

KIC 003238787

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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
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003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

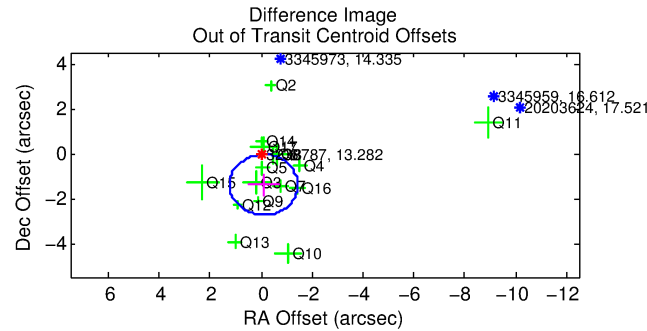
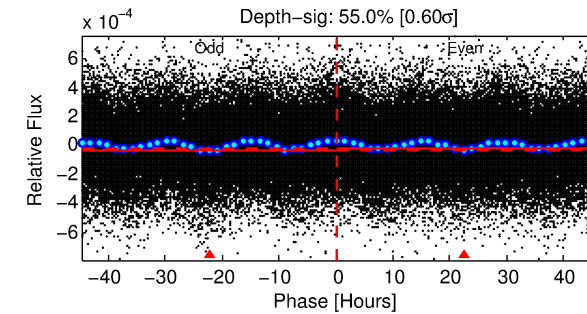
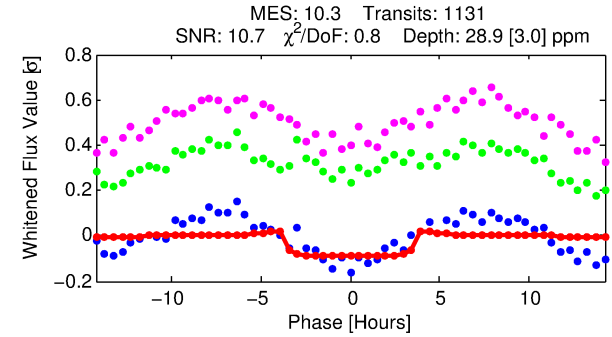
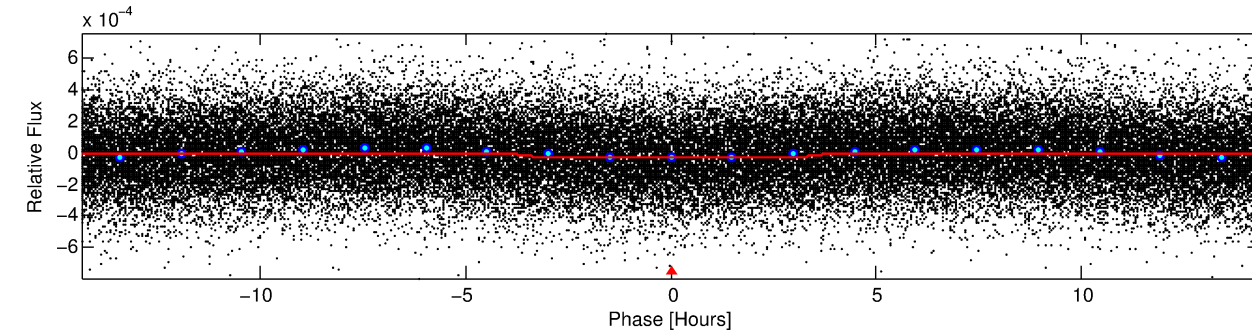
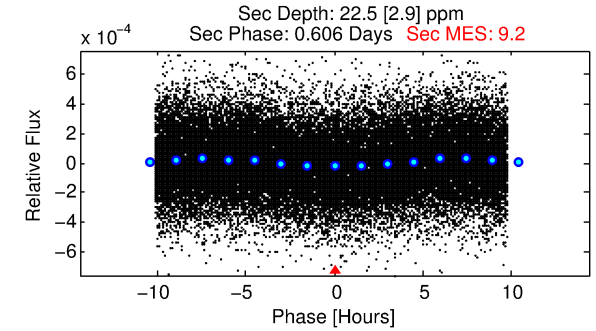
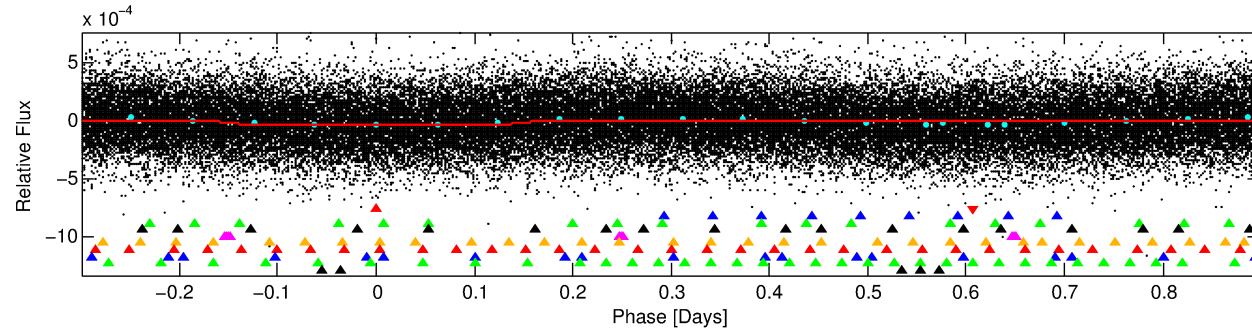
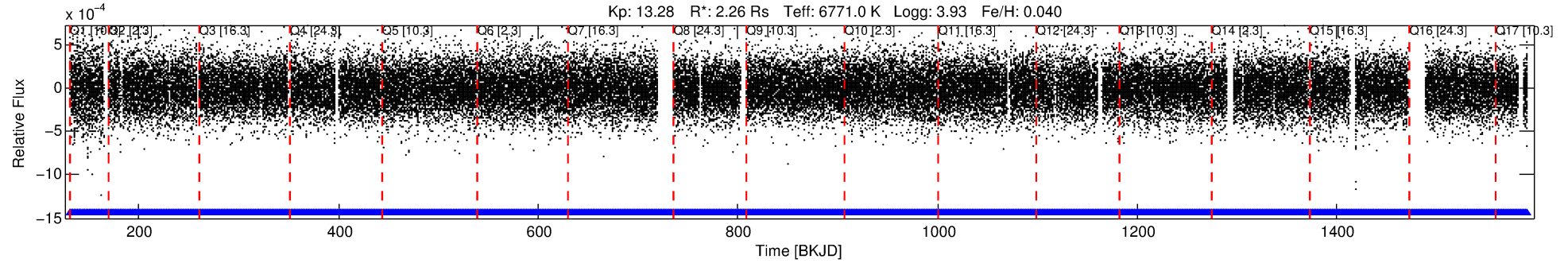
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-01

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 1 of 10 Period: 1.198 d



DV Fit Results:

Period = 1.19838 [0.00001] d
Epoch = 131.8370 [0.0045] BKJD
Rp/R* = 0.0051 [0.0031]
a/R* = 1.30 [1.79]
b = 0.49 [5.24]
Seff = 14409.79 [4897.90]
Teff = 2794 [237] K
Rp = 1.25 [0.81] Re
a = 0.0258 [0.0055] AU
Ag = 5.25 [6.59] [0.64σ]
Teffp = 6537 [1980] K [1.88σ]

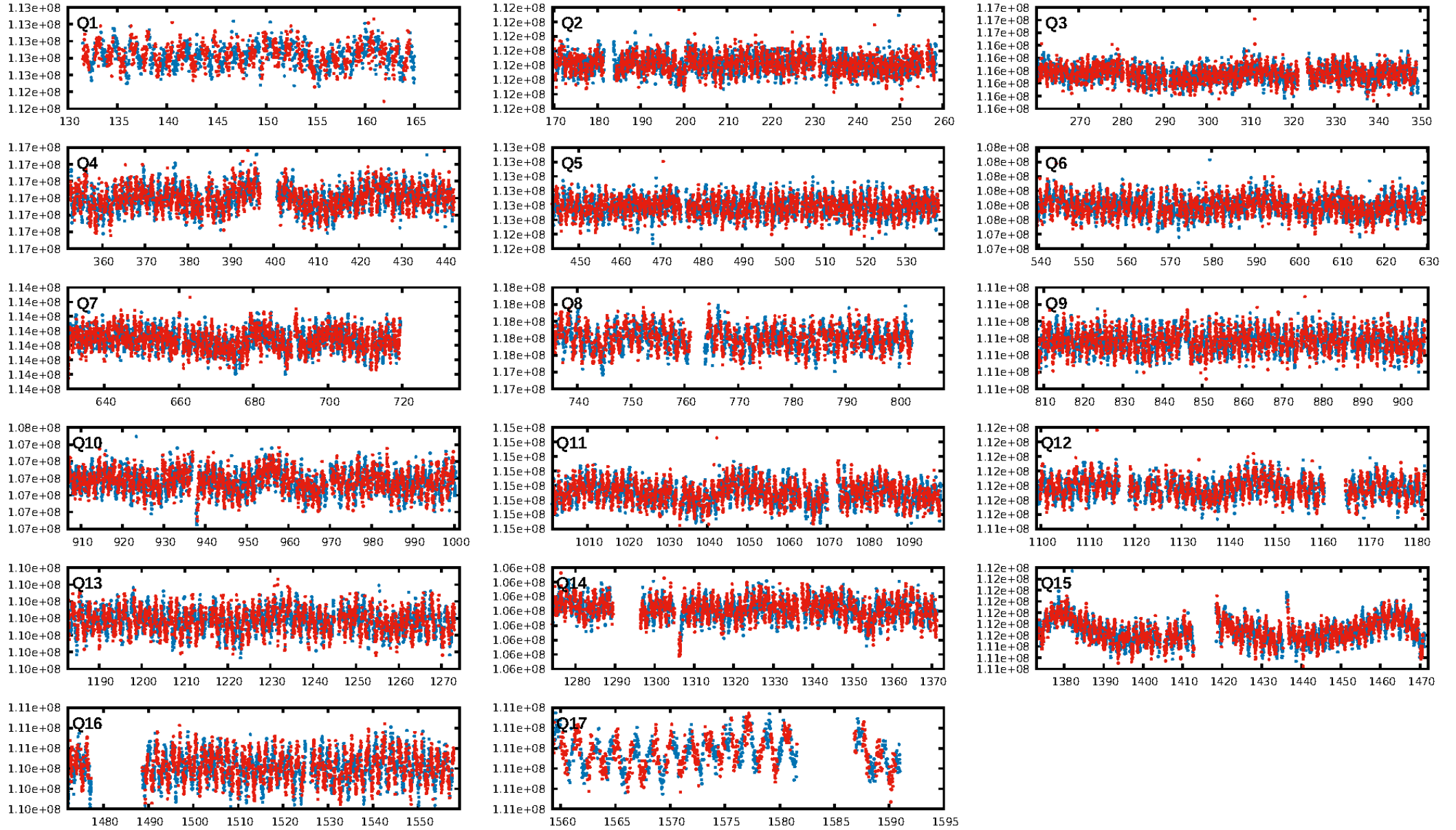
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [131.20σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.26e-13
RollingBand-fgt: 1.00 [1080/1080]
GhostDiagnostic-chr: 1.997
Centroid-sig: 0.0%
Centroid-so: 1.132 arcsec [1.72σ]
OotOffset-rm: 1.402 arcsec [3.13σ]
KicOffset-rm: 0.571 arcsec [1.11σ]
OotOffset-st: 4/4/4 [16]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

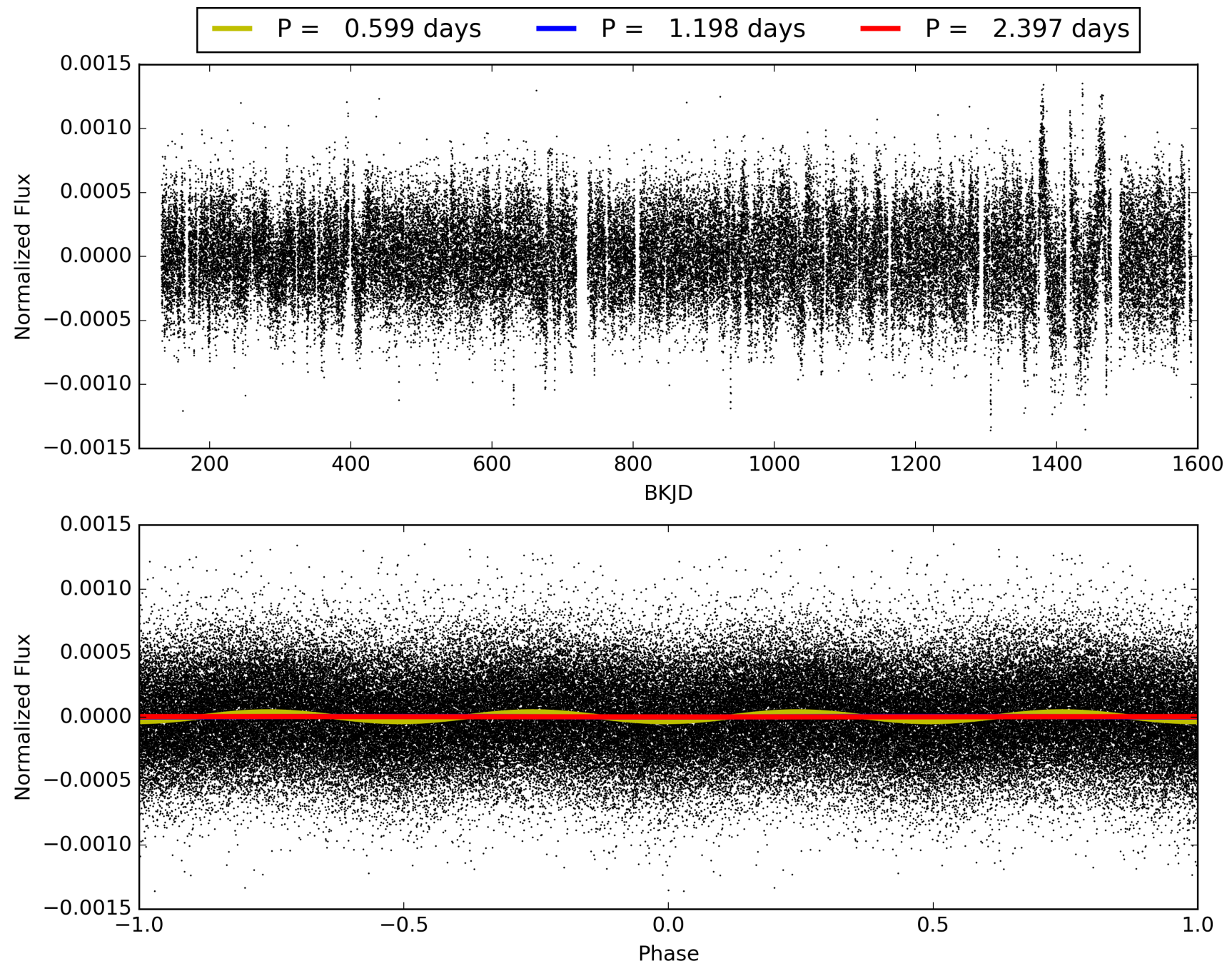
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:00:57 Z

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

TCE 003238787-01, PDC Light Curves

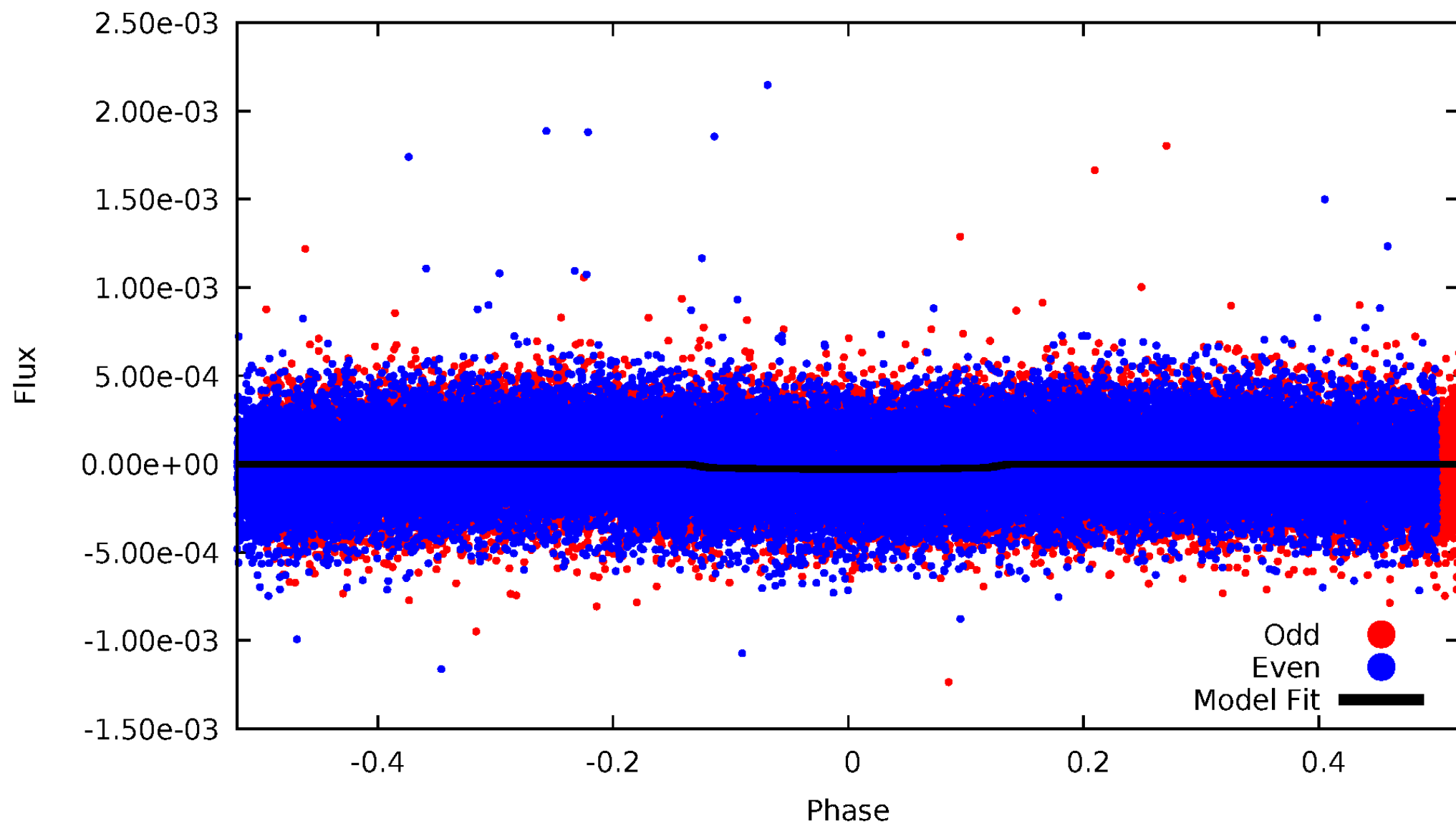


TCE 003238787-01



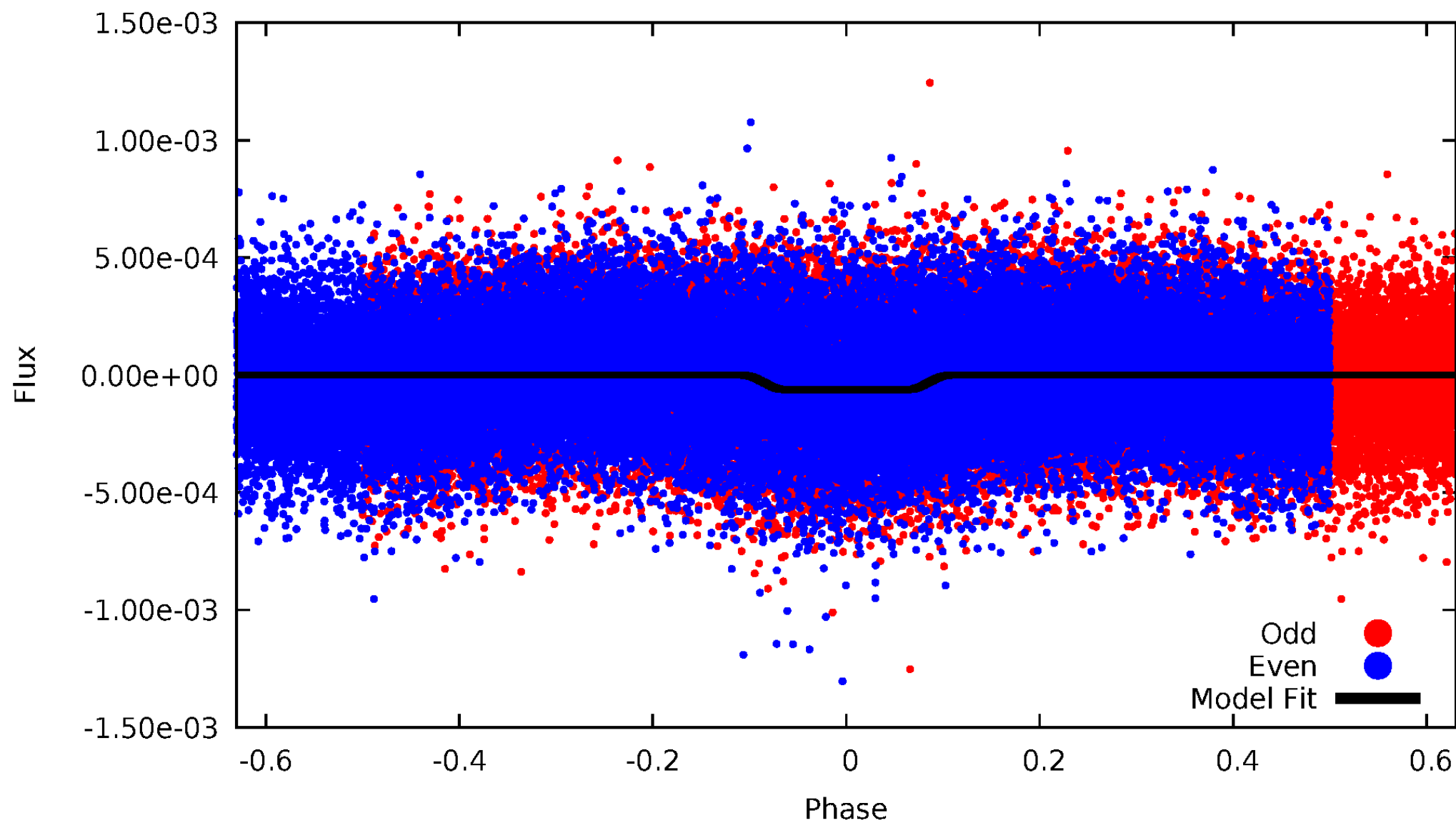
DV Odd/Even

TCE 003238787-01

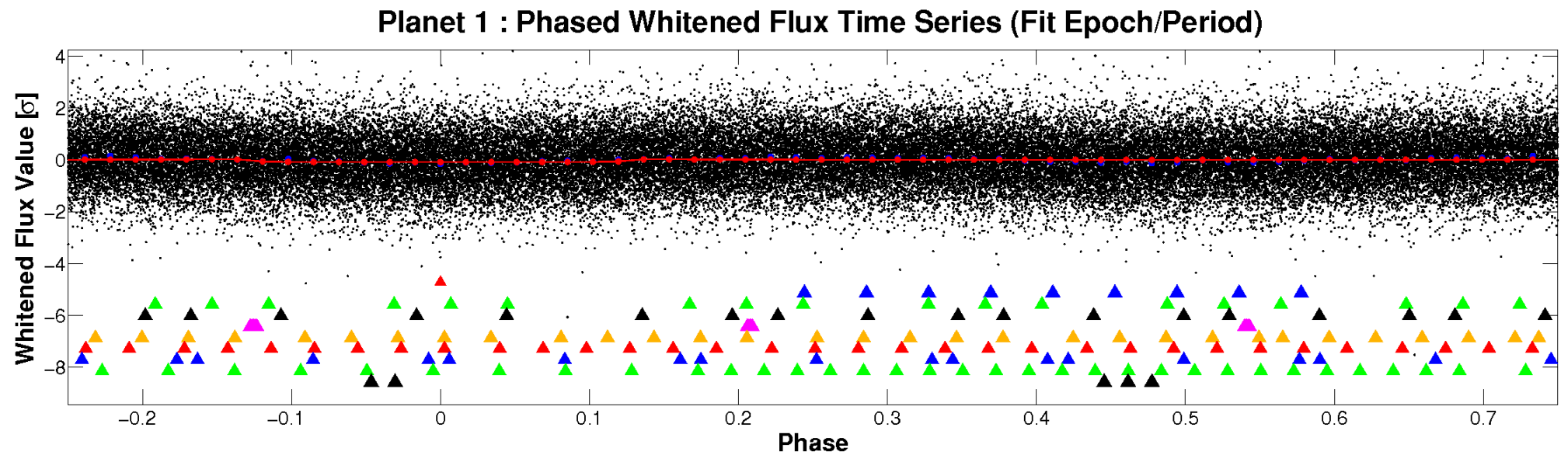
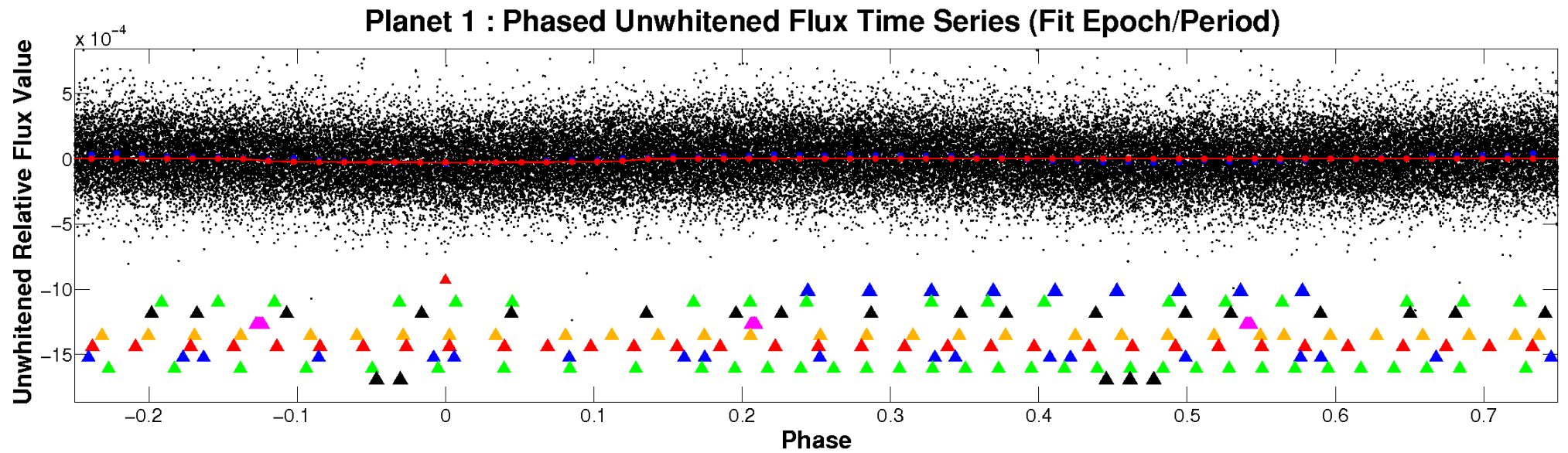


ALT Odd/Even

TCE 003238787-01

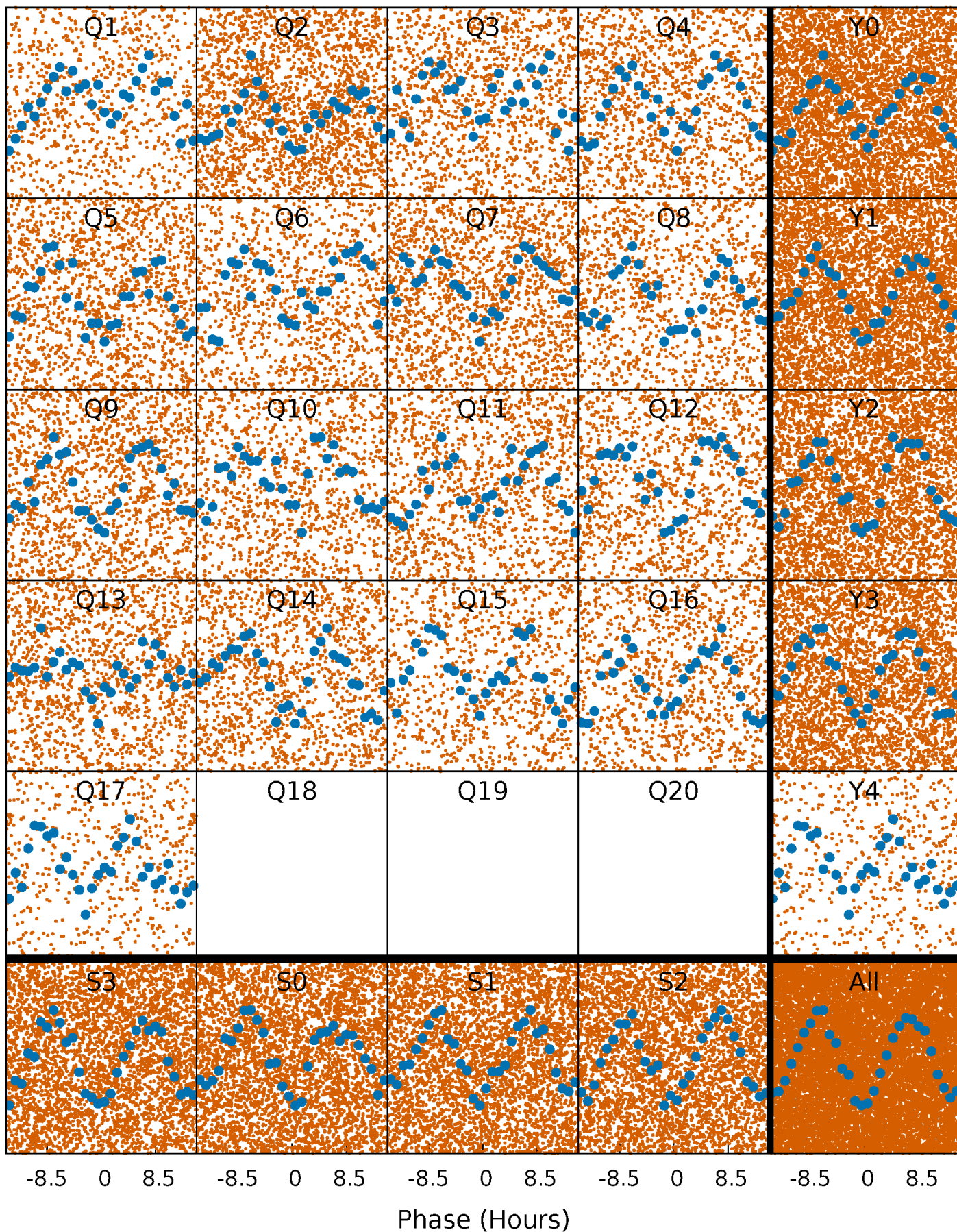


Non-Whitened Vs. Whitened Light Curve



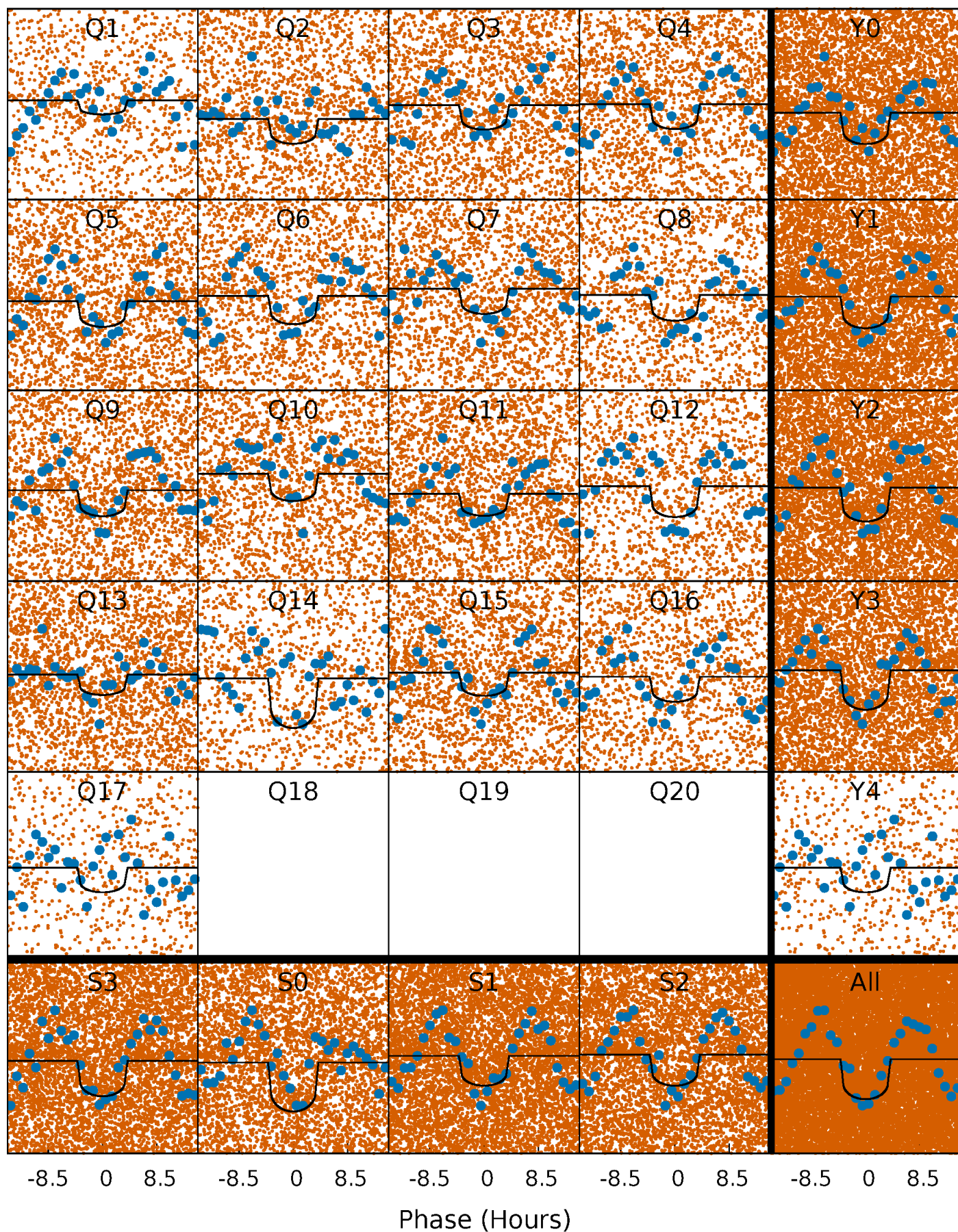
PDC Quarter-Phased Transit Curves

TCE 003238787-01 P= 1.198379 Days $T_0=131.836953$ (BKJD)



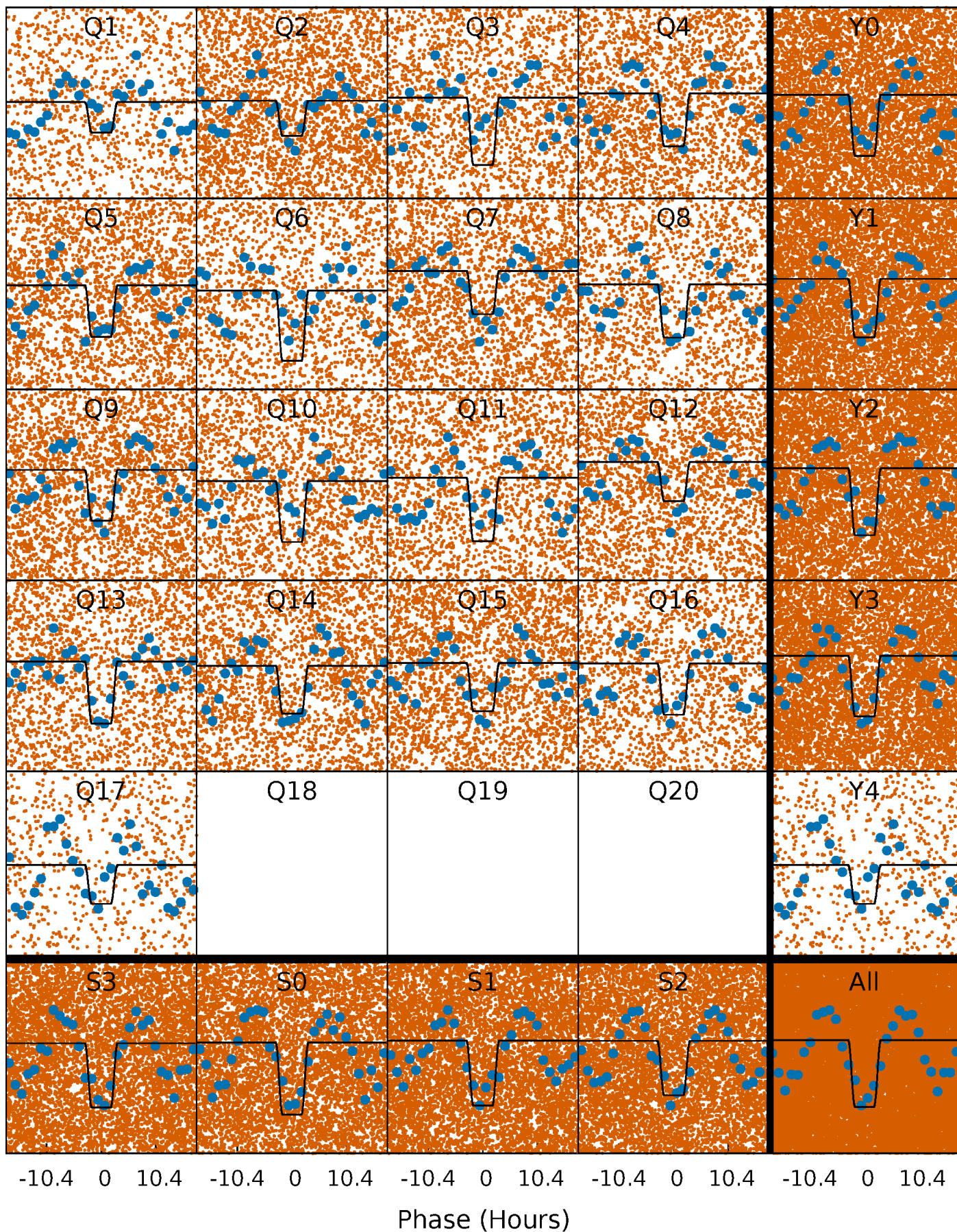
DV Quarter-Phased Transit Curves

TCE 003238787-01 P= 1.198379 Days $T_0=131.836953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

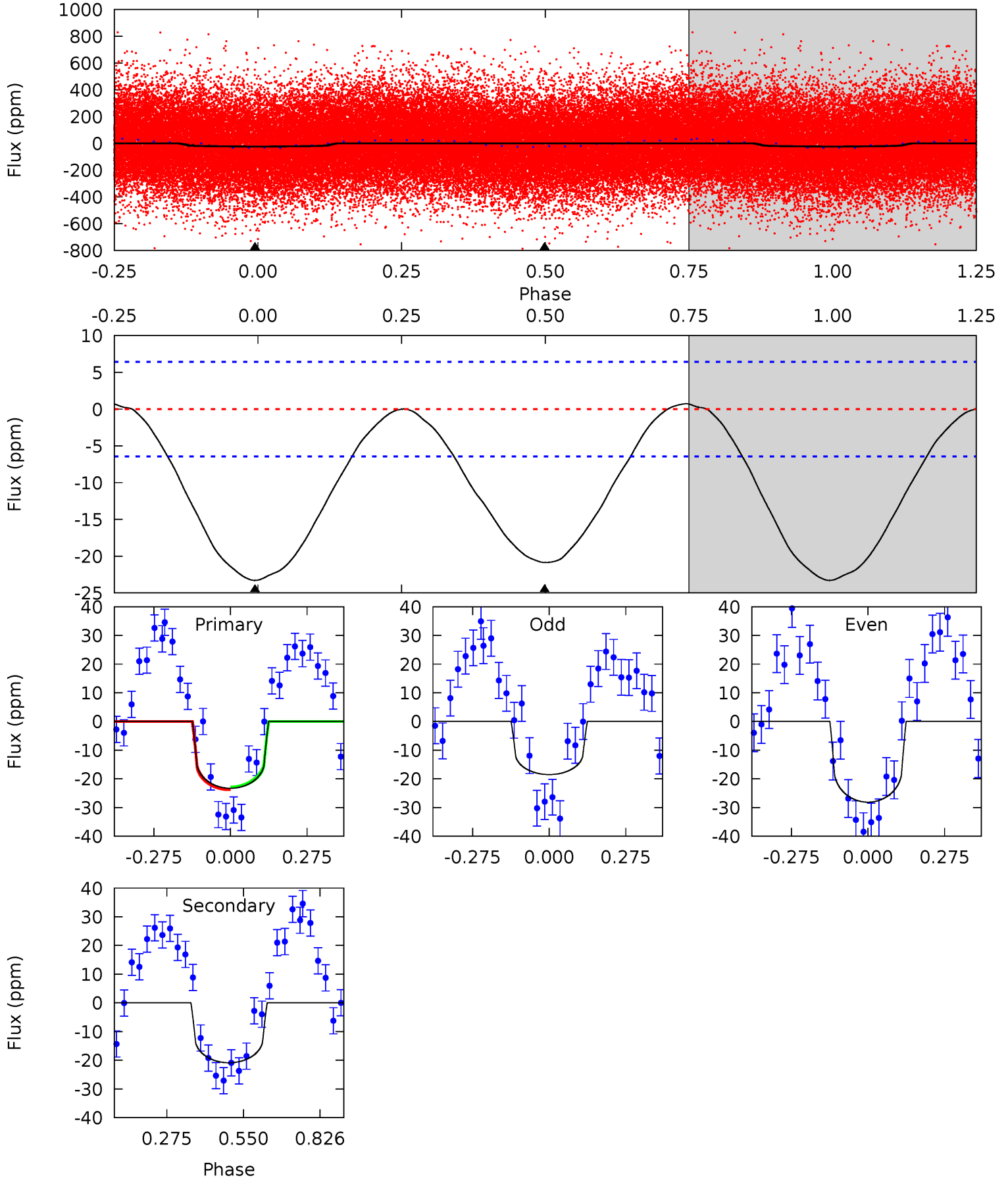
TCE 003238787-01 P= 1.198323 Days $T_0=131.861516$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-01, P = 1.198379 Days, E = 130.638574 Days

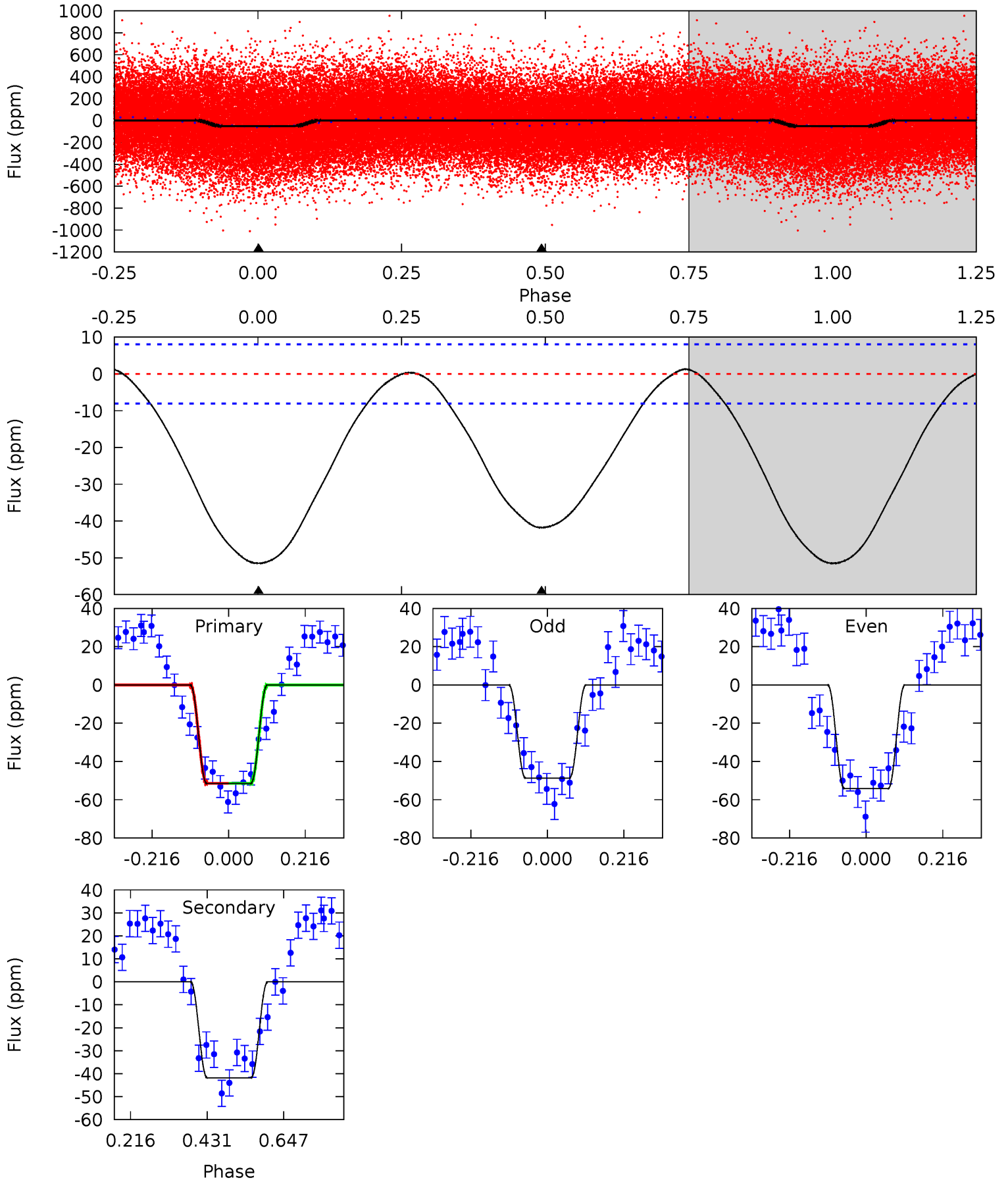
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	14.1	0	0	4.35	1.09	0.33	15.7	15.7	14.1	14.1	3.27	1.11	0.03	0.30



Alt Model-Shift Uniqueness Test

003238787-01, P = 1.198323 Days, E = 130.663193 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	22.9	0	0	4.40	1.24	0.63	28.2	28.2	22.9	22.9	1.51	0.97	0.02	0.01



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21±1	$1.22^{+0.76}_{-0.64}$	3887^{+190}_{-231}	6354^{+3752}_{-1426}	$5.092^{+18.214}_{-3.155}$
Alt.	-42±2	$1.88^{+0.84}_{-0.71}$	3877^{+199}_{-255}	6009^{+1822}_{-976}	$4.222^{+6.868}_{-2.114}$

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 $A_{obs} \gg 1.0$

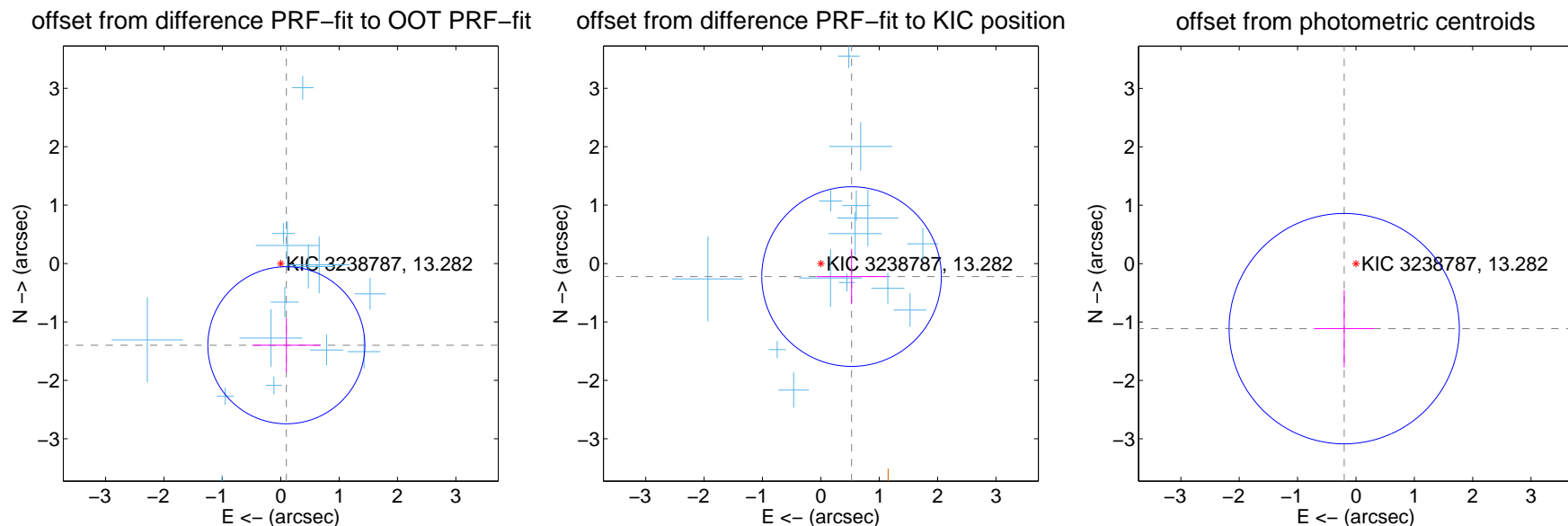
DV Centroid Data

Supplemental centroid analysis for 003238787-01. Kepler magnitude: 13.28. Transit SNR 10.69

There are 14 quarters with good PRF difference image offsets

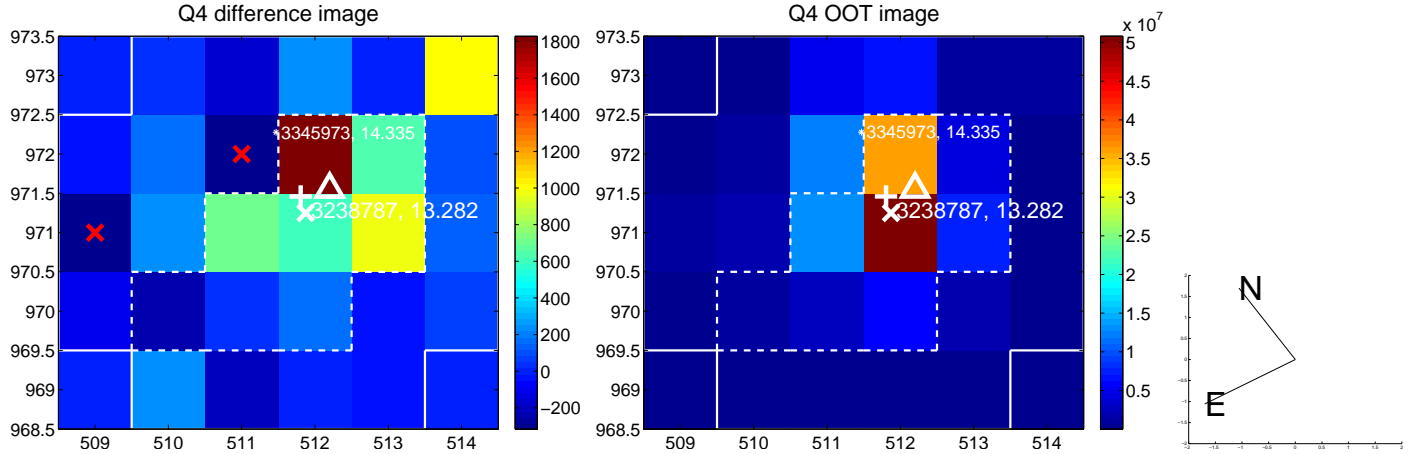
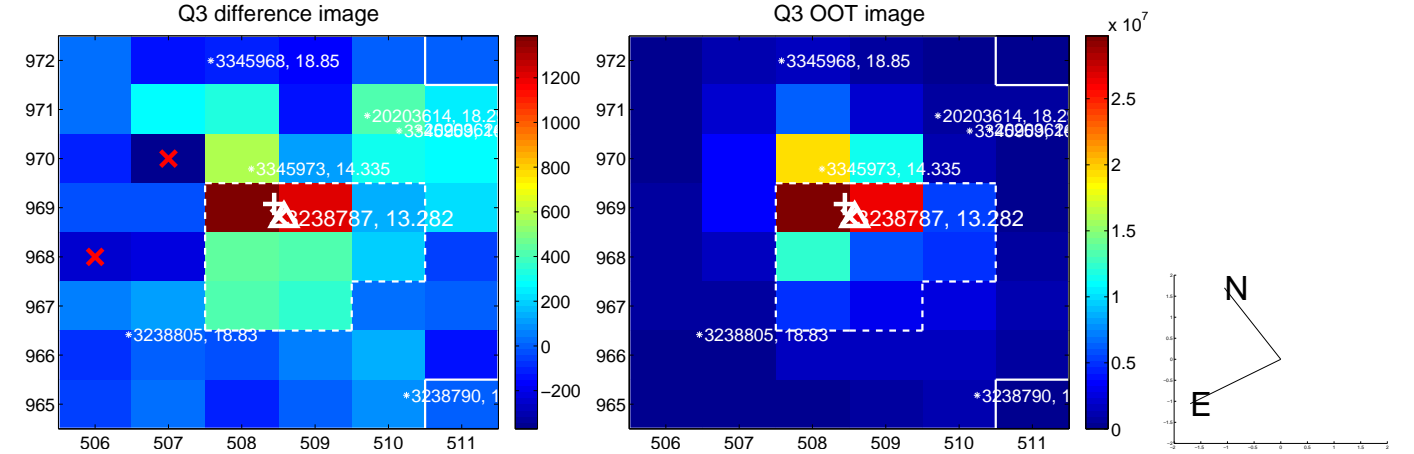
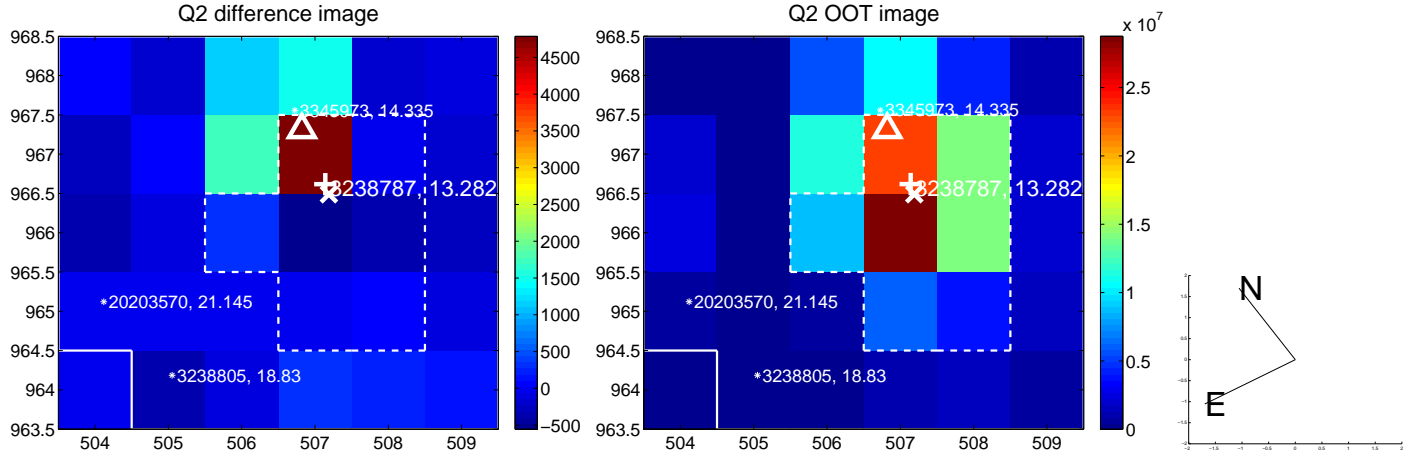
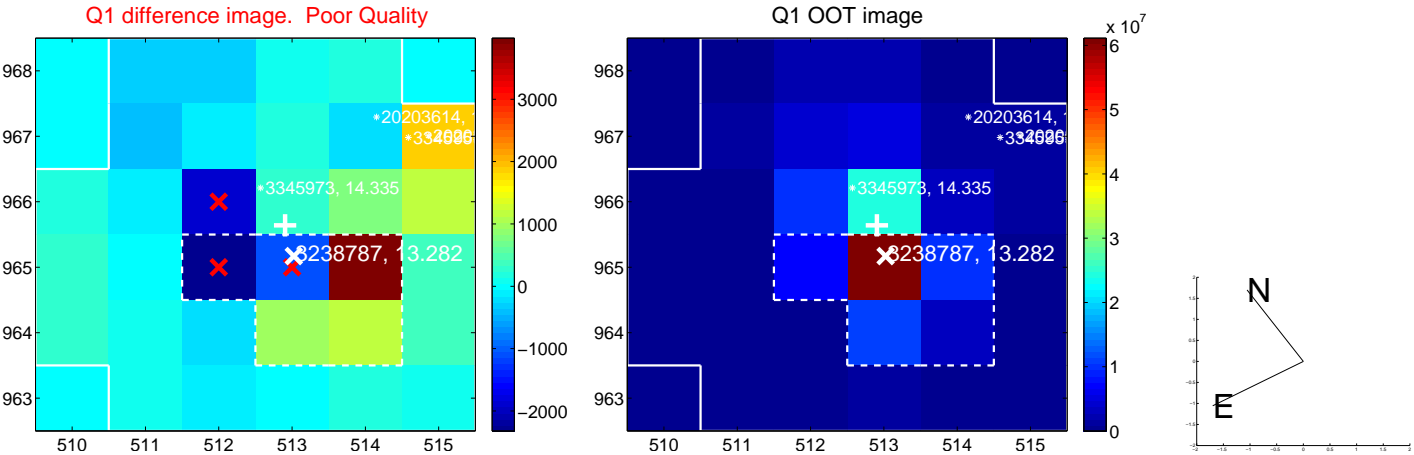
The direct PRF centroid is offset from the target star catalog position by about 1.79 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.402 ± 0.448	3.13	-0.096 ± 0.585	-1.399 ± 0.461
PRF-fit source offset from KIC position	0.571 ± 0.513	1.11	-0.526 ± 0.599	-0.223 ± 0.471
photometric centroid source offset	1.13 ± 0.66	1.72	0.20 ± 0.52	-1.11 ± 0.66

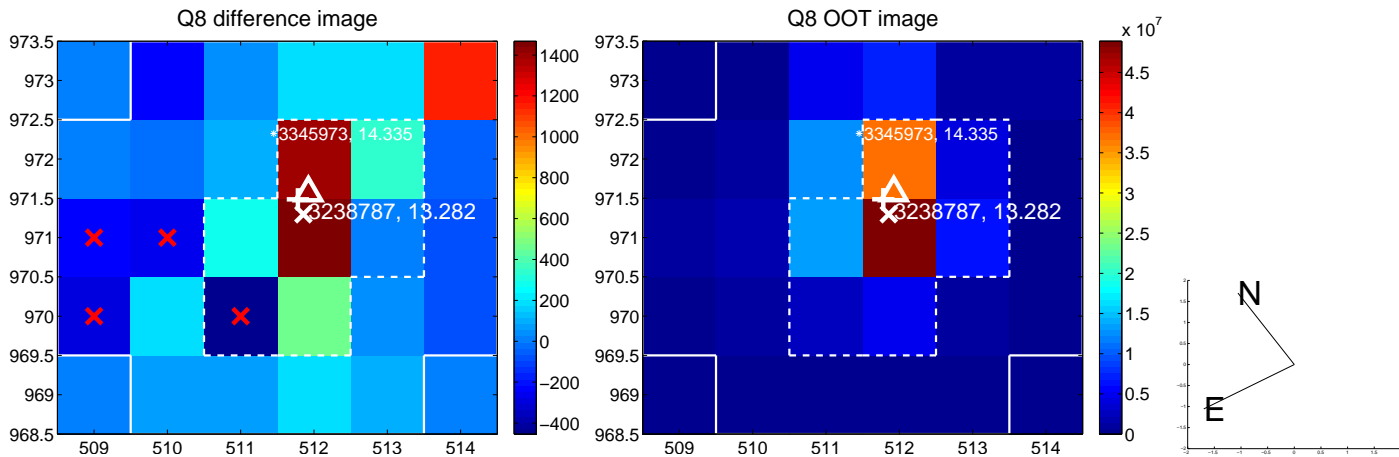
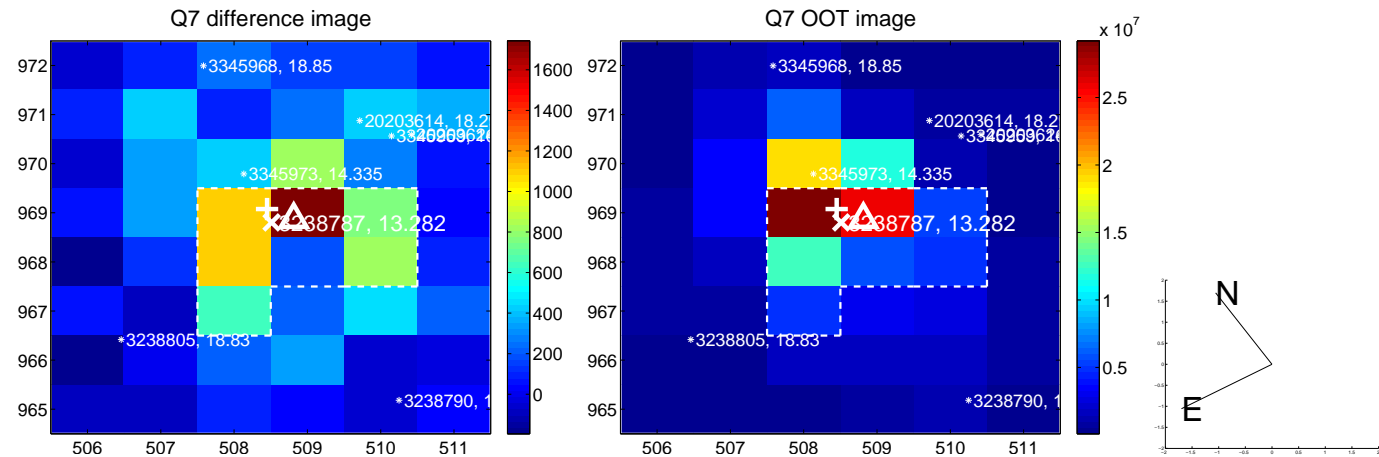
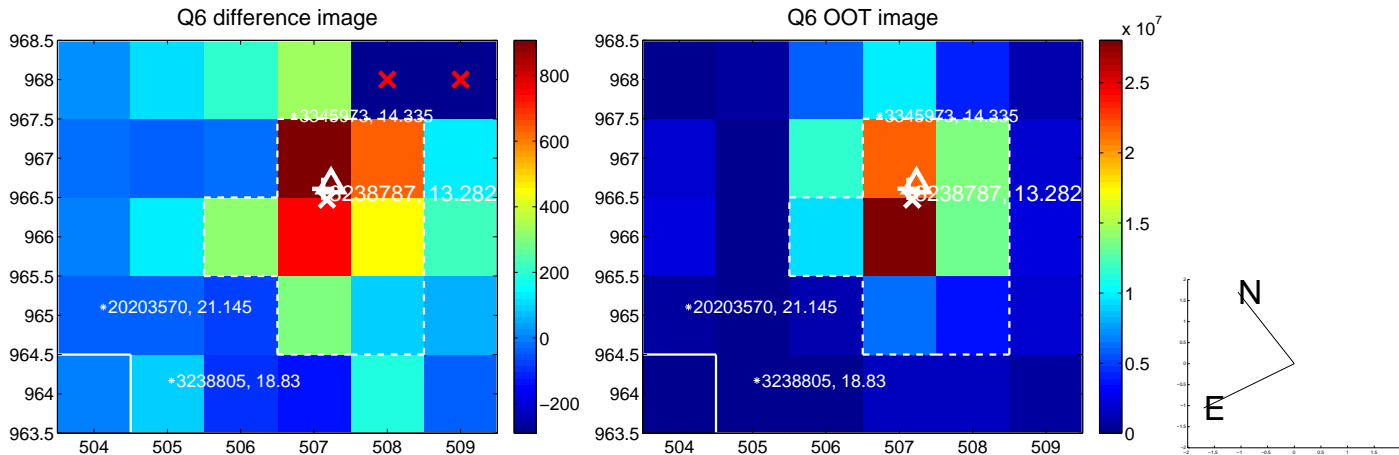
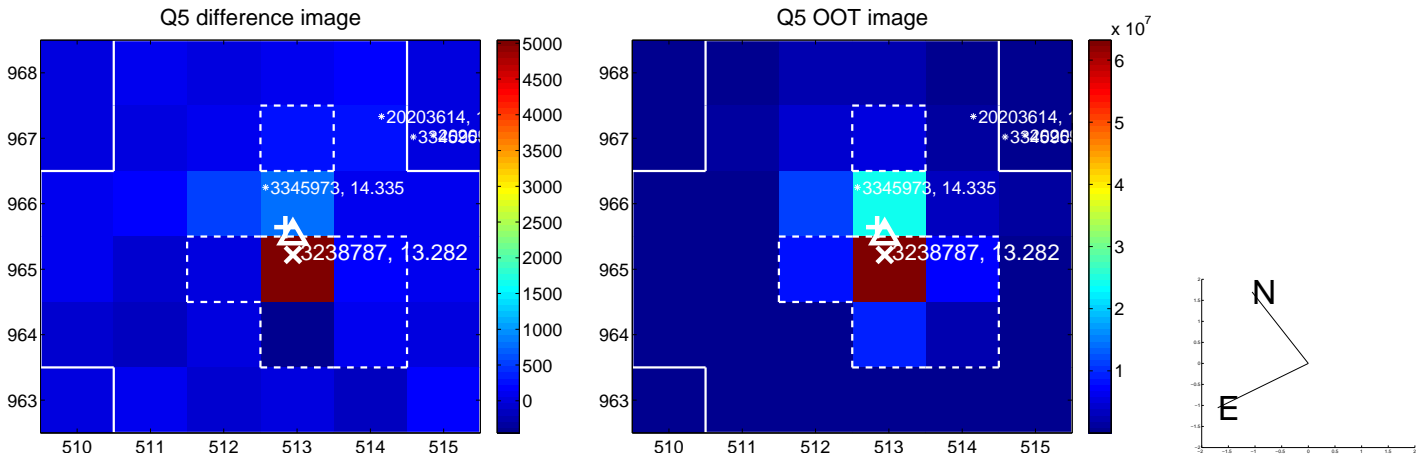


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

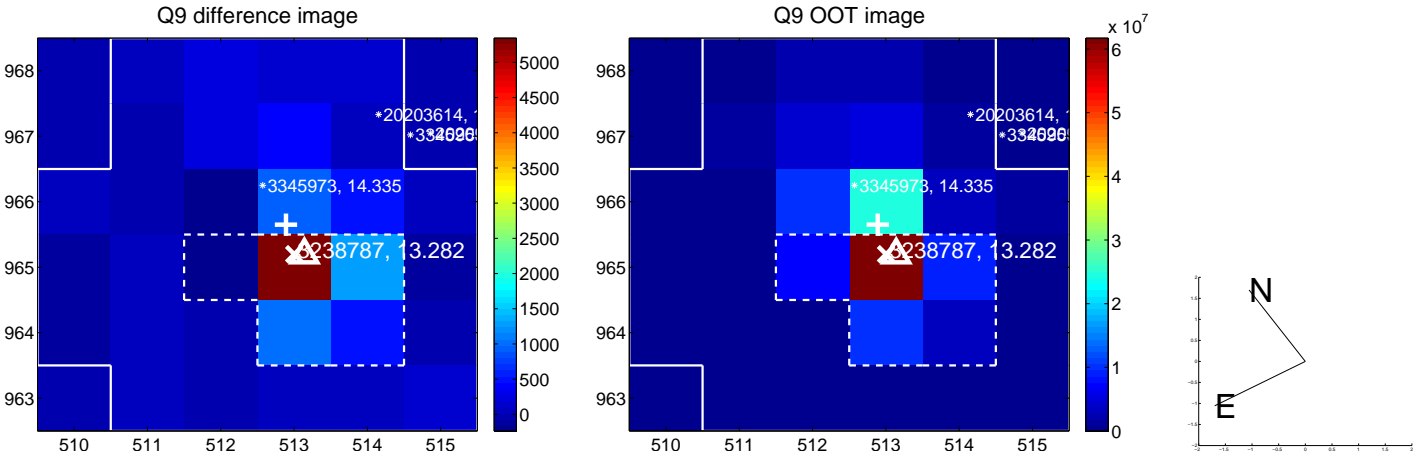
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



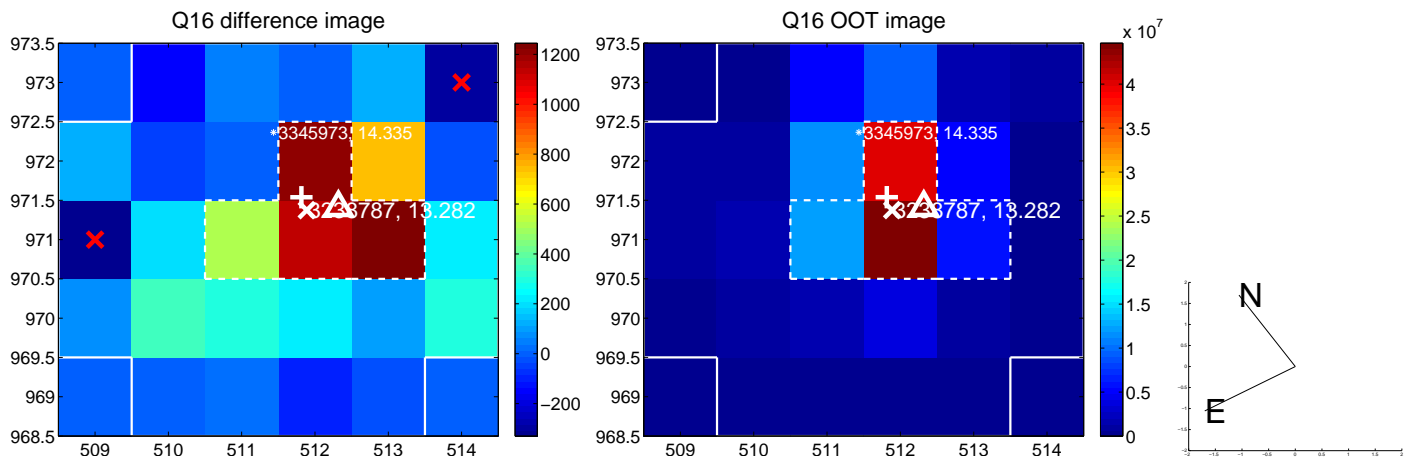
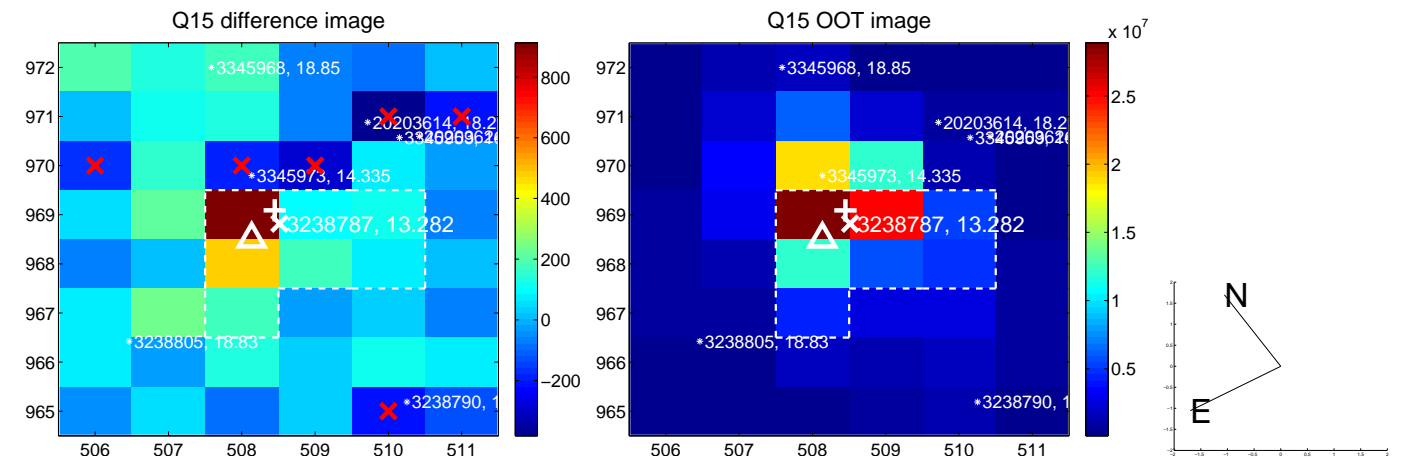
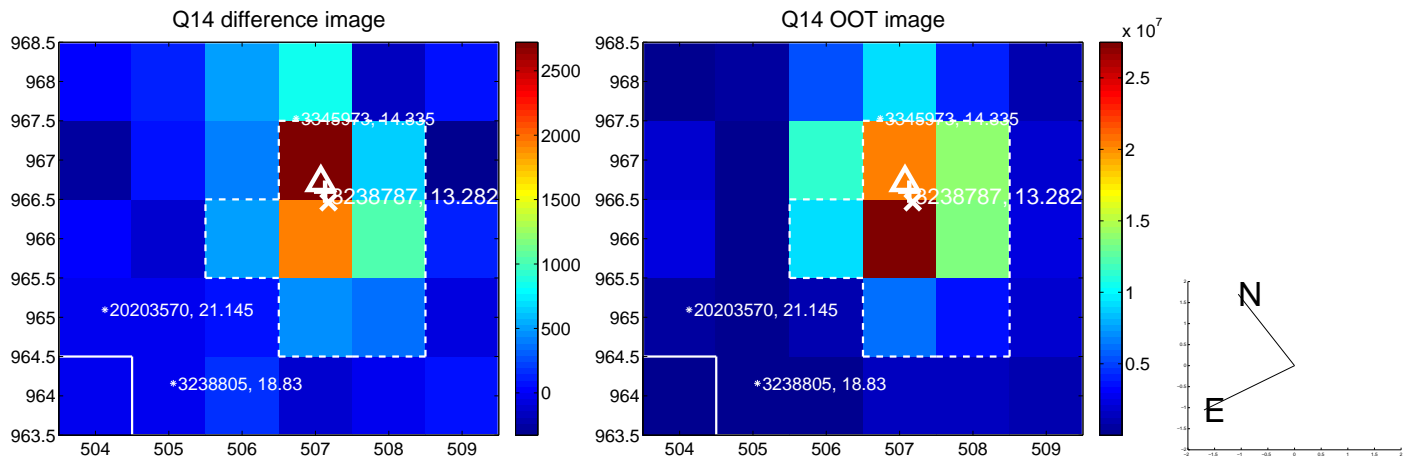
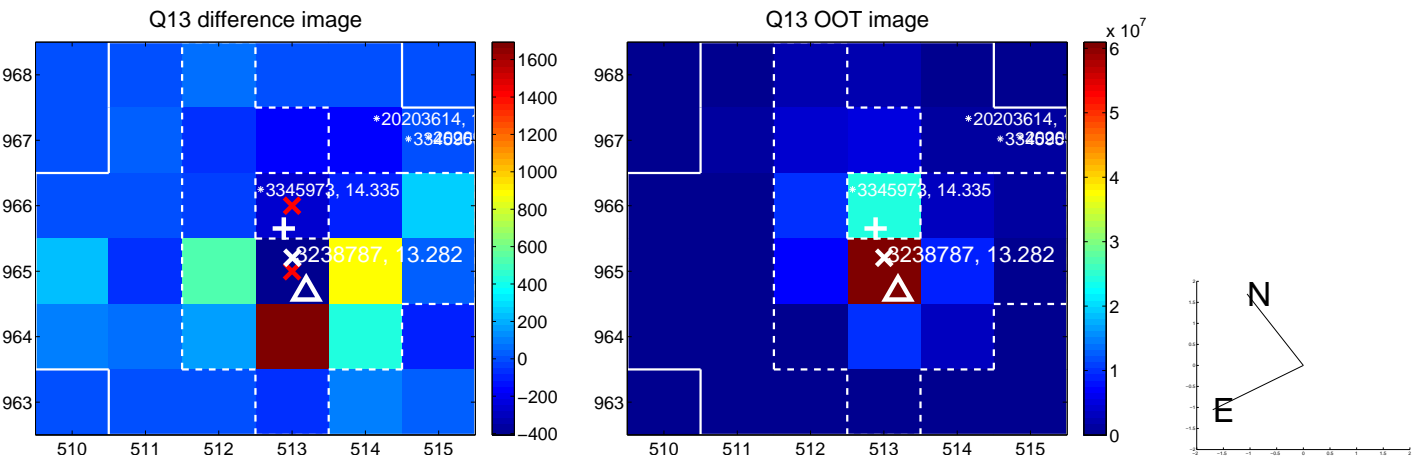
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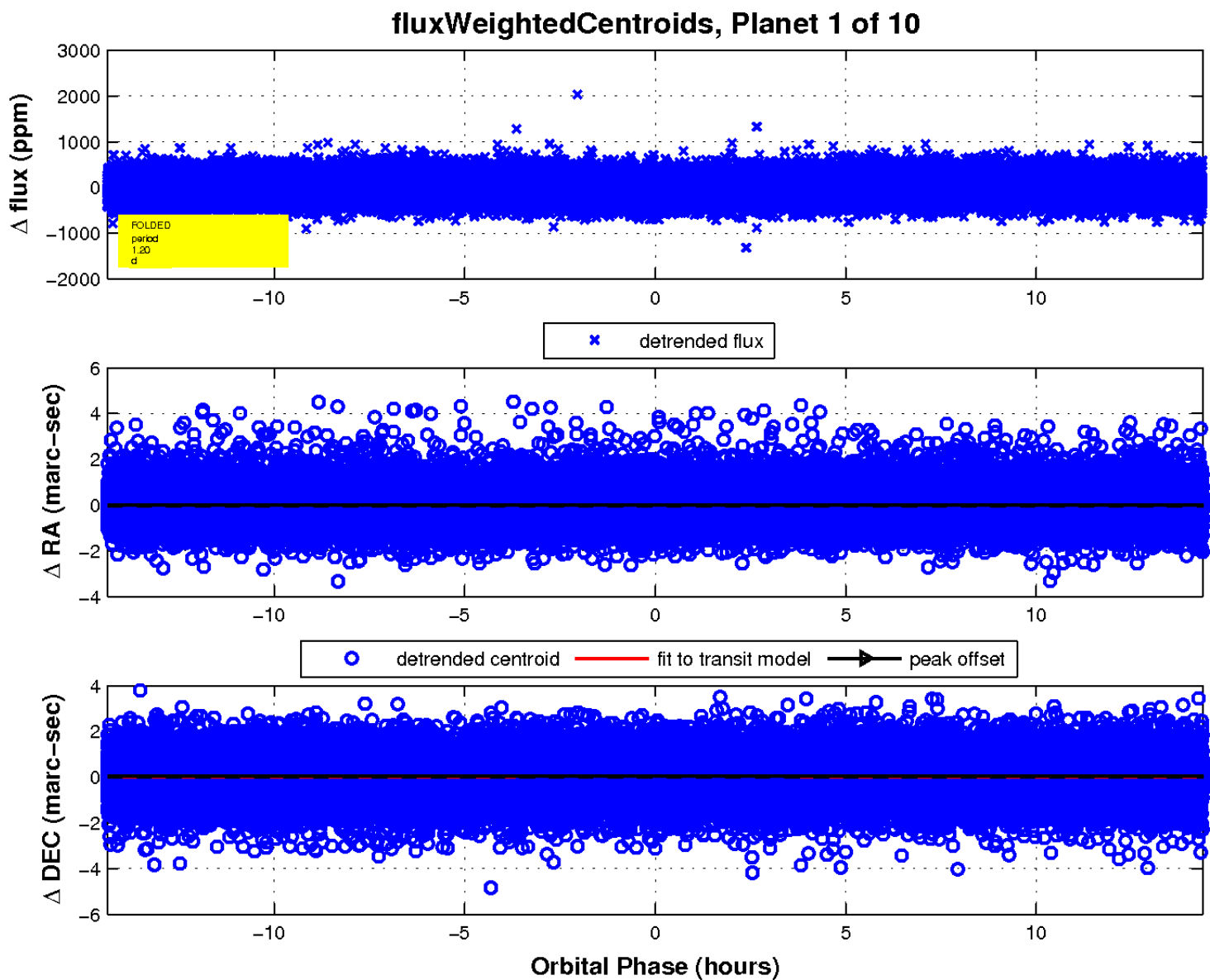
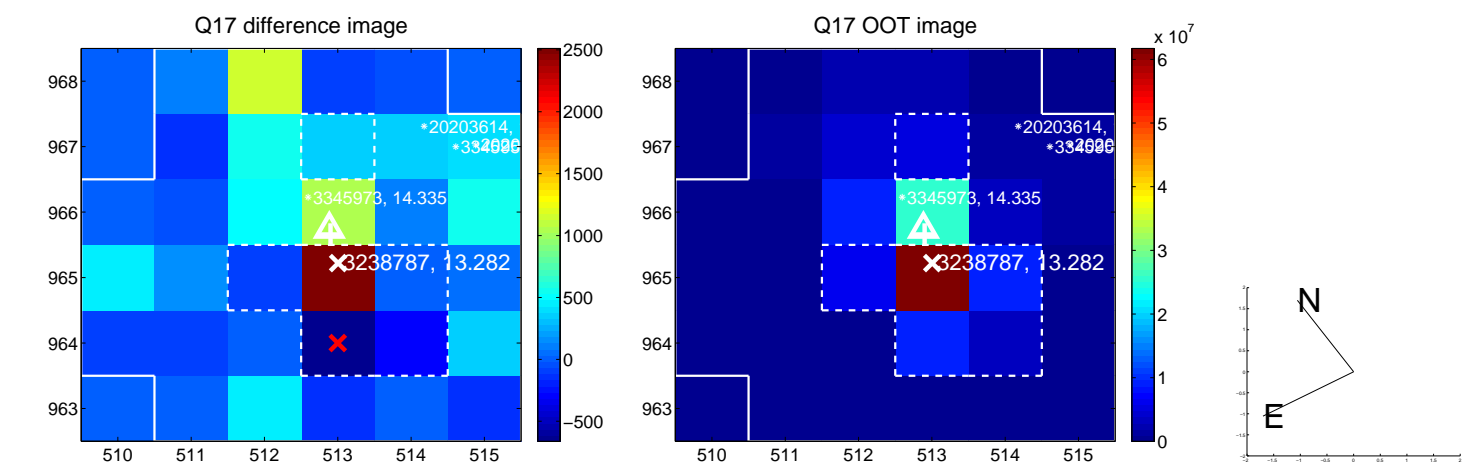
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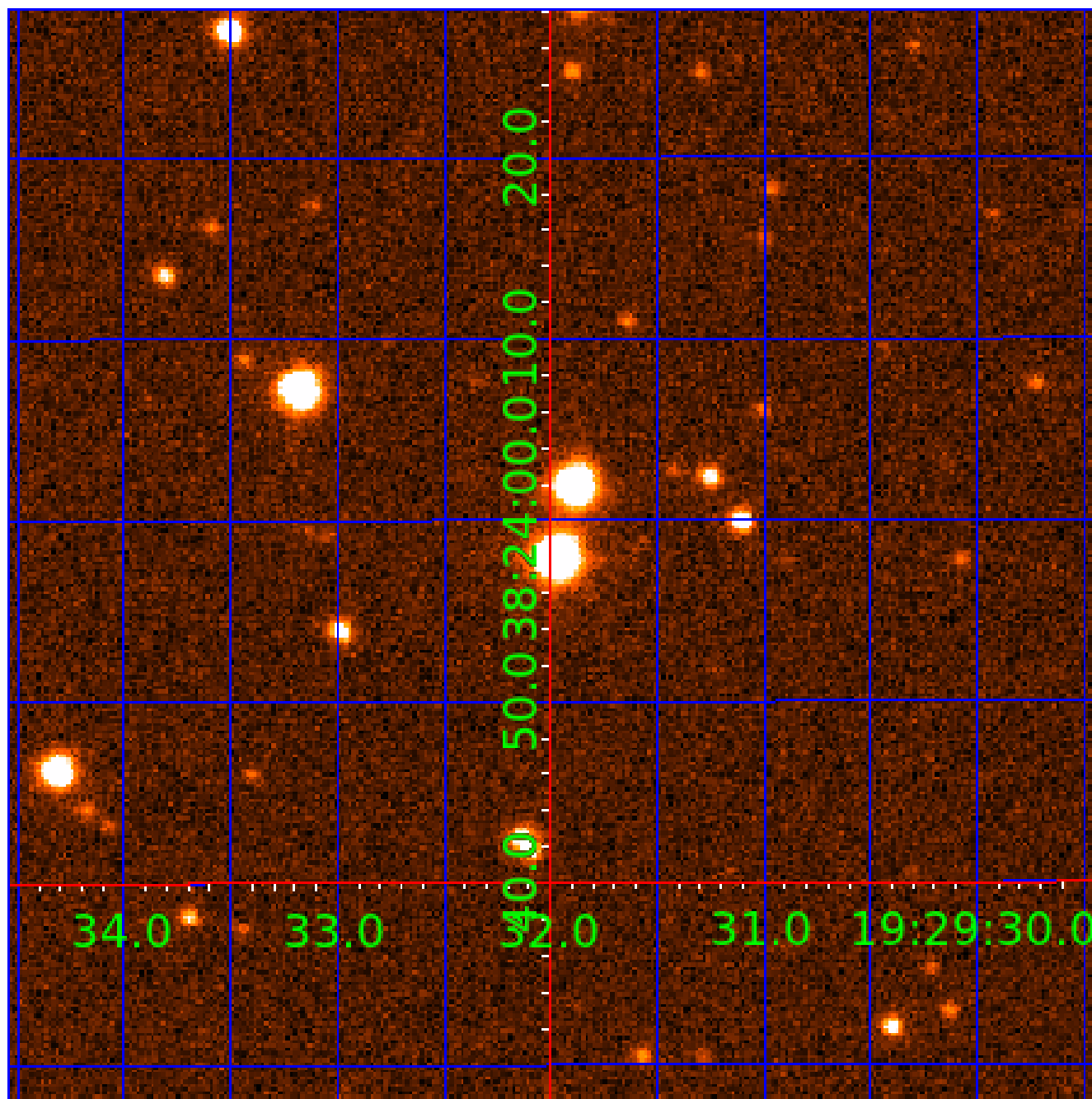


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UKIRT Image

Declination



KIC 003238787

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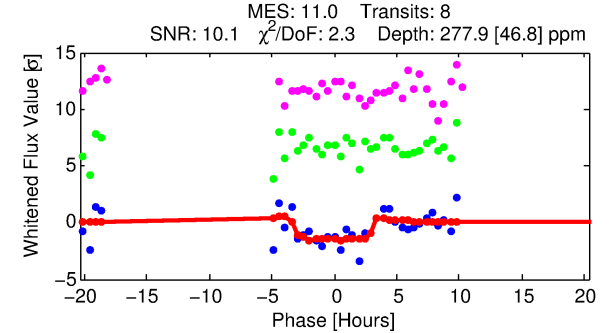
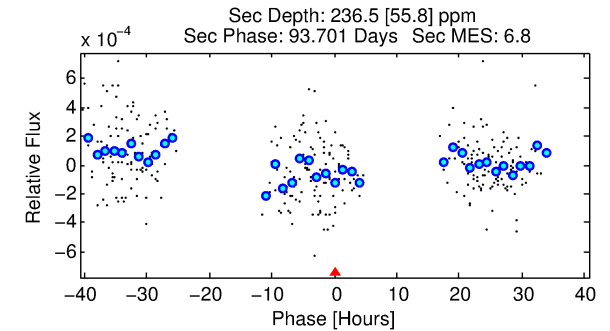
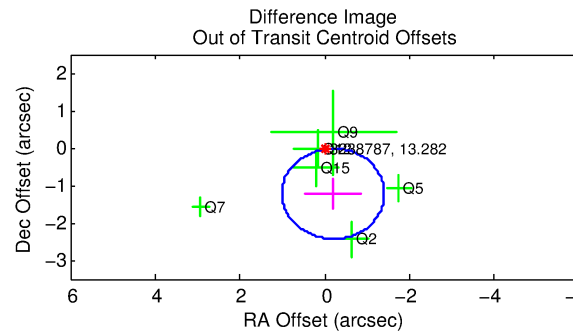
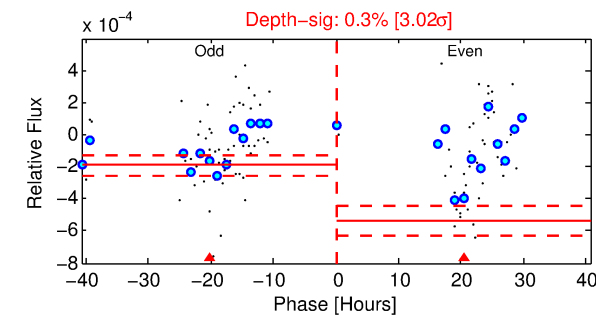
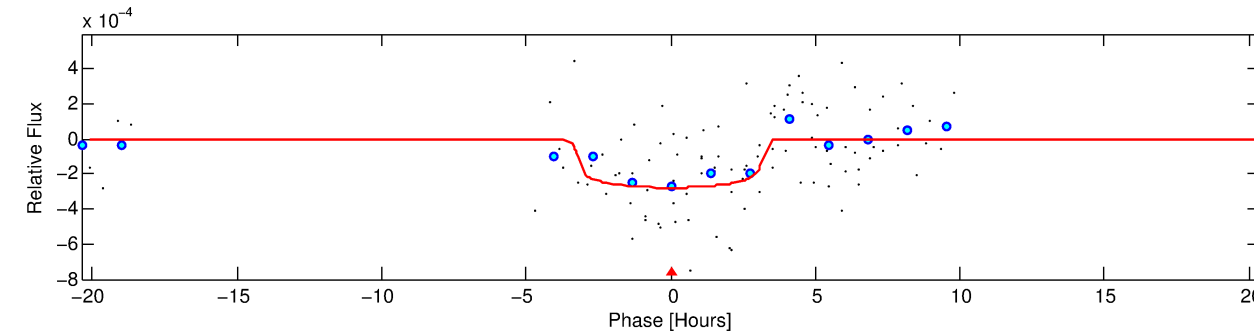
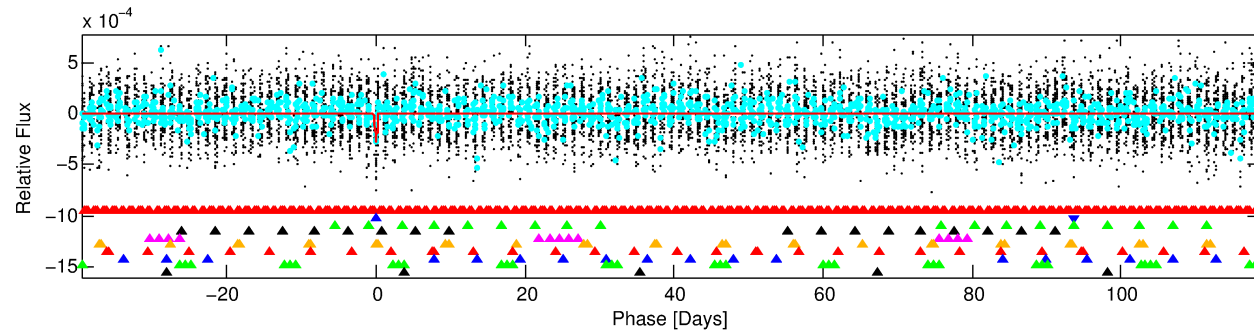
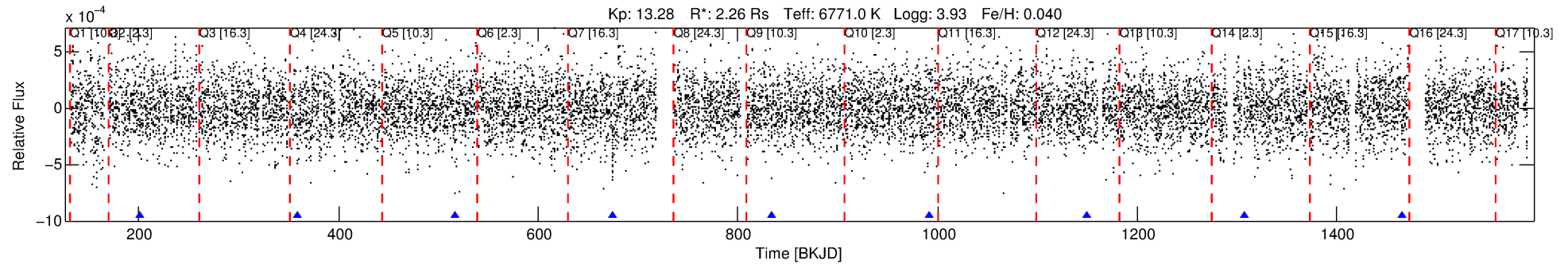
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-02

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 2 of 10 Period: 158.136 d



DV Fit Results:

Period = 158.13607 [0.01107] d
Epoch = 200.8369 [0.0295] BKJD
Rp/R* = 0.0169 [0.0083]
a/R* = 111.72 [306.66]
b = 0.80 [1.25]
Seff = 21.45 [7.29]
Teq = 549 [47] K
Rp = 4.16 [2.25] Re
a = 0.6694 [0.1436] AU
Ag = 3375.80 [3591.04] [0.94σ]
Teffp = 6467 [1633] K [3.62σ]

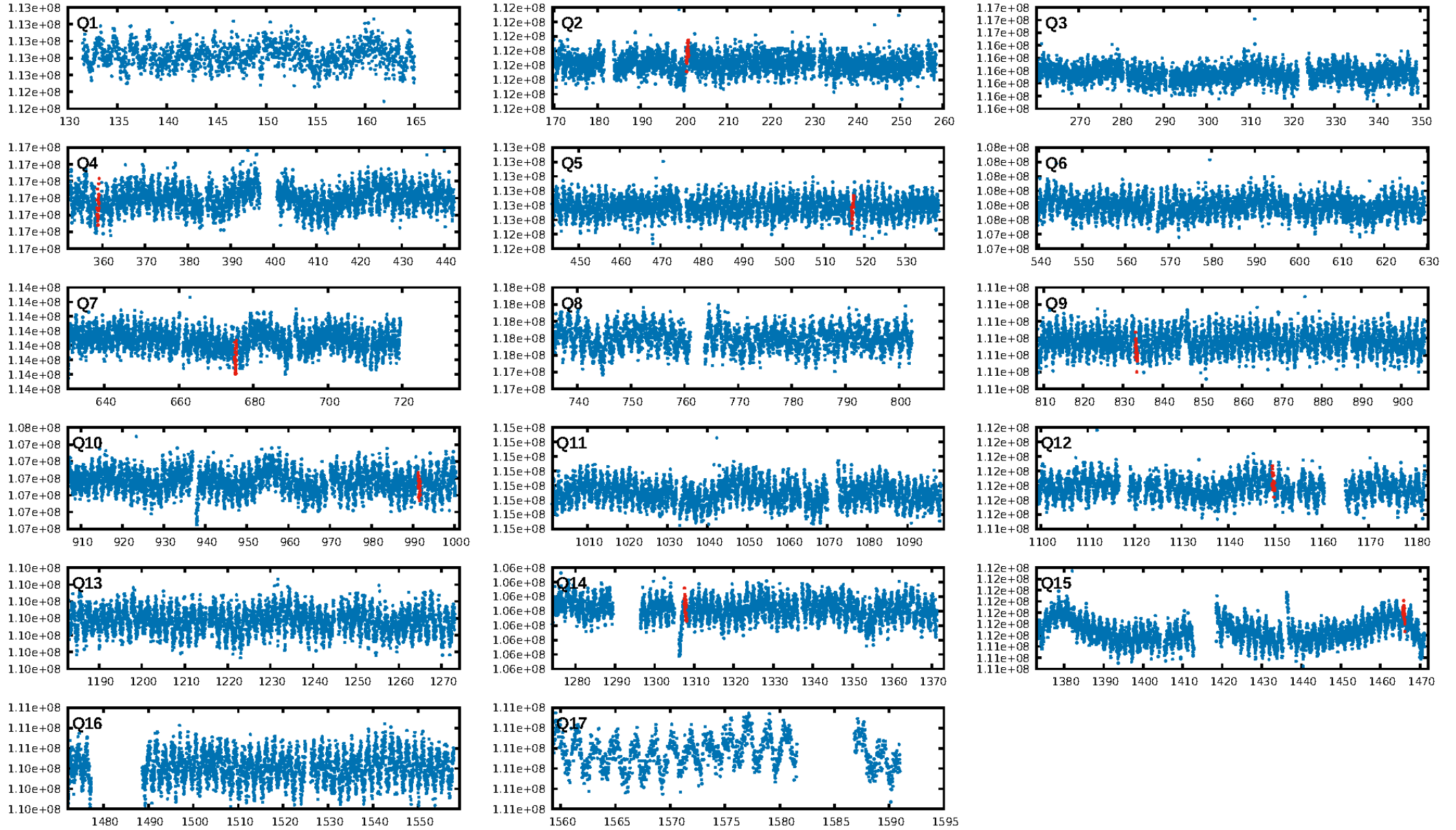
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.28σ]
LongPeriod-sig: 100.0% [596.81σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: 5.01e-16
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.9224
Centroid-sig: 11.4%
Centroid-so: 0.672 arcsec [0.80σ]
OotOffset-rm: 1.241 arcsec [3.08σ]
OotOffset-st: 1/2/1/2 [6]
KicOffset-rm: 0.331 arcsec [0.60σ]
KicOffset-st: 1/2/1/2 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/9]

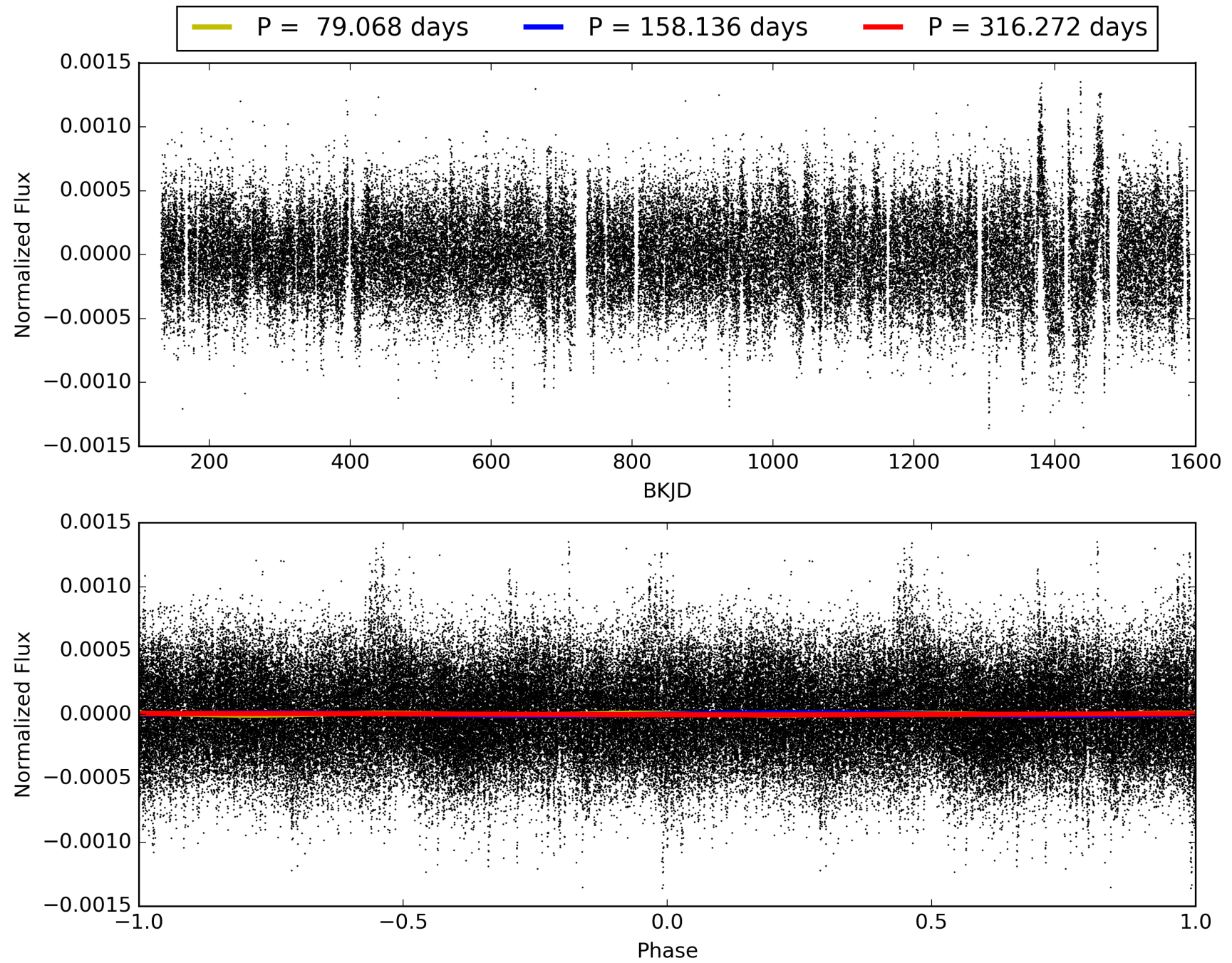
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:08 Z

