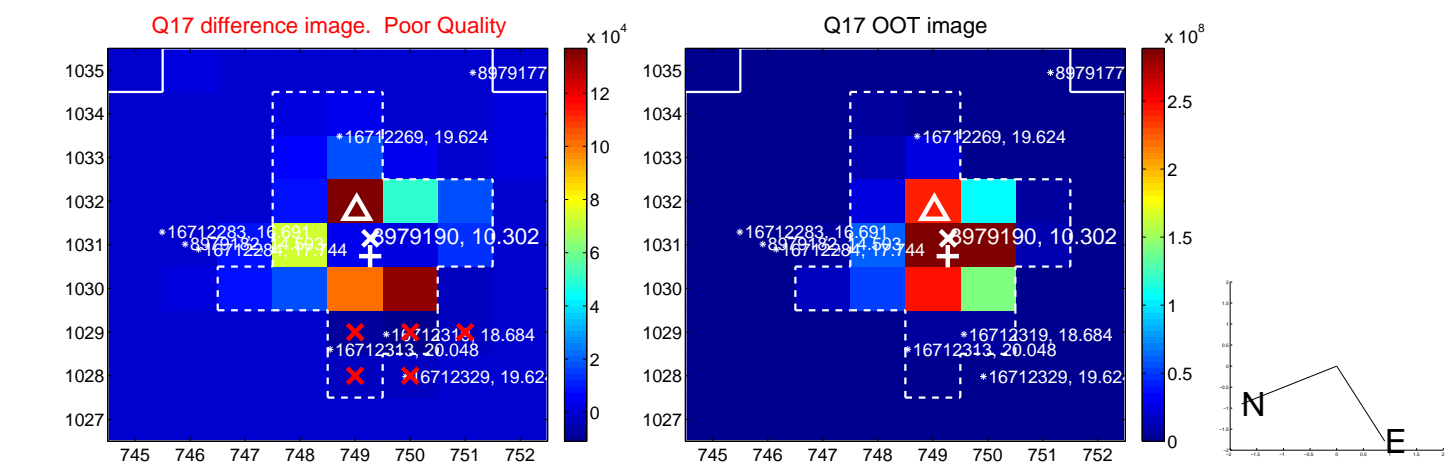
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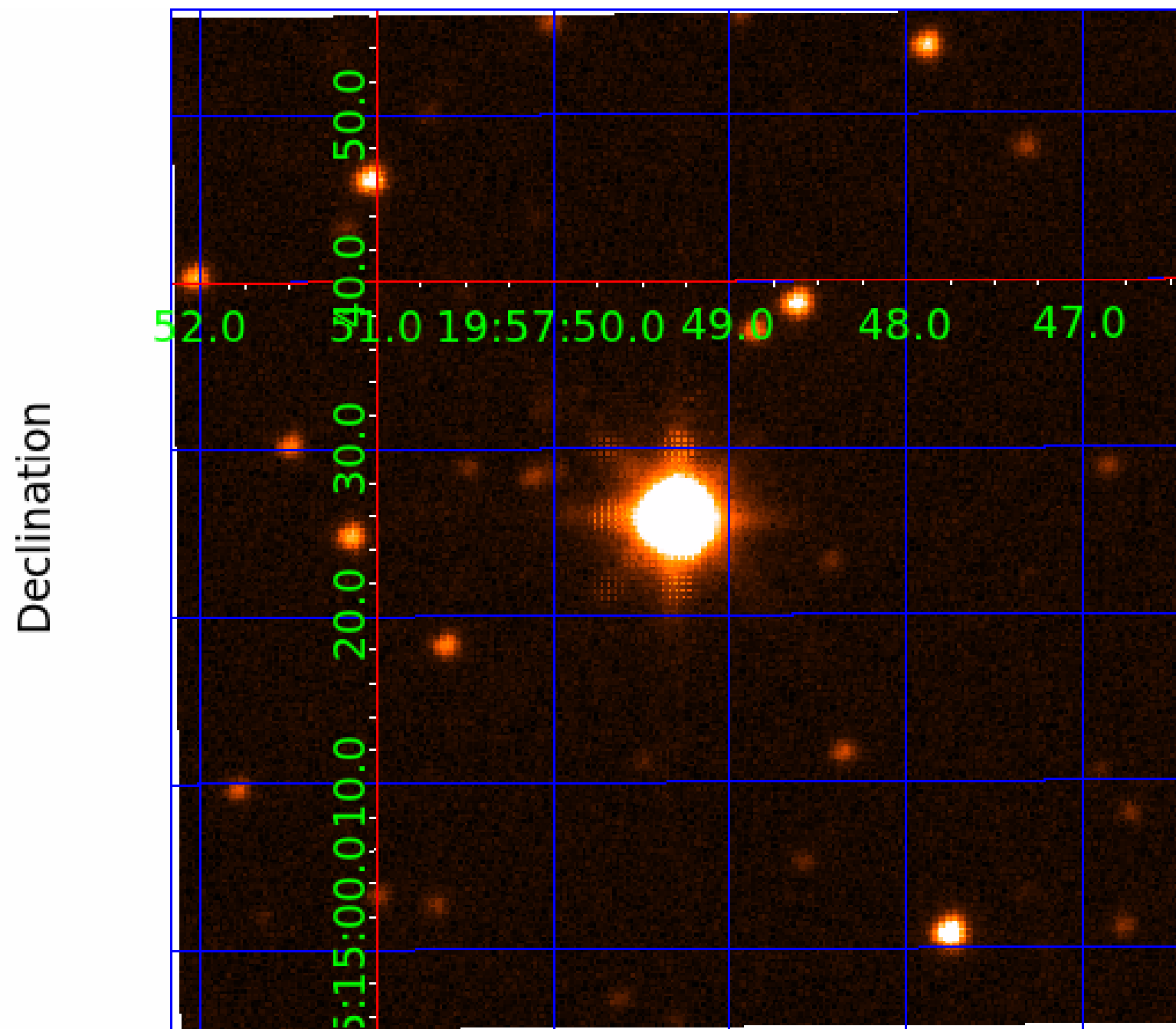
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UKIRT Image



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008979190-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008979190-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
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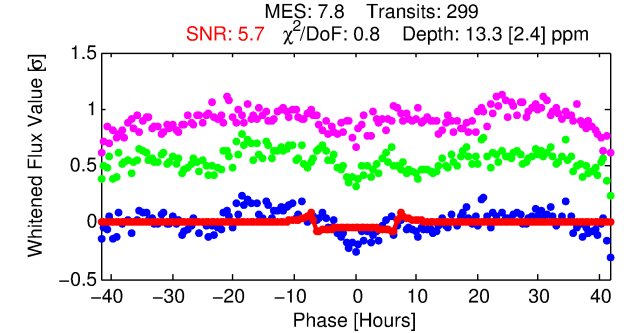
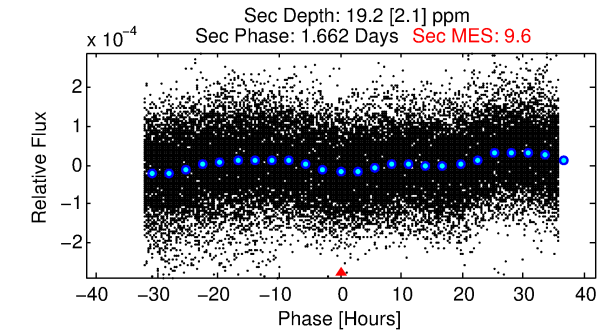
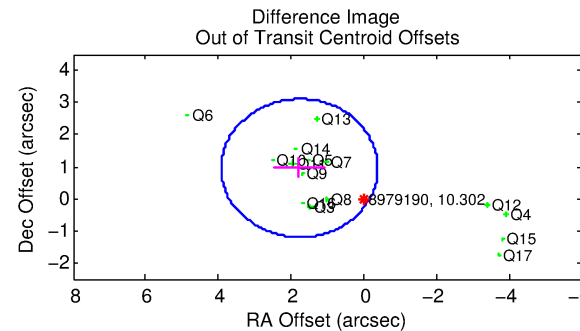
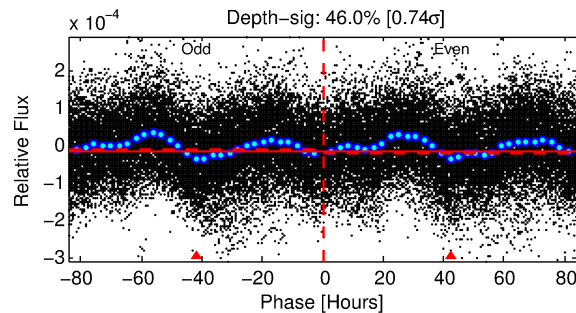
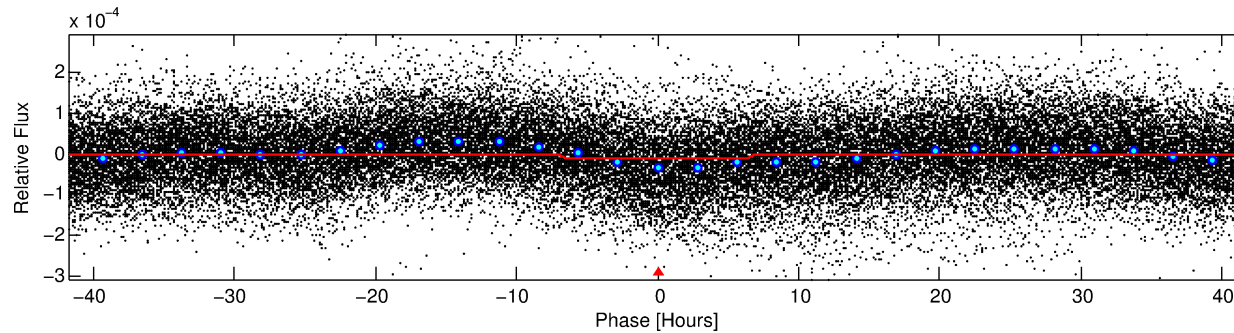
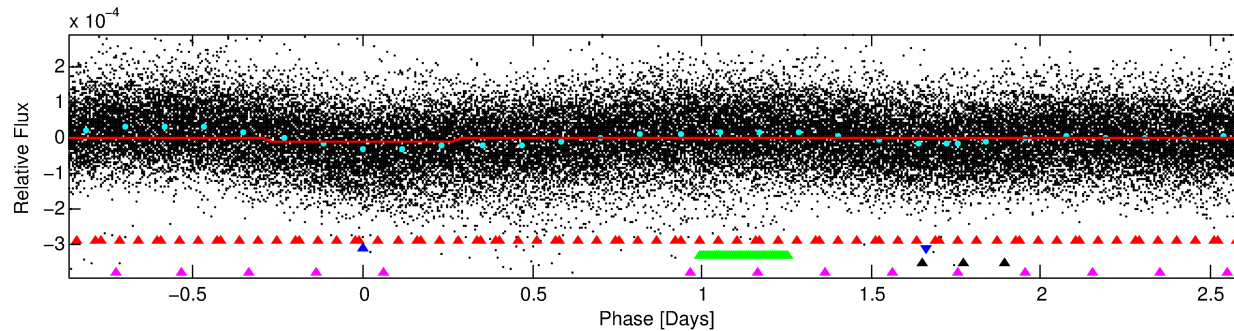
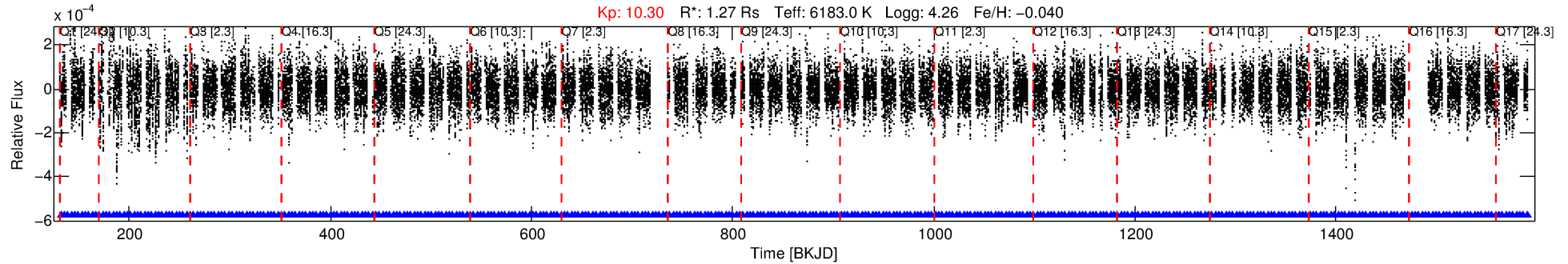
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008979190-02

No Significant Match Found

DV One-Page Summary

KIC: 8979190 Candidate: 2 of 5 Period: 3.479 d



DV Fit Results:

Period = 3.47876 [0.00004] d
Epoch = 132.2242 [0.0066] BKJD
 R_p/R^* = 0.0040 [0.0006]
 a/R^* = 1.24 [0.26]
 b = 0.91 [0.11]
 Seff = 993.14 [394.49]
 Teq = 1431 [142] K
 R_p = 0.55 [0.19] R_e
 a = 0.0462 [0.0117] AU
 Ag = 74.21 [35.38] [2.07 σ]
 Teffp = 6496 [576] K [8.54 σ]

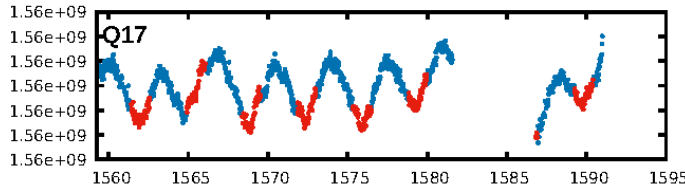
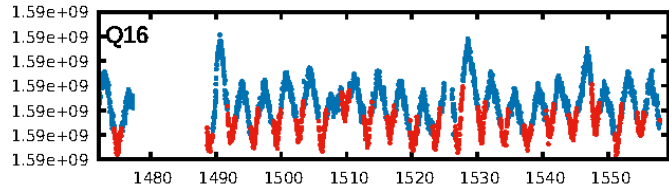
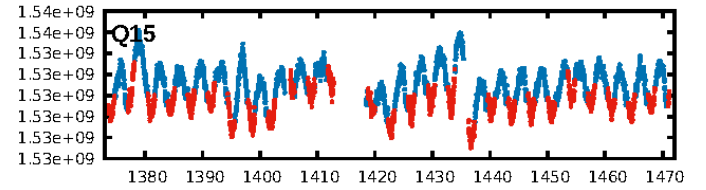
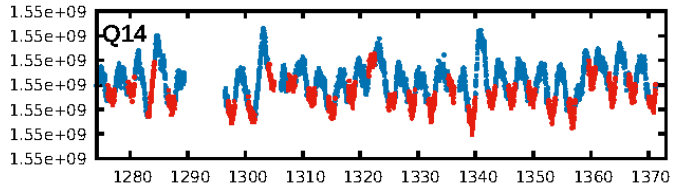
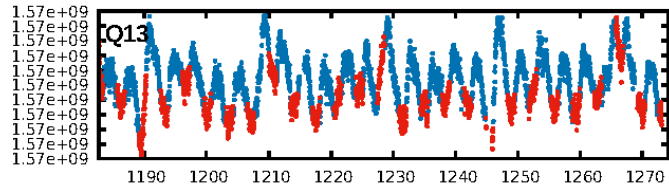
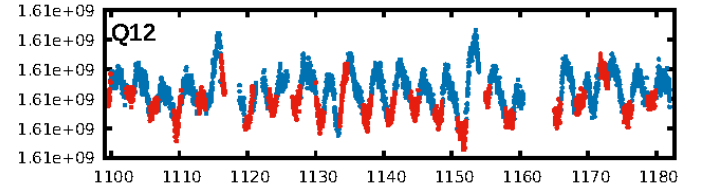
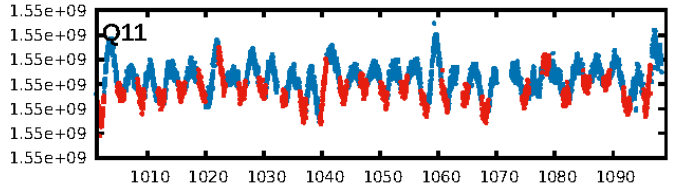
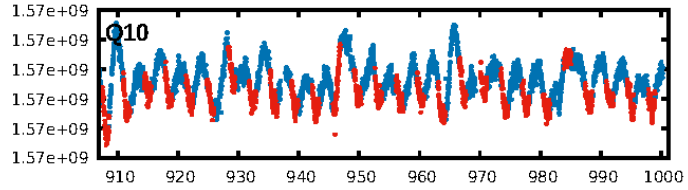
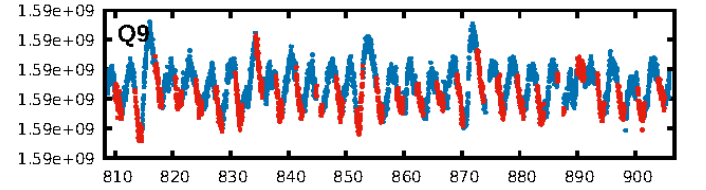
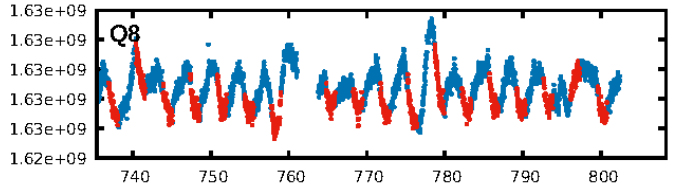
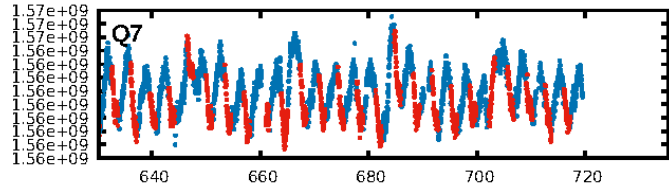
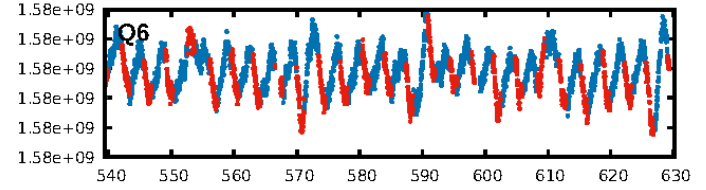
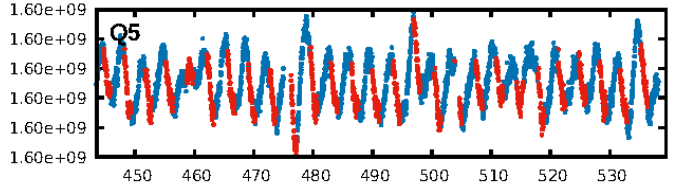
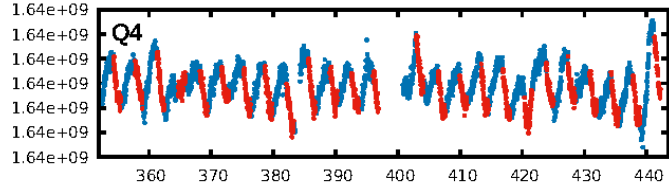
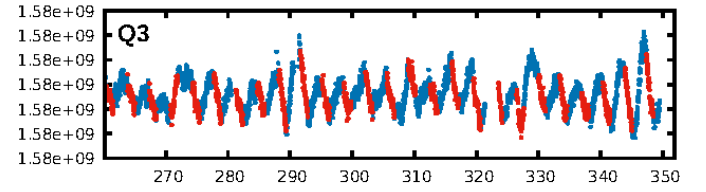
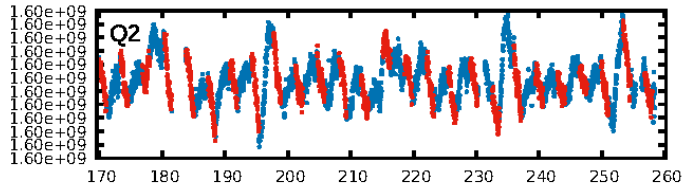
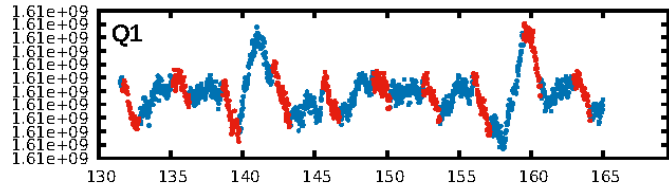
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.21e-05
RollingBand-fgt: 1.00 [286/286]
GhostDiagnostic-chr: 3.508
Centroid-sig: 13.4%
Centroid-so: 0.872 arcsec [0.69 σ]
OotOffset-rm: 2.013 arcsec [2.81 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 3.466 arcsec [5.08 σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 0.41 [7/17]

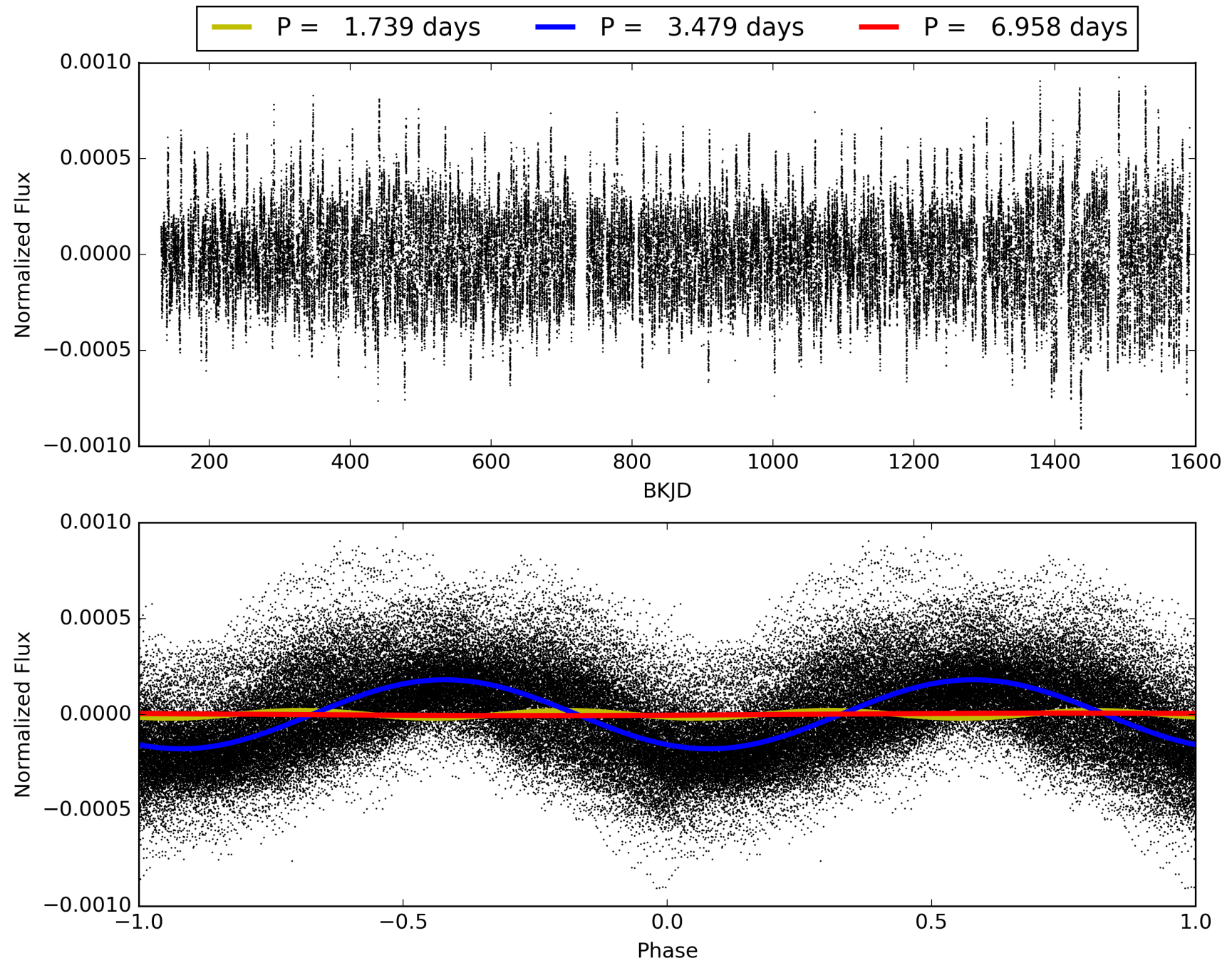
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:52:56 Z

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

TCE 008979190-02, PDC Light Curves

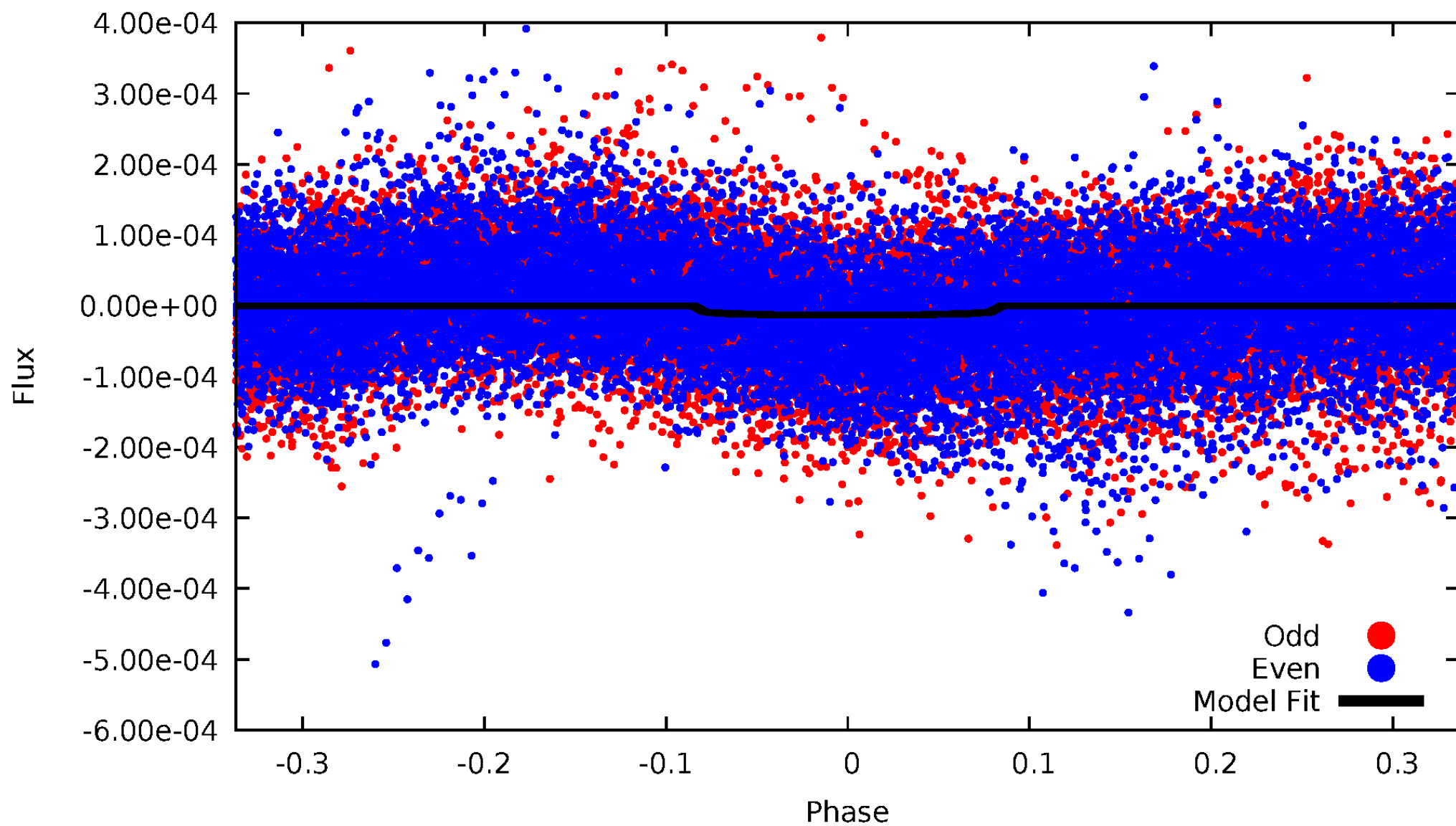


TCE 008979190-02



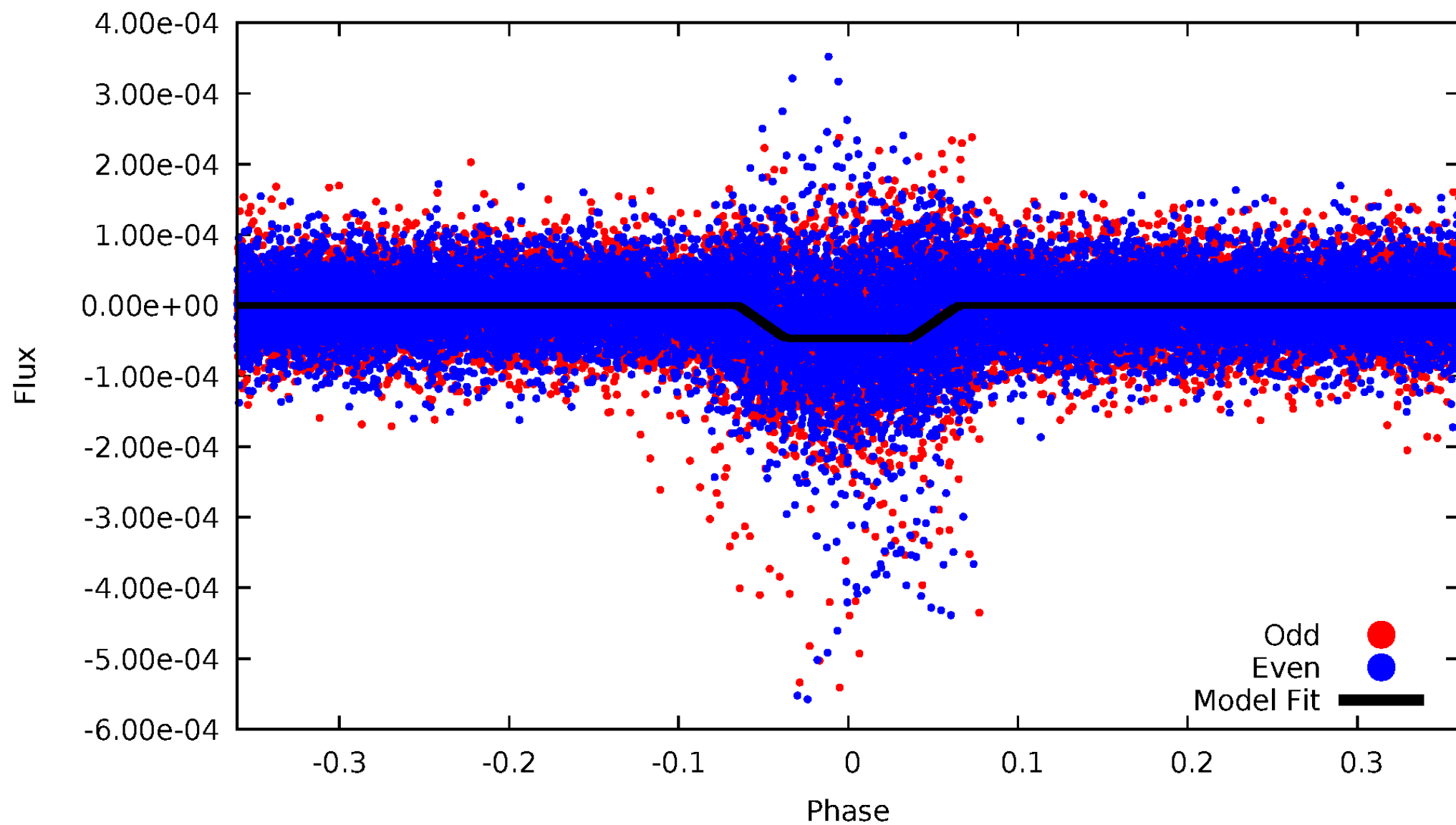
DV Odd/Even

TCE 008979190-02



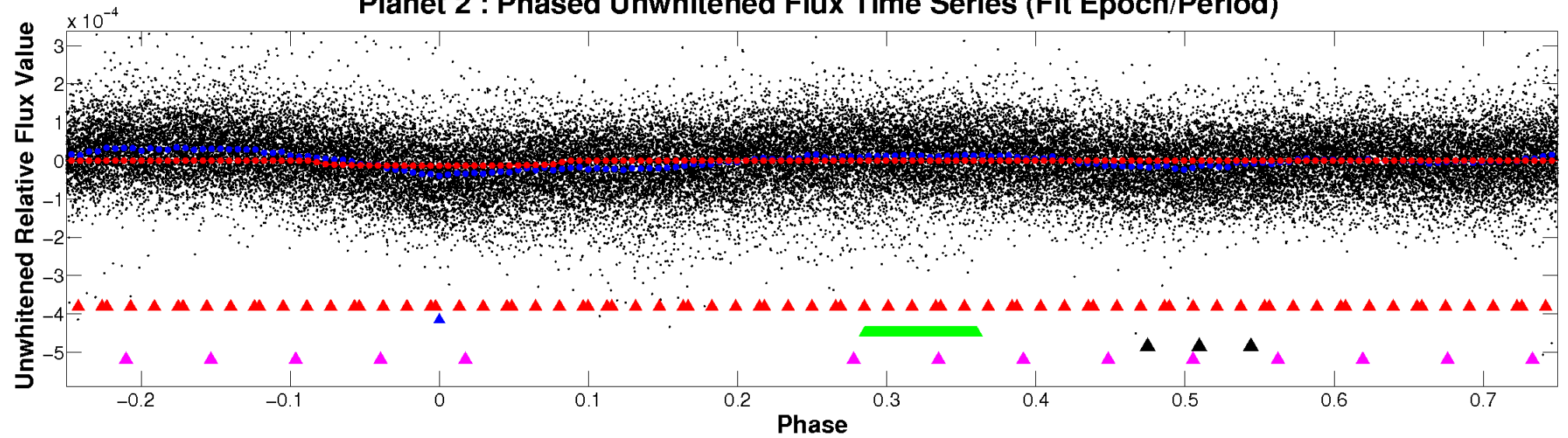
ALT Odd/Even

TCE 008979190-02

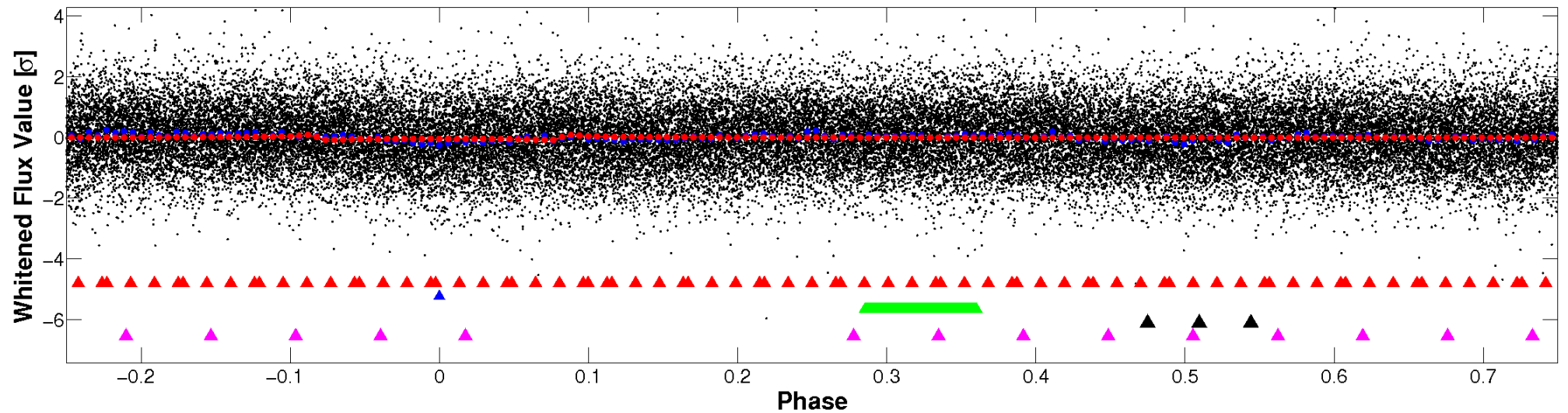


Non-Whitened Vs. Whitened Light Curve

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

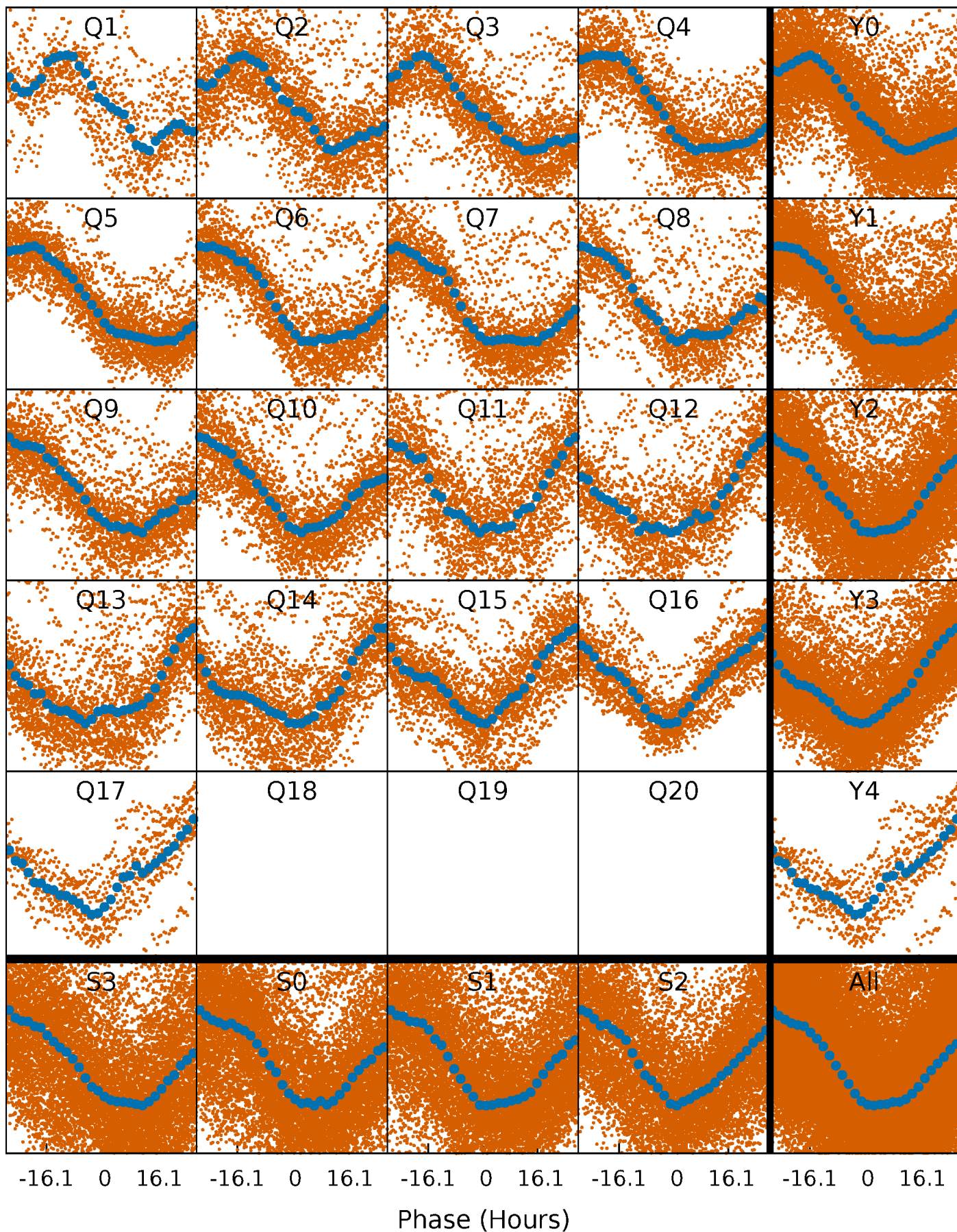


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



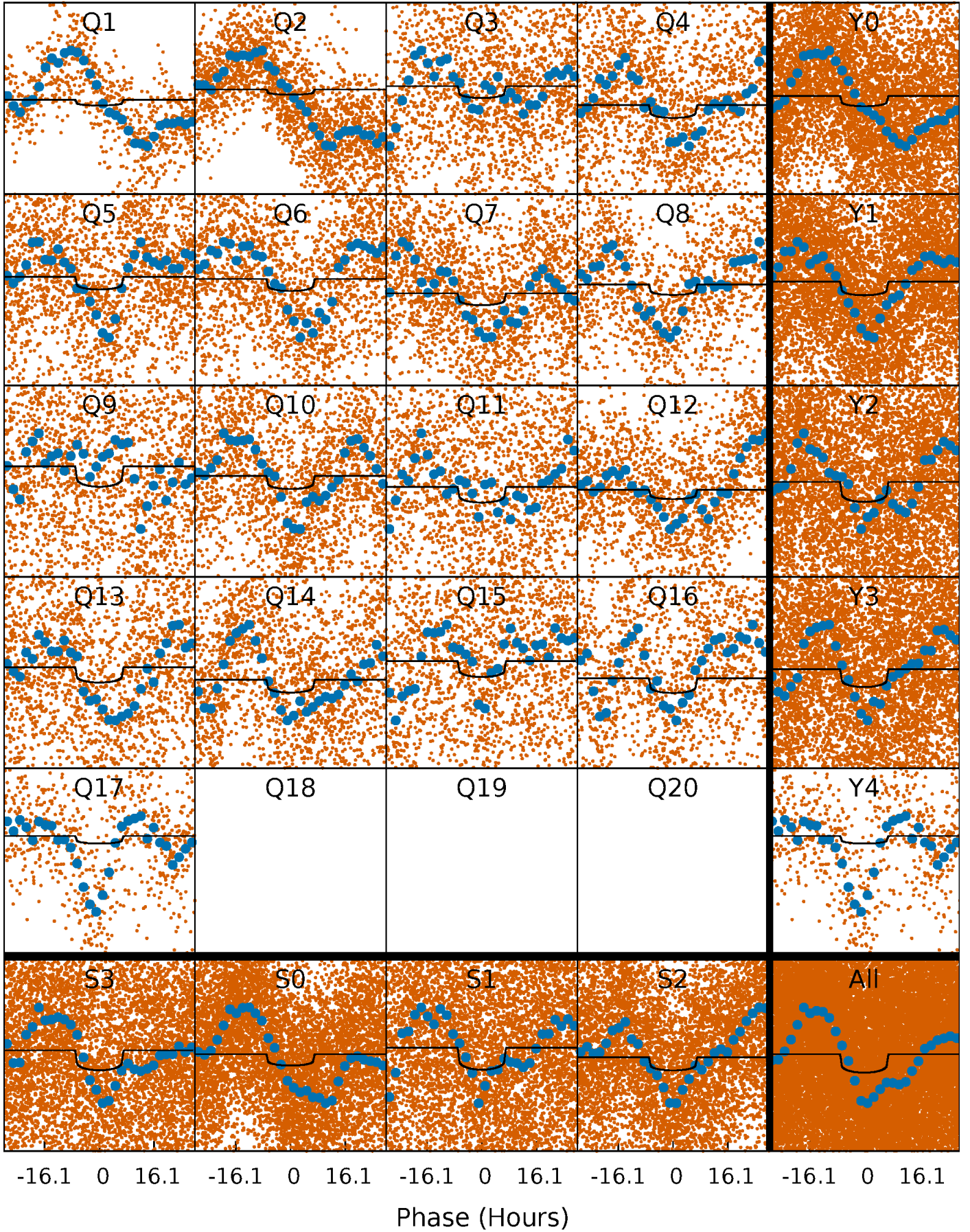
PDC Quarter-Phased Transit Curves

TCE 008979190-02 $P = 3.478761$ Days $T_0 = 132.224168$ (BKJD)



