

KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

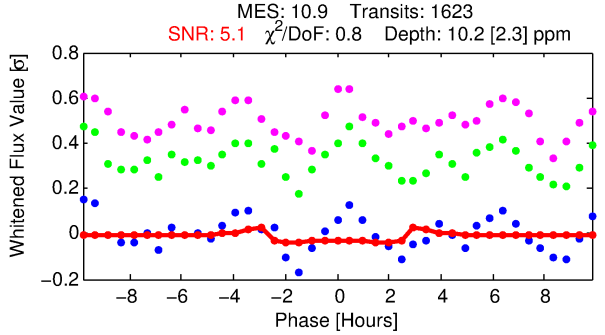
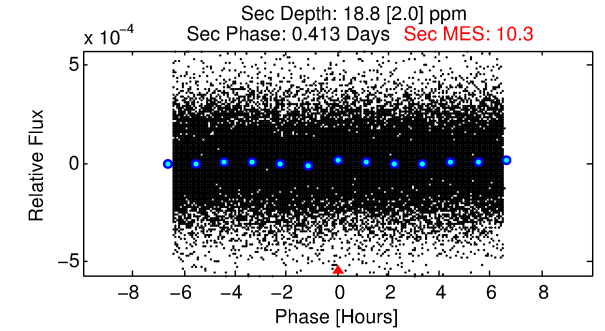
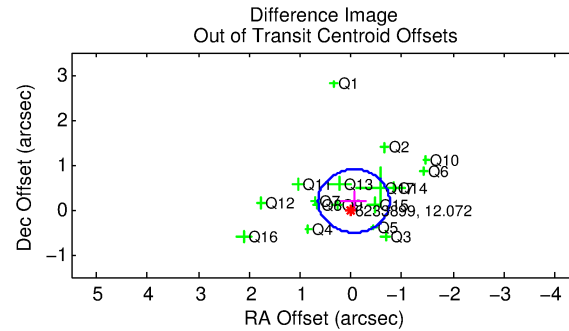
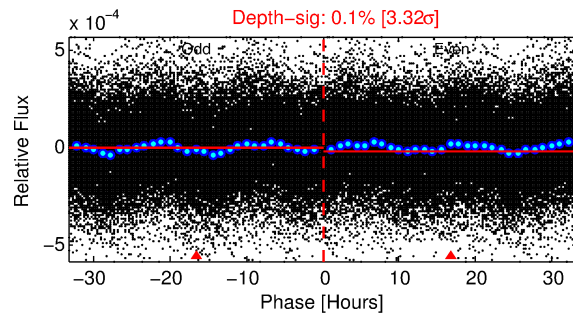
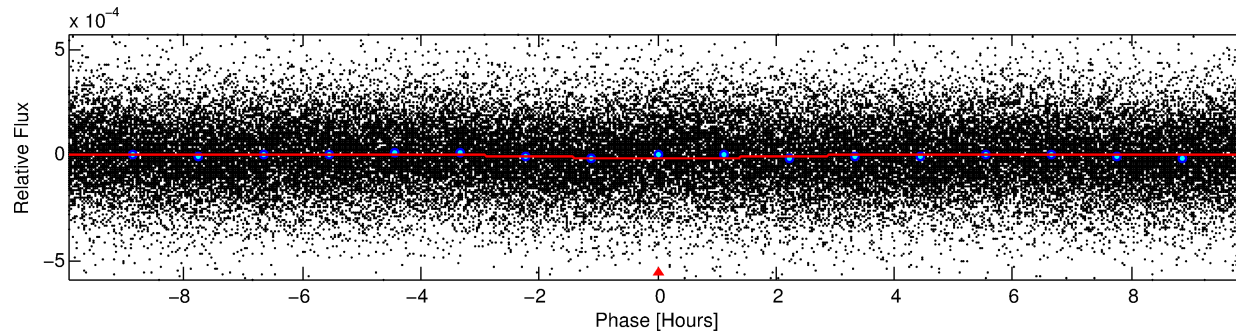
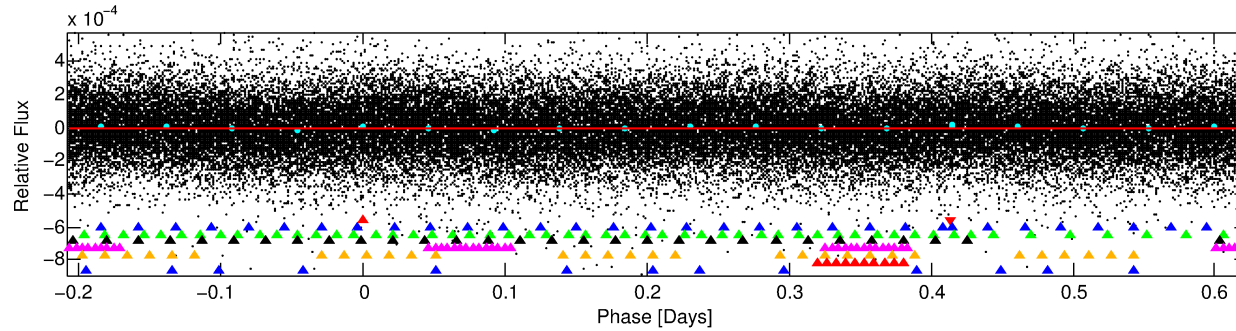
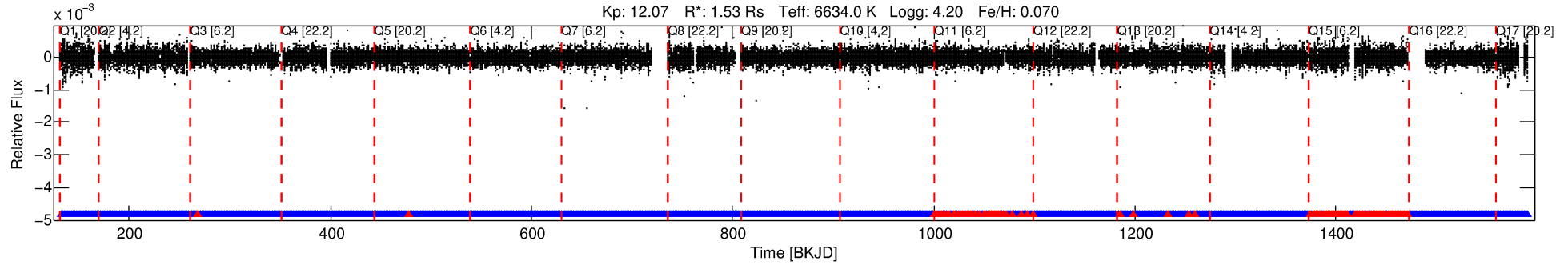
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-01

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 1 of 8 Period: 0.830 d



DV Fit Results:

Period = 0.82994 [0.00002] d
Epoch = 132.3423 [0.0044] BKJD
Rp/R* = 0.0034 [0.0014]
a/R* = 1.07 [0.33]
b = 0.90 [0.51]
Seff = 11100.73 [4485.03]
Teq = 2617 [264] K
Rp = 0.57 [0.30] Re
a = 0.0191 [0.0051] AU
Ag = 11.59 [10.72] [0.99σ]
Teffp = 7466 [1604] K [2.98σ]

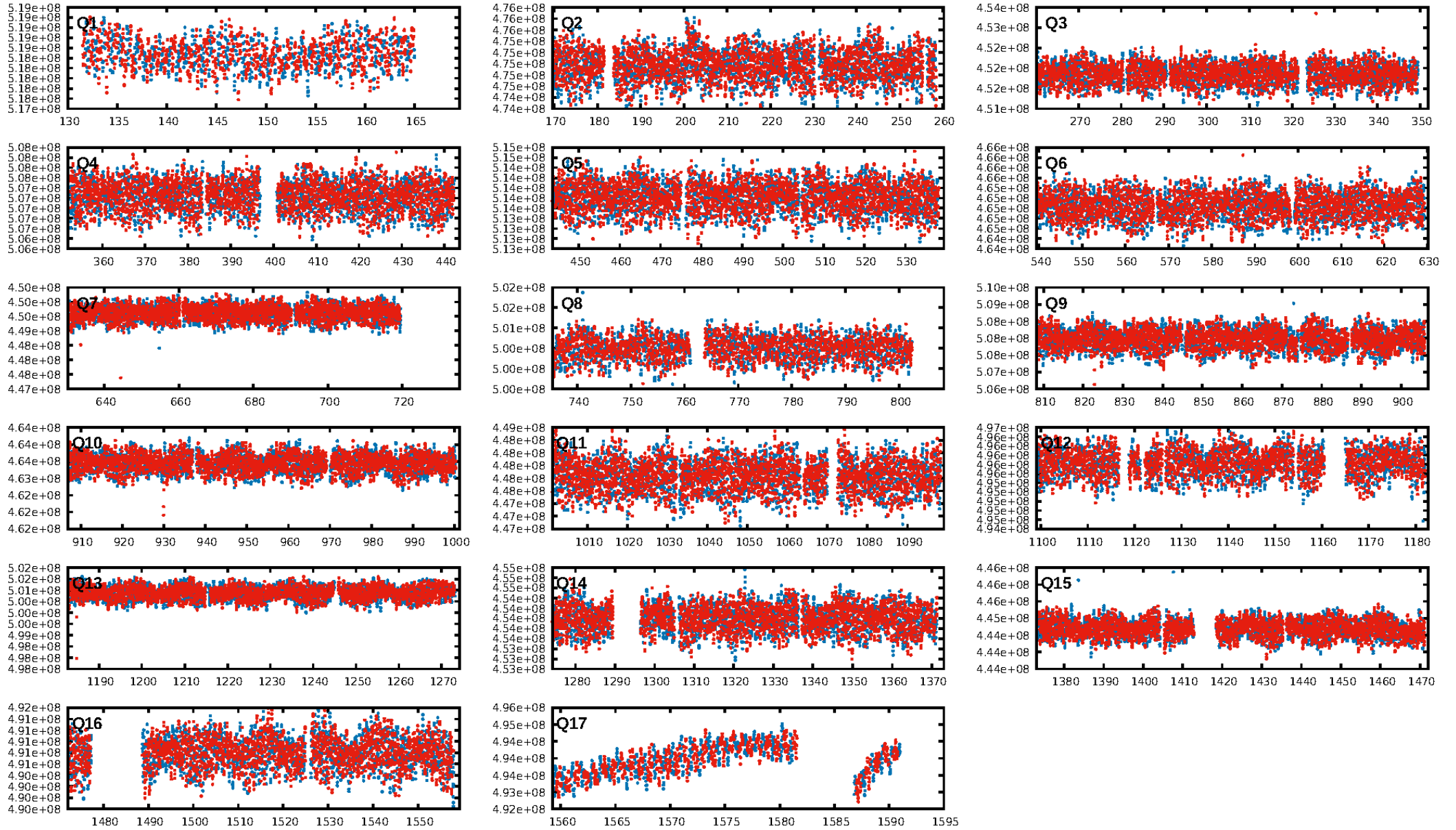
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [102.66σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [1404/1550]
GhostDiagnostic-chr: 0.4976
Centroid-sig: 88.6%
Centroid-so: 0.331 arcsec [0.44σ]
OotOffset-rm: 0.196 arcsec [0.84σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.286 arcsec [1.34σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

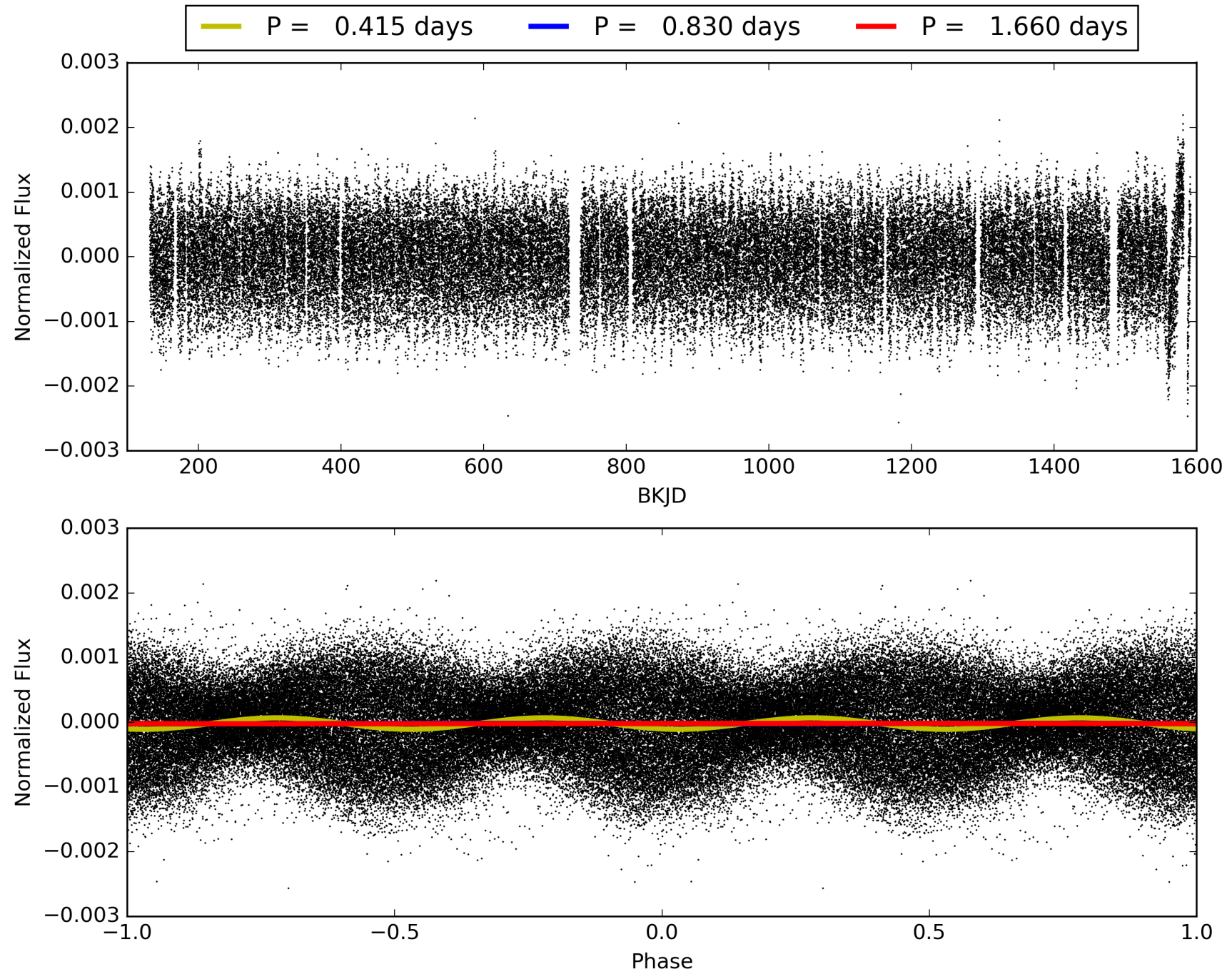
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:51:57 Z

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

TCE 006233899-01, PDC Light Curves

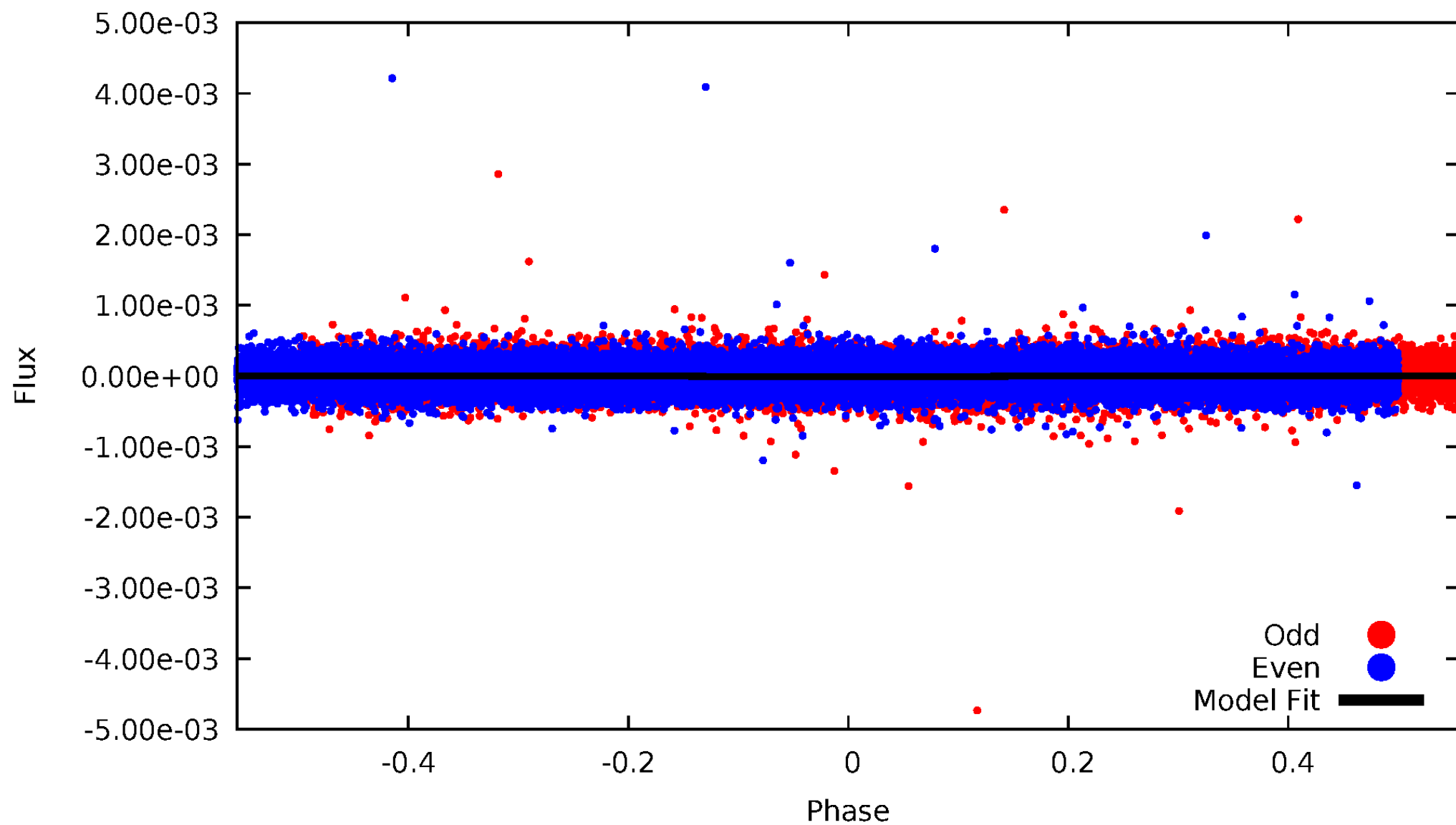


TCE 006233899-01



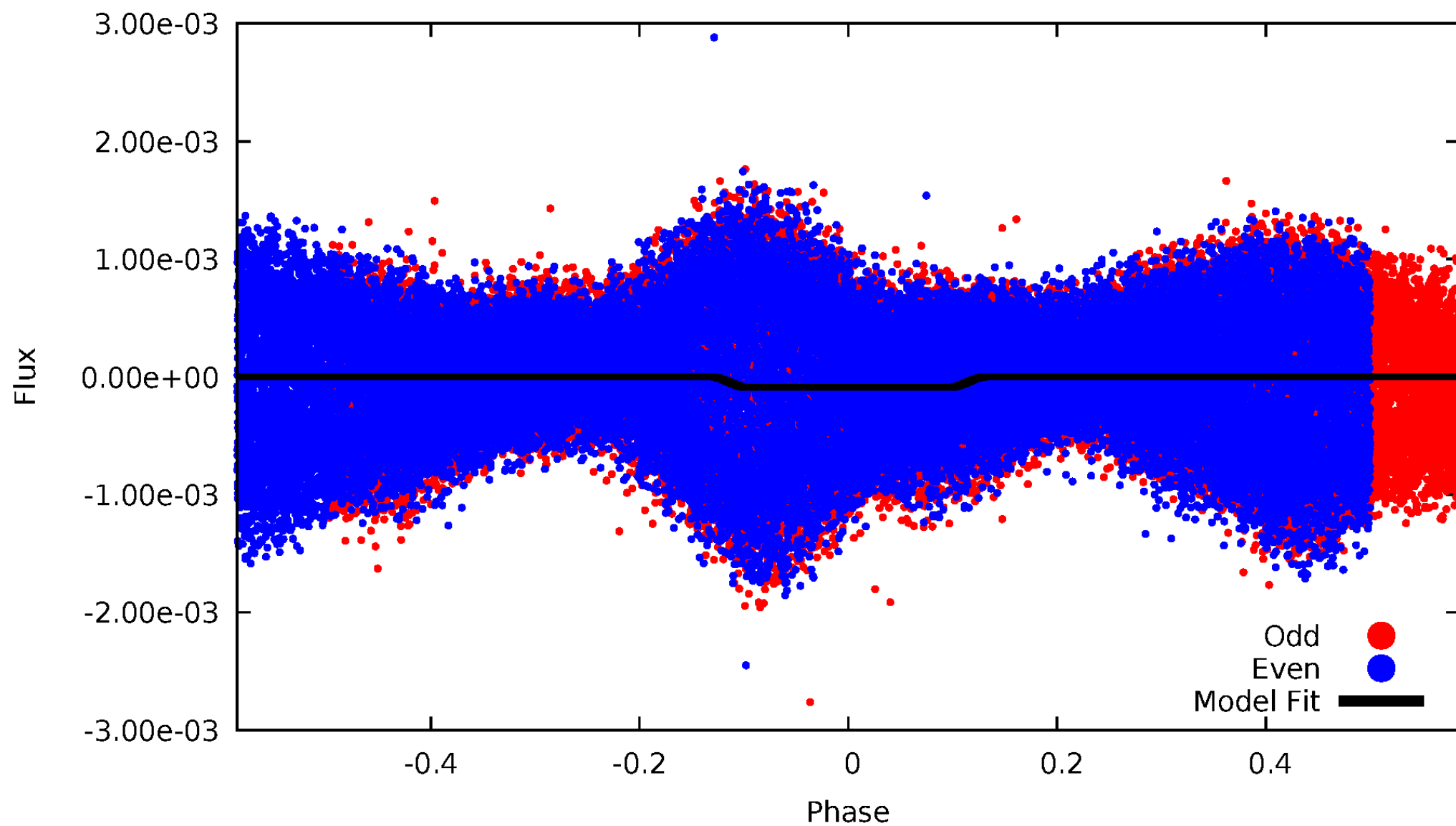
DV Odd/Even

TCE 006233899-01

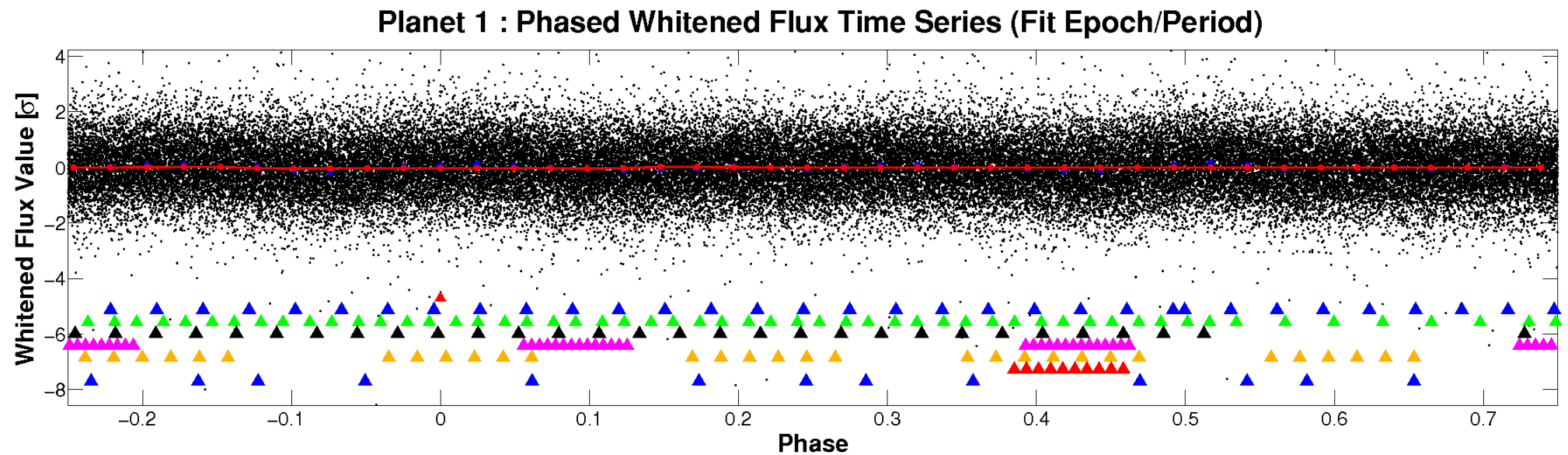
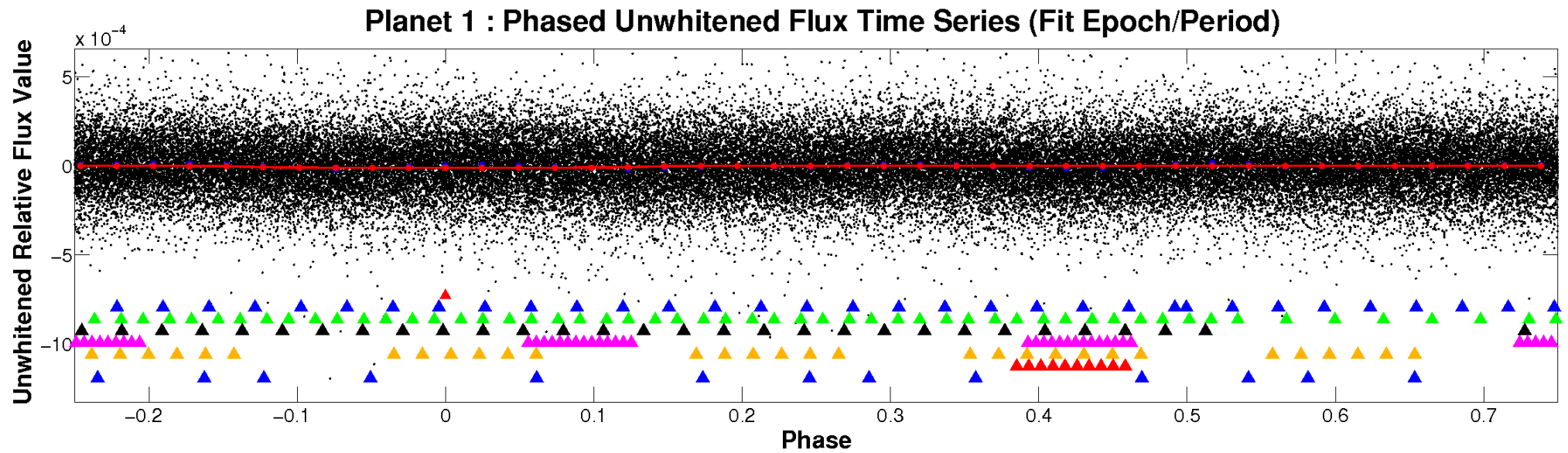


ALT Odd/Even

TCE 006233899-01

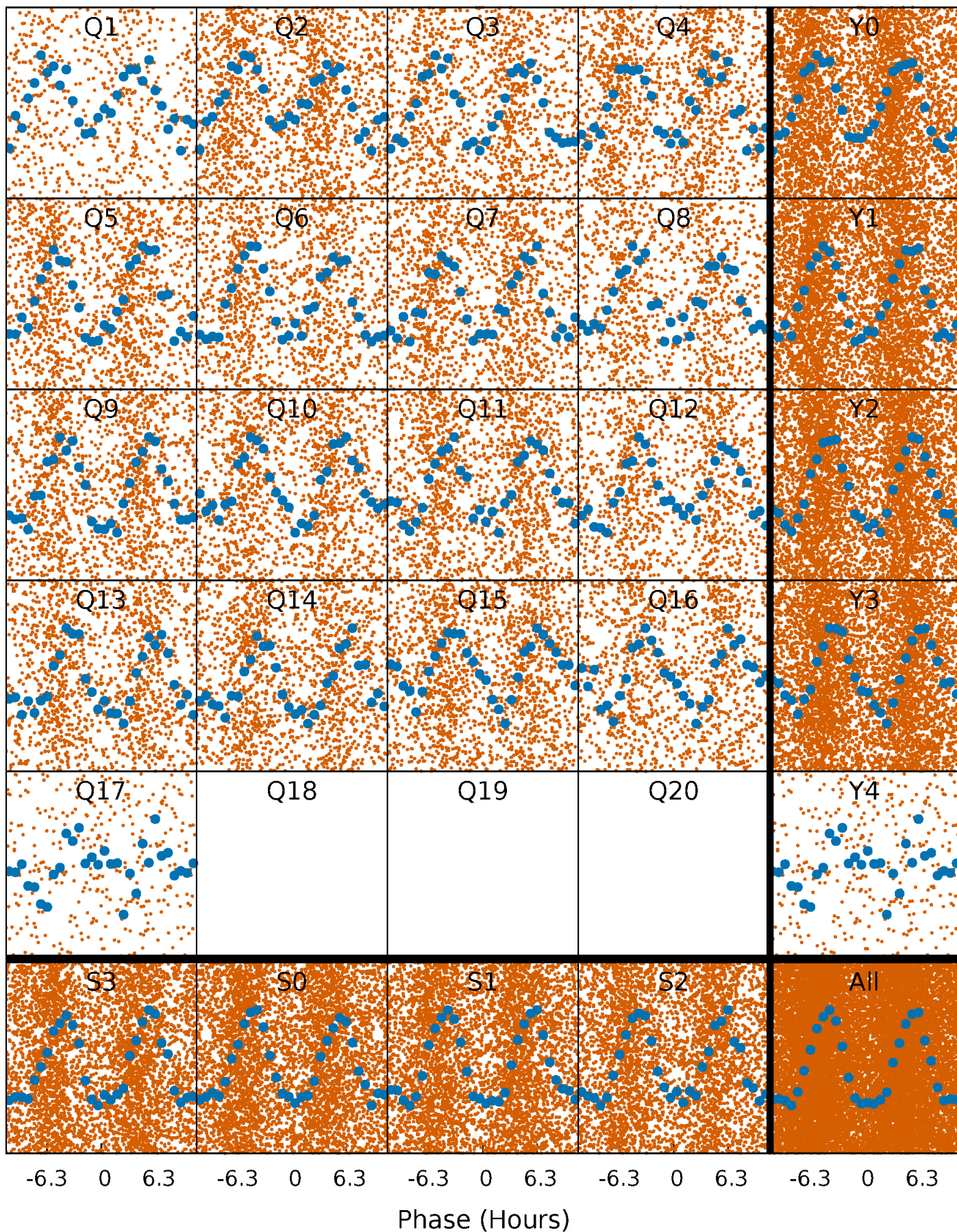


Non-Whitened Vs. Whitened Light Curve



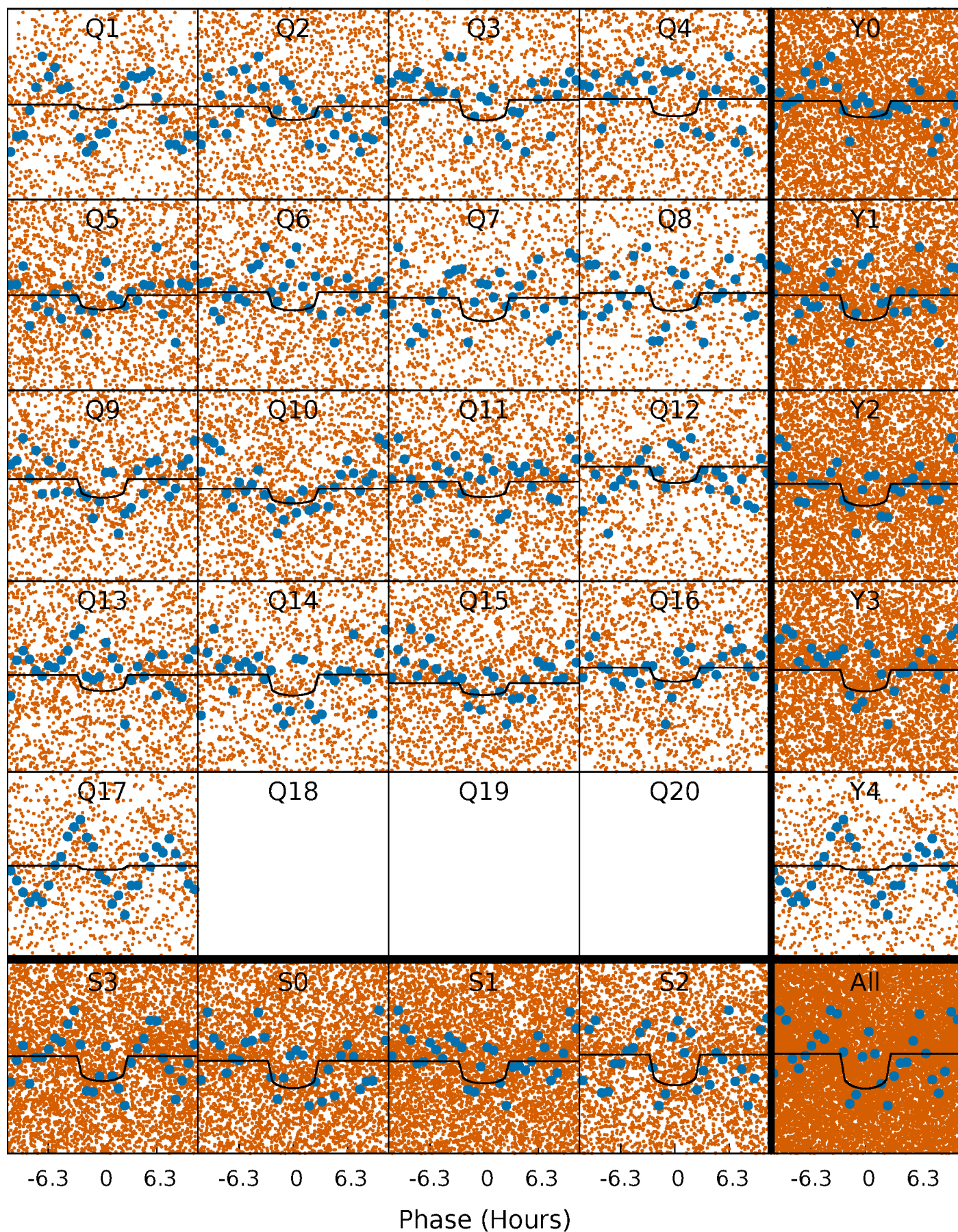
PDC Quarter-Phased Transit Curves

TCE 006233899-01 P= 0.829937 Days $T_0=132.342343$ (BKJD)



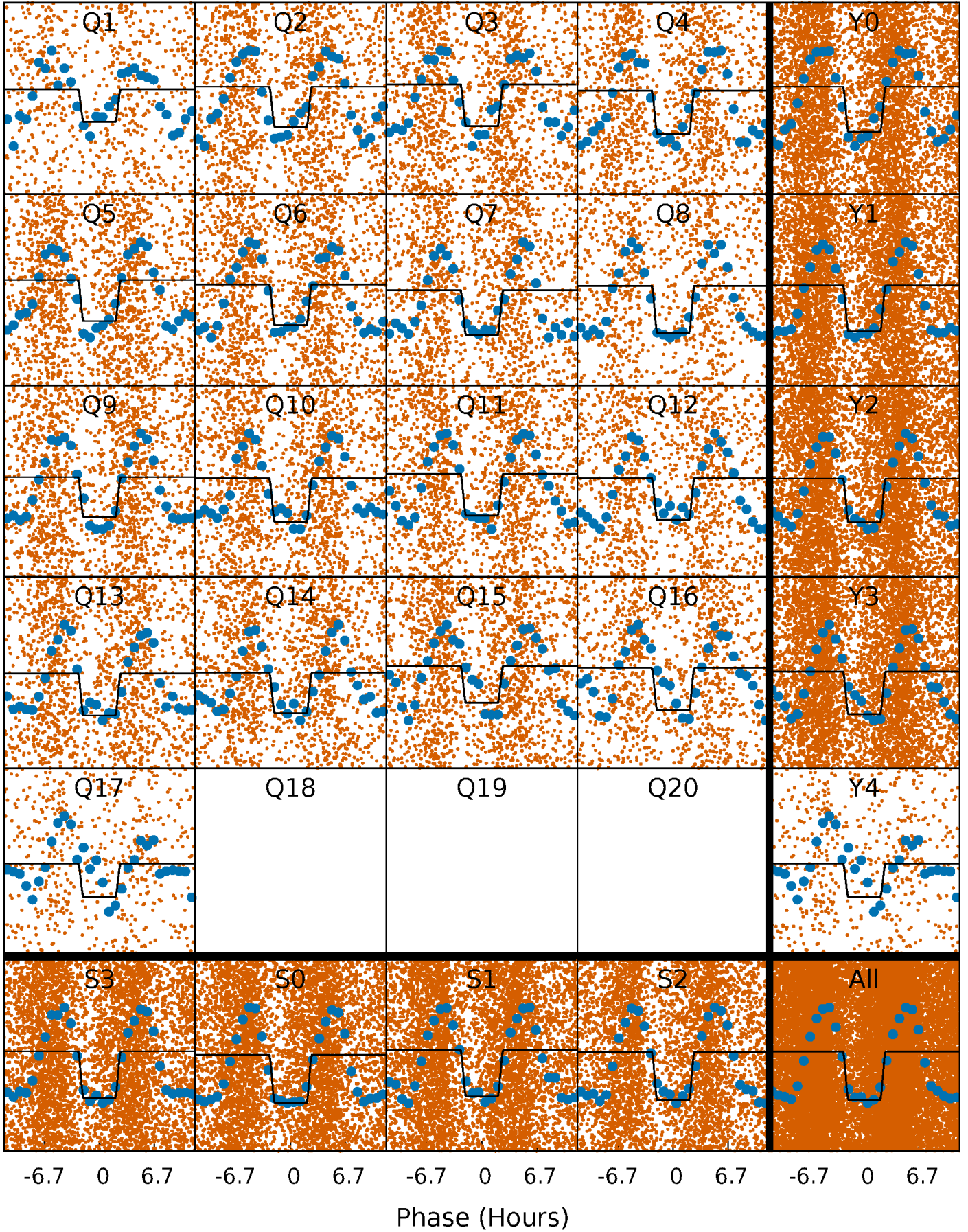
DV Quarter-Phased Transit Curves

TCE 006233899-01 P= 0.829937 Days $T_0=132.342343$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

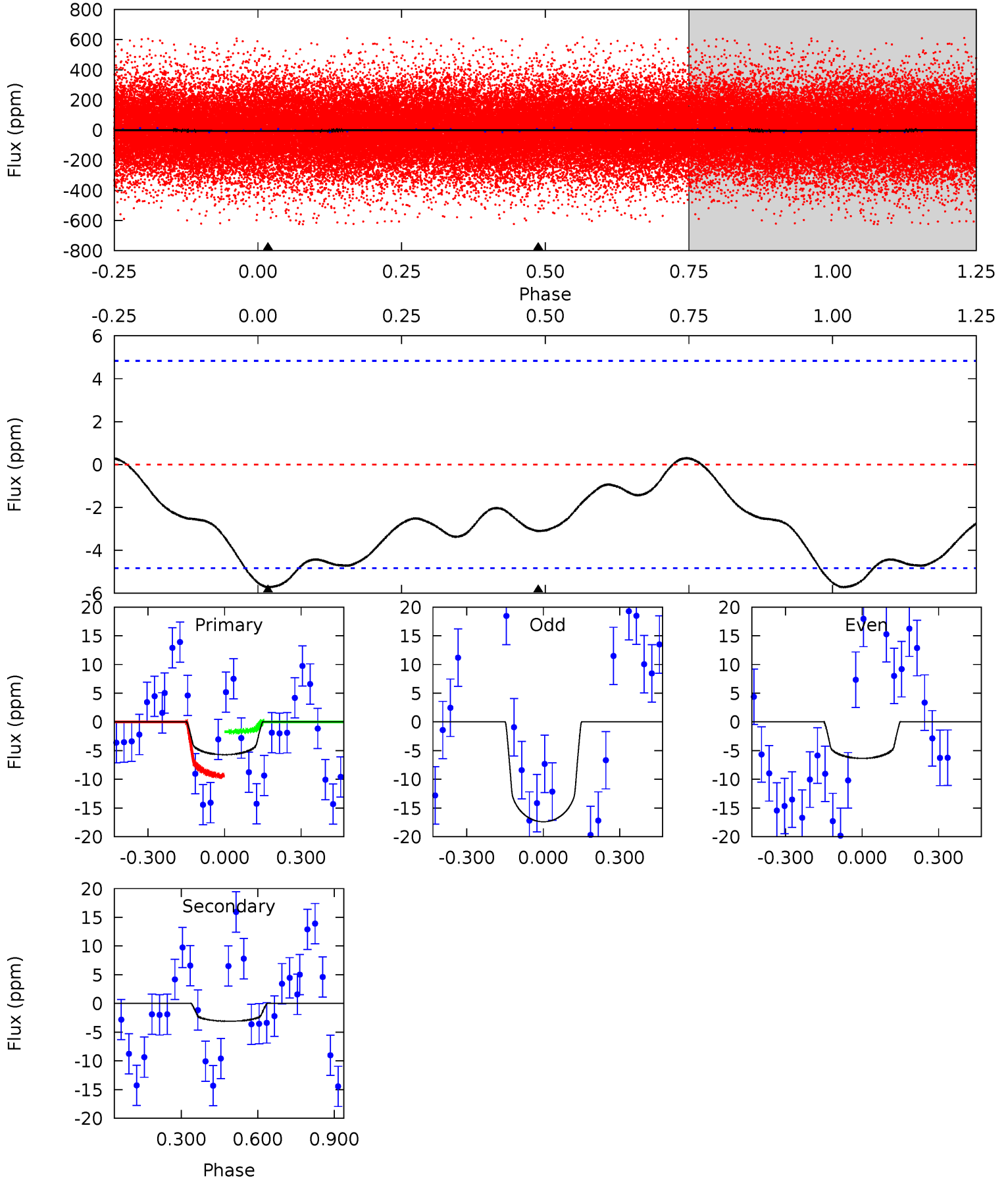
TCE 006233899-01 P= 0.829972 Days $T_0=132.333325$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-01, P = 0.829937 Days, E = 130.682469 Days

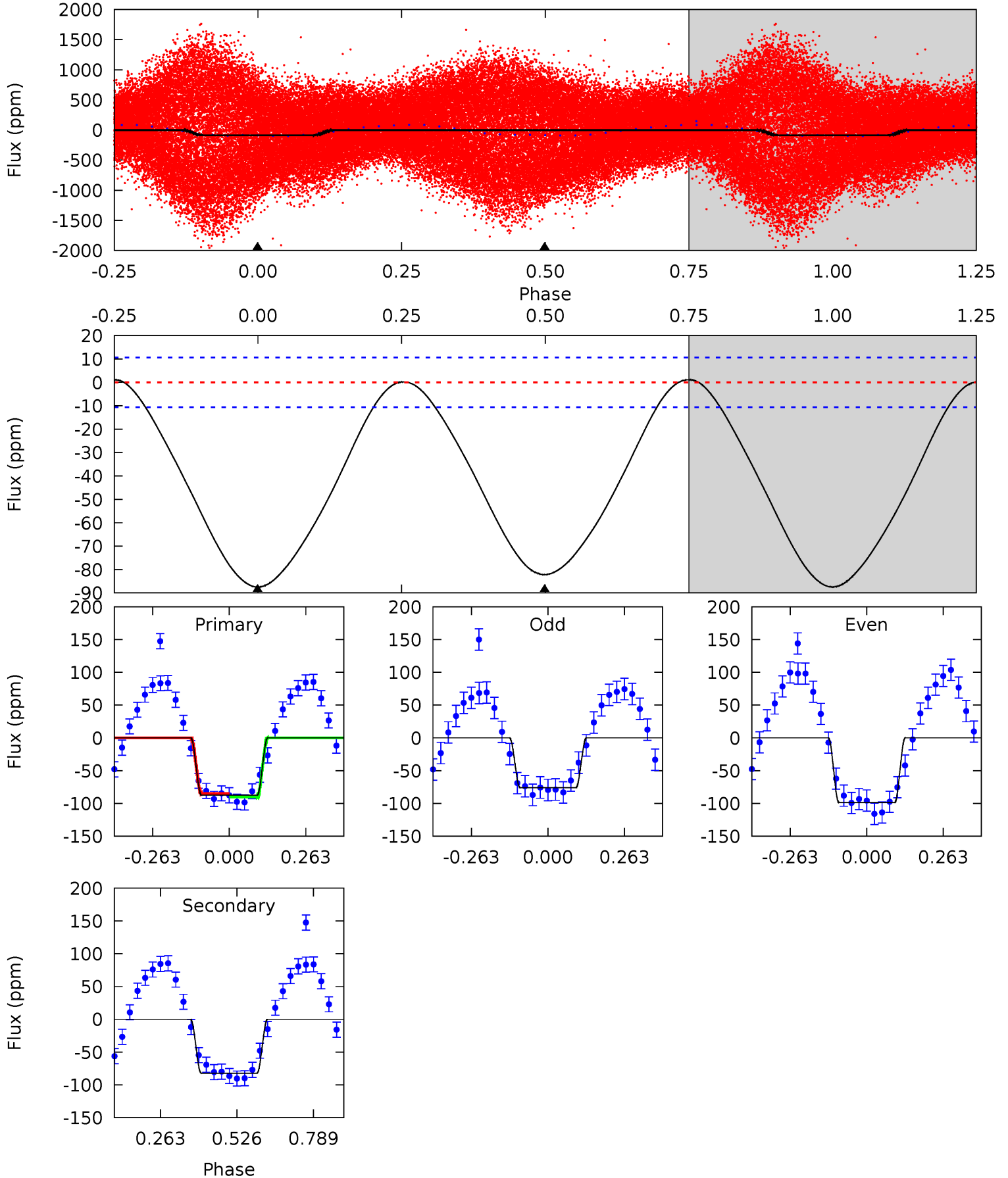
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.12	2.78	0	0	4.33	1.04	1.01	5.12	5.12	2.78	2.78	5.00	2.10	0.05	3.45



Alt Model-Shift Uniqueness Test

006233899-01, P = 0.829972 Days, E = 131.503353 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.9	33.7	0	0	4.36	1.12	0.39	35.9	35.9	33.7	33.7	3.29	0.97	0.01	0.58



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 1	$0.59^{+0.26}_{-0.25}$	3677^{+278}_{-232}	4580^{+1553}_{-816}	$1.700^{+3.790}_{-0.962}$
Alt.	-82 ± 2	$1.64^{+0.39}_{-0.32}$	3682^{+316}_{-215}	6337^{+624}_{-474}	$6.108^{+3.098}_{-1.987}$

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 $A_{obs} \gg 1.0$

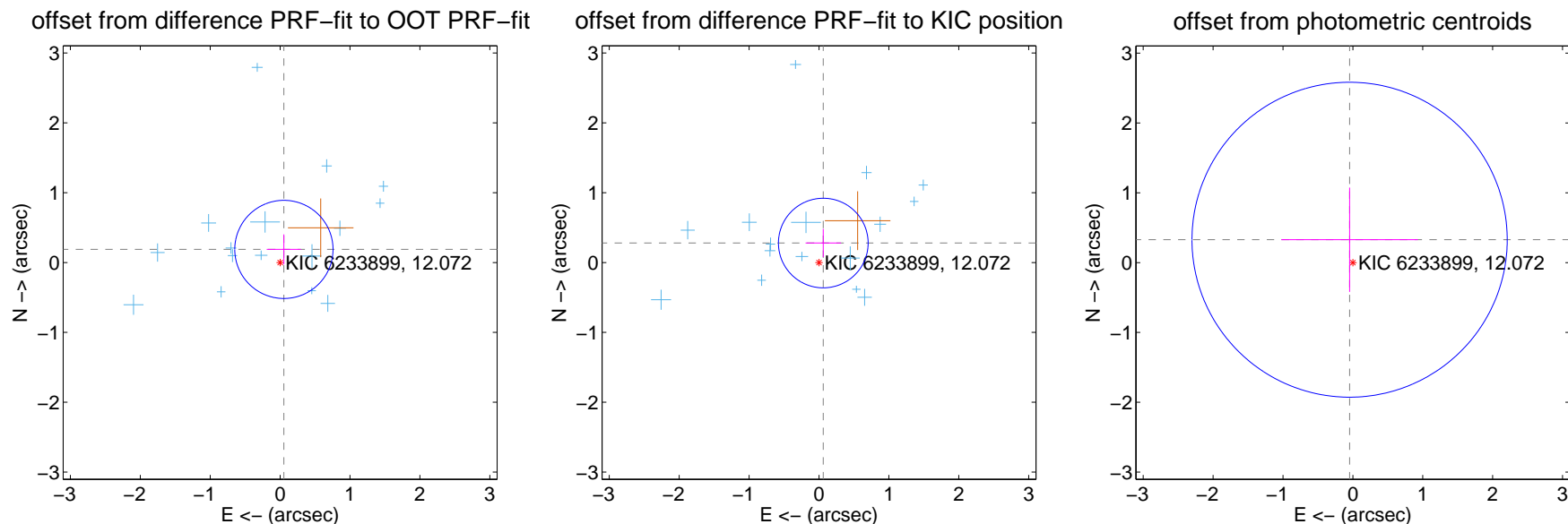
DV Centroid Data

Supplemental centroid analysis for 006233899-01. Kepler magnitude: 12.07. Transit SNR 5.07

There are 16 quarters with good PRF difference image offsets

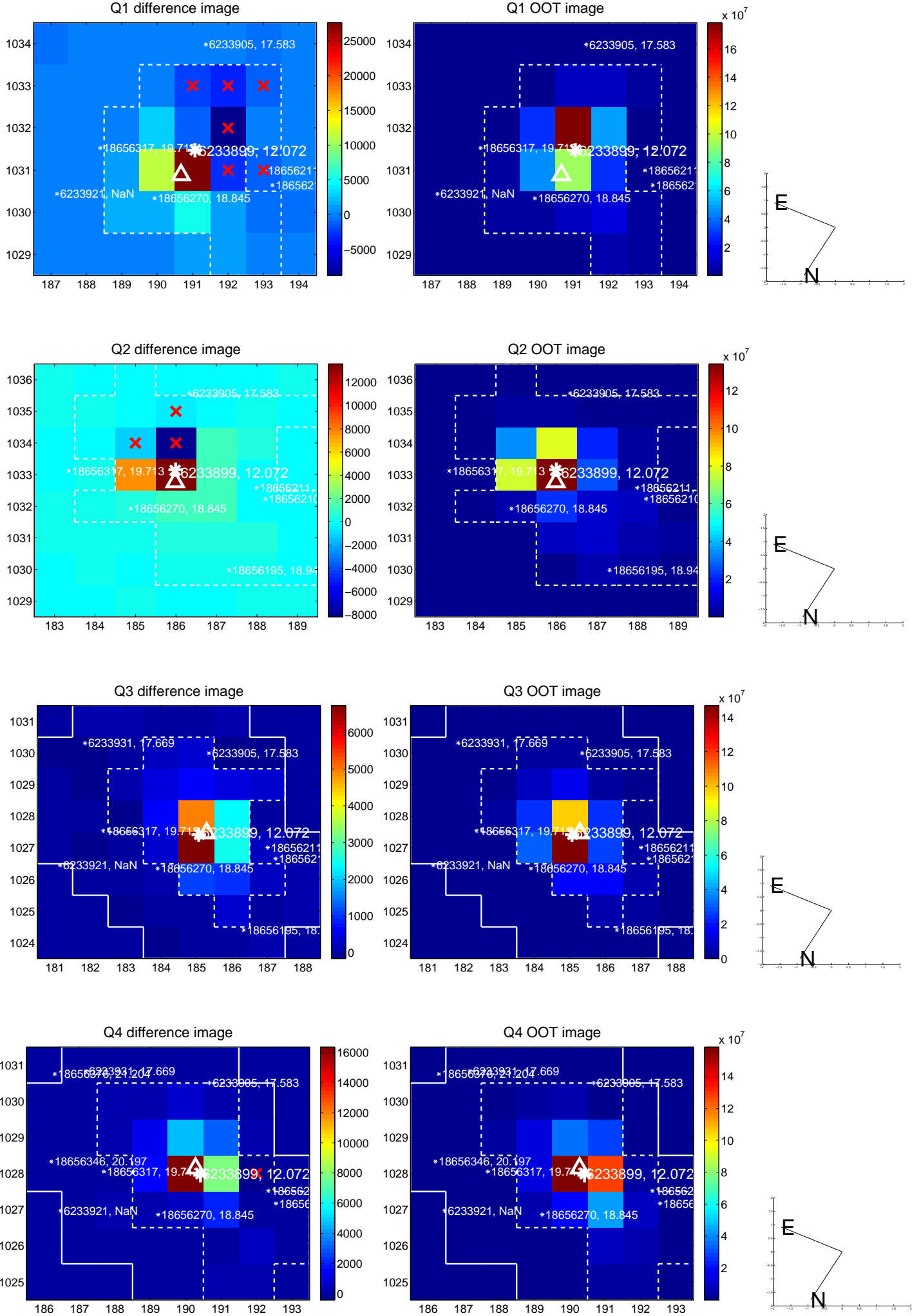
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.196 ± 0.234	0.84	-0.054 ± 0.246	0.188 ± 0.215
PRF-fit source offset from KIC position	0.286 ± 0.214	1.34	-0.062 ± 0.254	0.279 ± 0.203
photometric centroid source offset	0.33 ± 0.75	0.44	0.05 ± 0.98	0.33 ± 0.75

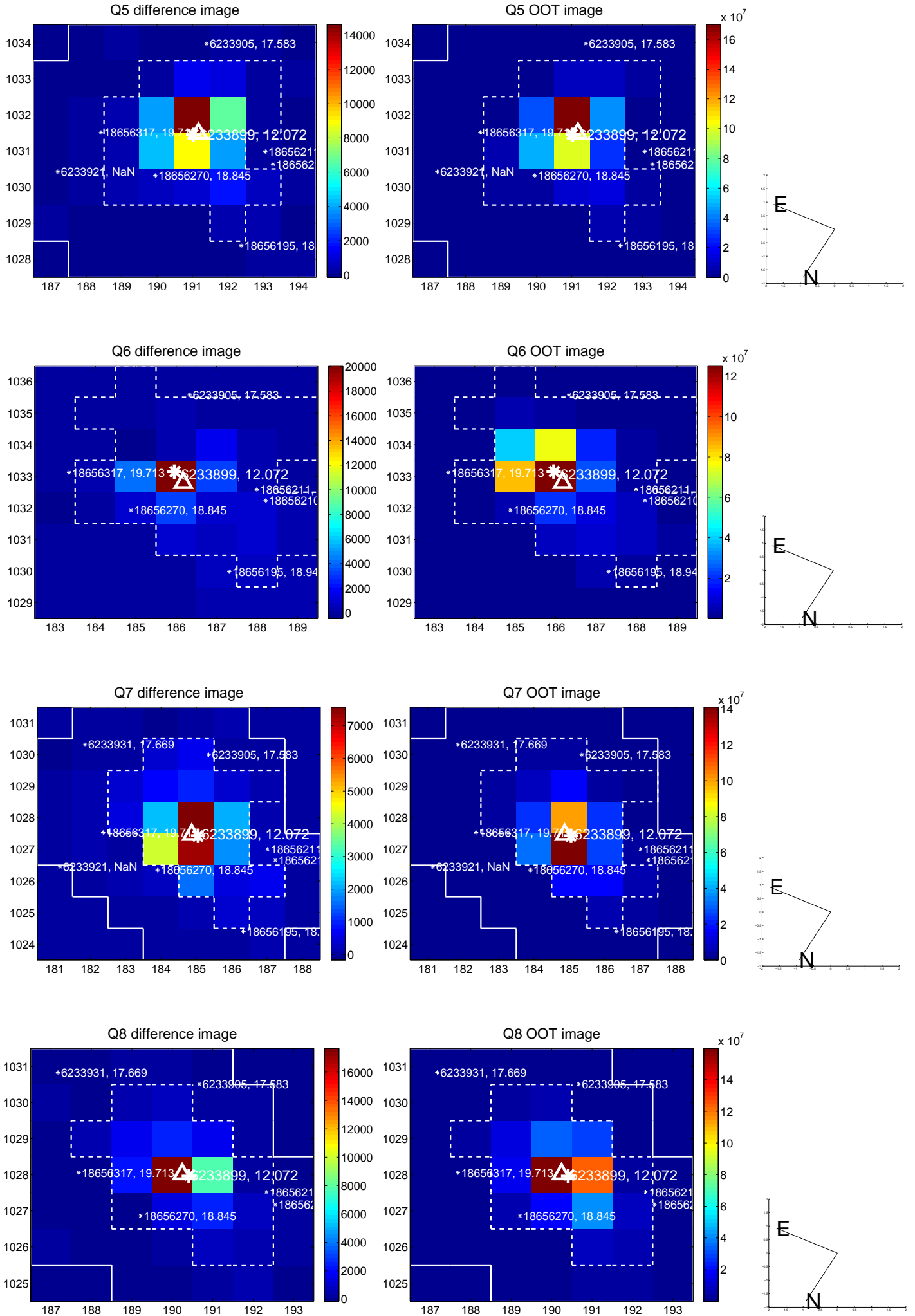


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

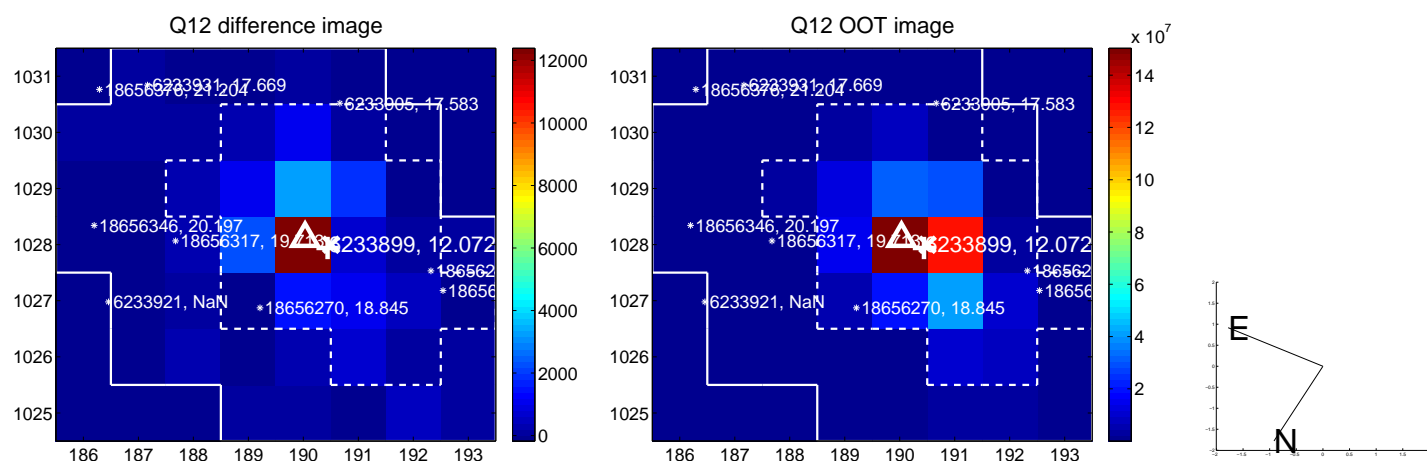
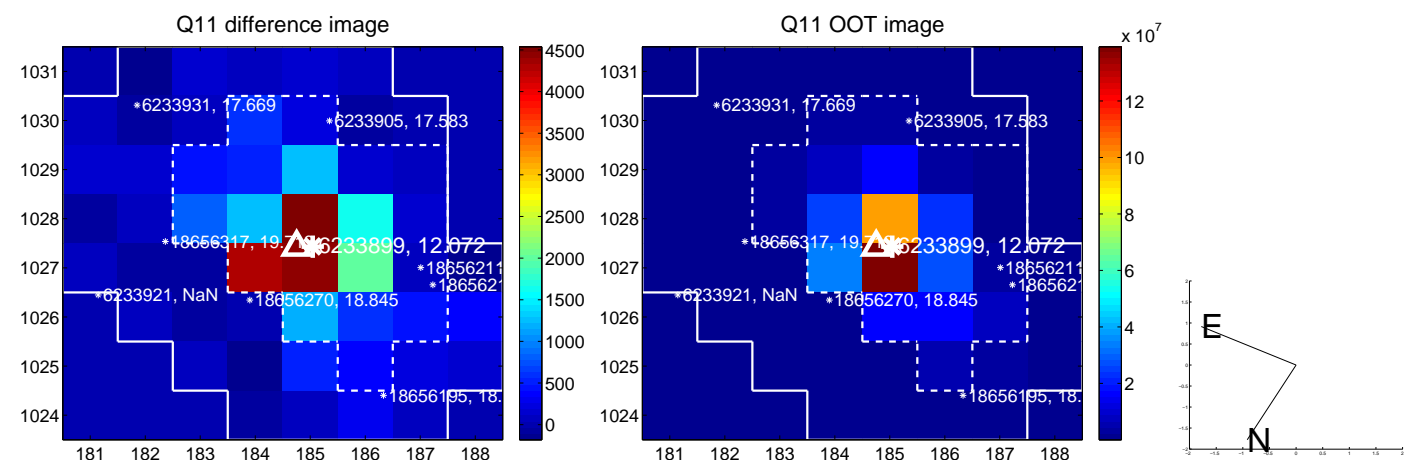
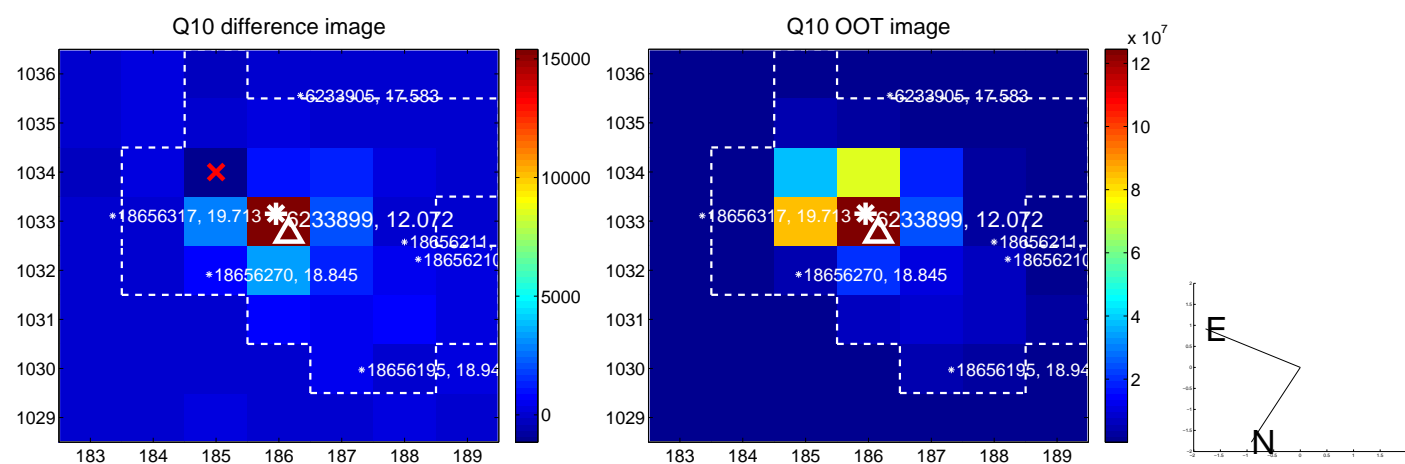
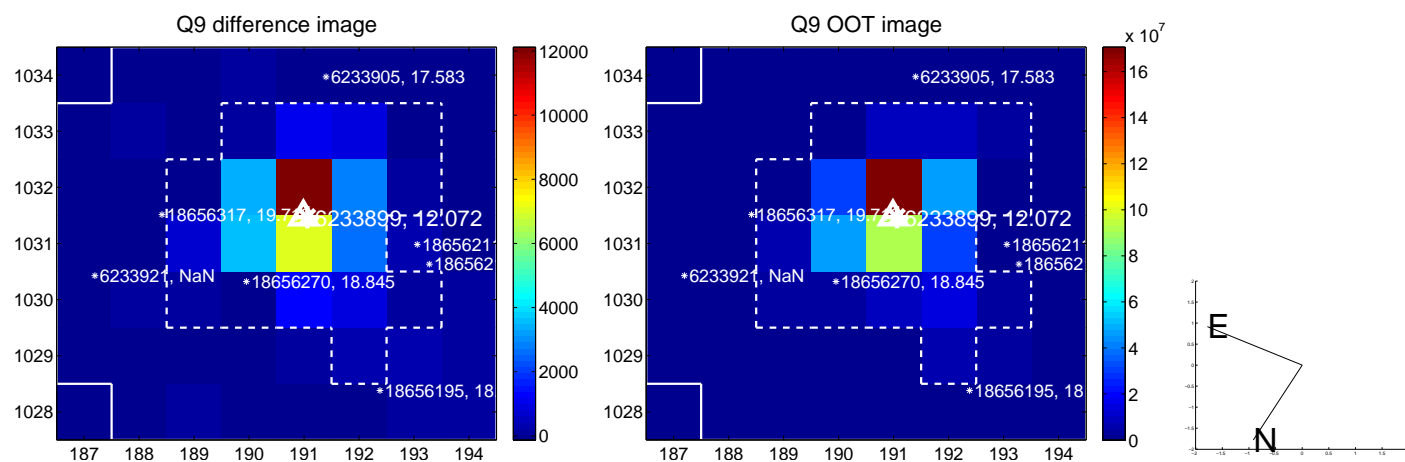
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



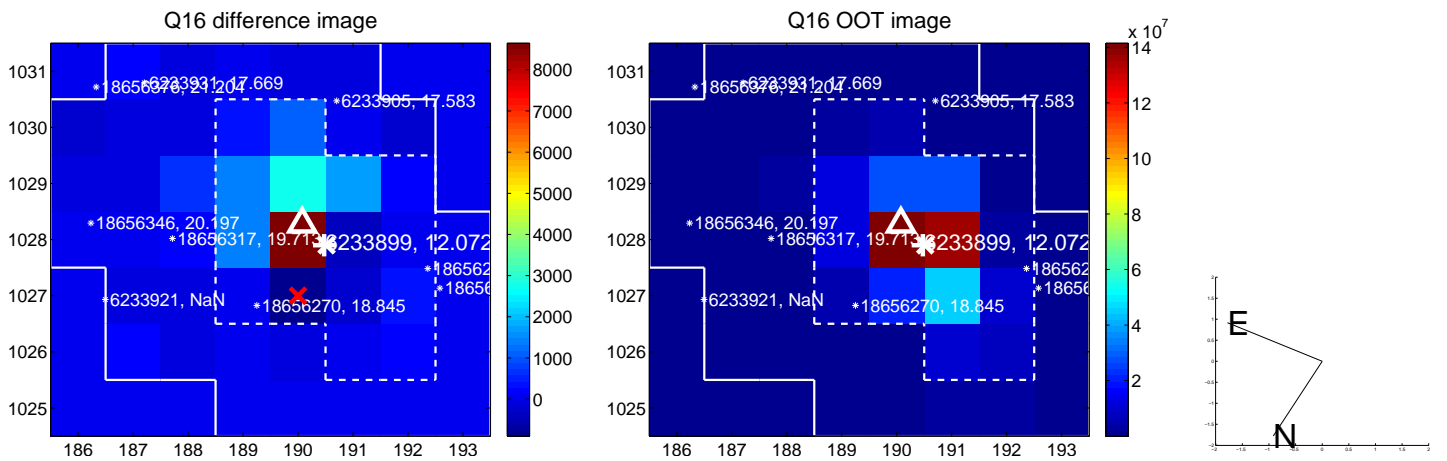
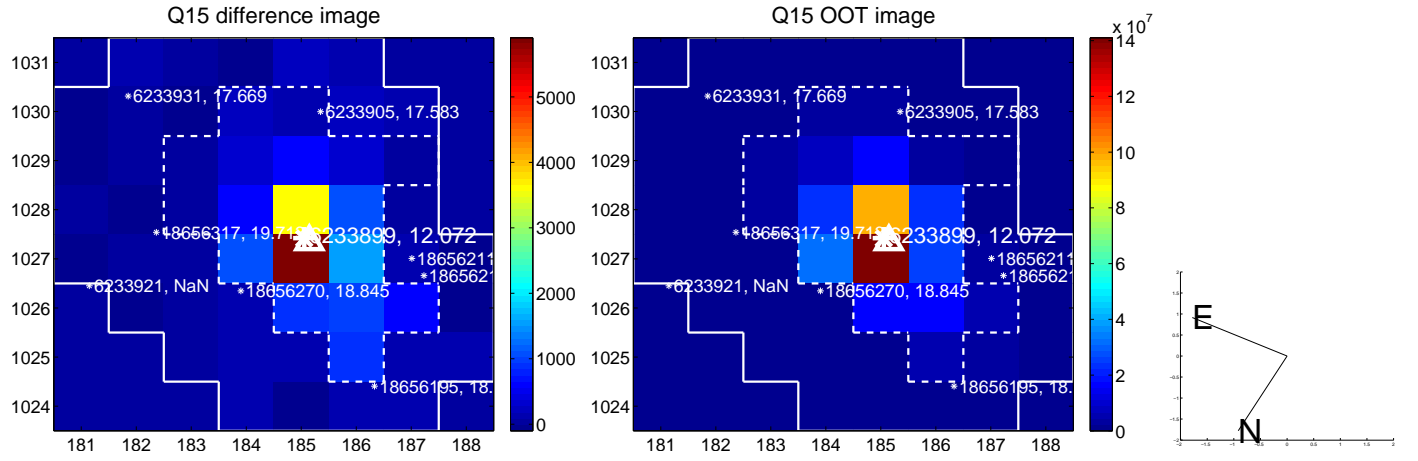
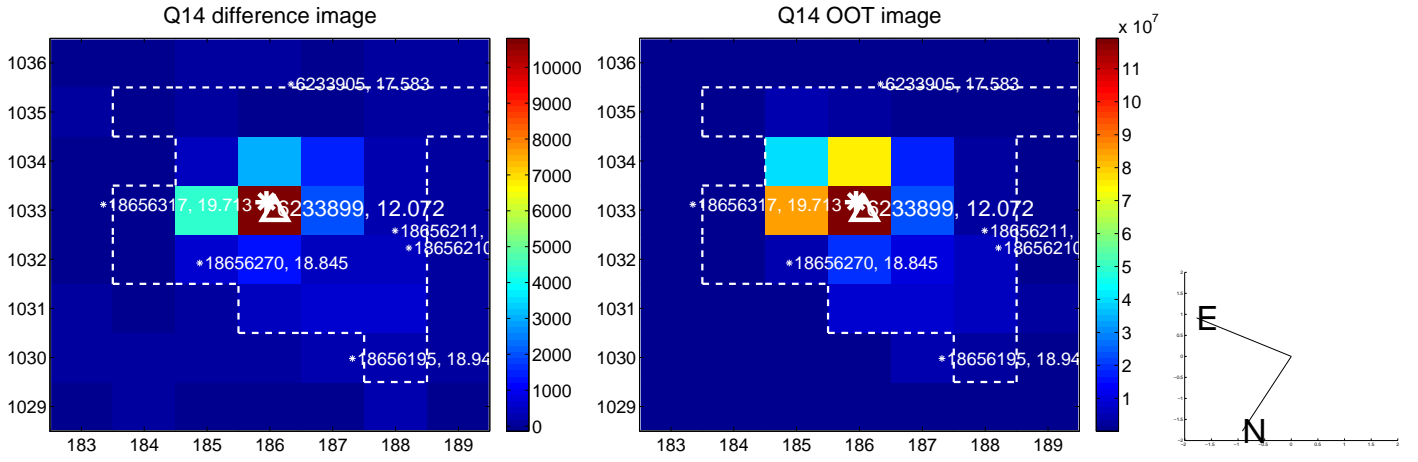
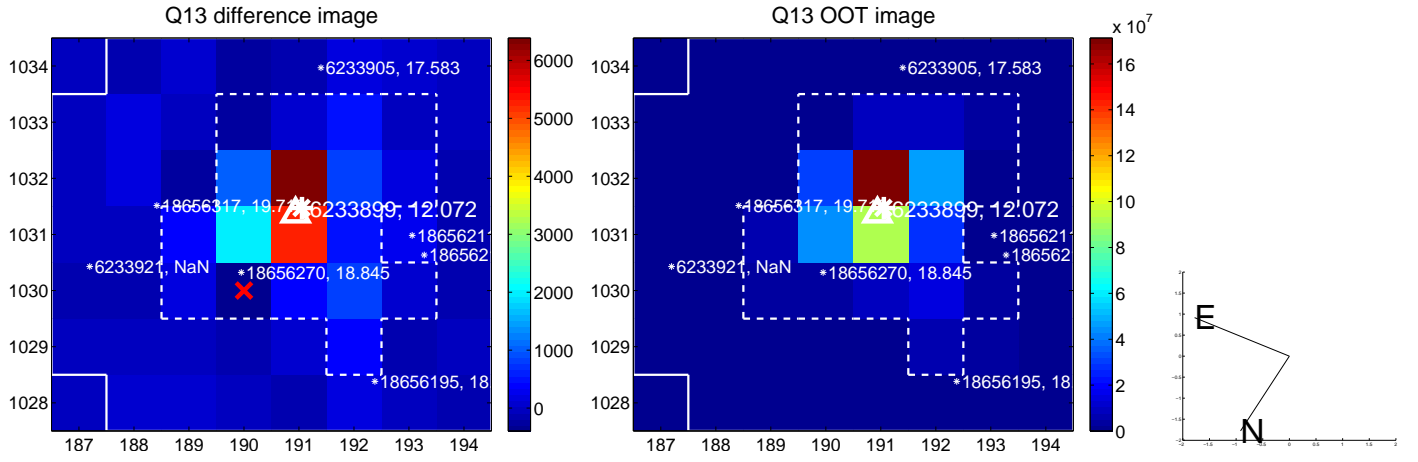
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