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

TCE 003238787-02, PDC Light Curves

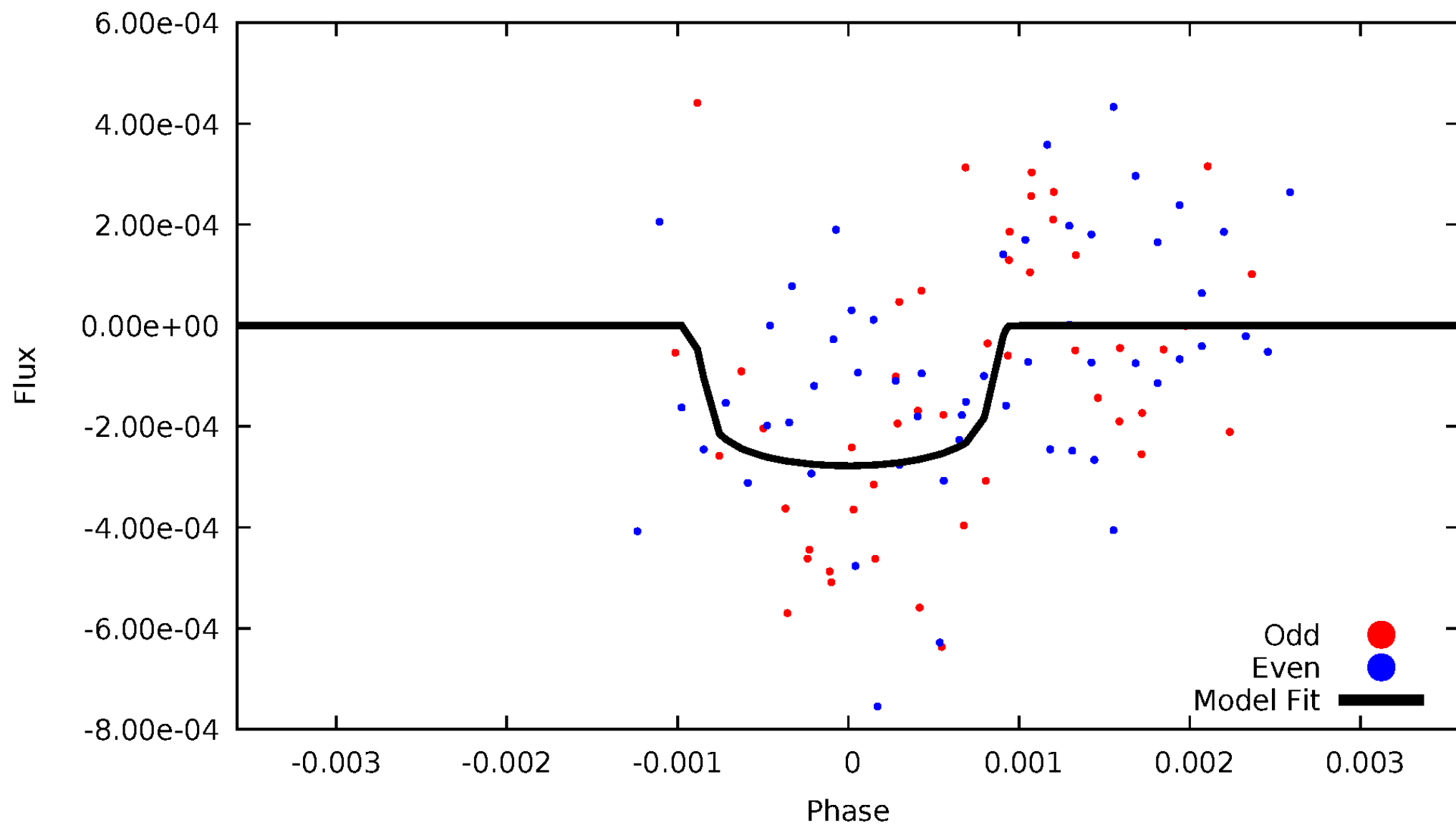


TCE 003238787-02



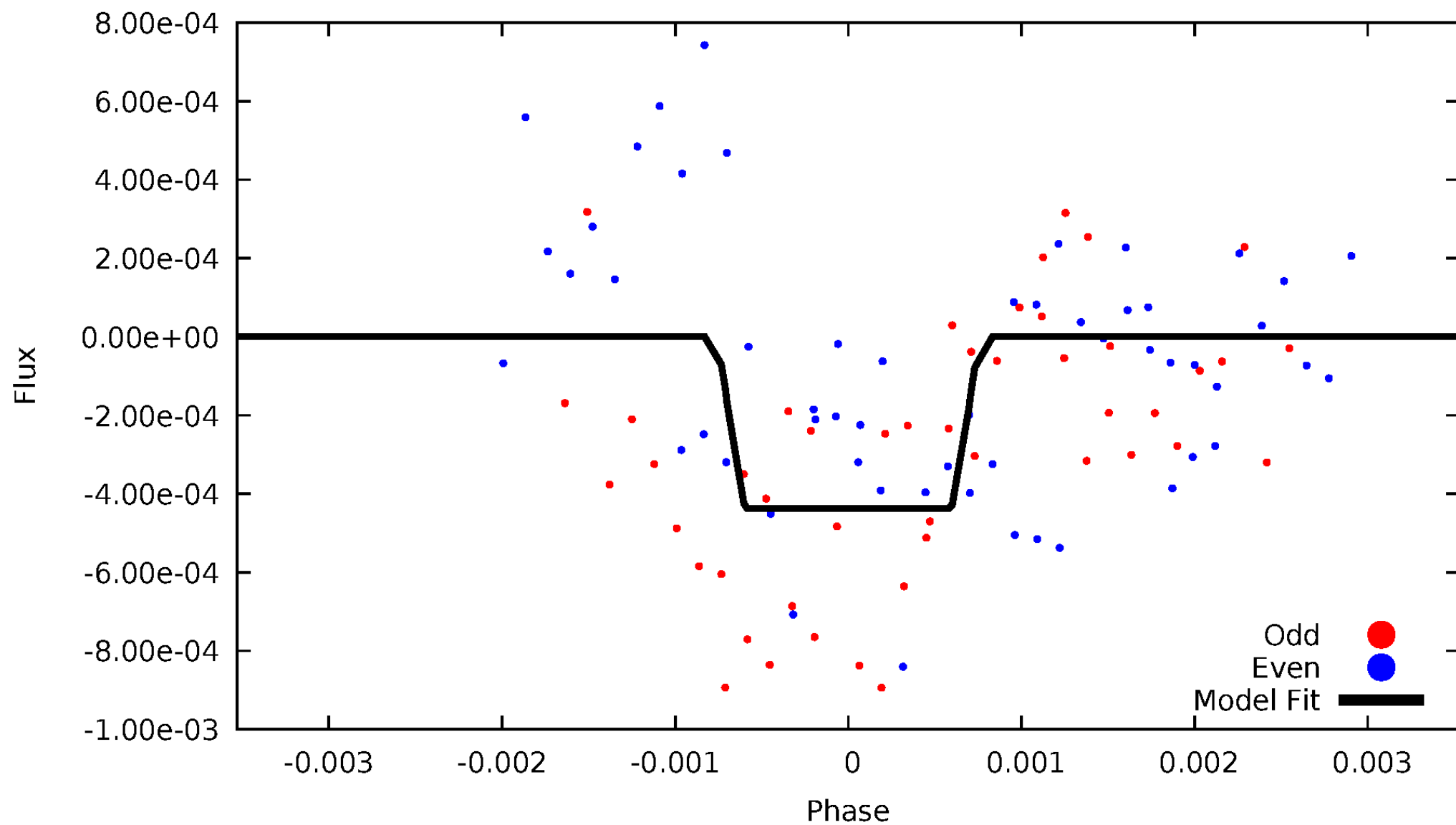
DV Odd/Even

TCE 003238787-02



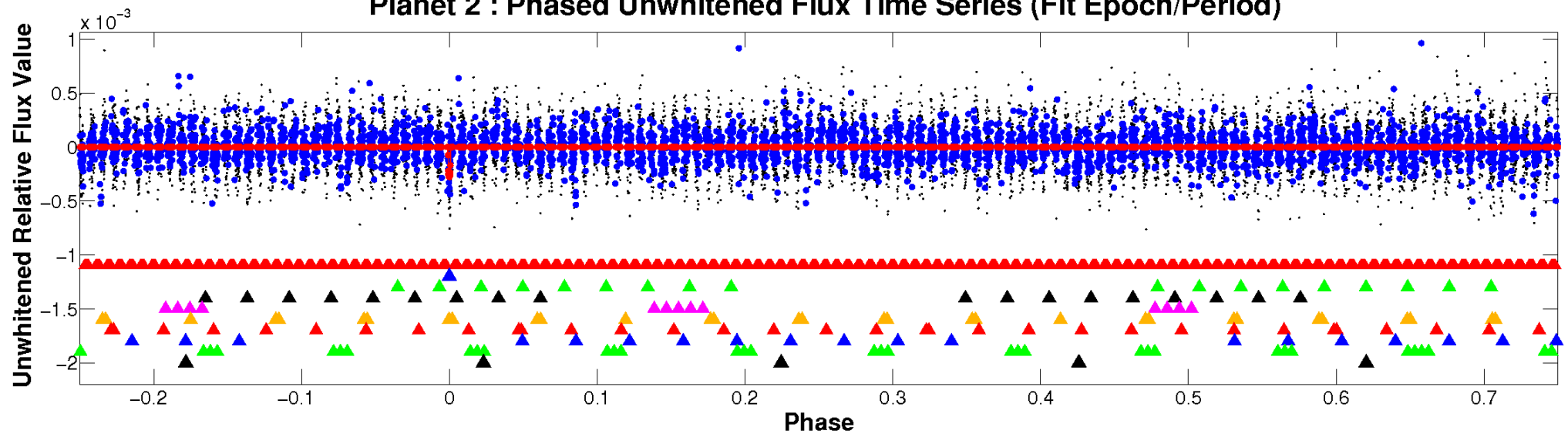
ALT Odd/Even

TCE 003238787-02

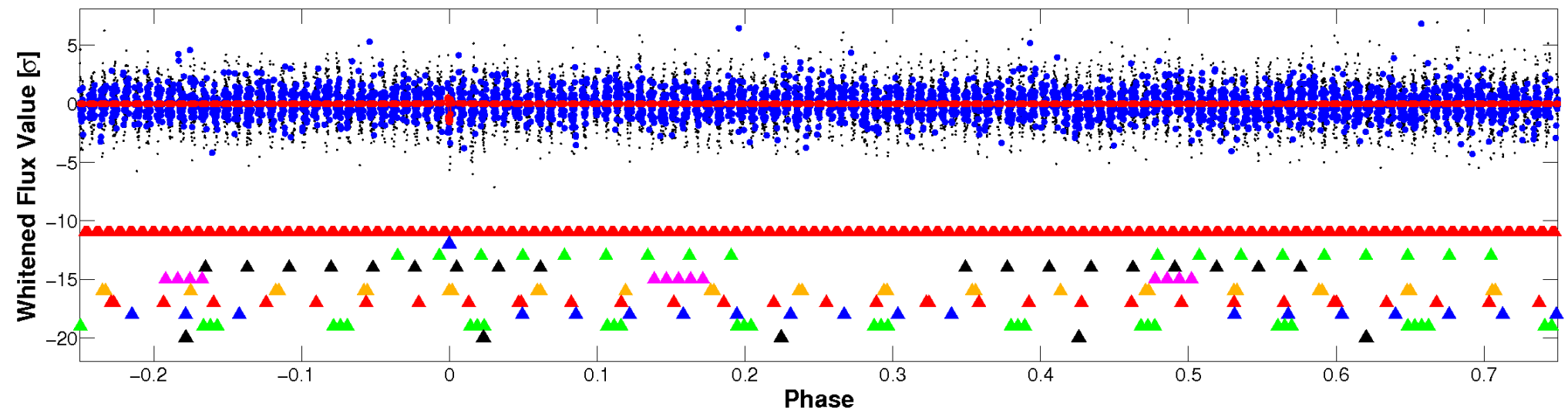


Non-Whitened Vs. Whitened Light Curve

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

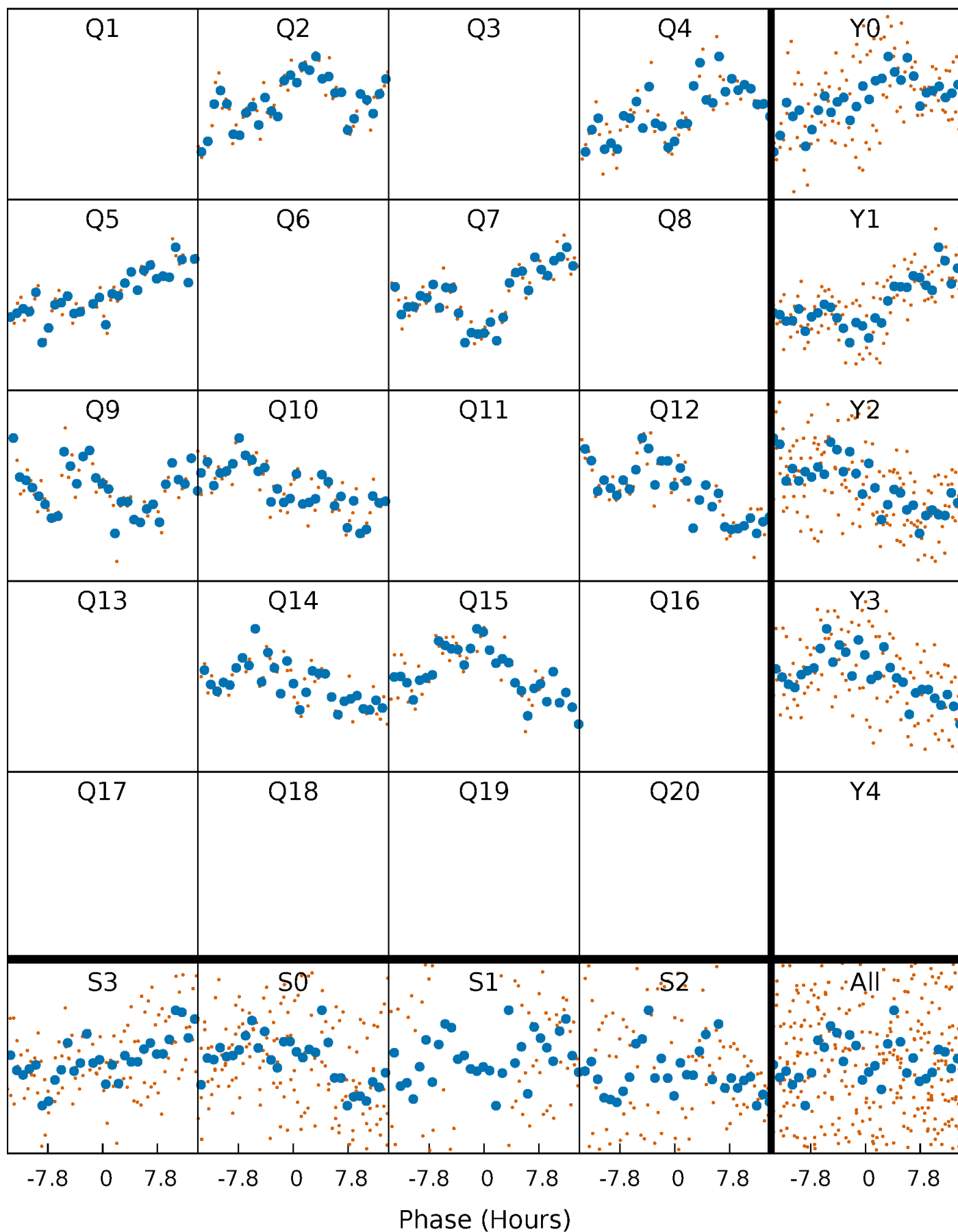


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



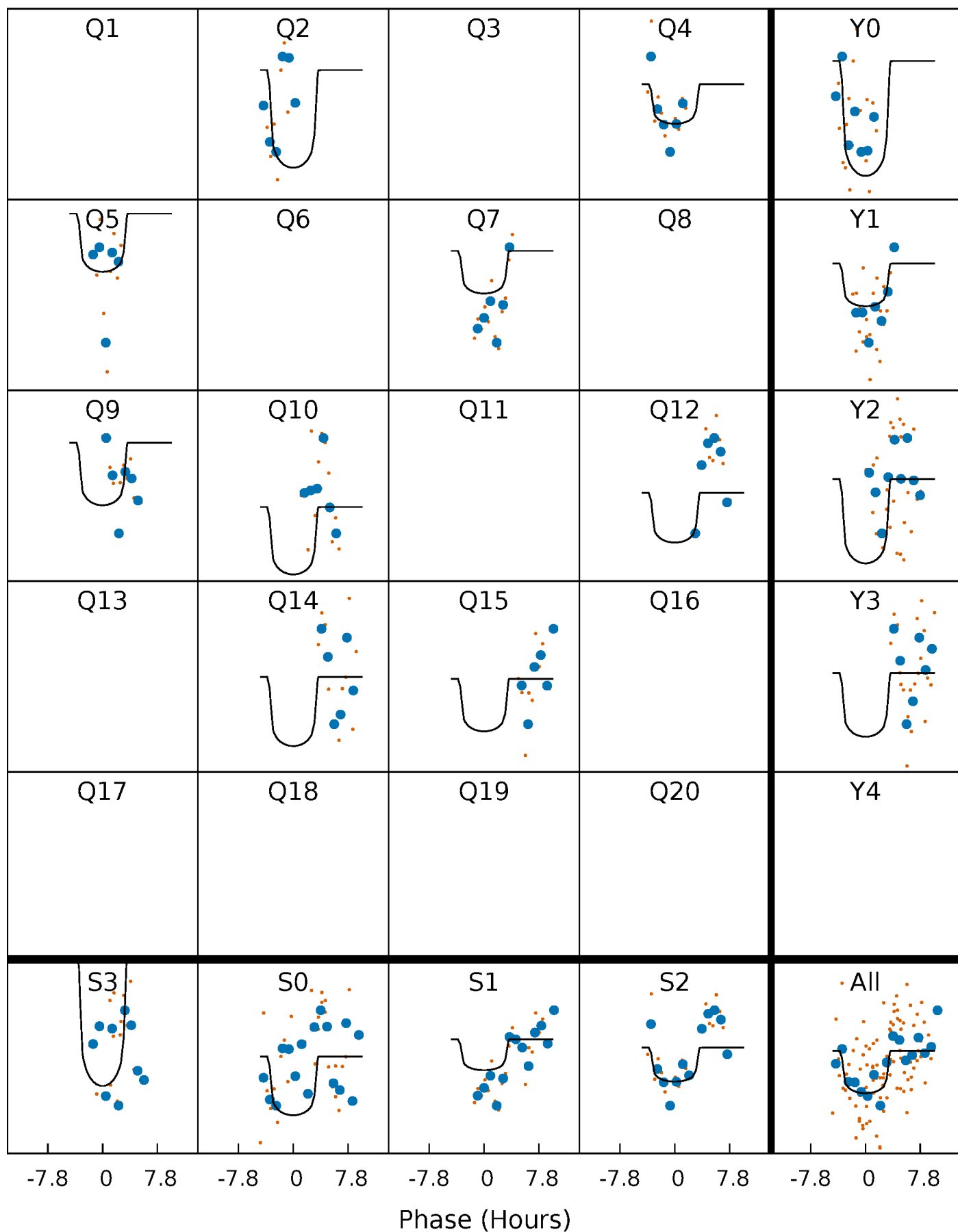
PDC Quarter-Phased Transit Curves

TCE 003238787-02 $P=158.136074$ Days $T_0=200.836928$ (BKJD)



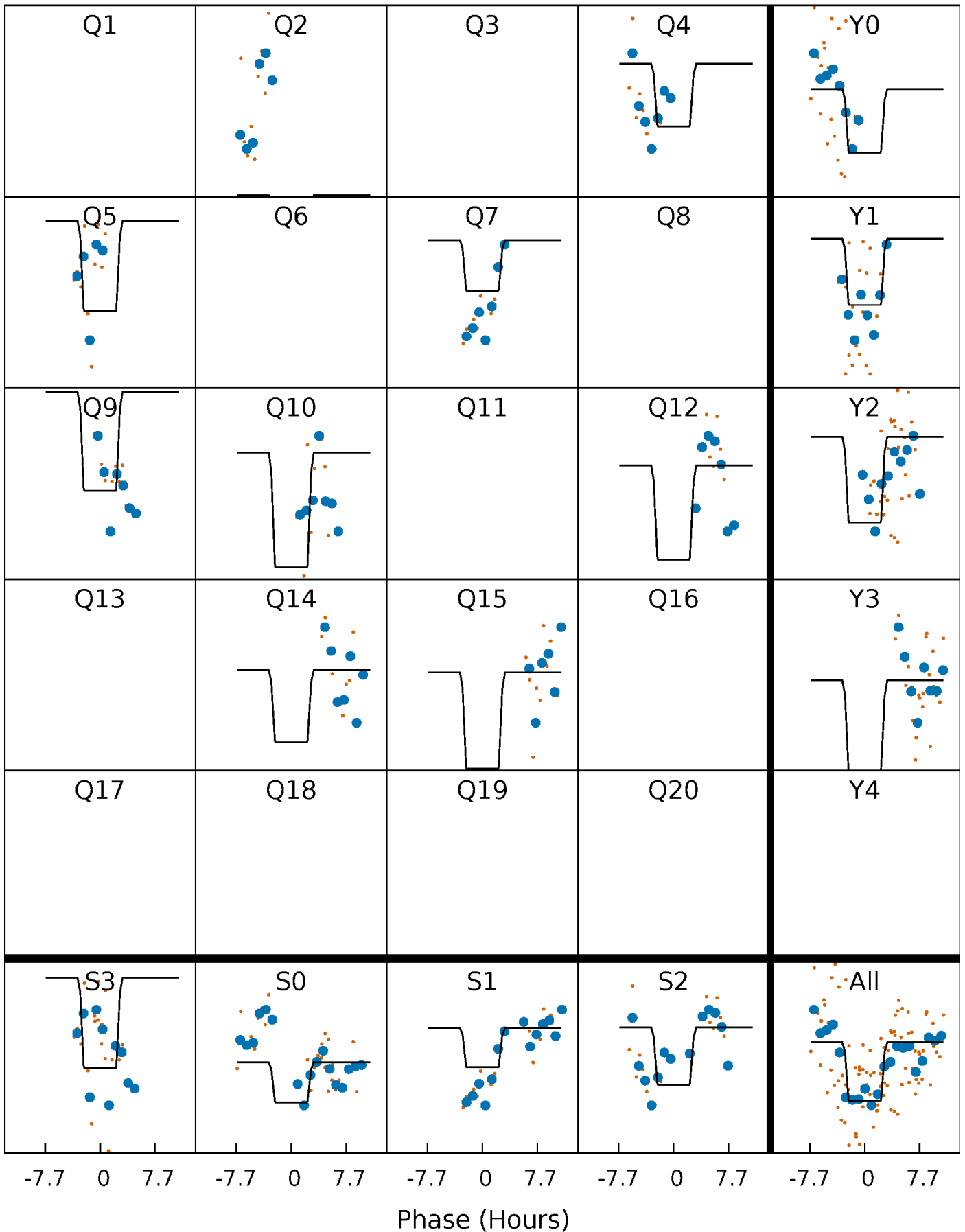
DV Quarter-Phased Transit Curves

TCE 003238787-02 P=158.136074 Days $T_0=200.836928$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

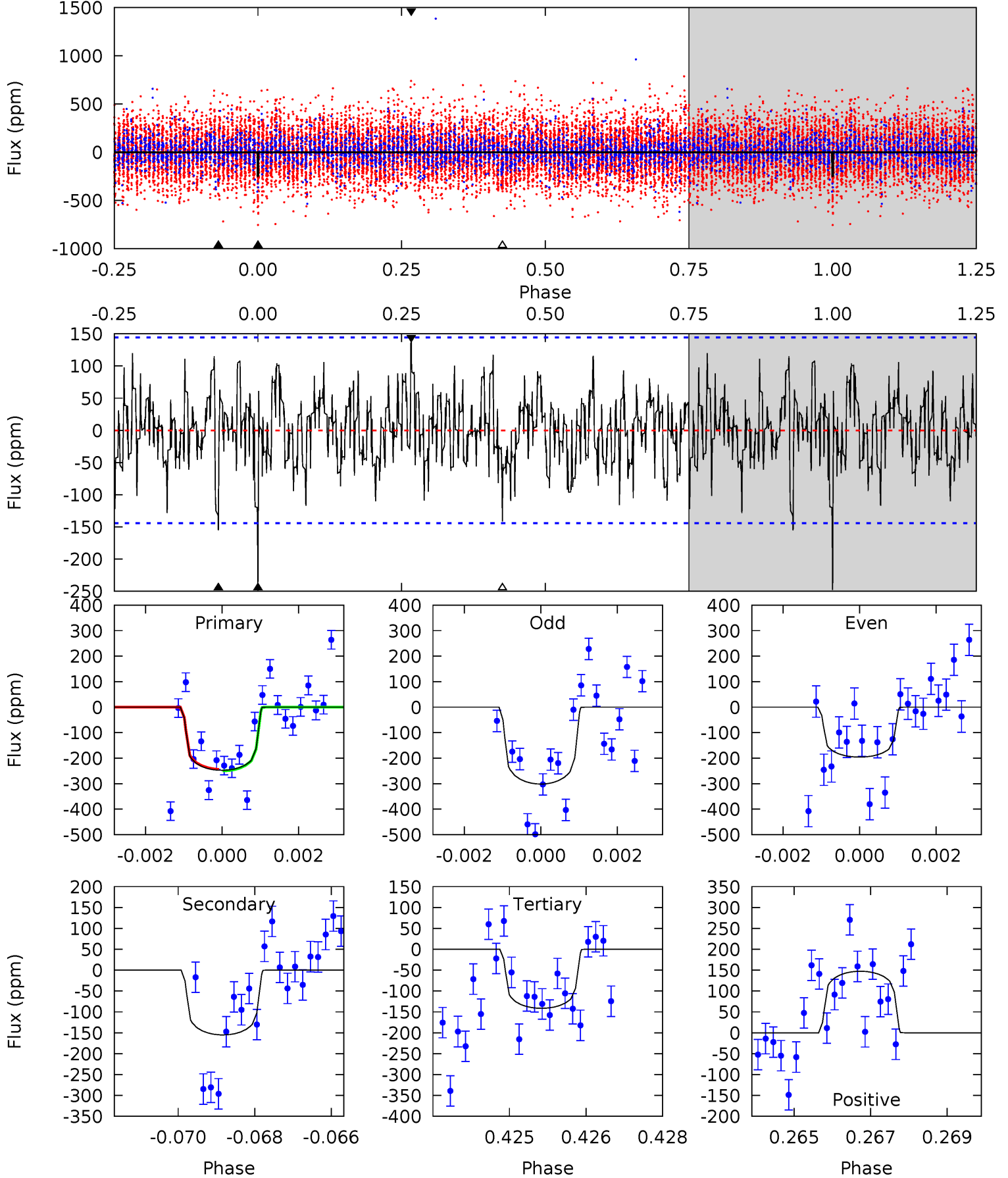
TCE 003238787-02 P=158.114782 Days $T_0=200.956889$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-02, P = 158.136074 Days, E = 42.700854 Days

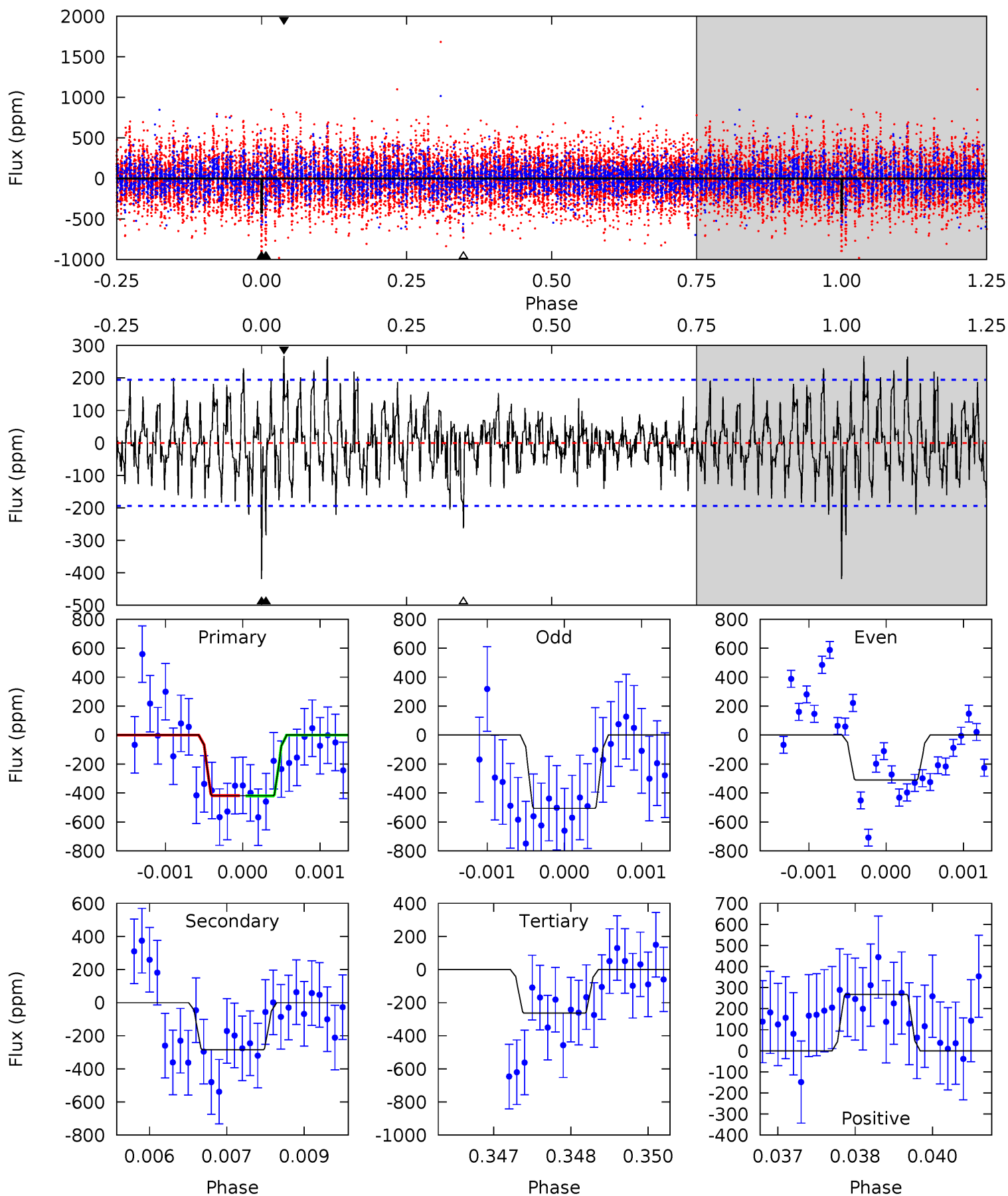
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	5.75	5.24	5.46	5.35	3.12	1.67	3.94	3.72	0.51	0.29	1.96	0.86	0.37	0.10



Alt Model-Shift Uniqueness Test

003238787-02, P = 158.114782 Days, E = 42.842107 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	7.87	7.28	7.41	5.38	3.18	2.04	4.34	4.20	0.59	0.46	2.69	1.18	0.39	0.03



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-155 ± 27	$4.00^{+2.27}_{-1.94}$	764^{+39}_{-45}	5844^{+2605}_{-1040}	2405^{+6633}_{-1467}
Alt.	-284 ± 36	$4.96^{+2.05}_{-1.93}$	763^{+39}_{-45}	6081^{+1879}_{-901}	2781^{+5108}_{-1395}

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

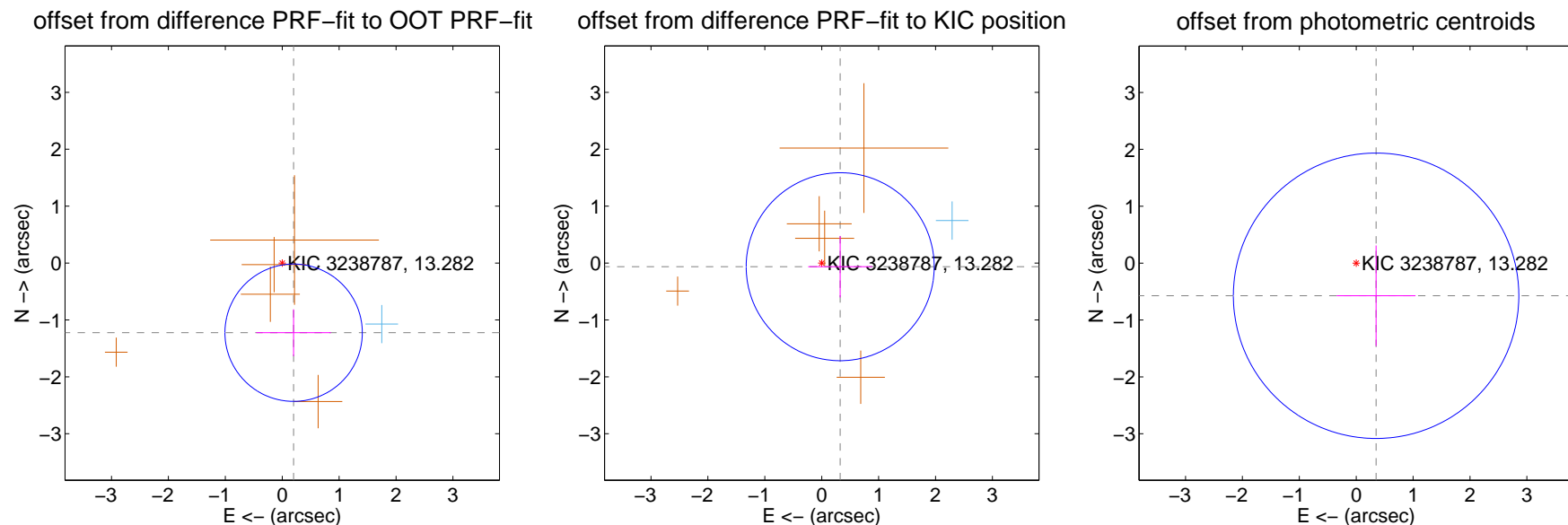
DV Centroid Data

Supplemental centroid analysis for 003238787-02. Kepler magnitude: 13.28. Transit SNR 10.12

There are 1 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	1.241 ± 0.402	3.08	-0.200 ± 0.657	-1.224 ± 0.411
PRF-fit source offset from KIC position	0.331 ± 0.551	0.60	-0.324 ± 0.562	-0.065 ± 0.540
photometric centroid source offset	0.67 ± 0.84	0.80	-0.35 ± 0.69	-0.57 ± 0.88



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.

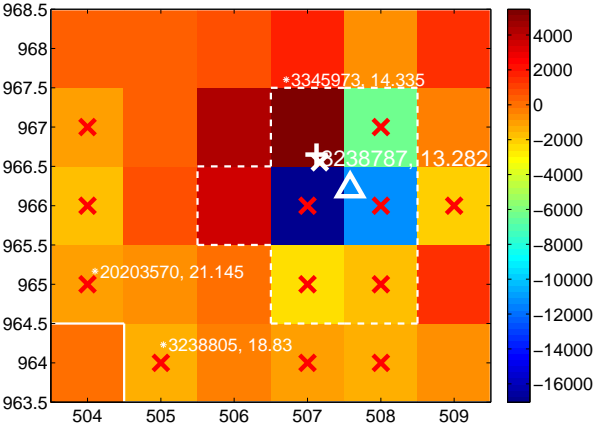
Q1 no difference image



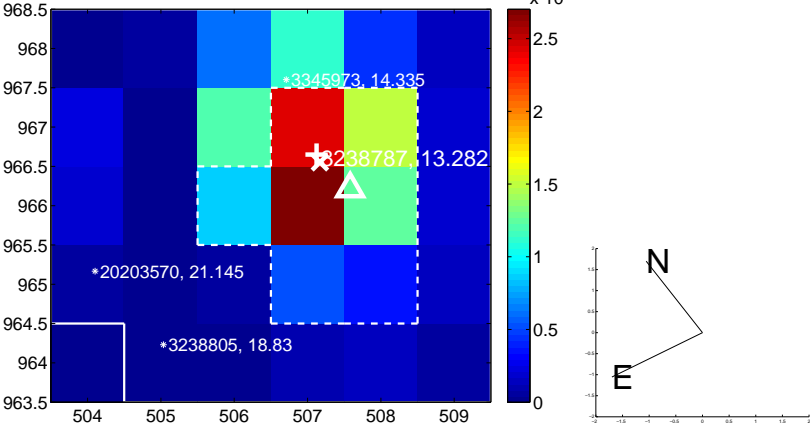
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



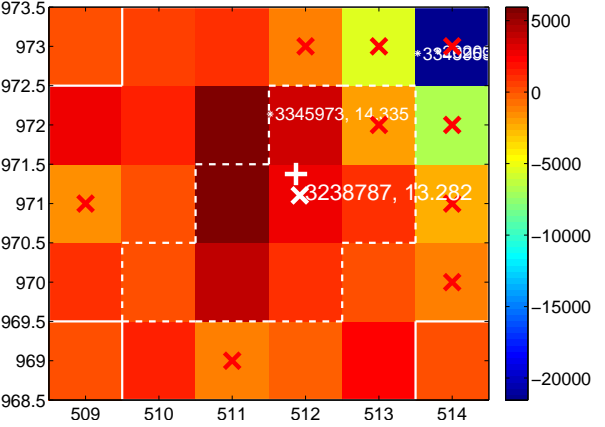
Q3 no difference image



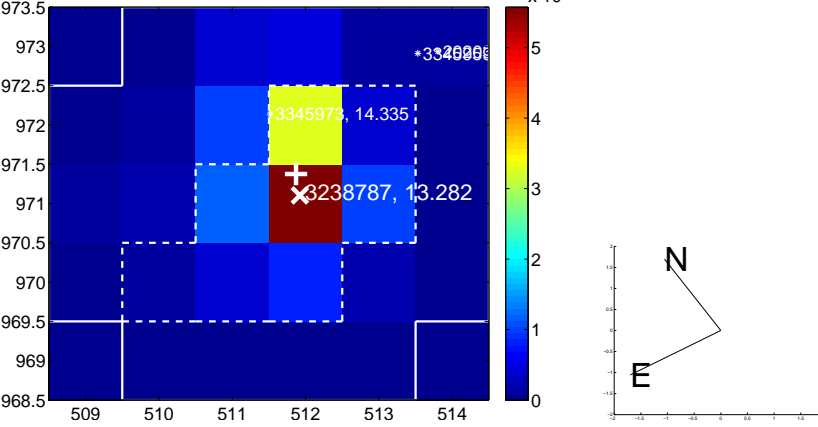
Q3 no OOT image



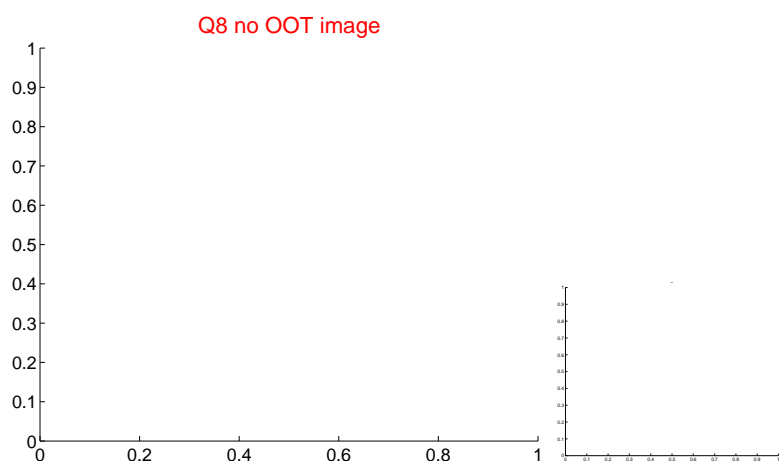
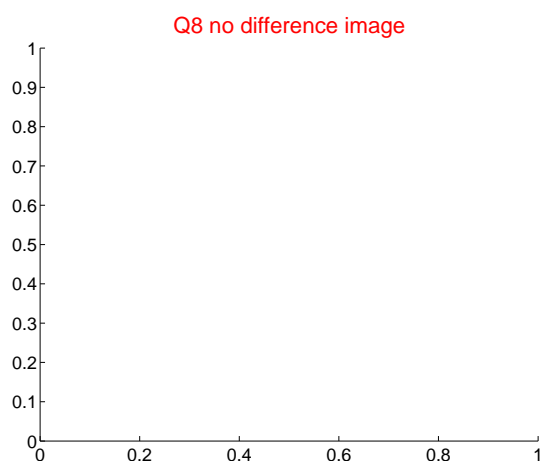
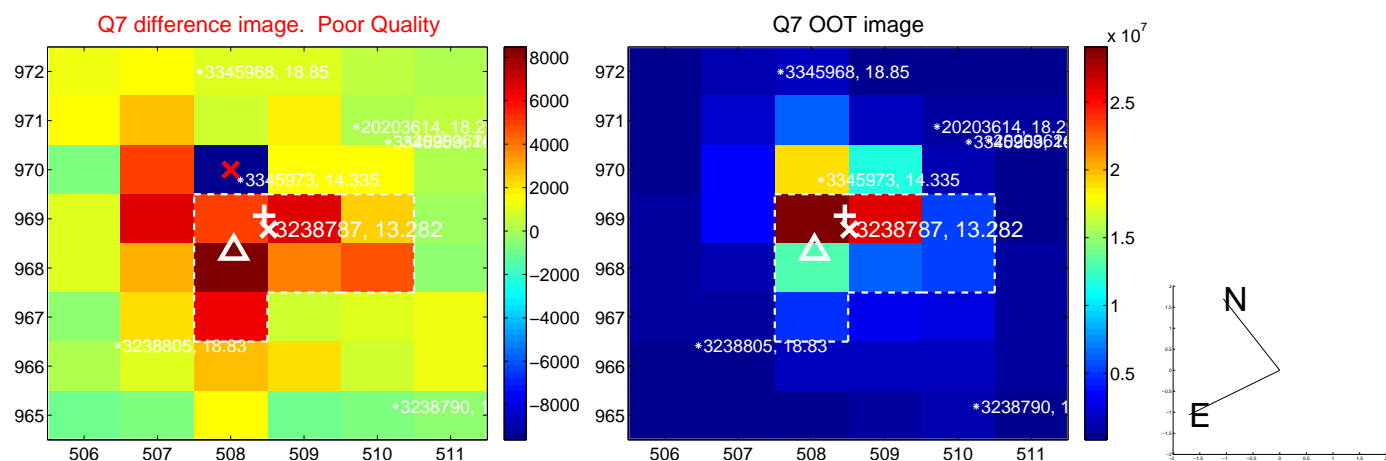
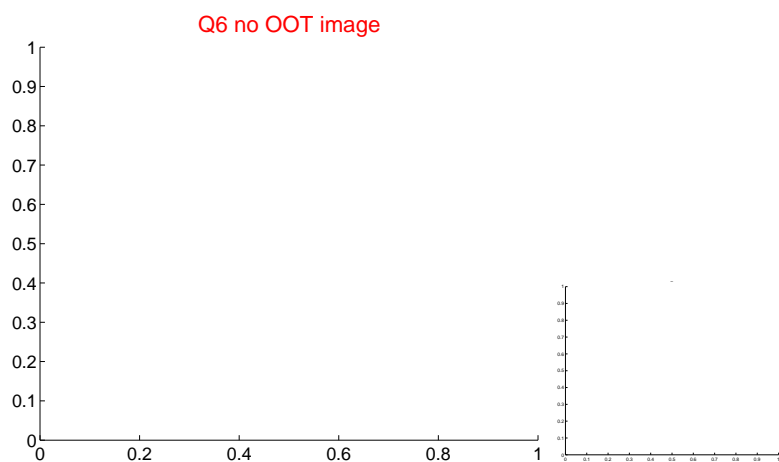
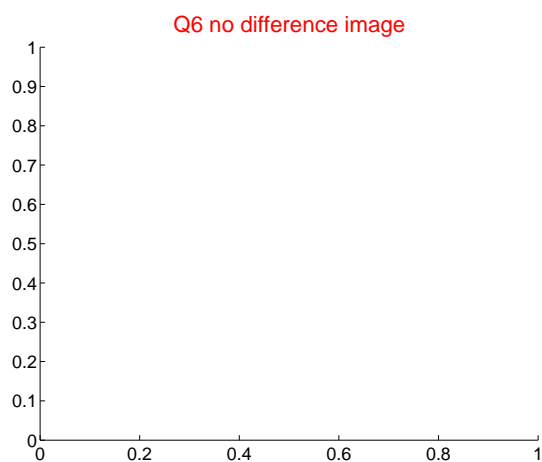
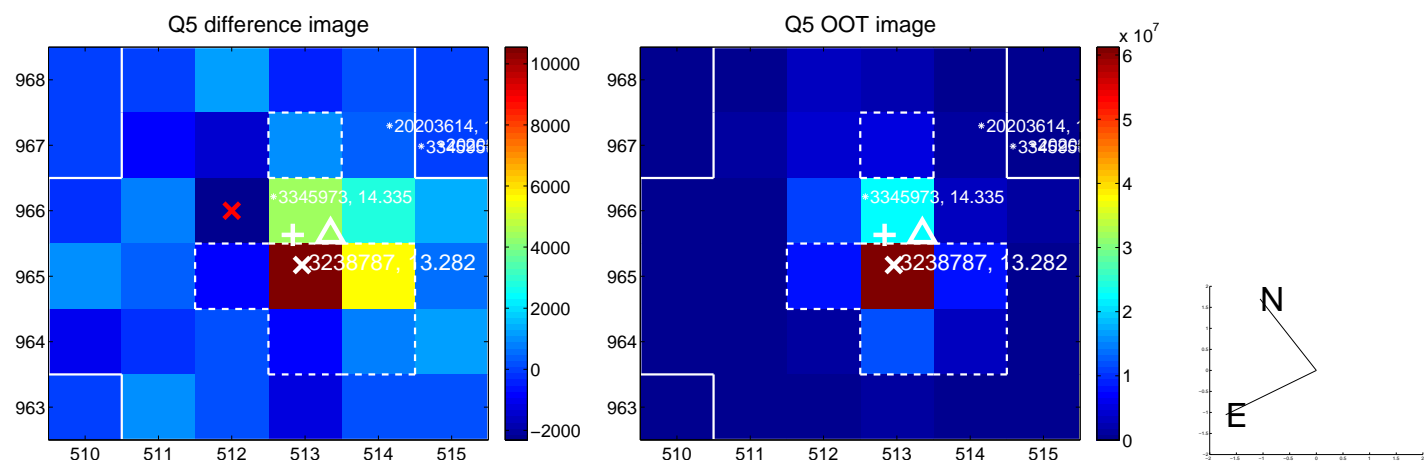
Q4 difference image. Poor Quality



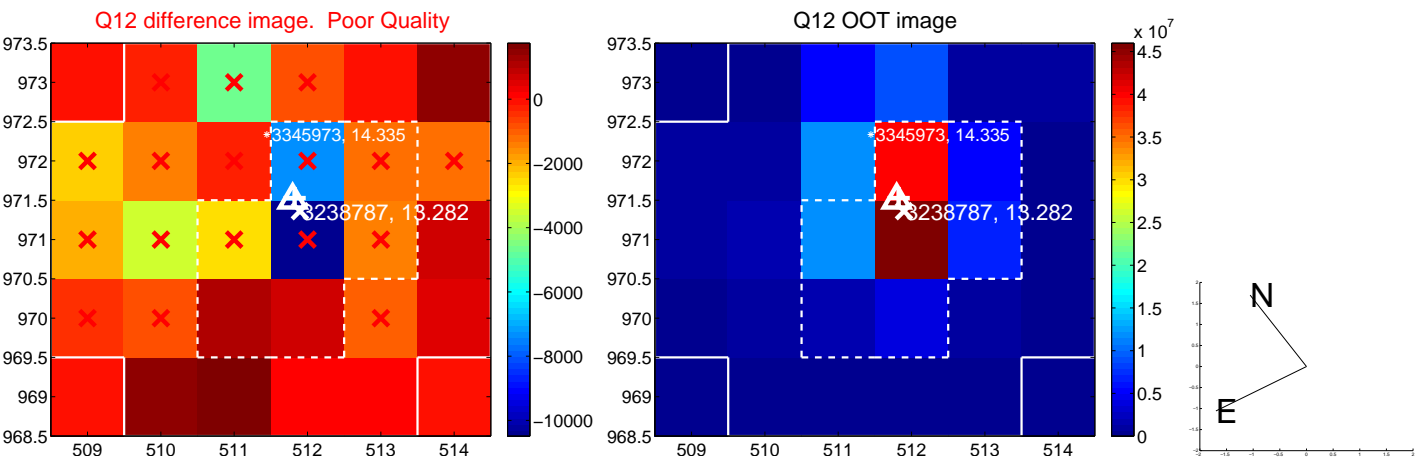
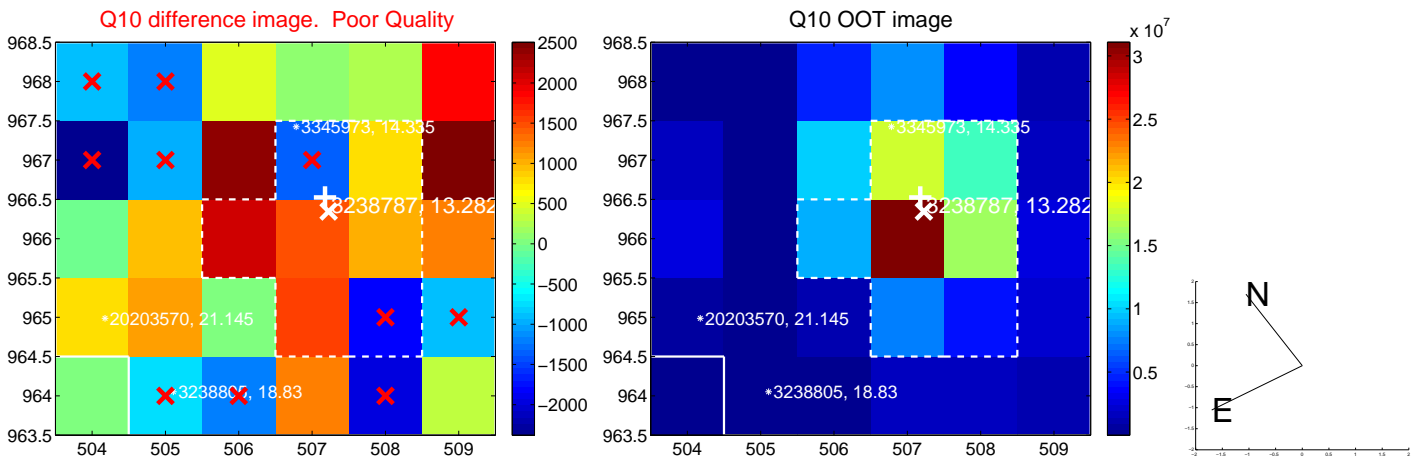
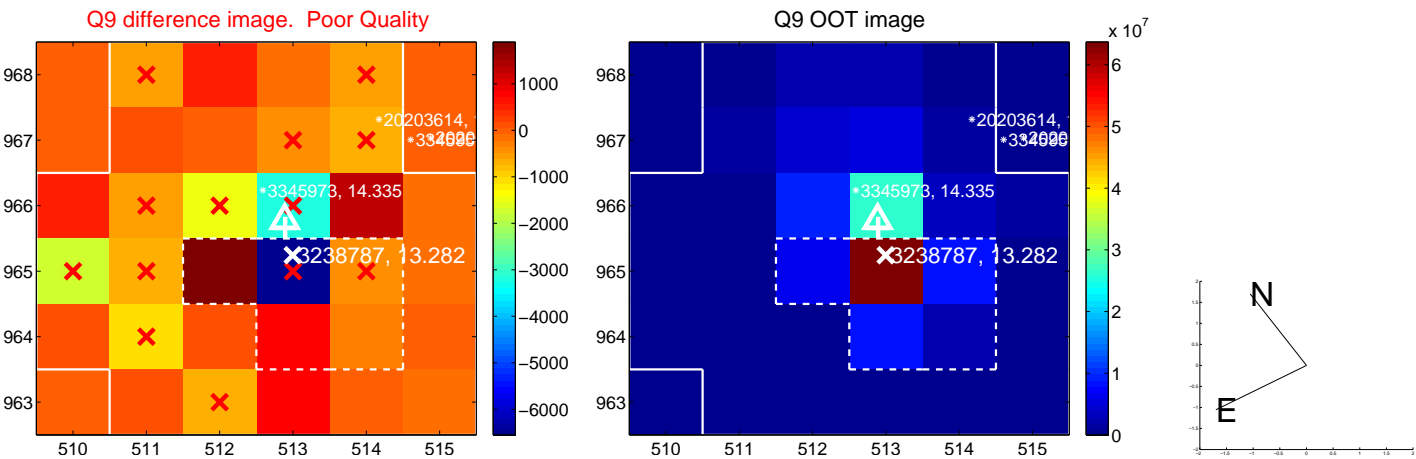
Q4 OOT image



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.

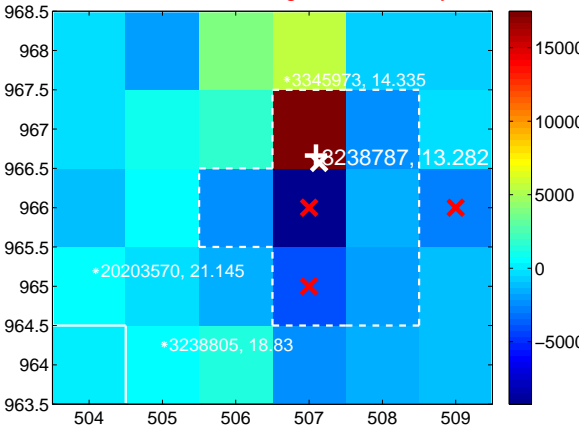
Q13 no difference image



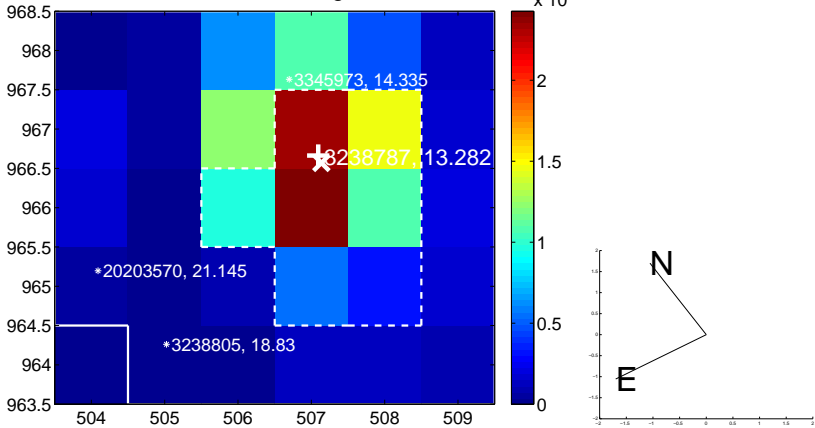
Q13 no OOT image



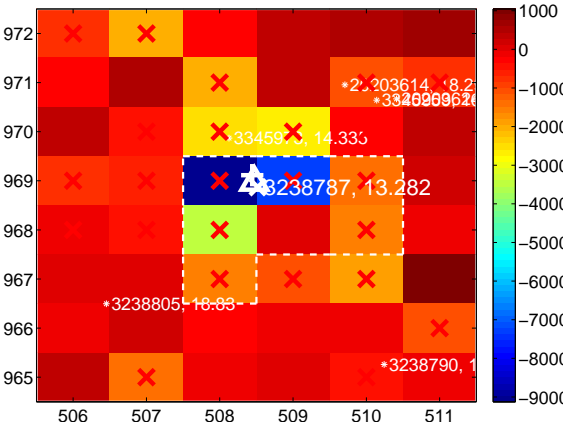
Q14 difference image. Poor Quality



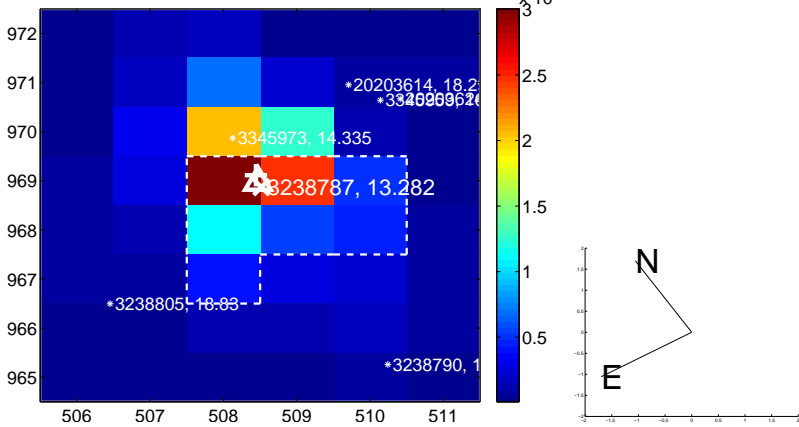
Q14 OOT image



Q15 difference image. Poor Quality



Q15 OOT image



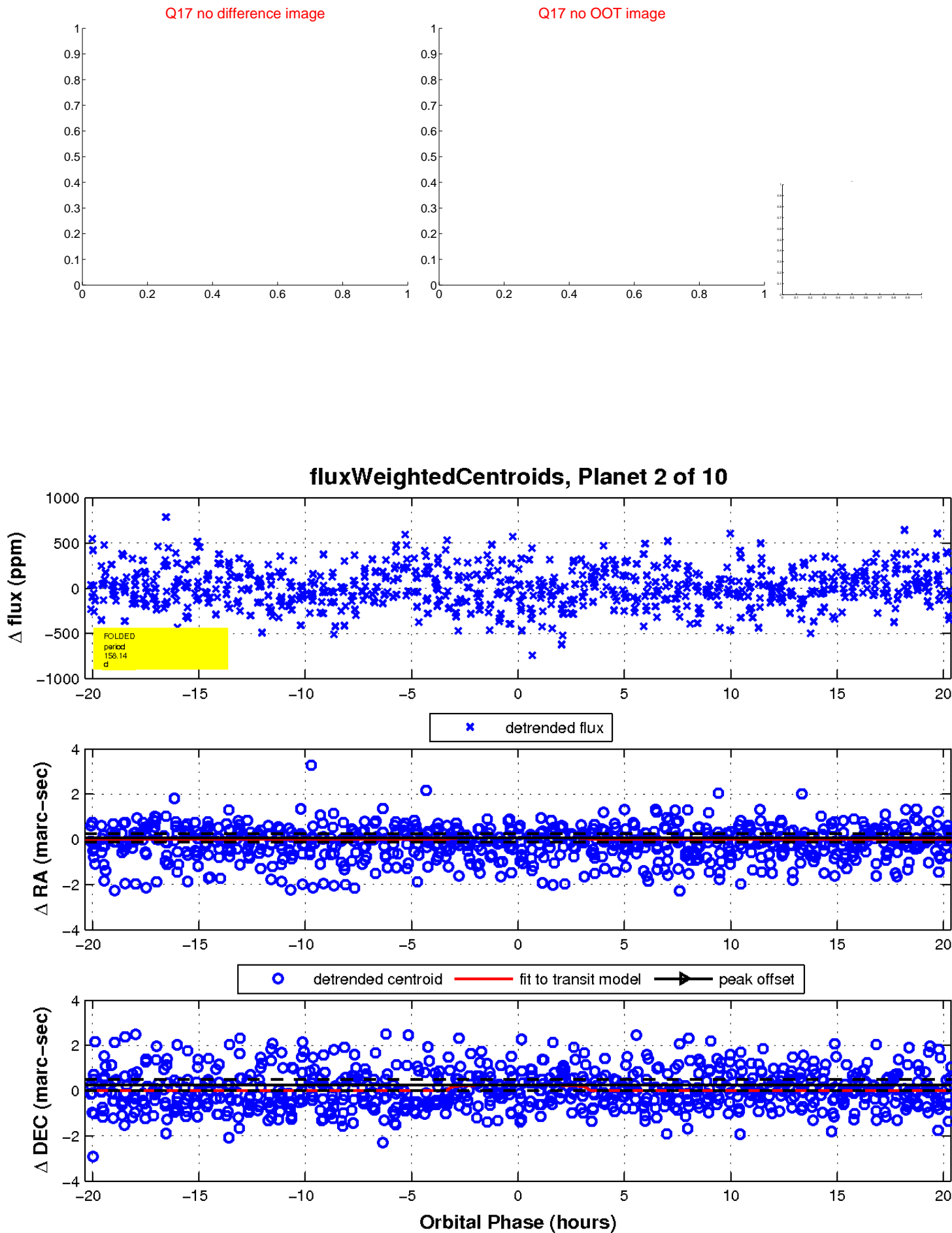
Q16 no difference image



Q16 no OOT image

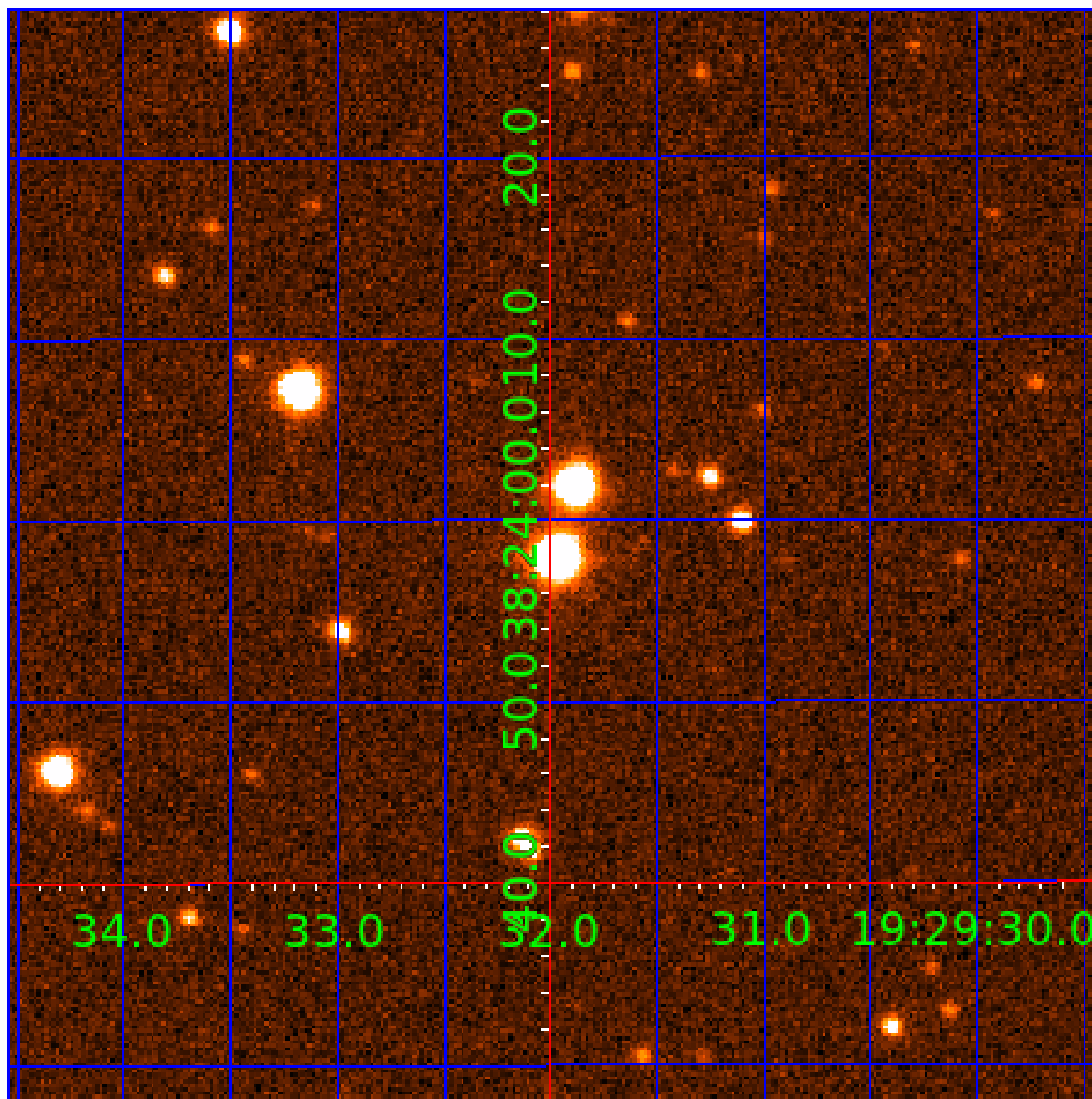


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

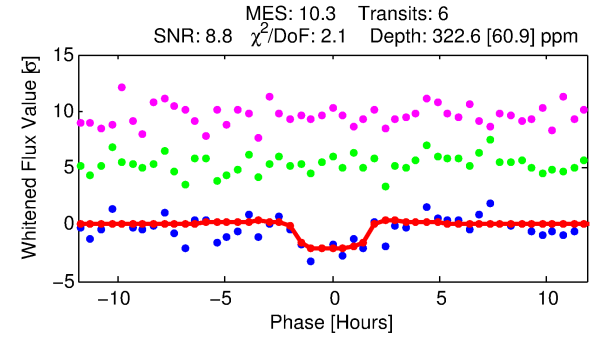
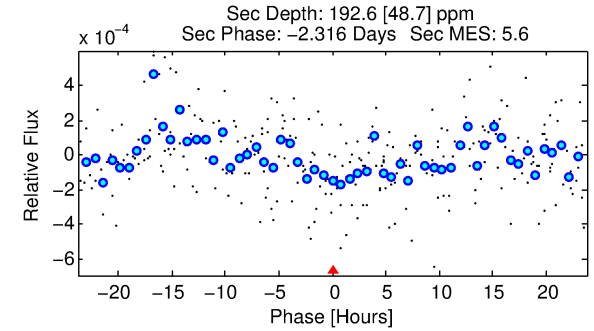
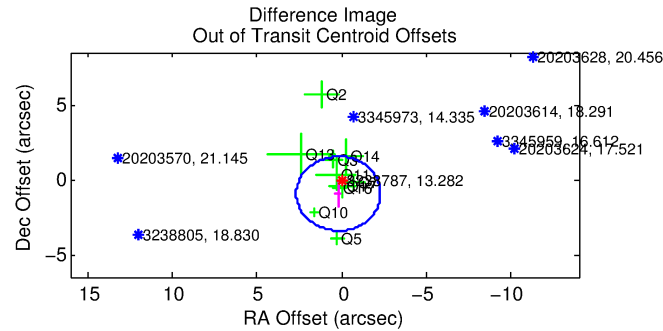
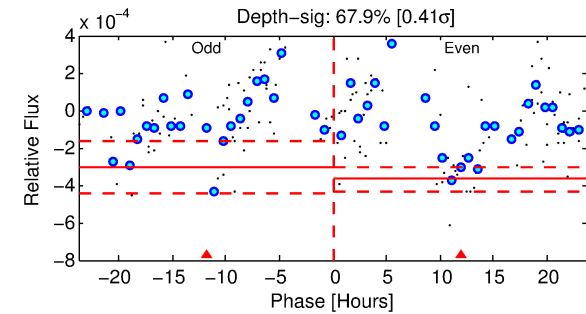
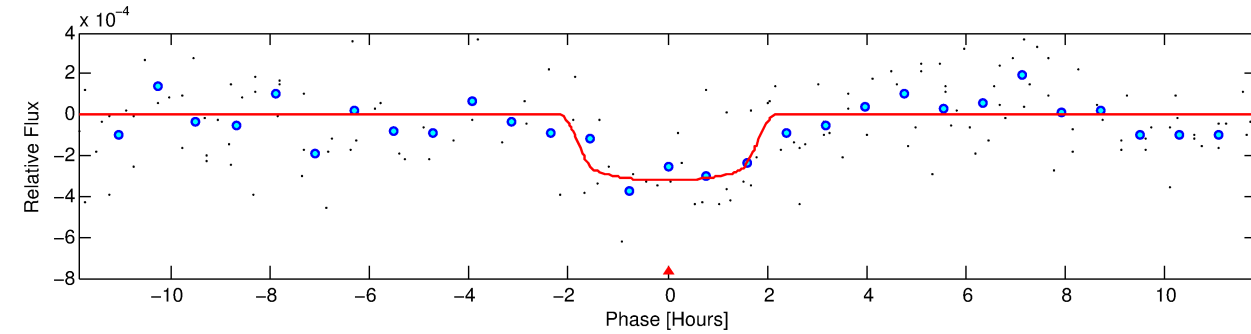
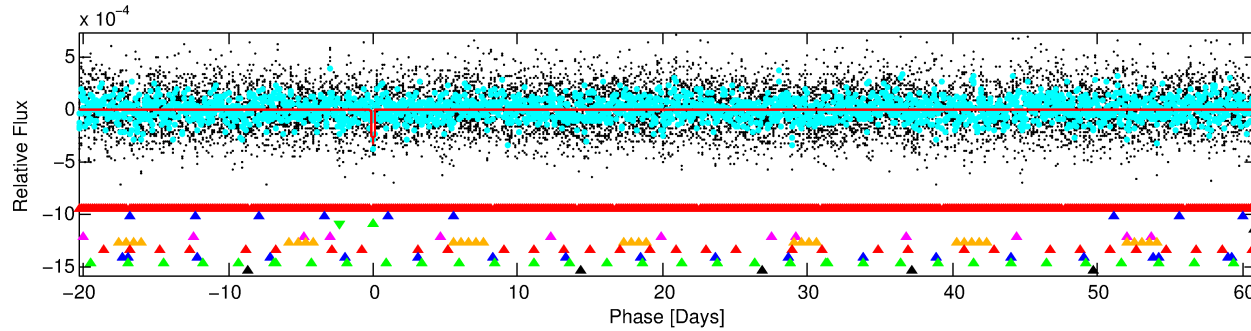
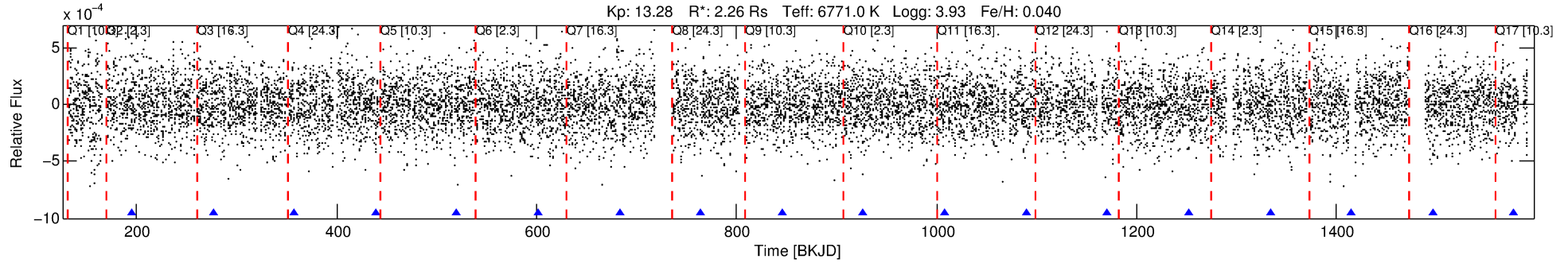
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-03

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 3 of 10 Period: 81.298 d



DV Fit Results:

Period = 81.29765 [0.00146] d
Epoch = 195.3137 [0.0123] BKJD
Rp/R* = 0.0187 [0.0123]
a/R* = 84.26 [316.44]
b = 0.87 [1.10]
Seff = 52.08 [17.70]
Teq = 685 [58] K
Rp = 4.62 [3.22] Re
a = 0.4296 [0.0922] AU
Ag = 915.60 [1263.33] [0.72 σ]
Teffp = 5826 [1950] K [2.63 σ]

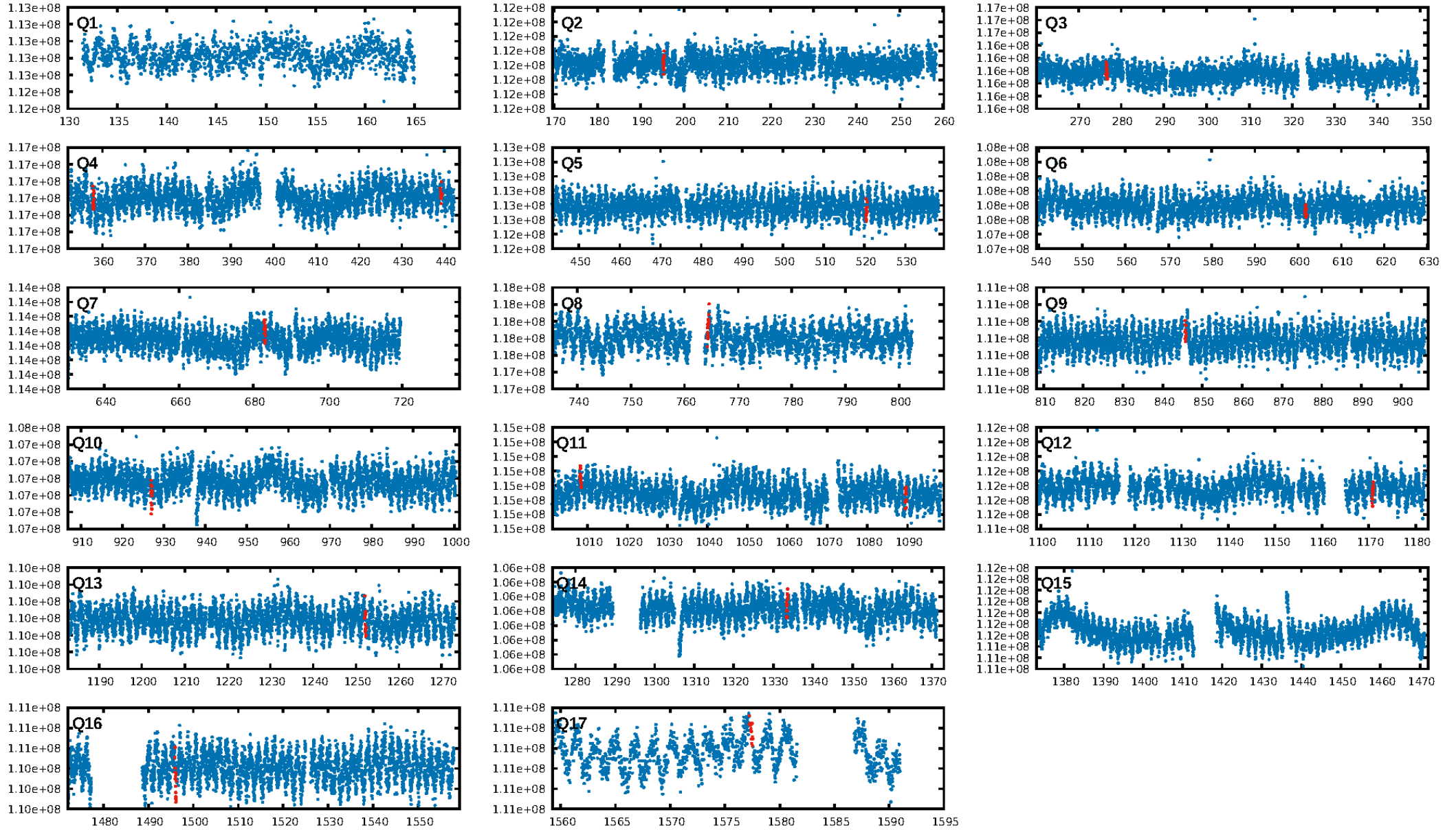
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.24 σ]
LongPeriod-sig: 4.2% [0.05 σ]
ModelChiSquare2-sig: 2.7%
ModelChiSquareGof-sig: 94.9%
Bootstrap-pfa: 3.90e-13
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.135
Centroid-sig: 1.0%
Centroid-so: 0.721 arcsec [1.09 σ]
OotOffset-rm: 0.958 arcsec [1.16 σ]
KicOffset-rm: 1.063 arcsec [1.46 σ]
OotOffset-st: 3/3/1/3 [10]
KicOffset-st: 3/3/1/3 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 0.08 [1/13]

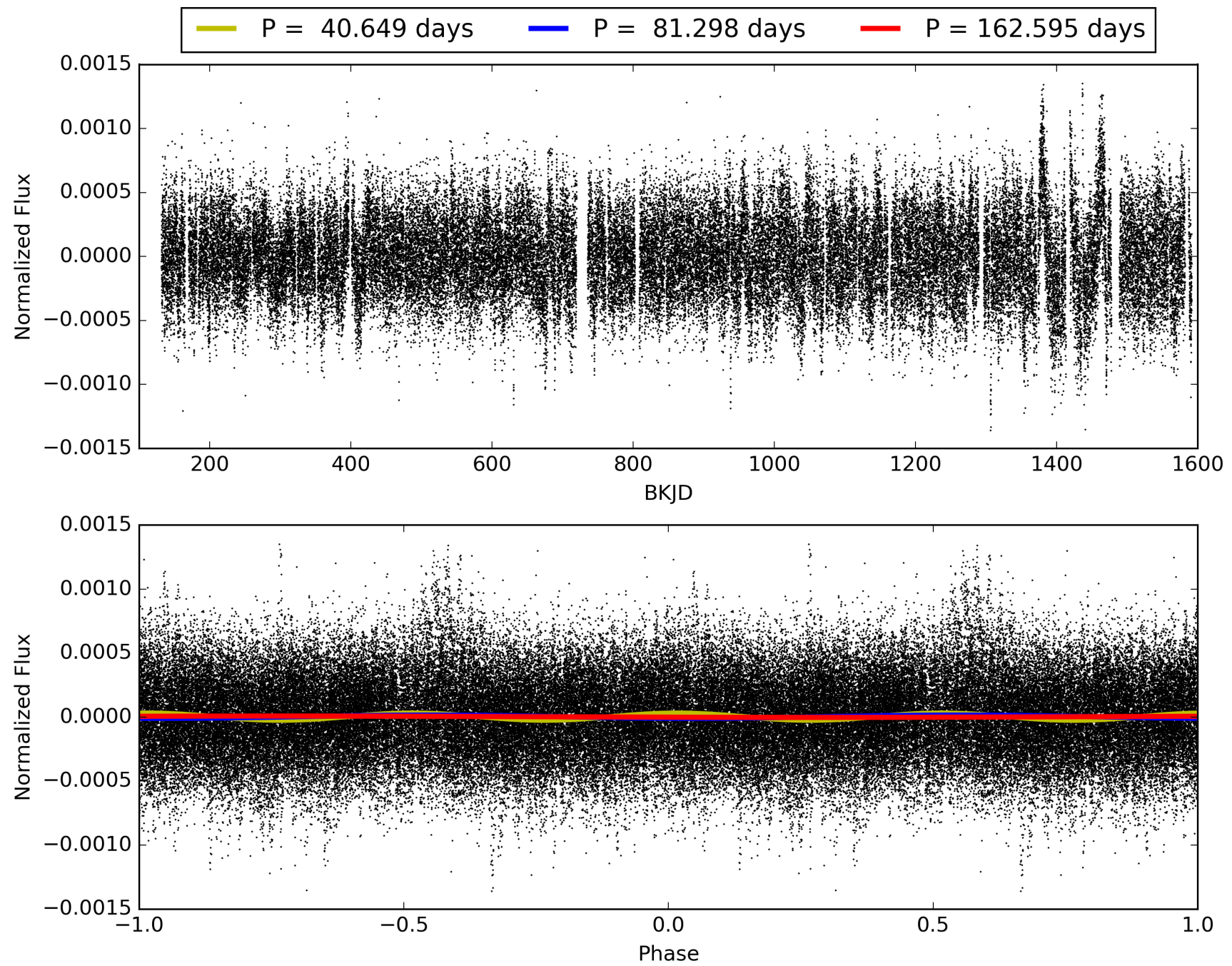
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:12 Z

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

TCE 003238787-03, PDC Light Curves

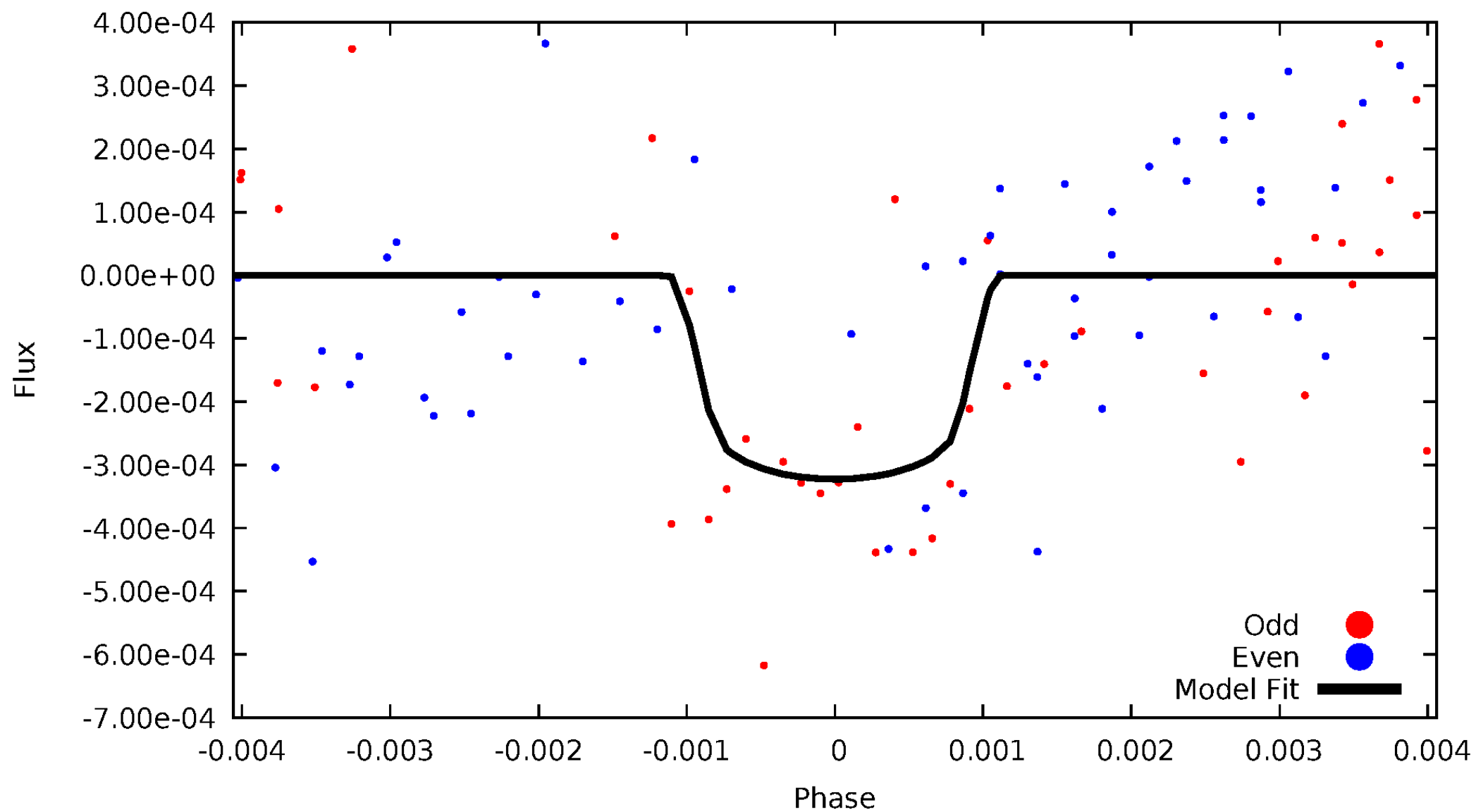


TCE 003238787-03



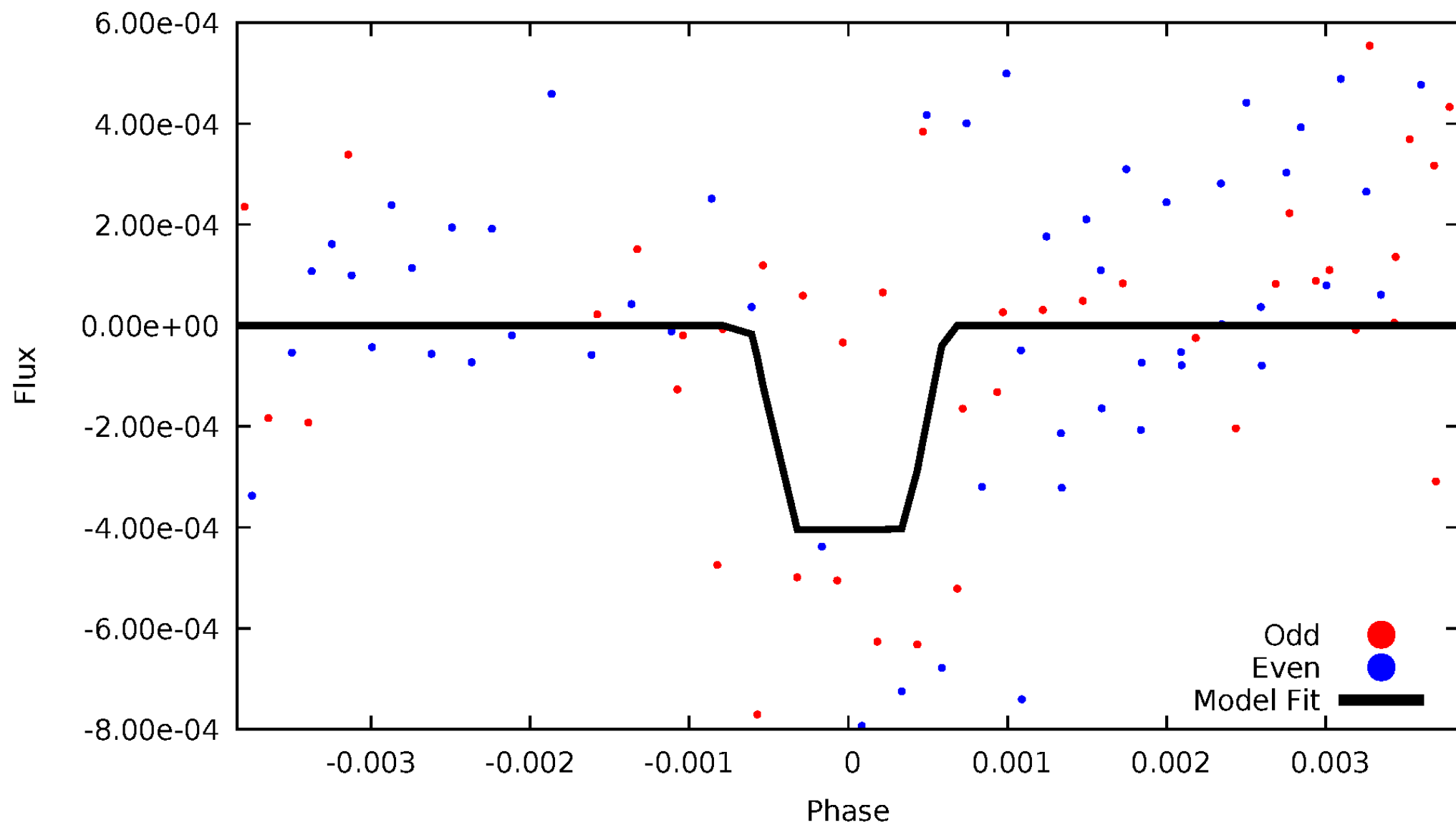
DV Odd/Even

TCE 003238787-03



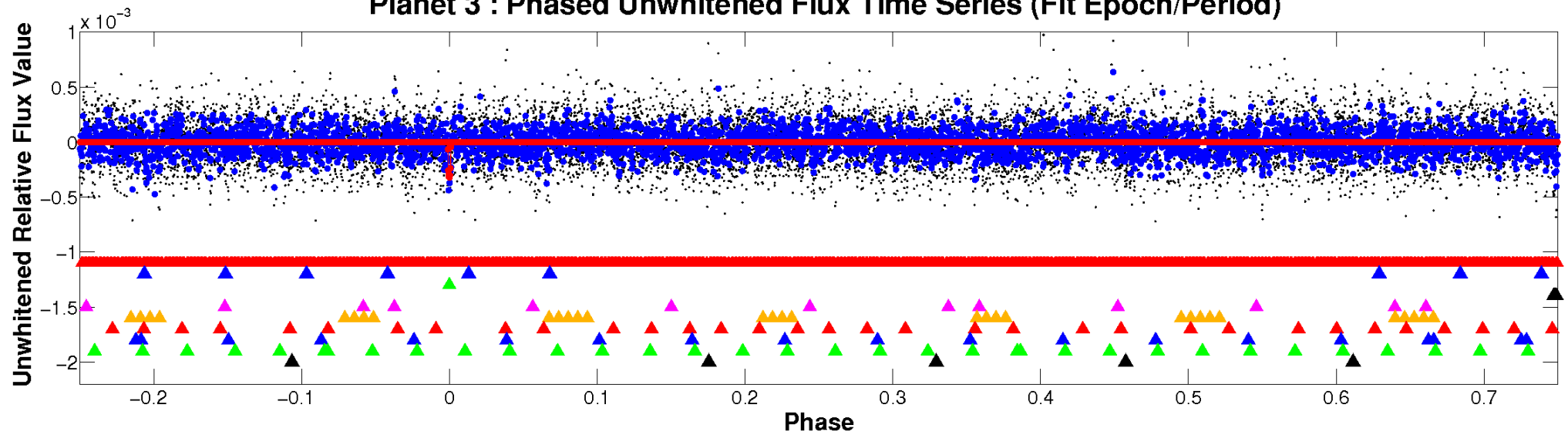
ALT Odd/Even

TCE 003238787-03

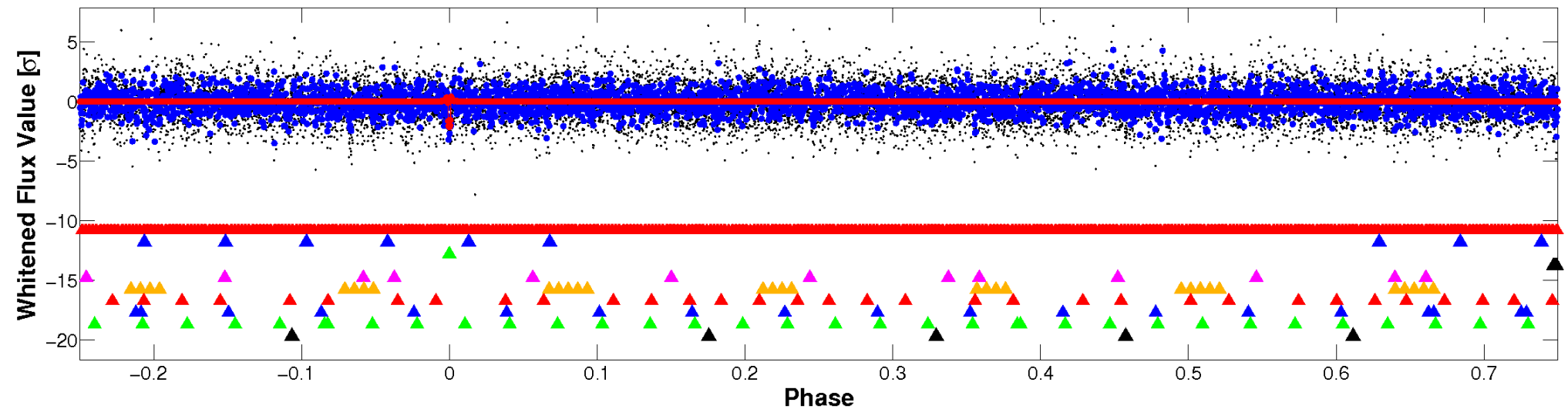


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

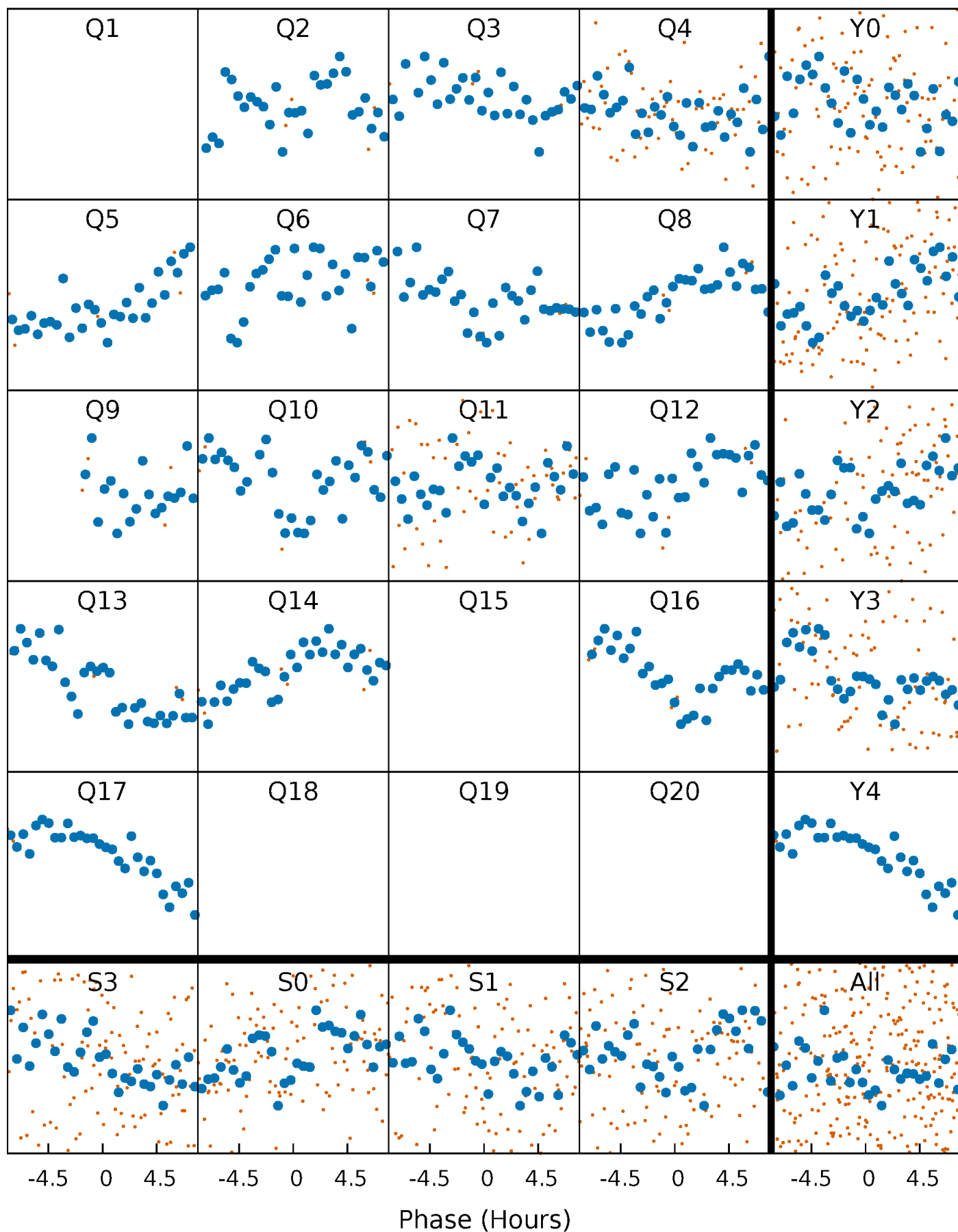


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



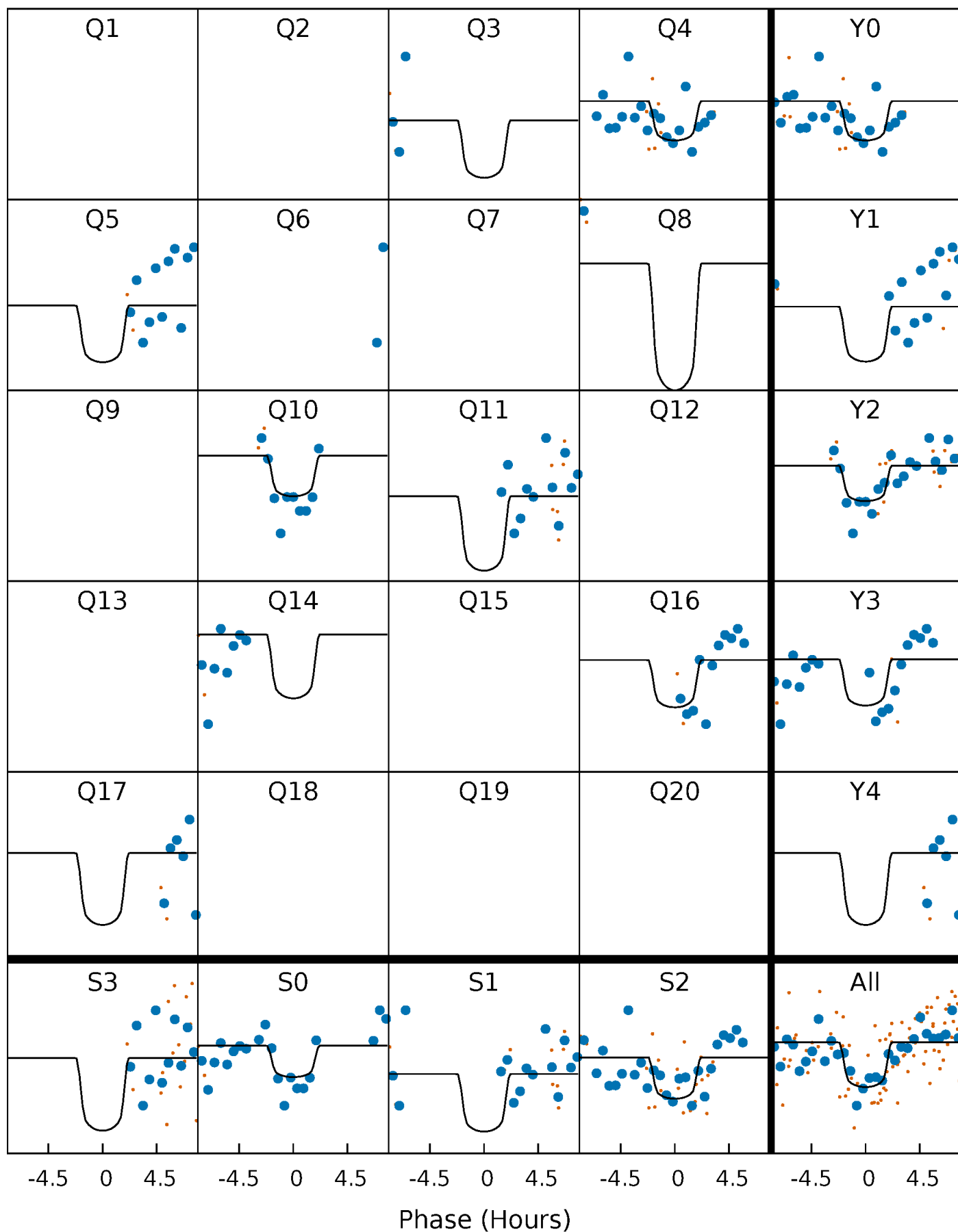
PDC Quarter-Phased Transit Curves

TCE 003238787-03 P= 81.297648 Days $T_0=195.313713$ (BKJD)