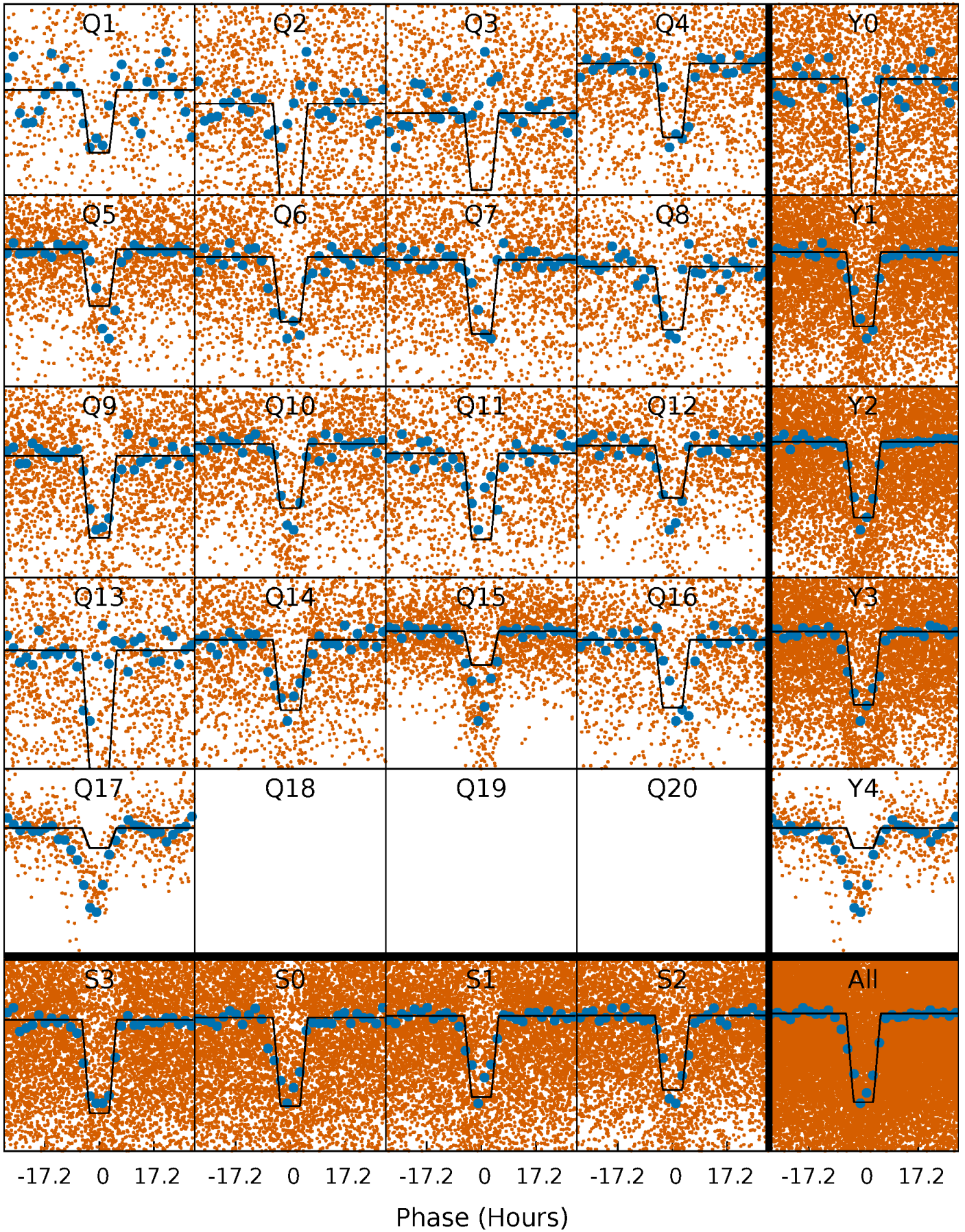
DV Quarter-Phased Transit Curves

TCE 008979190-02 P= 3.478761 Days $T_0=132.224168$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

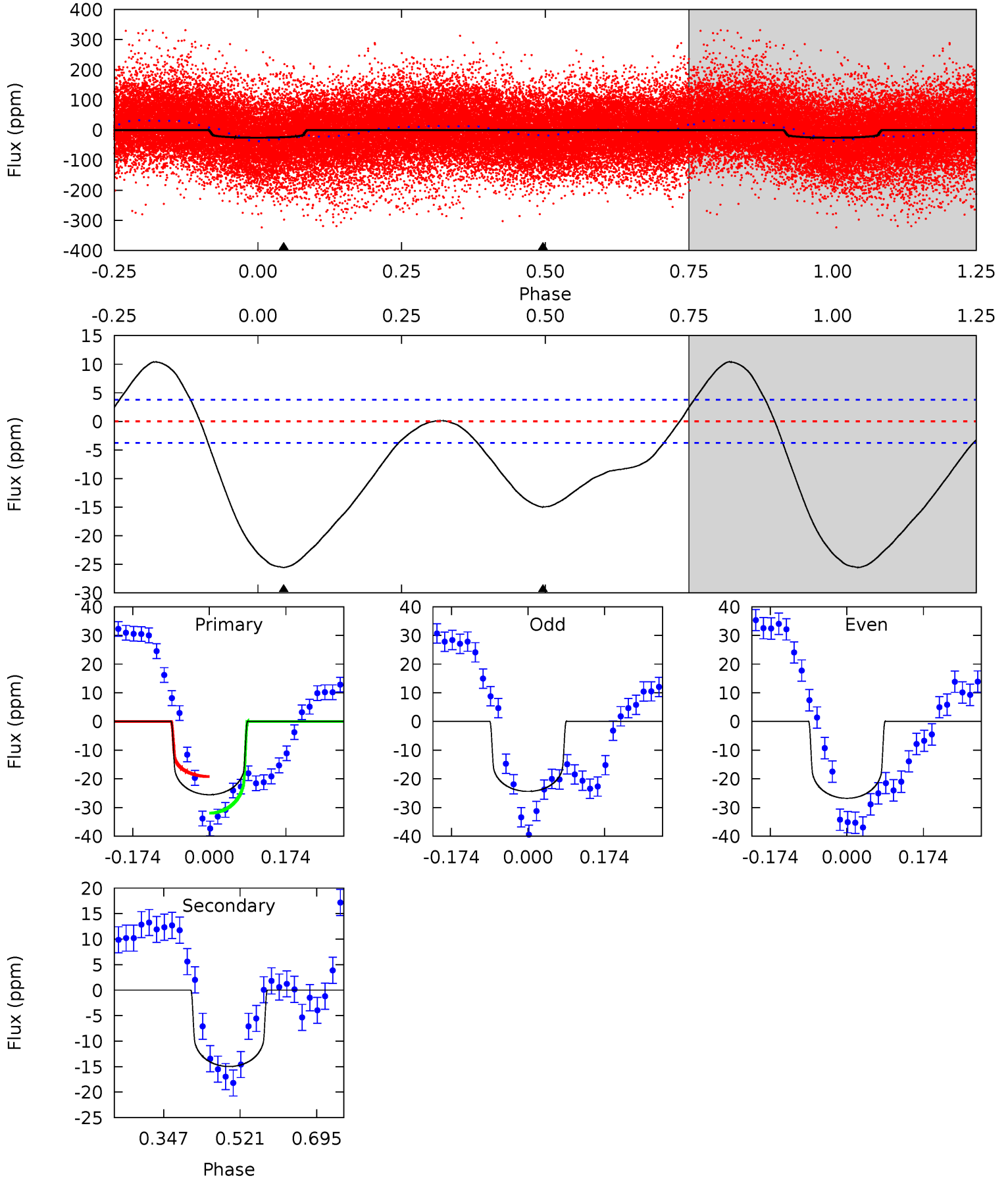
TCE 008979190-02 P= 3.478756 Days $T_0=132.233376$ (BKJD)



DV Model-Shift Uniqueness Test

008979190-02, P = 3.478761 Days, E = 128.745407 Days

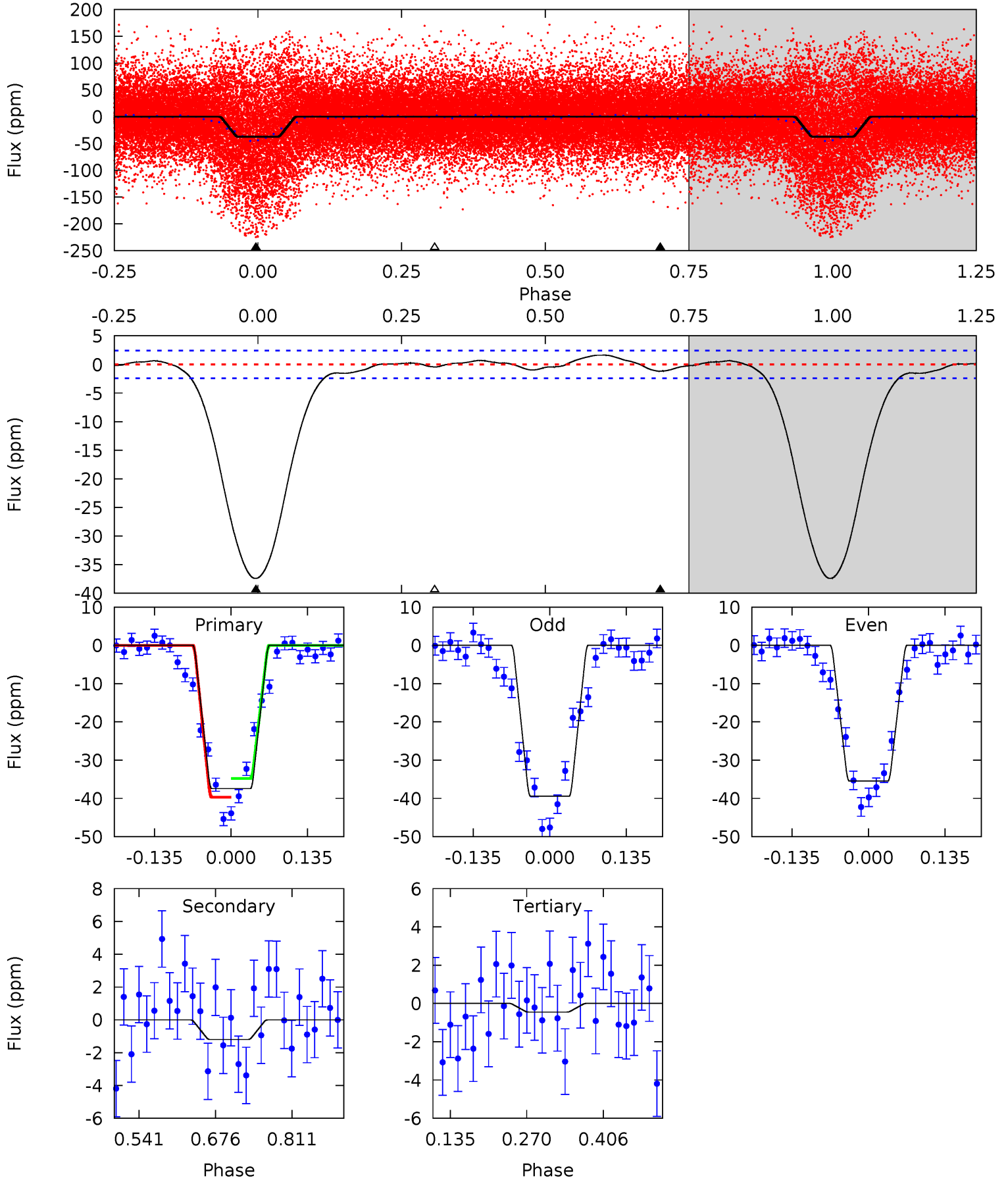
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	17.7	0	0	4.45	1.36	6.70	30.1	30.1	17.7	17.7	1.42	0.90	0.29	7.53



Alt Model-Shift Uniqueness Test

008979190-02, P = 3.478756 Days, E = 128.754620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.8	2.23	0.84	0	4.50	1.49	1.13	68.9	69.8	1.39	2.23	3.70	1.46	0.04	4.52



Stellar Parameters For KIC 008979190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6183^{+194}_{-259}	$4.265^{+0.158}_{-0.193}$	$-0.040^{+0.250}_{-0.300}$	$1.273^{+0.391}_{-0.261}$	$1.086^{+0.181}_{-0.148}$	$0.742^{+0.599}_{-0.387}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-21%	+17%/-14%	+81%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008979190-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 1	$0.55^{+0.14}_{-0.10}$	1997^{+152}_{-140}	6058^{+559}_{-484}	57^{+29}_{-20}
Alt.	-1 ± 1	$0.95^{+0.19}_{-0.14}$	2001^{+156}_{-144}	2971^{+250}_{-334}	$1.442^{+0.942}_{-0.675}$

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 $A_{\text{obs}} \gg 1.0$

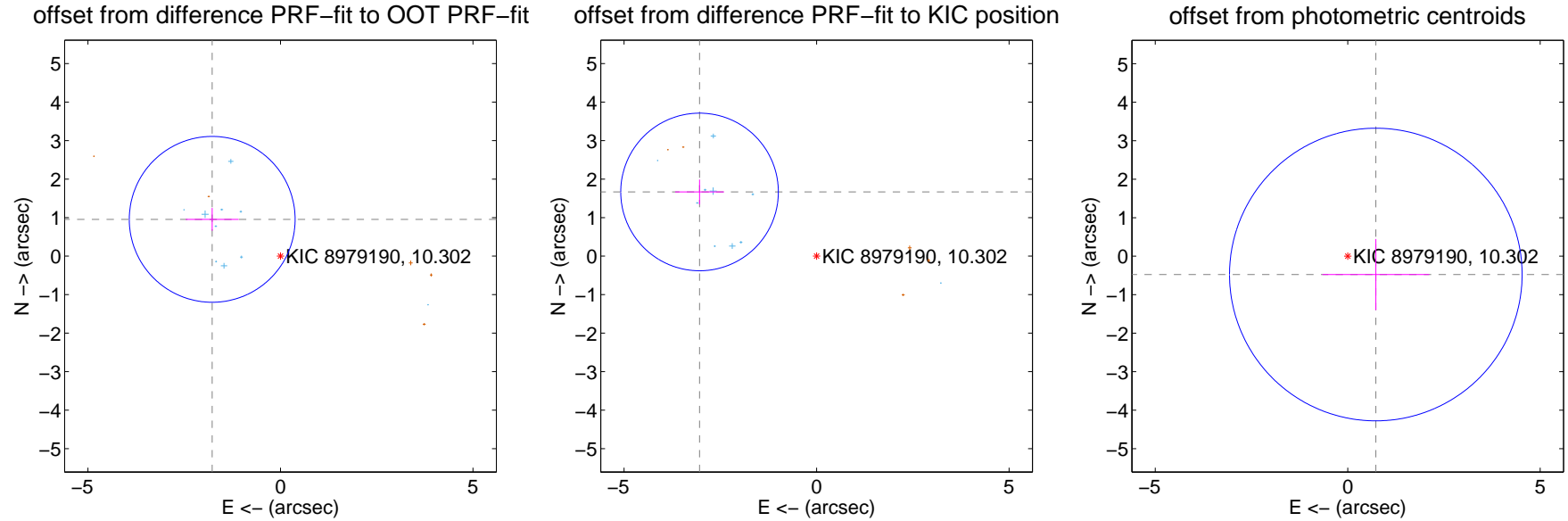
DV Centroid Data

Supplemental centroid analysis for 008979190-02. **Kepler magnitude: 10.30**. Transit SNR 5.72

There are 10 quarters with good PRF difference image offsets

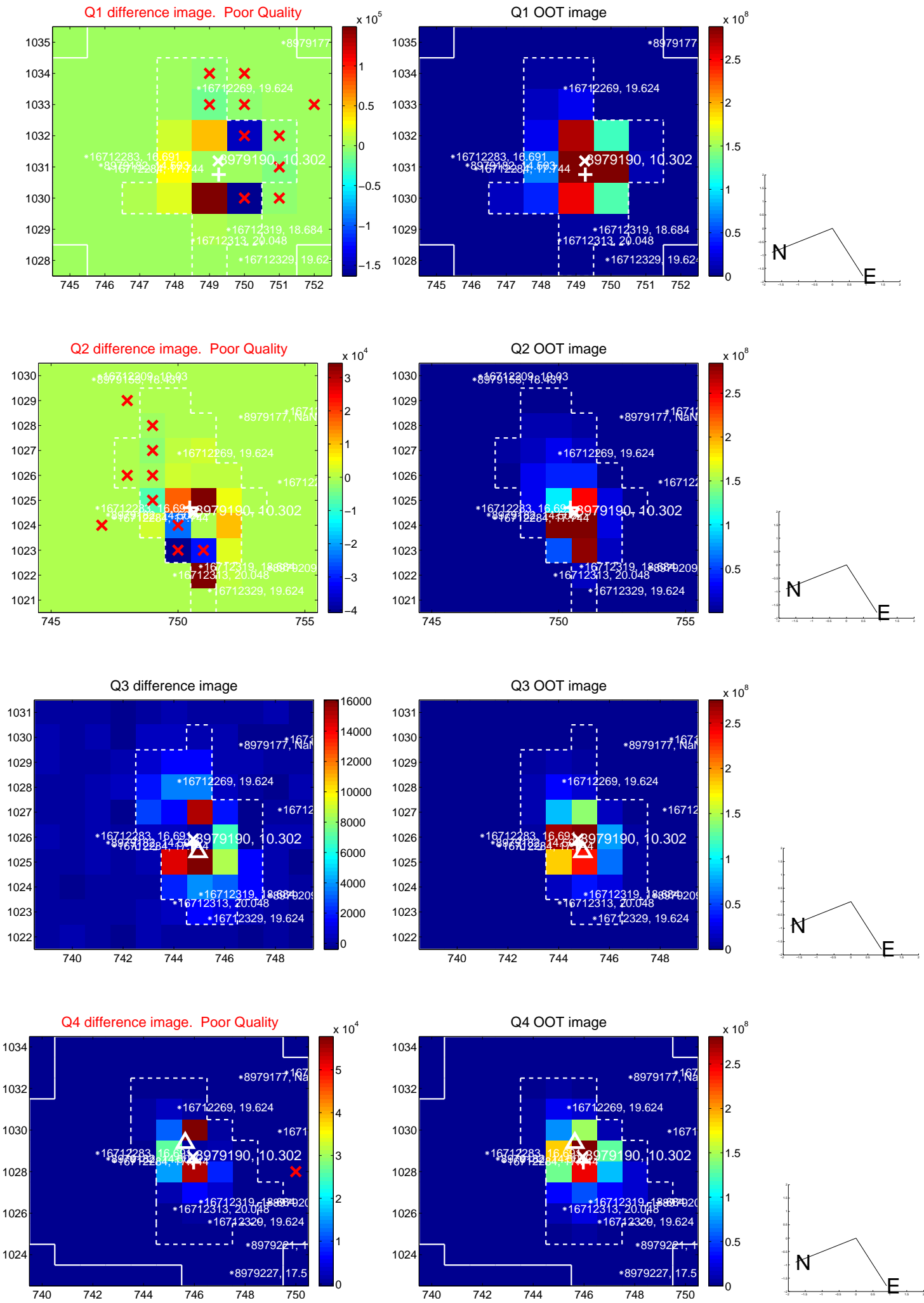
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.013 ± 0.718	2.81	1.773 ± 0.686	0.955 ± 0.295
PRF-fit source offset from KIC position	3.466 ± 0.682	5.08	3.039 ± 0.633	1.666 ± 0.322
photometric centroid source offset	0.87 ± 1.27	0.69	-0.73 ± 1.39	-0.48 ± 0.92

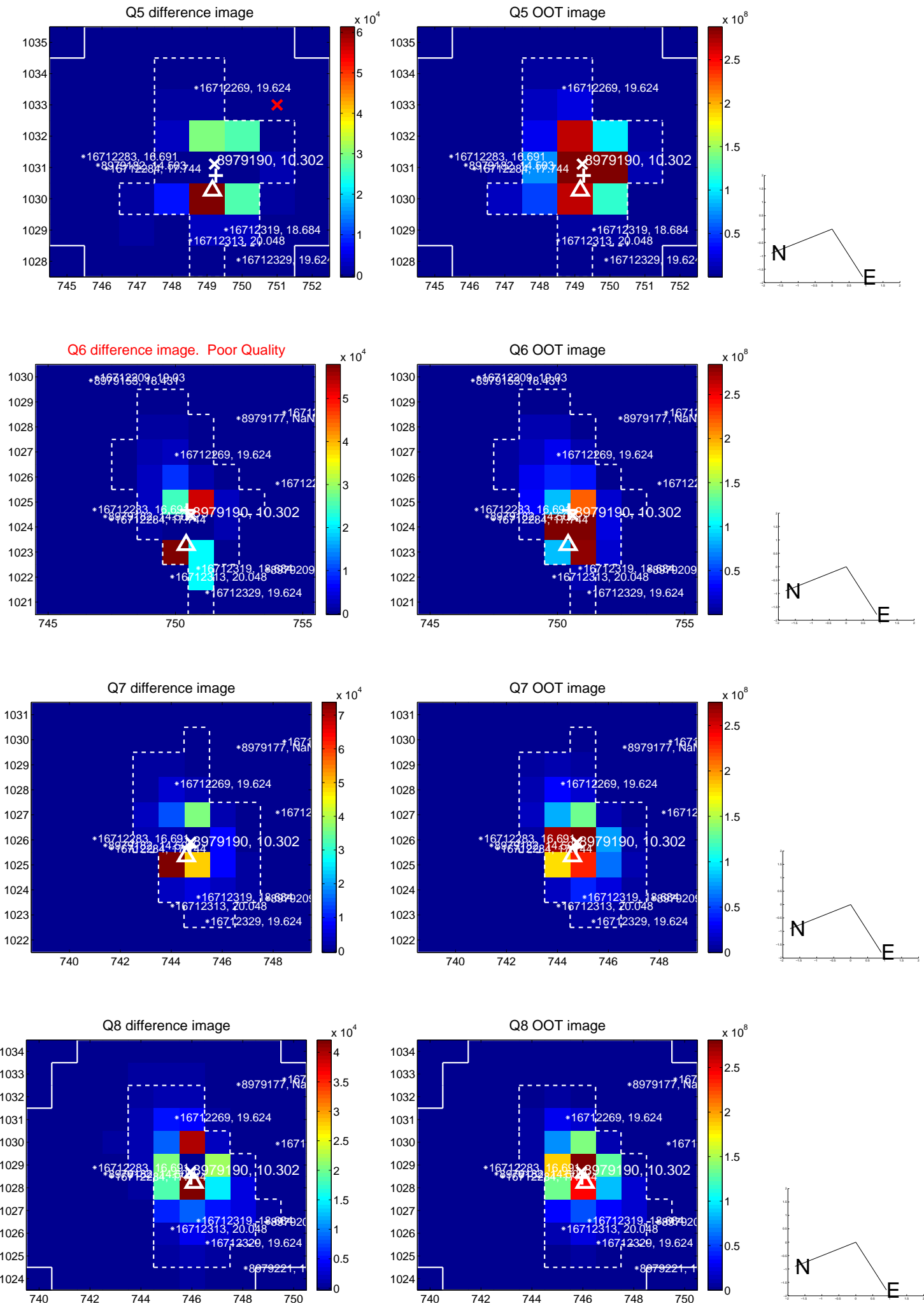


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

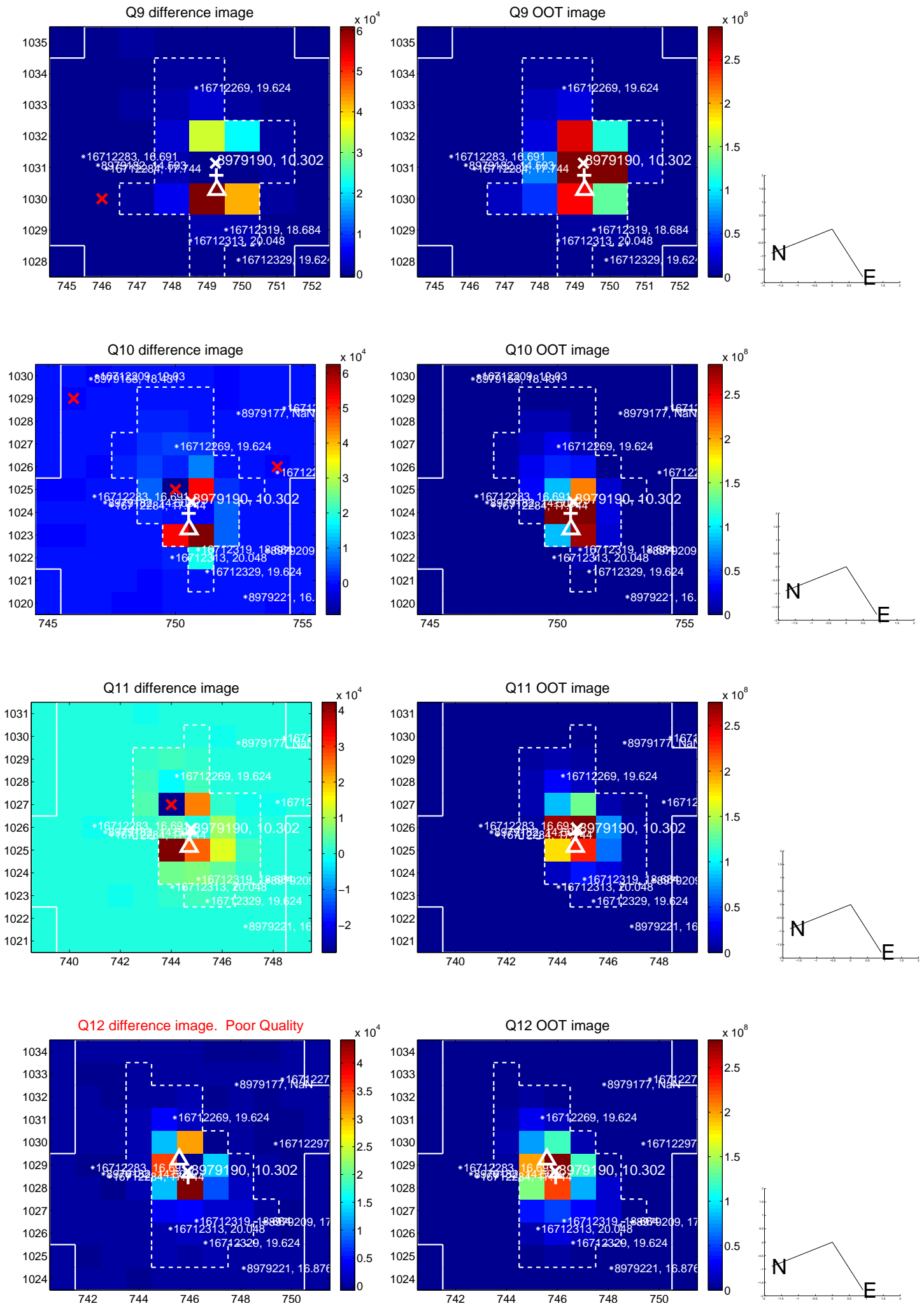
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



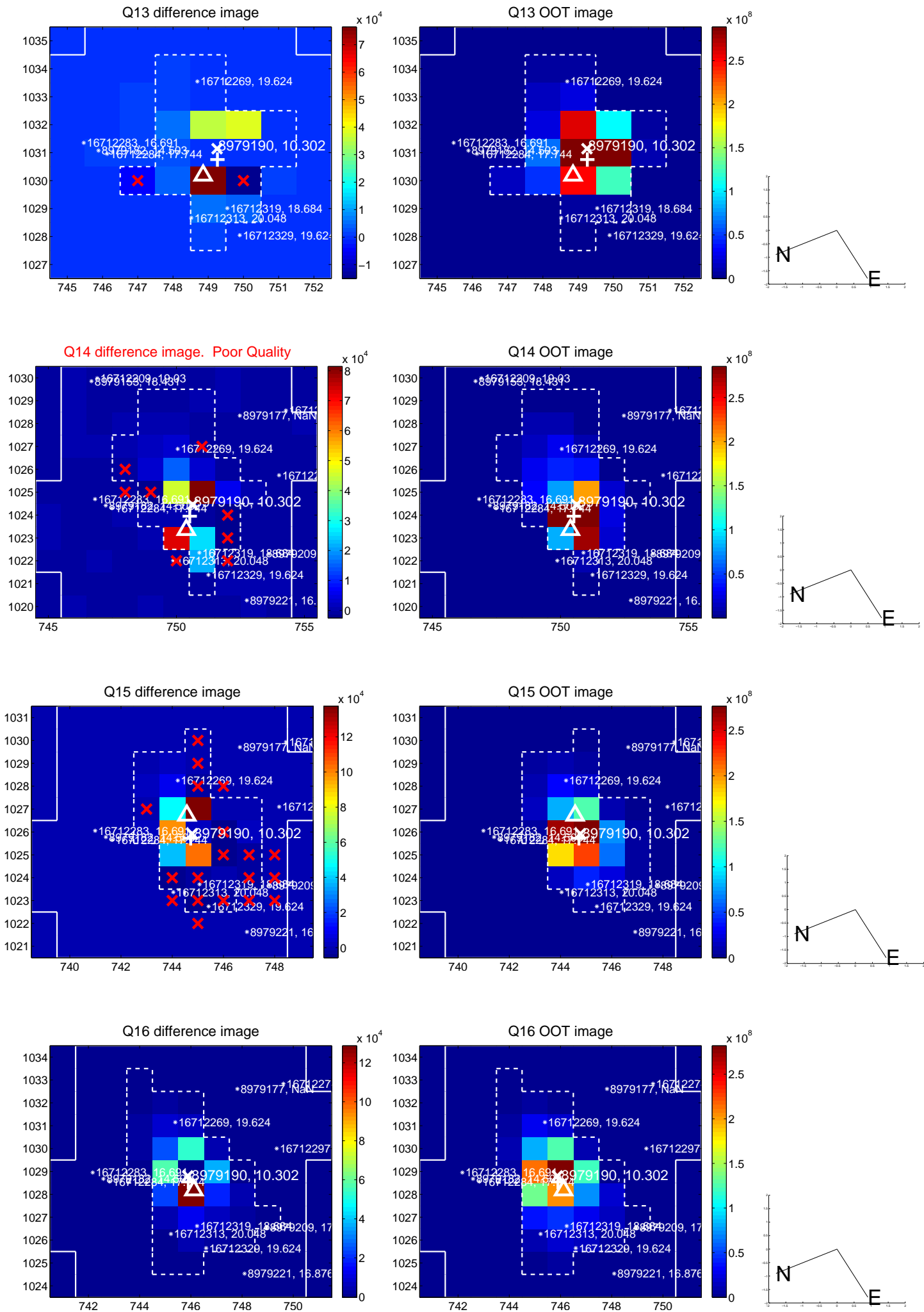
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



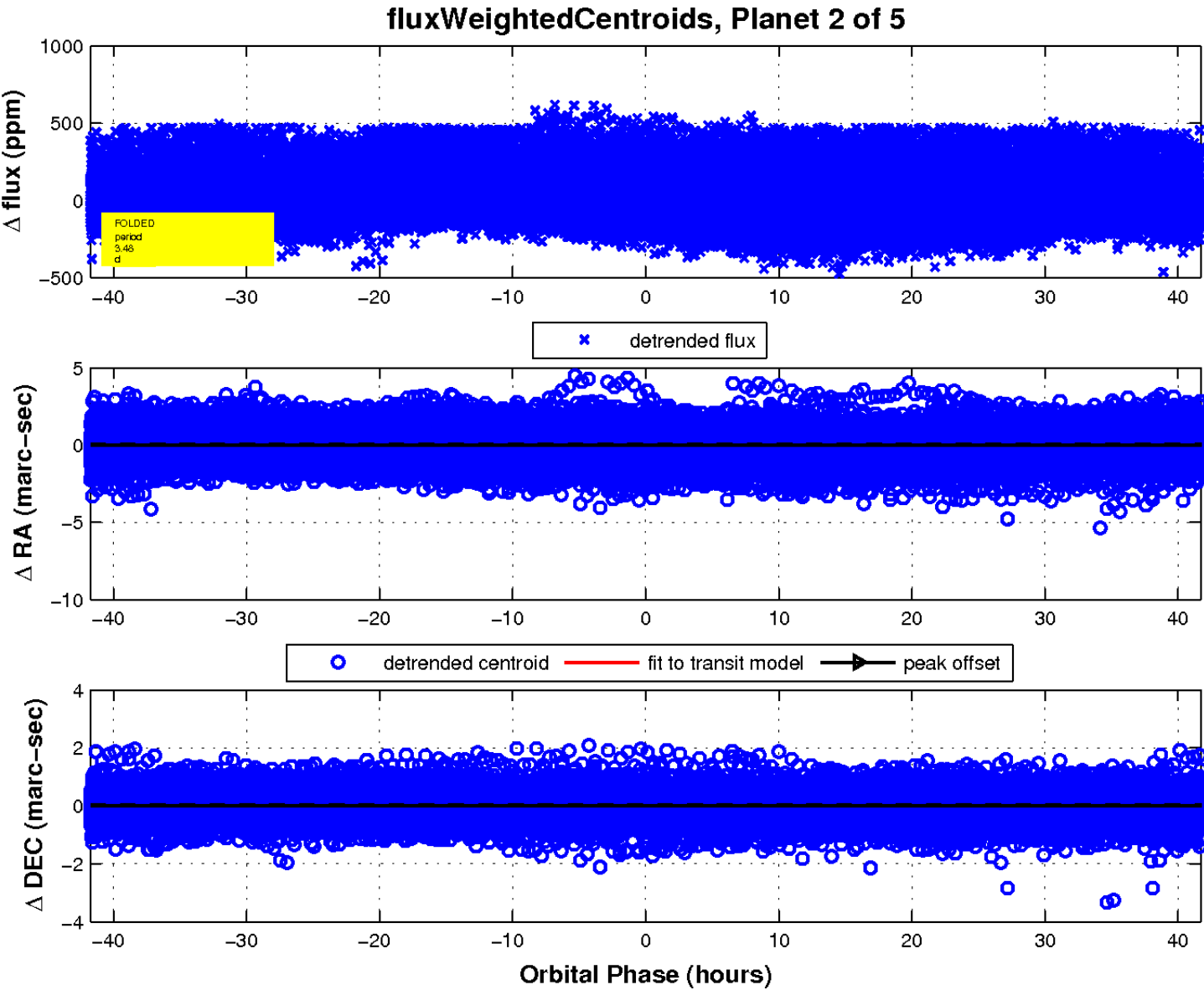
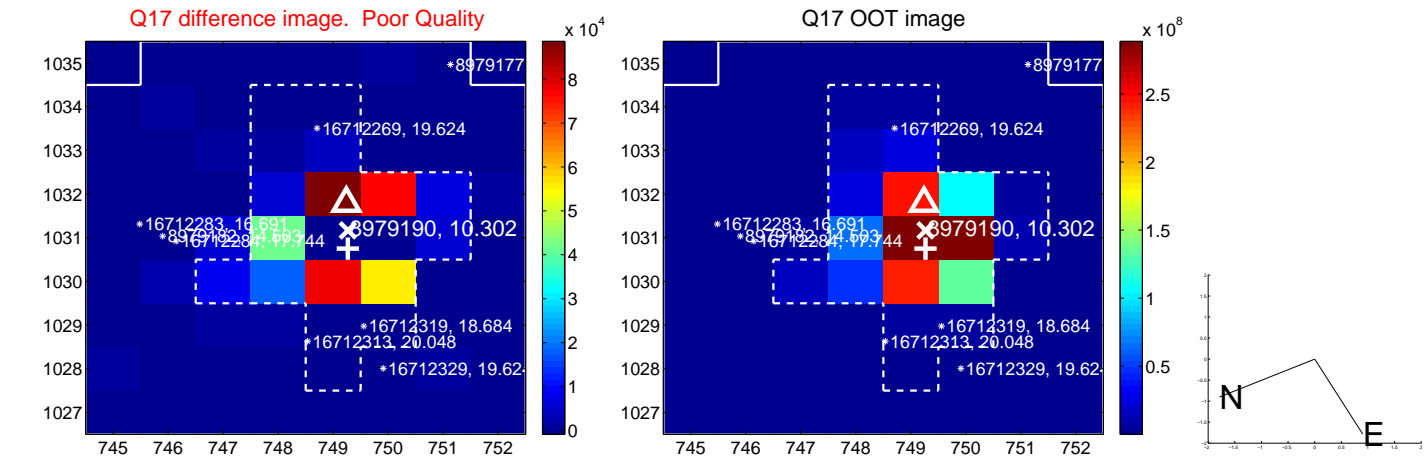
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



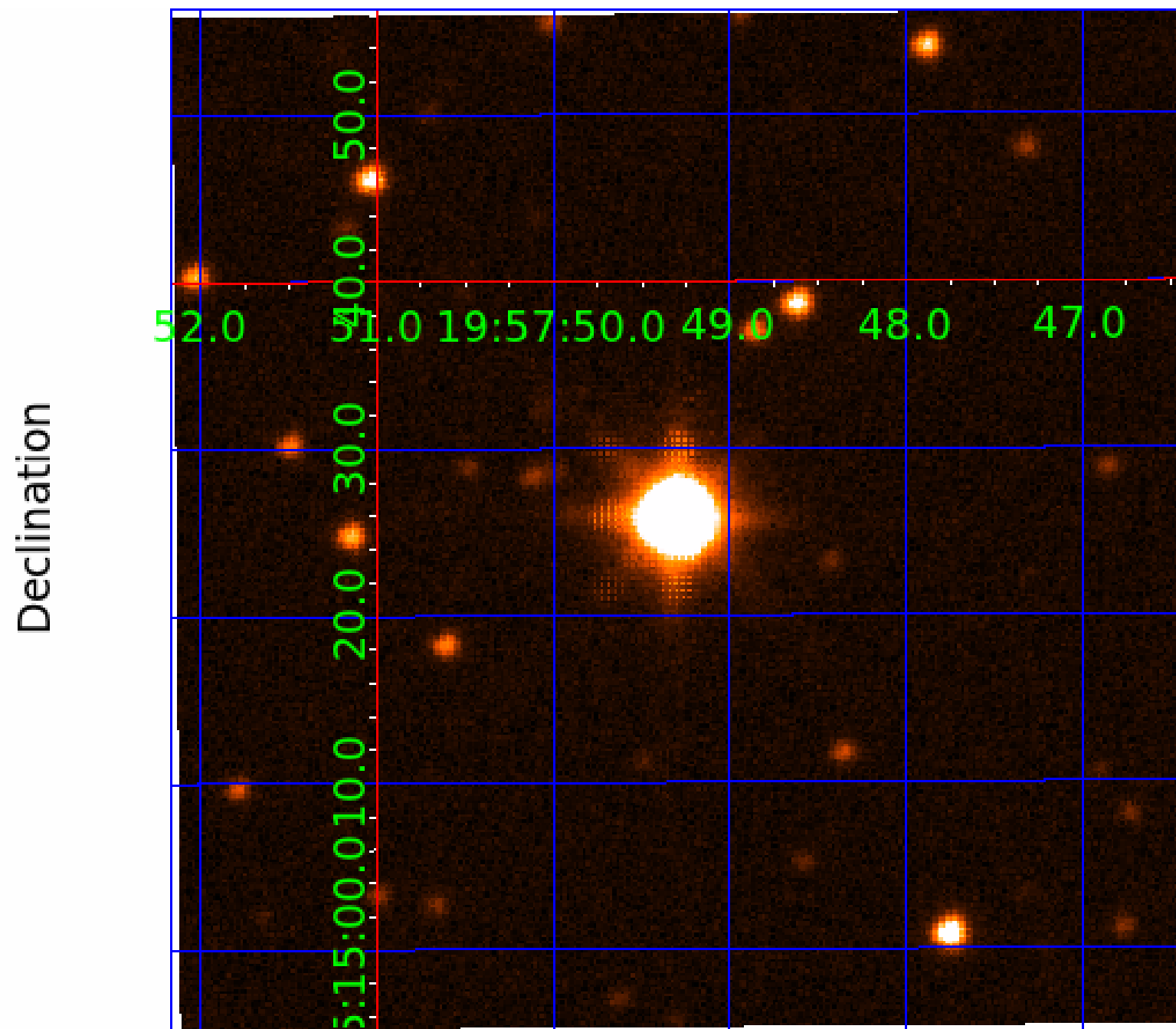
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008979190