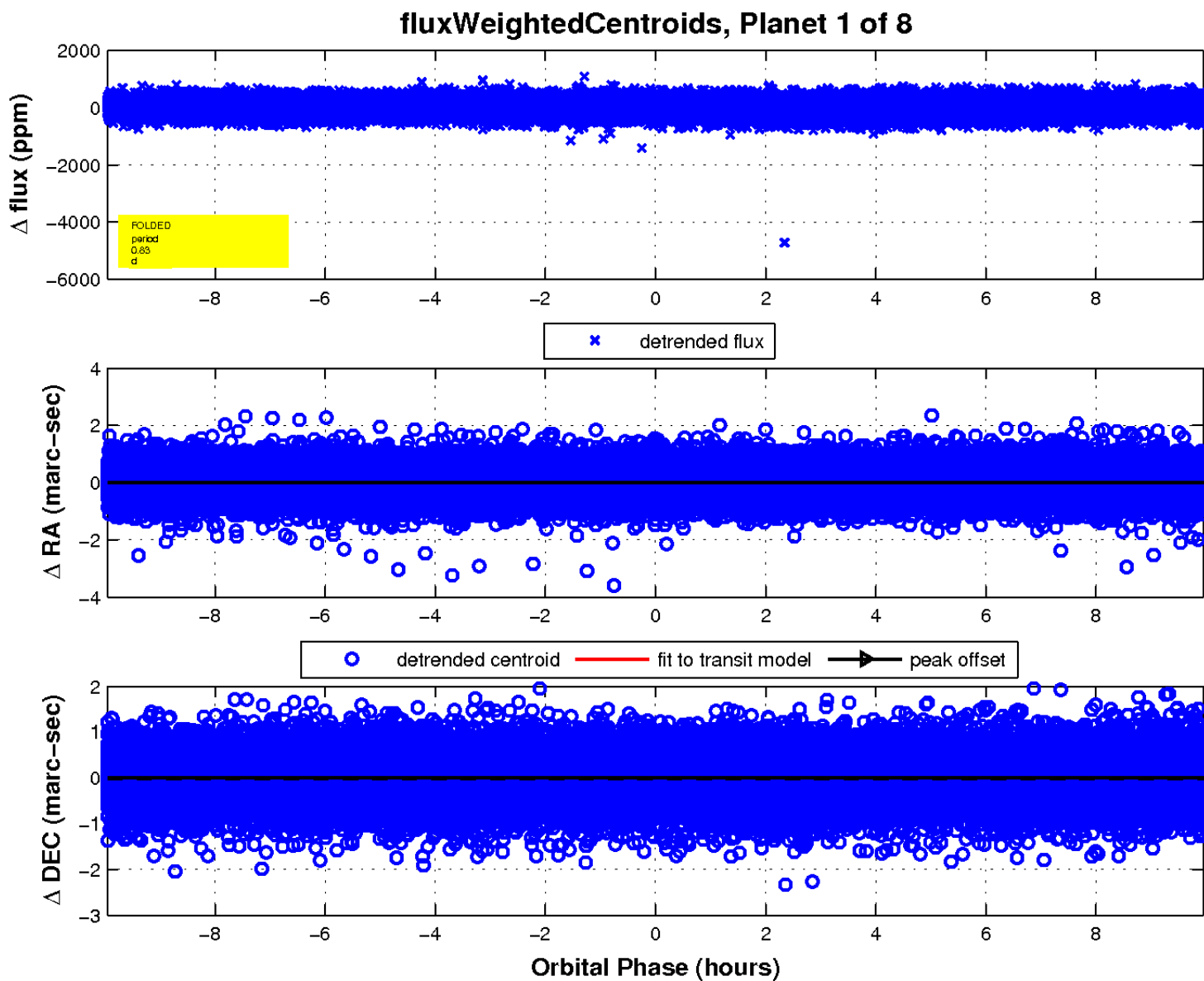
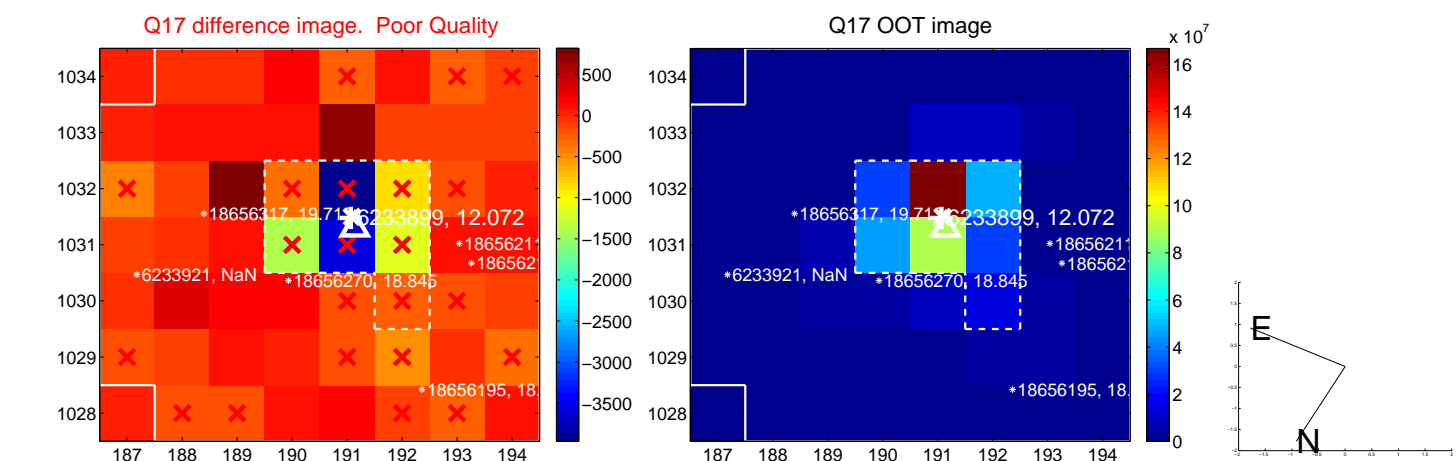
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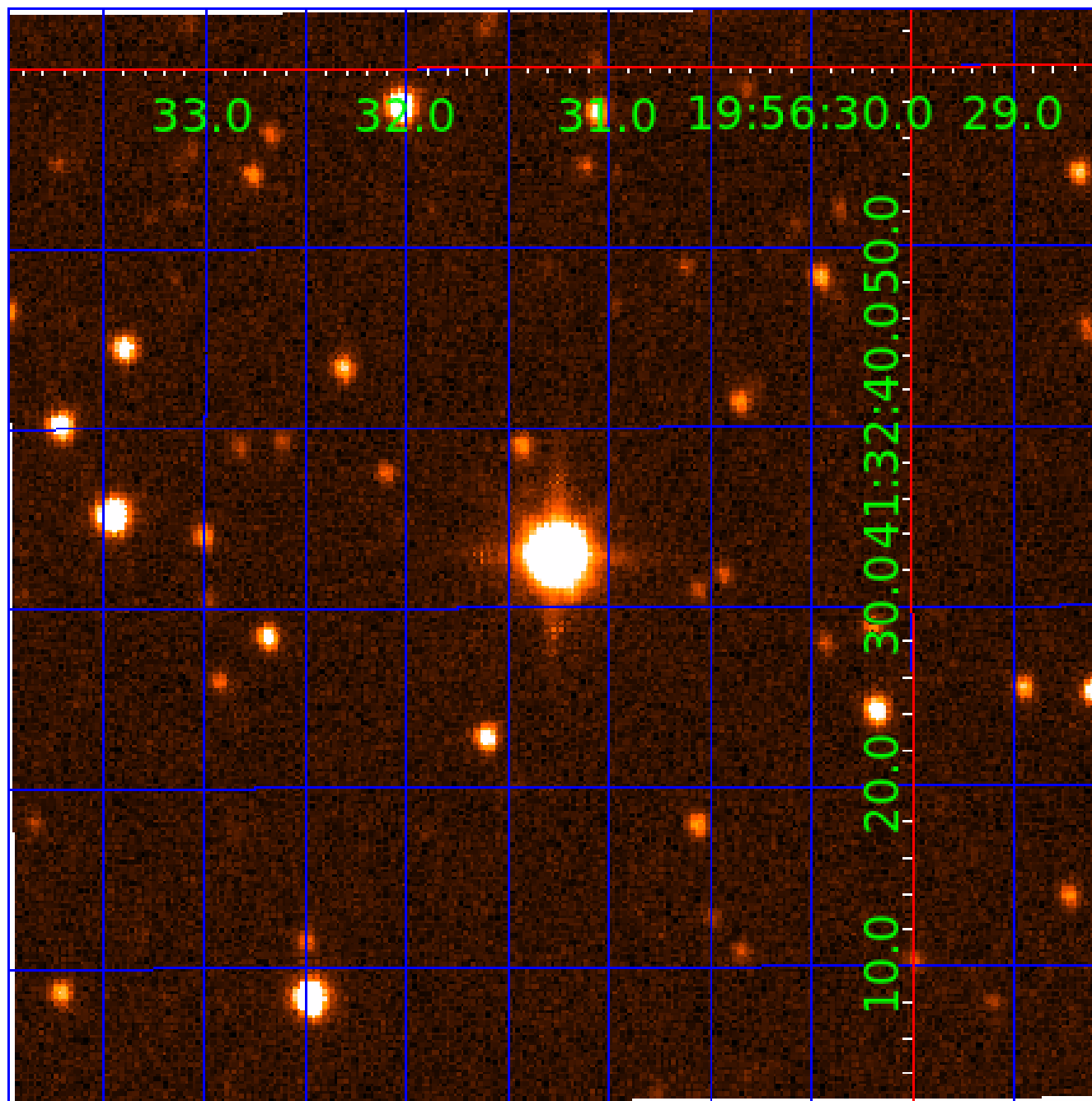


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
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006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
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Robovetter Results

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006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

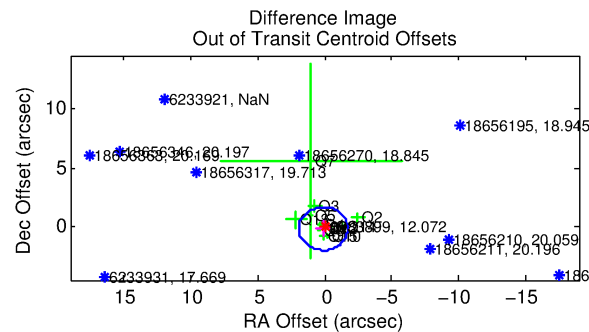
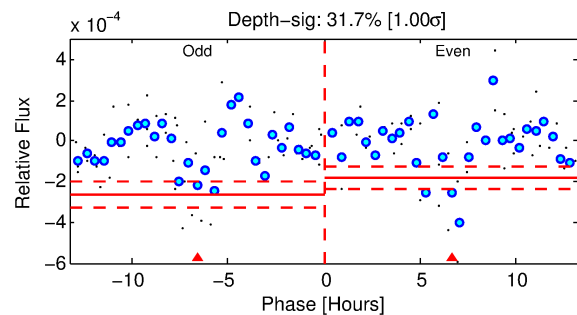
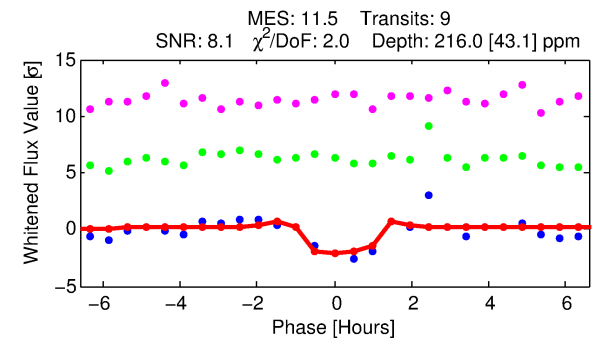
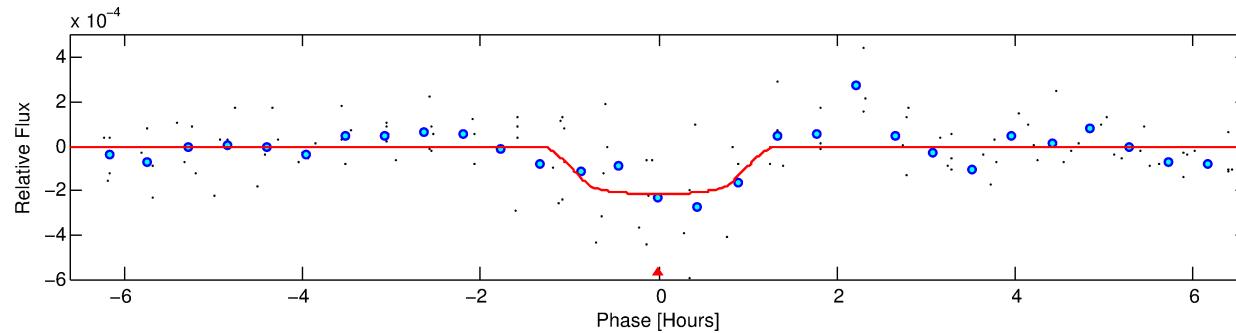
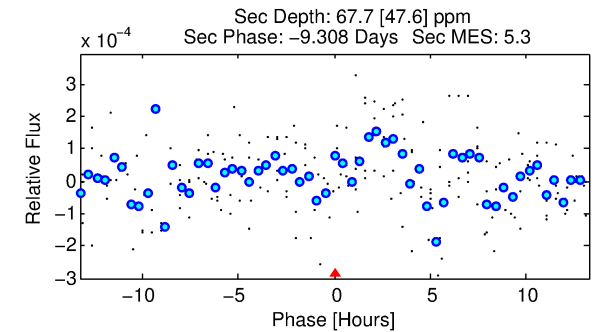
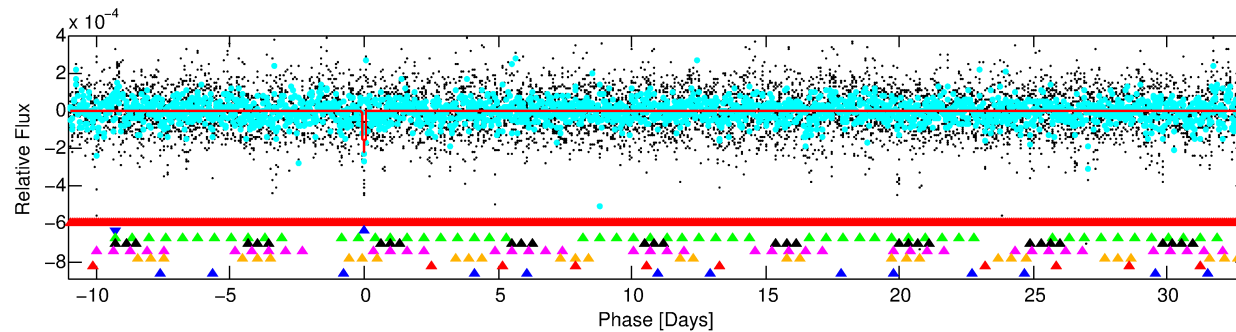
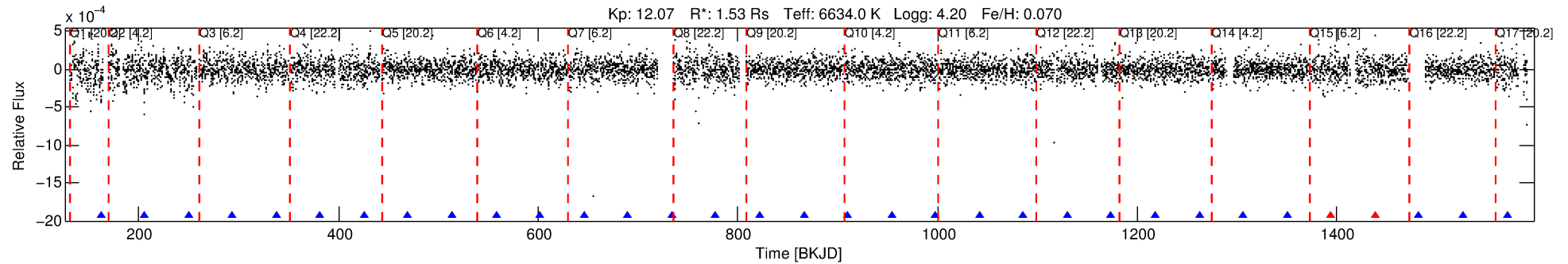
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-02

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 2 of 8 Period: 44.012 d



DV Fit Results:

Period = 44.01241 [0.00039] d
Epoch = 161.8047 [0.0072] BKJD
Rp/R* = 0.0158 [0.0111]
a/R* = 71.59 [280.73]
b = 0.90 [0.83]
Seff = 55.72 [22.51]
Teq = 697 [70] K
Rp = 2.63 [2.04] Re
a = 0.2697 [0.0717] AU
Ag = 392.57 [635.43] [0.62σ]
Teffp = 4794 [1896] K [2.16σ]

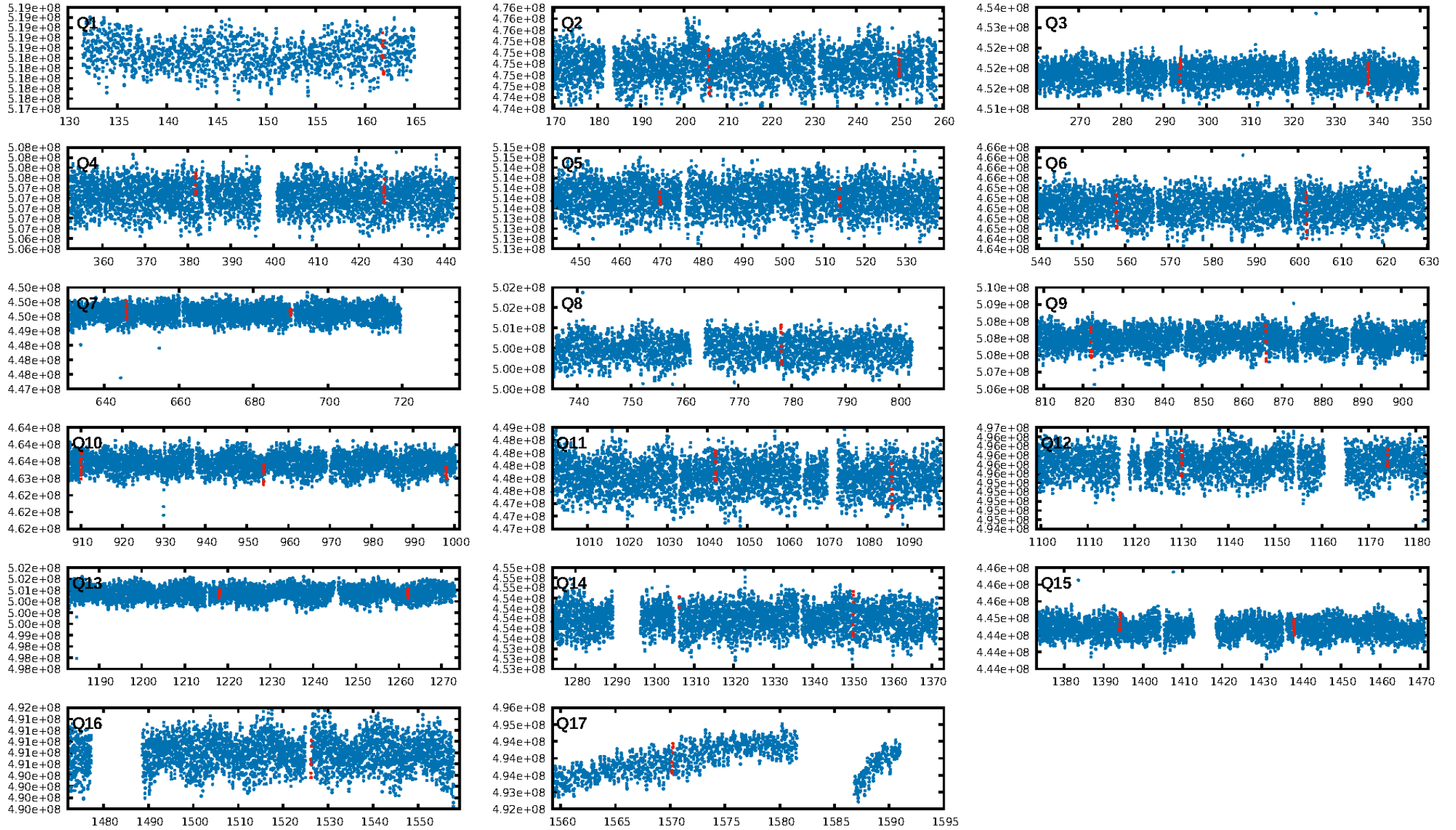
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [89.80σ]
LongPeriod-sig: 100.0% [34.32σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 37.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.71 [5/7]
GhostDiagnostic-chr: 946.7
Centroid-sig: 0.9%
Centroid-so: 0.956 arcsec [2.04σ]
OotOffset-rm: 0.204 arcsec [0.34σ]
KicOffset-rm: 0.173 arcsec [0.29σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.19 [3/16]

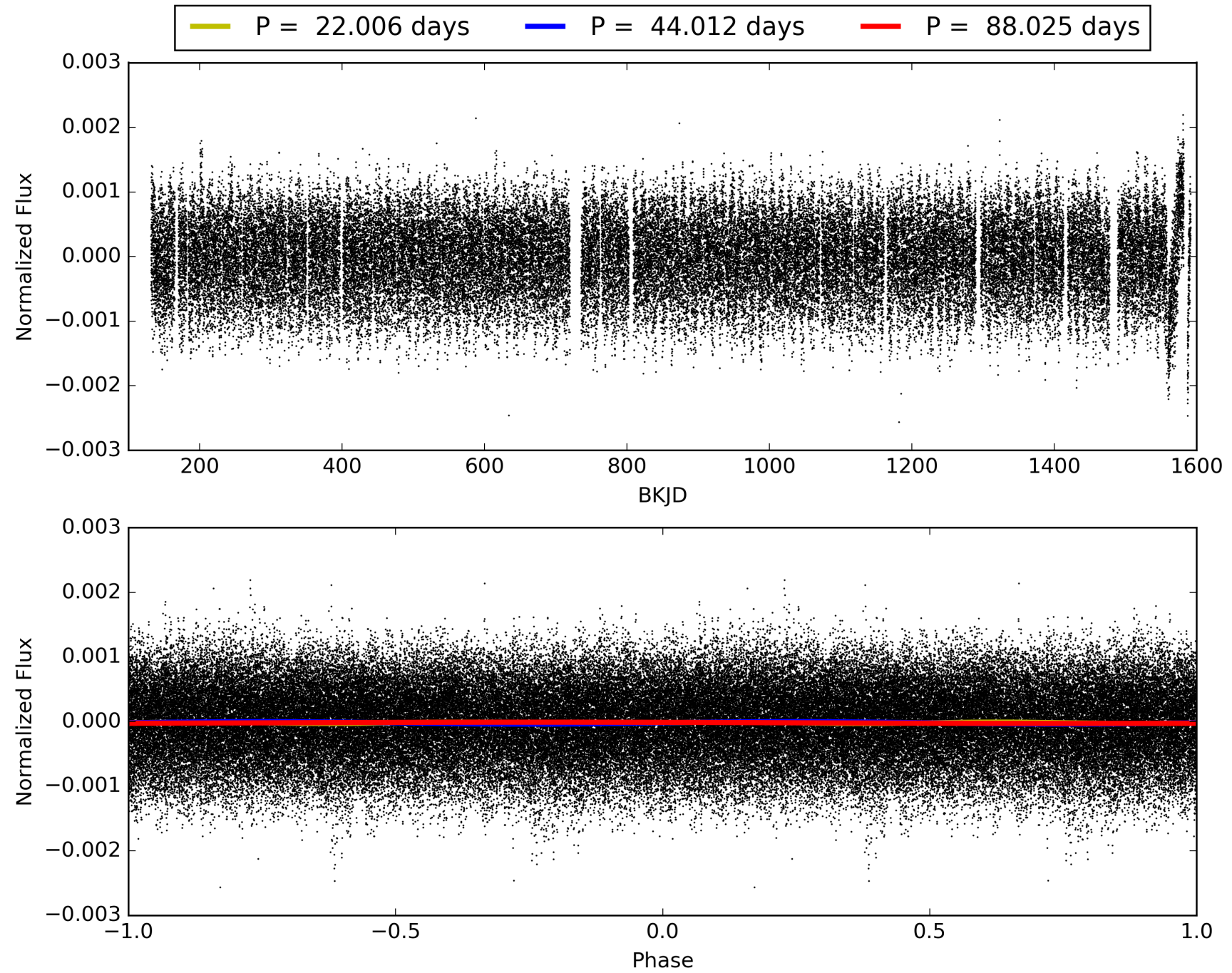
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:07 Z

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

TCE 006233899-02, PDC Light Curves

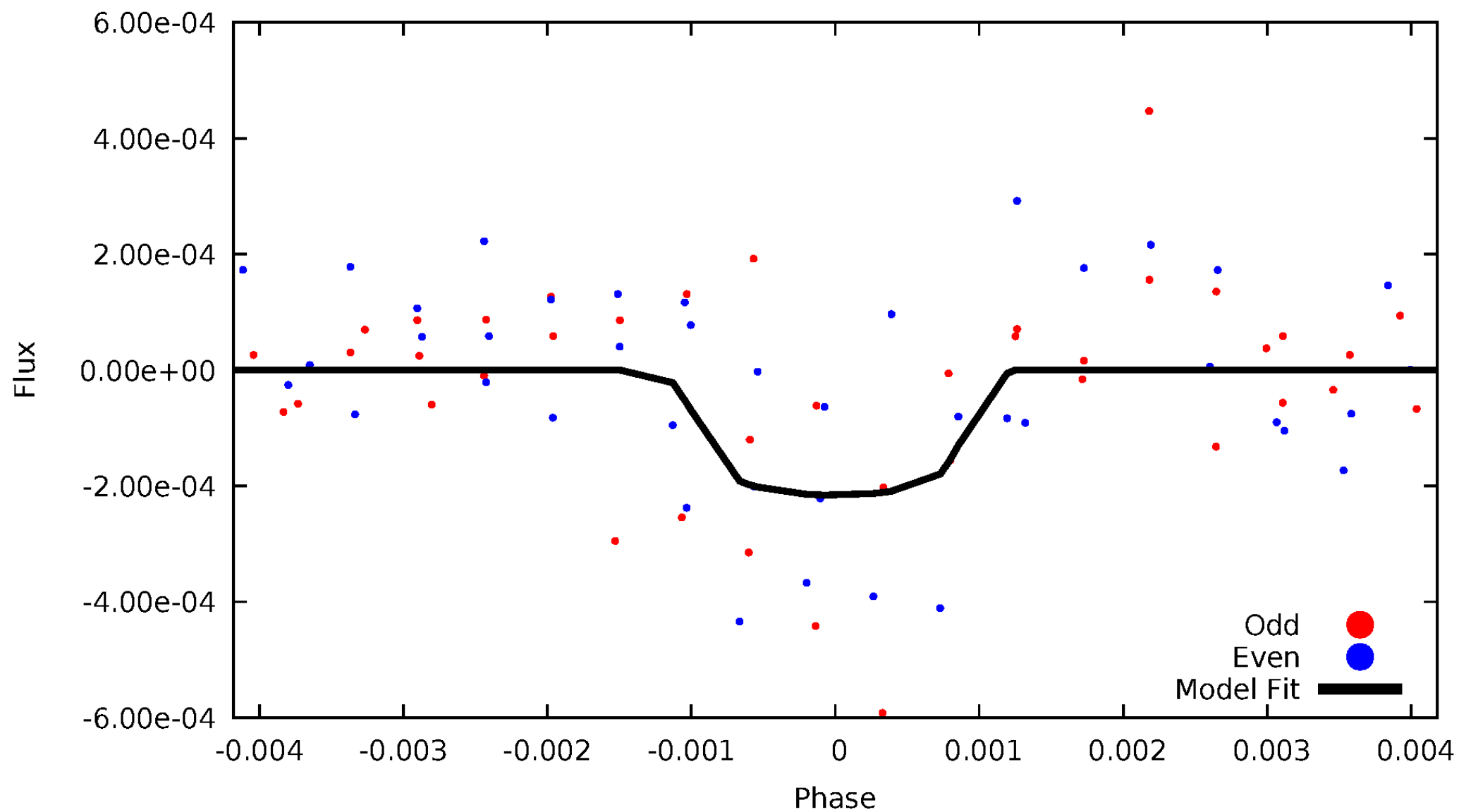


TCE 006233899-02



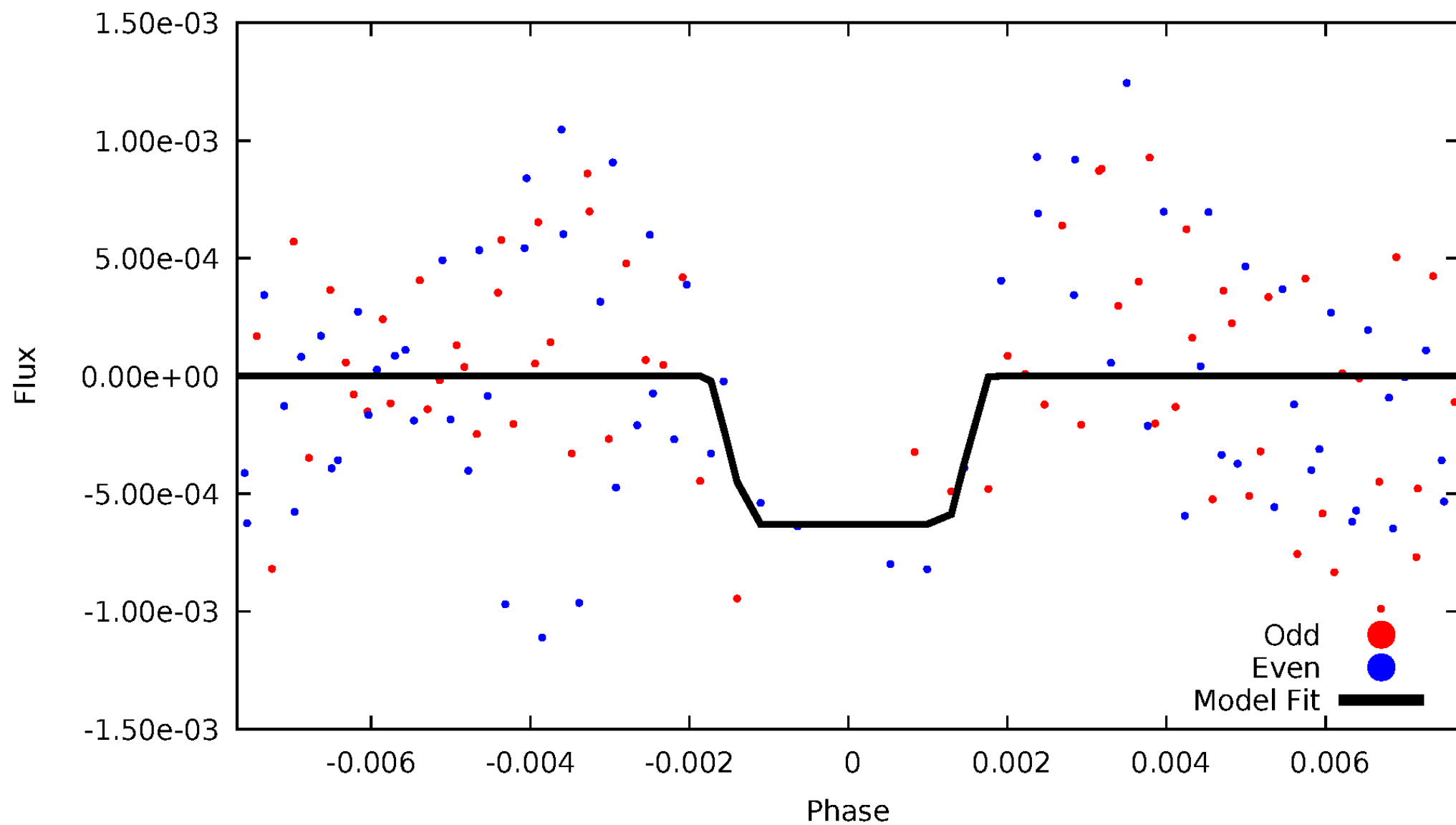
DV Odd/Even

TCE 006233899-02



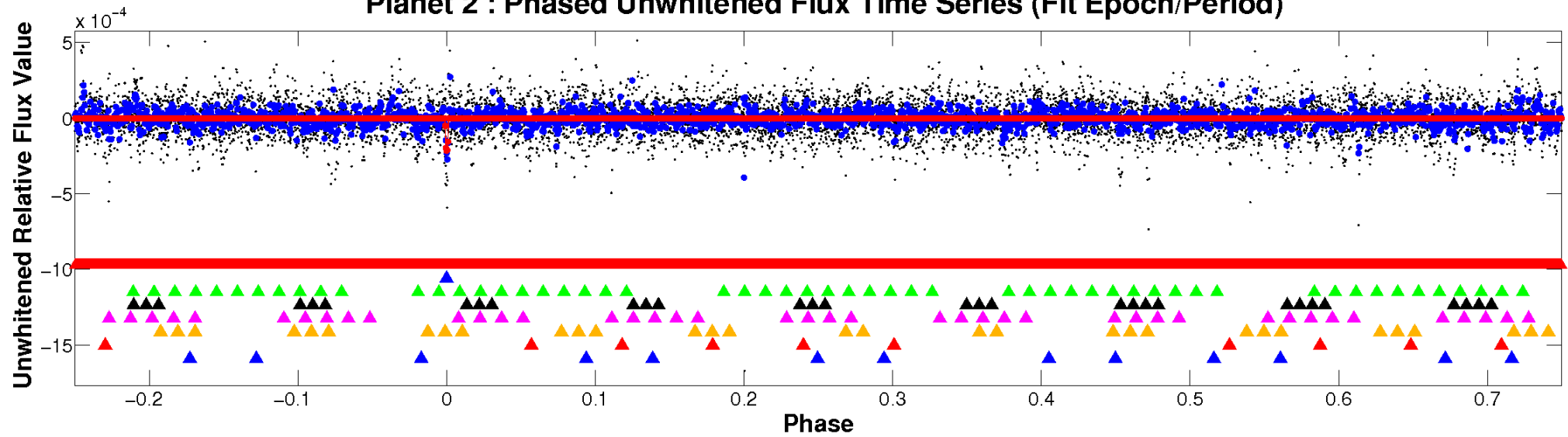
ALT Odd/Even

TCE 006233899-02

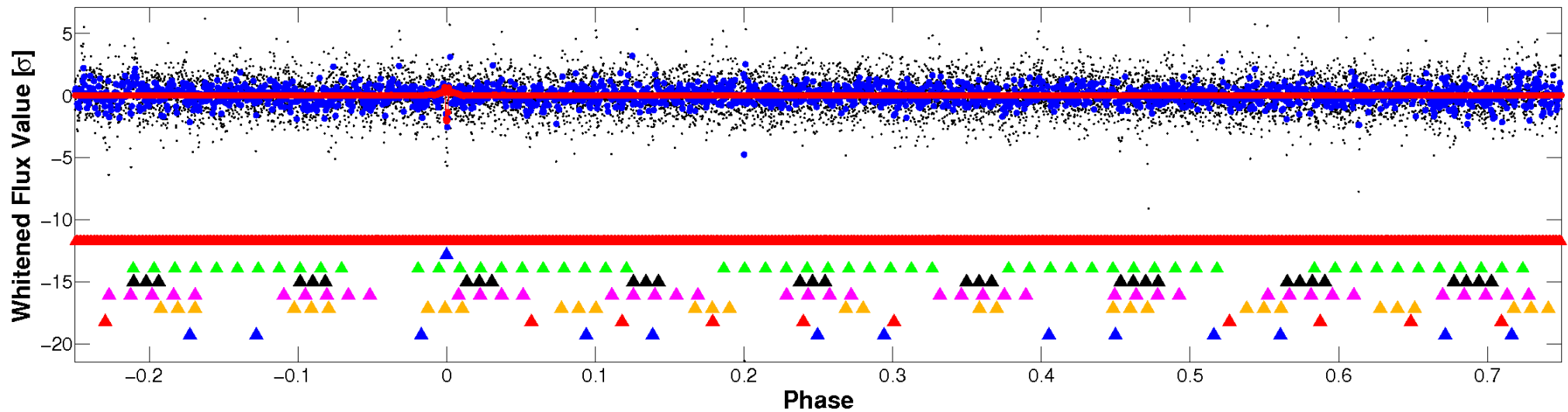


Non-Whitened Vs. Whitened Light Curve

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

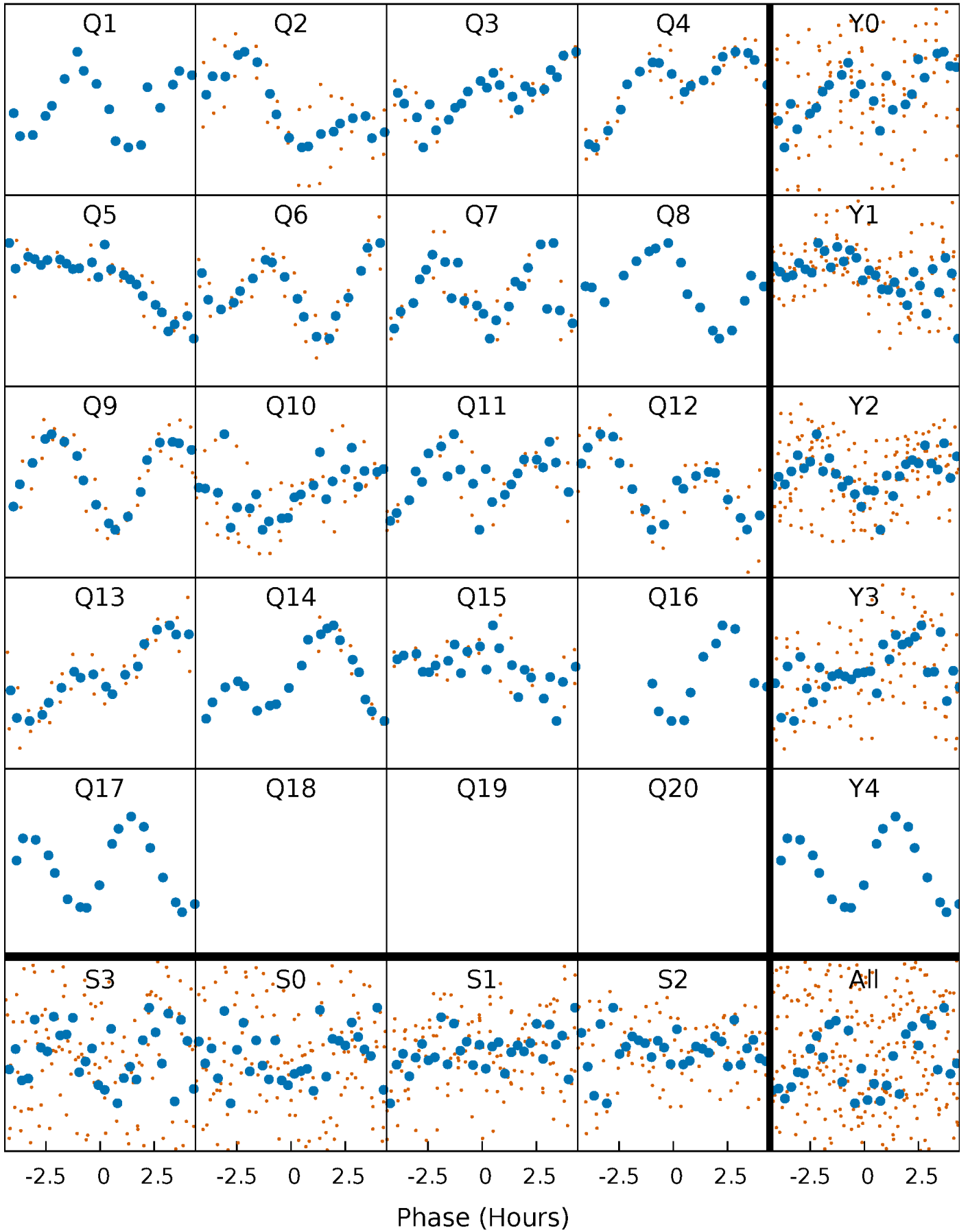


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



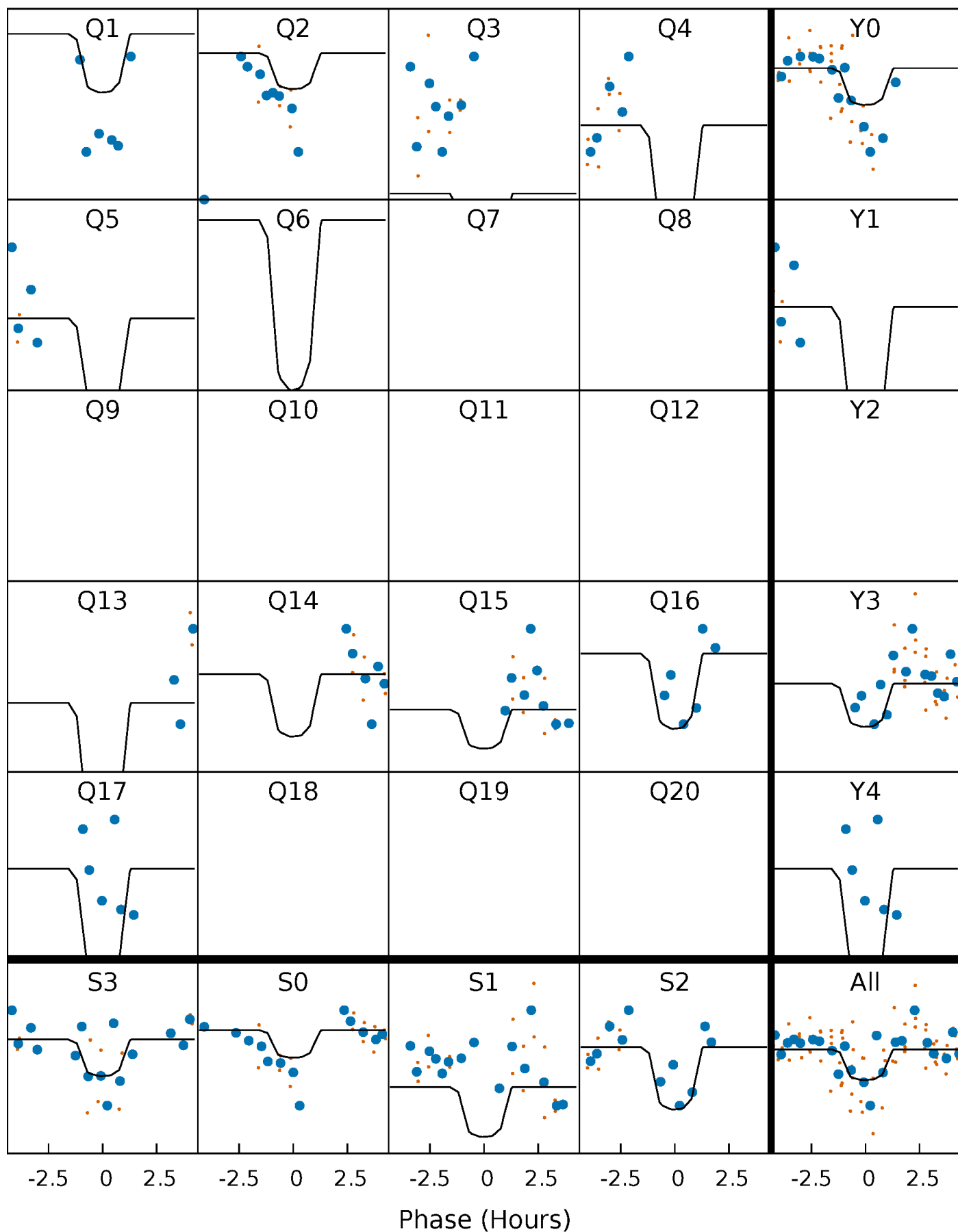
PDC Quarter-Phased Transit Curves

TCE 006233899-02 P= 44.012412 Days $T_0=161.804691$ (BKJD)



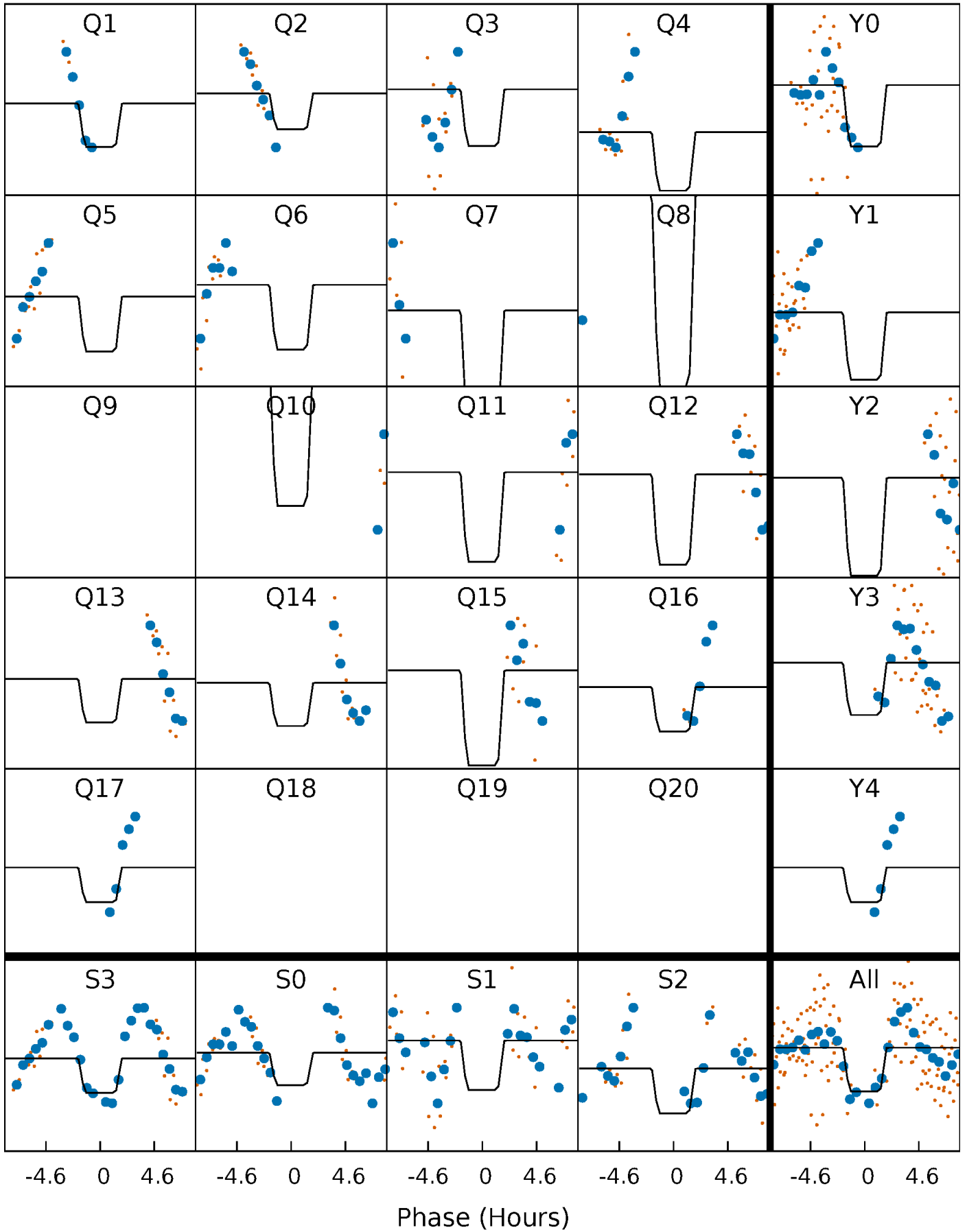
DV Quarter-Phased Transit Curves

TCE 006233899-02 $P = 44.012412$ Days $T_0 = 161.804691$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

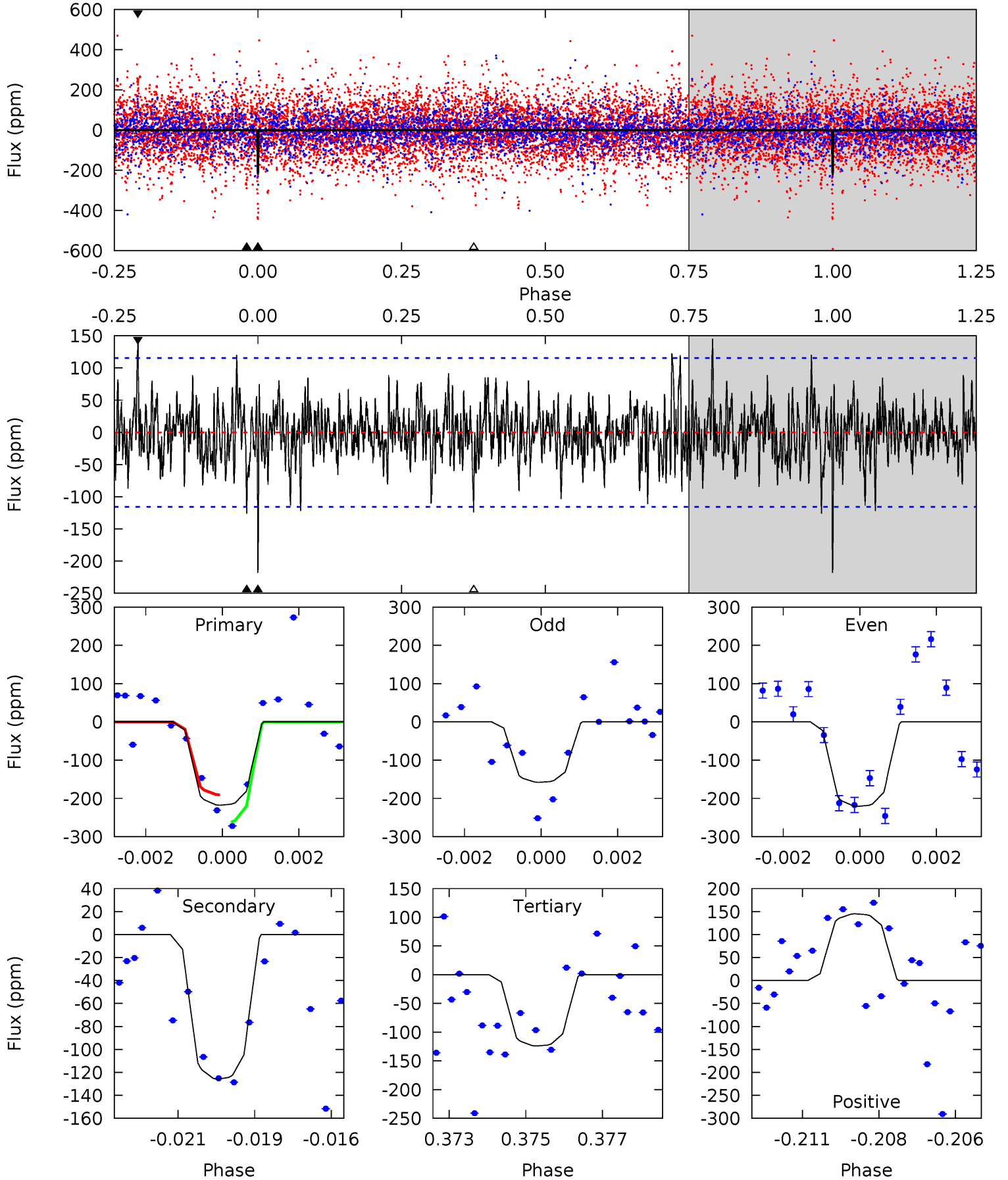
TCE 006233899-02 $P = 44.007786$ Days $T_0 = 161.885326$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-02, P = 44.012412 Days, E = 117.792279 Days

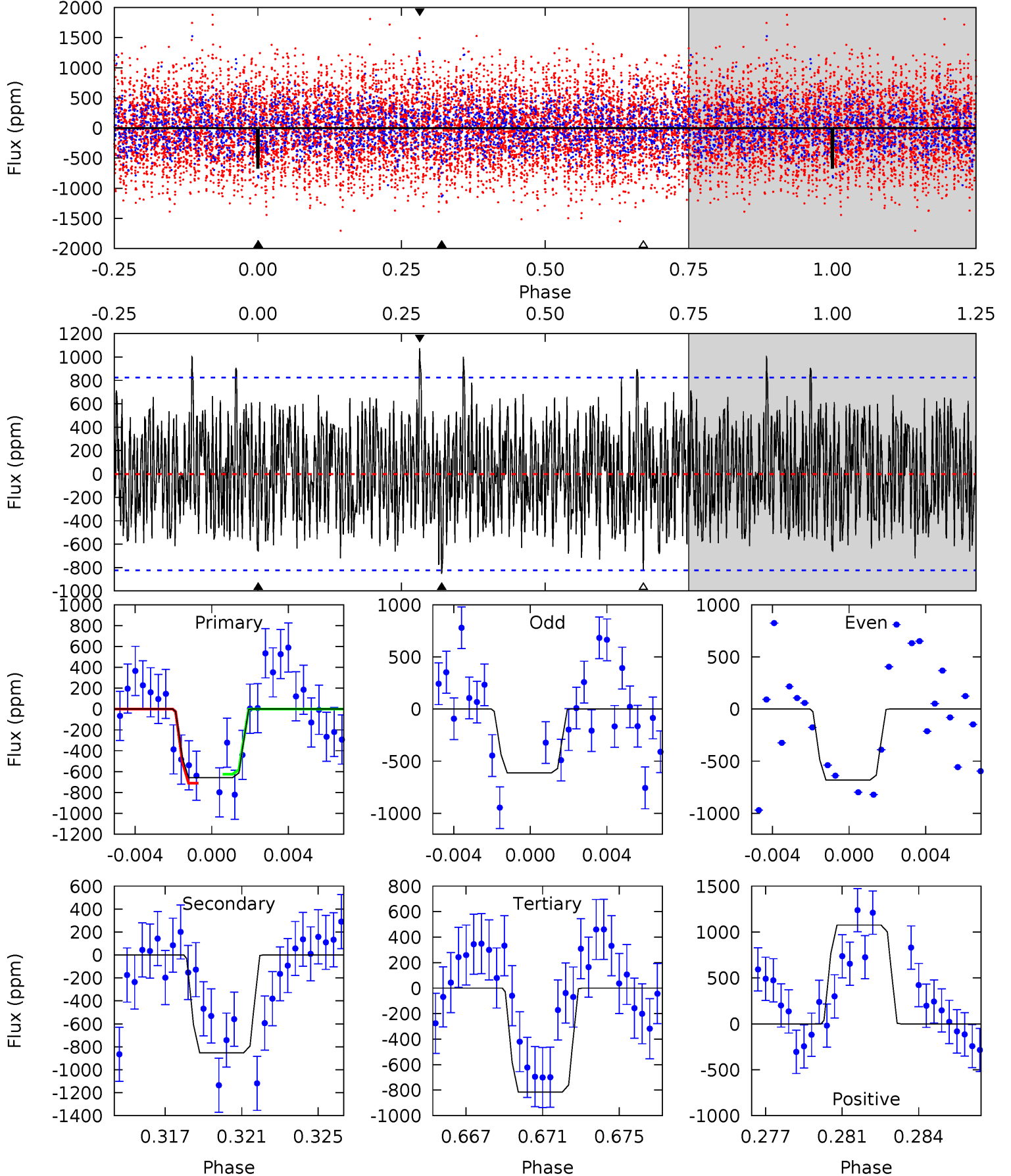
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.00	5.78	5.69	6.66	5.30	3.05	1.63	4.30	3.34	0.09	-0.88	1.38	1.06	0.40	1.59



Alt Model-Shift Uniqueness Test

006233899-02, $P = 44.007786$ Days, $E = 117.877540$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.16	5.40	5.16	6.81	5.22	2.91	1.91	-1.00	-2.65	0.23	-1.42	0.22	1.05	0.56	0.27



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-126 ± 22	$2.82^{+1.95}_{-1.61}$	979^{+75}_{-59}	5442^{+3136}_{-1046}	611^{+2861}_{-398}
Alt.	-852 ± 158	$4.40^{+1.93}_{-1.94}$	980^{+80}_{-66}	7017^{+3089}_{-1165}	1714^{+4021}_{-910}

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 $A_{obs} \gg 1.0$

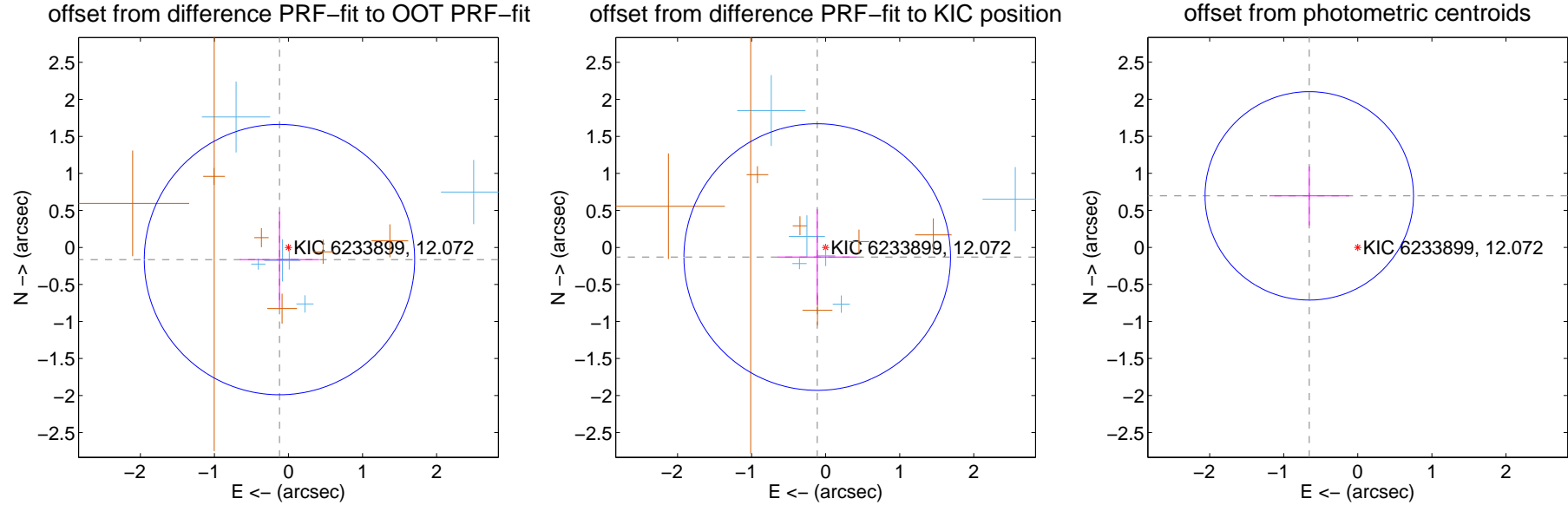
DV Centroid Data

Supplemental centroid analysis for 006233899-02. Kepler magnitude: 12.07. Transit SNR 8.13

There are 6 quarters with good PRF difference image offsets

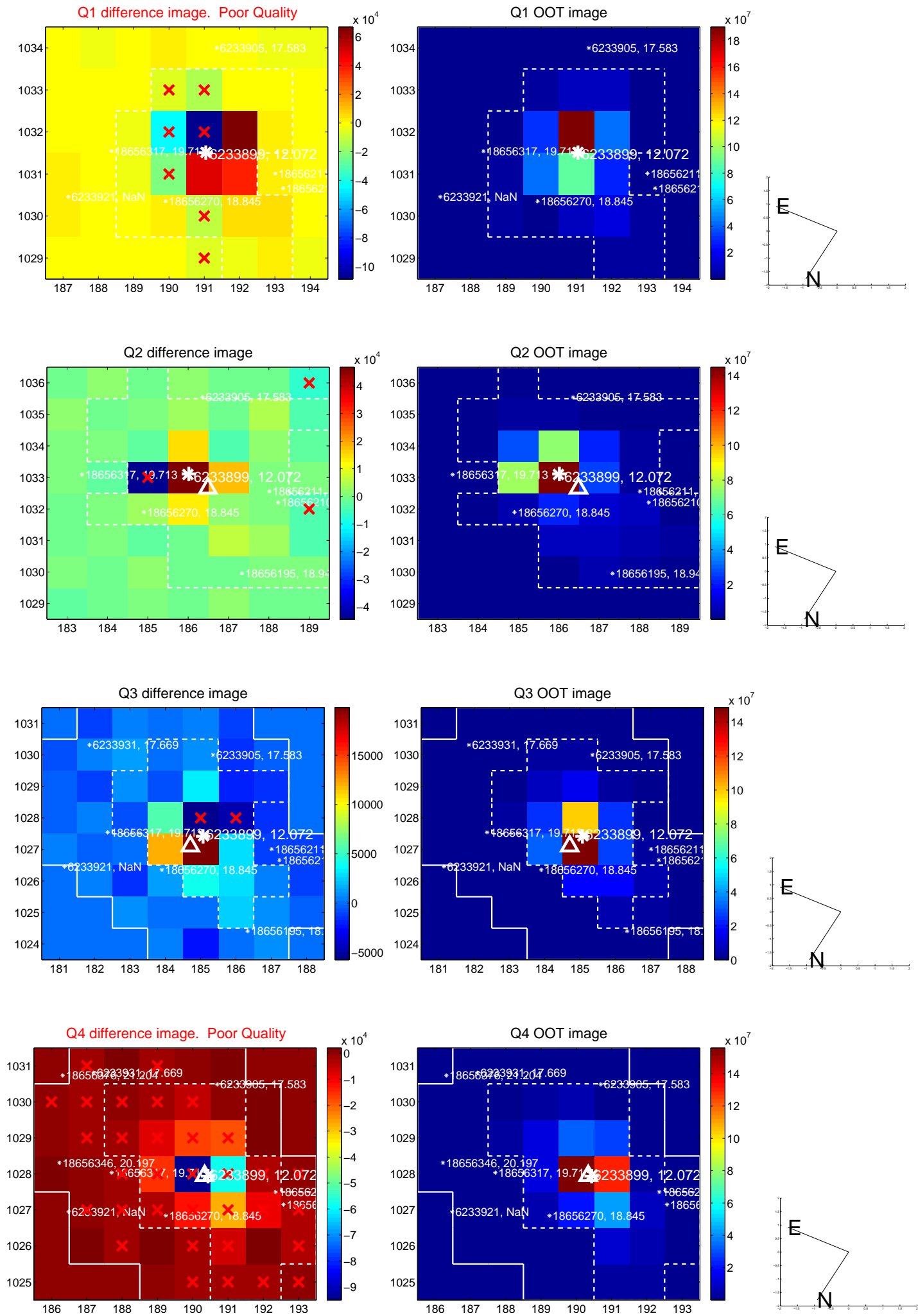
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.204 ± 0.609	0.34	0.122 ± 0.535	-0.164 ± 0.646
PRF-fit source offset from KIC position	0.173 ± 0.600	0.29	0.114 ± 0.535	-0.130 ± 0.646
photometric centroid source offset	0.96 ± 0.47	2.04	0.66 ± 0.54	0.70 ± 0.40

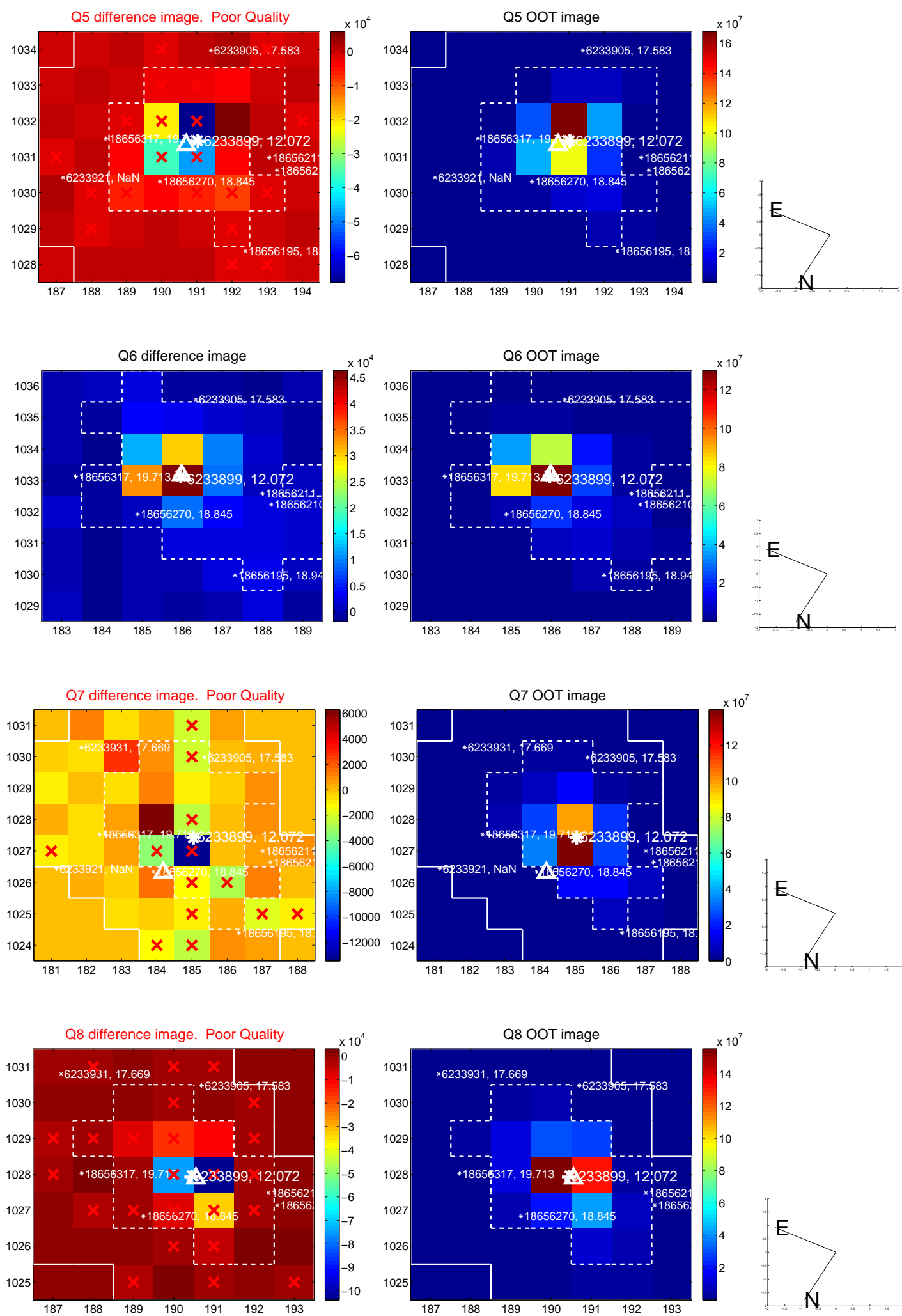


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

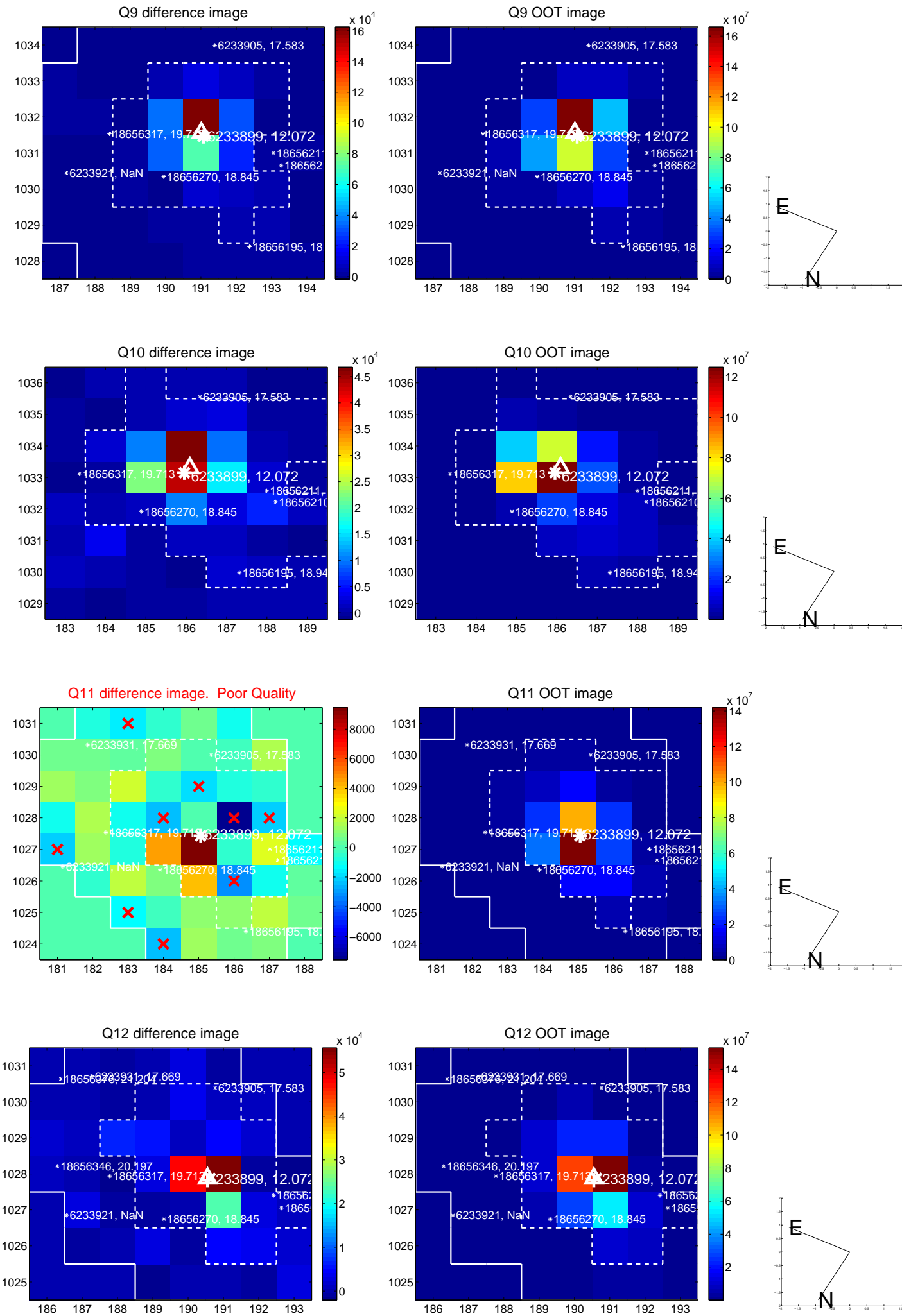
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



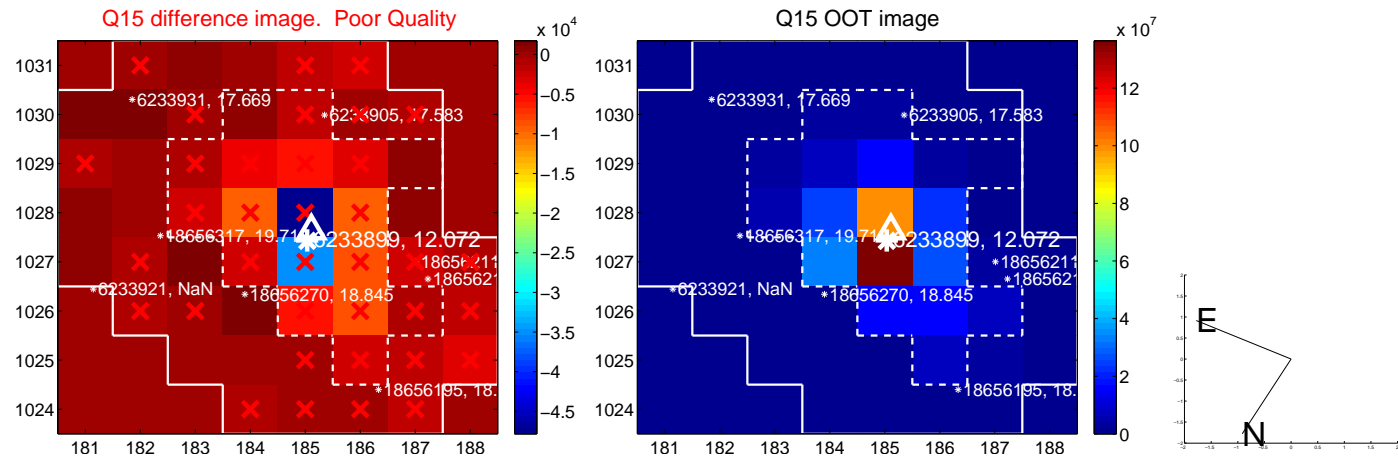
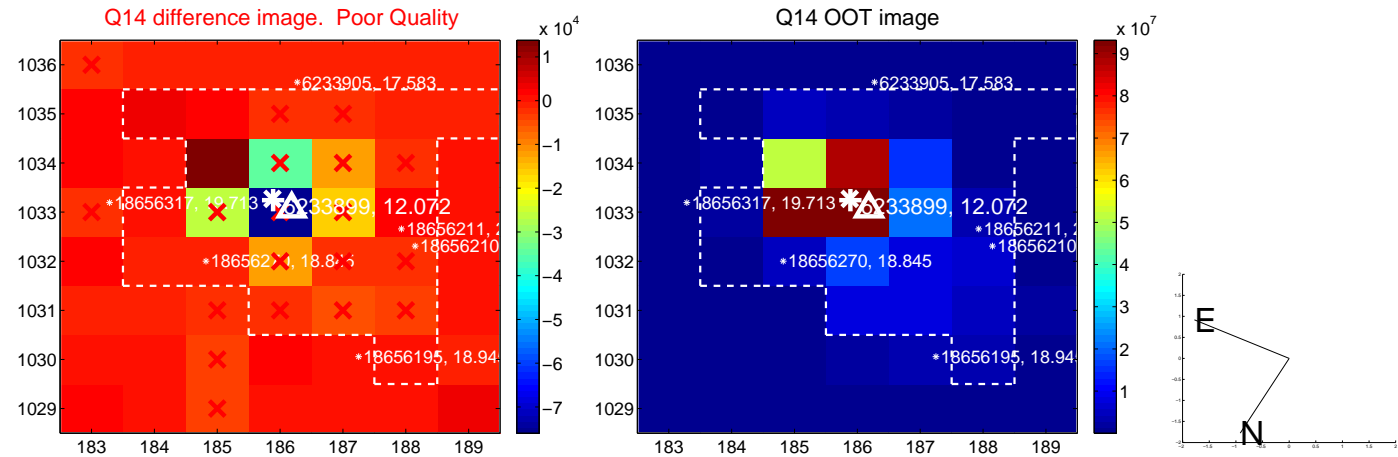
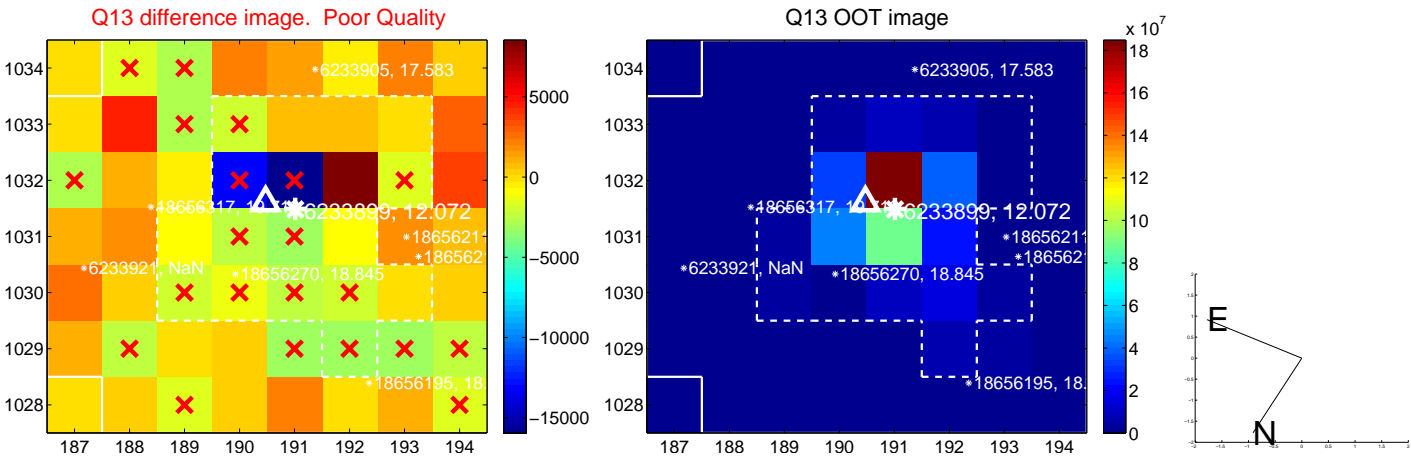
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



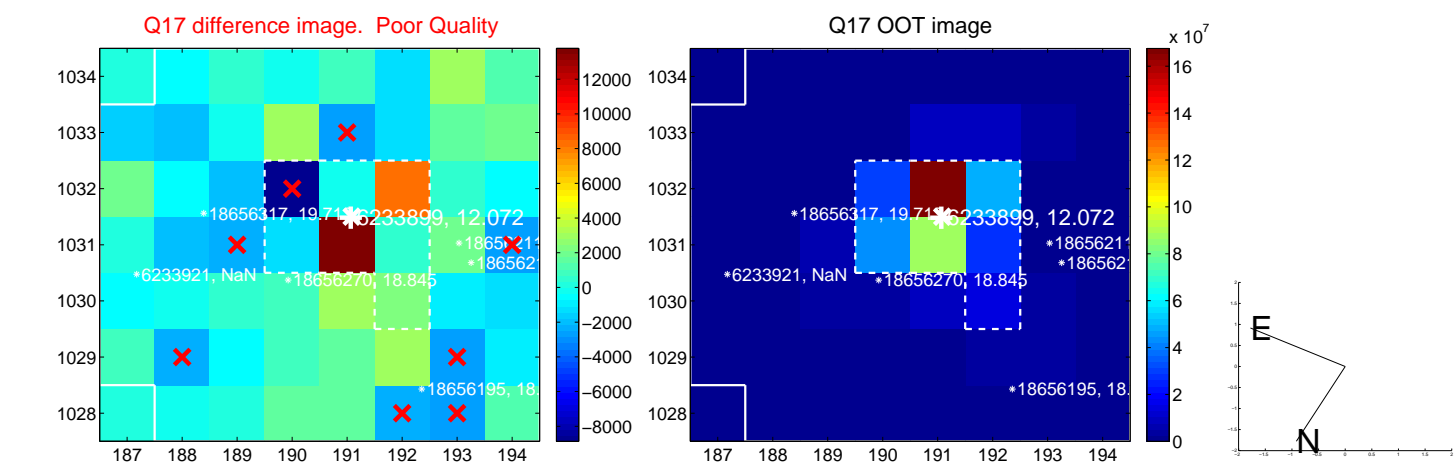
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