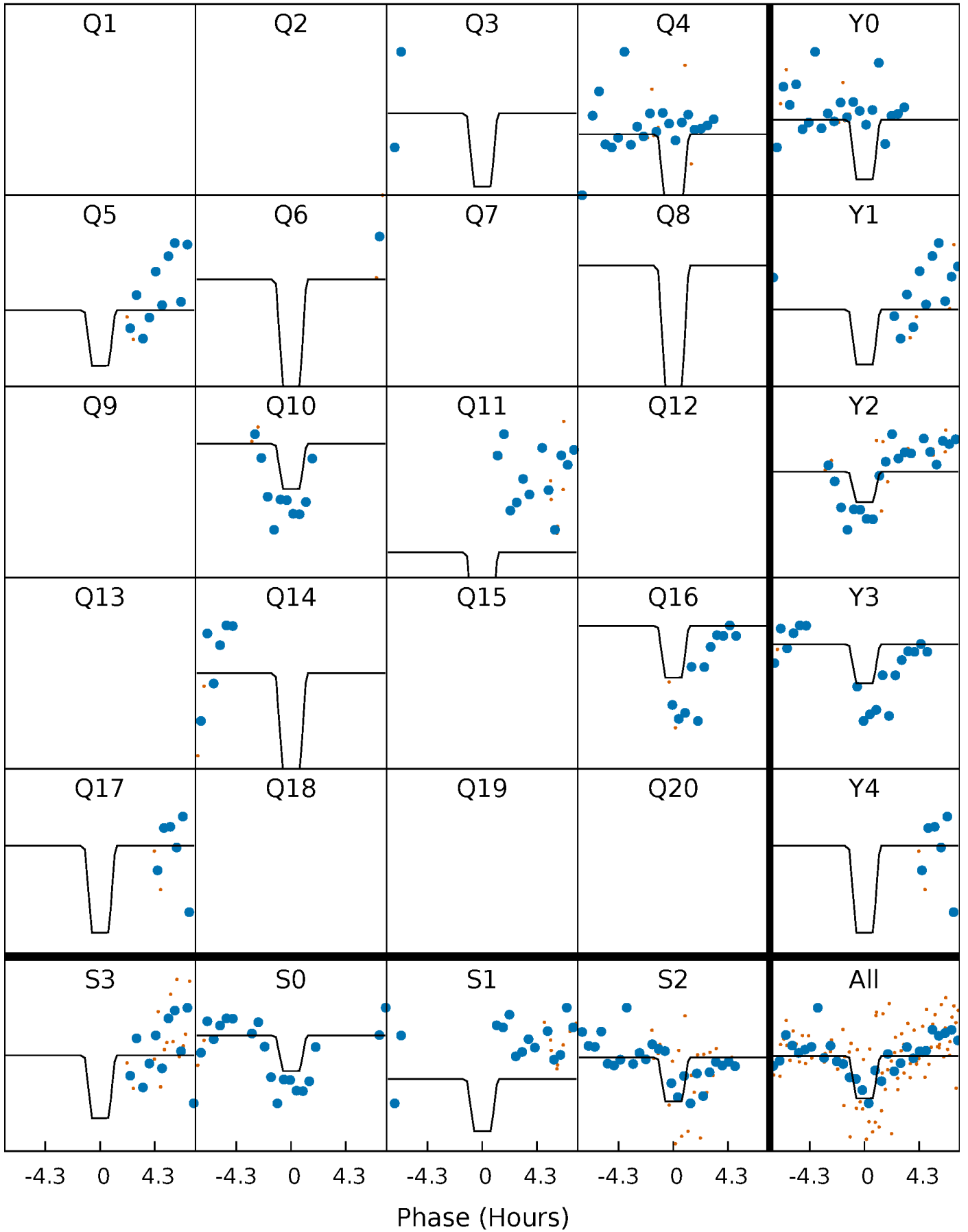
DV Quarter-Phased Transit Curves

TCE 003238787-03 P= 81.297648 Days $T_0=195.313713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

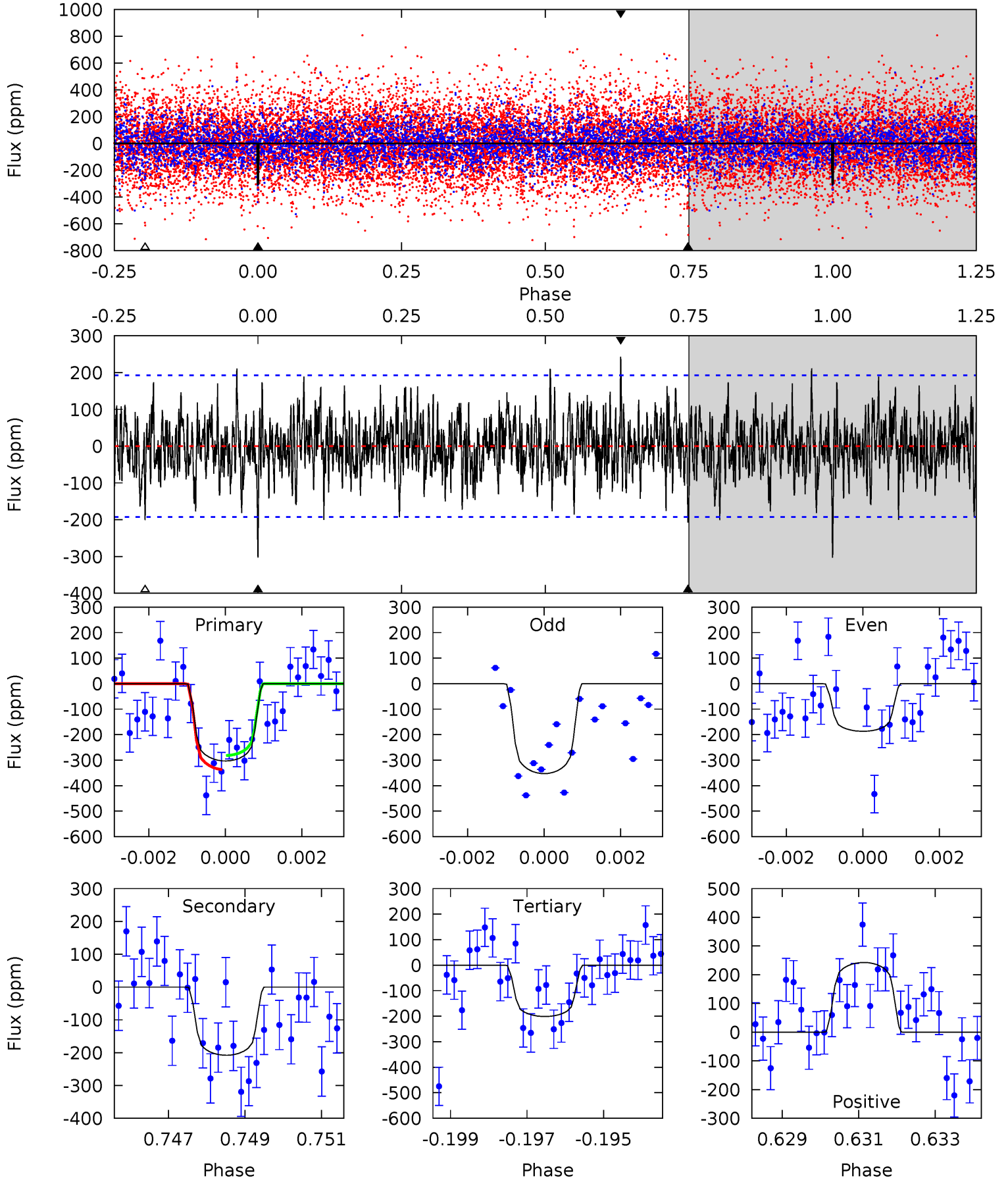
TCE 003238787-03 P= 81.299769 Days $T_0=195.302250$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-03, P = 81.297648 Days, E = 114.016065 Days

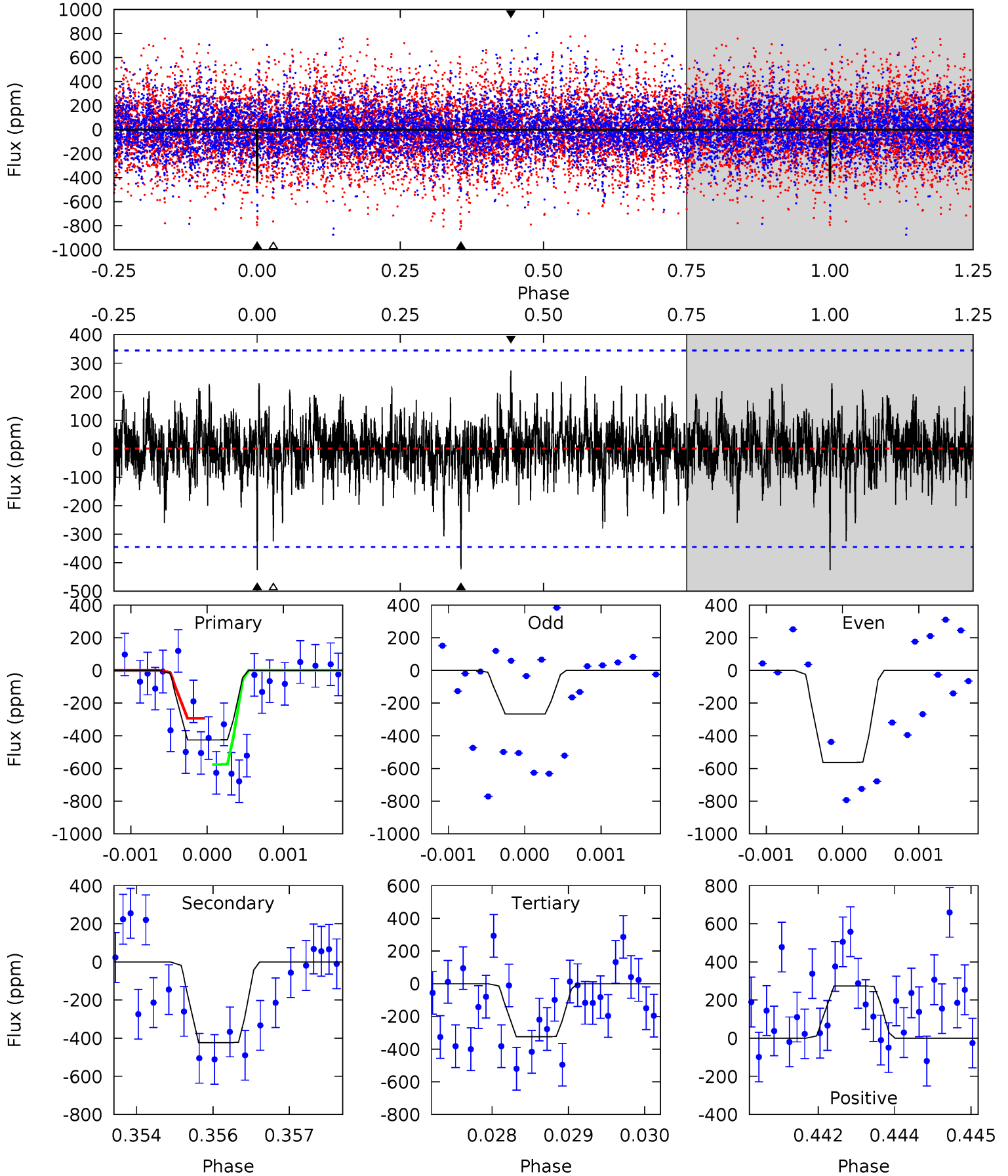
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.35	5.73	5.54	6.69	5.30	3.05	1.75	2.81	1.67	0.19	-0.96	2.22	0.69	0.44	0.73



Alt Model-Shift Uniqueness Test

003238787-03, P = 81.299769 Days, E = 114.002481 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.68	6.64	5.09	4.29	5.41	3.23	1.12	1.59	2.39	1.56	2.35	2.38	0.64	0.39	2.22



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-208 ± 36	$4.73^{+2.95}_{-2.61}$	950^{+49}_{-55}	5825^{+2897}_{-1144}	941^{+3463}_{-589}
Alt.	-423 ± 64	$5.18^{+2.97}_{-2.65}$	956^{+46}_{-62}	6640^{+3660}_{-1291}	1607^{+5015}_{-966}

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

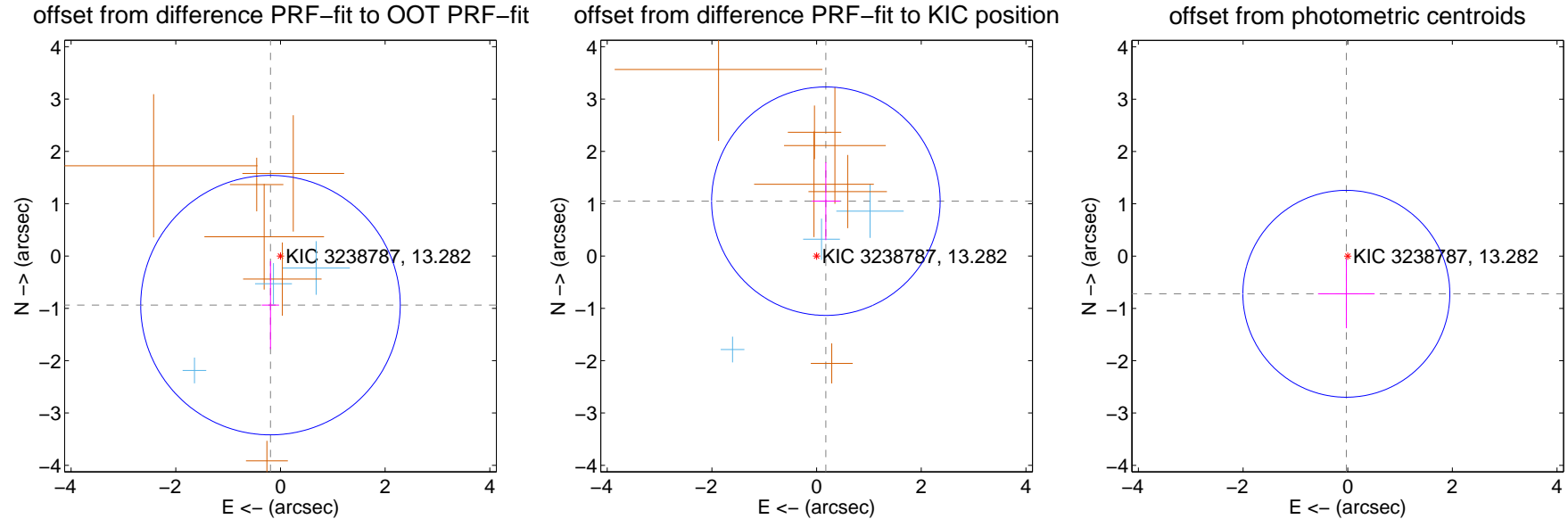
DV Centroid Data

Supplemental centroid analysis for 003238787-03. Kepler magnitude: 13.28. Transit SNR 8.82

There are 3 quarters with good PRF difference image offsets

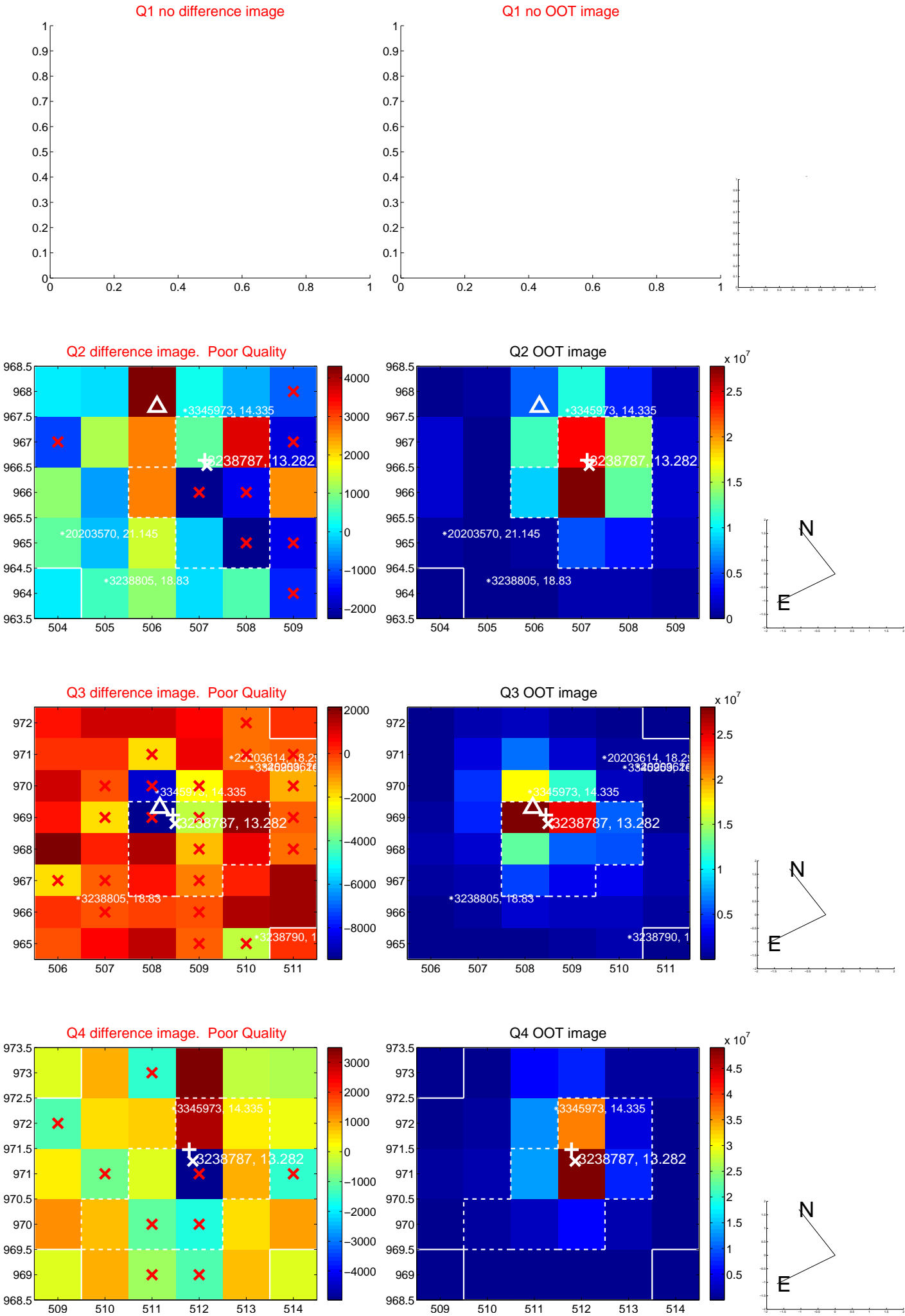
The direct PRF centroid is offset from the target star catalog position by about 1.76 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.958 ± 0.827	1.16	0.191 ± 0.165	-0.939 ± 0.843
PRF-fit source offset from KIC position	1.063 ± 0.728	1.46	-0.178 ± 0.269	1.049 ± 0.745
photometric centroid source offset	0.72 ± 0.66	1.09	0.03 ± 0.54	-0.72 ± 0.66

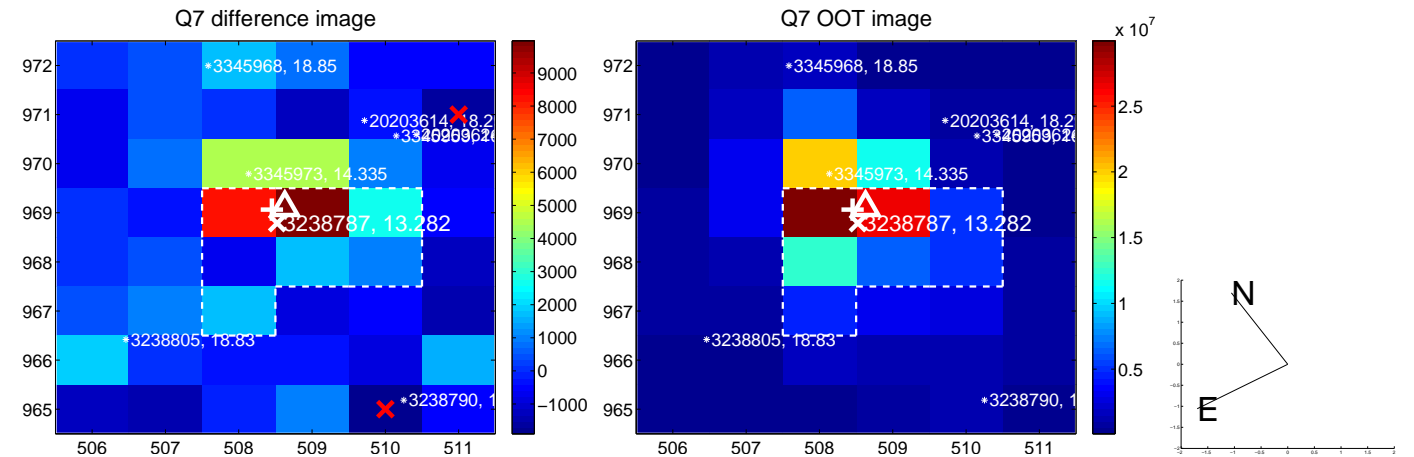
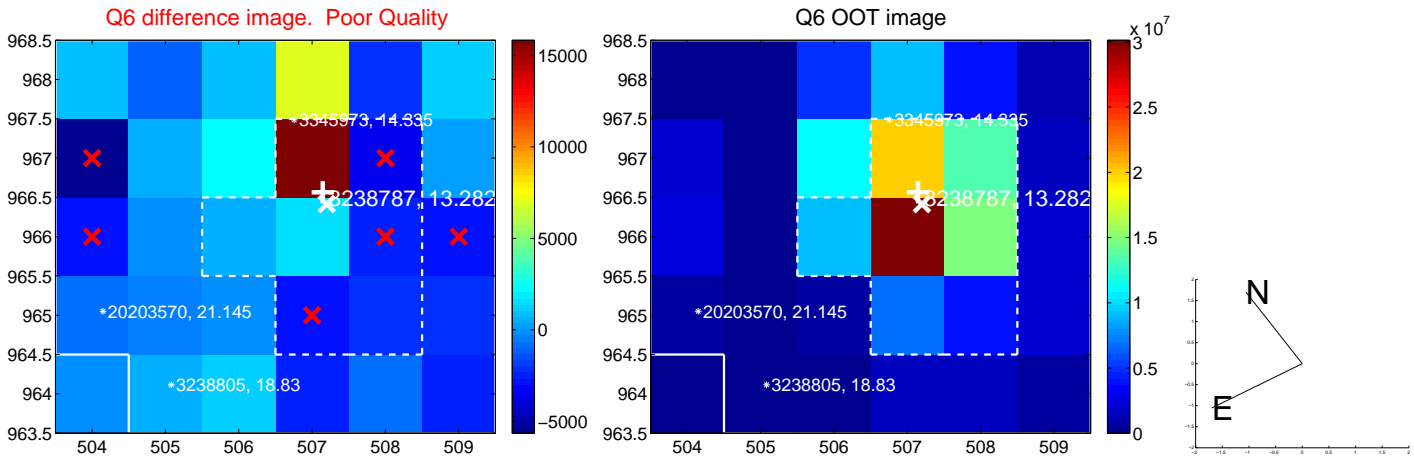
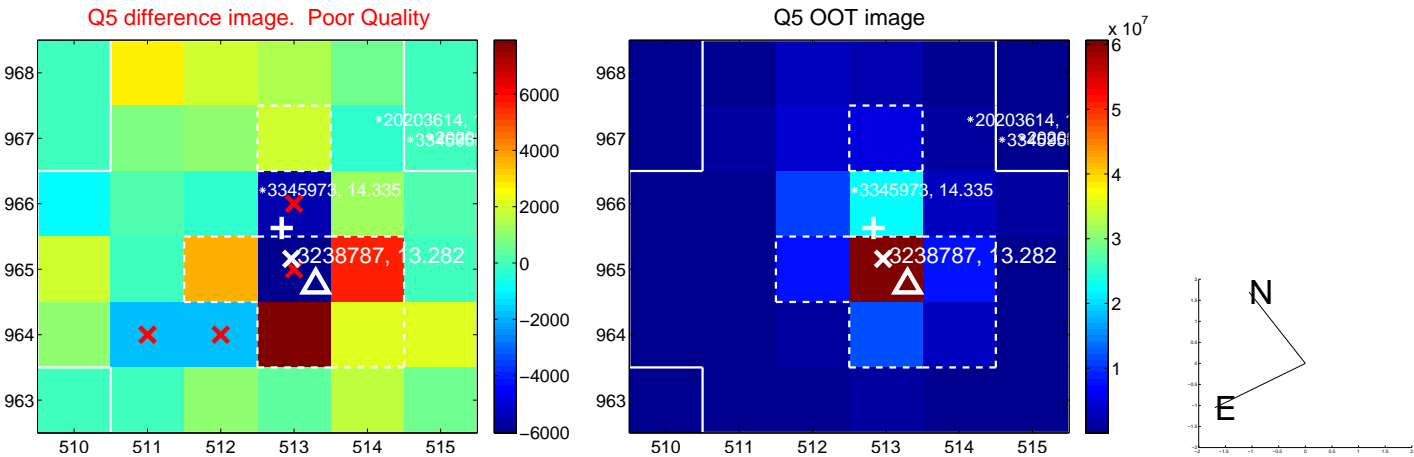


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

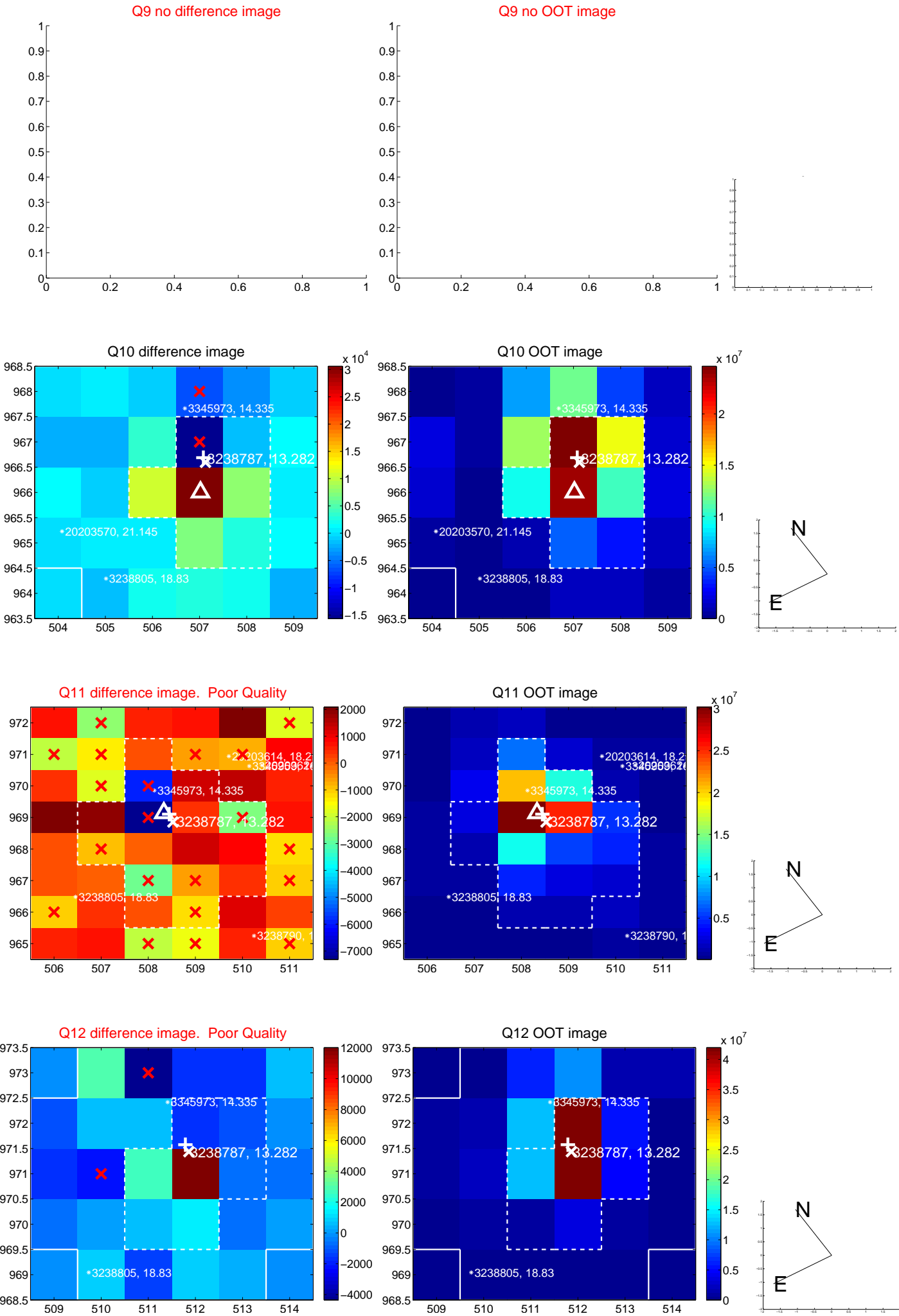
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



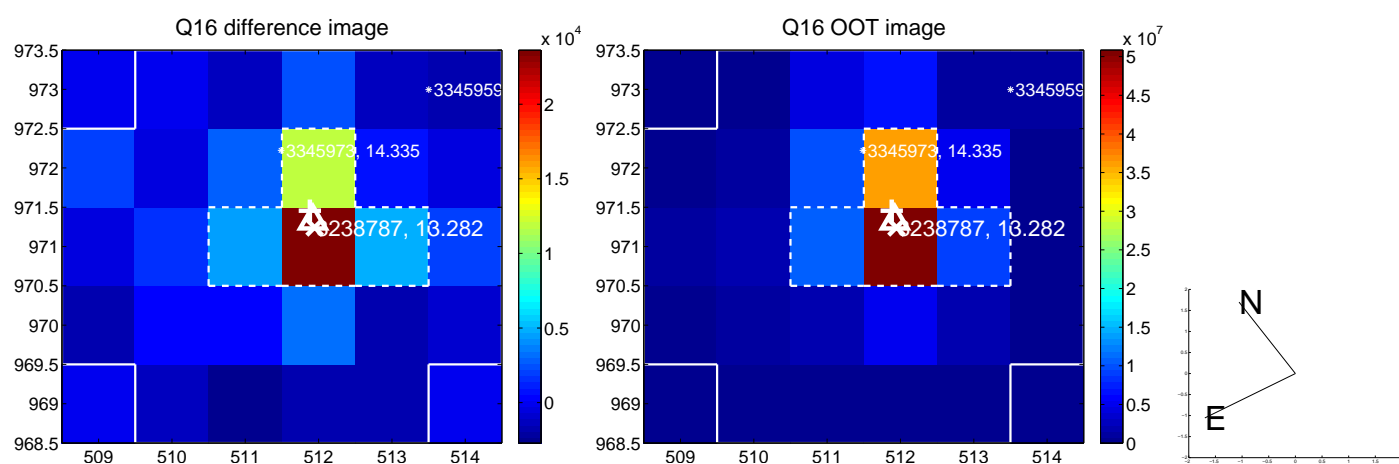
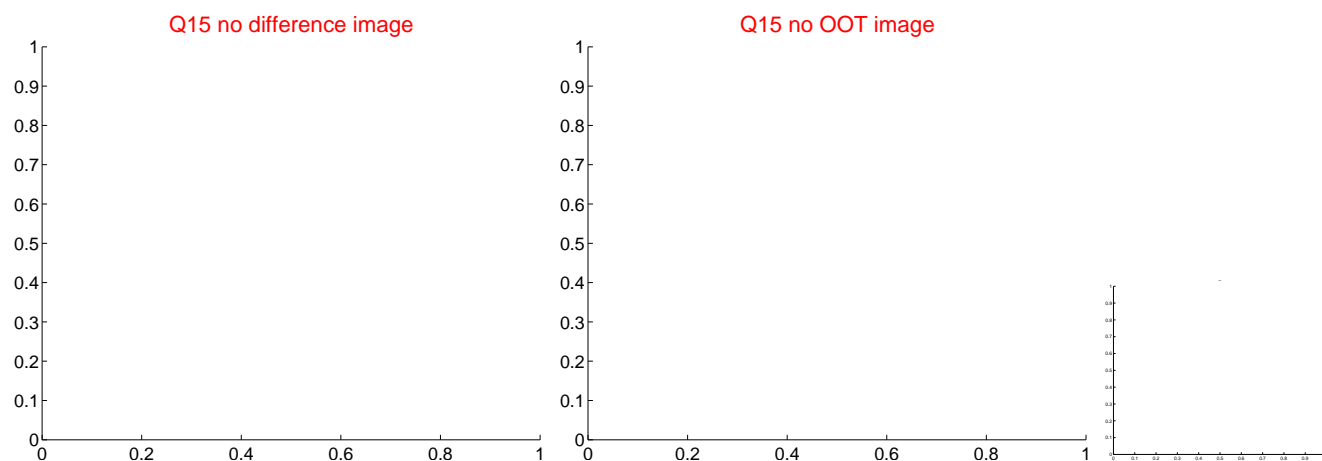
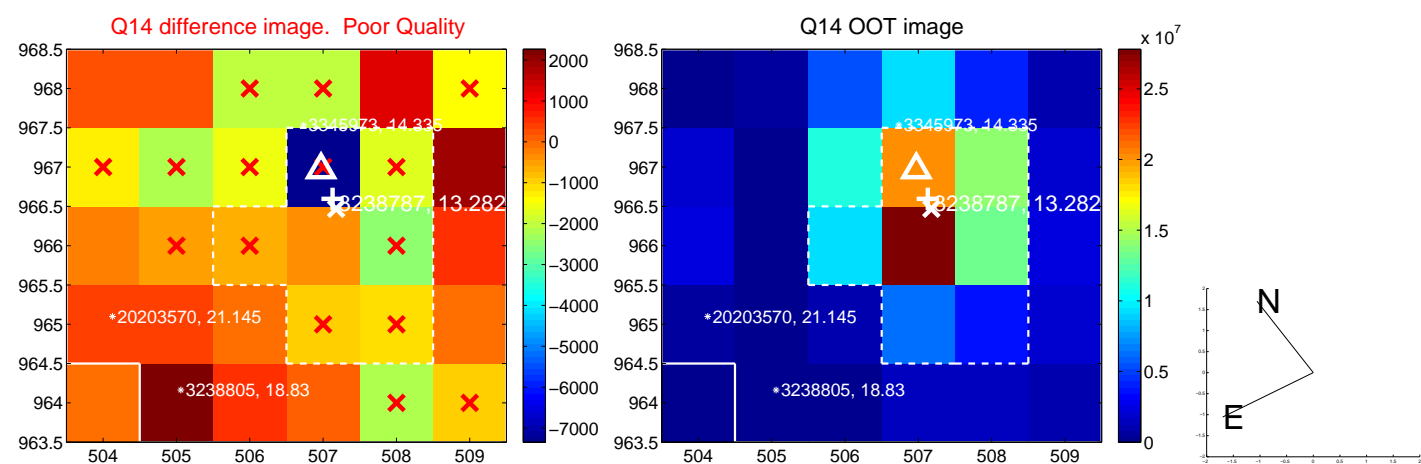
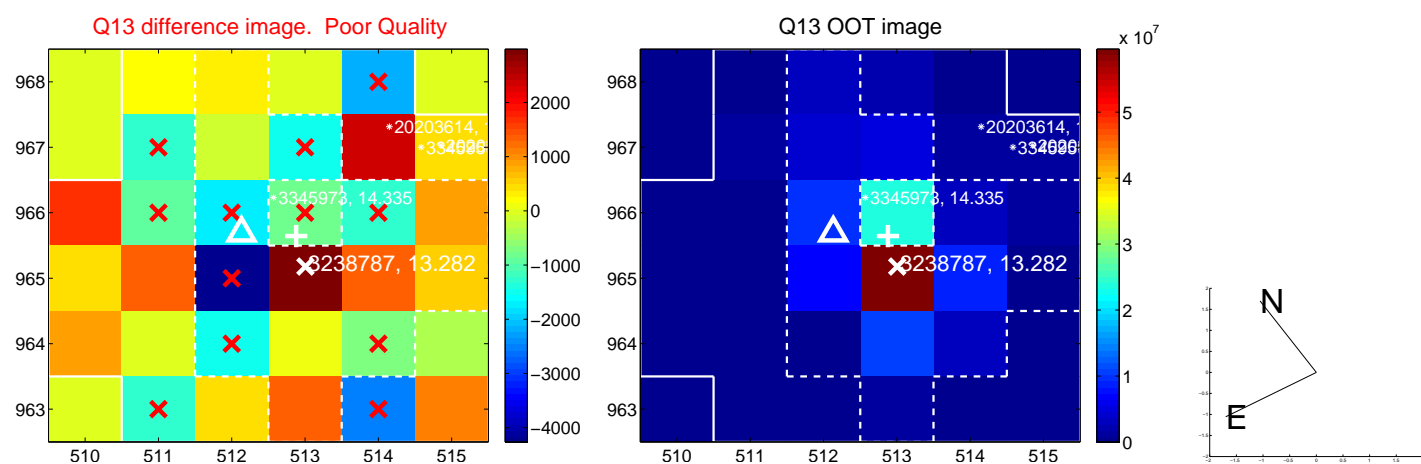
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



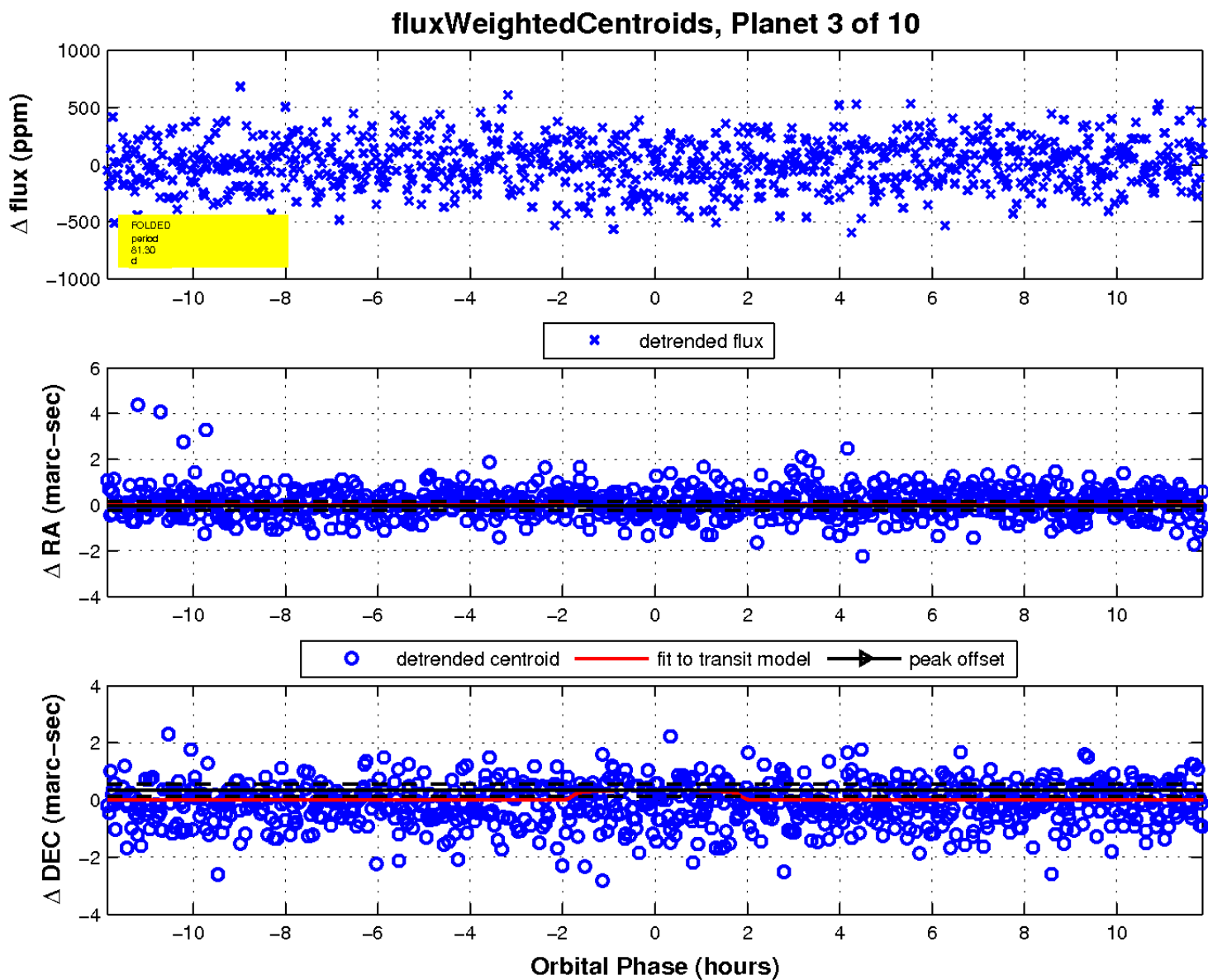
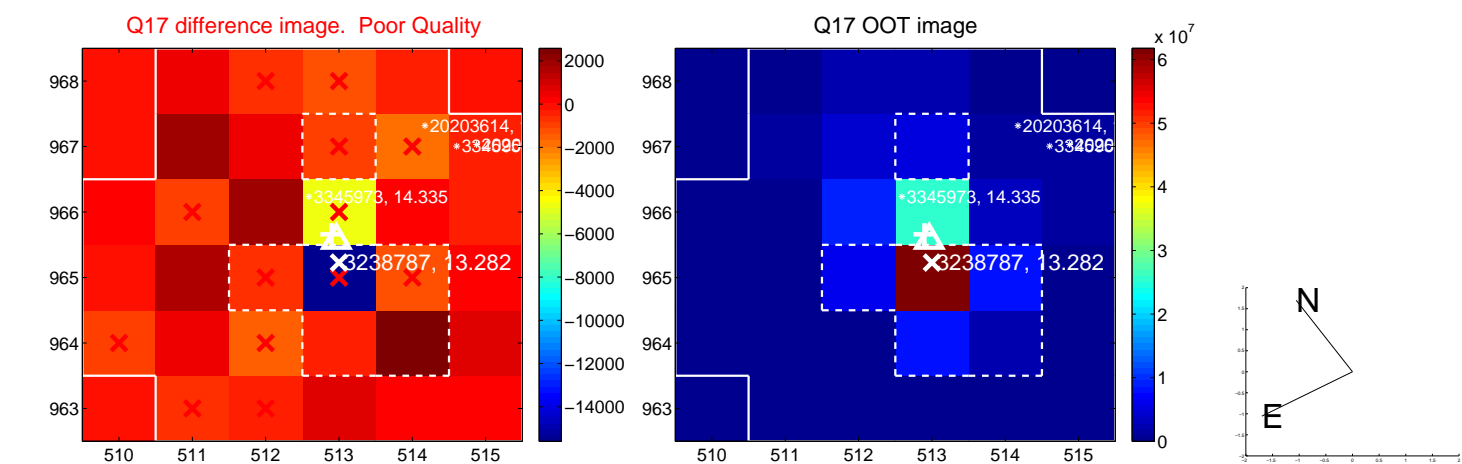
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

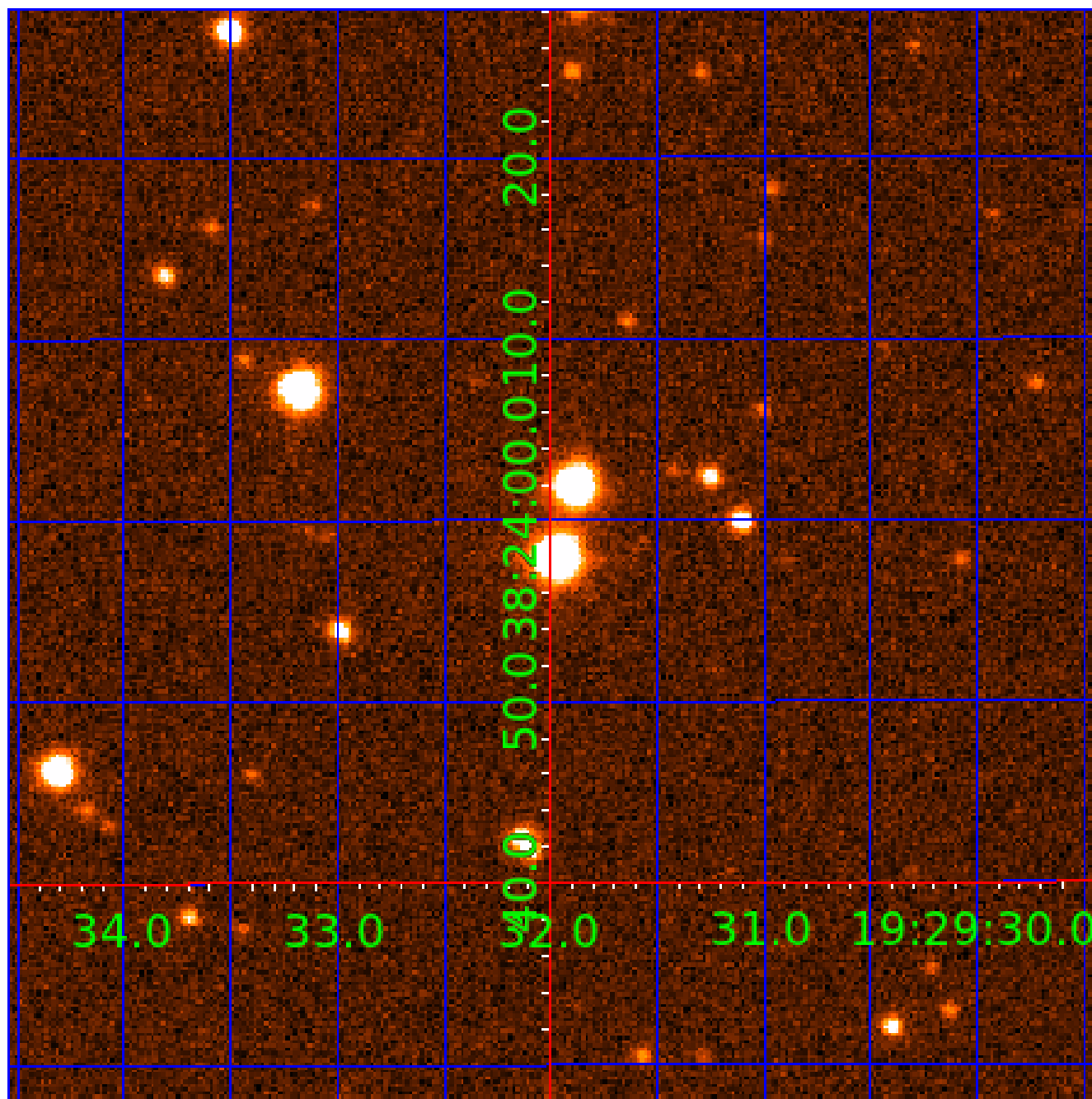


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

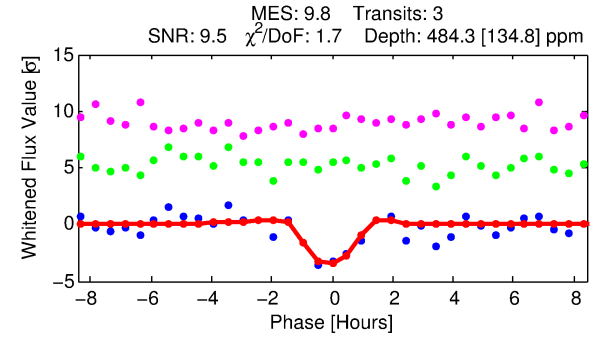
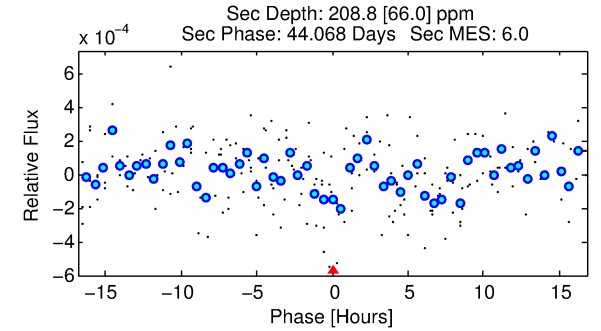
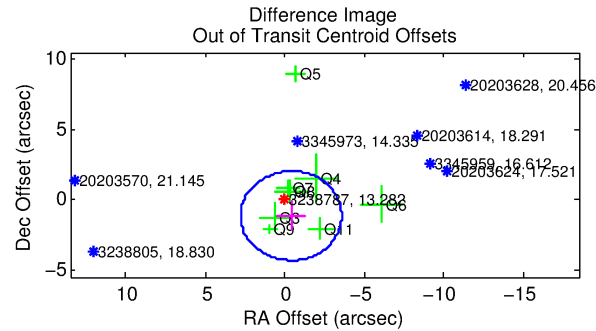
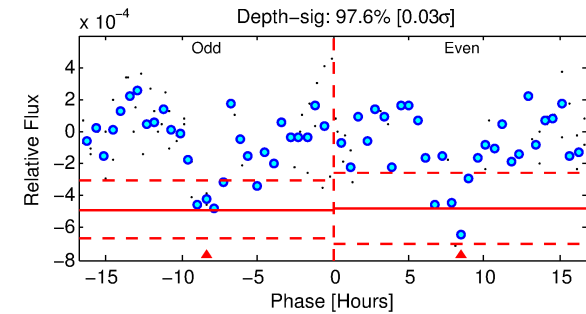
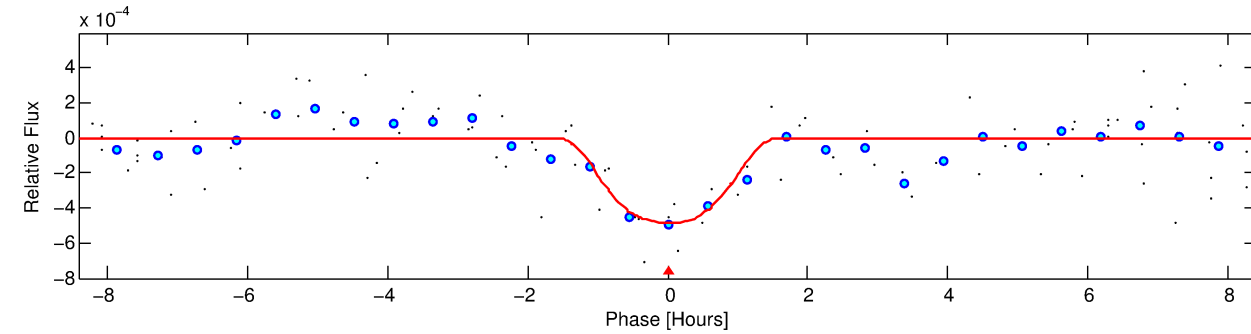
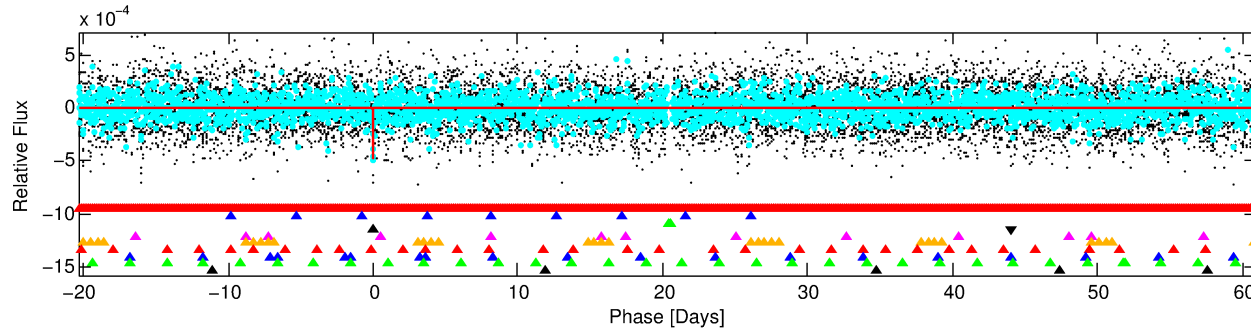
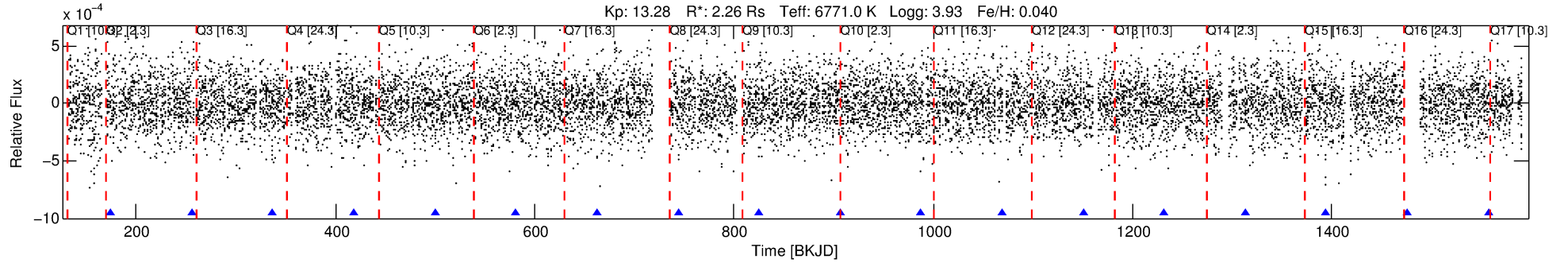
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-04

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 4 of 10 Period: 81.308 d



DV Fit Results:

Period = 81.30822 [0.00091] d
Epoch = 174.7412 [0.0094] BKJD
Rp/R* = 0.0261 [0.0058]
a/R* = 72.65 [33.78]
b = 0.97 [0.03]
Seff = 52.07 [17.70]
Teq = 685 [58] K
Rp = 6.44 [2.07] Re
a = 0.4296 [0.0922] AU
Ag = 510.71 [328.30] [1.55 σ]
Teffp = 5035 [692] K [6.26 σ]

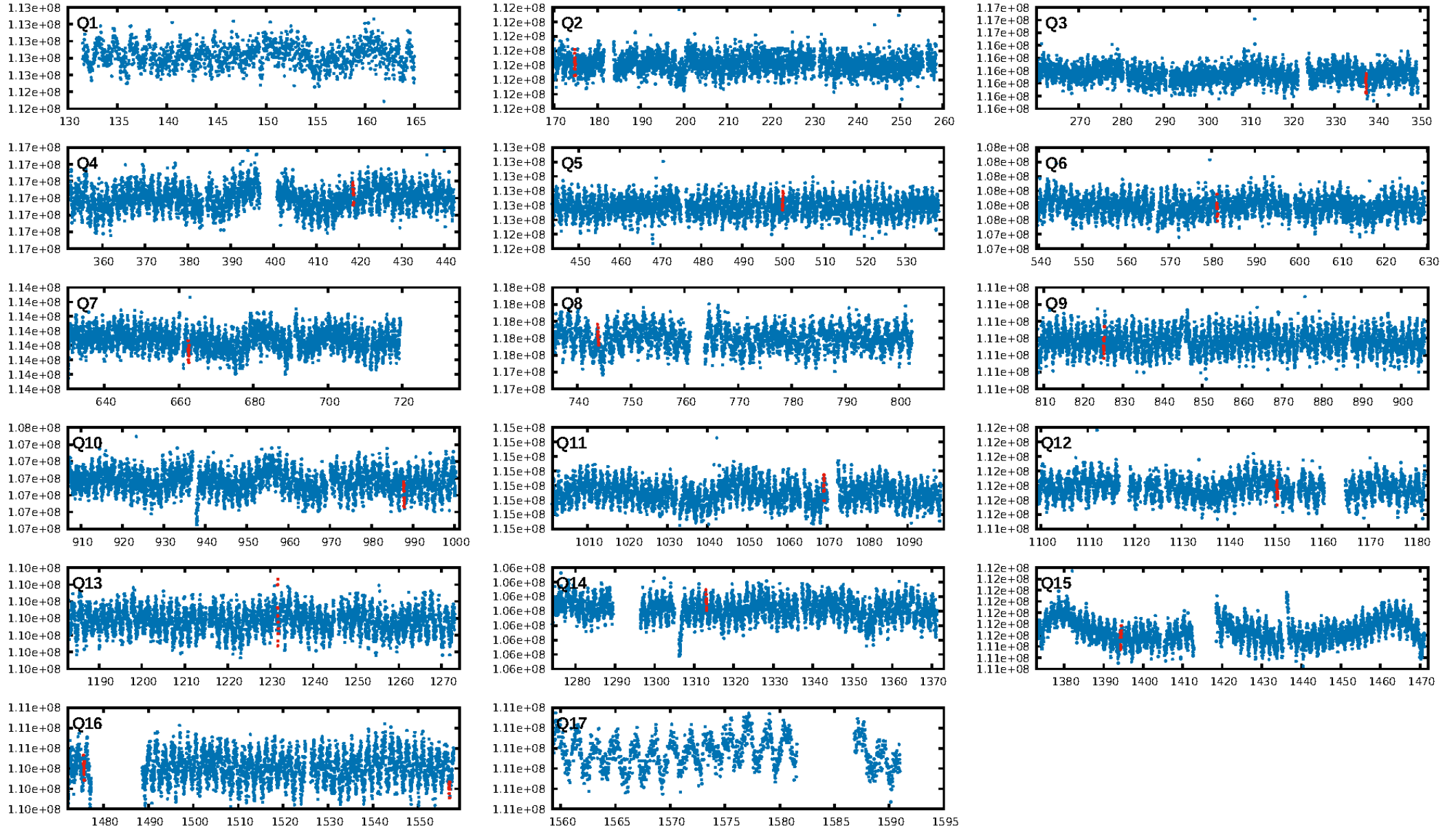
DV Diagnostic Results:

ShortPeriod-sig: 4.2% [0.05 σ]
LongPeriod-sig: 98.7% [2.48 σ]
ModelChiSquare2-sig: 15.7%
ModelChiSquareGof-sig: 78.2%
Bootstrap-pfa: 1.02e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.2103
Centroid-sig: 93.3%
Centroid-so: 0.359 arcsec [0.57 σ]
OotOffset-rm: 1.208 arcsec [1.14 σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-rm: 0.790 arcsec [1.23 σ]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 0.21 [3/14]

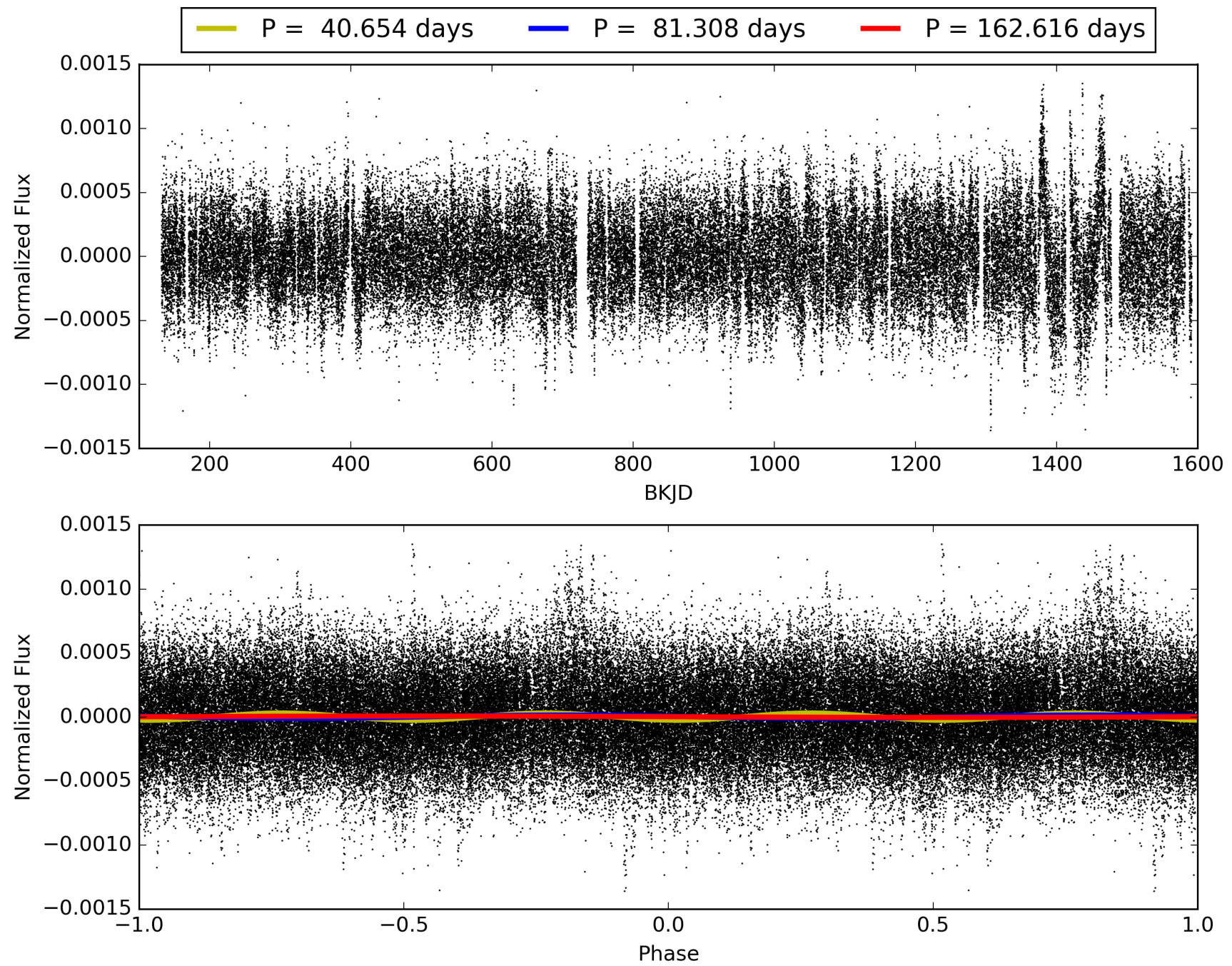
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:16 Z

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

TCE 003238787-04, PDC Light Curves

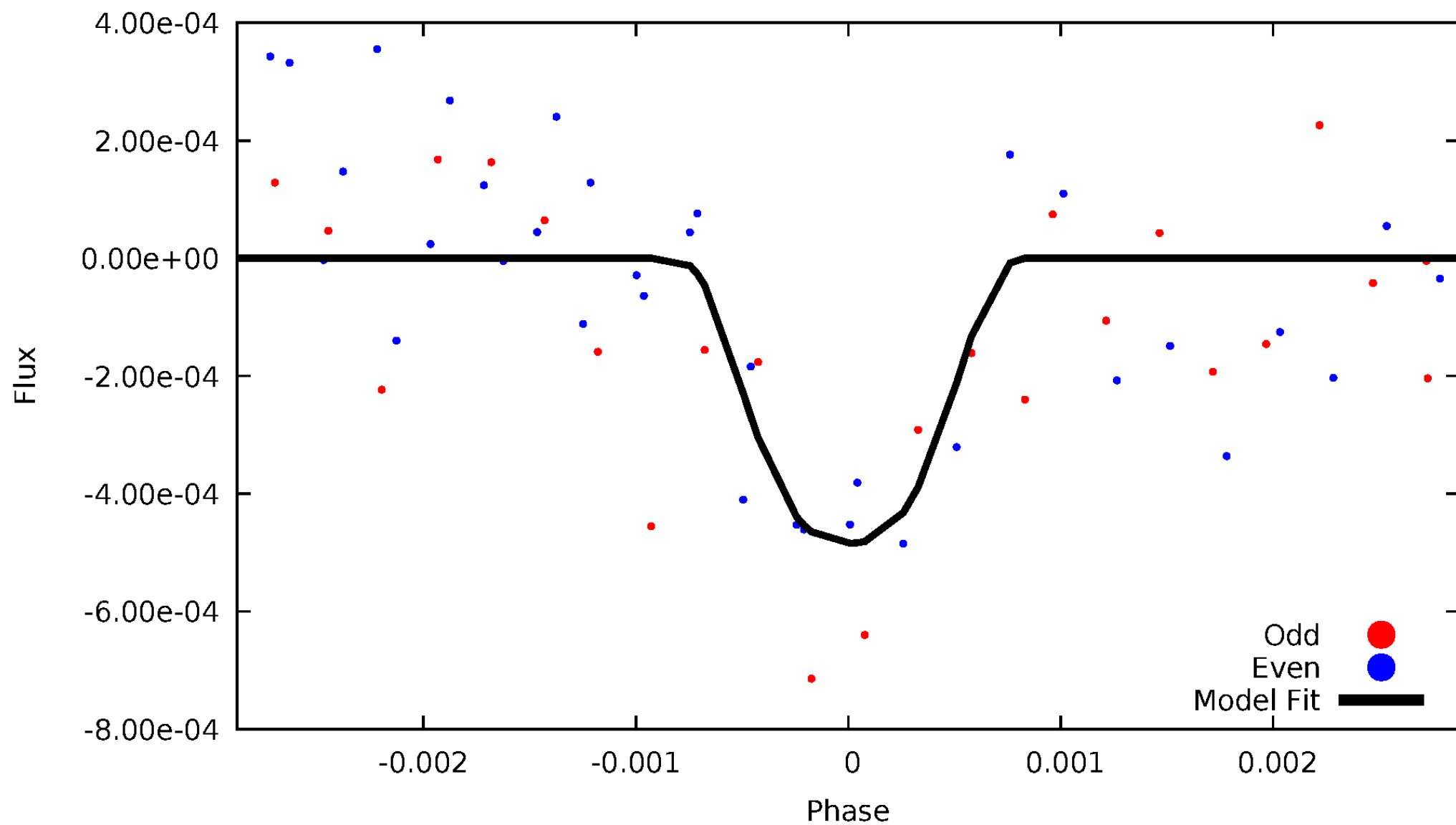


TCE 003238787-04



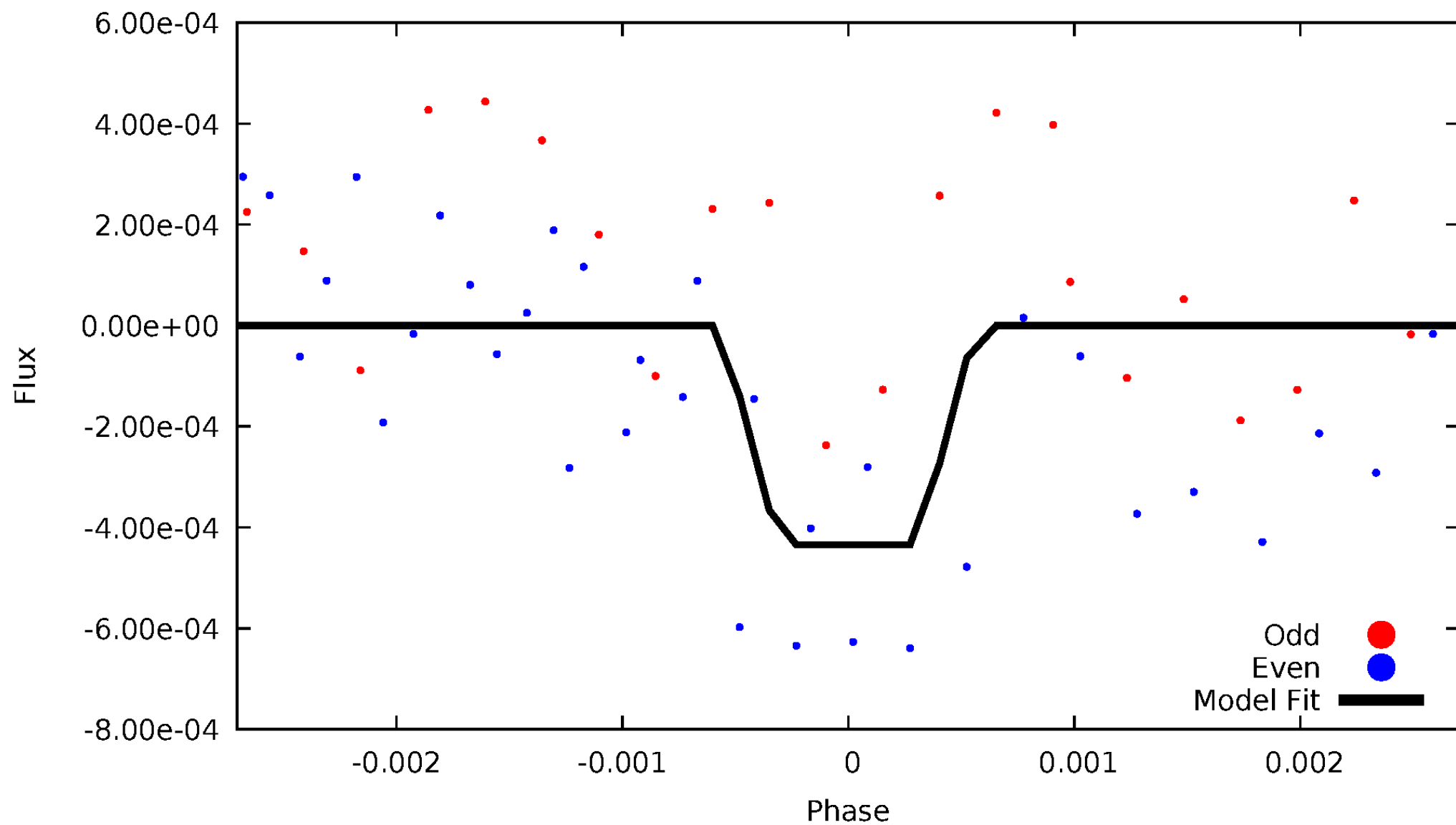
DV Odd/Even

TCE 003238787-04



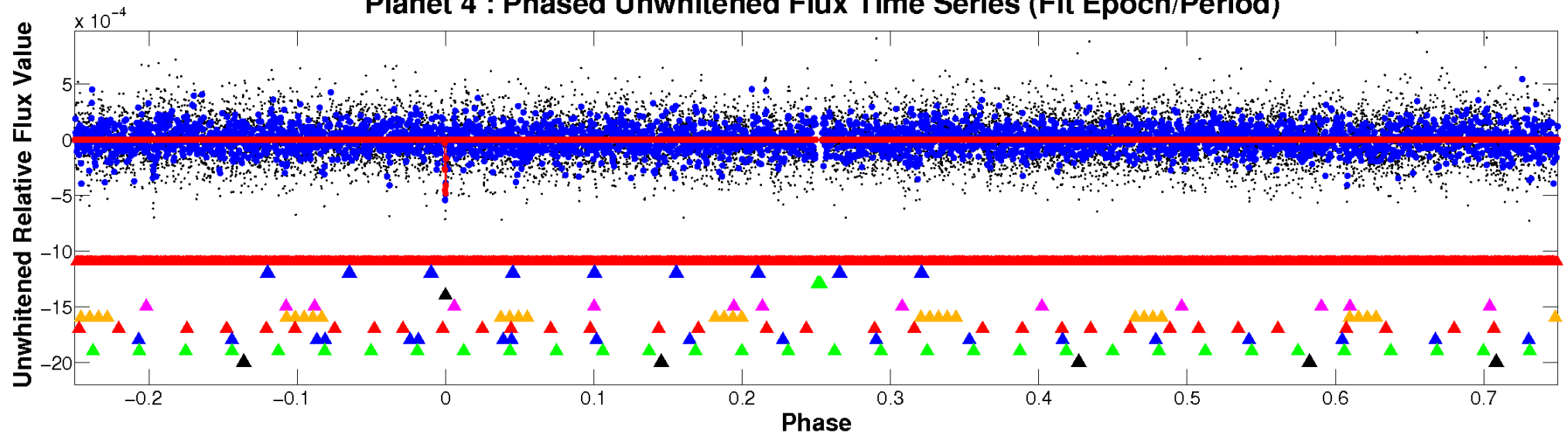
ALT Odd/Even

TCE 003238787-04

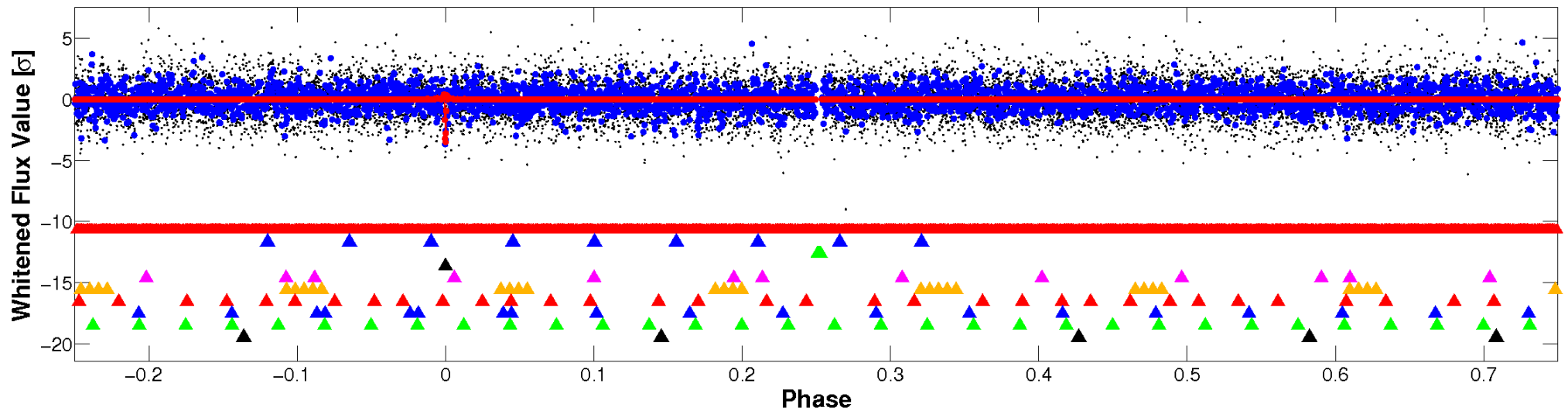


Non-Whitened Vs. Whitened Light Curve

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

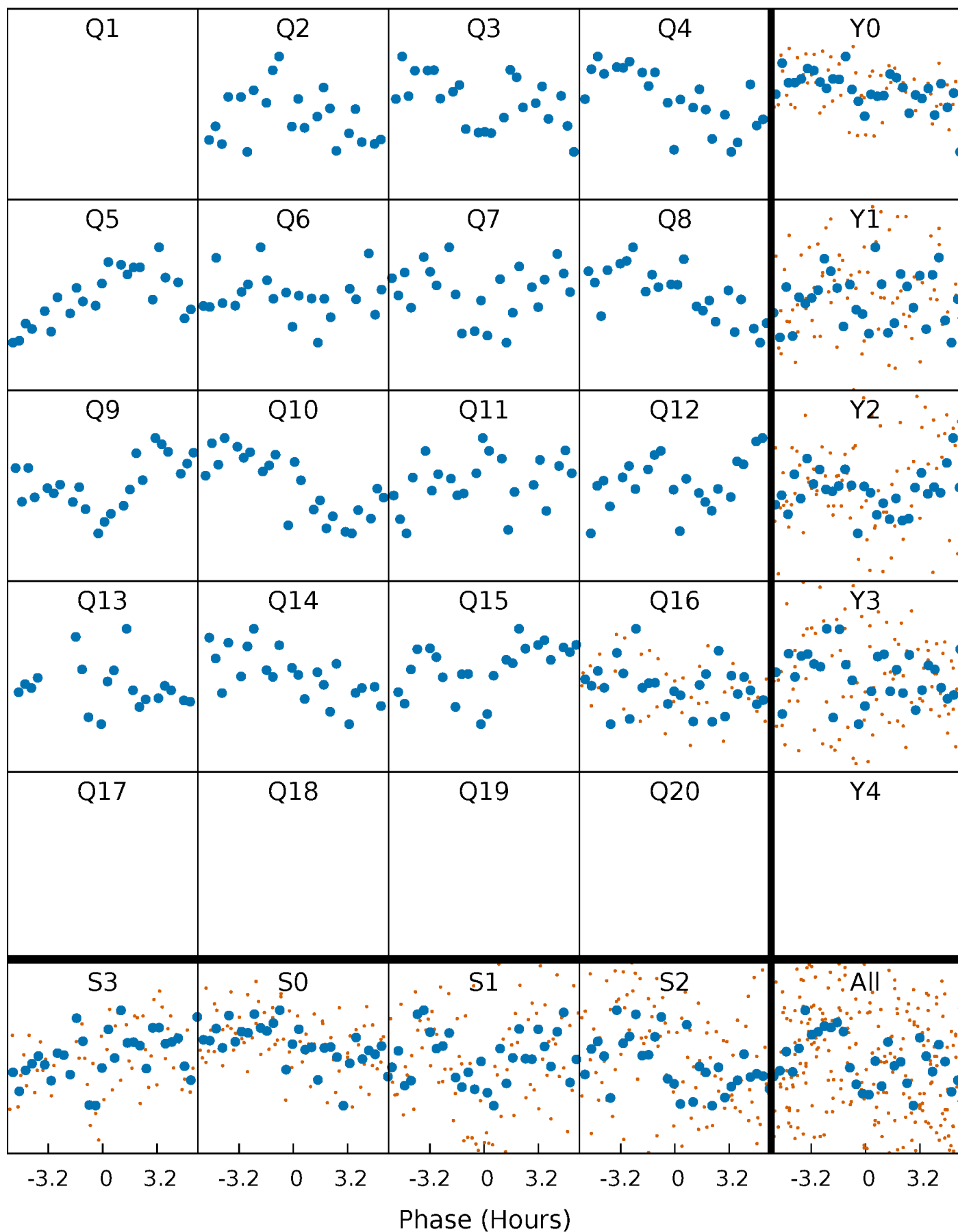


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



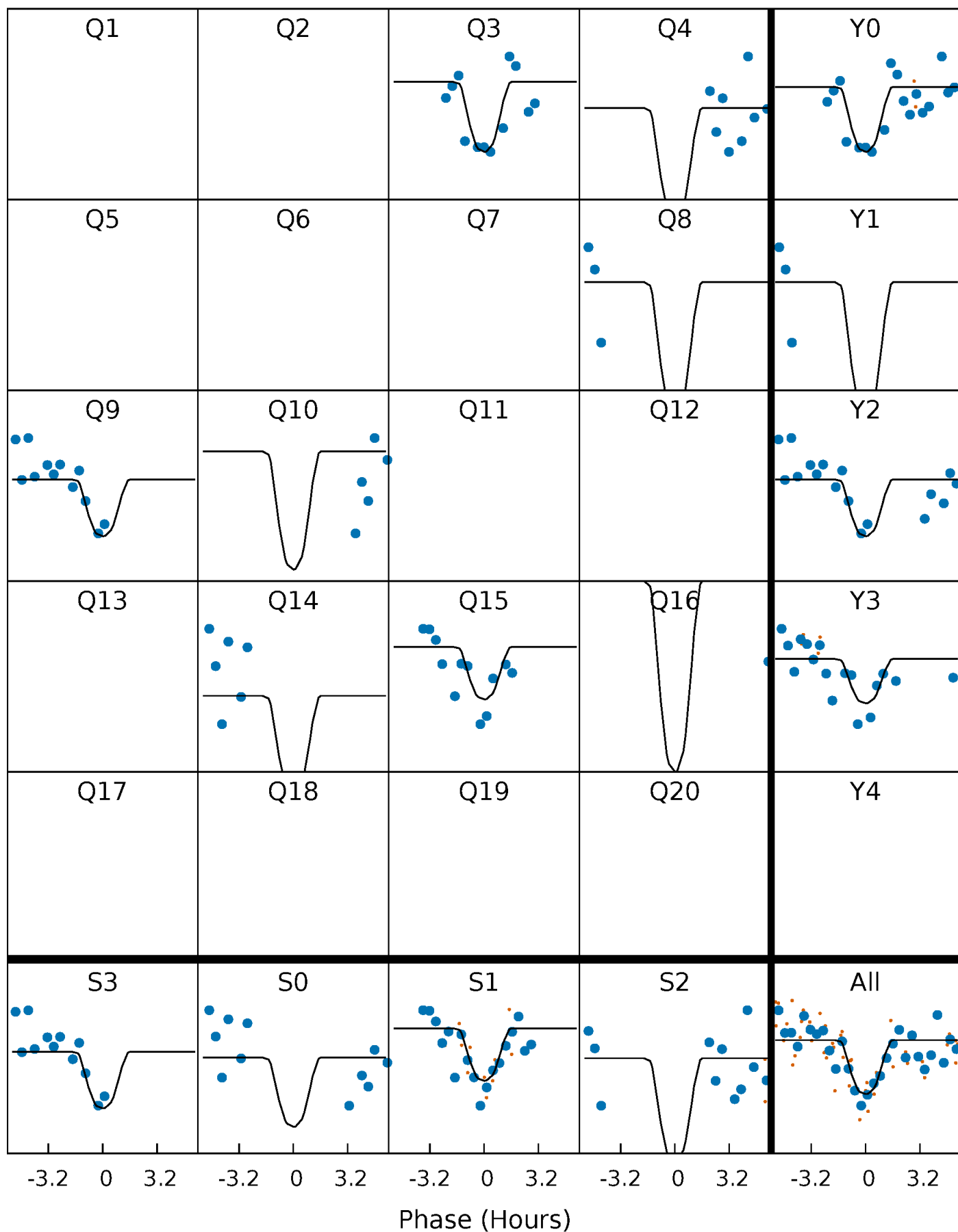
PDC Quarter-Phased Transit Curves

TCE 003238787-04 P= 81.308222 Days $T_0=174.741176$ (BKJD)



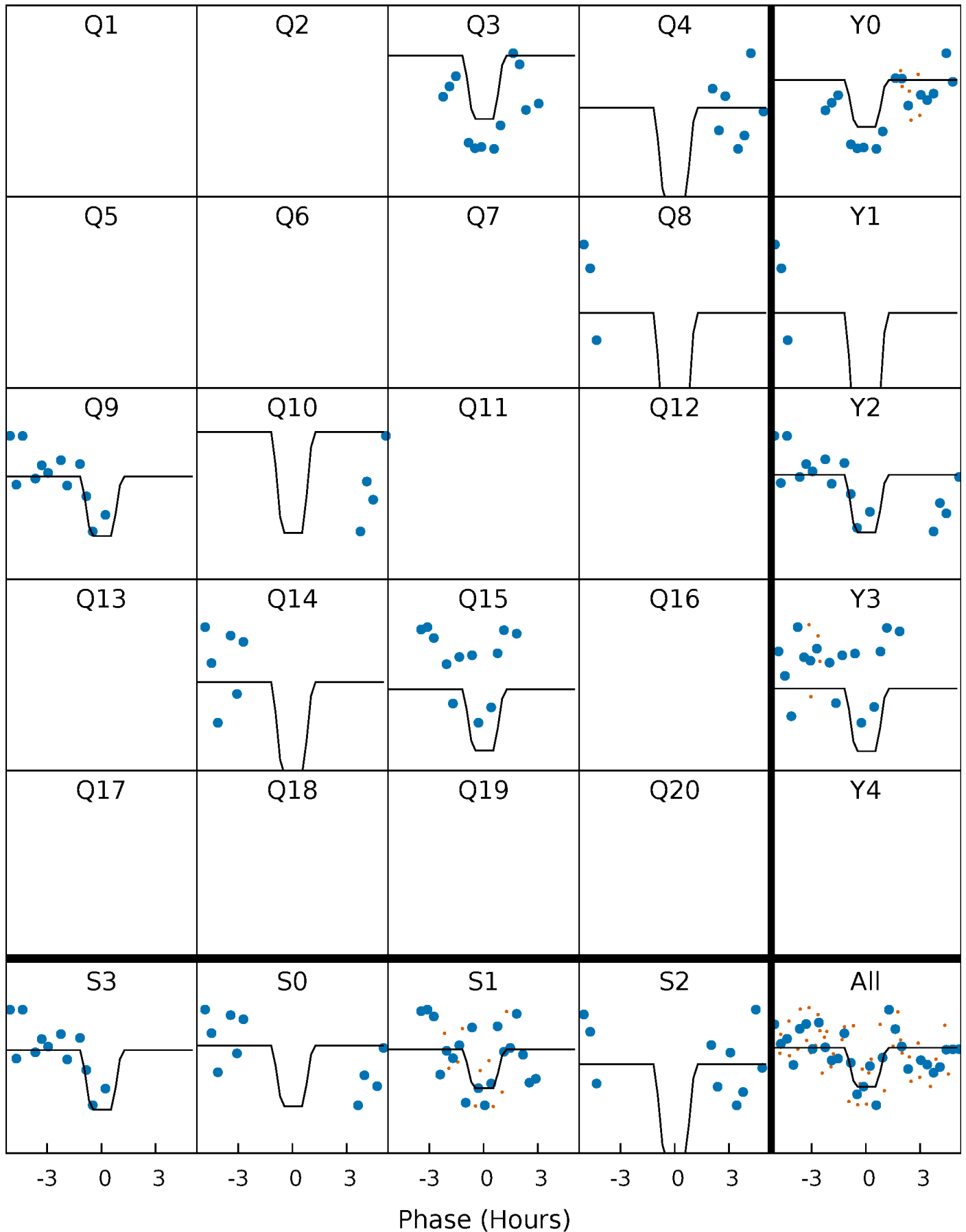
DV Quarter-Phased Transit Curves

TCE 003238787-04 P= 81.308222 Days $T_0=174.741176$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

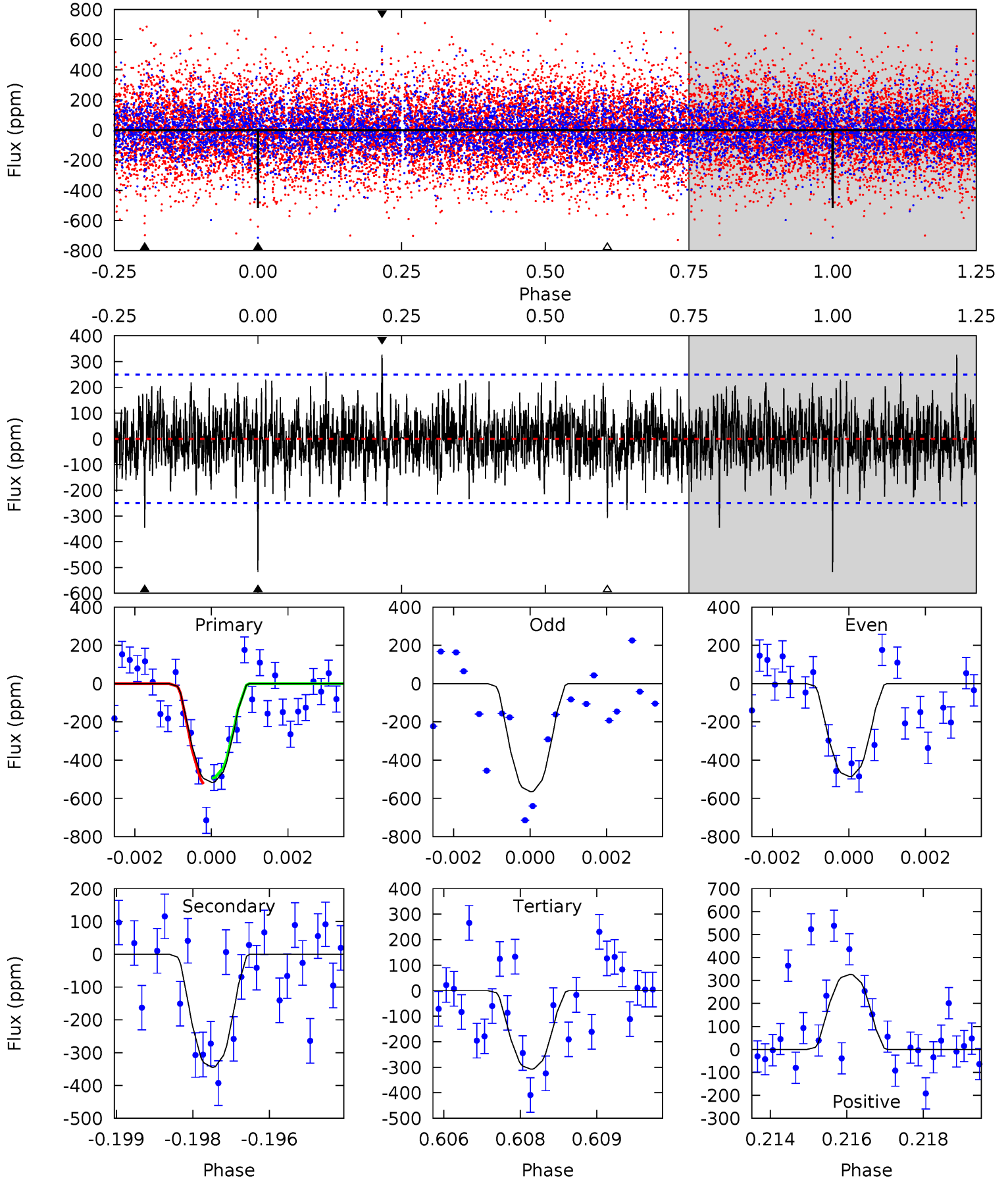
TCE 003238787-04 $P = 81.307842$ Days $T_0 = 174.740805$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-04, P = 81.308222 Days, E = 93.432954 Days

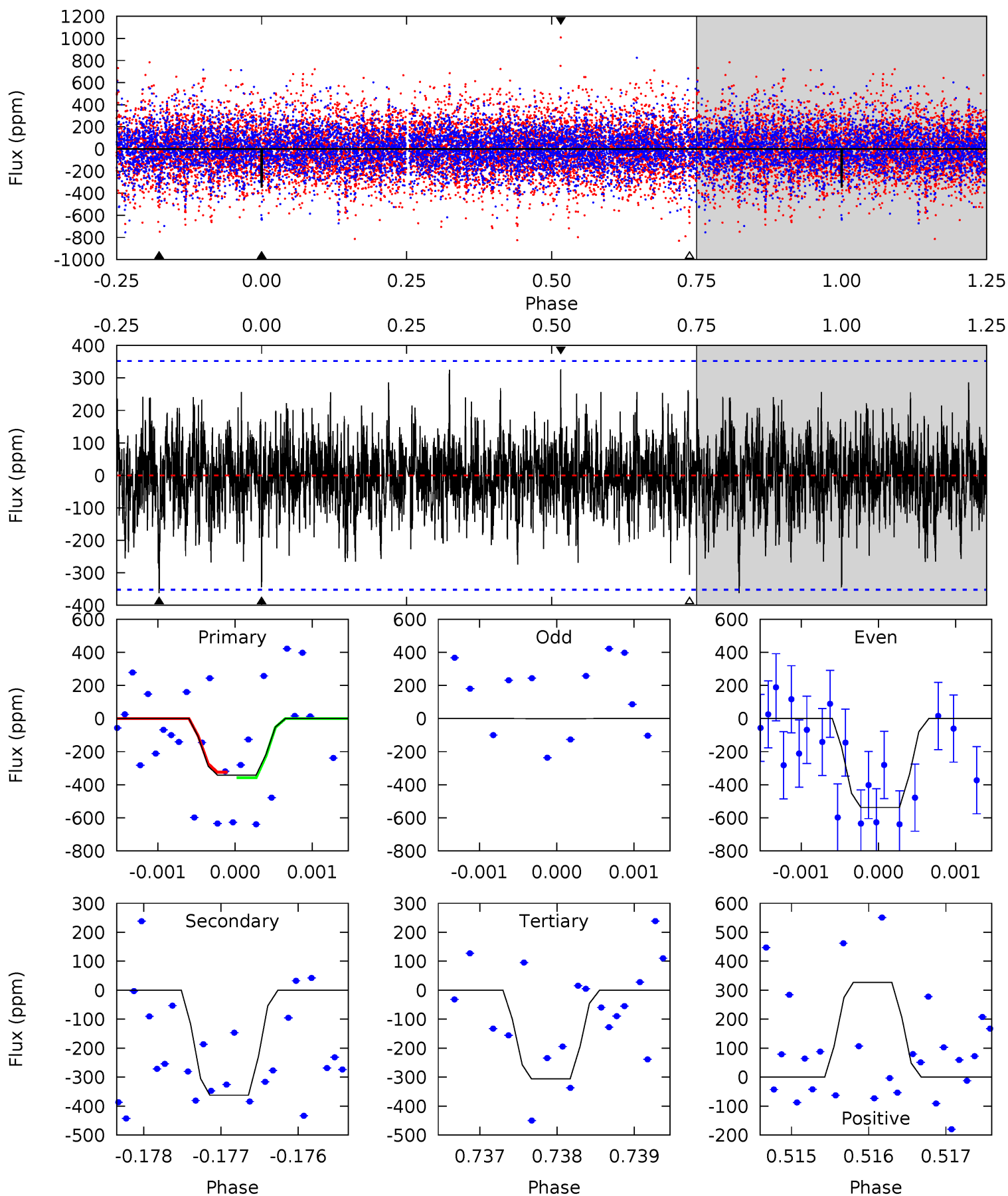
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	7.40	6.60	7.01	5.36	3.14	1.65	4.48	4.08	0.80	0.39	0.85	0.95	0.39	0.32



Alt Model-Shift Uniqueness Test

003238787-04, P = 81.307842 Days, E = 93.432963 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.29	5.61	4.74	5.05	5.45	3.29	1.35	0.56	0.24	0.87	0.55	4.07	1.03	0.47	0.26



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-345 ± 47	$6.30^{+1.71}_{-1.50}$	957^{+47}_{-58}	5703^{+786}_{-544}	860^{+680}_{-330}
Alt.	-362 ± 65	$5.05^{+1.48}_{-1.54}$	952^{+47}_{-57}	6442^{+1414}_{-768}	1444^{+1558}_{-604}

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

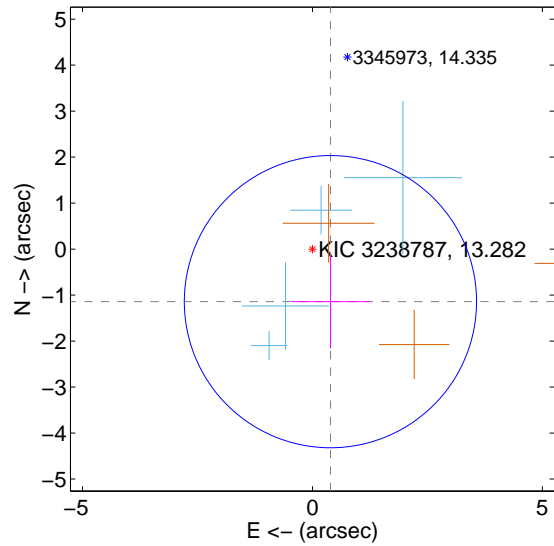
Supplemental centroid analysis for 003238787-04. Kepler magnitude: 13.28. Transit SNR 9.54

There are 4 quarters with good PRF difference image offsets

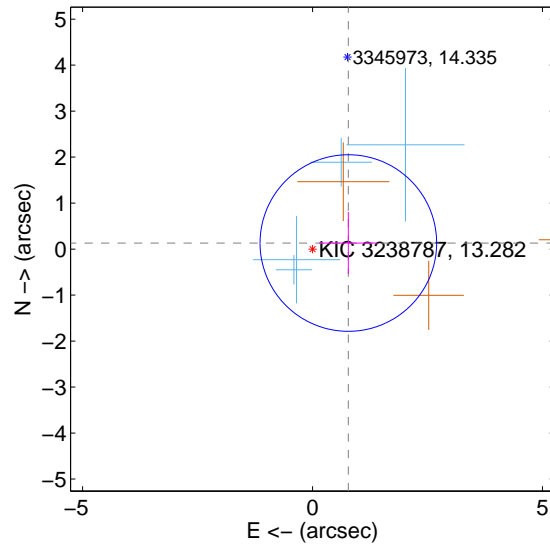
The direct PRF centroid is offset from the target star catalog position by about 1.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.208 ± 1.059	1.14	-0.391 ± 0.856	-1.143 ± 1.014
PRF-fit source offset from KIC position	0.790 ± 0.640	1.23	-0.779 ± 0.639	0.132 ± 0.673
photometric centroid source offset	0.36 ± 0.63	0.57	0.02 ± 0.55	0.36 ± 0.63

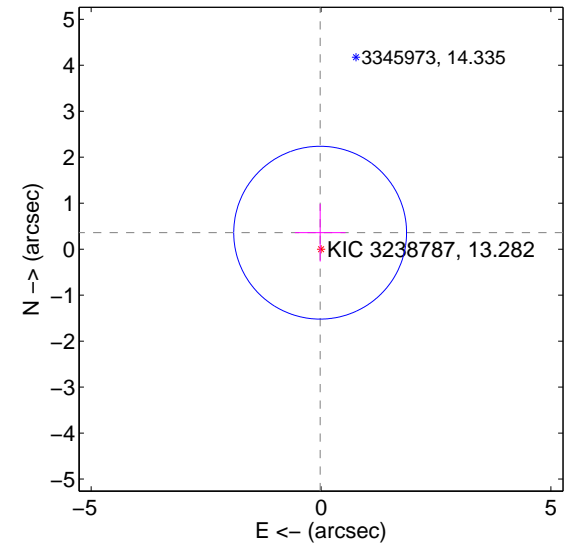
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