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})
008979190-01	OBS	No	18.749739	139.528608	266.6	39.562	13.7	28.0	1.27	6183	4.09	105.09
008979190-02	OBS	No	3.478761	132.224168	13.3	14.052	7.8	5.7	1.27	6183	0.55	993.14
008979190-03	OBS	No	3.479387	133.216197	0.0	7.181	10.6	0.0	1.27	6183	0.01	992.90
008979190-04	OBS	No	466.033468	301.097762	50.6	3.489	7.8	2.9	1.27	6183	0.99	1.45
008979190-05	OBS	No	104.560742	133.190727	57.6	13.617	7.7	4.7	1.27	6183	1.14	10.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008979190-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008979190-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
008979190-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008979190-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008979190-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

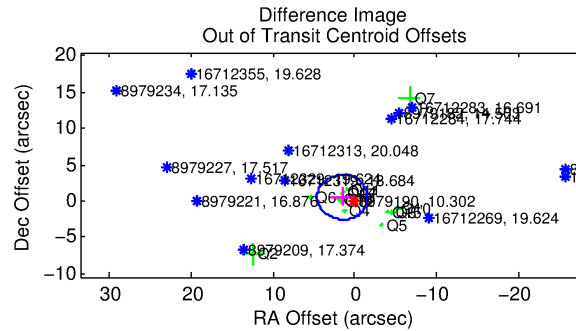
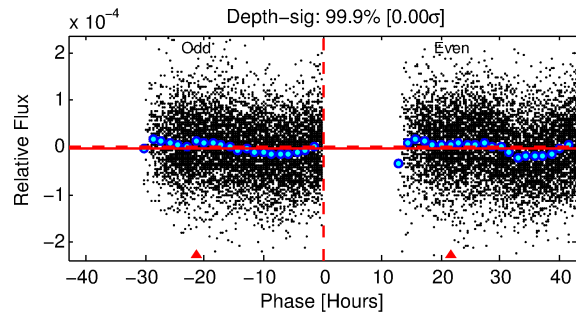
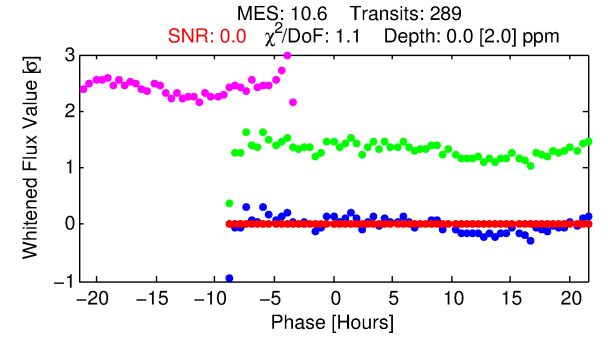
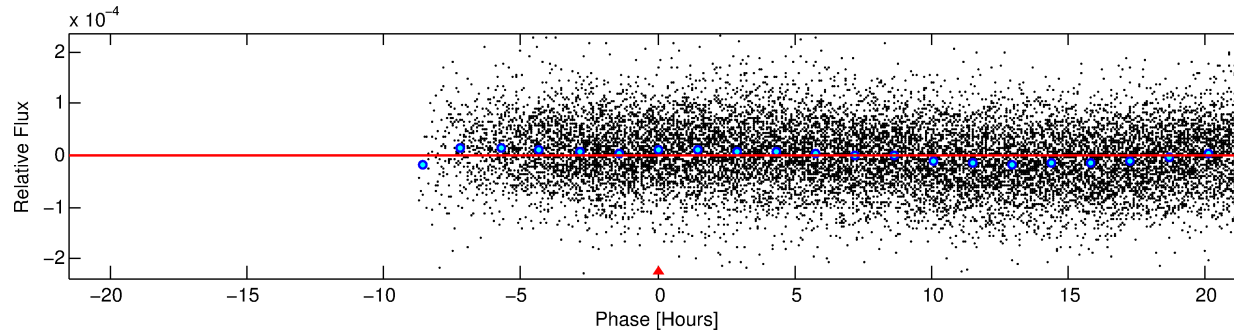
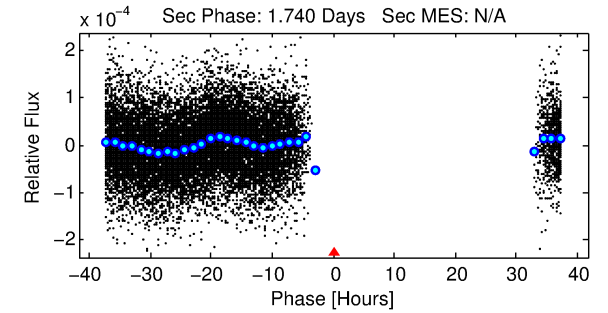
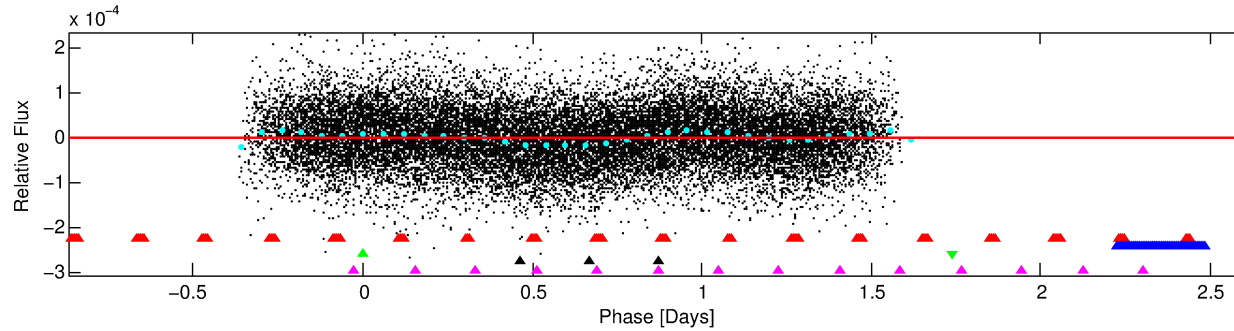
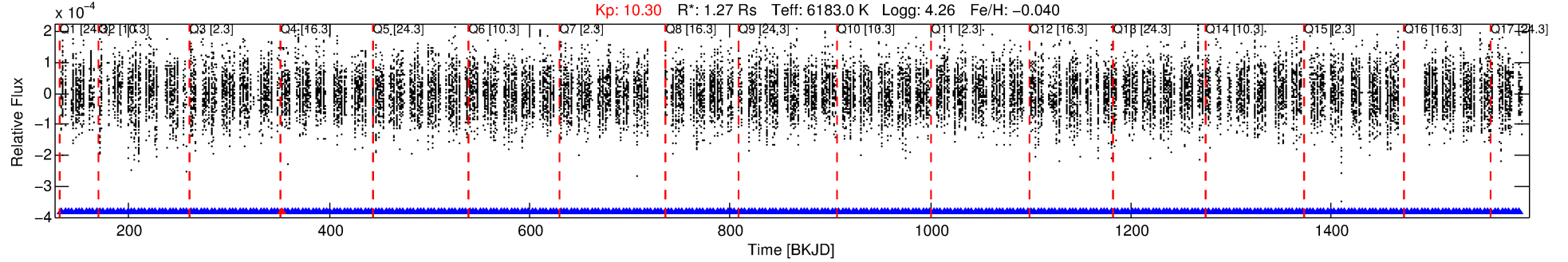
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008979190-03

No Significant Match Found

DV One-Page Summary

KIC: 8979190 Candidate: 3 of 5 Period: 3.479 d



DV Fit Results:

Period = 3.47939 [0.47991] d
Epoch = 133.2162 [83.4856] BKJD
Rp/R* = 0.0000 [0.0347]
a/R* = 1.87 [133.66]
b = 0.90 [55.82]
Seff = 992.90 [434.61]
Teq = 1431 [157] K
Rp = 0.00 [4.82] Re
a = 0.0462 [0.0124] AU

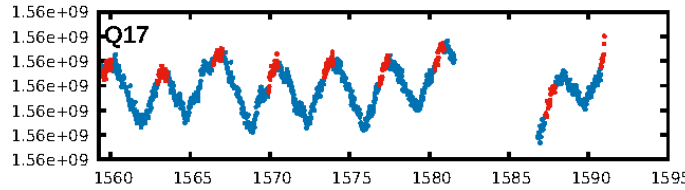
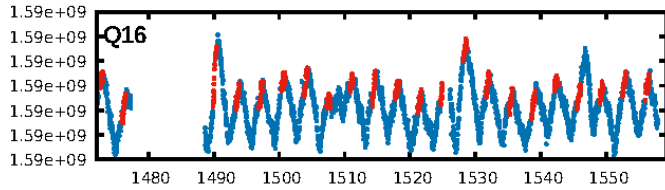
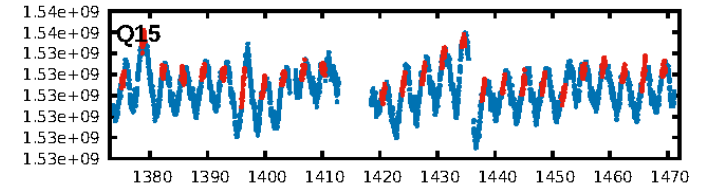
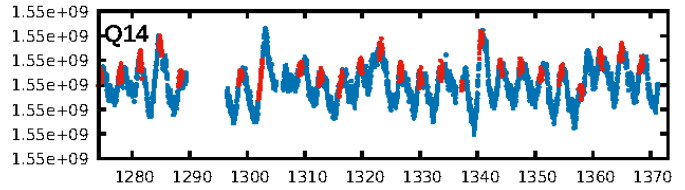
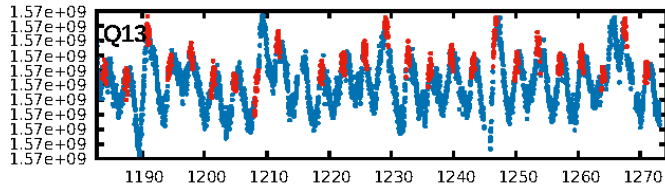
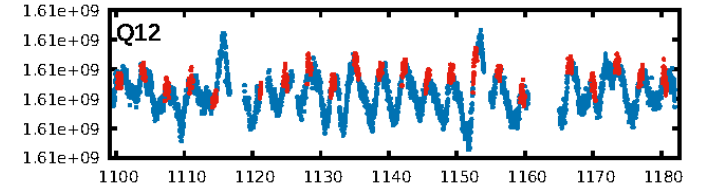
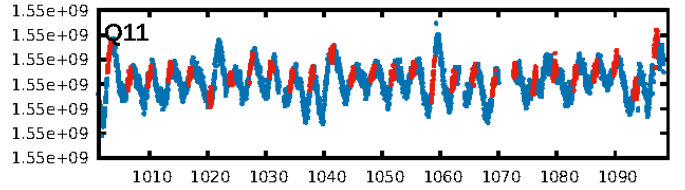
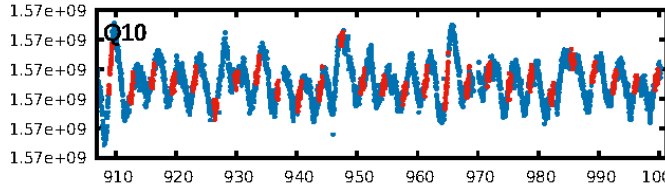
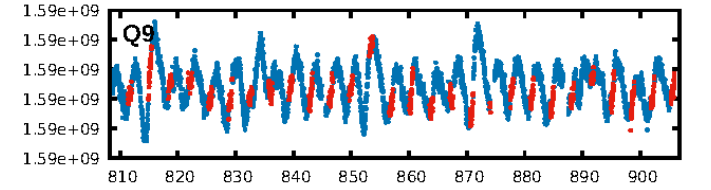
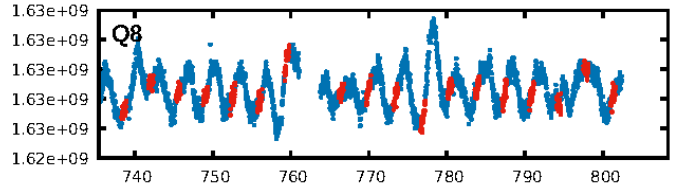
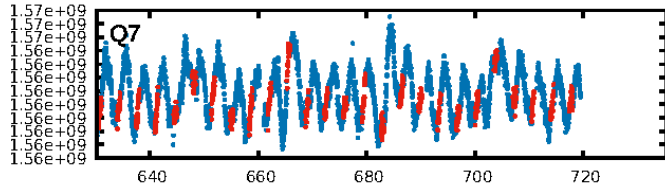
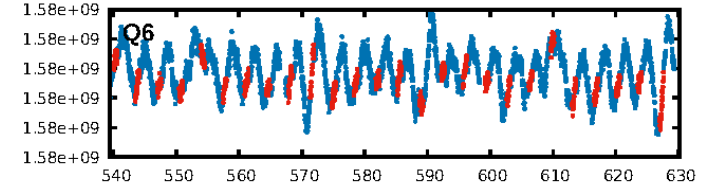
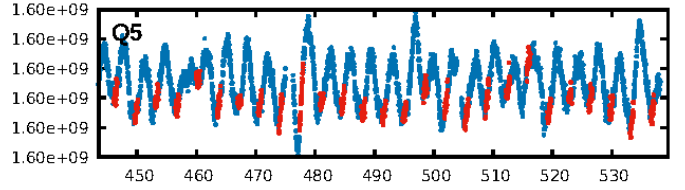
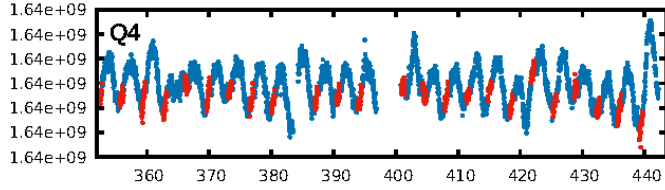
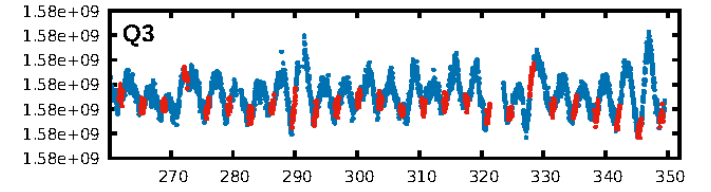
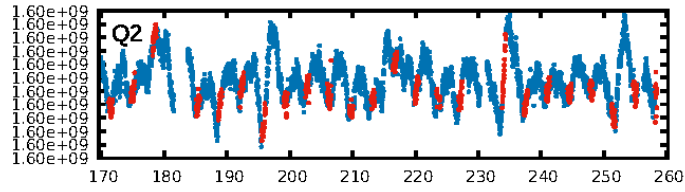
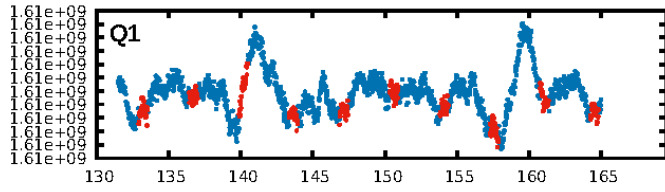
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [9.11σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.21e-09
RollingBand-fgt: 1.00 [273/274]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.618 arcsec [1.57σ]
KicOffset-rm: 3.076 arcsec [3.59σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.20 [3/15]
DiffImageOverlap-fno: 1.00 [17/17]

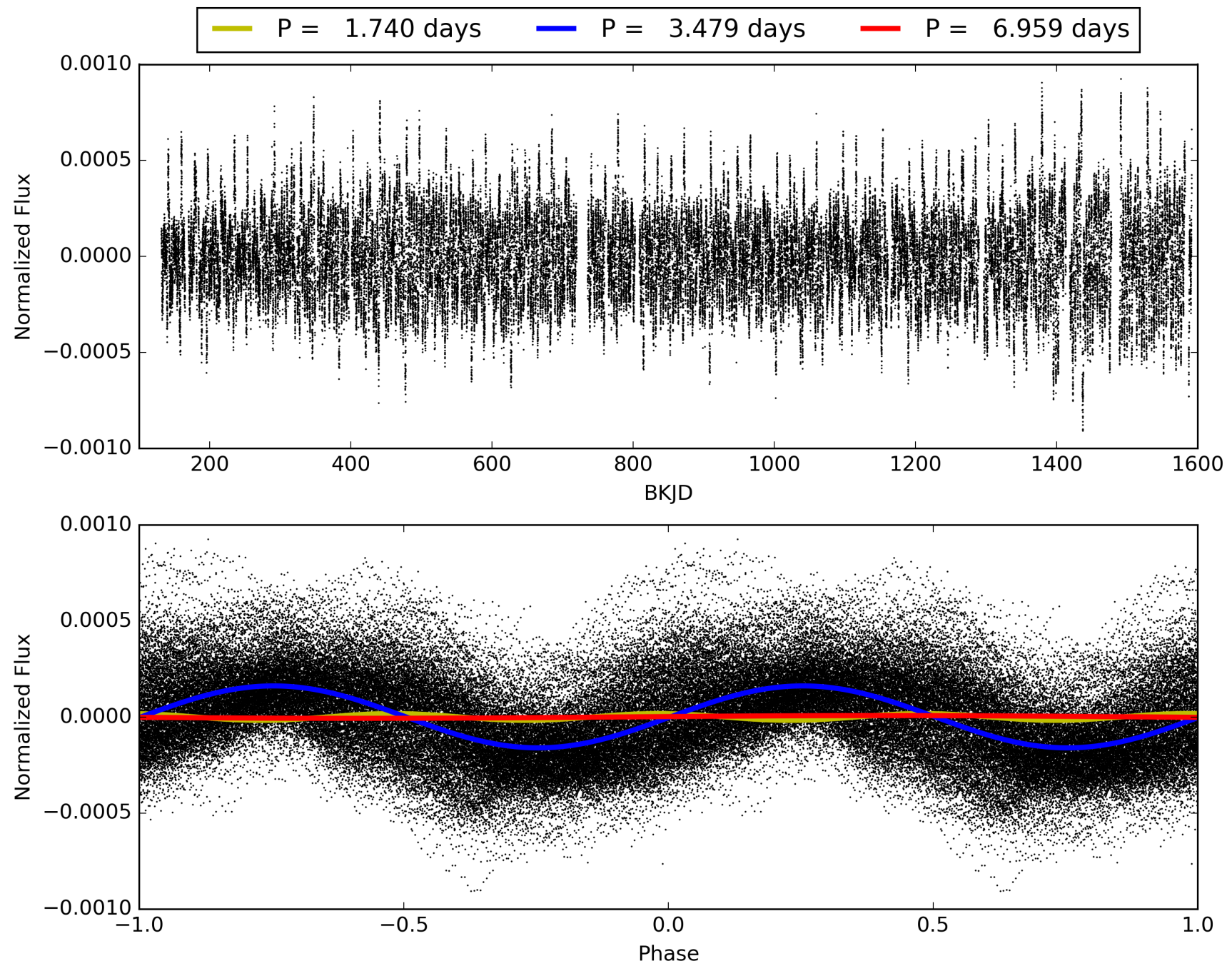
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:53:06 Z

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

TCE 008979190-03, PDC Light Curves

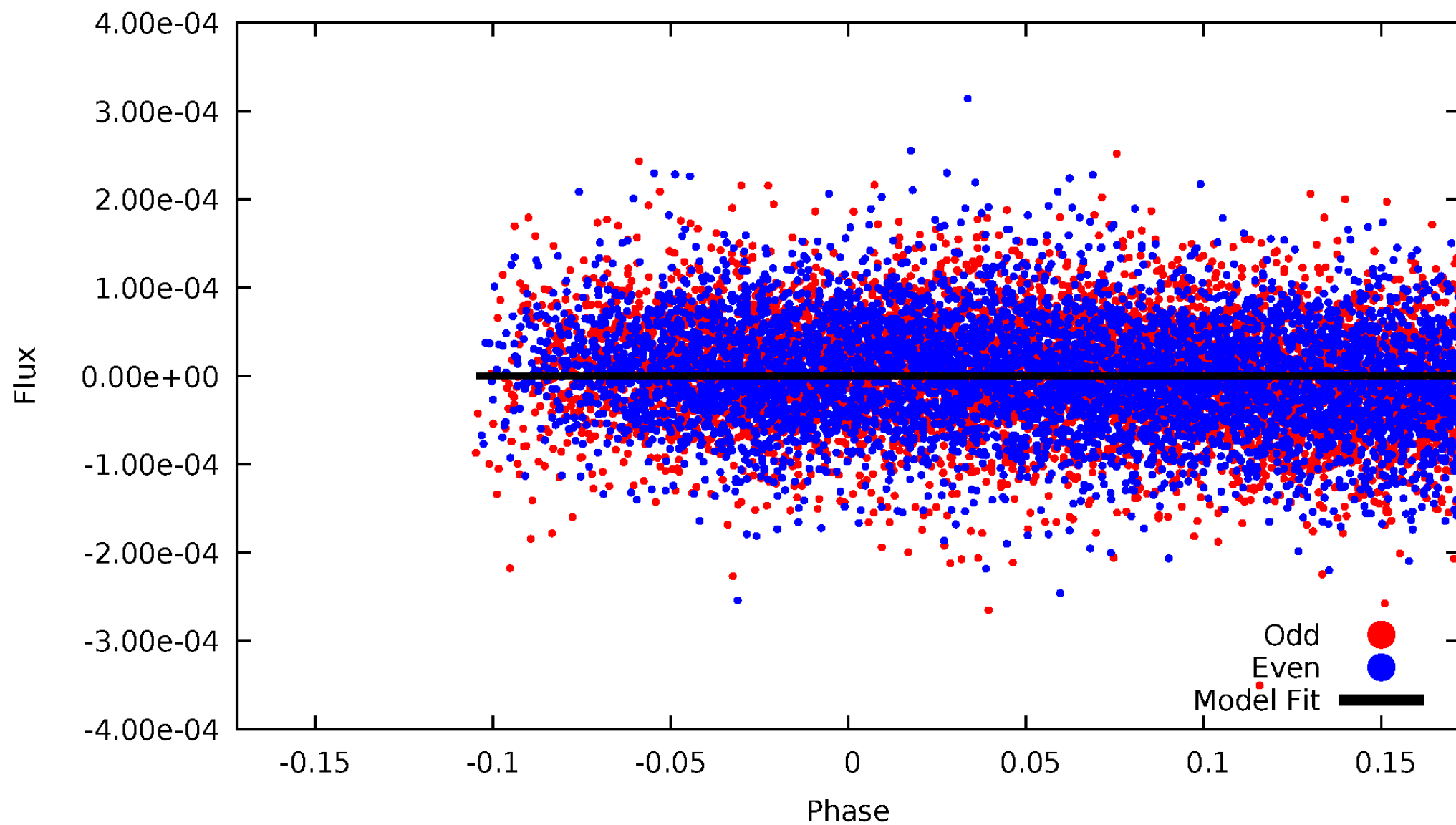


TCE 008979190-03



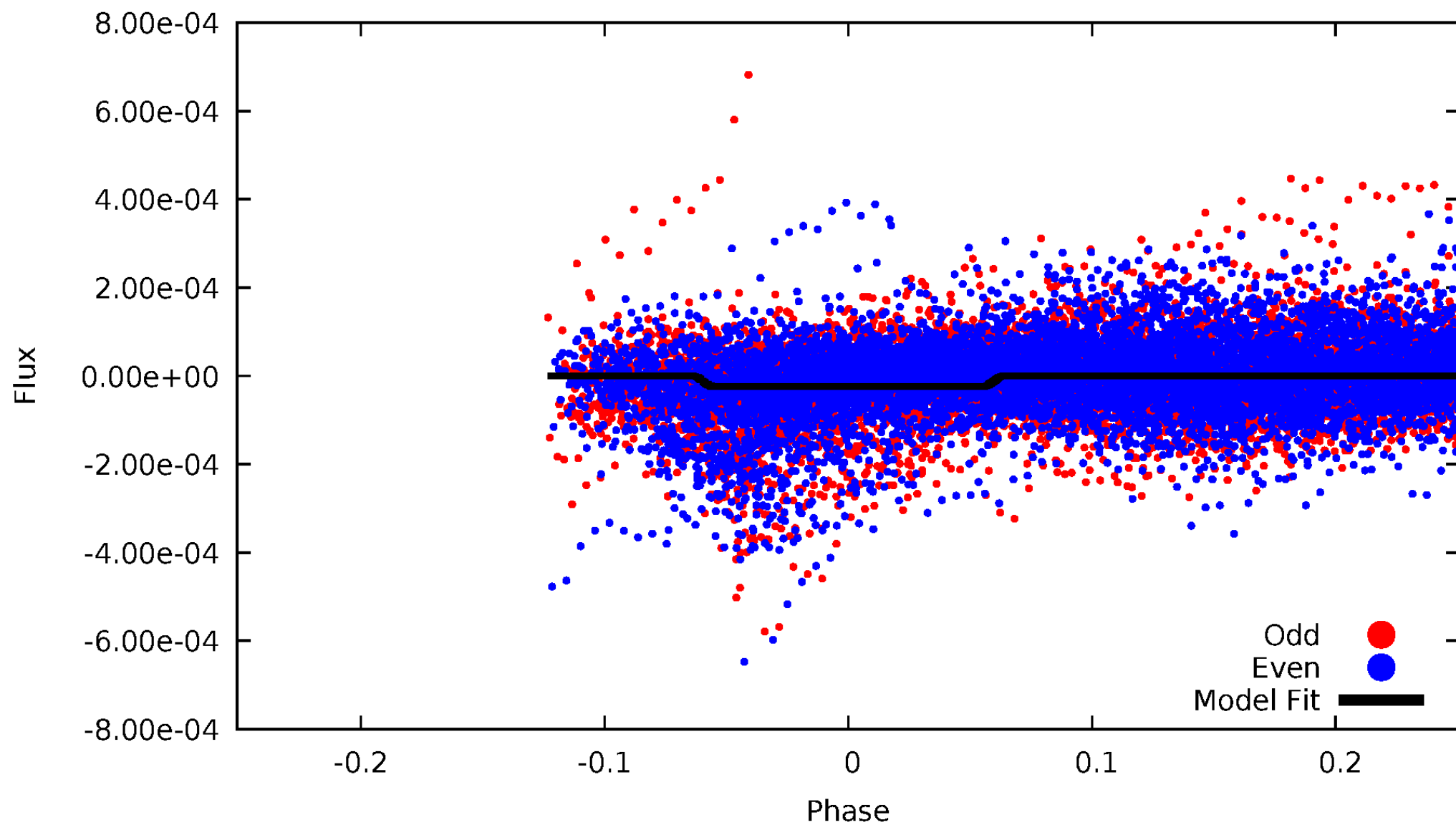
DV Odd/Even

TCE 008979190-03

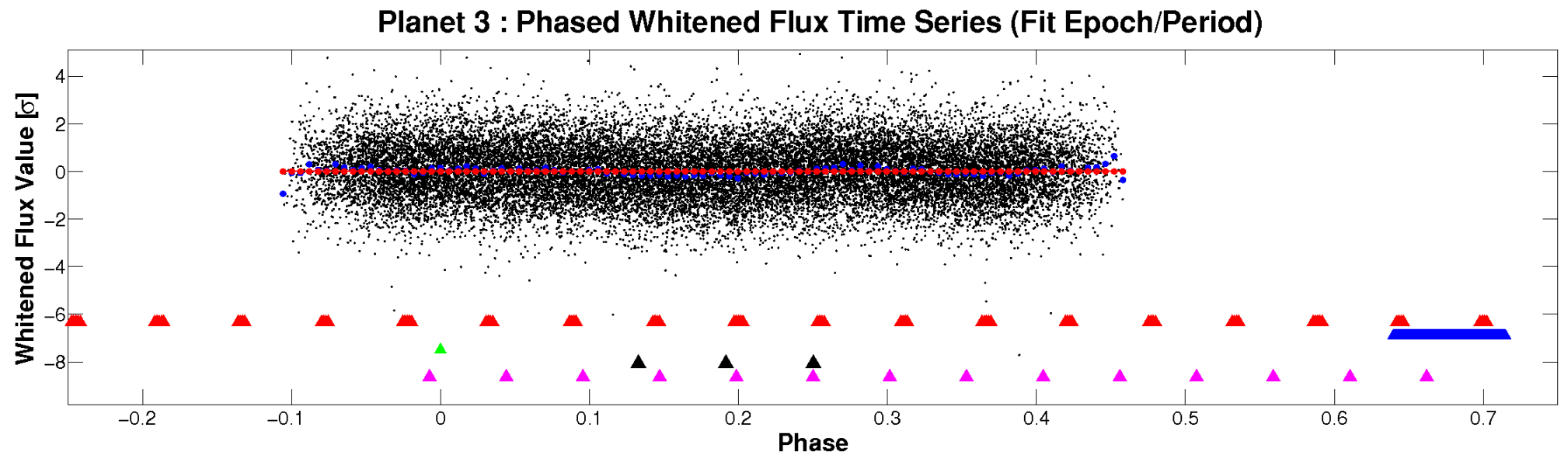
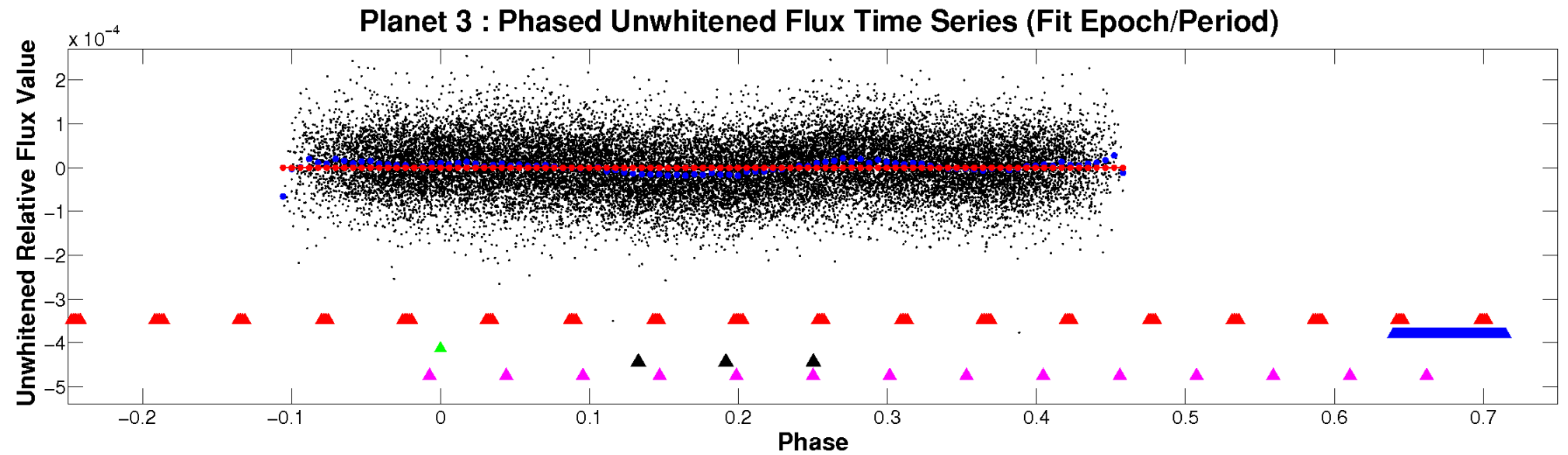


ALT Odd/Even

TCE 008979190-03

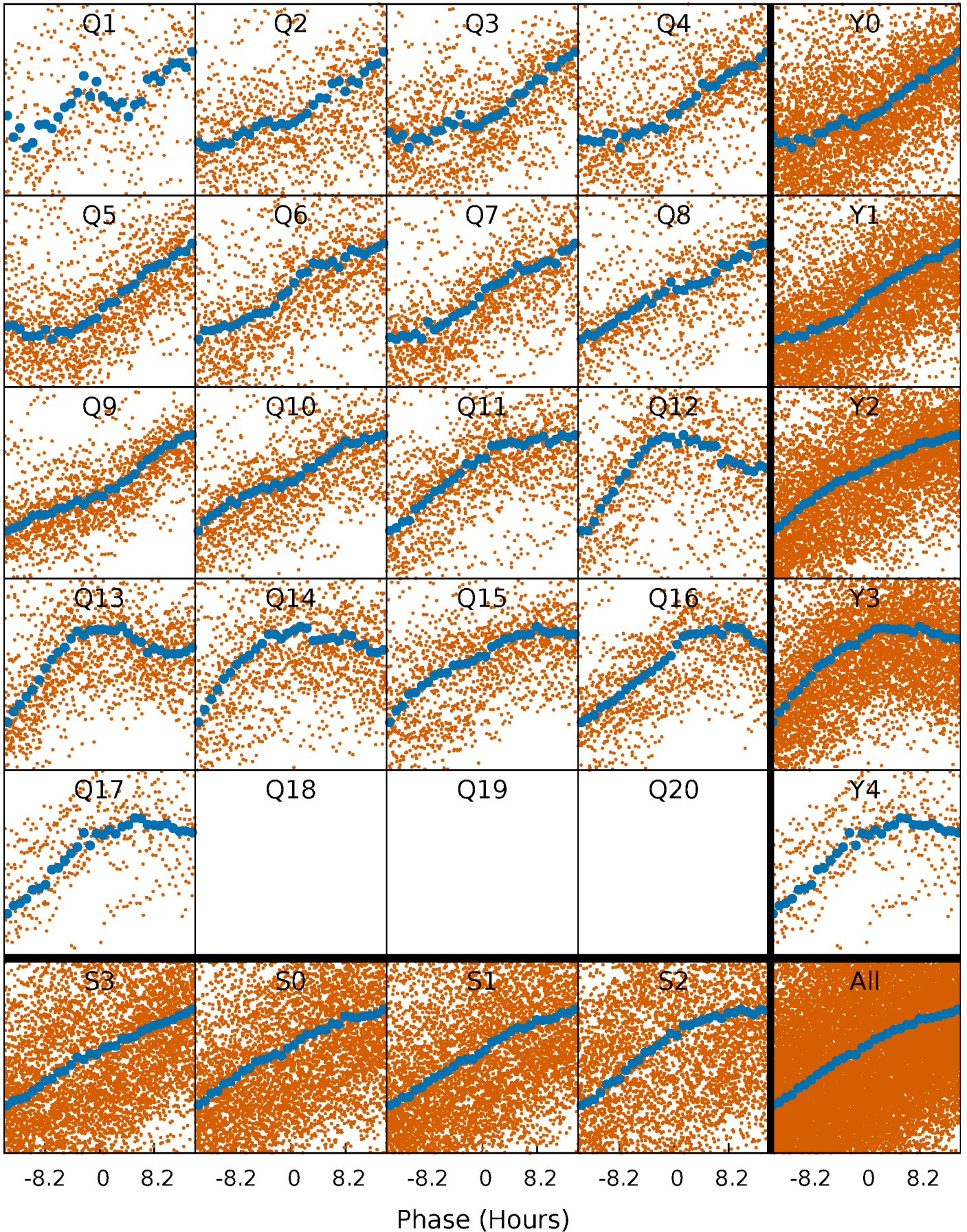


Non-Whitened Vs. Whitened Light Curve



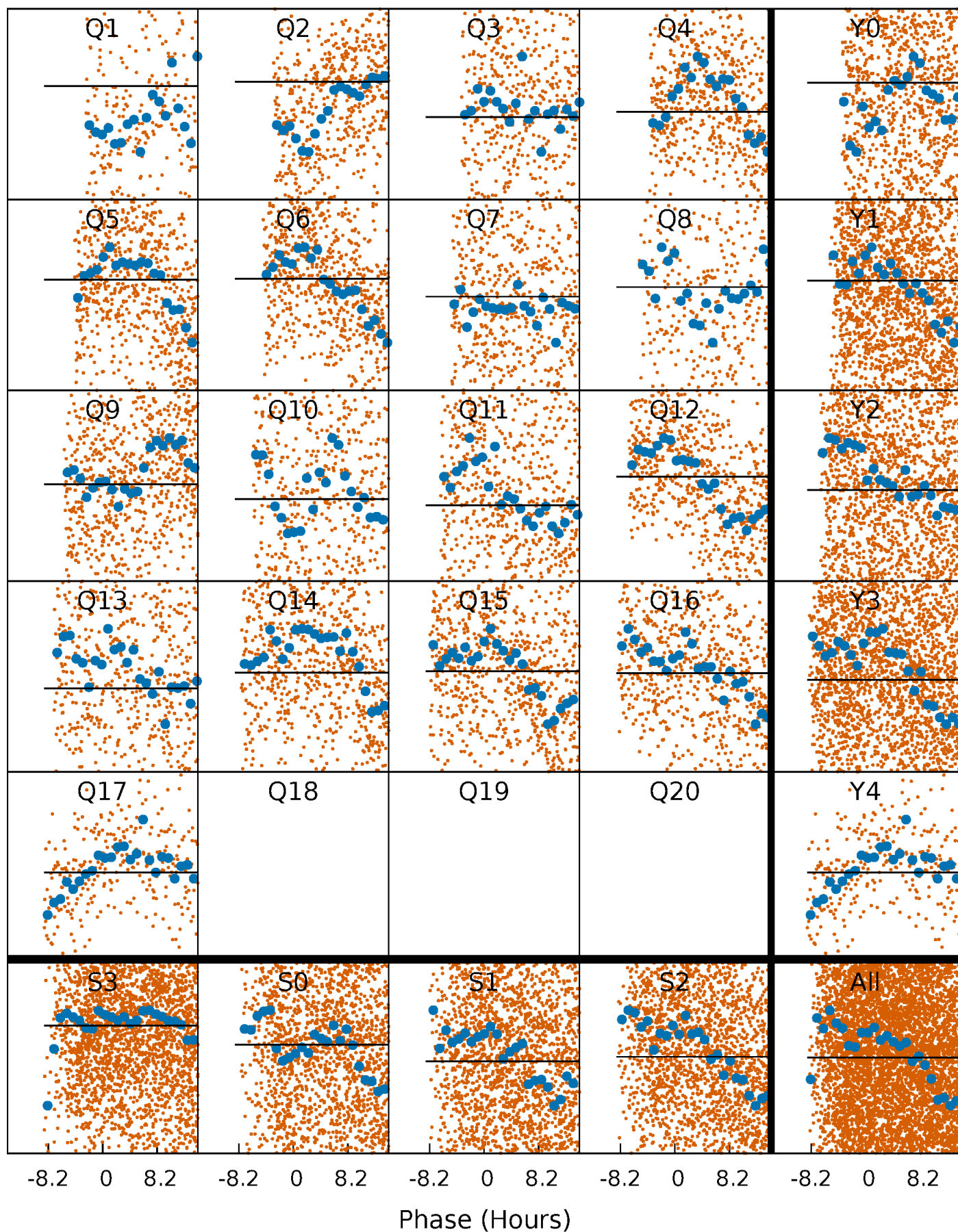
PDC Quarter-Phased Transit Curves

TCE 008979190-03 $P = 3.479387$ Days $T_0 = 133.216197$ (BKJD)



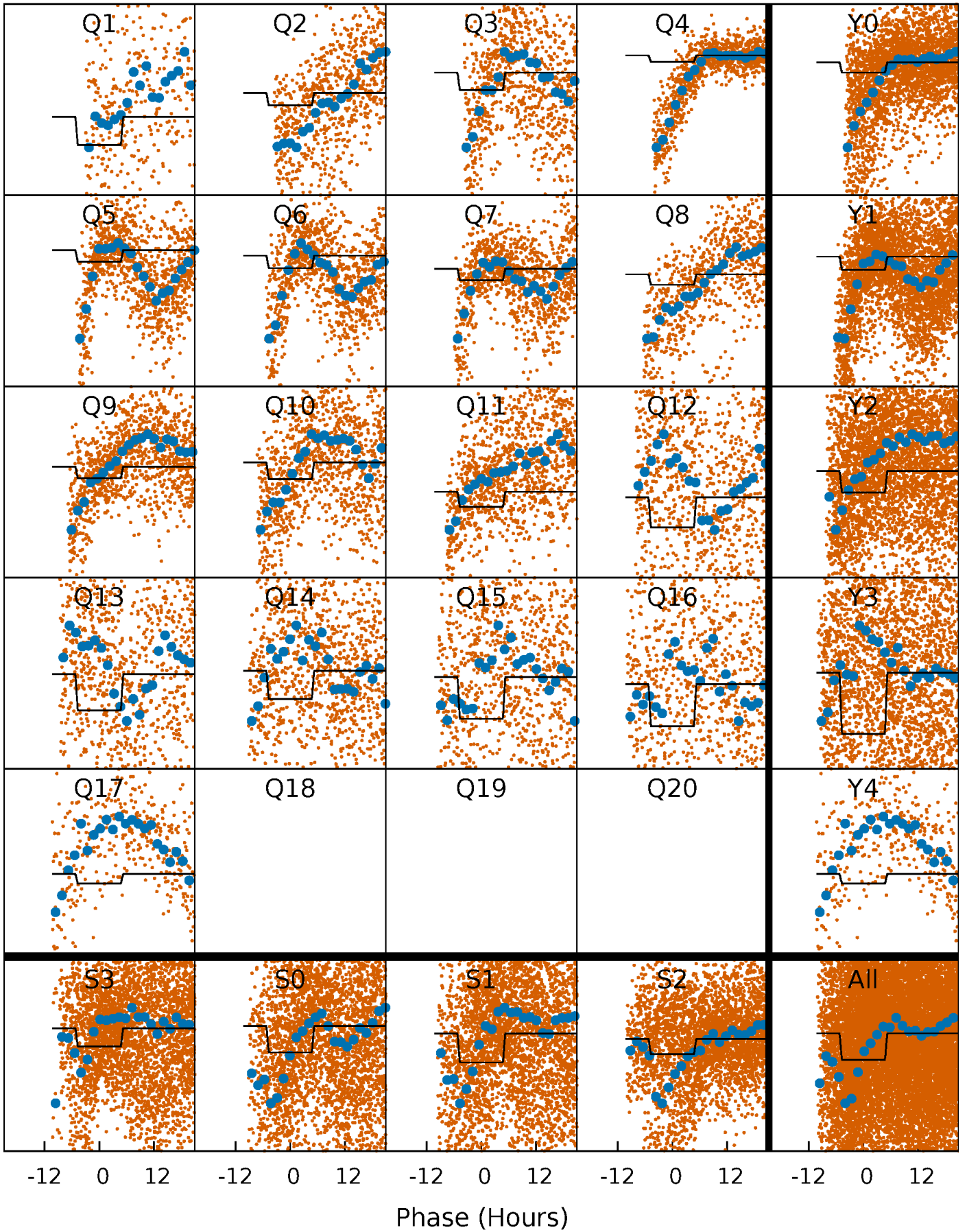
DV Quarter-Phased Transit Curves

TCE 008979190-03 $P = 3.479387$ Days $T_0 = 133.216197$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