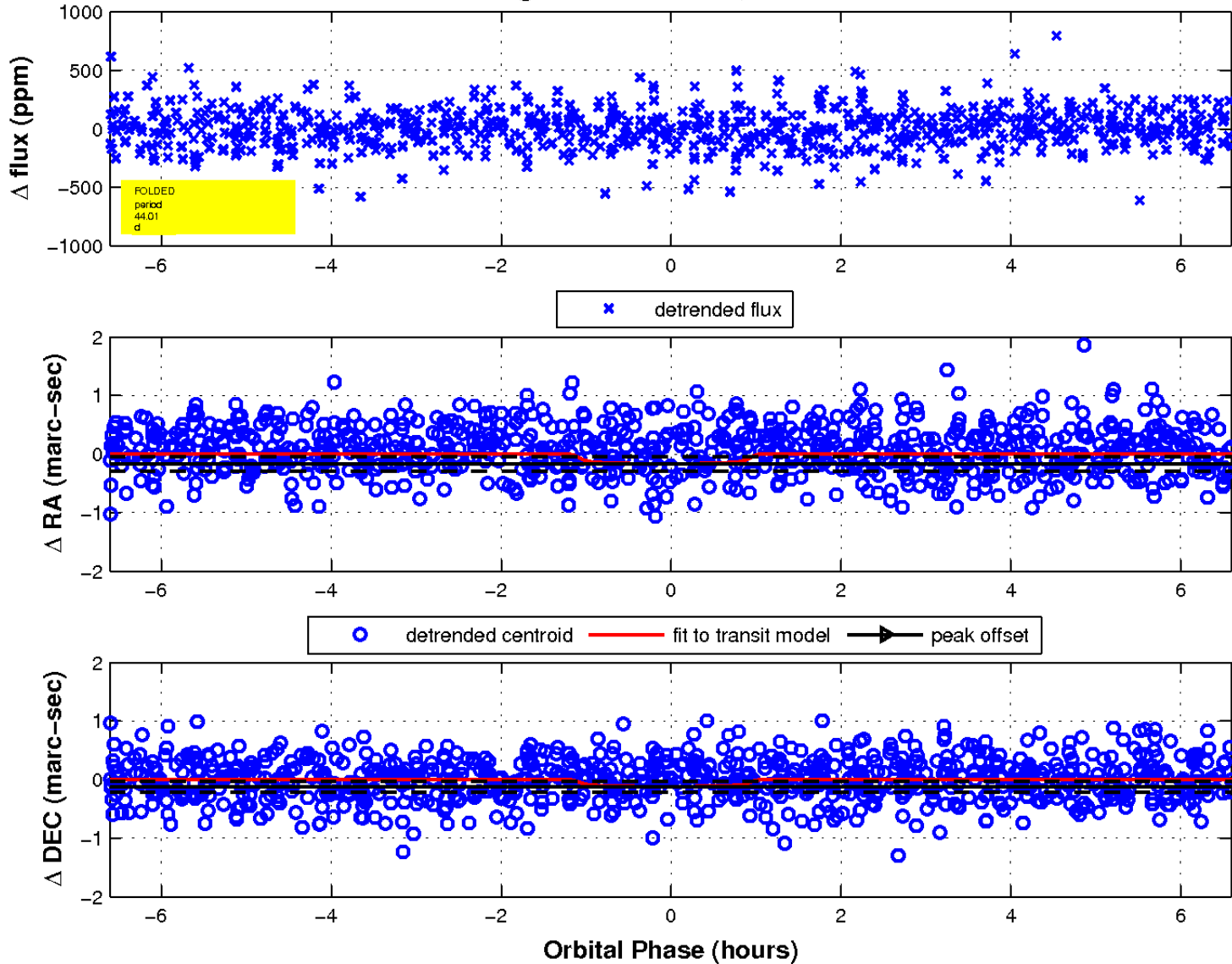
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

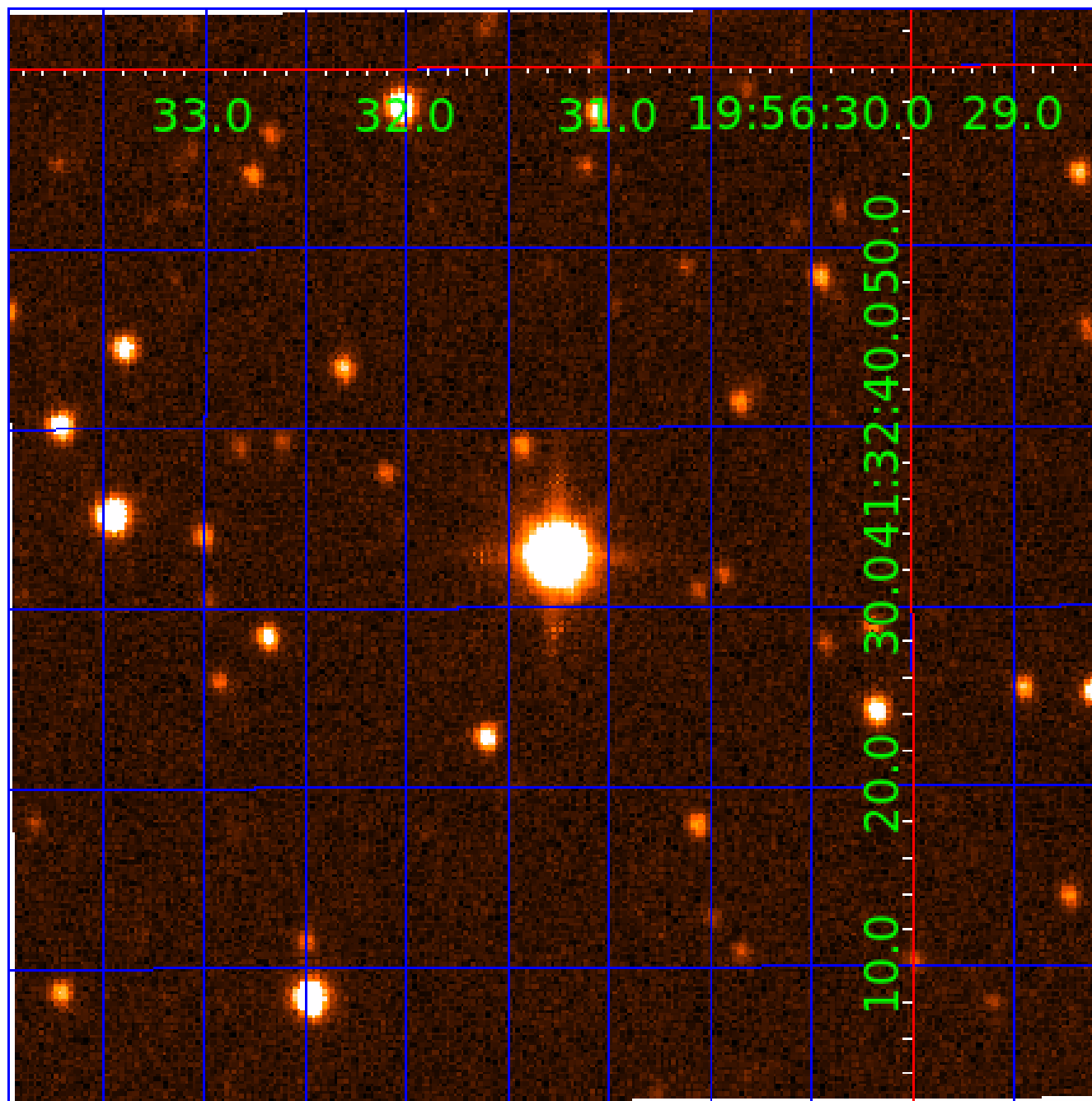


fluxWeightedCentroids, Planet 2 of 8



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

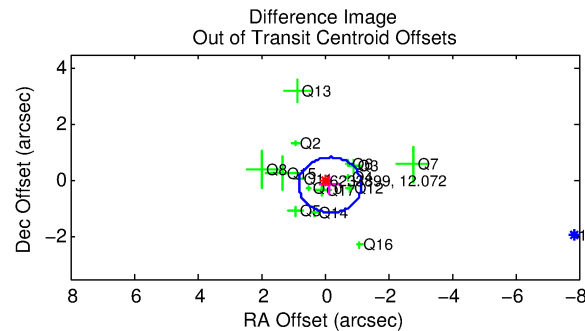
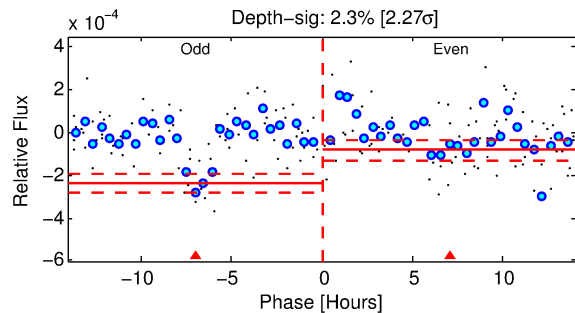
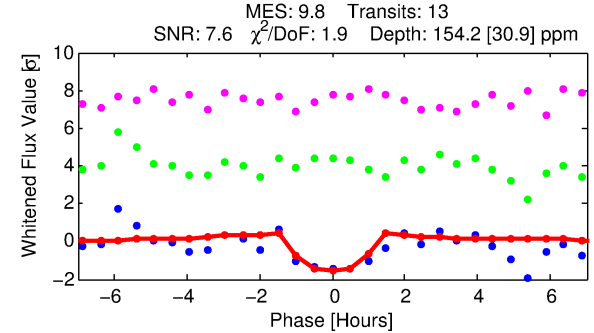
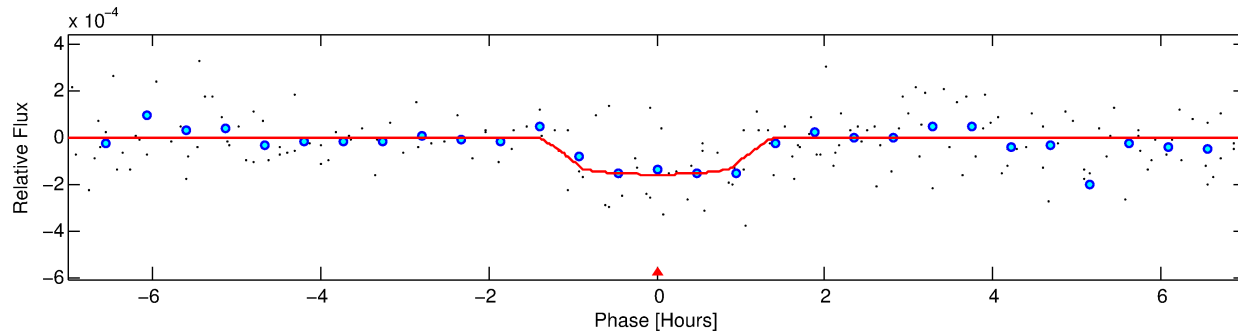
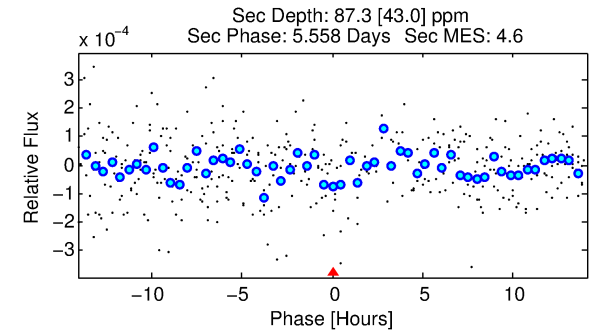
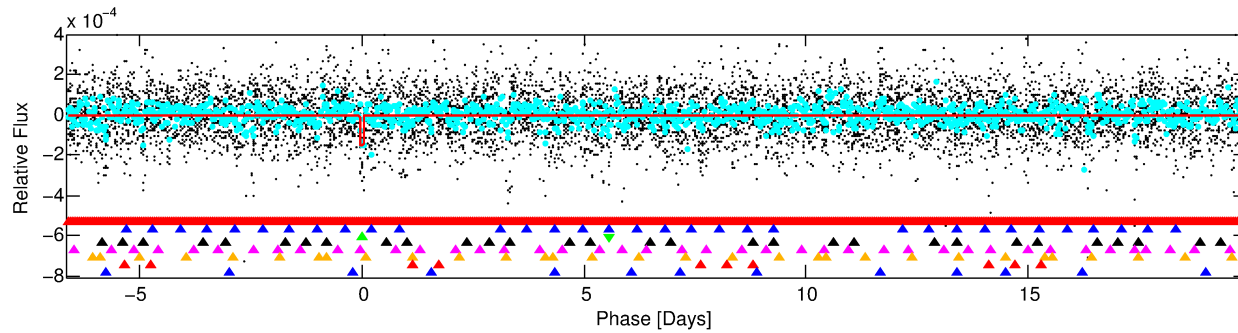
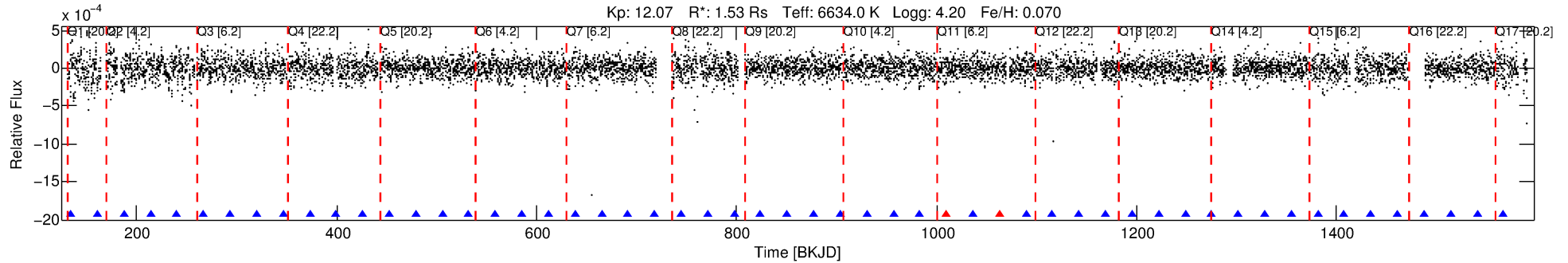
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-03

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 3 of 8 Period: 26.531 d



DV Fit Results:

Period = 26.53083 [0.00033] d
Epoch = 134.4307 [0.0081] BKJD
Rp/R* = 0.0124 [0.0130]
a/R* = 58.45 [332.72]
b = 0.76 [3.27]
Seff = 109.42 [44.21]
Teff = 825 [83] K
p = 2.06 [2.26] Re
a = 0.1924 [0.0512] AU
Ag = 417.10 [909.96] [0.46σ]
Teffp = 5762 [3104] K [1.59σ]

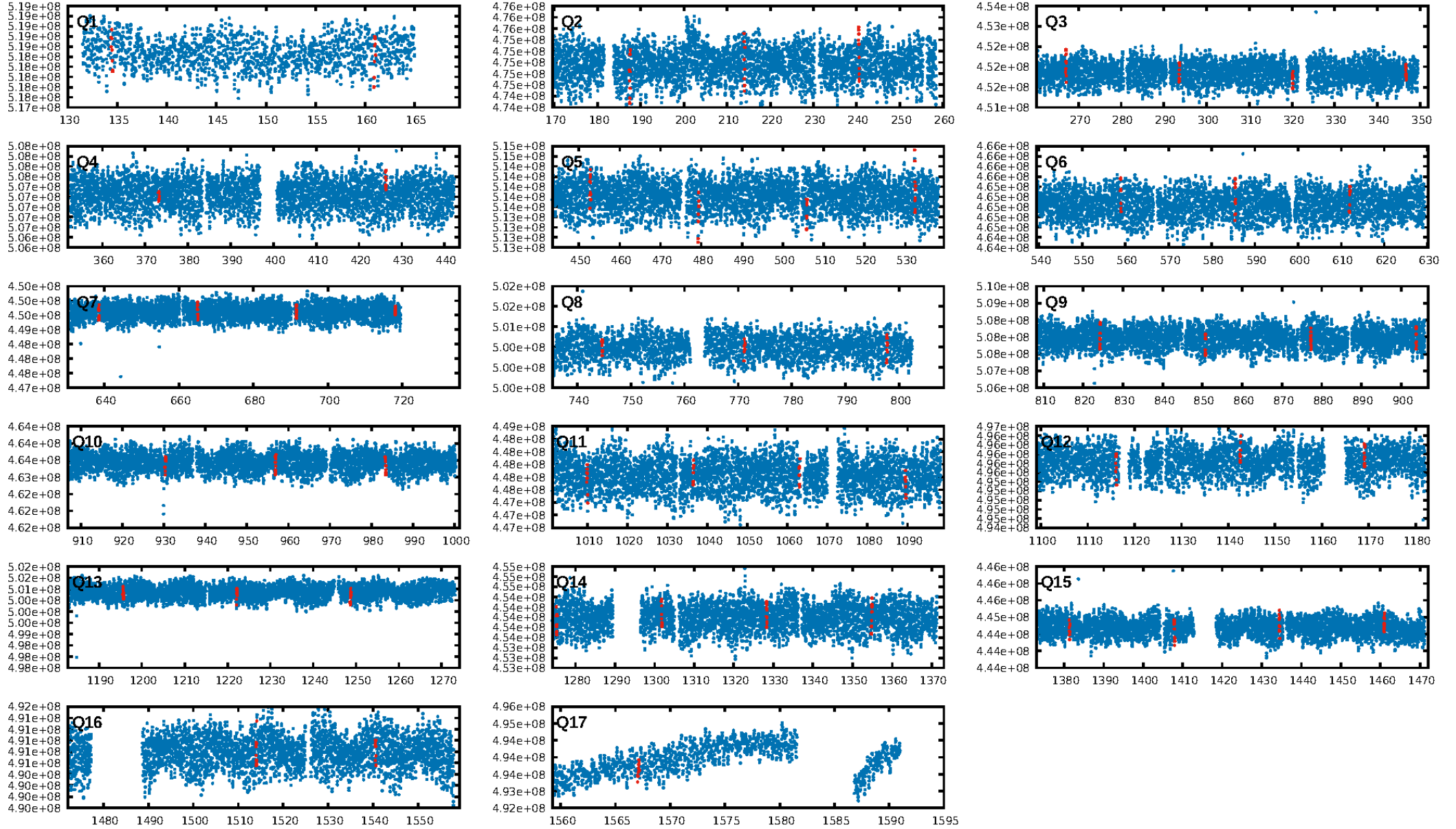
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [102.66σ]
LongPeriod-sig: 100.0% [68.88σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 96.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.82 [9/11]
GhostDiagnostic-chr: -0.0344
Centroid-sig: 0.0%
Centroid-so: 1.096 arcsec [2.63σ]
OotOffset-rm: 0.226 arcsec [0.69σ]
KicOffset-rm: 0.157 arcsec [0.54σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 0.12 [2/17]

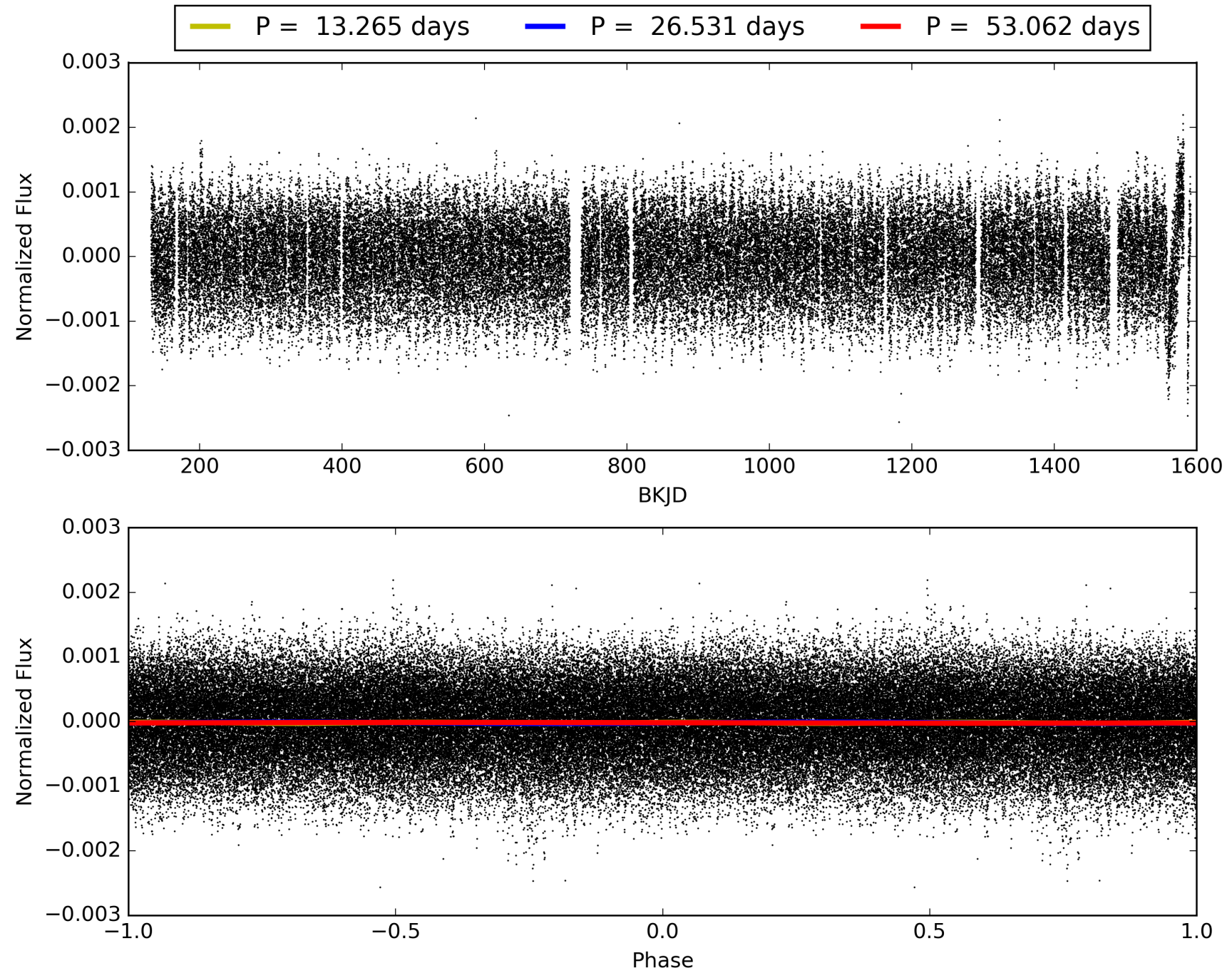
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:11 Z

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

TCE 006233899-03, PDC Light Curves

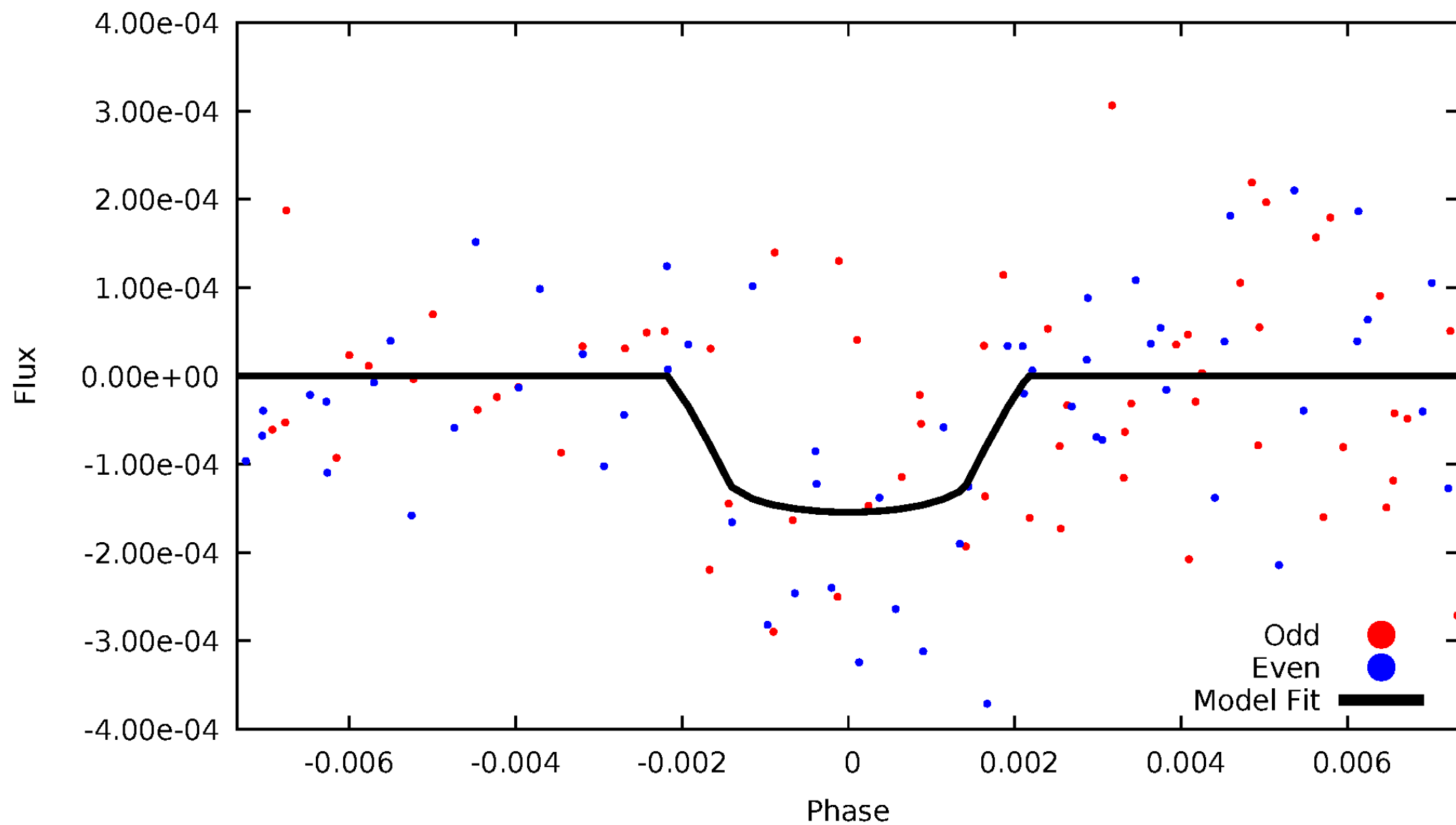


TCE 006233899-03



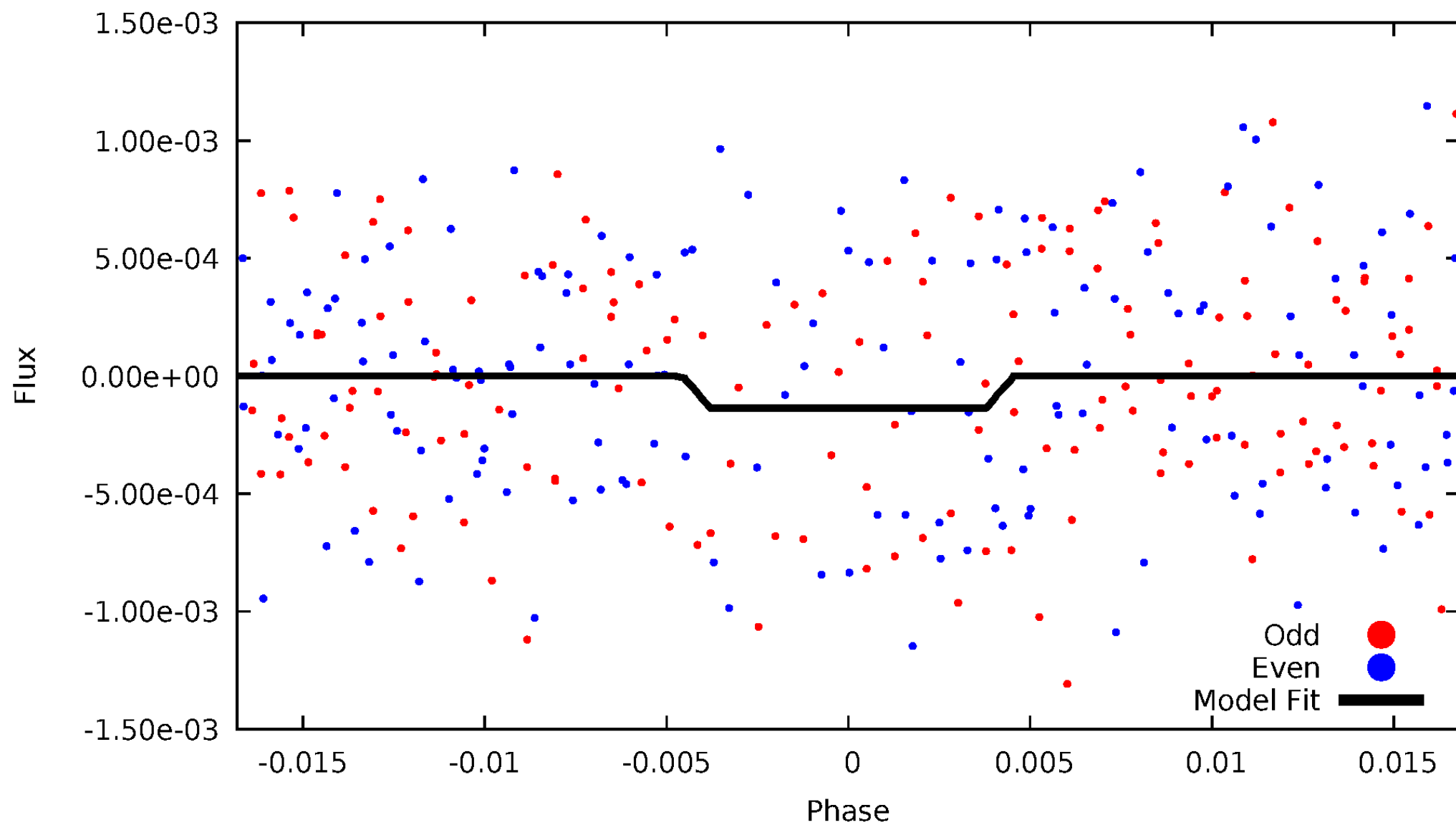
DV Odd/Even

TCE 006233899-03

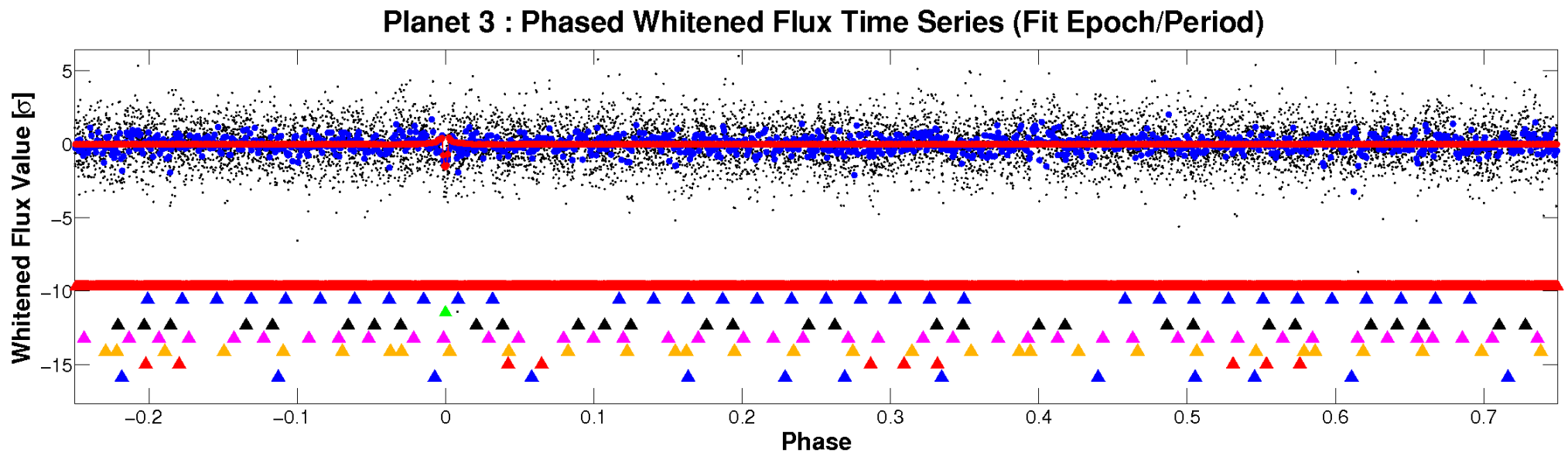
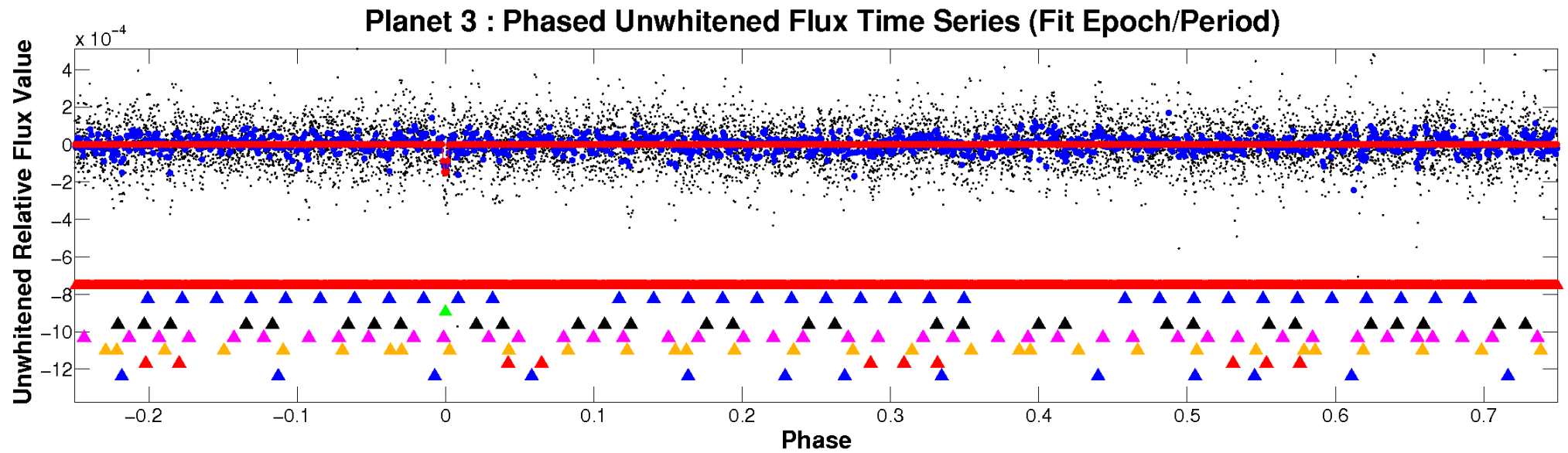


ALT Odd/Even

TCE 006233899-03

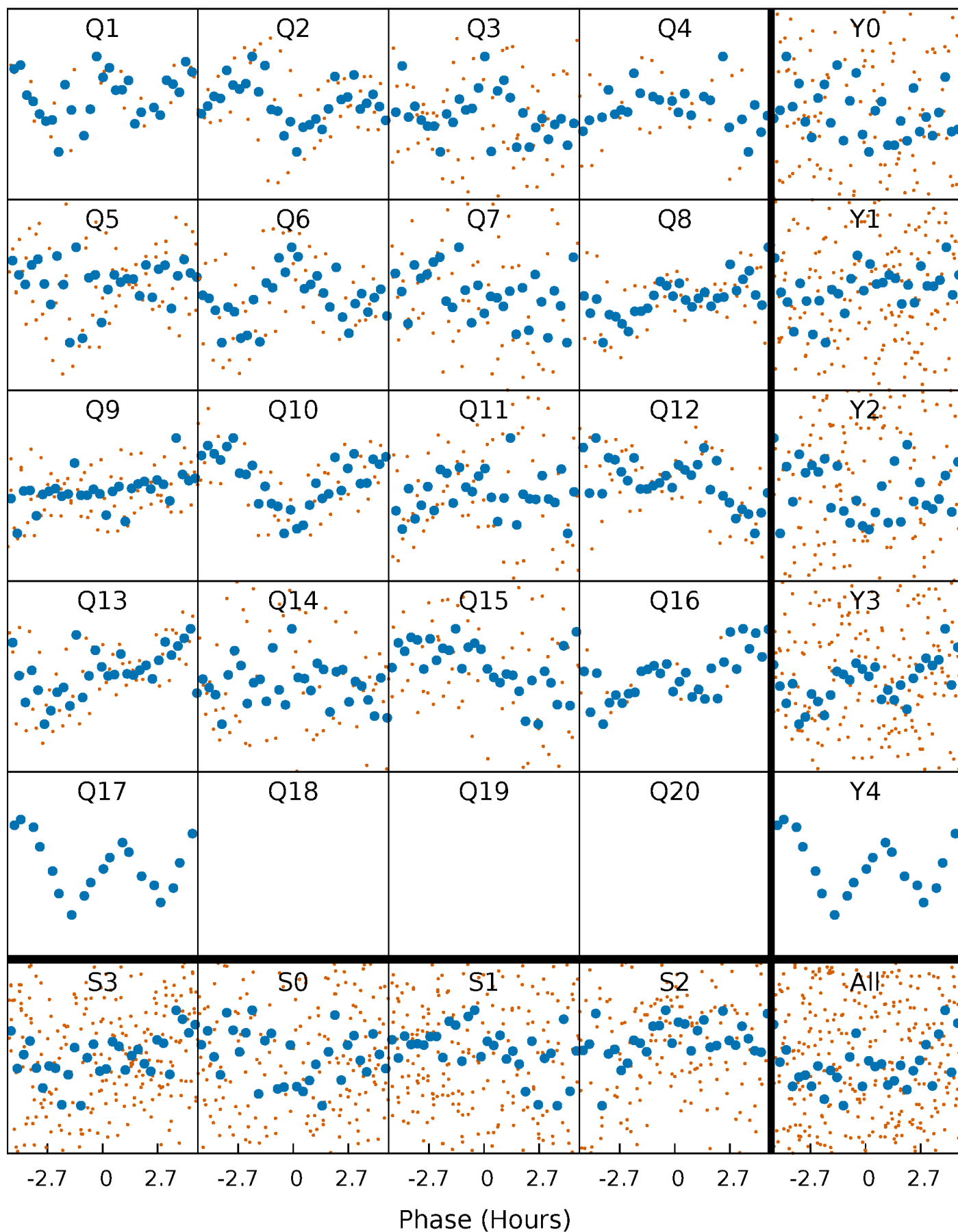


Non-Whitened Vs. Whitened Light Curve



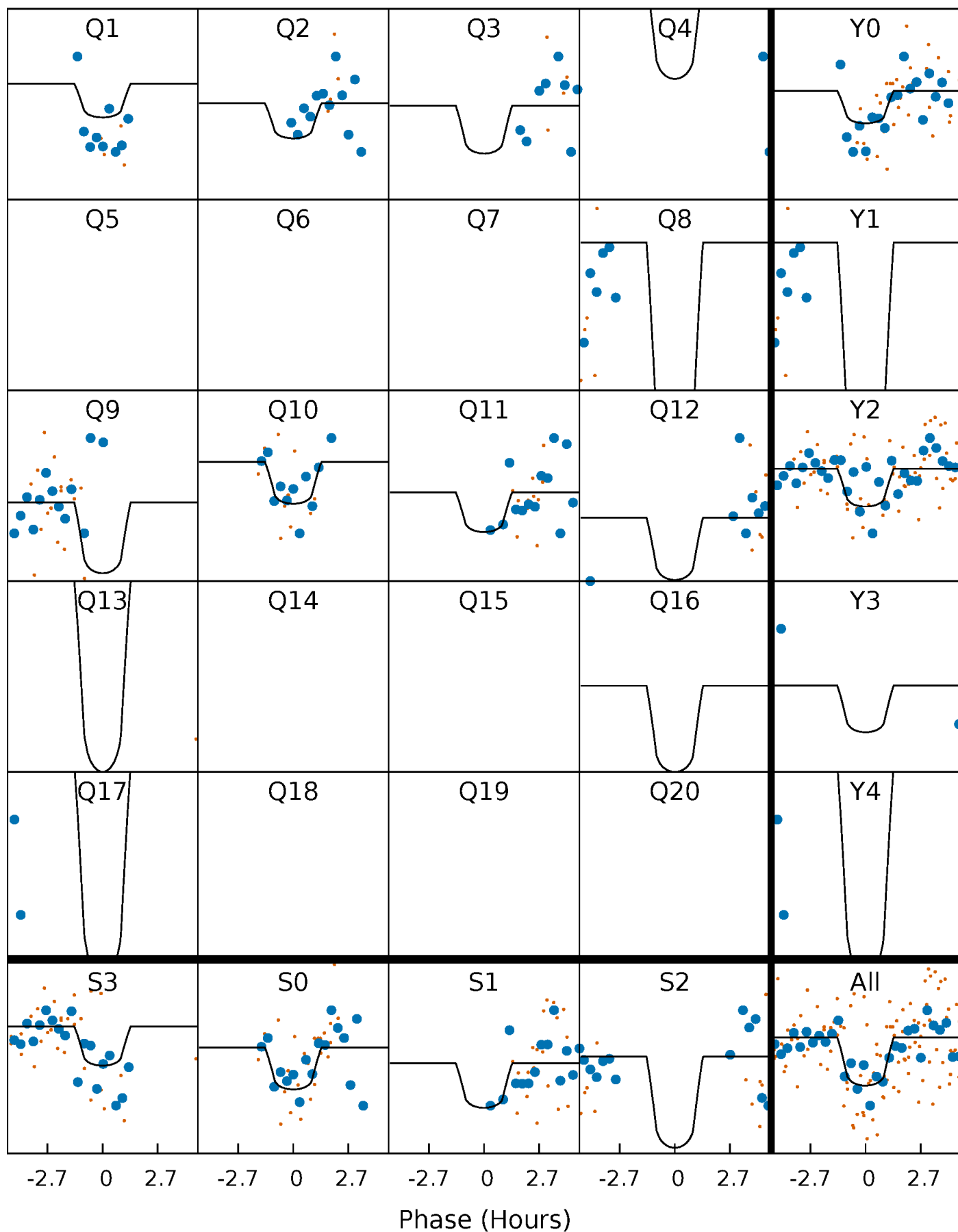
PDC Quarter-Phased Transit Curves

TCE 006233899-03 P= 26.530826 Days $T_0=134.430659$ (BKJD)



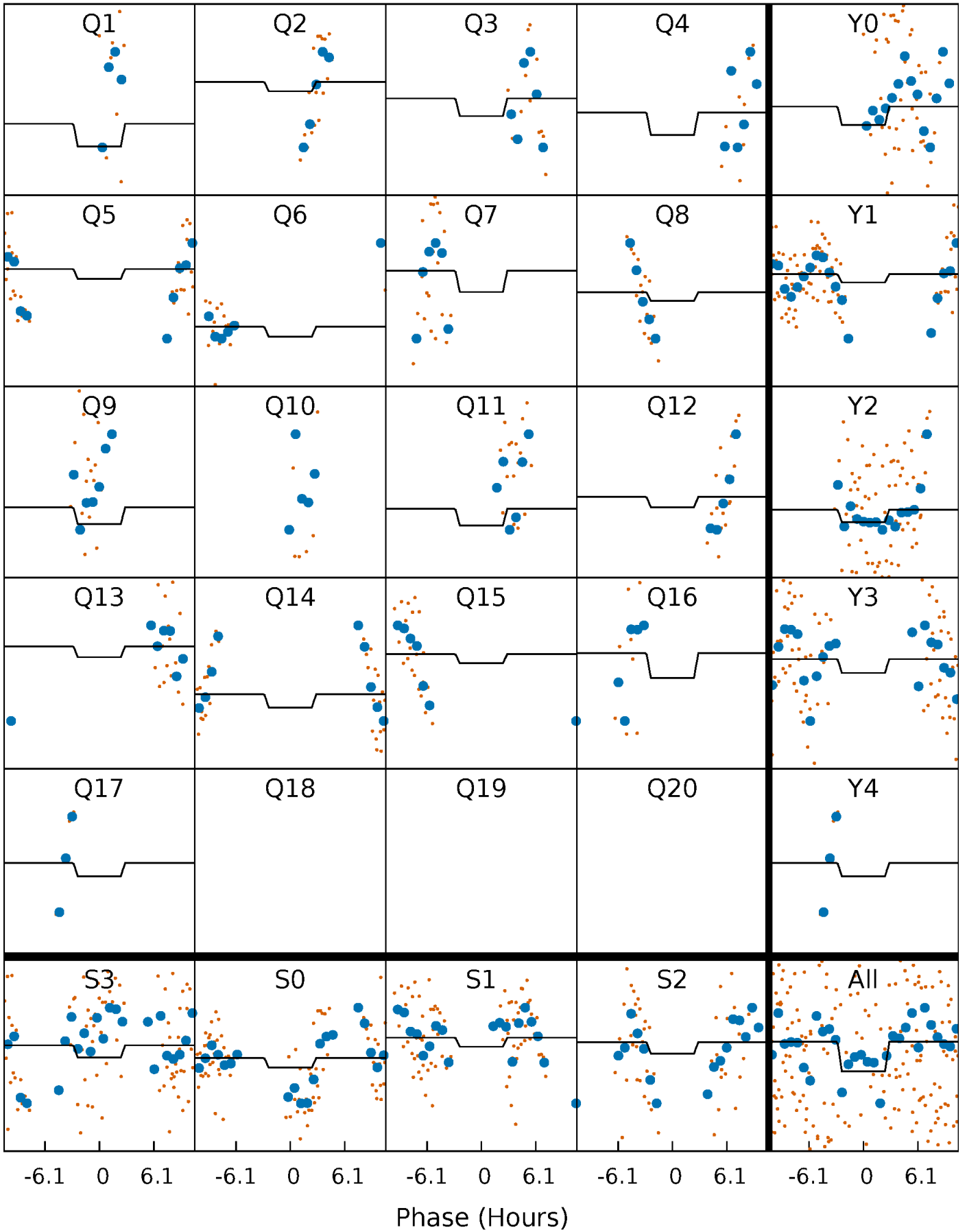
DV Quarter-Phased Transit Curves

TCE 006233899-03 P= 26.530826 Days $T_0=134.430659$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

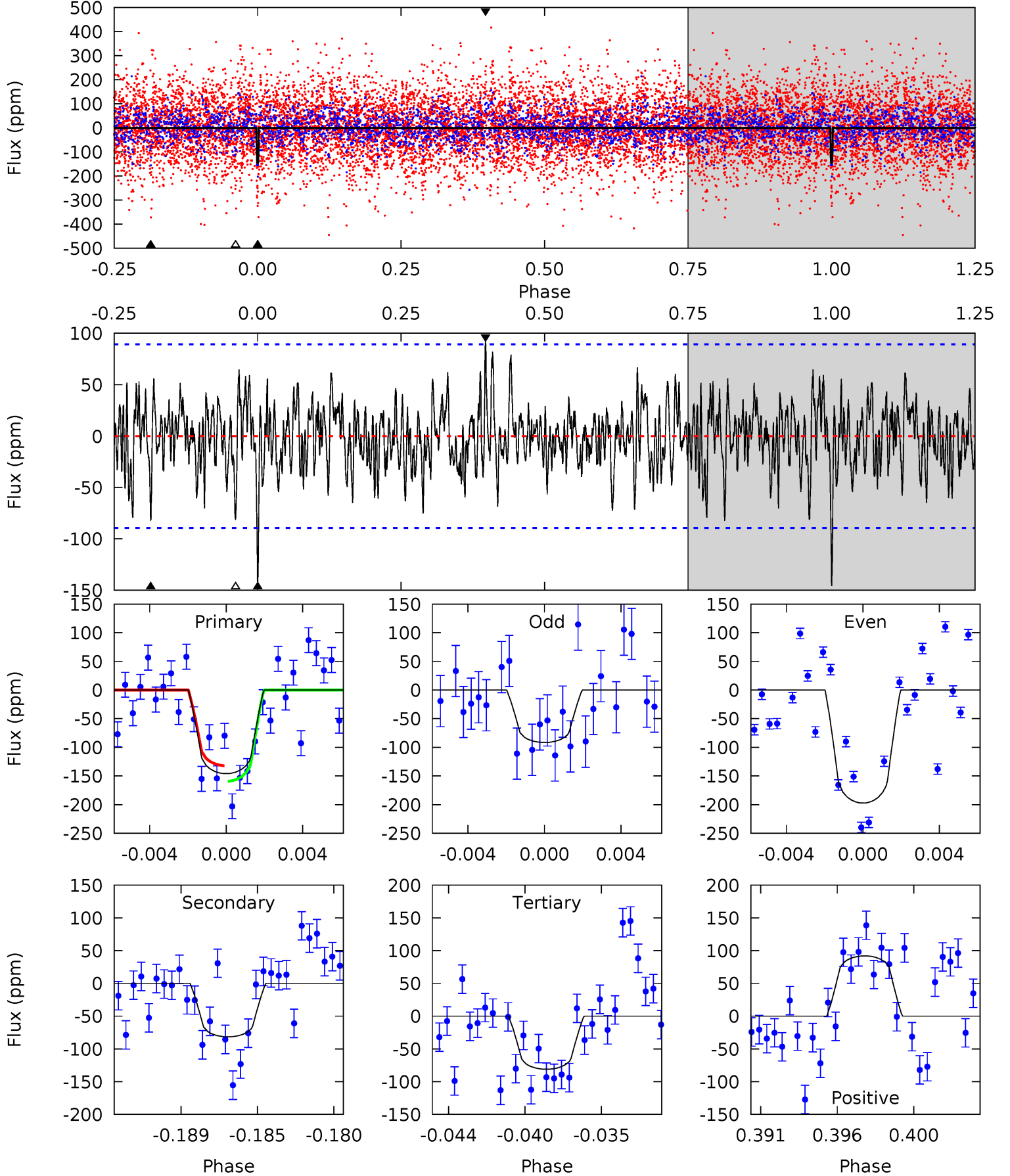
TCE 006233899-03 P= 26.531031 Days $T_0=134.372757$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-03, P = 26.530826 Days, E = 107.899833 Days

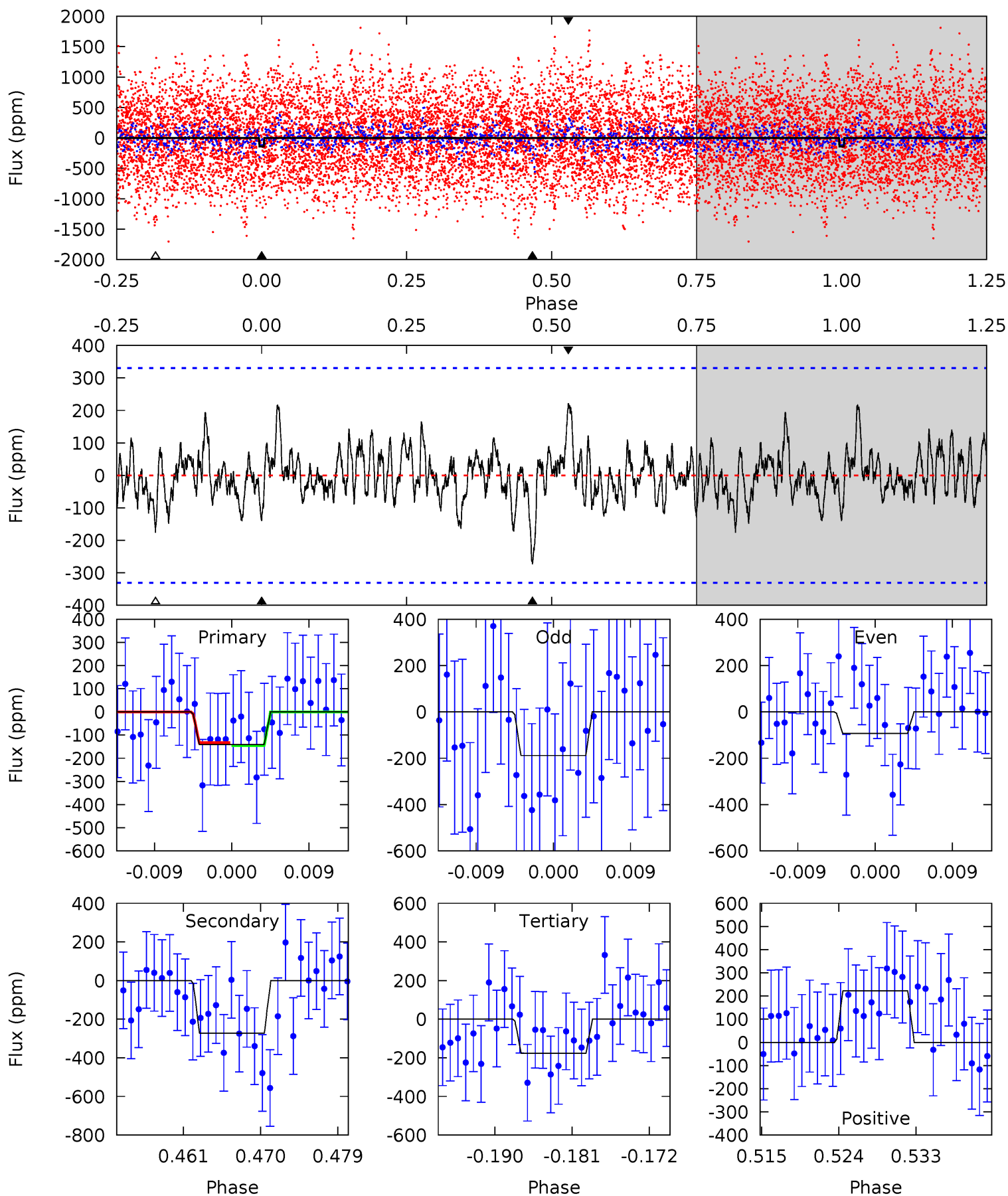
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	4.73	4.70	5.34	5.18	2.85	1.55	3.76	3.13	0.03	-0.60	3.16	1.31	0.39	0.79



Alt Model-Shift Uniqueness Test

006233899-03, P = 26.531031 Days, E = 107.841726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.14	4.17	2.69	3.39	5.05	2.61	0.93	-0.55	-1.24	1.48	0.78	0.73	2.13	0.45	0.09



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-82 ± 17	$2.44^{+2.02}_{-1.54}$	1159^{+95}_{-72}	5299^{+3898}_{-1164}	270^{+1878}_{-190}
Alt.	-273 ± 66	$2.52^{+2.04}_{-1.59}$	1164^{+90}_{-78}	7052^{+6928}_{-1862}	865^{+5495}_{-615}

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 $A_{obs} \gg 1.0$

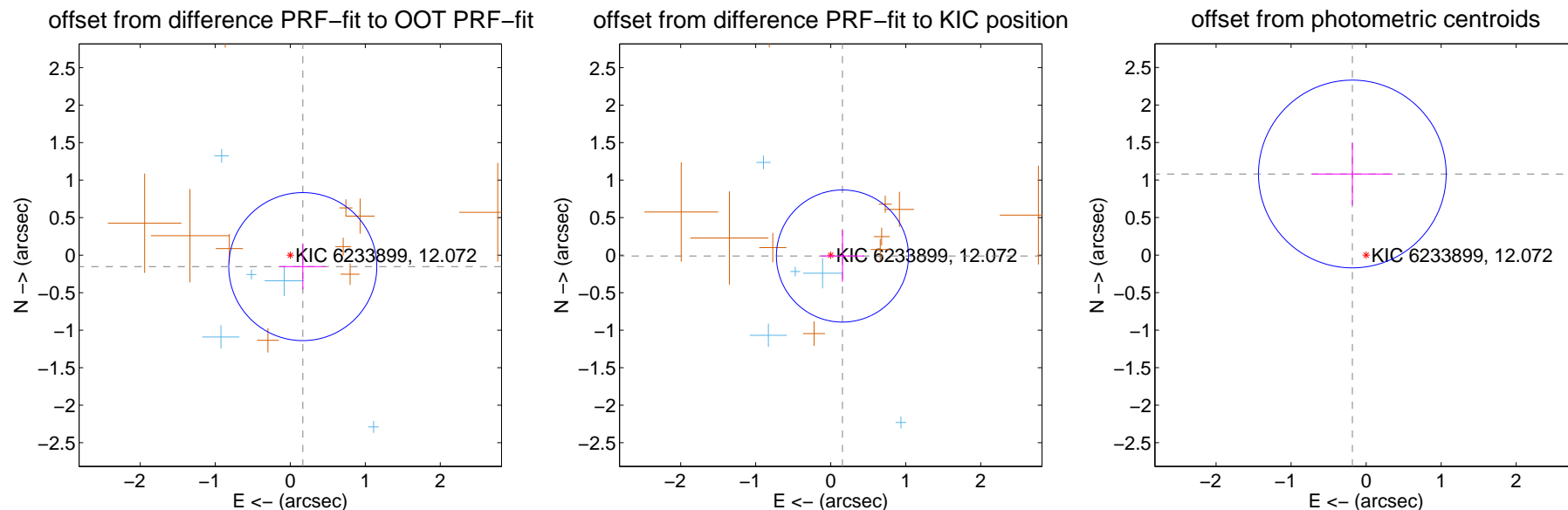
DV Centroid Data

Supplemental centroid analysis for 006233899-03. Kepler magnitude: 12.07. Transit SNR 7.61

There are 5 quarters with good PRF difference image offsets

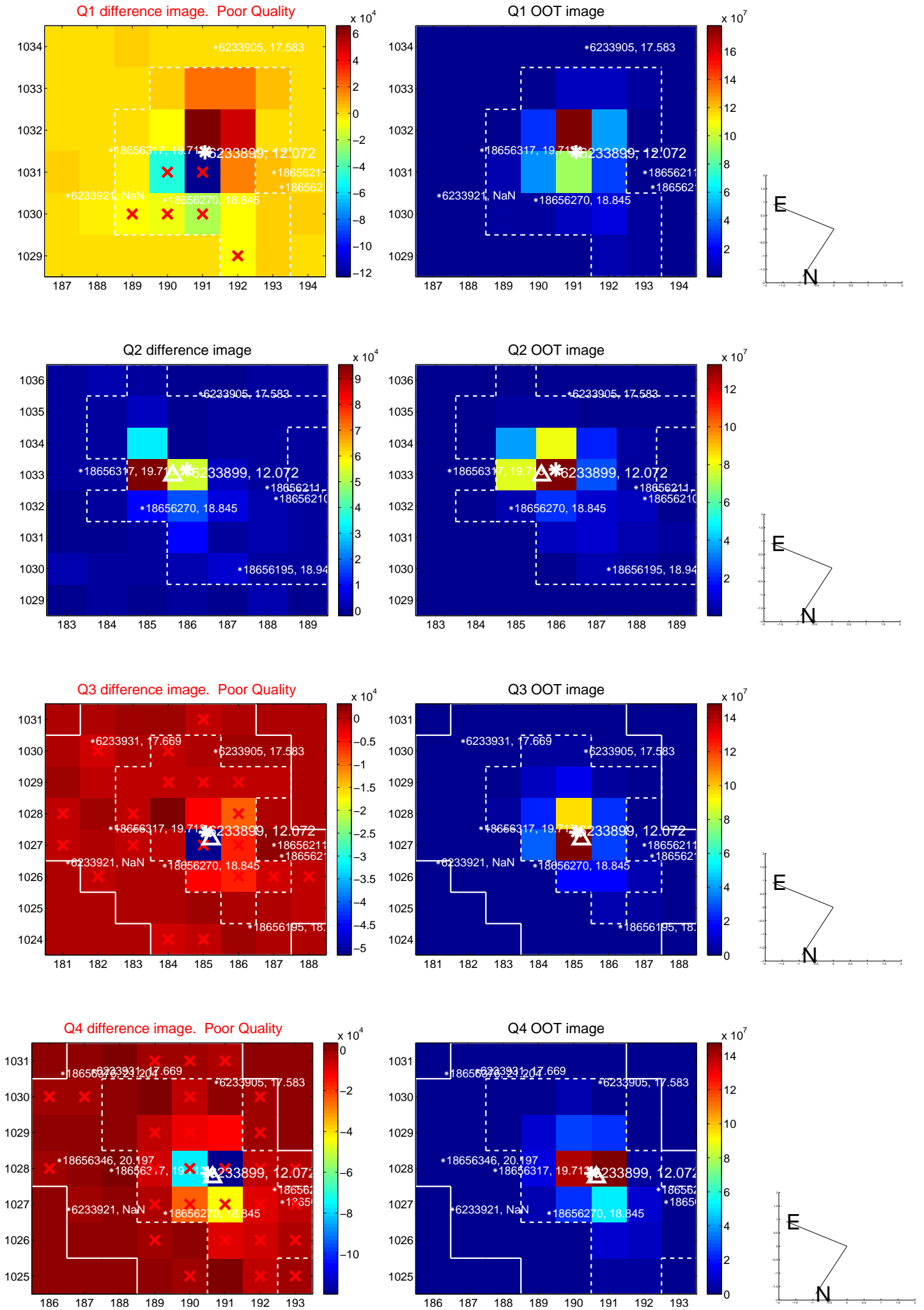
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.226 ± 0.329	0.69	-0.167 ± 0.308	-0.153 ± 0.303
PRF-fit source offset from KIC position	0.157 ± 0.294	0.54	-0.157 ± 0.289	-0.012 ± 0.344
photometric centroid source offset	1.10 ± 0.42	2.63	0.18 ± 0.54	1.08 ± 0.41

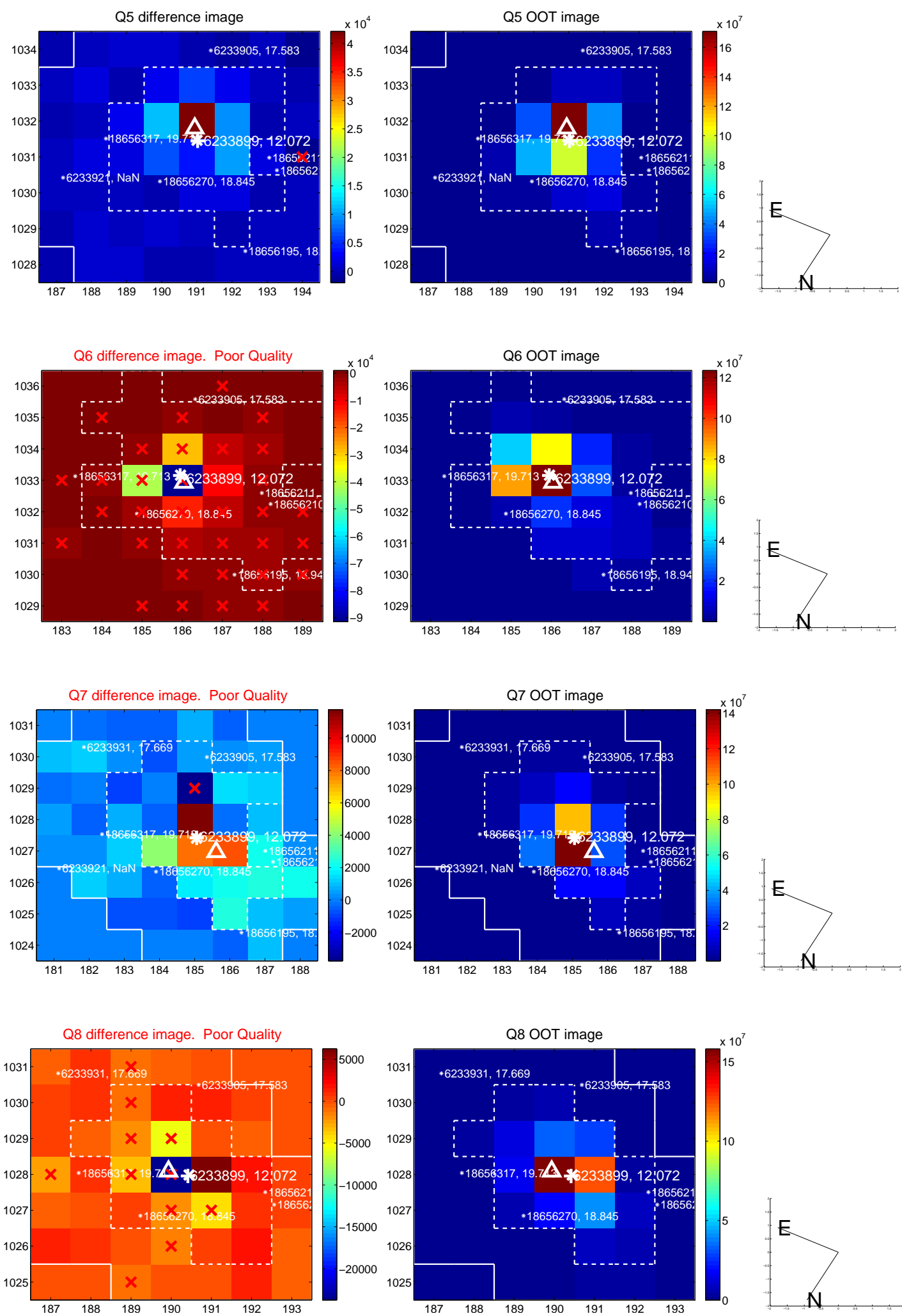


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

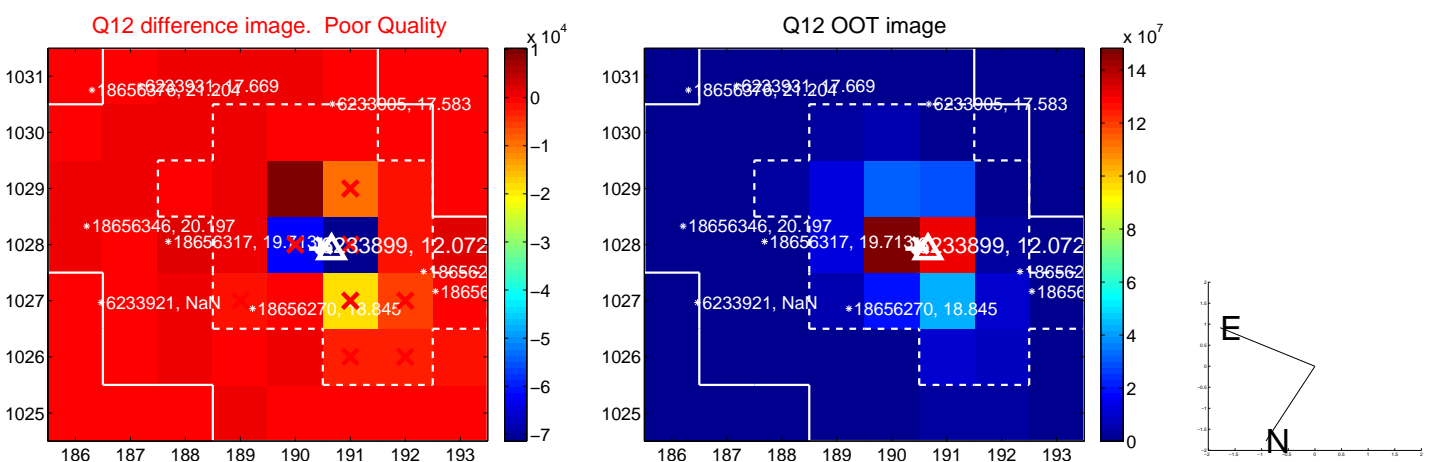
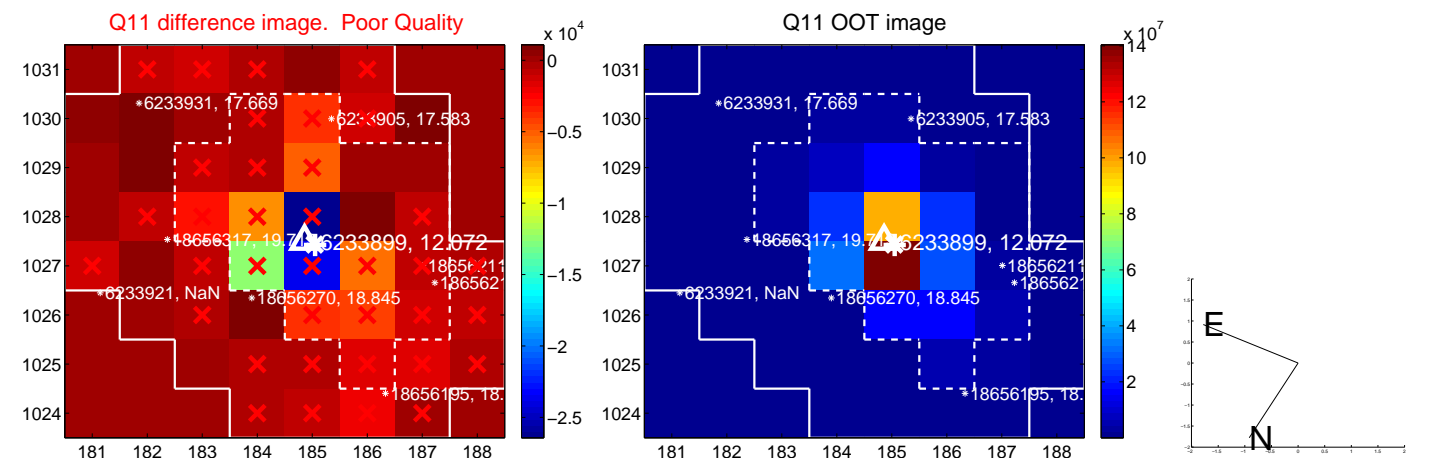
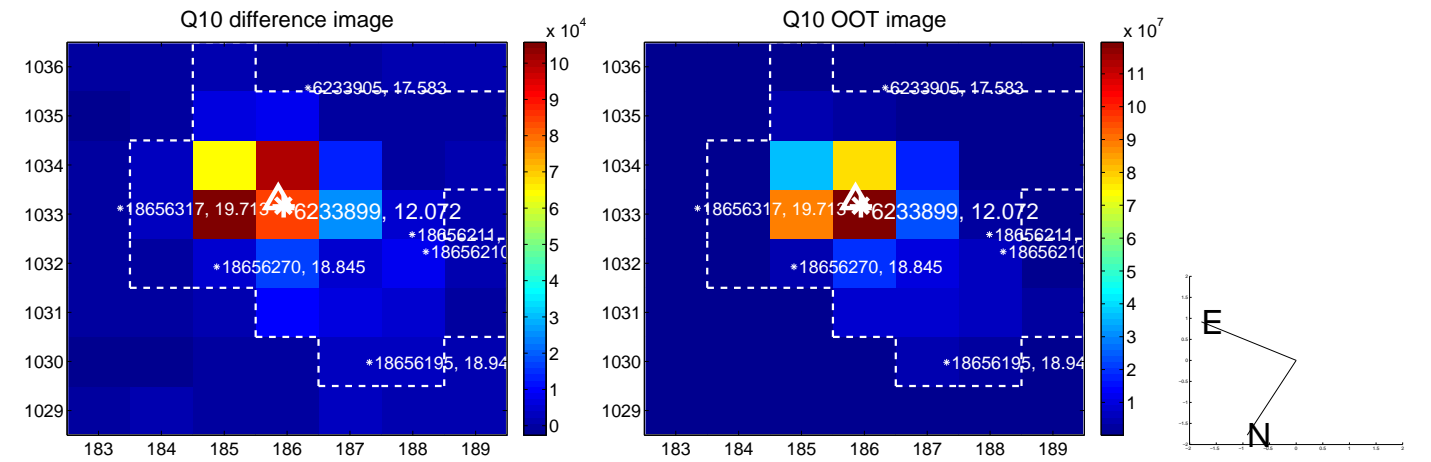
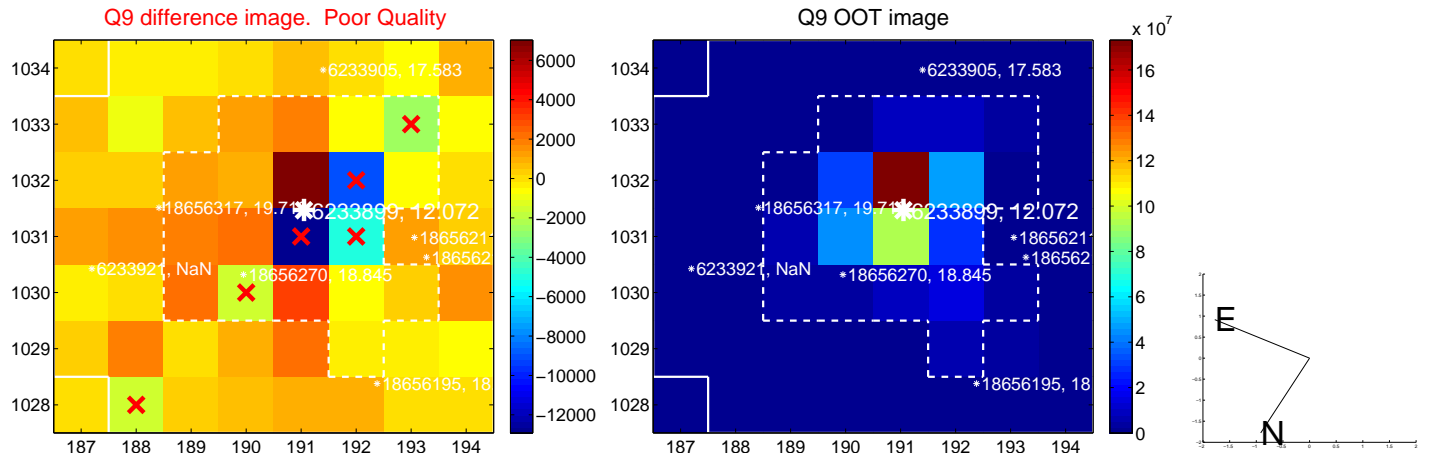
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