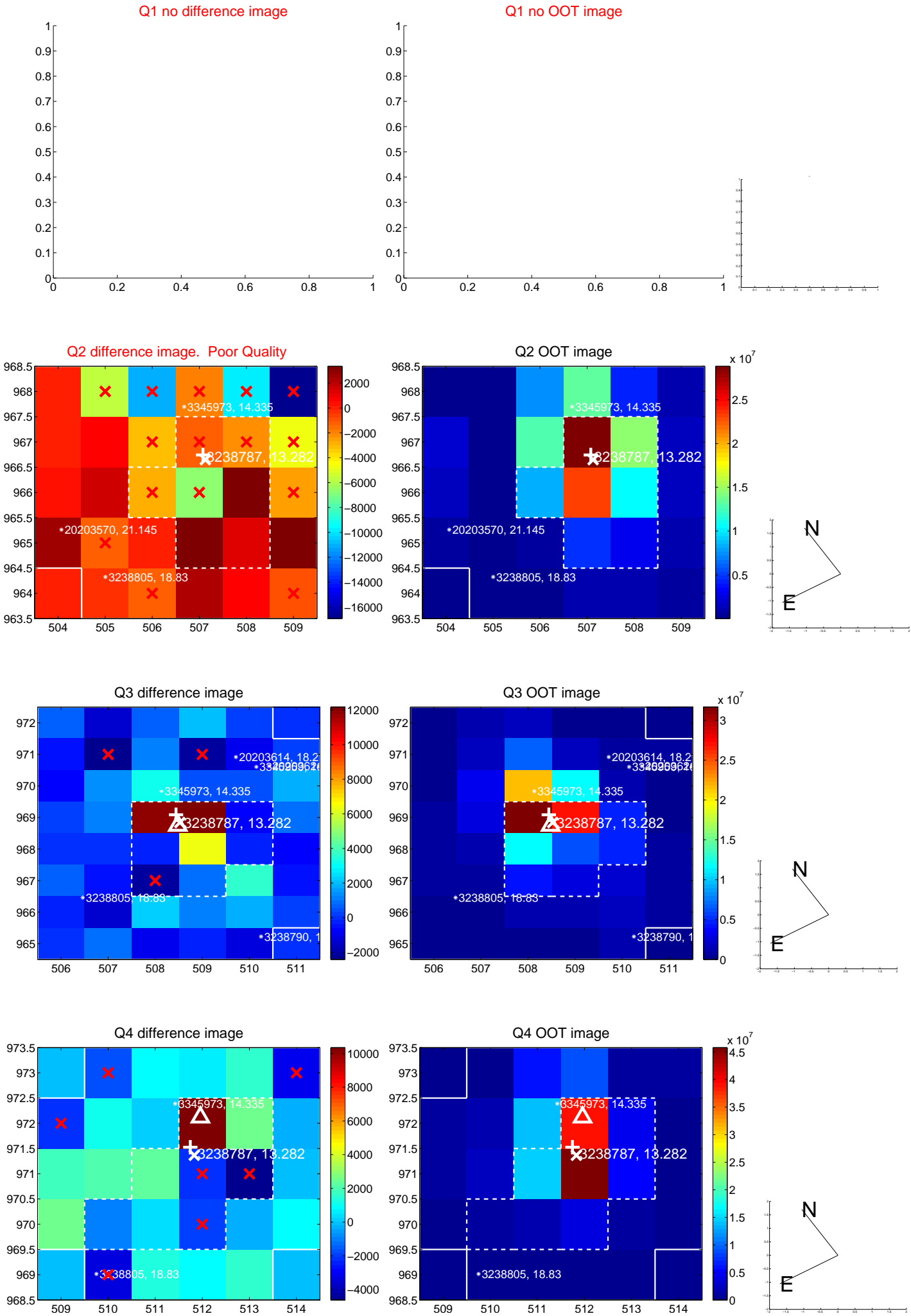


offset from photometric centroids

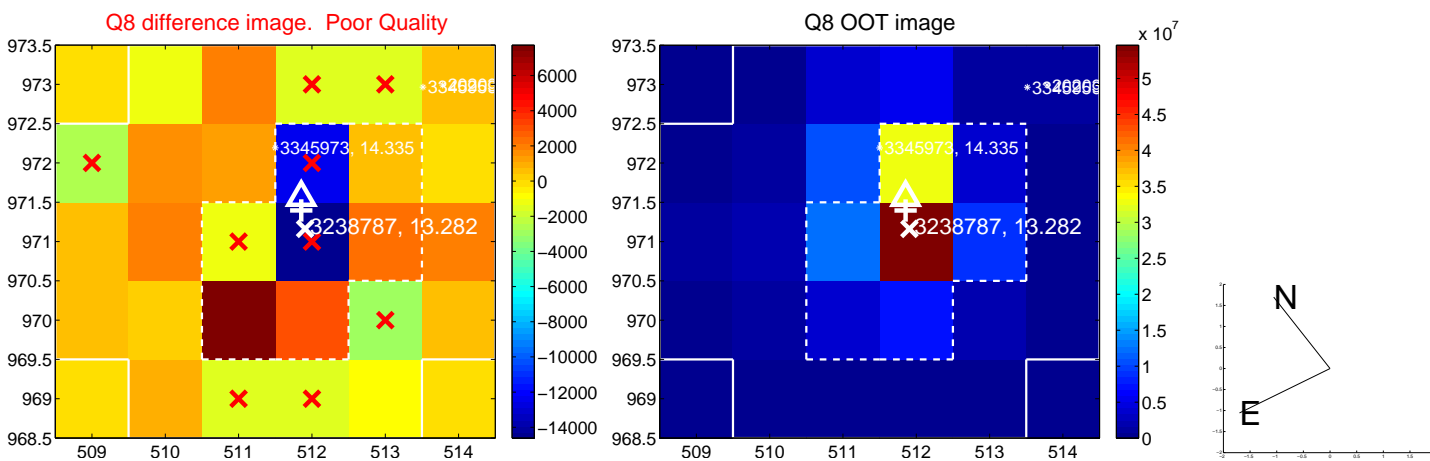
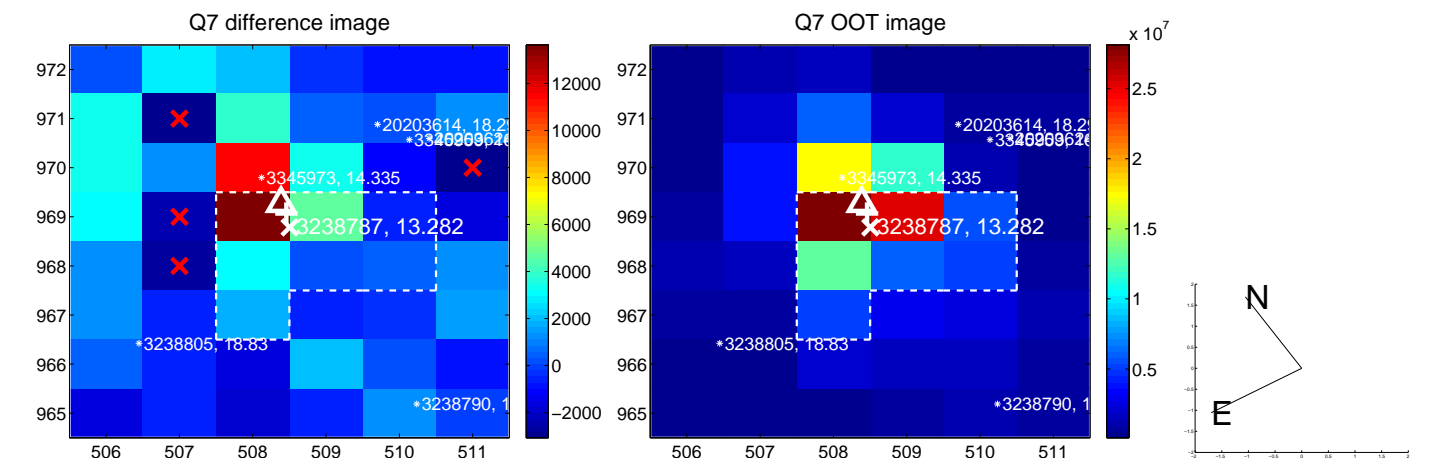
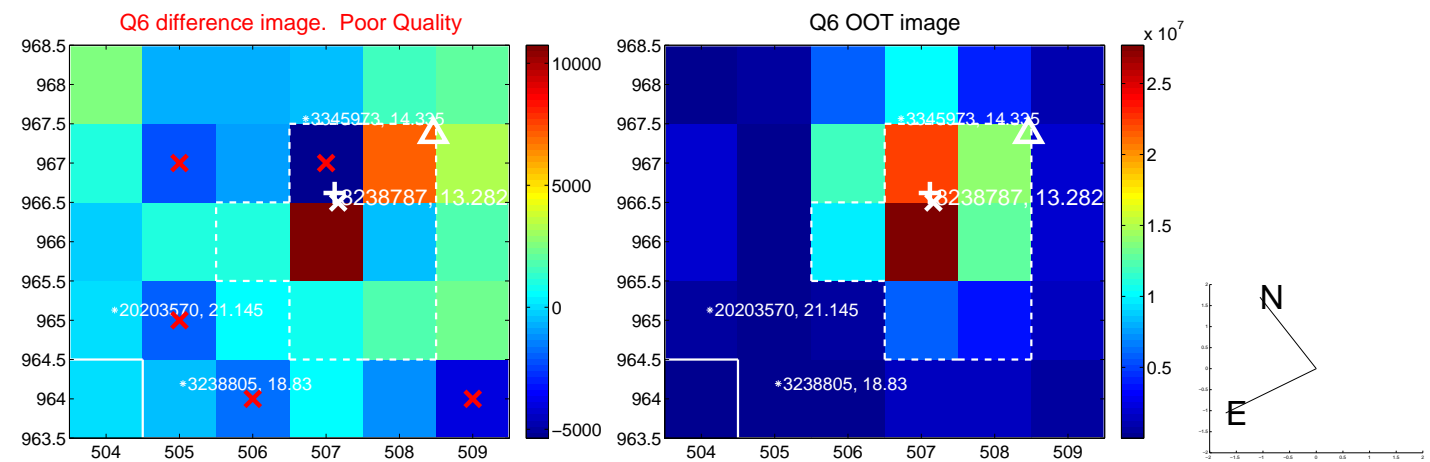
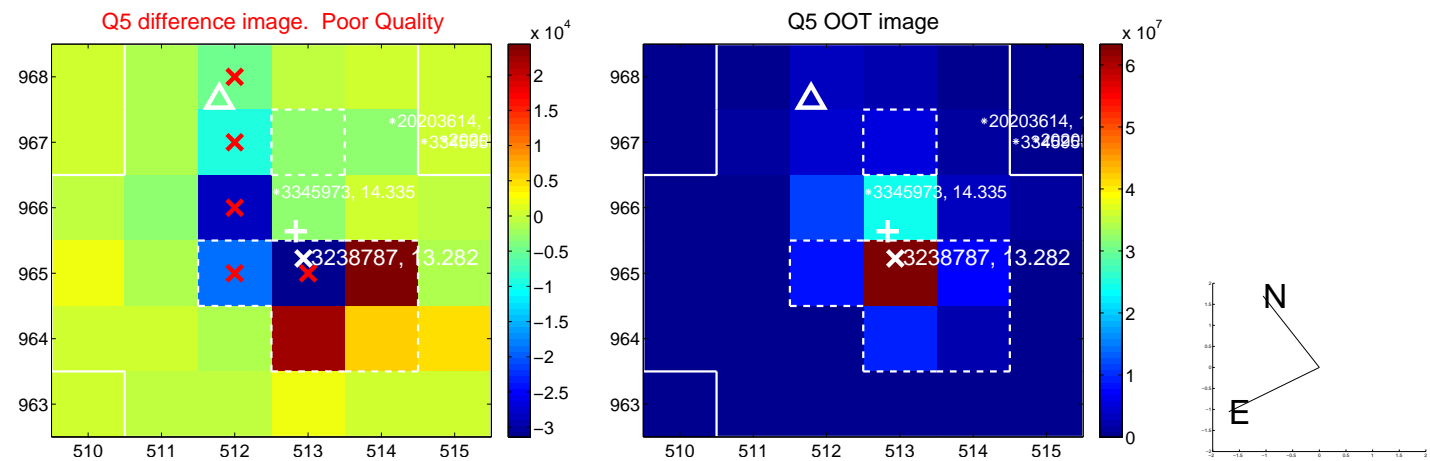


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

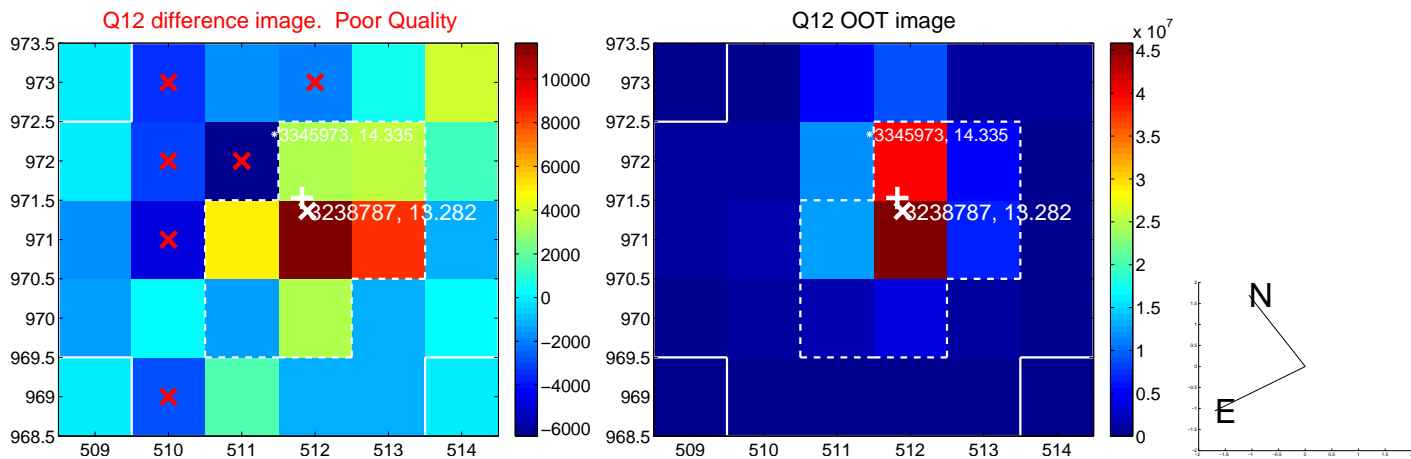
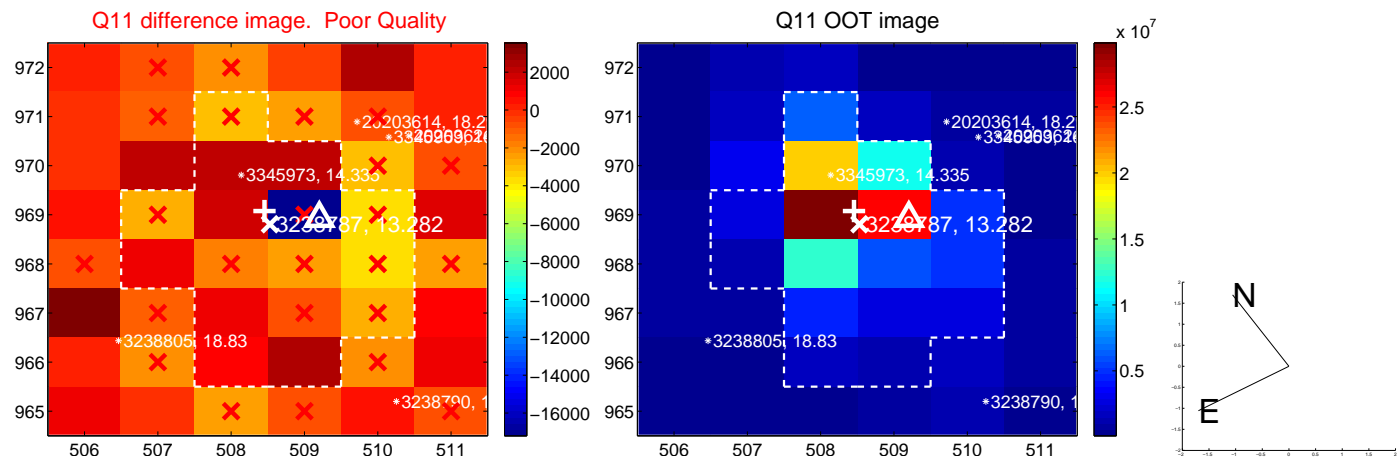
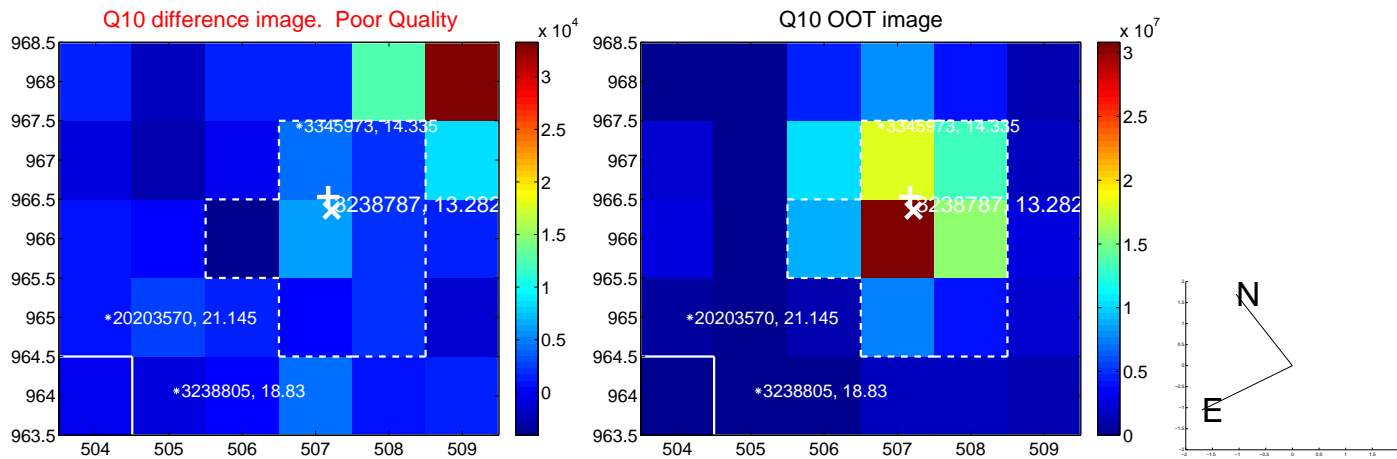
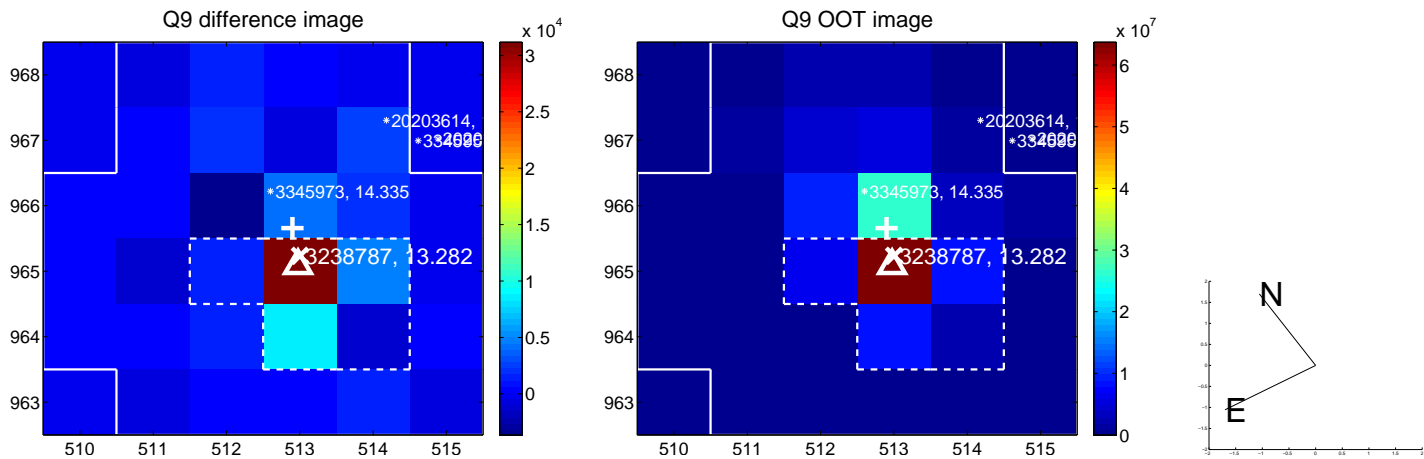
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



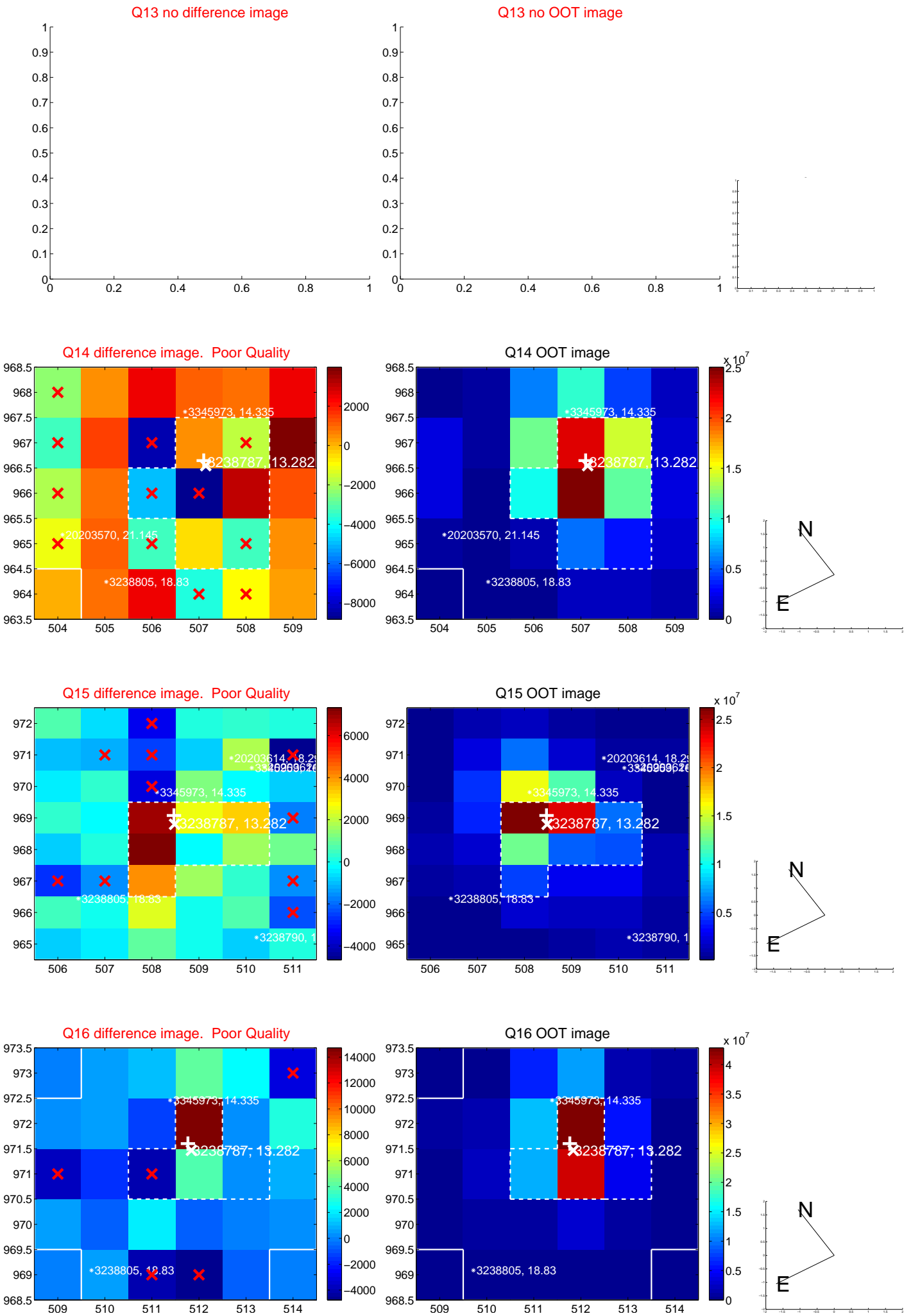
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



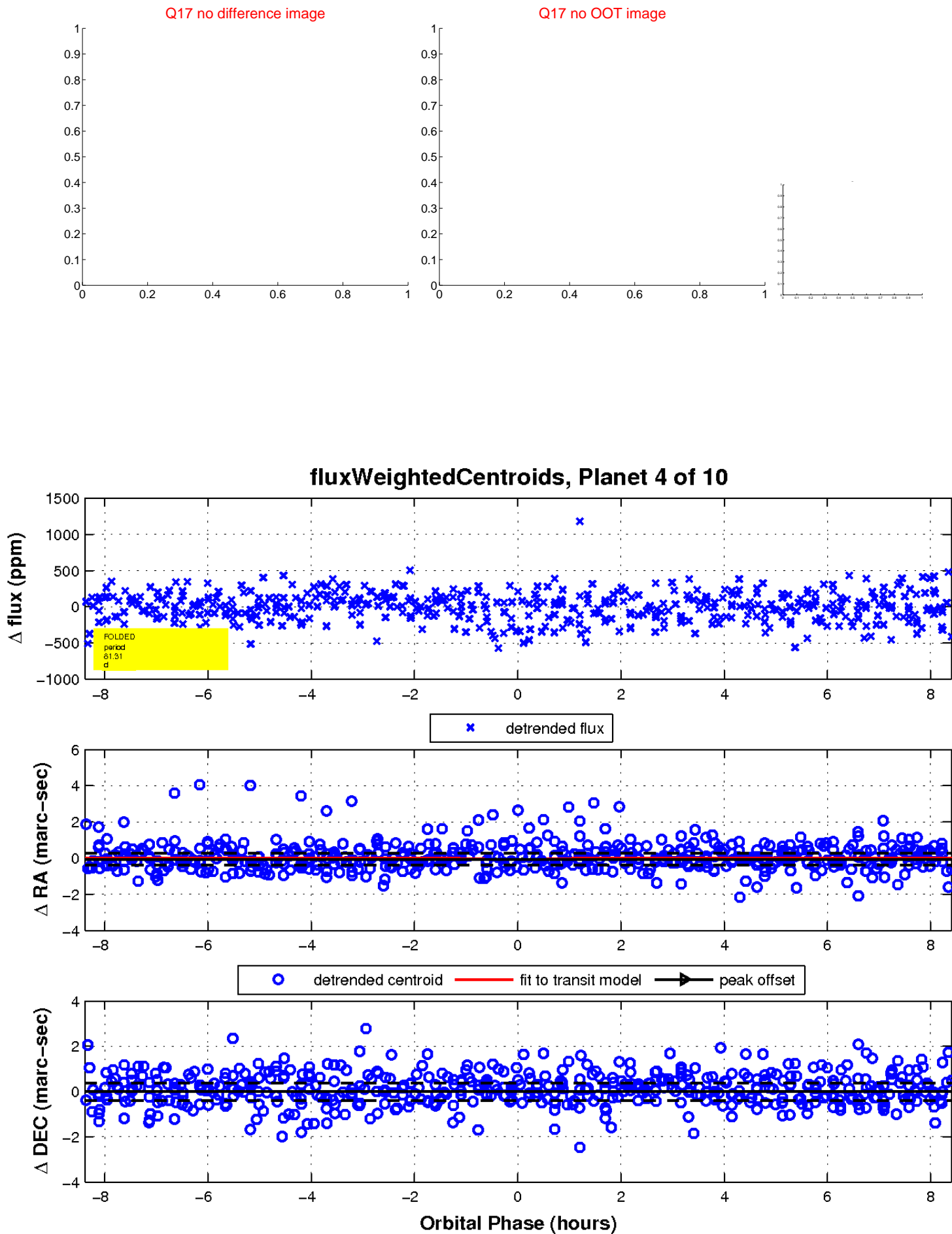
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

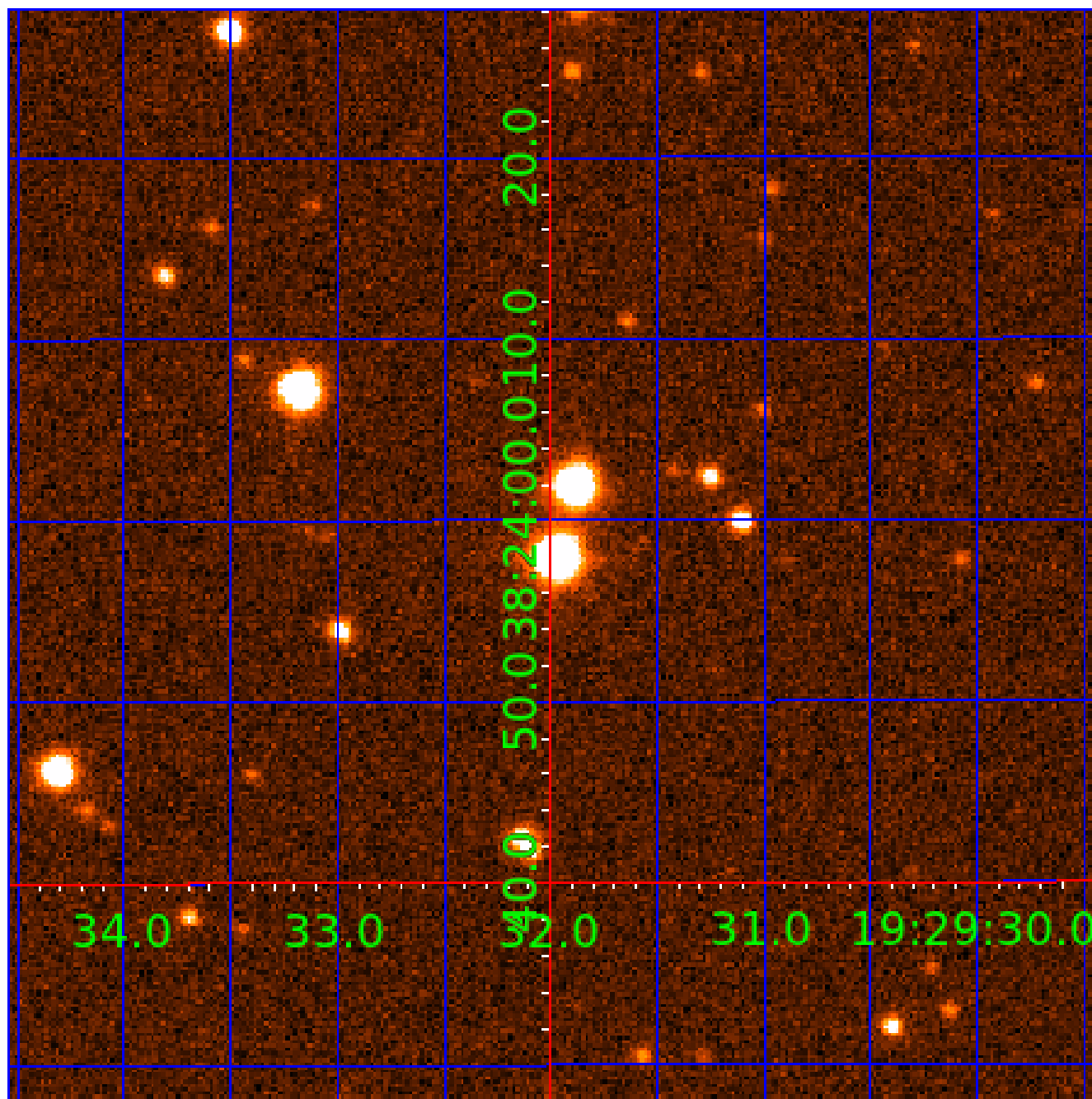


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003238787

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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

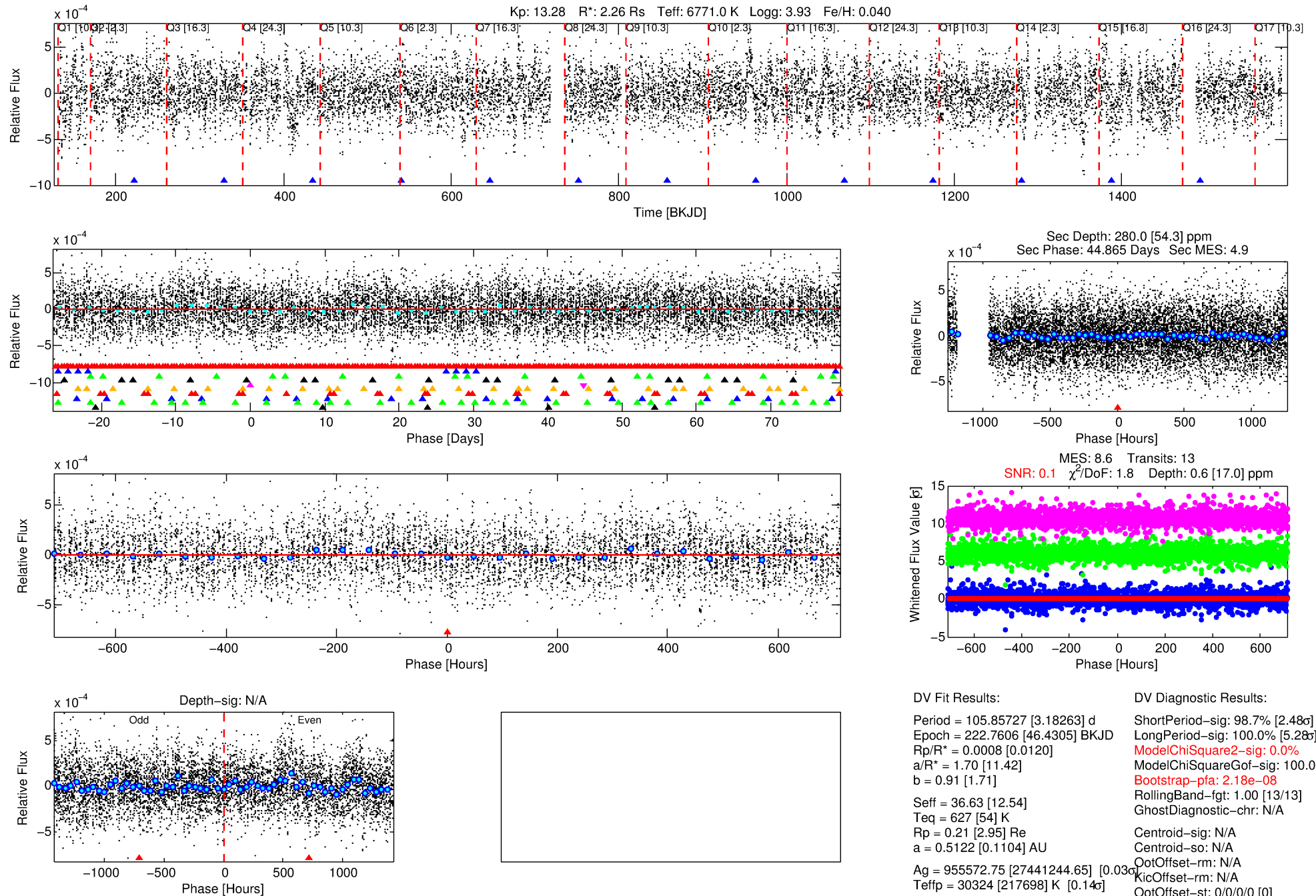
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-05

No Significant Match Found

DV One-Page Summary

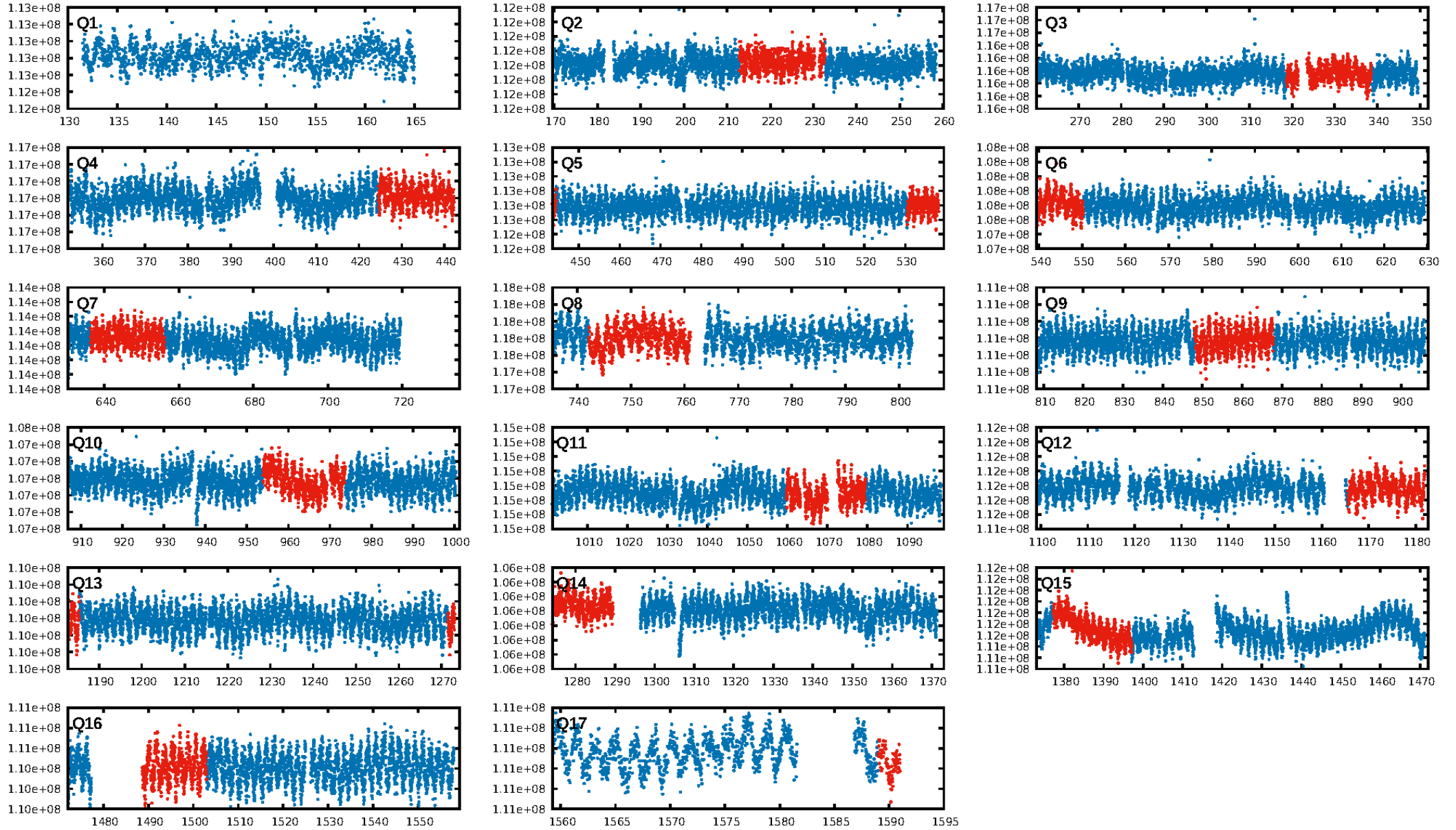
KIC: 3238787 Candidate: 5 of 10 Period: 105.857 d



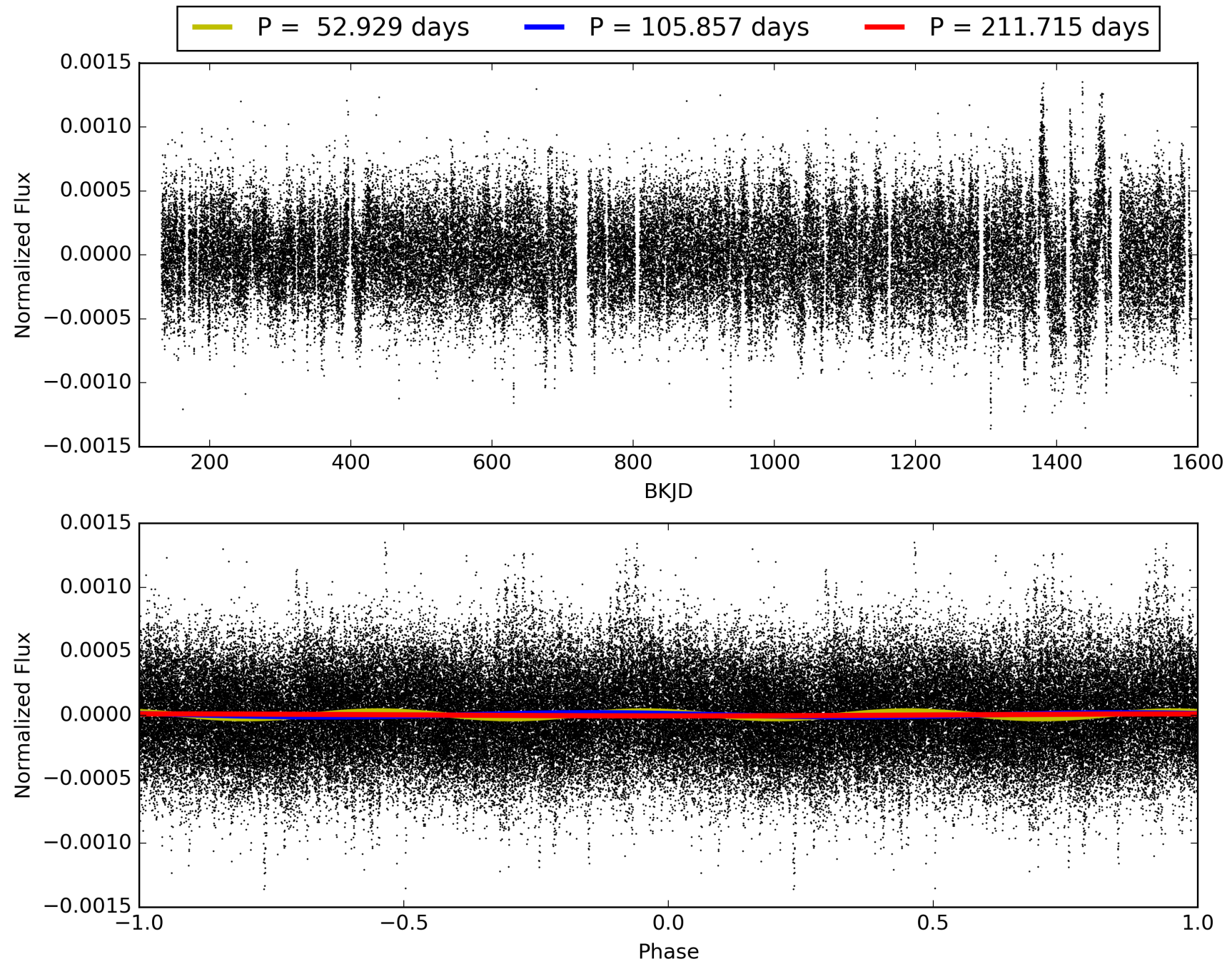
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:32 Z

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

TCE 003238787-05, PDC Light Curves

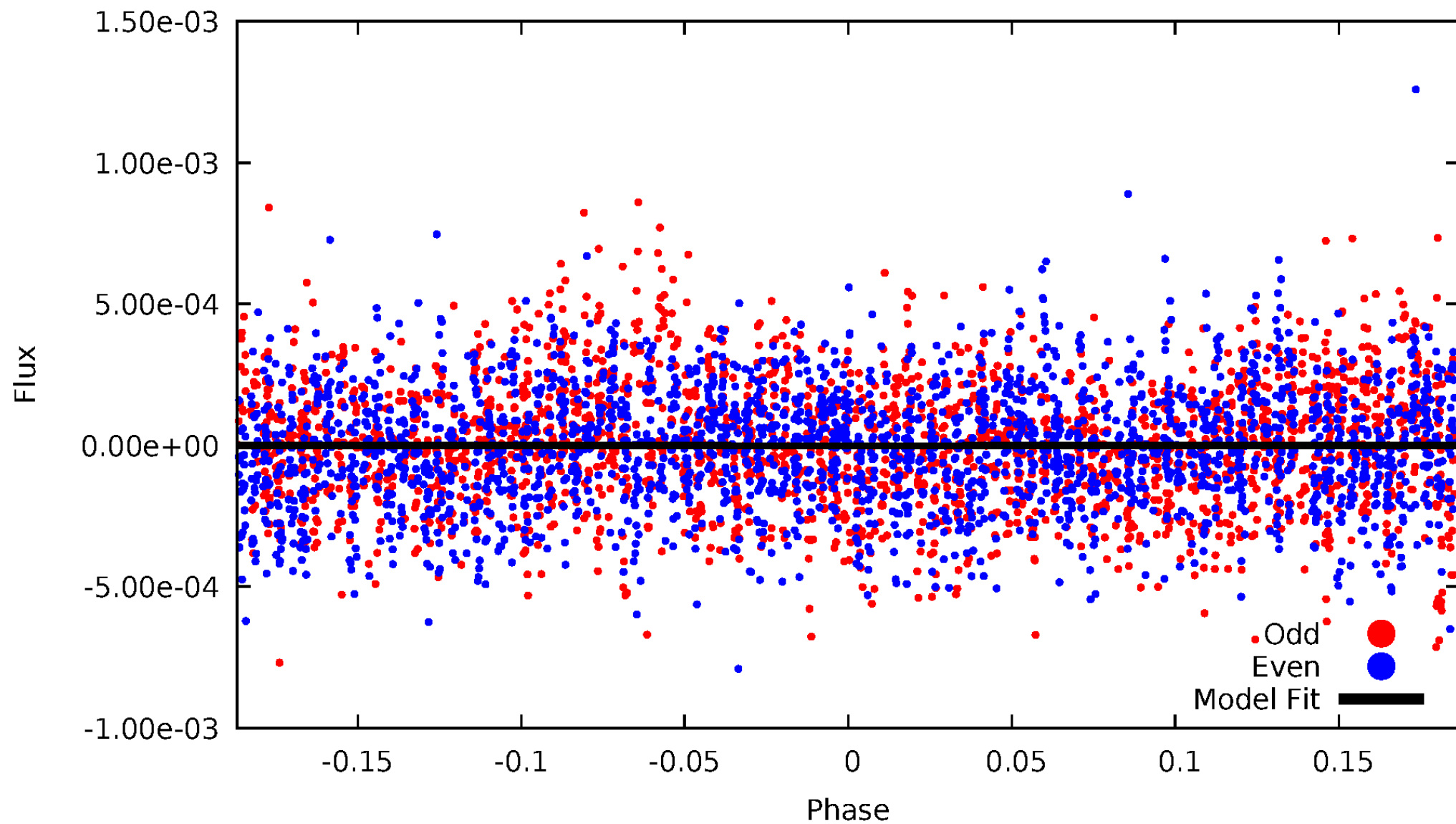


TCE 003238787-05



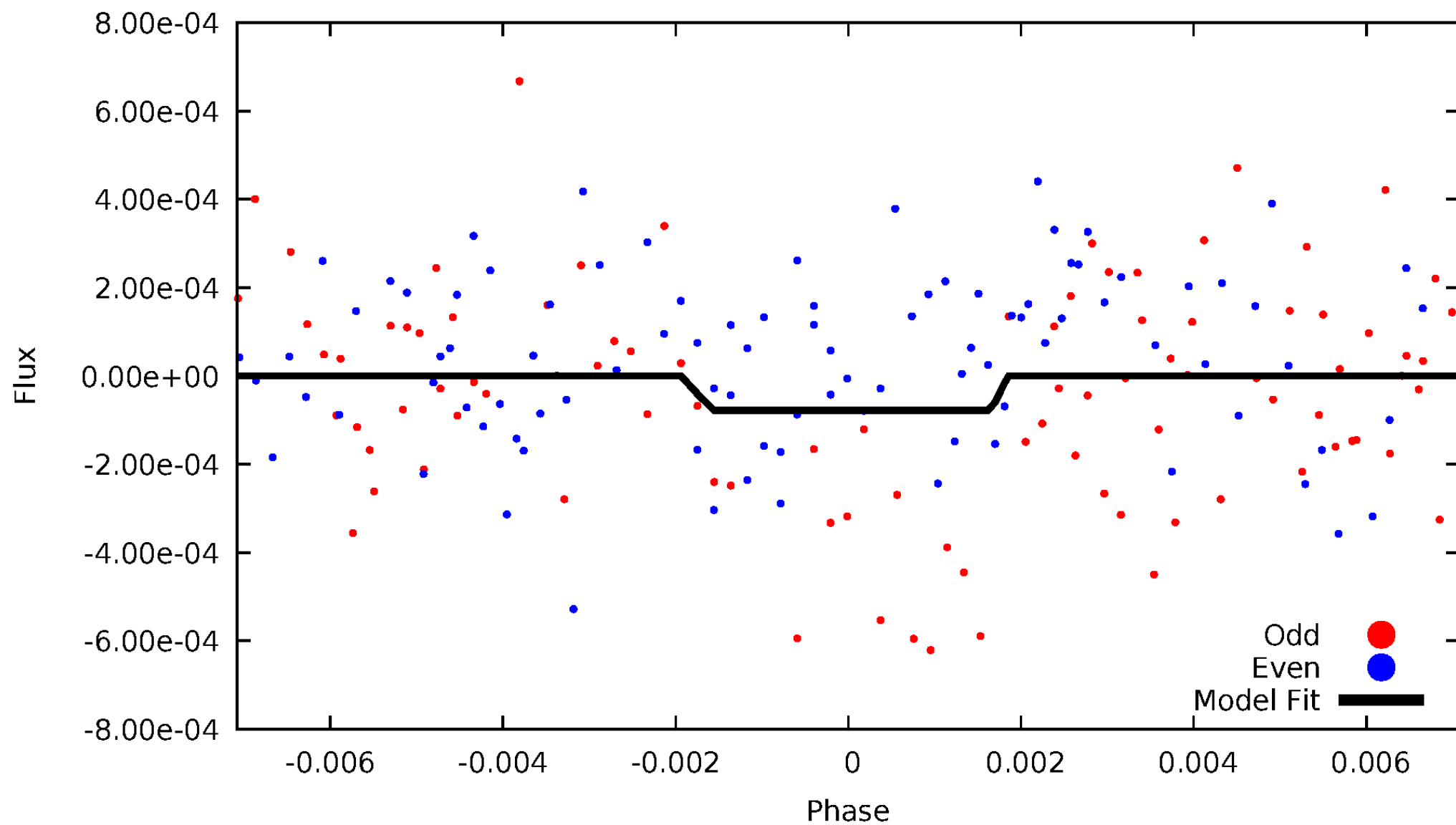
DV Odd/Even

TCE 003238787-05



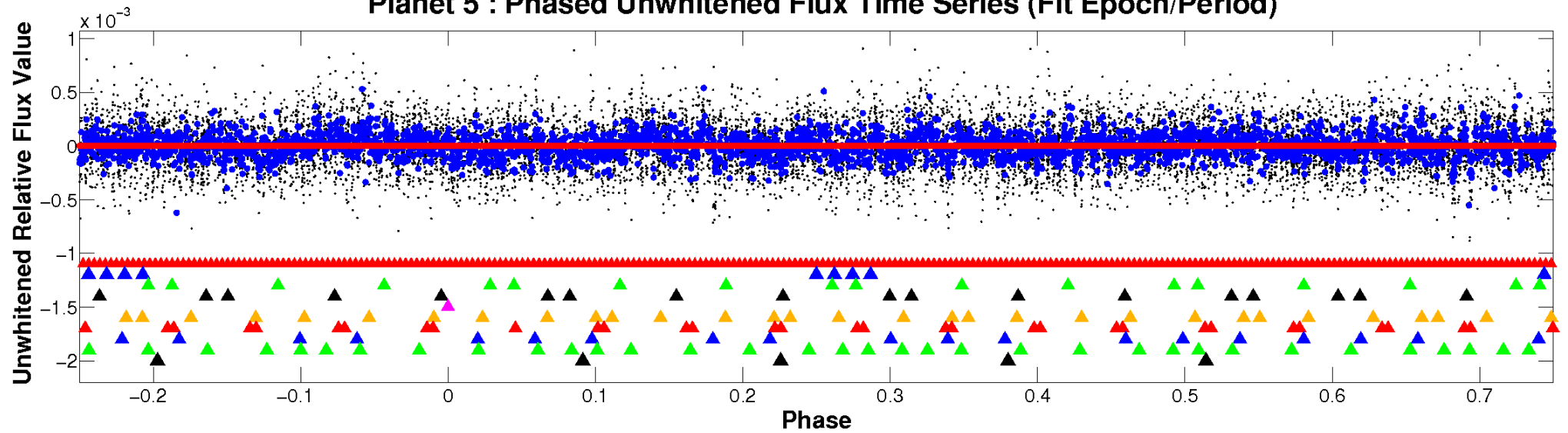
ALT Odd/Even

TCE 003238787-05

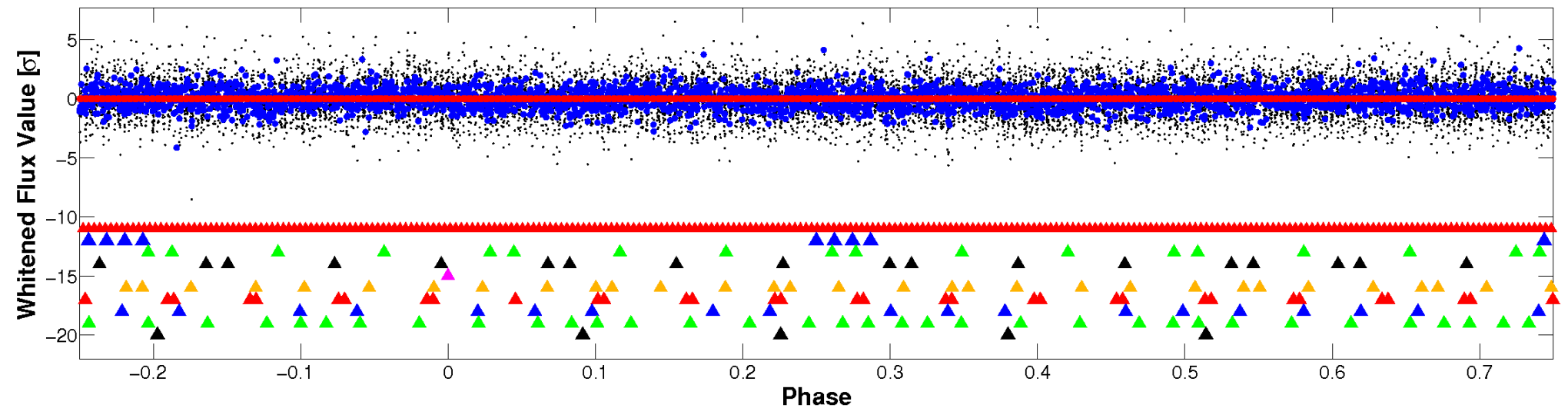


Non-Whitened Vs. Whitened Light Curve

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

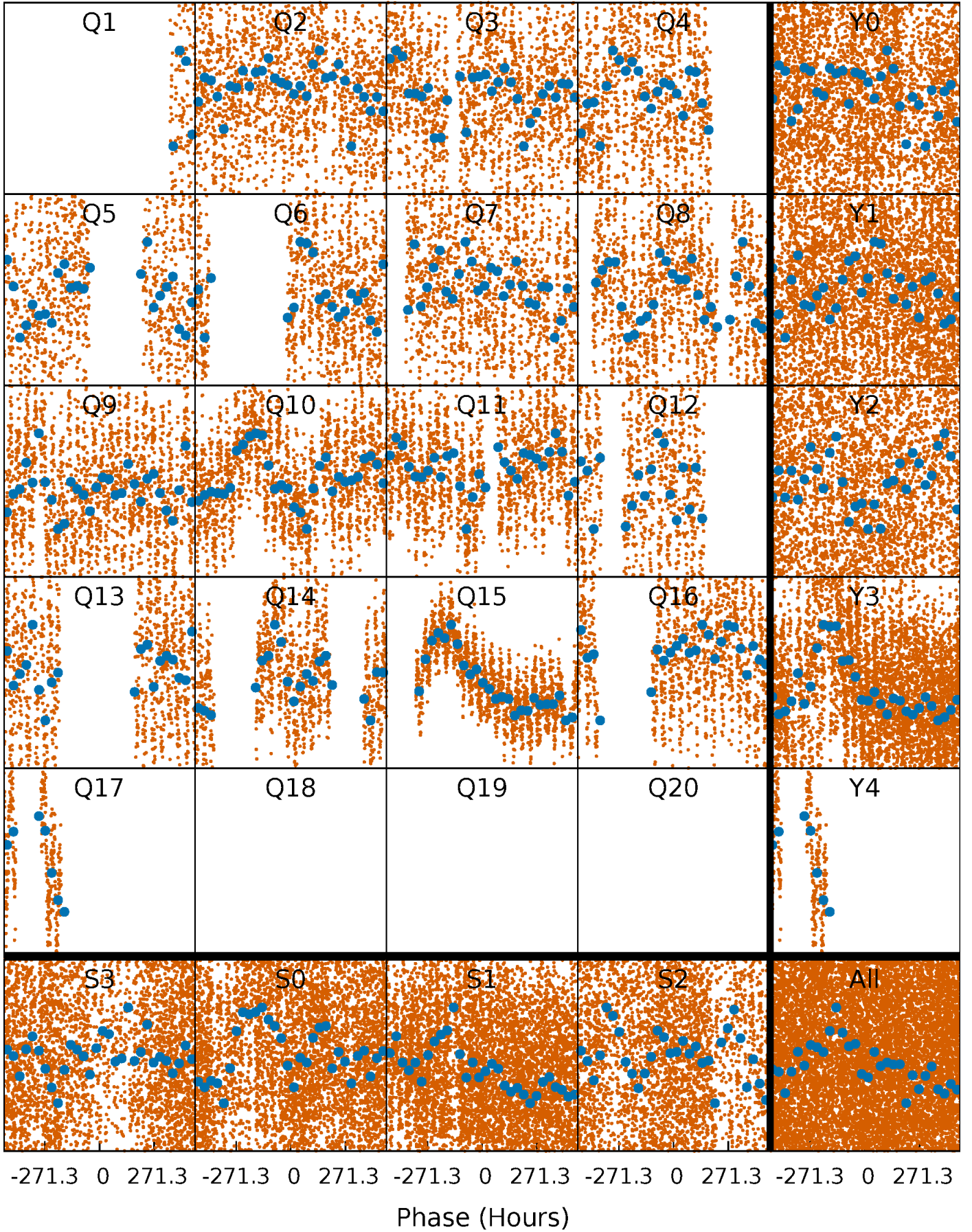


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



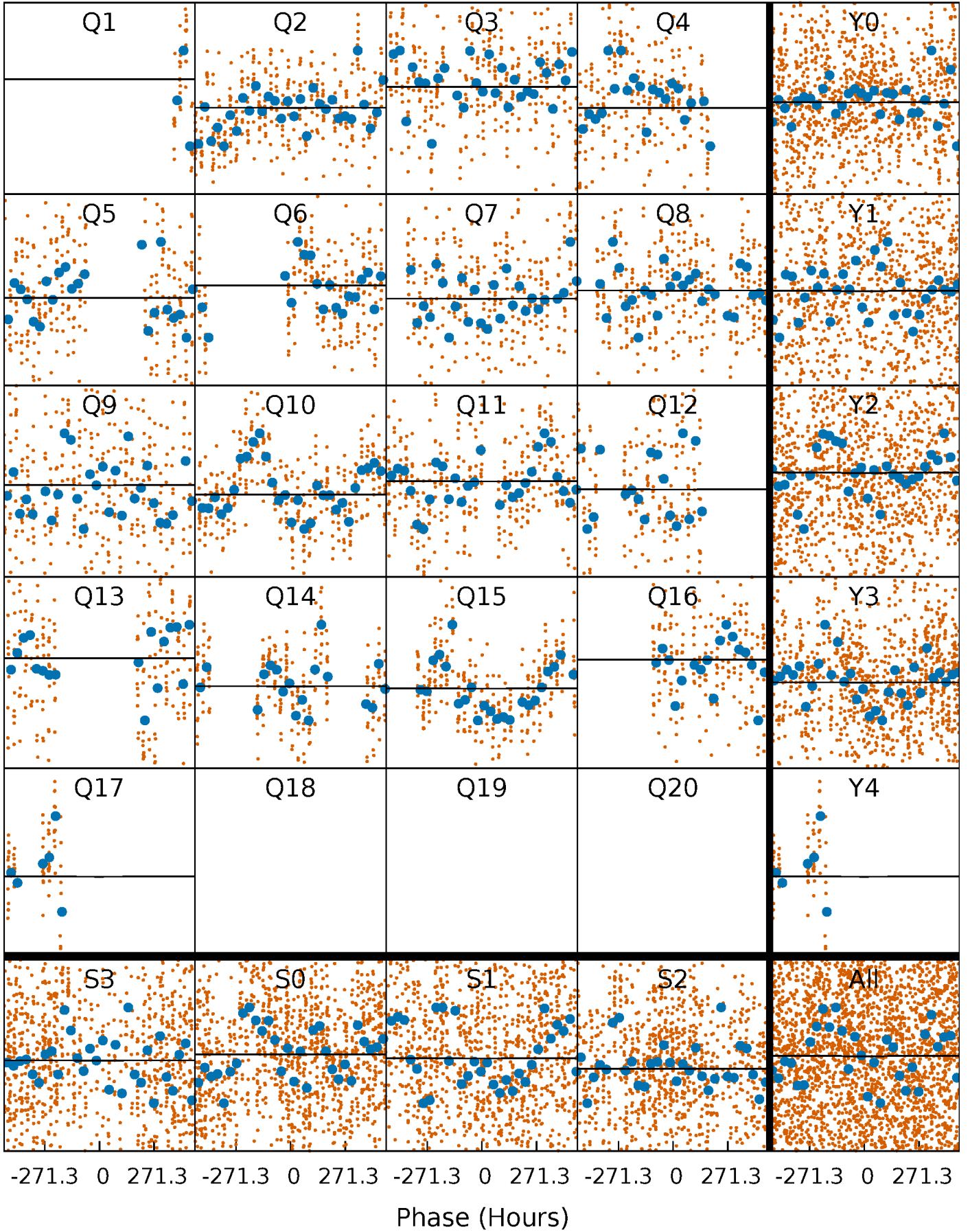
PDC Quarter-Phased Transit Curves

TCE 003238787-05 $P=105.857266$ Days $T_0=222.760622$ (BKJD)



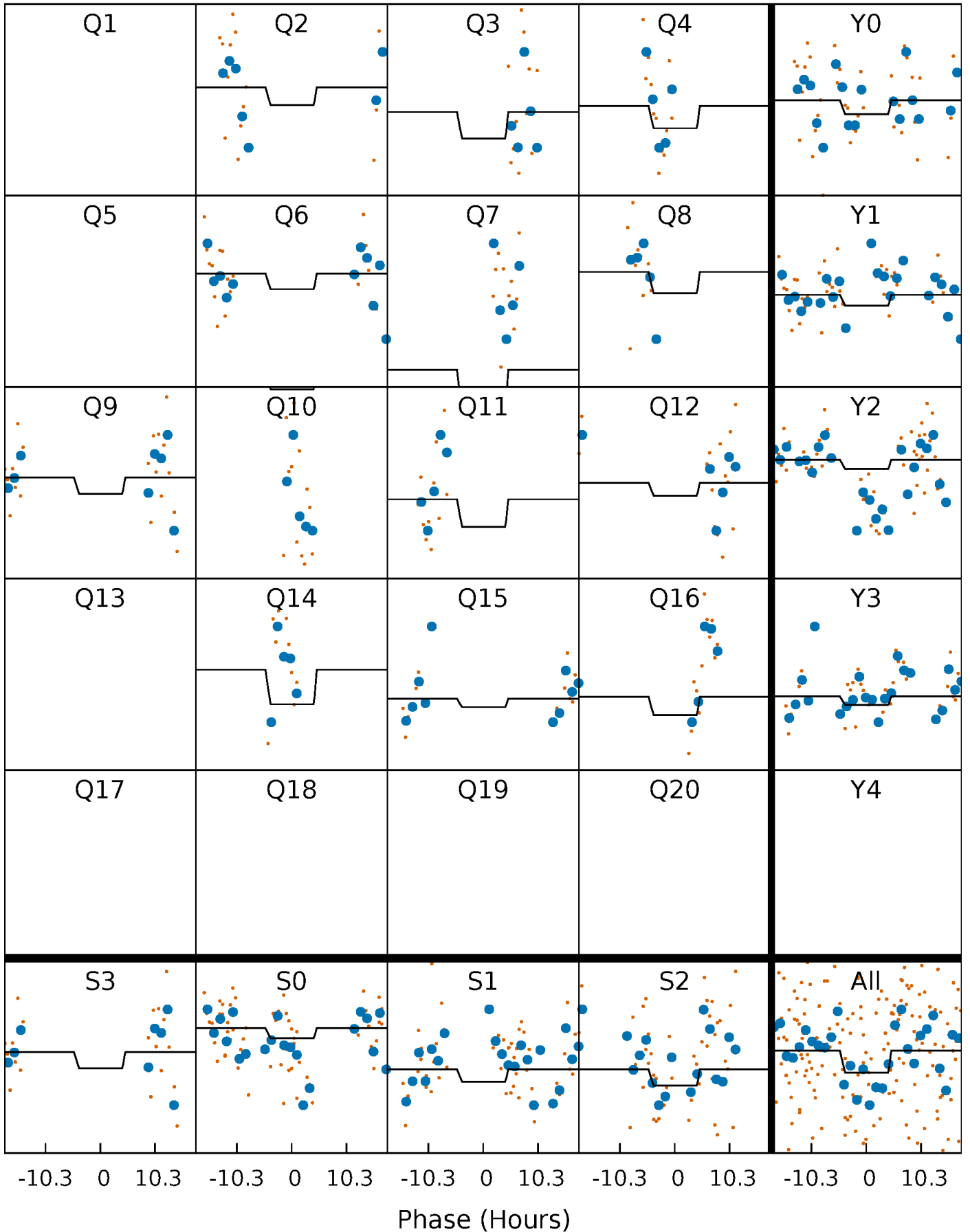
DV Quarter-Phased Transit Curves

TCE 003238787-05 $P=105.857266$ Days $T_0=222.760622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

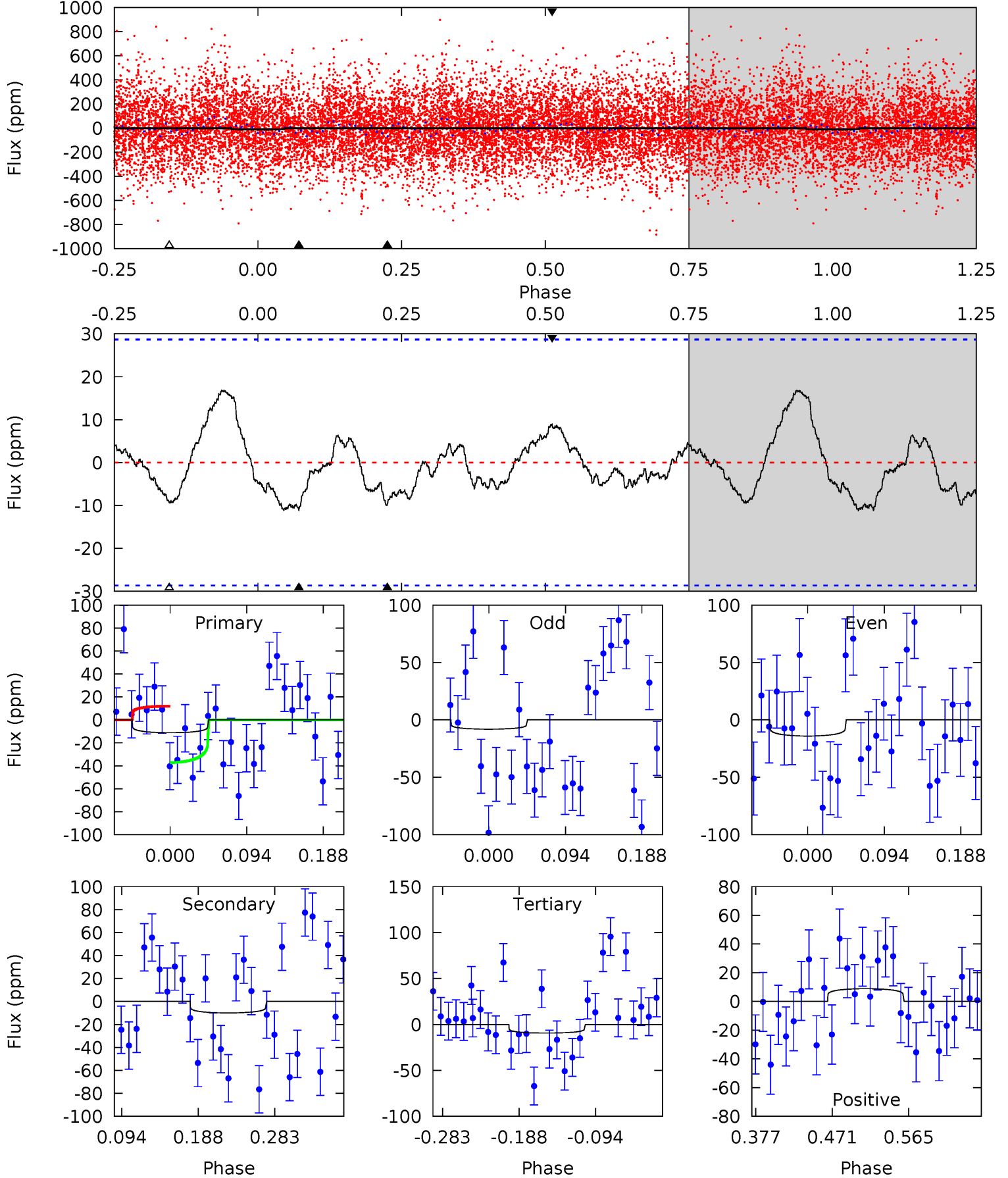
TCE 003238787-05 $P=105.900241$ Days $T_0=222.761045$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-05, P = 105.857266 Days, E = 116.903356 Days

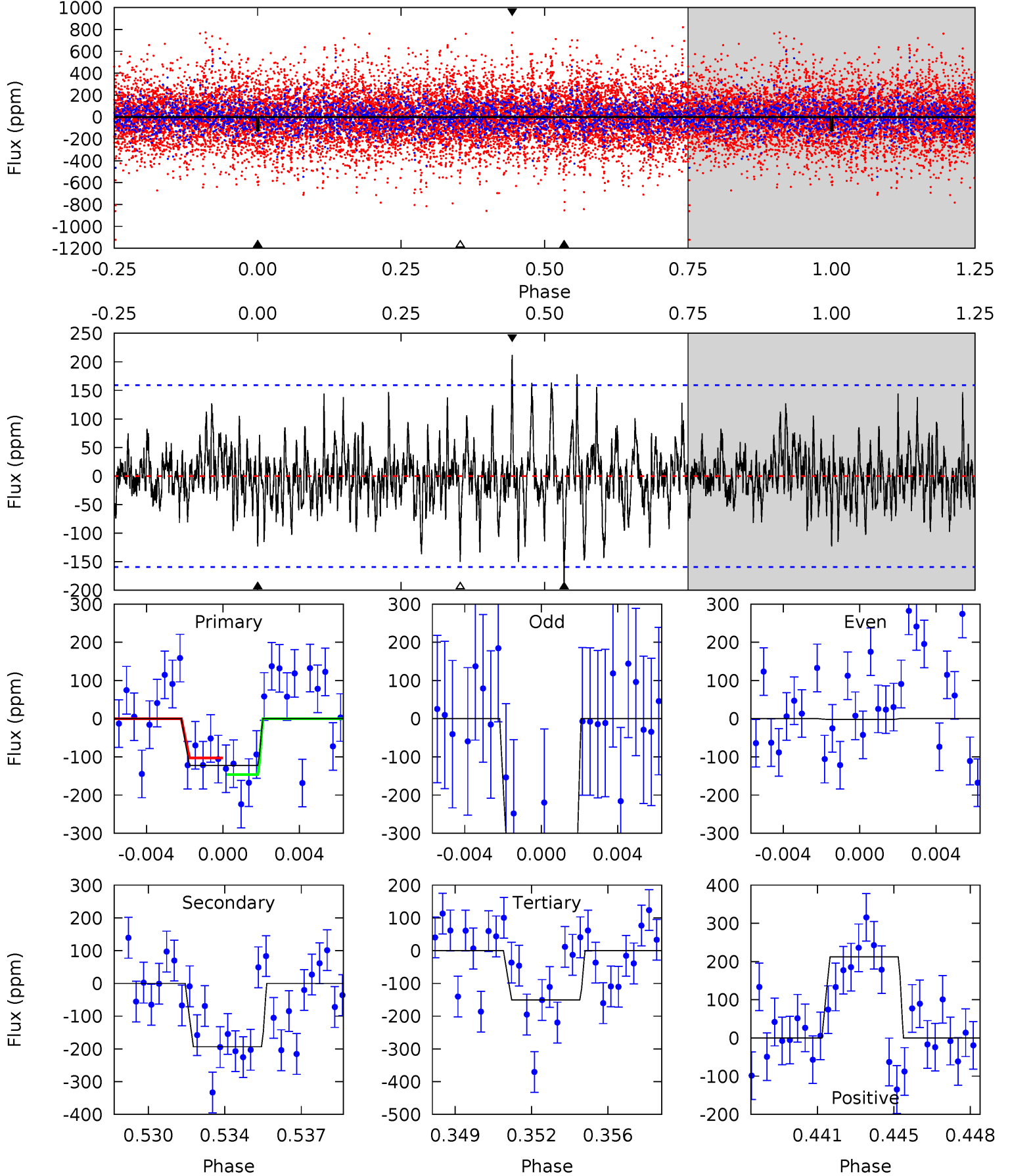
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.79	1.59	1.50	1.42	4.58	1.67	0.92	0.29	0.37	0.09	0.17	0.49	0.50	0.60	1.98



Alt Model-Shift Uniqueness Test

003238787-05, P = 105.900241 Days, E = 116.860804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.03	6.34	4.93	6.95	5.22	2.91	1.51	-0.90	-2.92	1.41	-0.62	5.93	1.46	0.52	0.72



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 6	$2.11^{+2.13}_{-1.49}$	870^{+47}_{-51}	4172^{+3028}_{-1060}	267^{+2922}_{-223}
Alt.	-193 ± 31	$2.96^{+2.52}_{-1.93}$	874^{+45}_{-54}	7265^{+8690}_{-1896}	3267^{+23386}_{-2324}

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 $A_{obs} \gg 1.0$

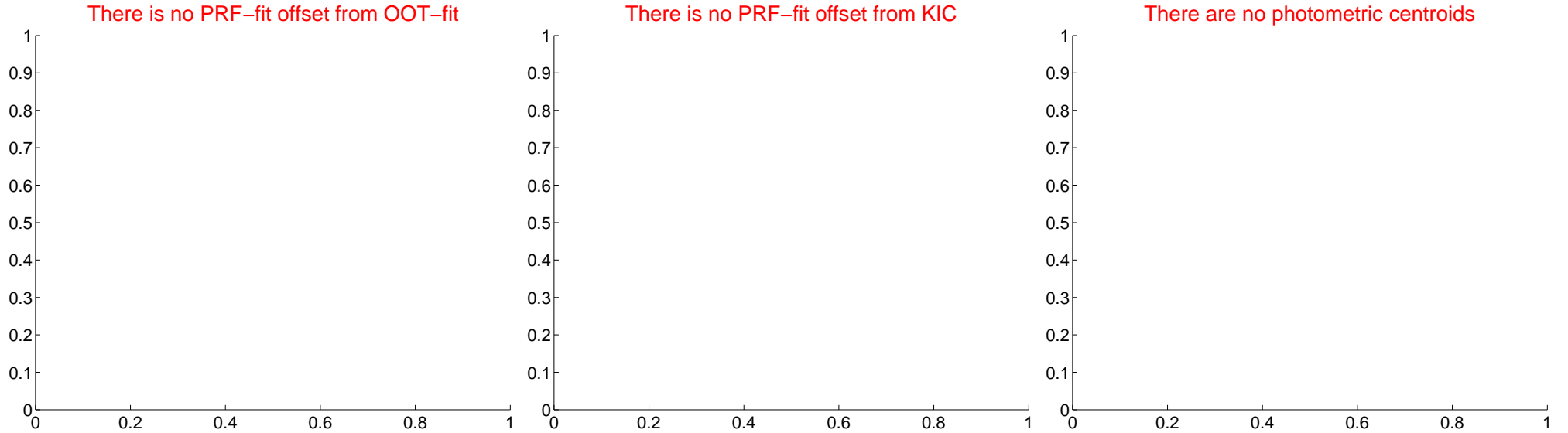
DV Centroid Data

Supplemental centroid analysis for 003238787-05. Kepler magnitude: 13.28. Transit SNR 0.05

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
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.



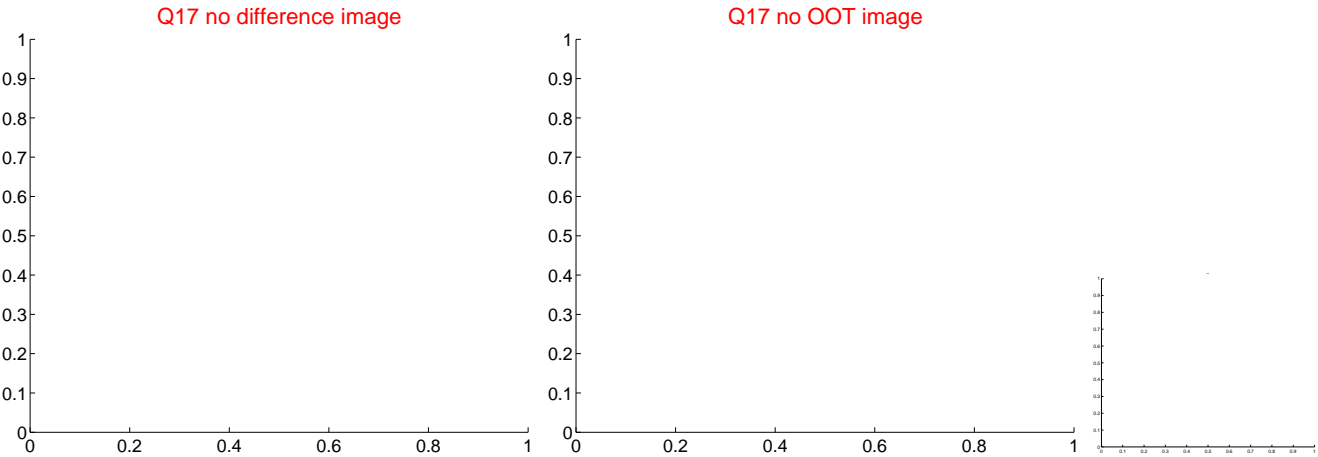
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



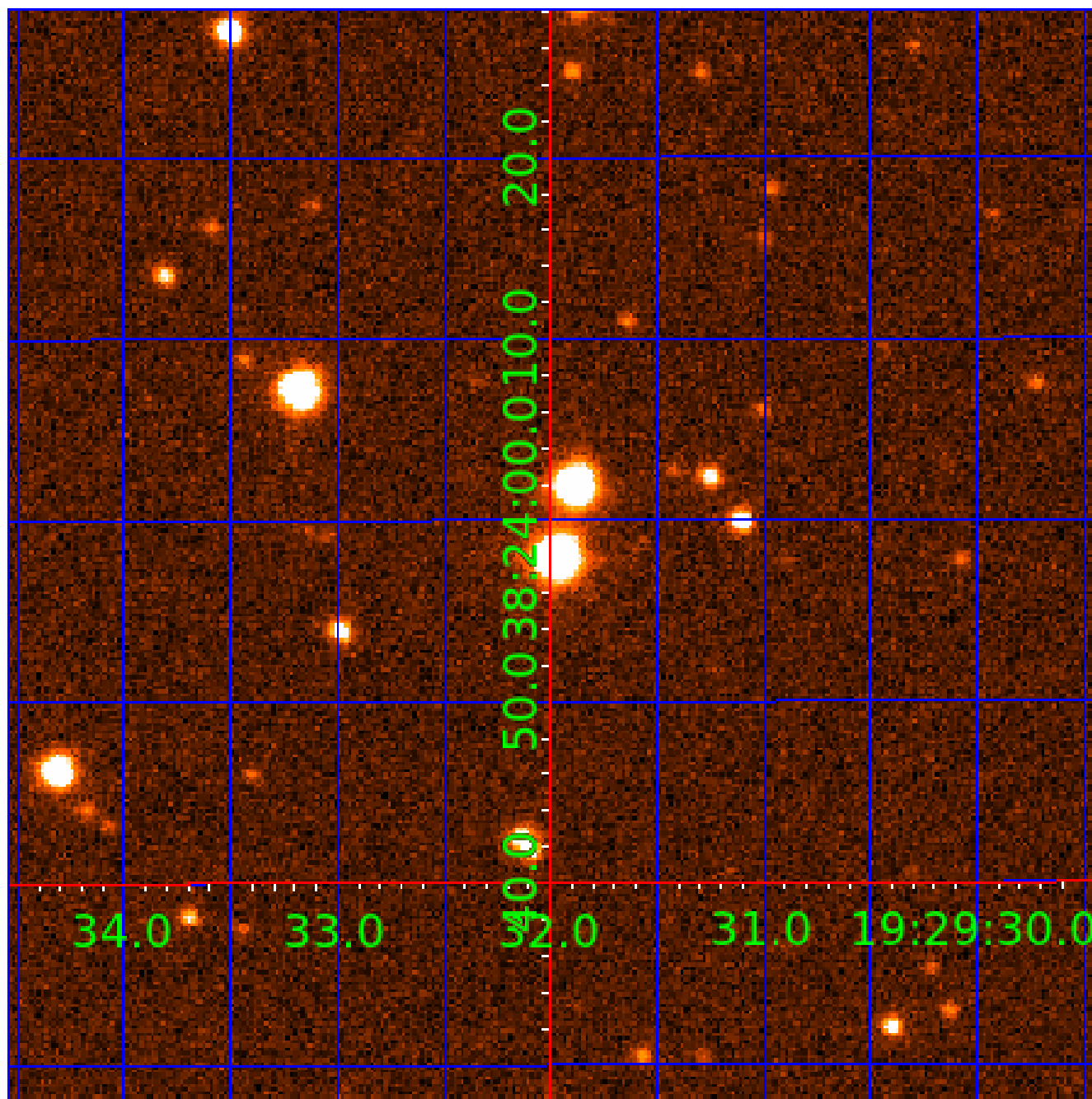
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
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003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
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003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

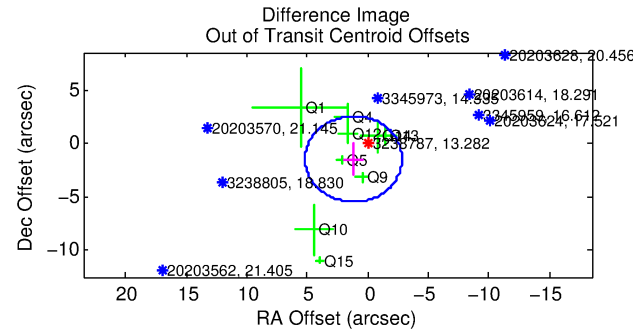
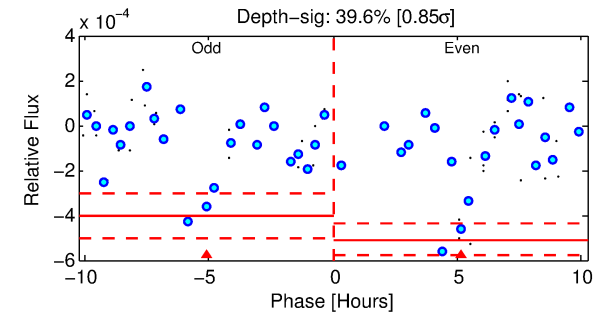
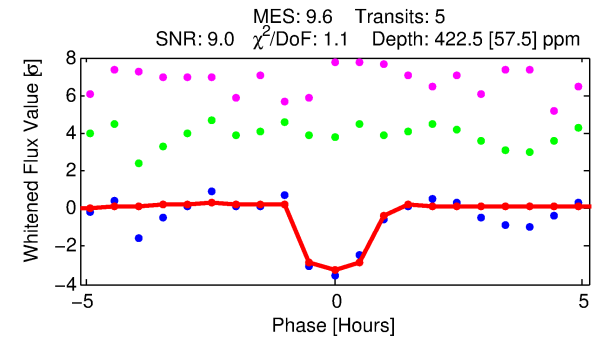
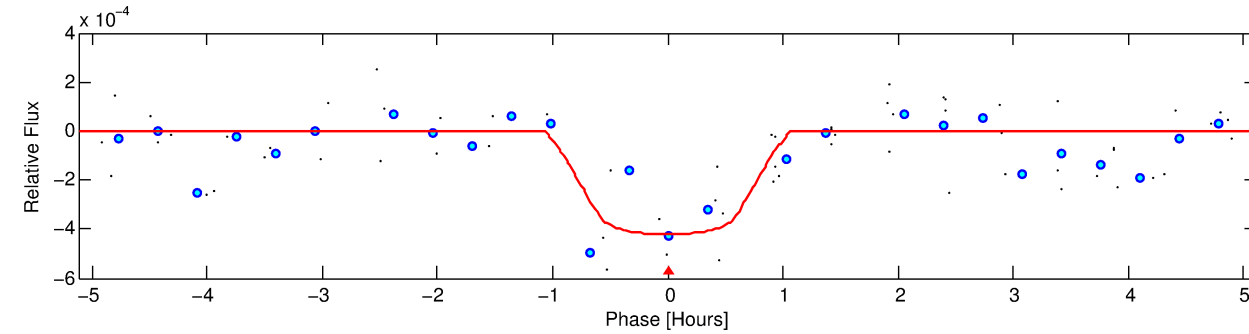
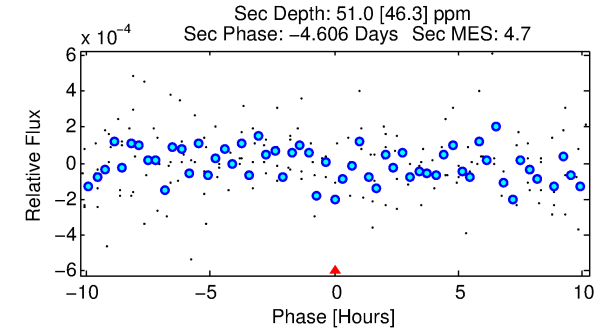
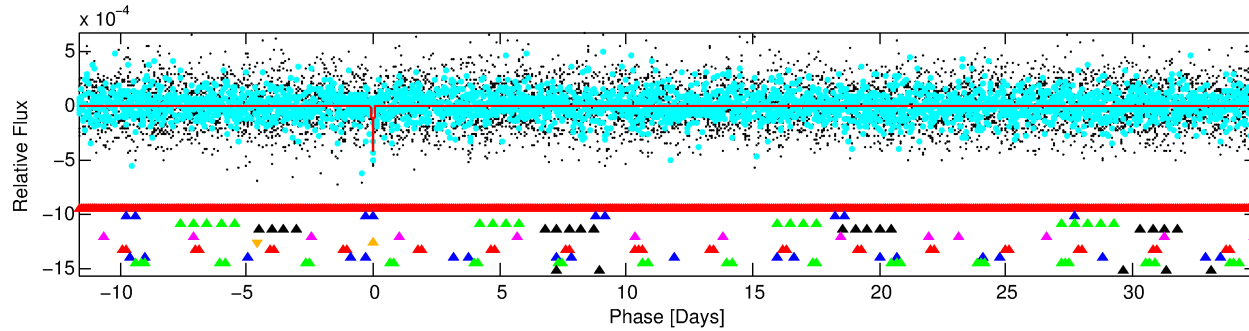
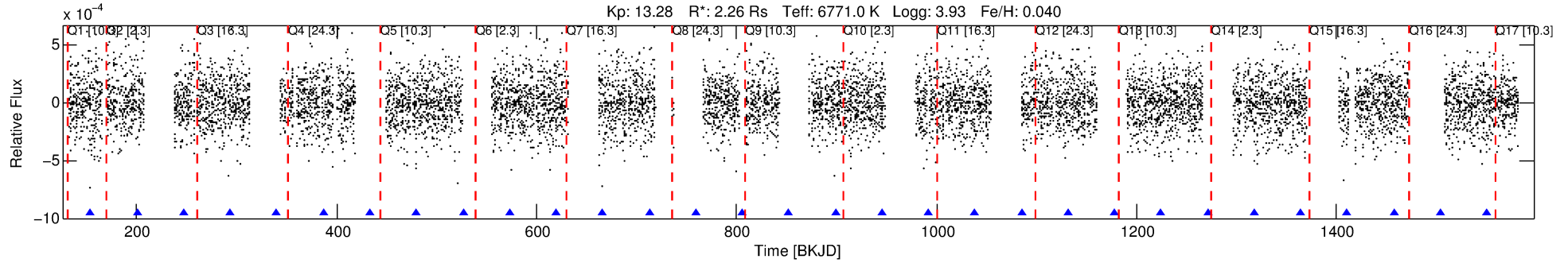
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-06

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 6 of 10 Period: 46.531 d



DV Fit Results:

Period = 46.53082 [0.00029] d
Epoch = 154.2722 [0.0072] BKJD
Rp/R* = 0.0202 [0.0383]
a/R* = 154.80 [1651.02]
b = 0.70 [7.87]
Seff = 109.60 [37.25]
Teff = 825 [70] K
Rp = 4.98 [9.50] Re
a = 0.2961 [0.0635] AU
Ag = 99.16 [387.41] [0.25σ]
Teffp = 4025 [3917] K [0.82σ]

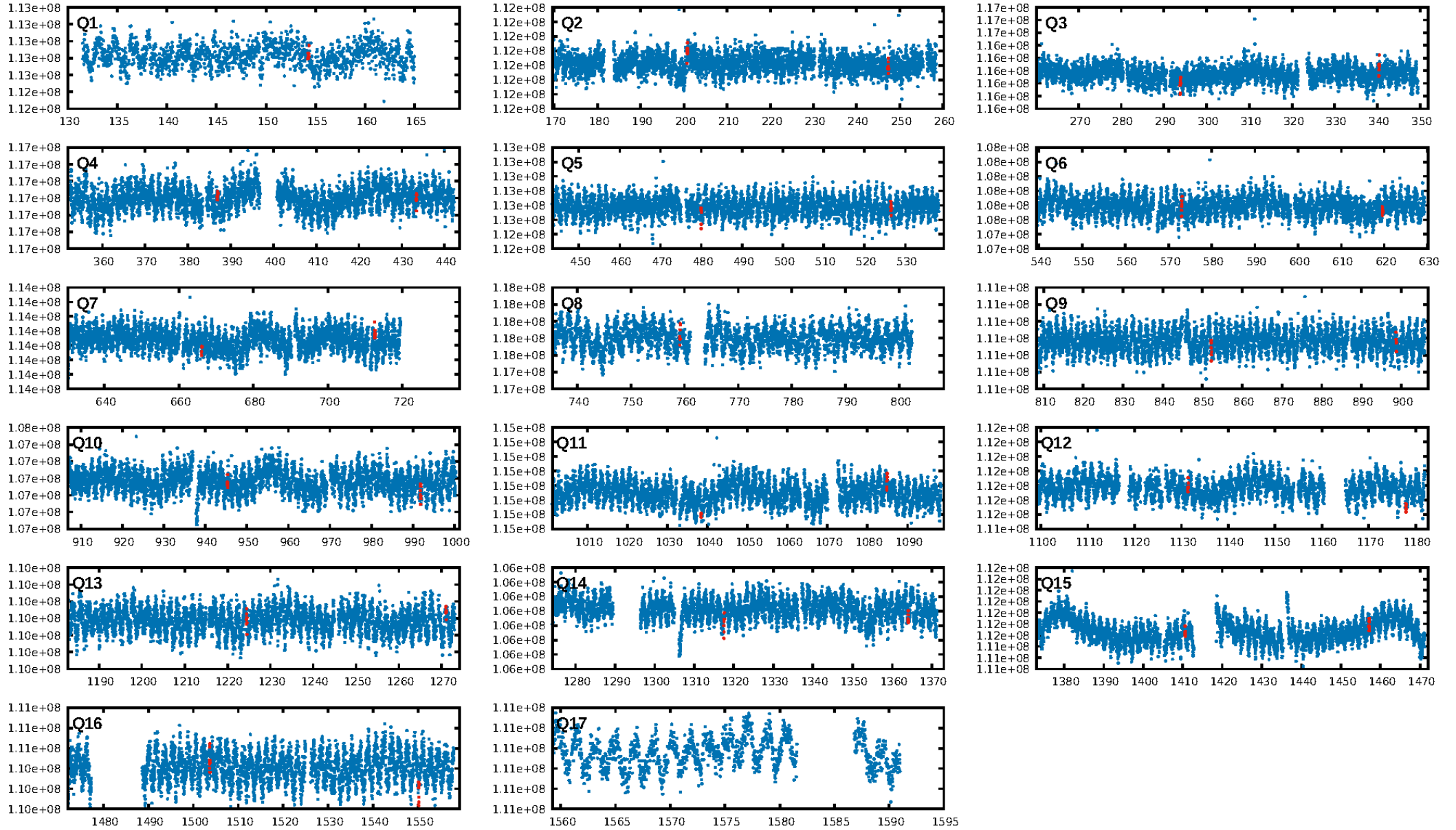
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.86σ]
LongPeriod-sig: 100.0% [170.07σ]
ModelChiSquare2-sig: 48.2%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 2.19e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.9892
Centroid-sig: 77.9%
Centroid-so: 0.171 arcsec [0.34σ]
OotOffset-rm: 1.899 arcsec [1.42σ]
OotOffset-st: 2/1/2/4 [9]
KicOffset-rm: 0.790 arcsec [1.08σ]
KicOffset-st: 2/1/2/4 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.38 [6/16]

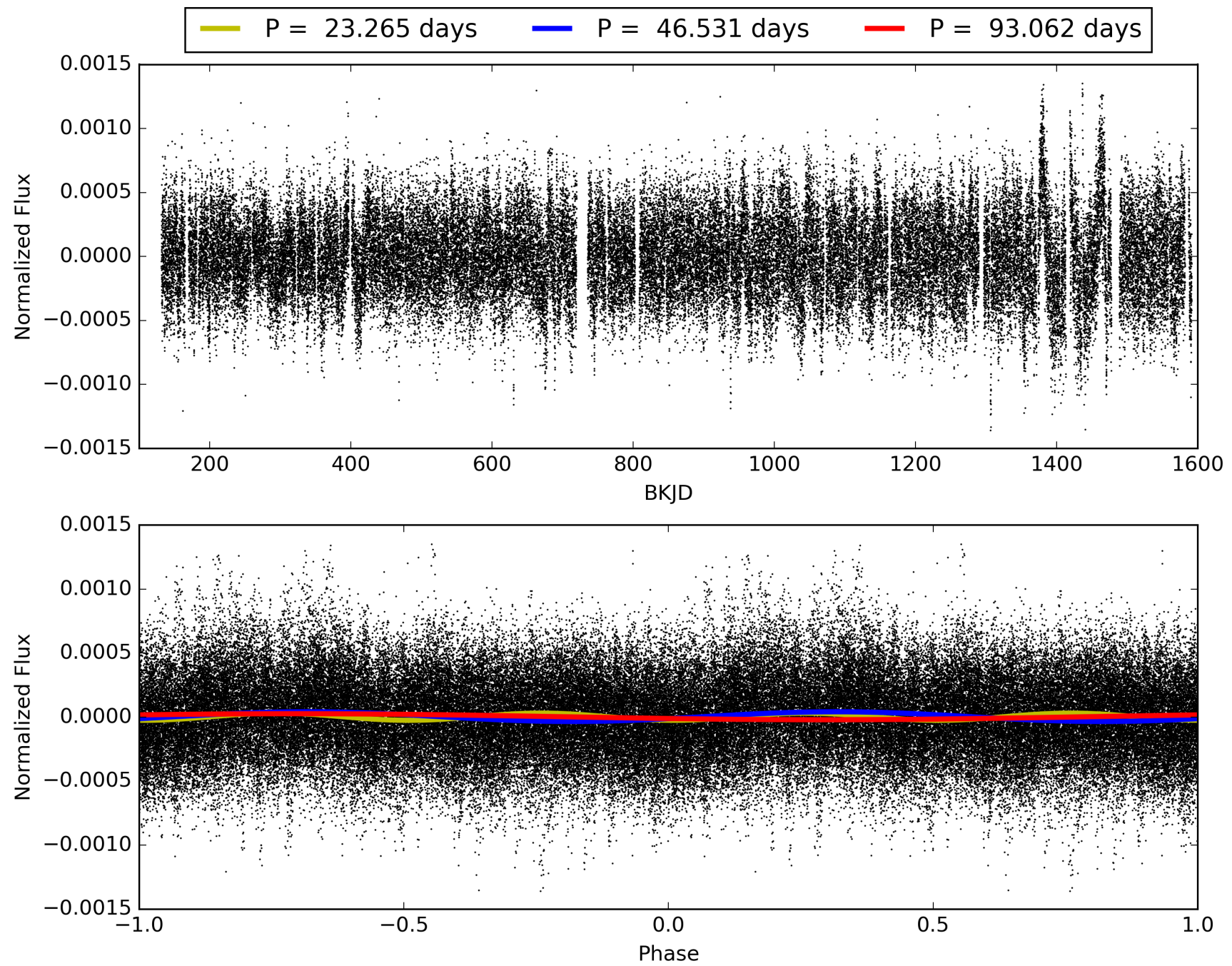
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:37 Z

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

TCE 003238787-06, PDC Light Curves

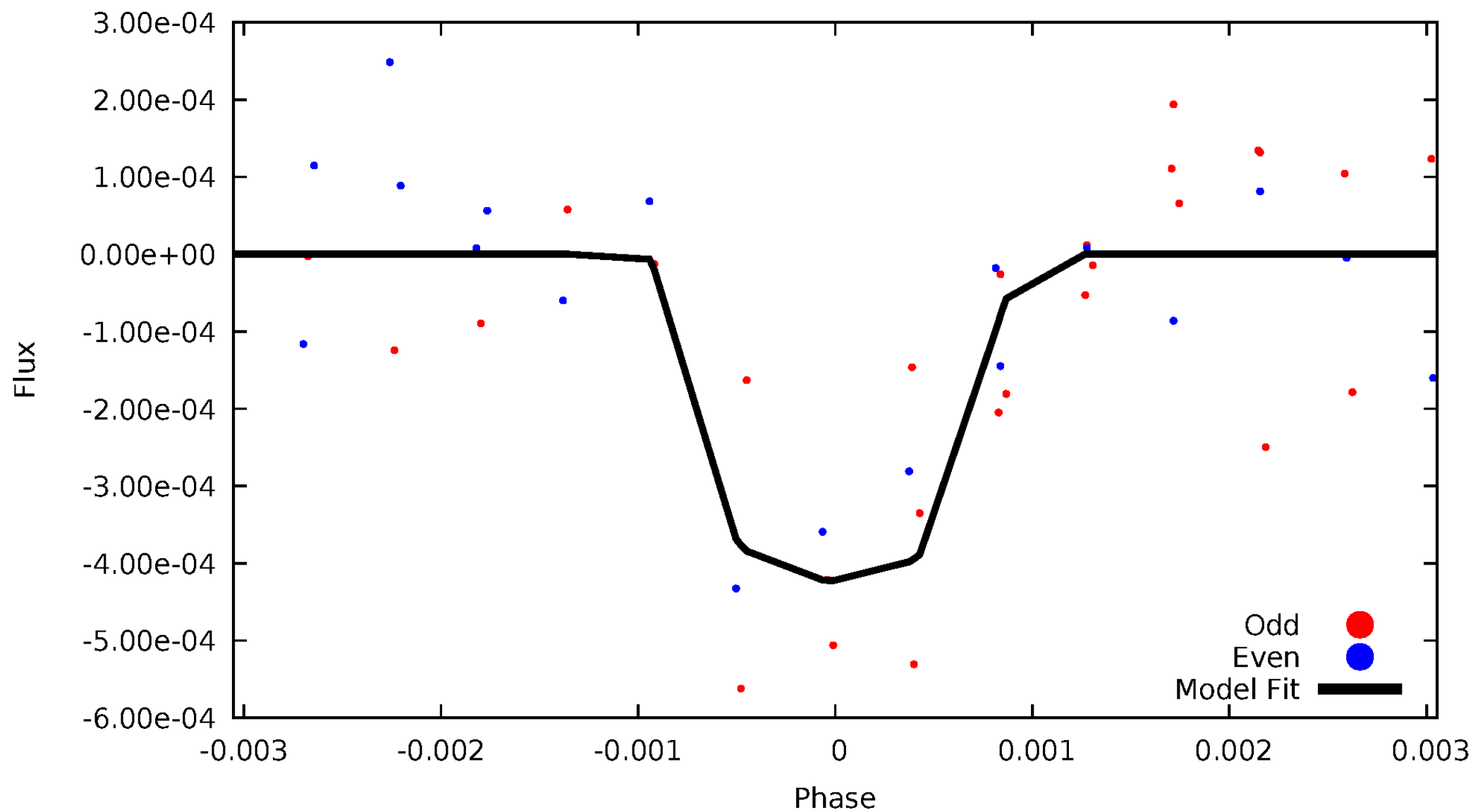


TCE 003238787-06



DV Odd/Even

TCE 003238787-06

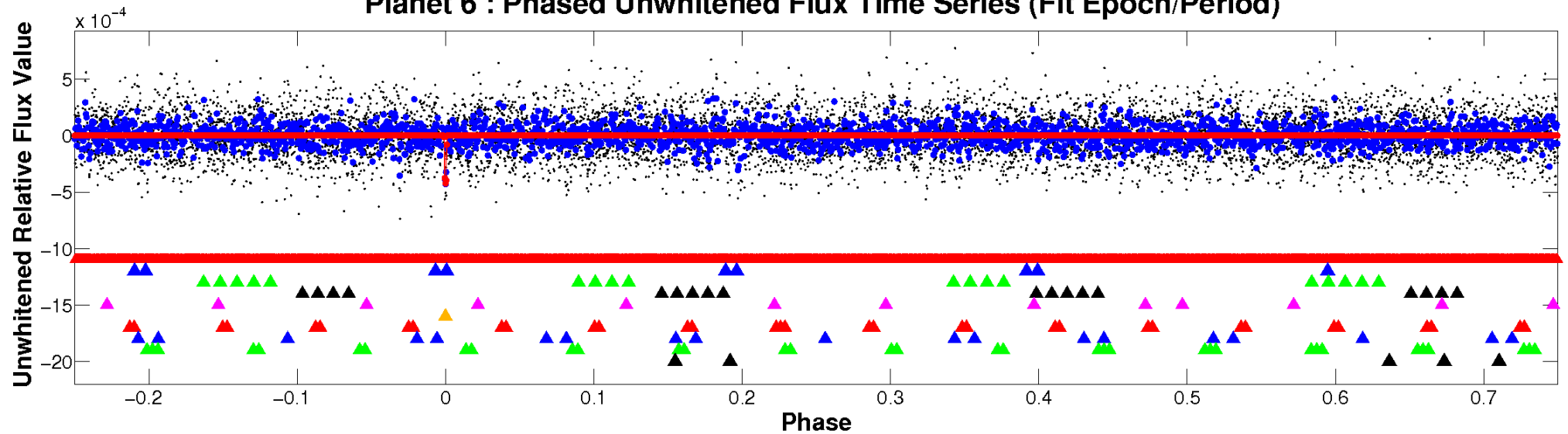


ALT Odd/Even

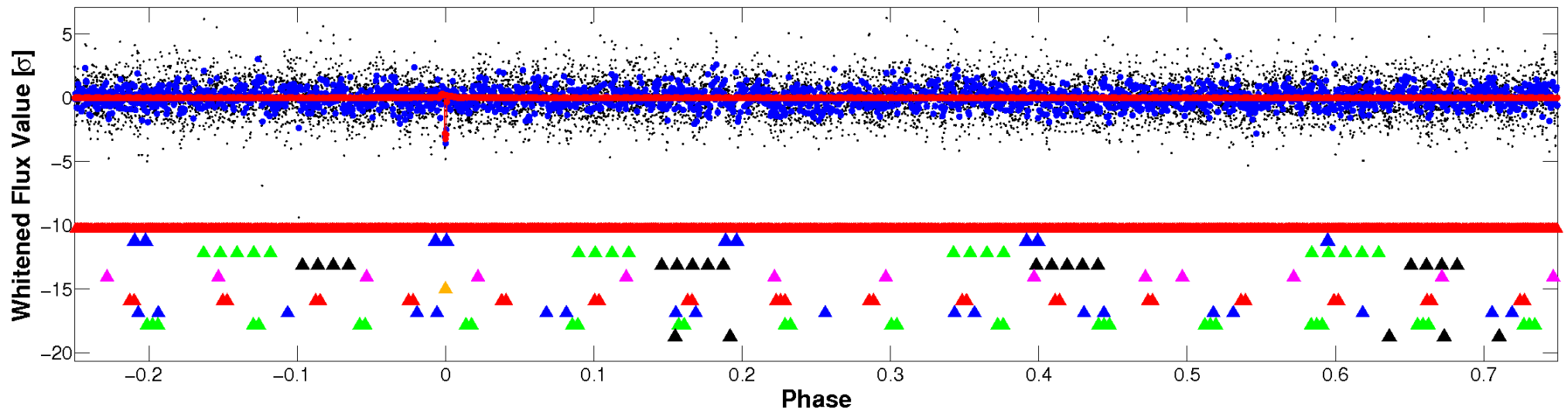
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