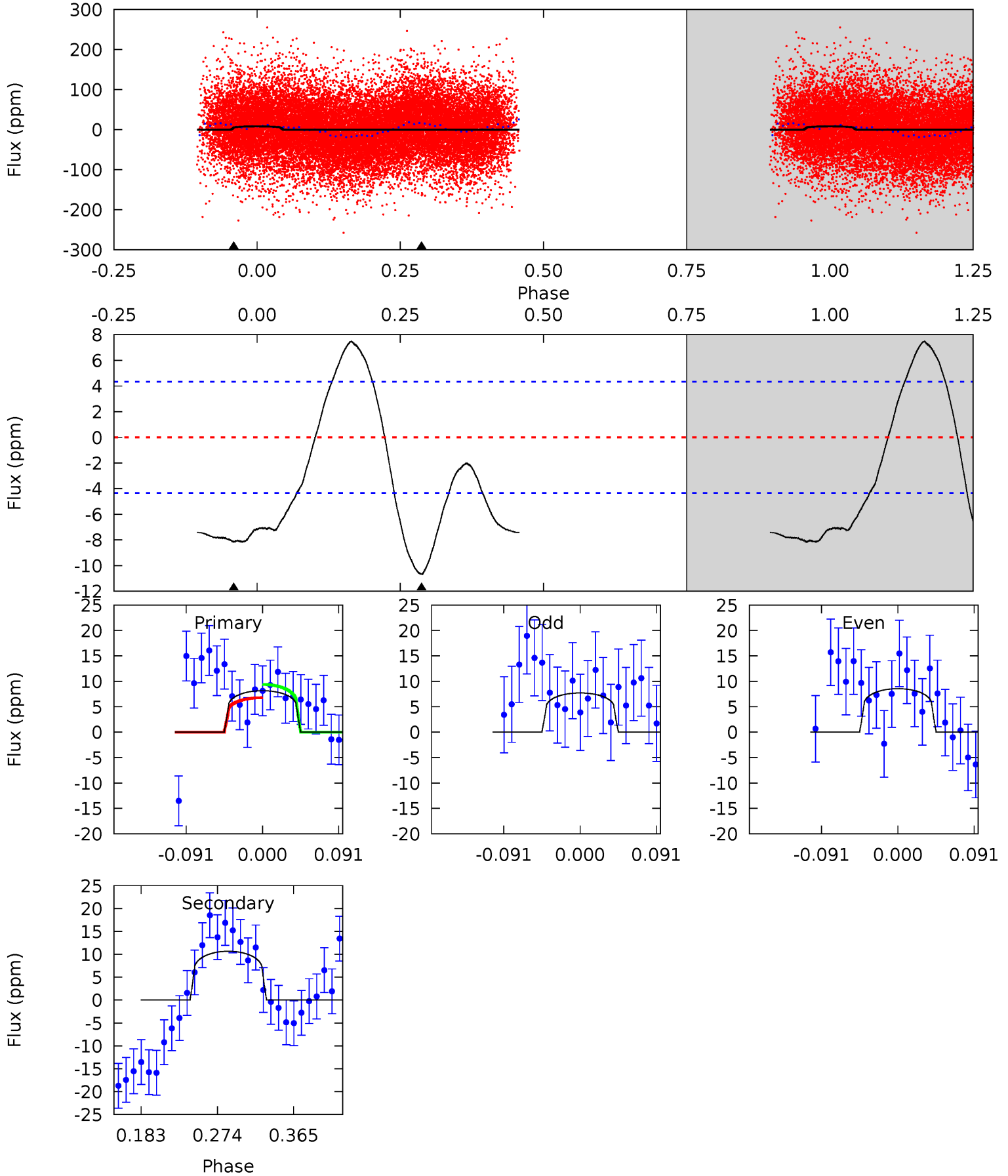
TCE 008979190-03 $P = 3.479493$ Days $T_0 = 133.235608$ (BKJD)



DV Model-Shift Uniqueness Test

008979190-03, P = 3.479387 Days, E = 129.736810 Days

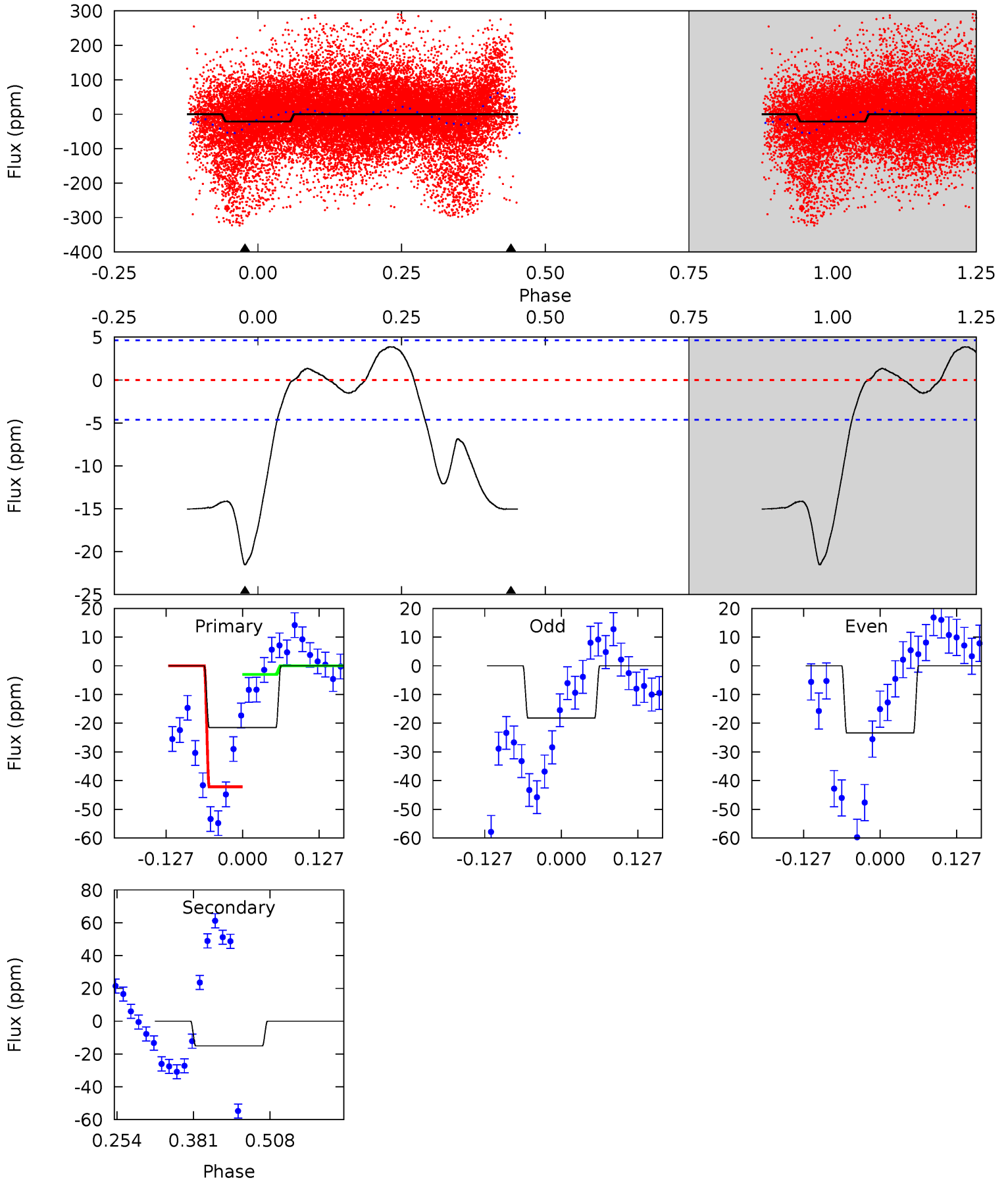
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.62	11.3	0	0	4.58	1.69	5.37	8.62	8.62	11.3	11.3	0.45	0.92	0.41	1.38



Alt Model-Shift Uniqueness Test

008979190-03, P = 3.479493 Days, E = 129.756115 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	14.7	0	0	4.51	1.53	3.22	21.0	21.0	14.7	14.7	2.55	2.10	0.15	18.7



Stellar Parameters For KIC 008979190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6183^{+194}_{-259}	$4.265^{+0.158}_{-0.193}$	$-0.040^{+0.250}_{-0.300}$	$1.273^{+0.391}_{-0.261}$	$1.086^{+0.181}_{-0.148}$	$0.742^{+0.599}_{-0.387}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-21%	+17%/-14%	+81%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008979190-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 1	$3.39^{+3.80}_{-2.29}$	2014^{+189}_{-159}	2818^{+1423}_{-4908}	$1.077^{+9.530}_{-0.837}$
Alt.	-15 ± 1	$3.57^{+3.73}_{-2.57}$	2002^{+192}_{-161}	2955^{+1788}_{-917}	$1.348^{+16.240}_{-0.994}$

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 $A_{obs} \gg 1.0$

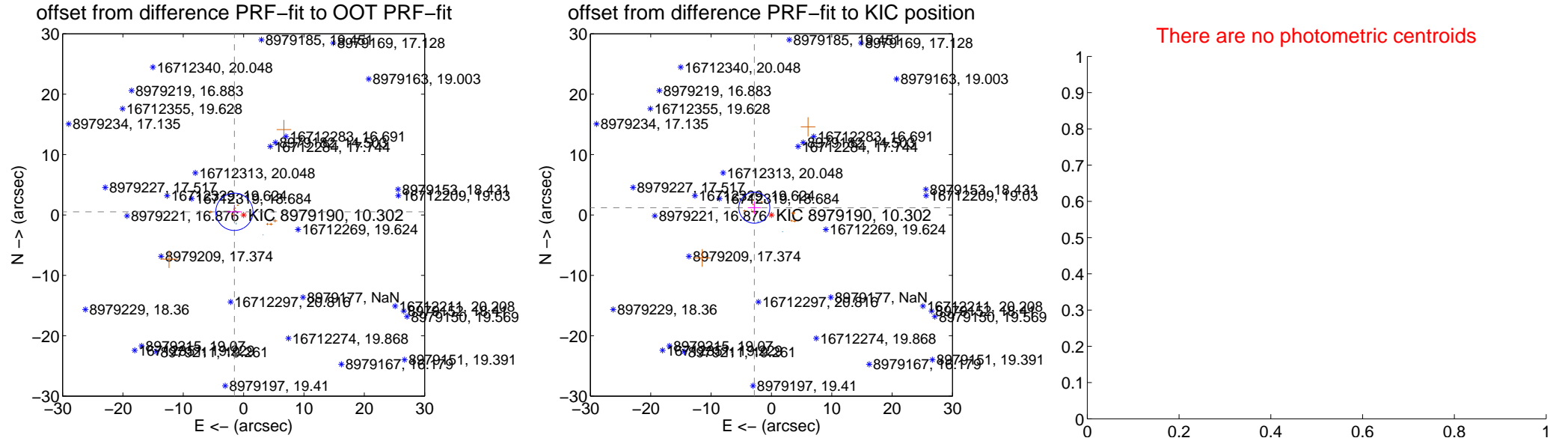
DV Centroid Data

Supplemental centroid analysis for 008979190-03. **Kepler magnitude: 10.30.** Transit SNR 0.00

There are 3 quarters with good PRF difference image offsets

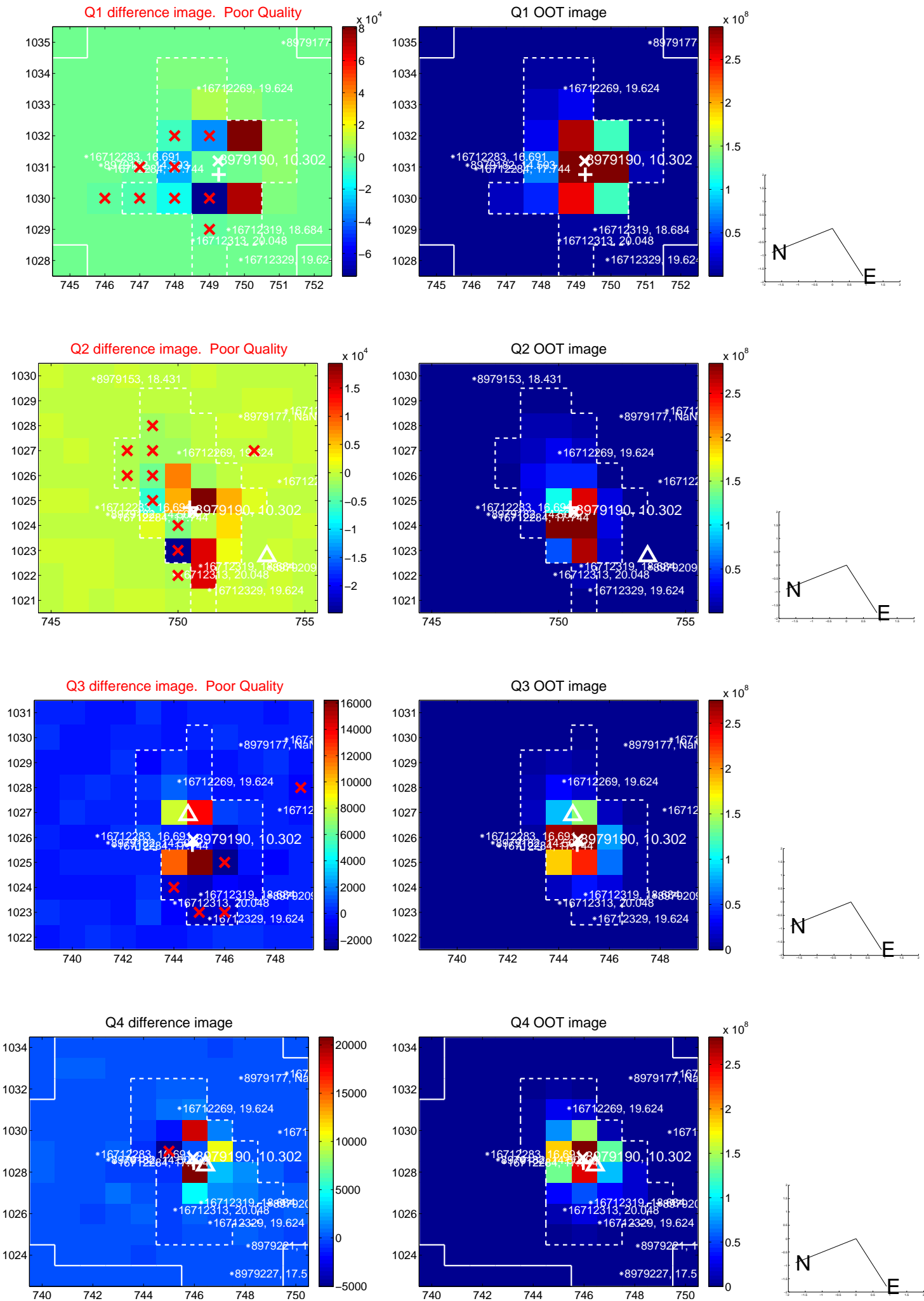
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.618 ± 1.028	1.57	1.532 ± 1.207	0.520 ± 1.123
PRF-fit source offset from KIC position	3.076 ± 0.856	3.59	2.832 ± 1.076	1.201 ± 1.046
photometric centroid source offset	—	—	—	—

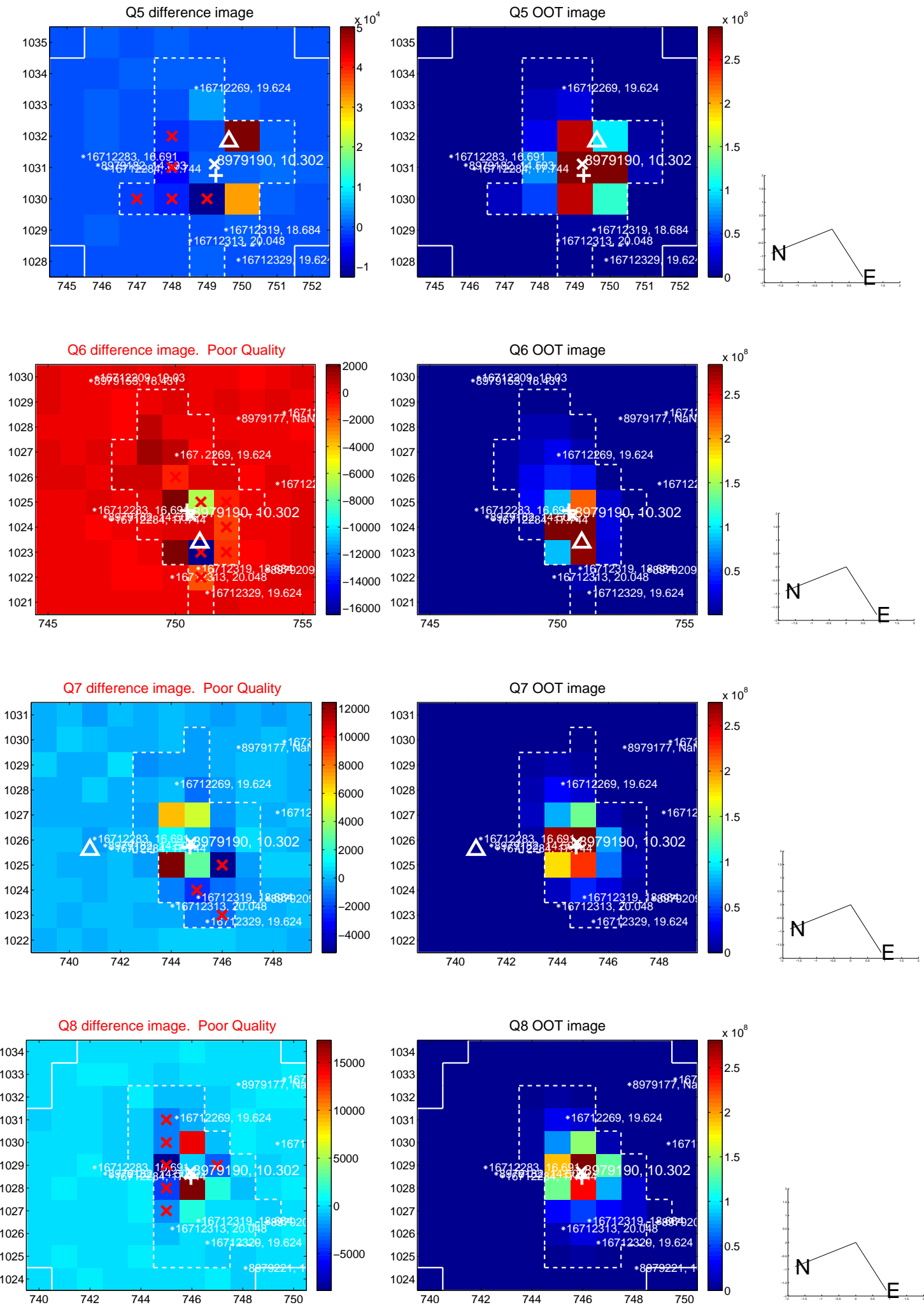


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

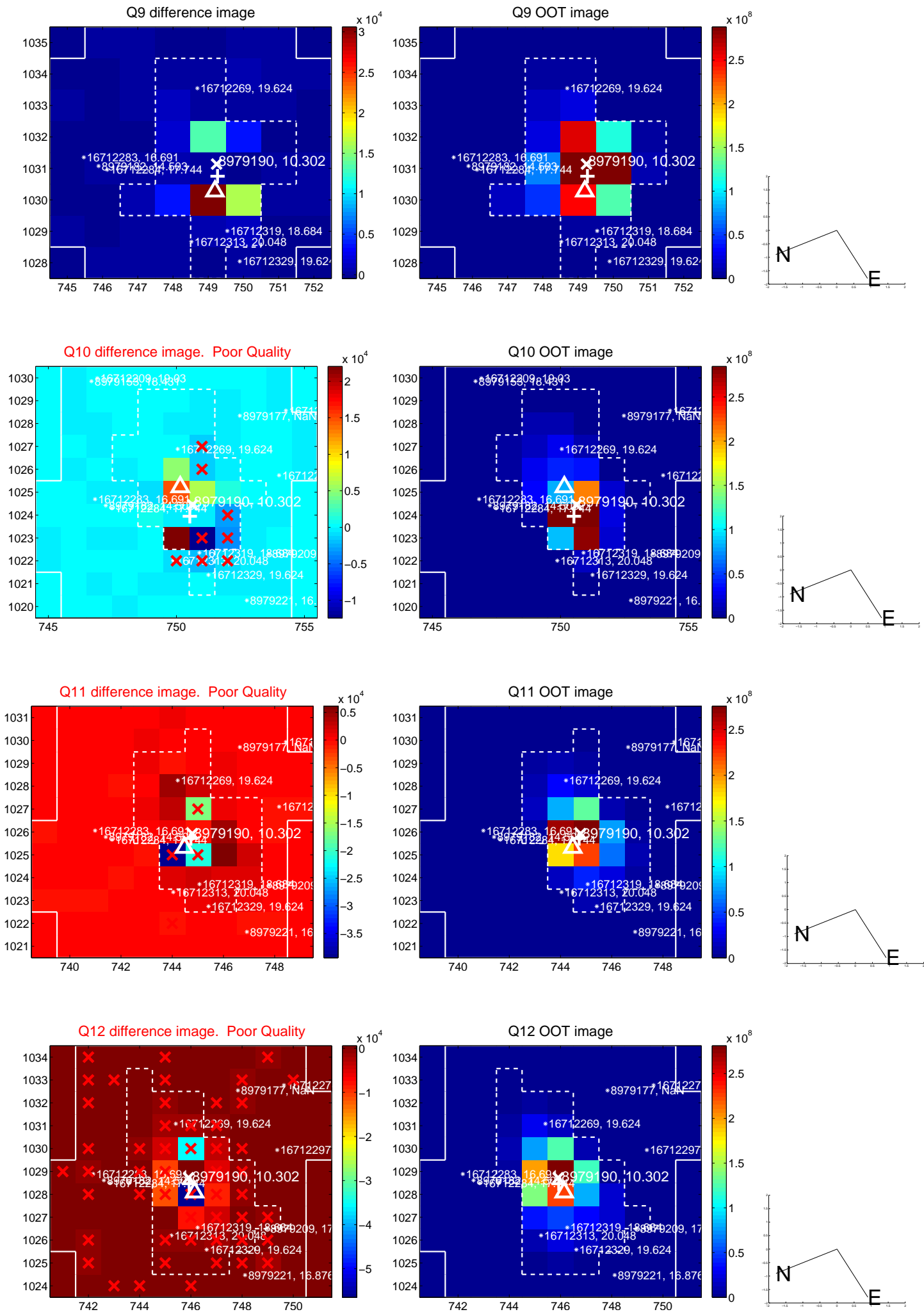
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



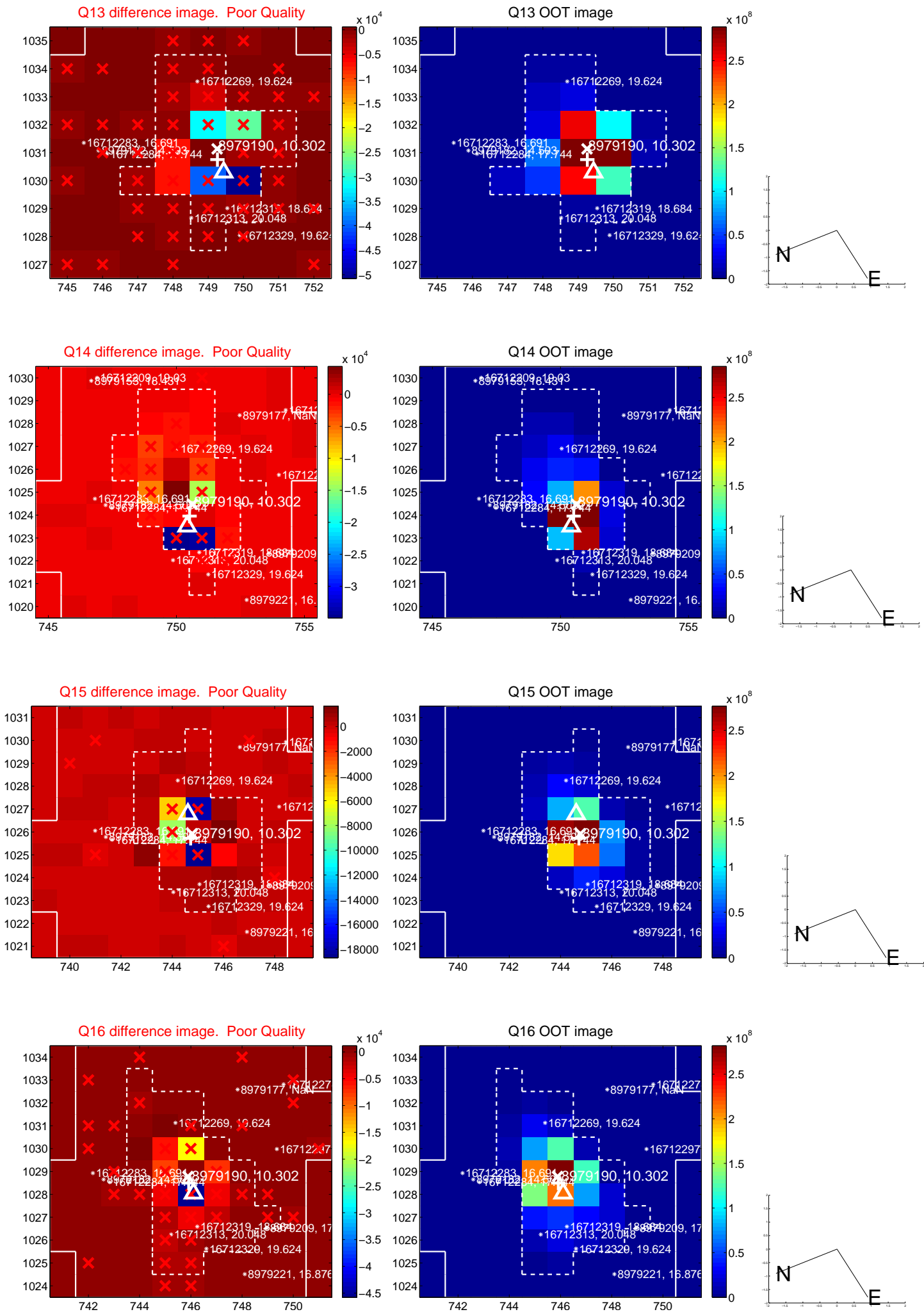
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



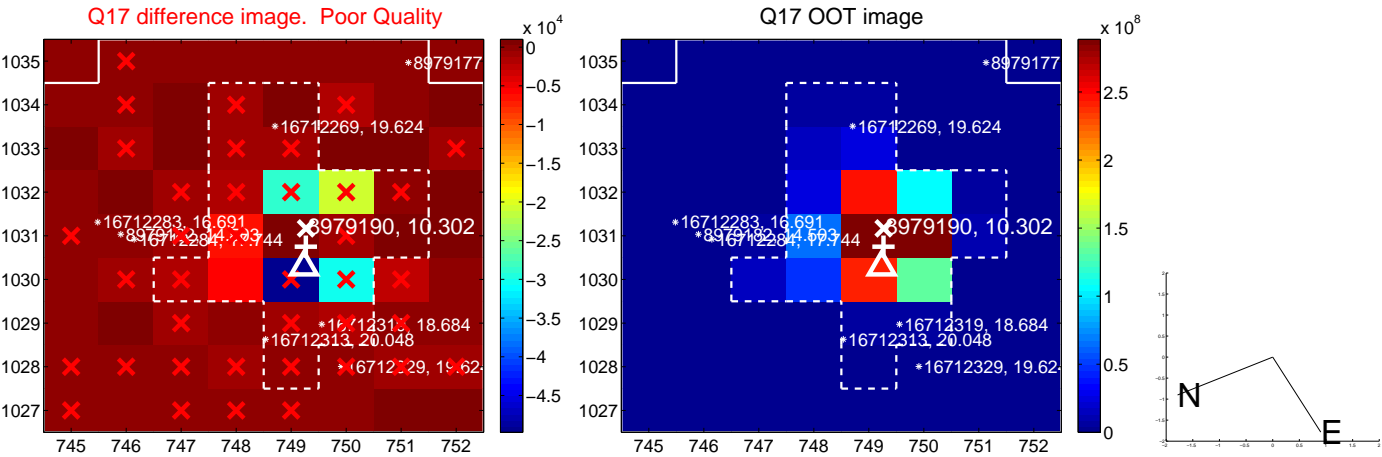
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

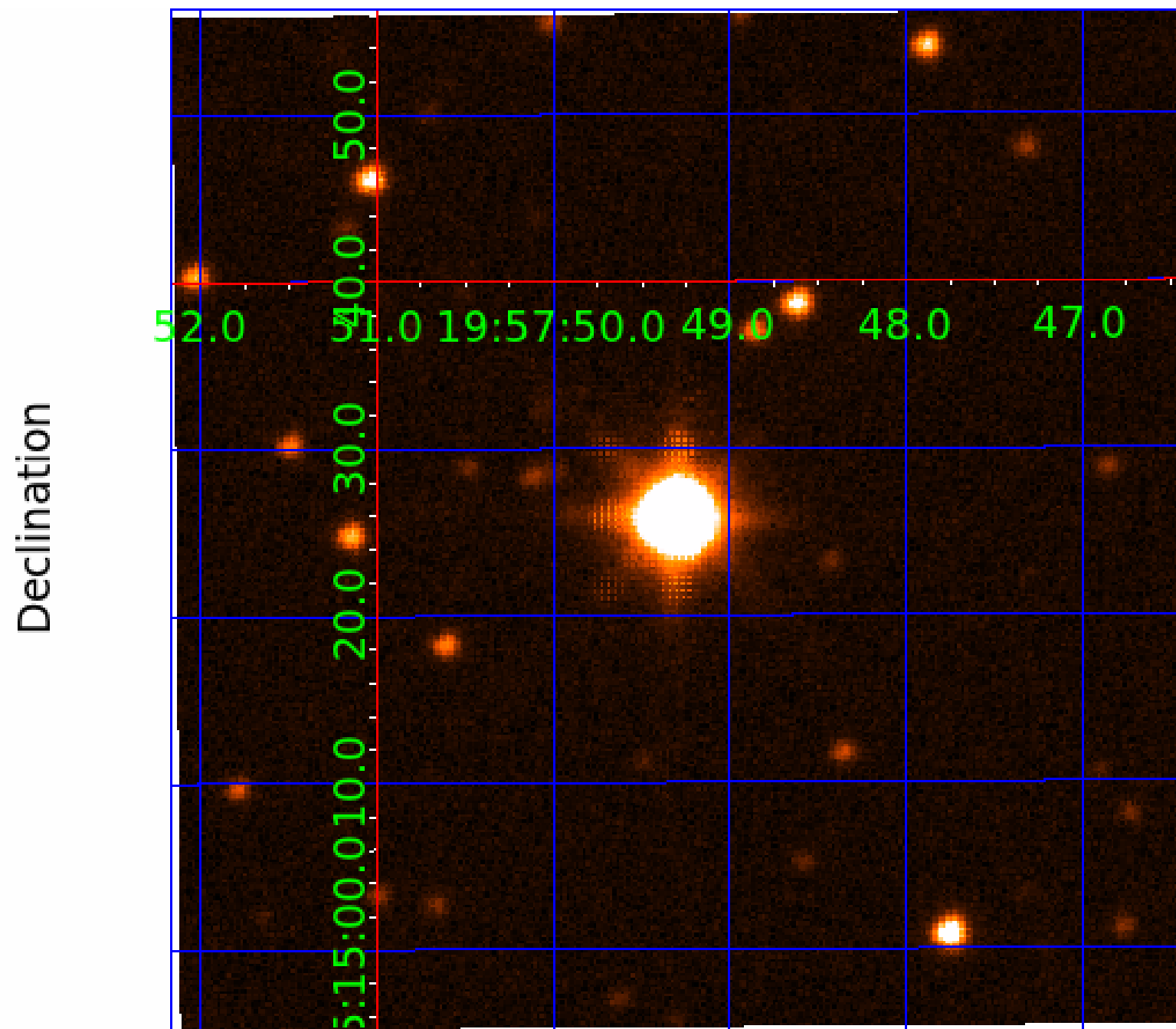


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 008979190

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})
008979190-01	OBS	No	18.749739	139.528608	266.6	39.562	13.7	28.0	1.27	6183	4.09	105.09
008979190-02	OBS	No	3.478761	132.224168	13.3	14.052	7.8	5.7	1.27	6183	0.55	993.14
008979190-03	OBS	No	3.479387	133.216197	0.0	7.181	10.6	0.0	1.27	6183	0.01	992.90
008979190-04	OBS	No	466.033468	301.097762	50.6	3.489	7.8	2.9	1.27	6183	0.99	1.45
008979190-05	OBS	No	104.560742	133.190727	57.6	13.617	7.7	4.7	1.27	6183	1.14	10.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008979190-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008979190-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
008979190-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008979190-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008979190-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

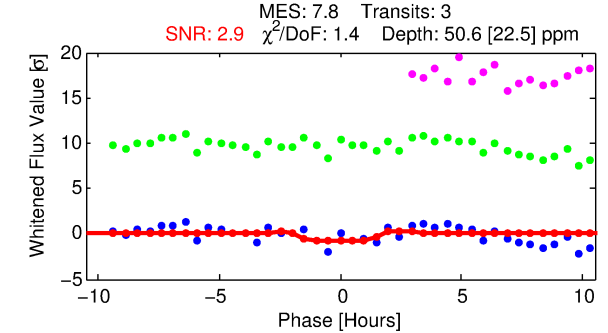
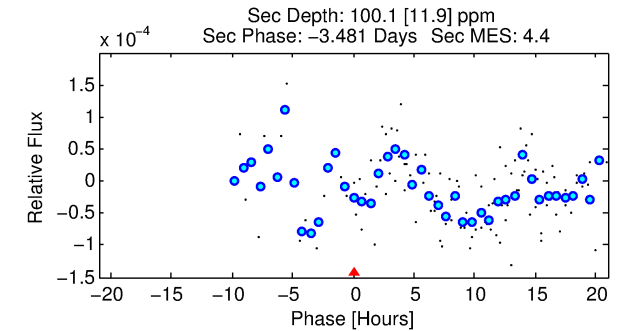
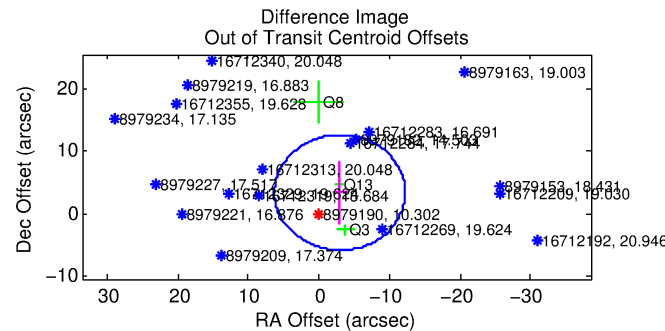
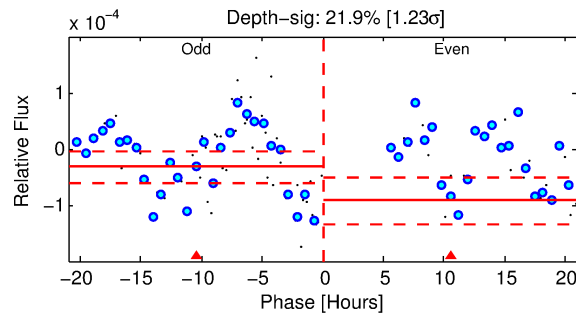
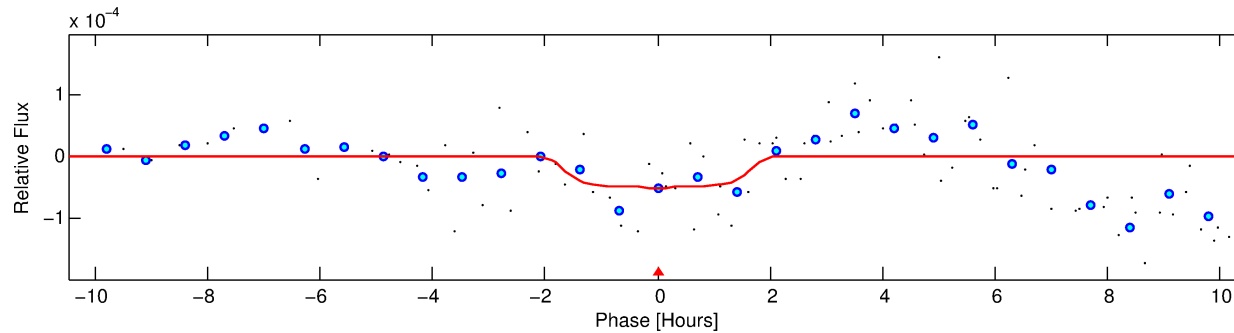
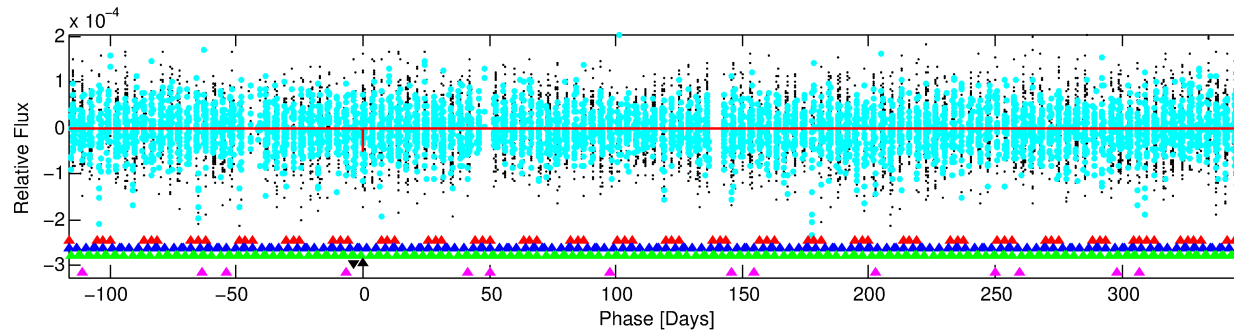
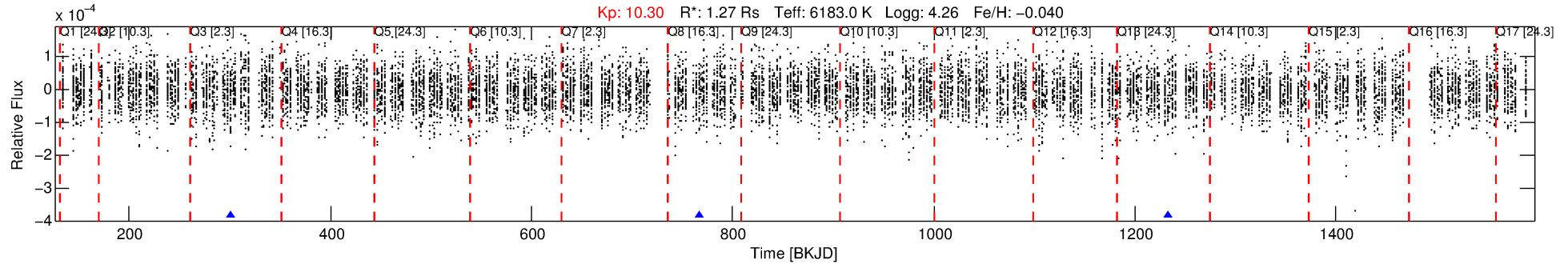
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008979190-04

No Significant Match Found

DV One-Page Summary

KIC: 8979190 Candidate: 4 of 5 Period: 466.033 d



DV Fit Results:

Period = 466.03347 [0.02016] d
Epoch = 301.0978 [0.0194] BKJD
Rp/R* = 0.0071 [0.0081]
a/R* = 662.63 [3916.17]
b = 0.77 [3.06]
Seff = 1.45 [0.58]
Teq = 280 [28] K
Rp = 0.99 [1.16] Re
a = 1.2102 [0.3059] AU
Ag = 82100.87 [188095.73] [0.44 σ]
Teffp = 7322 [4153] K [1.70 σ]