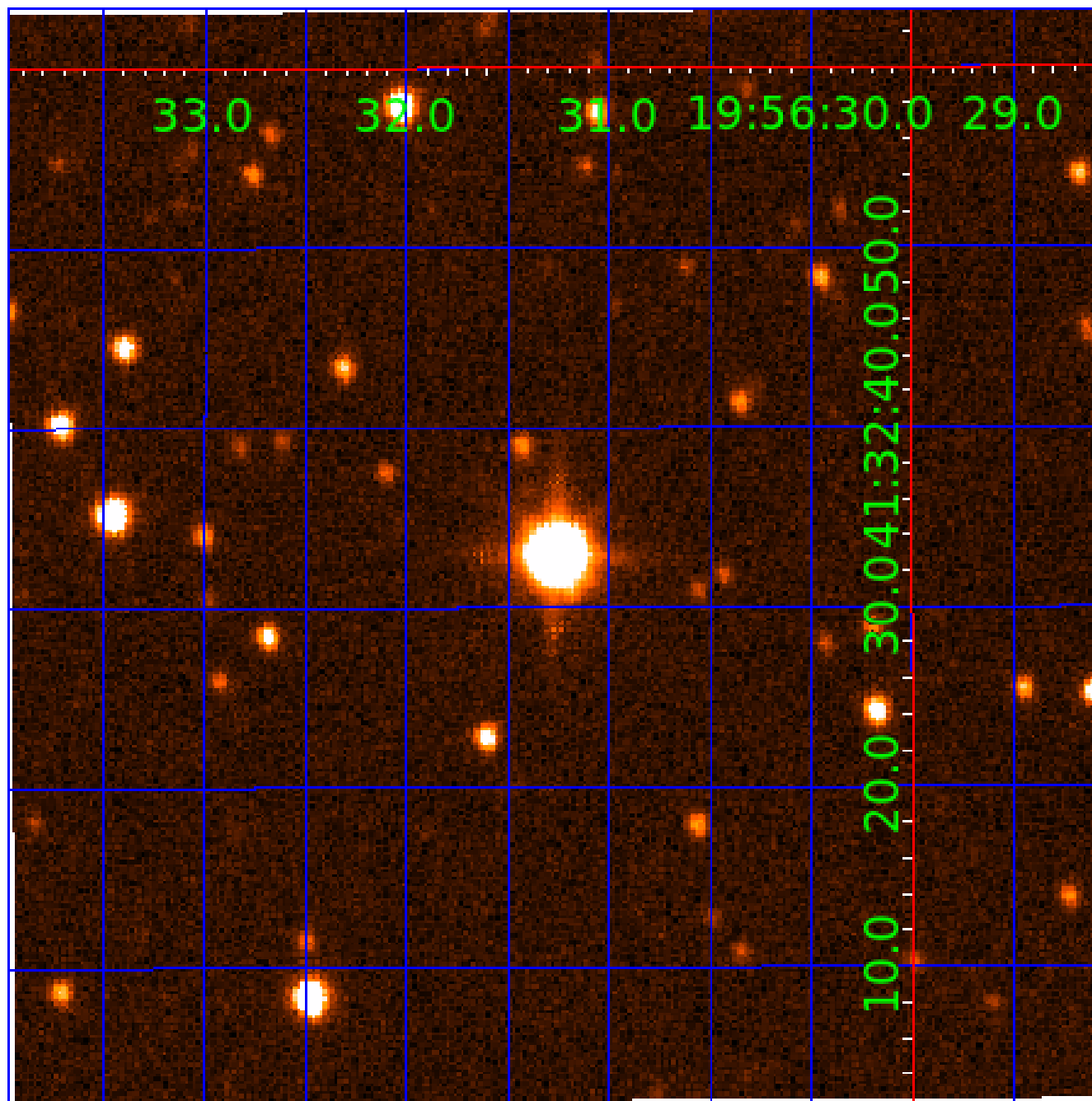


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

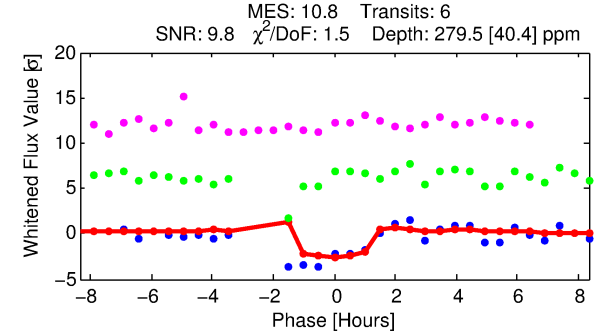
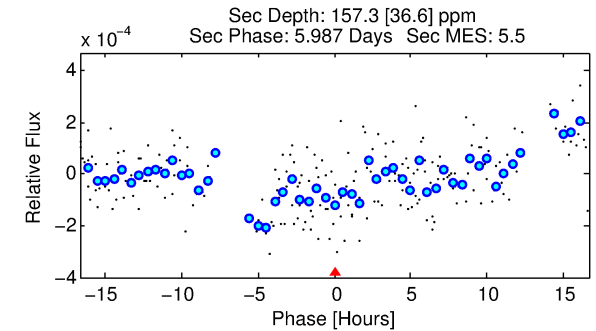
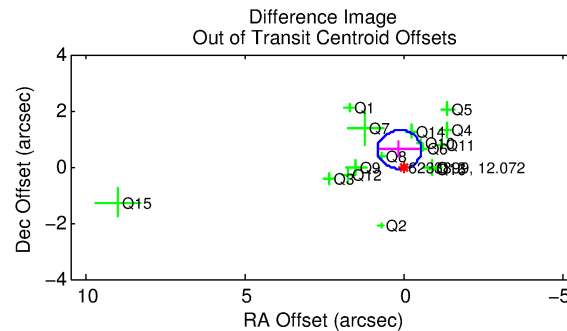
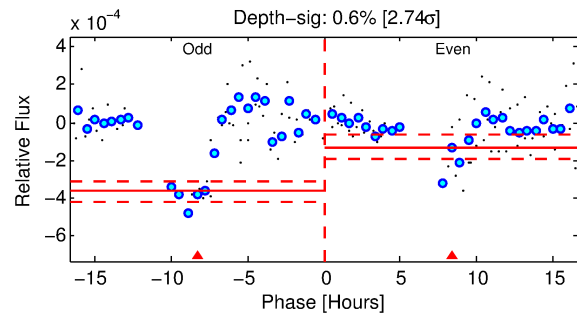
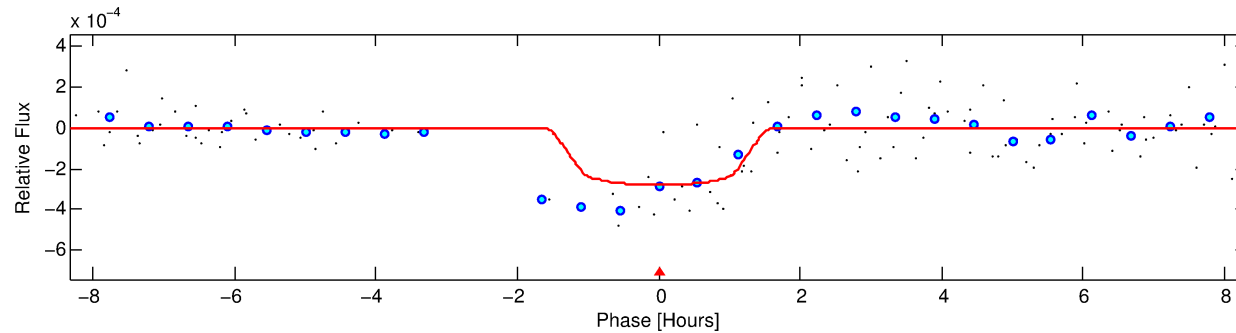
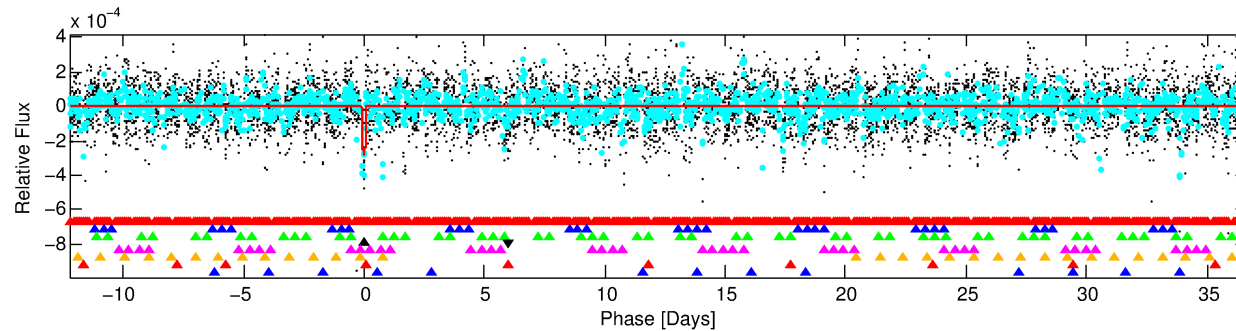
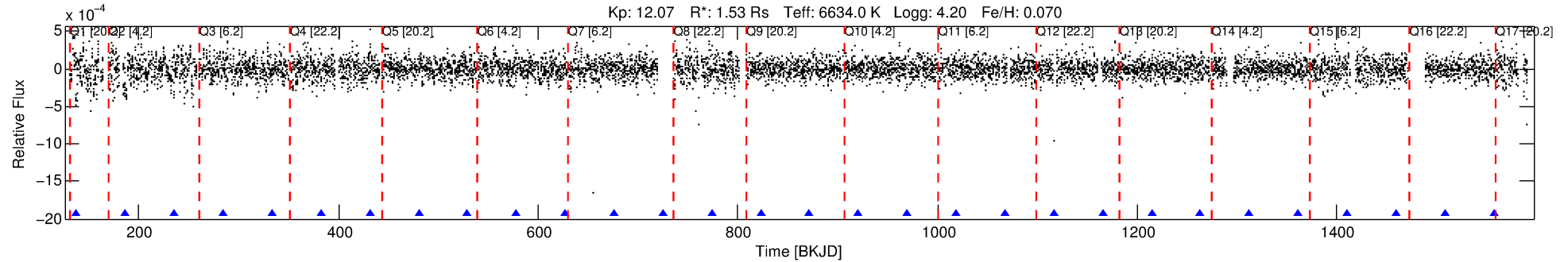
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-04

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 4 of 8 Period: 48.944 d



DV Fit Results:

Period = 48.94384 [0.00252] d
Epoch = 137.7472 [0.0069] BKJD
Rp/R* = 0.0172 [0.0128]
a/R* = 77.74 [318.41]
b = 0.84 [1.48]
Seff = 48.36 [19.54]
Teff = 672 [68] K
Rp = 2.87 [2.34] Re
a = 0.2895 [0.0770] AU
Ag = 879.40 [1366.25] [0.64 σ]
Teffp = 5662 [2145] K [2.32 σ]

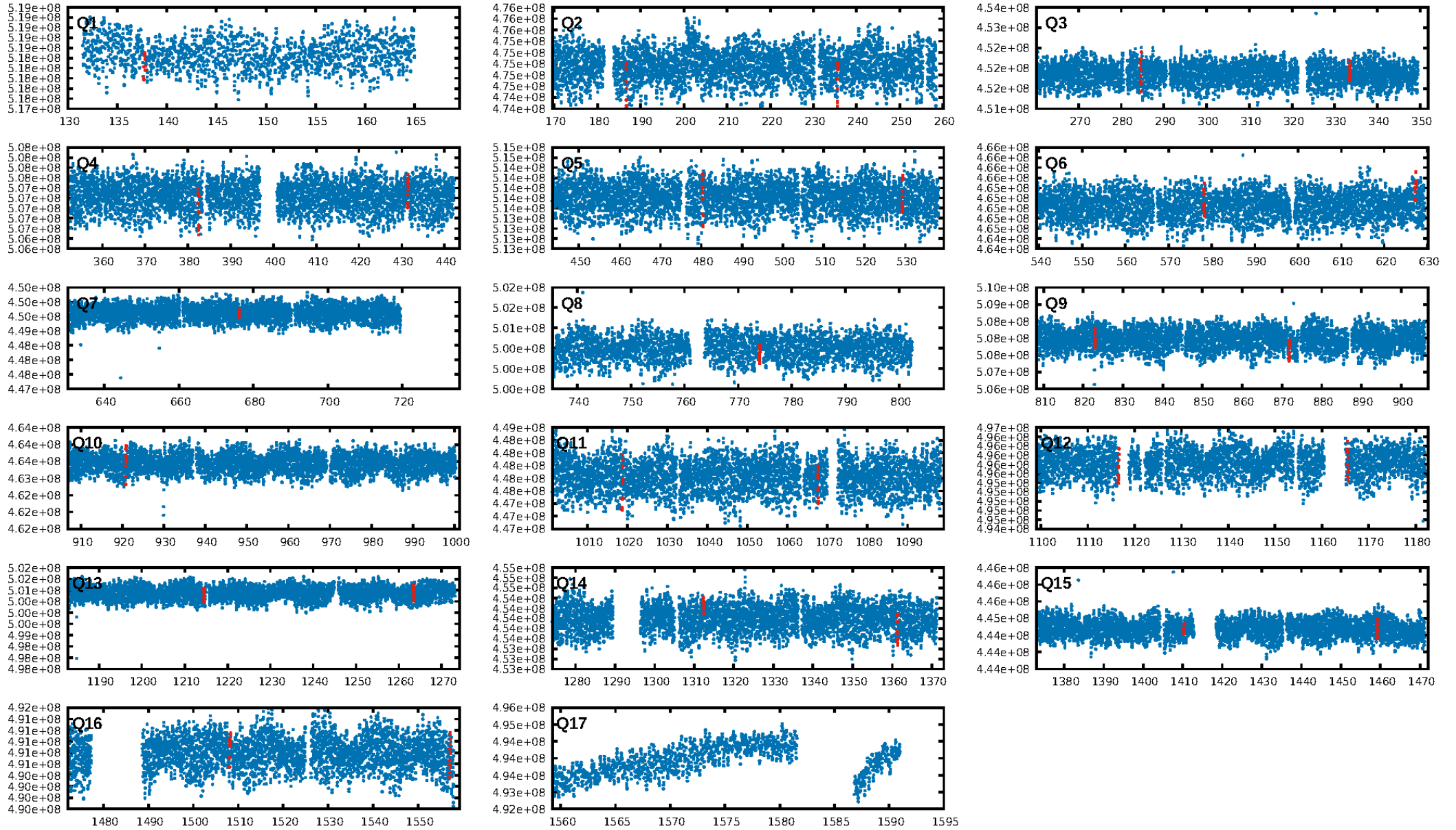
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.24 σ]
LongPeriod-sig: 100.0% [458.39 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 95.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.17
Centroid-sig: 6.8%
Centroid-so: 0.249 arcsec [0.77 σ]
OotOffset-rm: 0.622 arcsec [2.71 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-rm: 0.719 arcsec [3.11 σ]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 0.00 [0/16]

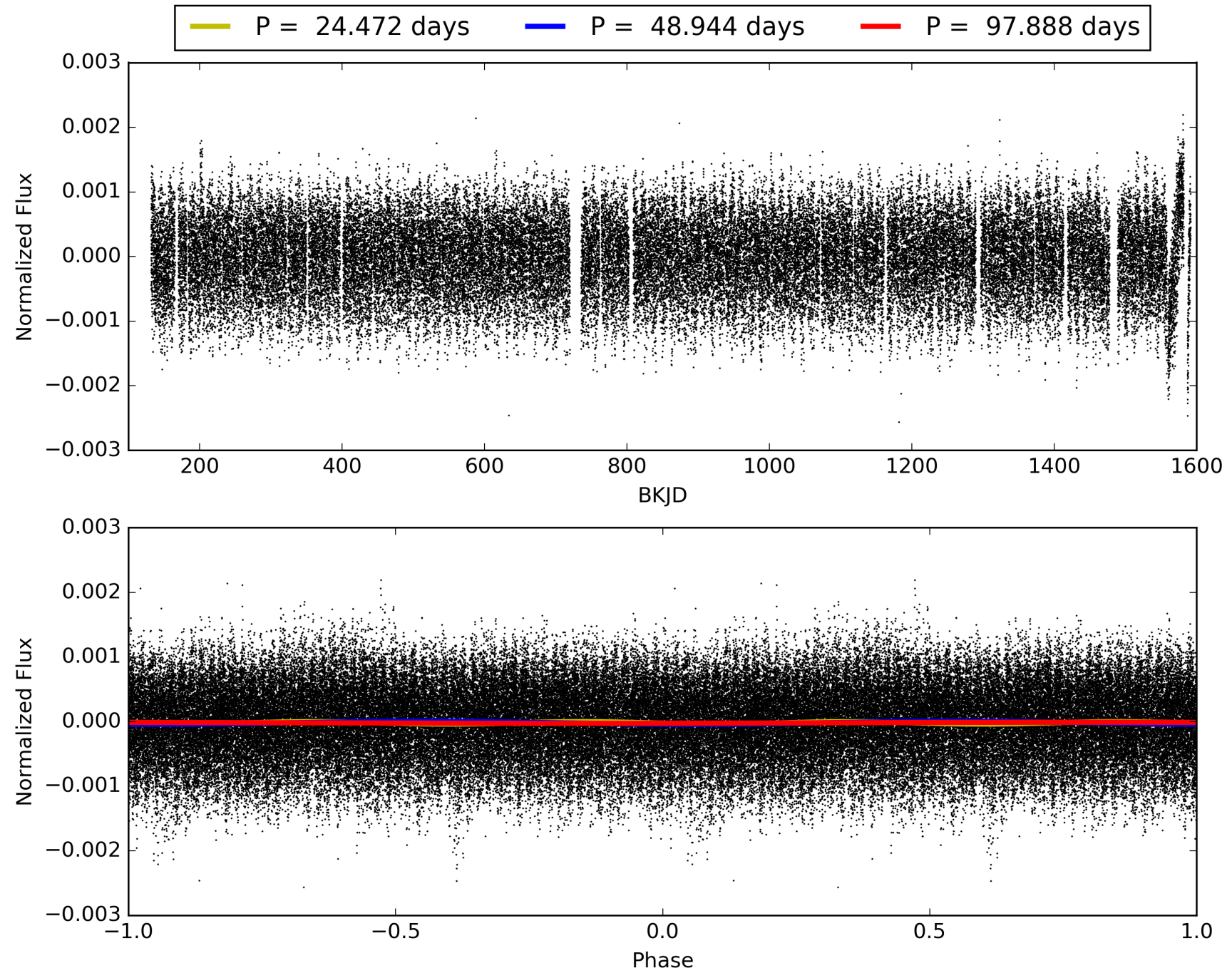
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:14 Z

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

TCE 006233899-04, PDC Light Curves

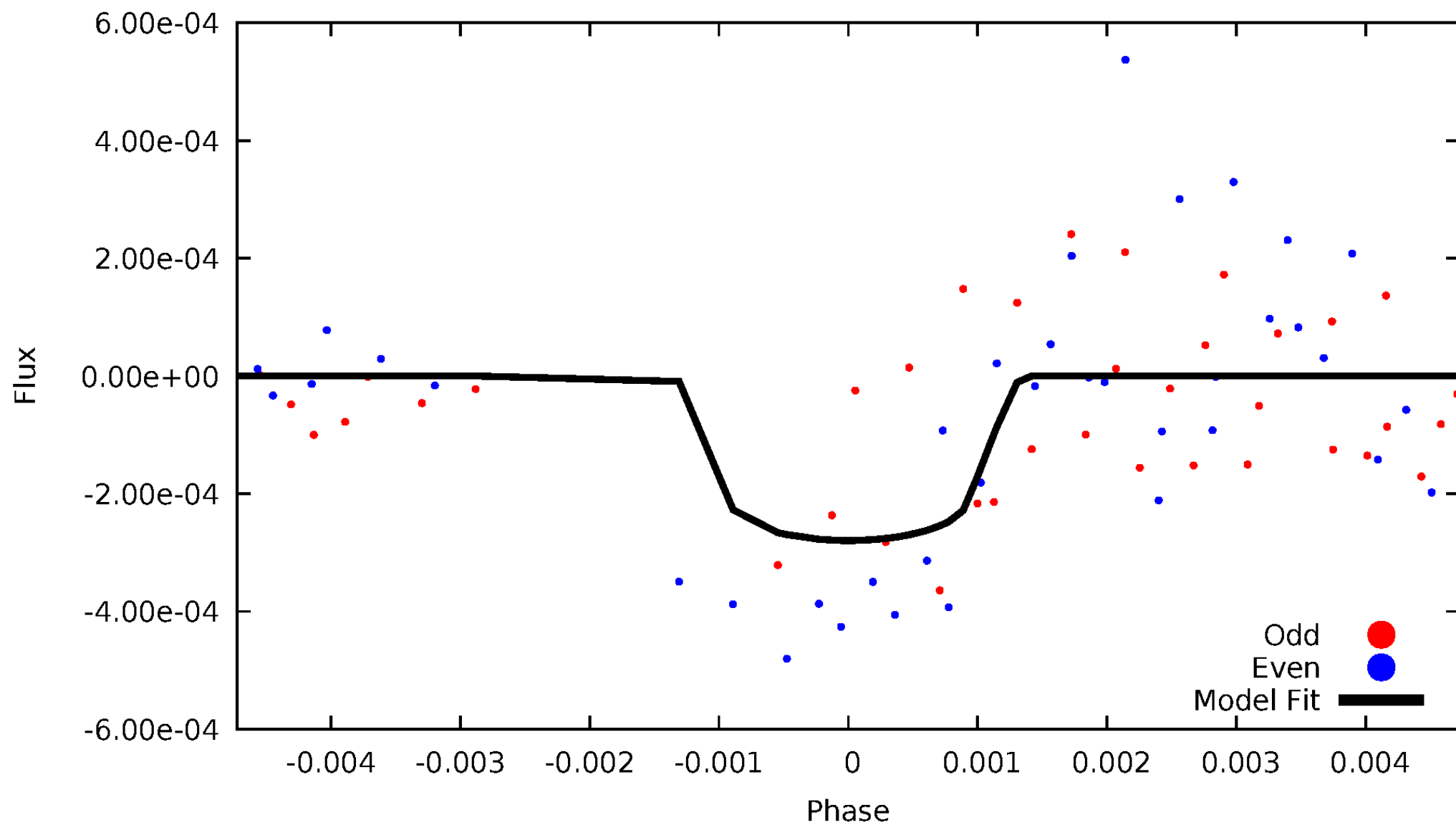


TCE 006233899-04



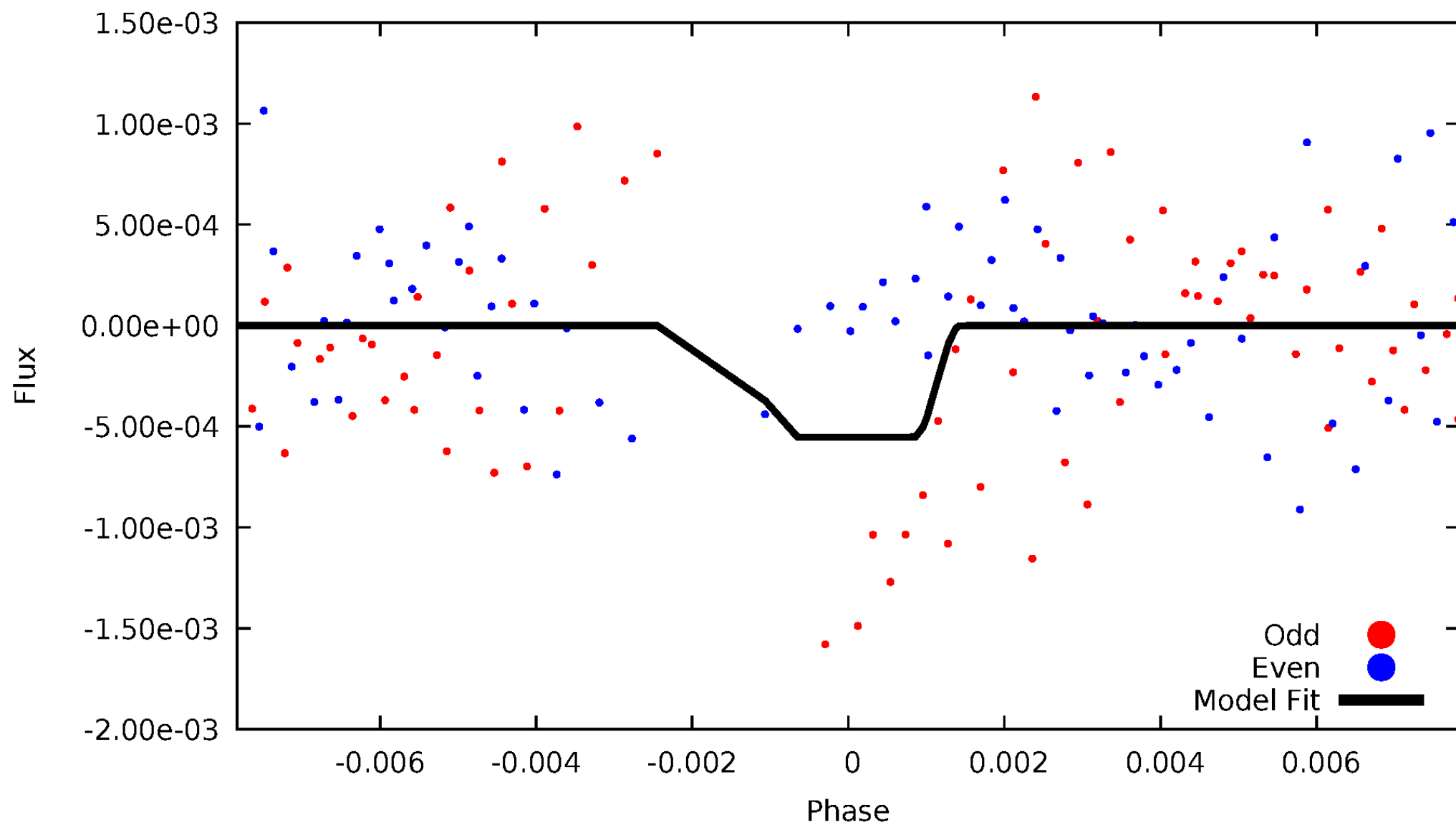
DV Odd/Even

TCE 006233899-04



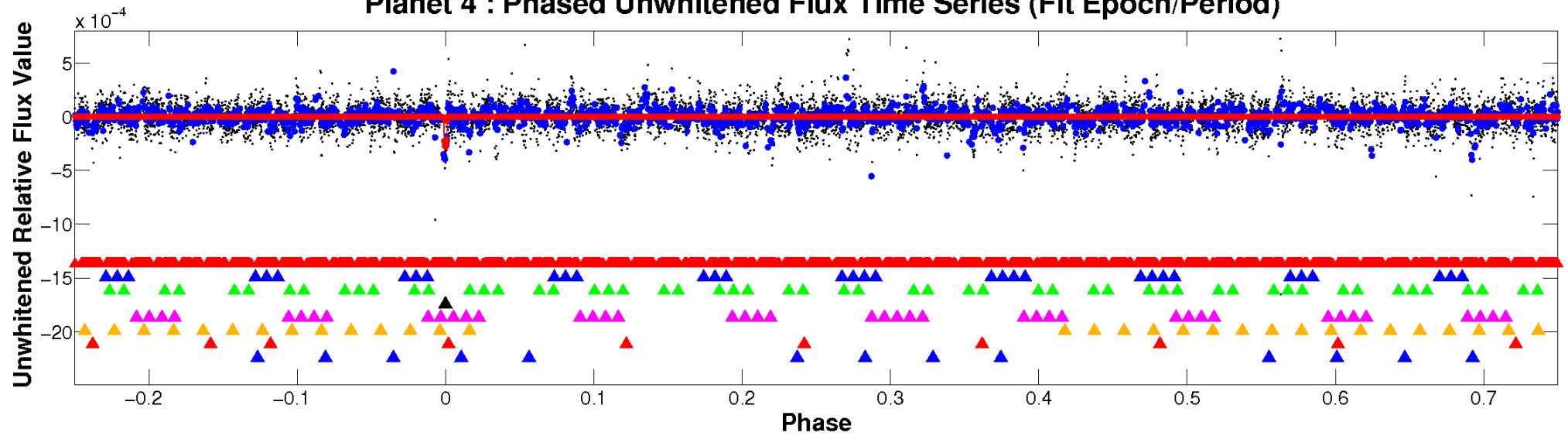
ALT Odd/Even

TCE 006233899-04

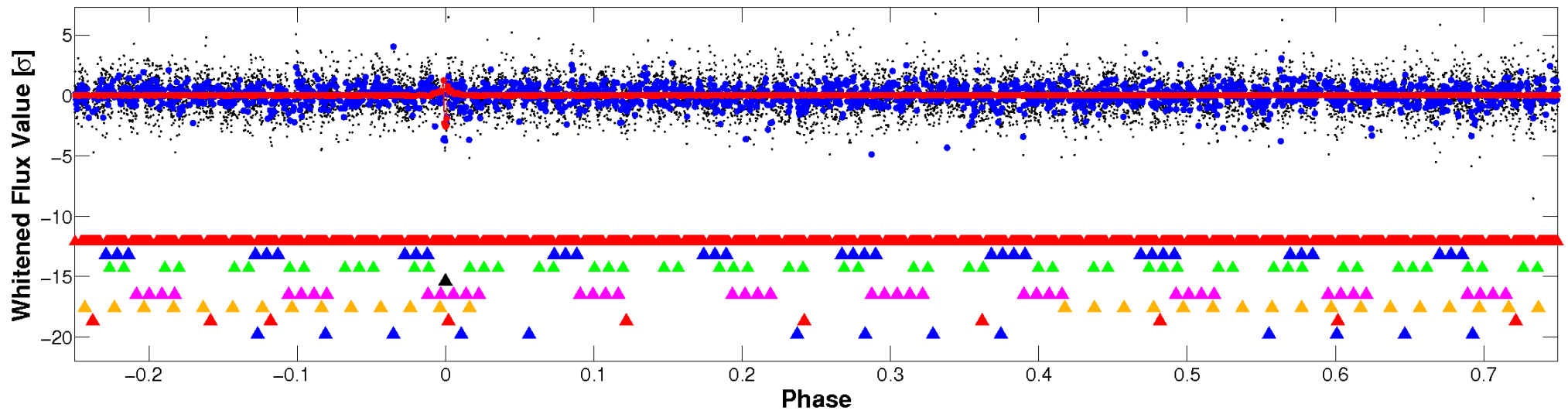


Non-Whitened Vs. Whitened Light Curve

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

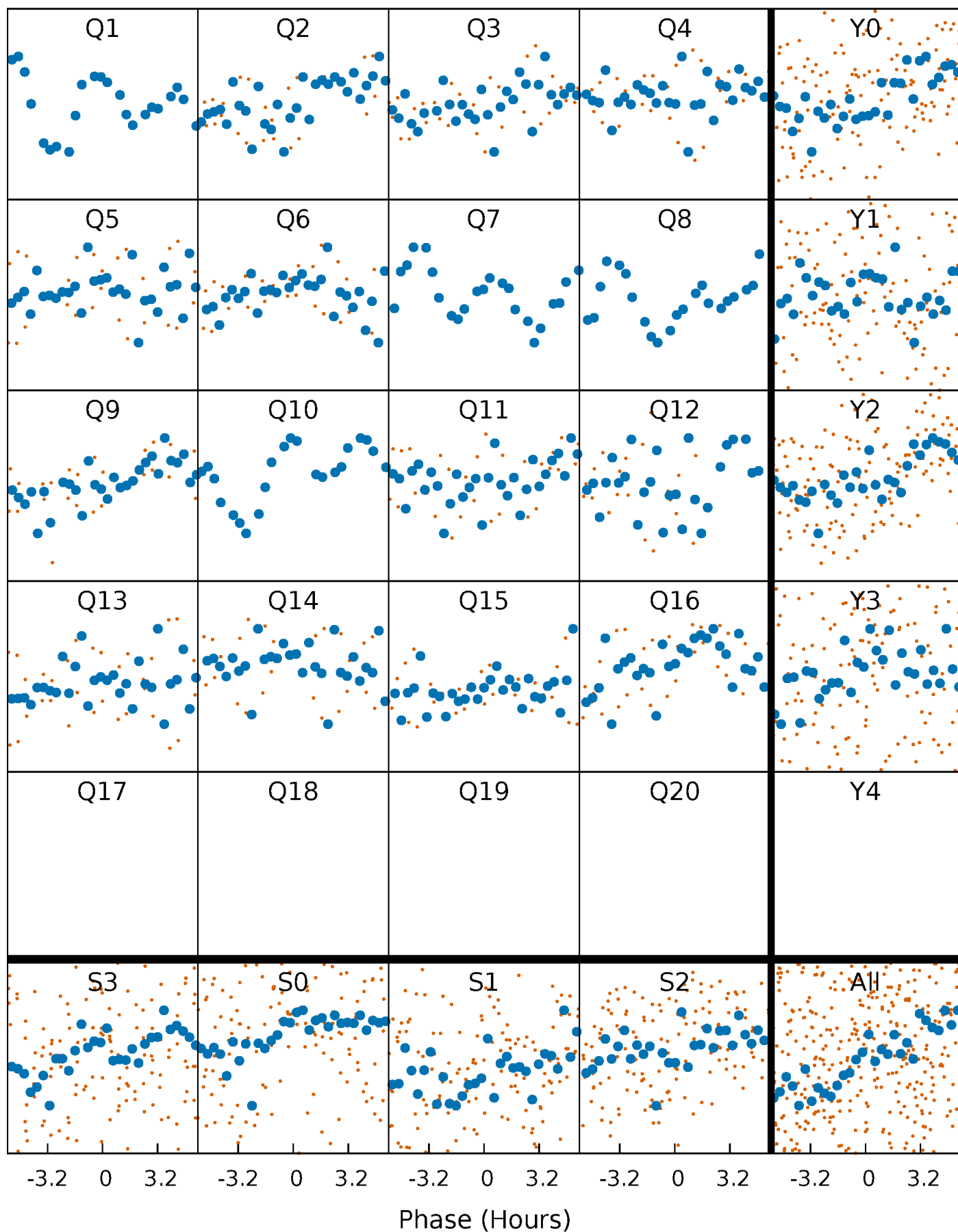


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



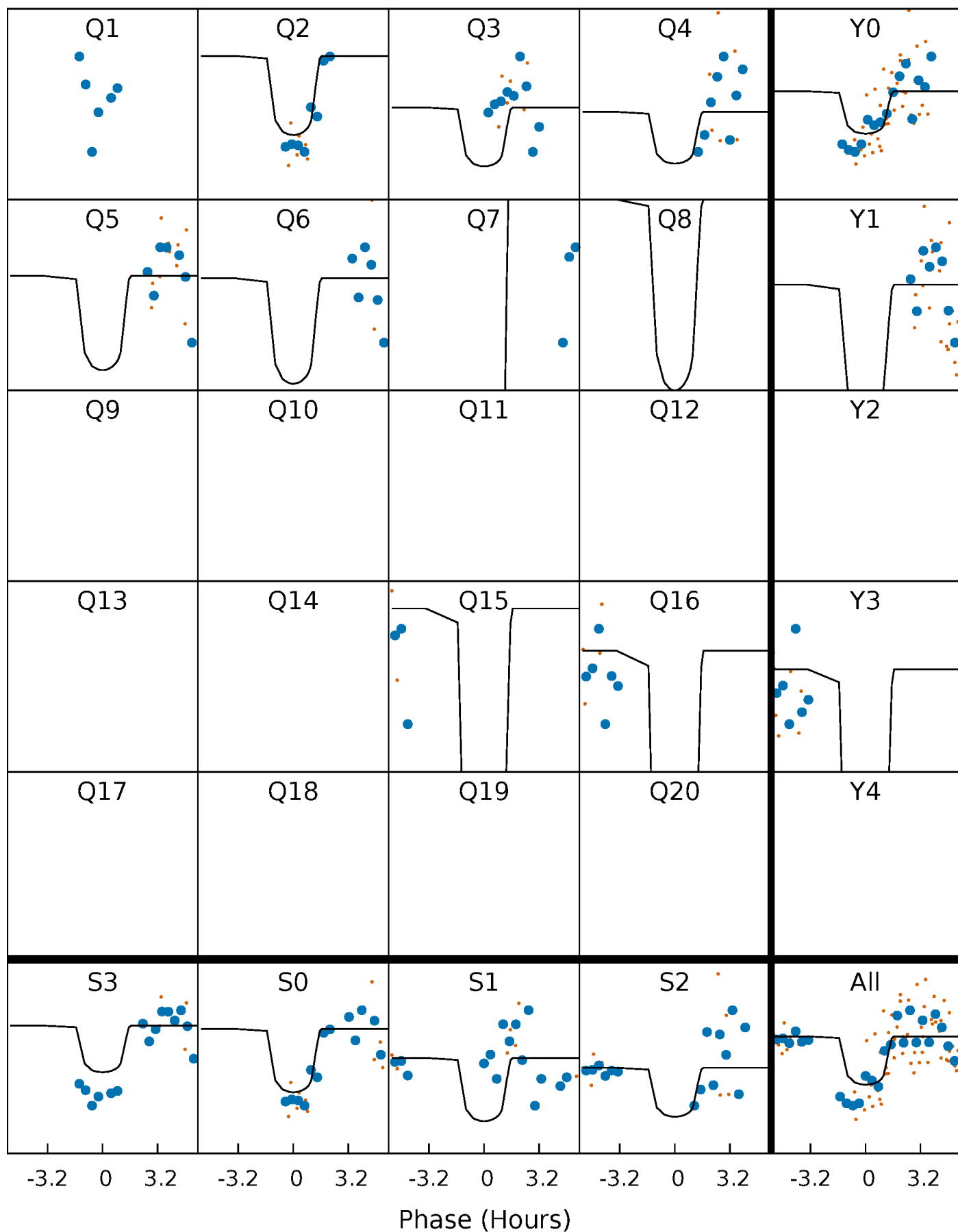
PDC Quarter-Phased Transit Curves

TCE 006233899-04 P= 48.943842 Days $T_0=137.747249$ (BKJD)



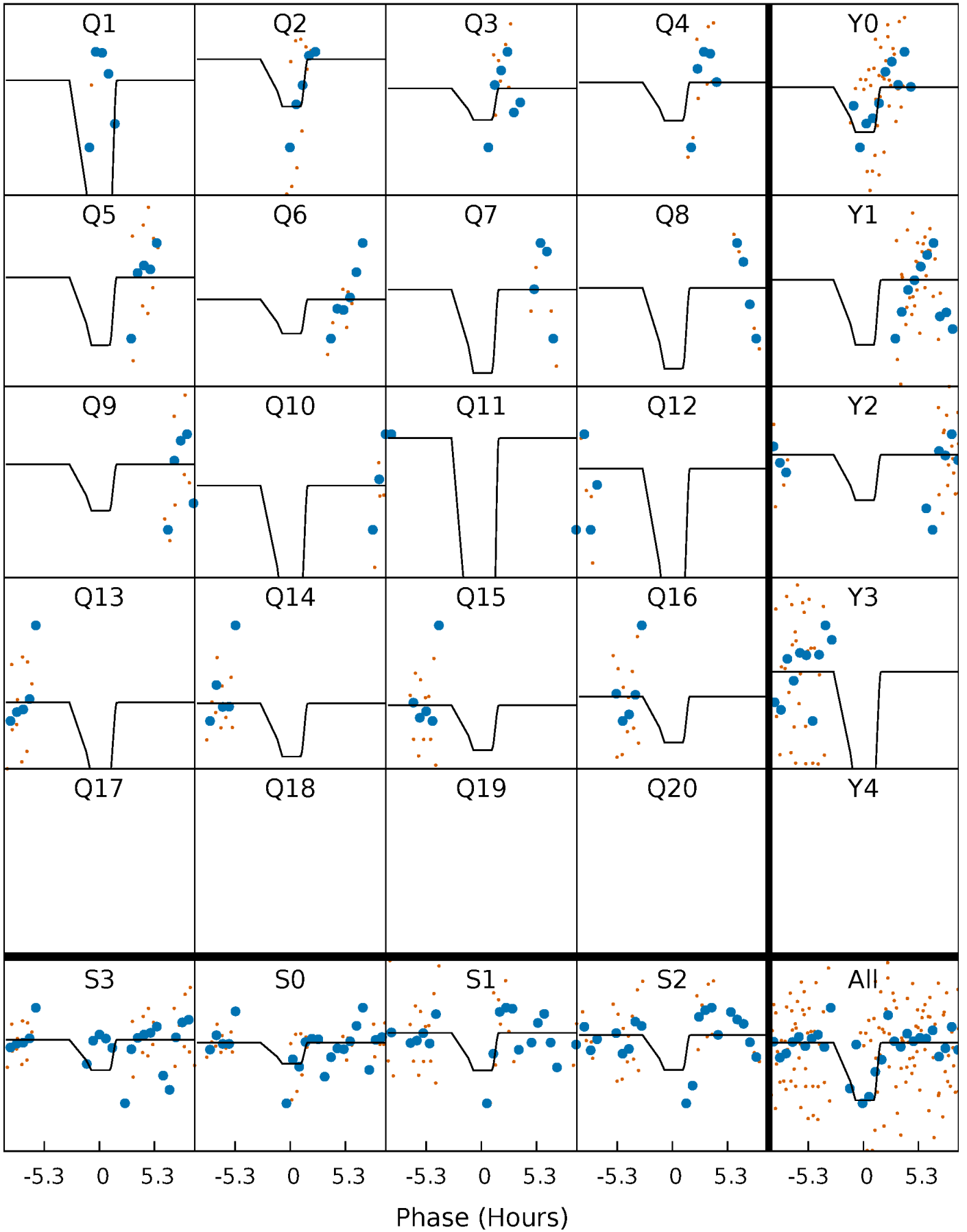
DV Quarter-Phased Transit Curves

TCE 006233899-04 $P = 48.943842$ Days $T_0 = 137.747249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

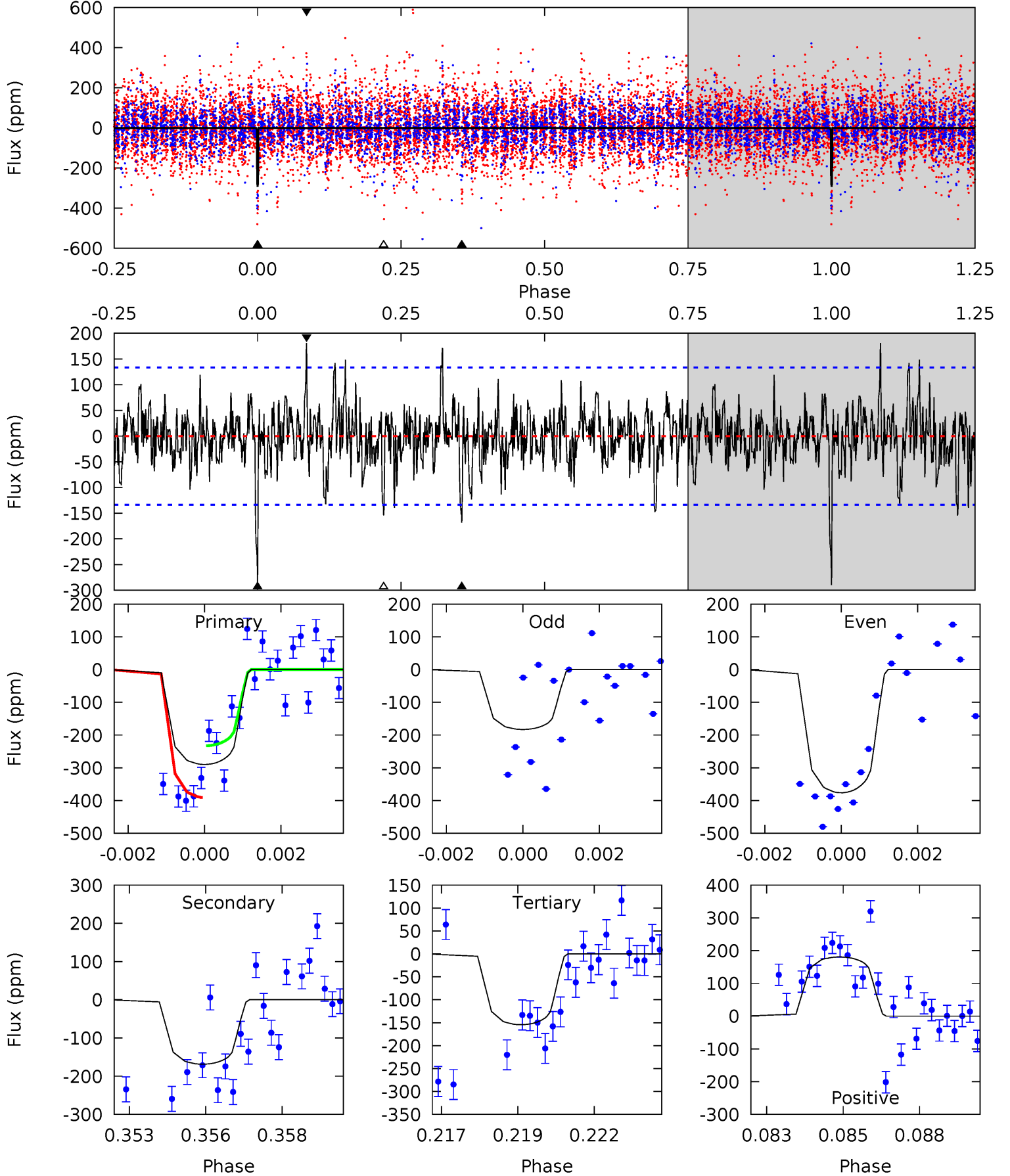
TCE 006233899-04 P= 48.943521 Days $T_0=137.735397$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-04, P = 48.943842 Days, E = 88.803407 Days

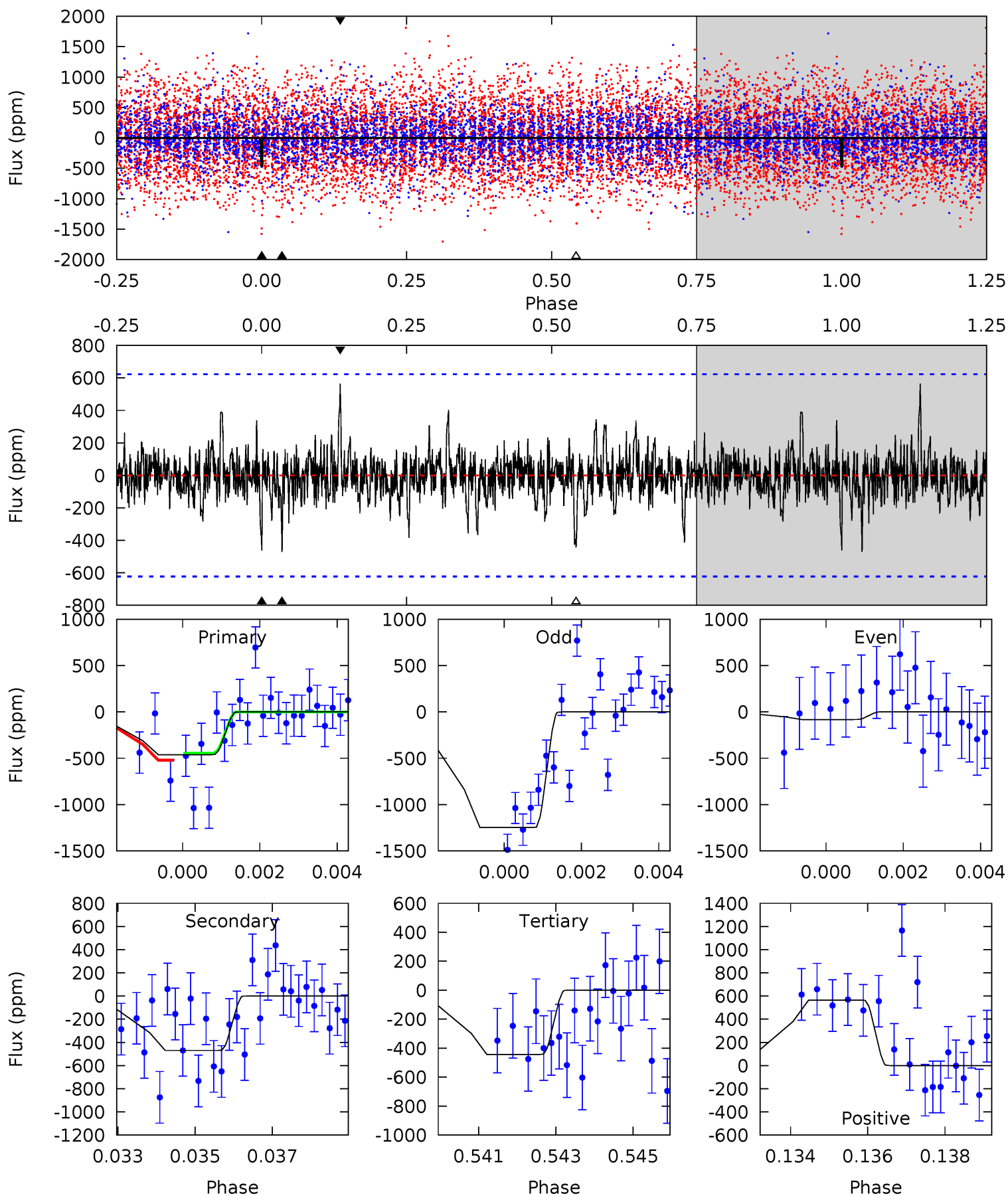
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	6.69	6.13	7.17	5.30	3.05	1.58	5.37	4.33	0.56	-0.48	3.82	0.73	0.38	2.75



Alt Model-Shift Uniqueness Test

006233899-04, P = 48.943521 Days, E = 88.791876 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.95	4.02	3.79	4.83	5.32	3.08	0.78	0.16	-0.88	0.23	-0.81	5.13	7.24	0.55	0.20



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-169 ± 25	$3.11^{+2.17}_{-1.76}$	944^{+76}_{-60}	5532^{+3461}_{-1055}	795^{+3401}_{-524}
Alt.	-470 ± 117	$4.12^{+2.33}_{-2.12}$	943^{+77}_{-61}	6219^{+3139}_{-1180}	1253^{+3994}_{-753}

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

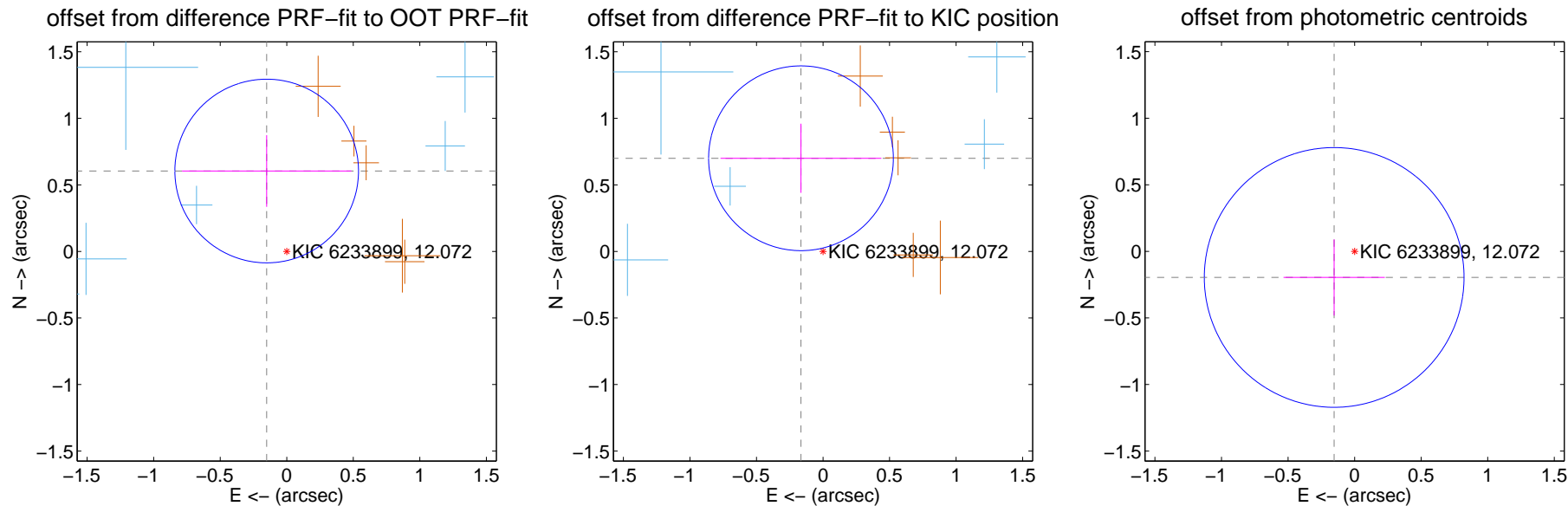
DV Centroid Data

Supplemental centroid analysis for 006233899-04. Kepler magnitude: 12.07. Transit SNR 9.83

There are 7 quarters with good PRF difference image offsets

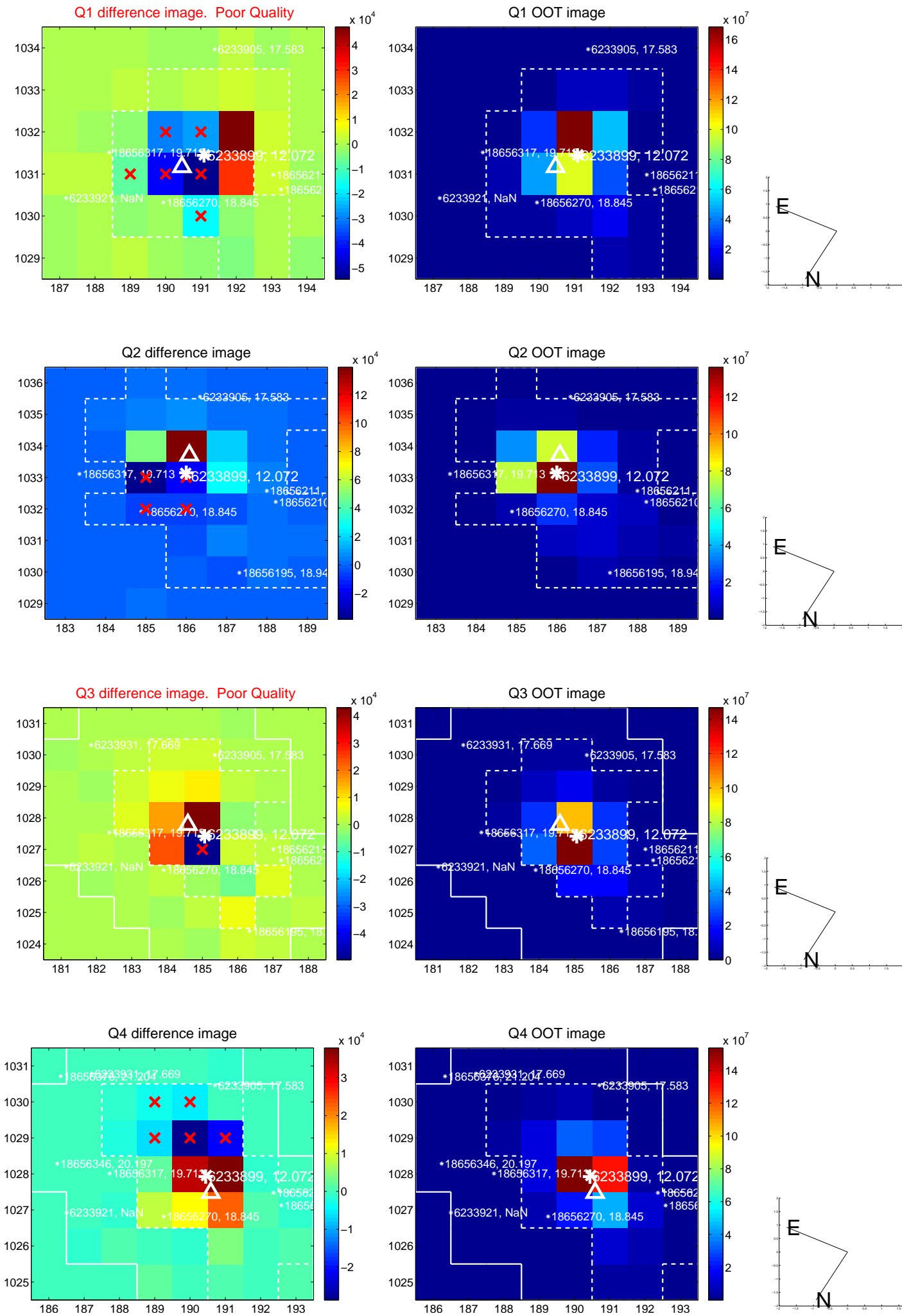
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.622 ± 0.230	2.71	0.151 ± 0.636	0.604 ± 0.269
PRF-fit source offset from KIC position	0.719 ± 0.231	3.11	0.166 ± 0.604	0.700 ± 0.259
photometric centroid source offset	0.25 ± 0.33	0.77	0.15 ± 0.38	-0.20 ± 0.29

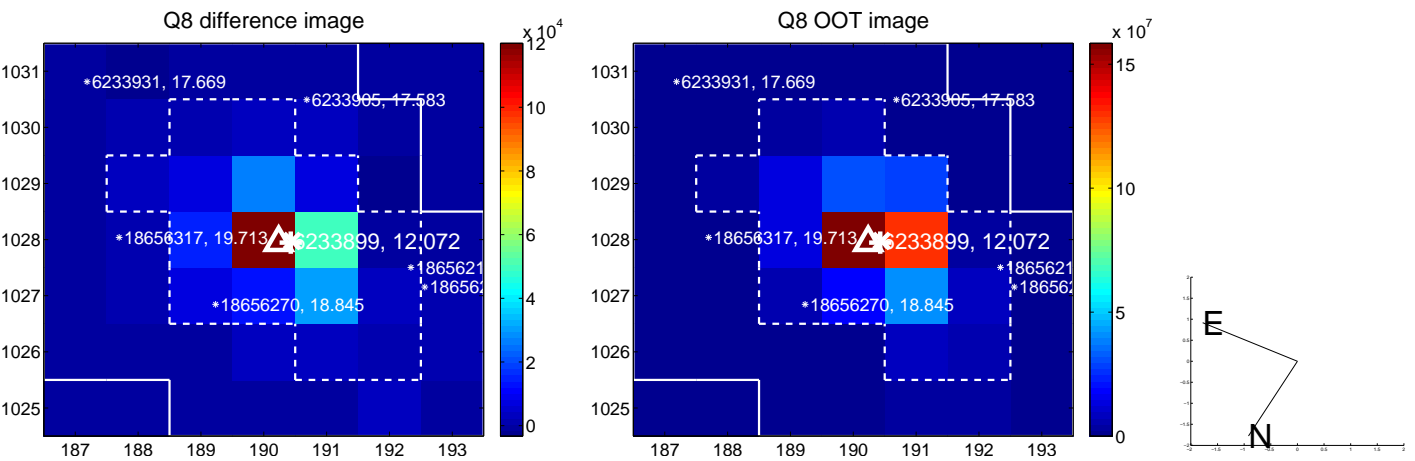
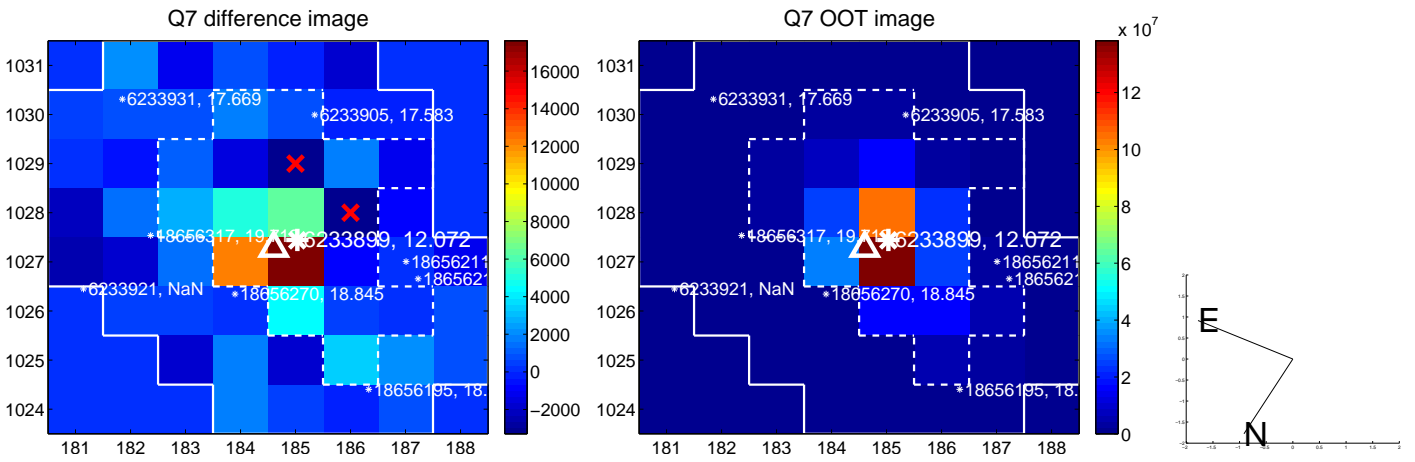
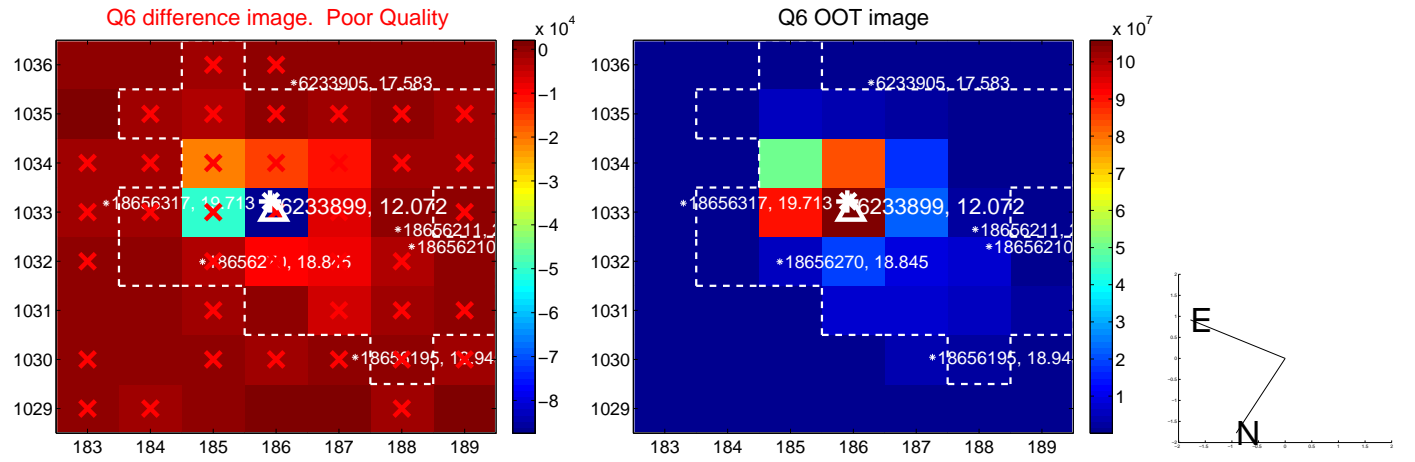
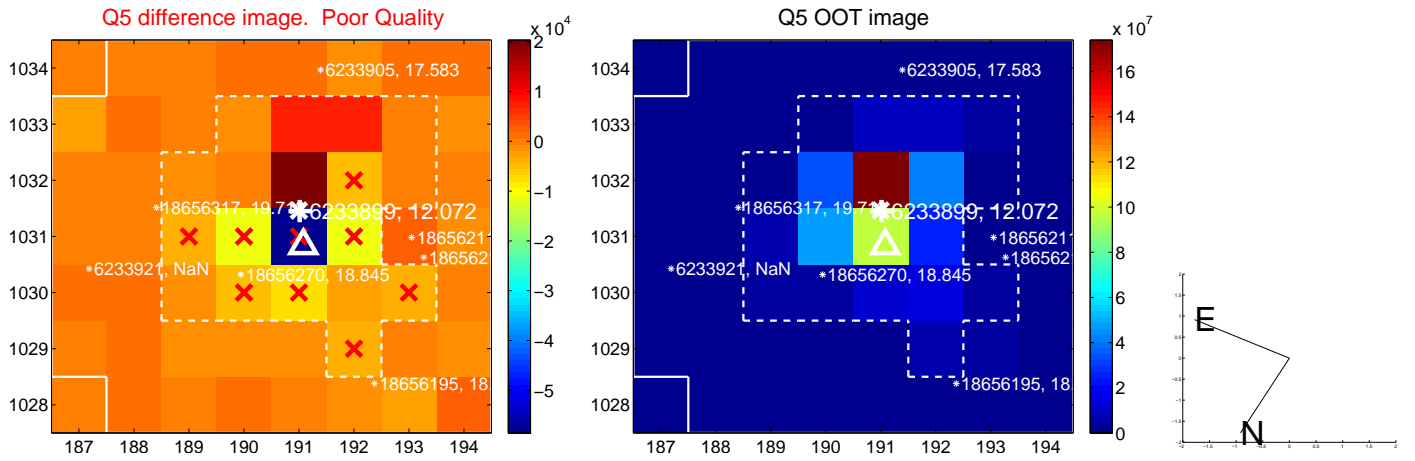


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

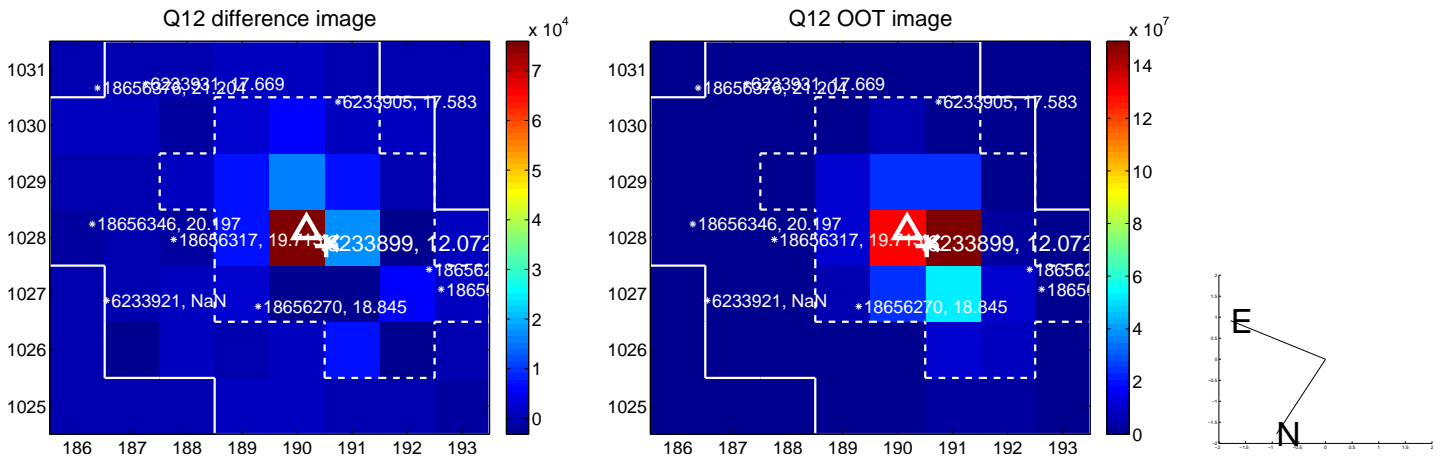
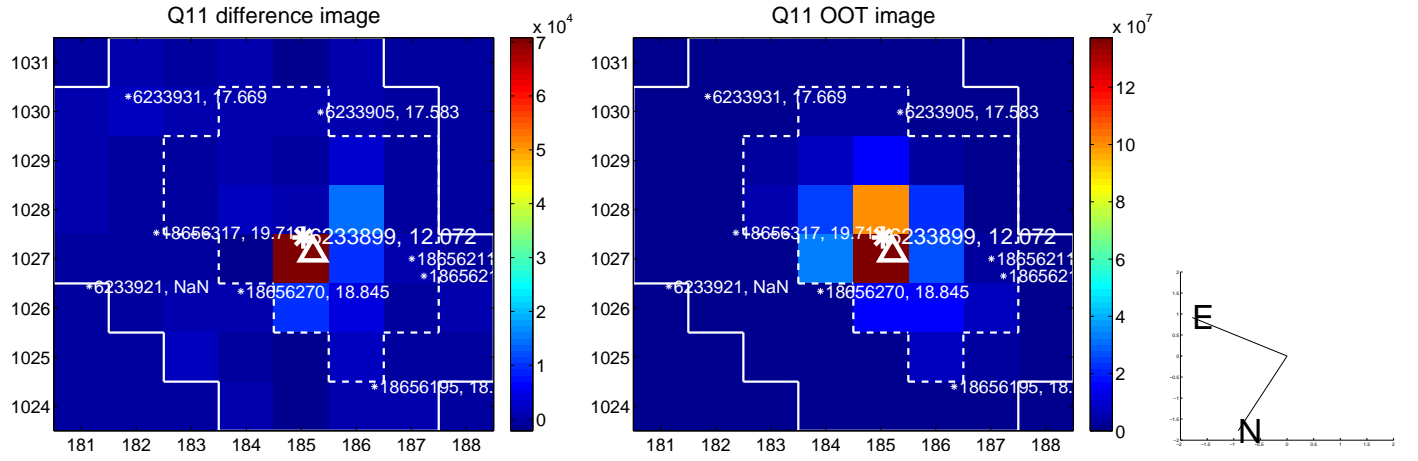
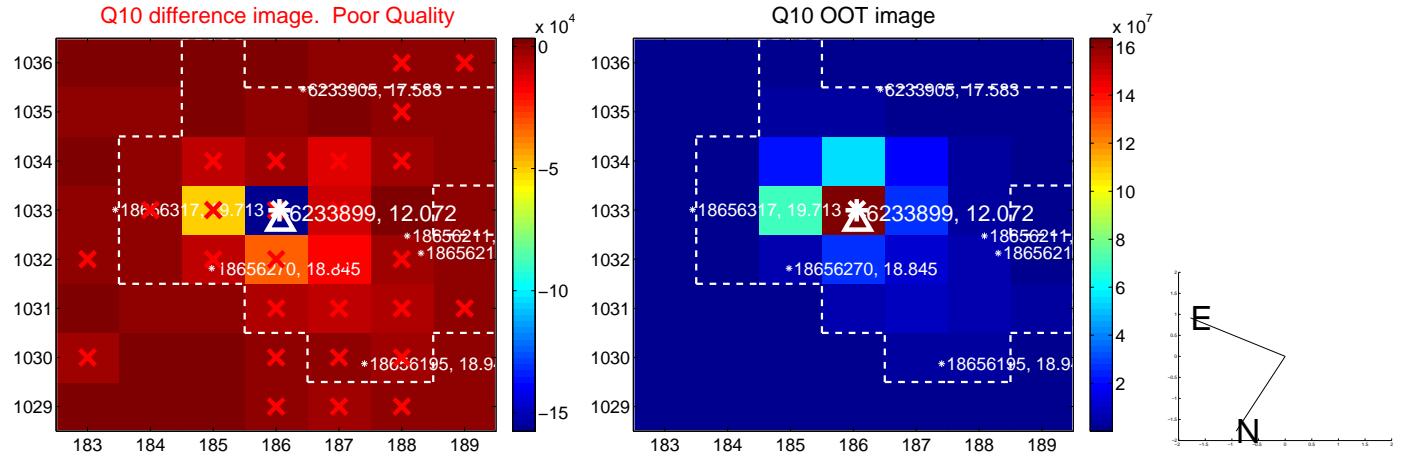
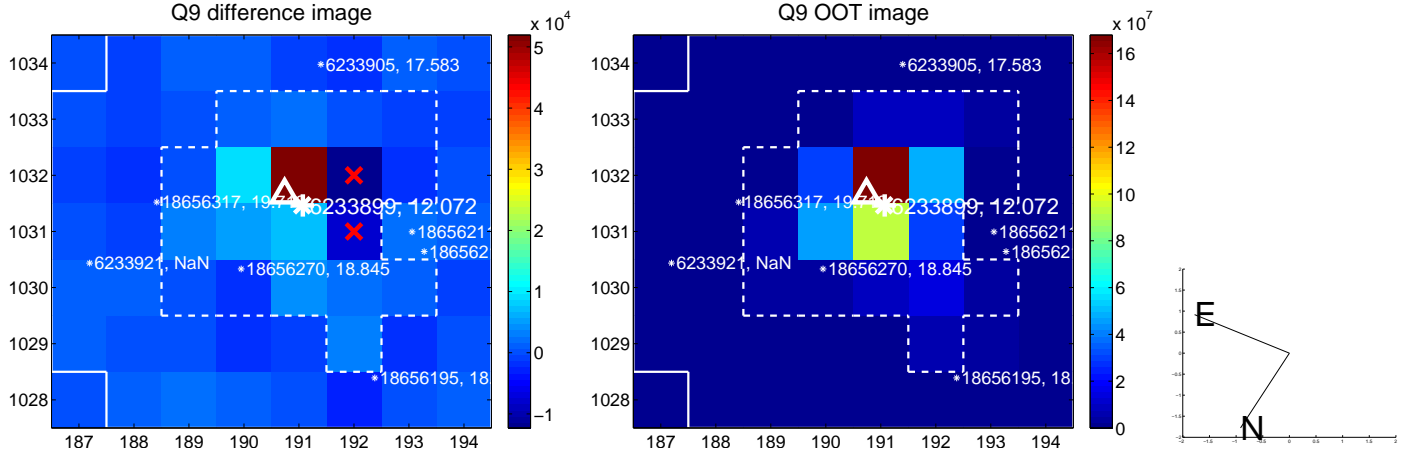
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



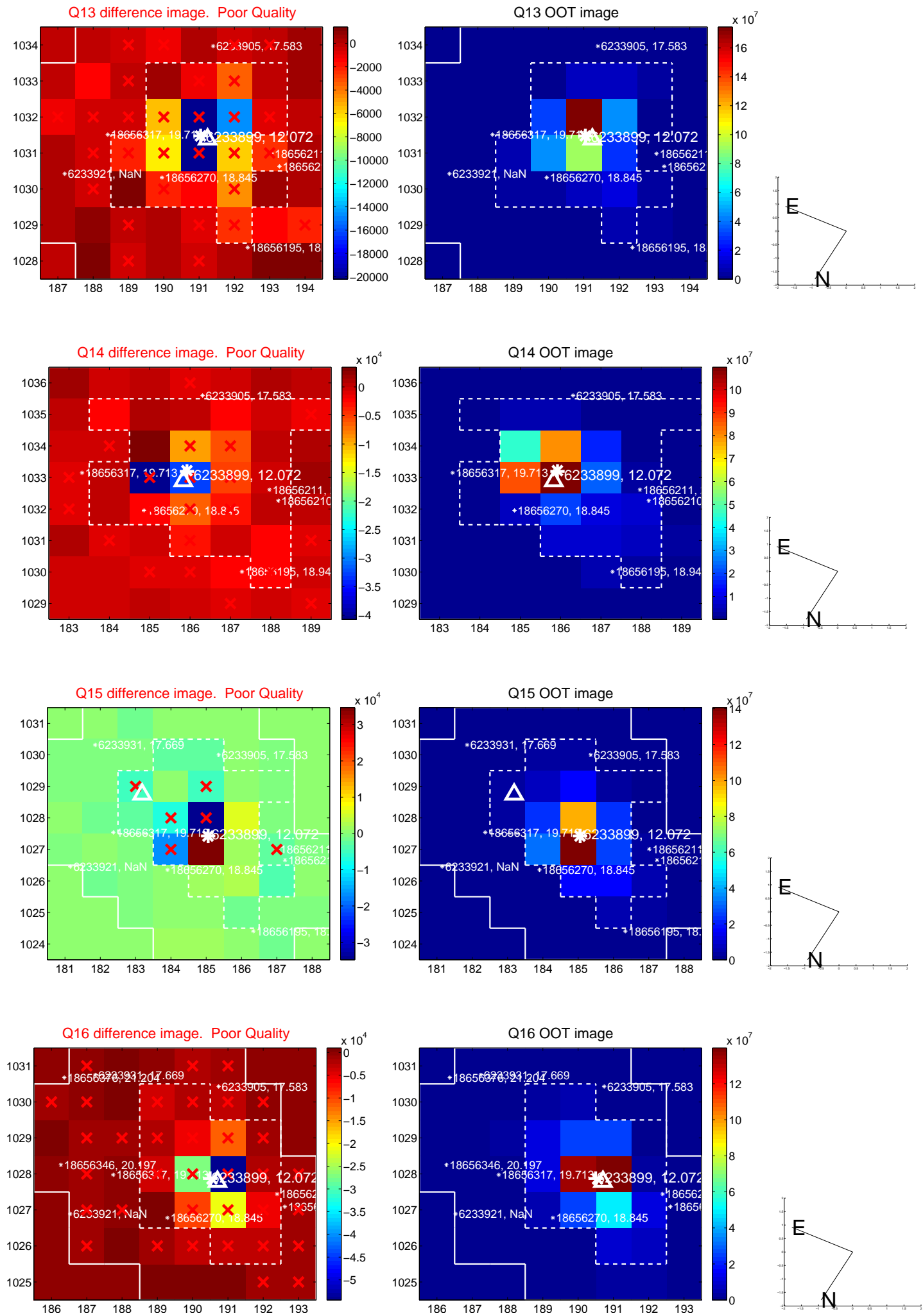
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