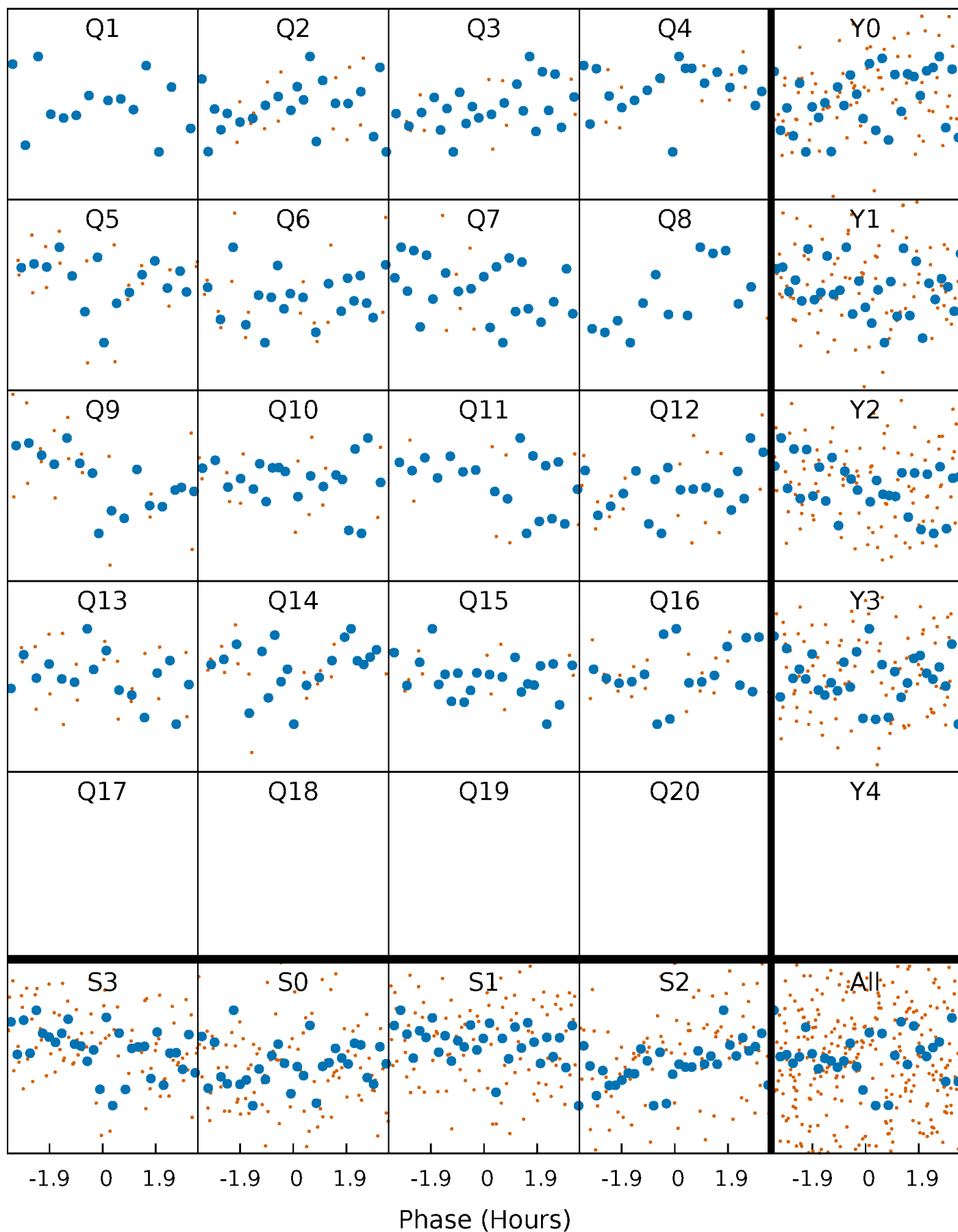


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



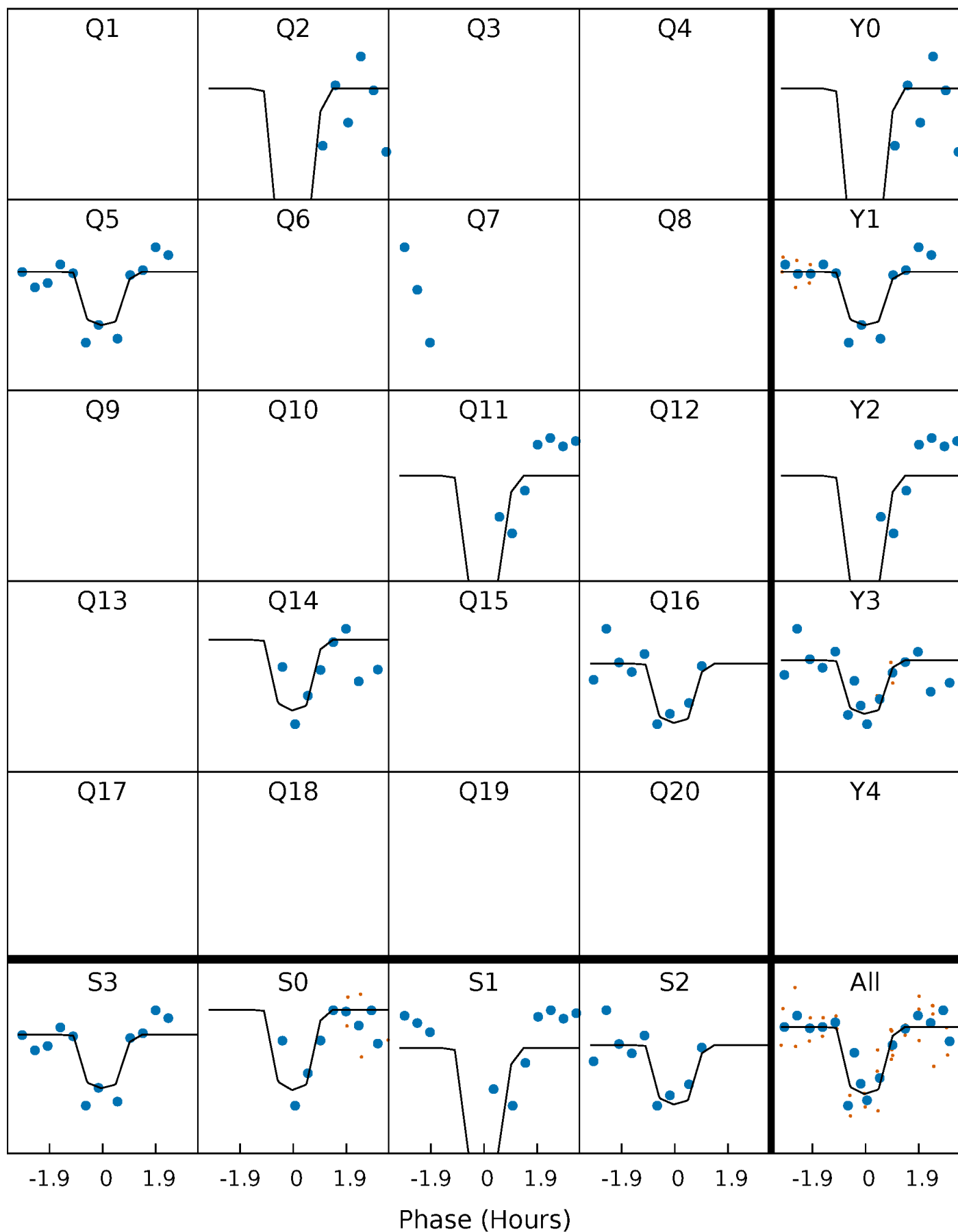
PDC Quarter-Phased Transit Curves

TCE 003238787-06 P= 46.530820 Days $T_0=154.272165$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003238787-06 P= 46.530820 Days $T_0=154.272165$ (BKJD)

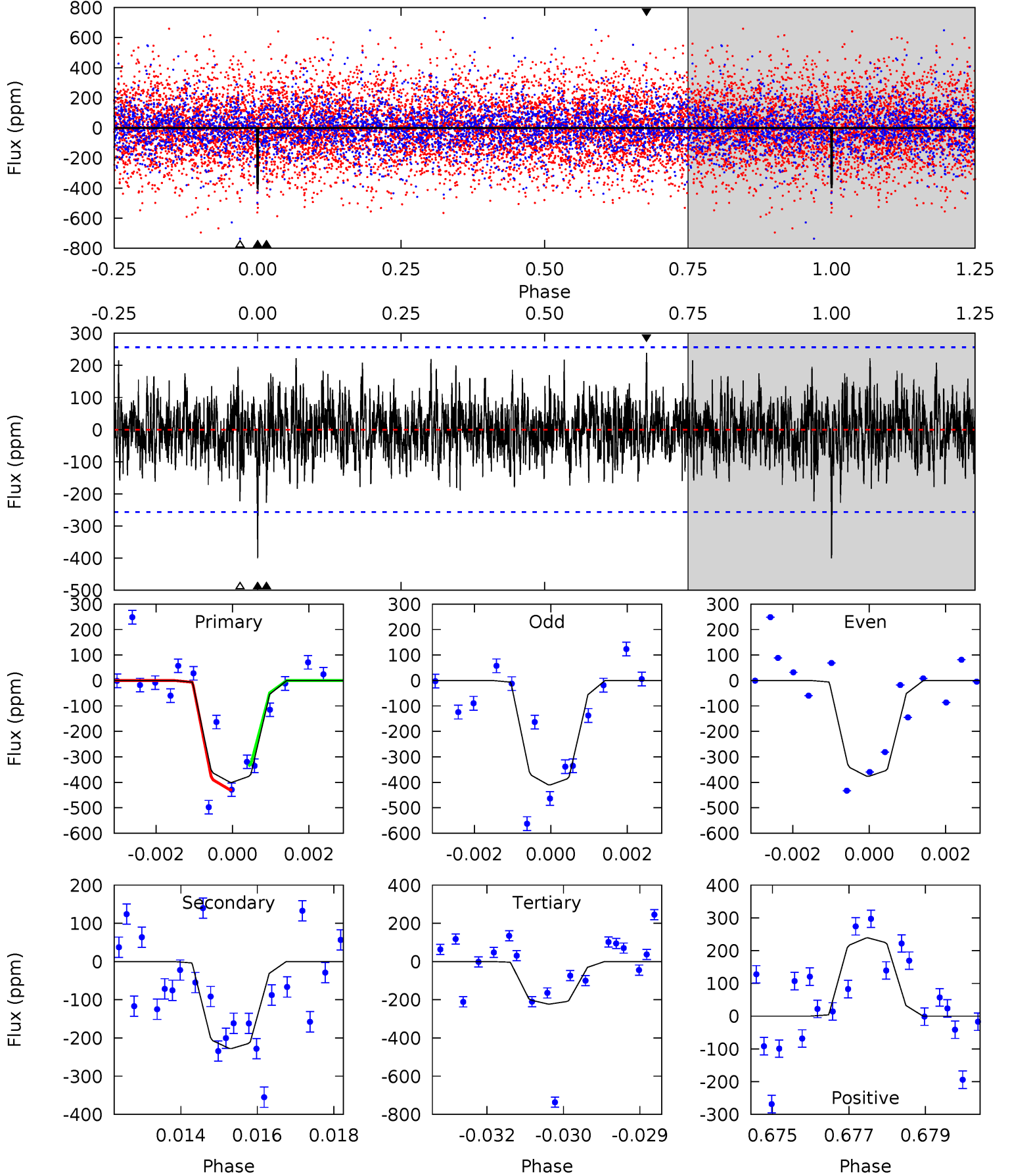


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

003238787-06, P = 46.530820 Days, E = 107.741345 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	4.75	4.64	4.98	5.35	3.12	1.33	3.71	3.36	0.11	-0.23	0.34	0.99	0.37	0.97



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-228 ± 48	$7.98^{+7.59}_{-5.30}$	1149^{+58}_{-78}	4717^{+3369}_{-1069}	173^{+1379}_{-131}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

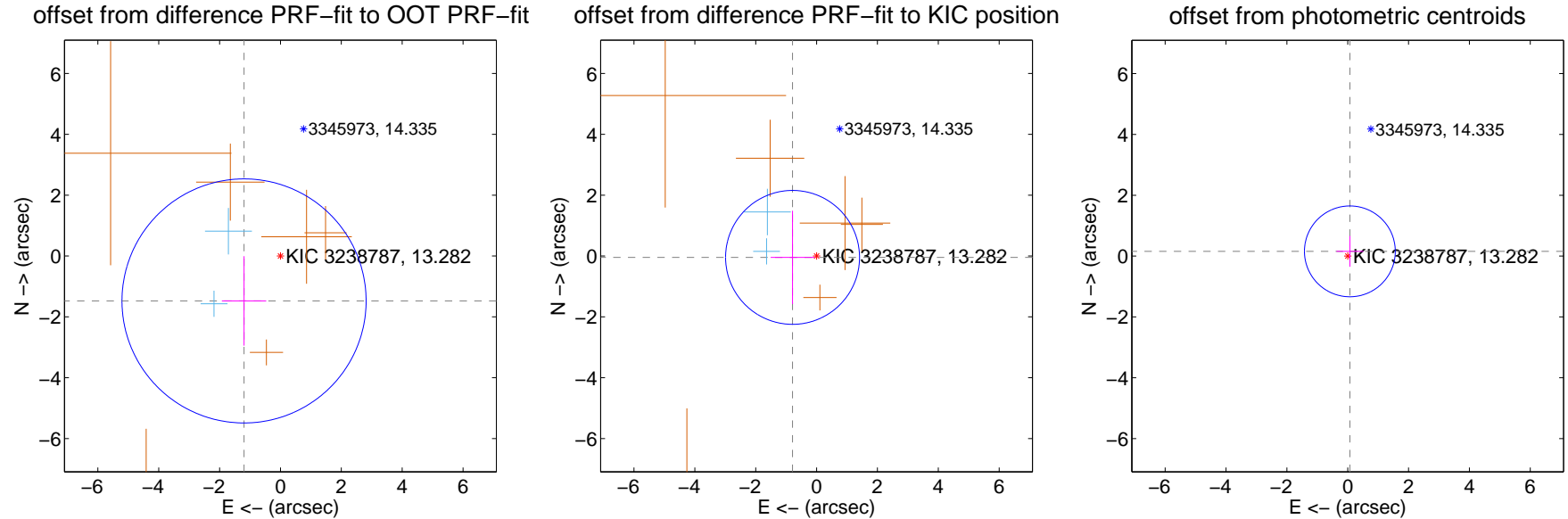
DV Centroid Data

Supplemental centroid analysis for 003238787-06. Kepler magnitude: 13.28. Transit SNR 9.04

There are 2 quarters with good PRF difference image offsets

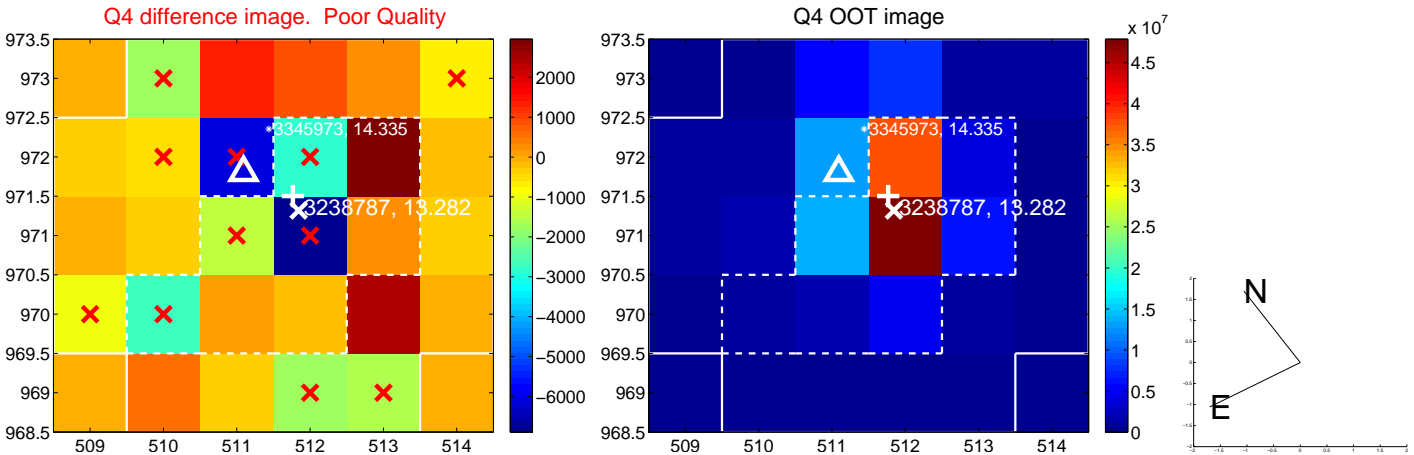
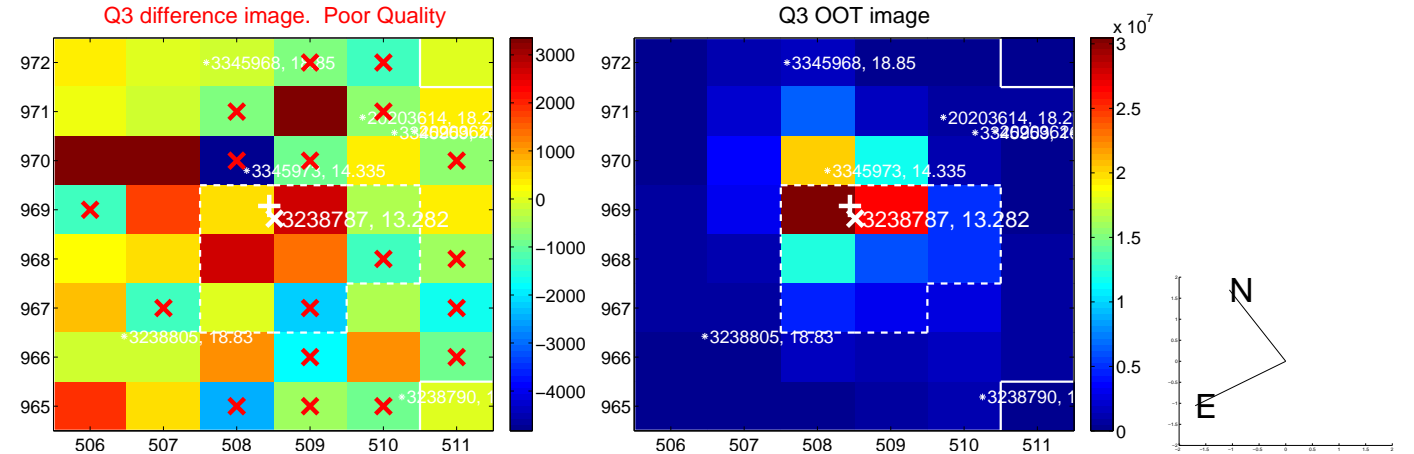
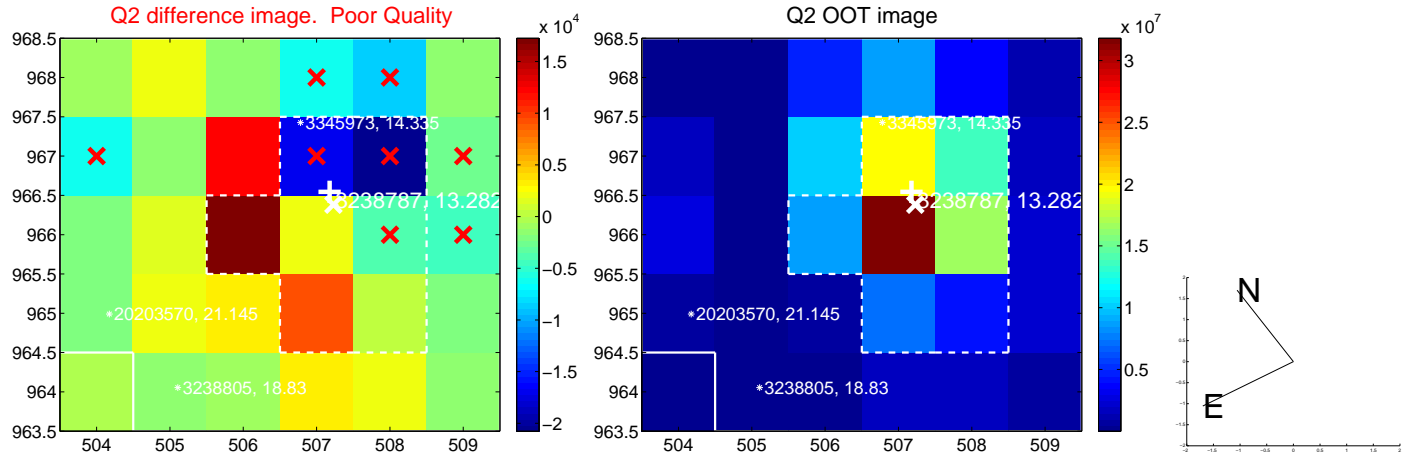
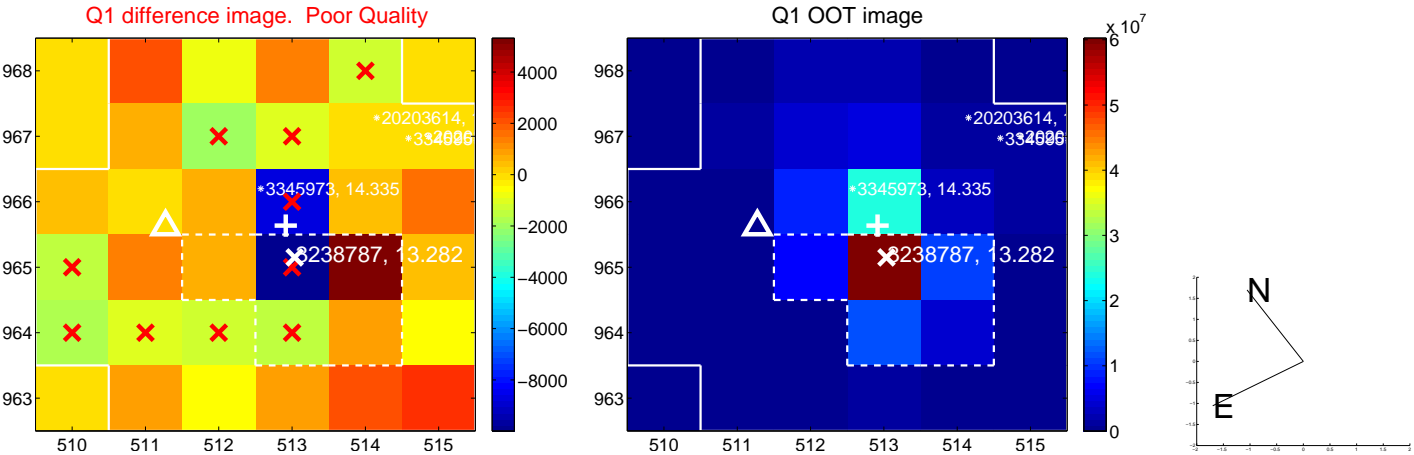
The direct PRF centroid is offset from the target star catalog position by about 1.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.899 ± 1.337	1.42	1.196 ± 0.727	-1.476 ± 1.469
PRF-fit source offset from KIC position	0.790 ± 0.733	1.08	0.789 ± 0.719	-0.045 ± 1.534
photometric centroid source offset	0.17 ± 0.50	0.34	-0.07 ± 0.44	0.16 ± 0.51

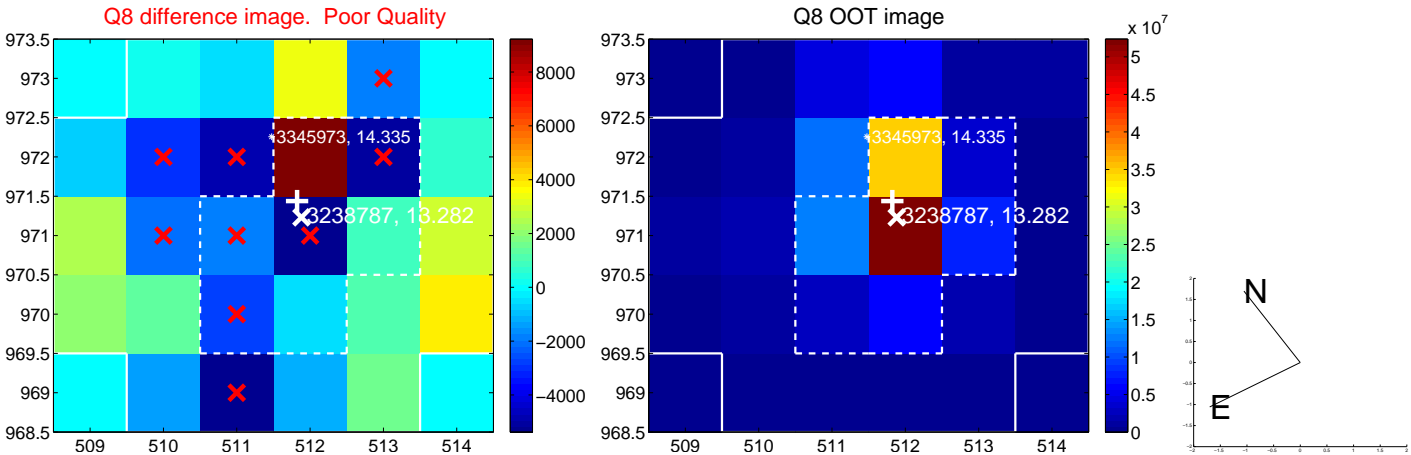
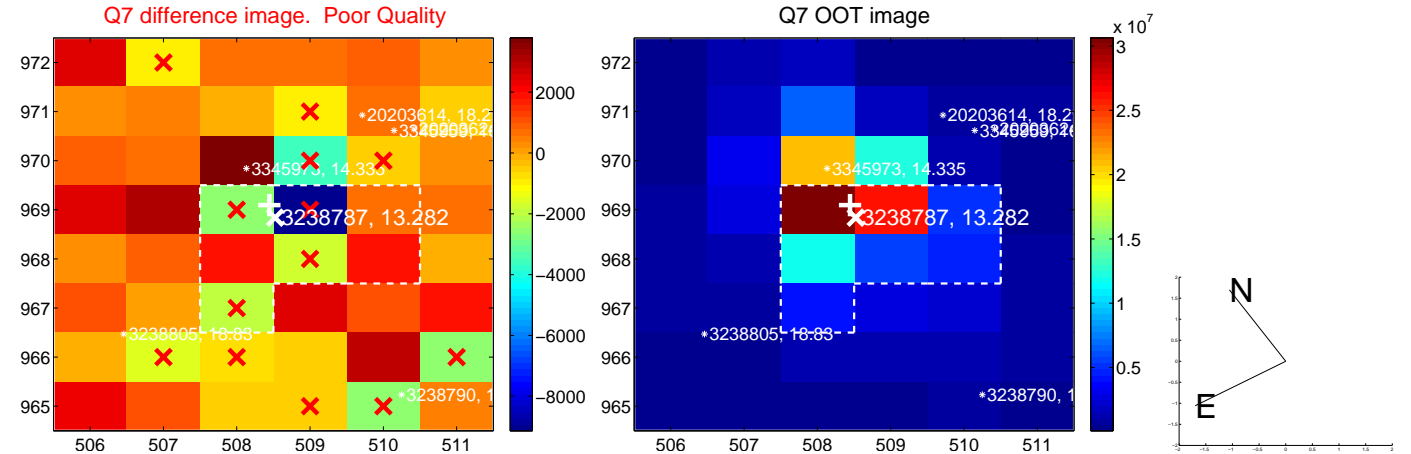
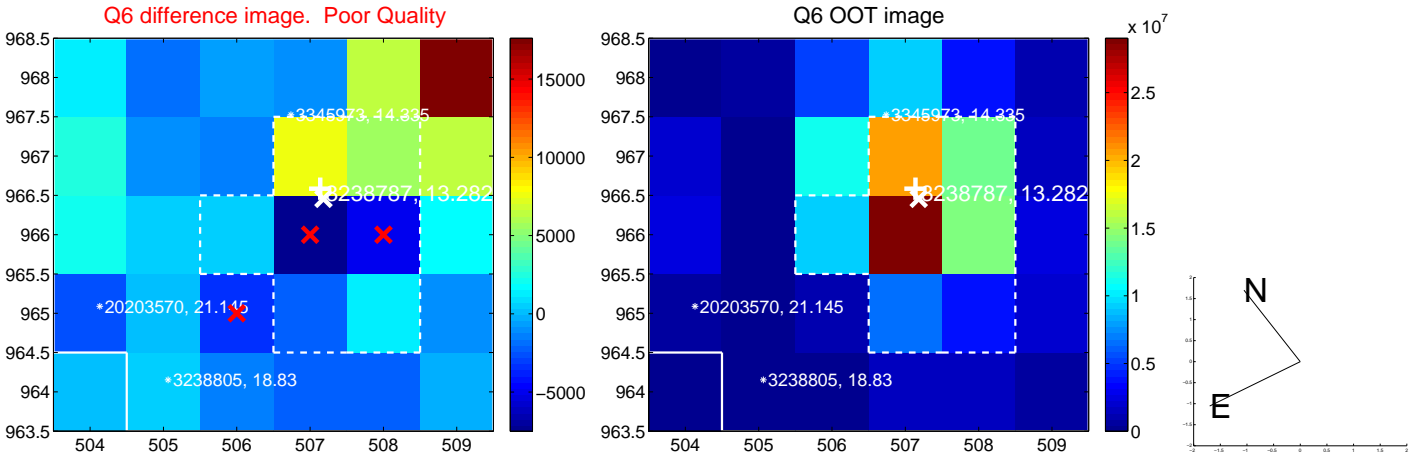
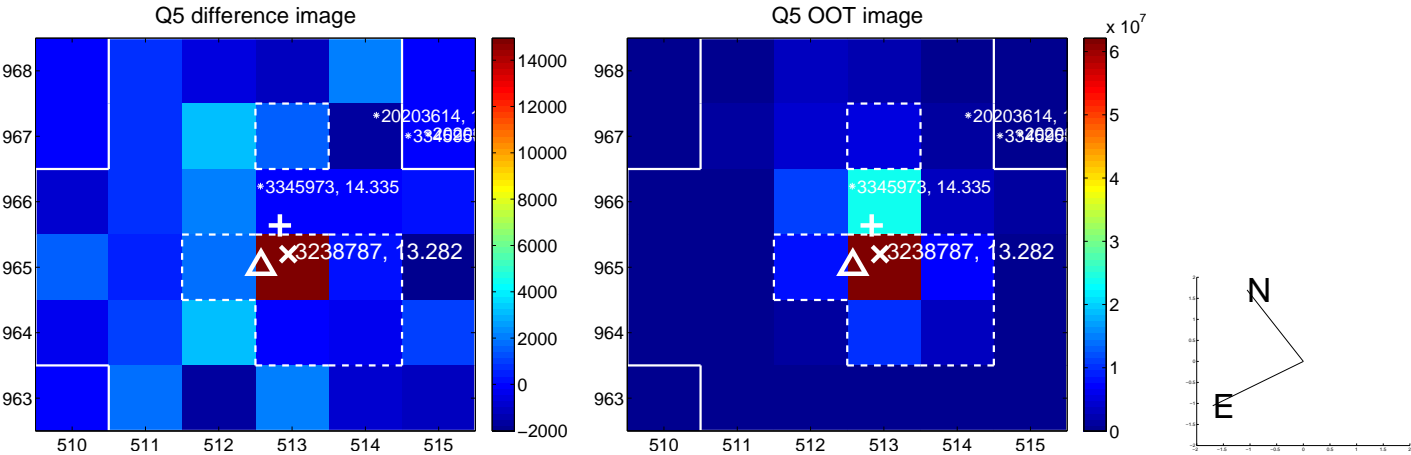


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

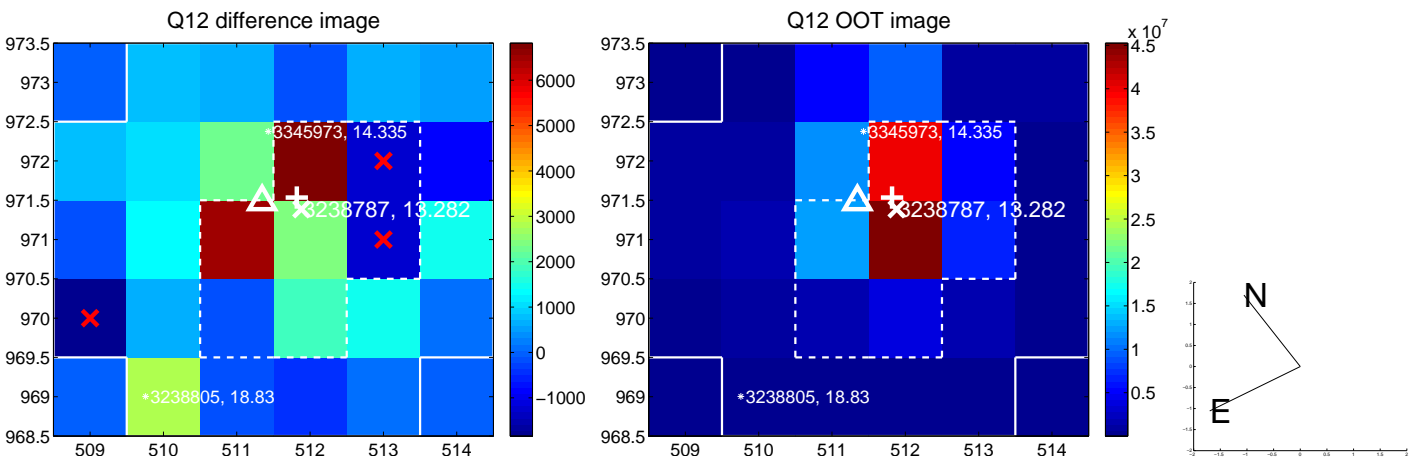
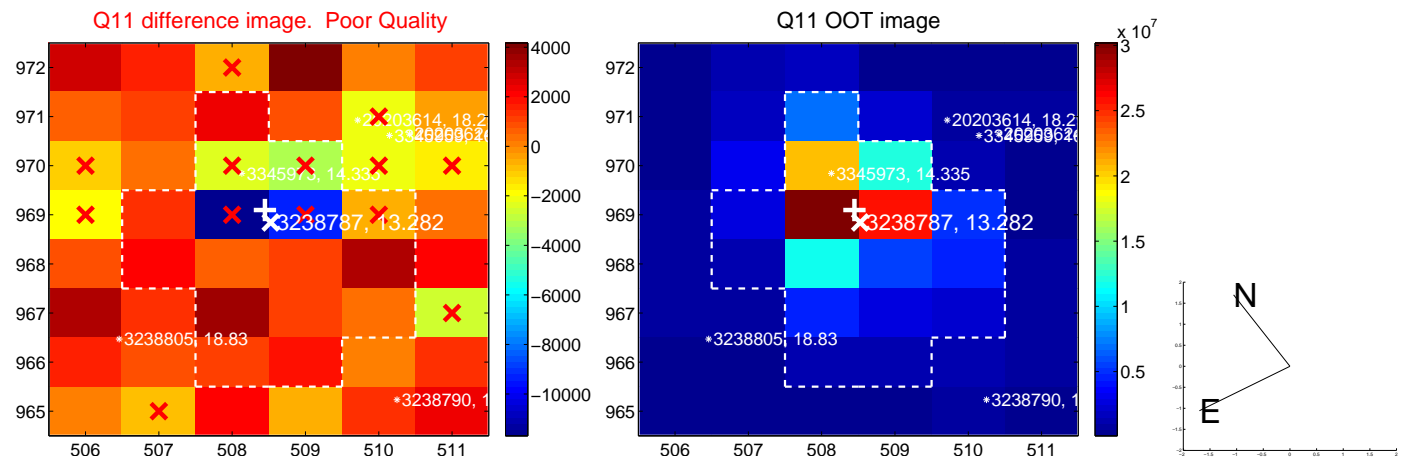
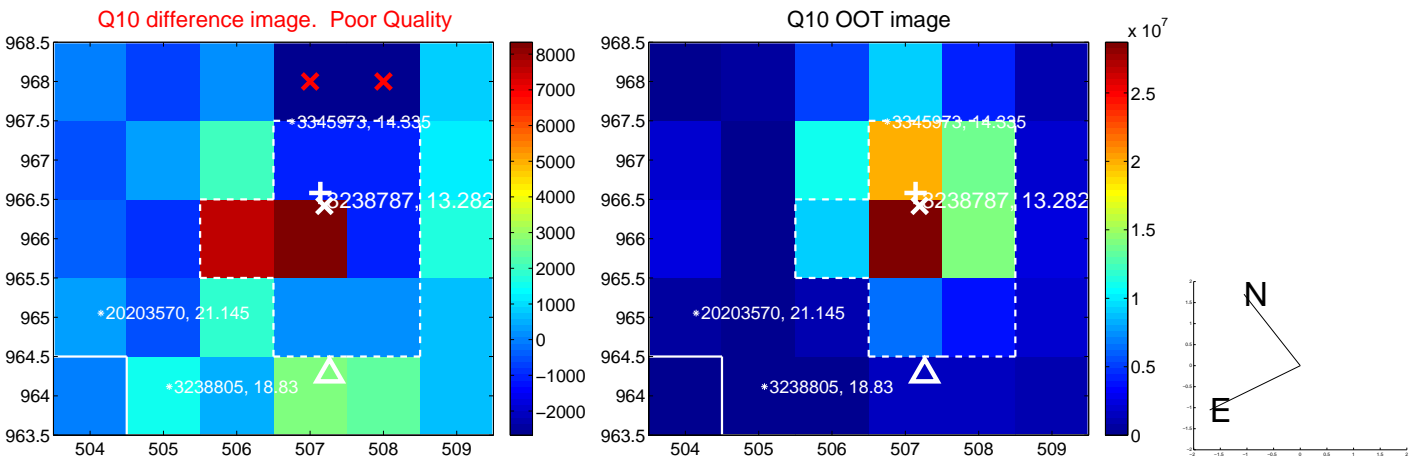
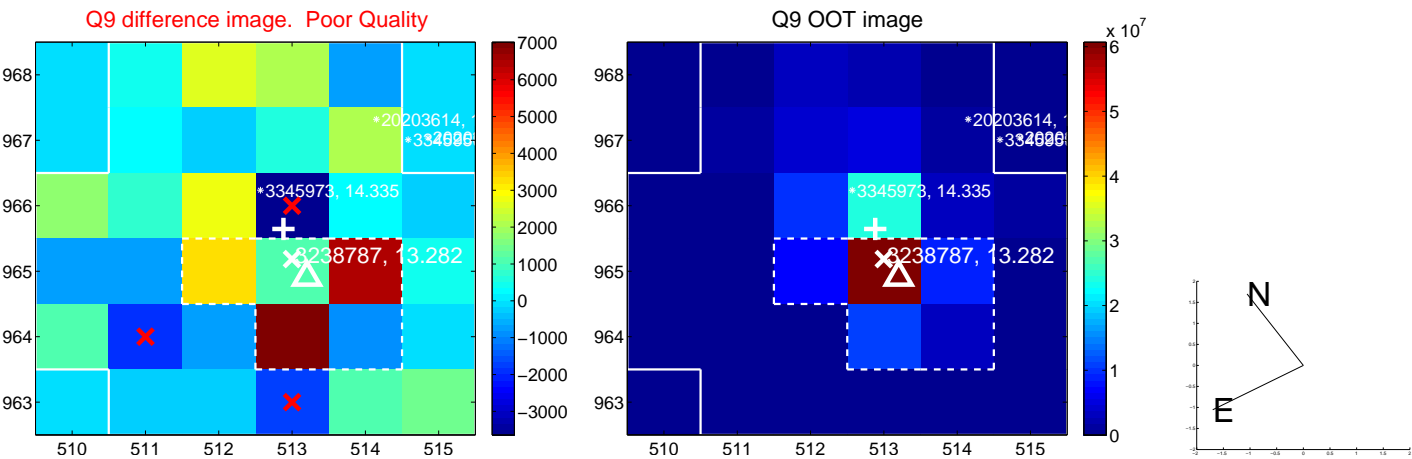
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



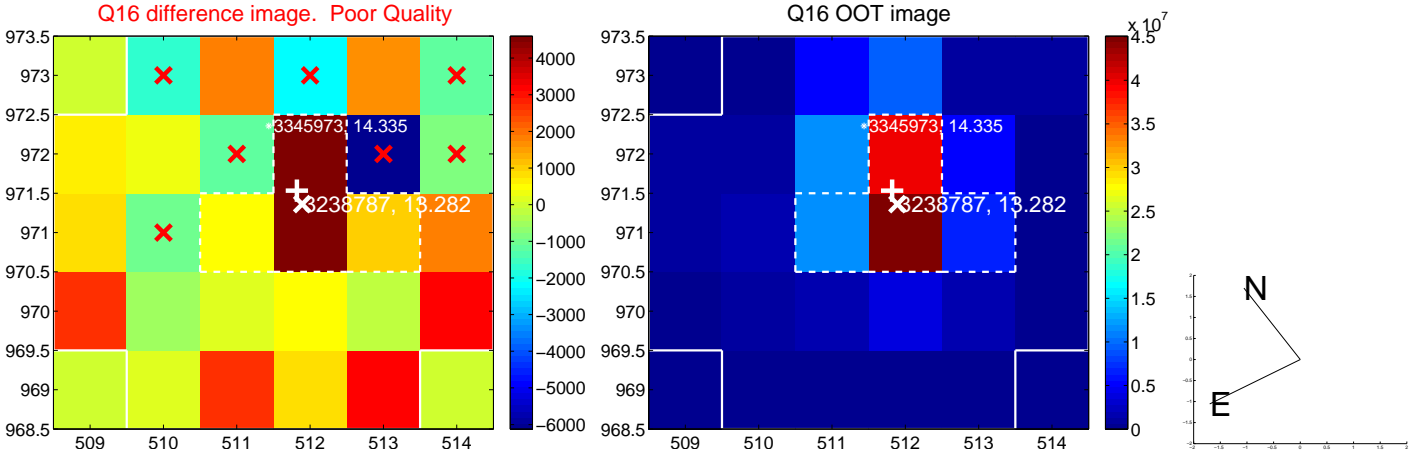
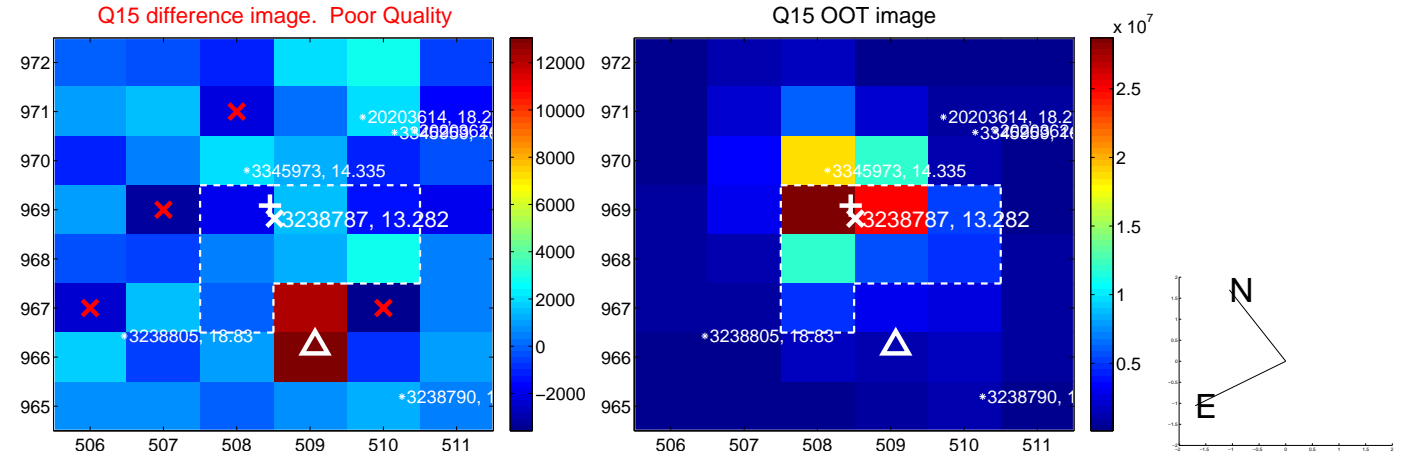
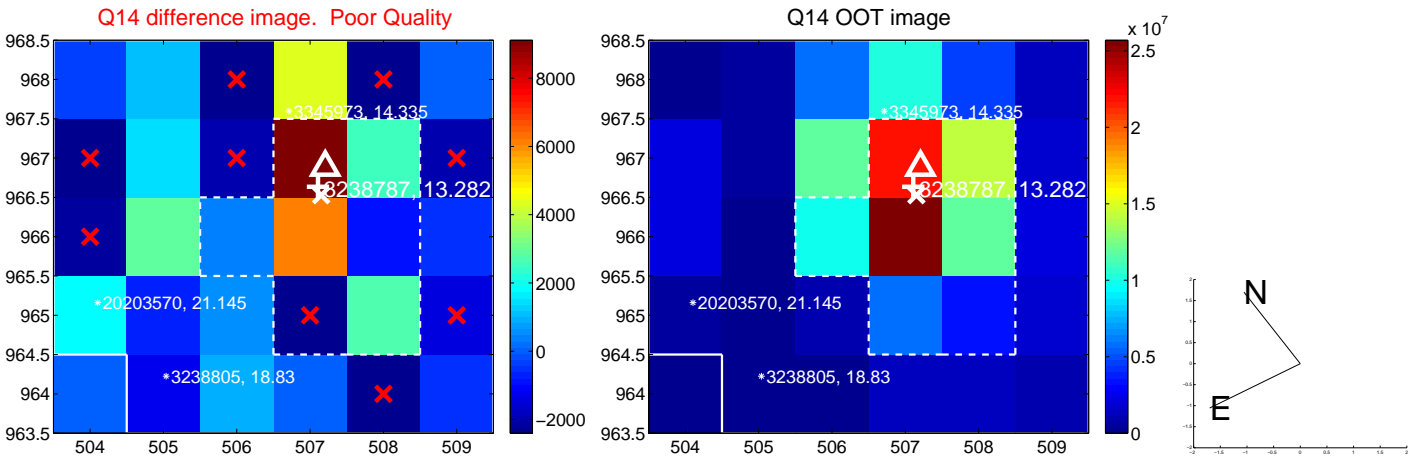
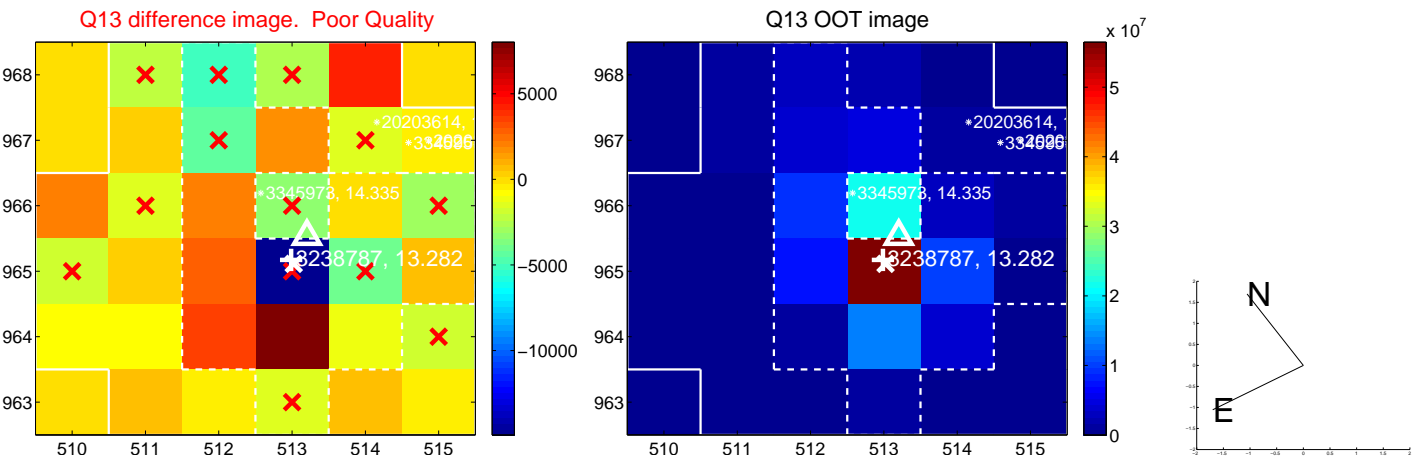
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



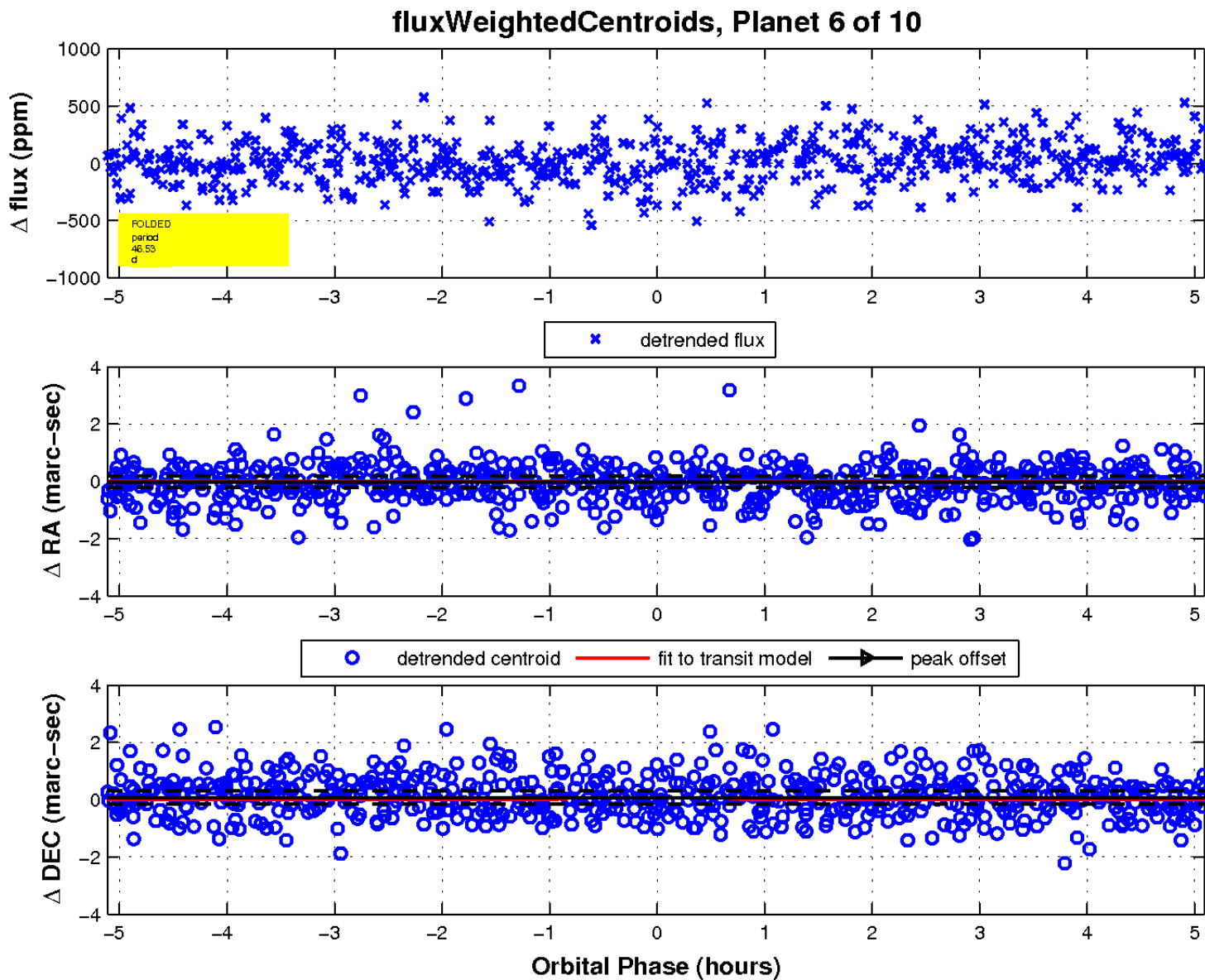
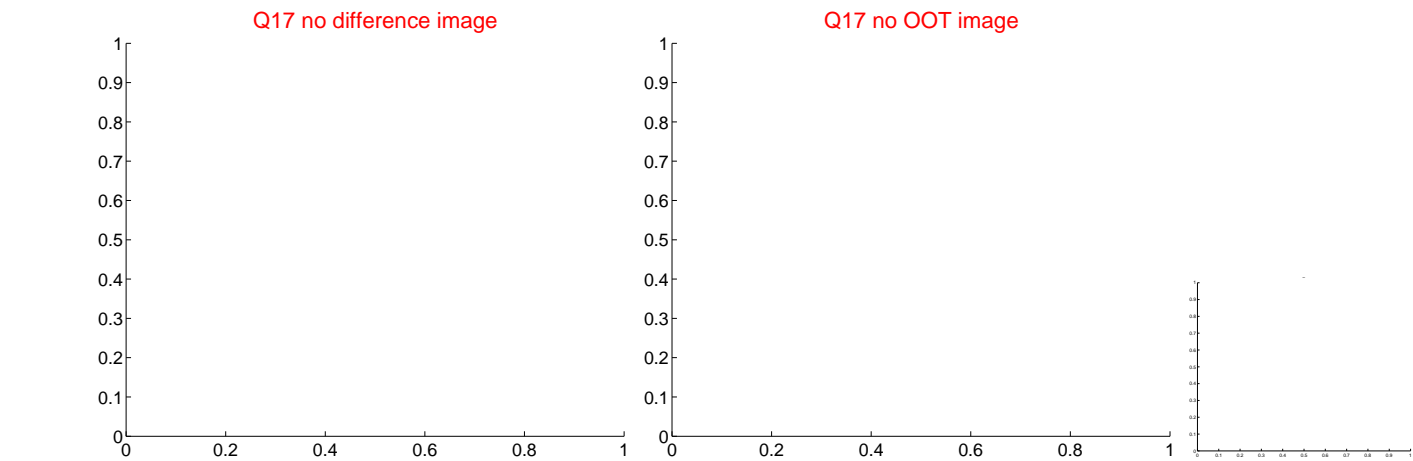
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

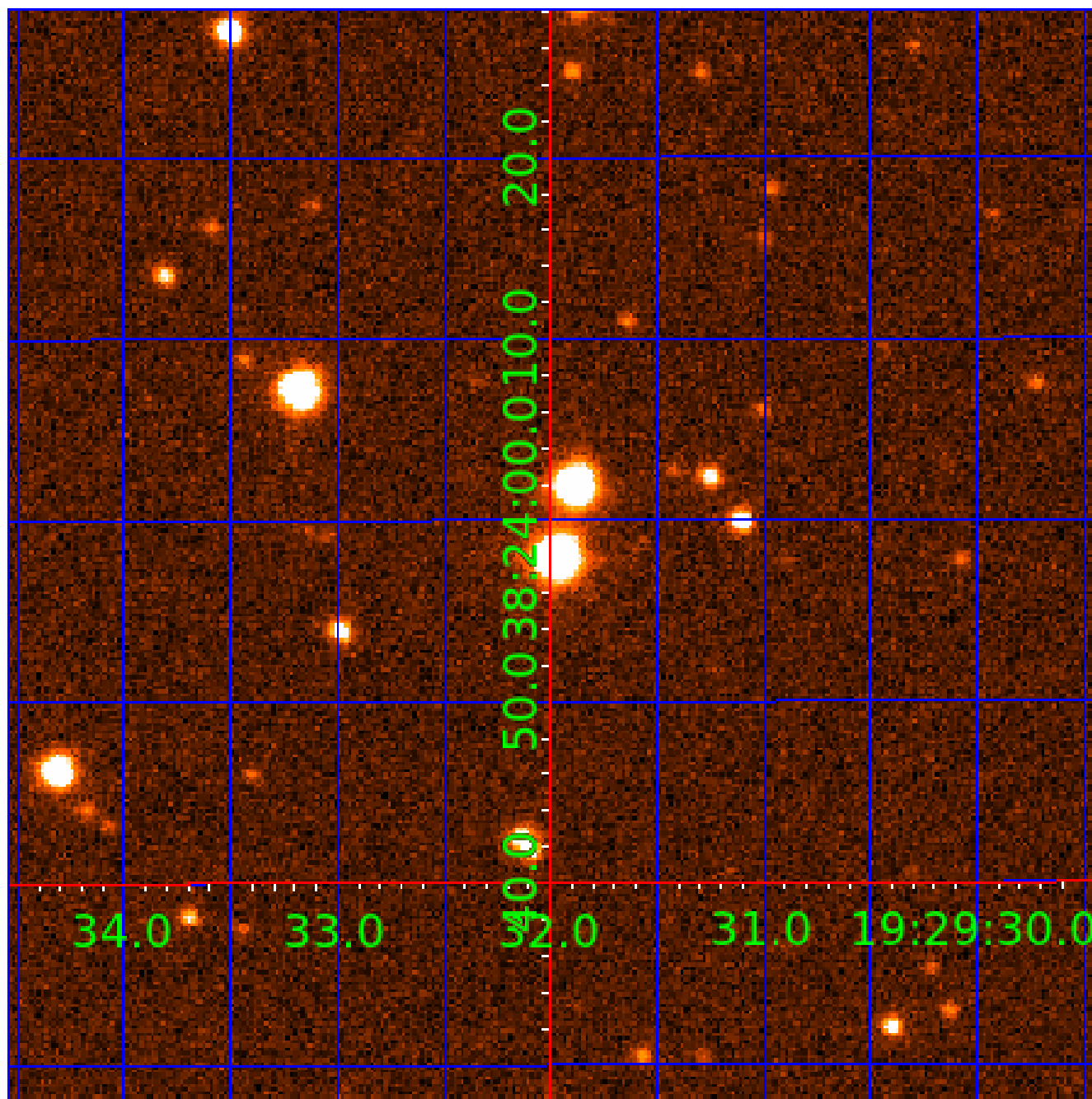


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003238787

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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

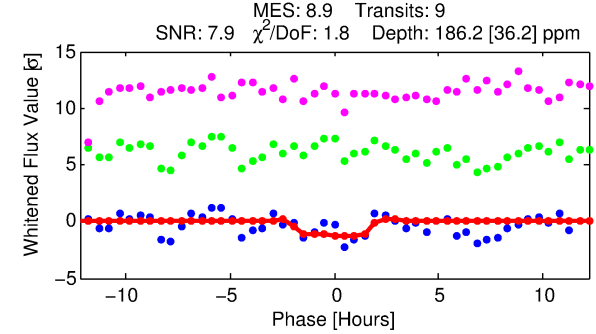
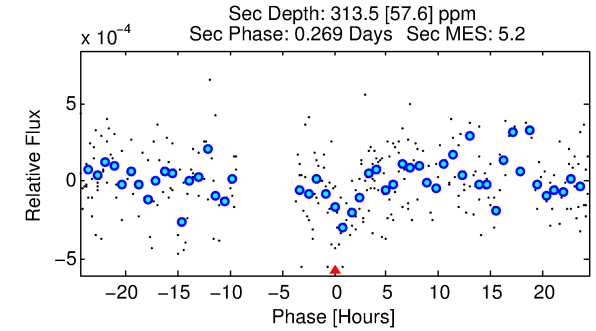
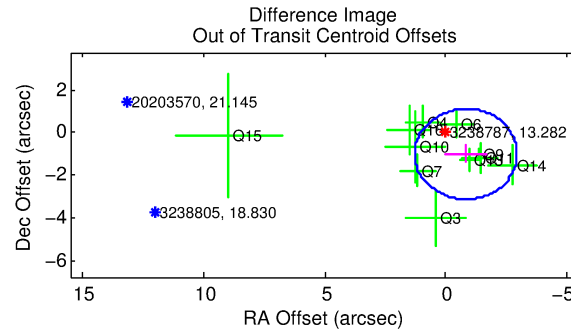
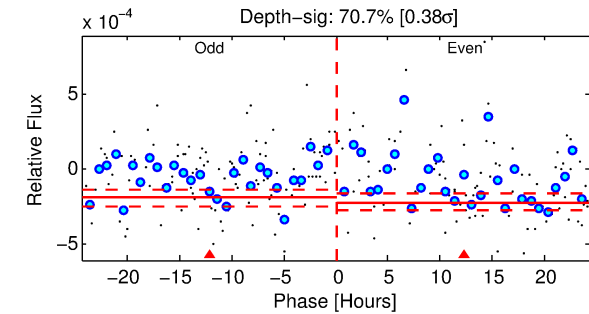
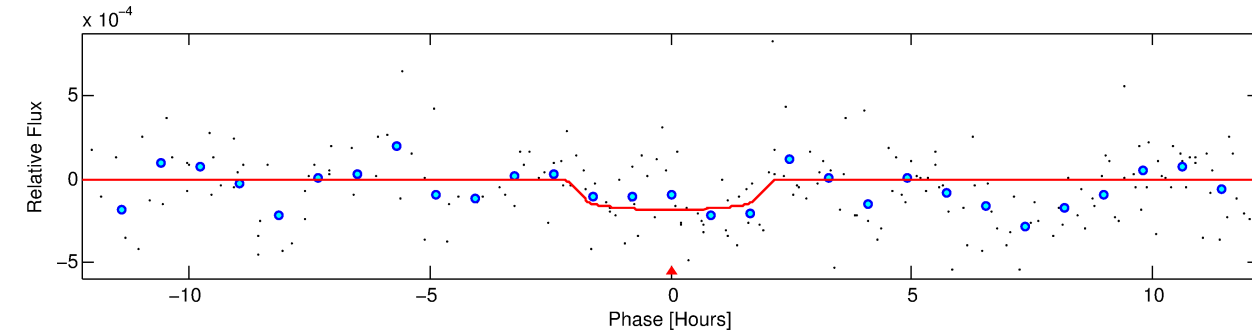
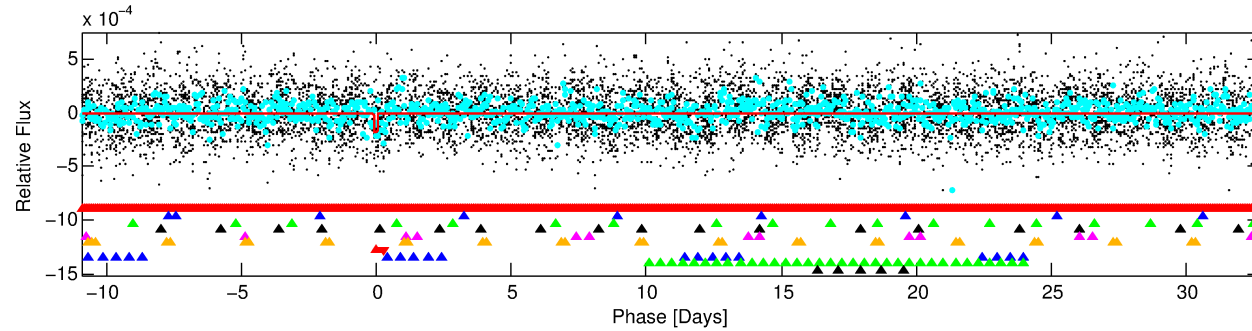
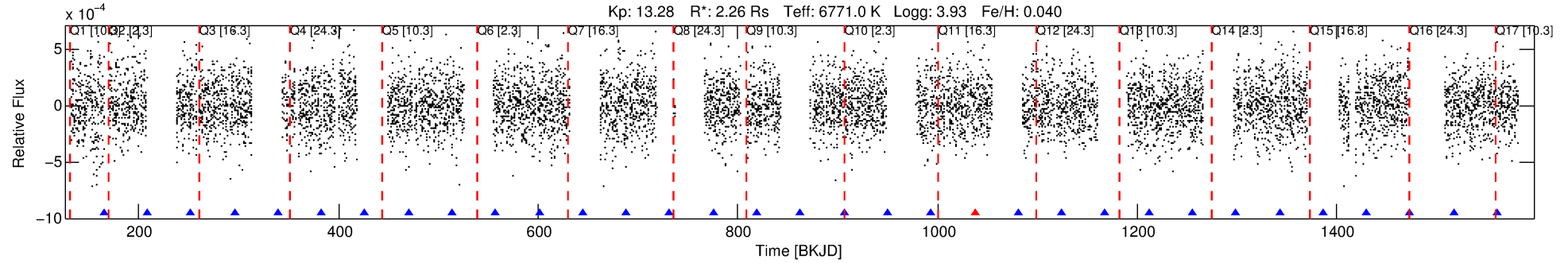
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-07

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 7 of 10 Period: 43.614 d



DV Fit Results:

Period = 43.61402 [0.00096] d
Epoch = 164.9224 [0.0152] BKJD
Rp/R* = 0.0140 [0.0111]
a/R* = 46.89 [212.78]
b = 0.84 [1.64]
Seff = 119.48 [40.61]
Teff = 843 [72] K
Rp = 3.46 [2.85] Re
a = 0.2836 [0.0609] AU
Ag = 1161.20 [1889.15] [0.61 σ]
Teffp = 7609 [3029] K [2.23 σ]

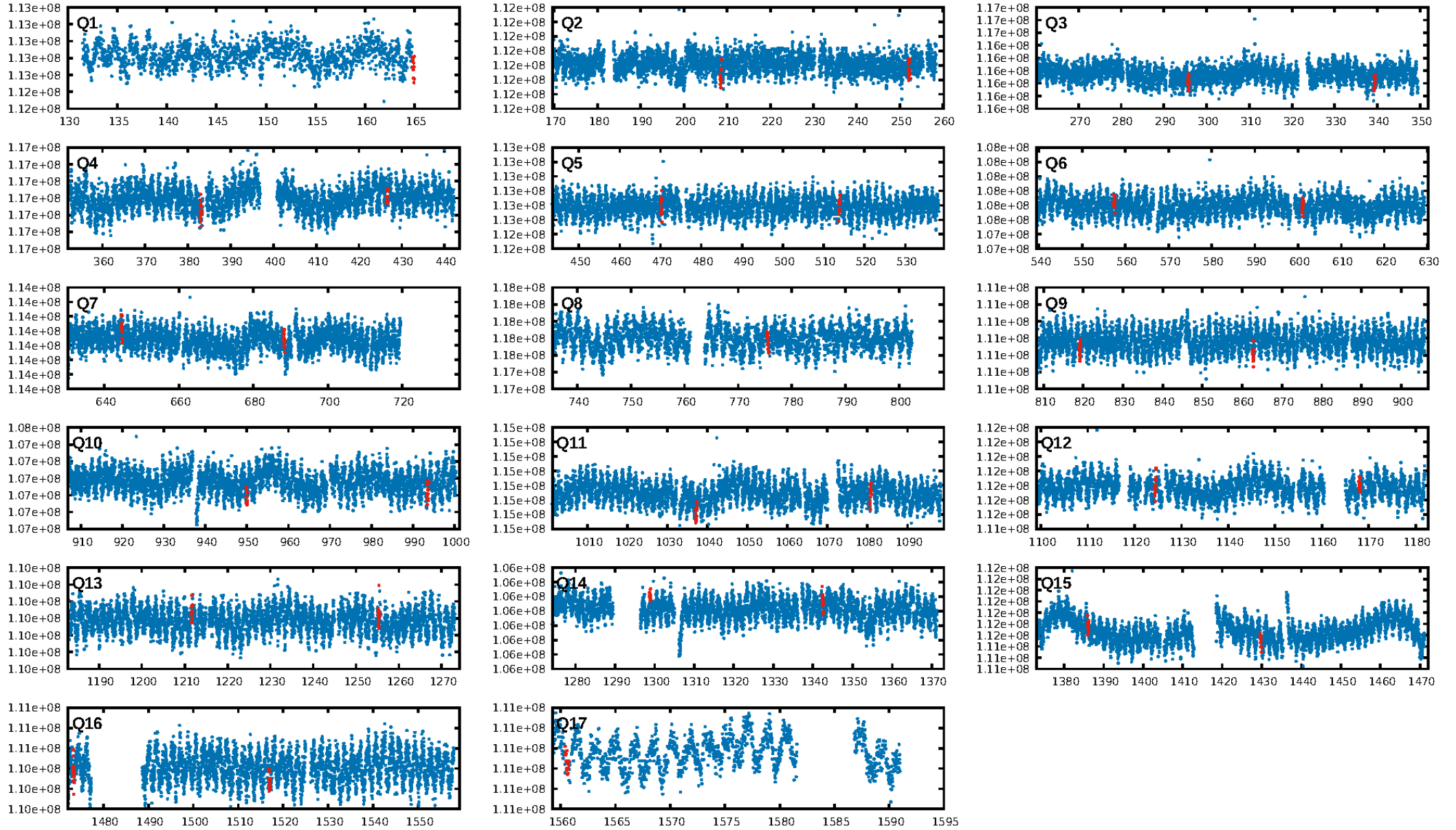
DV Diagnostic Results:

ShortPeriod-sig: 97.6% [2.26 σ]
LongPeriod-sig: 100.0% [15.86 σ]
ModelChiSquare2-sig: 61.6%
ModelChiSquareGof-sig: 89.4%
Bootstrap-pfa: 2.52e-09
RollingBand-fgt: 0.88 [7/8]
GhostDiagnostic-chr: 9.396
Centroid-sig: 2.4%
Centroid-so: 0.862 arcsec [1.11 σ]
OotOffset-rm: 1.302 arcsec [1.85 σ]
KicOffset-rm: 1.331 arcsec [1.64 σ]
OotOffset-st: 3/4/2/2 [11]
KicOffset-st: 3/4/2/2 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.20 [3/15]

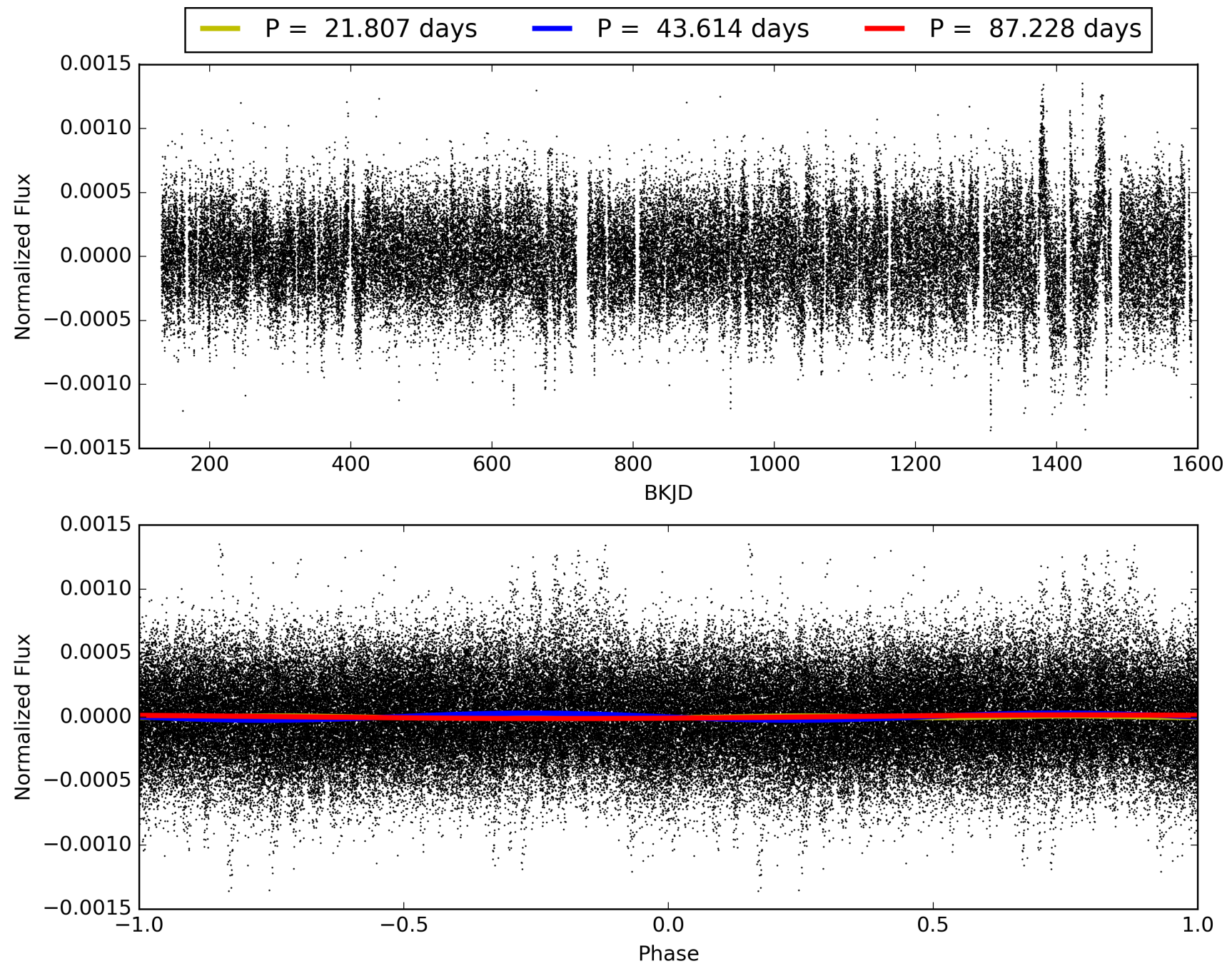
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:41 Z

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

TCE 003238787-07, PDC Light Curves

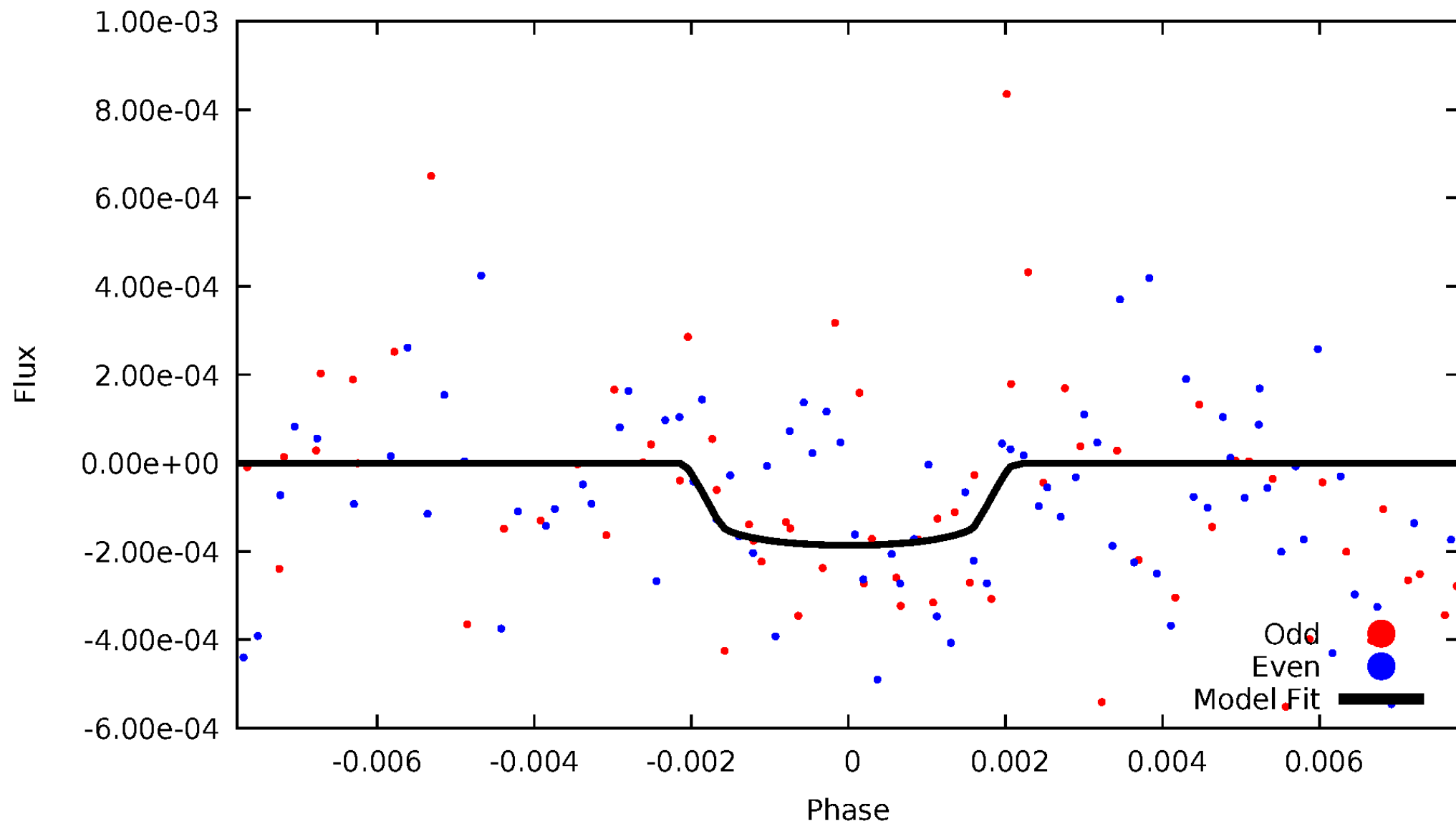


TCE 003238787-07



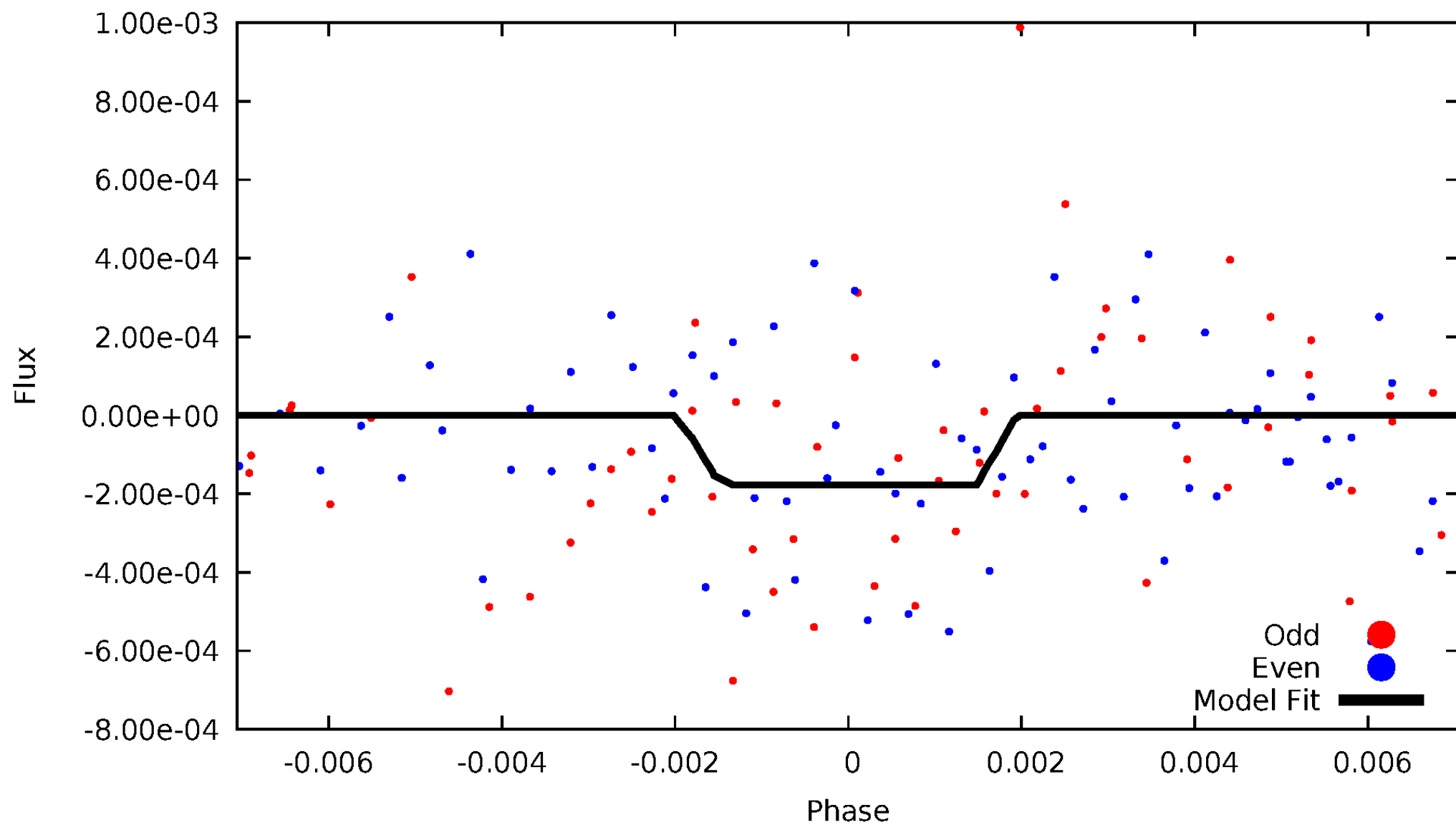
DV Odd/Even

TCE 003238787-07



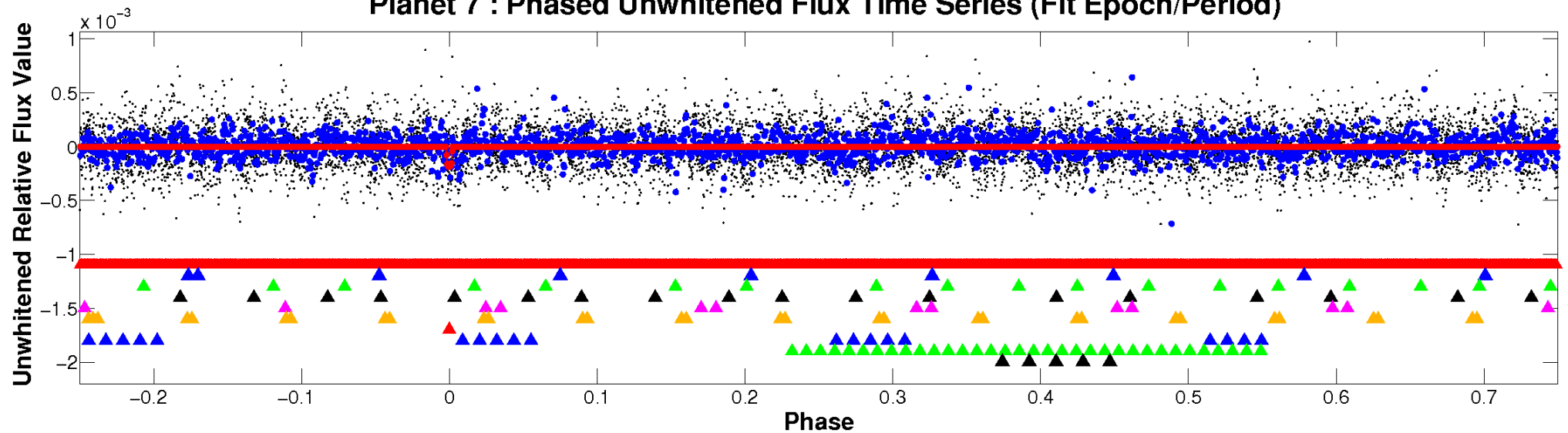
ALT Odd/Even

TCE 003238787-07

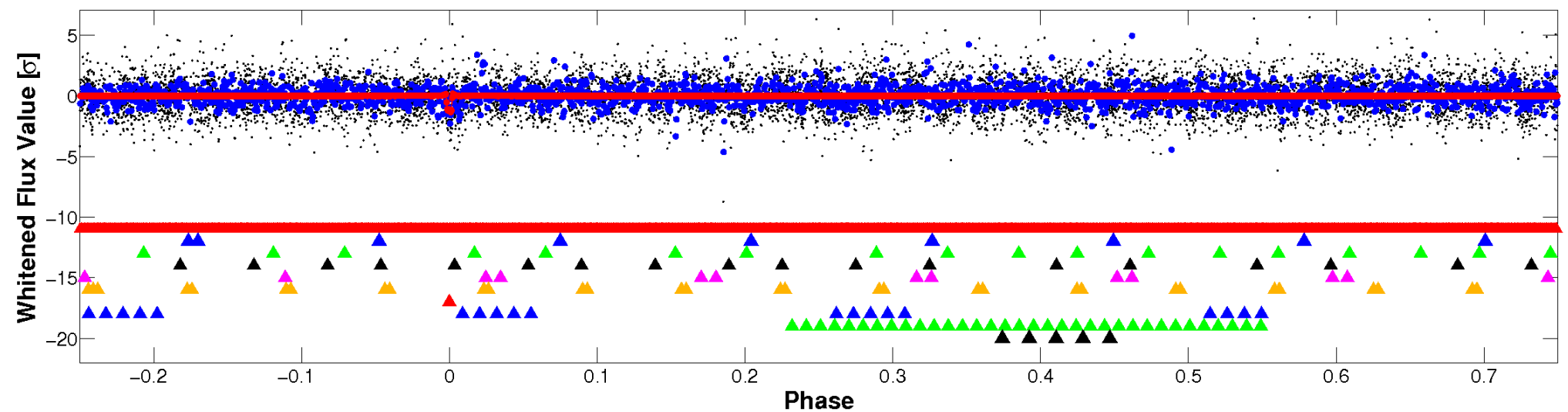


Non-Whitened Vs. Whitened Light Curve

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

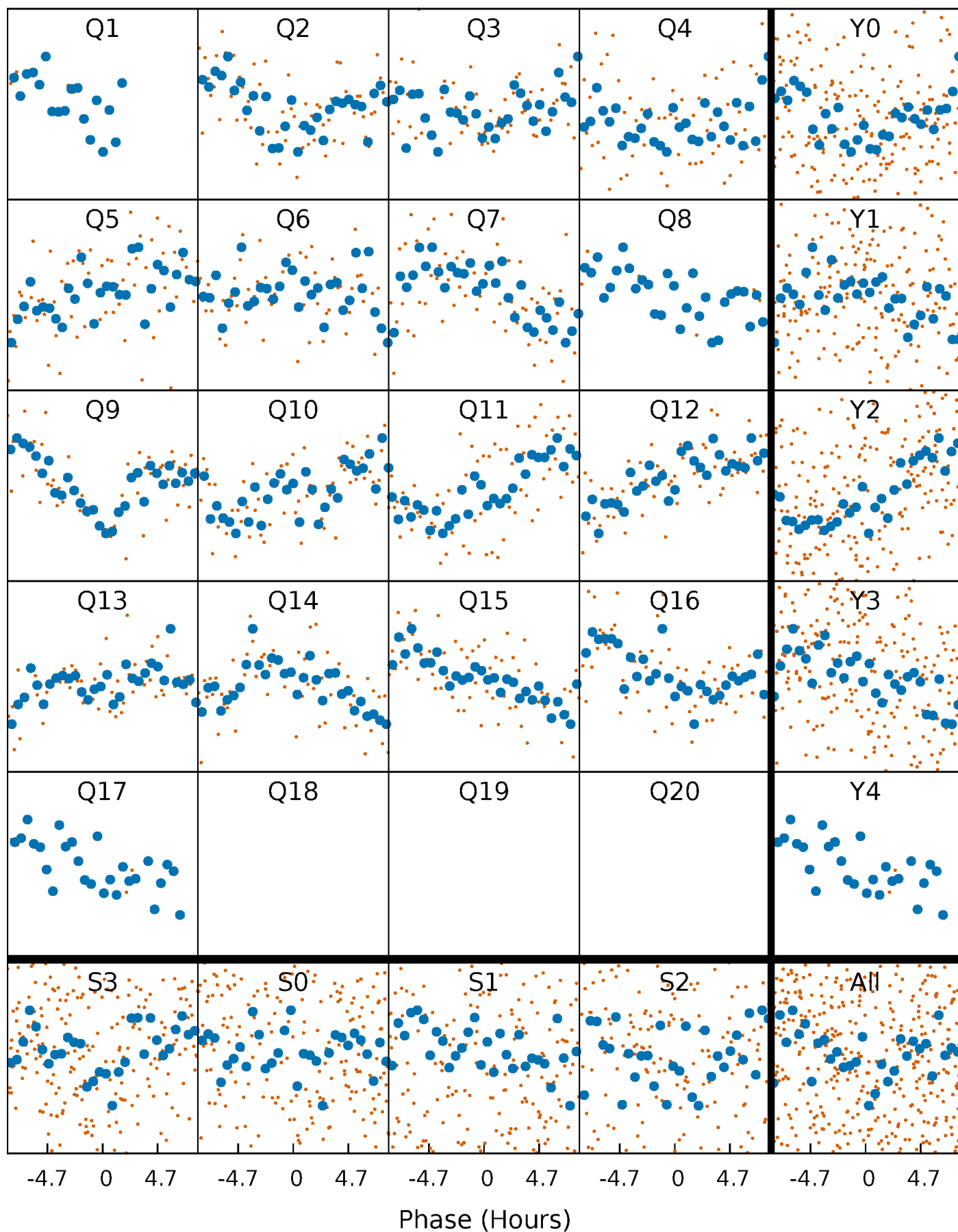


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



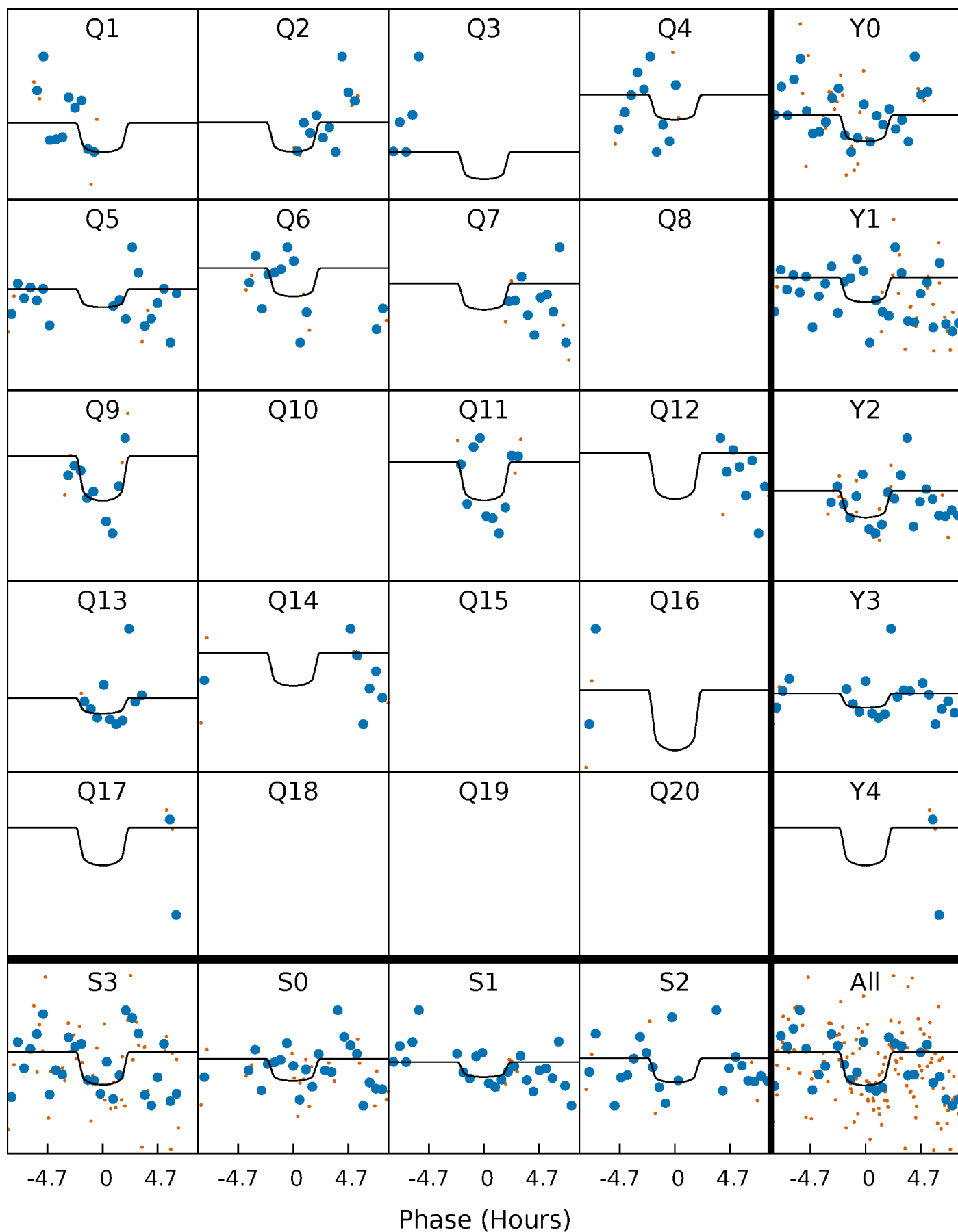
PDC Quarter-Phased Transit Curves

TCE 003238787-07 P= 43.614023 Days $T_0=164.922397$ (BKJD)



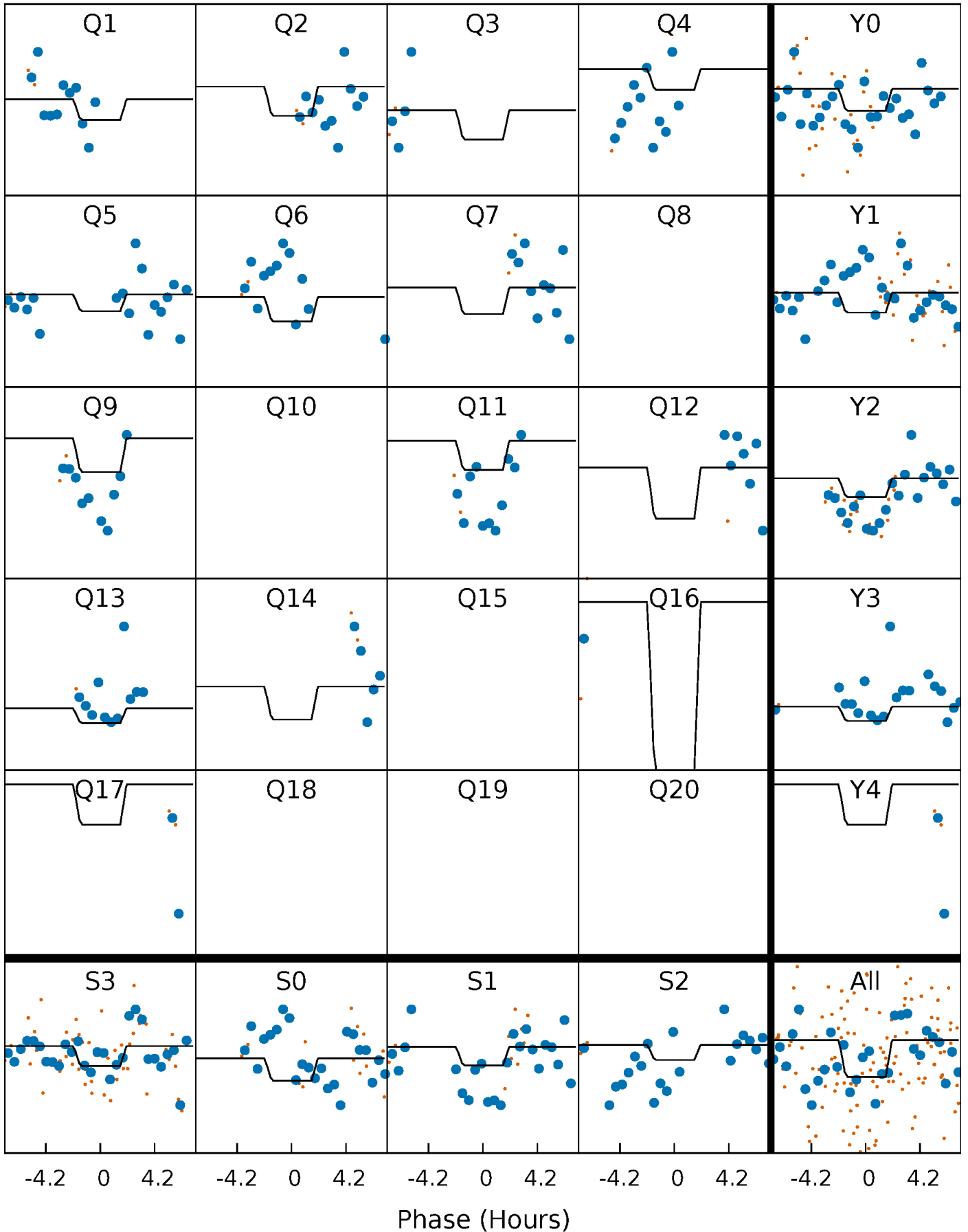
DV Quarter-Phased Transit Curves

TCE 003238787-07 $P = 43.614023$ Days $T_0 = 164.922397$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