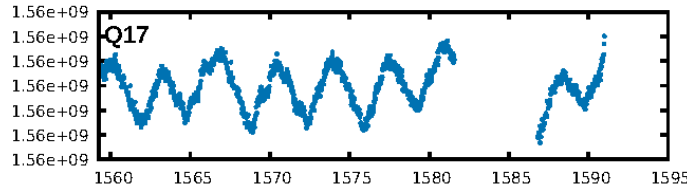
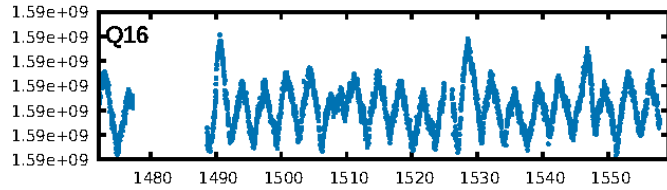
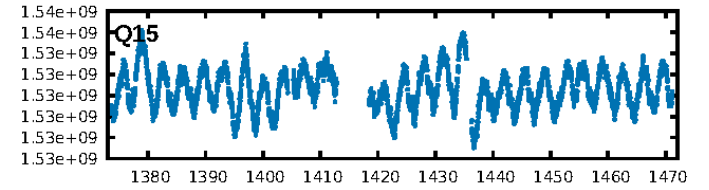
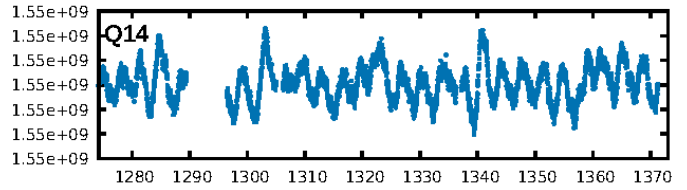
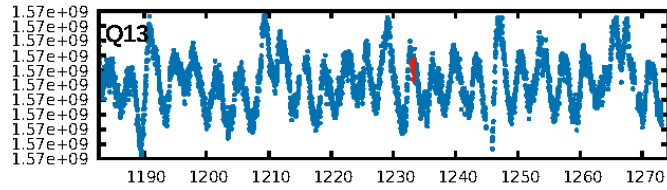
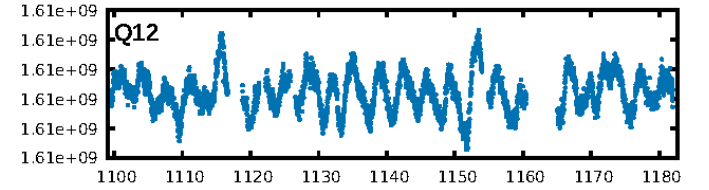
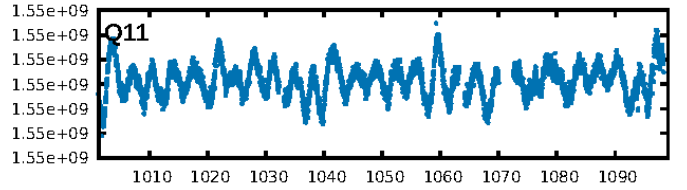
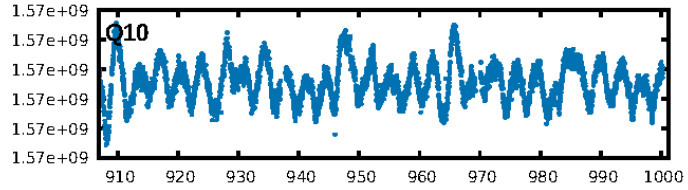
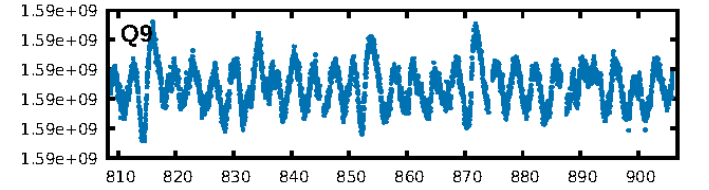
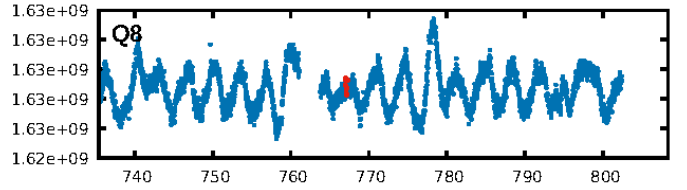
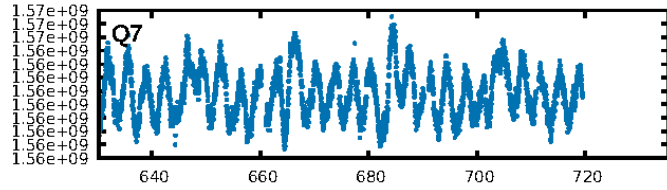
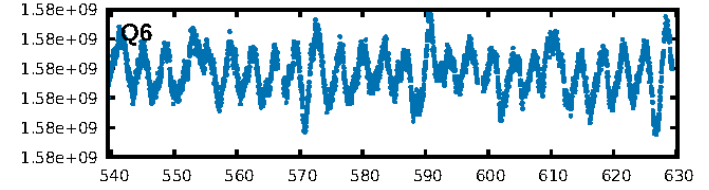
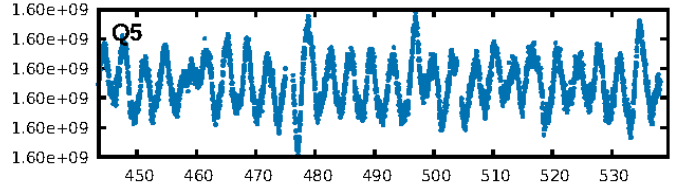
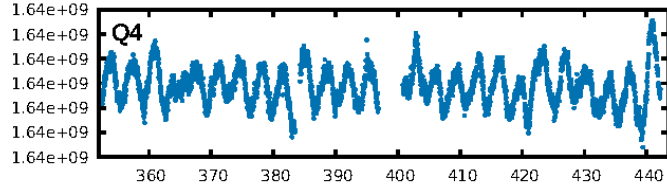
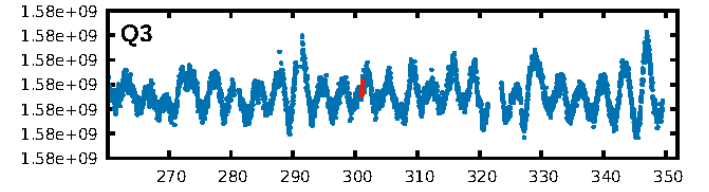
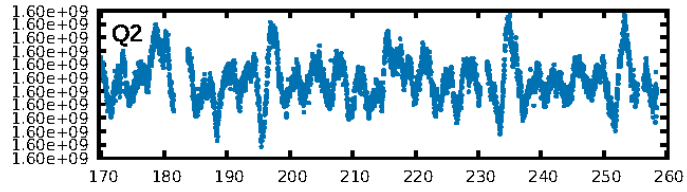
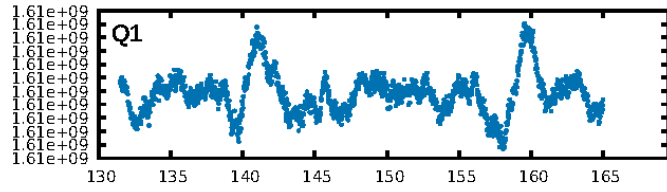
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [617.15 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 82.9%
ModelChiSquareGof-sig: 87.6%
Bootstrap-pfa: 4.06e-06
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.083
Centroid-sig: 42.4%
Centroid-so: 2.419 arcsec [0.58 σ]
OotOffset-rm: 4.471 arcsec [1.45 σ]
KicOffset-rm: 4.293 arcsec [1.71 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.67 [2/3]

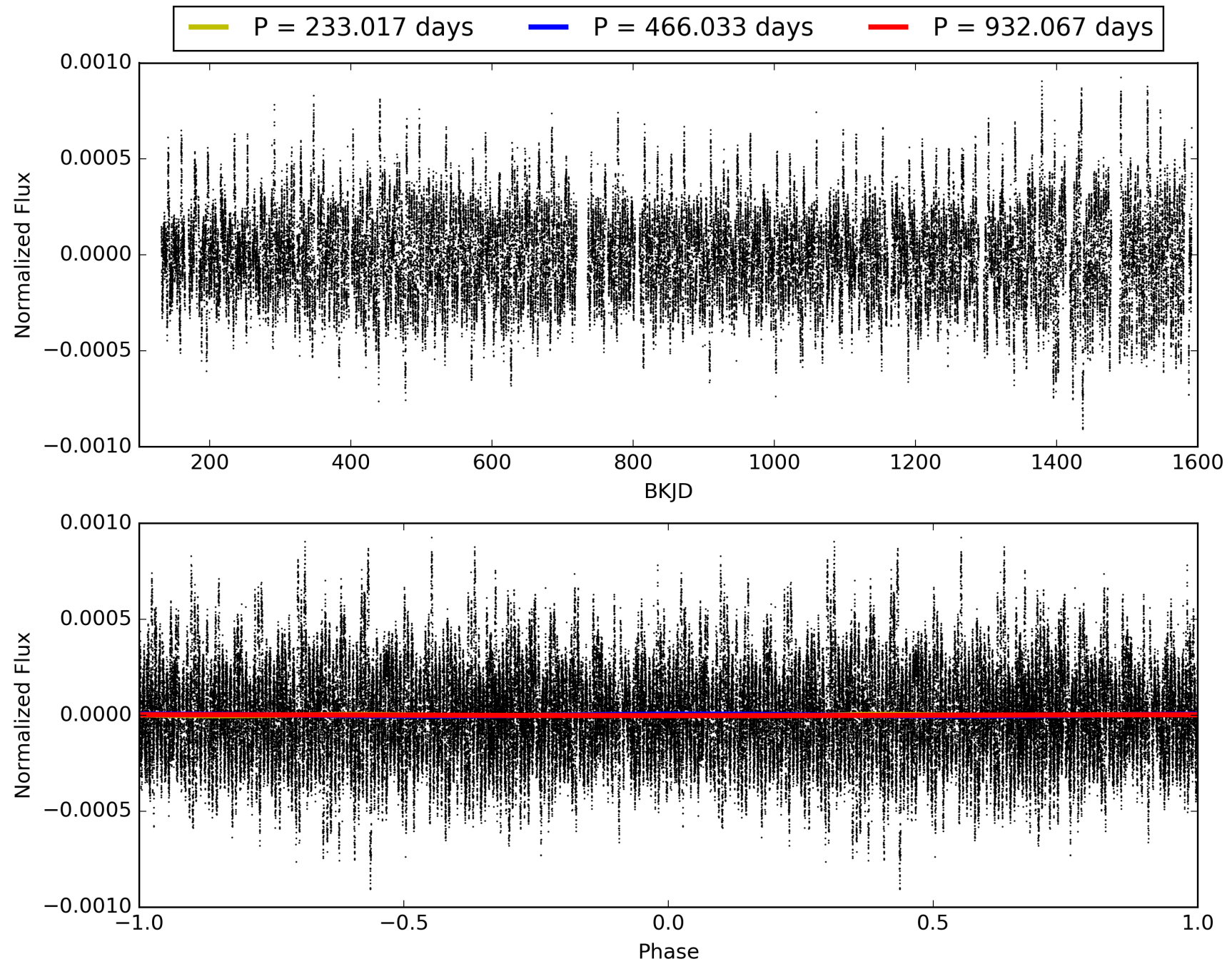
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:53:15 Z

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

TCE 008979190-04, PDC Light Curves

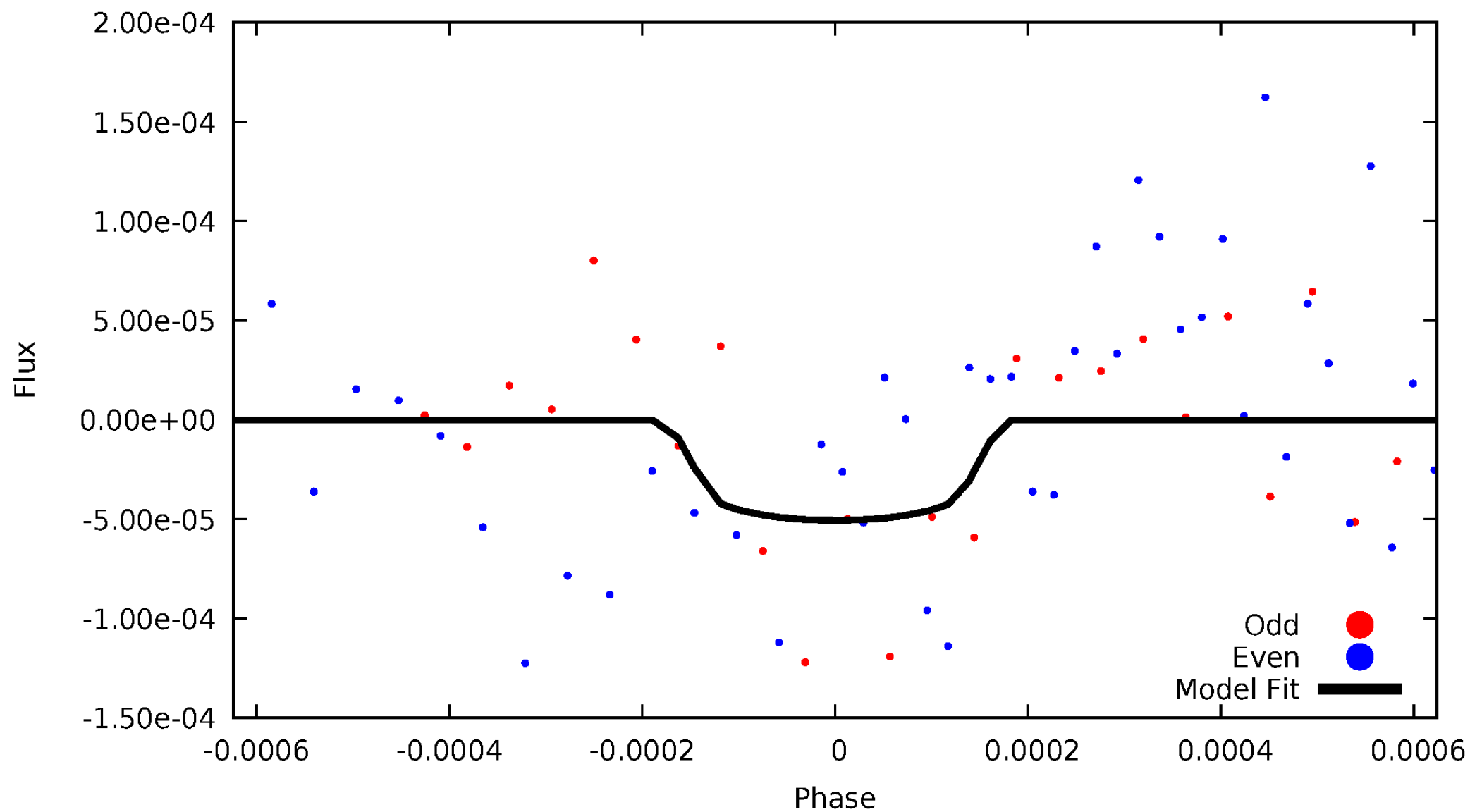


TCE 008979190-04



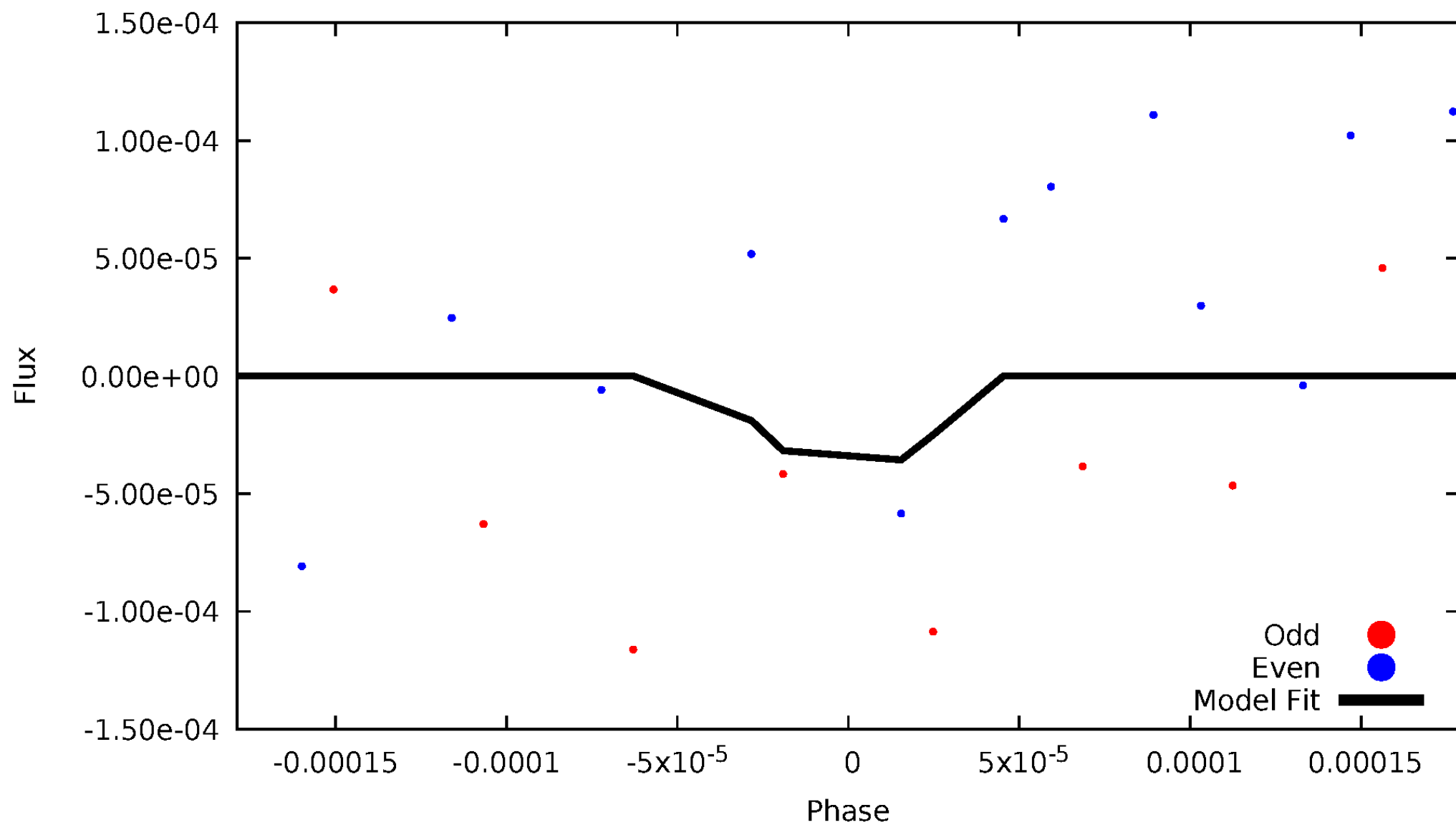
DV Odd/Even

TCE 008979190-04



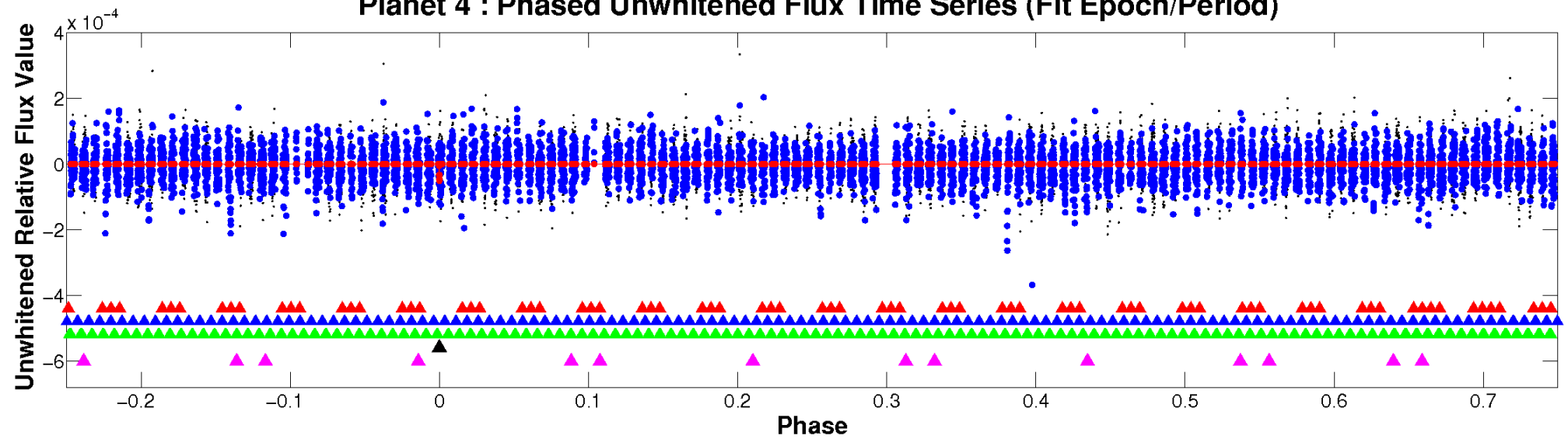
ALT Odd/Even

TCE 008979190-04

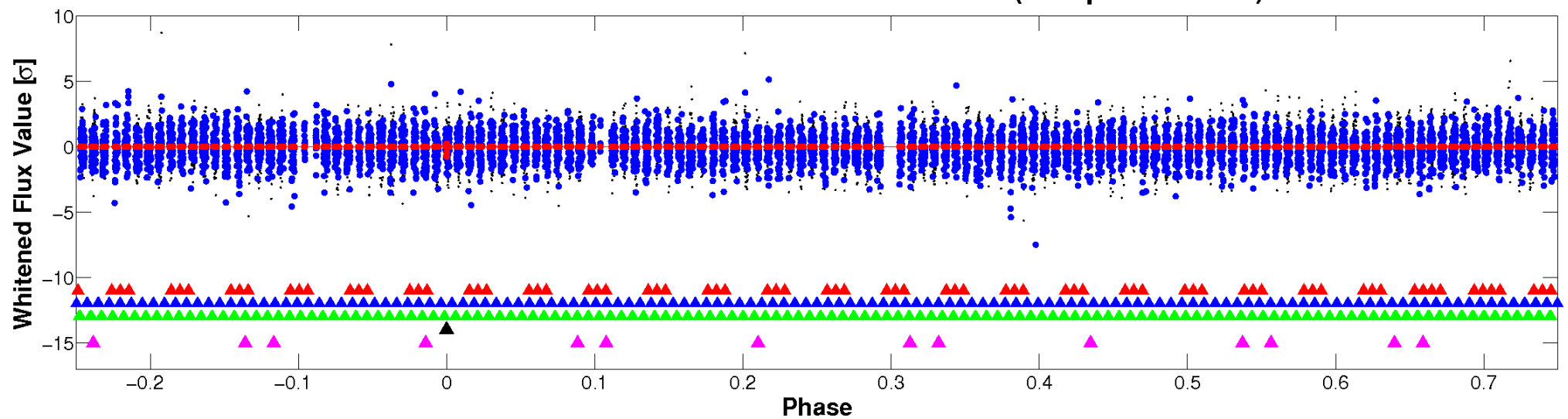


Non-Whitened Vs. Whitened Light Curve

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

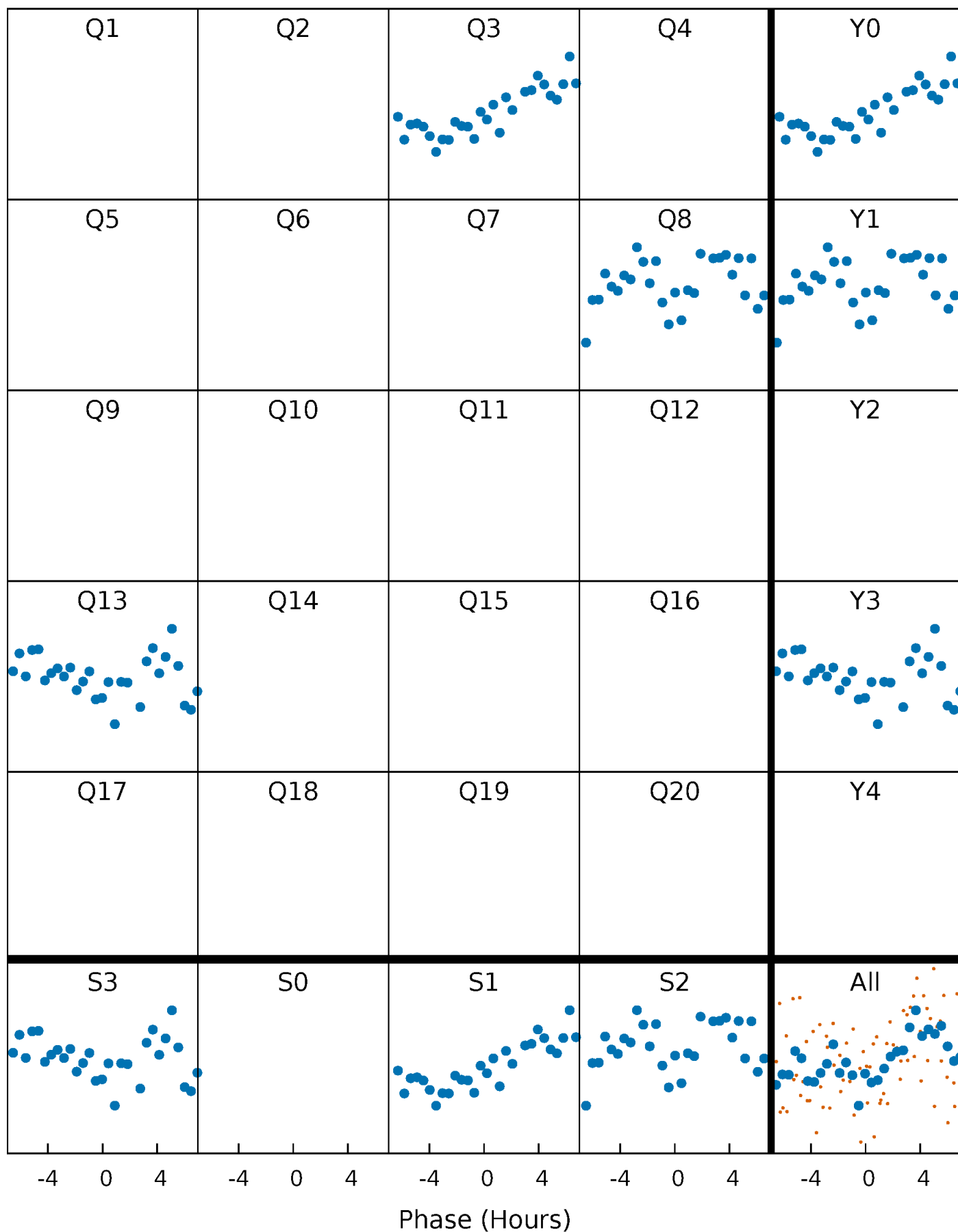


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



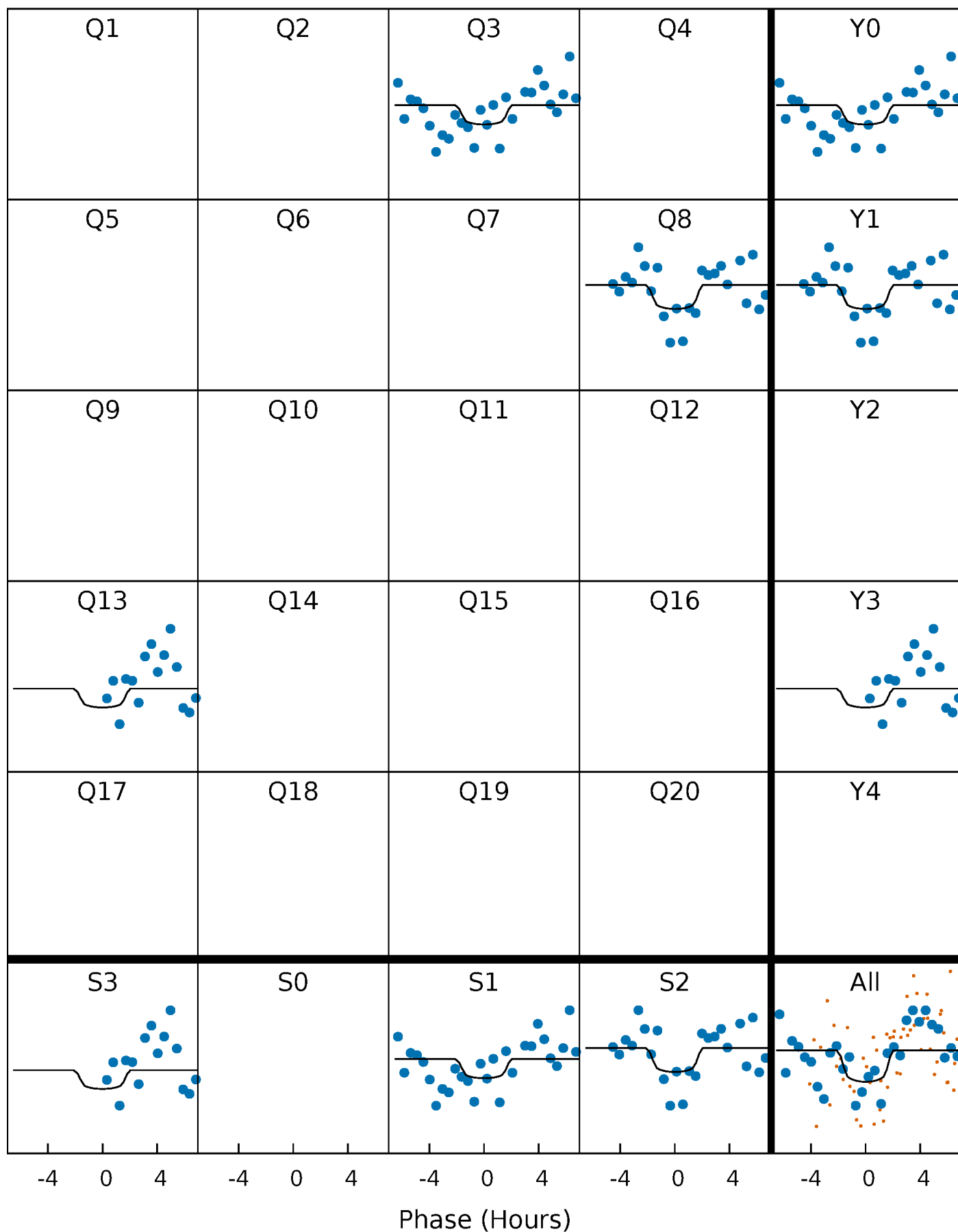
PDC Quarter-Phased Transit Curves

TCE 008979190-04 $P=466.033468$ Days $T_0=301.097762$ (BKJD)



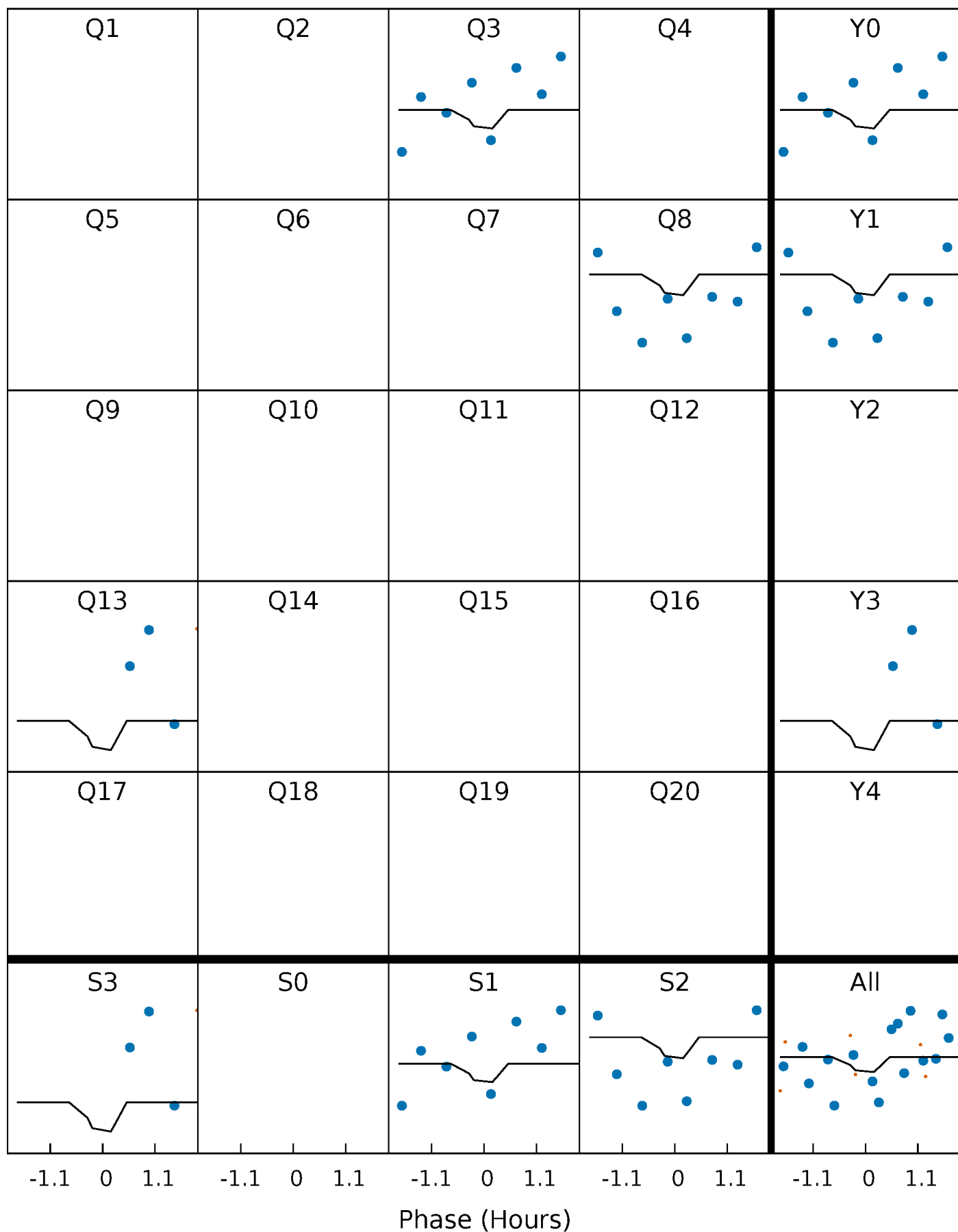
DV Quarter-Phased Transit Curves

TCE 008979190-04 $P=466.033468$ Days $T_0=301.097762$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

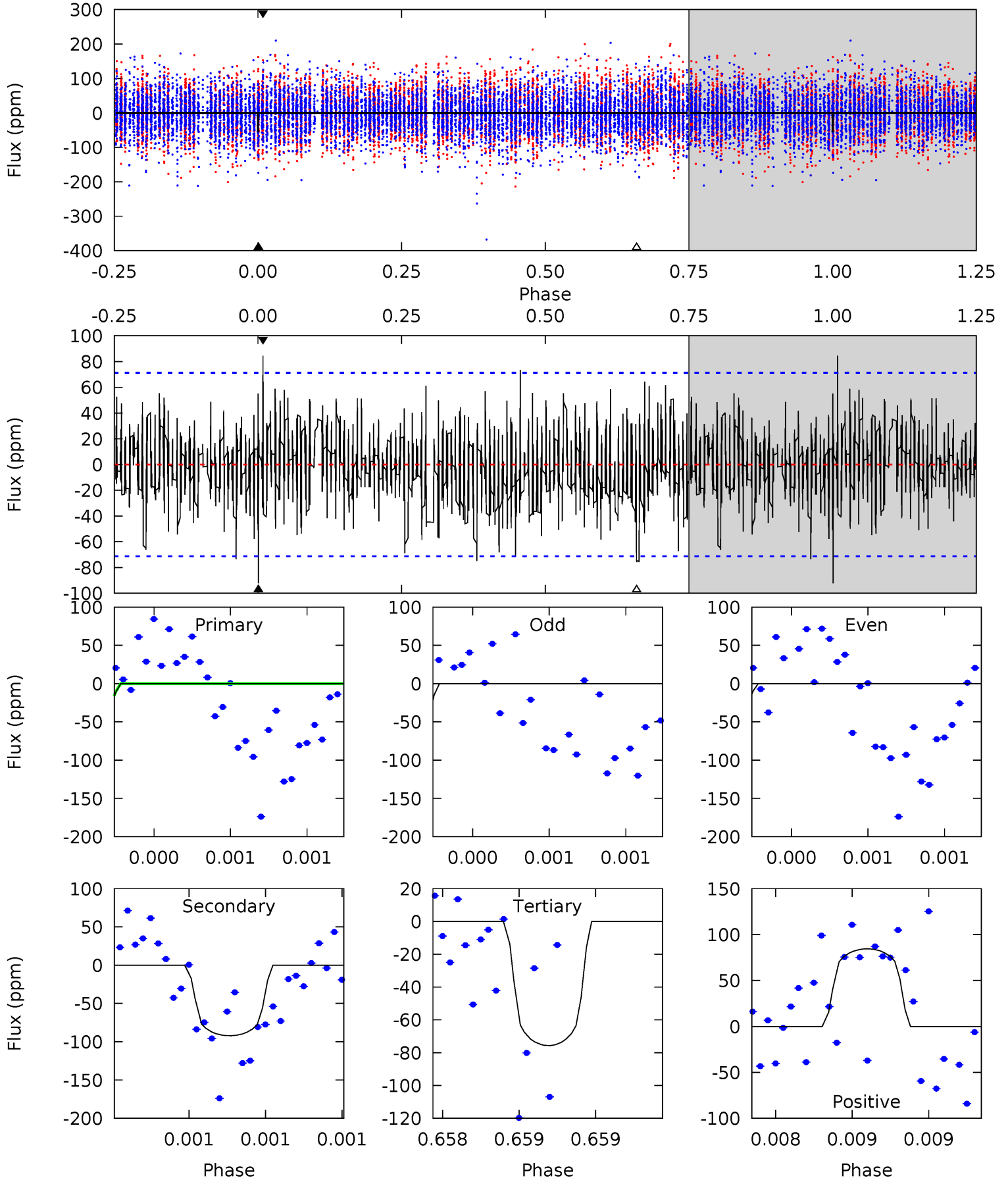
TCE 008979190-04 P=466.000958 Days $T_0=301.145134$ (BKJD)



DV Model-Shift Uniqueness Test

008979190-04, P = 466.033468 Days, E = 301.097762 Days

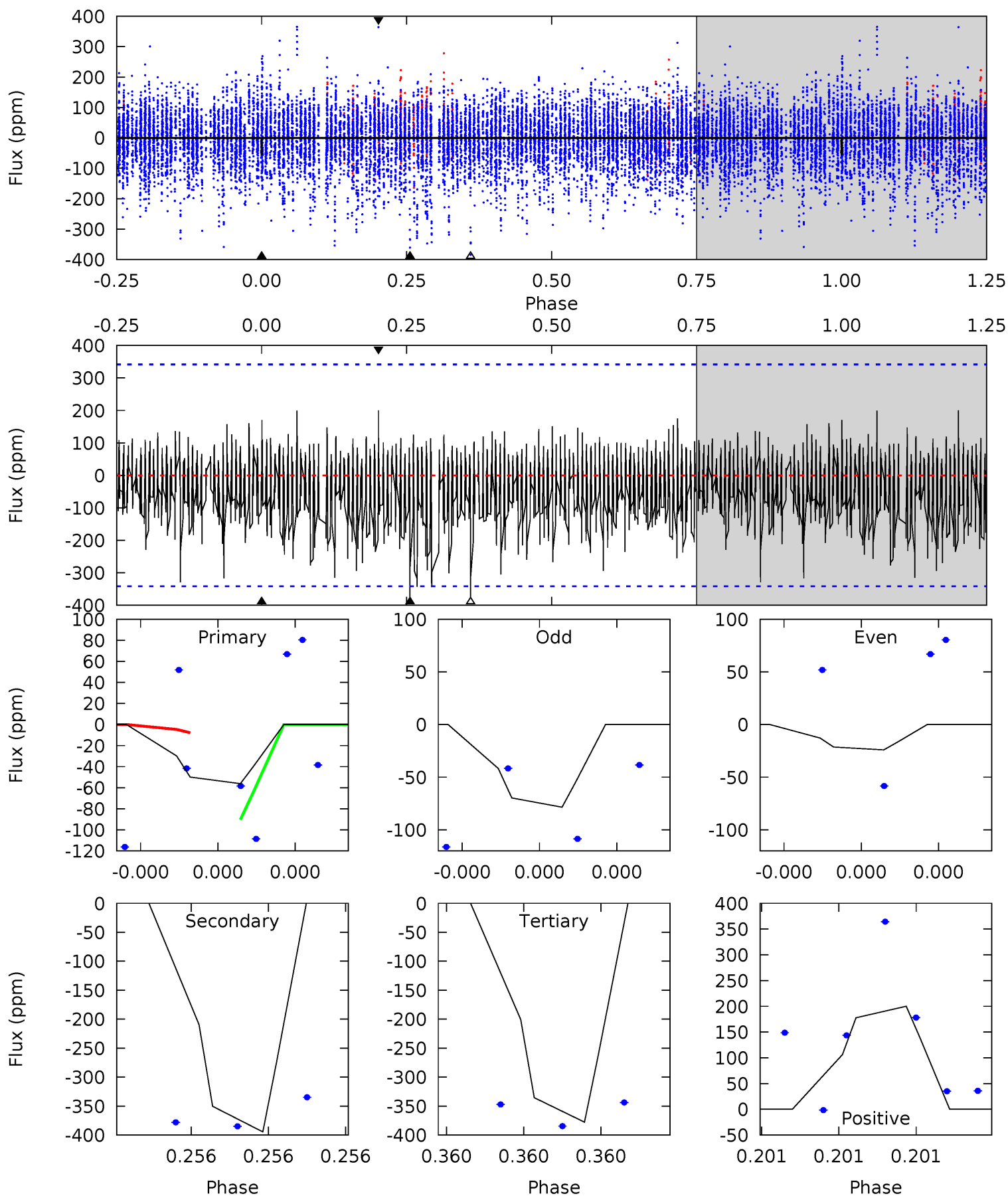
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.47	7.30	6.00	6.69	5.65	3.60	1.72	-1.53	-2.22	1.31	0.61	0.89	0.86	0.48	0.41