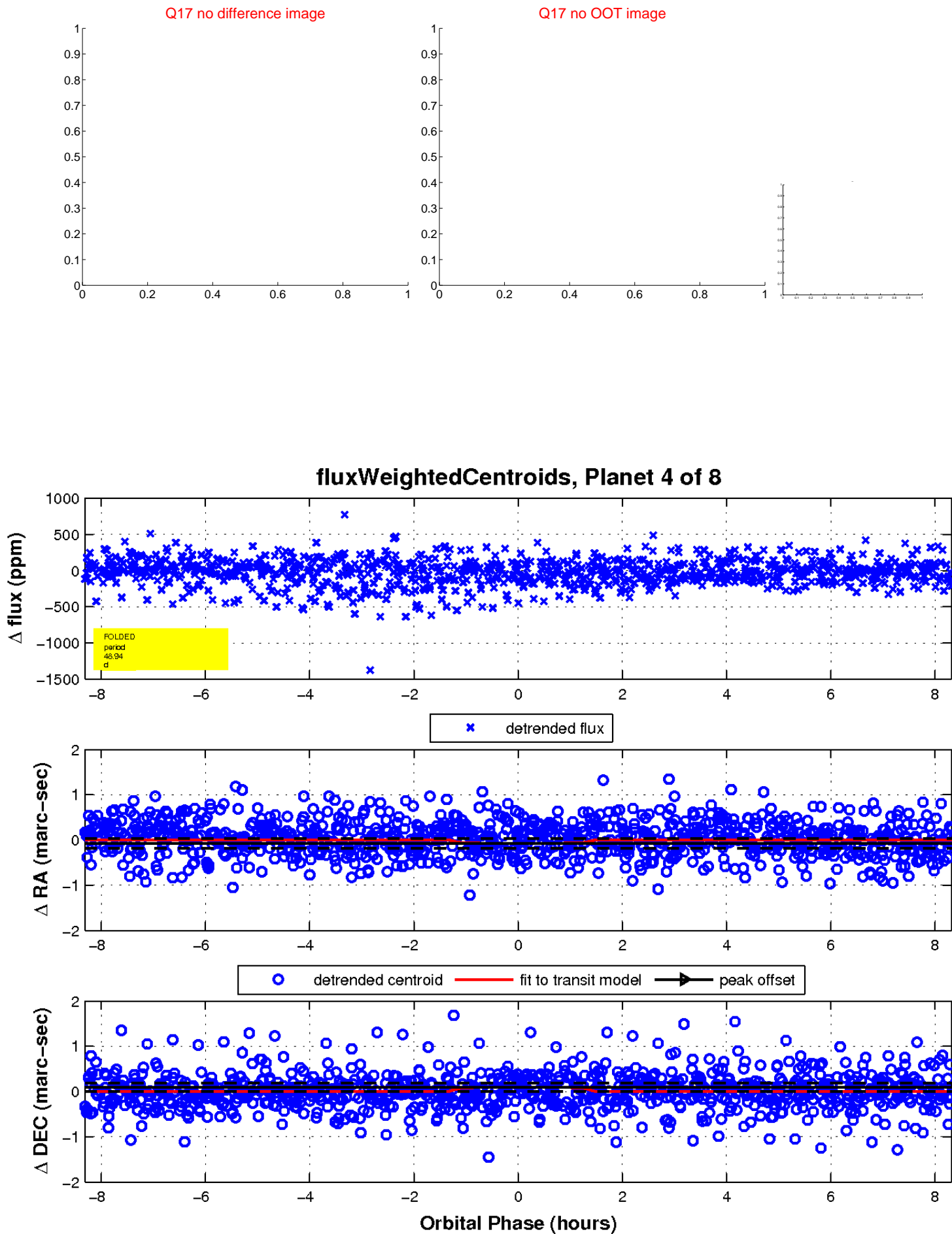
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

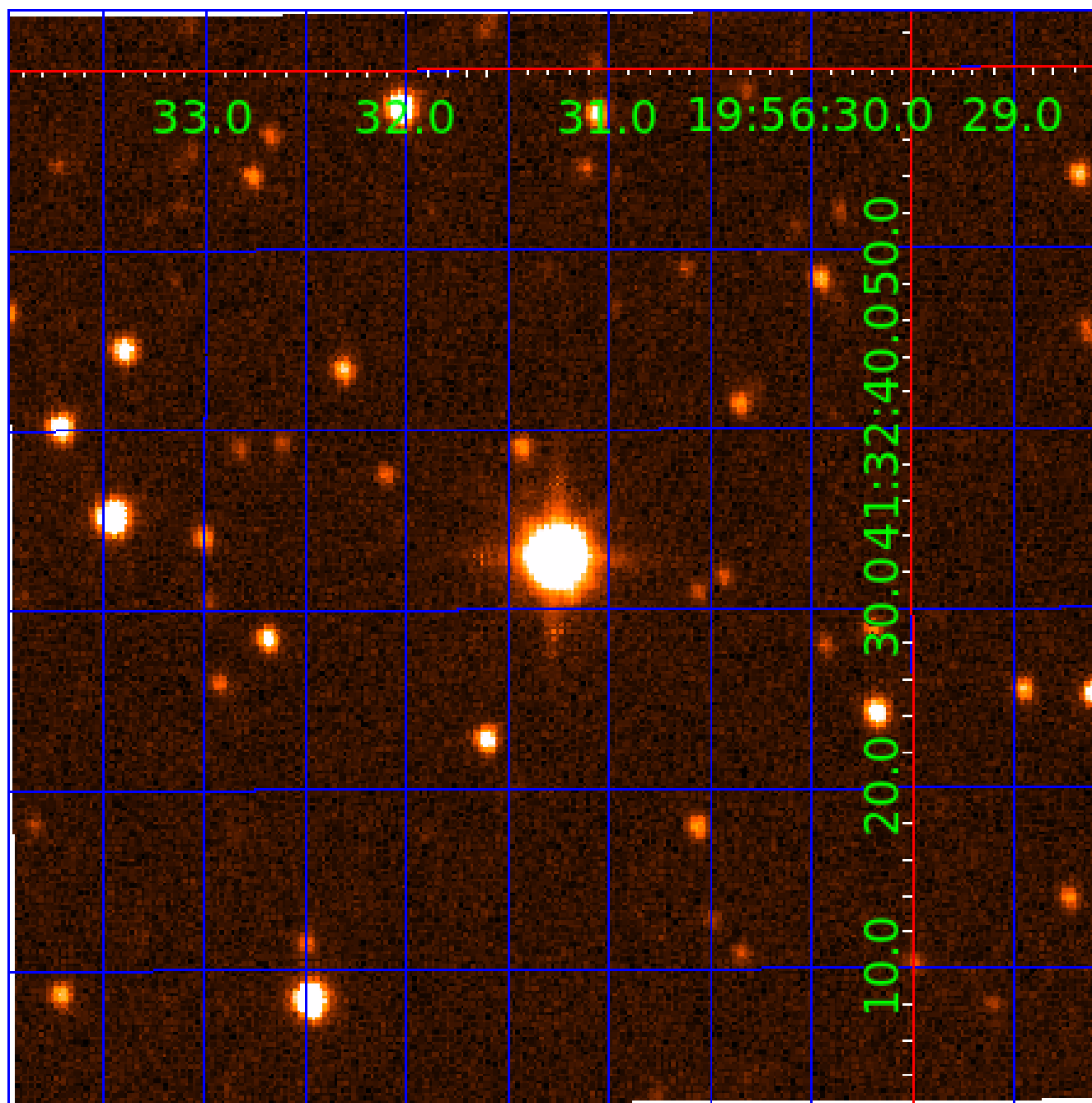


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

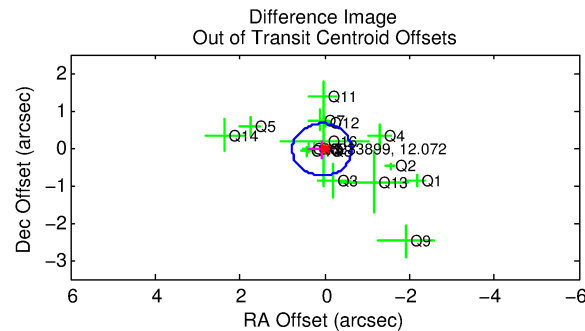
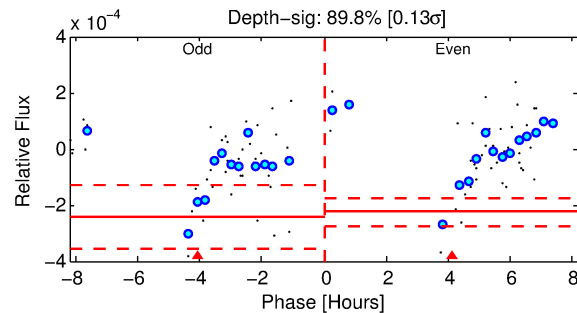
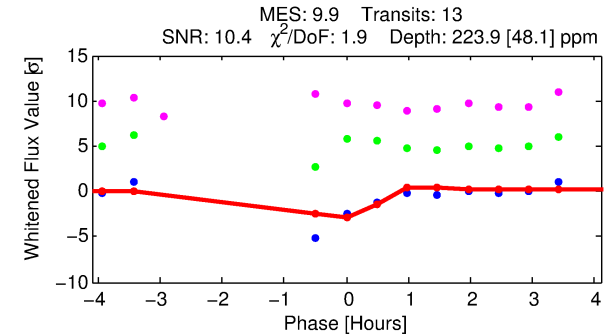
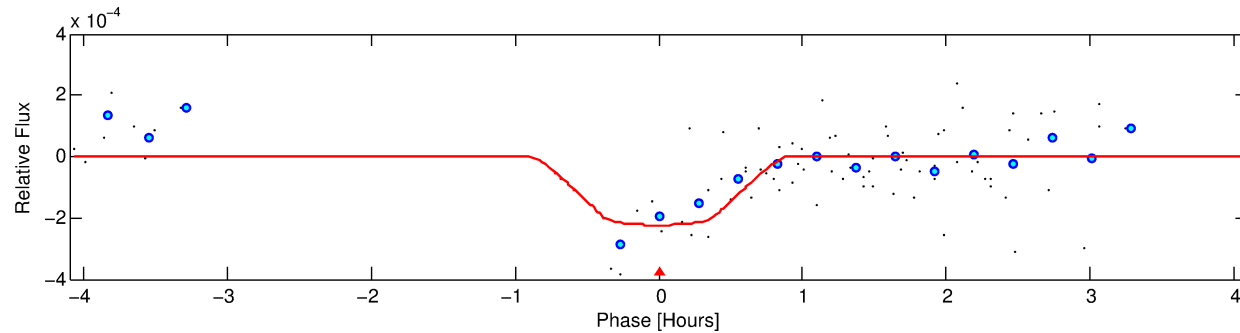
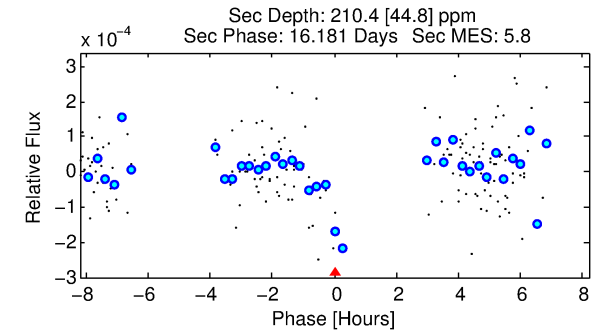
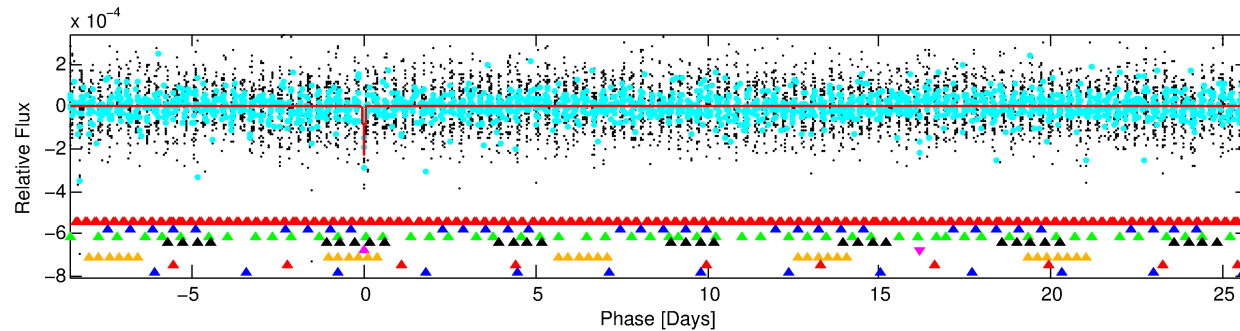
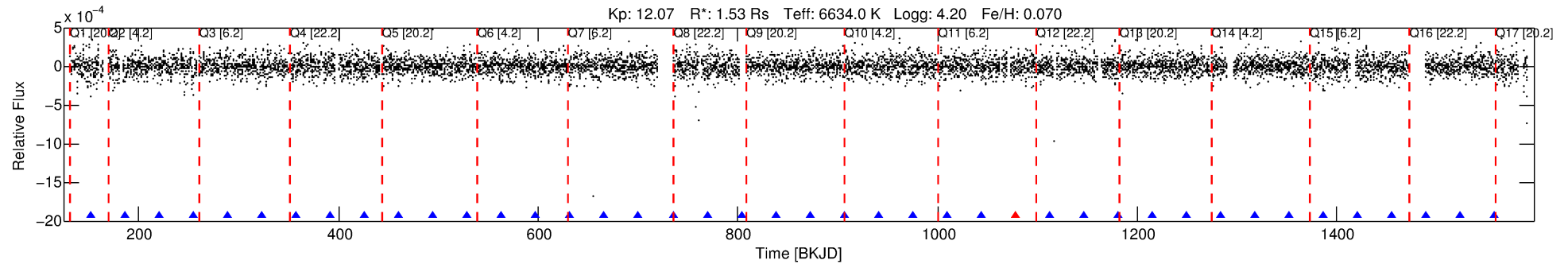
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-05

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 5 of 8 Period: 34.303 d



DV Fit Results:

Period = 34.30260 [0.00032] d
Epoch = 151.8145 [0.0067] BKJD
Rp/R* = 0.0163 [0.0189]
a/R* = 85.56 [564.05]
b = 0.91 [1.21]
Seff = 77.68 [31.39]
Teq = 757 [76] K
Rp = 2.71 [3.28] Re
a = 0.2284 [0.0607] AU
Ag = 820.67 [1941.64] [0.42 σ]
Teffp = 6264 [3667] K [1.50 σ]

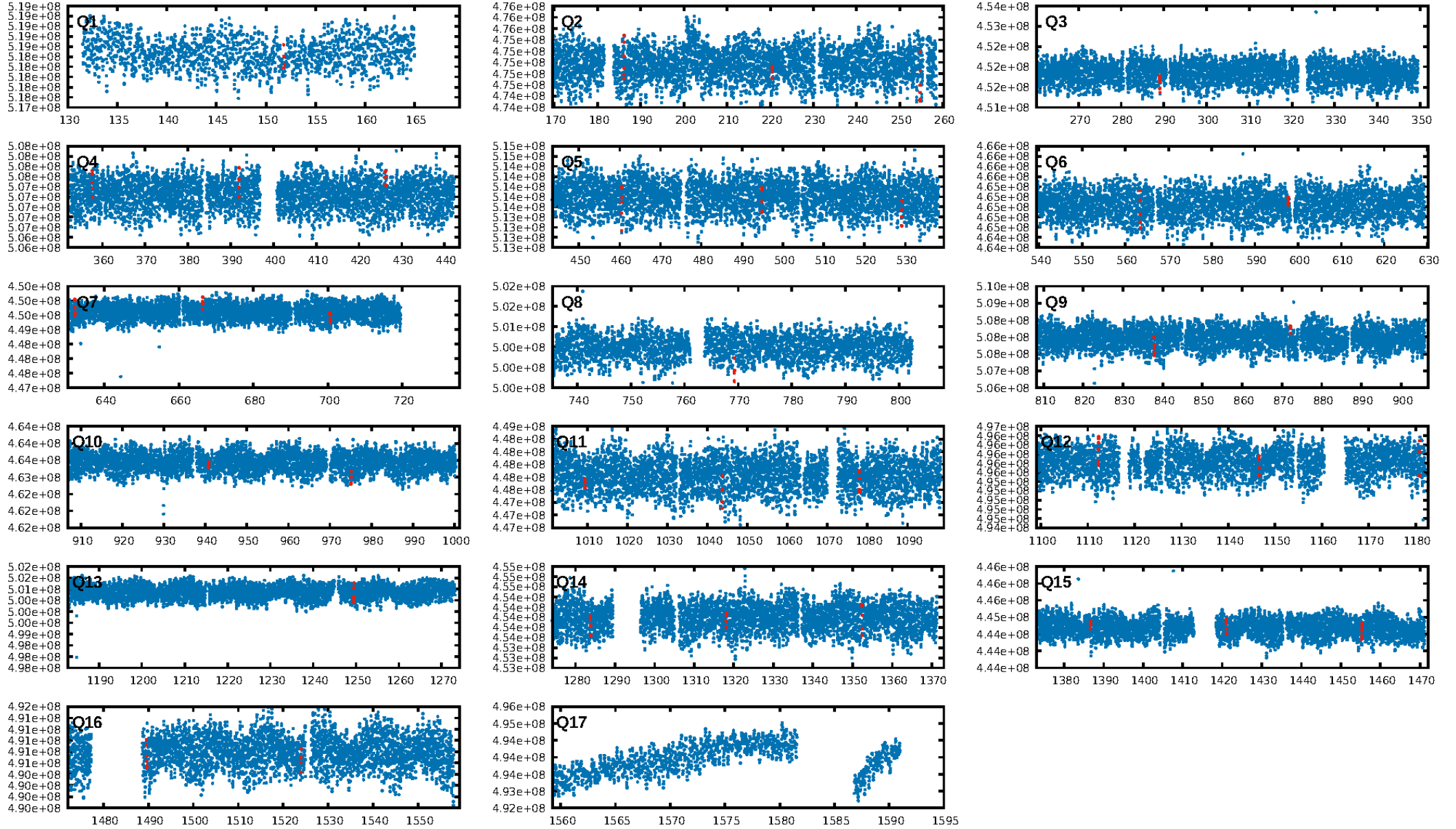
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.8 σ]
LongPeriod-sig: 100.0% [89.8 σ]
ModelChiSquare2-sig: 1.8%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [11/12]
GhostDiagnostic-chr: 1.668
Centroid-sig: 68.6%
Centroid-so: 0.483 arcsec [0.85 σ]
OotOffset-rm: 0.079 arcsec [0.34 σ]
KicOffset-rm: 0.082 arcsec [0.26 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.50 [8/16]

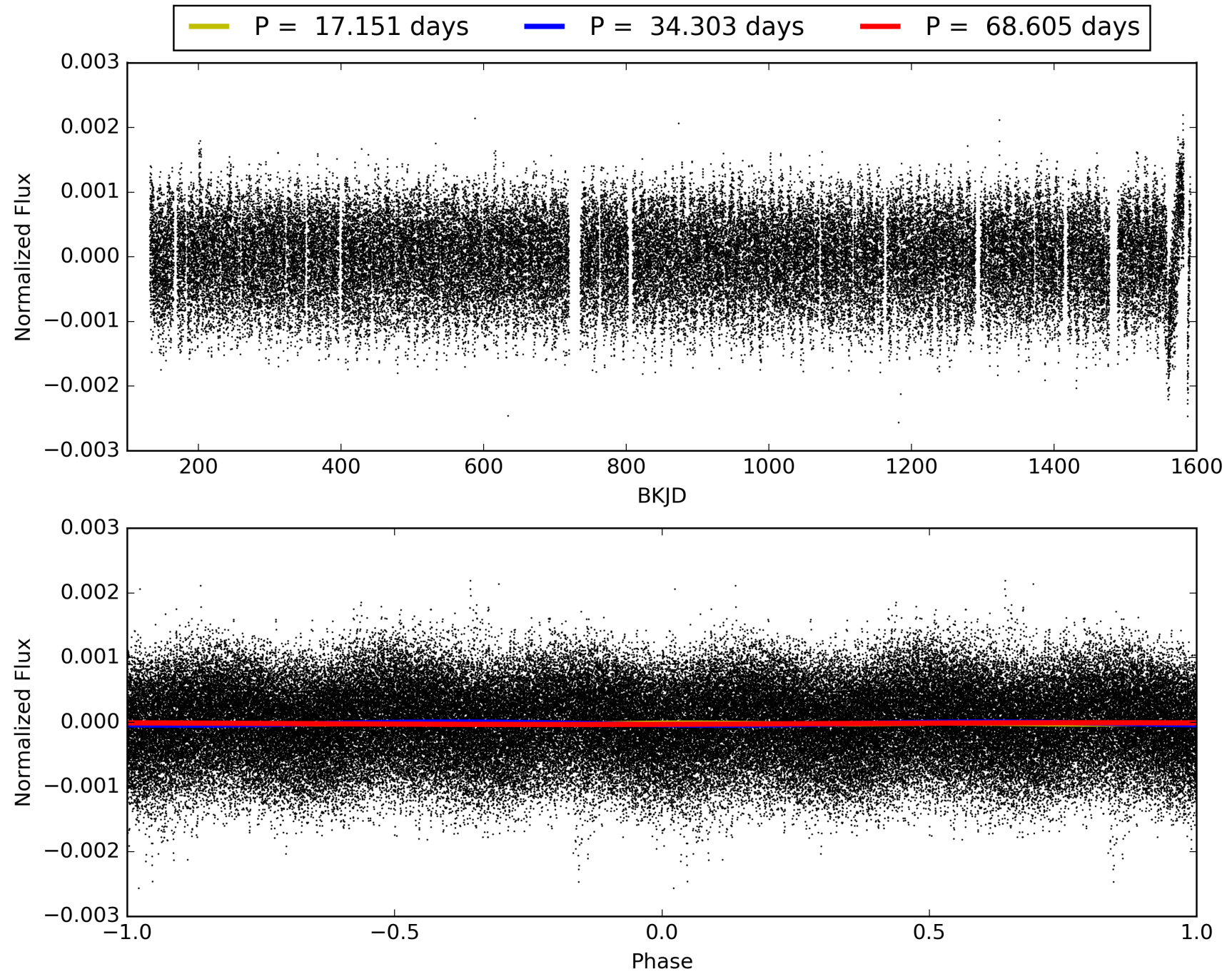
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:18 Z

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

TCE 006233899-05, PDC Light Curves

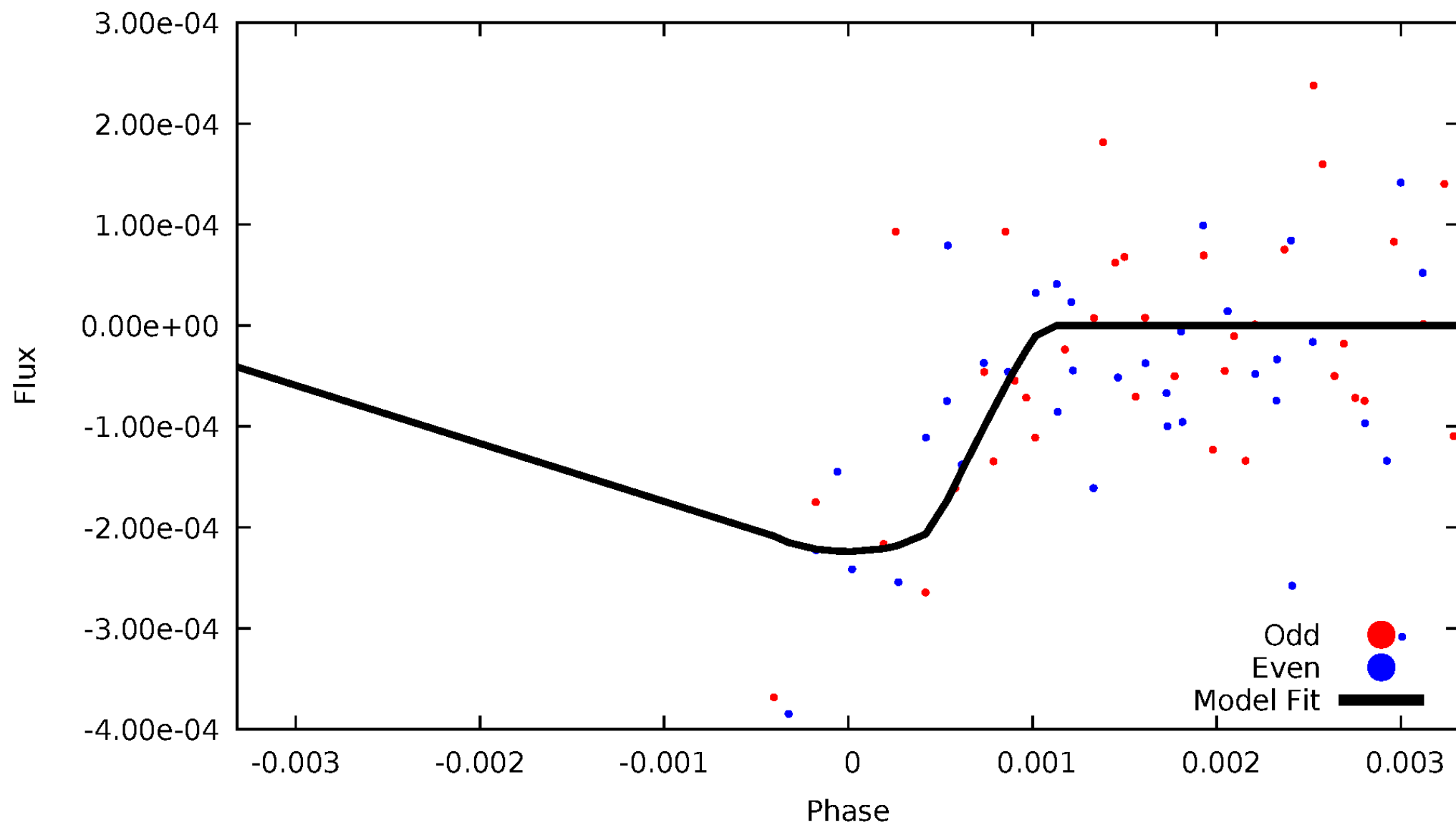


TCE 006233899-05



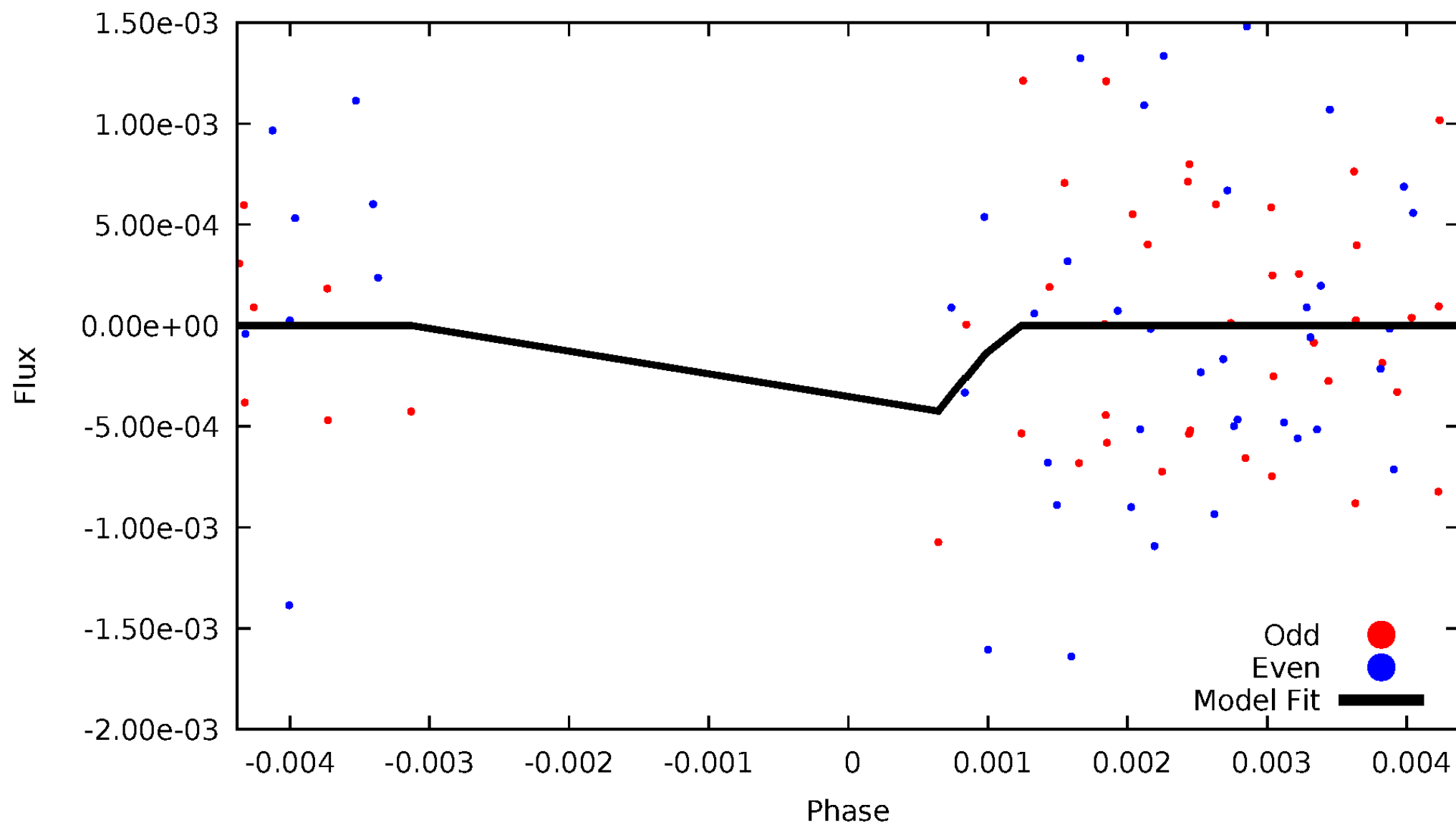
DV Odd/Even

TCE 006233899-05



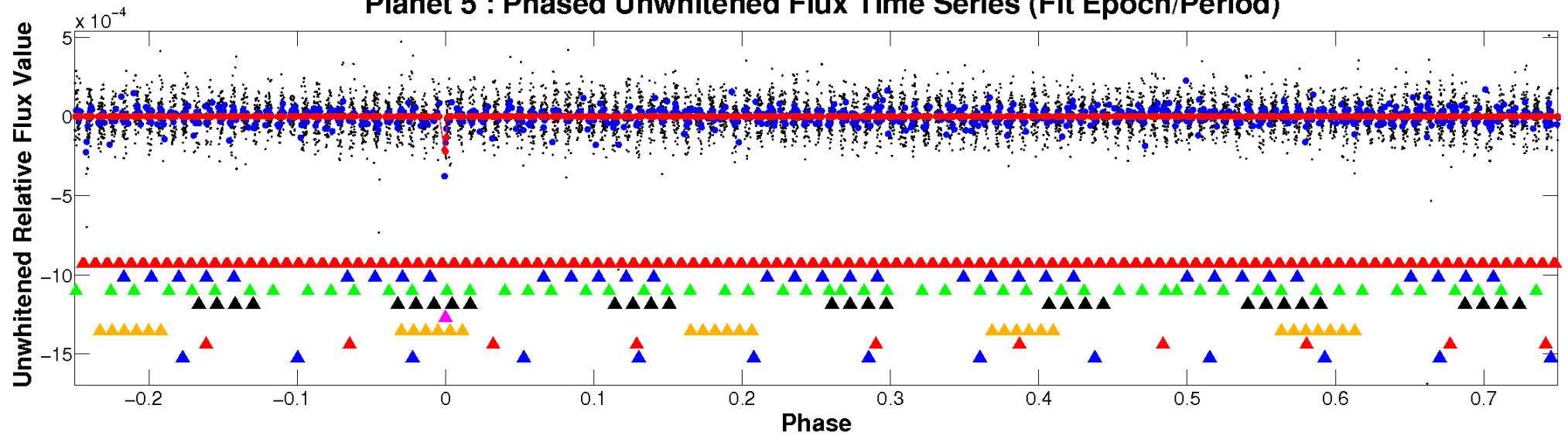
ALT Odd/Even

TCE 006233899-05

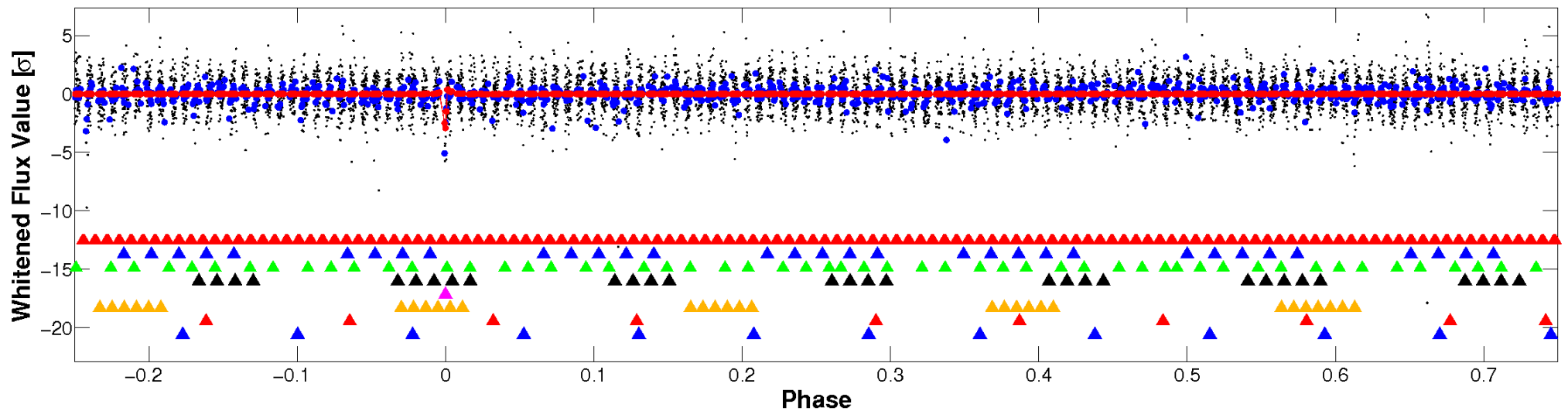


Non-Whitened Vs. Whitened Light Curve

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

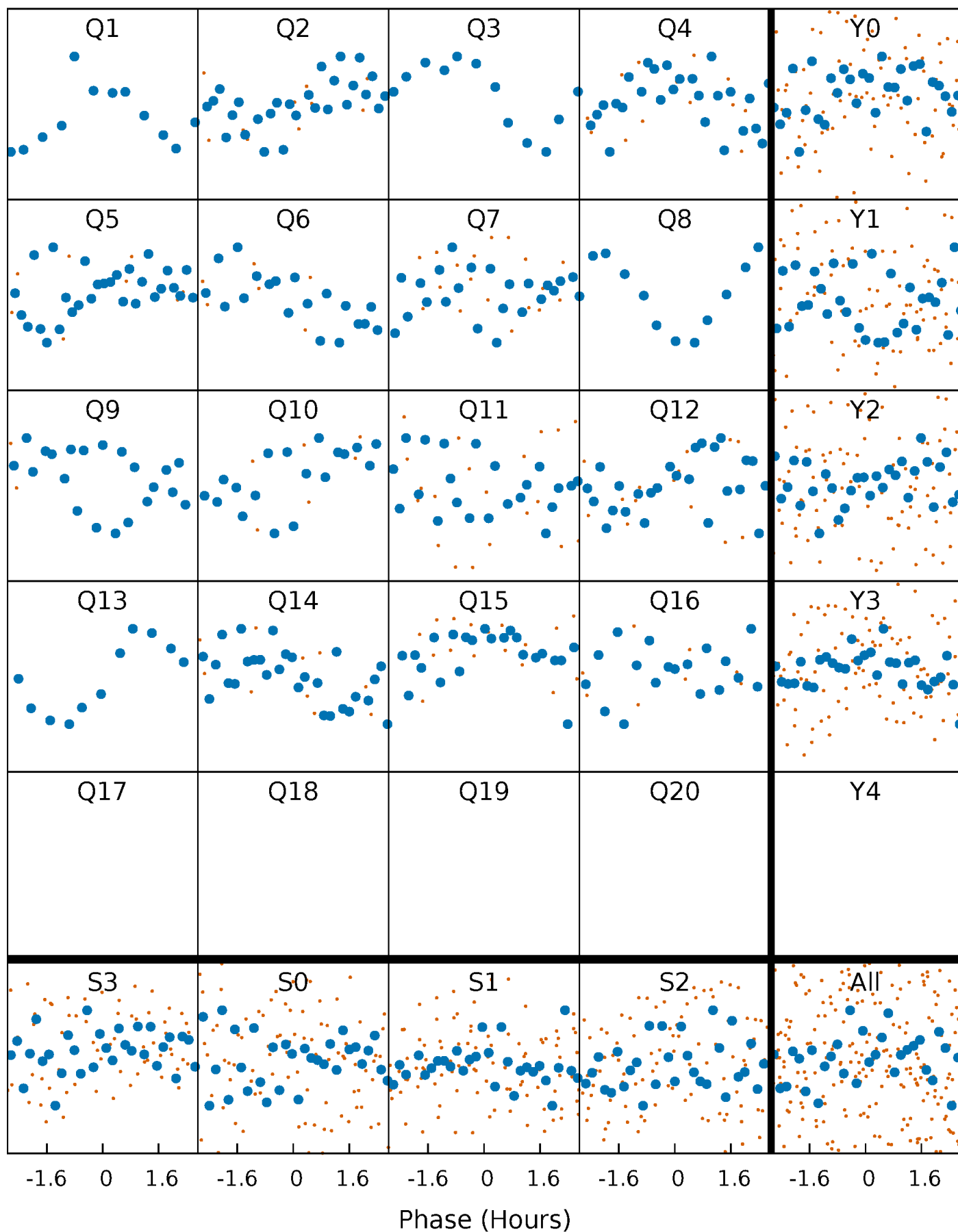


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



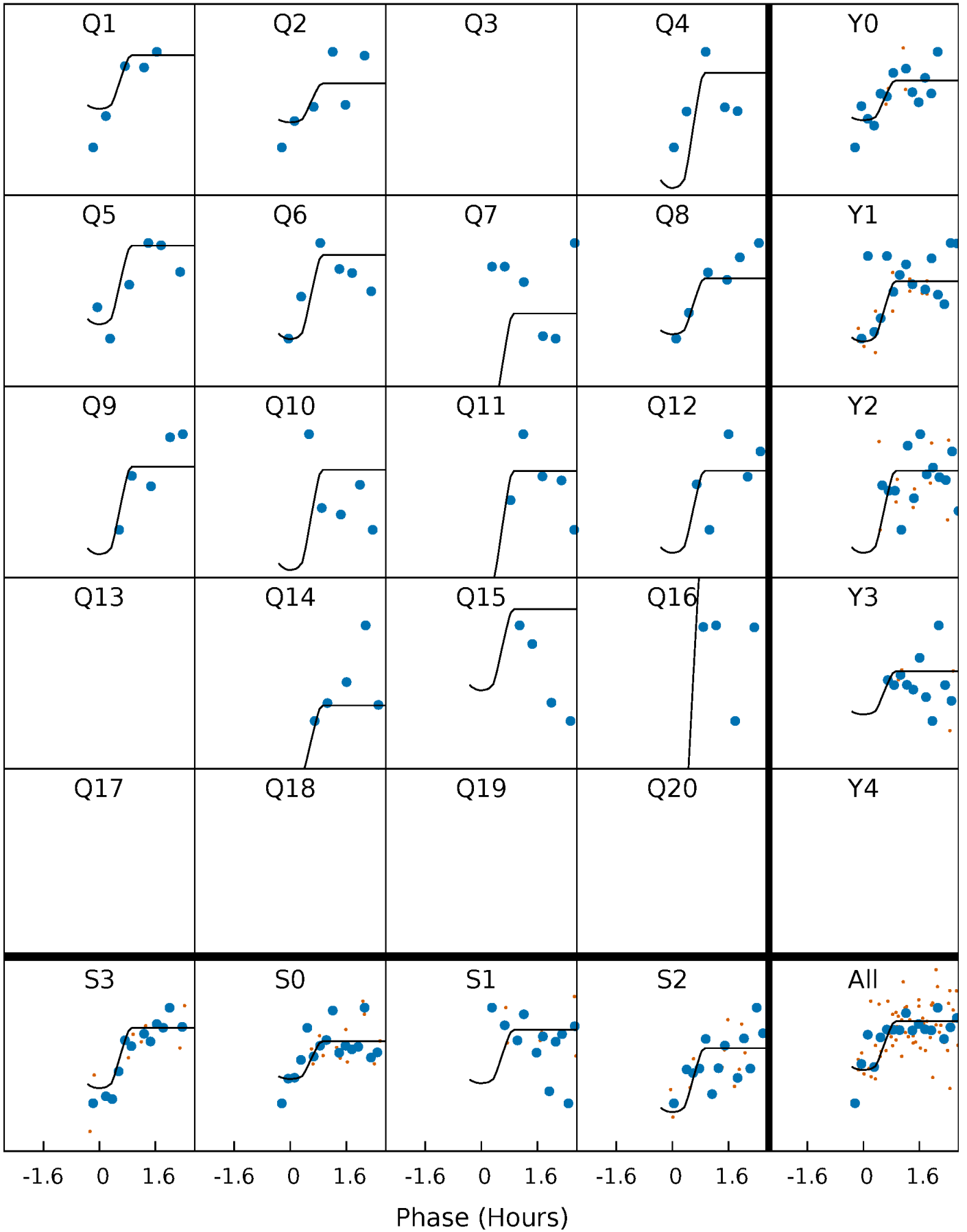
PDC Quarter-Phased Transit Curves

TCE 006233899-05 P= 34.302596 Days $T_0=151.814536$ (BKJD)



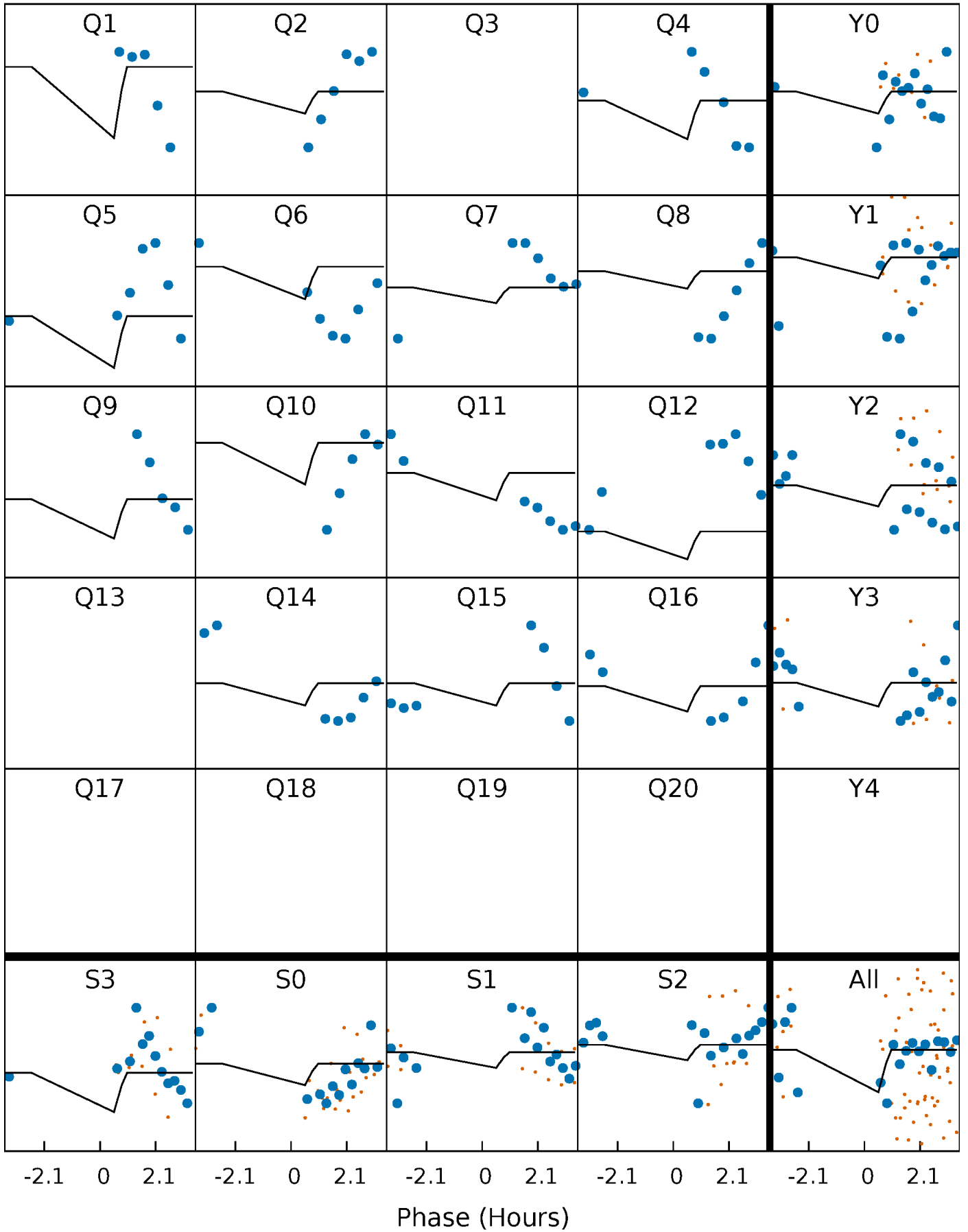
DV Quarter-Phased Transit Curves

TCE 006233899-05 $P = 34.302596$ Days $T_0 = 151.814536$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

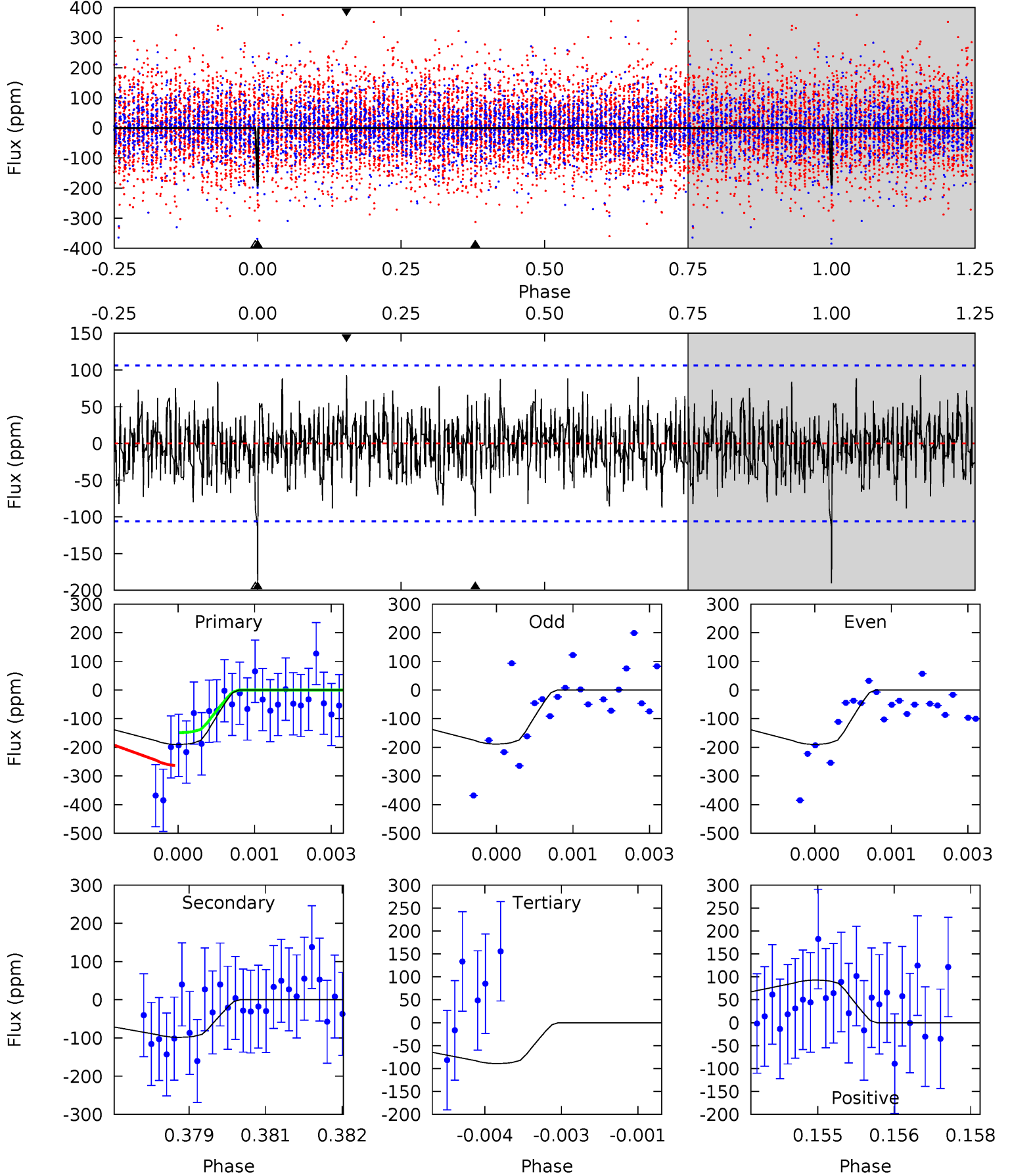
TCE 006233899-05 $P = 34.302749$ Days $T_0 = 151.778112$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-05, P = 34.302596 Days, E = 117.511940 Days

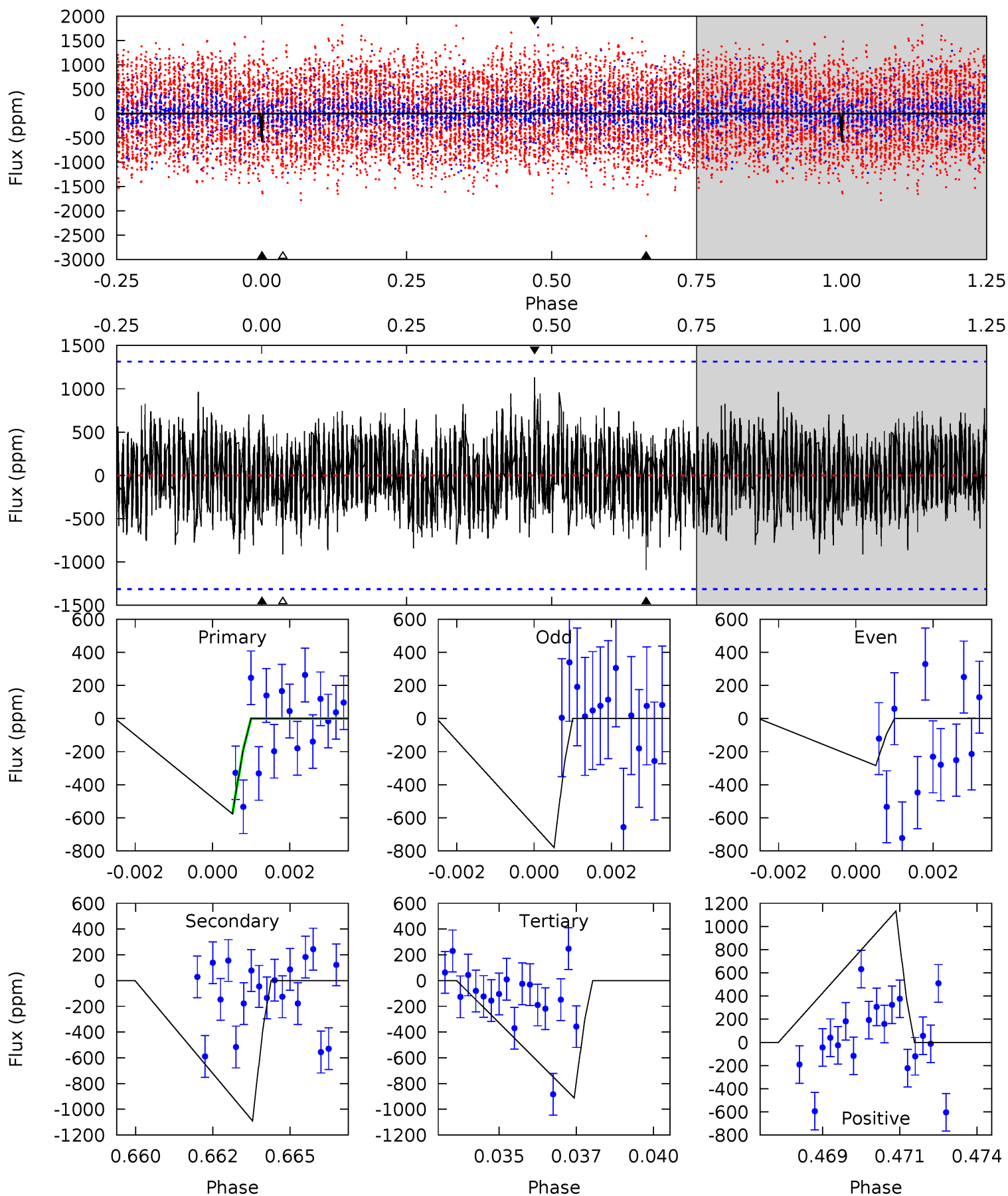
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.67	4.99	4.53	4.72	5.39	3.19	1.37	5.14	4.95	0.47	0.27	0.03	0.80	0.33	2.25



Alt Model-Shift Uniqueness Test

006233899-05, P = 34.302749 Days, E = 117.475363 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.32	4.39	3.67	4.56	5.29	3.03	1.08	-1.35	-2.24	0.72	-0.17	0.94	0	0.51	0



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-98 ± 20	$3.53^{+3.24}_{-2.28}$	1064^{+83}_{-71}	4660^{+3100}_{-987}	227^{+1487}_{-165}
Alt.	-1091 ± 248	$4.35^{+3.10}_{-2.75}$	1065^{+86}_{-64}	7631^{+8190}_{-1944}	1604^{+9617}_{-1079}

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

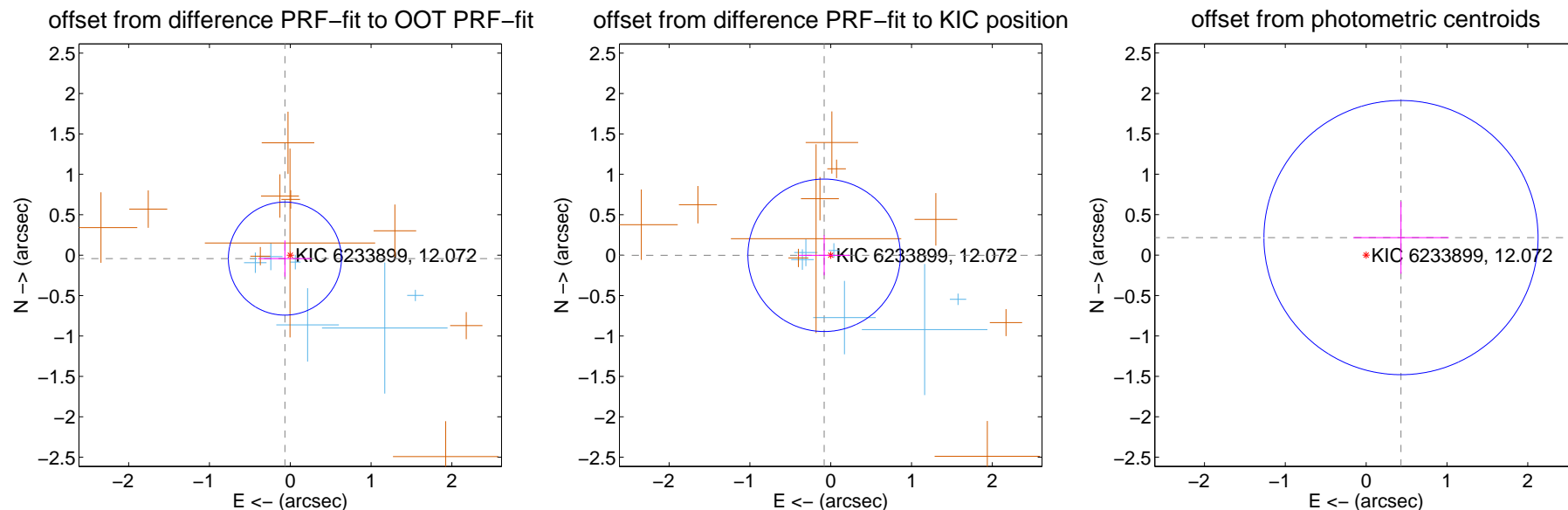
DV Centroid Data

Supplemental centroid analysis for 006233899-05. Kepler magnitude: 12.07. Transit SNR 10.39

There are 6 quarters with good PRF difference image offsets

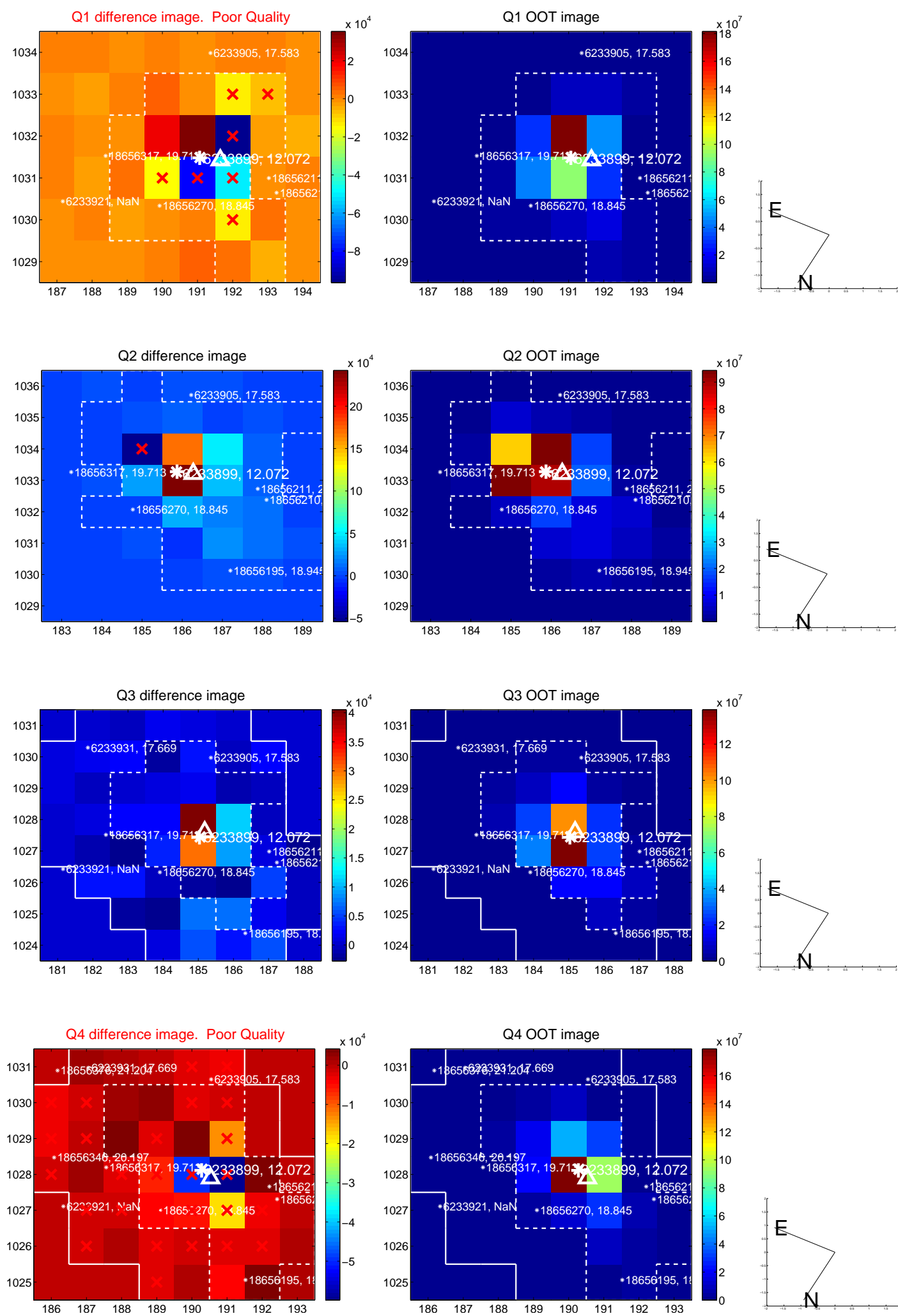
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.079 ± 0.233	0.34	0.066 ± 0.330	-0.043 ± 0.225
PRF-fit source offset from KIC position	0.082 ± 0.314	0.26	0.082 ± 0.318	-0.002 ± 0.247
photometric centroid source offset	0.48 ± 0.57	0.85	-0.43 ± 0.59	0.22 ± 0.45

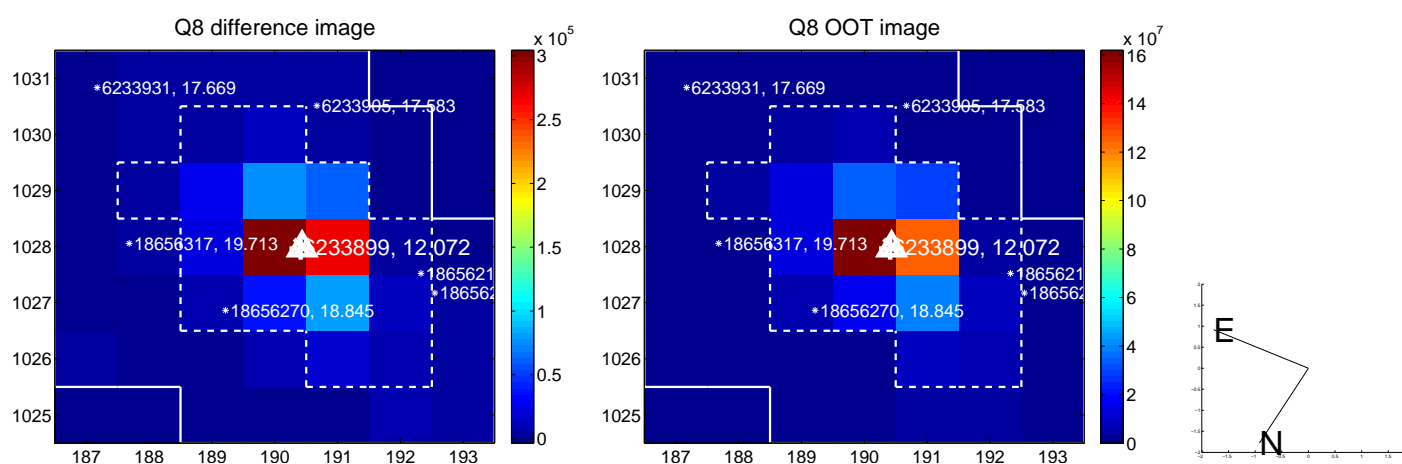
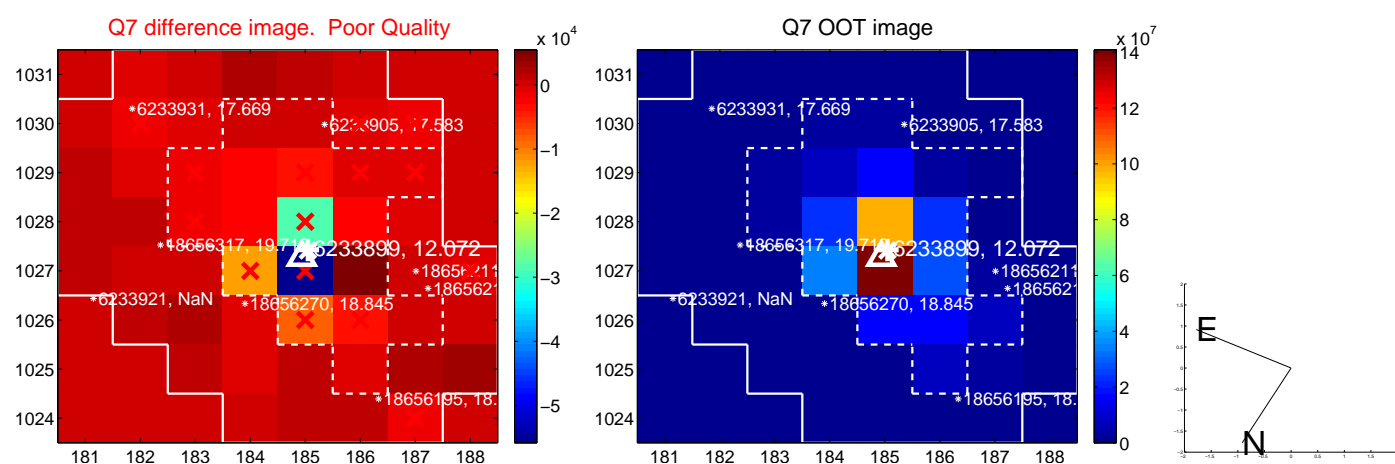
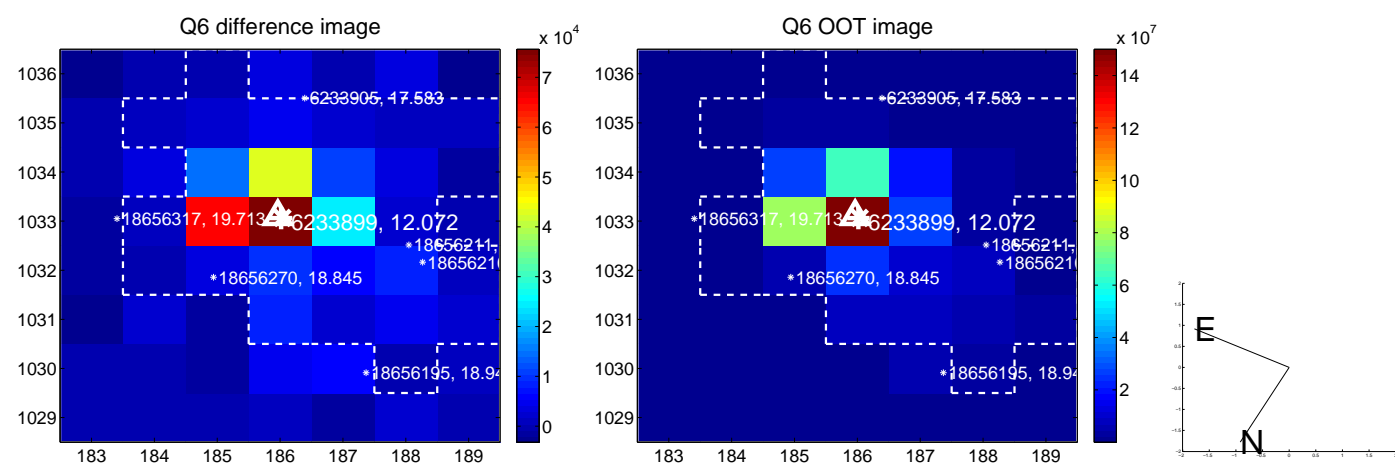
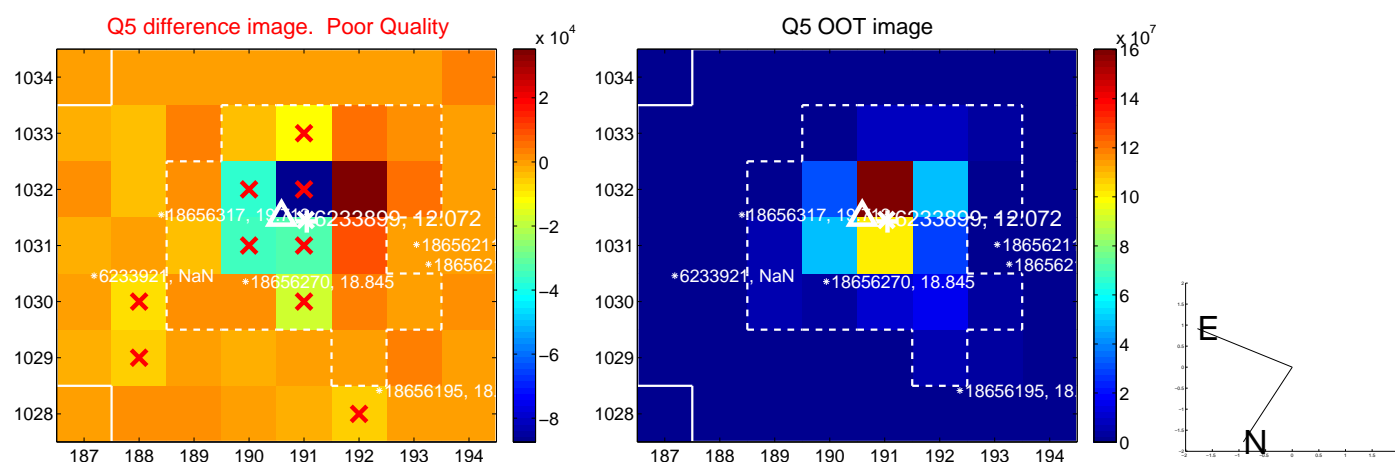


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

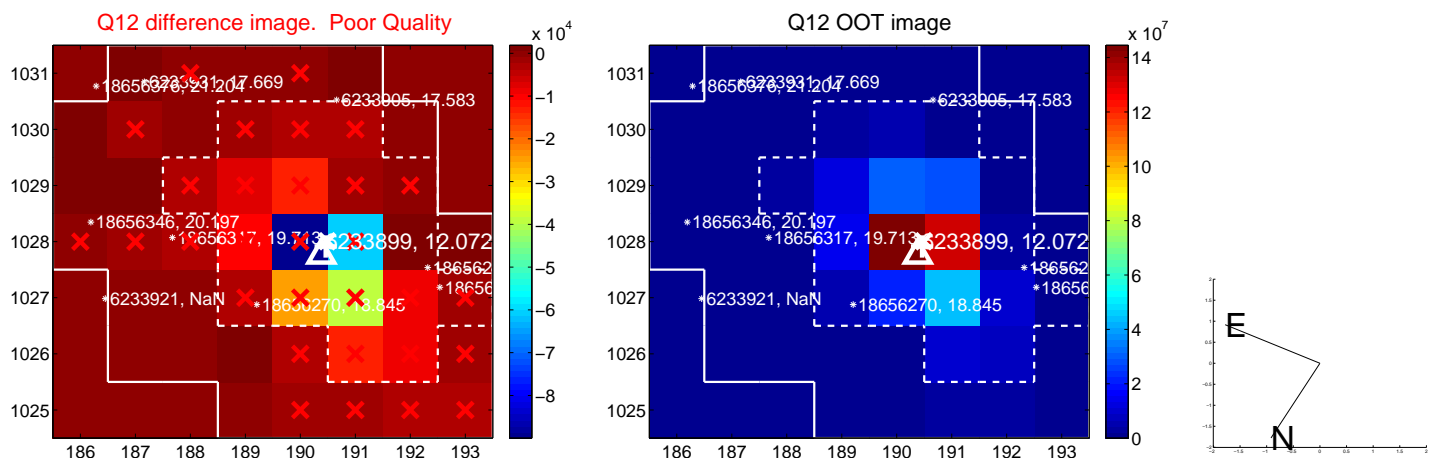
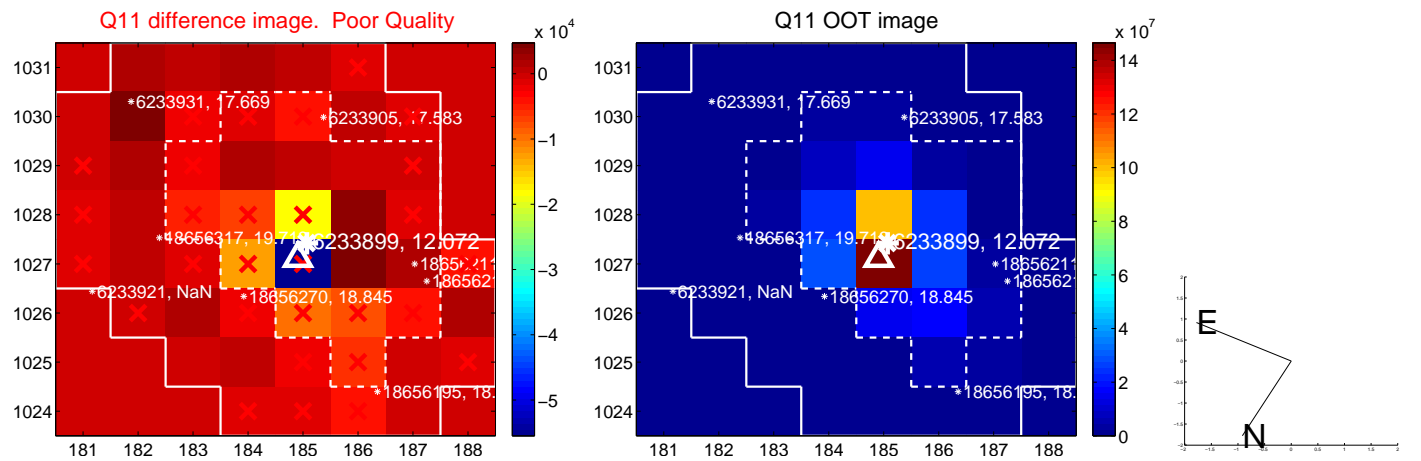
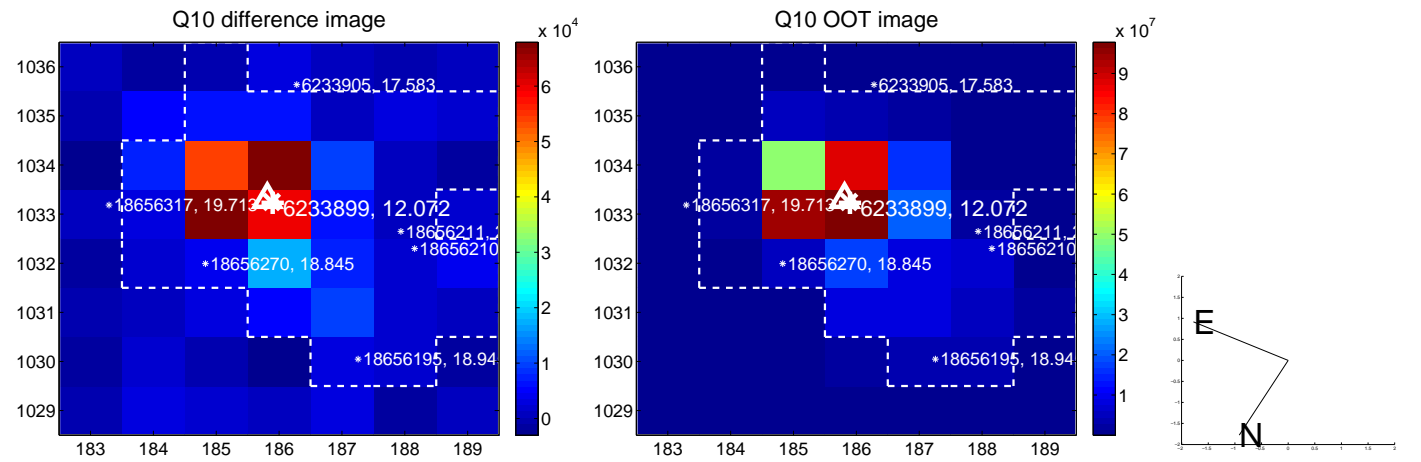
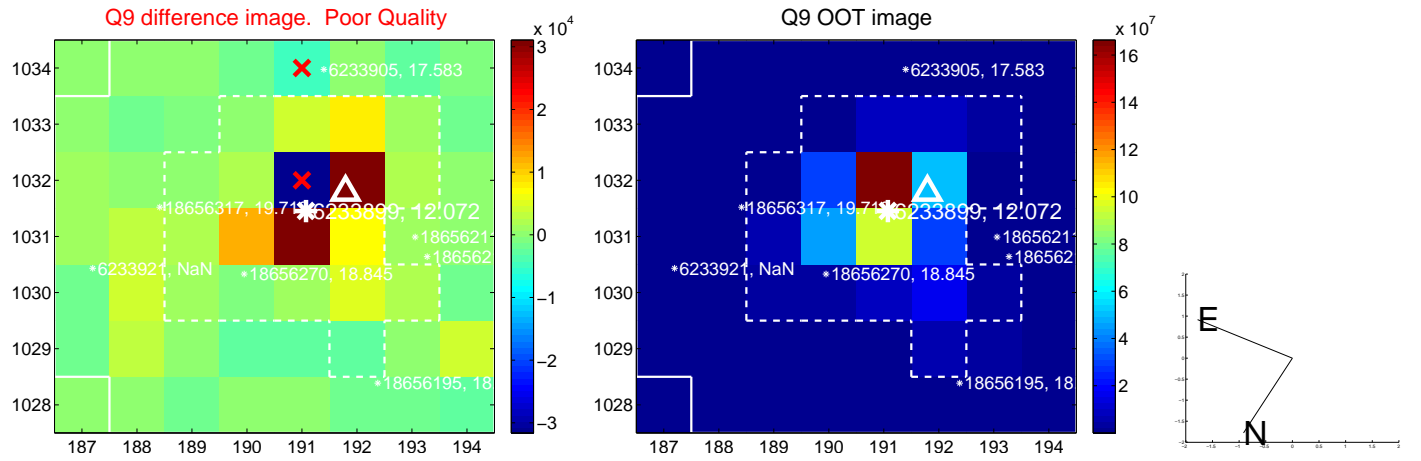
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