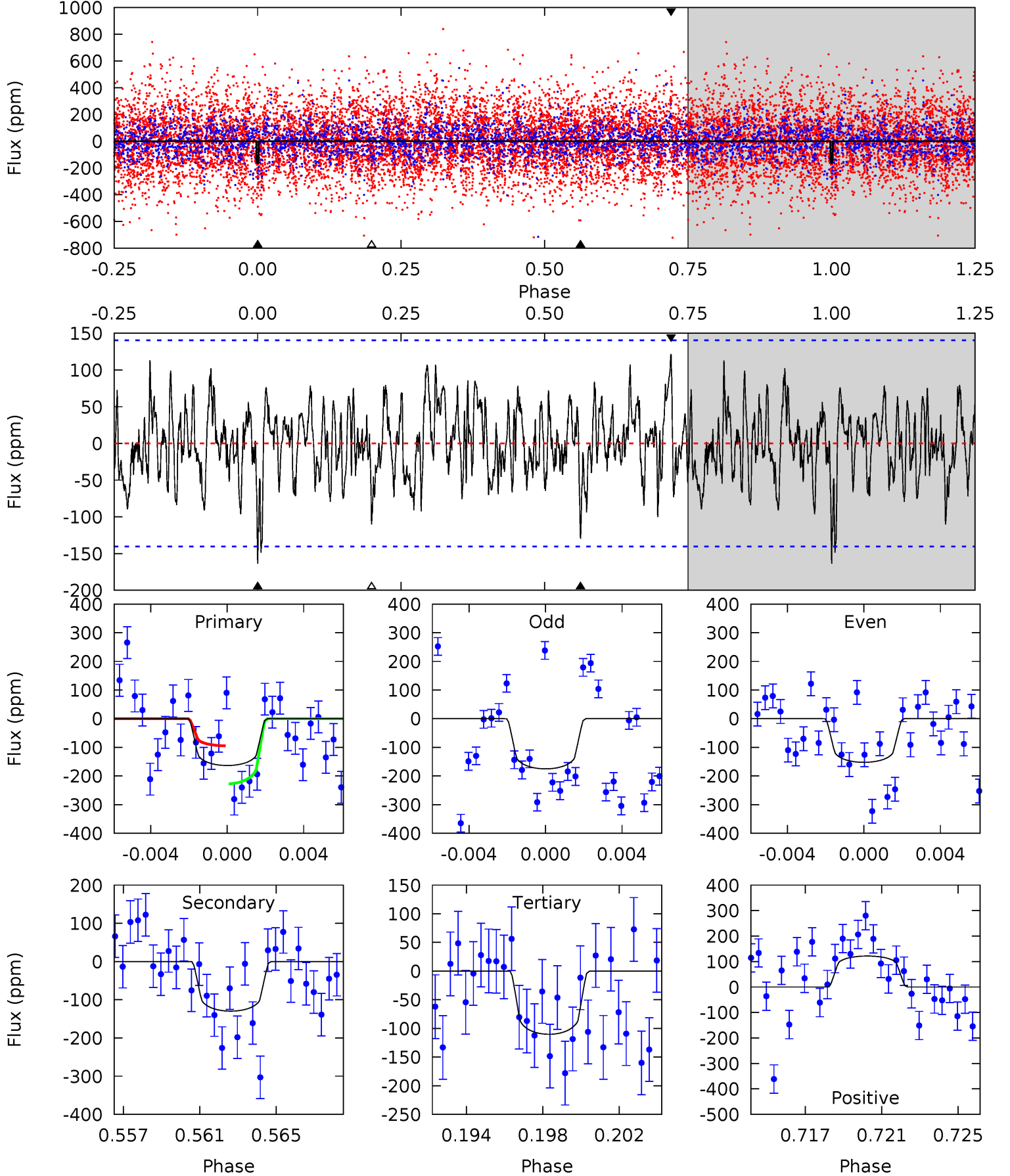
TCE 003238787-07 $P = 43.614628$ Days $T_0 = 164.908762$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-07, $P = 43.614023$ Days, $E = 121.308374$ Days

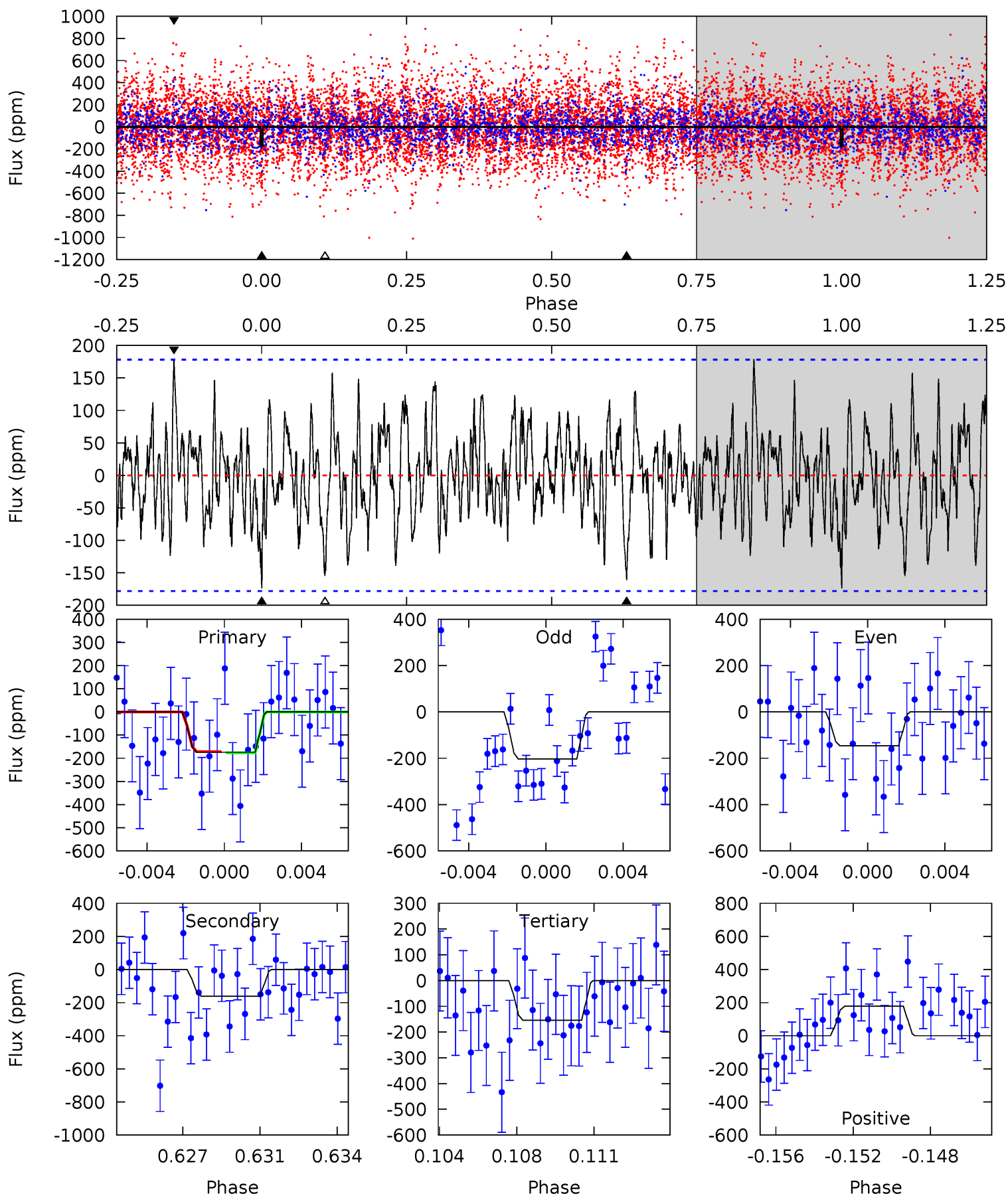
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.05	4.80	4.07	4.50	5.19	2.86	1.56	1.97	1.55	0.72	0.30	0.42	1.00	0.43	2.45



Alt Model-Shift Uniqueness Test

003238787-07, P = 43.614628 Days, E = 121.294134 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.09	4.72	4.52	5.24	5.21	2.90	1.66	0.57	-0.15	0.20	-0.52	0.84	1.09	0.51	0.06



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-130 ± 27	$3.65^{+2.65}_{-2.07}$	1171^{+61}_{-79}	5776^{+3465}_{-1246}	416^{+1891}_{-280}
Alt.	-161 ± 34	$3.69^{+2.67}_{-2.25}$	1175^{+61}_{-71}	6191^{+4410}_{-1385}	533^{+2784}_{-367}

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 $A_{obs} \gg 1.0$

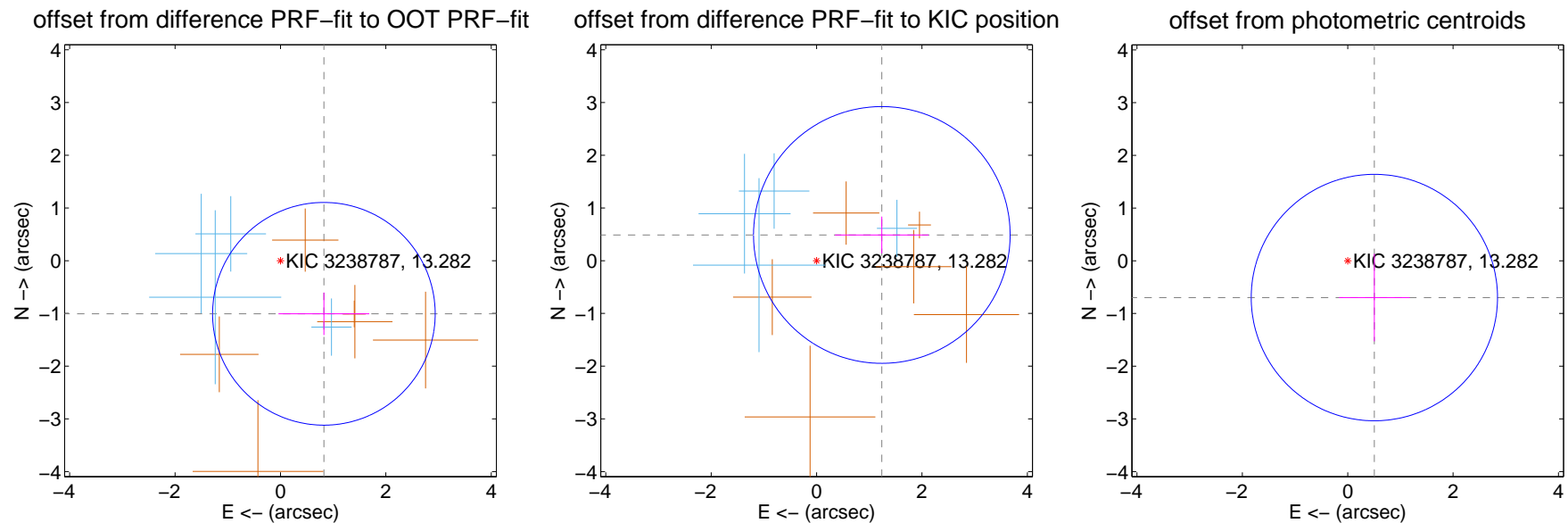
DV Centroid Data

Supplemental centroid analysis for 003238787-07. Kepler magnitude: 13.28. Transit SNR 7.87

There are 4 quarters with good PRF difference image offsets

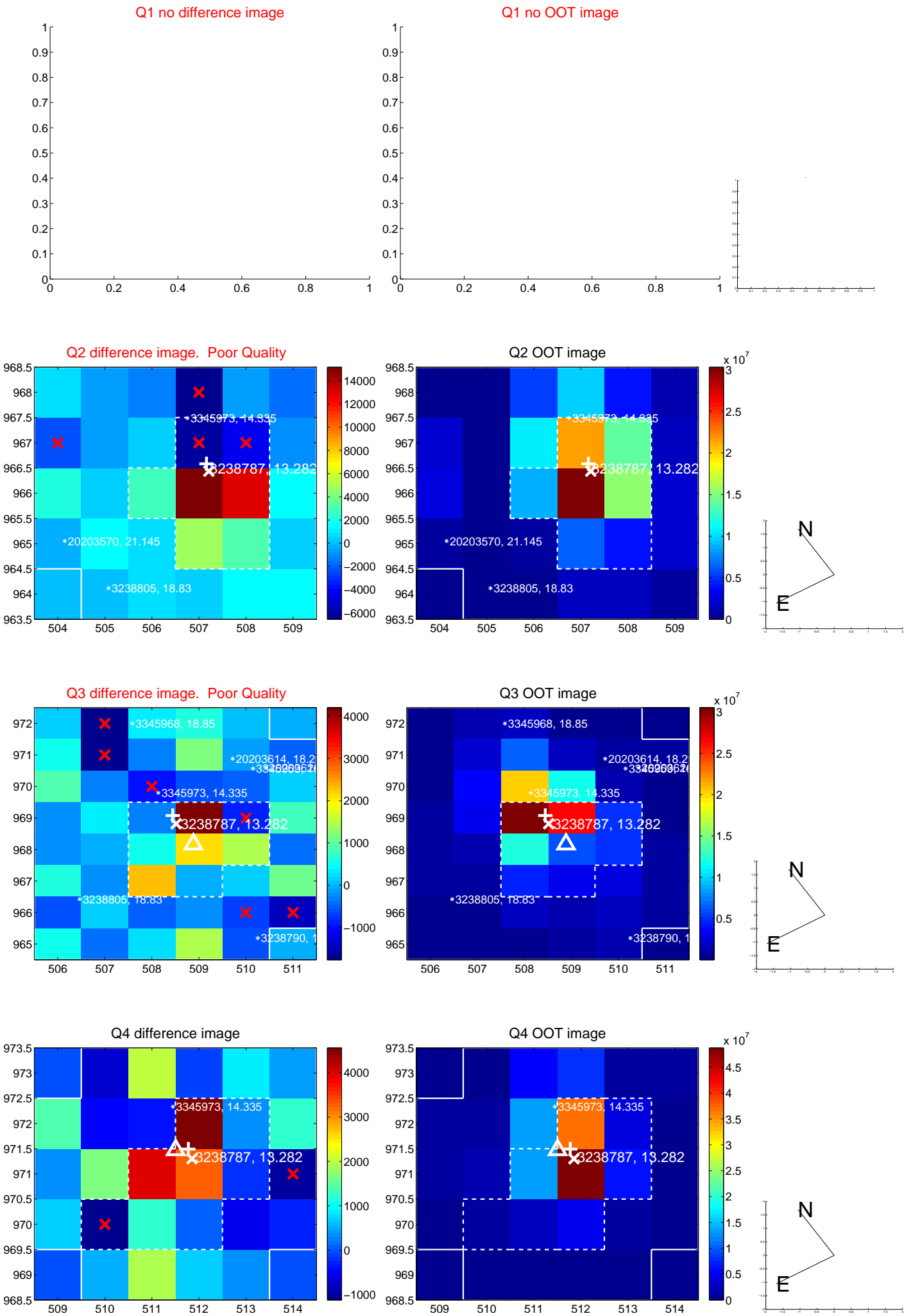
The direct PRF centroid is offset from the target star catalog position by about 0.77 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.302 ± 0.704	1.85	-0.824 ± 0.862	-1.008 ± 0.403
PRF-fit source offset from KIC position	1.331 ± 0.812	1.64	-1.238 ± 0.888	0.488 ± 0.349
photometric centroid source offset	0.86 ± 0.78	1.11	-0.51 ± 0.67	-0.70 ± 0.83

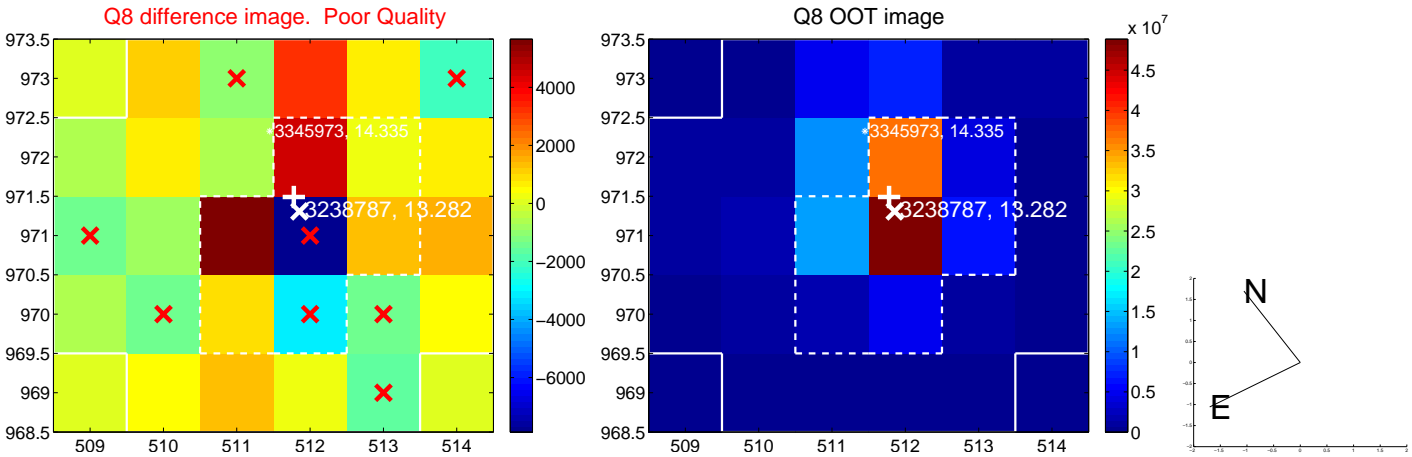
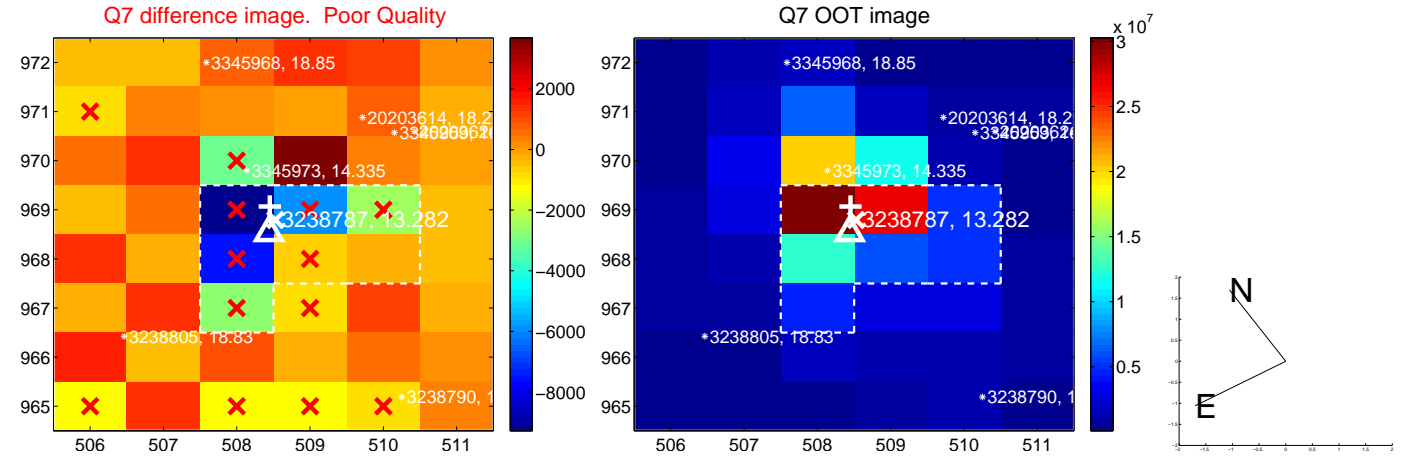
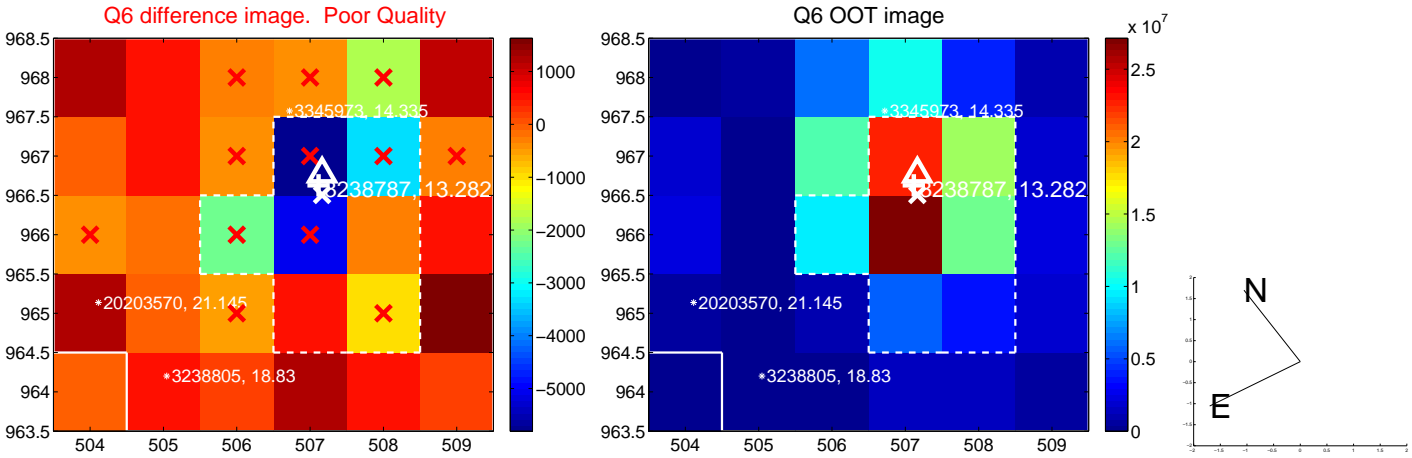
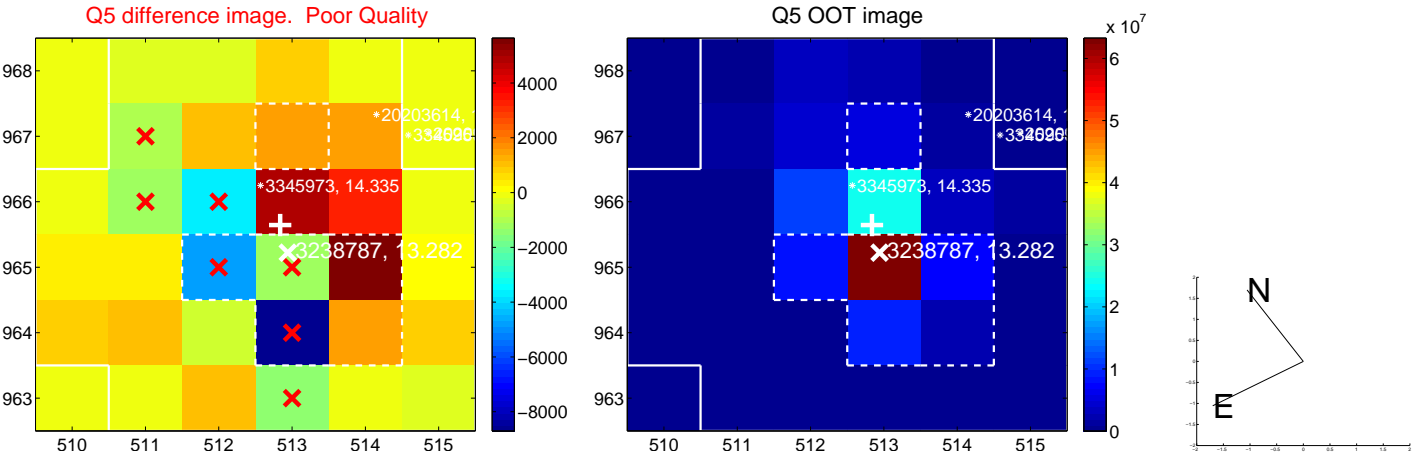


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

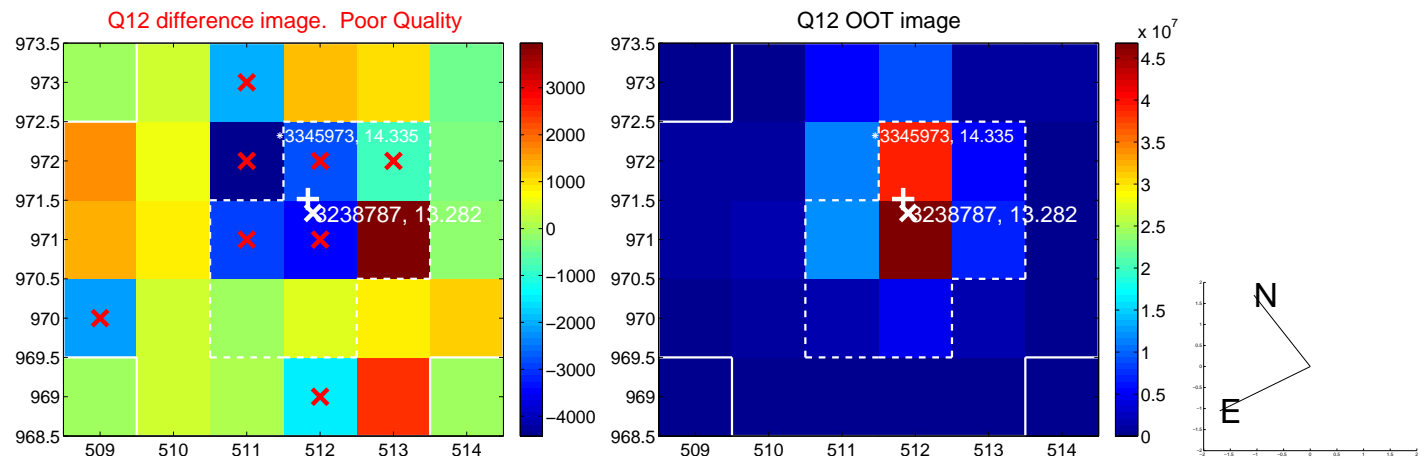
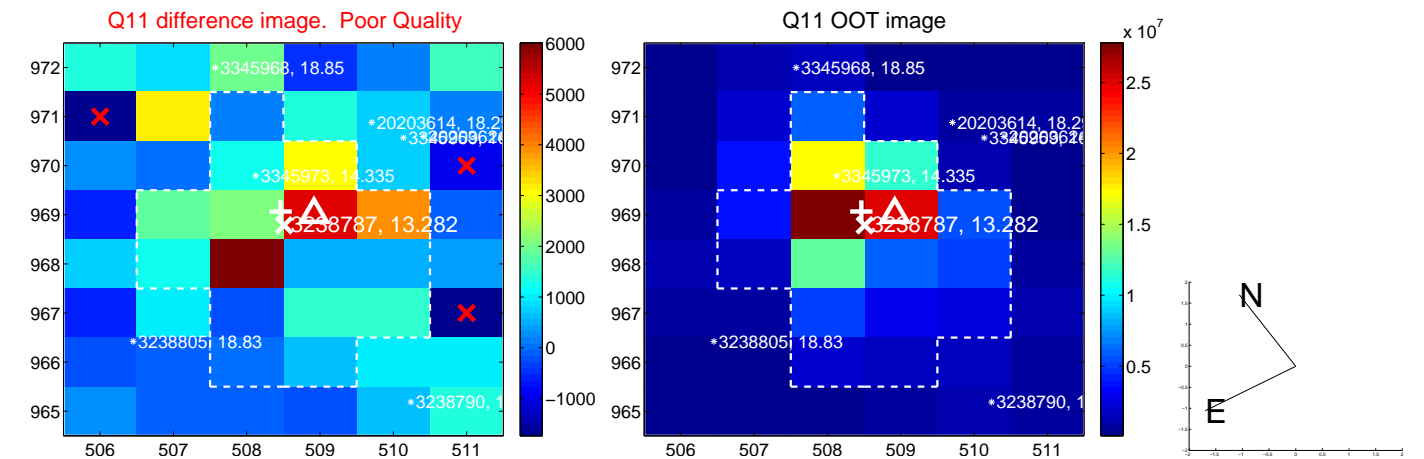
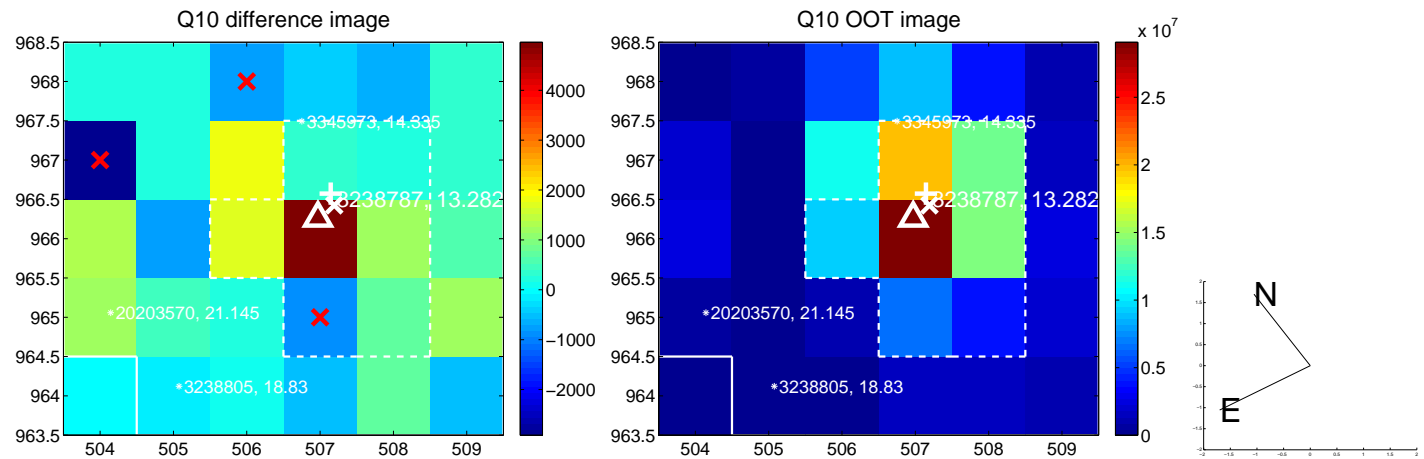
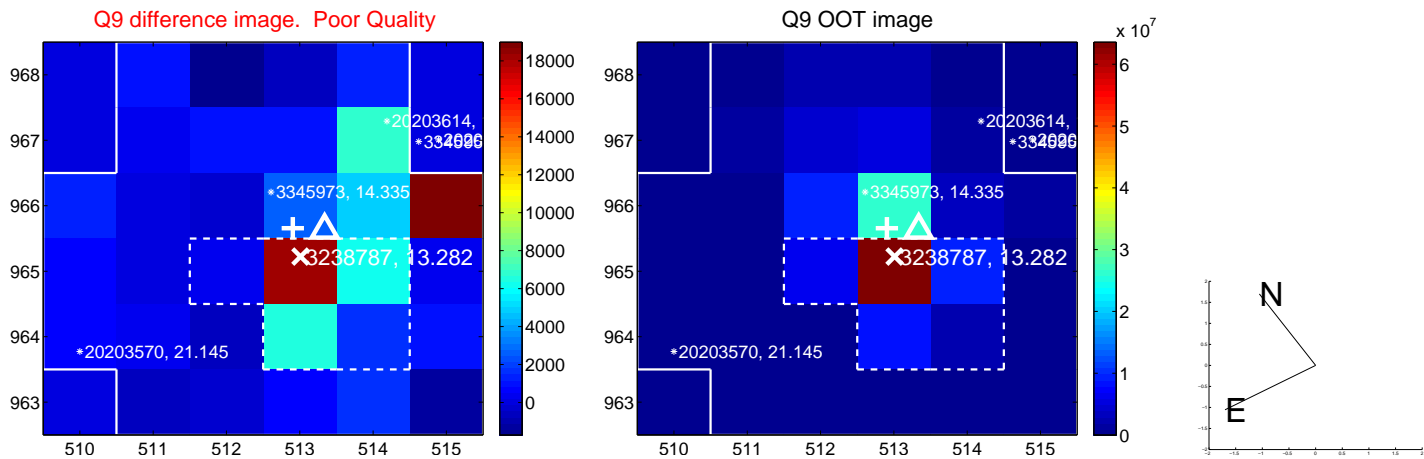
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



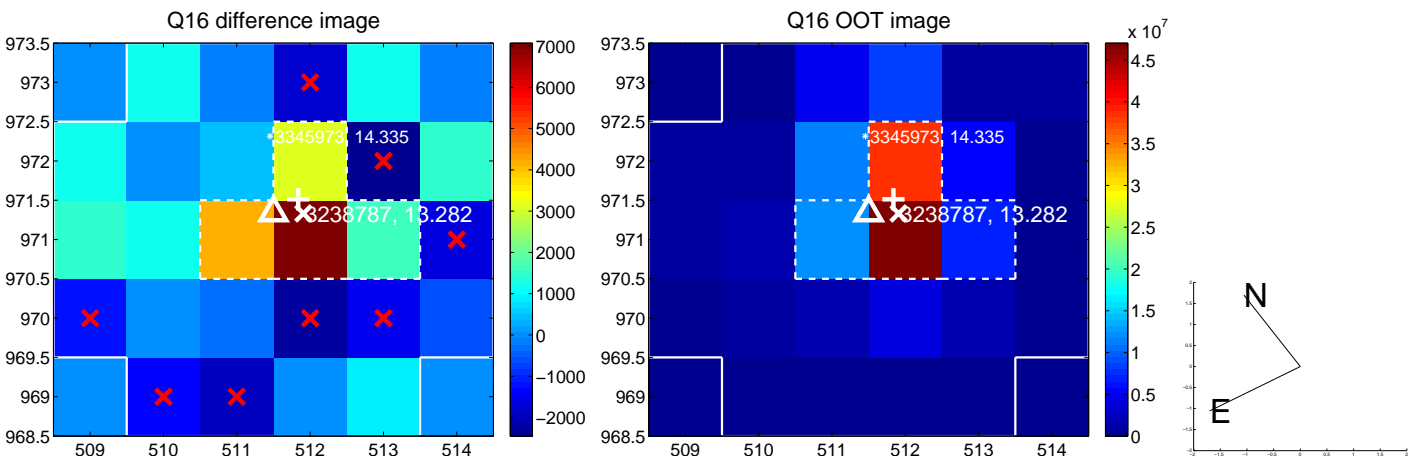
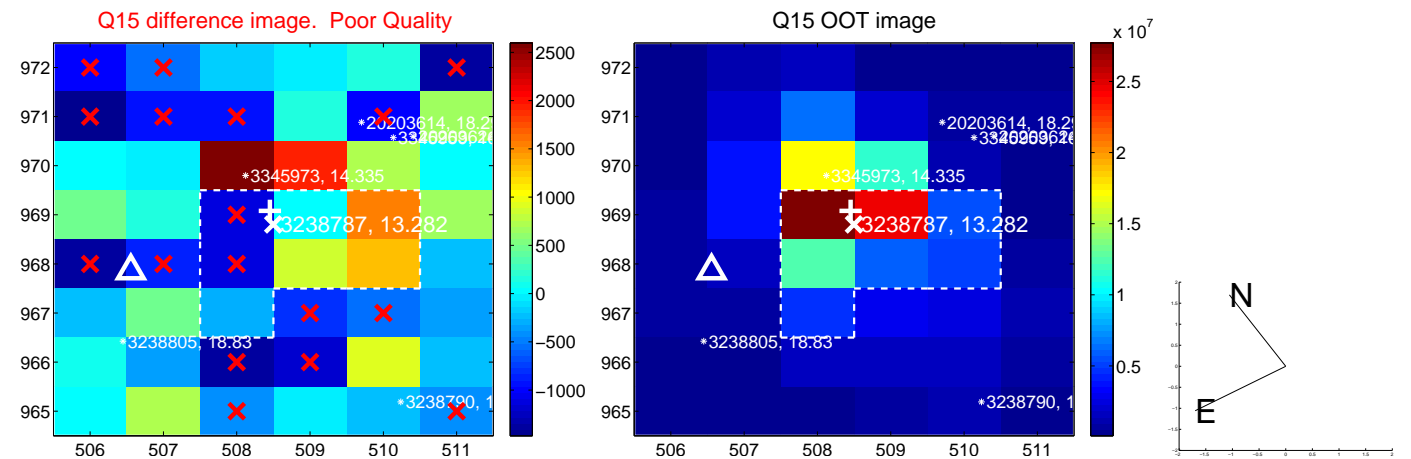
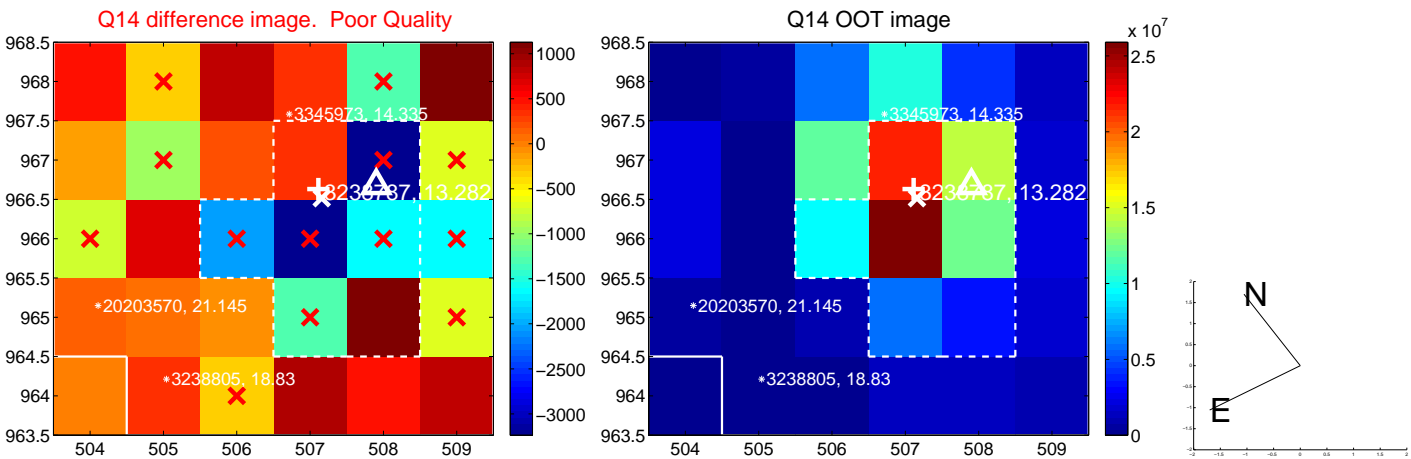
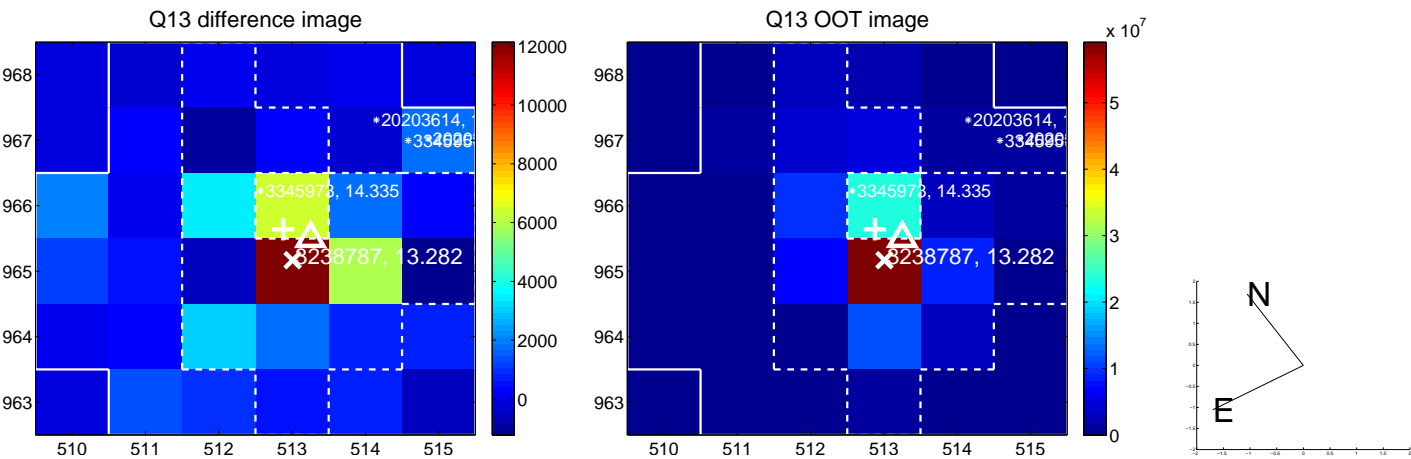
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



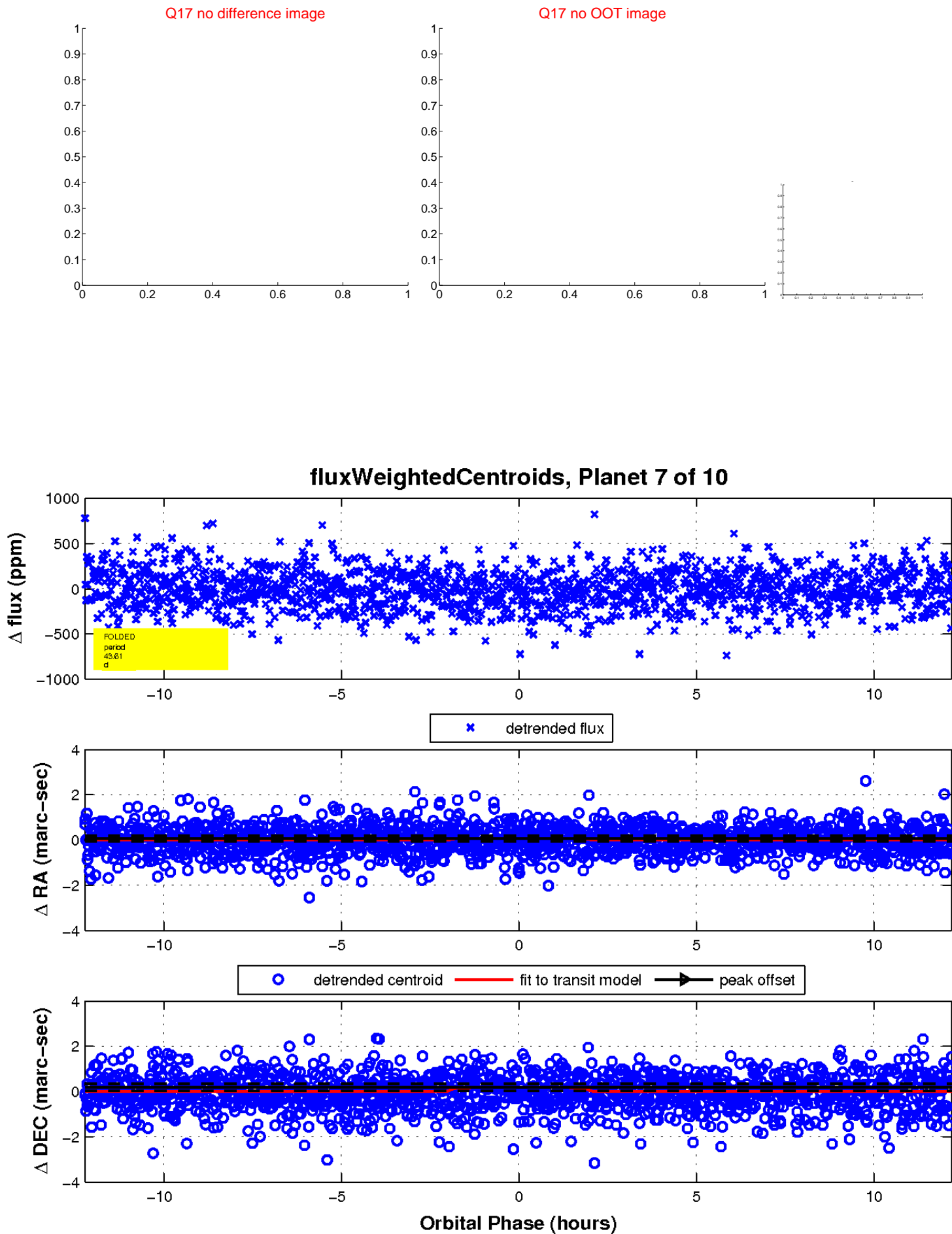
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

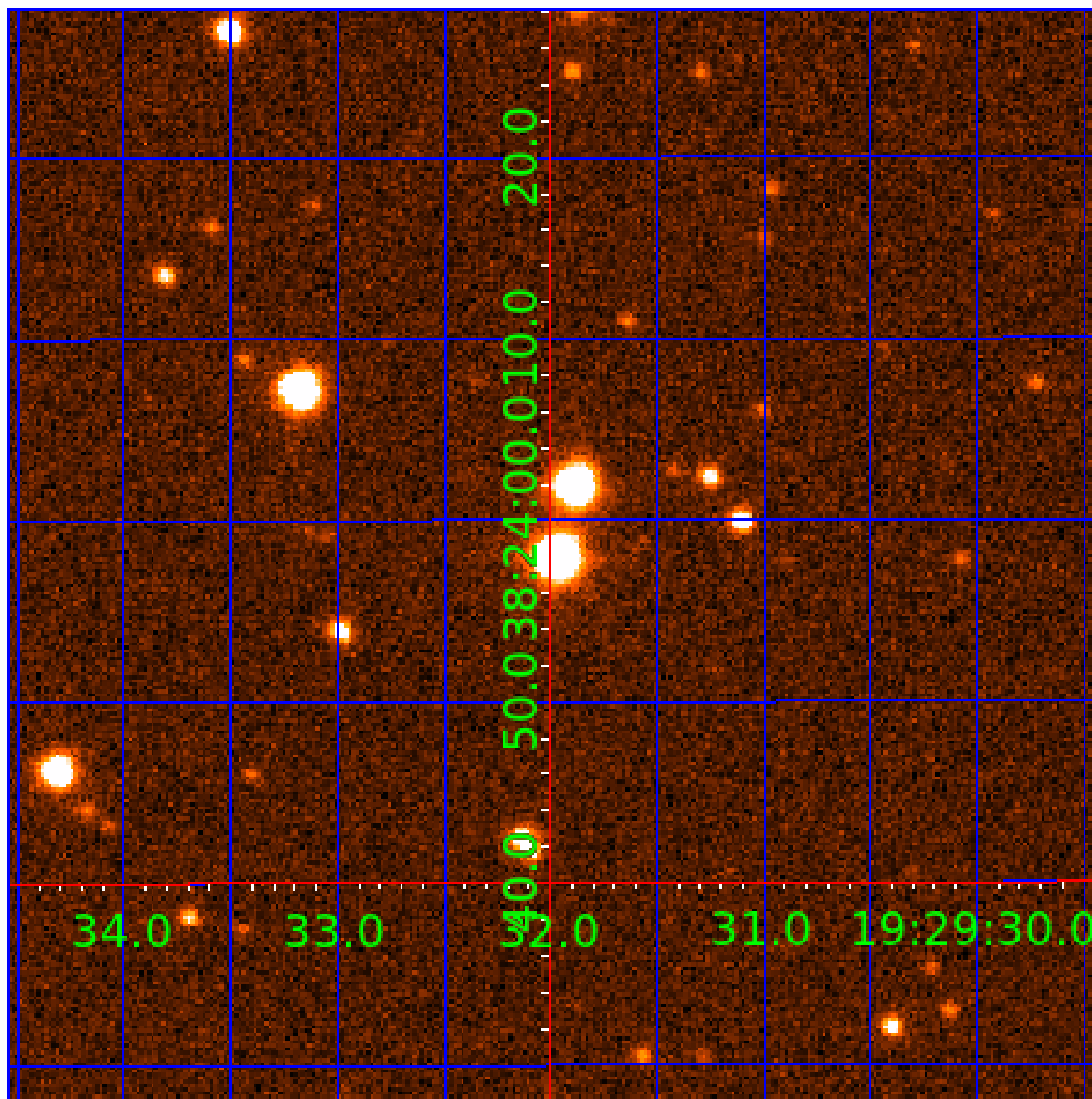


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003238787

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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

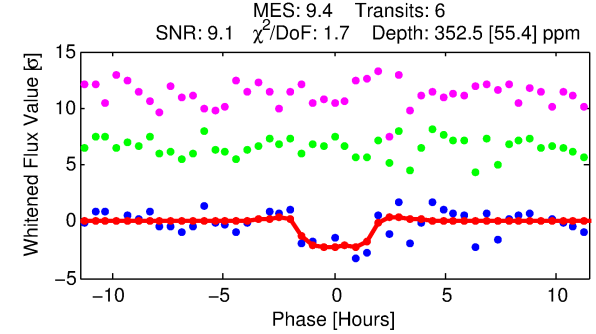
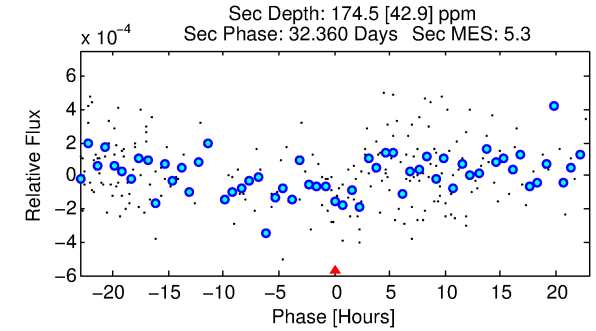
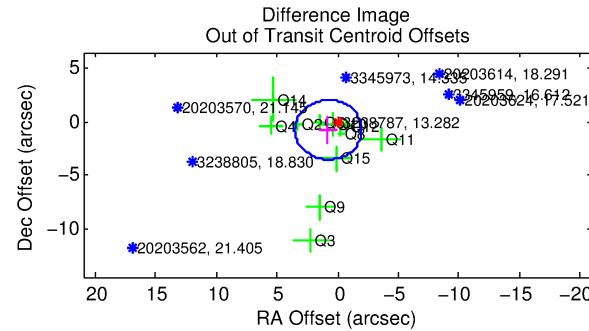
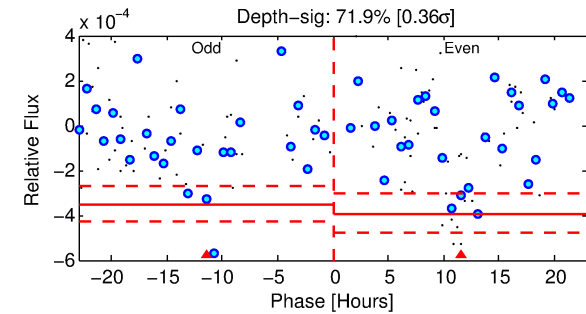
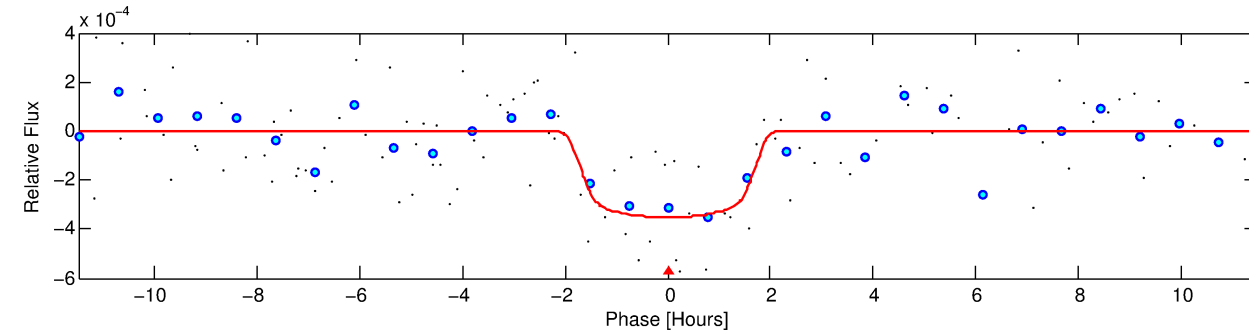
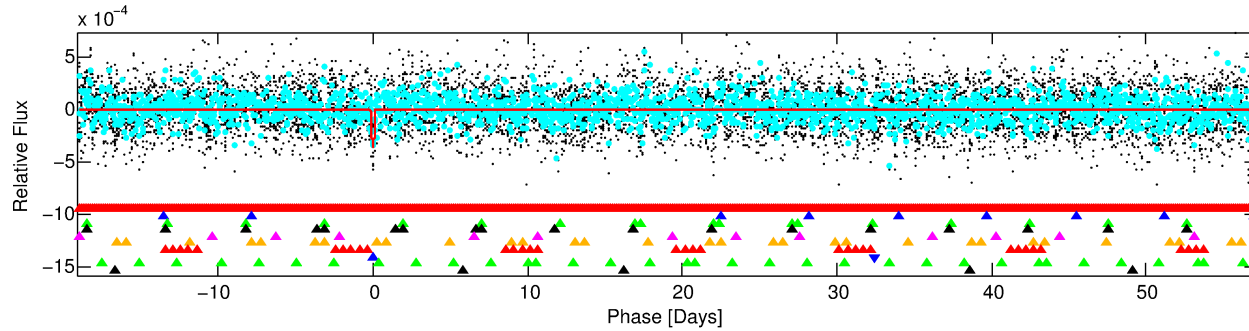
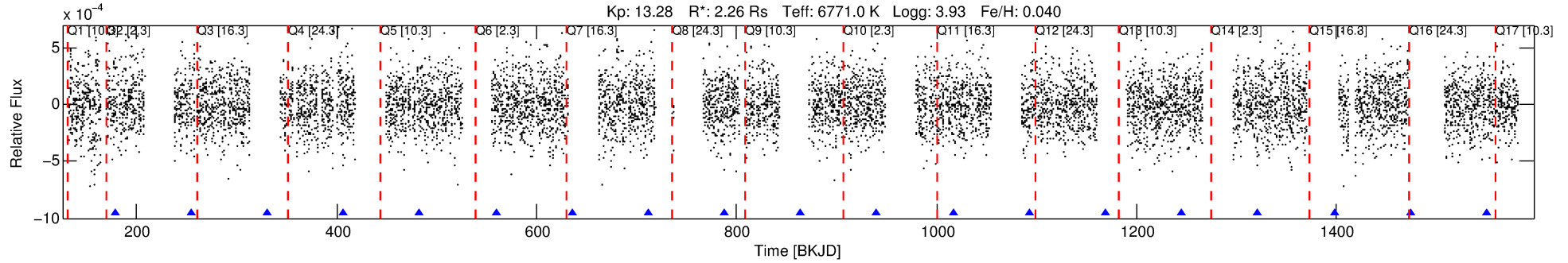
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-08

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 8 of 10 Period: 76.198 d



DV Fit Results:

Period = 76.19831 [0.00104] d
Epoch = 178.3617 [0.0104] BKJD
Rp/R* = 0.0200 [0.0079]
a/R* = 73.52 [166.92]
b = 0.90 [0.49]
Seff = 56.78 [19.30]
Teff = 700 [59] K
Rp = 4.94 [2.26] Re
a = 0.4114 [0.0883] AU
Ag = 666.40 [595.67] [1.12 σ]
Teffp = 5499 [1140] K [4.20 σ]

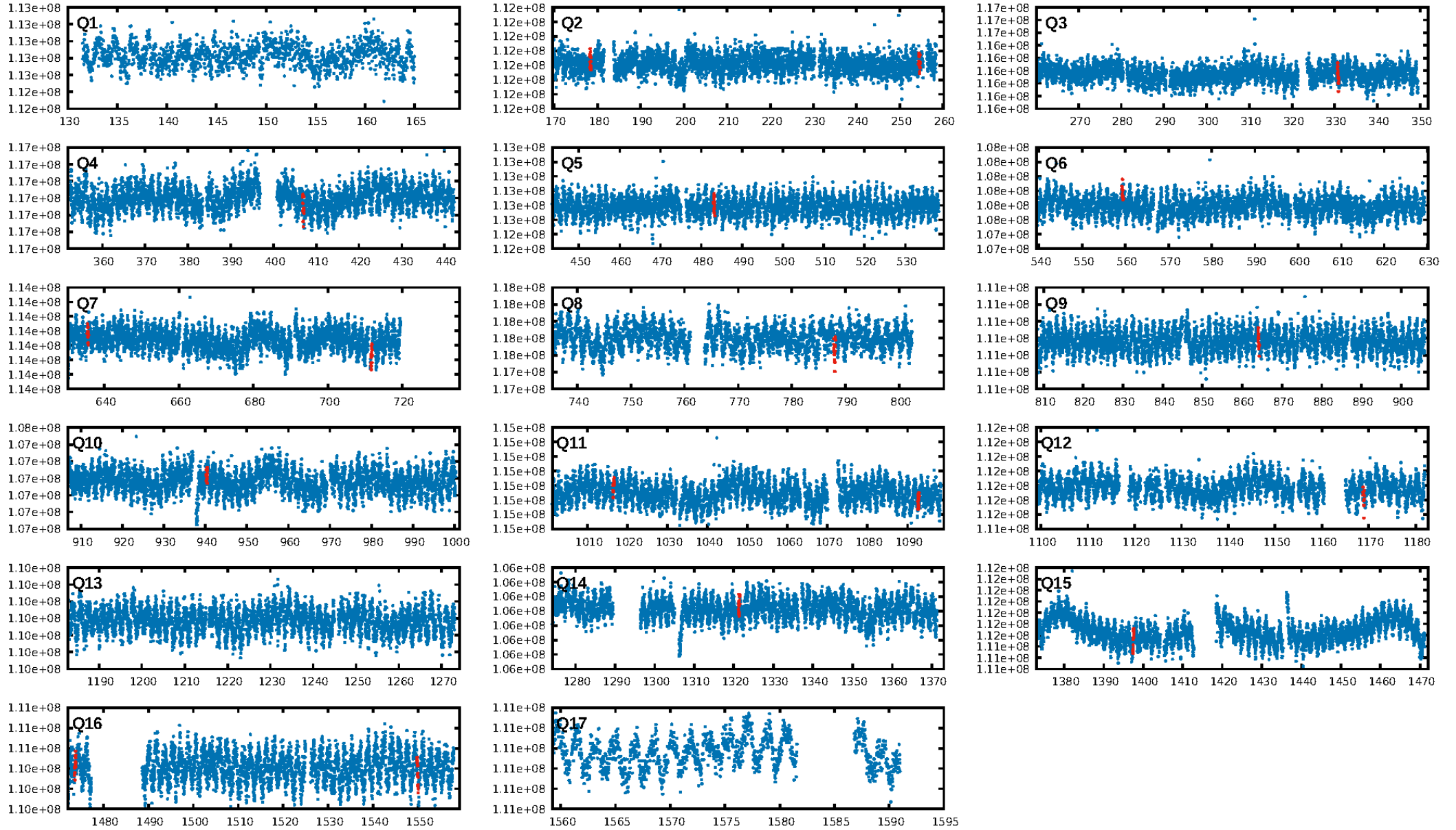
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [170.07 σ]
LongPeriod-sig: 100.0% [22.24 σ]
ModelChiSquare2-sig: 70.0%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 6.64e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.691
Centroid-sig: 28.7%
Centroid-so: 0.631 arcsec [1.07 σ]
OotOffset-rm: 1.077 arcsec [1.17 σ]
OotOffset-st: 3/3/3/2 [11]
KicOffset-rm: 0.552 arcsec [0.65 σ]
KicOffset-st: 3/3/3/2 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 0.07 [1/14]

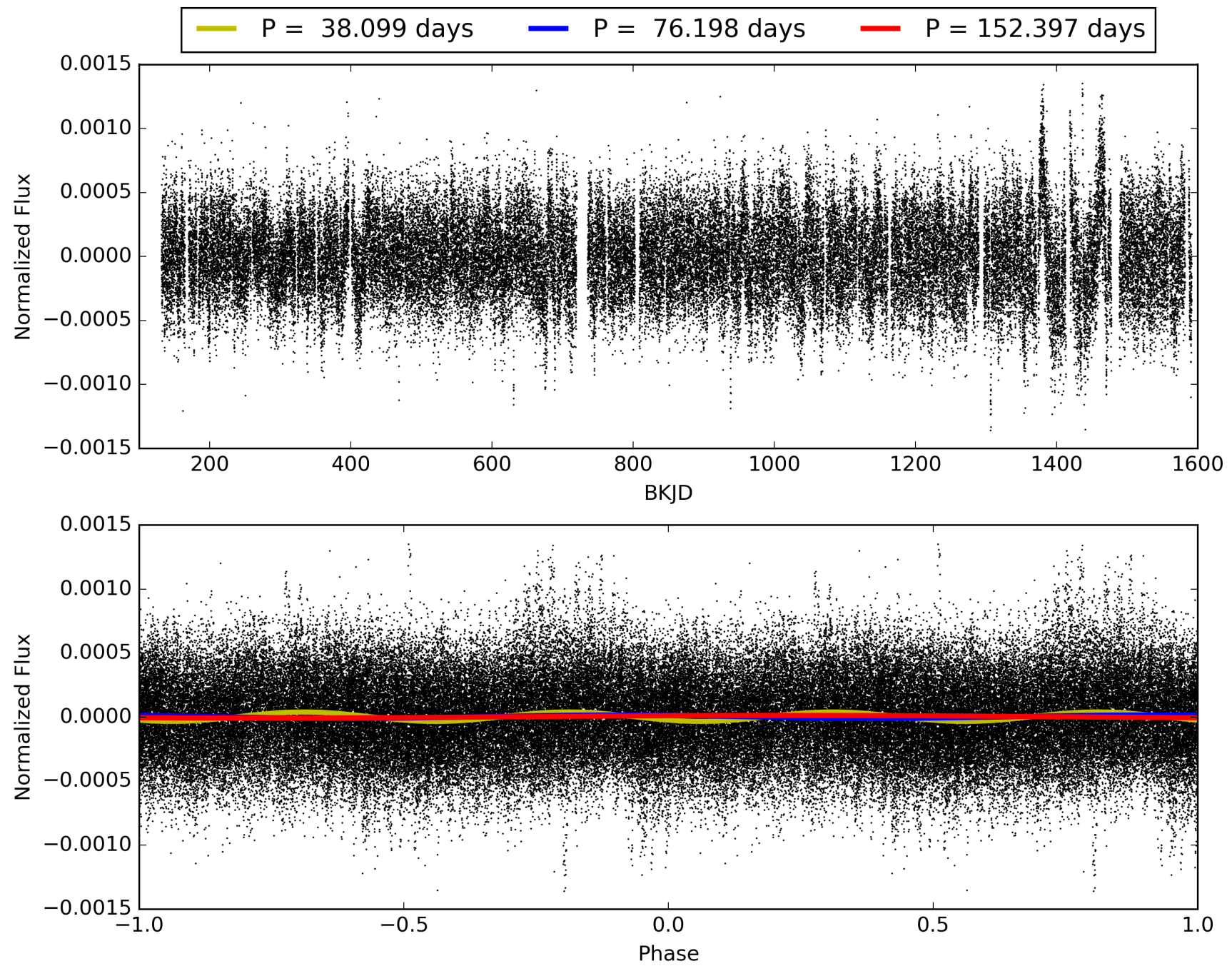
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:44 Z

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

TCE 003238787-08, PDC Light Curves

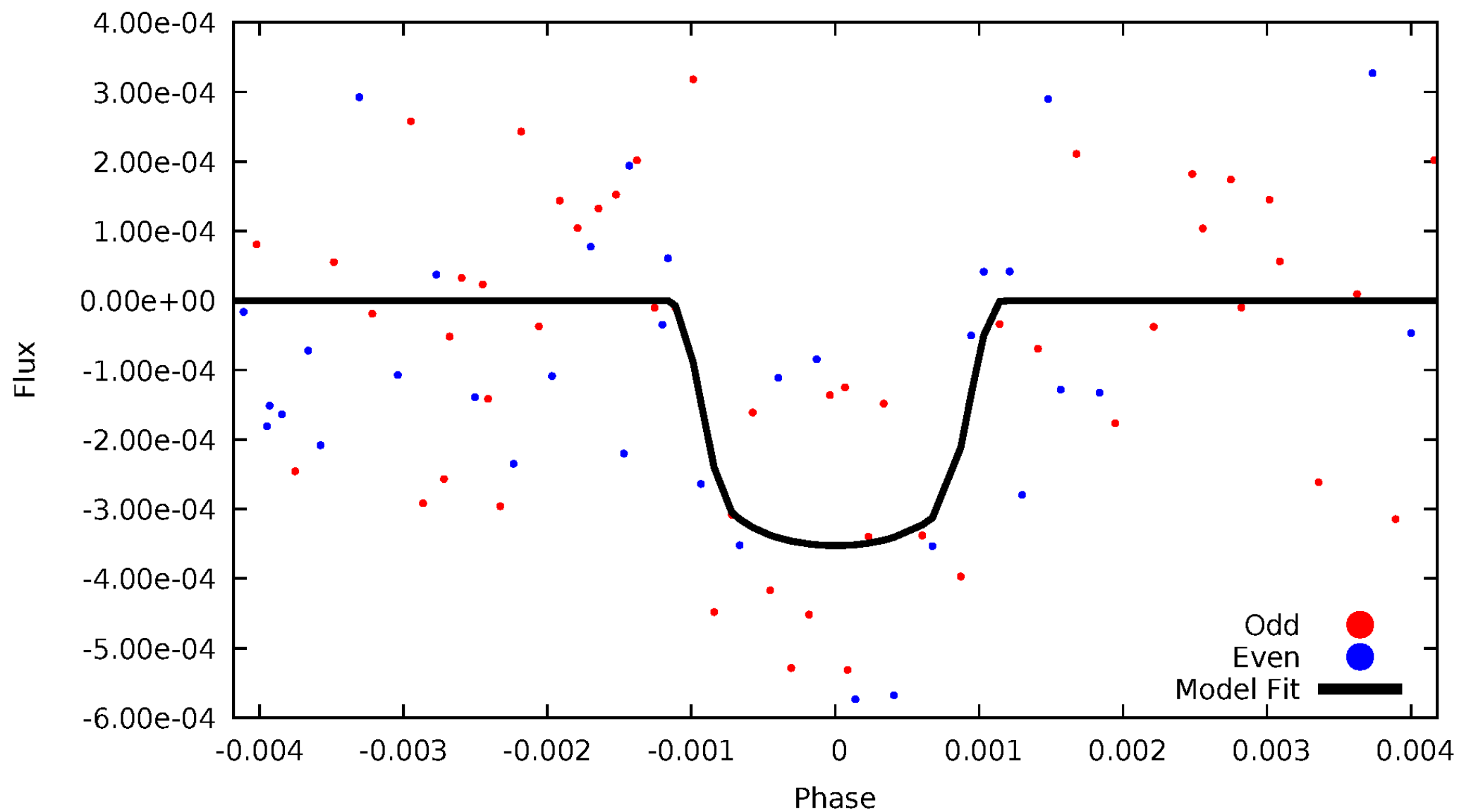


TCE 003238787-08



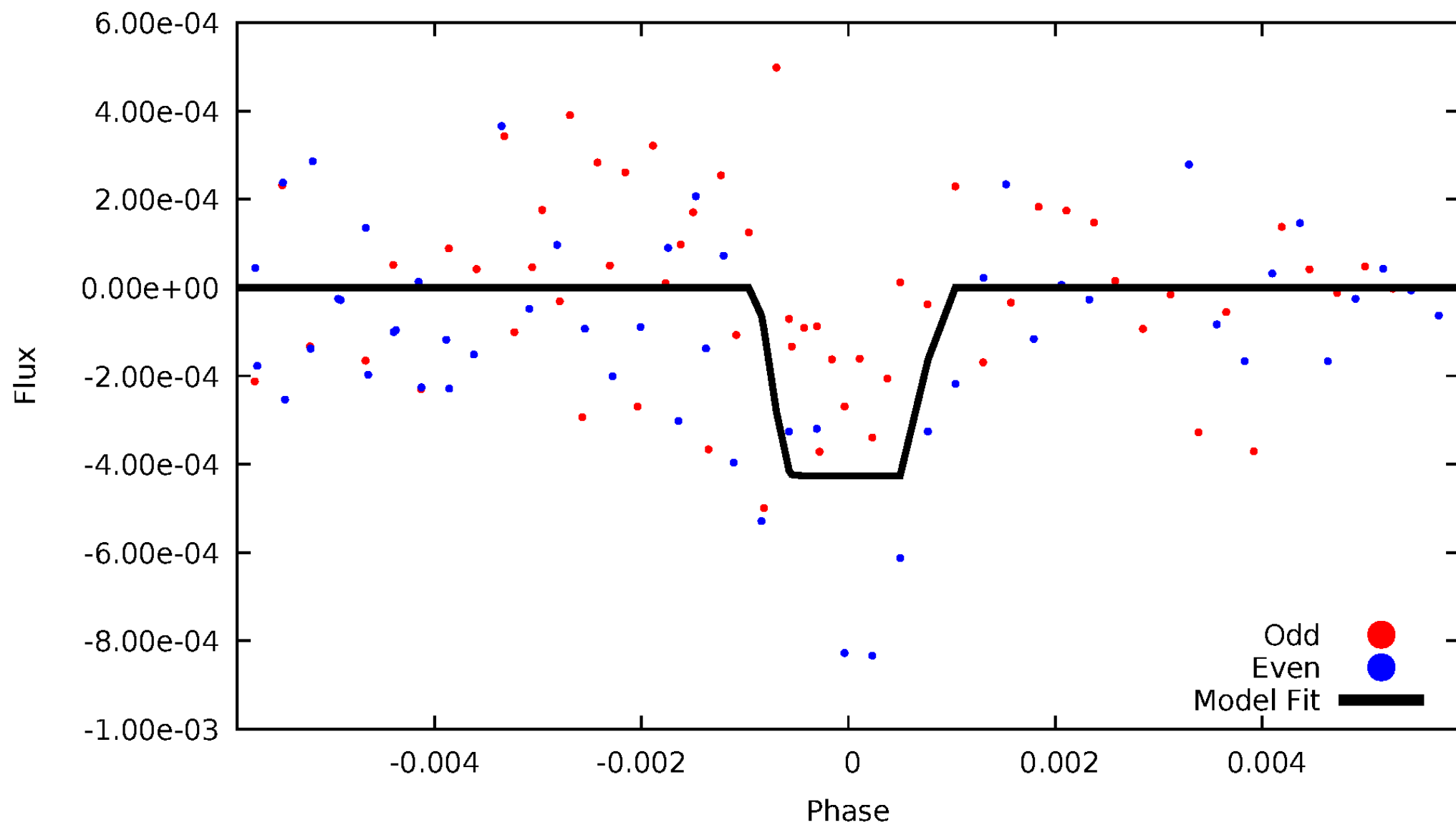
DV Odd/Even

TCE 003238787-08



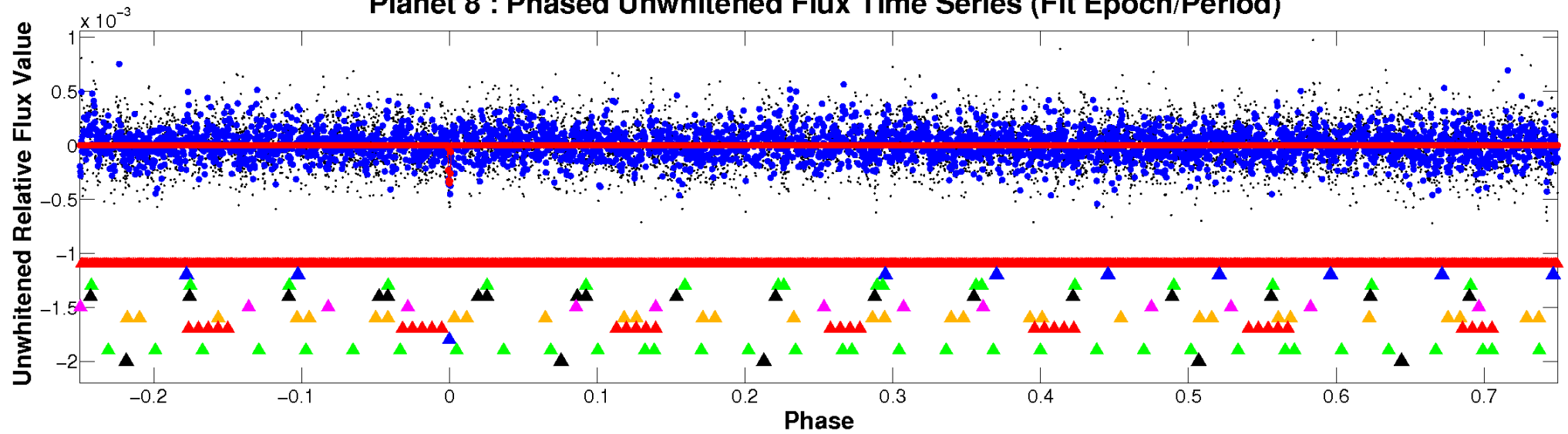
ALT Odd/Even

TCE 003238787-08

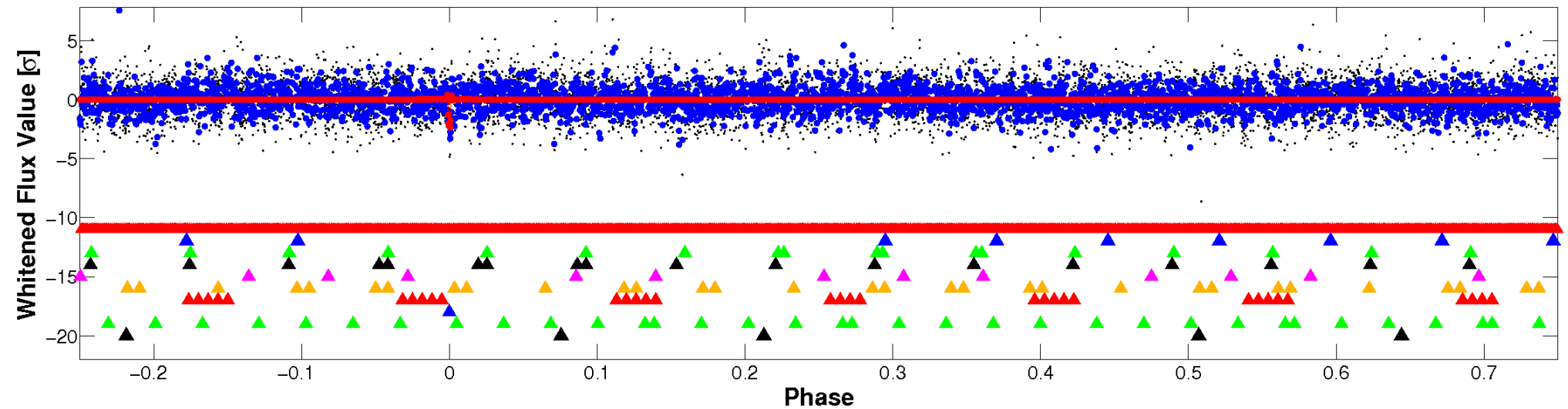


Non-Whitened Vs. Whitened Light Curve

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

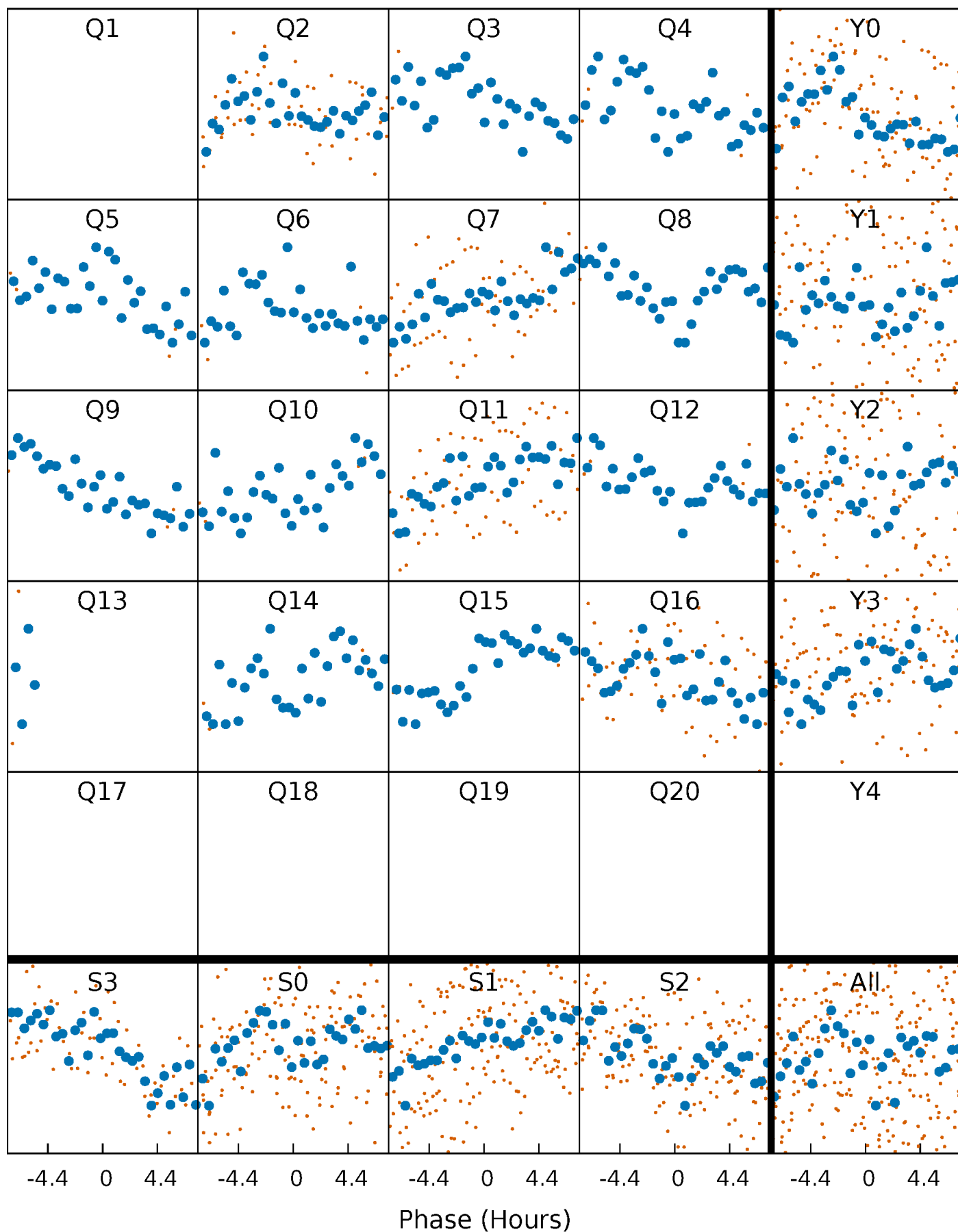


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



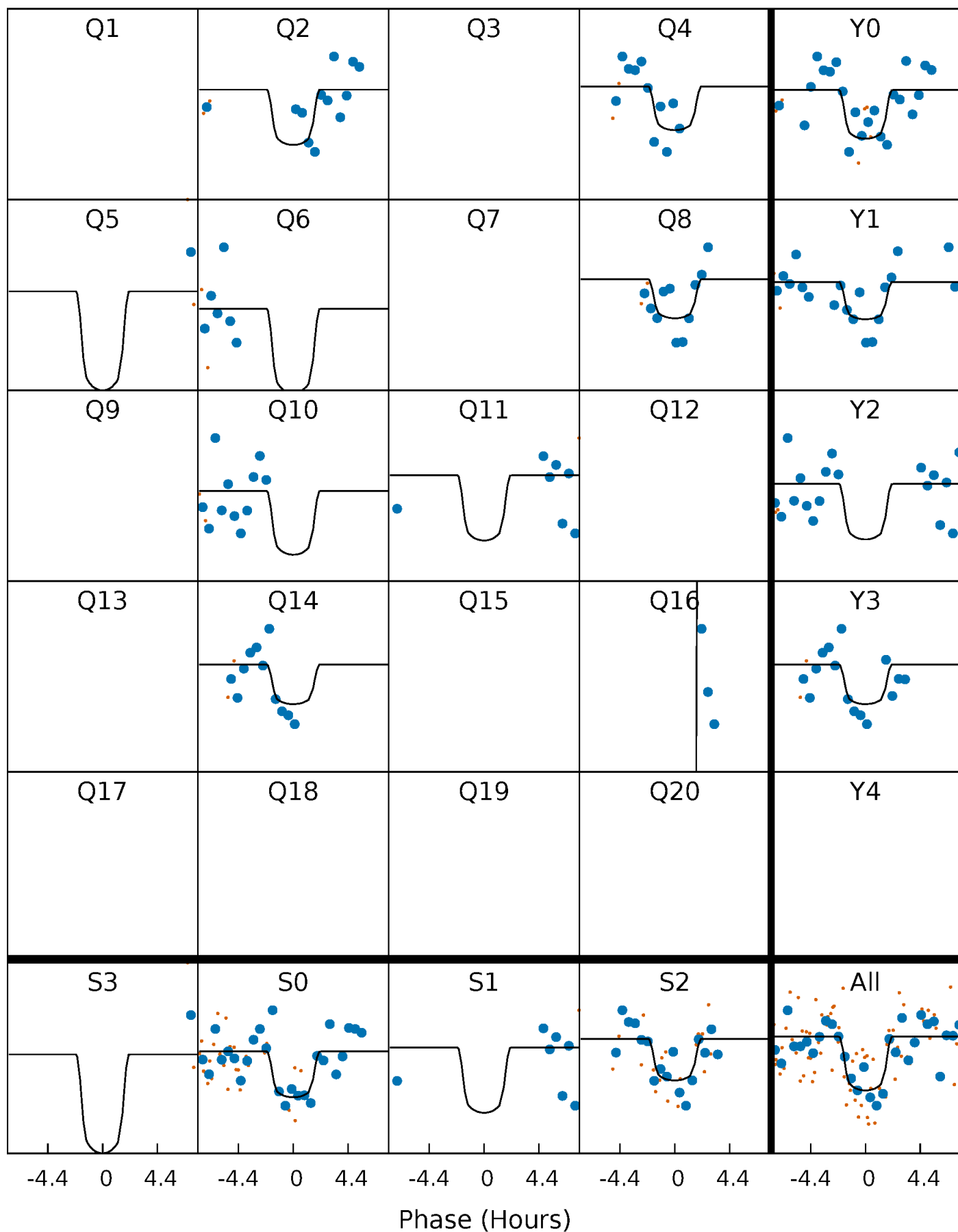
PDC Quarter-Phased Transit Curves

TCE 003238787-08 P= 76.198310 Days $T_0=178.361705$ (BKJD)



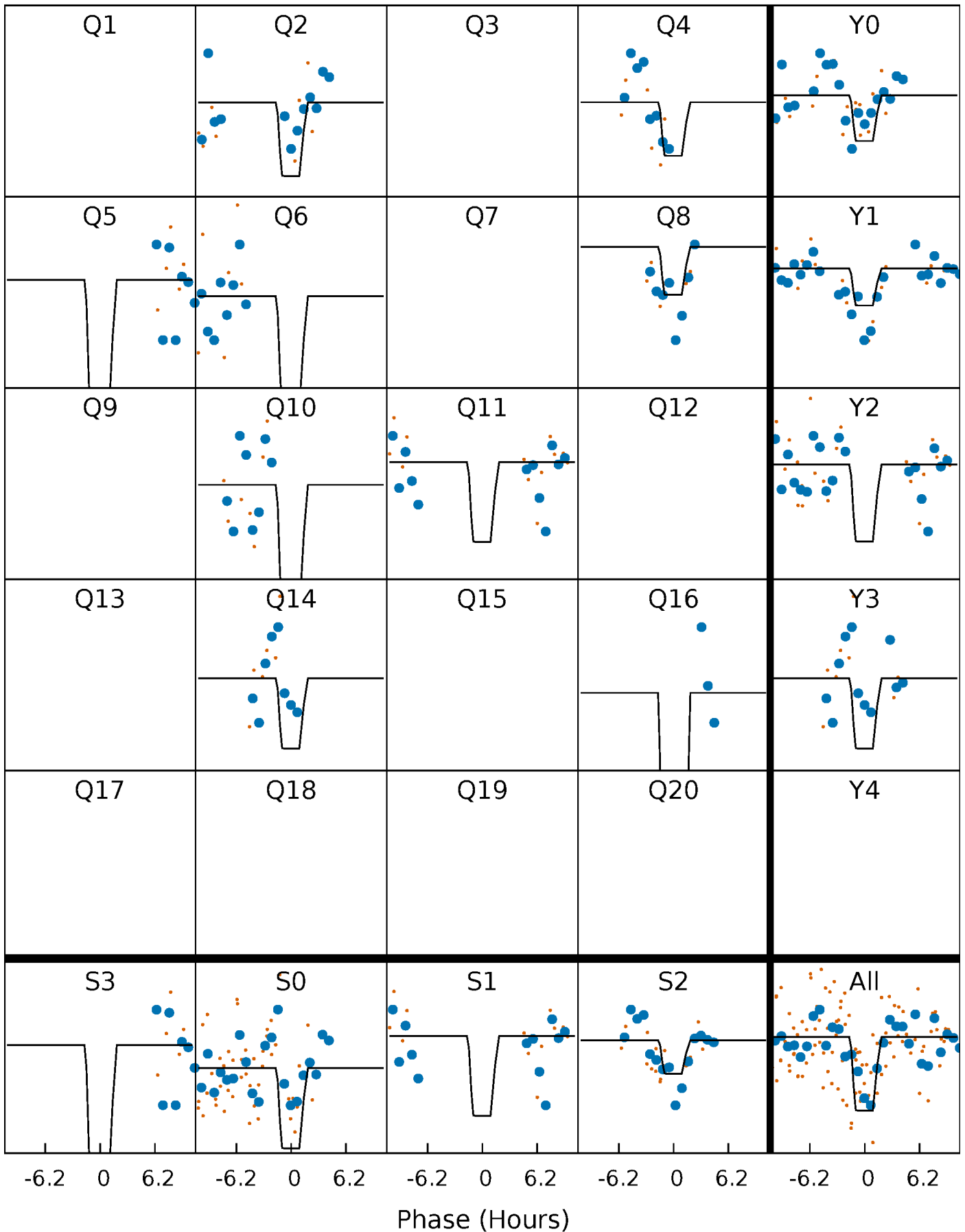
DV Quarter-Phased Transit Curves

TCE 003238787-08 P= 76.198310 Days $T_0=178.361705$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

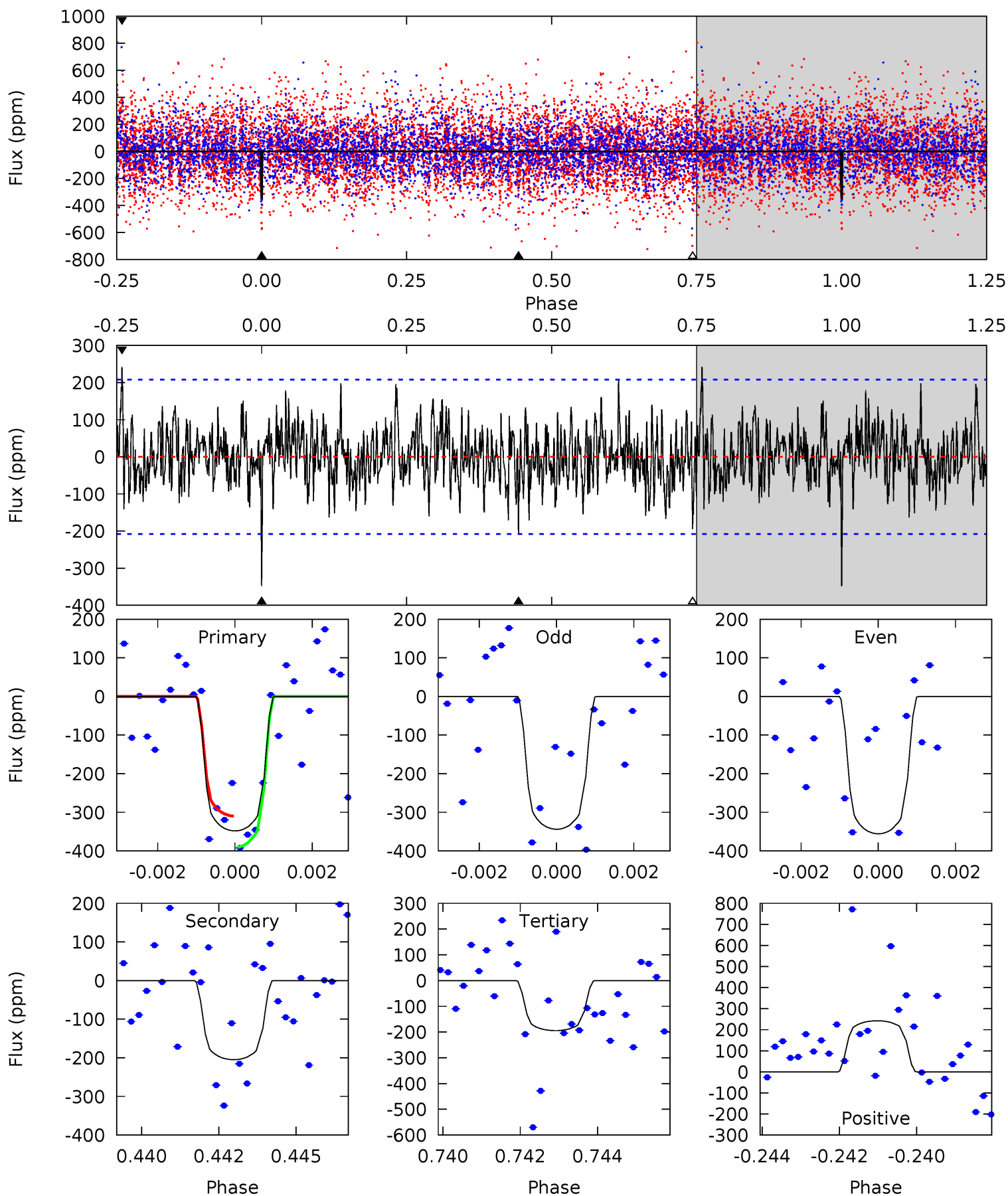
TCE 003238787-08 P= 76.193227 Days $T_0=178.415692$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-08, P = 76.198310 Days, E = 102.163395 Days

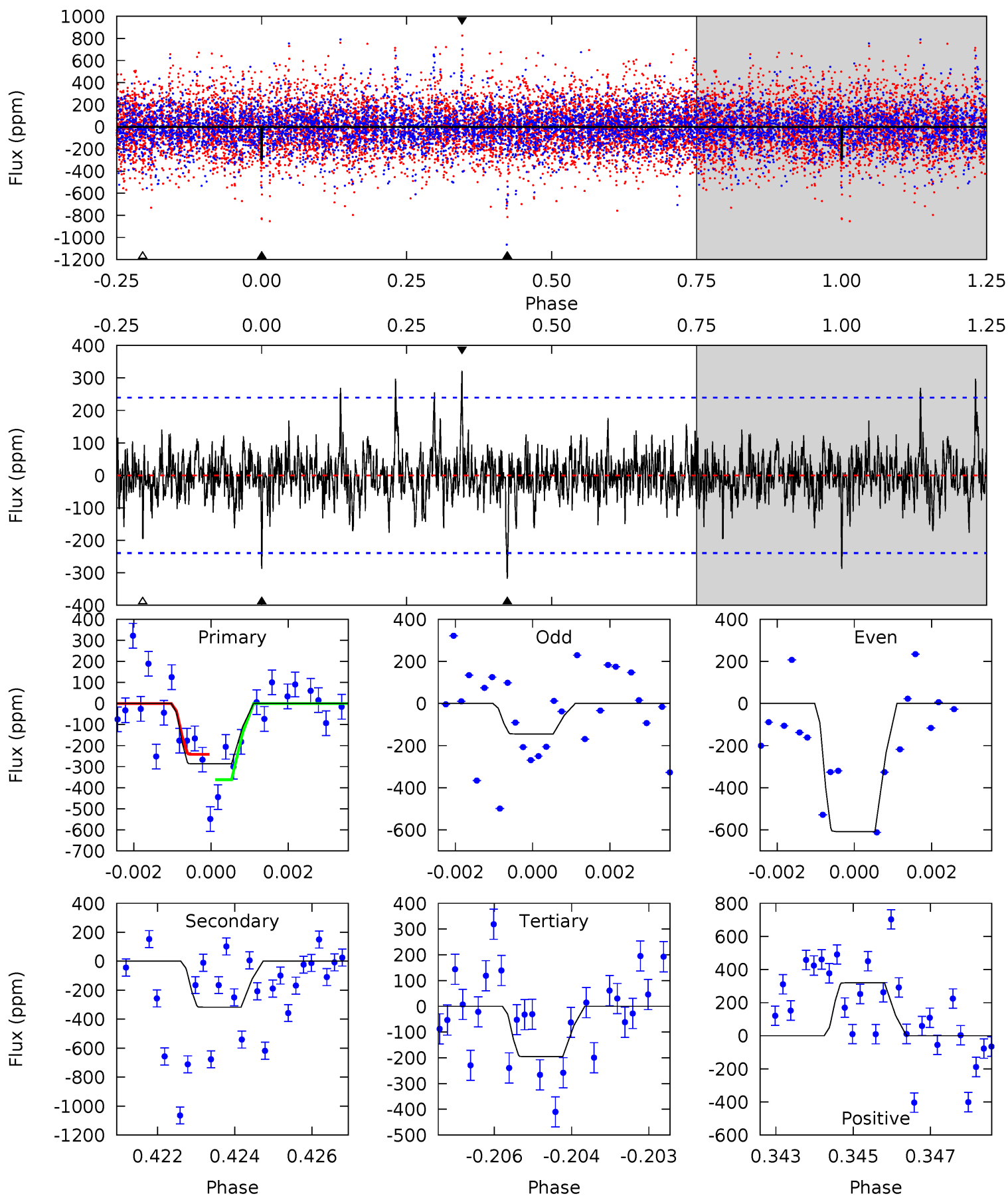
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.88	5.23	4.96	6.19	5.30	3.05	1.62	3.93	2.70	0.27	-0.96	0.15	0.99	0.41	1.03



Alt Model-Shift Uniqueness Test

003238787-08, P = 76.193227 Days, E = 102.222465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.40	7.08	4.36	7.14	5.34	3.11	1.29	2.04	-0.74	2.71	-0.06	5.05	1.24	0.50	1.32



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-205 ± 39	$4.85^{+1.85}_{-1.92}$	973^{+48}_{-54}	5653^{+1748}_{-719}	782^{+1487}_{-380}
Alt.	-317 ± 45	$4.94^{+2.08}_{-2.04}$	972^{+49}_{-60}	6255^{+2096}_{-909}	1201^{+2296}_{-602}

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

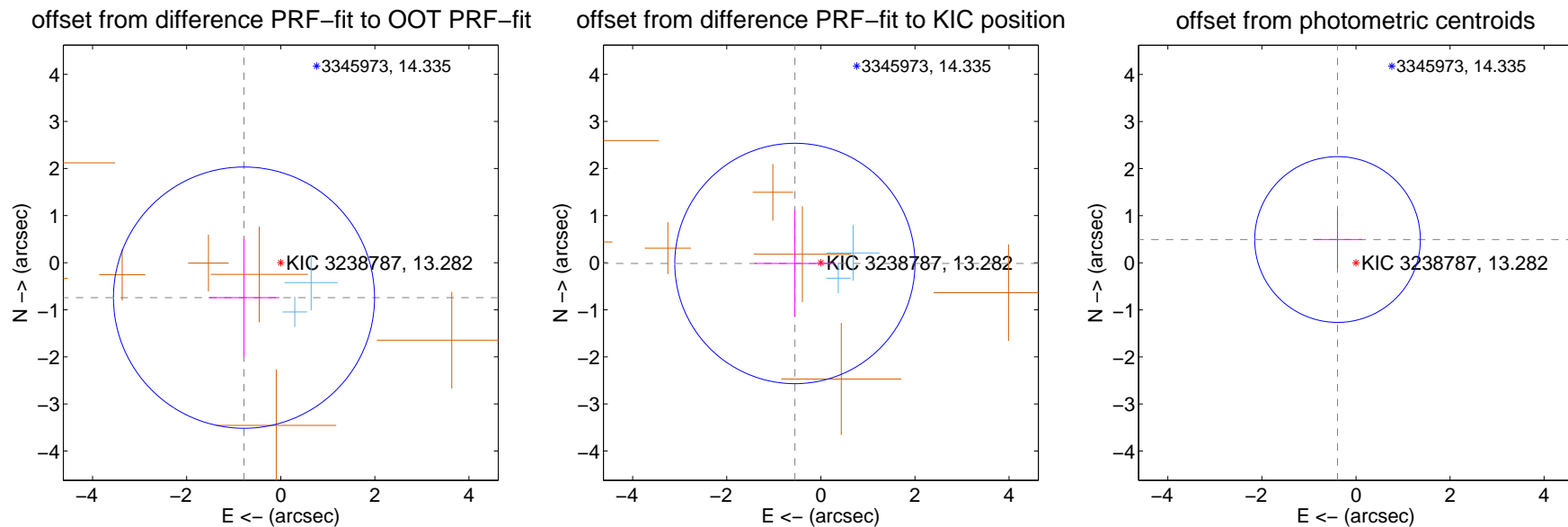
DV Centroid Data

Supplemental centroid analysis for 003238787-08. Kepler magnitude: 13.28. Transit SNR 9.12

There are 2 quarters with good PRF difference image offsets

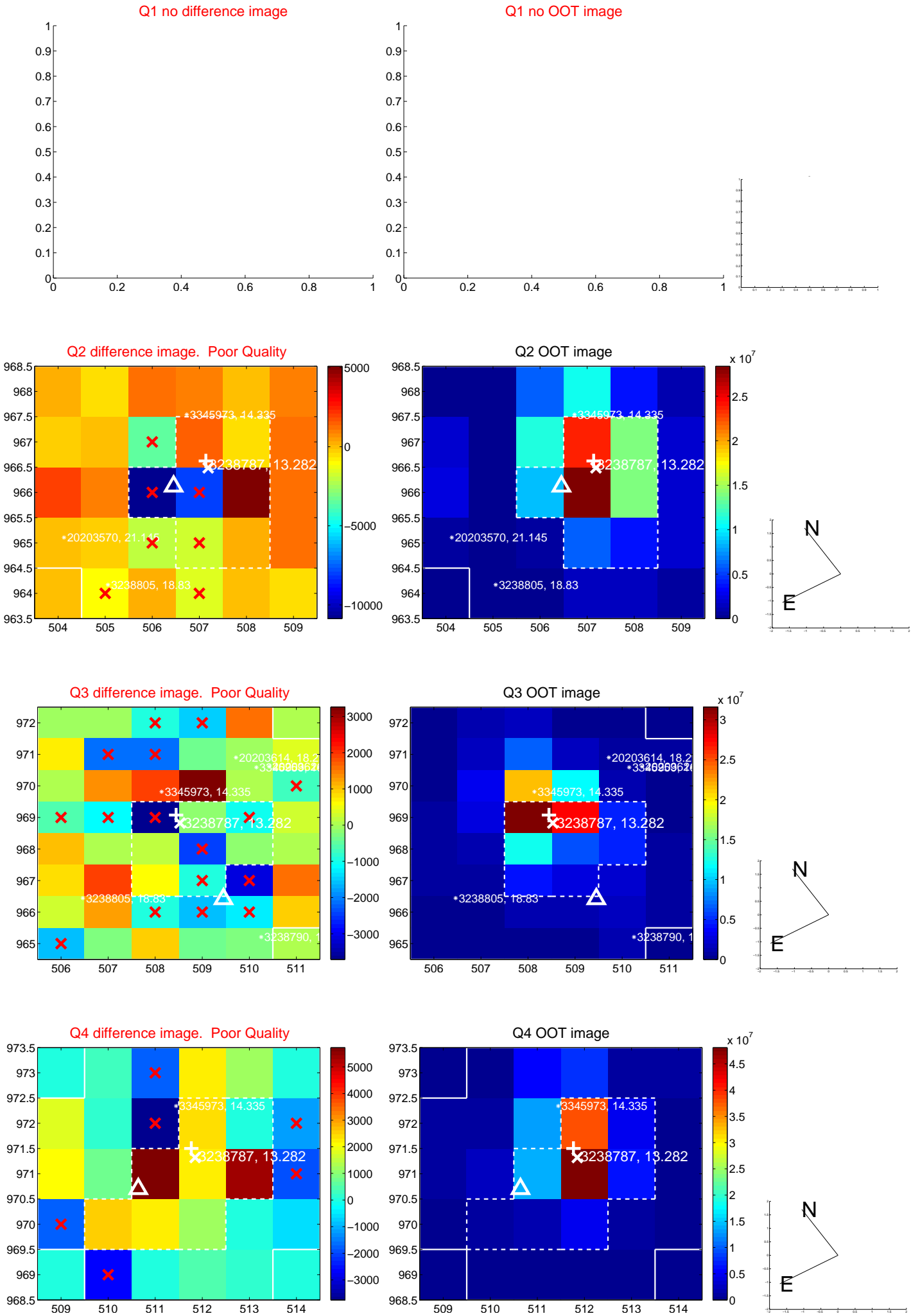
The direct PRF centroid is offset from the target star catalog position by about 1.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.077 ± 0.925	1.17	0.781 ± 0.748	-0.742 ± 1.255
PRF-fit source offset from KIC position	0.552 ± 0.851	0.65	0.552 ± 0.859	-0.017 ± 1.129
photometric centroid source offset	0.63 ± 0.59	1.07	0.39 ± 0.52	0.49 ± 0.63