Alt Model-Shift Uniqueness Test

008979190-04, P = 466.000958 Days, E = 301.145134 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.98	6.88	6.59	3.49	5.95	4.04	1.16	-5.61	-2.51	0.29	3.39	0.48	1.00	0.34	0.72



Stellar Parameters For KIC 008979190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6183^{+194}_{-259}	$4.265^{+0.158}_{-0.193}$	$-0.040^{+0.250}_{-0.300}$	$1.273^{+0.391}_{-0.261}$	$1.086^{+0.181}_{-0.148}$	$0.742^{+0.599}_{-0.387}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-21%	+17%/-14%	+81%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008979190-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-92 ± 13	$1.28^{+1.12}_{-0.80}$	393^{+32}_{-30}	6320^{+5495}_{-1503}	$45016^{+272480}_{-32503}$
Alt.	-394 ± 57	$1.30^{+1.08}_{-0.82}$	391^{+29}_{-27}	9757^{+14997}_{-3002}	$191479^{+1110537}_{-134682}$

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 $A_{\text{obs}} \gg 1.0$

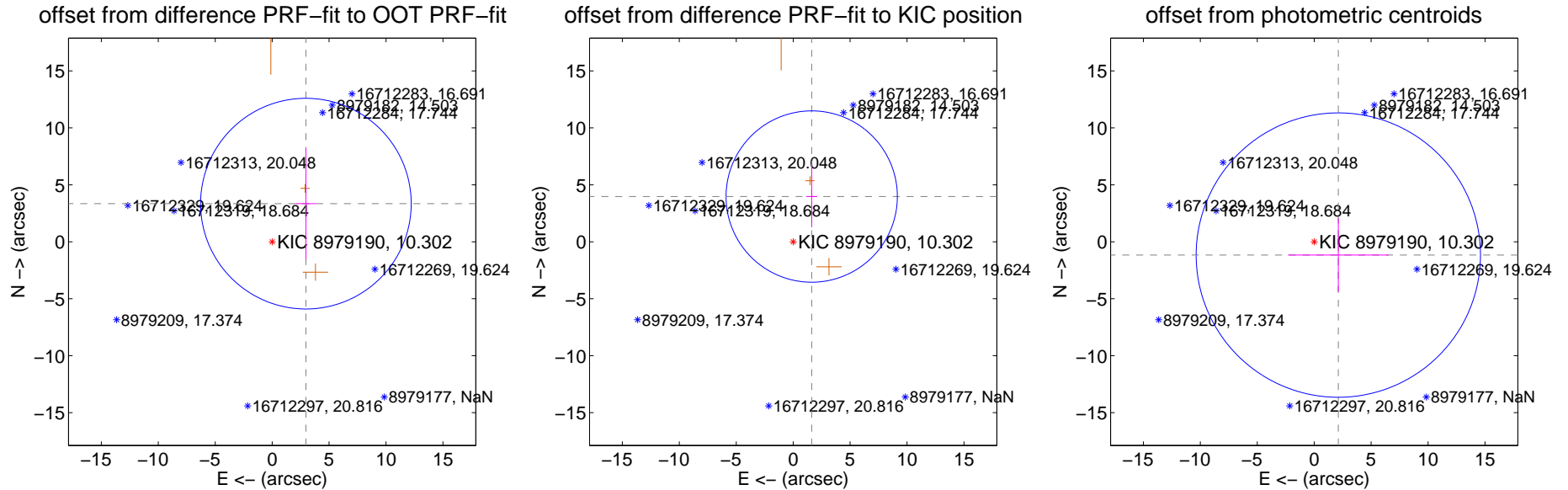
DV Centroid Data

Supplemental centroid analysis for 008979190-04. **Kepler magnitude: 10.30.** Transit SNR 2.88

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.57 arcsec

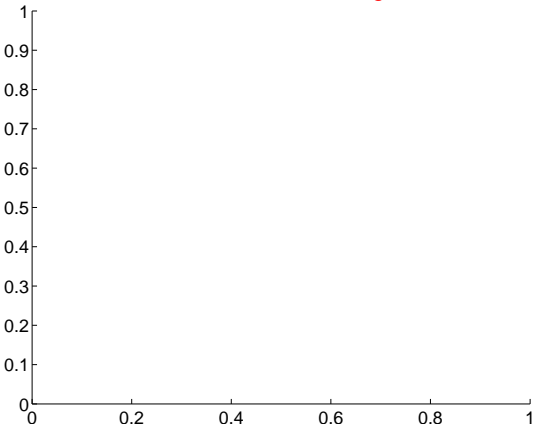
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.471 ± 3.083	1.45	-2.963 ± 0.905	3.348 ± 4.897
PRF-fit source offset from KIC position	4.293 ± 2.507	1.71	-1.629 ± 0.496	3.972 ± 2.702
photometric centroid source offset	2.42 ± 4.16	0.58	-2.12 ± 4.41	-1.17 ± 3.24



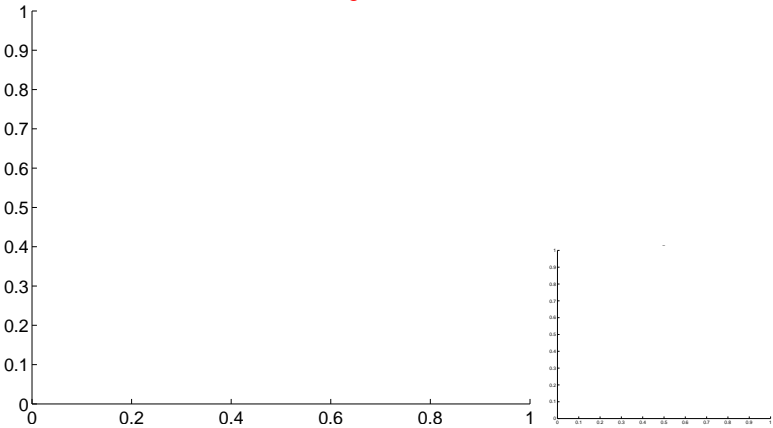
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

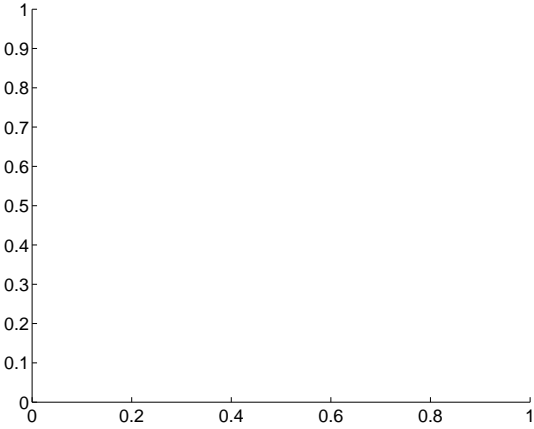
Q1 no difference image



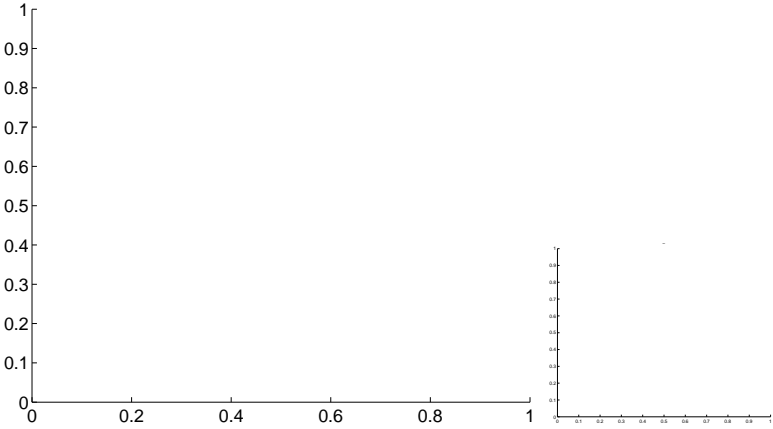
Q1 no OOT image



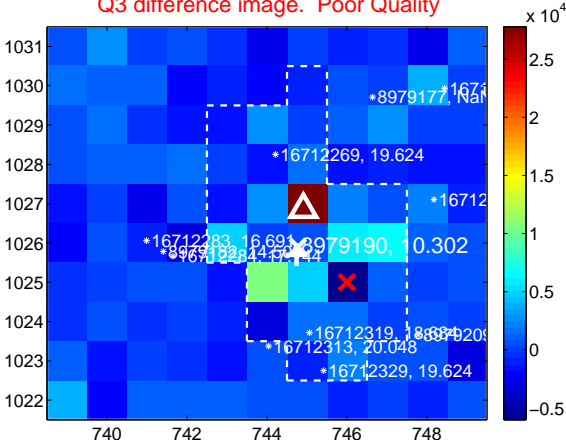
Q2 no difference image



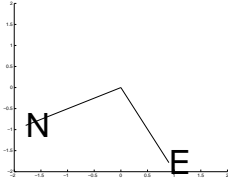
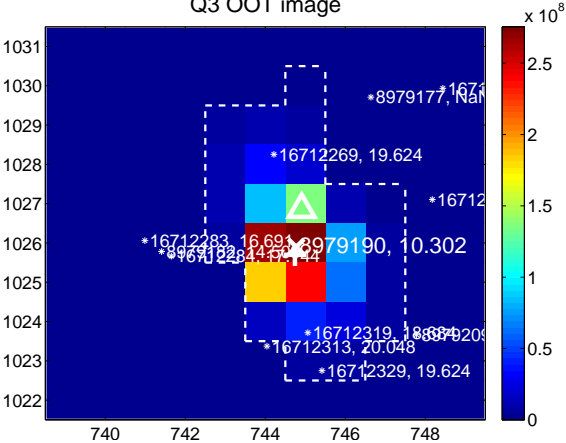
Q2 no OOT image



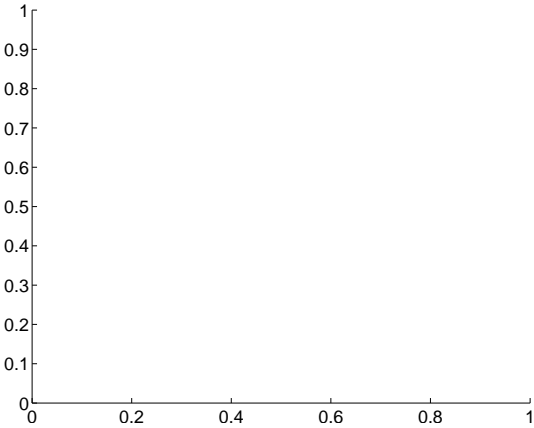
Q3 difference image. Poor Quality



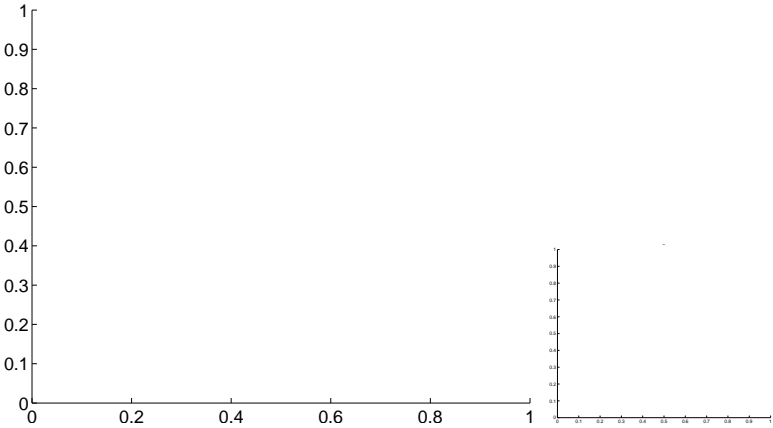
Q3 OOT image



Q4 no difference image

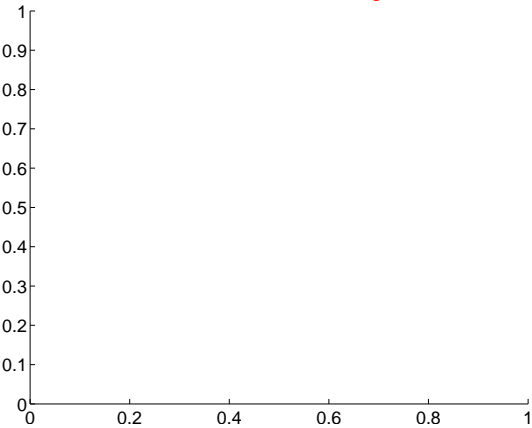


Q4 no OOT image

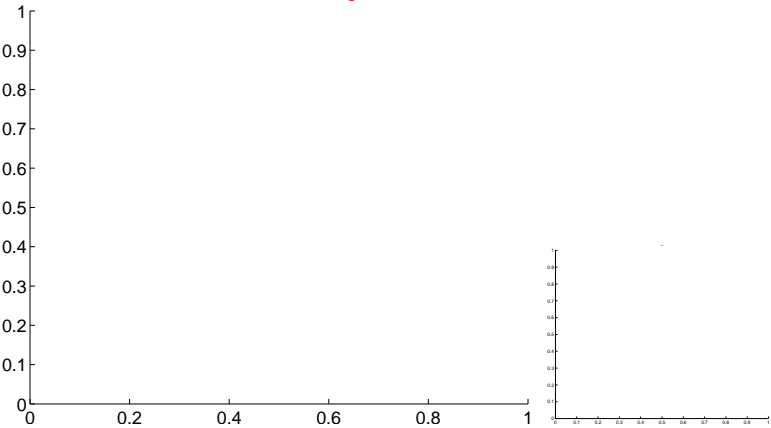


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

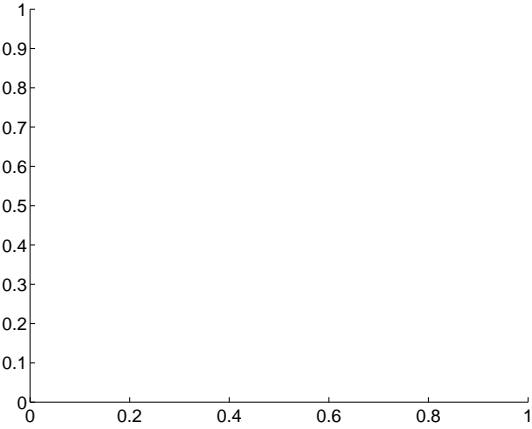
Q5 no difference image



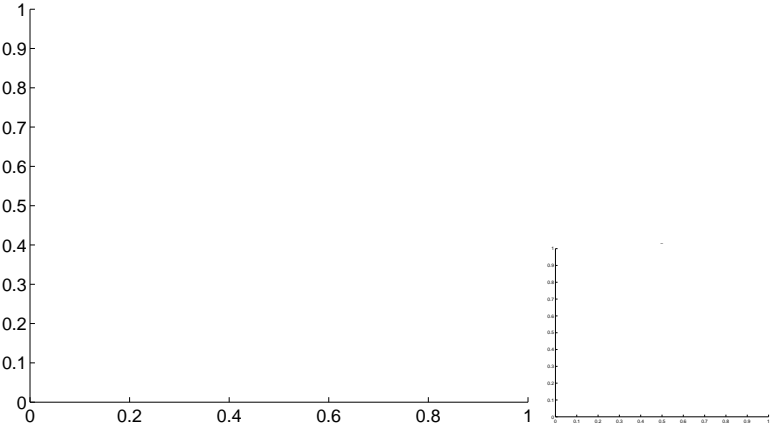
Q5 no OOT image



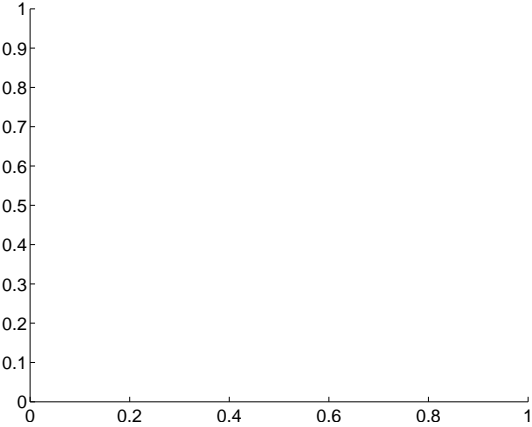
Q6 no difference image



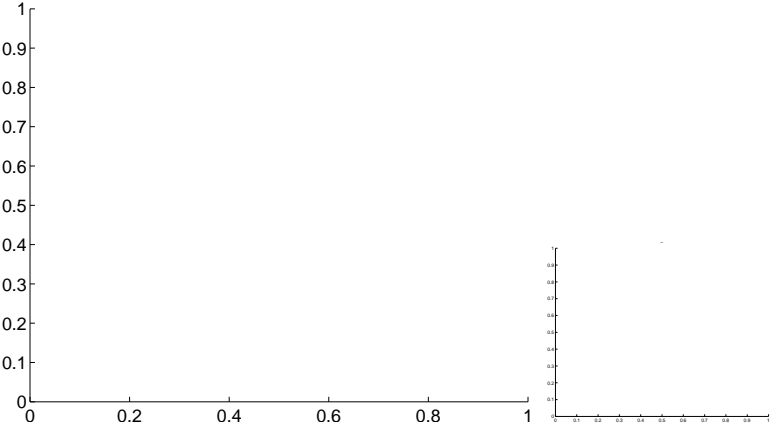
Q6 no OOT image



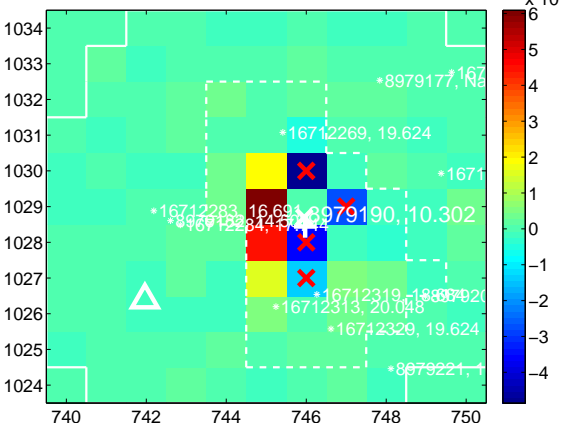
Q7 no difference image



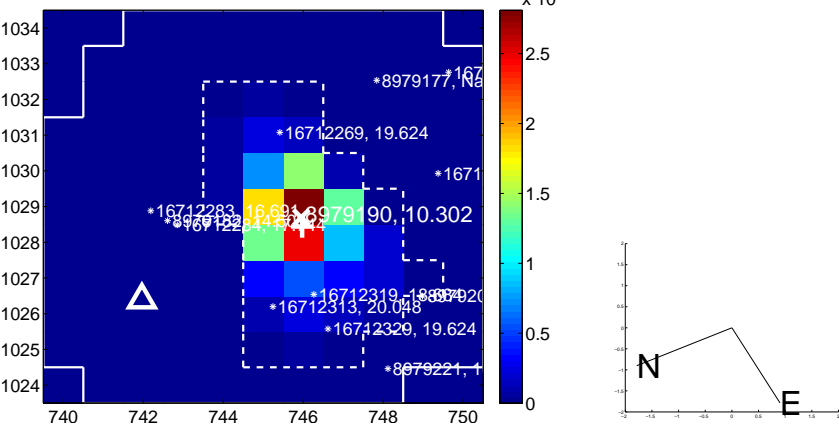
Q7 no OOT image



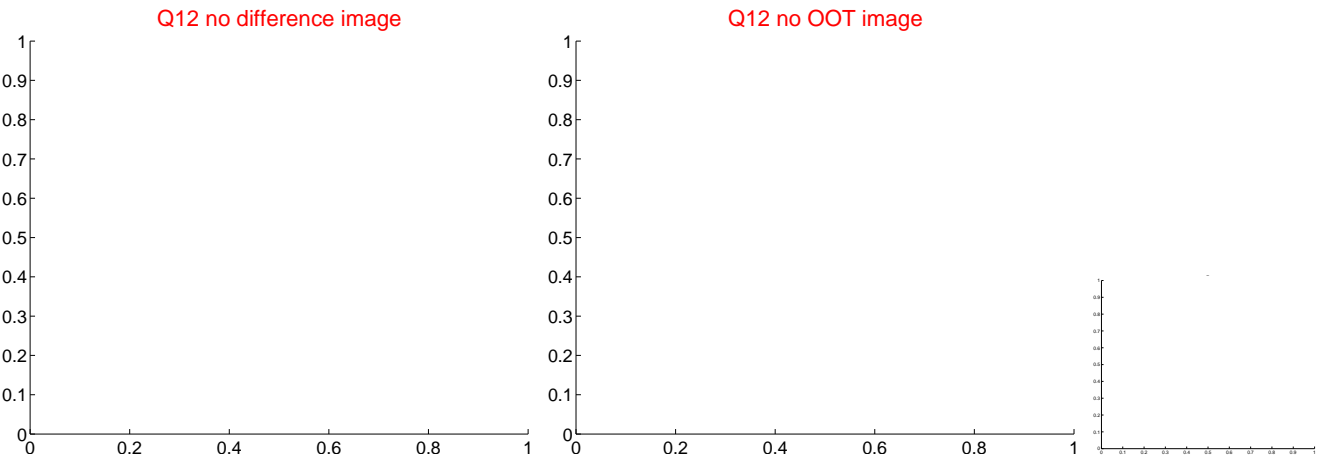
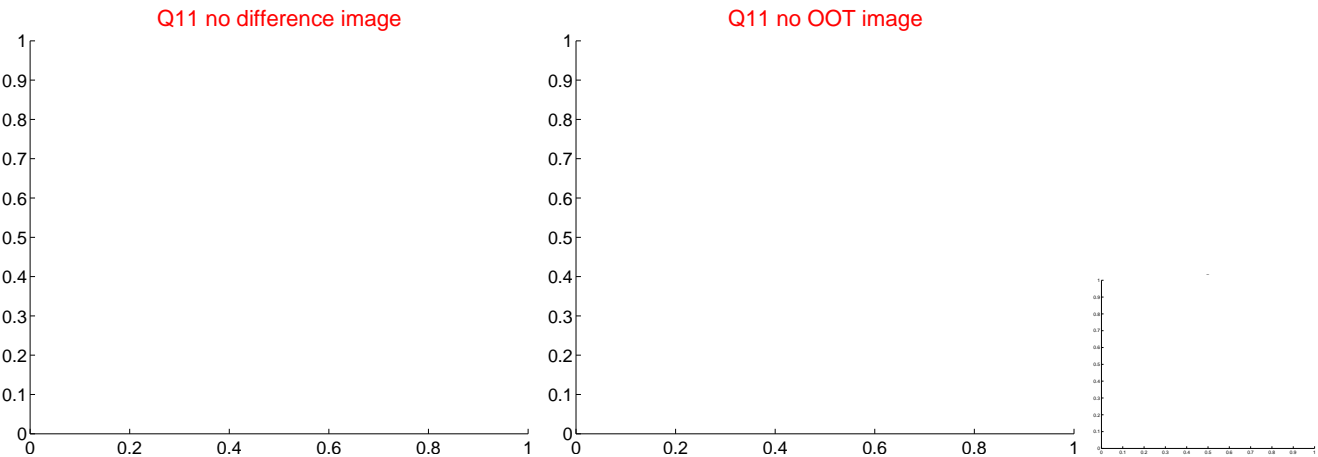
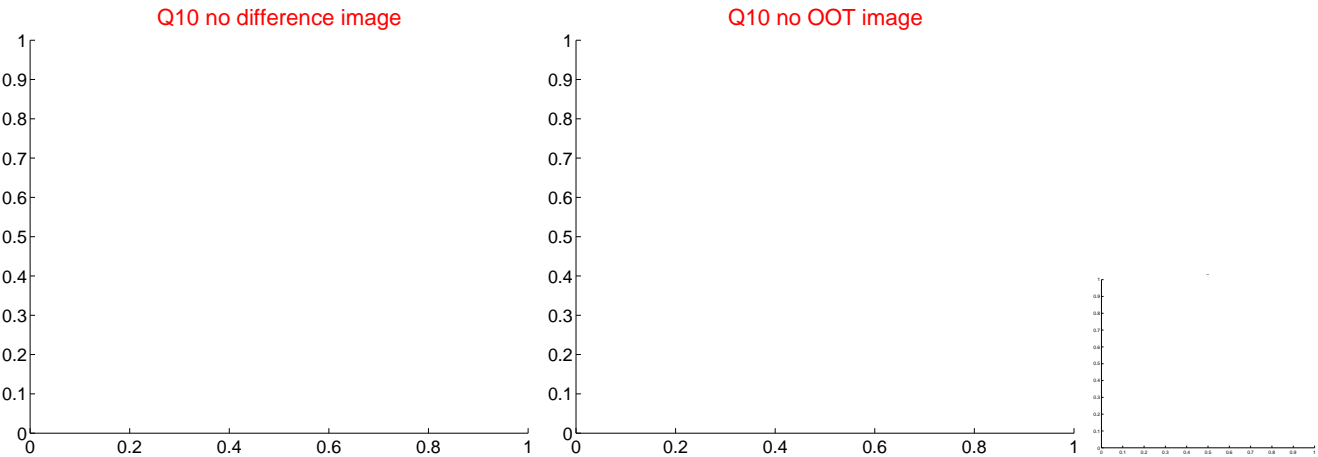
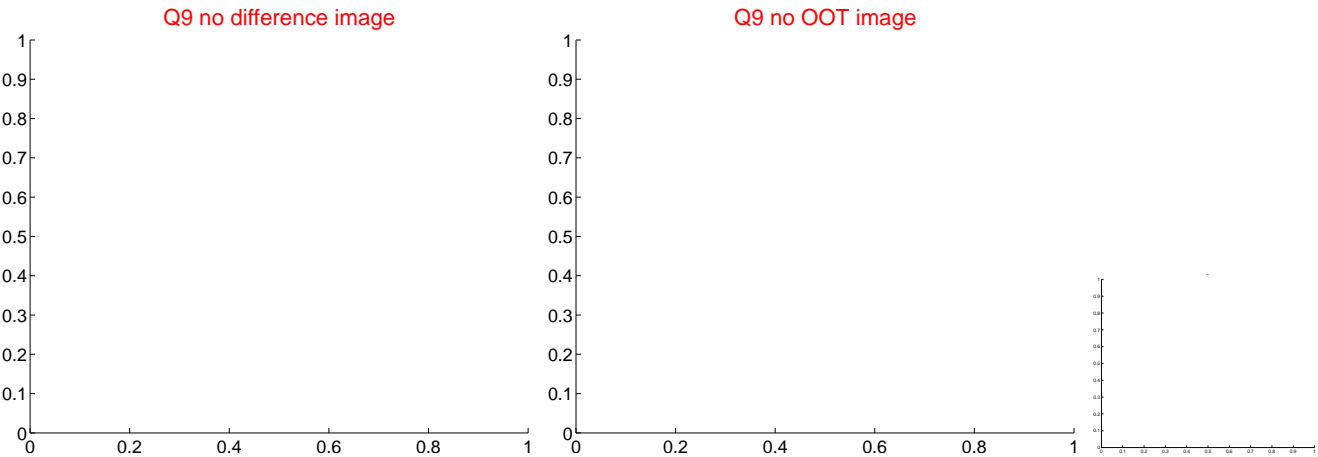
Q8 difference image. Poor Quality



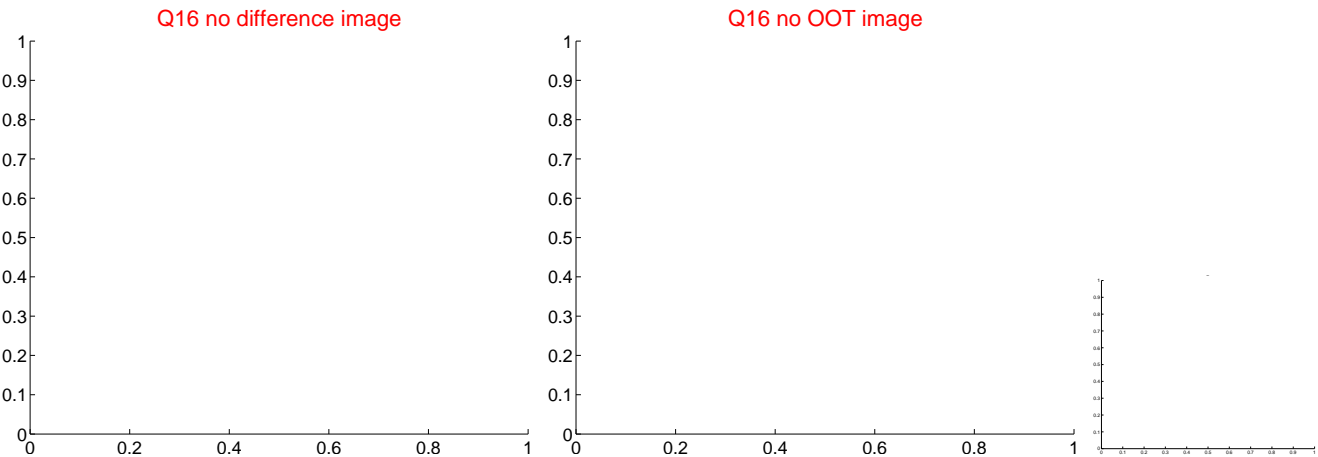
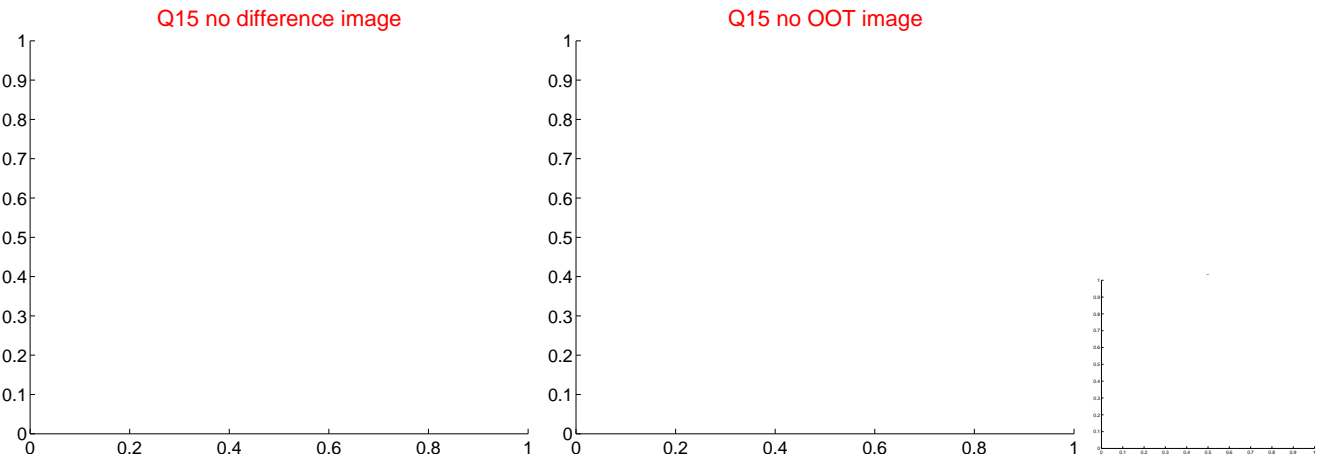
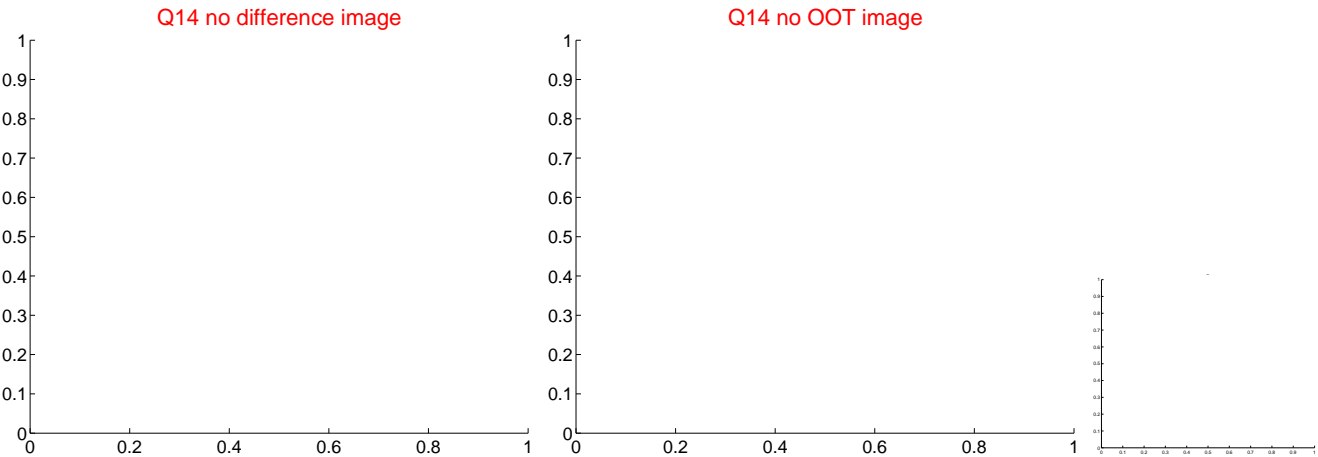
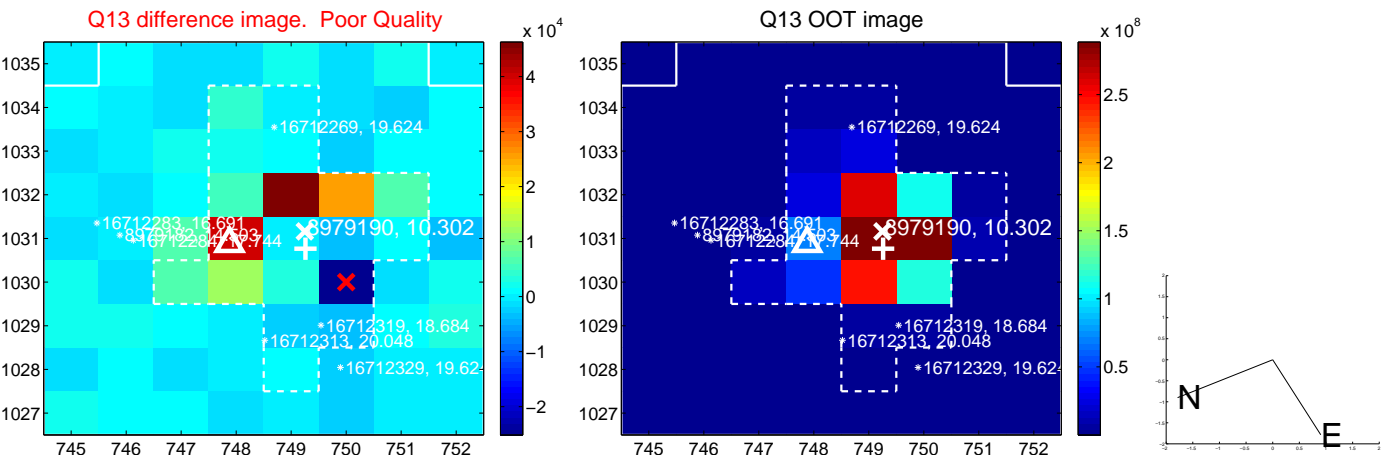
Q8 OOT image



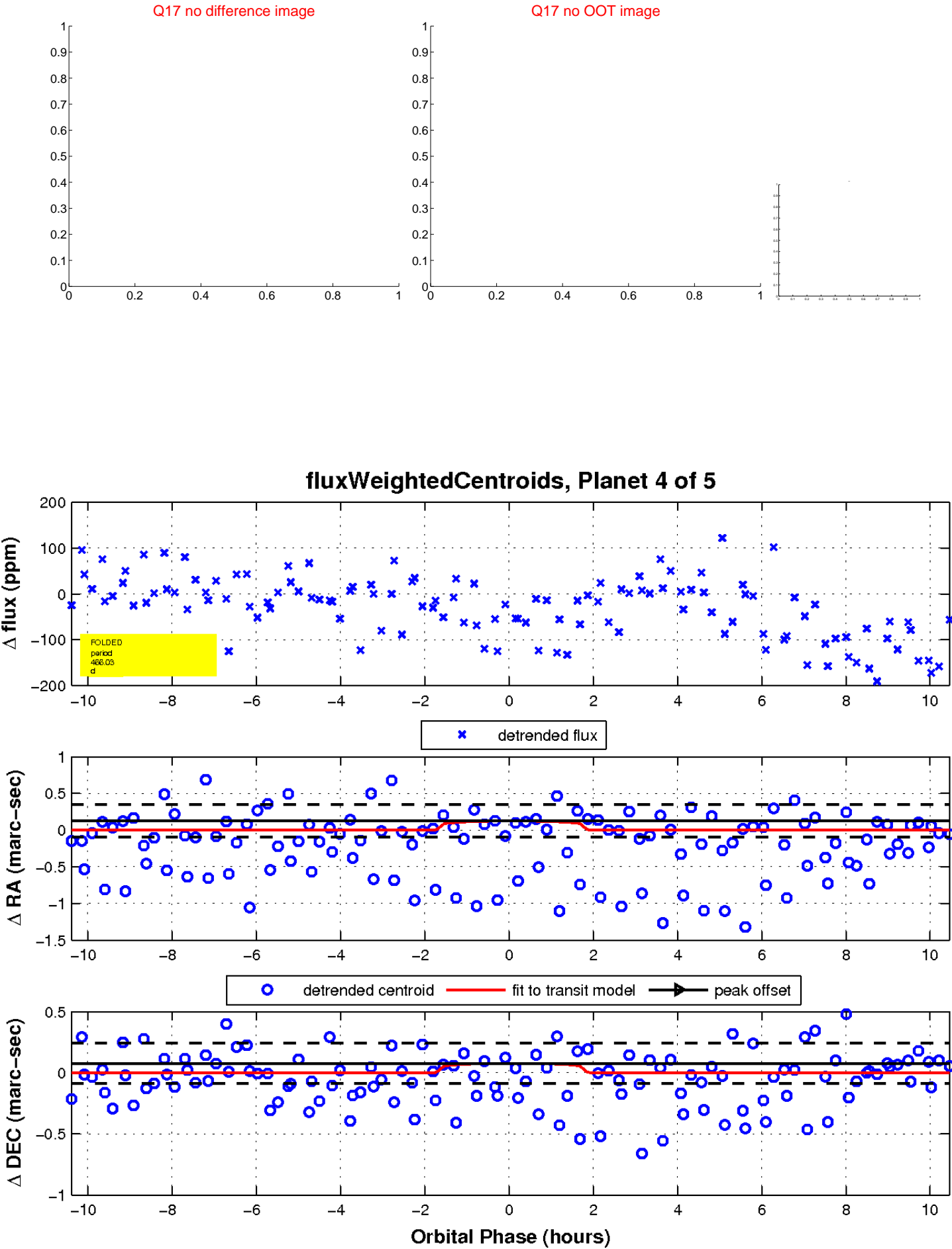
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



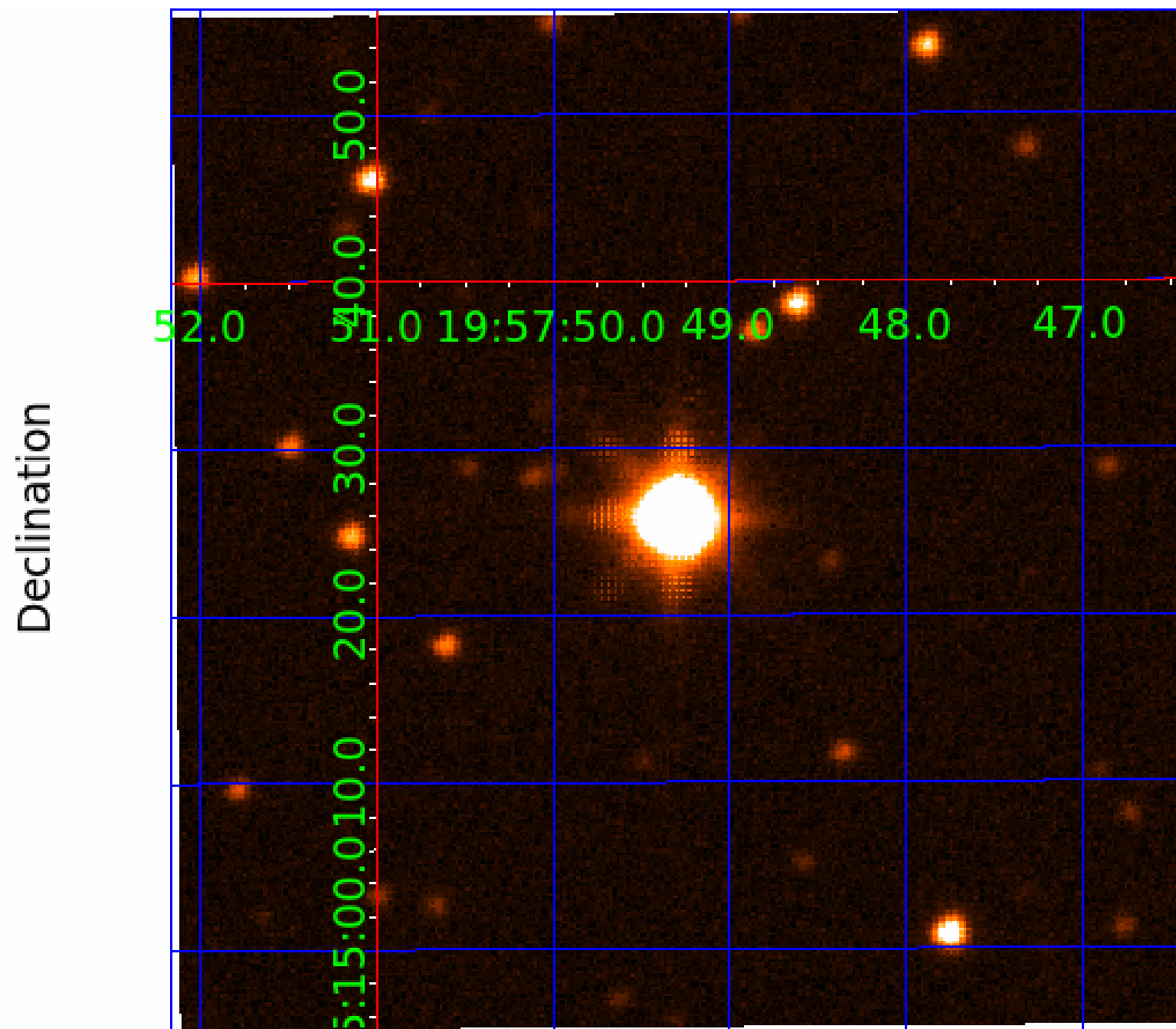
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008979190