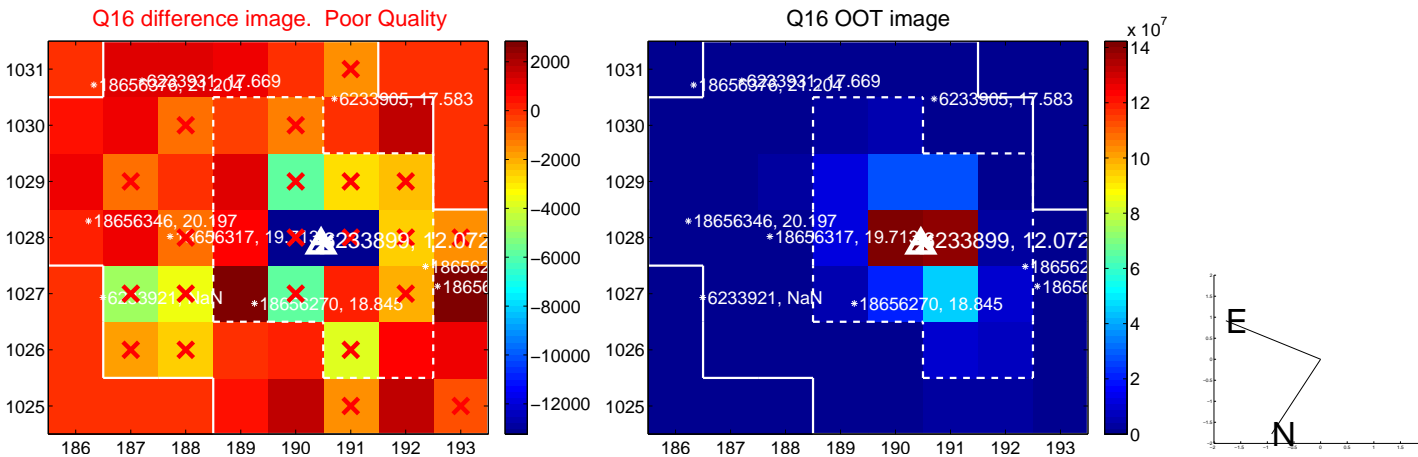
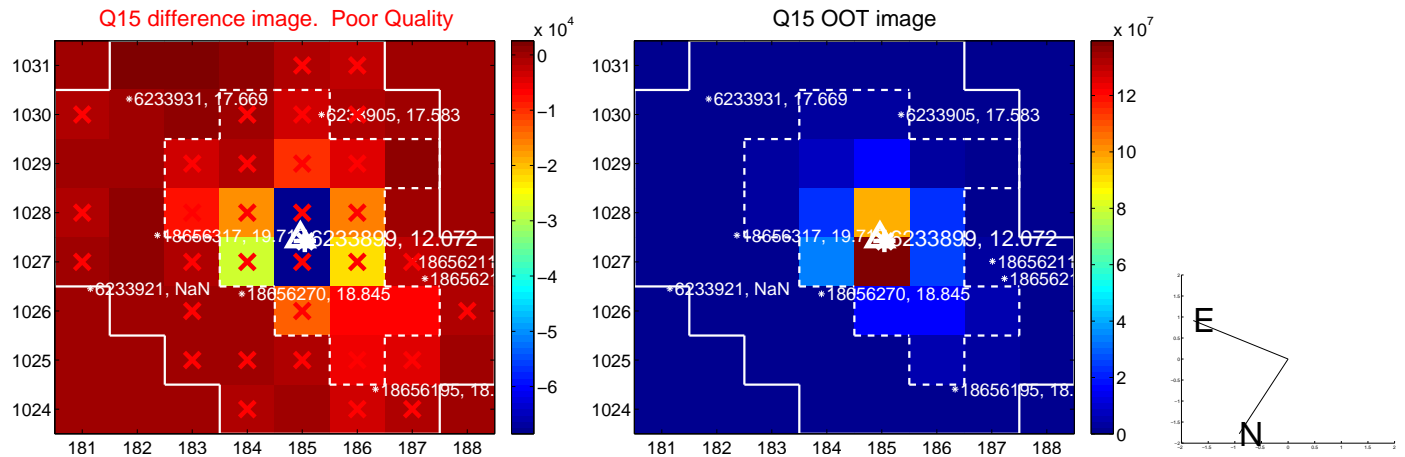
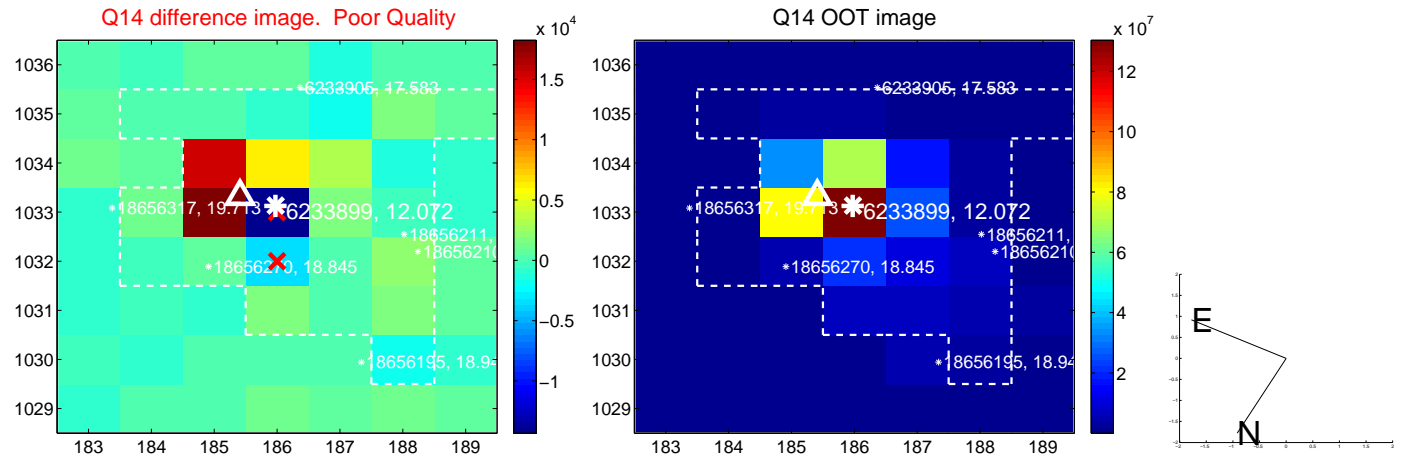
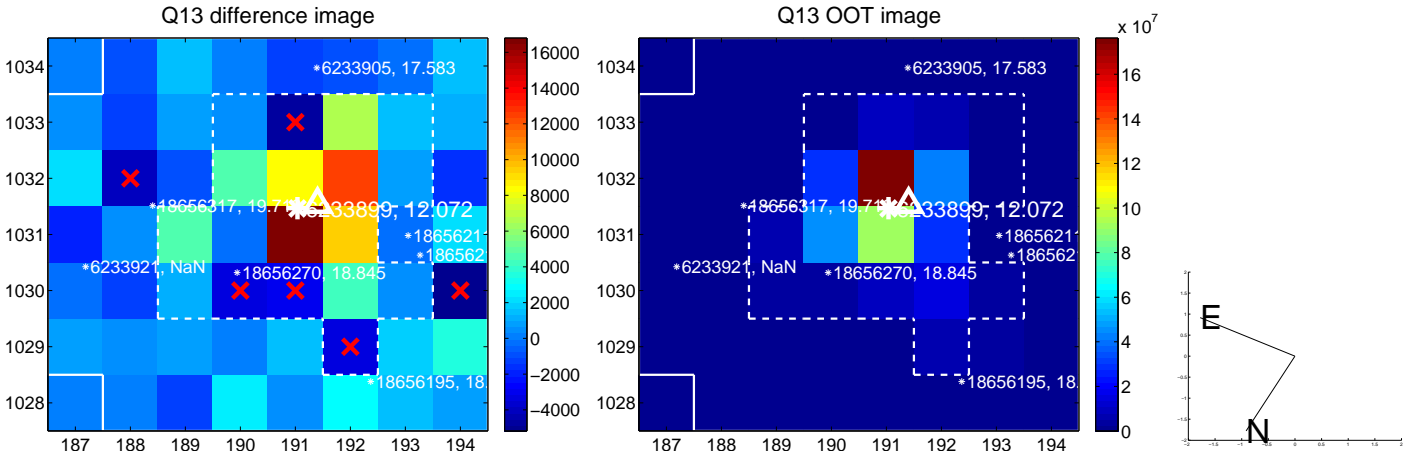
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



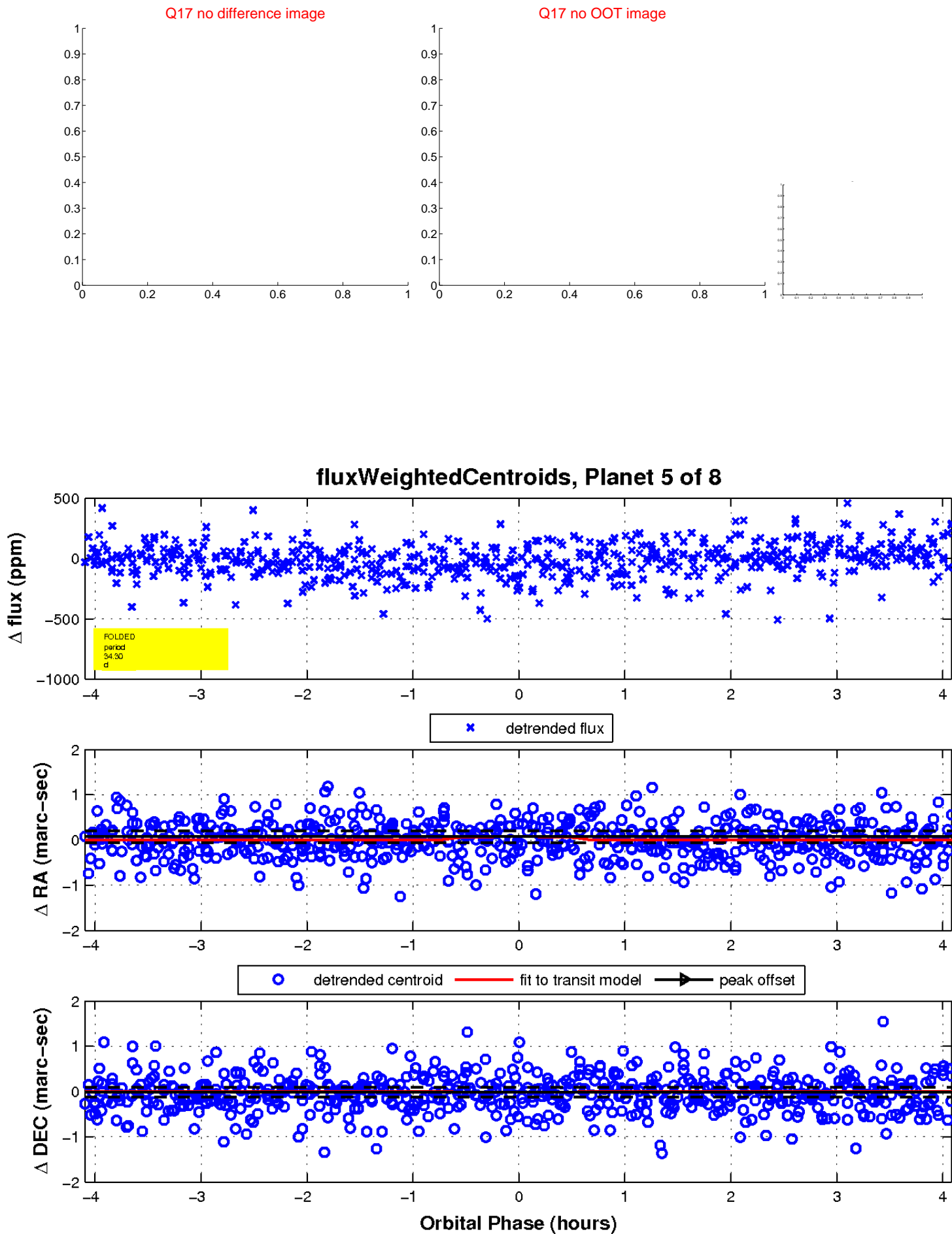
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

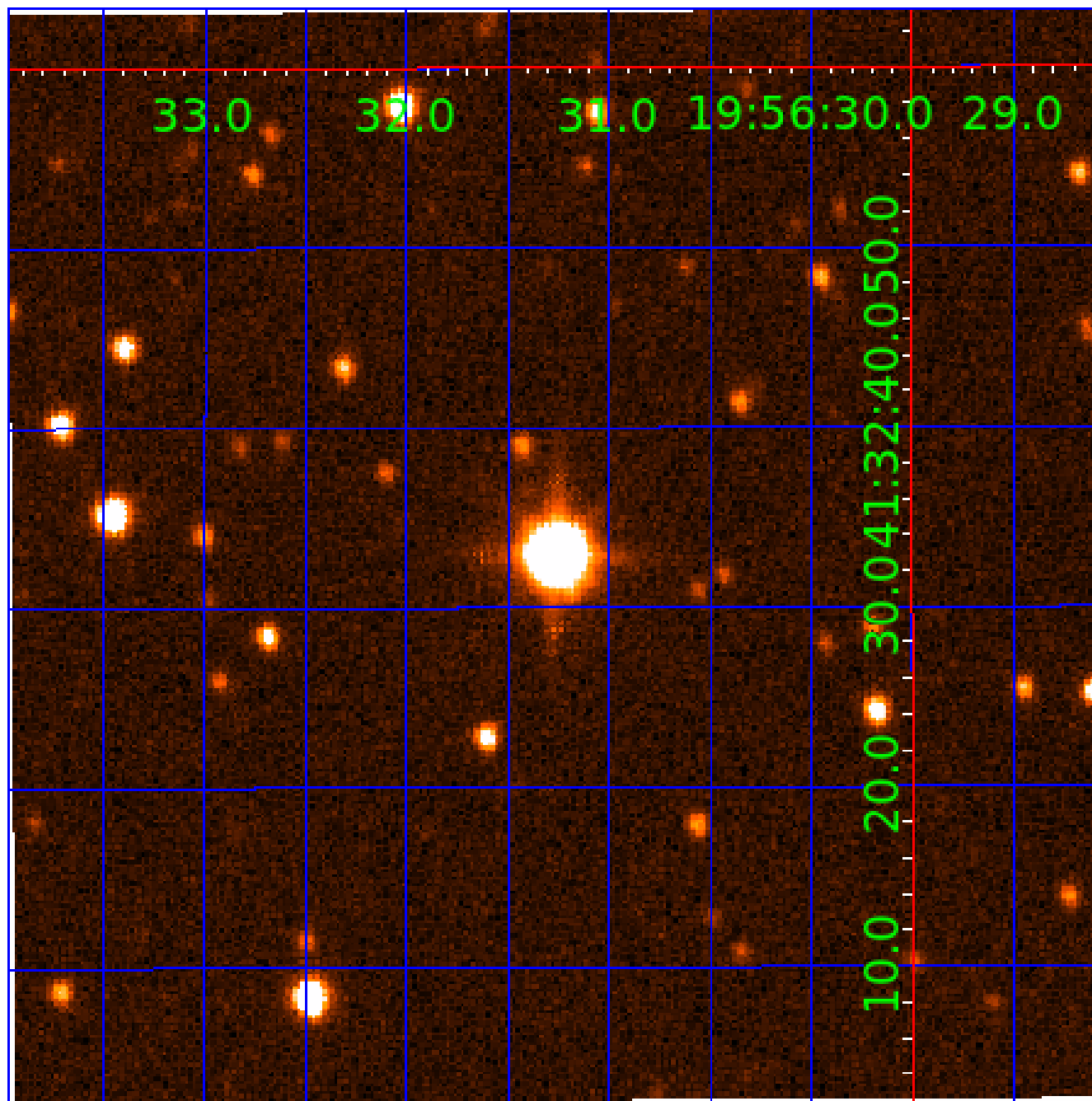


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

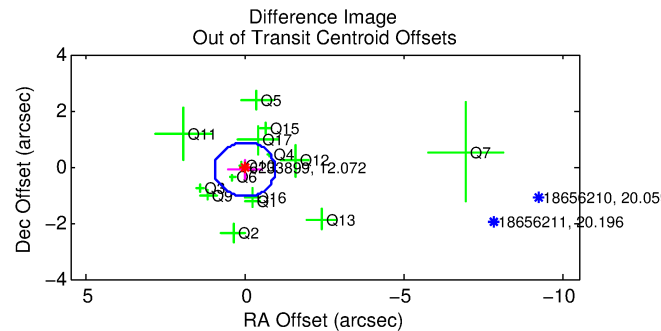
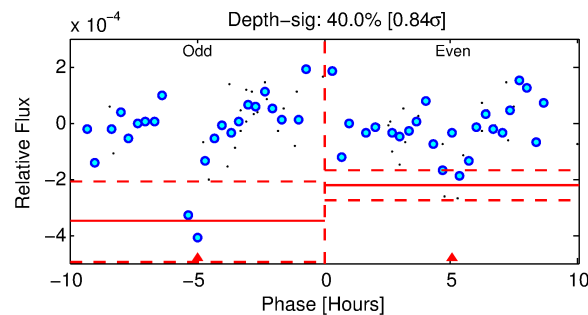
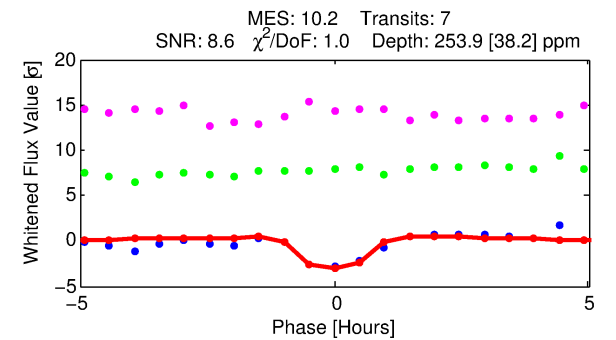
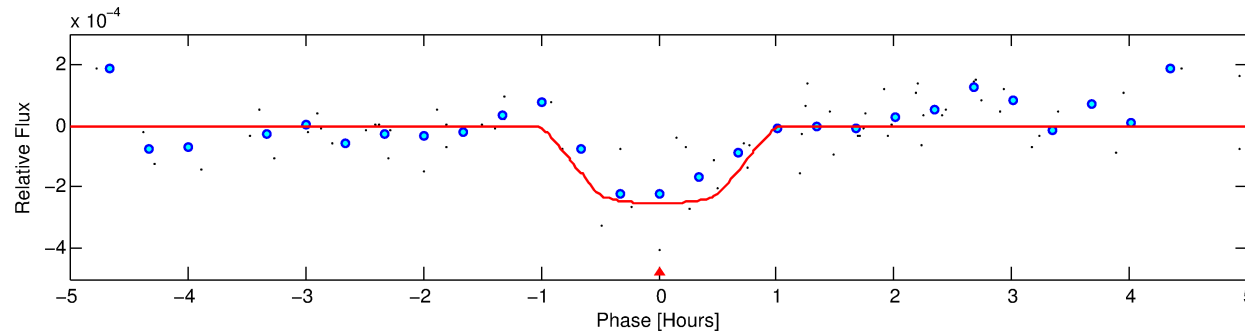
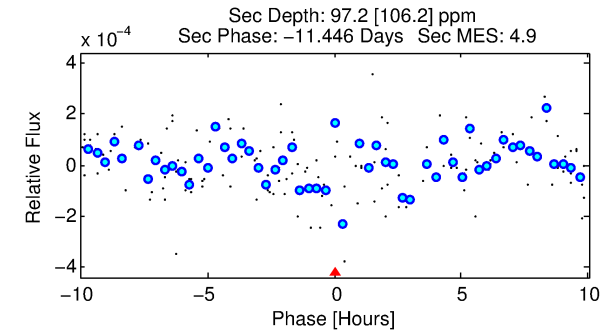
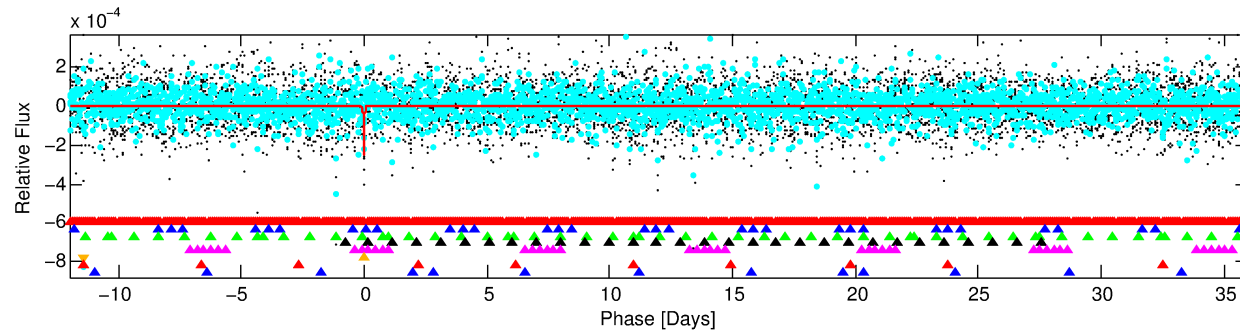
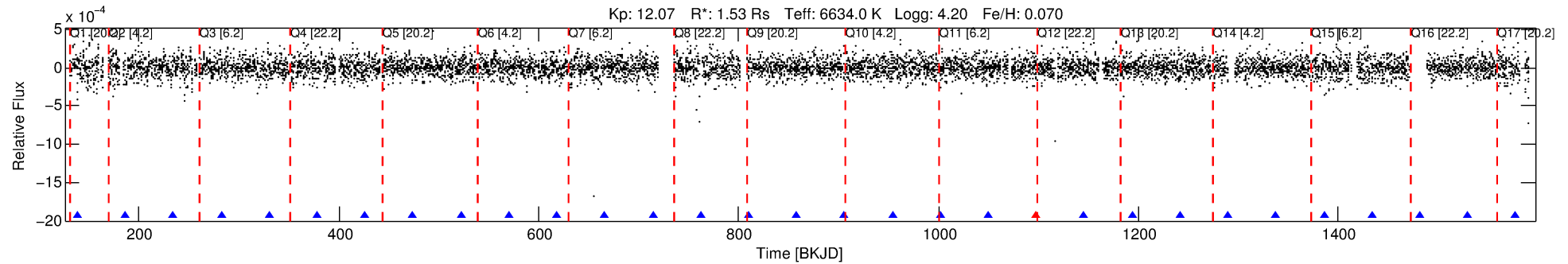
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-06

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 6 of 8 Period: 47.967 d



DV Fit Results:

Period = 47.96719 [0.00036] d
Epoch = 138.5410 [0.0059] BKJD
Rp/R* = 0.0171 [0.0109]
a/R* = 103.63 [367.05]
b = 0.90 [0.75]
Seff = 49.68 [20.07]
Teff = 677 [68] K
Rp = 2.85 [2.04] Re
a = 0.2856 [0.0759] AU
Ag = 535.37 [921.04] [0.58σ]
Teffp = 5035 [2122] K [2.05σ]

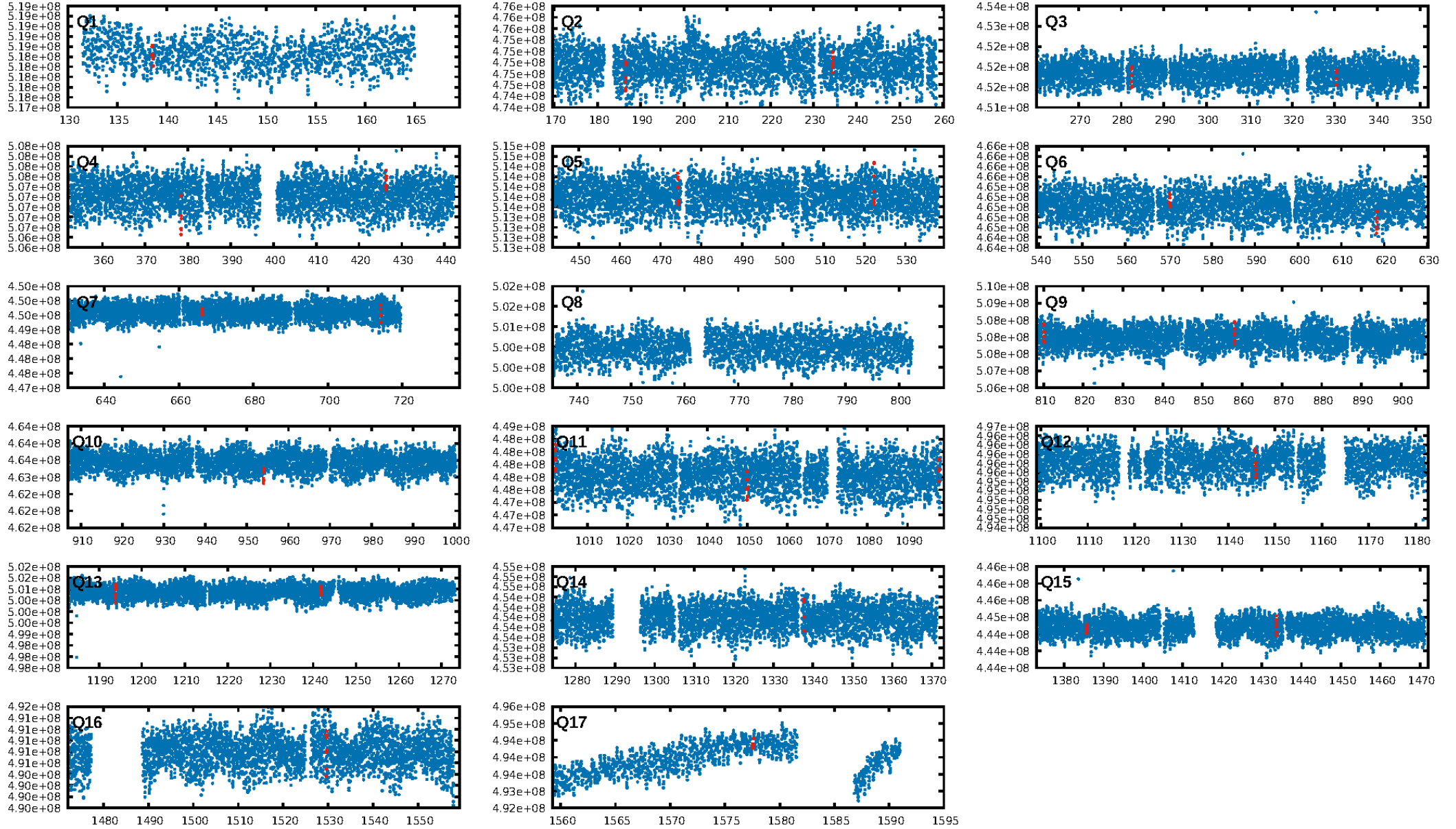
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.32σ]
LongPeriod-sig: 100.0% [7.24σ]
ModelChiSquare2-sig: 6.4%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 0.06801
Centroid-sig: 28.2%
Centroid-so: 0.237 arcsec [0.48σ]
OotOffset-rm: 0.099 arcsec [0.31σ]
KicOffset-rm: 0.088 arcsec [0.20σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.33 [5/15]
DiffImageOverlap-fno: 0.20 [3/15]

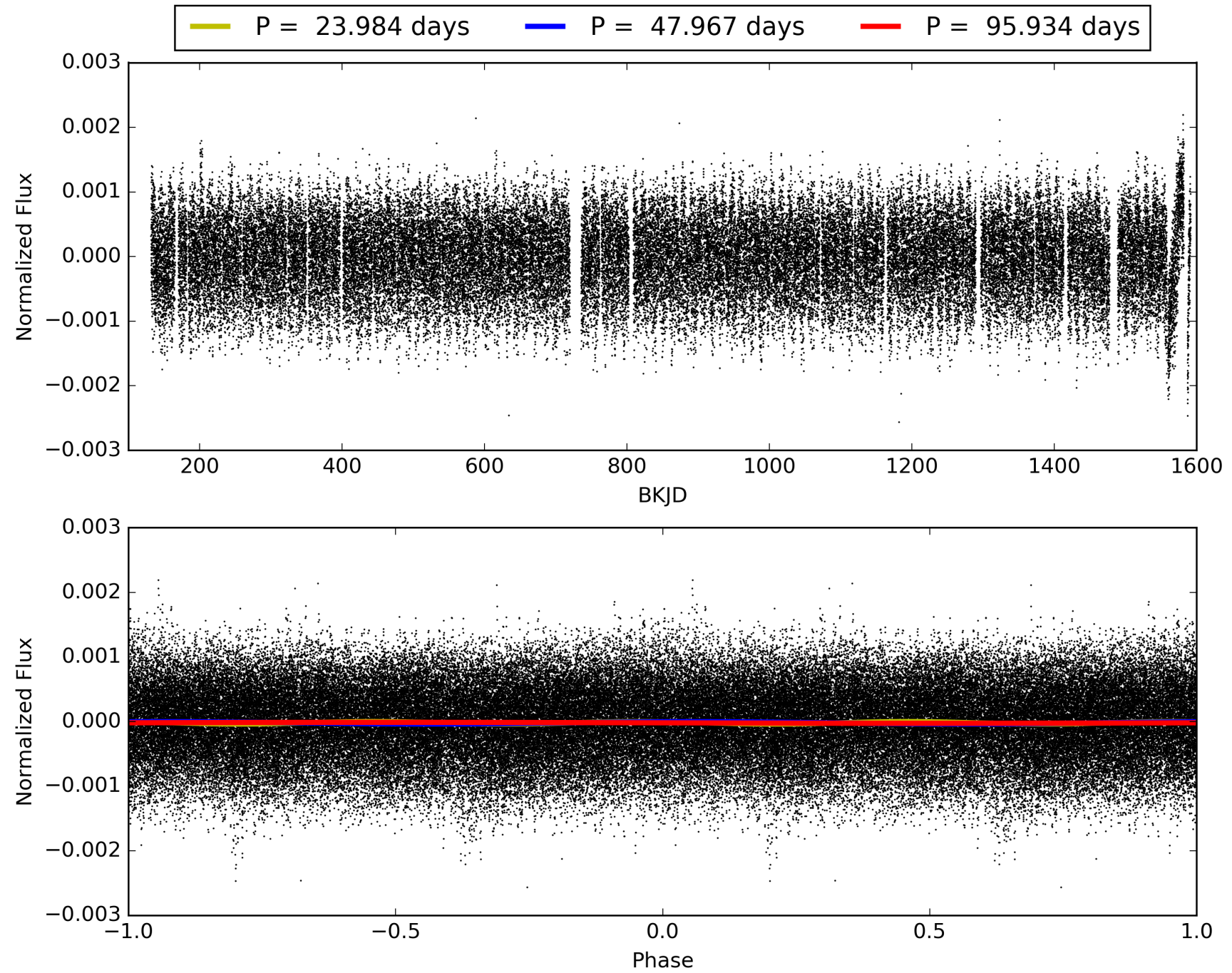
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:22 Z

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

TCE 006233899-06, PDC Light Curves

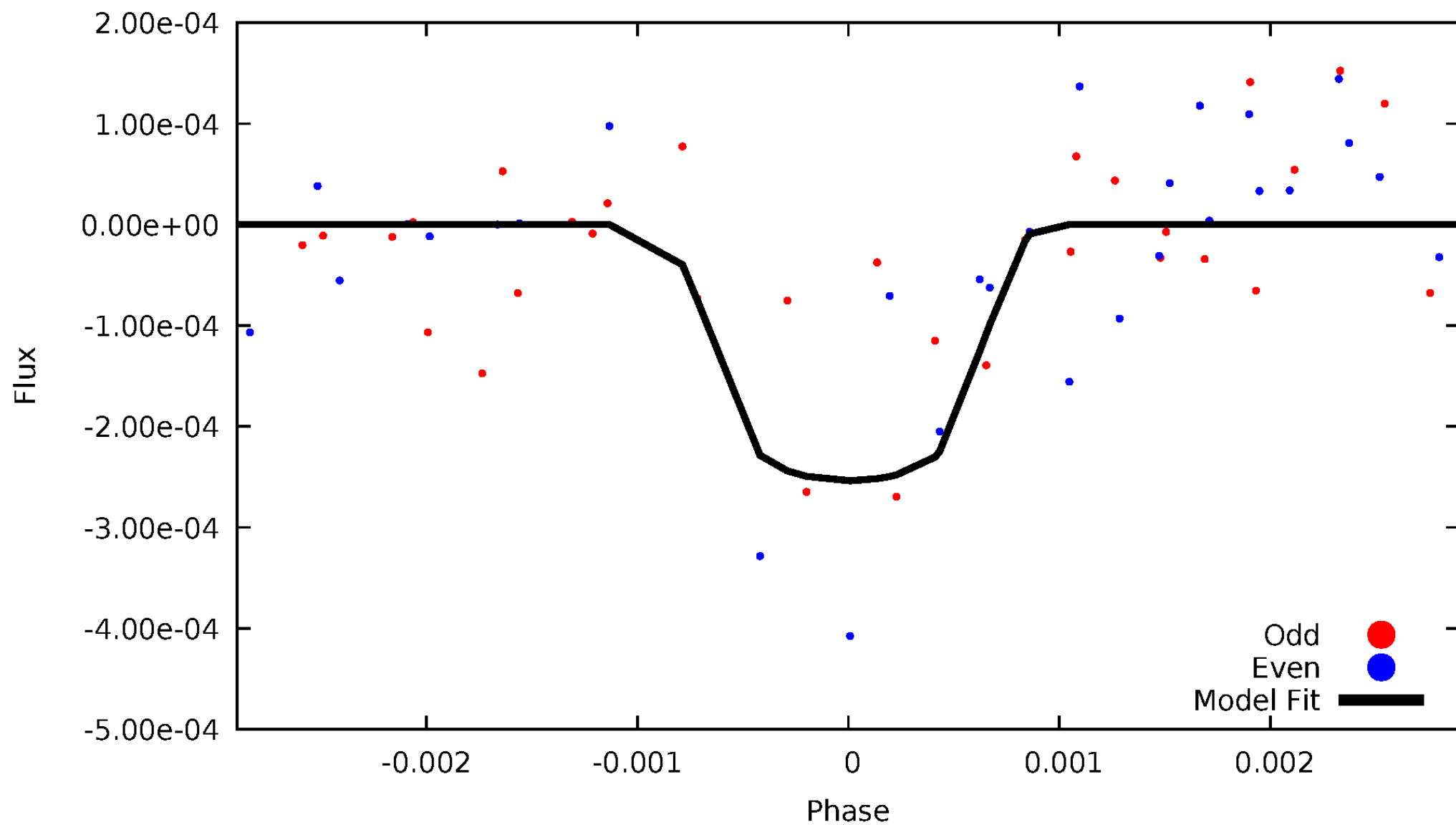


TCE 006233899-06



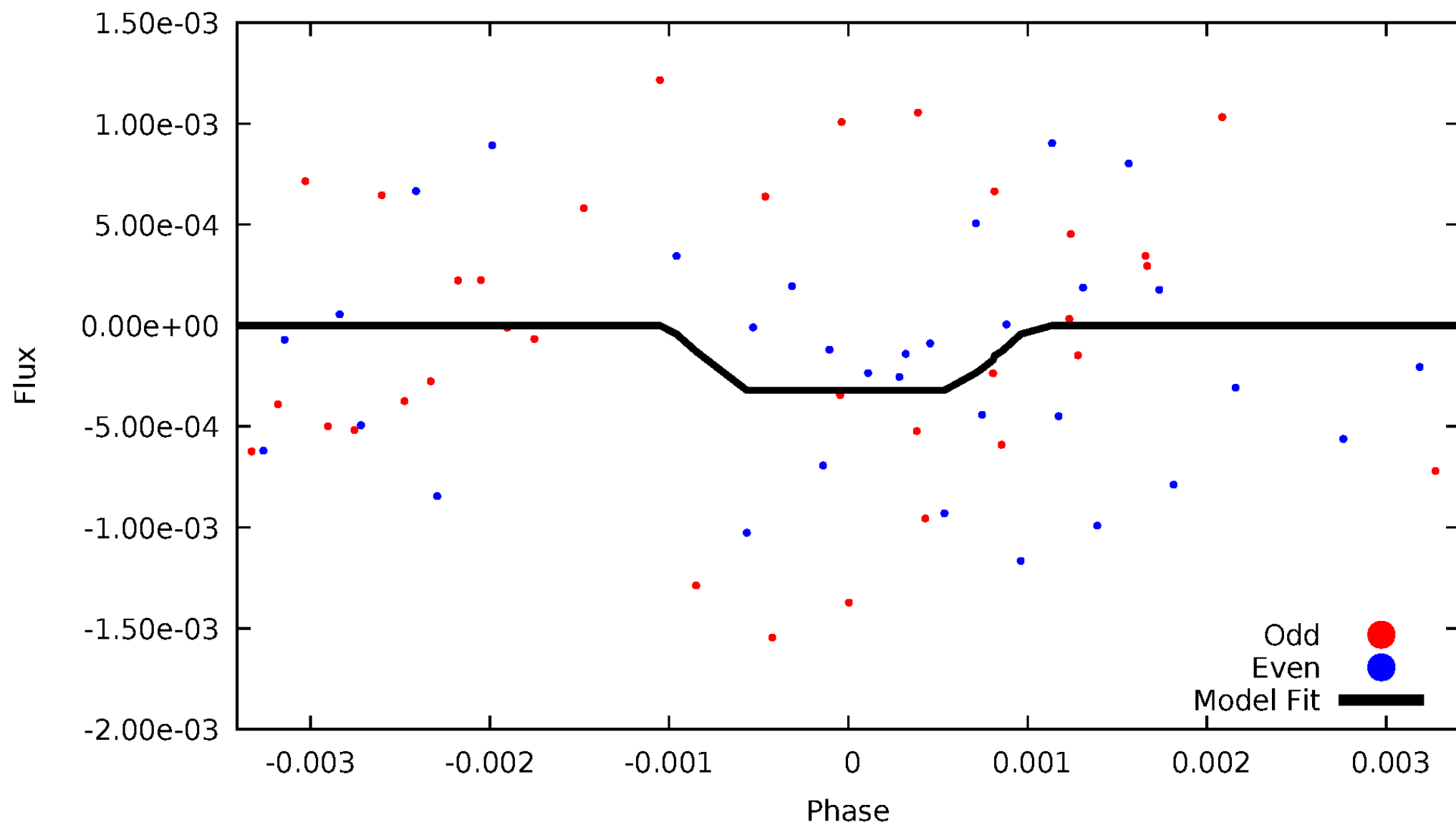
DV Odd/Even

TCE 006233899-06



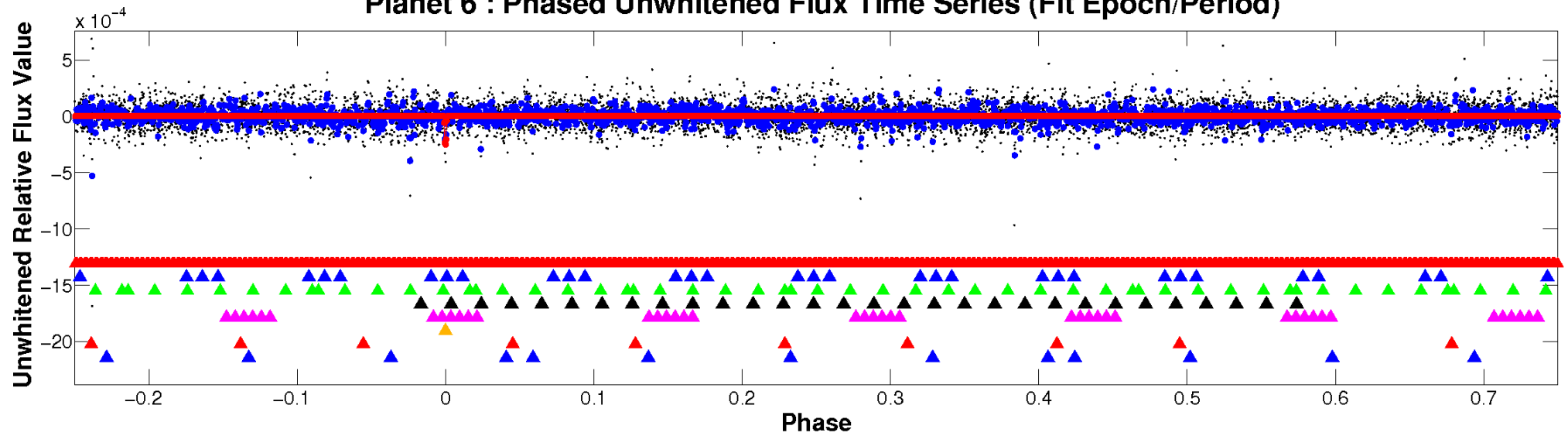
ALT Odd/Even

TCE 006233899-06

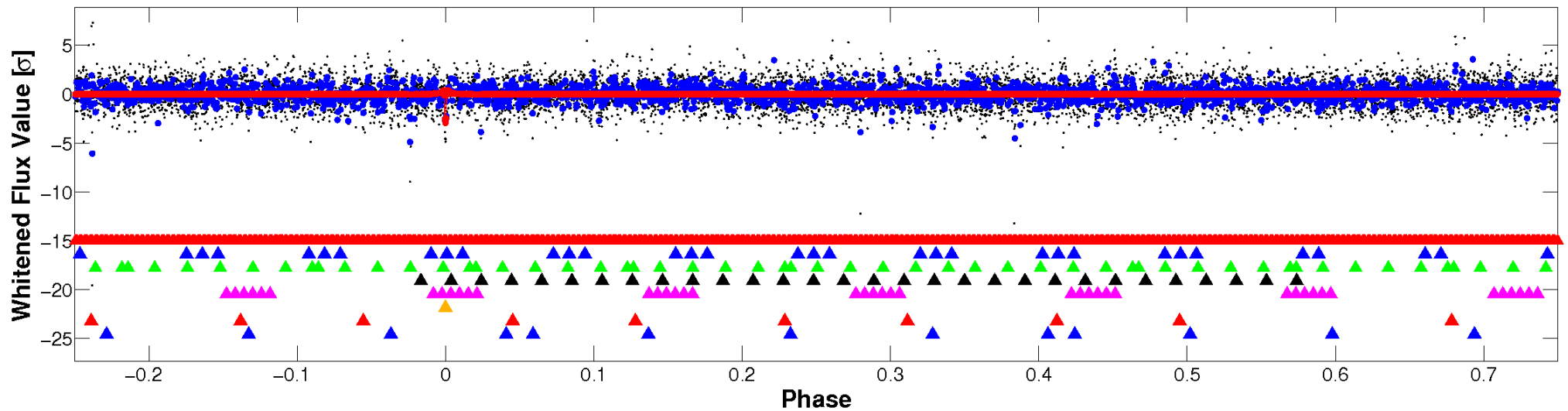


Non-Whitened Vs. Whitened Light Curve

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

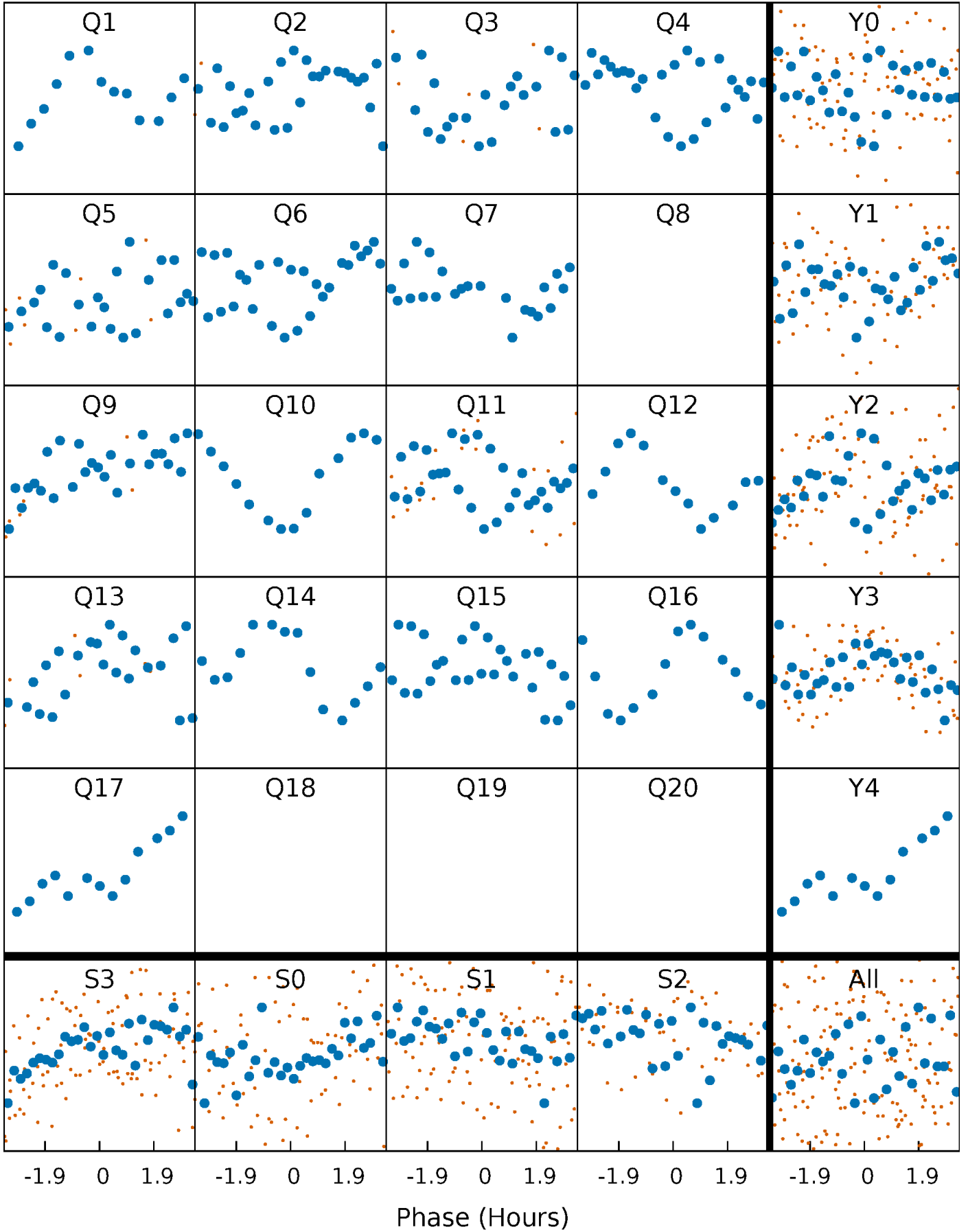


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



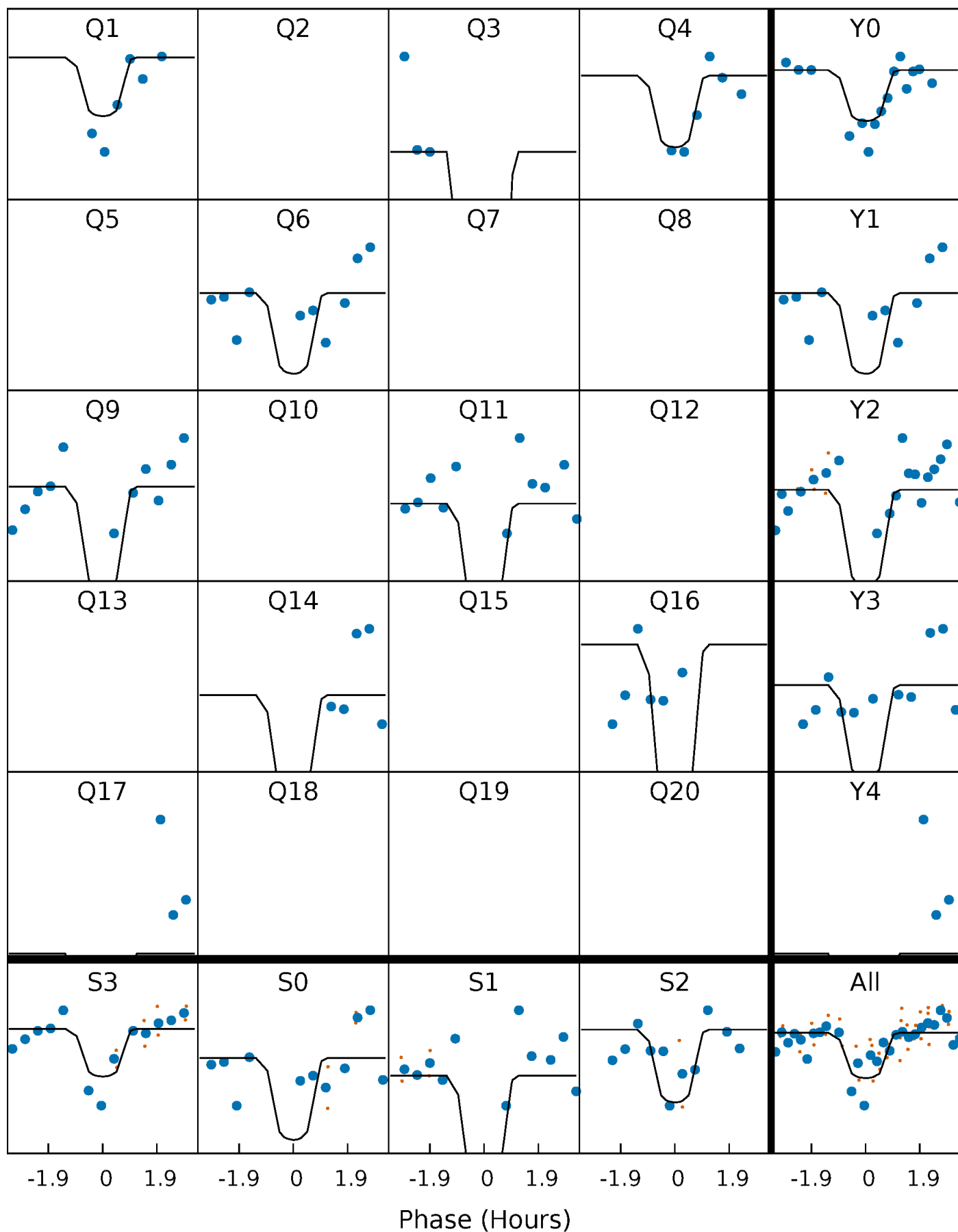
PDC Quarter-Phased Transit Curves

TCE 006233899-06 $P = 47.967191$ Days $T_0 = 138.541048$ (BKJD)



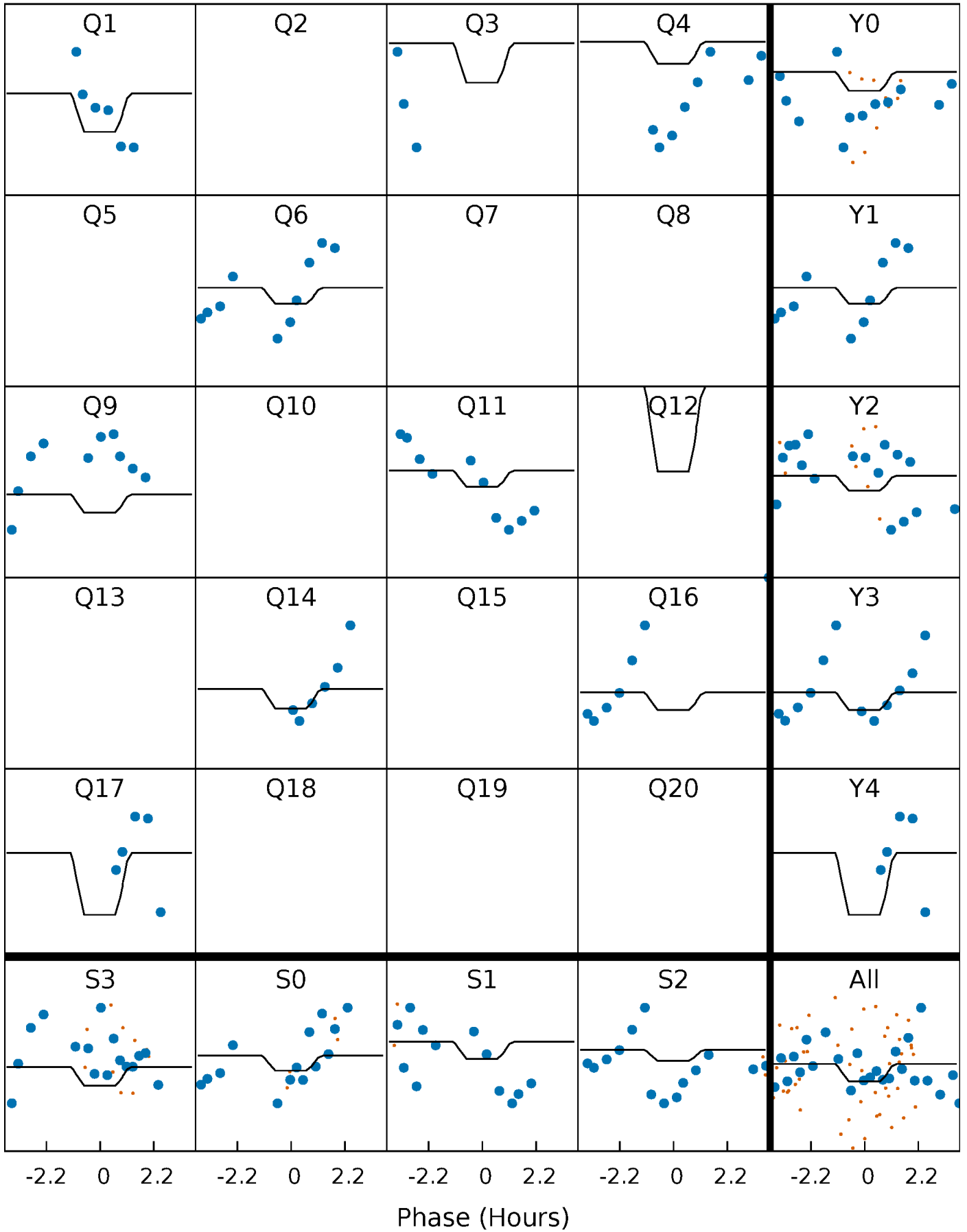
DV Quarter-Phased Transit Curves

TCE 006233899-06 P= 47.967191 Days $T_0=138.541048$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

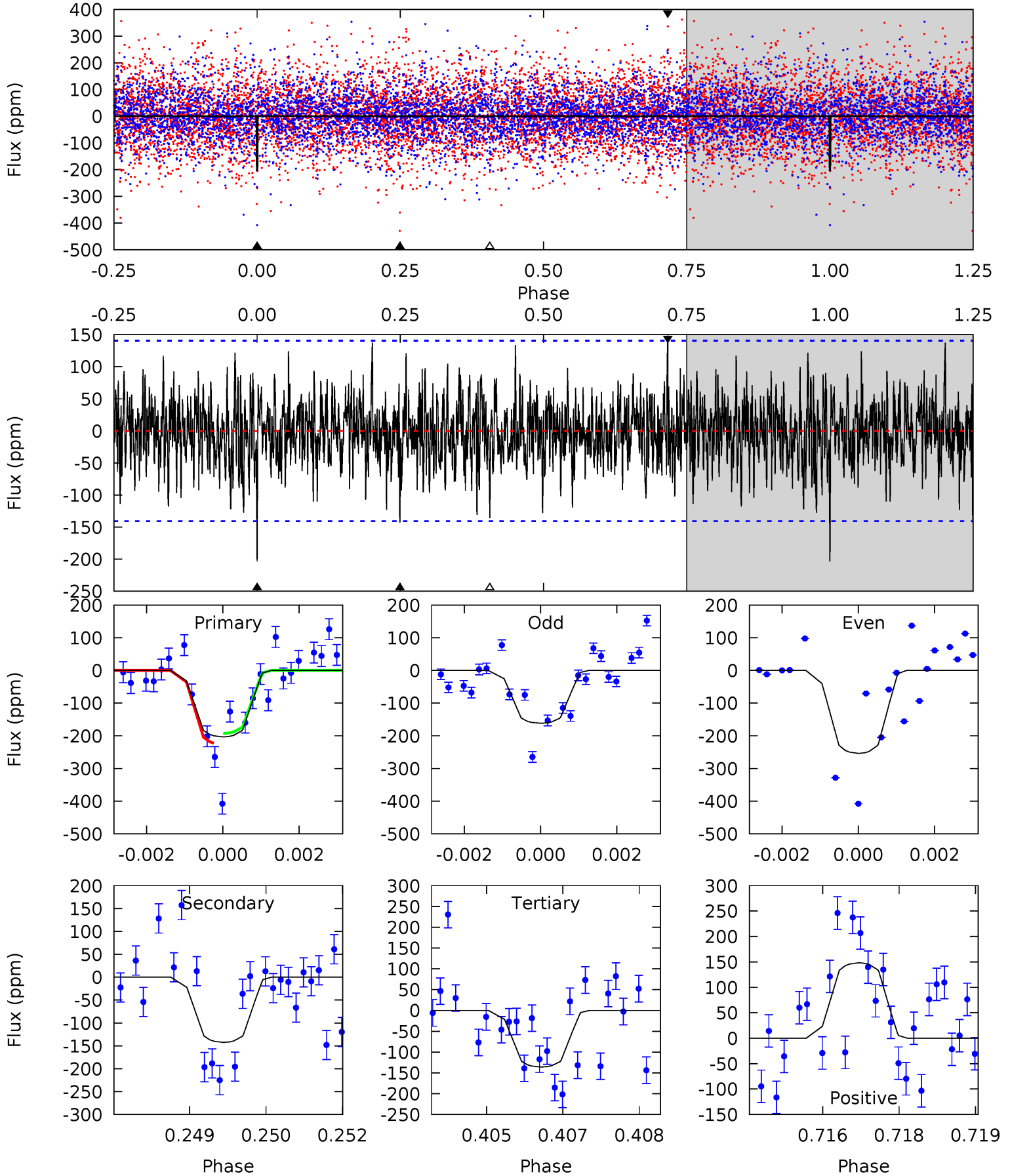
TCE 006233899-06 P= 47.968263 Days $T_0=138.566913$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-06, P = 47.967191 Days, E = 90.573857 Days

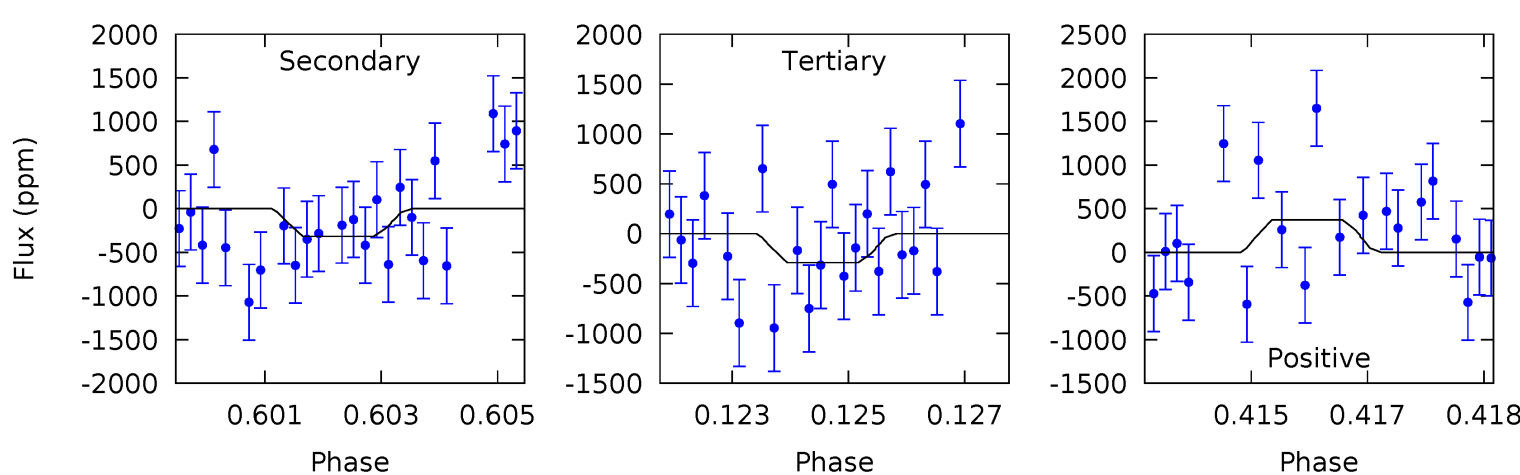
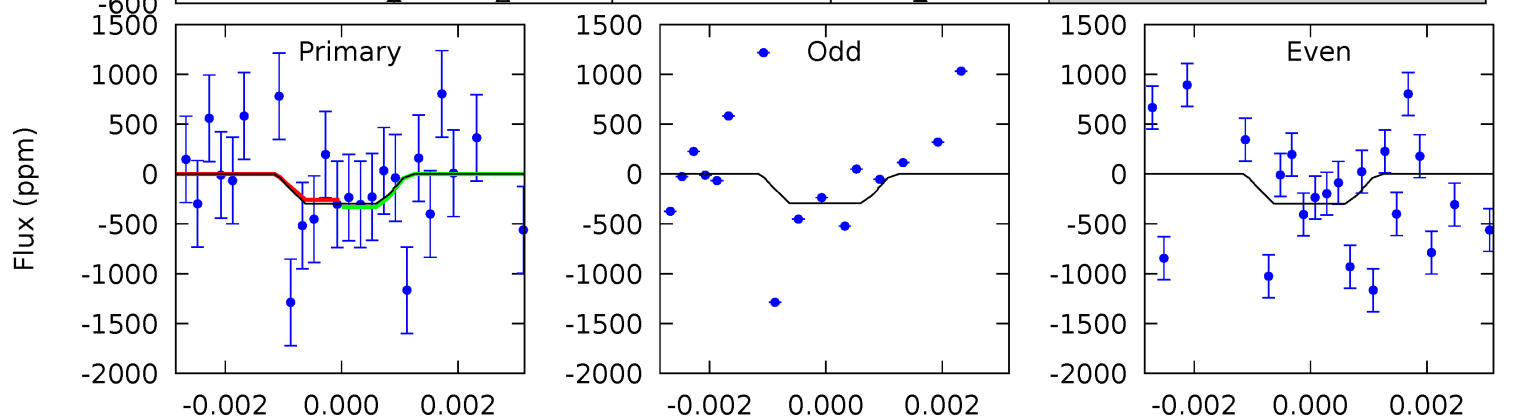
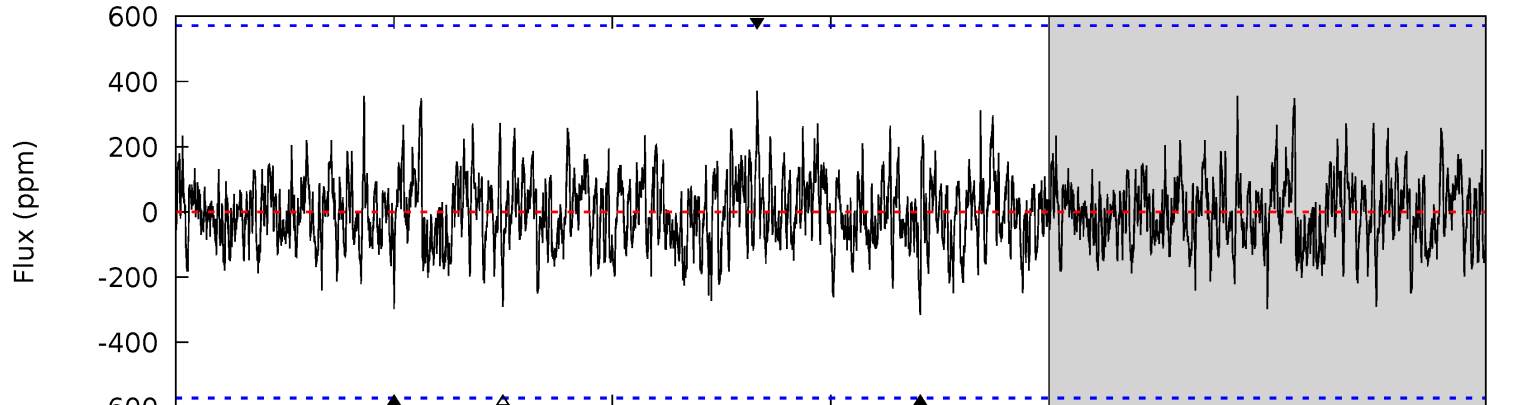
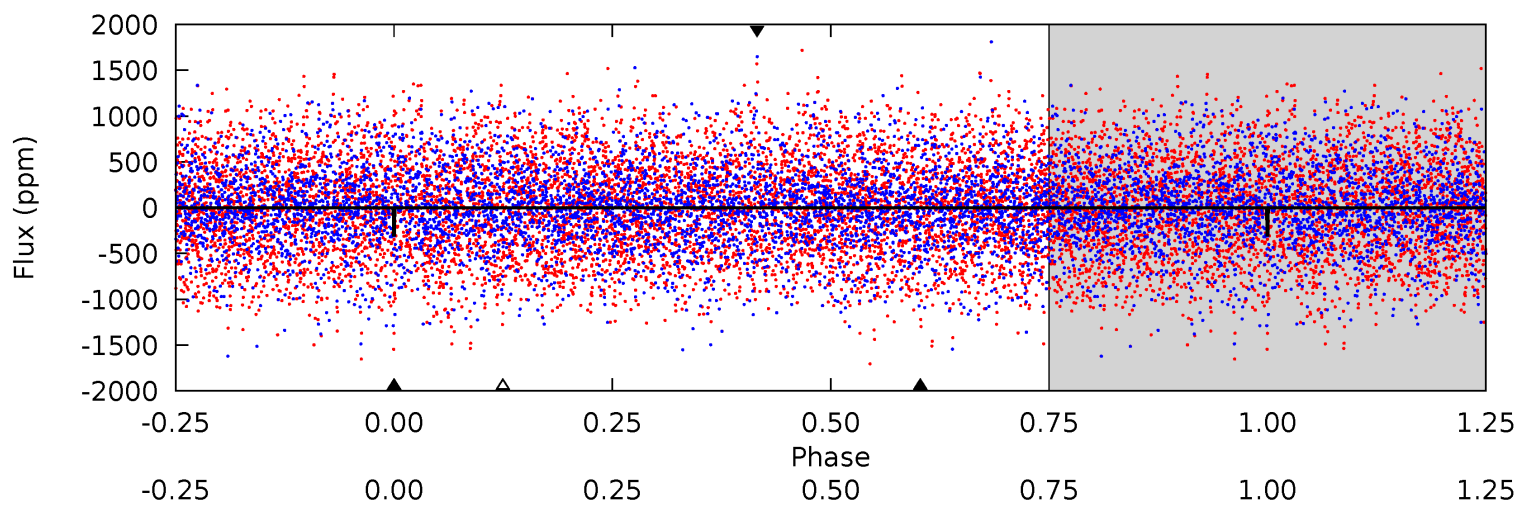
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.75	5.43	5.17	5.65	5.36	3.15	1.52	2.58	2.10	0.25	-0.22	1.74	1.40	0.42	0.52



Alt Model-Shift Uniqueness Test

006233899-06, P = 47.968263 Days, E = 90.598650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.78	2.96	2.72	3.47	5.34	3.12	0.89	0.06	-0.69	0.24	-0.51	0.02	0.74	0.54	0.33



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-143 ± 26	$3.12^{+1.89}_{-1.74}$	950^{+74}_{-64}	5360^{+2998}_{-964}	662^{+2632}_{-415}
Alt.	-316 ± 107	$3.17^{+2.00}_{-1.67}$	958^{+78}_{-63}	6394^{+3682}_{-1350}	1329^{+4372}_{-870}

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

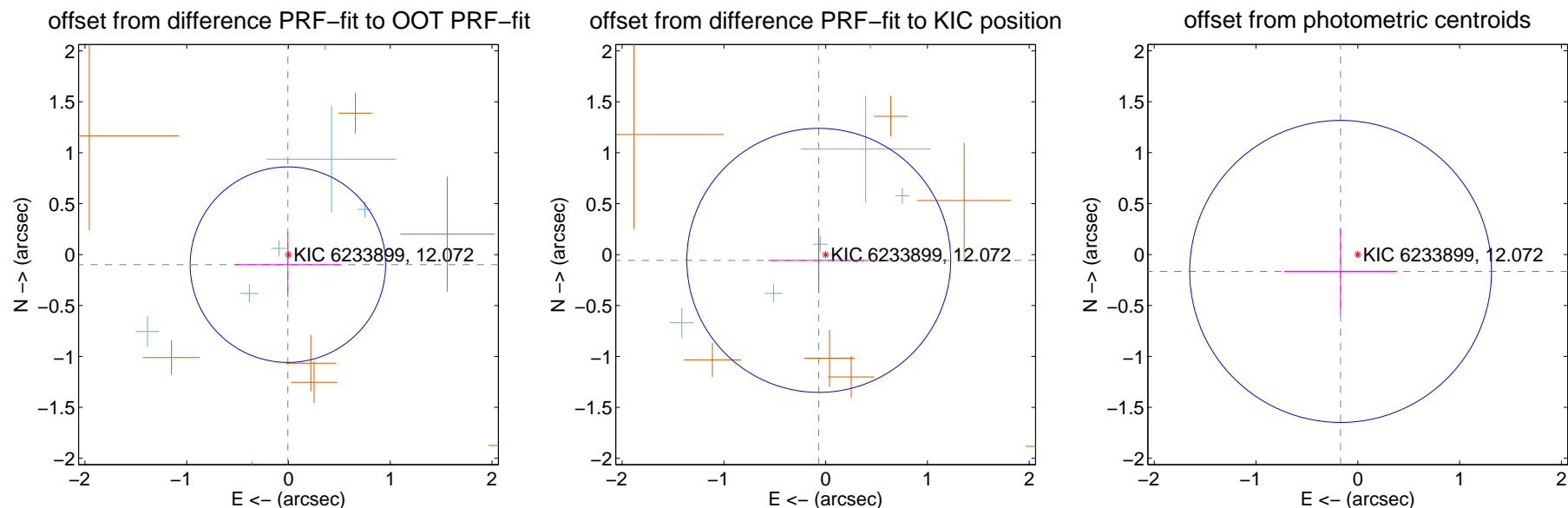
DV Centroid Data

Supplemental centroid analysis for 006233899-06. Kepler magnitude: 12.07. Transit SNR 8.63

There are 5 quarters with good PRF difference image offsets

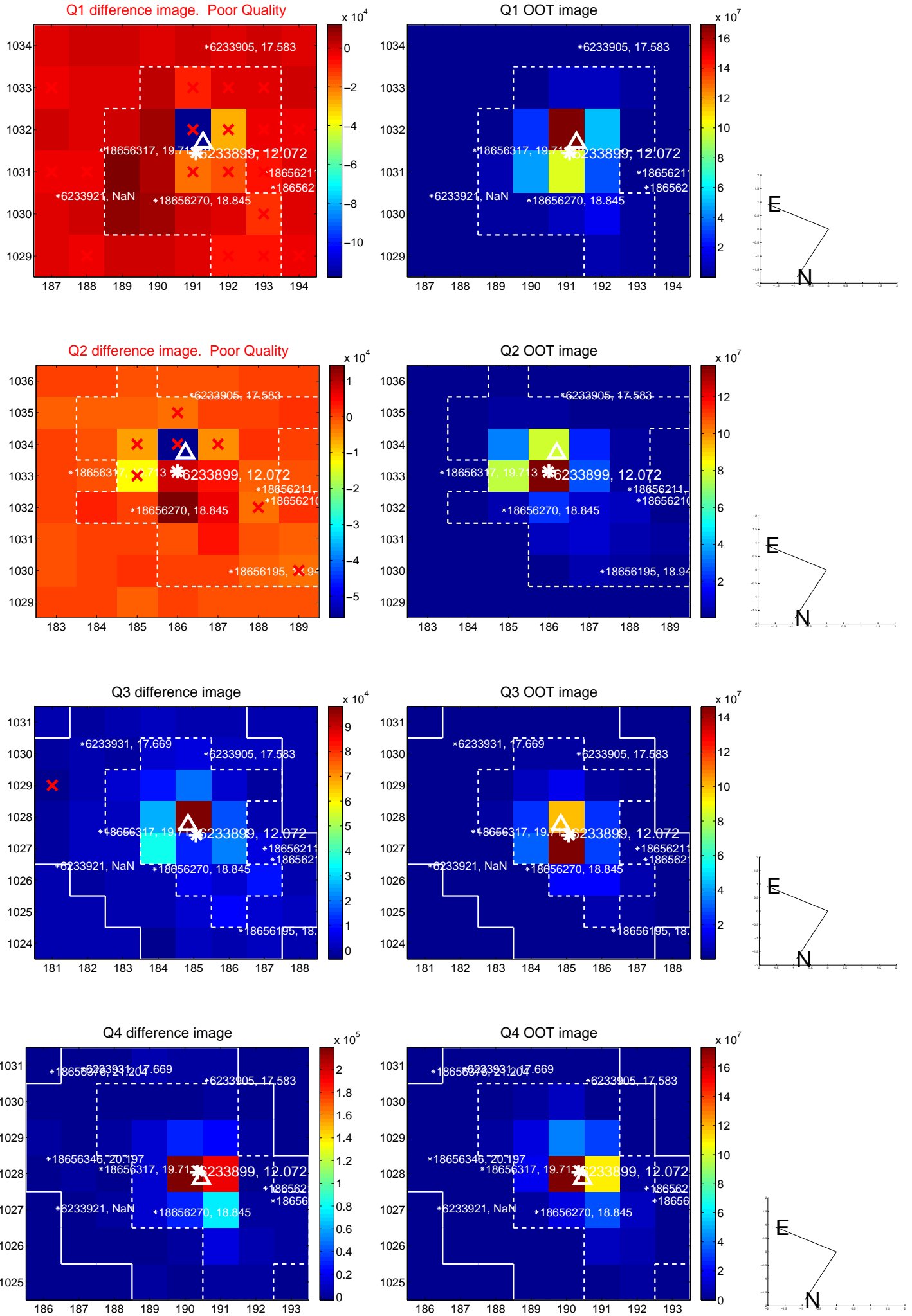
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.320	0.31	0.006 ± 0.519	-0.099 ± 0.315
PRF-fit source offset from KIC position	0.088 ± 0.432	0.20	0.068 ± 0.494	-0.057 ± 0.319
photometric centroid source offset	0.24 ± 0.49	0.48	0.17 ± 0.55	-0.17 ± 0.42