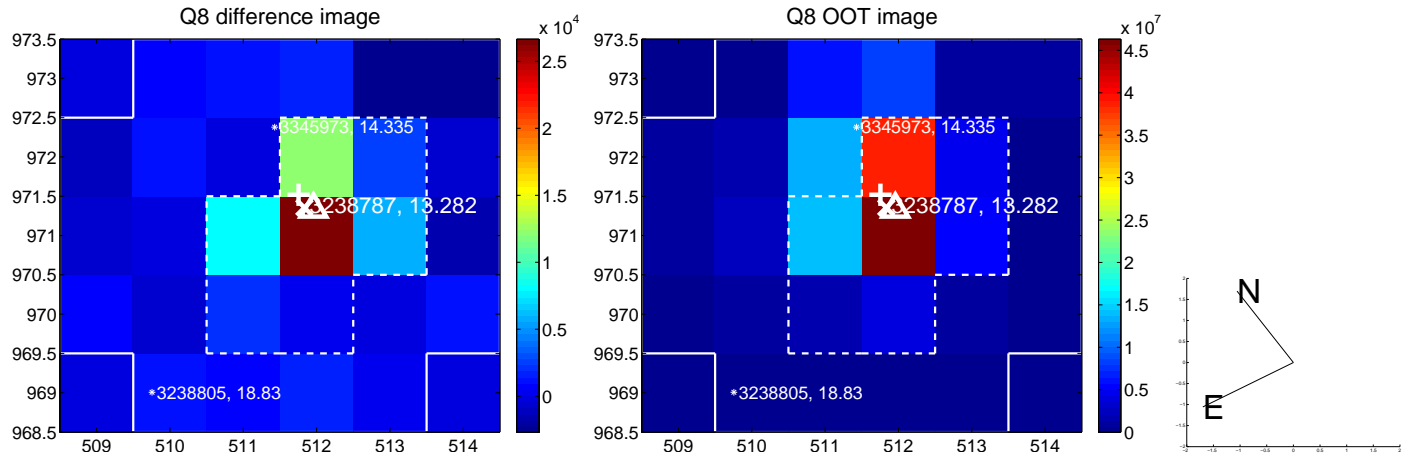
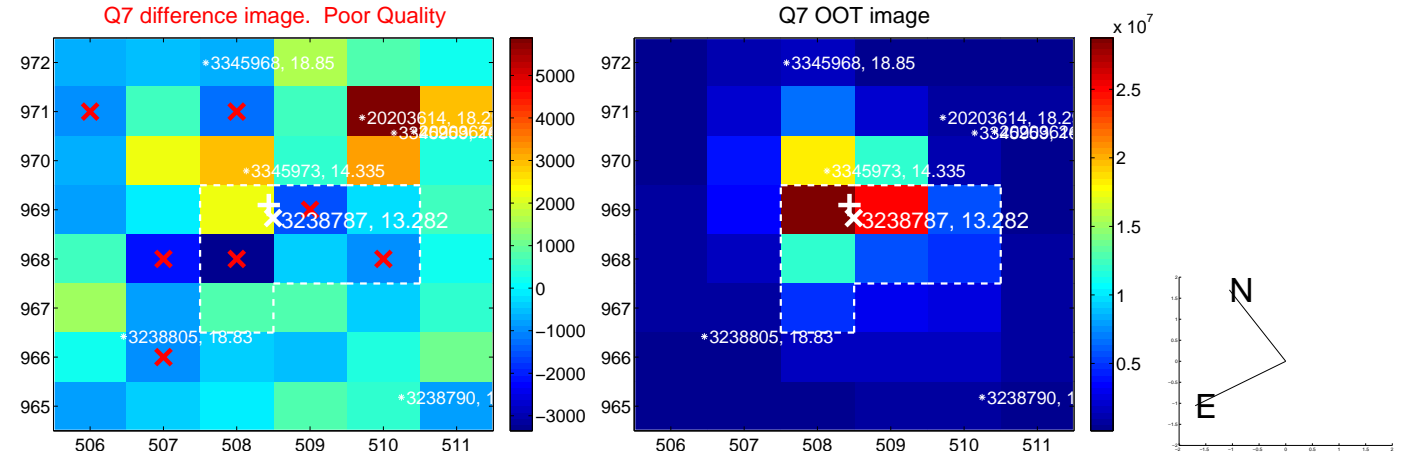
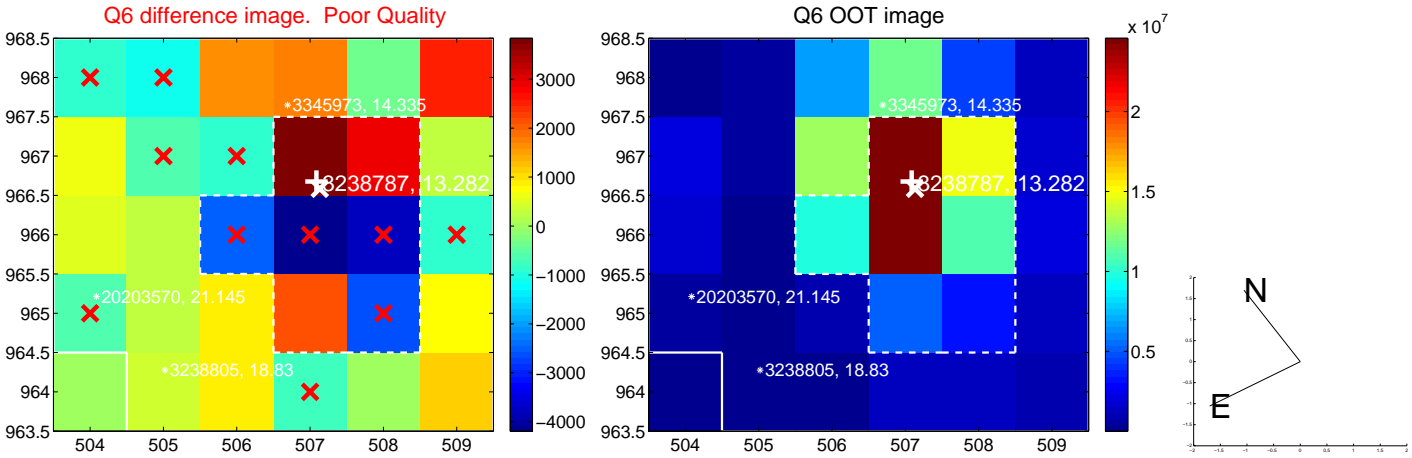
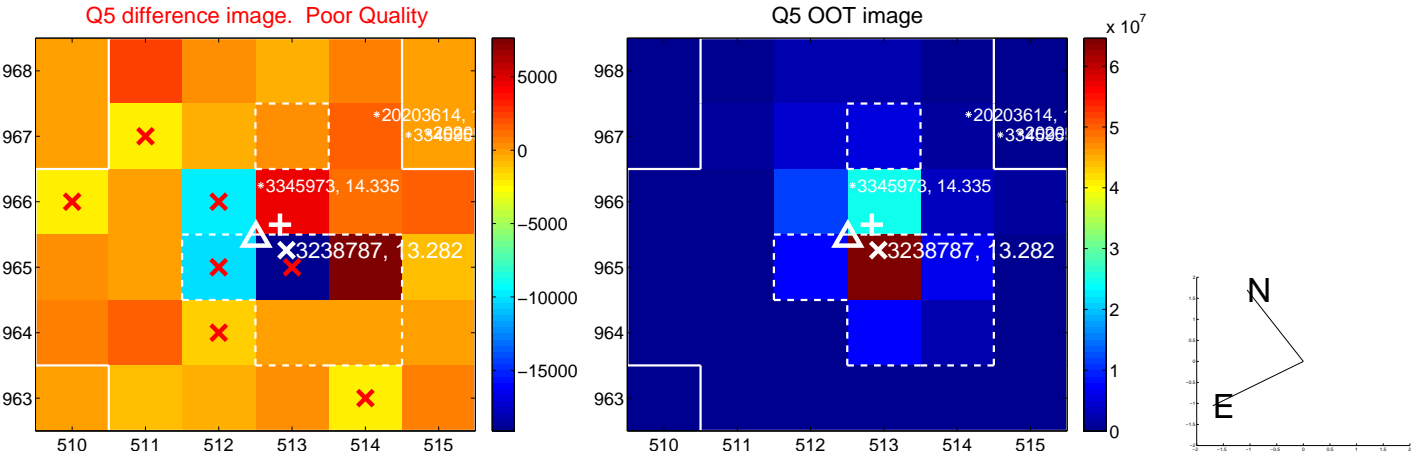


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

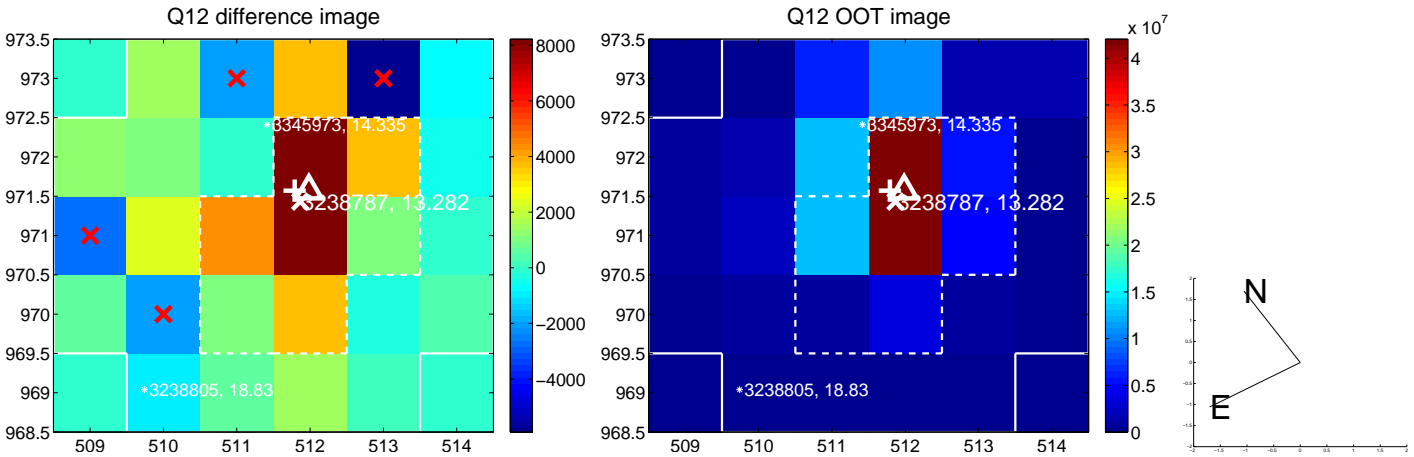
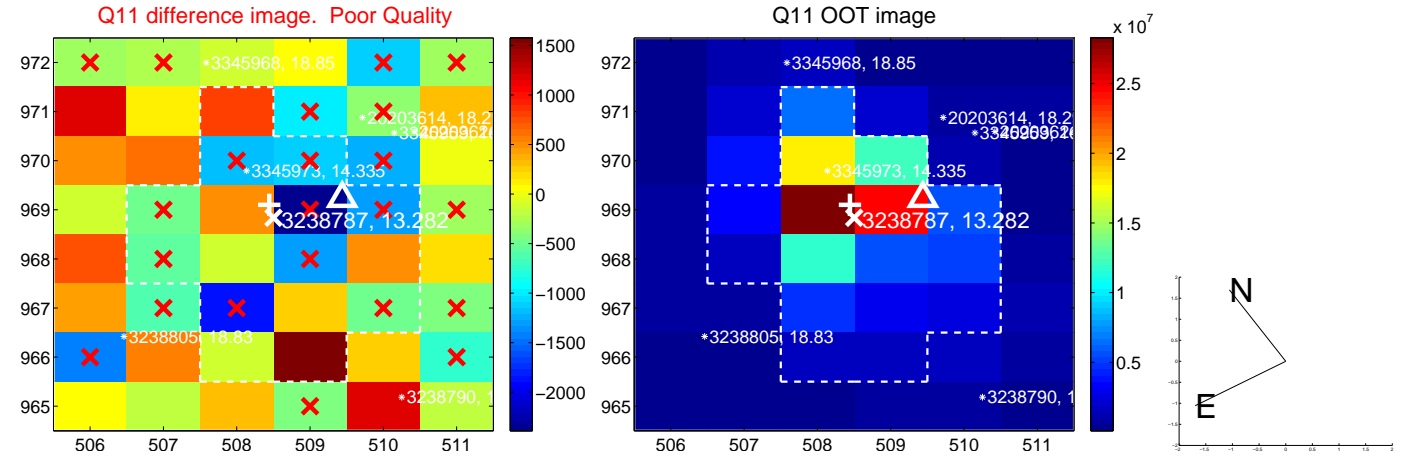
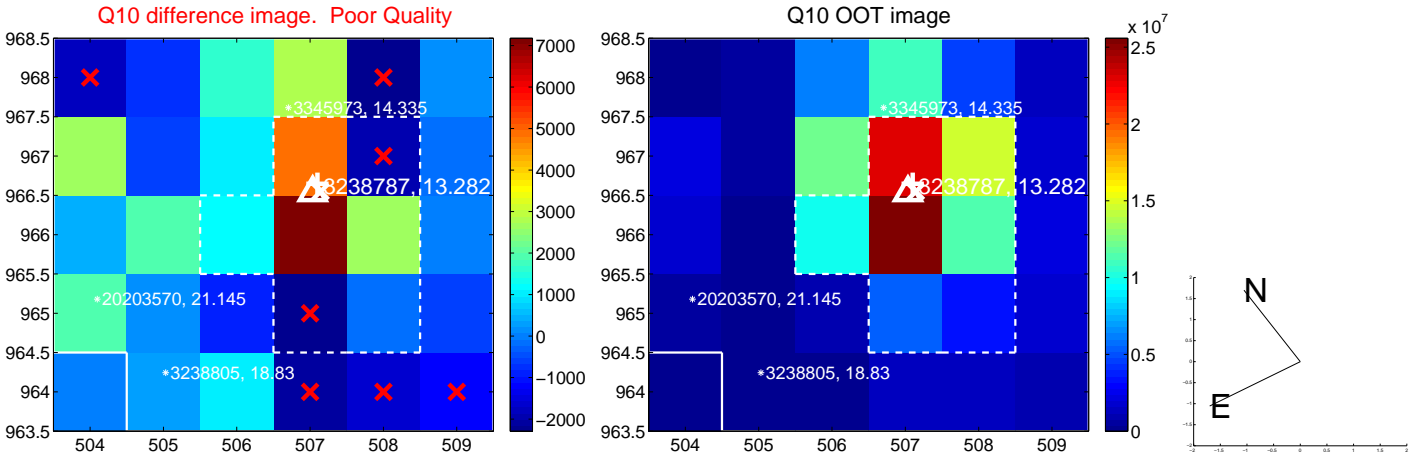
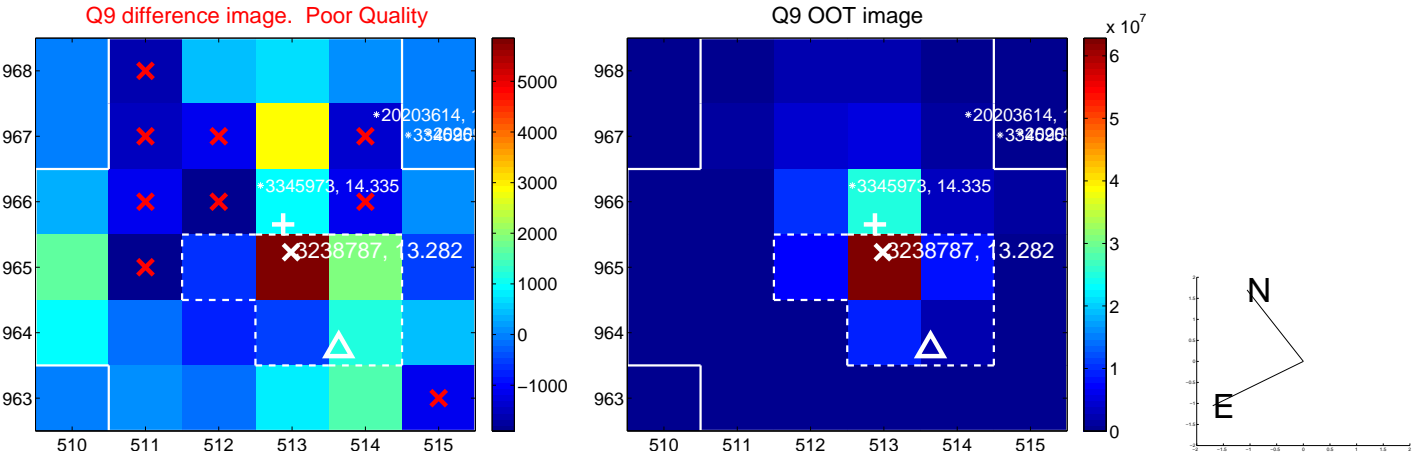
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



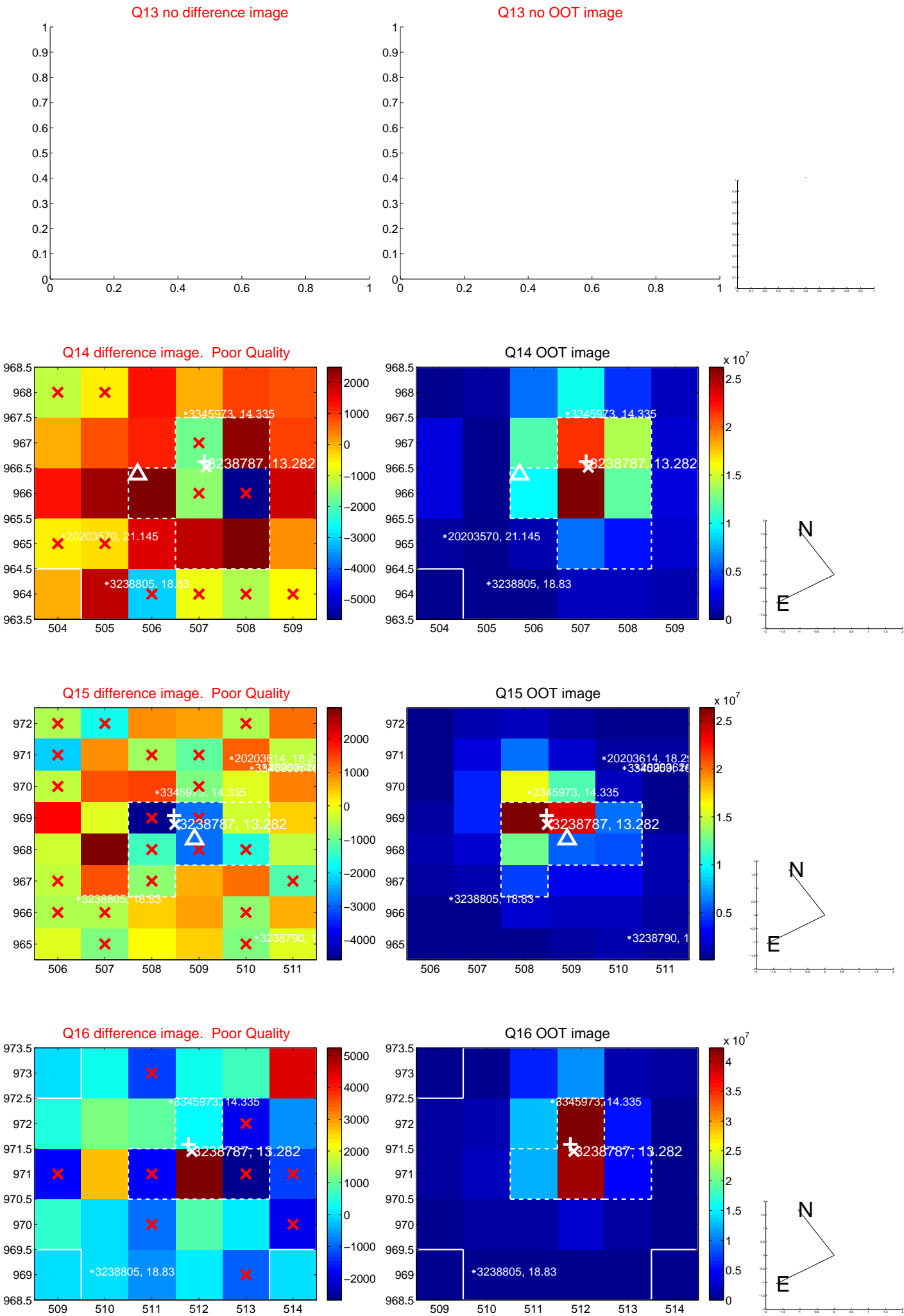
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



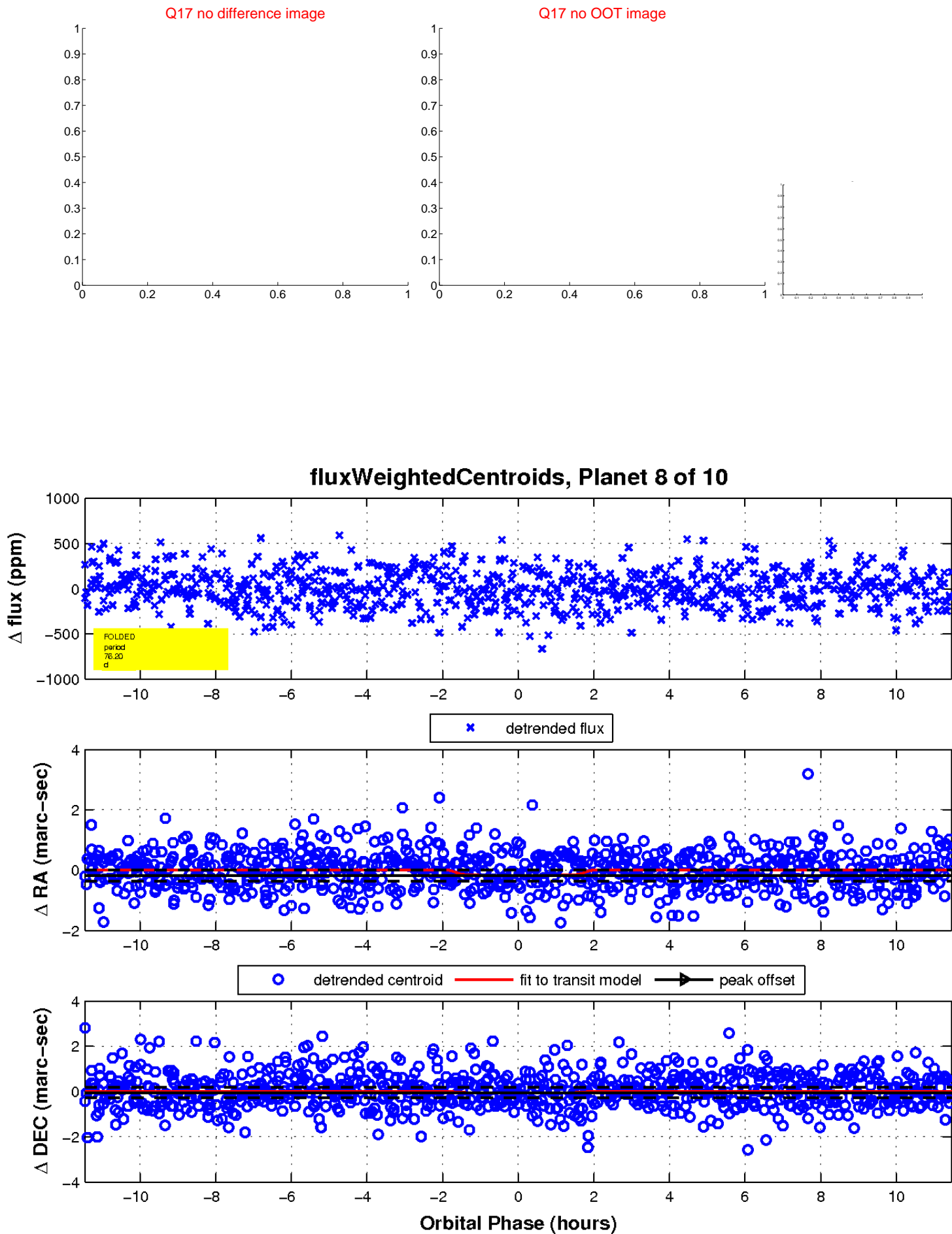
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

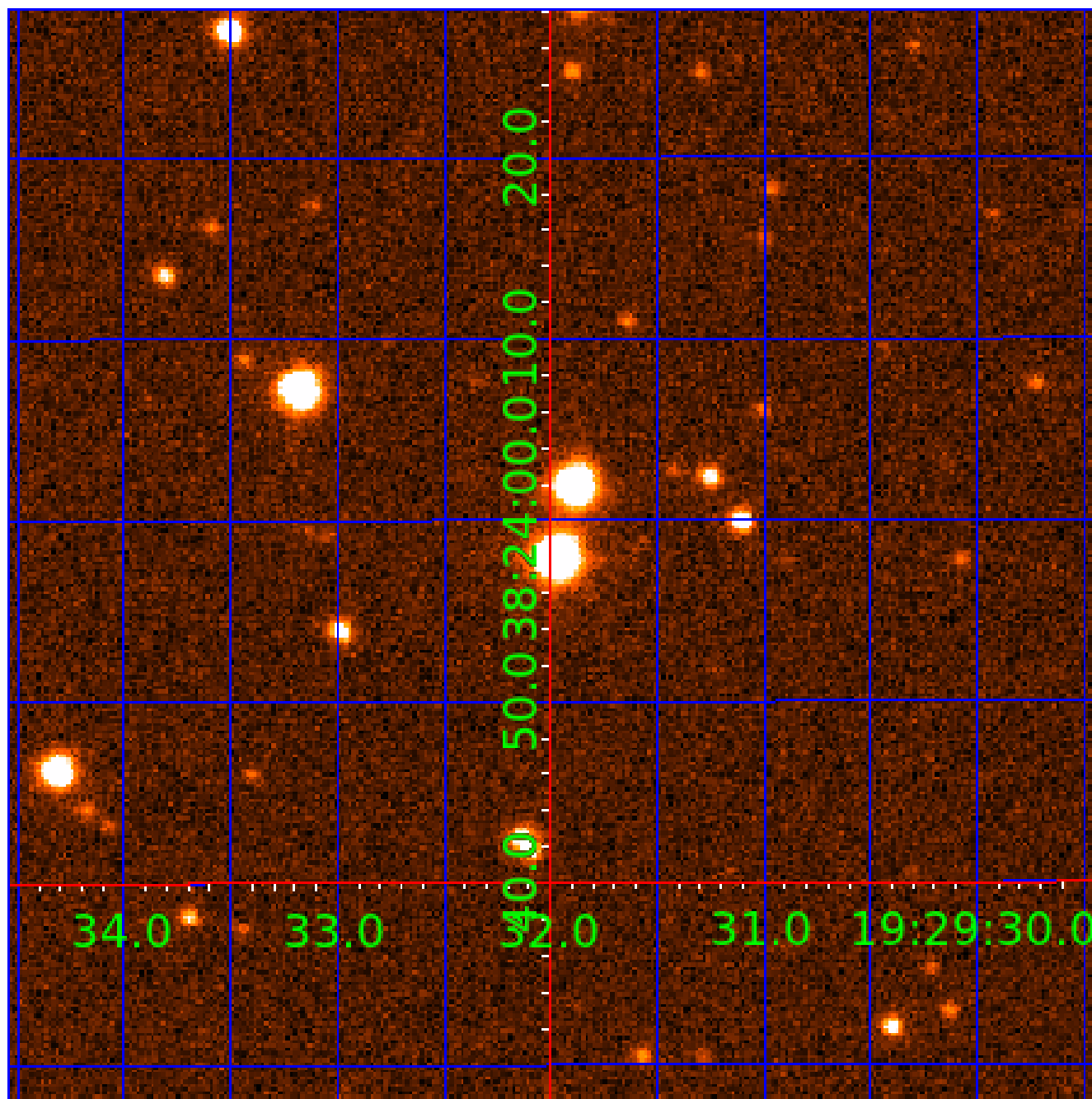


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003238787

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})
003238787-01	OBS	No	1.198379	131.836953	28.9	7.469	10.3	10.7	2.26	6771	1.25	14409.78
003238787-02	OBS	No	158.136074	200.836928	277.9	6.790	11.0	10.1	2.26	6771	4.16	21.45
003238787-03	OBS	No	81.297648	195.313713	322.6	3.958	10.3	8.8	2.26	6771	4.62	52.08
003238787-04	OBS	No	81.308222	174.741176	484.3	2.808	9.8	9.5	2.26	6771	6.44	52.07
003238787-05	OBS	No	105.857266	222.760622	0.6	237.358	8.6	0.1	2.26	6771	0.21	36.63
003238787-06	OBS	No	46.530820	154.272165	422.5	1.705	9.6	9.0	2.26	6771	4.98	109.60
003238787-07	OBS	No	43.614023	164.922397	186.2	4.072	8.9	7.9	2.26	6771	3.46	119.48
003238787-08	OBS	No	76.198310	178.361705	352.5	3.824	9.4	9.1	2.26	6771	4.94	56.78
003238787-09	OBS	No	43.194899	145.252942	255.1	1.799	9.0	8.0	2.26	6771	4.10	121.02
003238787-10	OBS	No	348.119500	140.797889	291.5	3.502	7.8	8.4	2.26	6771	4.38	7.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

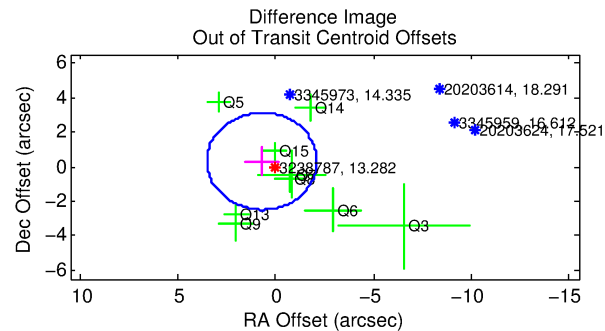
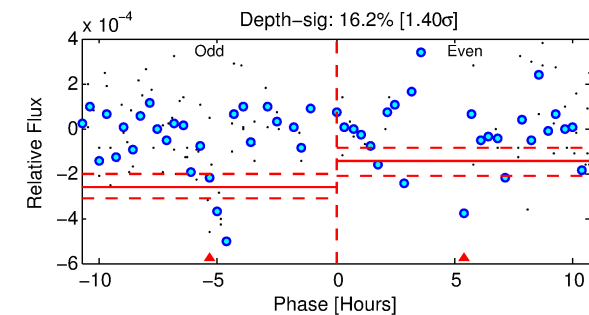
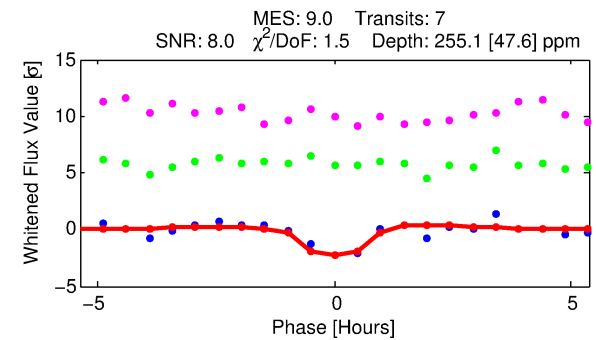
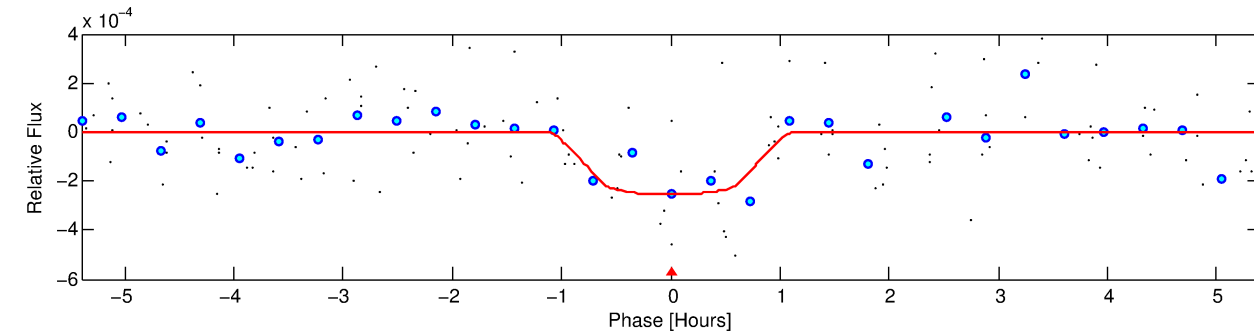
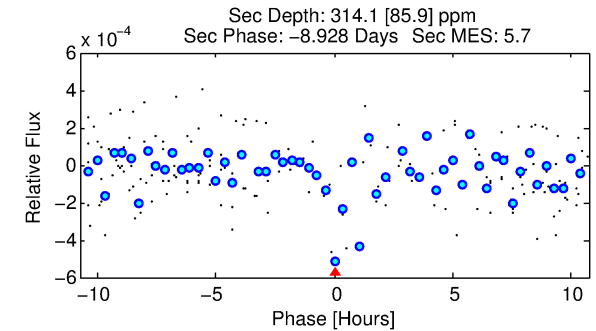
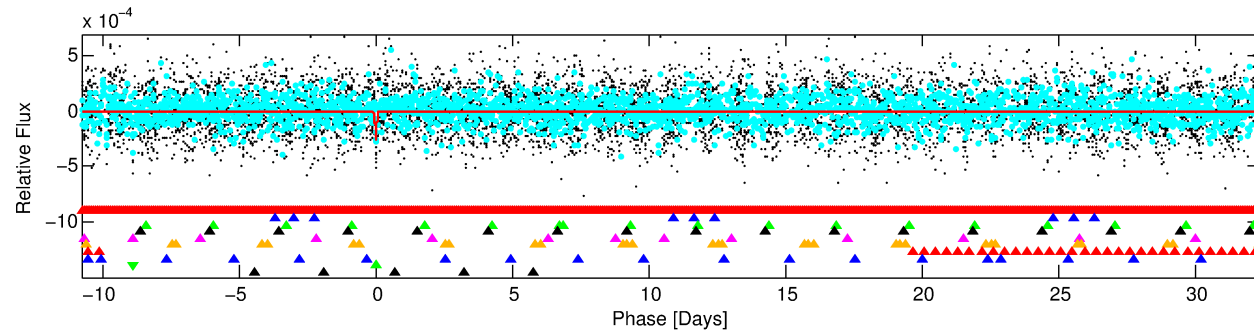
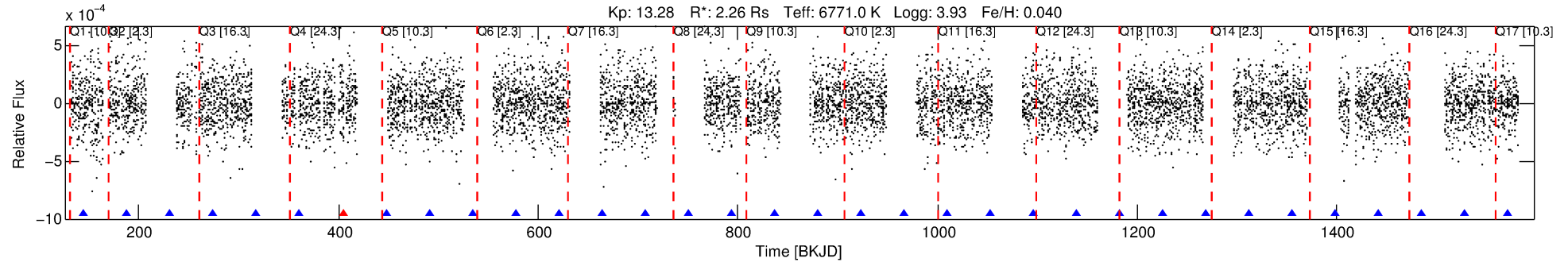
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-09

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 9 of 10 Period: 43.195 d



DV Fit Results:

Period = 43.19490 [0.00044] d
Epoch = 145.2529 [0.0108] BKJD
Rp/R* = 0.0166 [0.0375]
a/R* = 99.91 [1319.75]
b = 0.86 [4.09]
Seff = 121.02 [41.14]
Teq = 846 [72] K
Rp = 4.10 [9.29] Re
a = 0.2818 [0.0605] AU
Ag = 816.50 [3698.29] [0.22σ]
Teffp = 6990 [7894] K [0.78σ]

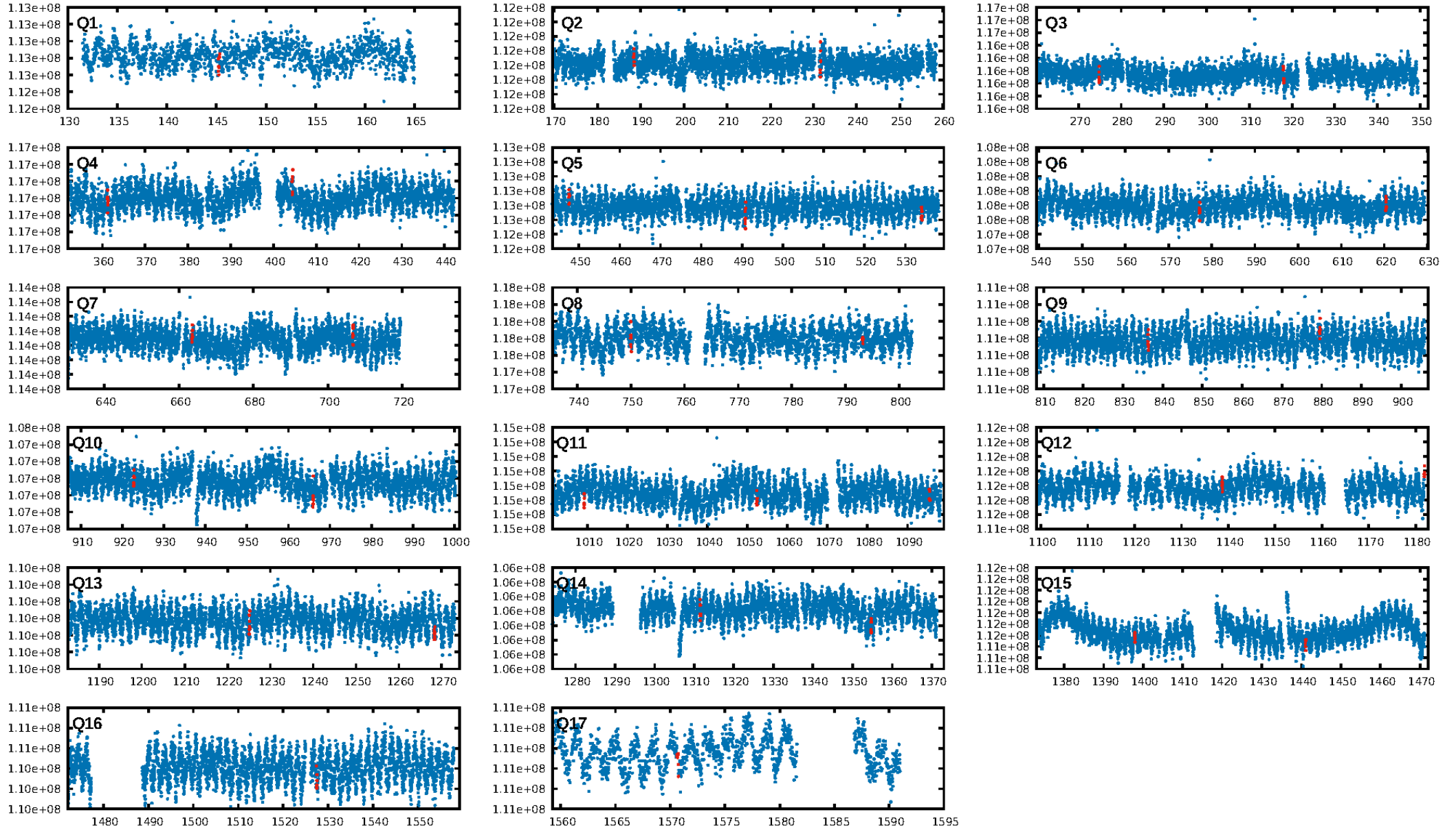
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [131.20σ]
LongPeriod-sig: 97.6% [2.26σ]
ModelChiSquare2-sig: 9.3%
ModelChiSquareGof-sig: 83.9%
Bootstrap-pfa: 1.79e-09
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: -1.371
Centroid-sig: 35.2%
Centroid-so: 0.970 arcsec [1.22σ]
OotOffset-rm: 0.773 arcsec [0.83σ]
KicOffset-rm: 1.585 arcsec [1.69σ]
OotOffset-st: 2/3/1/3 [9]
KicOffset-st: 2/3/1/3 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.53 [9/17]

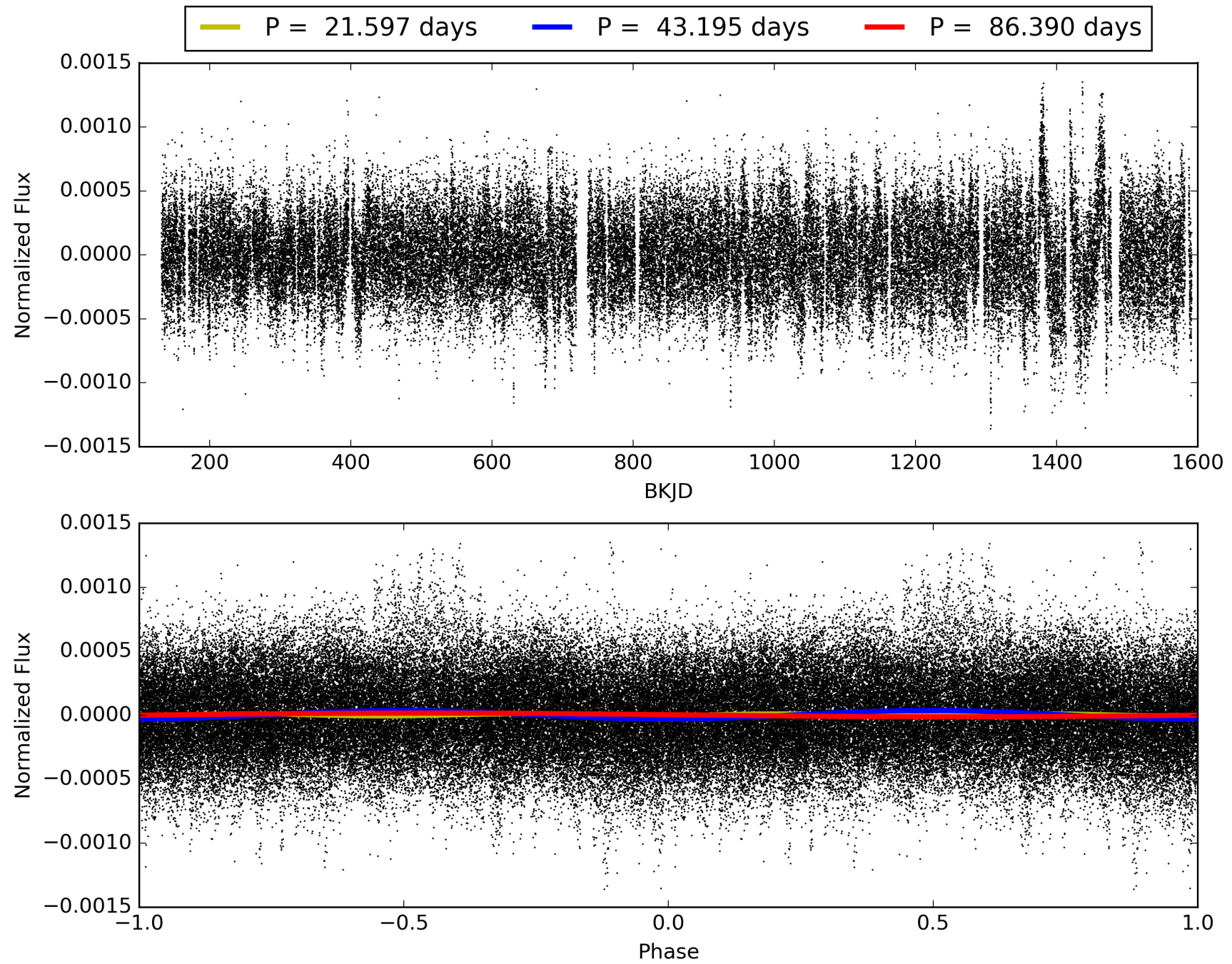
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:48 Z

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

TCE 003238787-09, PDC Light Curves

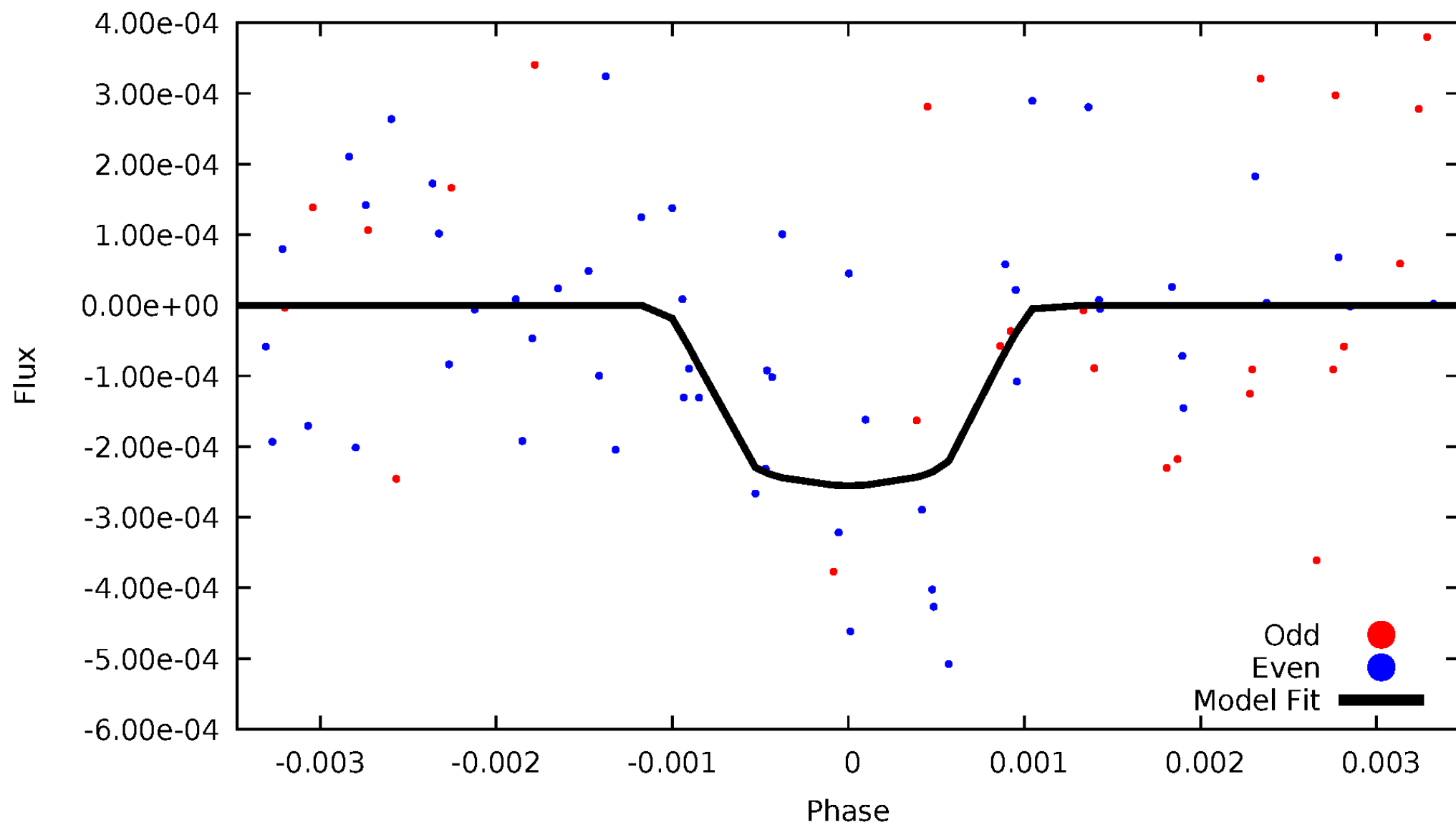


TCE 003238787-09



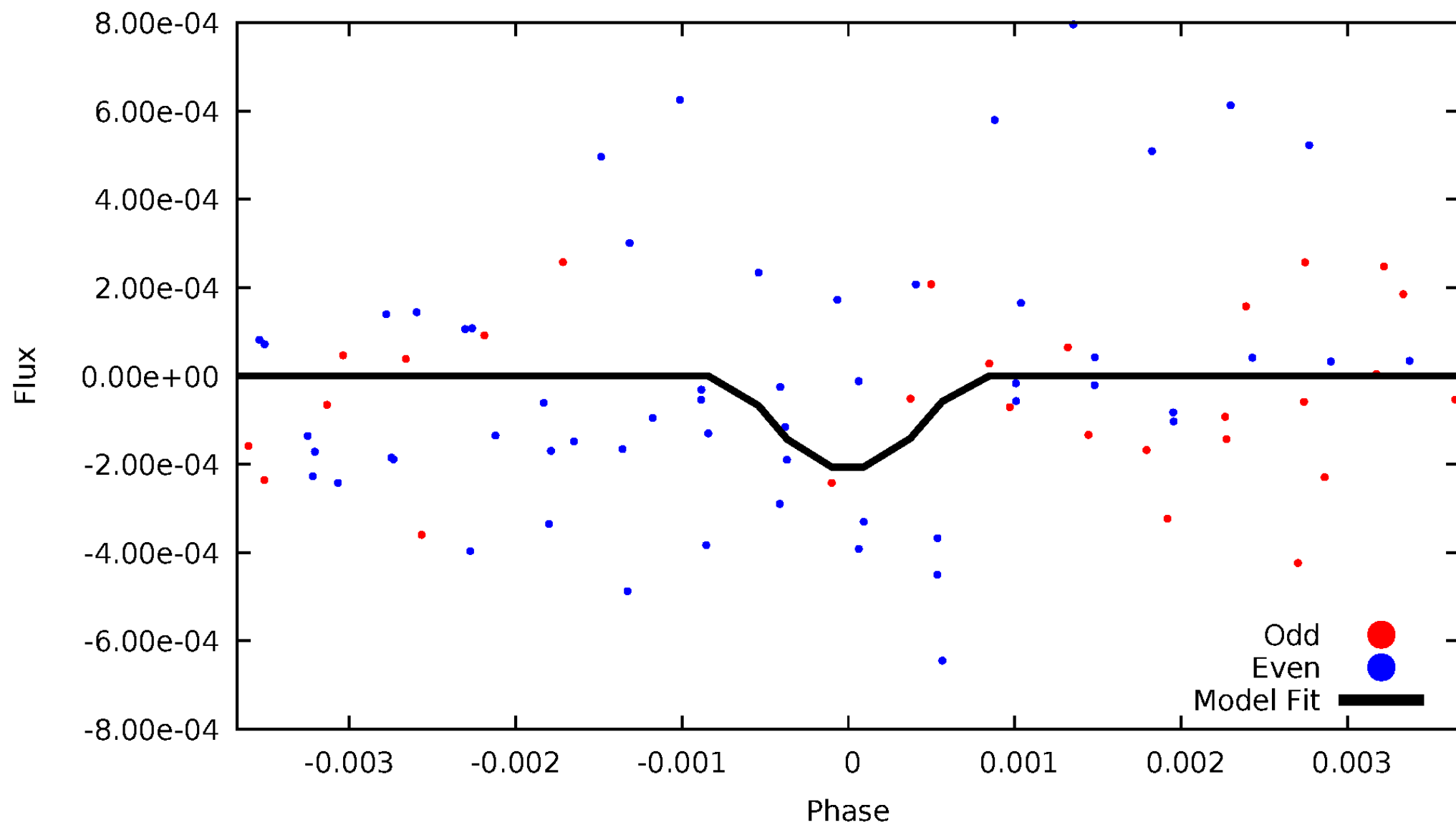
DV Odd/Even

TCE 003238787-09



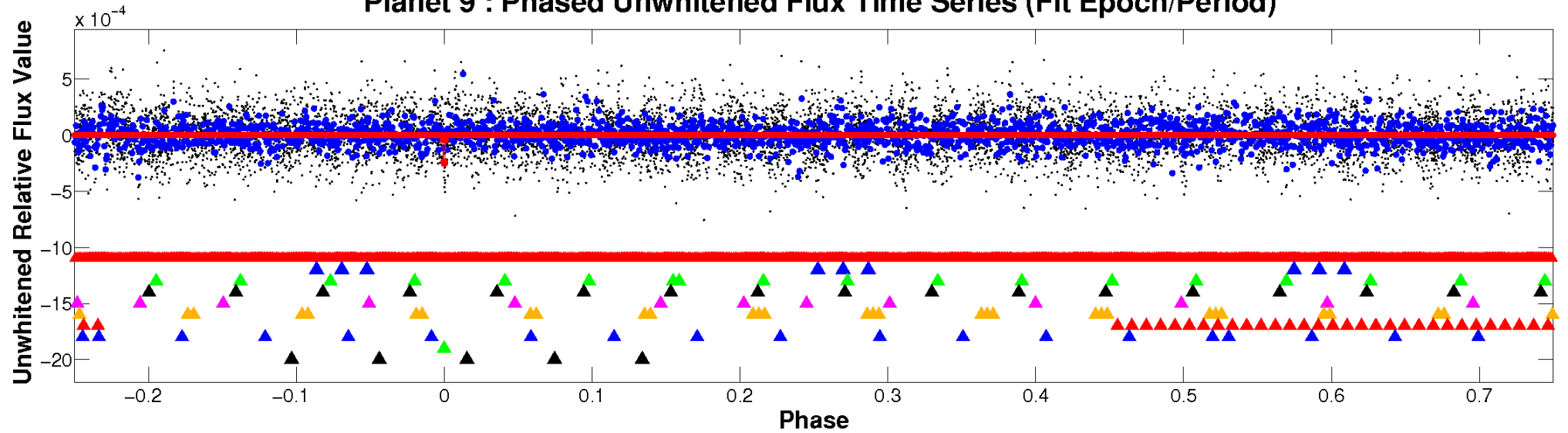
ALT Odd/Even

TCE 003238787-09

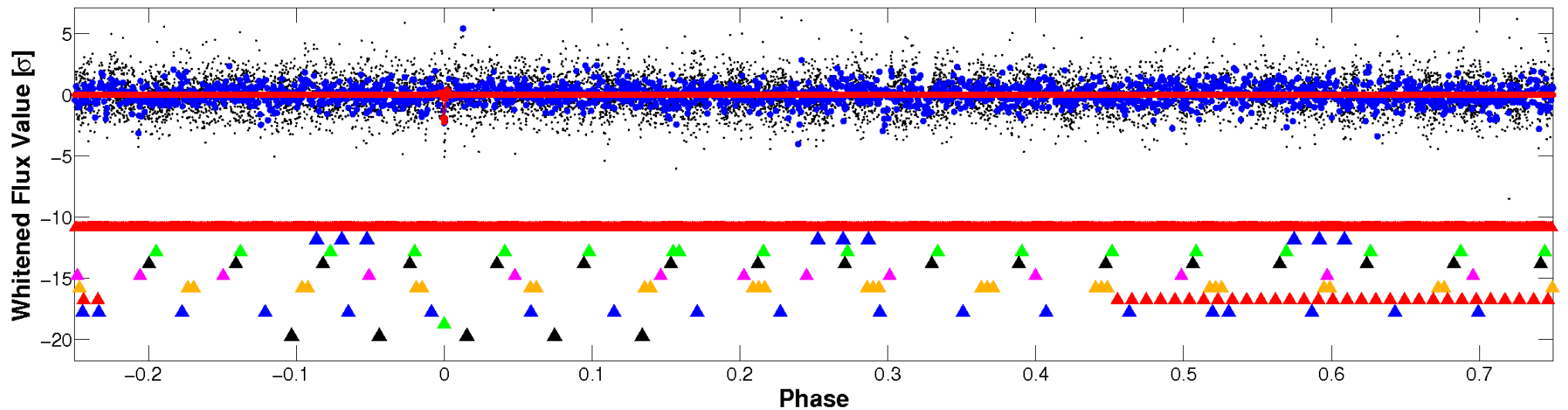


Non-Whitened Vs. Whitened Light Curve

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

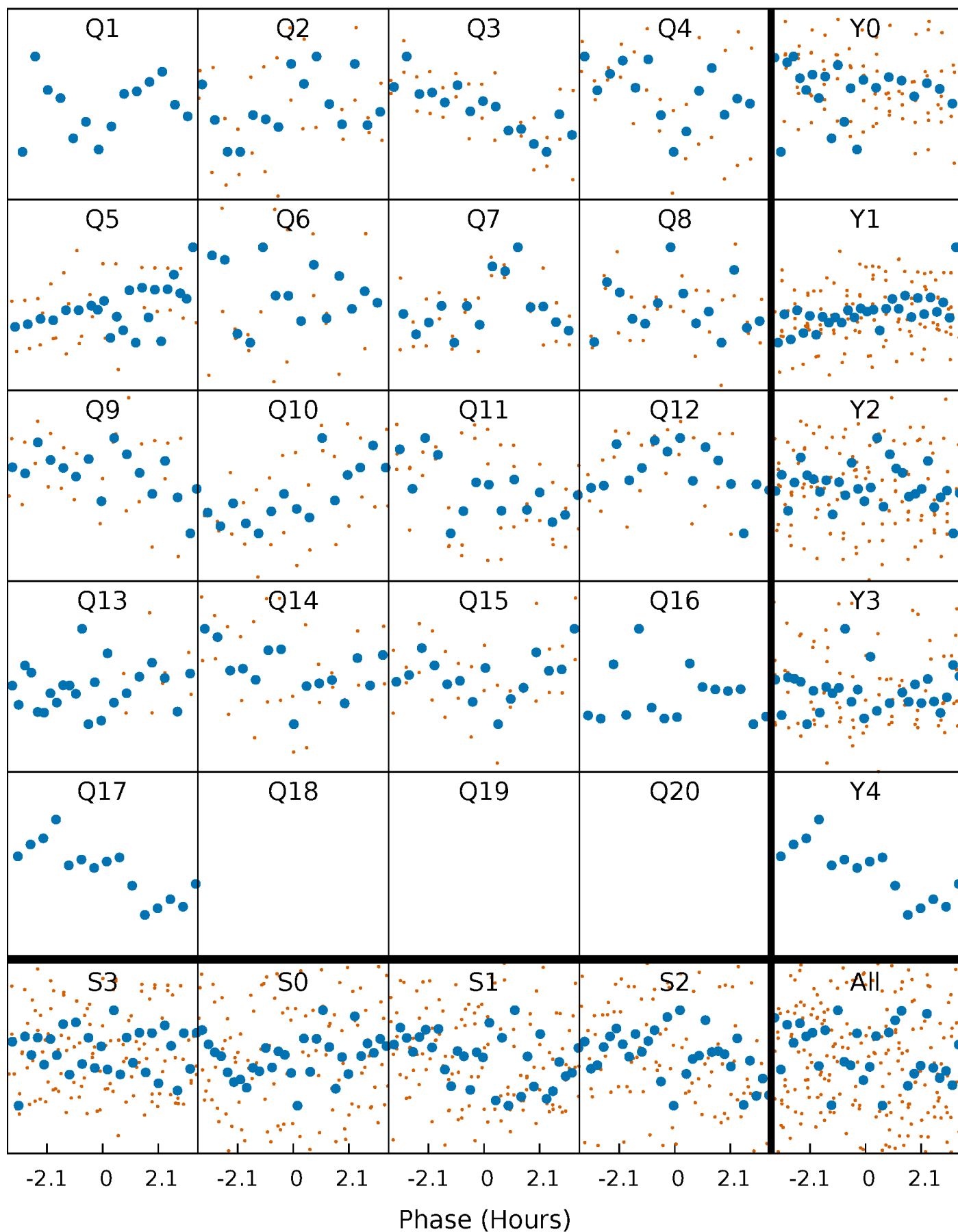


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



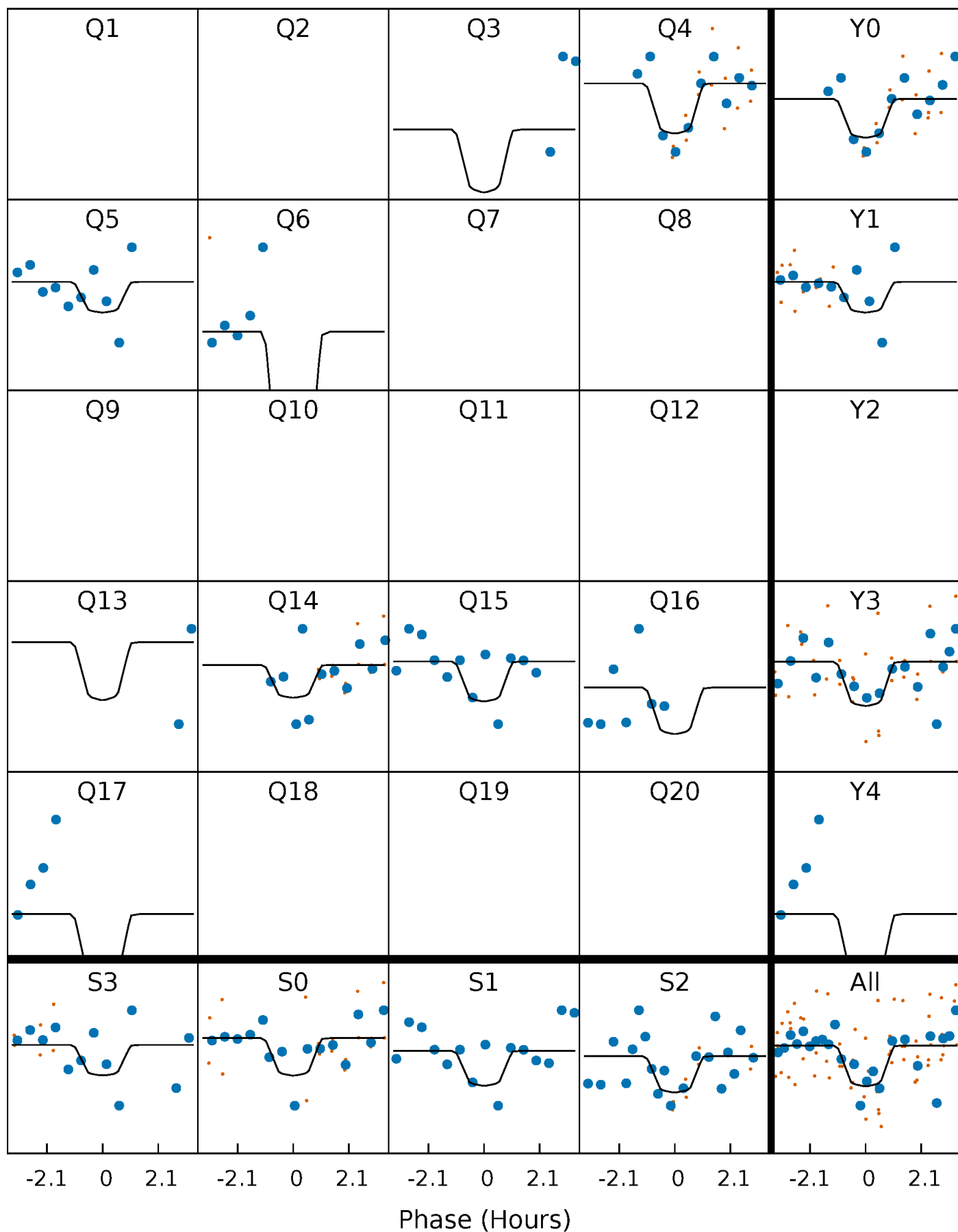
PDC Quarter-Phased Transit Curves

TCE 003238787-09 $P = 43.194899$ Days $T_0 = 145.252942$ (BKJD)



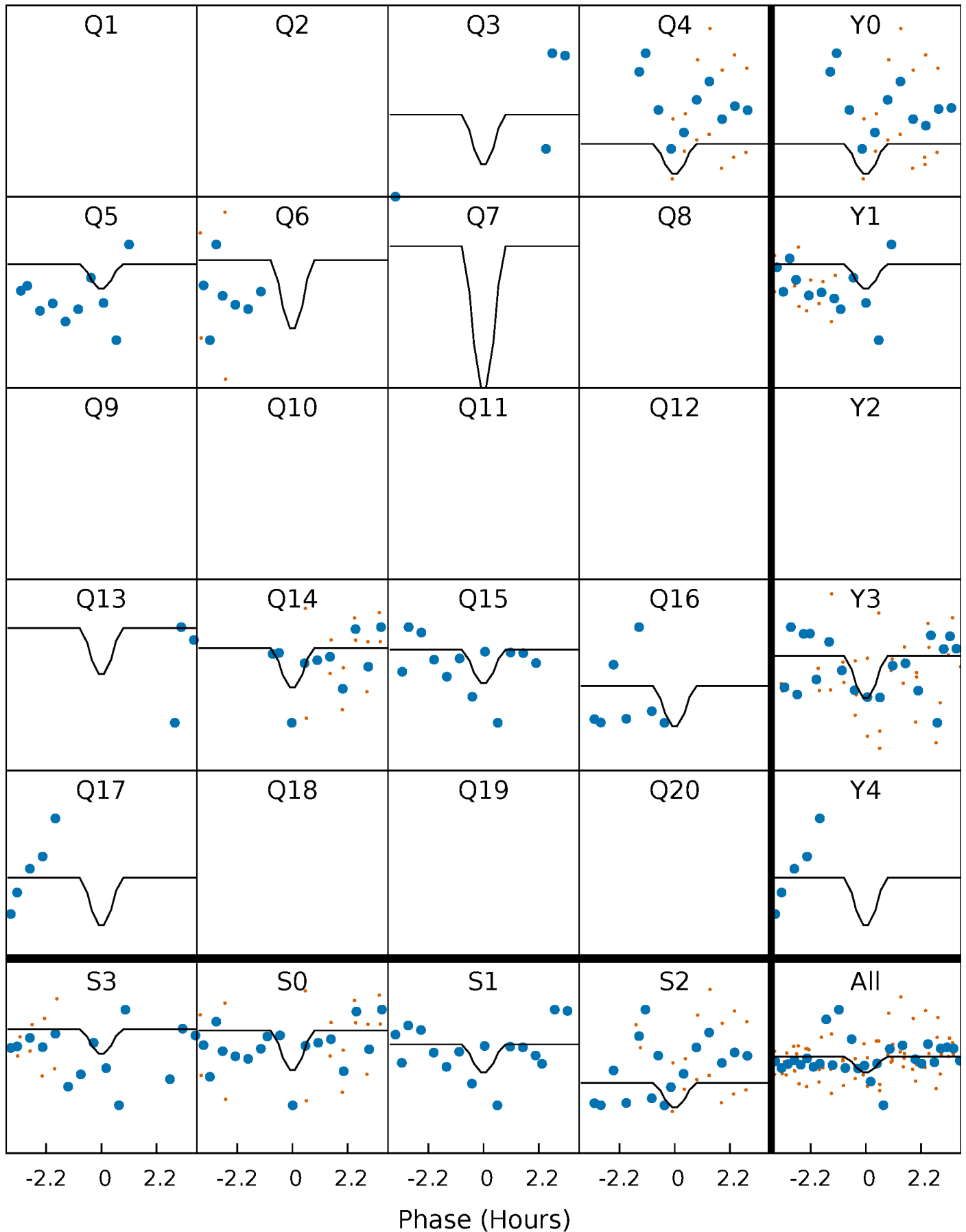
DV Quarter-Phased Transit Curves

TCE 003238787-09 P= 43.194899 Days $T_0=145.252942$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

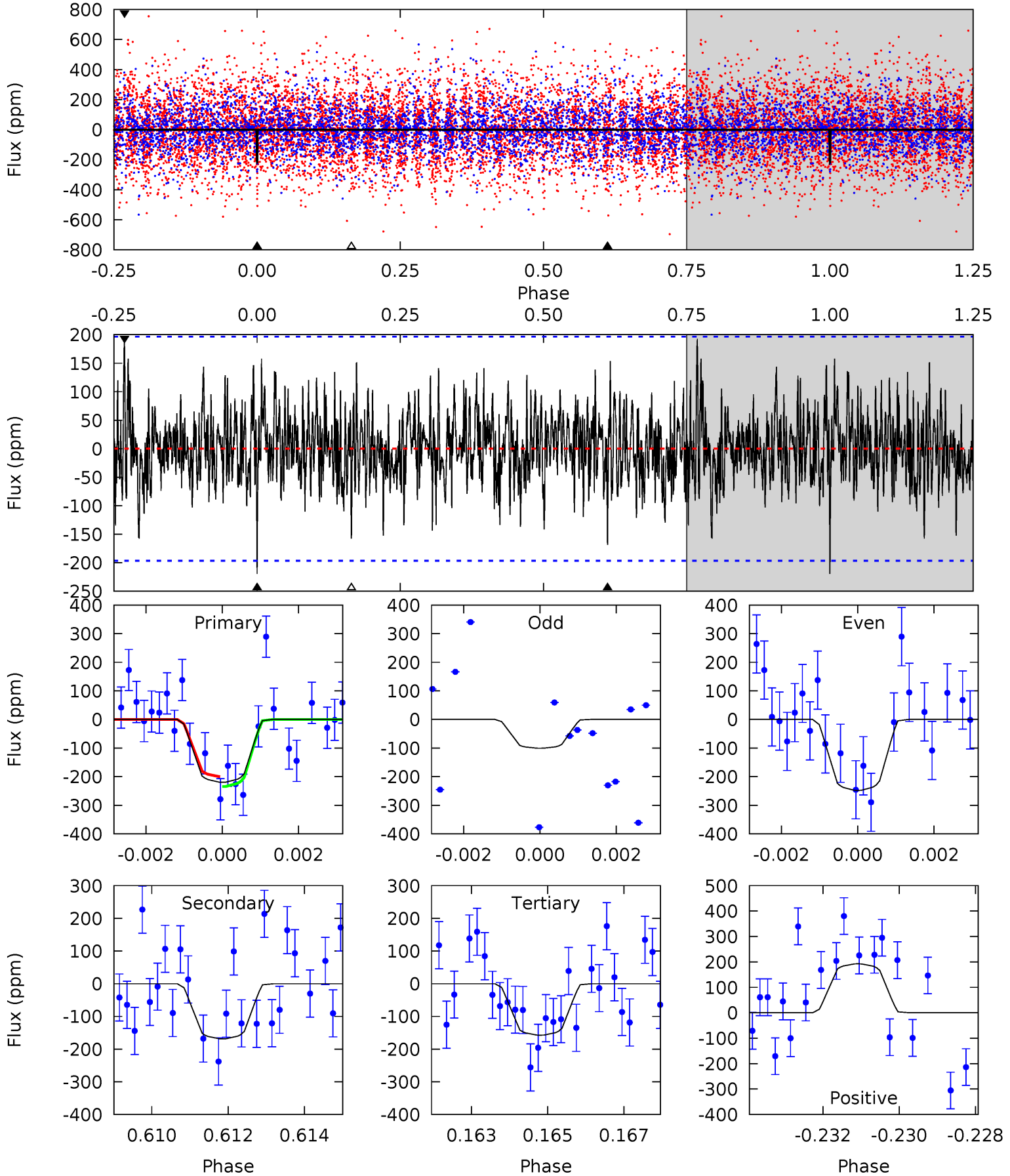
TCE 003238787-09 $P = 43.194775$ Days $T_0 = 145.254198$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-09, P = 43.194899 Days, E = 102.058043 Days

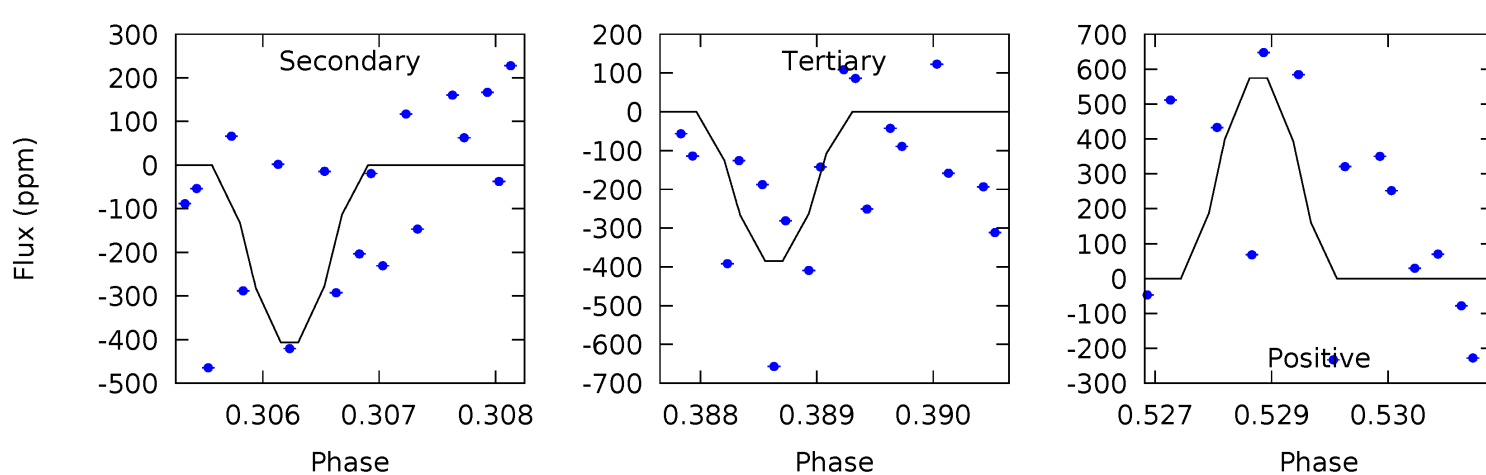
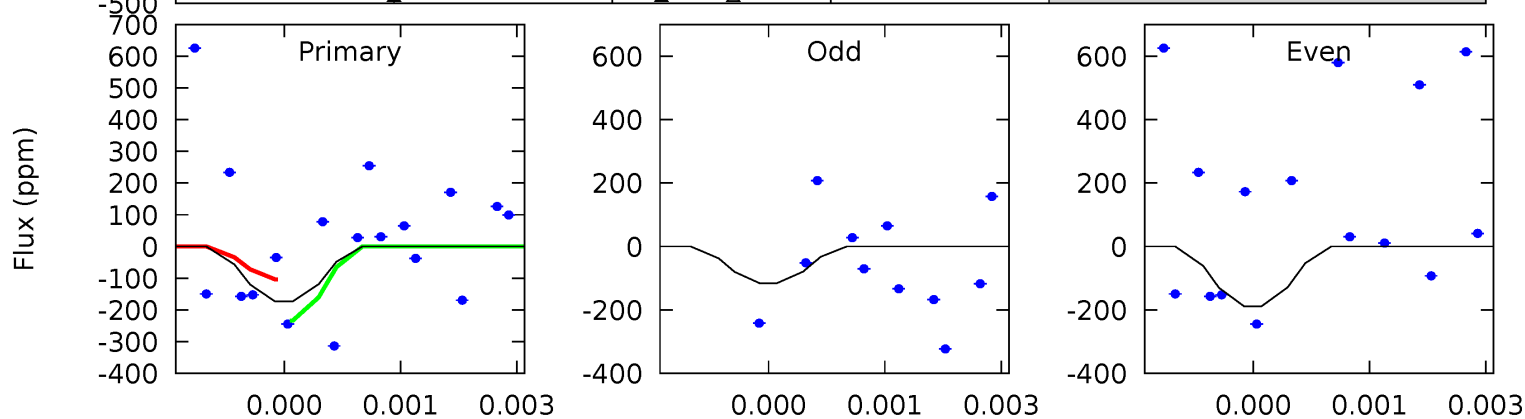
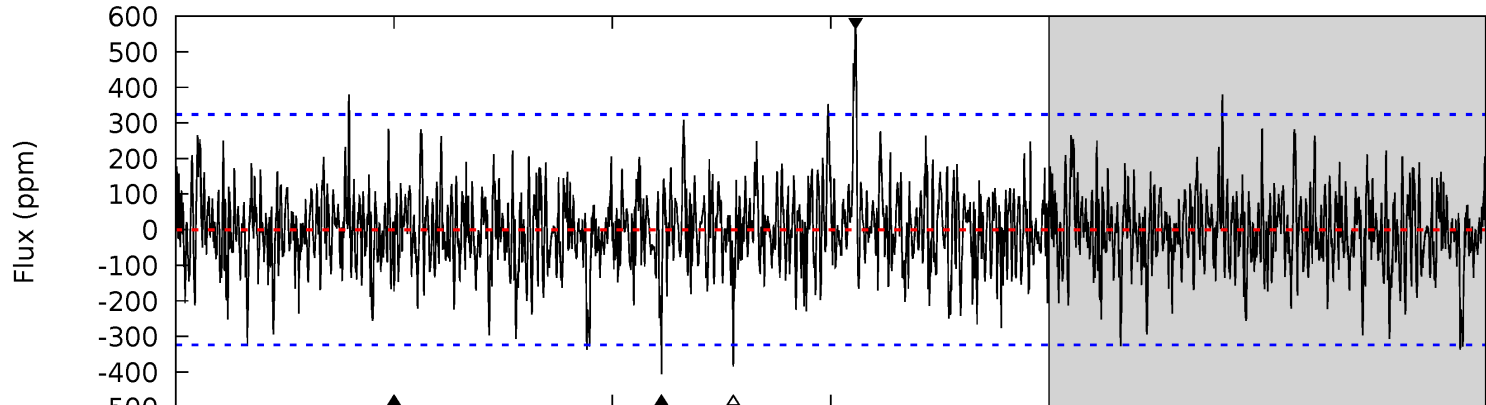
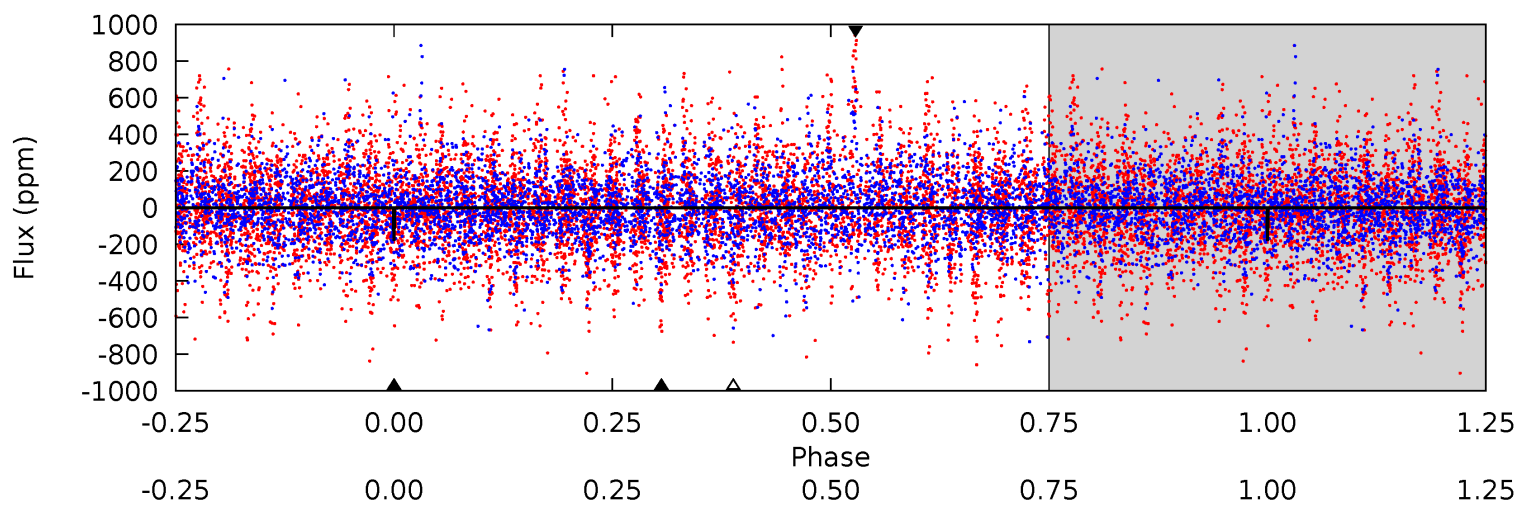
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.95	4.57	4.27	5.22	5.33	3.09	1.39	1.68	0.73	0.30	-0.65	1.64	0.84	0.47	0.46



Alt Model-Shift Uniqueness Test

003238787-09, P = 43.194775 Days, E = 102.059423 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.90	6.78	6.42	9.60	5.41	3.23	1.73	-3.52	-6.70	0.36	-2.81	0.51	0.79	0.59	1.04



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-169 ± 37	$7.36^{+8.09}_{-5.07}$	1178^{+65}_{-70}	4568^{+3296}_{-1037}	132^{+1239}_{-102}
Alt.	-406 ± 60	$7.70^{+7.47}_{-5.07}$	1179^{+59}_{-74}	5362^{+4498}_{-1293}	289^{+2221}_{-220}

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 $A_{obs} \gg 1.0$

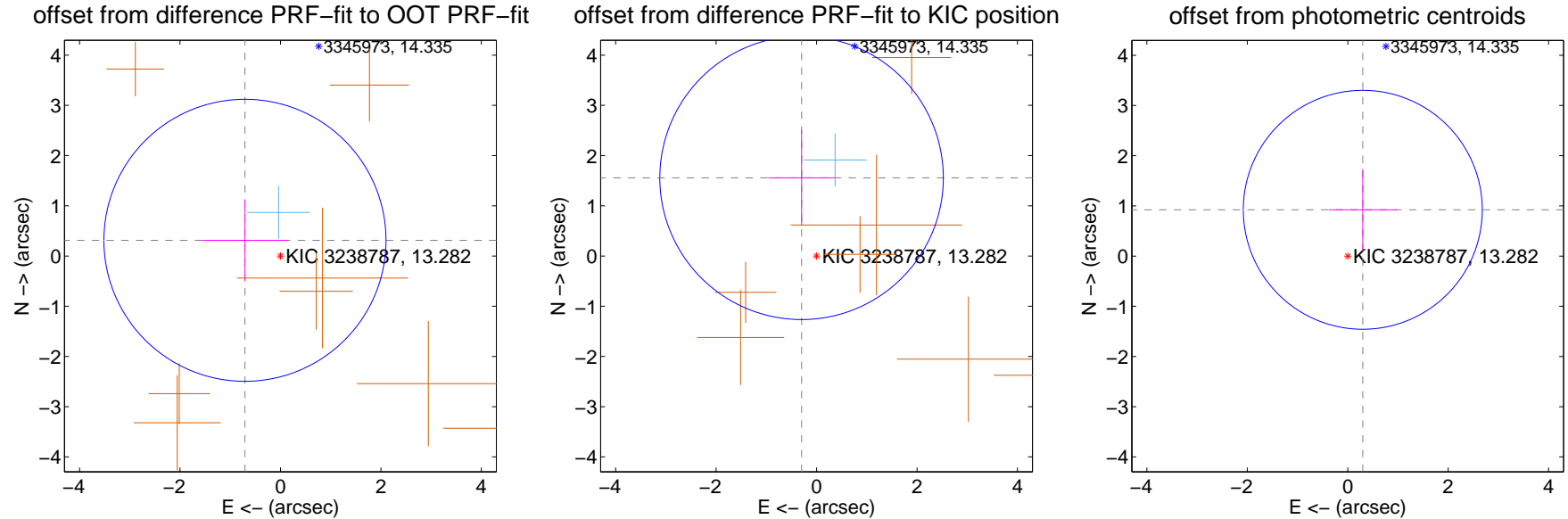
DV Centroid Data

Supplemental centroid analysis for 003238787-09. Kepler magnitude: 13.28. Transit SNR 7.97

There are 1 quarters with good PRF difference image offsets

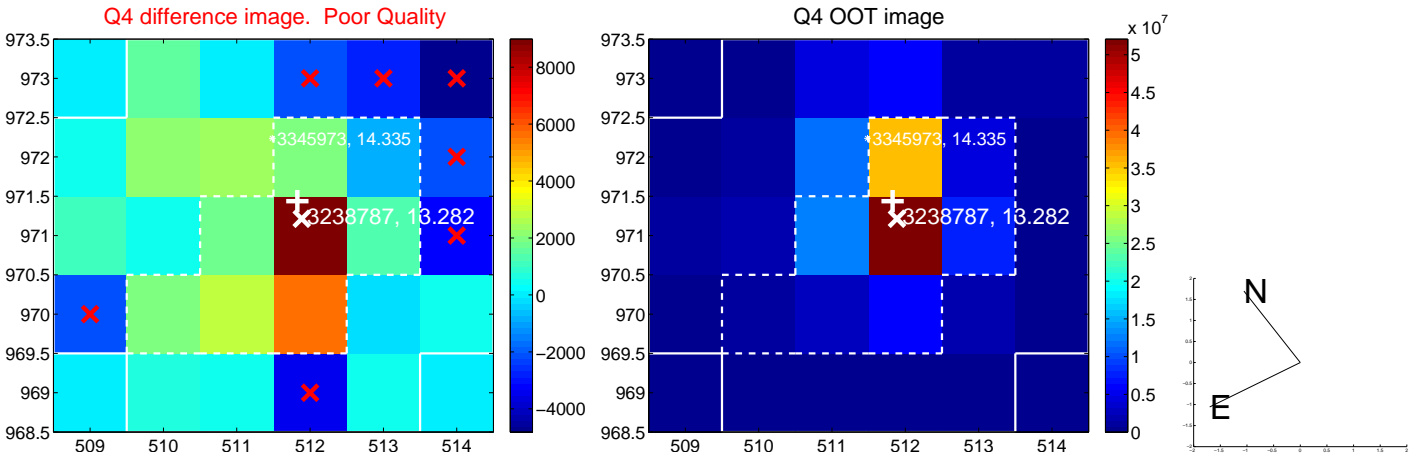
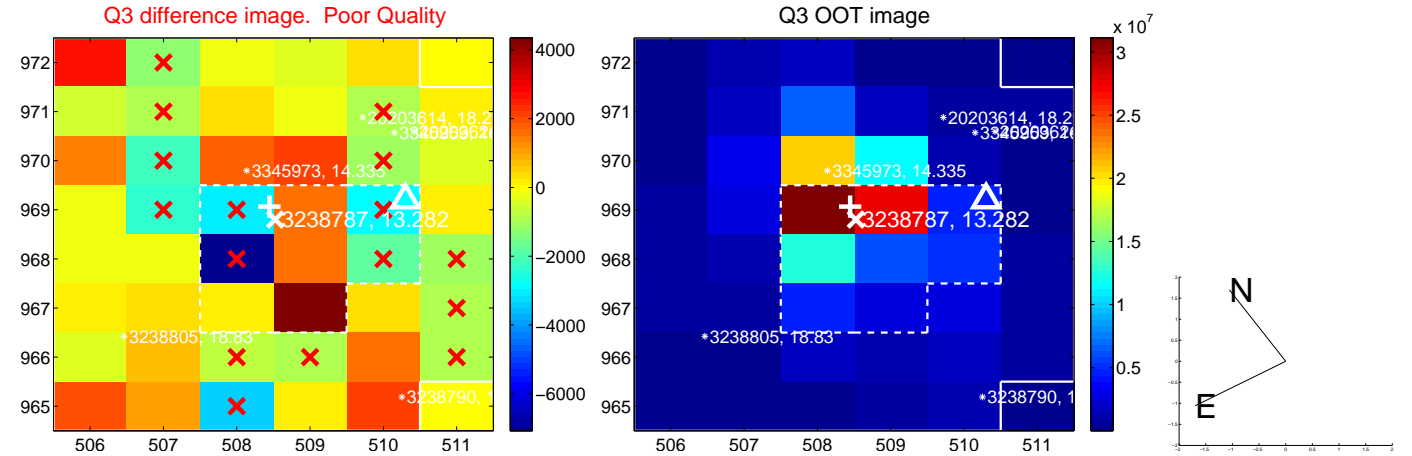
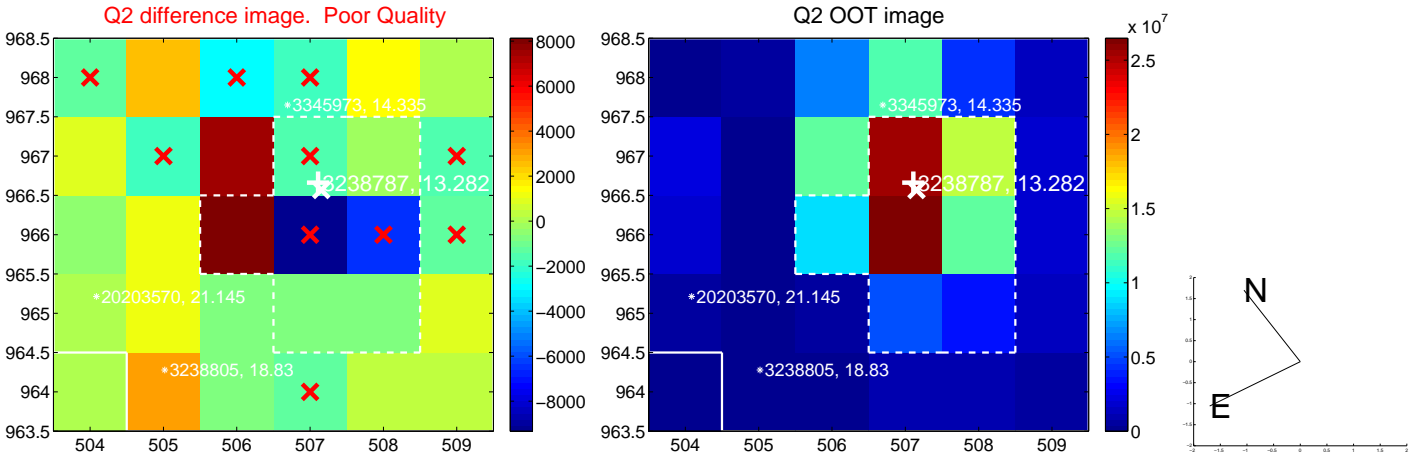
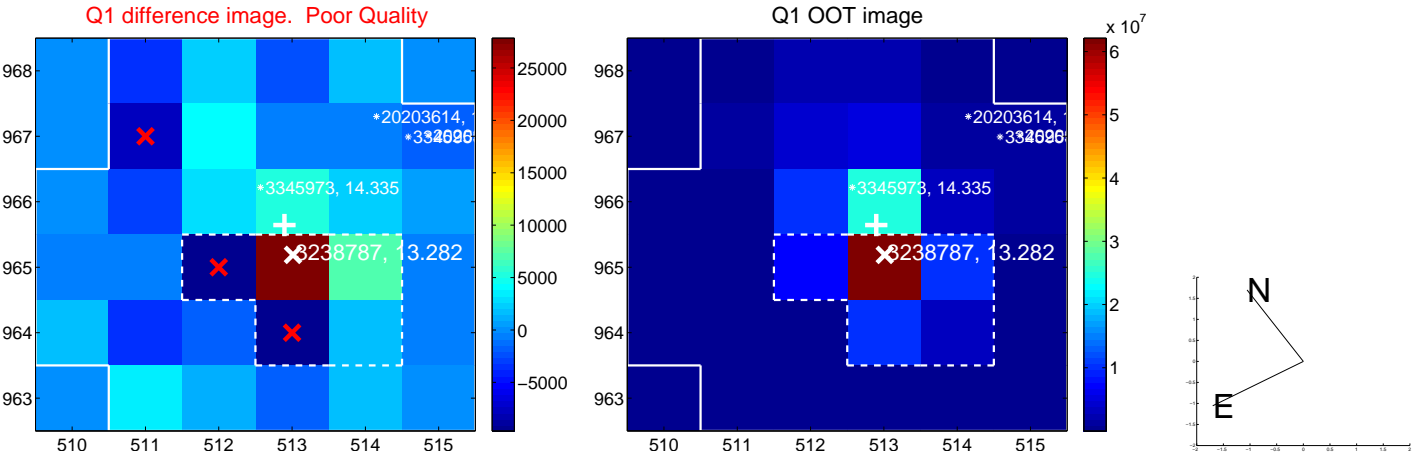
The direct PRF centroid is offset from the target star catalog position by about 1.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.773 ± 0.936	0.83	0.707 ± 0.851	0.313 ± 0.816
PRF-fit source offset from KIC position	1.585 ± 0.941	1.69	0.299 ± 0.663	1.557 ± 0.949
photometric centroid source offset	0.97 ± 0.79	1.22	-0.30 ± 0.68	0.92 ± 0.80

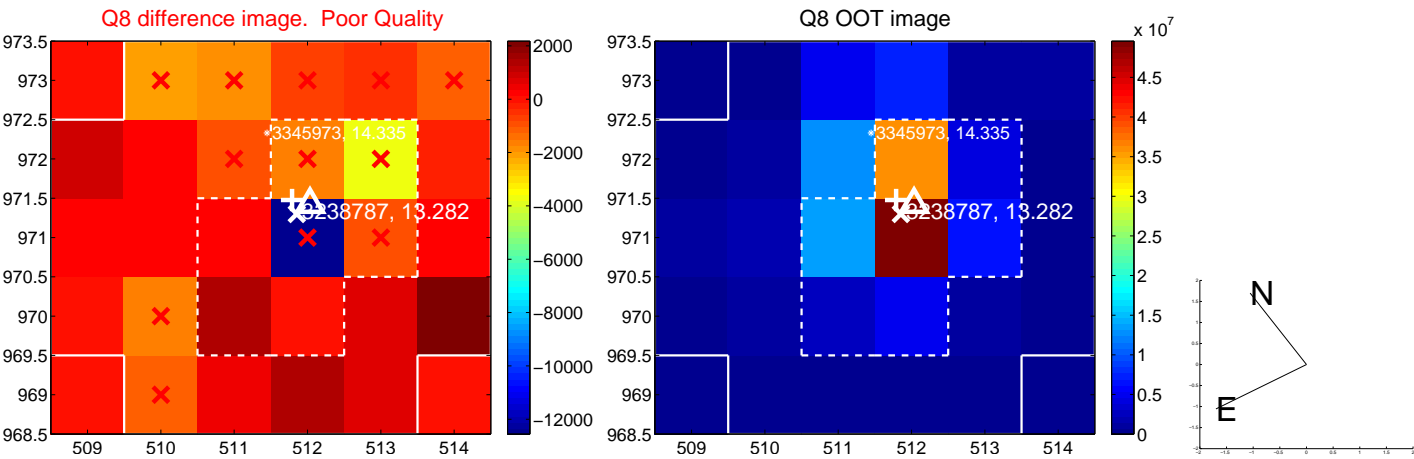
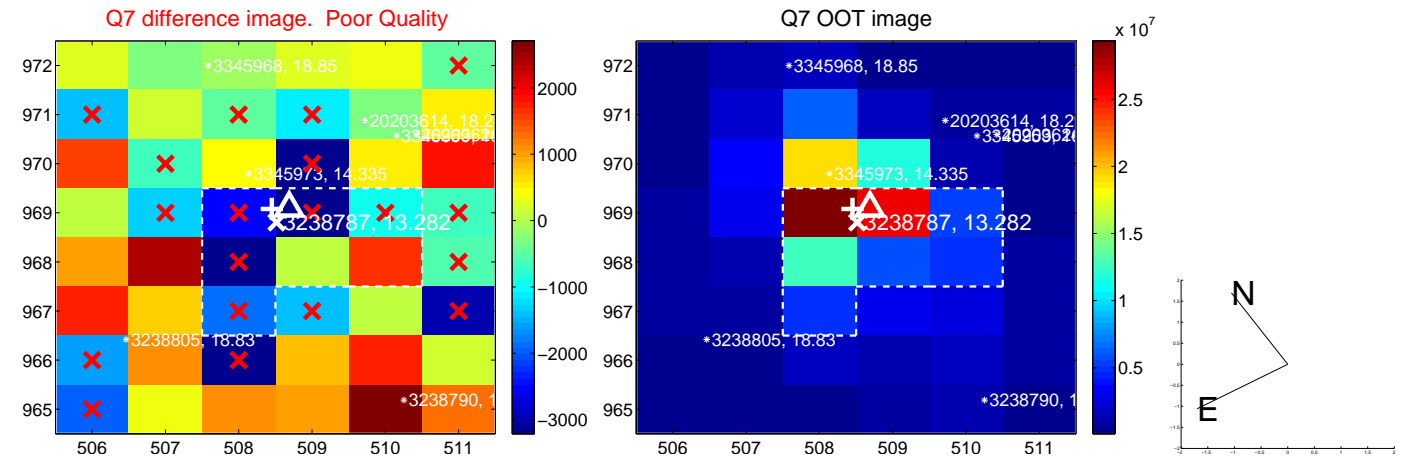
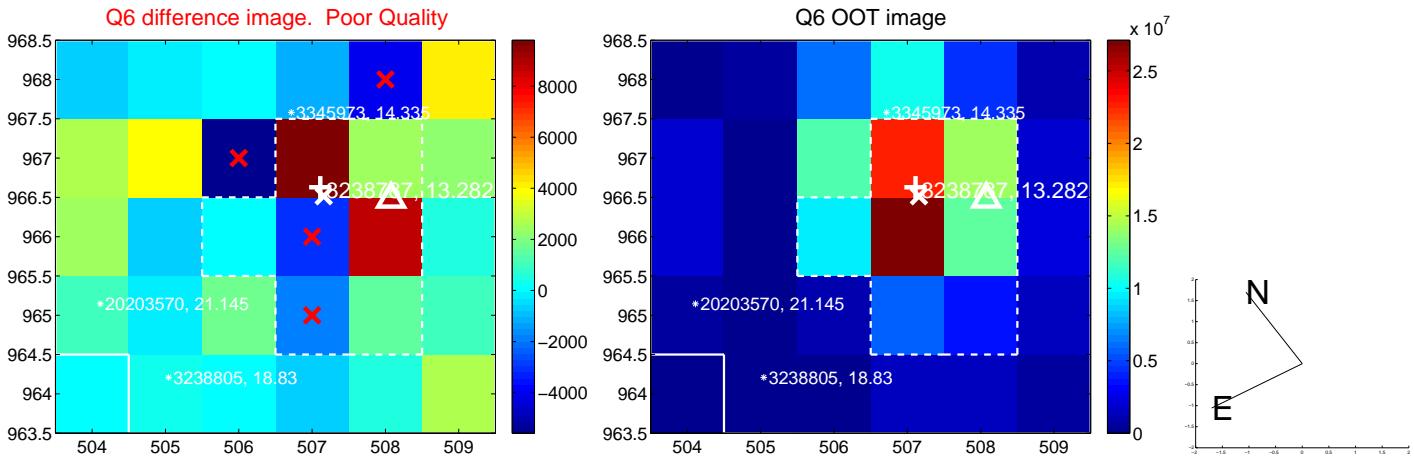
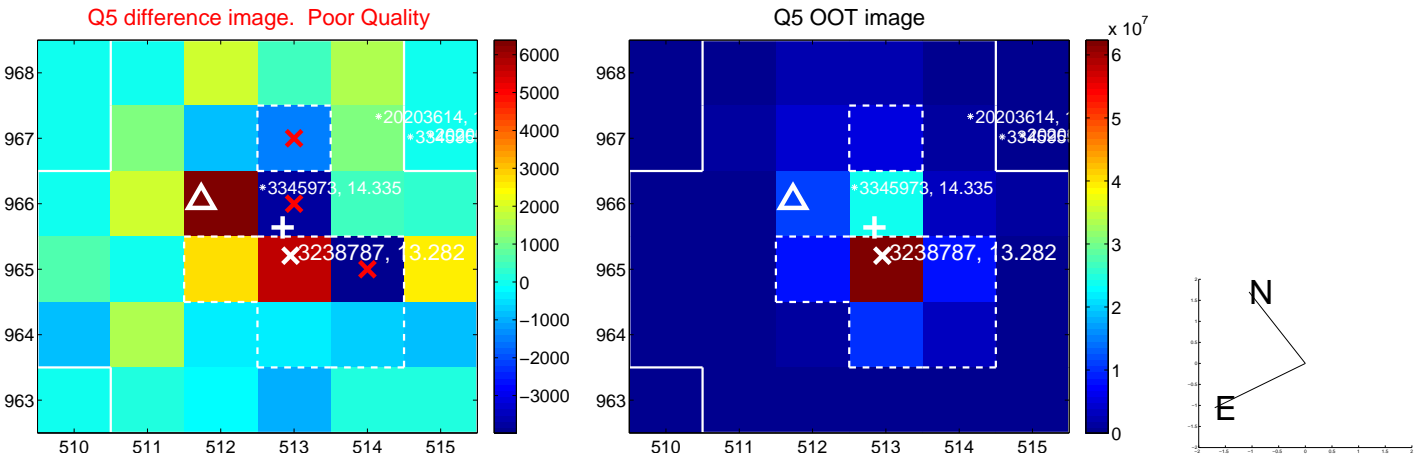