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})
008979190-01	OBS	No	18.749739	139.528608	266.6	39.562	13.7	28.0	1.27	6183	4.09	105.09
008979190-02	OBS	No	3.478761	132.224168	13.3	14.052	7.8	5.7	1.27	6183	0.55	993.14
008979190-03	OBS	No	3.479387	133.216197	0.0	7.181	10.6	0.0	1.27	6183	0.01	992.90
008979190-04	OBS	No	466.033468	301.097762	50.6	3.489	7.8	2.9	1.27	6183	0.99	1.45
008979190-05	OBS	No	104.560742	133.190727	57.6	13.617	7.7	4.7	1.27	6183	1.14	10.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008979190-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
008979190-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED
008979190-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008979190-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008979190-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

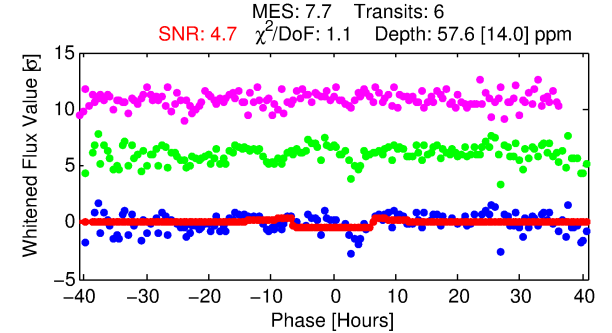
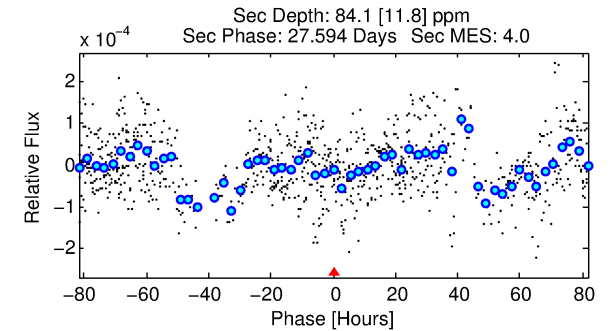
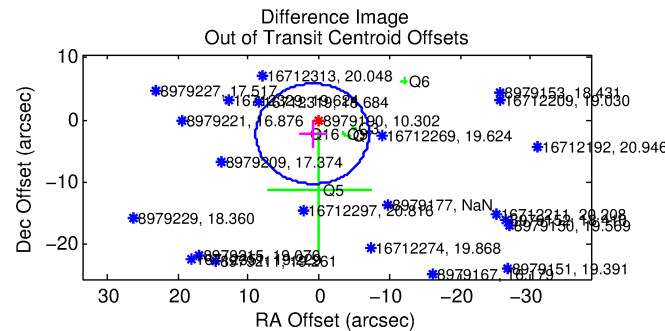
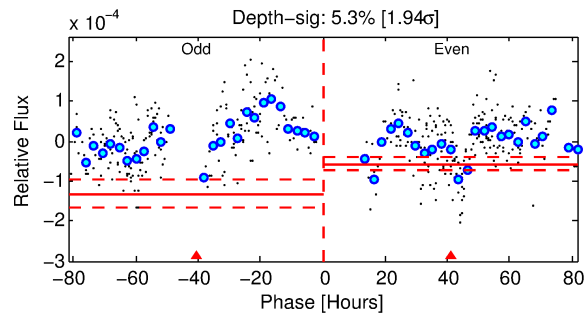
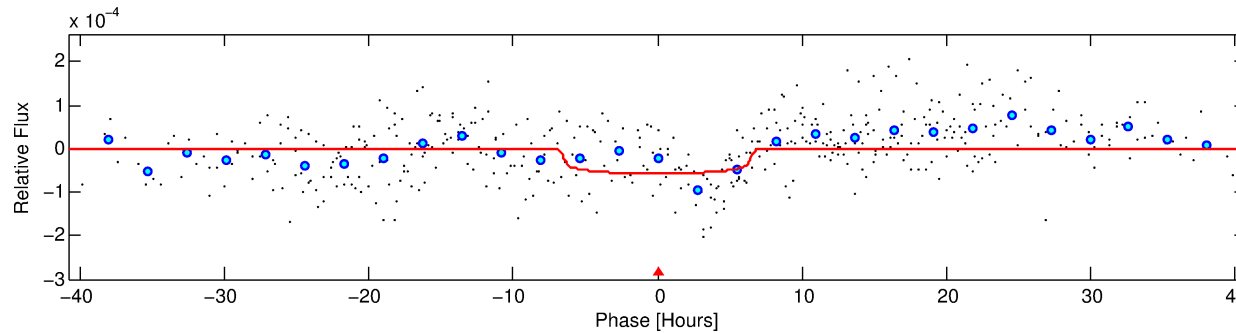
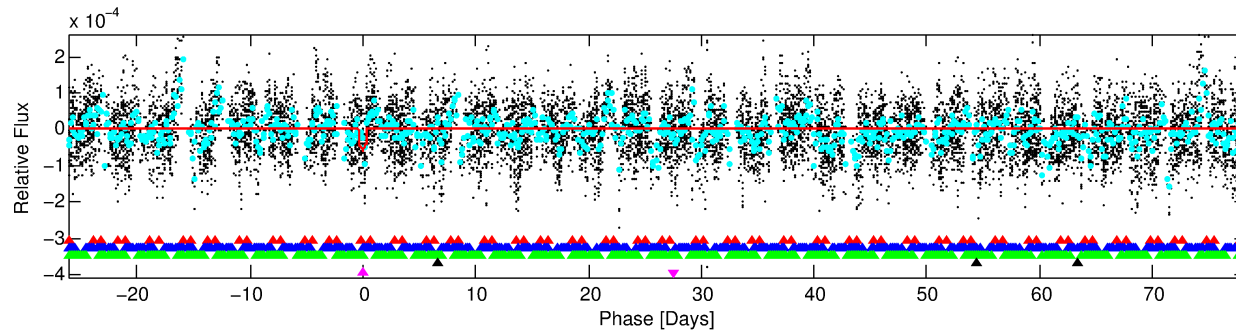
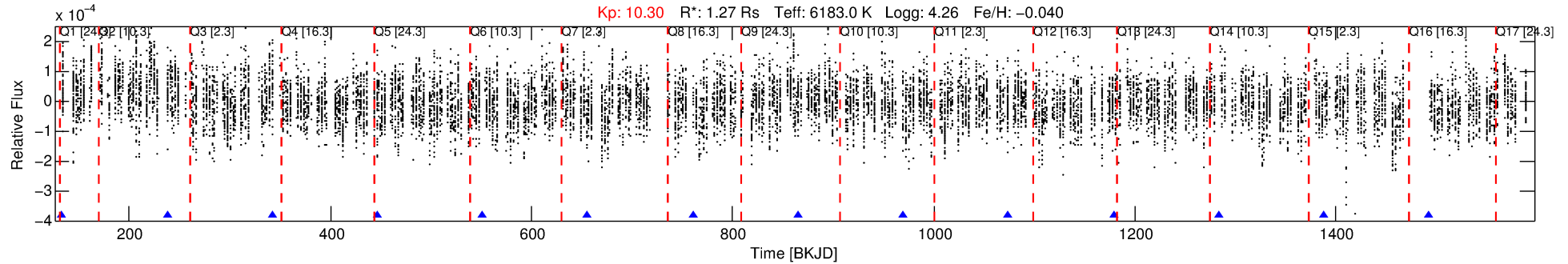
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008979190-05

No Significant Match Found

DV One-Page Summary

KIC: 8979190 Candidate: 5 of 5 Period: 104.561 d



DV Fit Results:

Period = 104.56074 [0.00783] d
Epoch = 133.1907 [0.0458] BKJD
Rp/R* = 0.0082 [0.0022]
a/R* = 26.73 [33.23]
b = 0.90 [0.27]
Seff = 10.63 [4.22]
Teq = 460 [46] K
Rp = 1.13 [0.47] Re
a = 0.4469 [0.1129] AU
Ag = 7173.96 [4799.21] [1.49σ]
Teffp = 6551 [963] K [6.32σ]

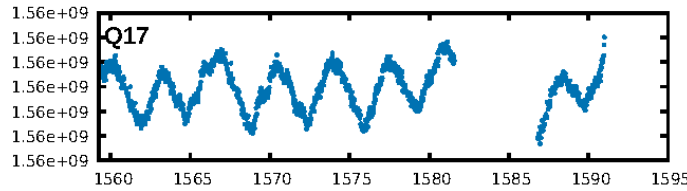
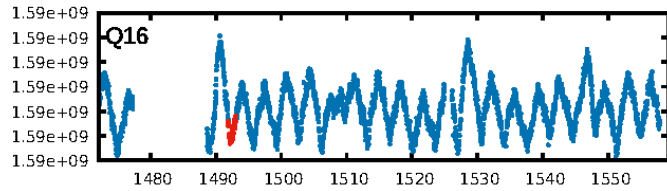
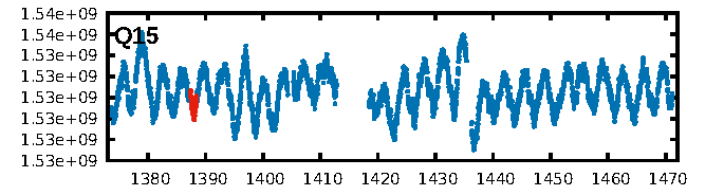
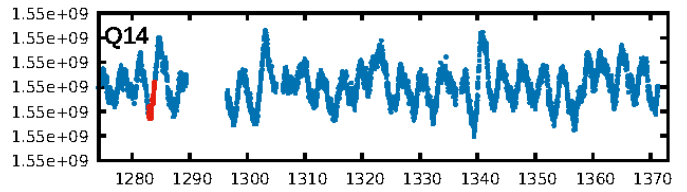
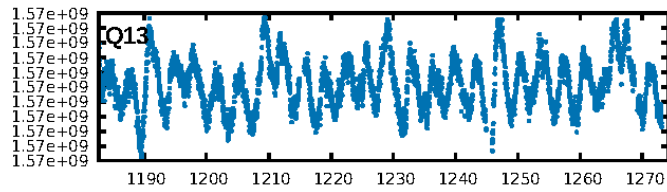
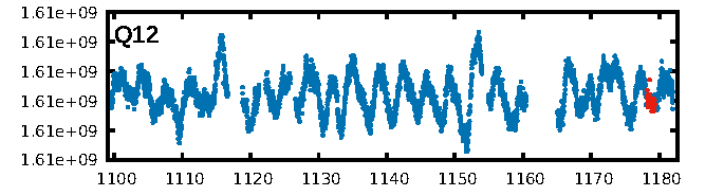
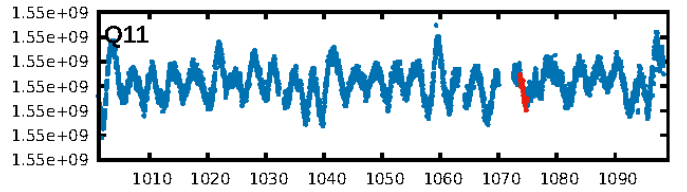
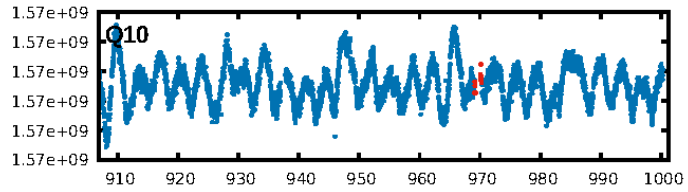
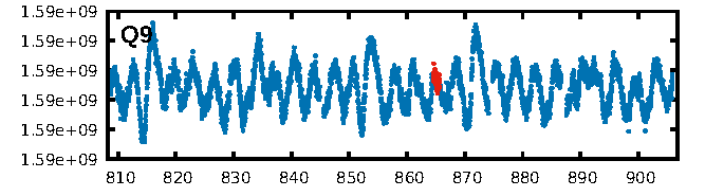
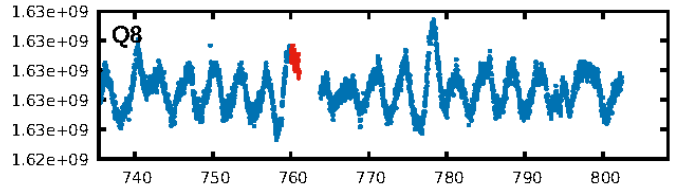
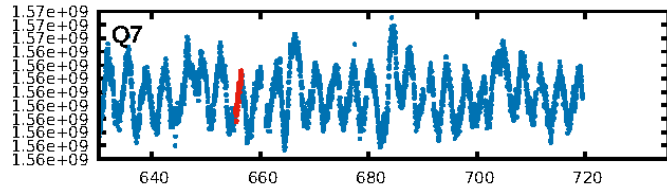
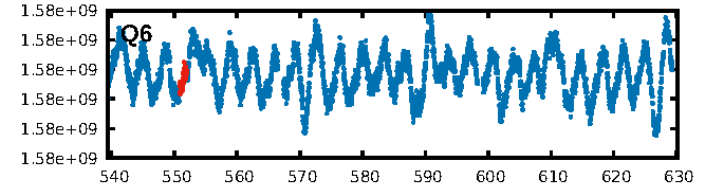
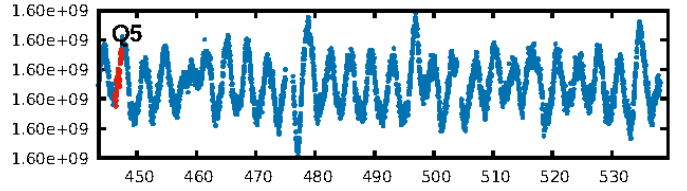
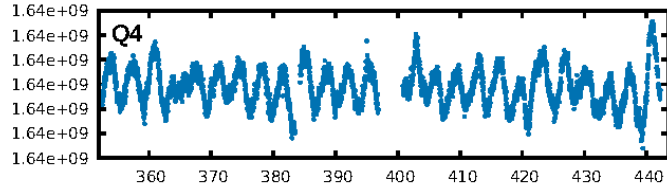
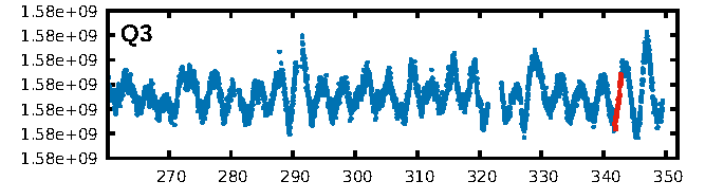
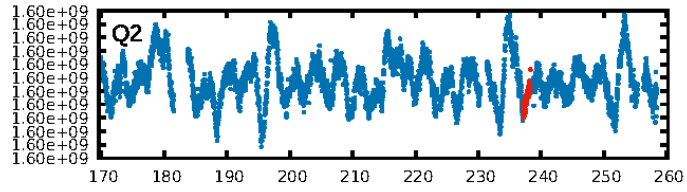
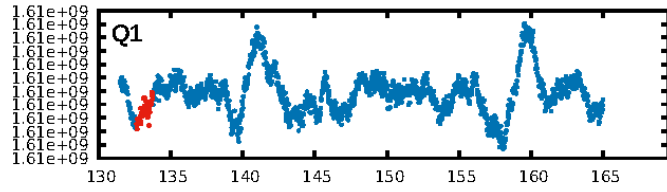
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [49.22σ]
LongPeriod-sig: 100.0% [617.15σ]
ModelChiSquare2-sig: 18.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.86e-07
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 4.837
Centroid-sig: 0.3%
Centroid-so: 2.487 arcsec [2.01σ]
OotOffset-rm: 2.414 arcsec [0.90σ]
OotOffset-st: 1/2/1/2 [6]
KicOffset-rm: 2.492 arcsec [0.97σ]
KicOffset-st: 1/2/1/2 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/8]

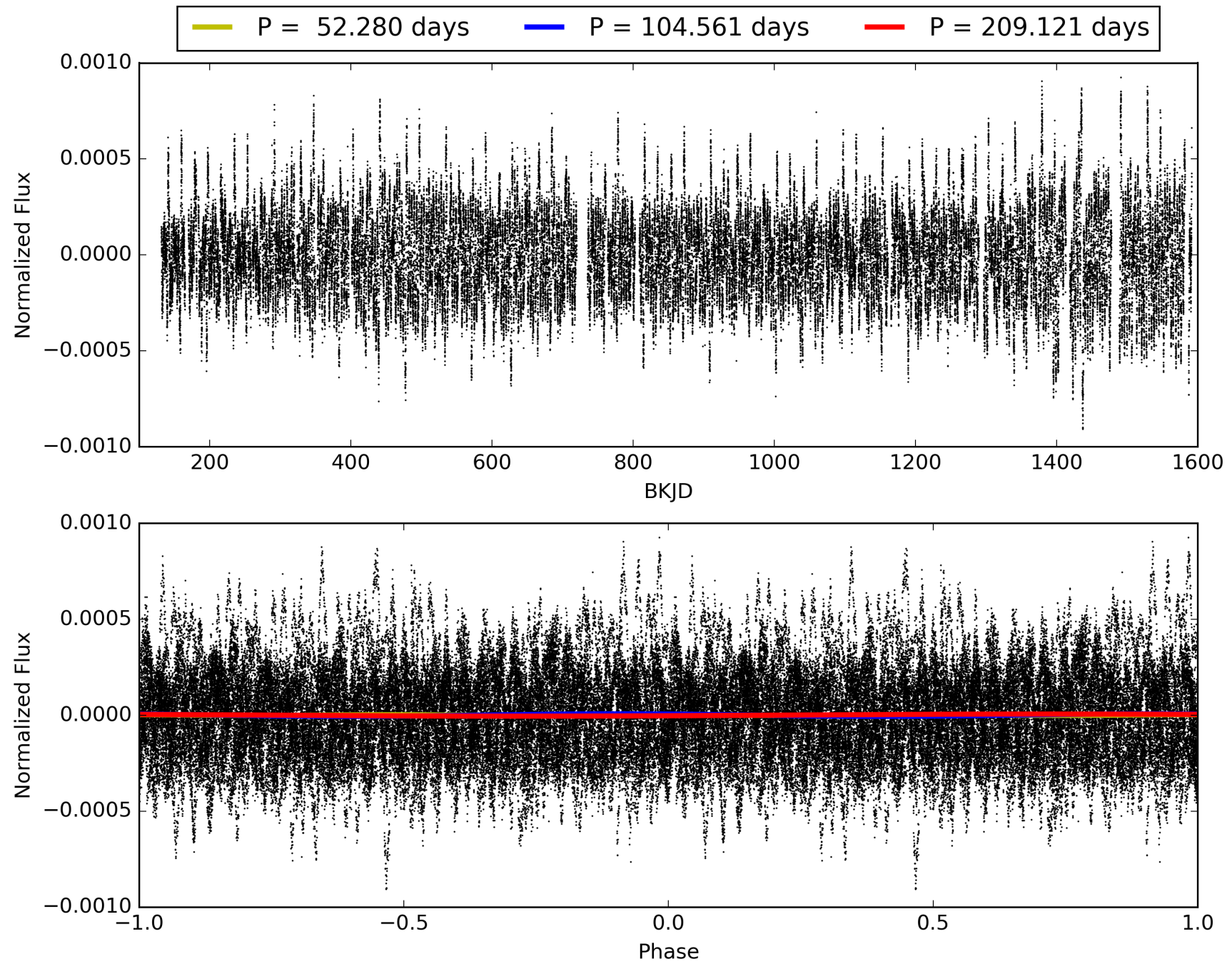
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:53:19 Z

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

TCE 008979190-05, PDC Light Curves

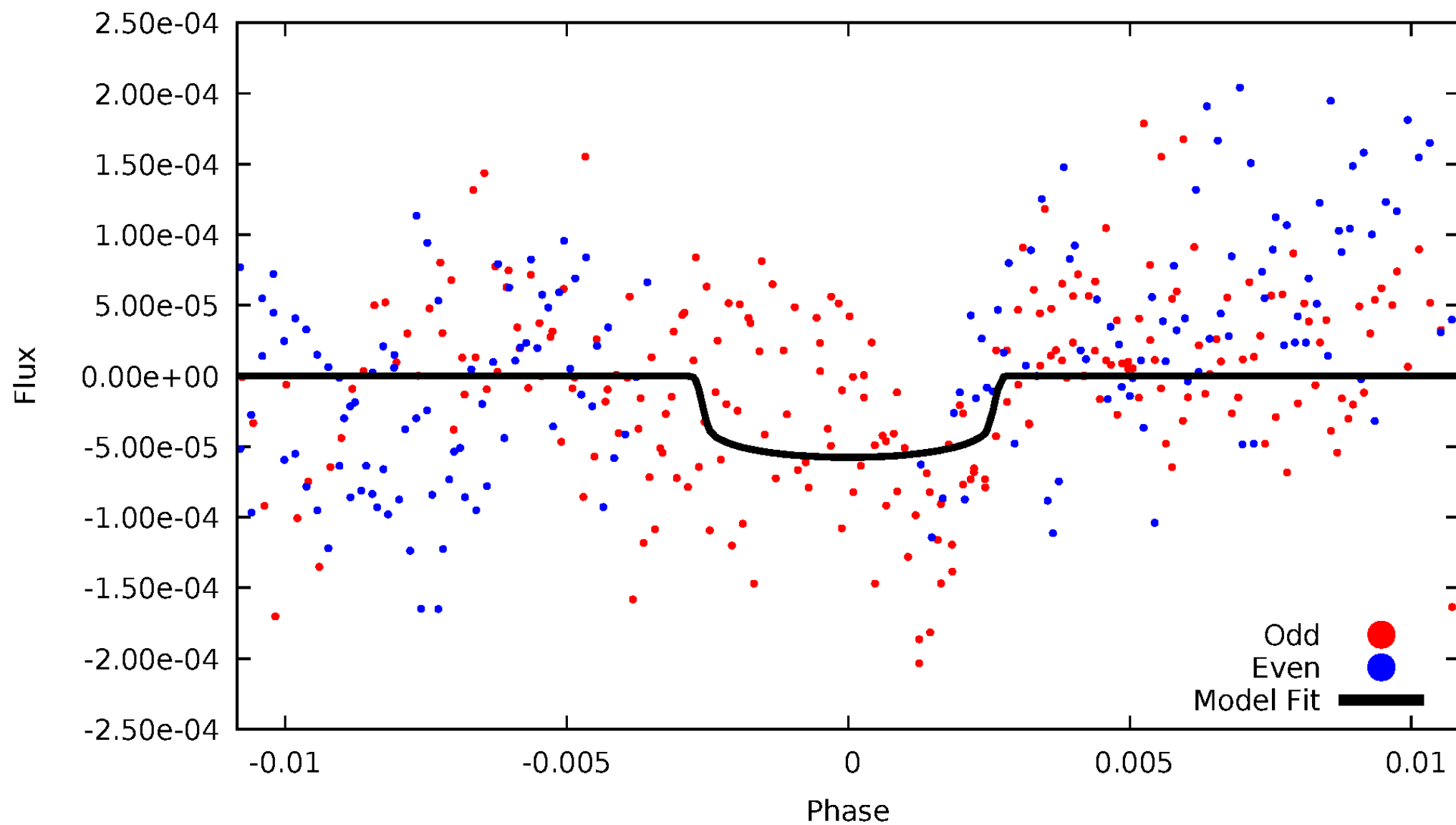


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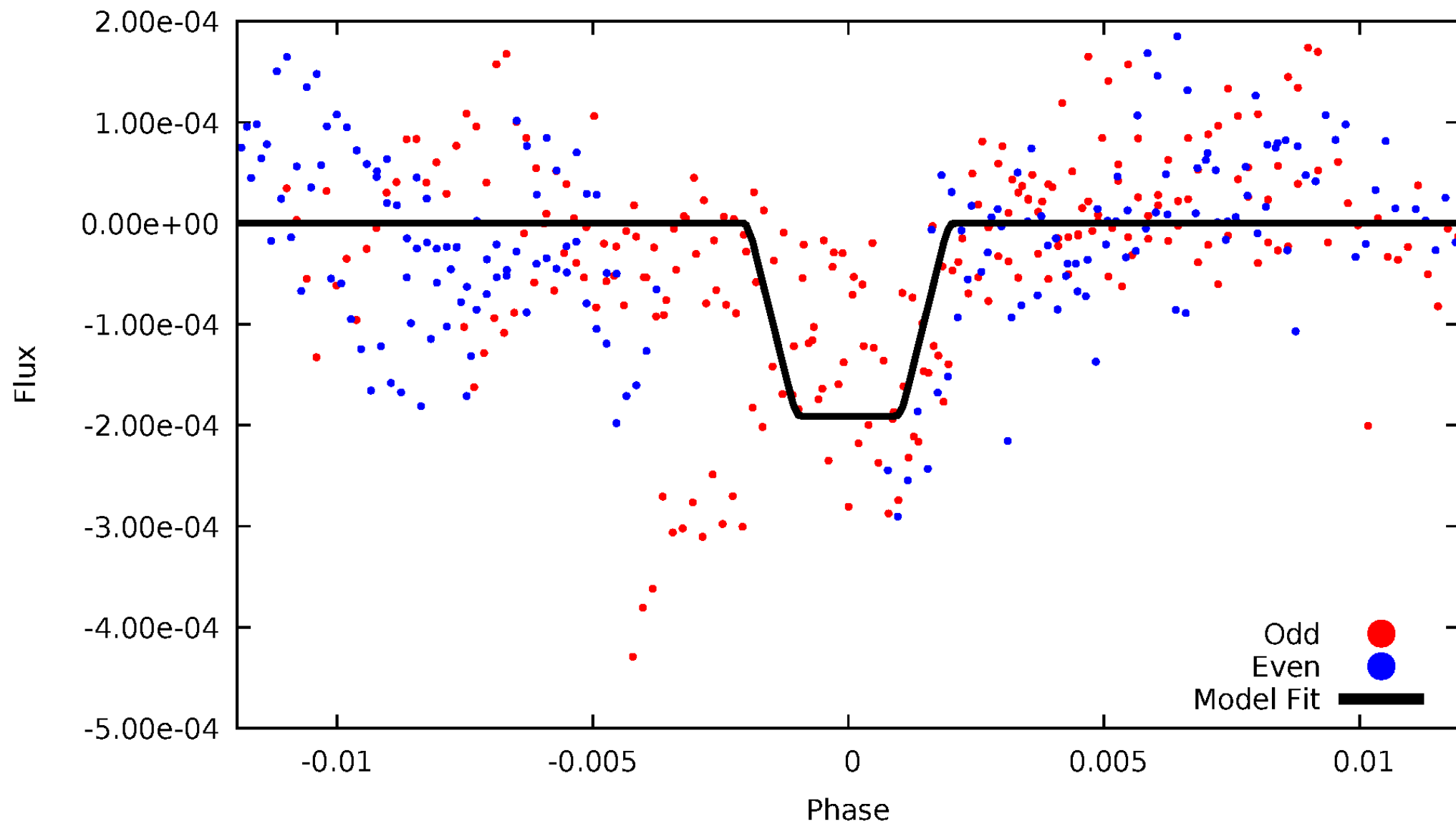
DV Odd/Even

TCE 008979190-05



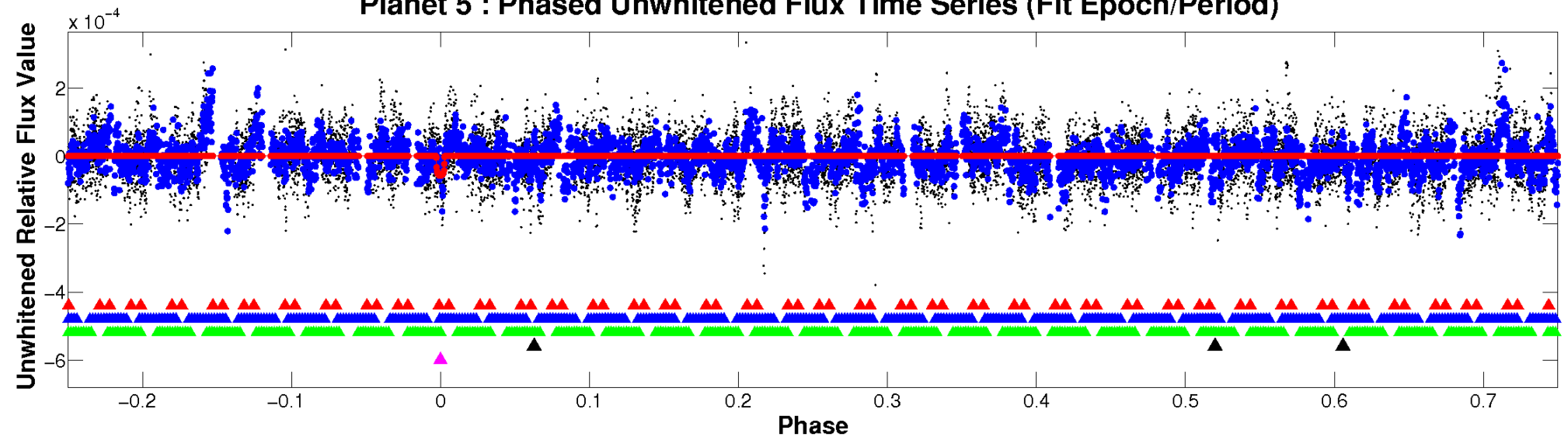
ALT Odd/Even

TCE 008979190-05

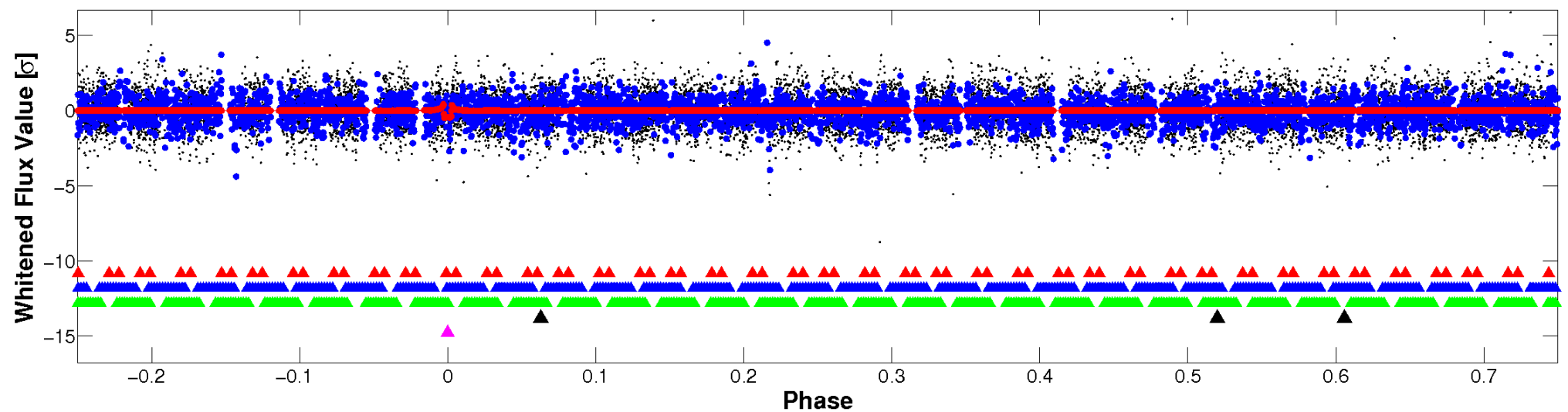


Non-Whitened Vs. Whitened Light Curve

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

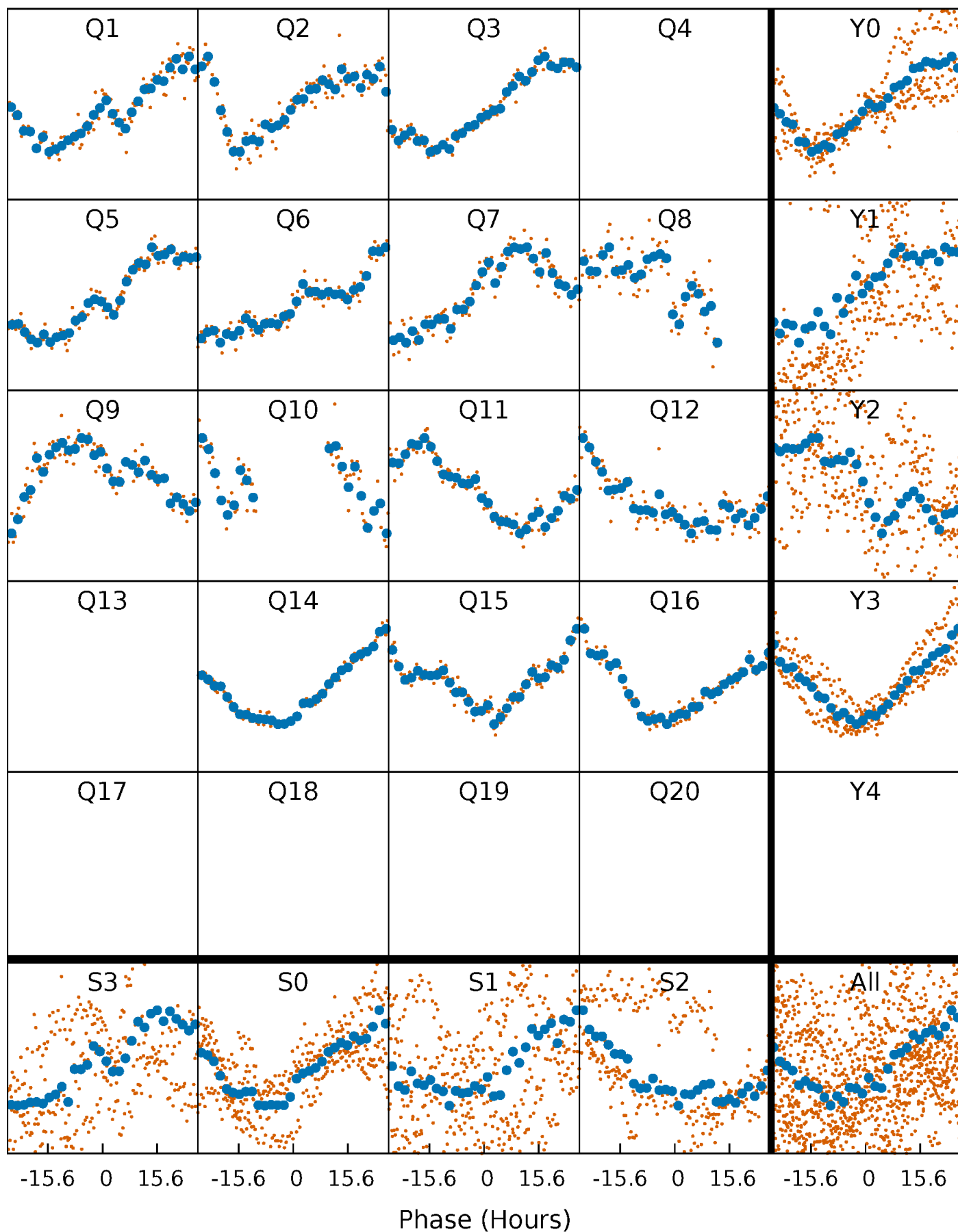


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



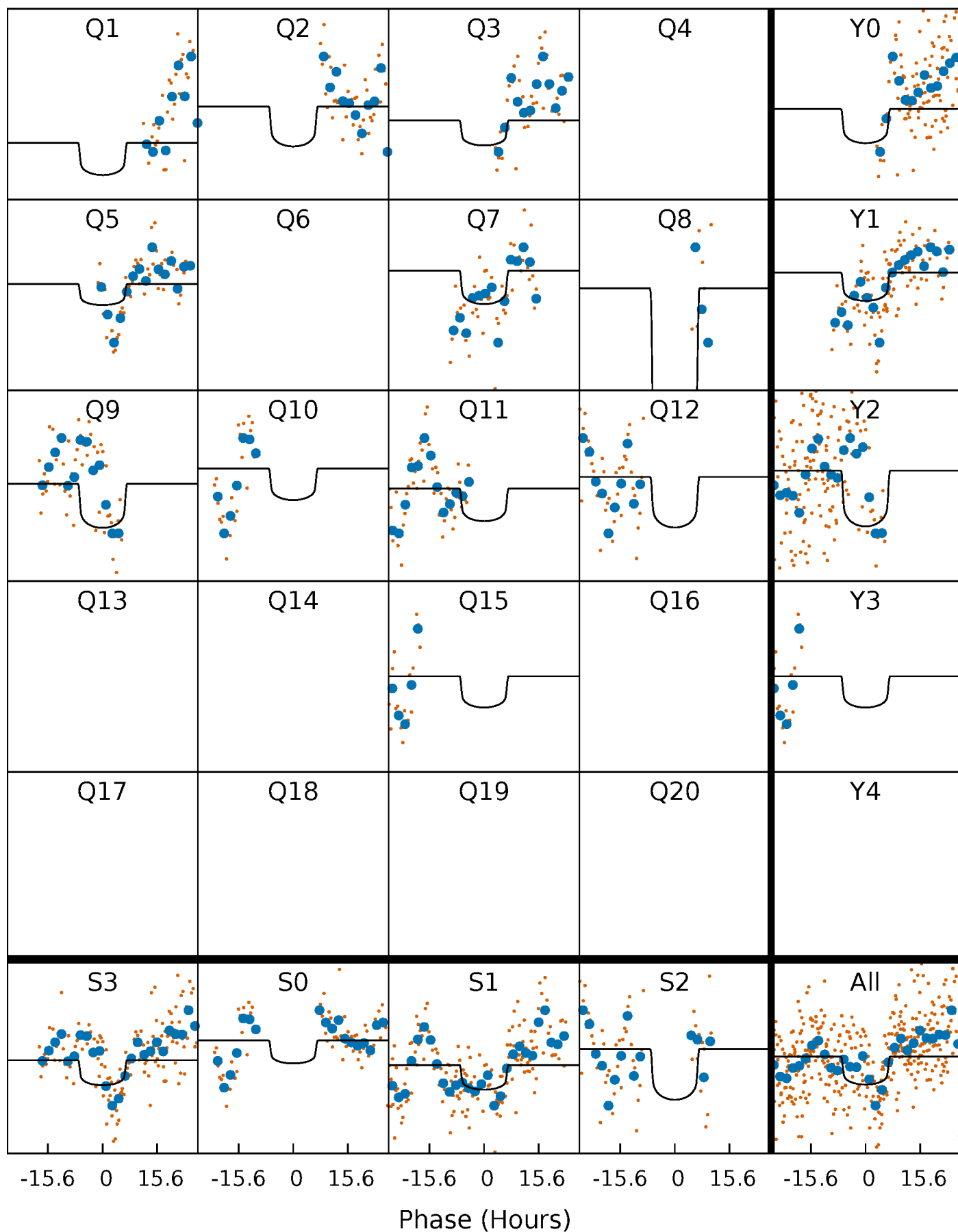
PDC Quarter-Phased Transit Curves

TCE 008979190-05 P=104.560742 Days $T_0=133.190727$ (BKJD)



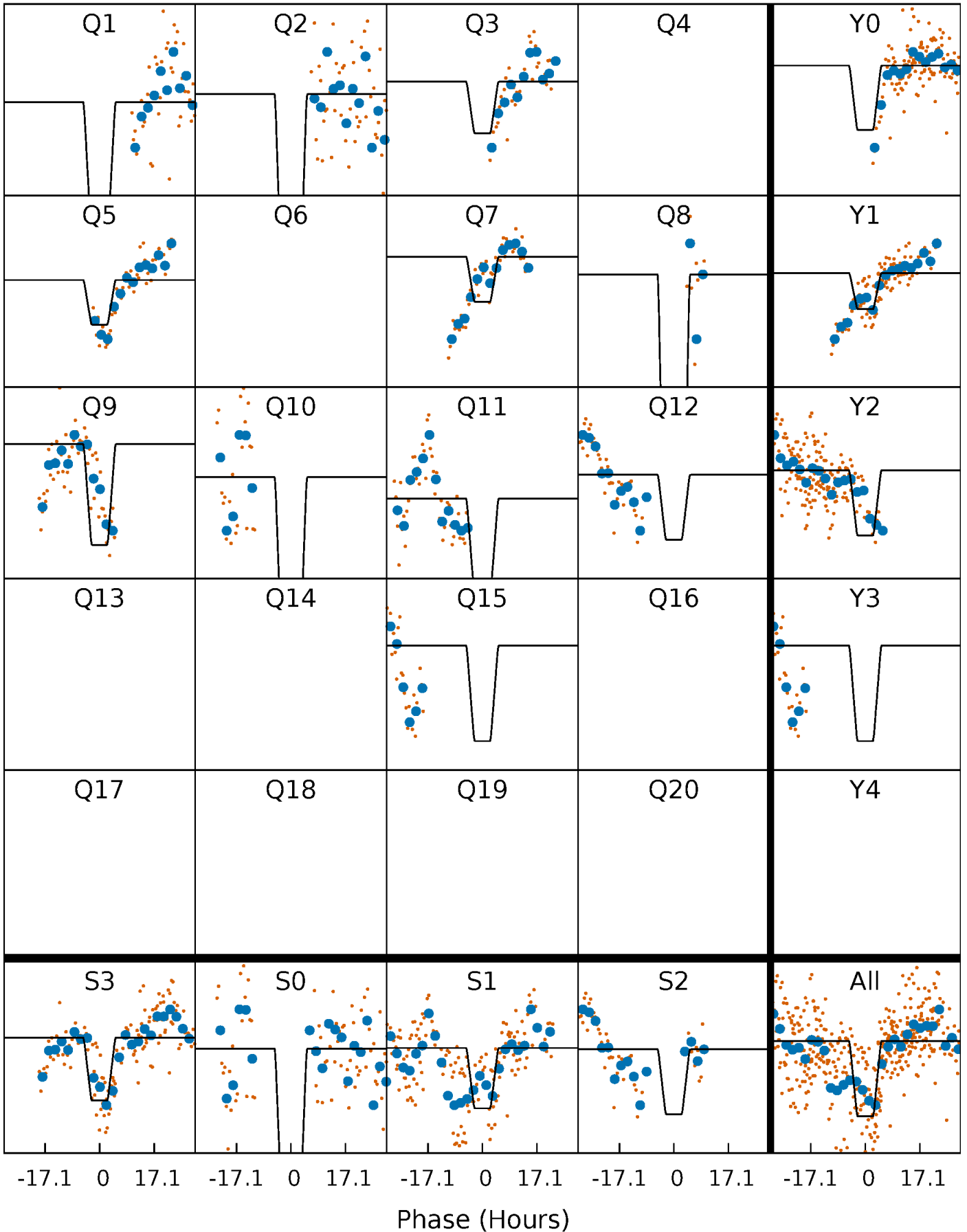
DV Quarter-Phased Transit Curves

TCE 008979190-05 P=104.560742 Days $T_0=133.190727$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