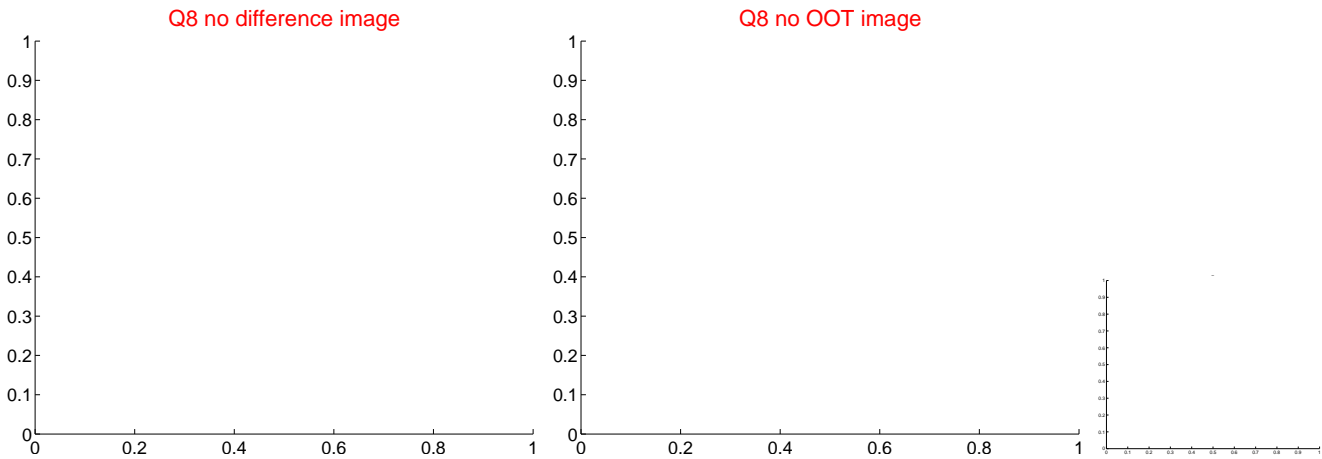
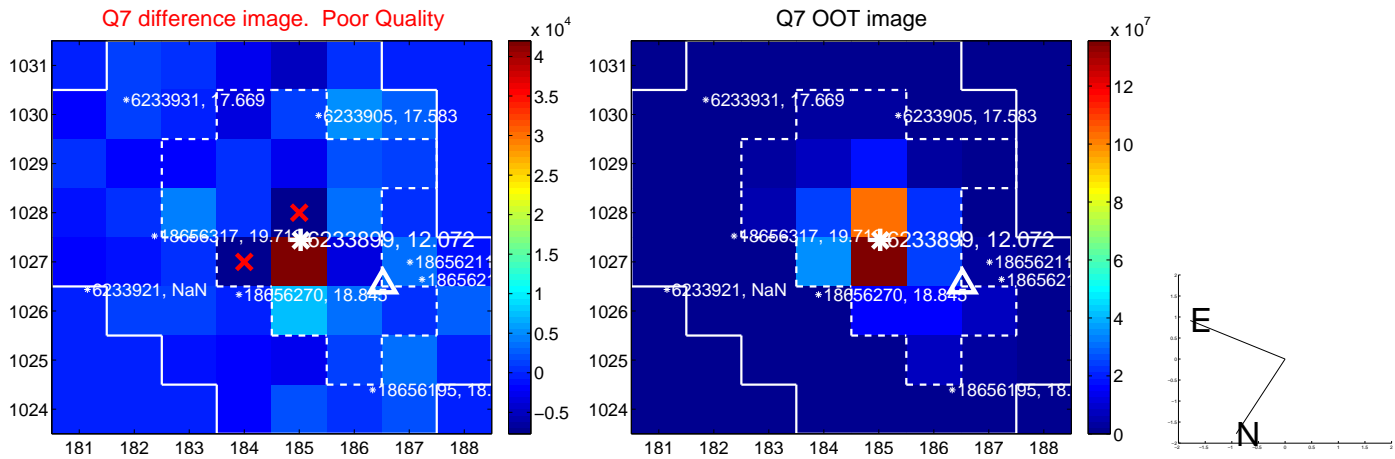
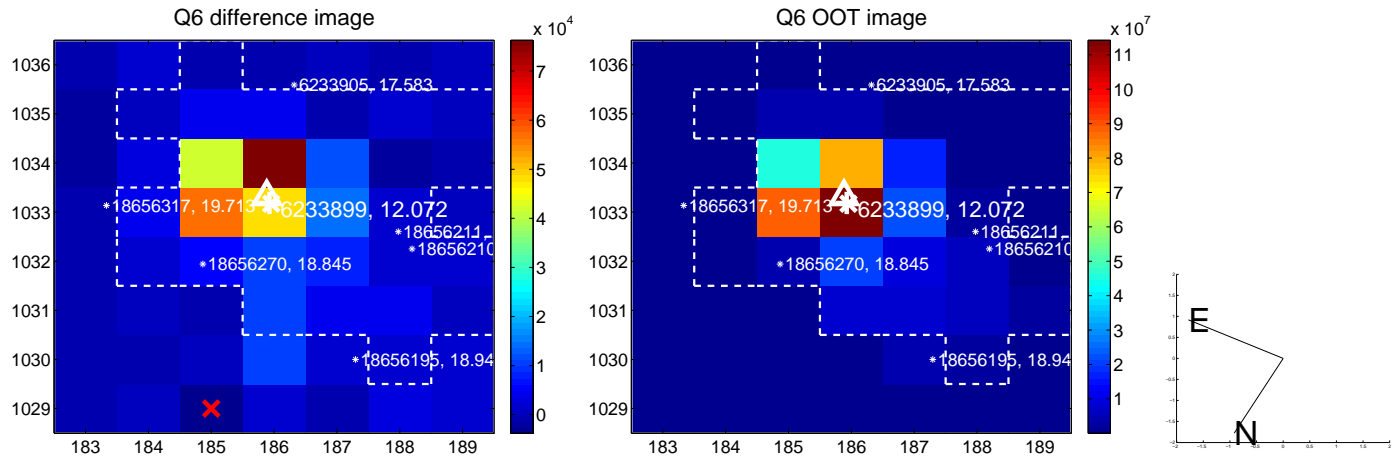
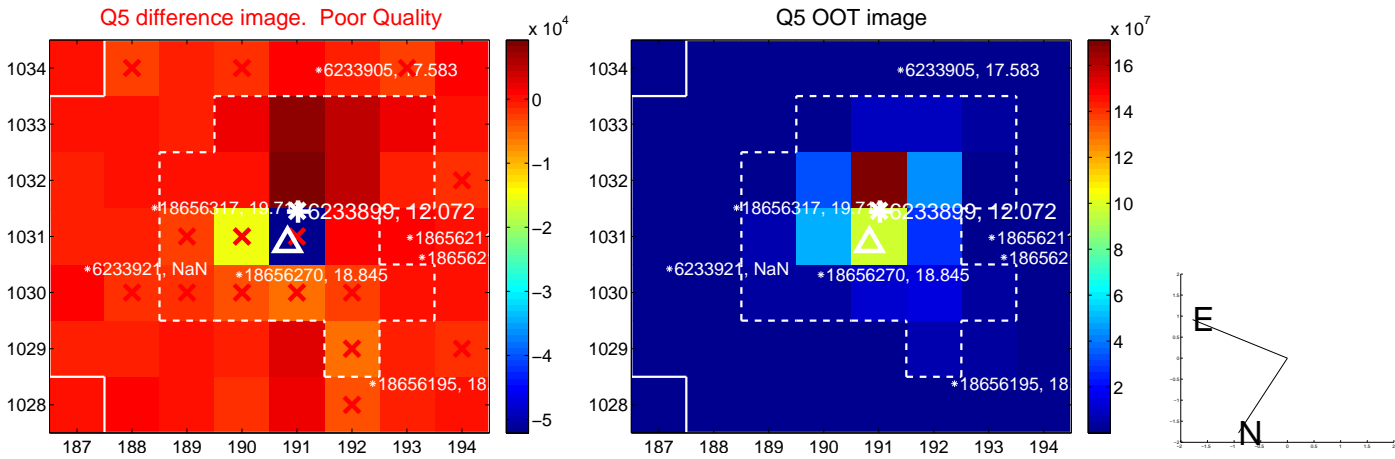


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

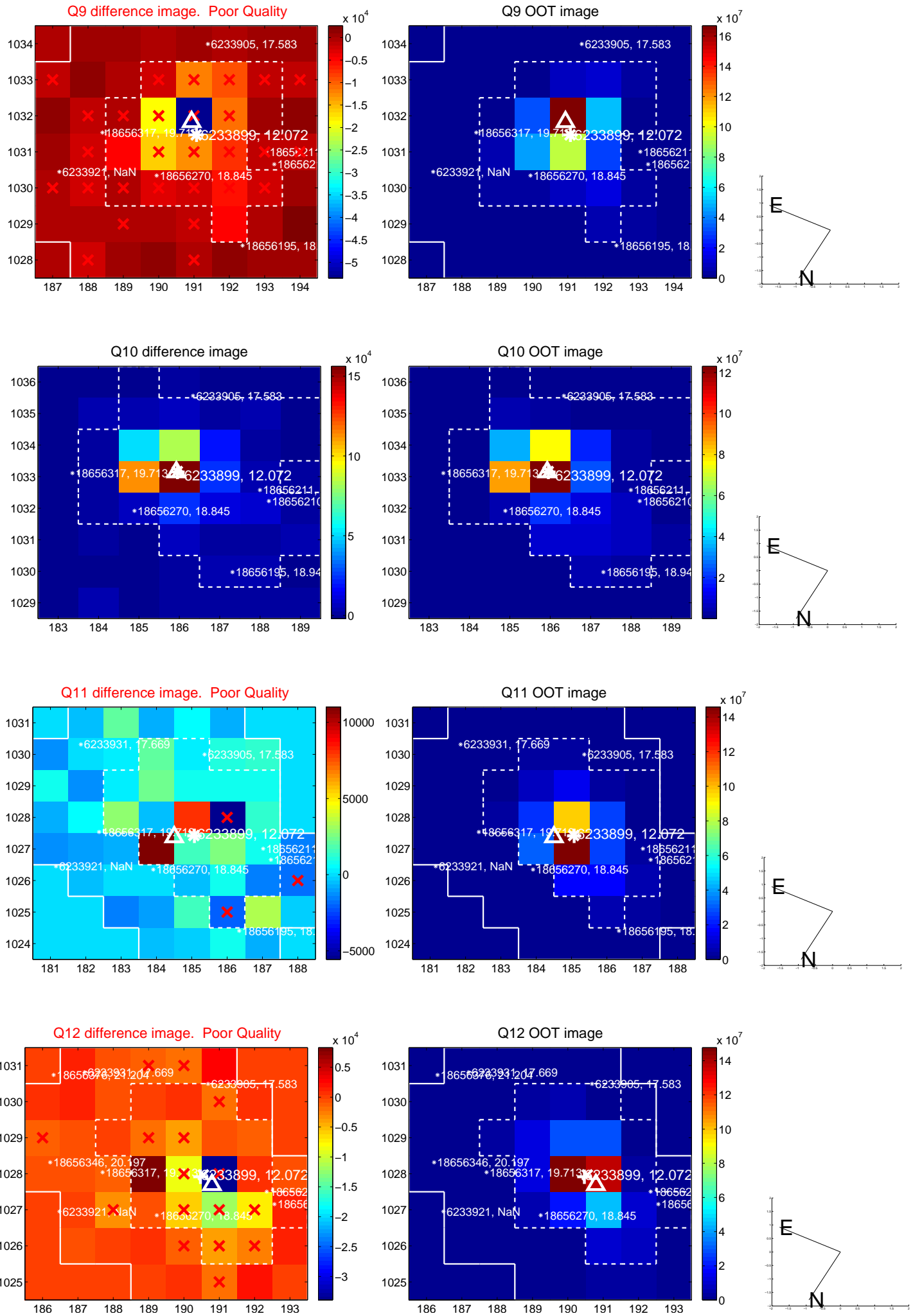
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



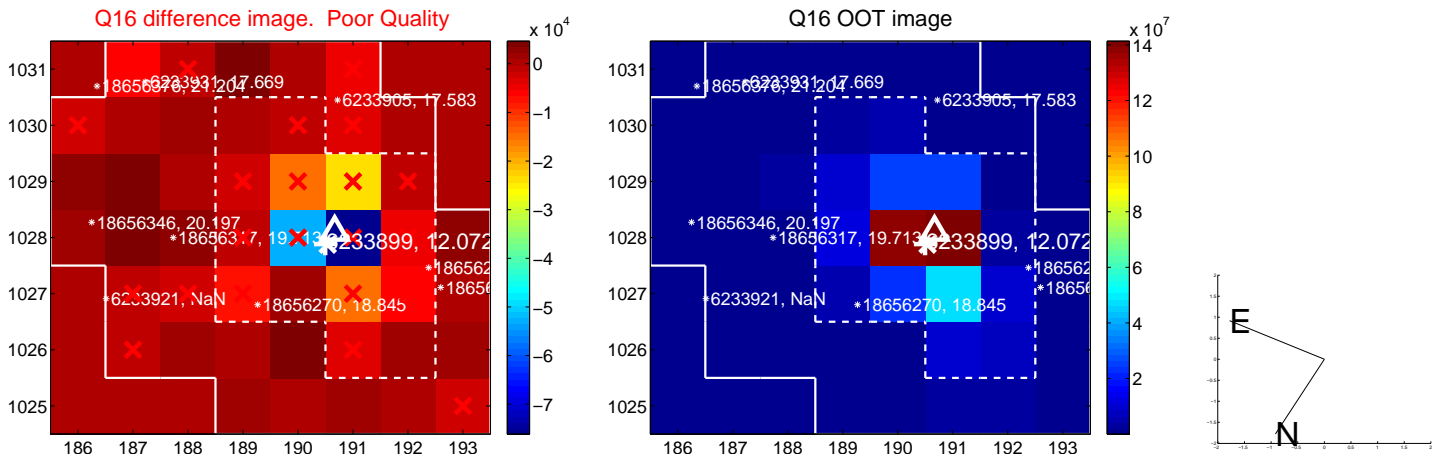
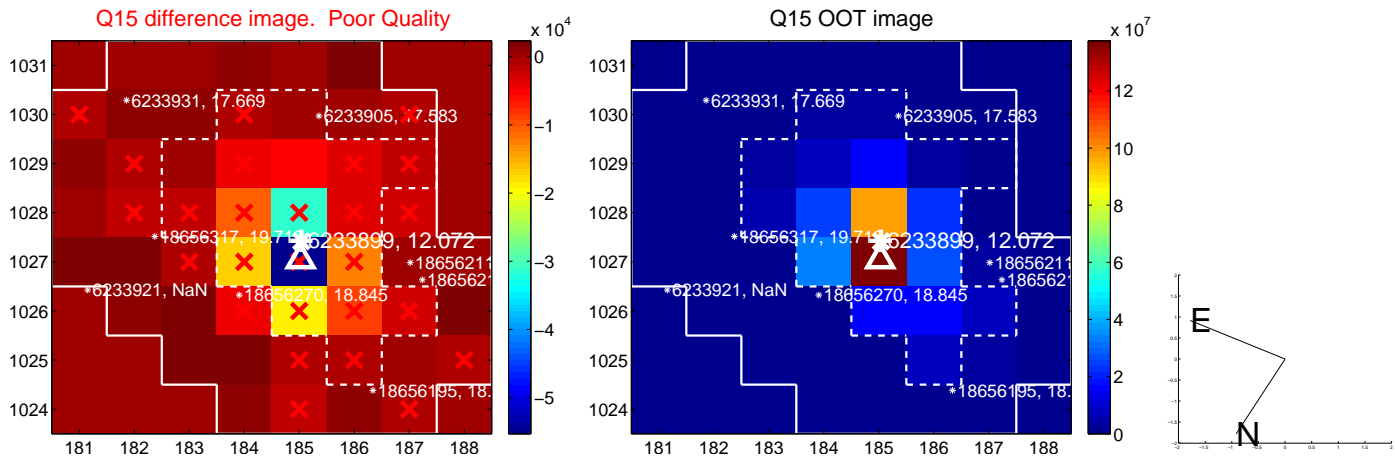
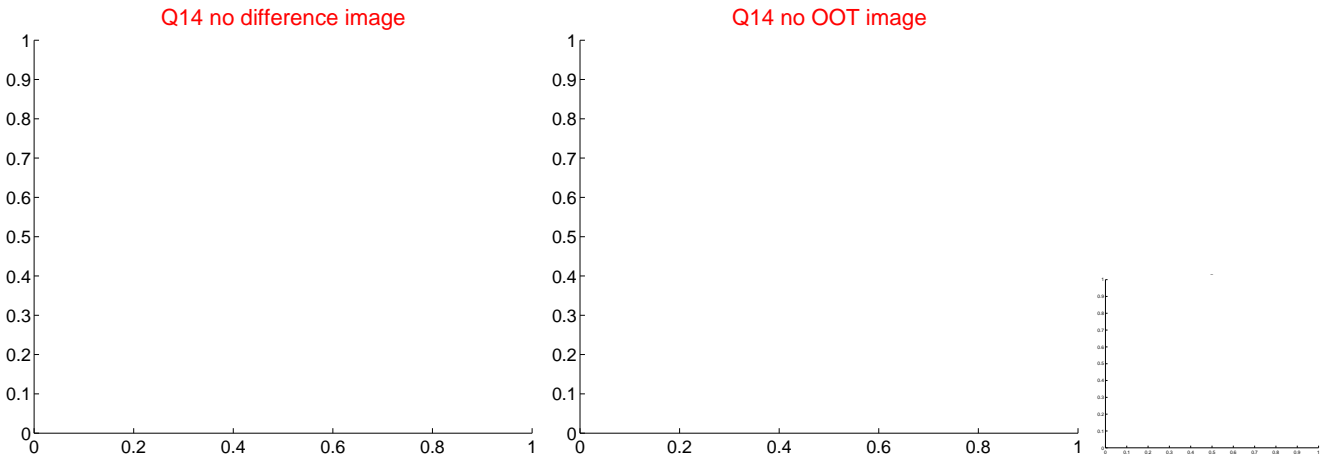
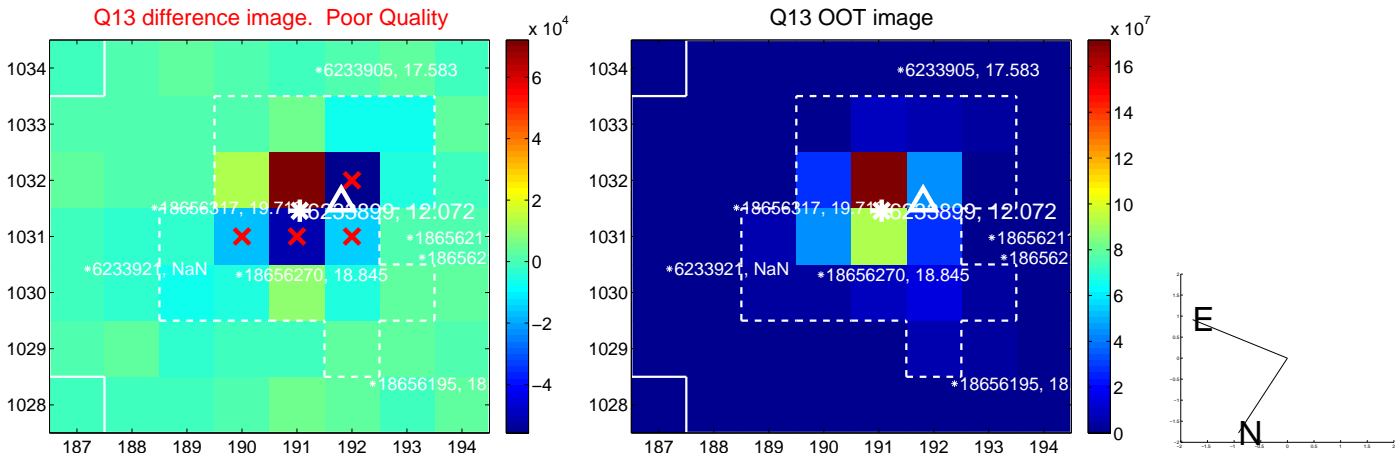
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



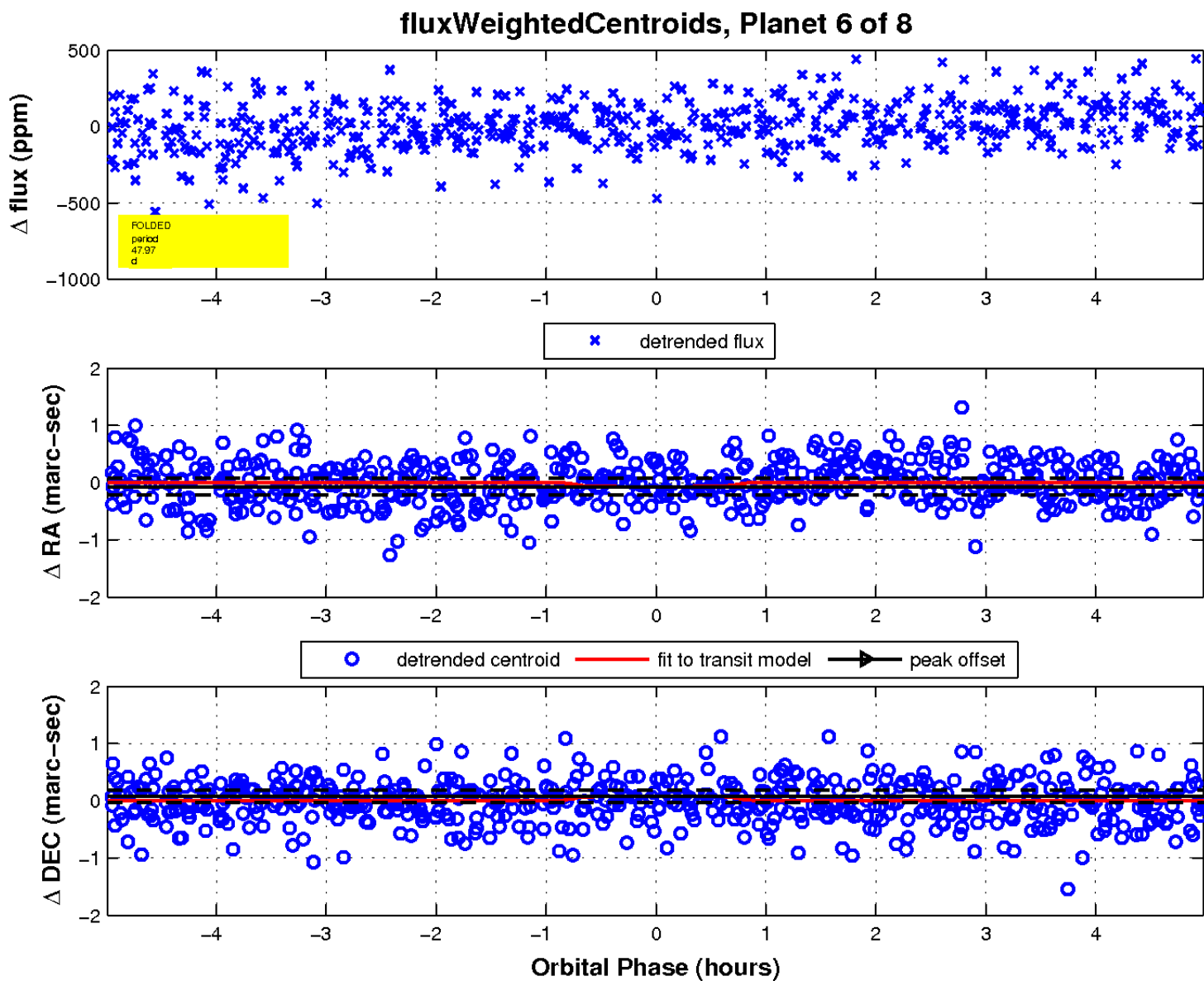
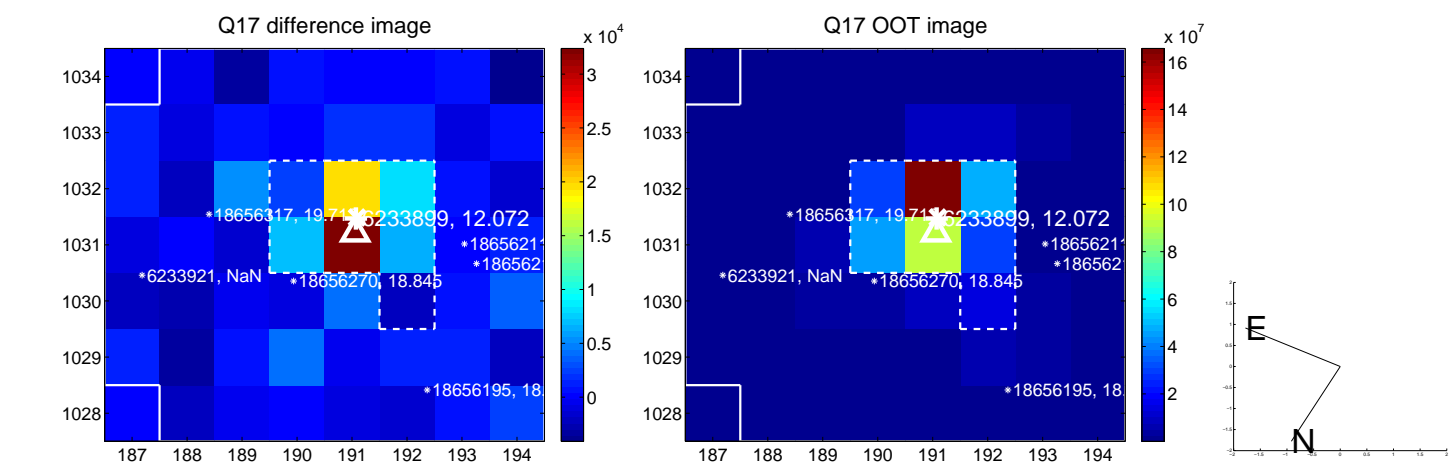
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

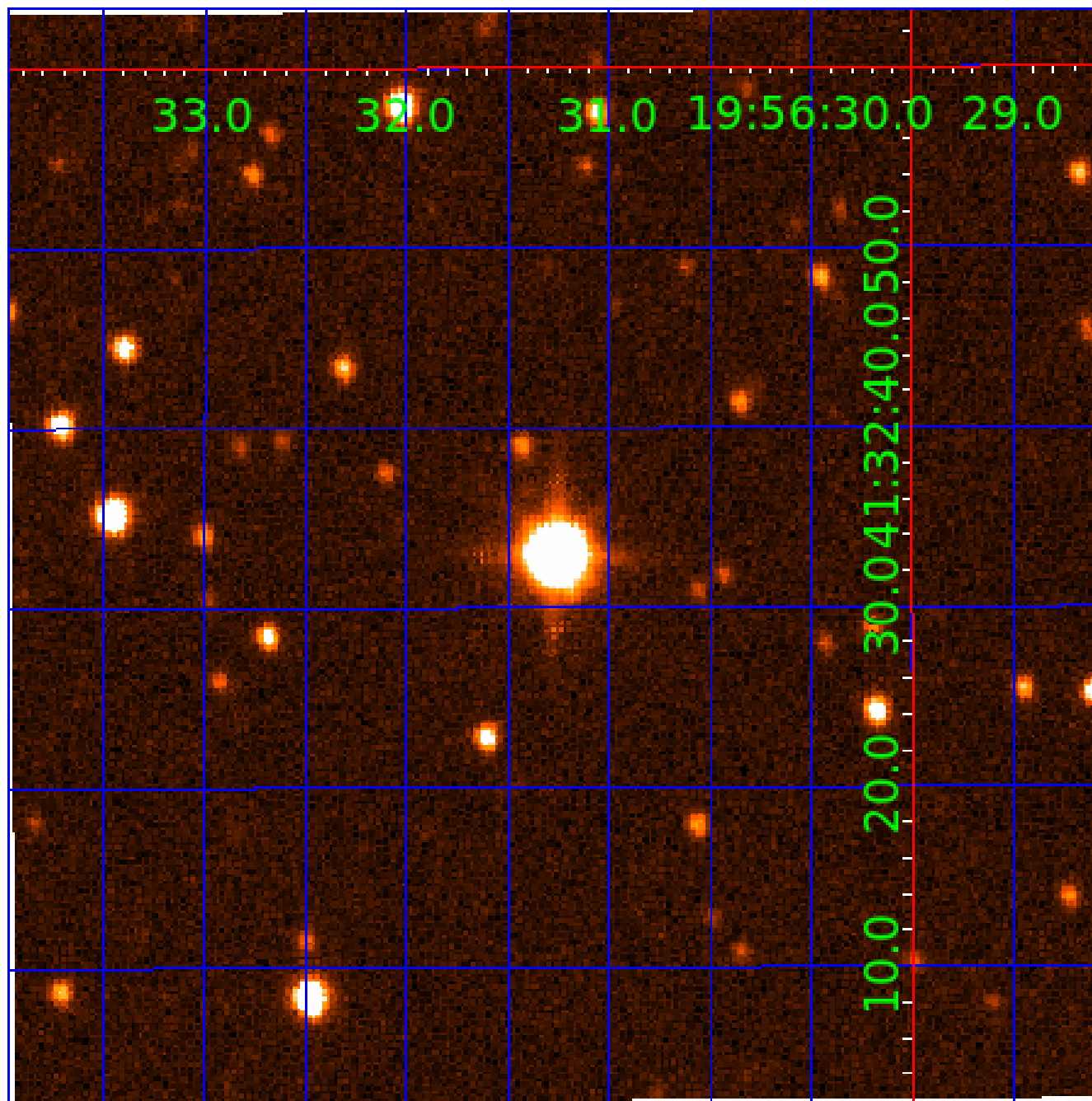


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

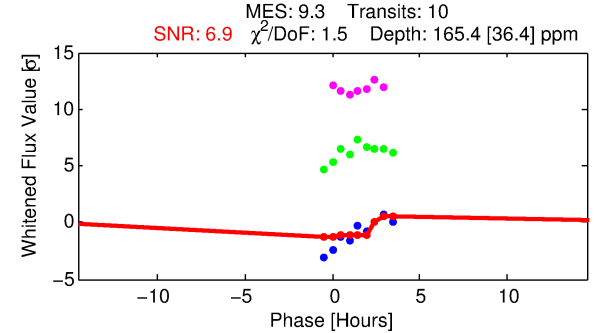
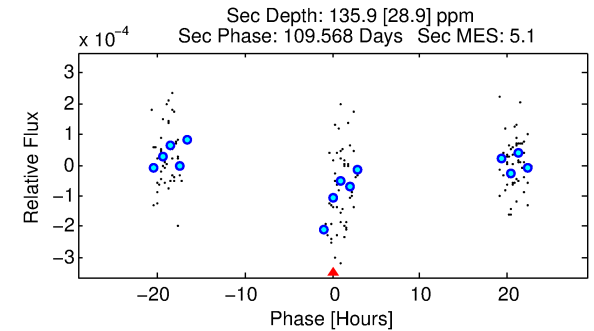
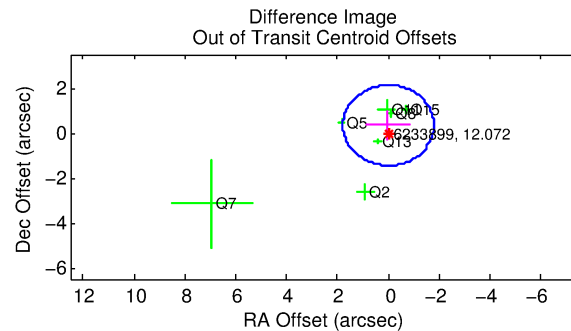
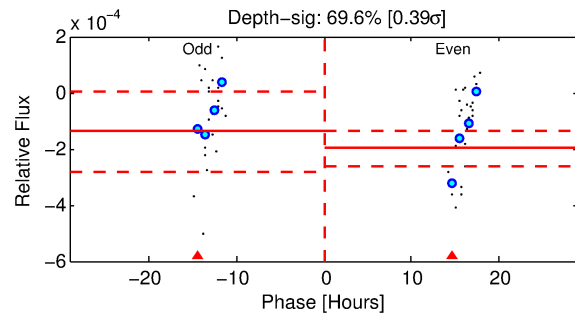
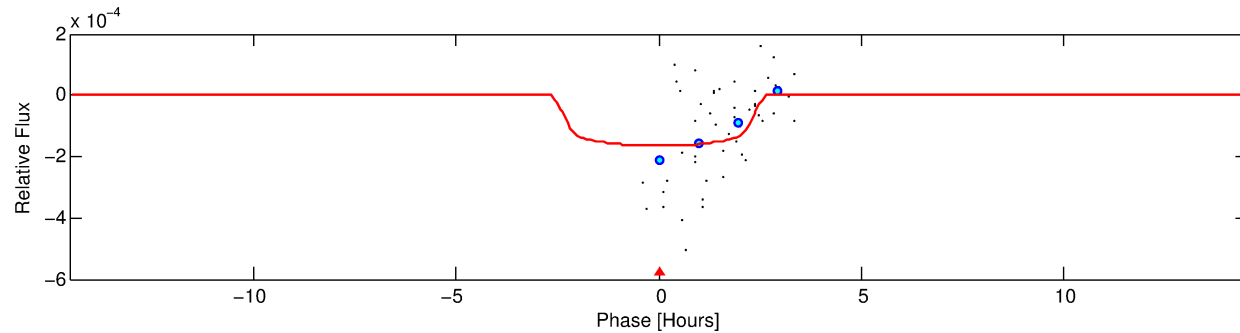
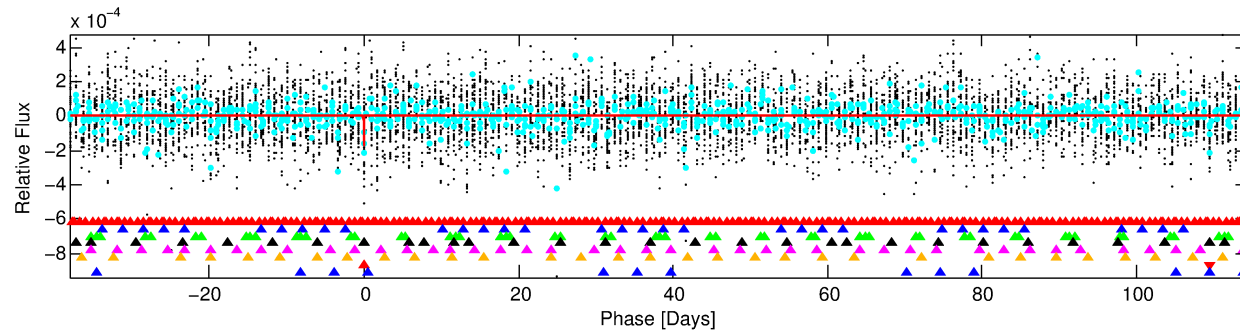
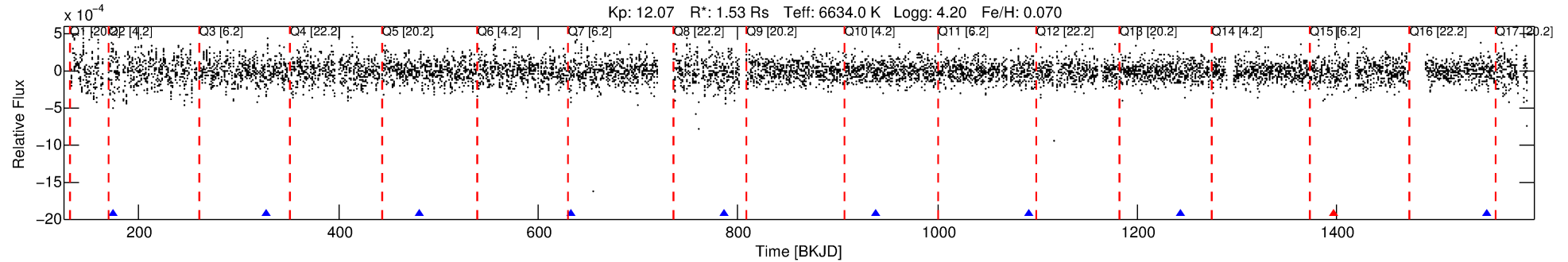
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-07

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 7 of 8 Period: 152.702 d



DV Fit Results:

Period = 152.70172 [0.00257] d
Epoch = 175.0495 [0.0293] BKJD
Rp/R* = 0.0121 [0.0228]
a/R* = 219.27 [2231.63]
b = 0.44 [18.76]
Seff = 10.61 [4.29]
Teff = 460 [46] K
Rp = 2.02 [3.86] Re
a = 0.6180 [0.1643] AU
Ag = 7029.01 [26709.95] [0.26 σ]
Teffp = 6515 [6164] K [0.98 σ]

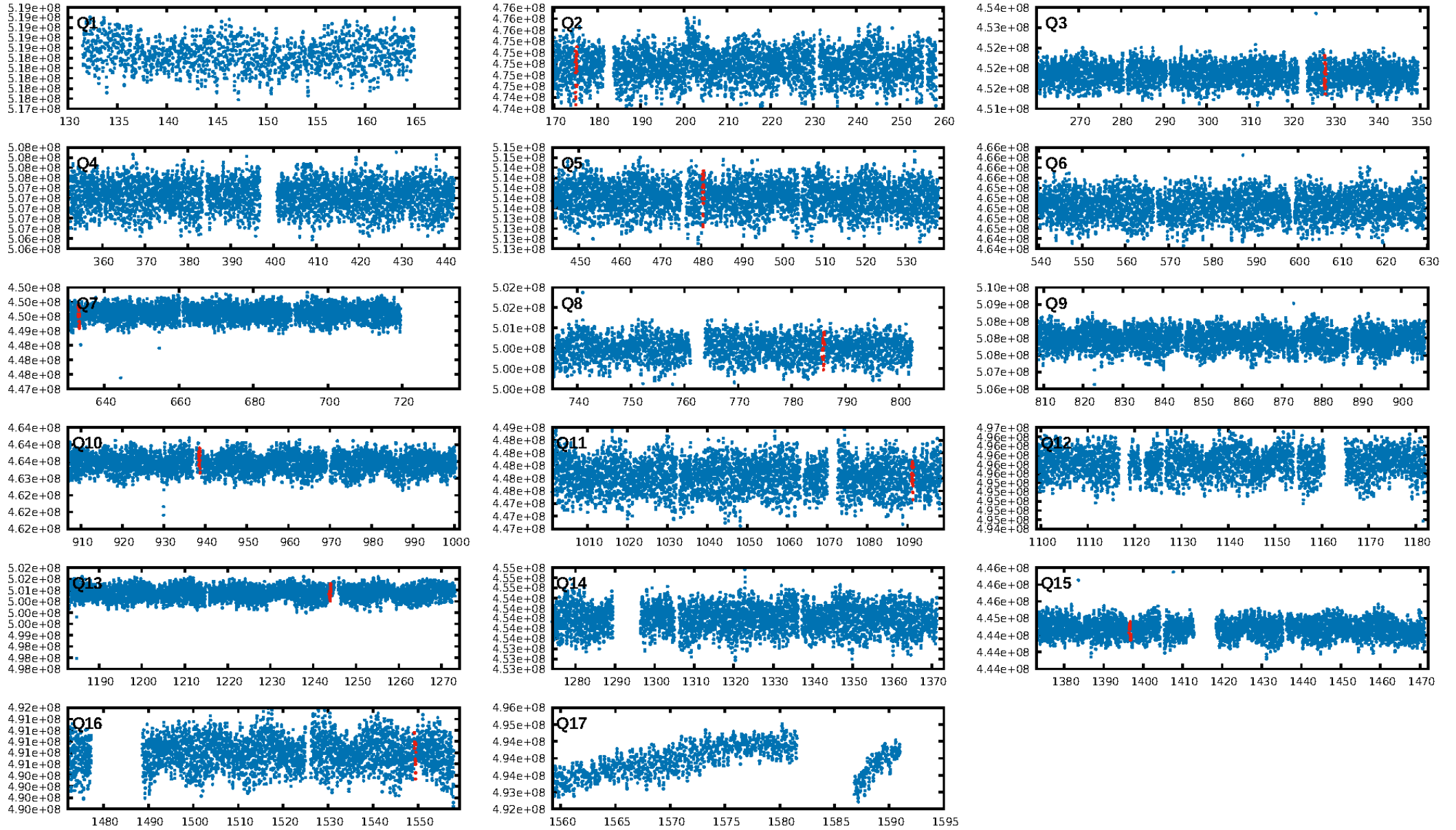
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [180.34 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.90 [9/10]
GhostDiagnostic-chr: -1.514
Centroid-sig: 2.0%
Centroid-so: 1.333 arcsec [1.87 σ]
OotOffset-rm: 0.339 arcsec [0.57 σ]
KicOffset-rm: 0.399 arcsec [0.70 σ]
OotOffset-st: 1/3/1/2 [7]
KicOffset-st: 1/3/1/2 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/8]

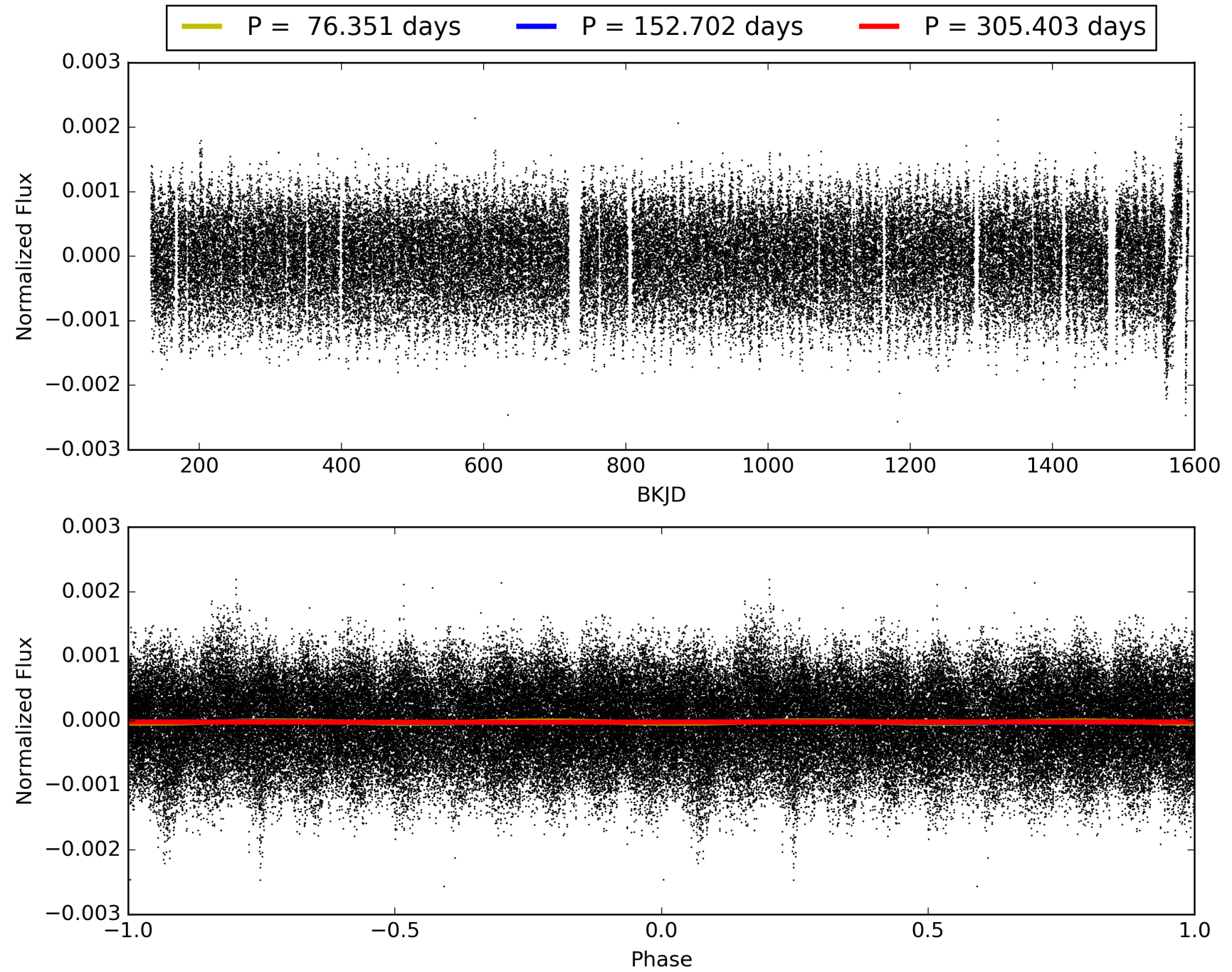
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:25 Z

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

TCE 006233899-07, PDC Light Curves

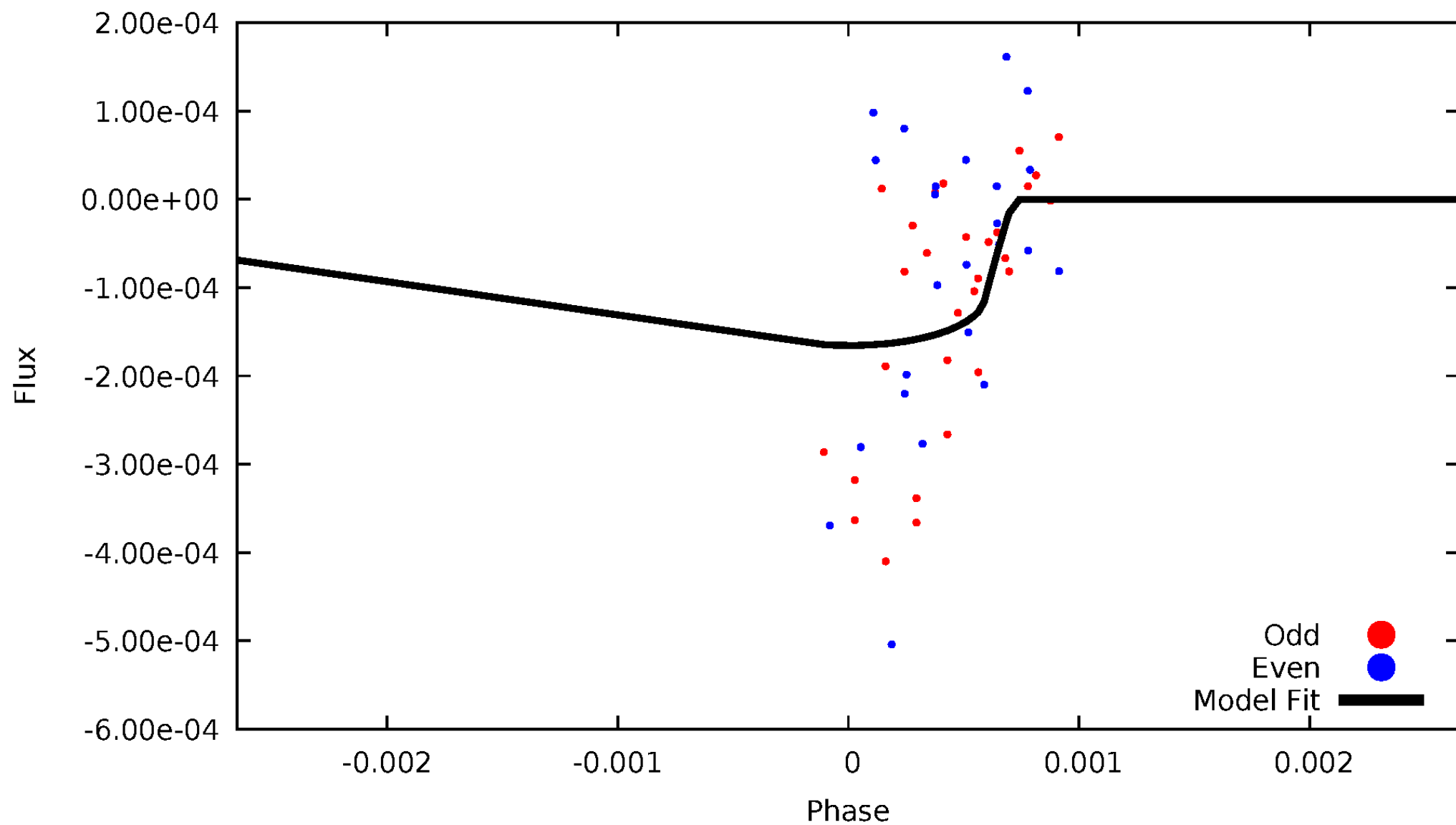


TCE 006233899-07



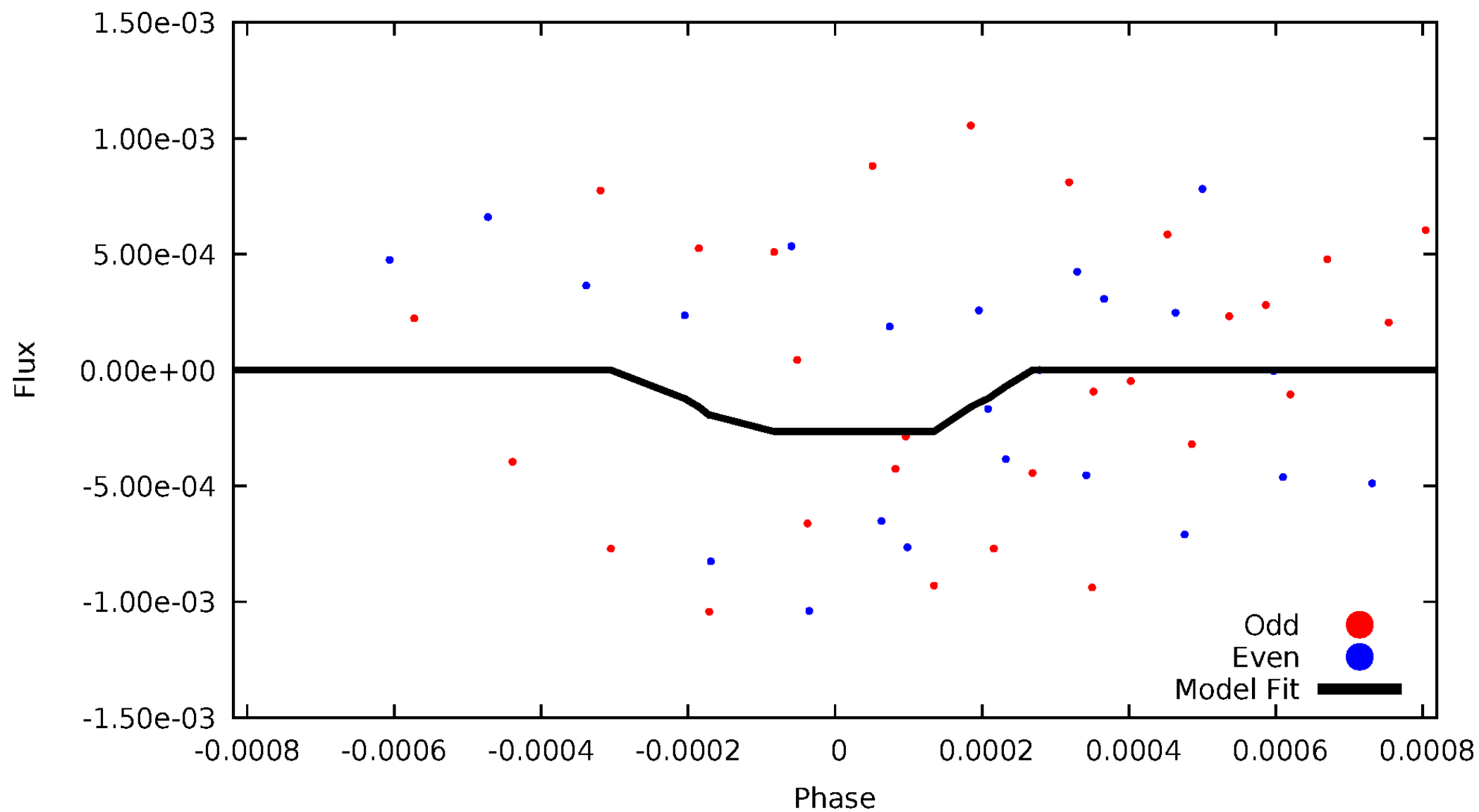
DV Odd/Even

TCE 006233899-07



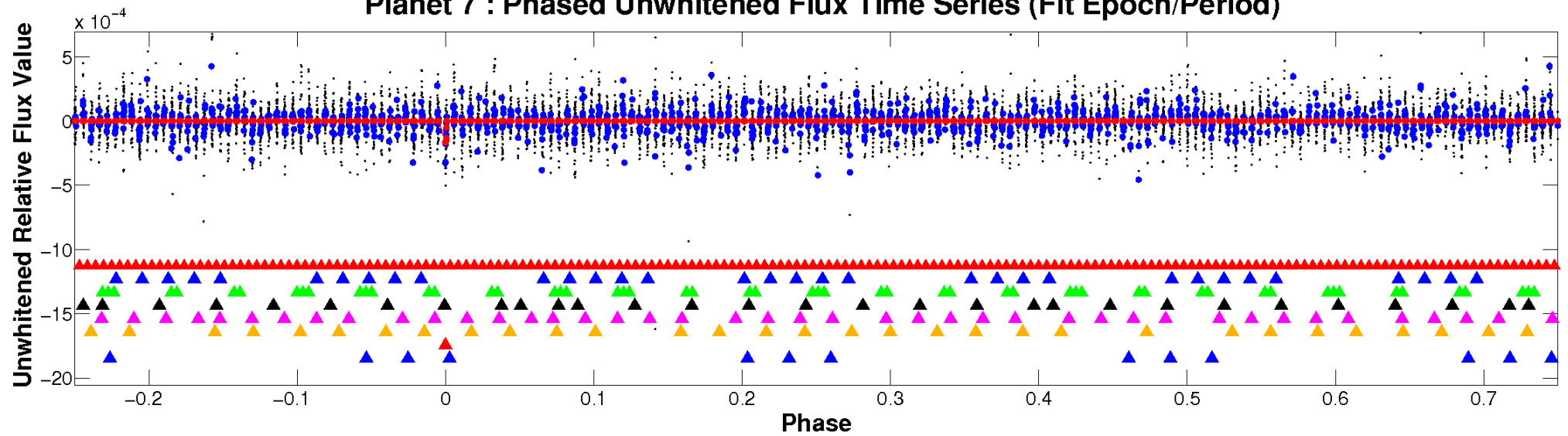
ALT Odd/Even

TCE 006233899-07

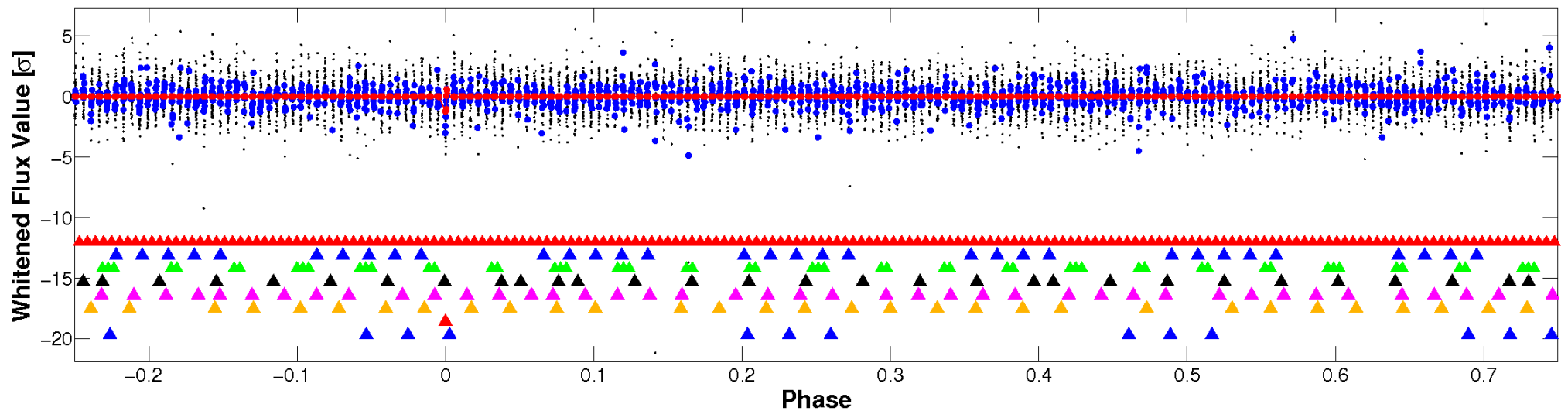


Non-Whitened Vs. Whitened Light Curve

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

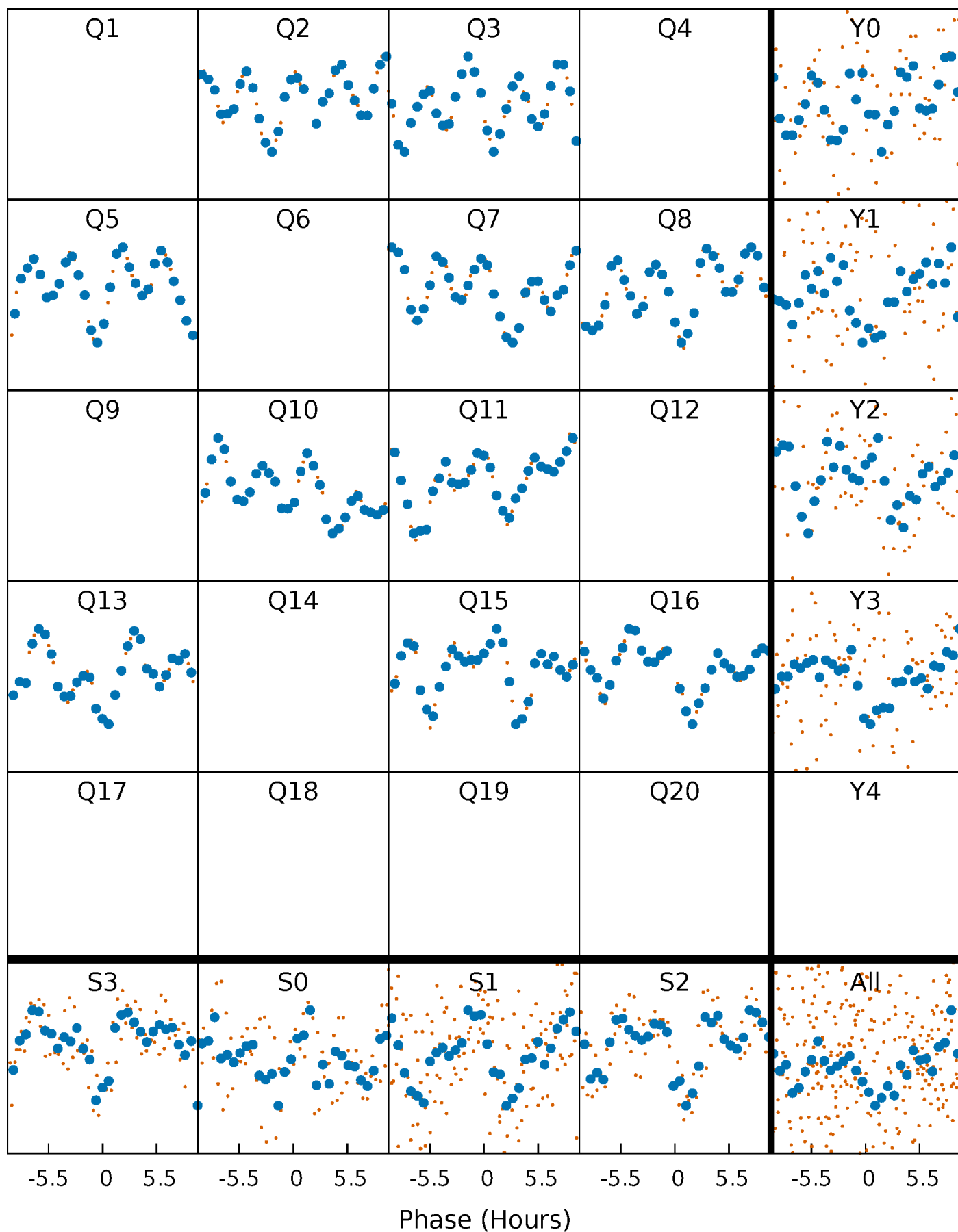


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



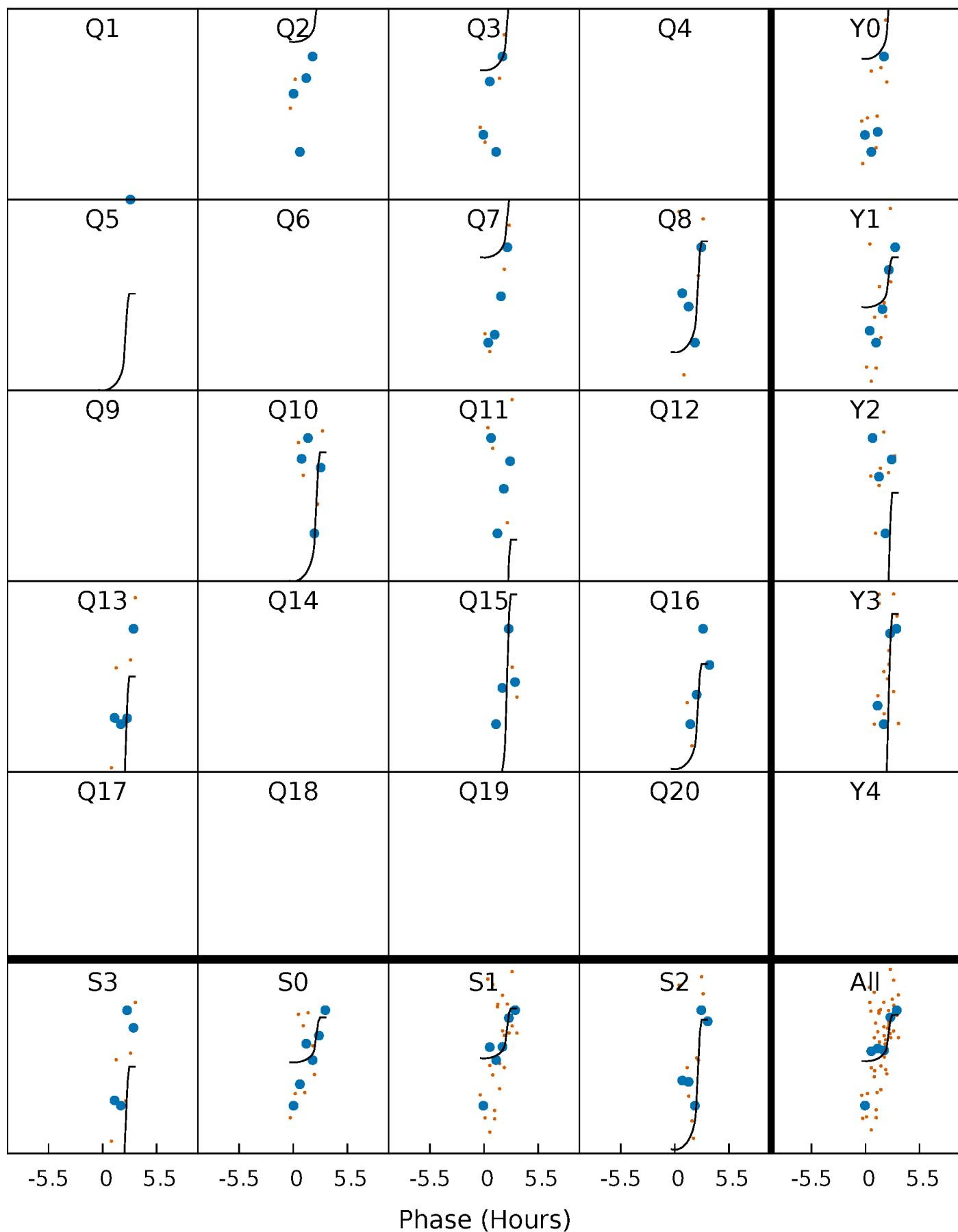
PDC Quarter-Phased Transit Curves

TCE 006233899-07 P=152.701716 Days $T_0=175.049528$ (BKJD)



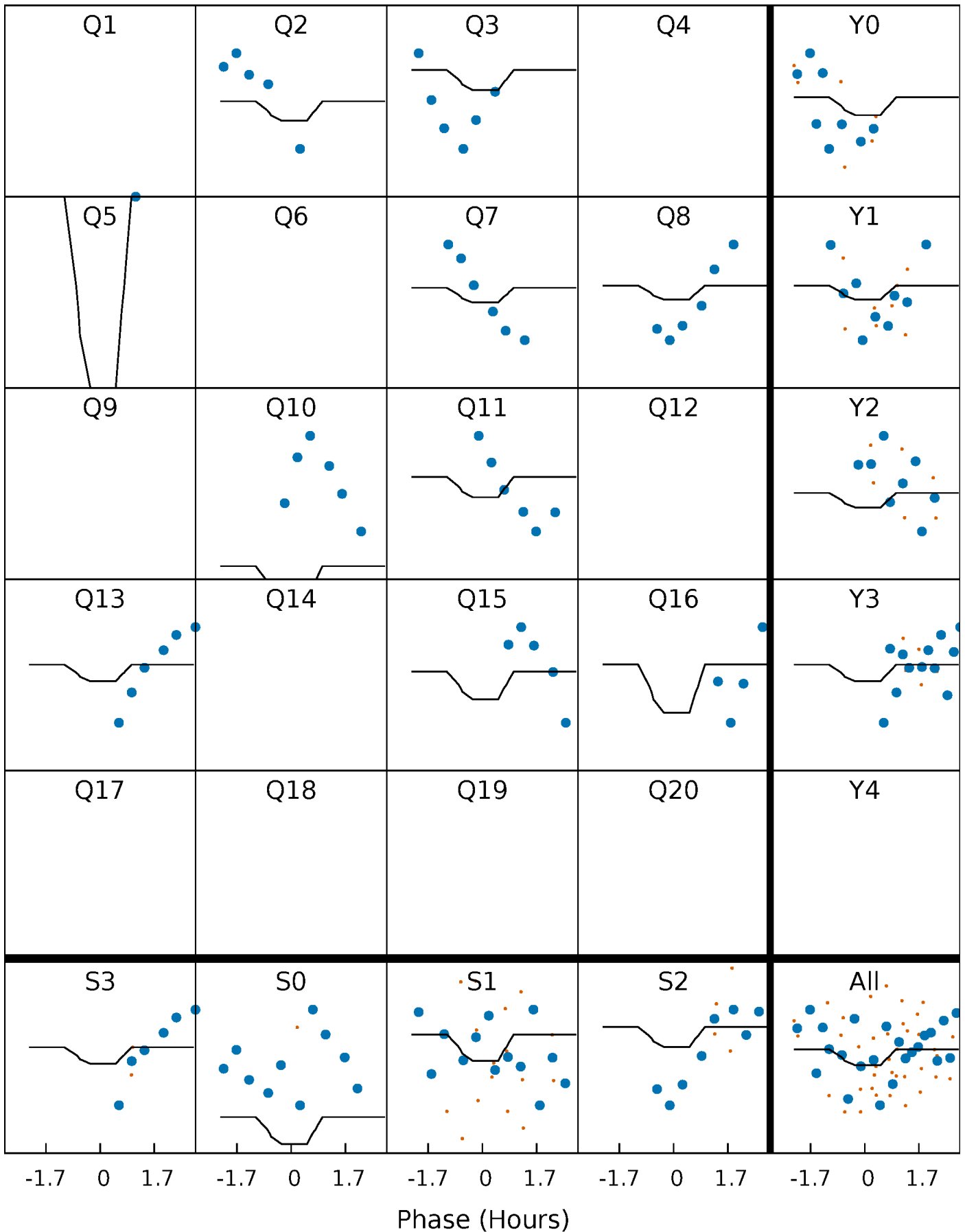
DV Quarter-Phased Transit Curves

TCE 006233899-07 $P=152.701716$ Days $T_0=175.049528$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

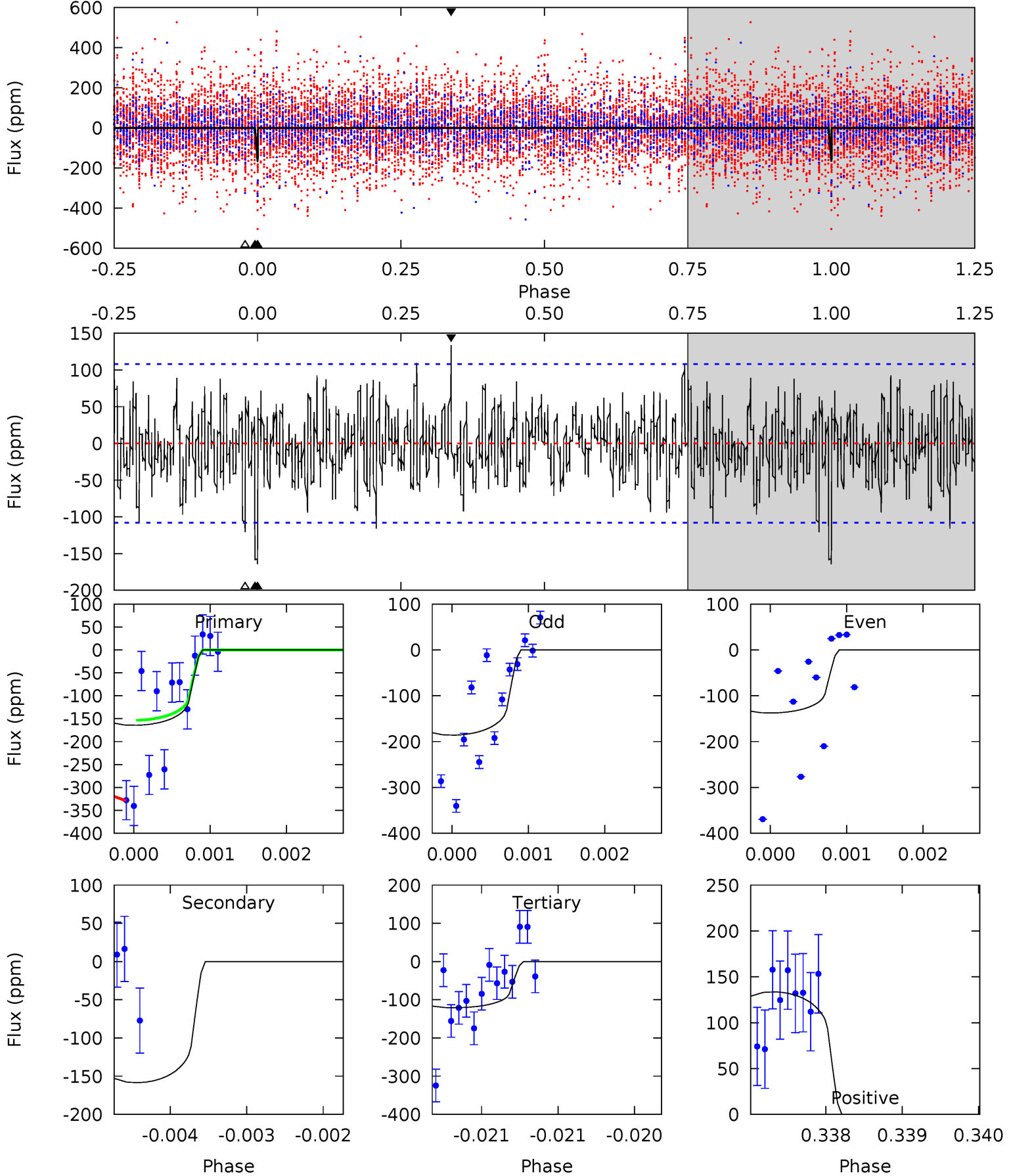
TCE 006233899-07 P=152.692599 Days $T_0=175.129894$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-07, P = 152.701716 Days, E = 22.347812 Days

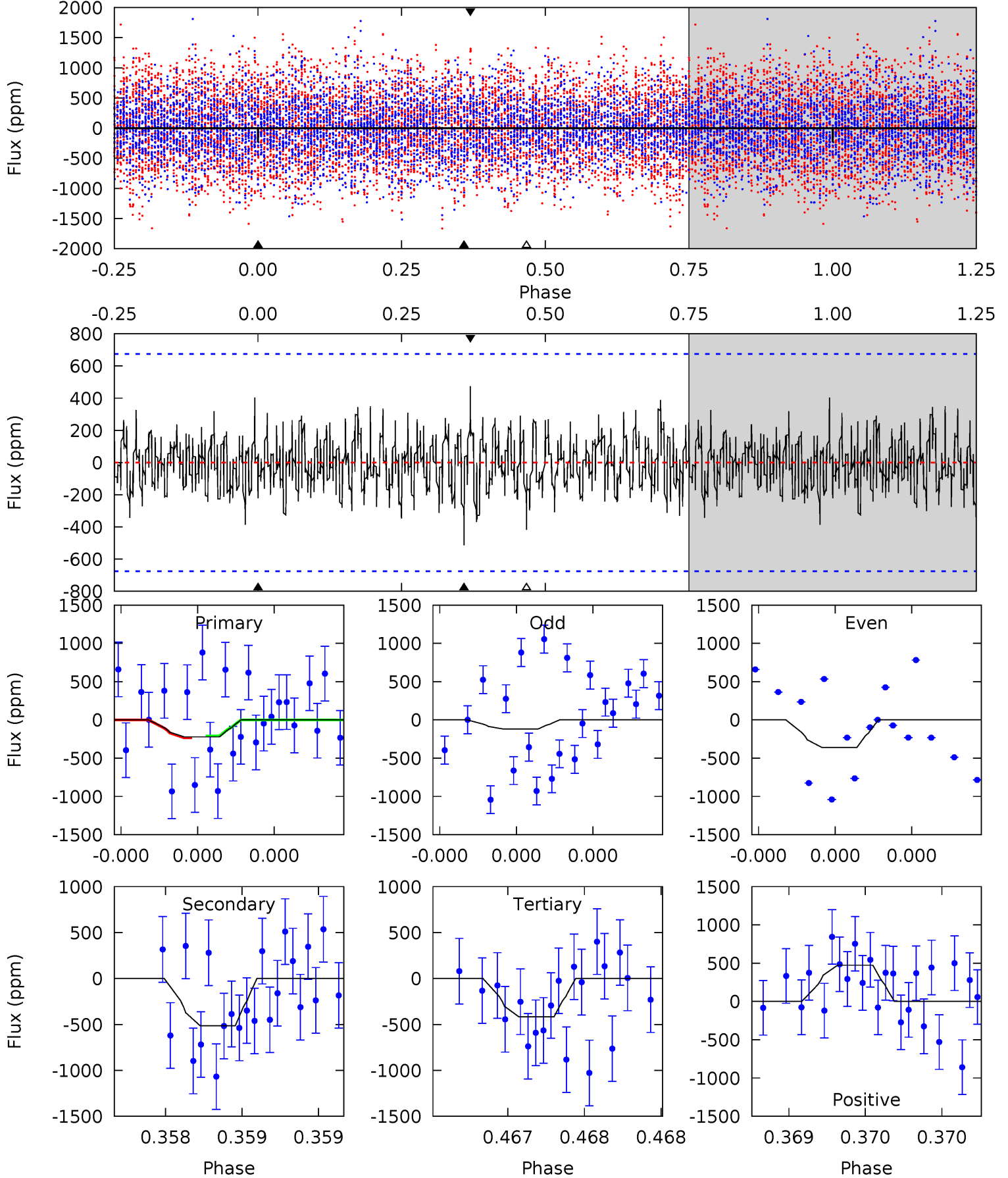
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.35	8.04	6.13	6.78	5.49	3.35	1.79	2.21	1.56	1.91	1.26	1.21	1.38	0.45	0.00



Alt Model-Shift Uniqueness Test

006233899-07, $P = 152.692599$ Days, $E = 22.437295$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.83	4.25	3.45	3.92	5.58	3.50	1.09	-1.62	-2.09	0.80	0.33	0.99	0.61	0.48	0.09



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-158 ± 20	$3.38^{+3.64}_{-2.19}$	643^{+49}_{-40}	5235^{+4032}_{-1254}	2938^{+19847}_{-2249}
Alt.	-514 ± 121	$3.79^{+3.50}_{-2.44}$	645^{+54}_{-40}	6678^{+6929}_{-1787}	7509^{+51955}_{-5571}

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

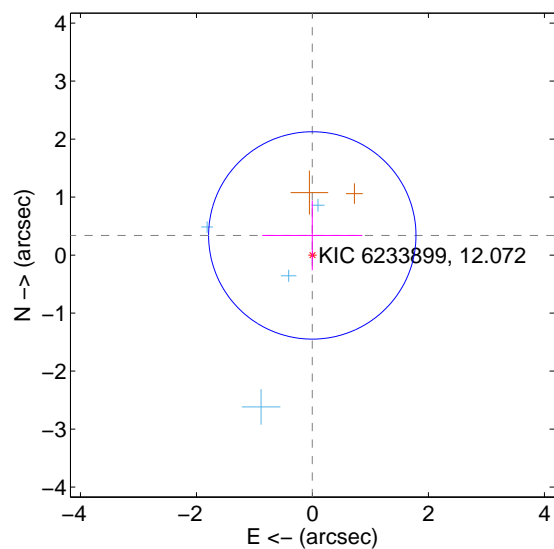
Supplemental centroid analysis for 006233899-07. Kepler magnitude: 12.07. Transit SNR 6.87

There are 4 quarters with good PRF difference image offsets

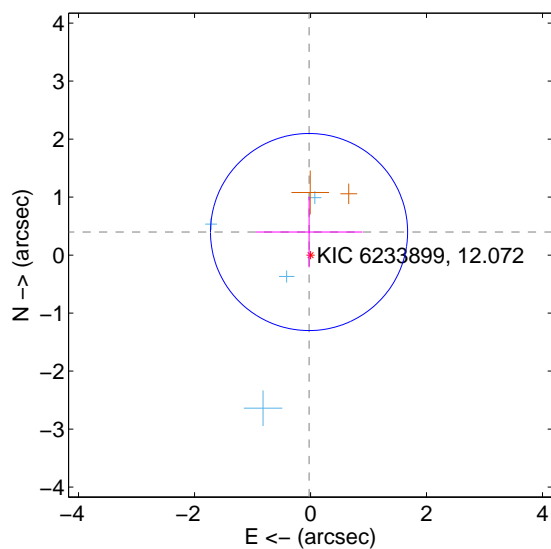
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.339 ± 0.596	0.57	0.002 ± 0.863	0.339 ± 0.600
PRF-fit source offset from KIC position	0.399 ± 0.566	0.70	0.025 ± 0.920	0.398 ± 0.609
photometric centroid source offset	1.33 ± 0.71	1.87	-0.65 ± 0.85	1.17 ± 0.67