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

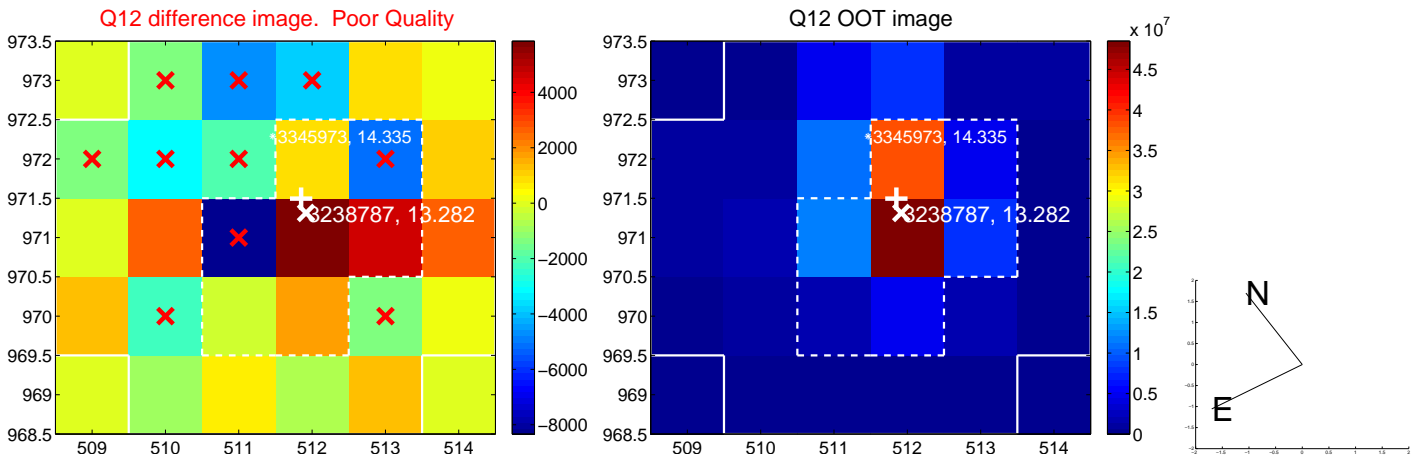
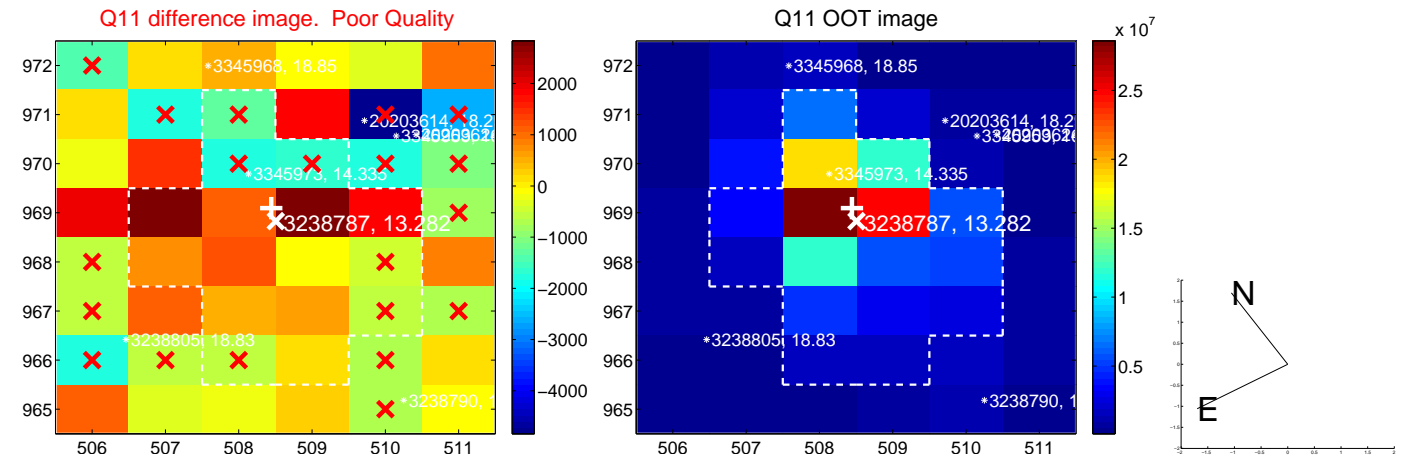
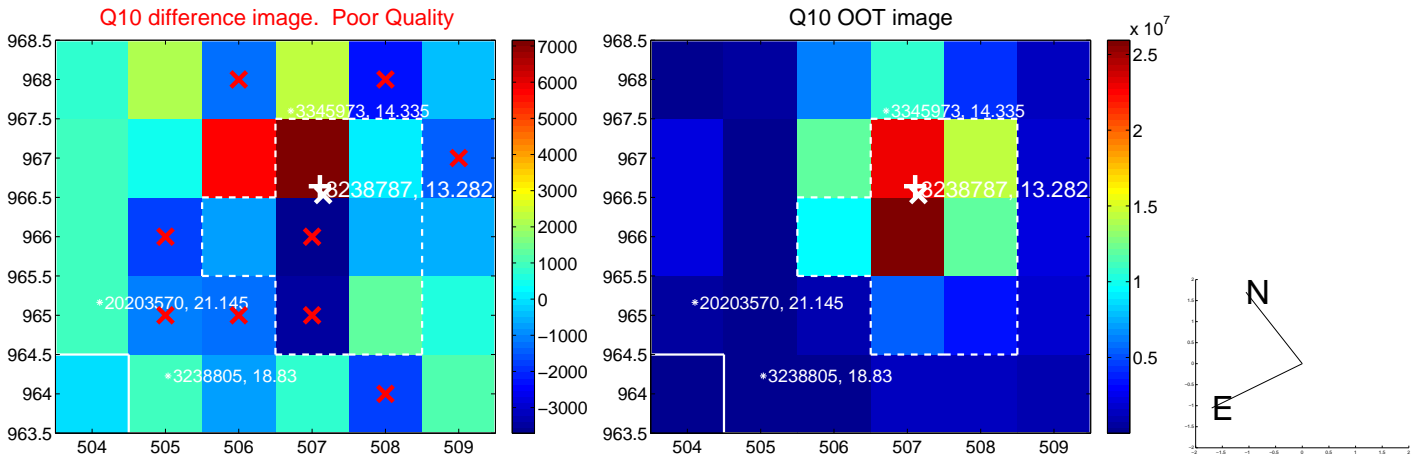
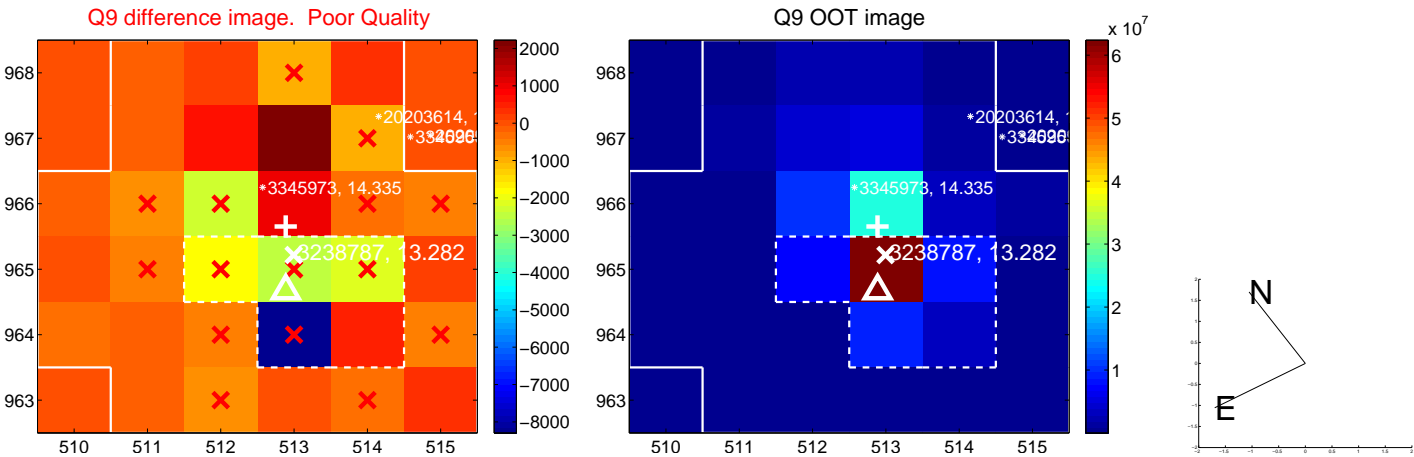
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



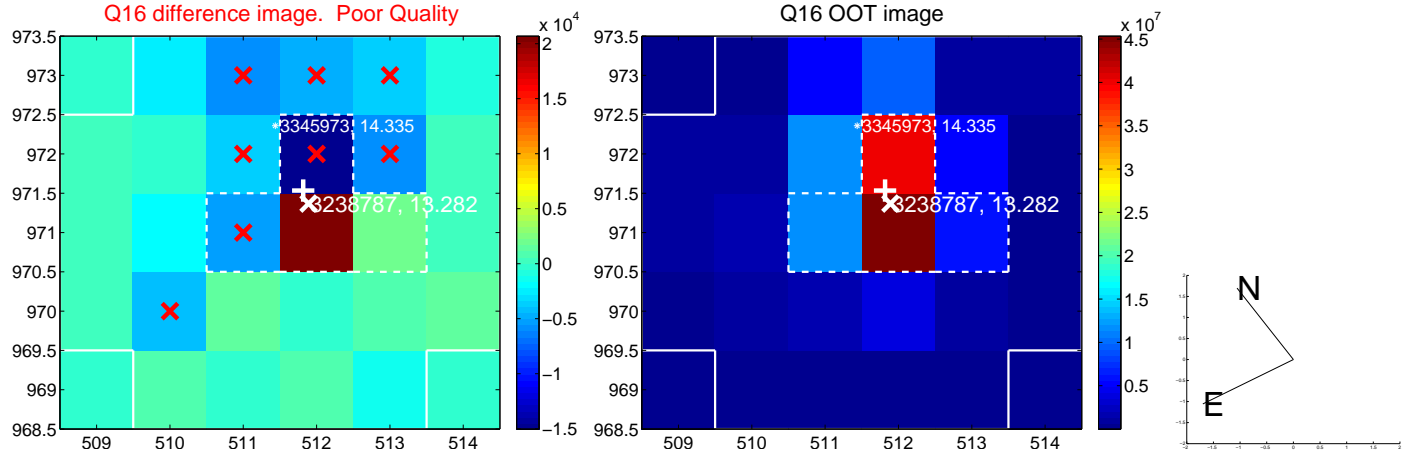
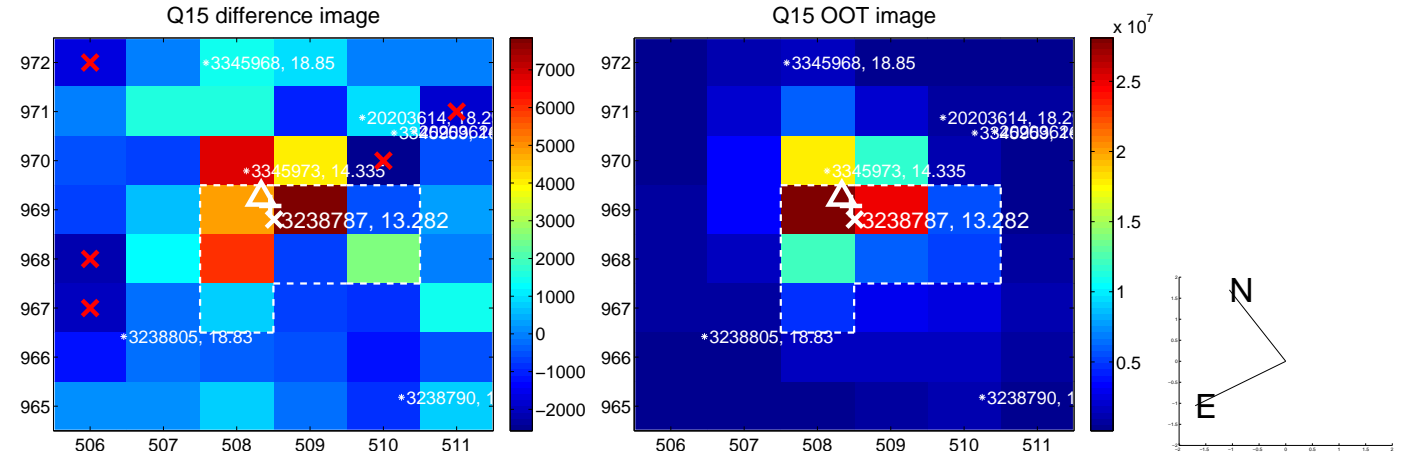
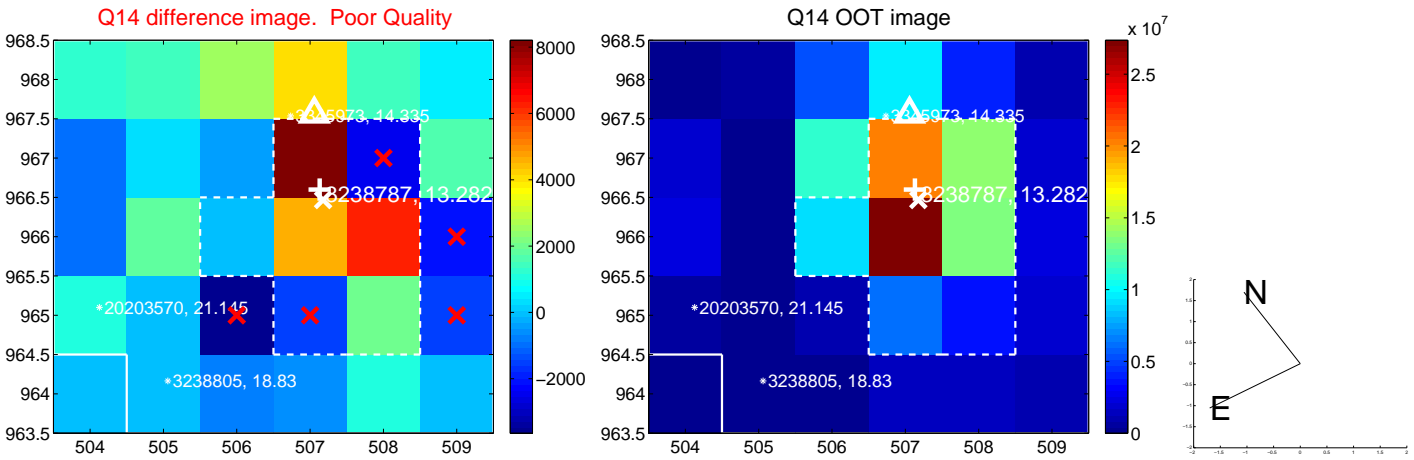
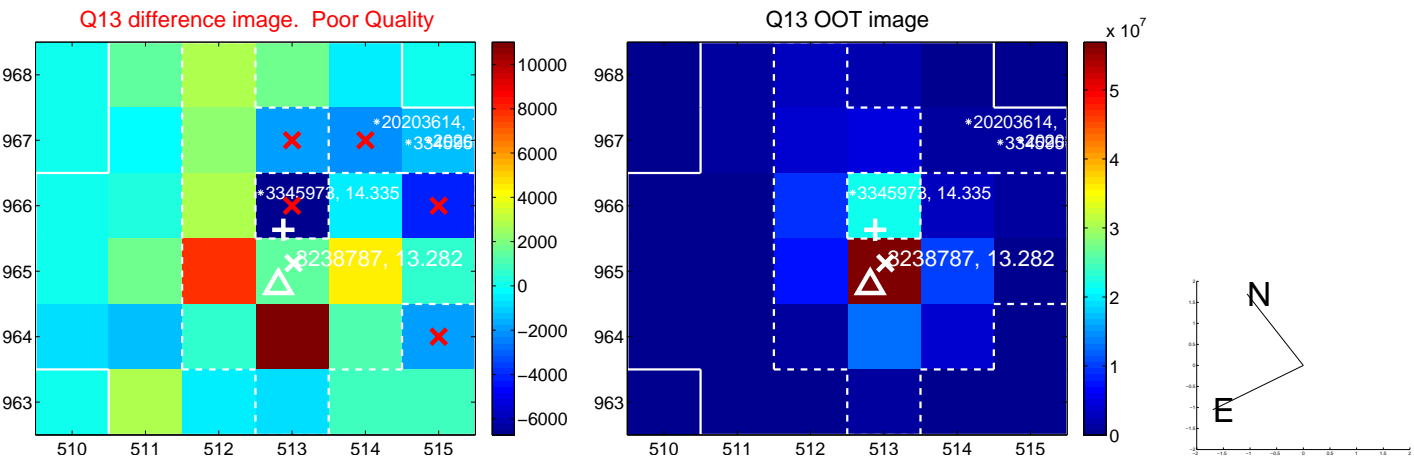
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



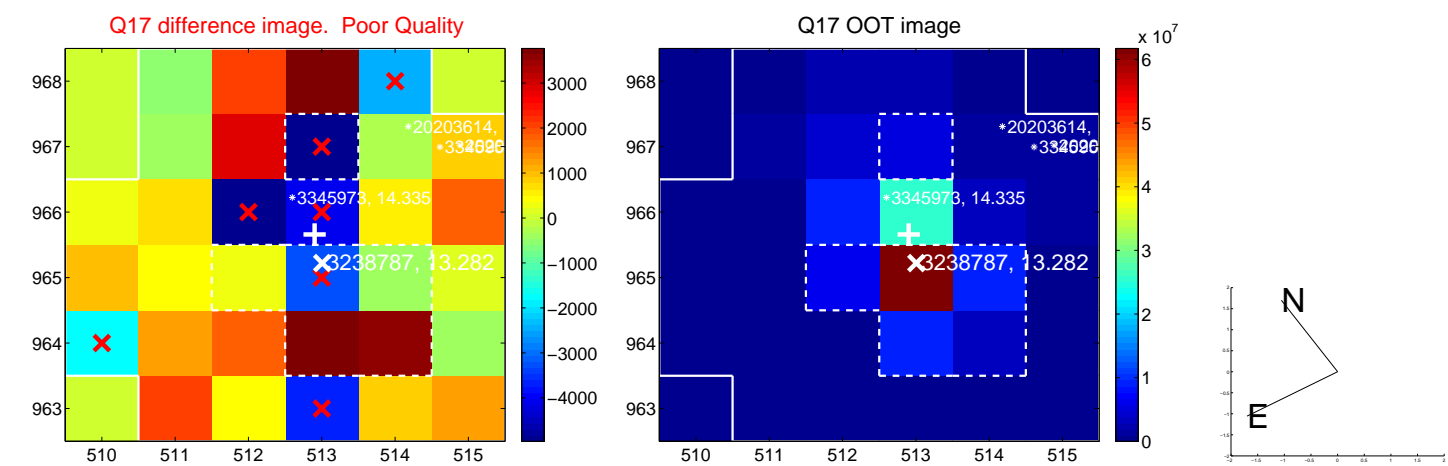
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



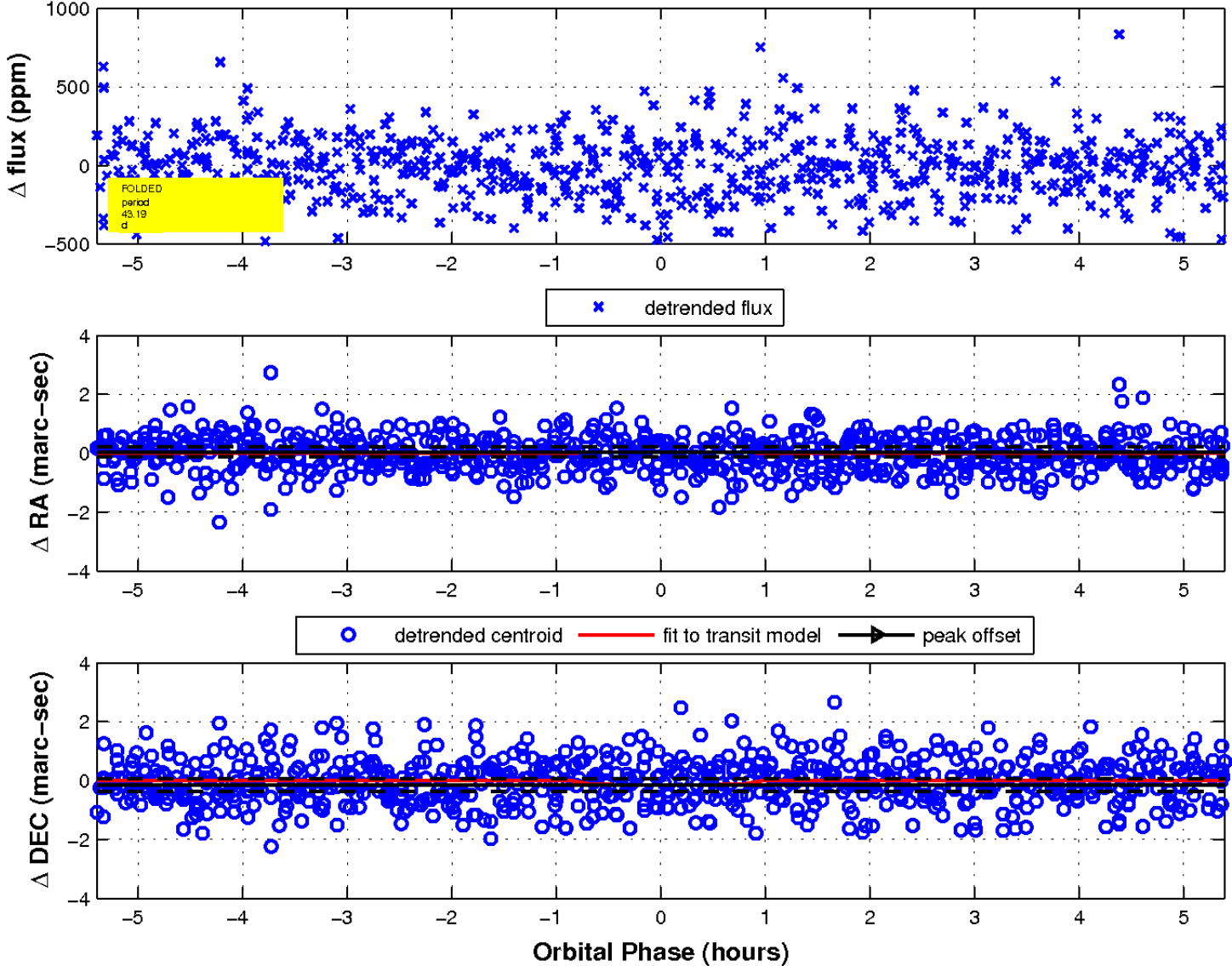
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



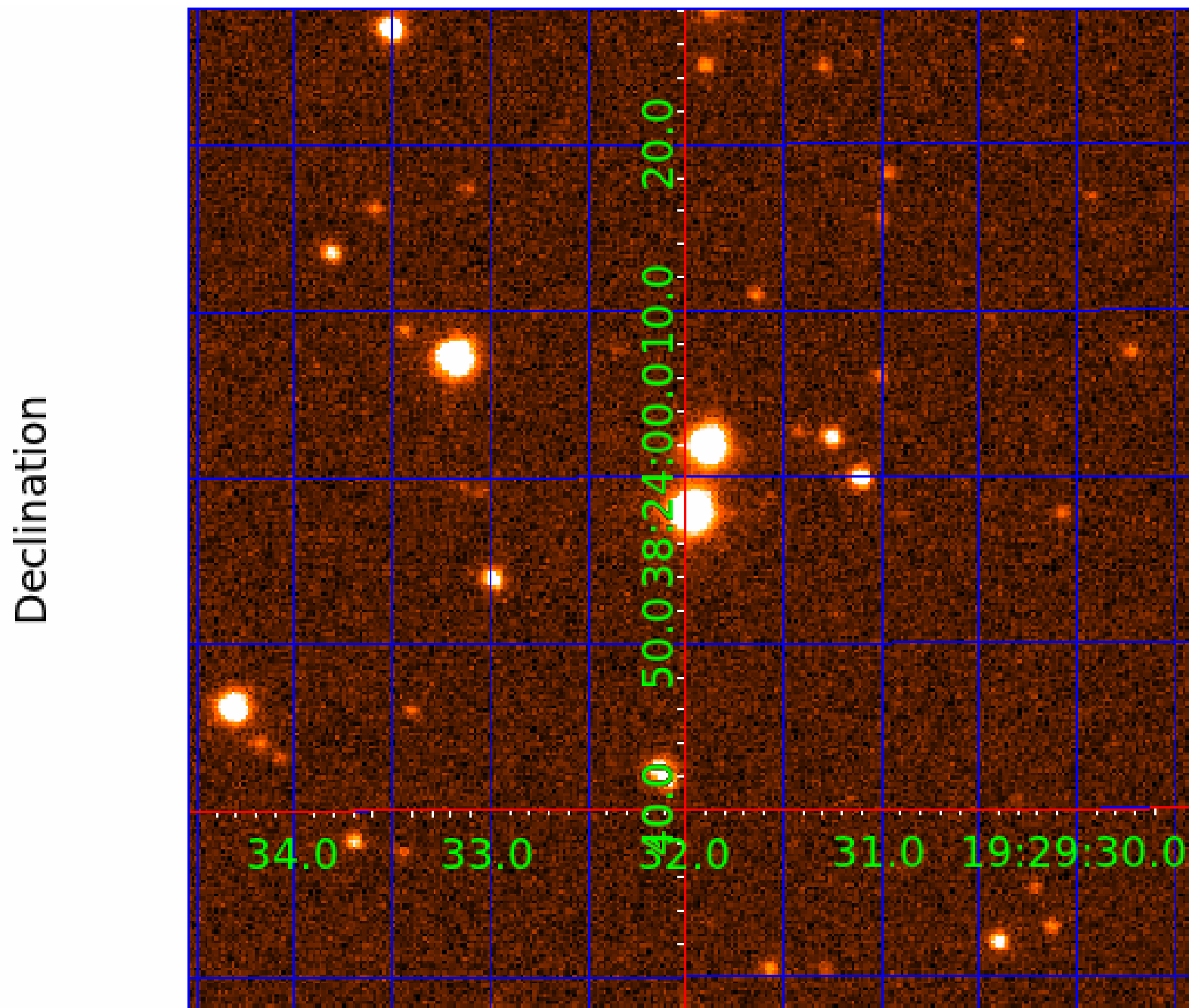
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 9 of 10



UKIRT Image



KIC 003238787

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003238787-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS
003238787-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003238787-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_KIC_POS
003238787-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— SAME_NTL_PERIOD—CENT_KIC_POS—HALO_GHOST
003238787-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
003238787-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
003238787-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— CENT_KIC_POS
003238787-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003238787-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
003238787-10	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

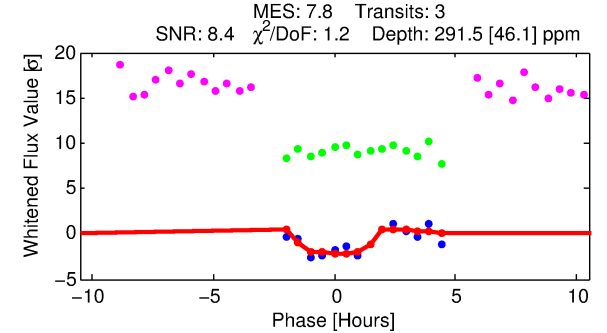
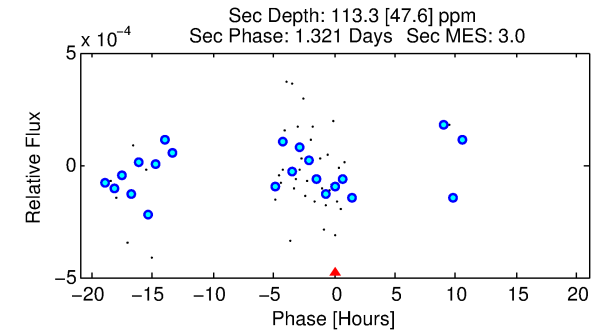
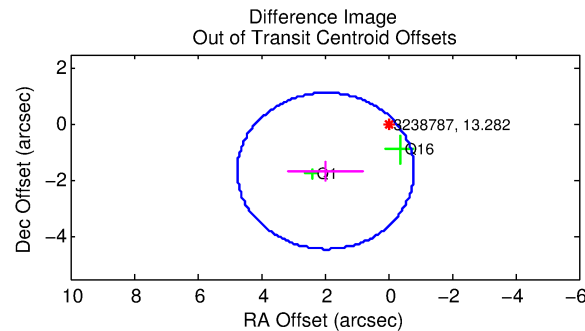
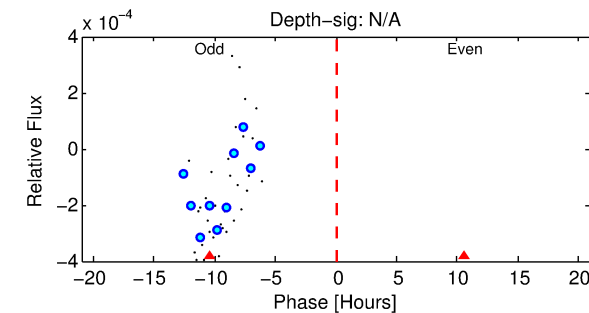
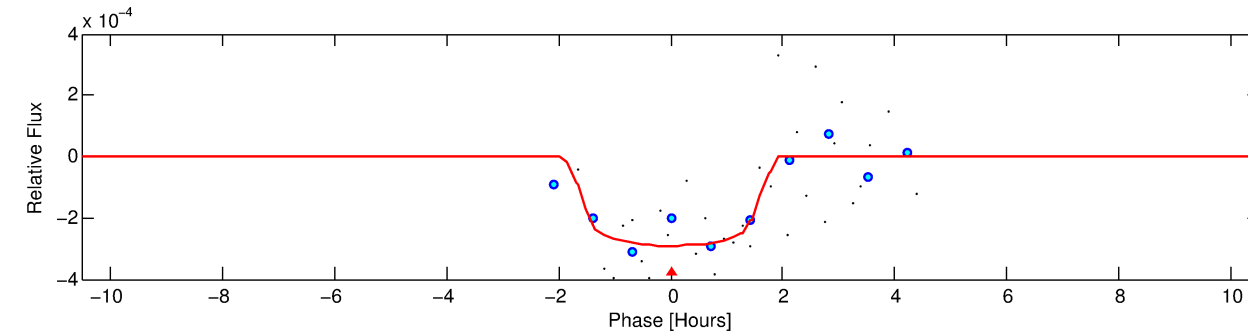
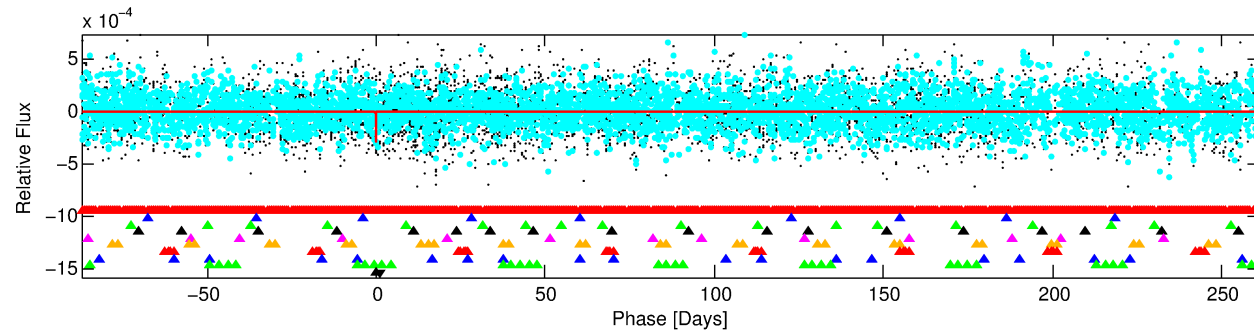
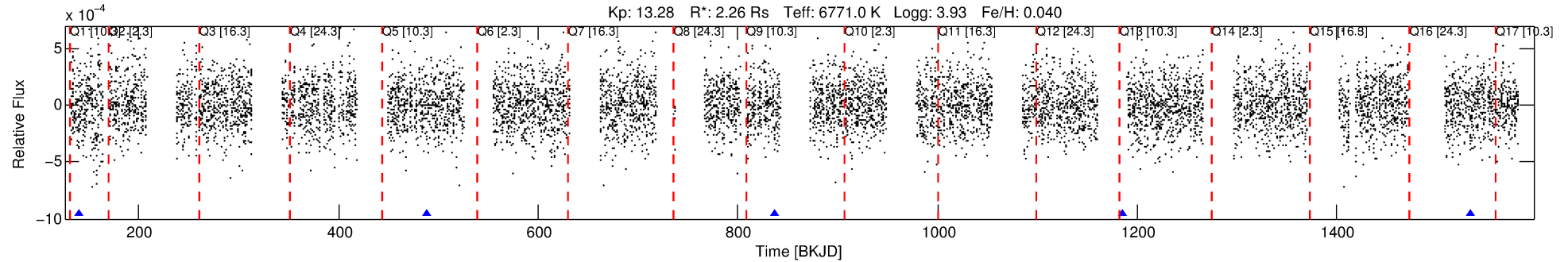
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003238787-10

No Significant Match Found

DV One-Page Summary

KIC: 3238787 Candidate: 10 of 10 Period: 348.119 d



DV Fit Results:

Period = 348.11950 [0.00423] d
Epoch = 140.7979 [0.0099] BKJD
Rp/R* = 0.0178 [0.0143]
a/R* = 411.60 [1921.66]
b = 0.86 [1.40]
Seff = 7.49 [2.55]
Teq = 422 [36] K
Rp = 4.38 [3.67] Re
a = 1.1327 [0.2431] AU
Ag = 4165.36 [7069.28] [0.59σ]
Teffp = 5240 [2180] K [2.21σ]

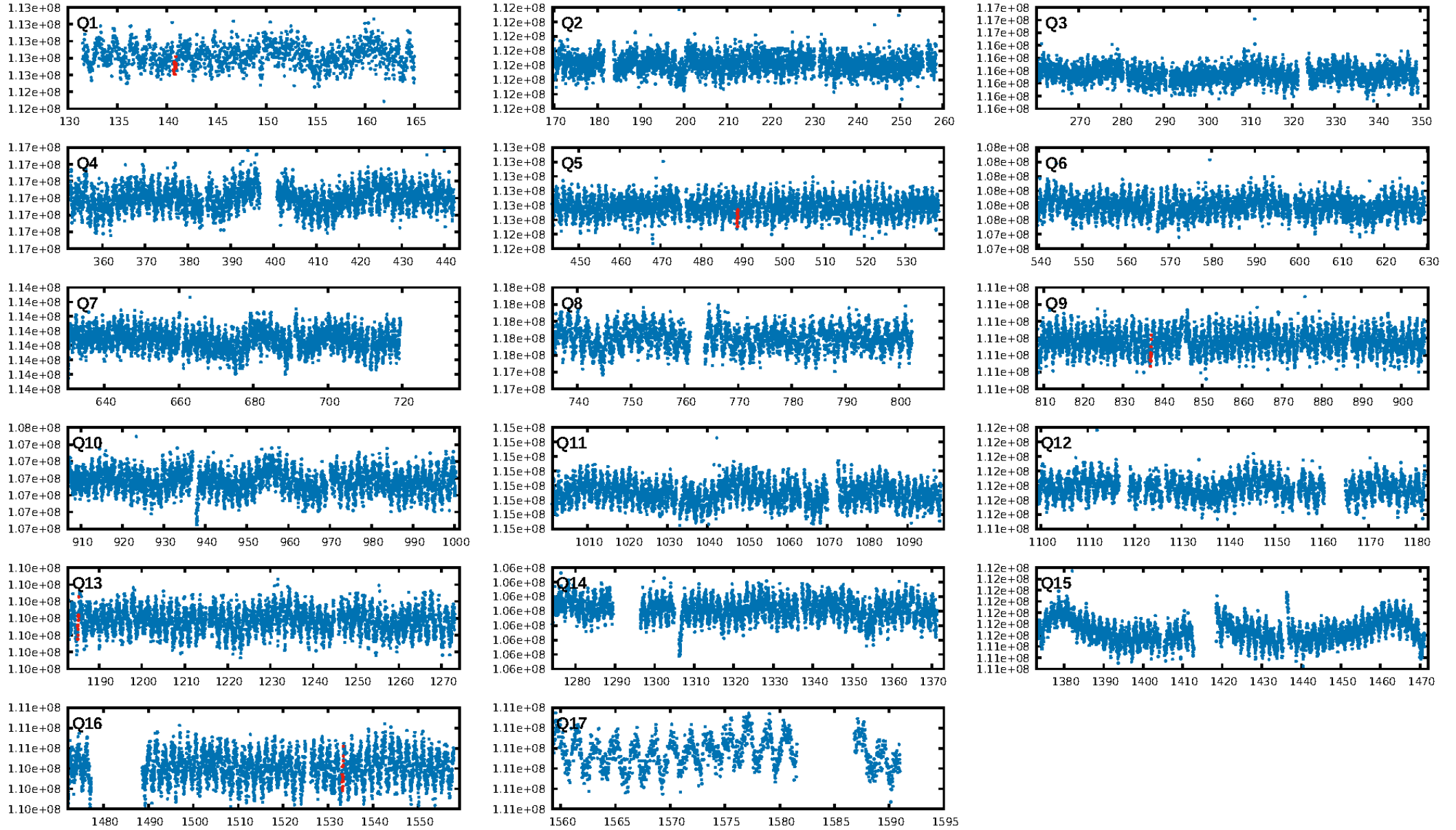
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [596.81σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.6%
ModelChiSquareGof-sig: 99.2%
Bootstrap-pfa: 3.21e-07
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.5495
Centroid-sig: 43.2%
Centroid-so: 1.131 arcsec [0.97σ]
OotOffset-rm: 2.568 arcsec [2.77σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 1.494 arcsec [1.36σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.75 [3/4]

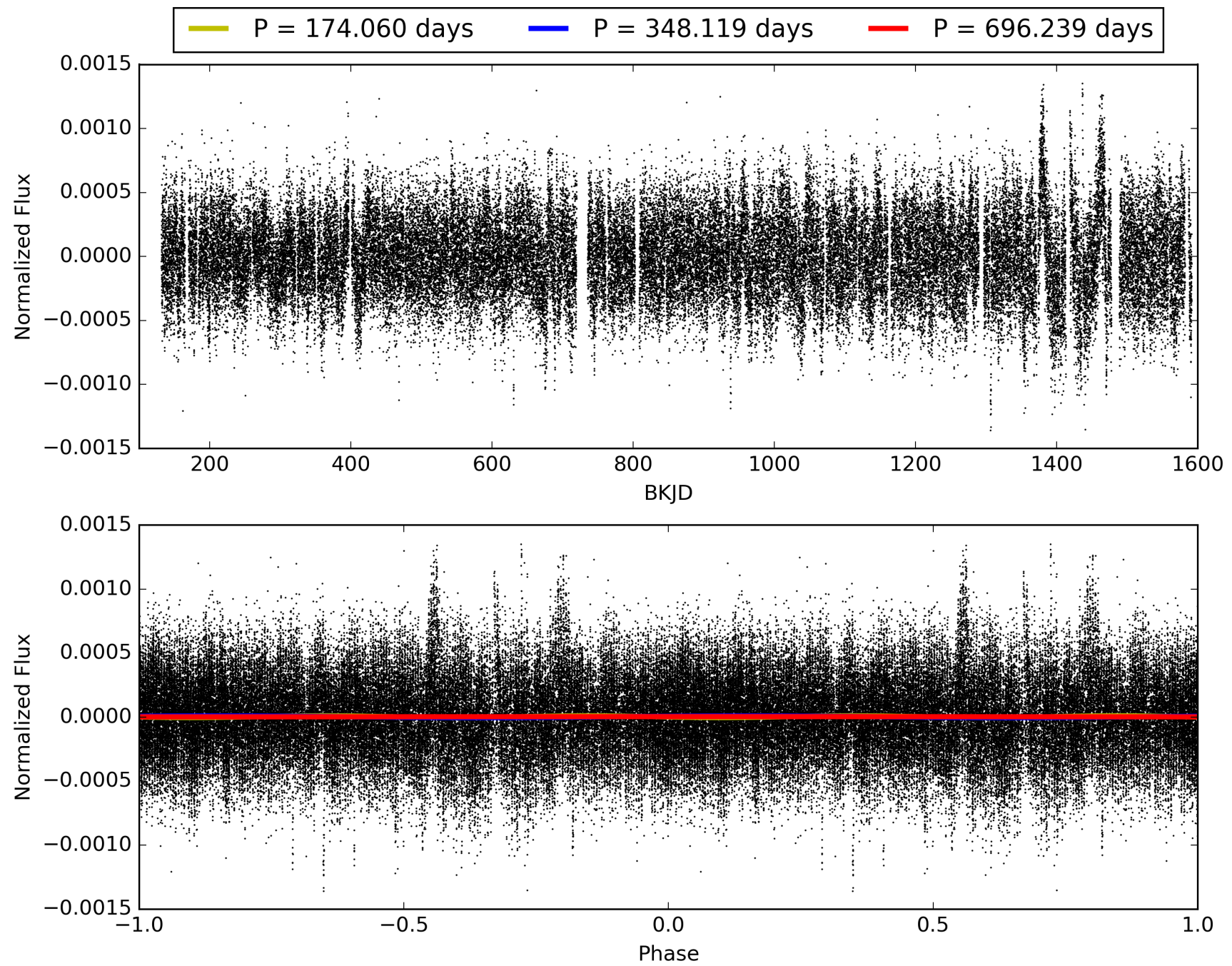
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:01:53 Z

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

TCE 003238787-10, PDC Light Curves

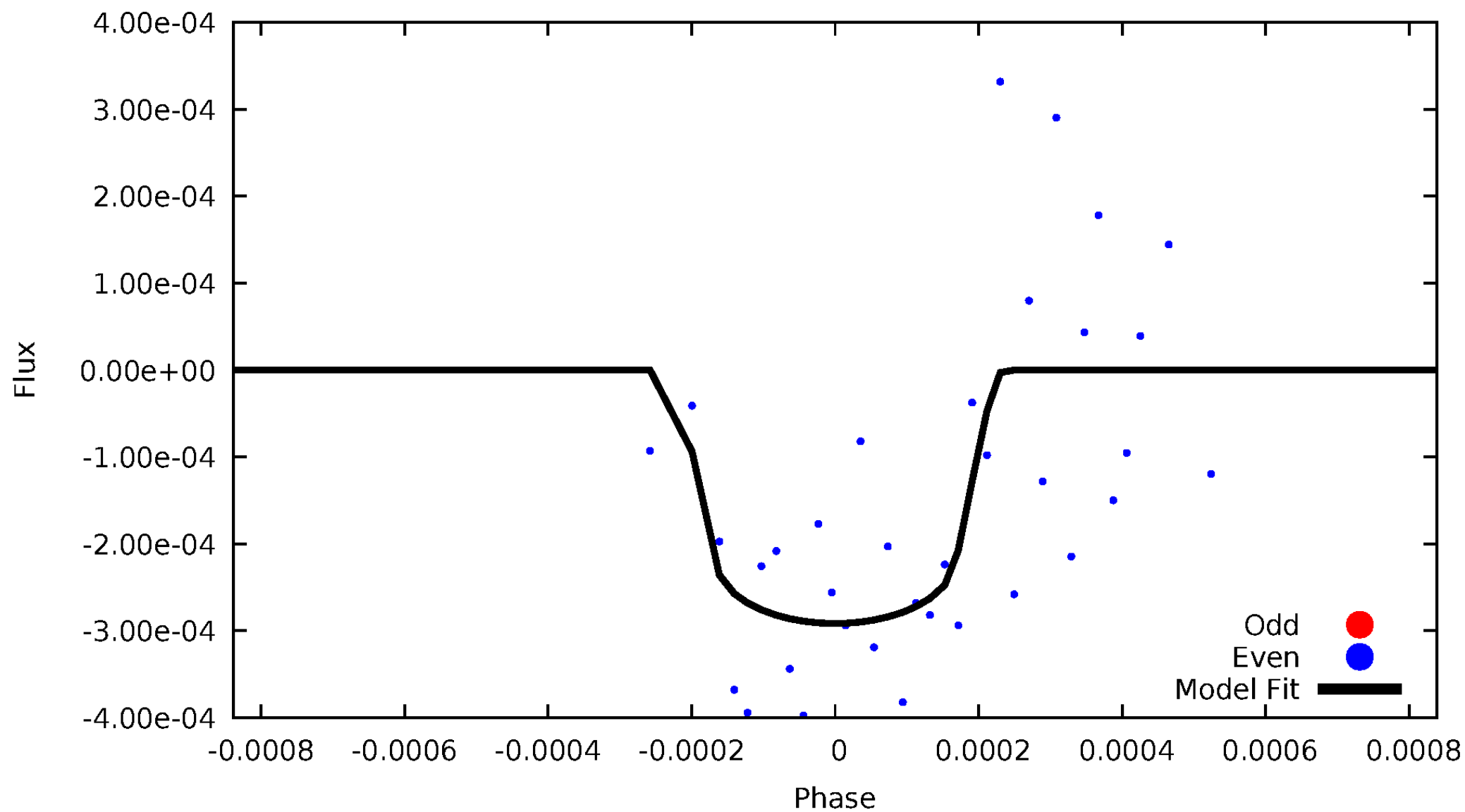


TCE 003238787-10



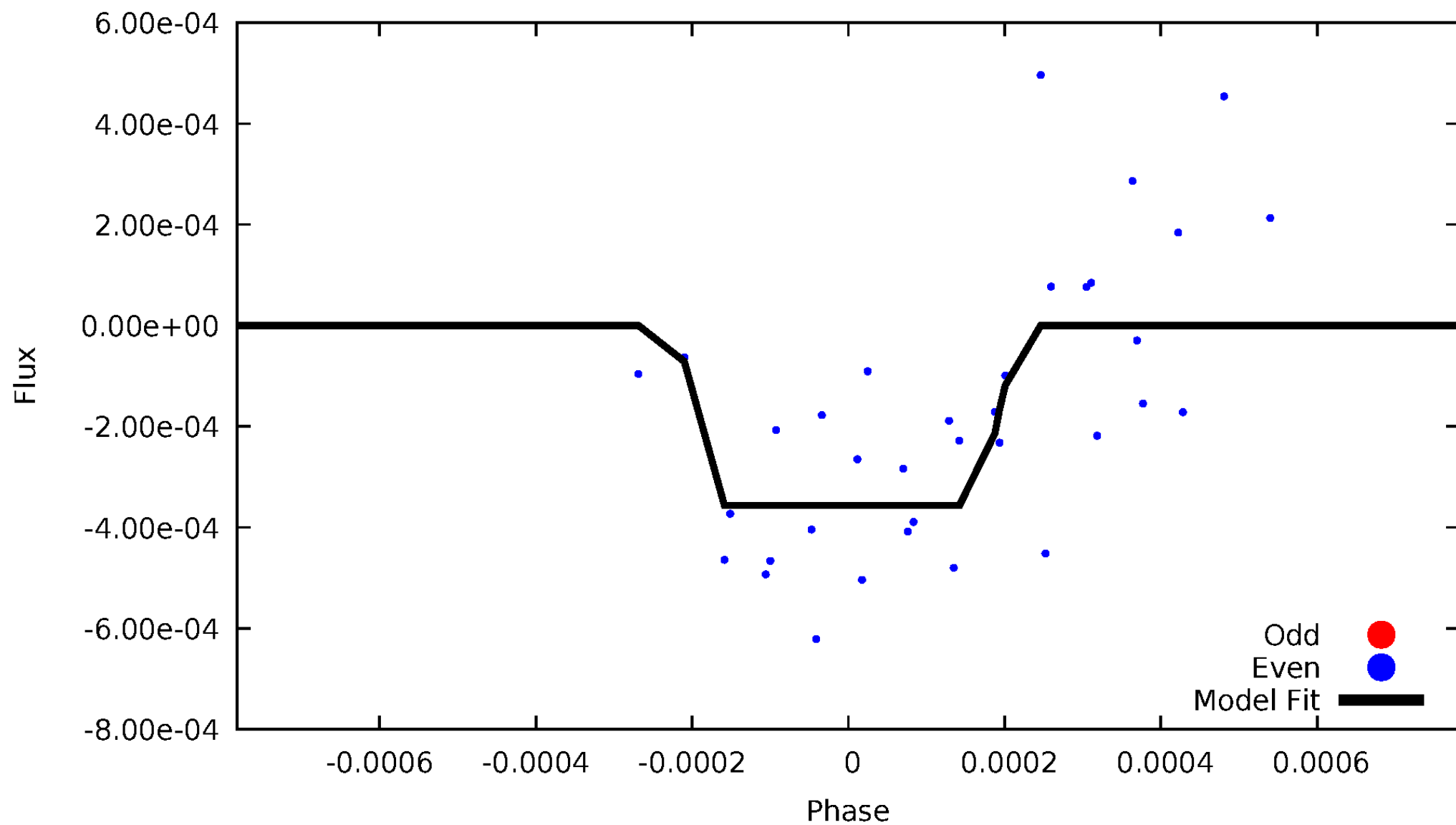
DV Odd/Even

TCE 003238787-10



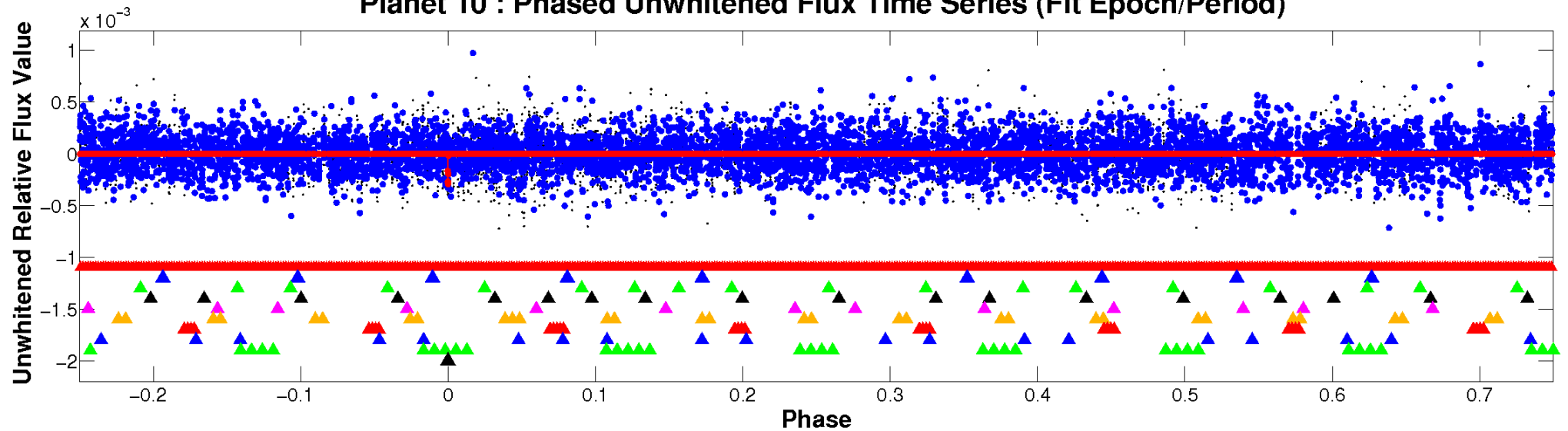
ALT Odd/Even

TCE 003238787-10

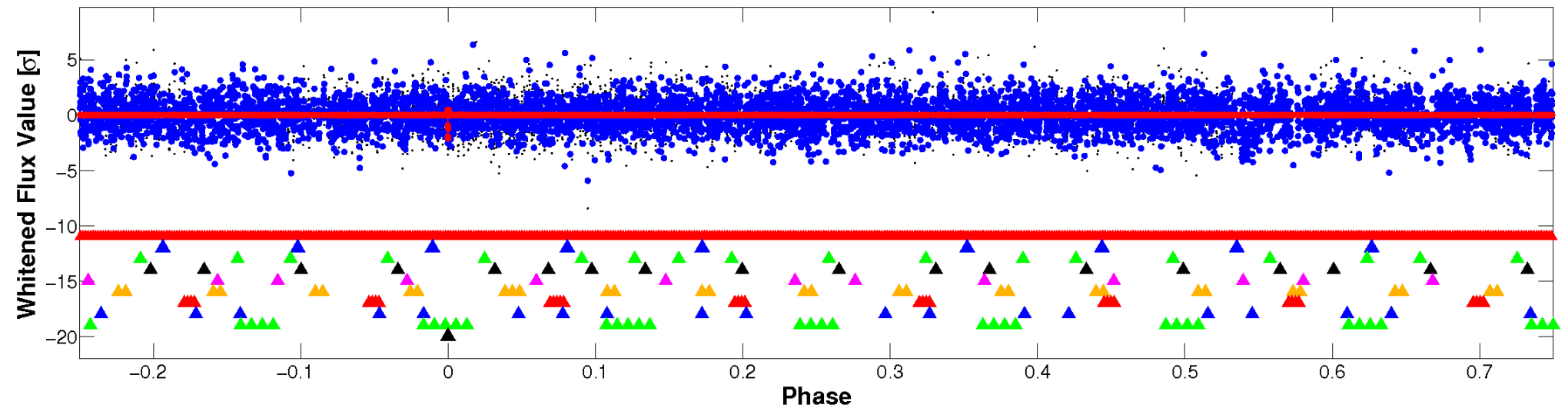


Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

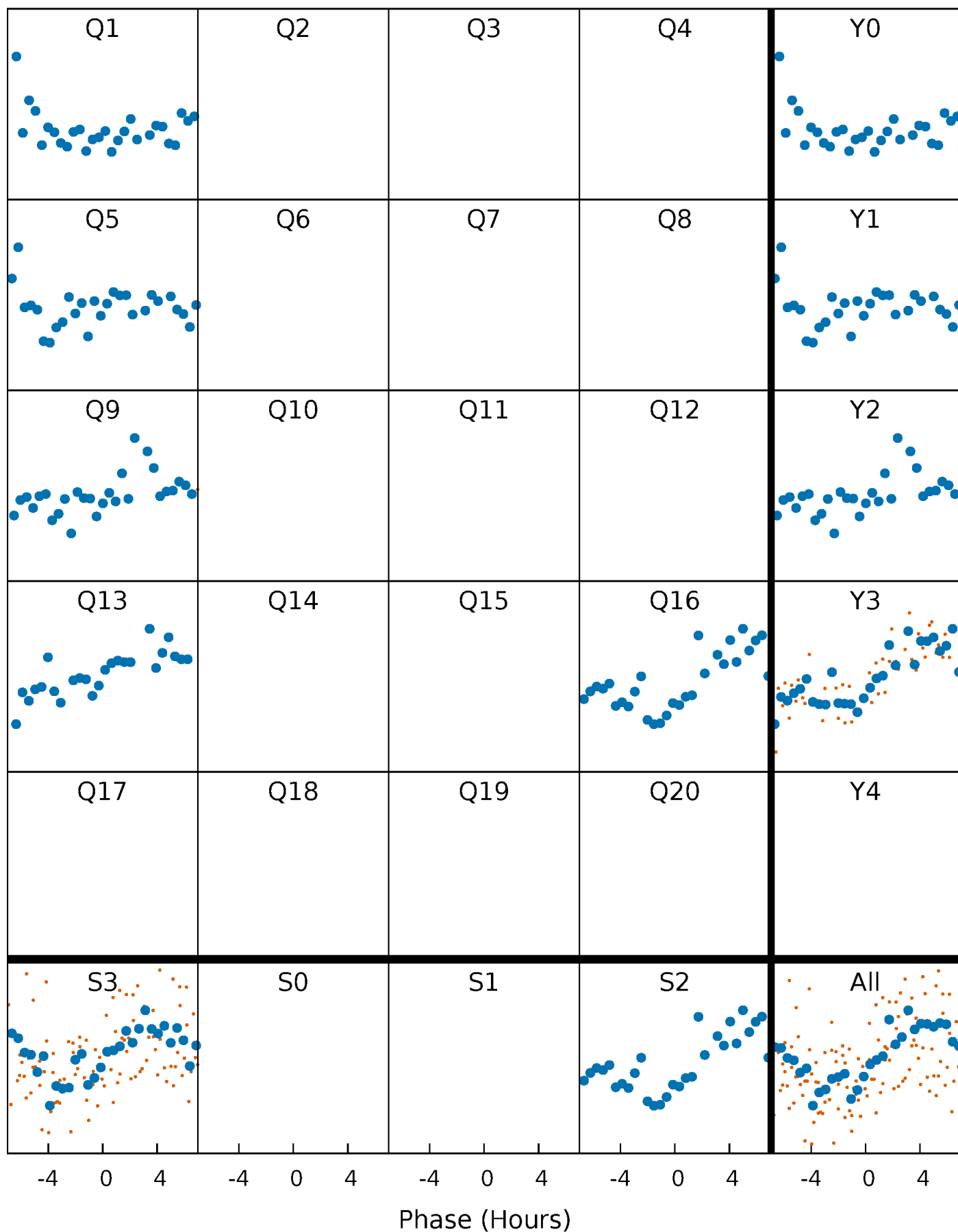


Planet 10 : Phased Whitened Flux Time Series (Fit Epoch/Period)



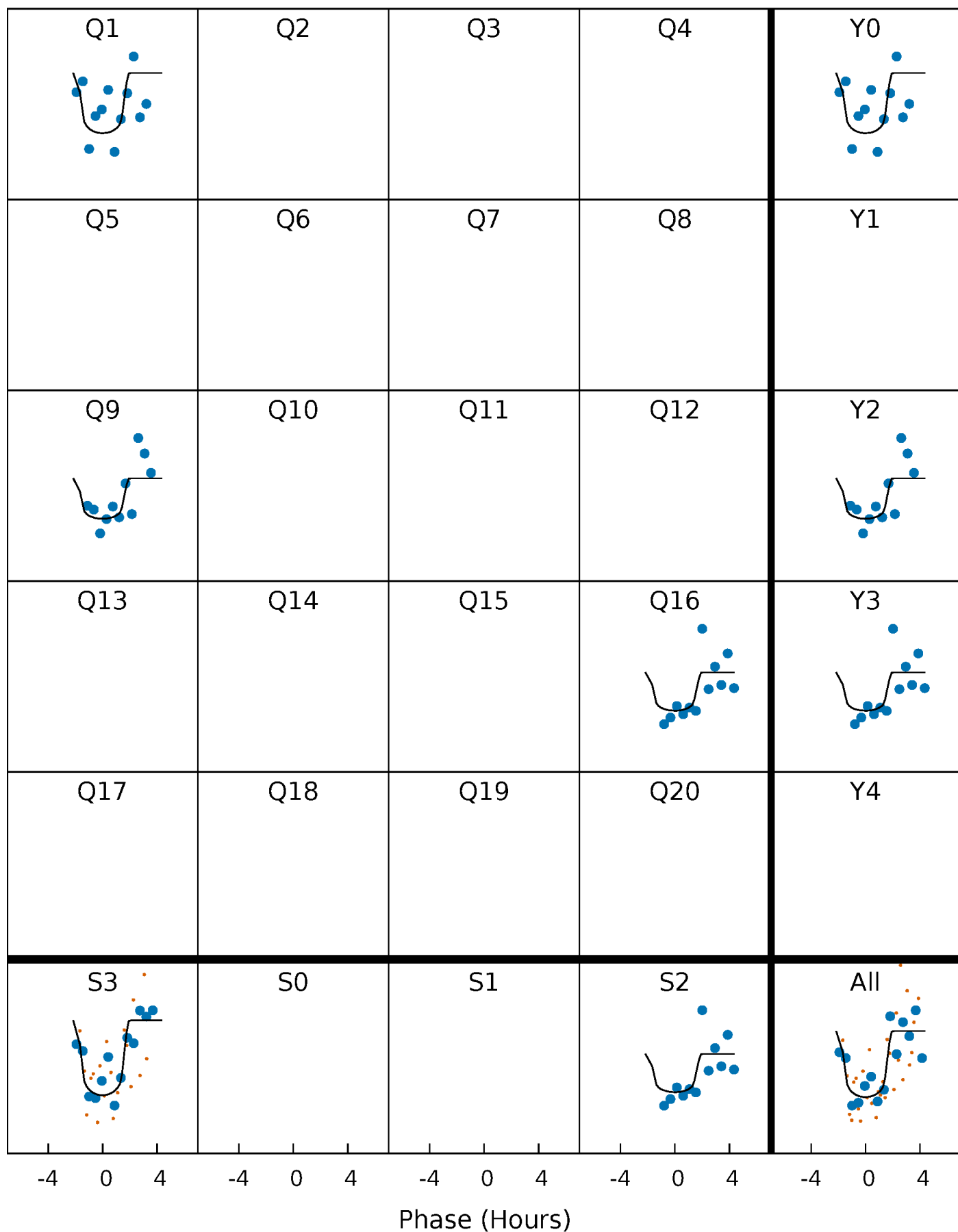
PDC Quarter-Phased Transit Curves

TCE 003238787-10 P=348.119500 Days $T_0=140.797889$ (BKJD)



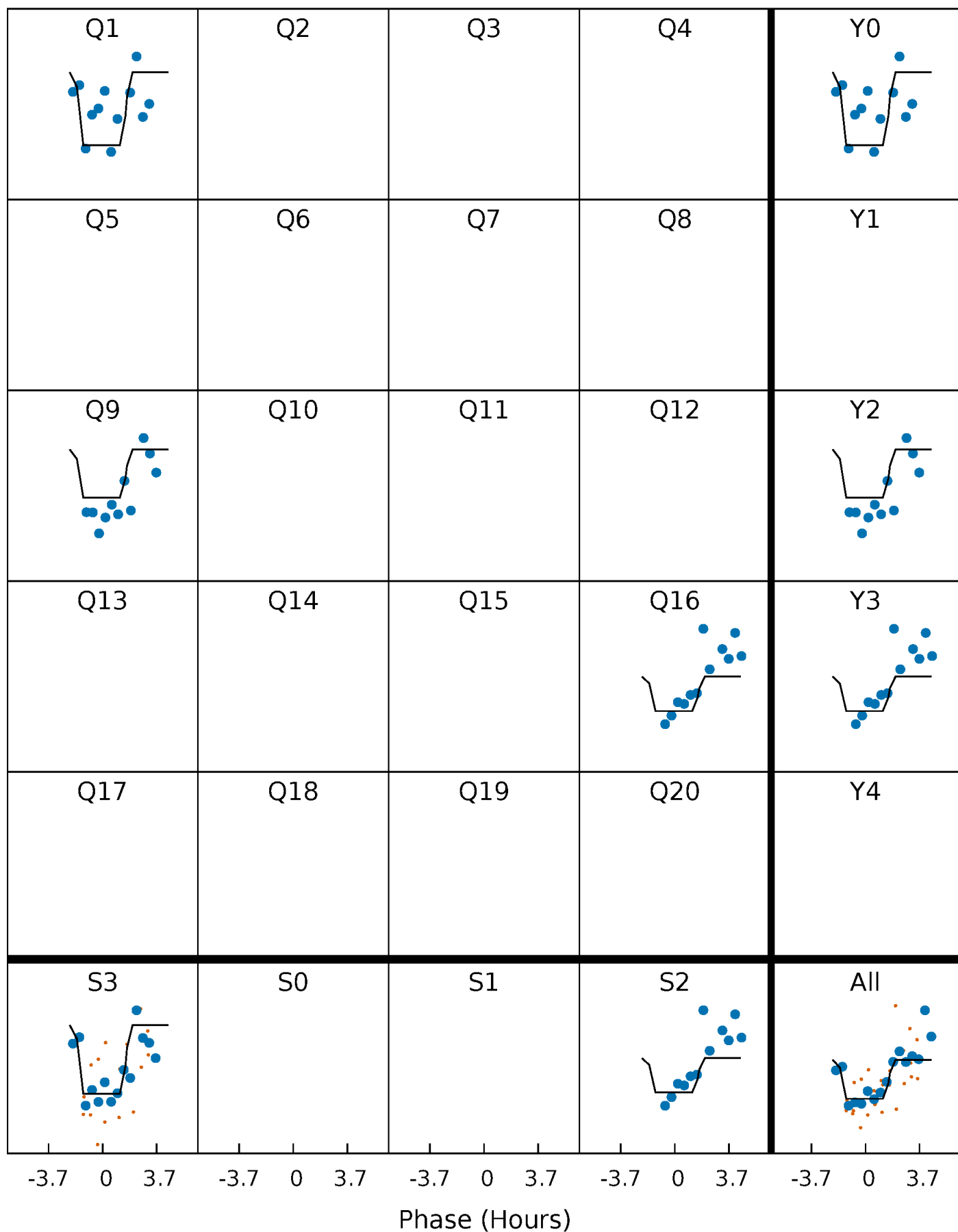
DV Quarter-Phased Transit Curves

TCE 003238787-10 $P=348.119500$ Days $T_0=140.797889$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

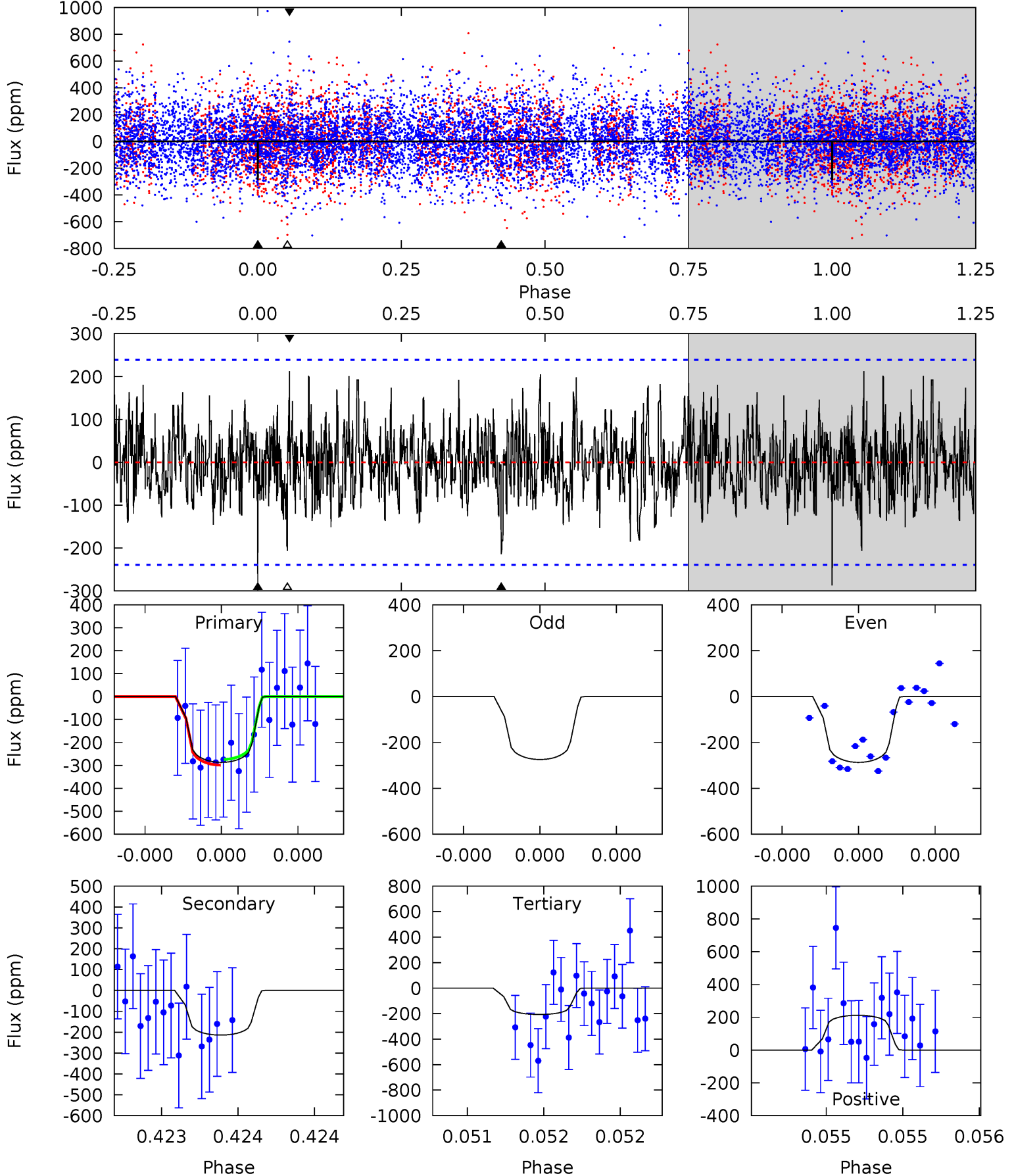
TCE 003238787-10 P=348.117166 Days $T_0=140.801620$ (BKJD)



DV Model-Shift Uniqueness Test

003238787-10, P = 348.119500 Days, E = 140.797889 Days

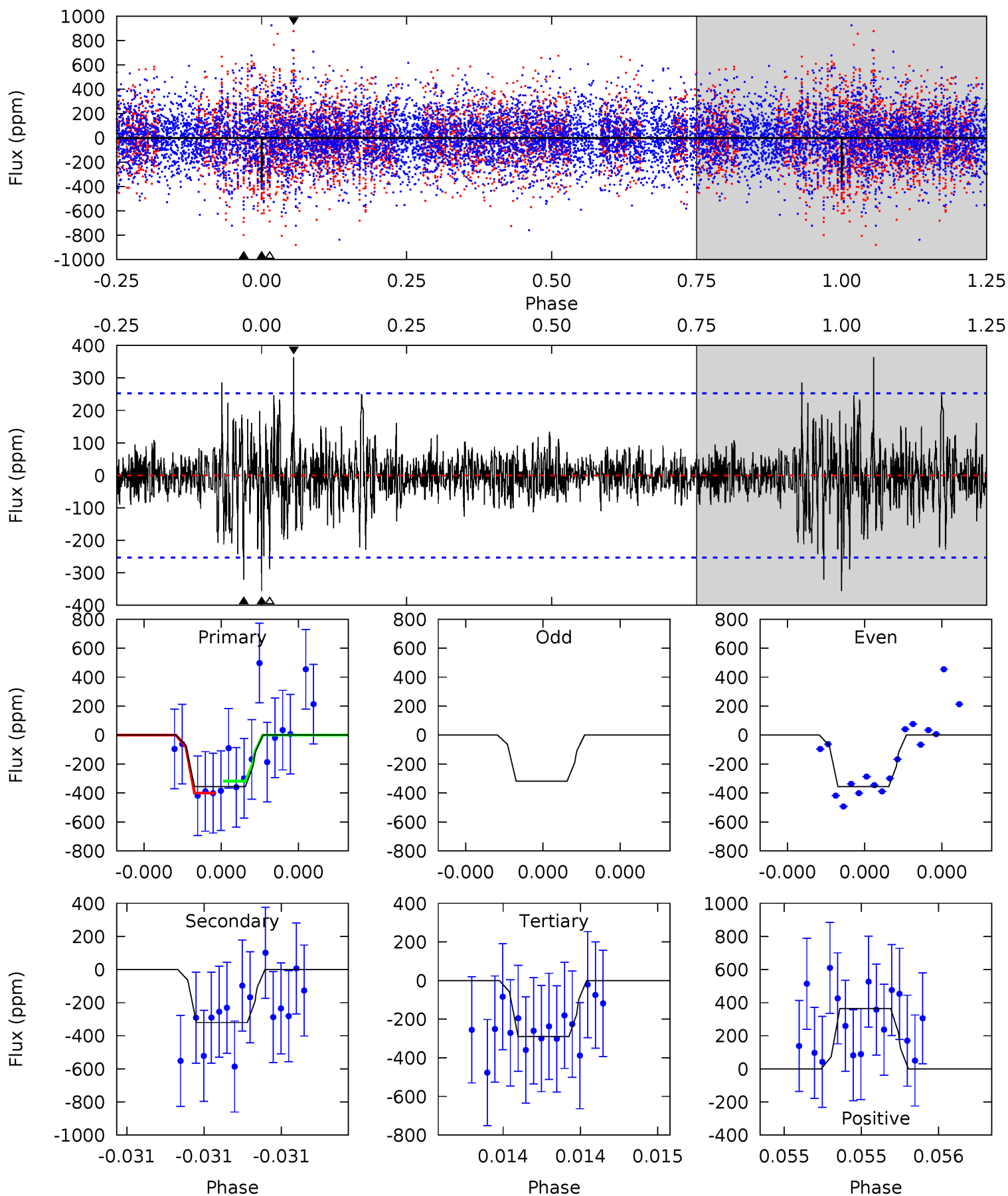
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.73	5.02	4.85	4.98	5.60	3.52	1.51	1.88	1.75	0.17	0.04	0.17	1.03	0.43	0.29



Alt Model-Shift Uniqueness Test

003238787-10, P = 348.117166 Days, E = 140.801620 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.85	7.08	6.39	8.03	5.59	3.51	1.41	1.46	-0.18	0.68	-0.96	0.50	1.09	0.51	0.90



Stellar Parameters For KIC 003238787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6771^{+81}_{-81}	$3.934^{+0.195}_{-0.120}$	$0.040^{+0.150}_{-0.150}$	$2.259^{+0.426}_{-0.521}$	$1.597^{+0.131}_{-0.180}$	$0.195^{+0.199}_{-0.074}$
	+1%/-1%	+5%/-3%	+375%/-375%	+19%/-23%	+8%/-11%	+102%/-38%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003238787-10 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-214 ± 43	$4.88^{+3.29}_{-3.04}$	587^{+32}_{-35}	5771^{+4423}_{-1230}	6415^{+36677}_{-4250}
Alt.	-320 ± 45	$4.64^{+3.80}_{-2.69}$	587^{+29}_{-36}	6433^{+4799}_{-1512}	10201^{+51863}_{-7104}

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 $A_{obs} \gg 1.0$

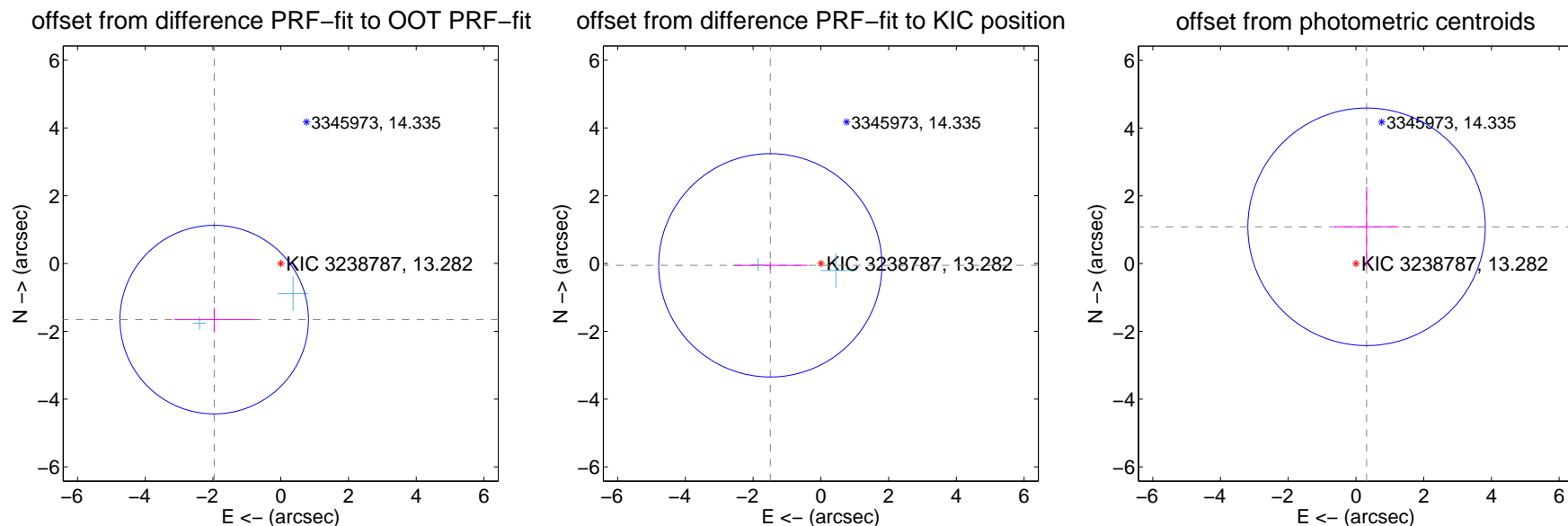
DV Centroid Data

Supplemental centroid analysis for 003238787-10. Kepler magnitude: 13.28. Transit SNR 8.38

There are 2 quarters with good PRF difference image offsets

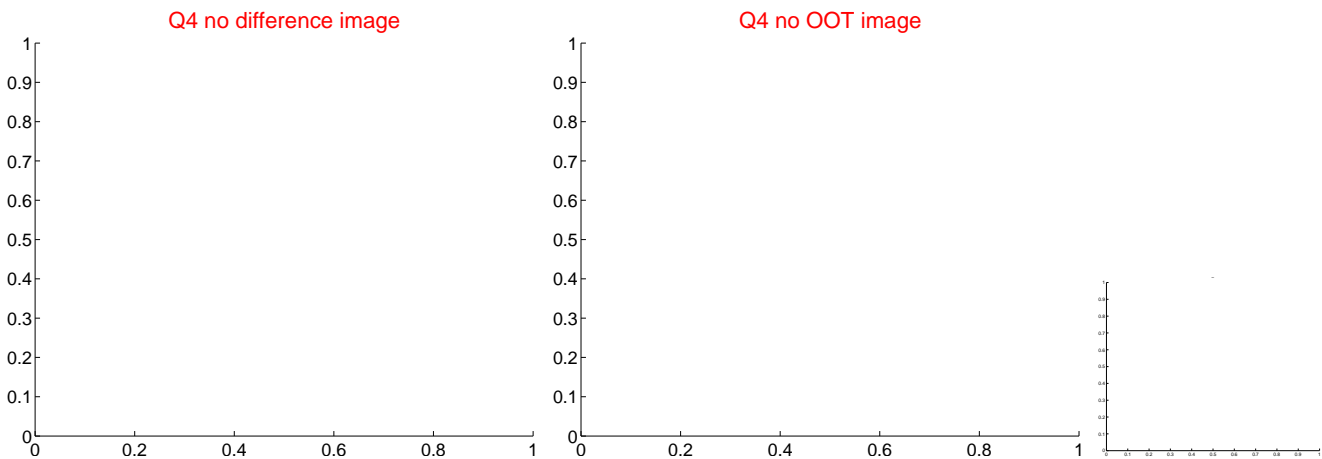
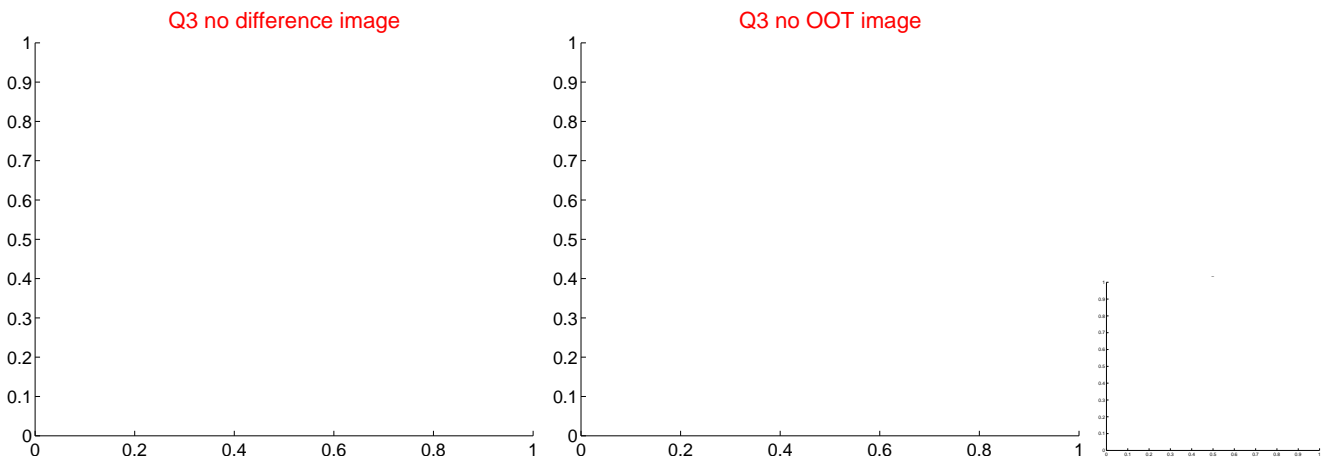
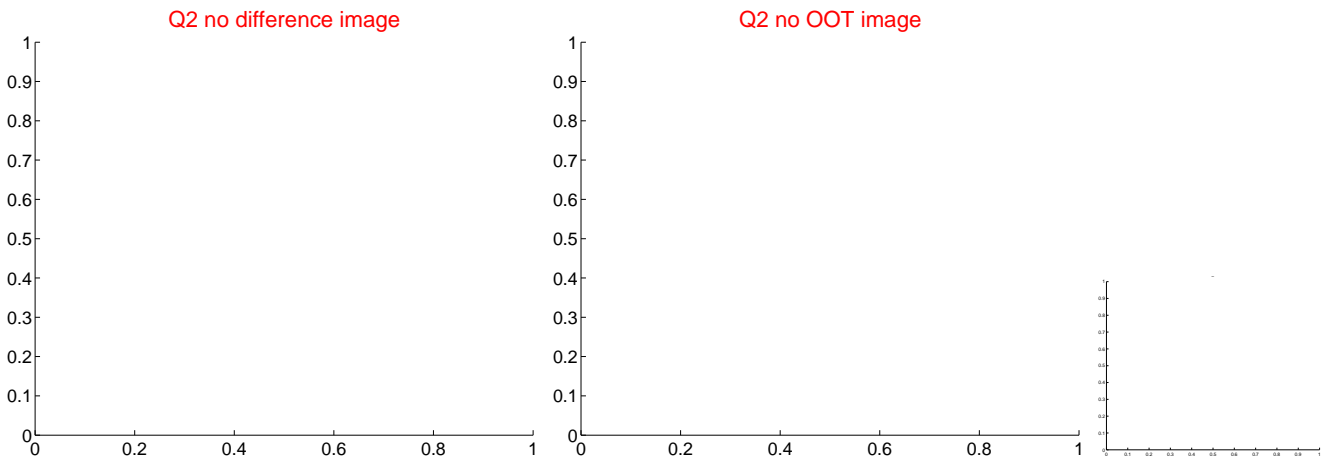
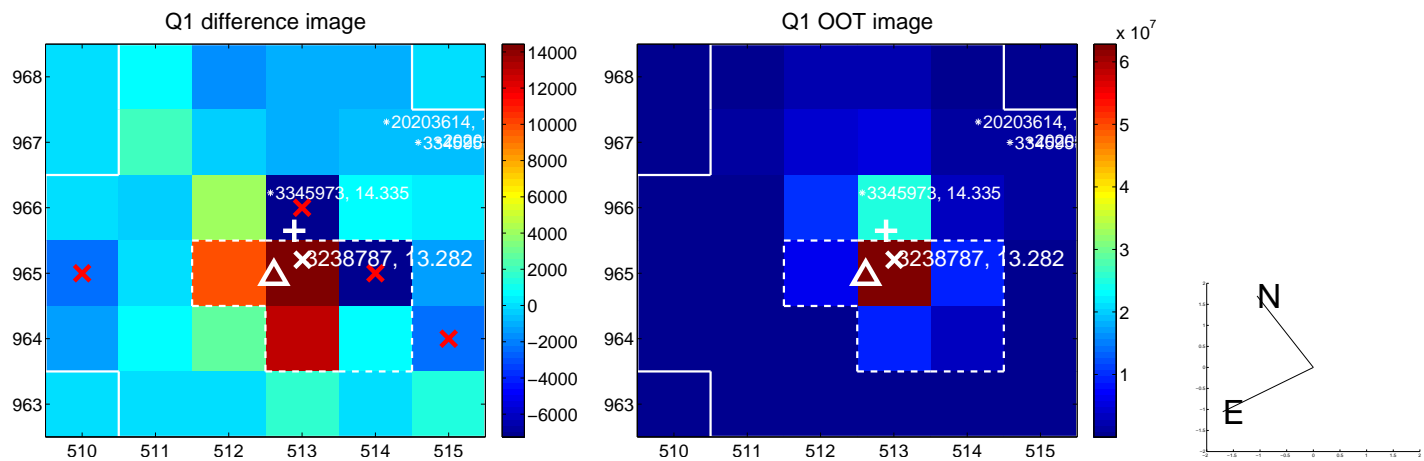
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.568 ± 0.927	2.77	1.964 ± 1.177	-1.654 ± 0.346
PRF-fit source offset from KIC position	1.494 ± 1.098	1.36	1.493 ± 1.102	-0.053 ± 0.107
photometric centroid source offset	1.13 ± 1.17	0.97	-0.31 ± 0.95	1.09 ± 1.18

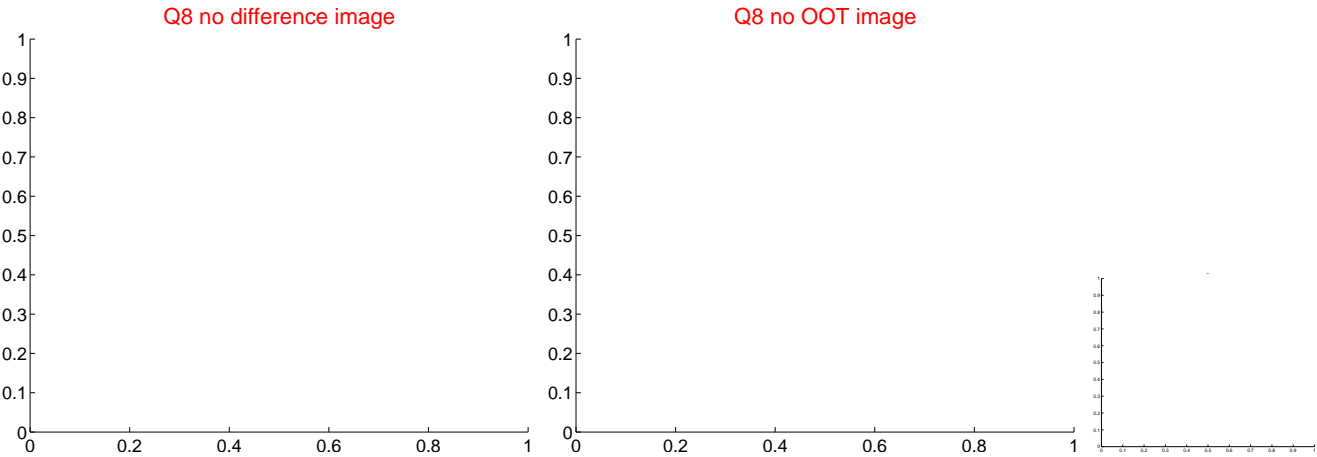
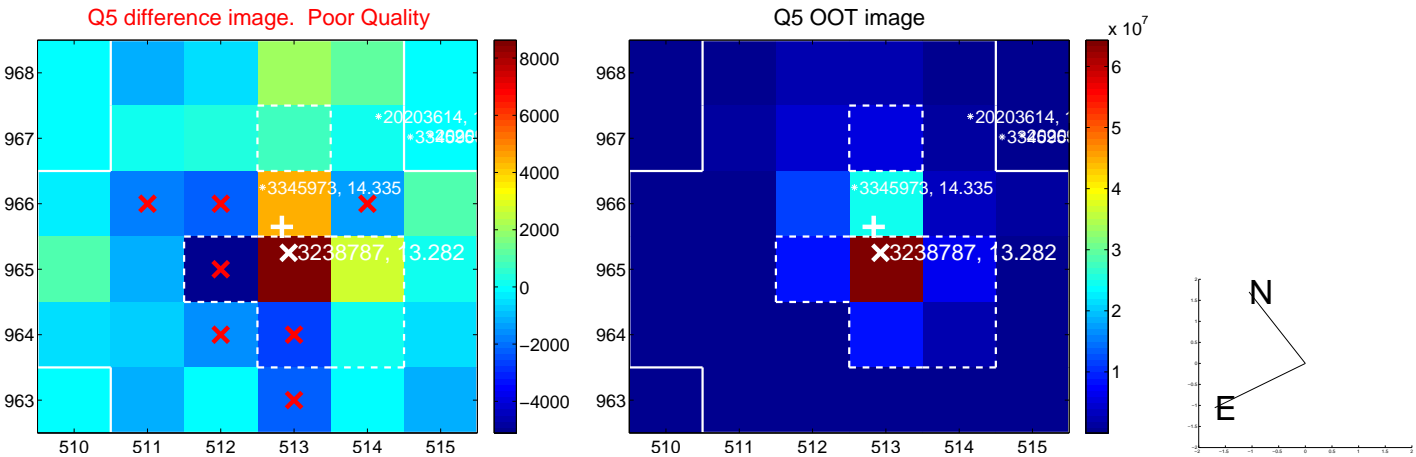


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

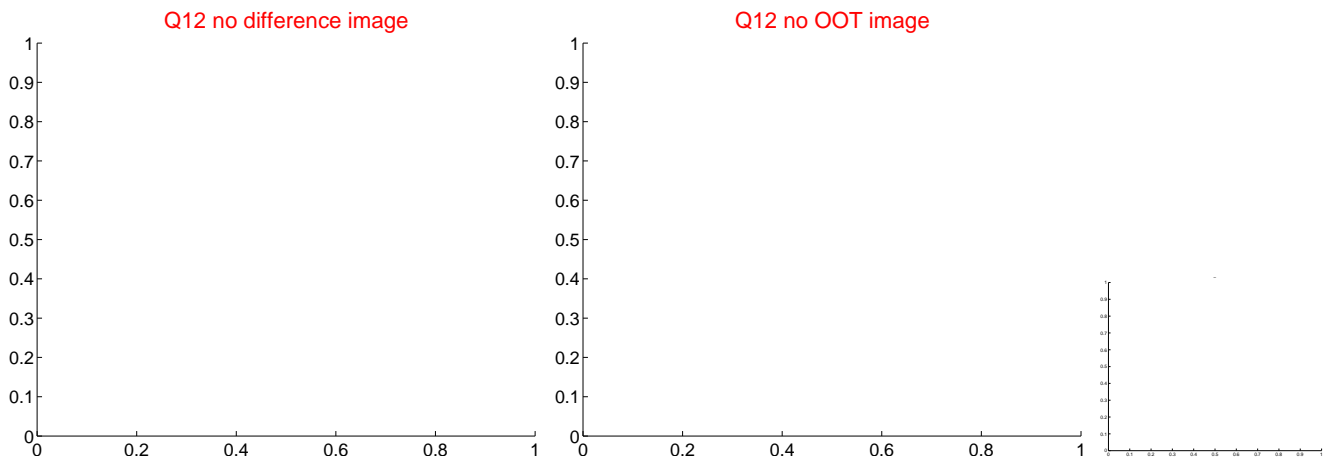
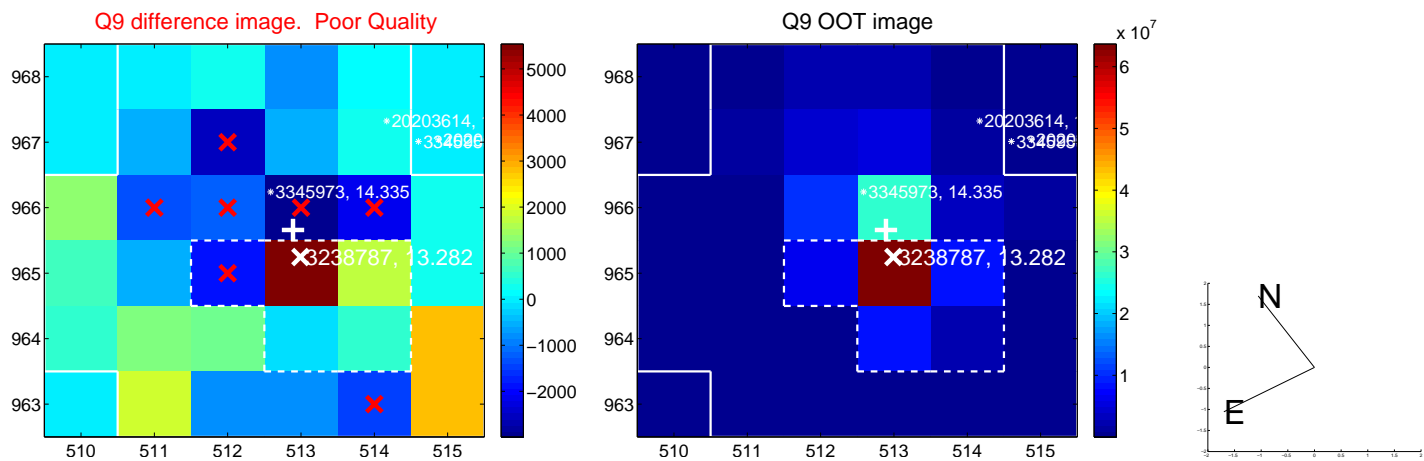
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



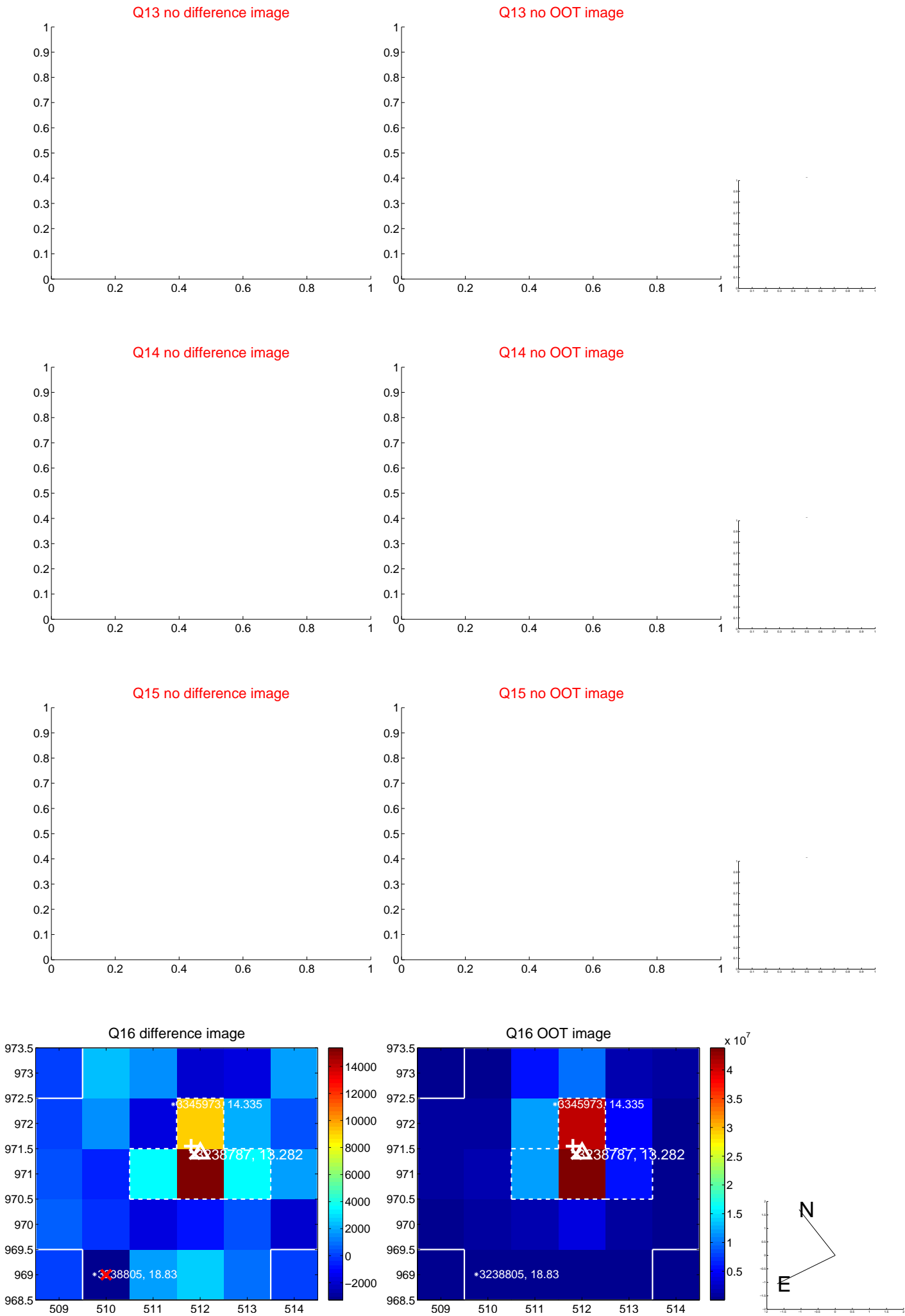
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



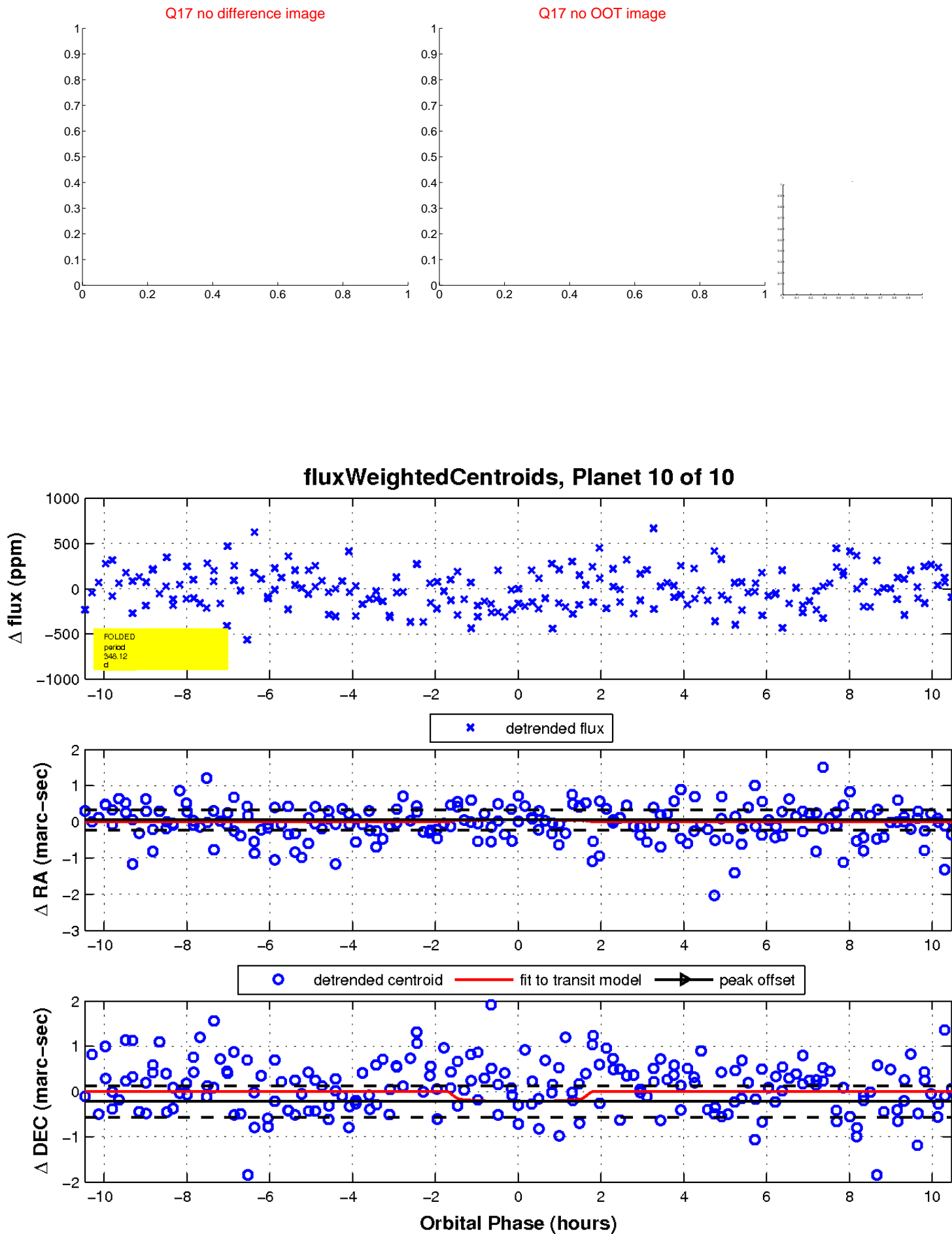
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Declination