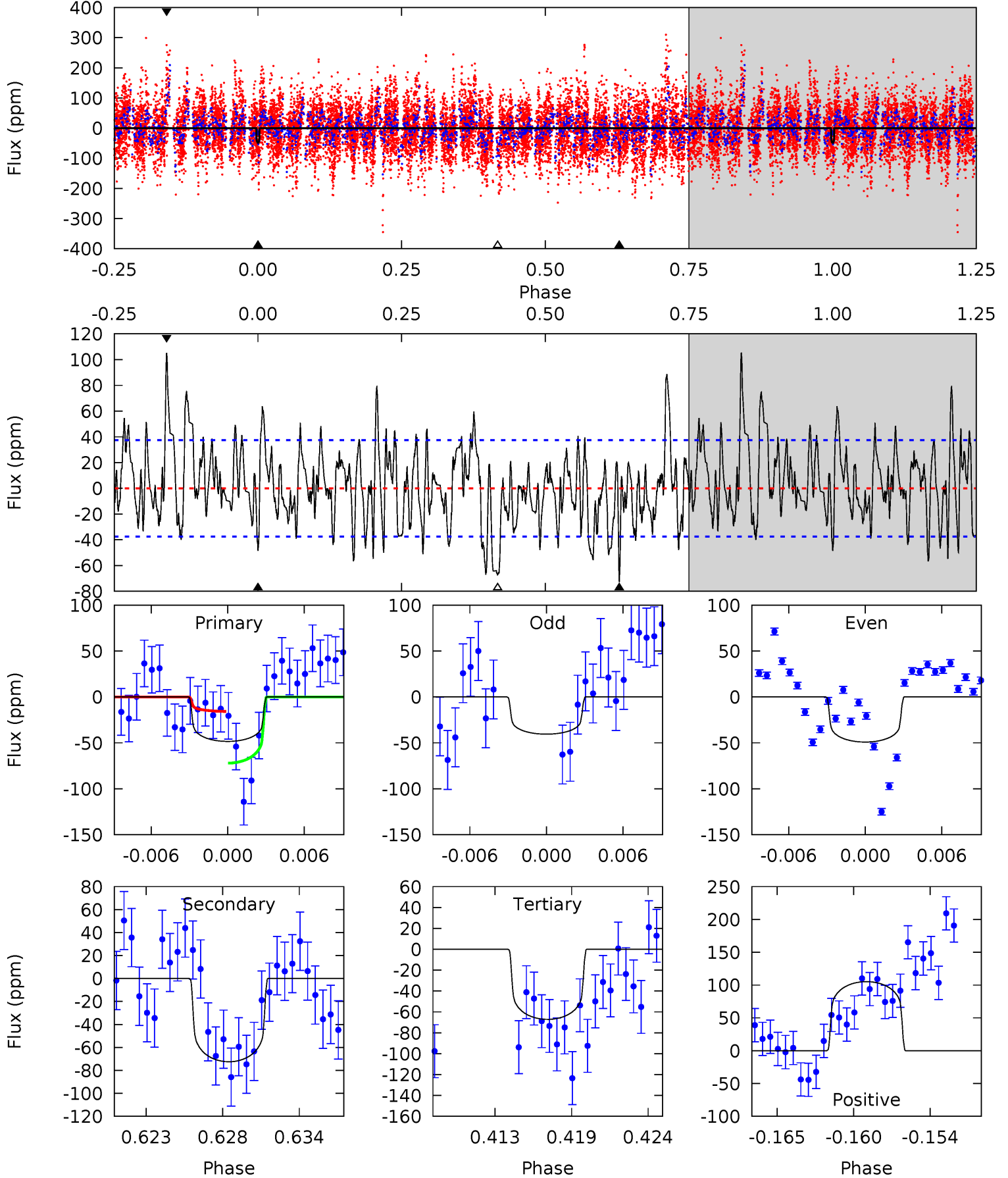
TCE 008979190-05 $P=104.556431$ Days $T_0=133.253124$ (BKJD)



DV Model-Shift Uniqueness Test

008979190-05, P = 104.560742 Days, E = 133.190727 Days

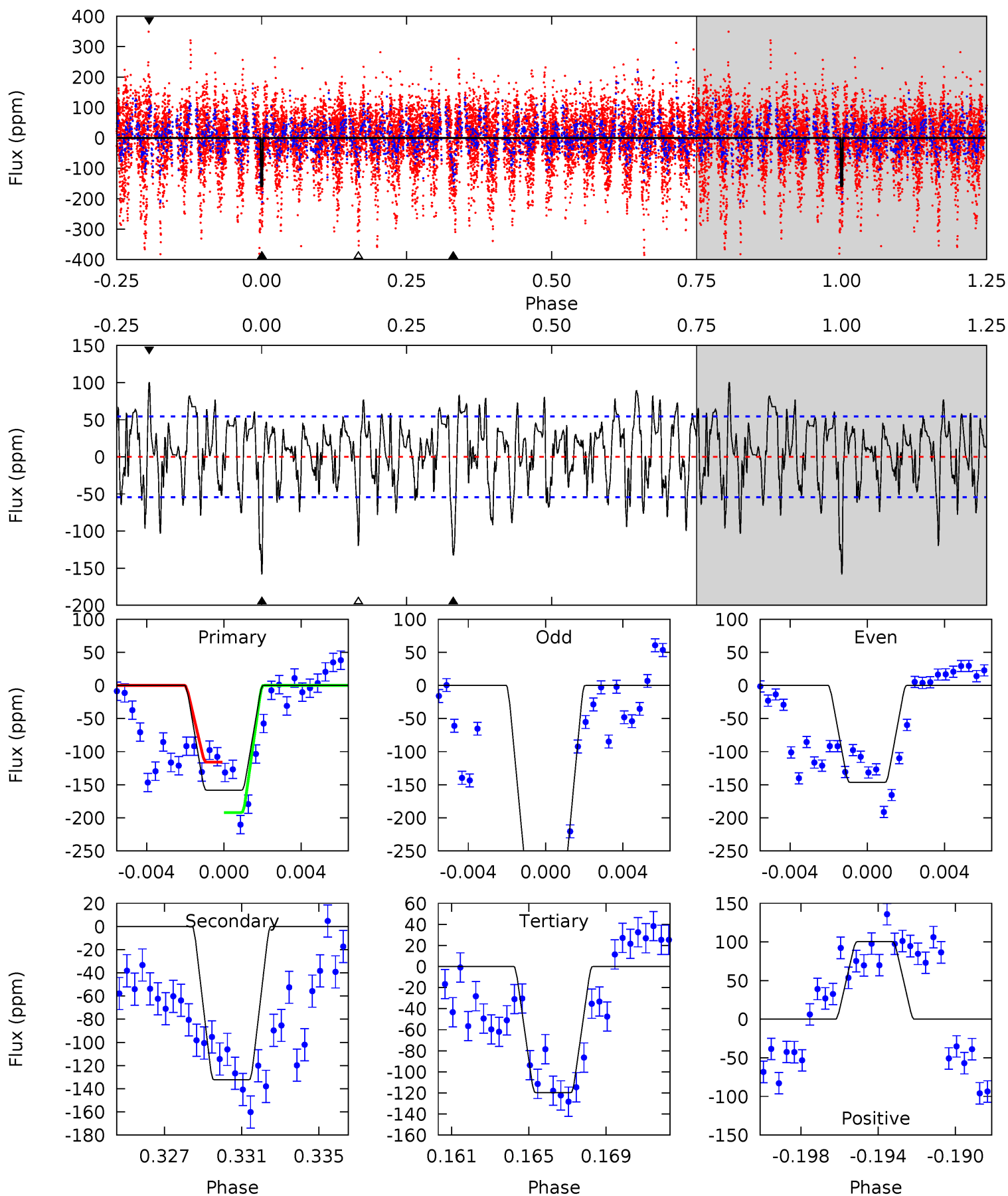
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.64	9.94	9.20	14.4	5.14	2.78	3.52	-2.57	-7.78	0.73	-4.48	0.41	0.99	0.59	3.80



Alt Model-Shift Uniqueness Test

008979190-05, P = 104.556431 Days, E = 133.253124 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	12.6	11.4	9.60	5.20	2.88	3.73	3.69	5.54	1.20	3.05	4.84	1.06	0.39	3.55



Stellar Parameters For KIC 008979190

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6183^{+194}_{-259}	$4.265^{+0.158}_{-0.193}$	$-0.040^{+0.250}_{-0.300}$	$1.273^{+0.391}_{-0.261}$	$1.086^{+0.181}_{-0.148}$	$0.742^{+0.599}_{-0.387}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-21%	+17%/-14%	+81%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008979190-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-72 ± 7	$1.16^{+0.37}_{-0.37}$	642^{+59}_{-45}	6302^{+1296}_{-794}	6038^{+6558}_{-2716}
Alt.	-132 ± 10	$1.94^{+0.44}_{-0.38}$	645^{+51}_{-44}	5636^{+539}_{-436}	3854^{+2070}_{-1316}

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

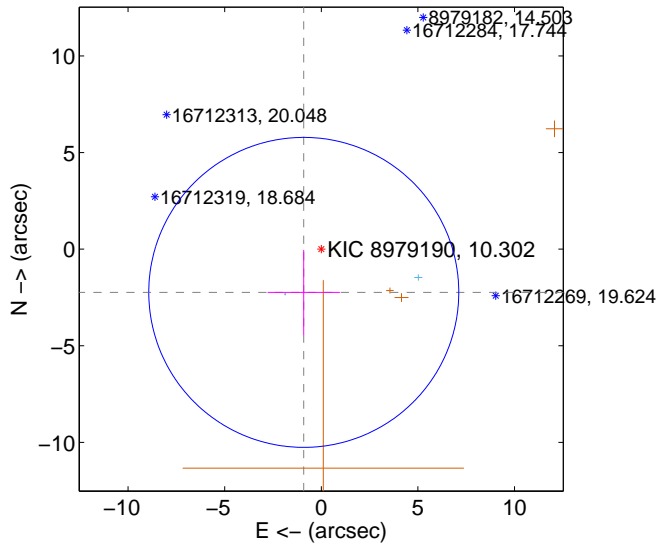
Supplemental centroid analysis for 008979190-05. **Kepler magnitude: 10.30.** Transit SNR 4.70

There are 2 quarters with good PRF difference image offsets

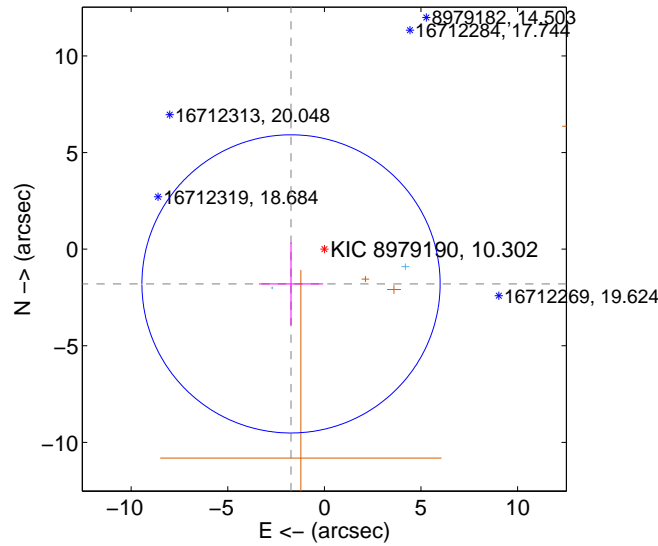
The direct PRF centroid is offset from the target star catalog position by about 0.89 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.414 ± 2.674	0.90	0.907 ± 1.872	-2.237 ± 2.198
PRF-fit source offset from KIC position	2.492 ± 2.572	0.97	1.726 ± 1.664	-1.797 ± 2.142
photometric centroid source offset	2.49 ± 1.24	2.01	-0.47 ± 1.83	2.44 ± 1.21

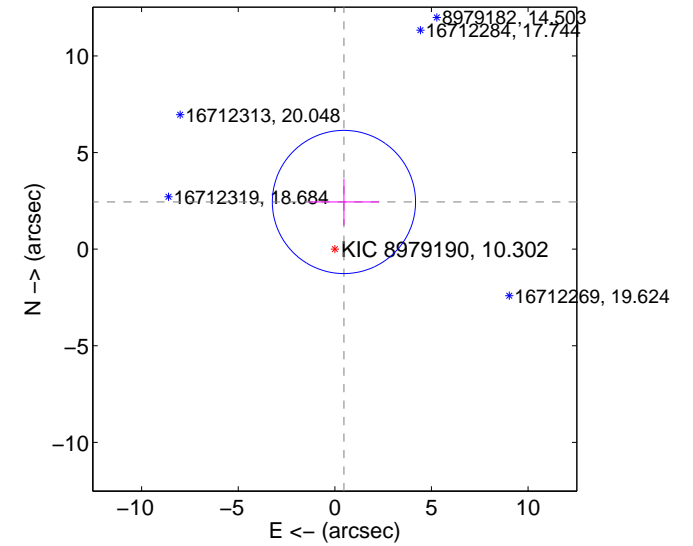
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

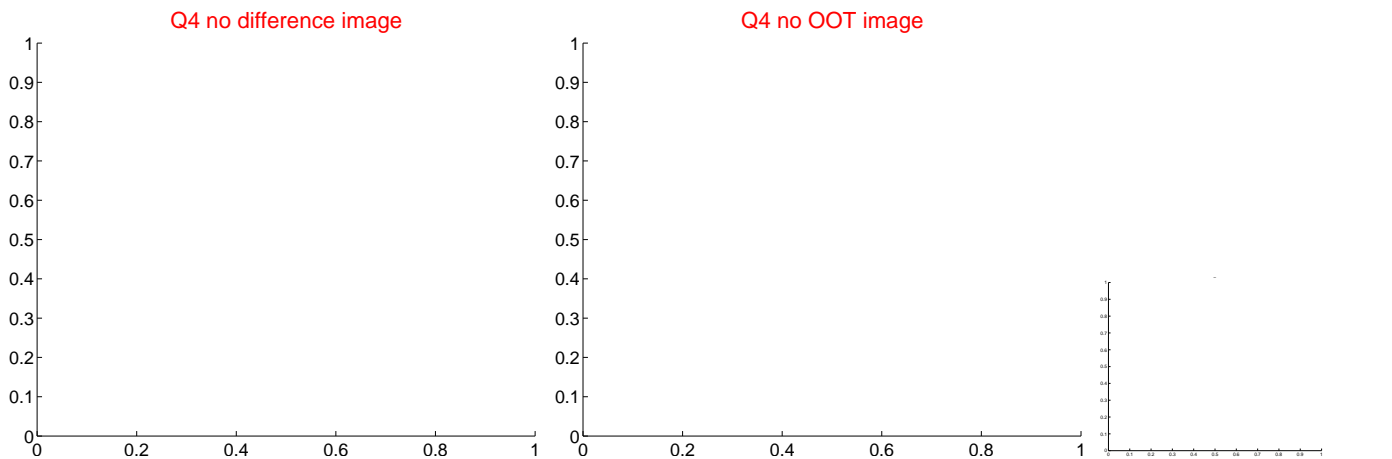
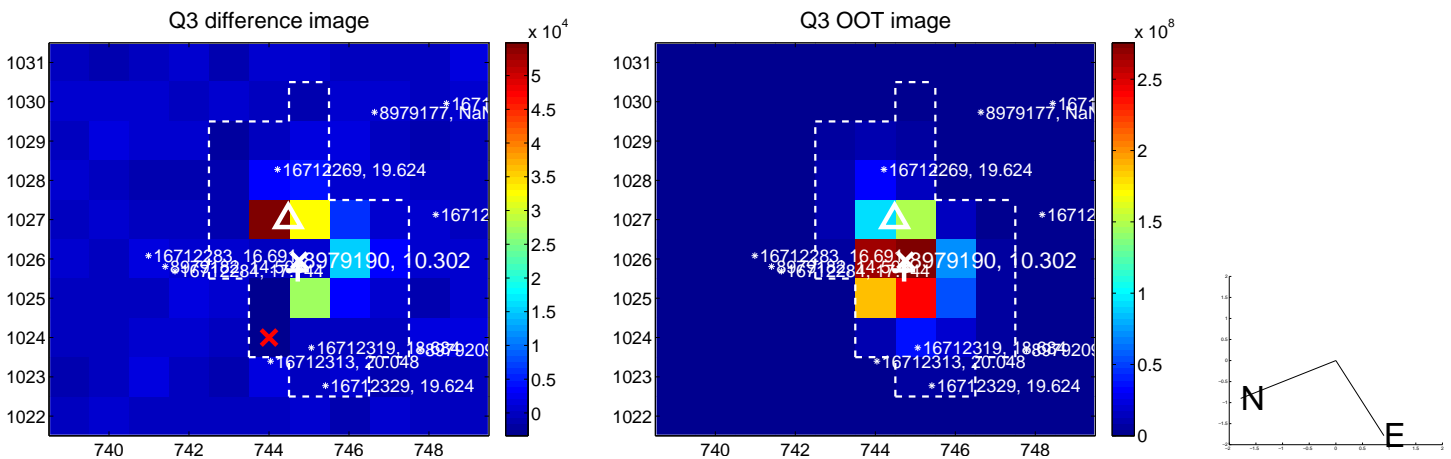
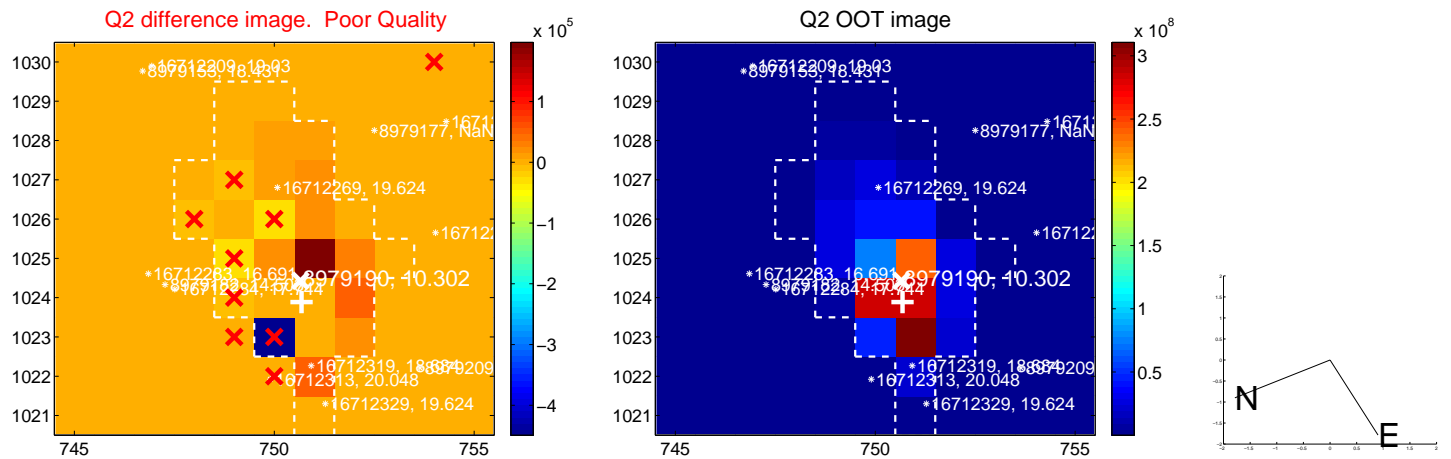
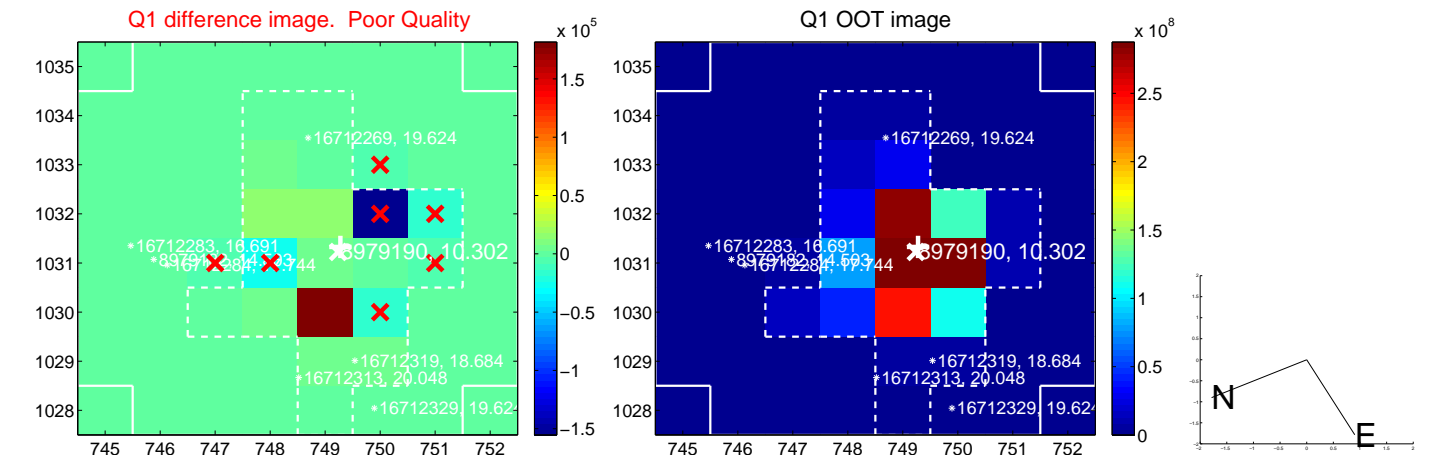


offset from photometric centroids

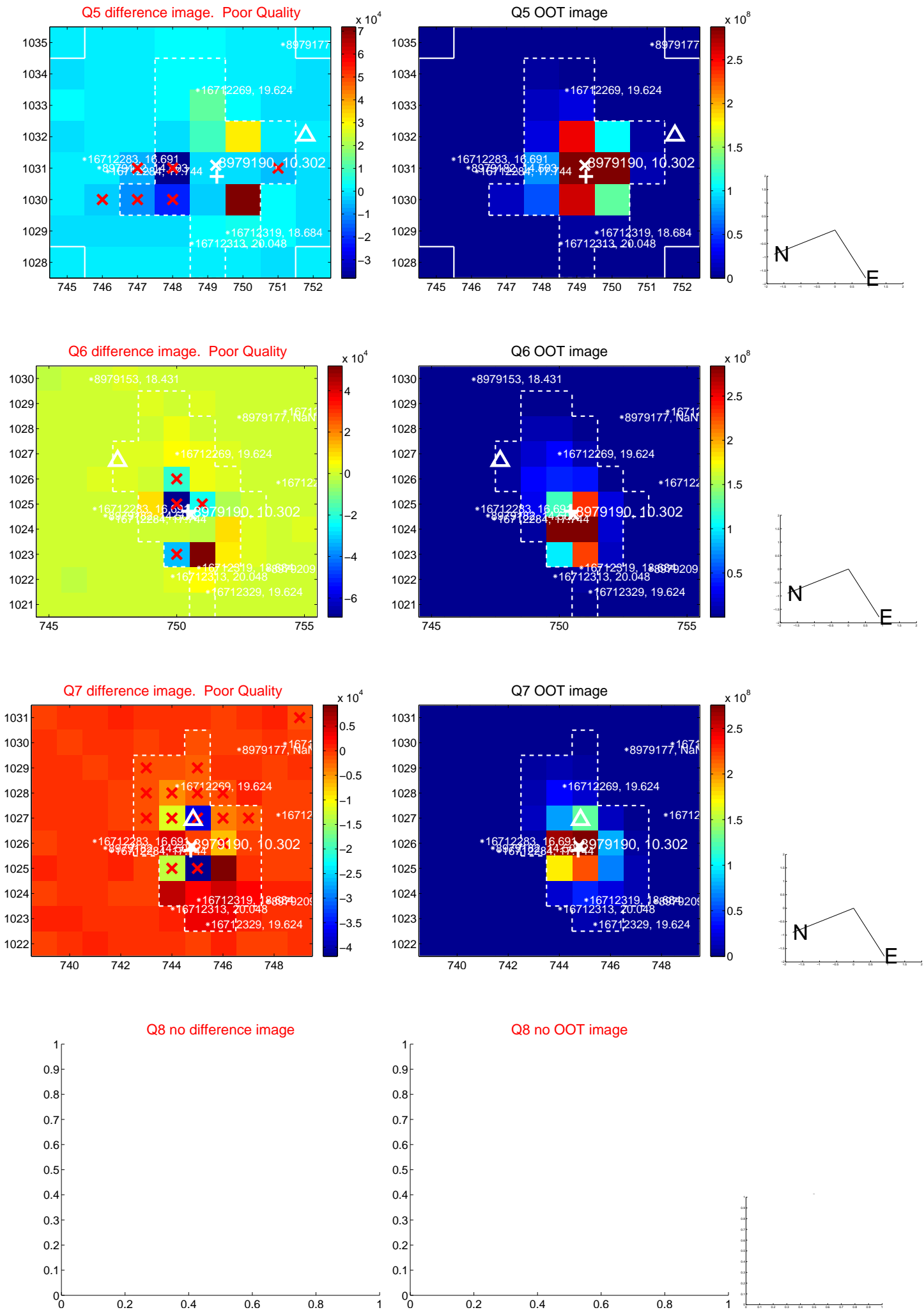


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- 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.

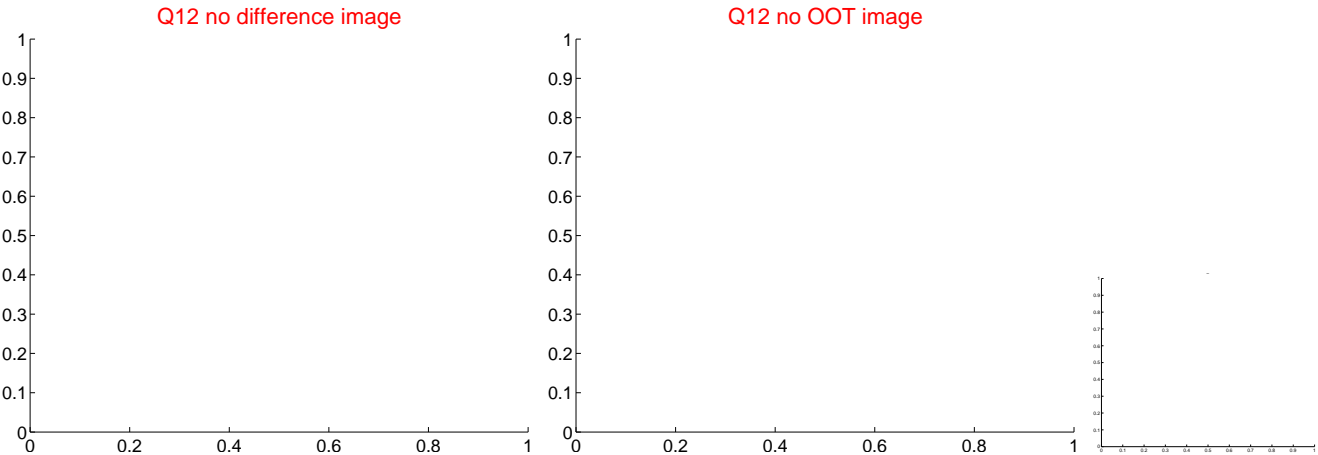
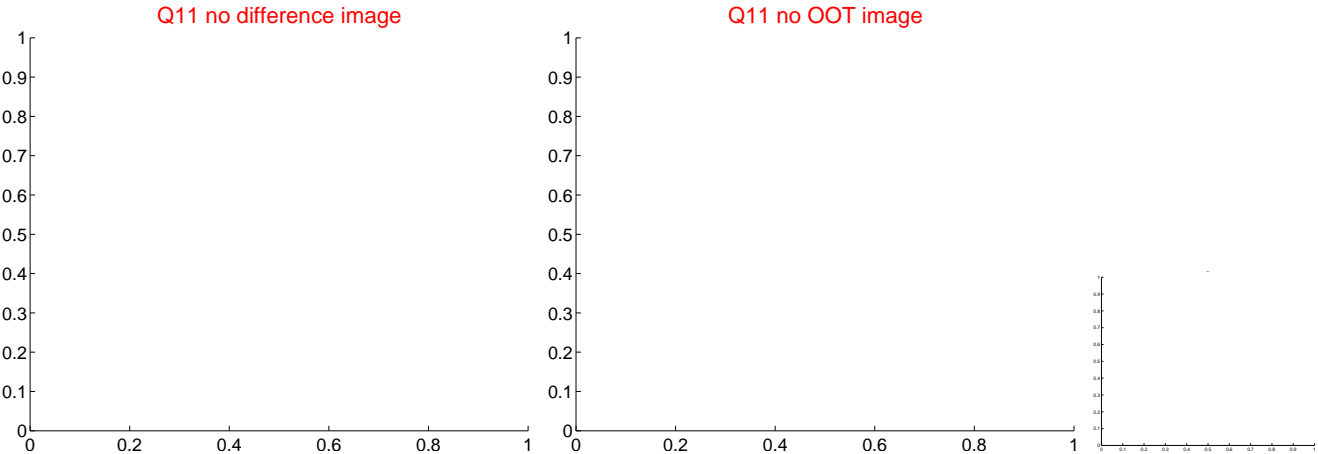
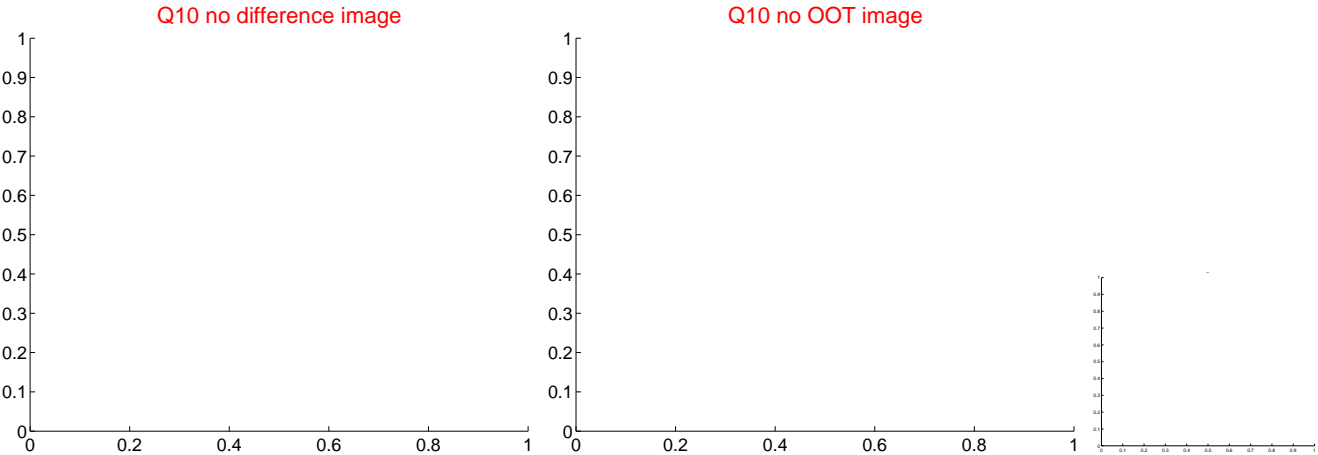
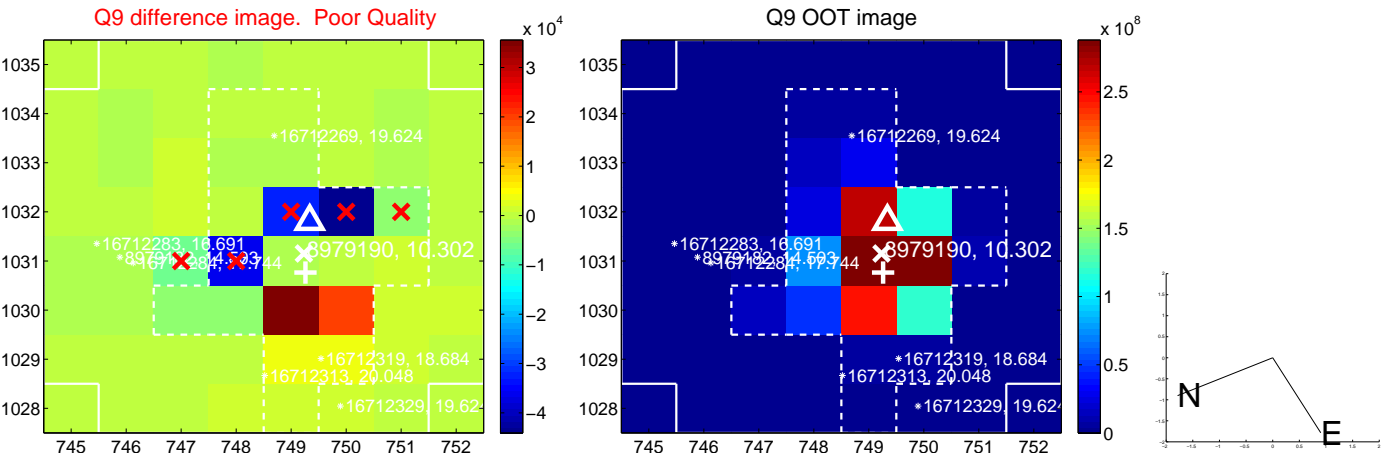
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



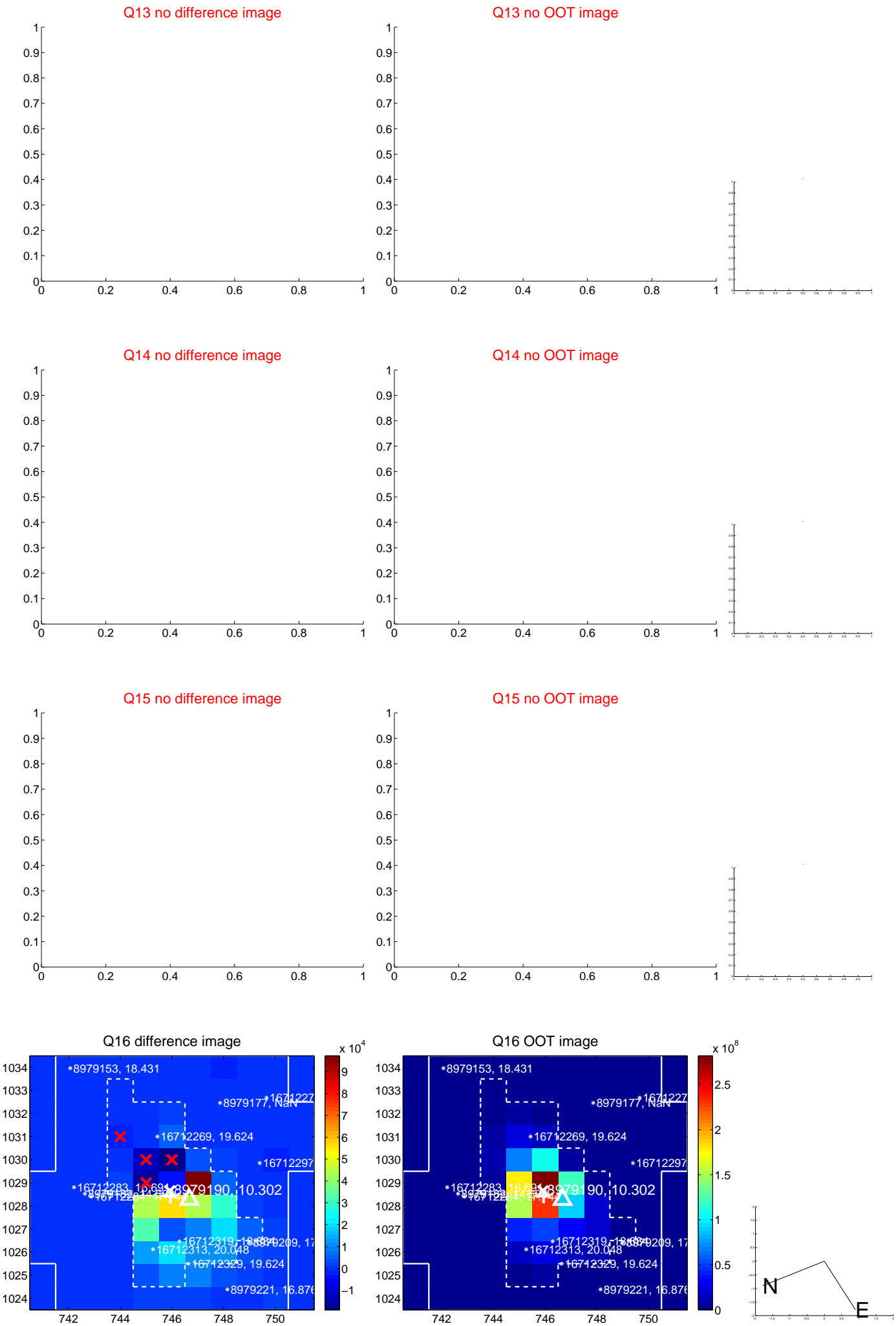
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



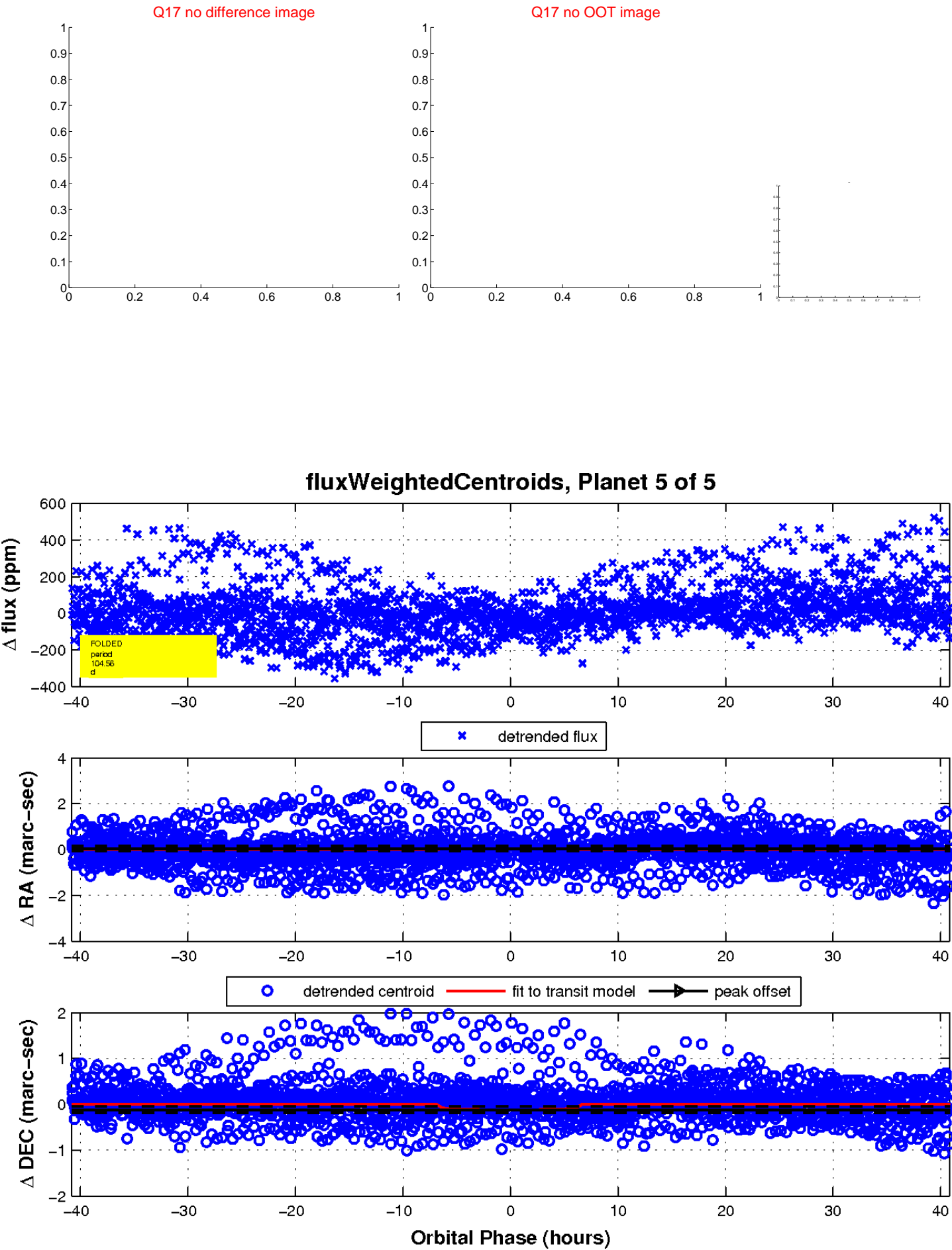
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