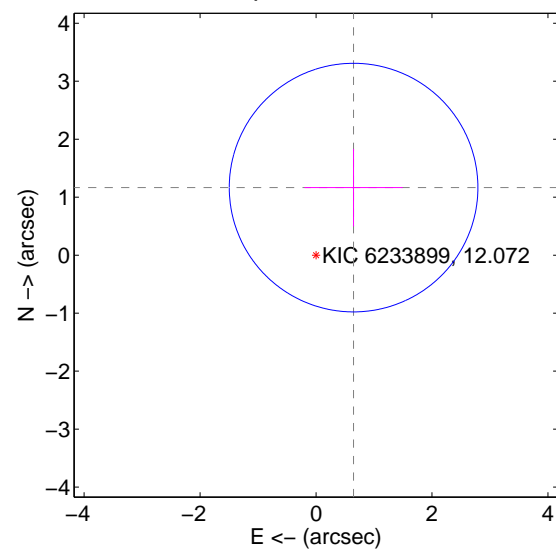
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

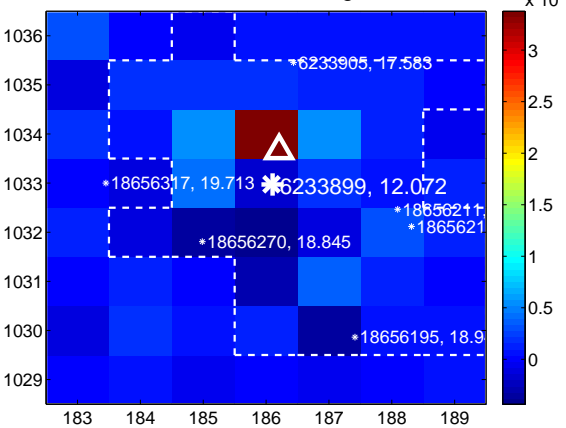
Q1 no difference image



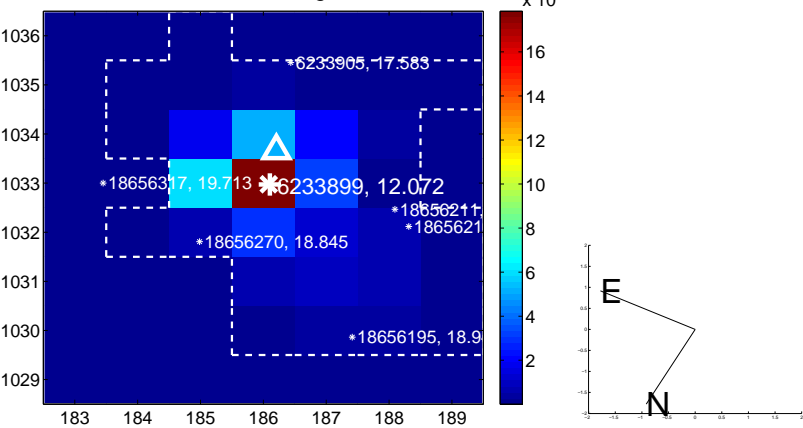
Q1 no OOT image



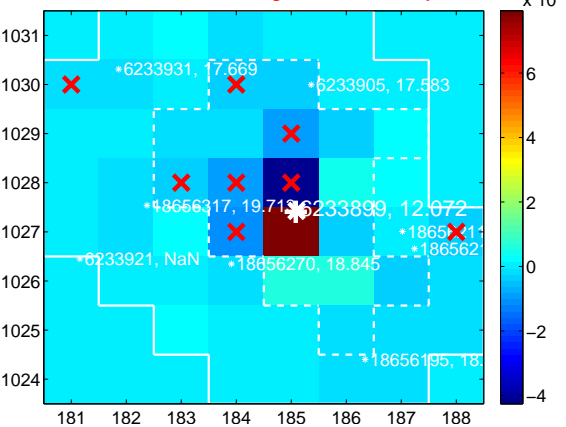
Q2 difference image



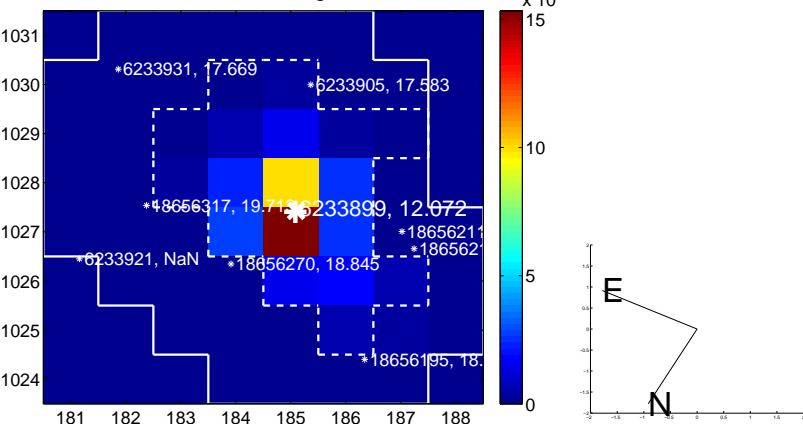
Q2 OOT image



Q3 difference image. Poor Quality



Q3 OOT image



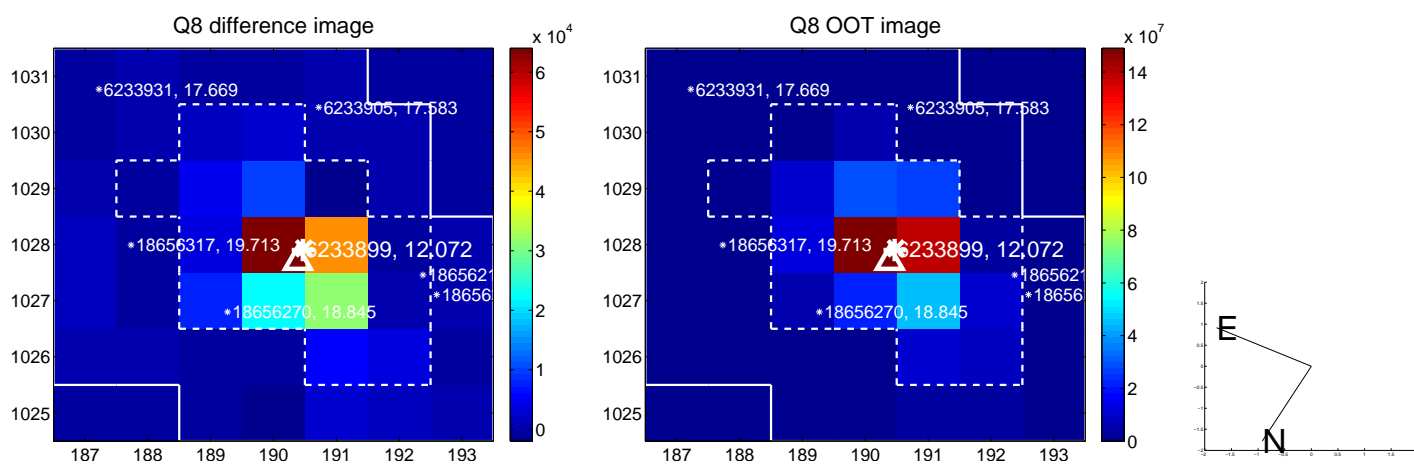
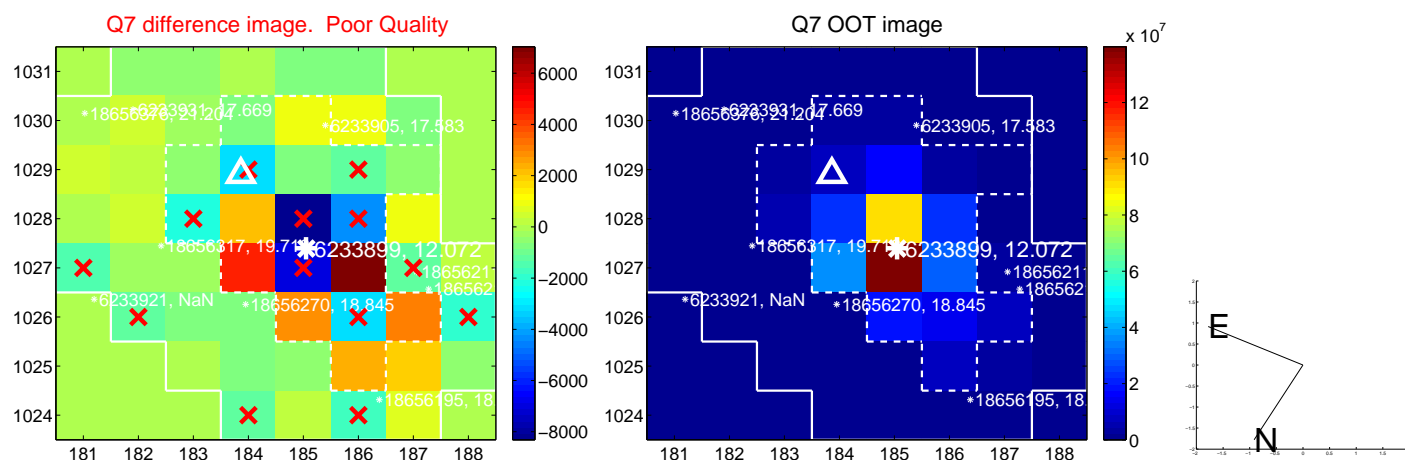
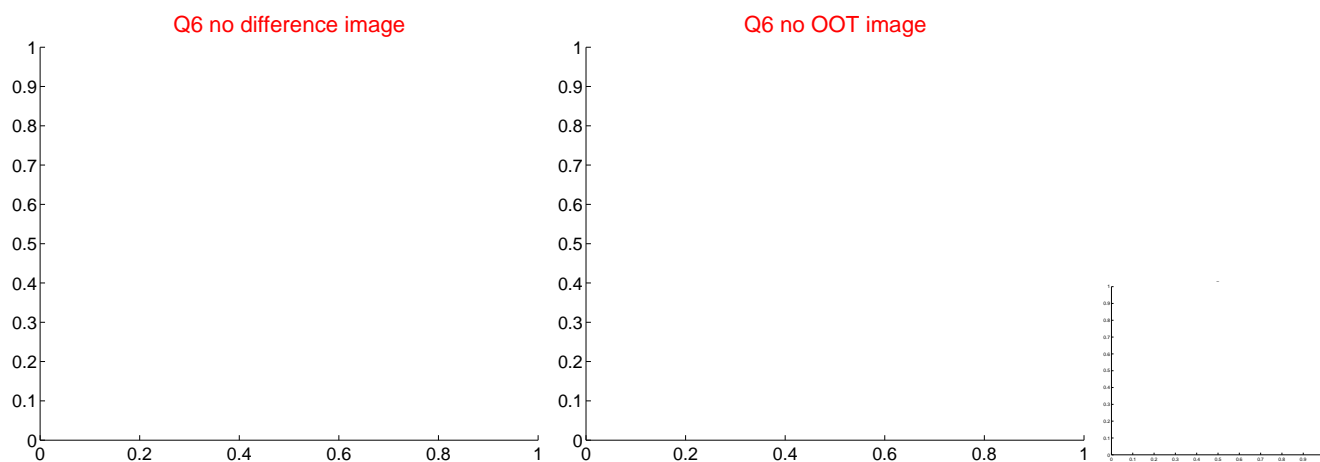
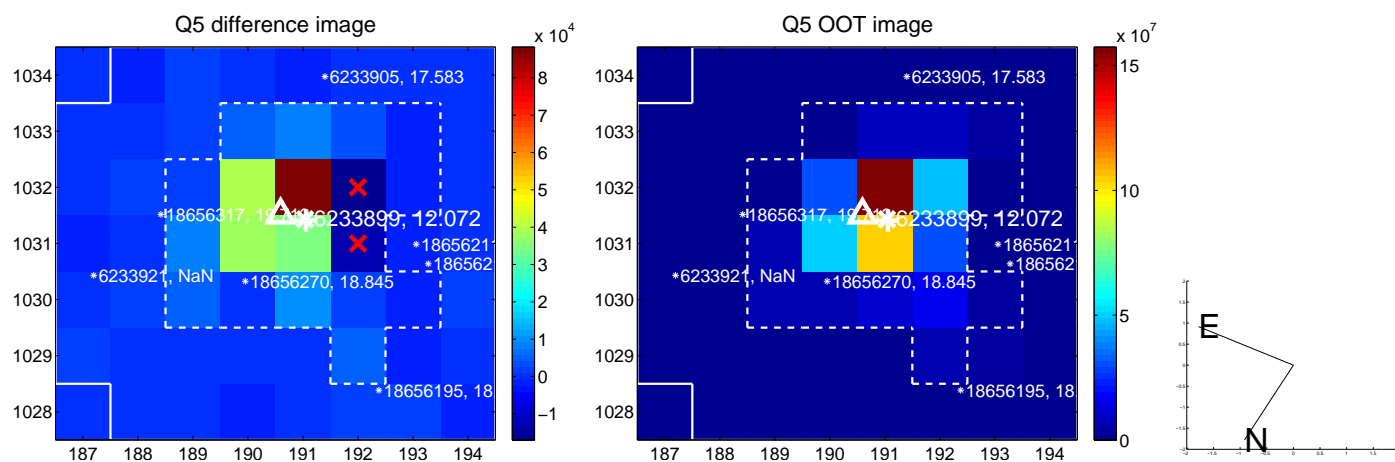
Q4 no difference image



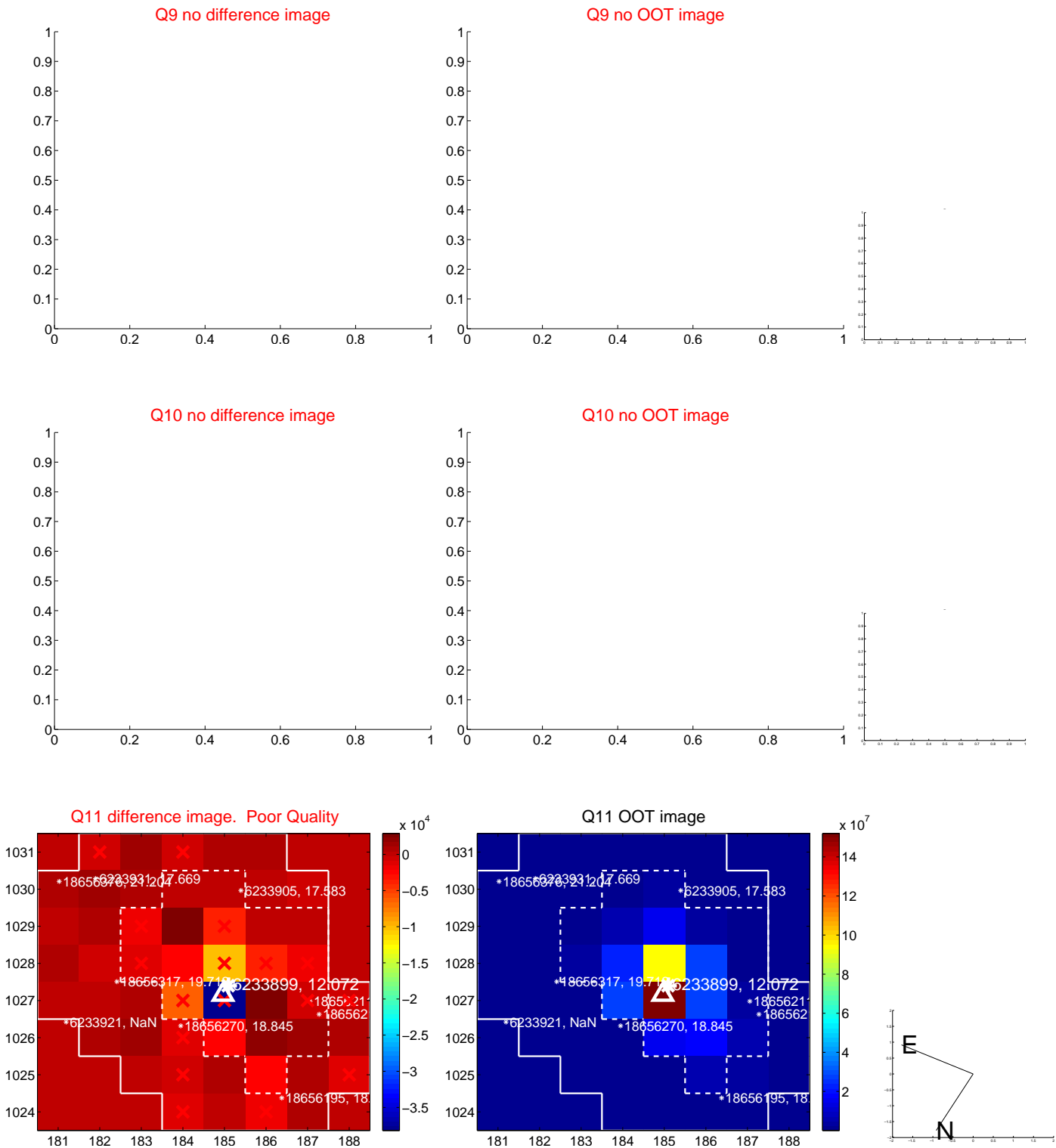
Q4 no OOT image



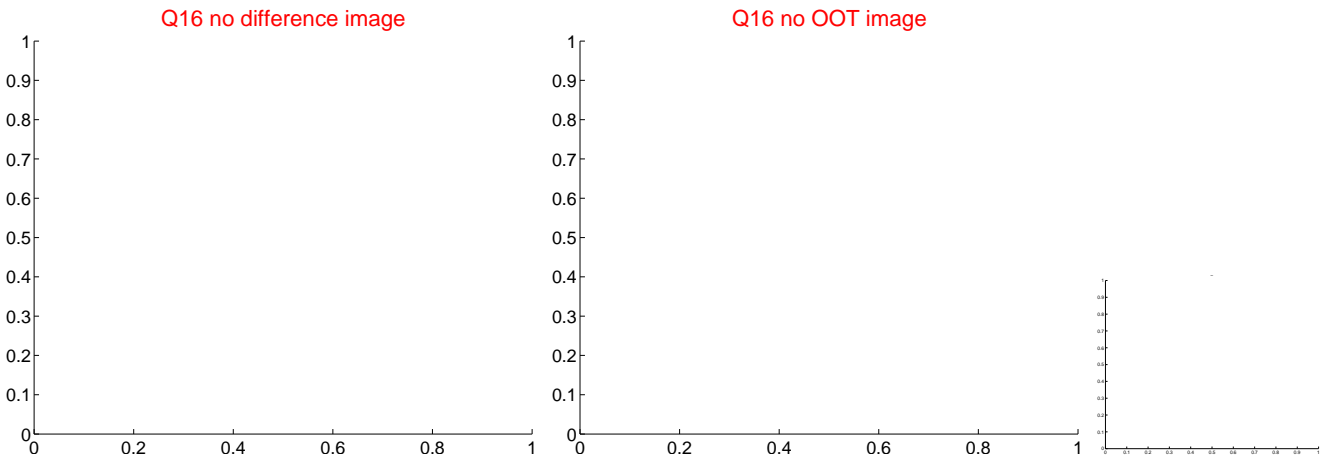
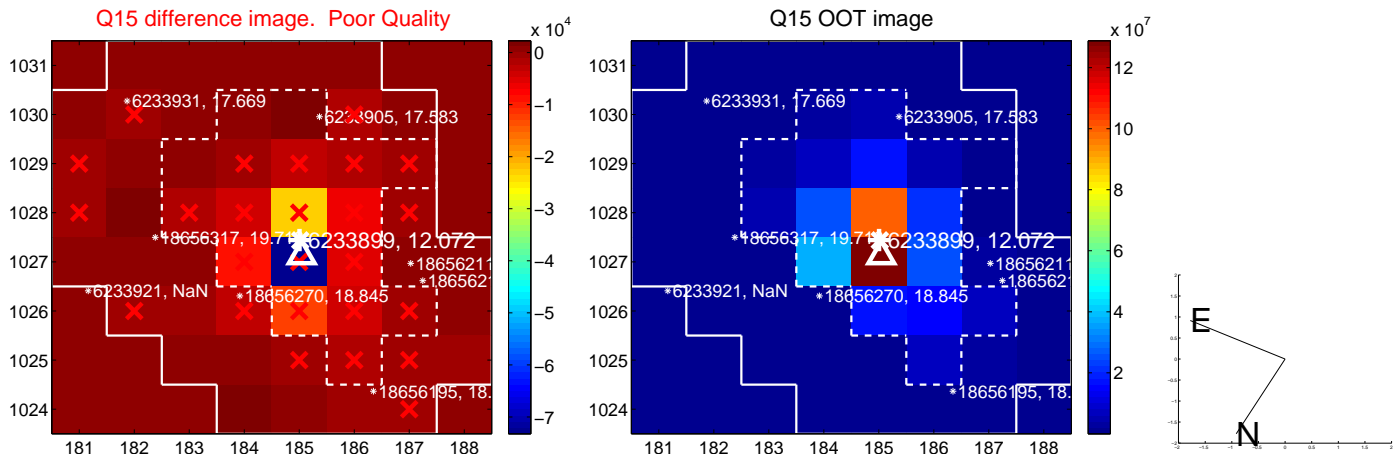
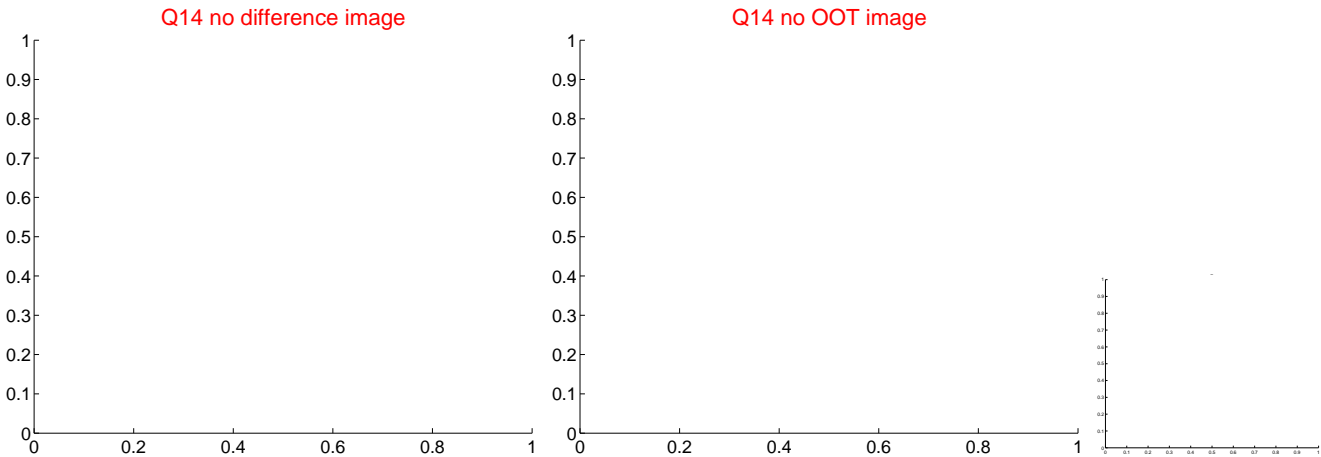
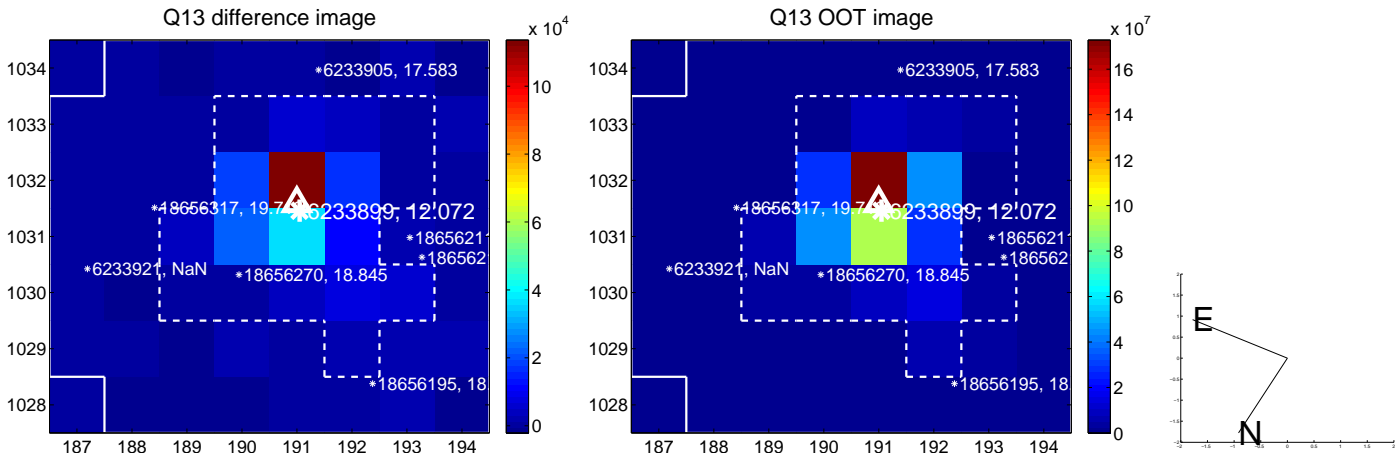
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



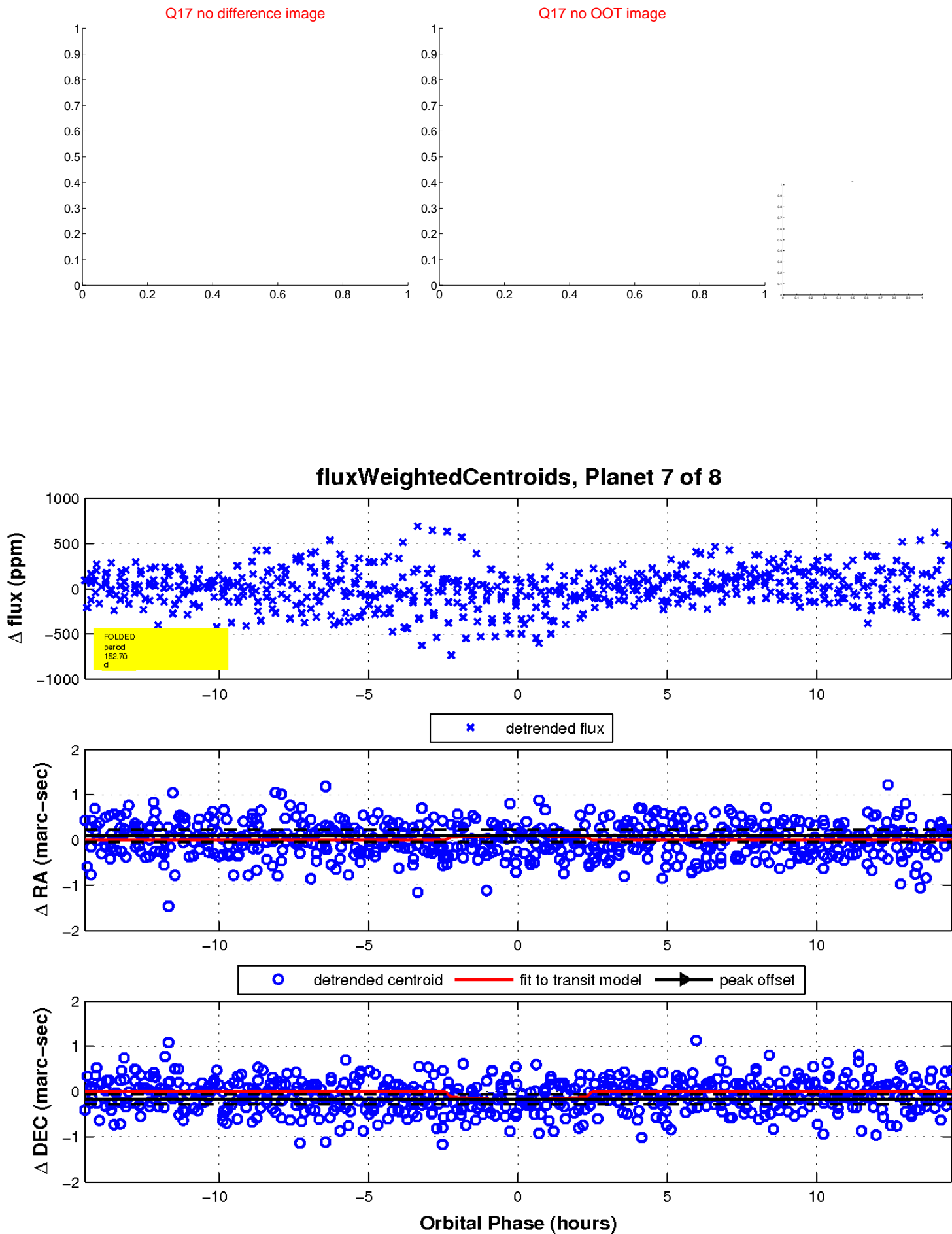
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

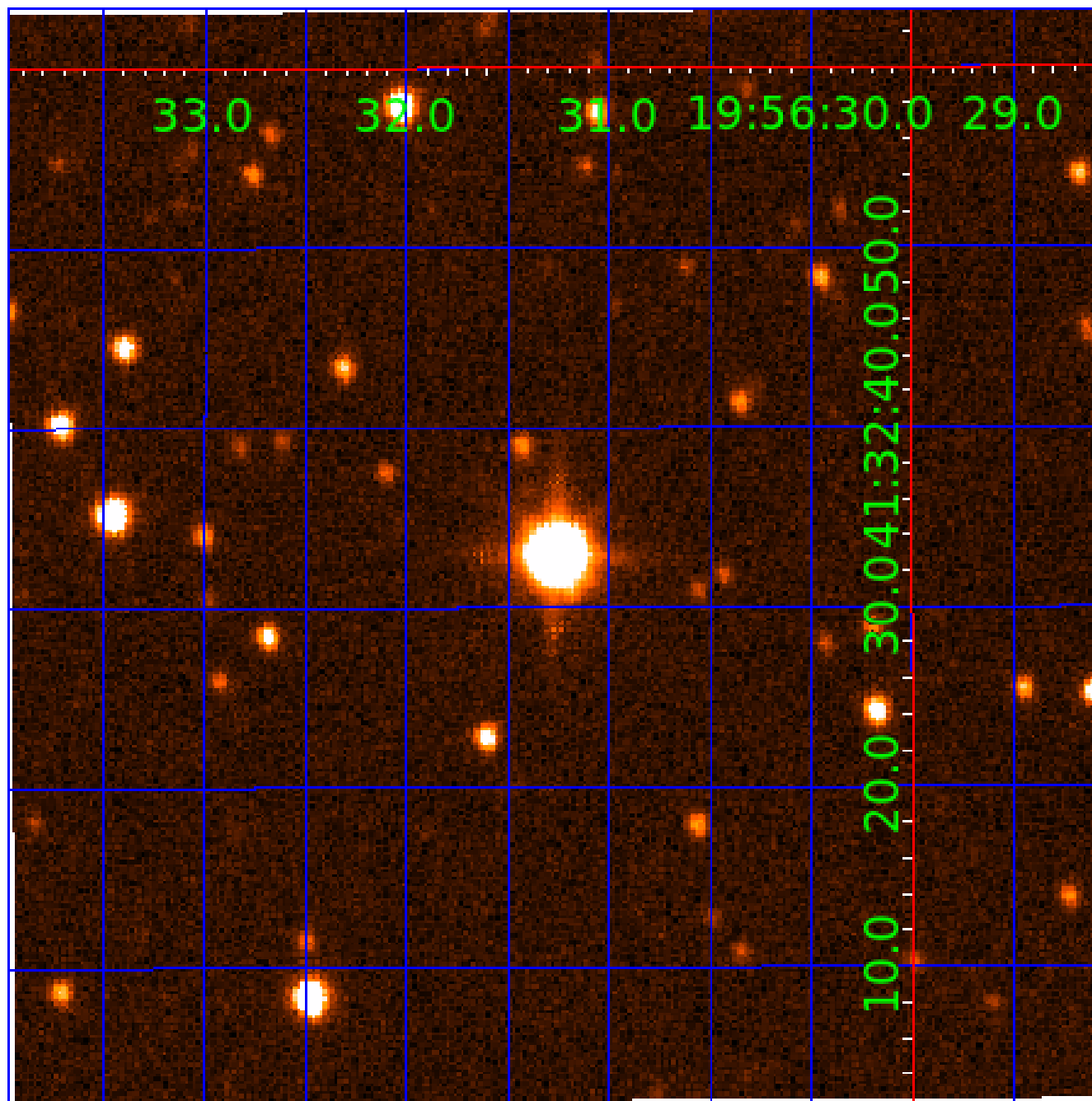


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006233899

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})
006233899-01	OBS	No	0.829937	132.342343	10.2	5.535	10.9	5.1	1.53	6634	0.57	11100.73
006233899-02	OBS	No	44.012412	161.804691	216.0	2.207	11.5	8.1	1.53	6634	2.63	55.72
006233899-03	OBS	No	26.530826	134.430659	154.2	2.338	9.8	7.6	1.53	6634	2.06	109.42
006233899-04	OBS	No	48.943842	137.747249	279.5	2.776	10.8	9.8	1.53	6634	2.87	48.36
006233899-05	OBS	No	34.302596	151.814536	223.9	1.365	9.9	10.4	1.53	6634	2.71	77.68
006233899-06	OBS	No	47.967191	138.541048	253.9	1.667	10.2	8.6	1.53	6634	2.85	49.68
006233899-07	OBS	No	152.701716	175.049528	165.4	4.855	9.3	6.9	1.53	6634	2.02	10.61
006233899-08	OBS	No	113.455760	140.506769	314.6	1.925	8.4	8.5	1.53	6634	3.17	15.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006233899-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
006233899-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
006233899-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006233899-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

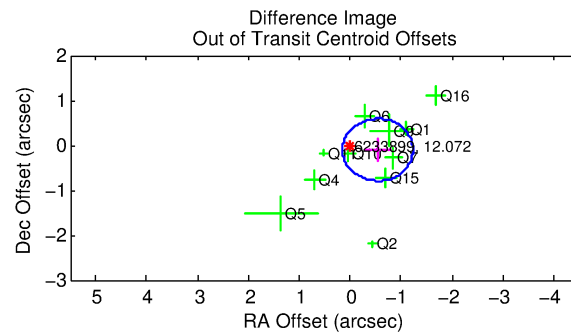
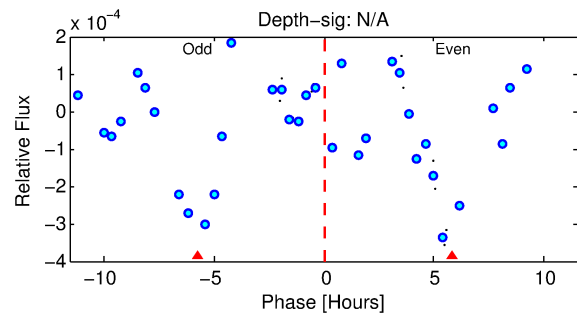
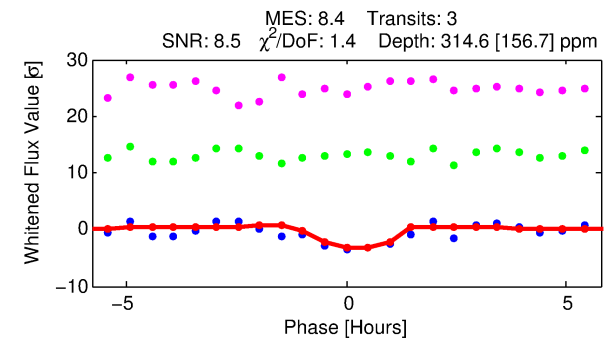
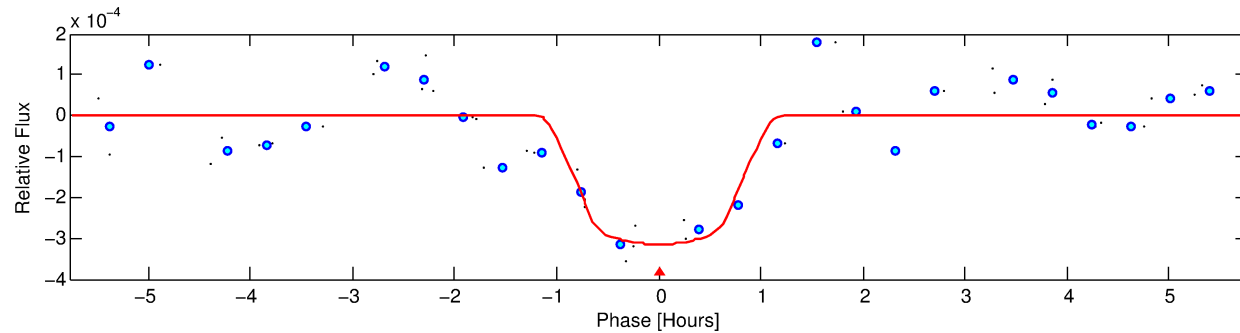
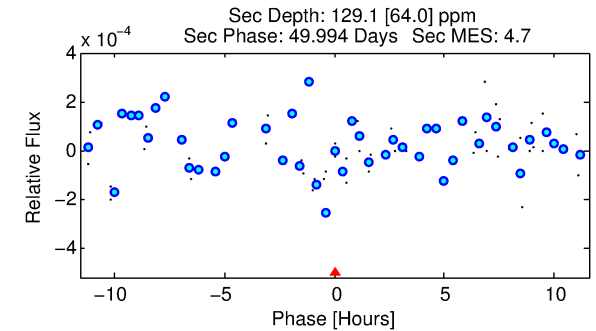
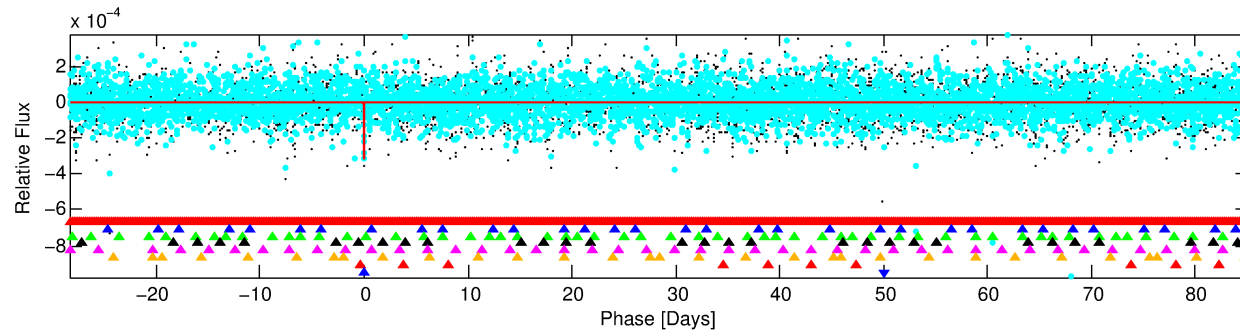
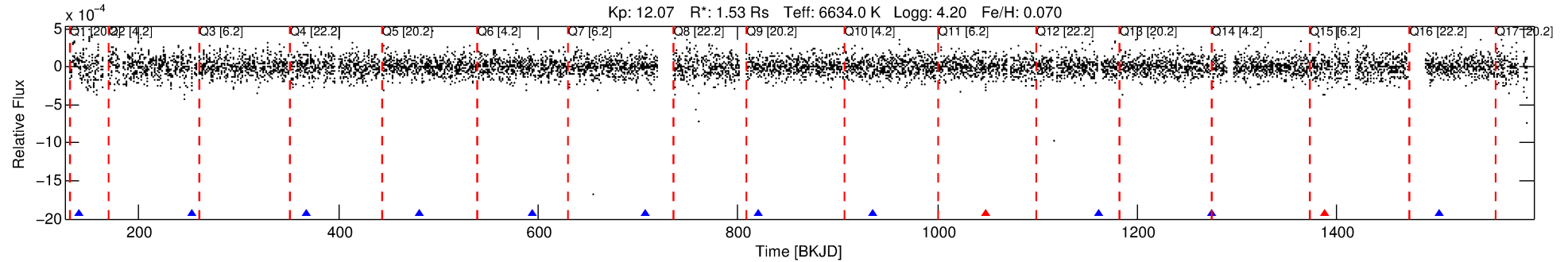
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006233899-08

No Significant Match Found

DV One-Page Summary

KIC: 6233899 Candidate: 8 of 8 Period: 113.456 d



DV Fit Results:

Period = 113.45576 [0.00184] d
Epoch = 140.5068 [0.0259] BKJD
Rp/R* = 0.0190 [0.1359]
a/R* = 214.01 [8831.04]
b = 0.90 [8.68]
Seff = 15.76 [6.37]
Teq = 508 [51] K
Rp = 3.18 [22.69] Re
a = 0.5070 [0.1348] AU
Ag = 1811.06 [25881.23] [0.07] σ
Teffp = 5125 [18303] K [0.25] σ

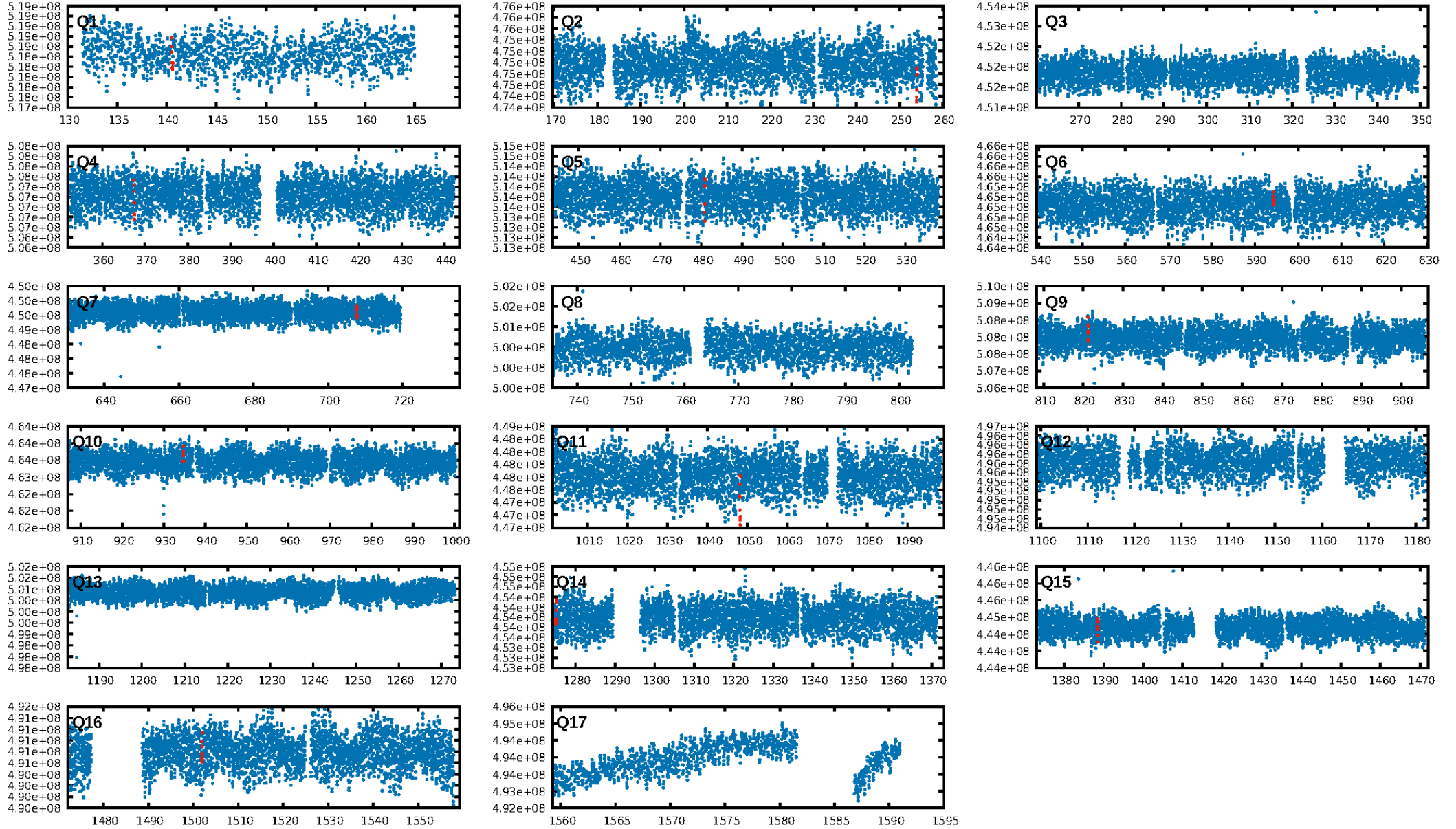
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [458.39] σ
LongPeriod-sig: 100.0% [180.34] σ
ModelChiSquare2-sig: 63.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.33 [1/3]
GhostDiagnostic-chr: -0.7031
Centroid-sig: 80.1%
Centroid-so: 0.206 arcsec [0.37] σ
OotOffset-rm: 0.551 arcsec [2.39] σ
KicOffset-rm: 0.550 arcsec [2.57] σ
OotOffset-st: 3/3/2/3 [11]
KicOffset-st: 3/3/2/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.18 [2/11]

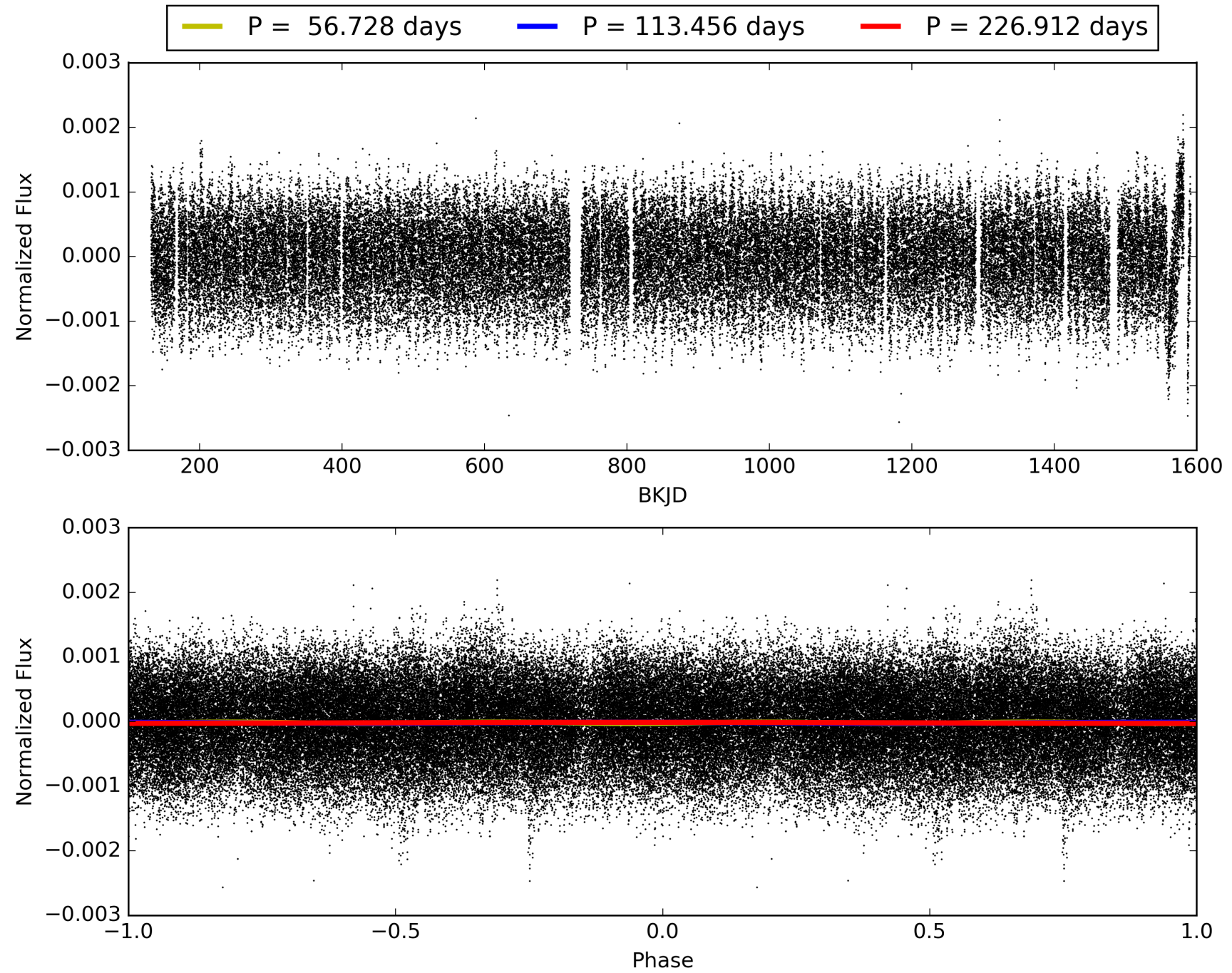
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:52:29 Z

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

TCE 006233899-08, PDC Light Curves

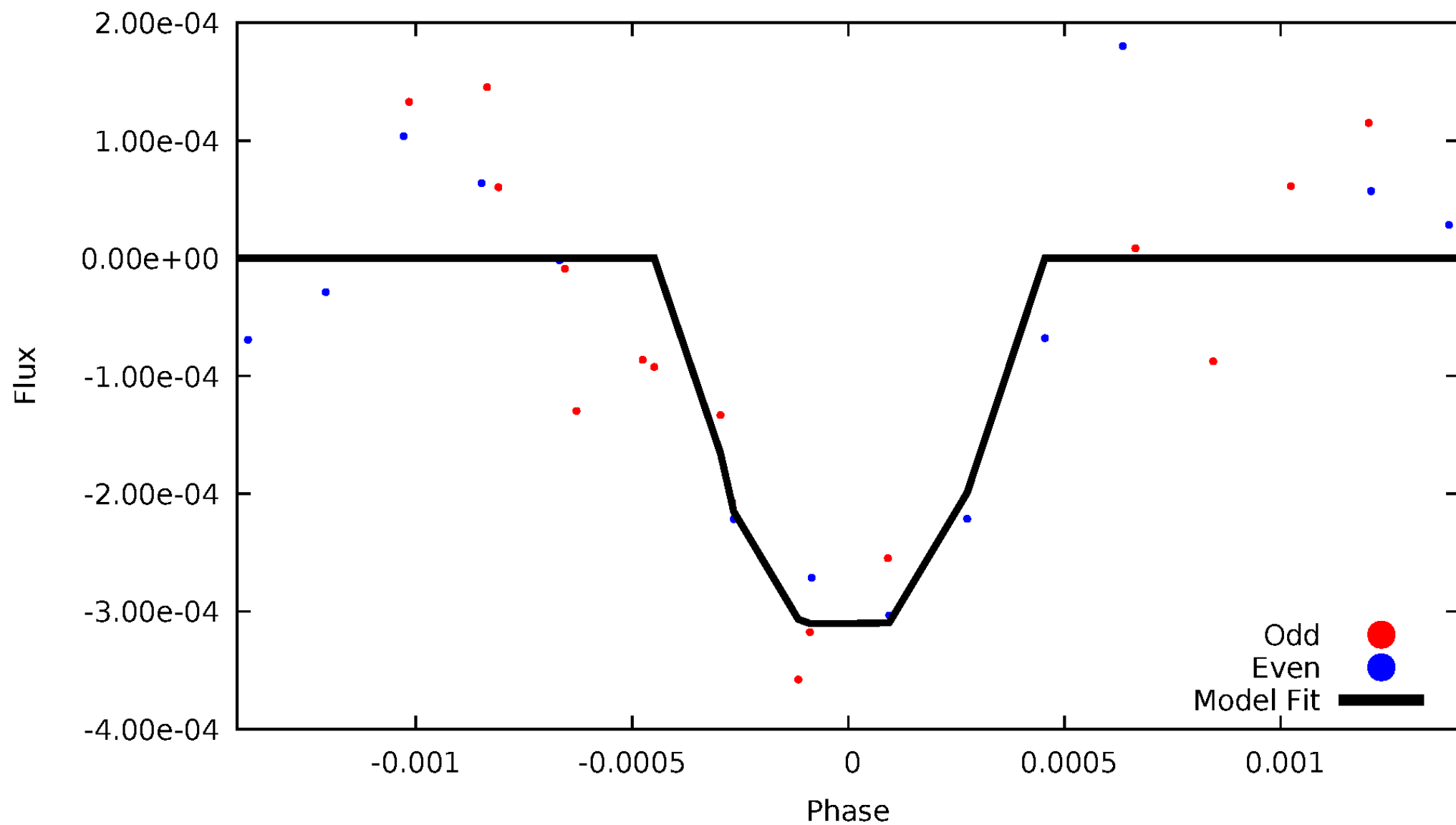


TCE 006233899-08



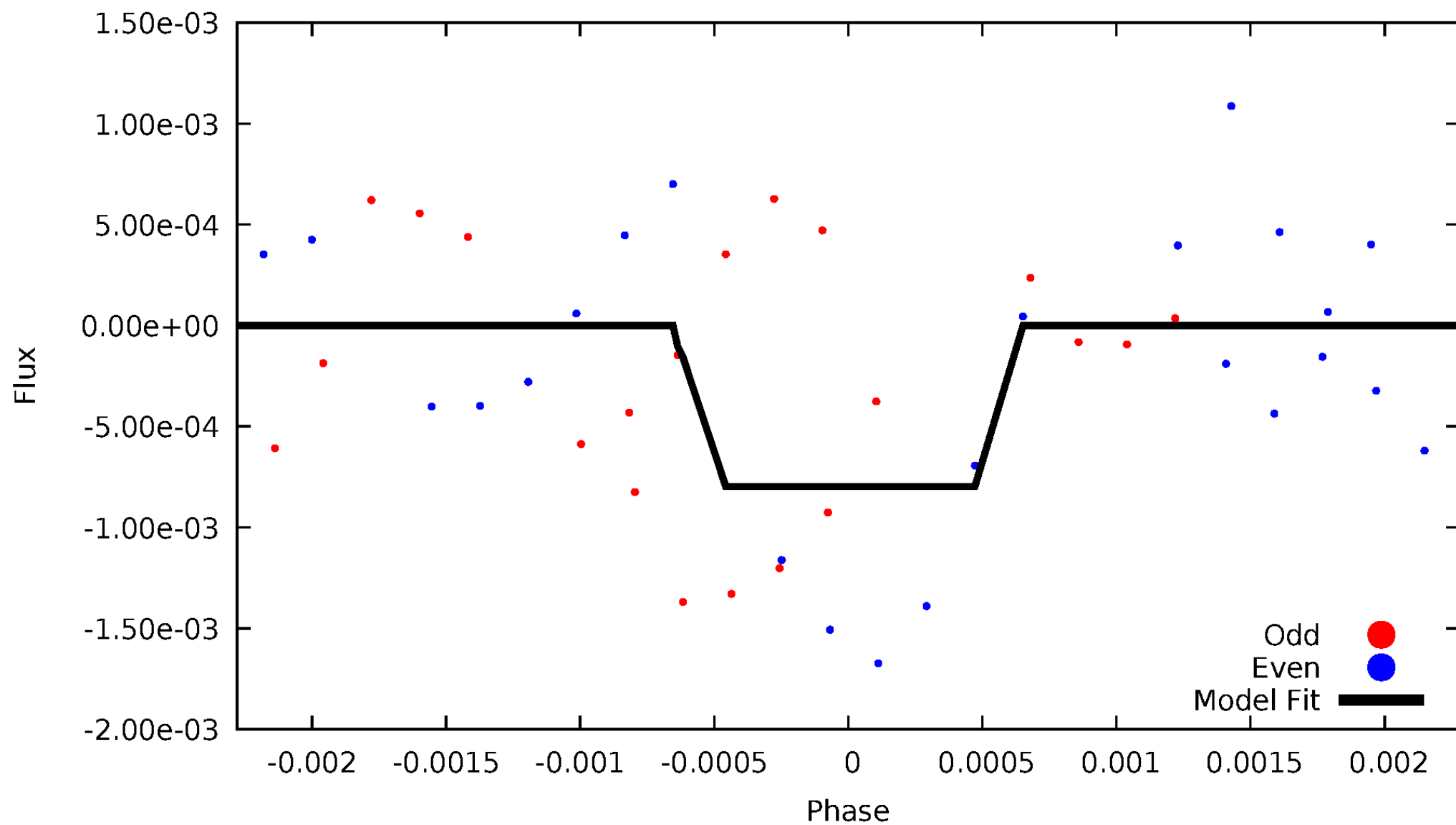
DV Odd/Even

TCE 006233899-08



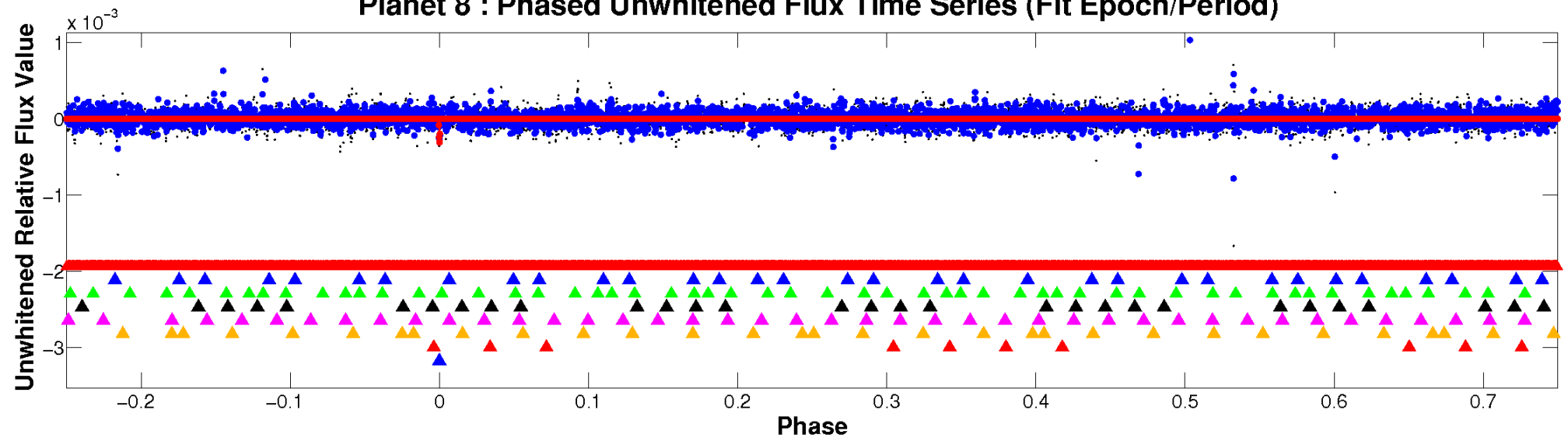
ALT Odd/Even

TCE 006233899-08

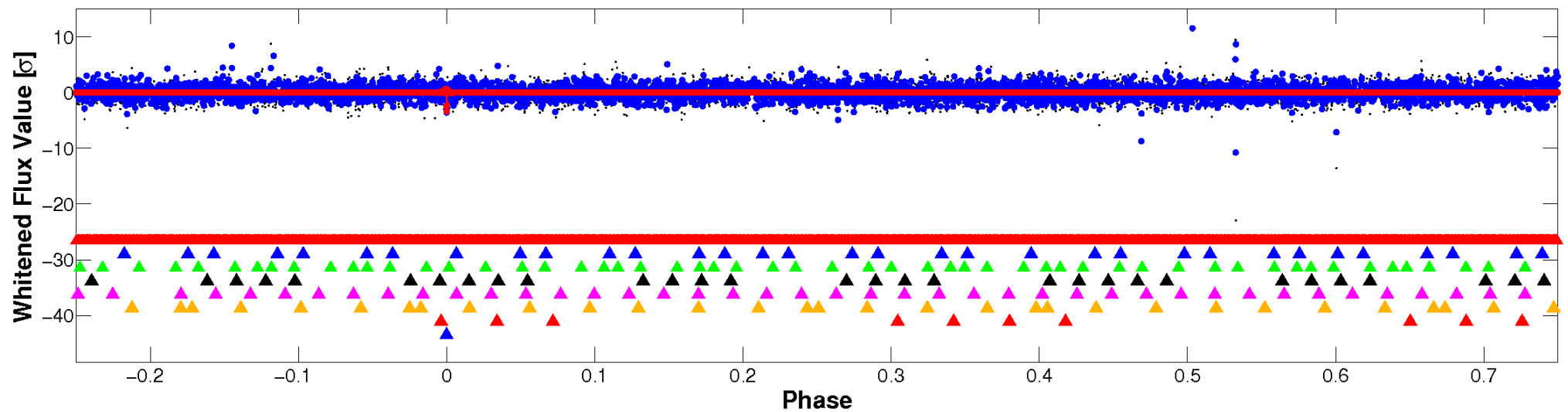


Non-Whitened Vs. Whitened Light Curve

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

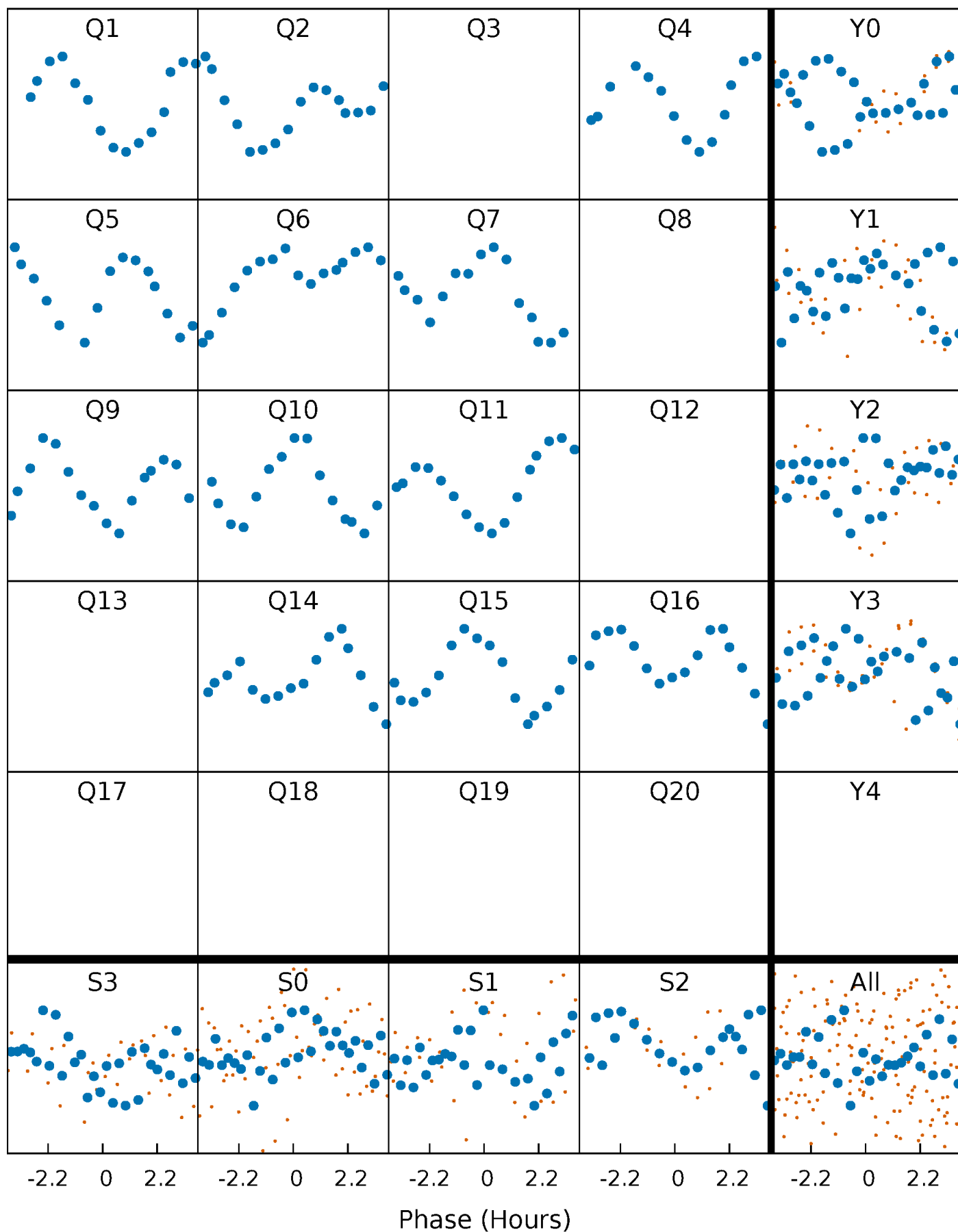


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



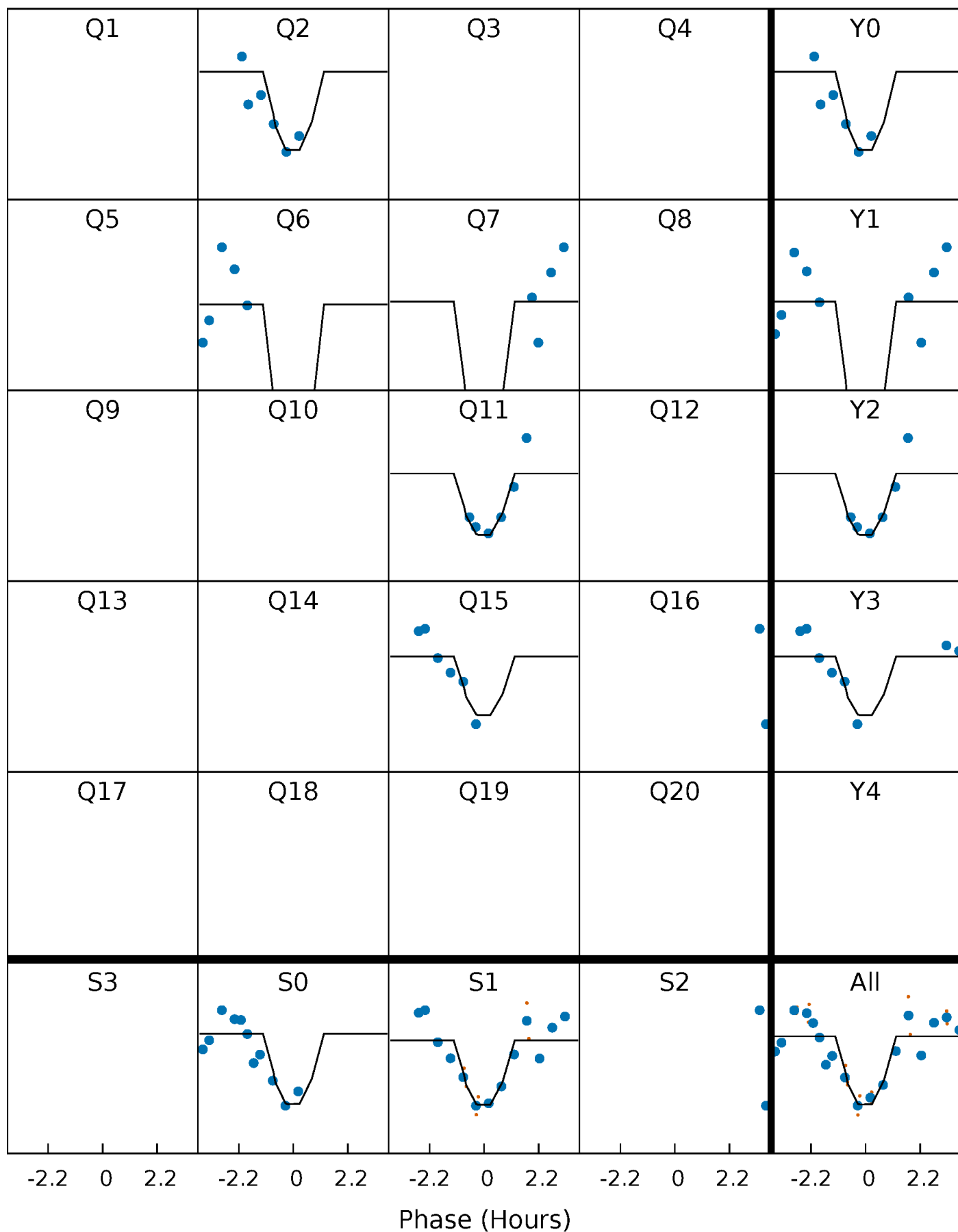
PDC Quarter-Phased Transit Curves

TCE 006233899-08 P=113.455760 Days $T_0=140.506769$ (BKJD)



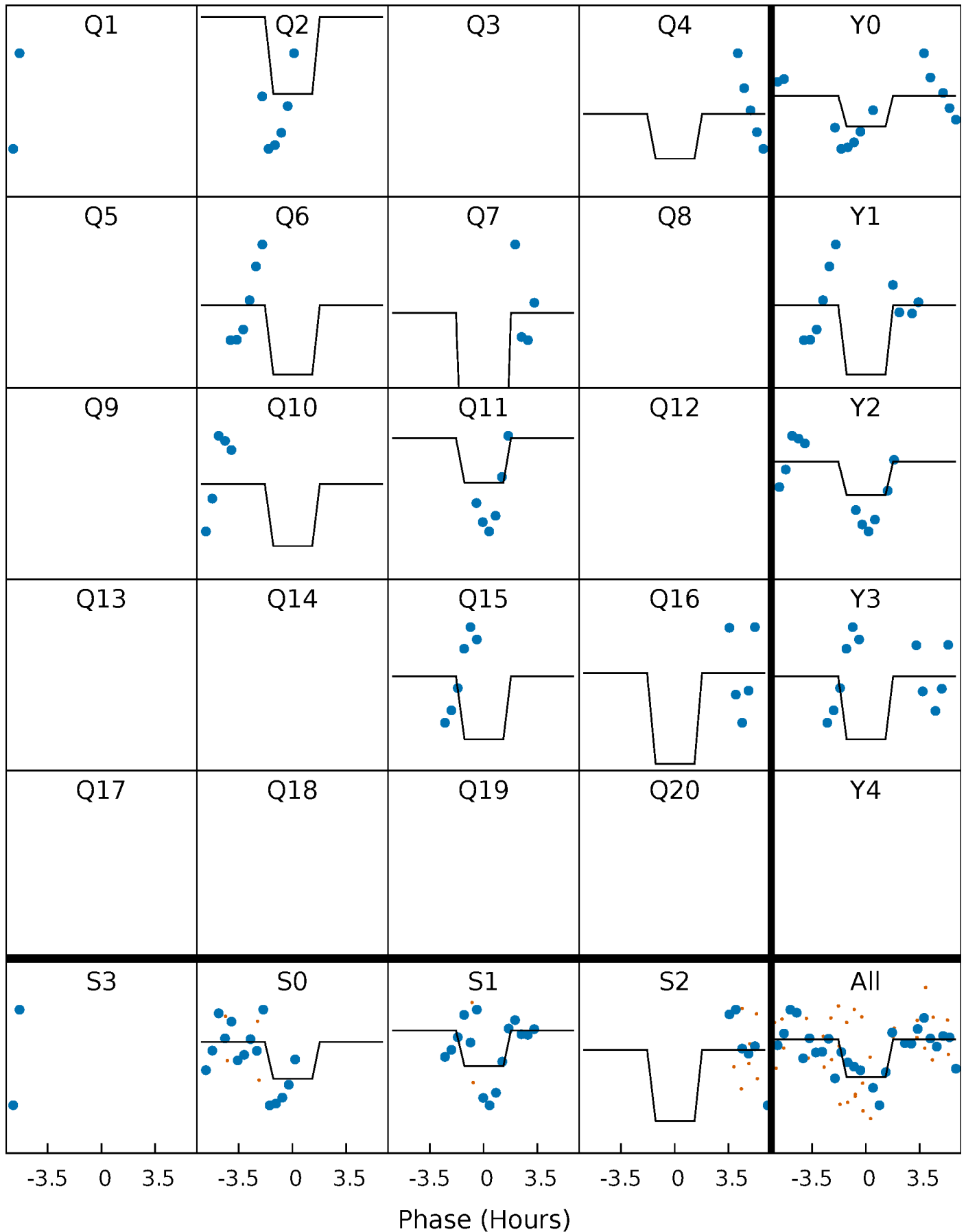
DV Quarter-Phased Transit Curves

TCE 006233899-08 P=113.455760 Days $T_0=140.506769$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

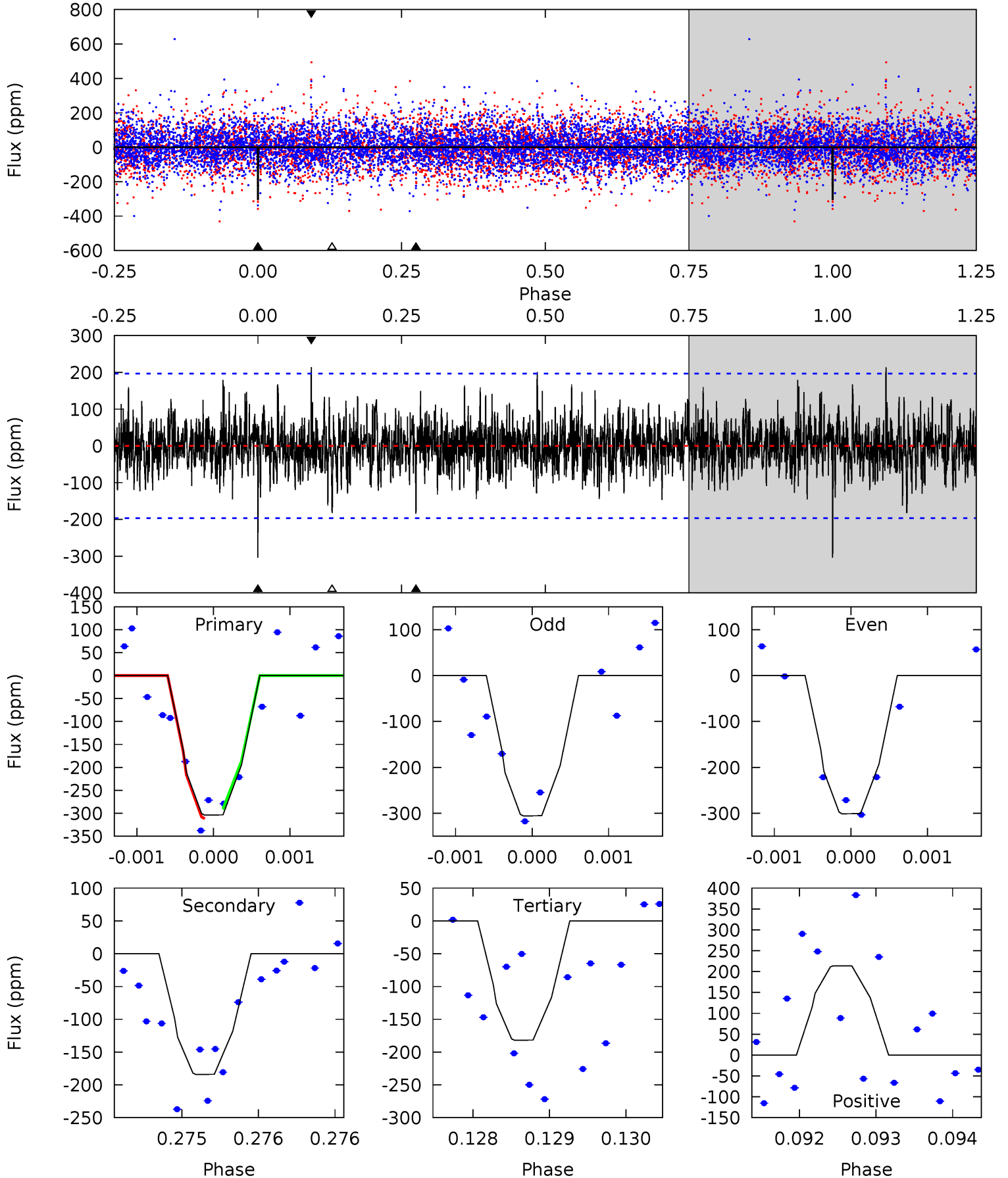
TCE 006233899-08 P=113.455692 Days $T_0=140.505392$ (BKJD)



DV Model-Shift Uniqueness Test

006233899-08, P = 113.455760 Days, E = 27.051009 Days

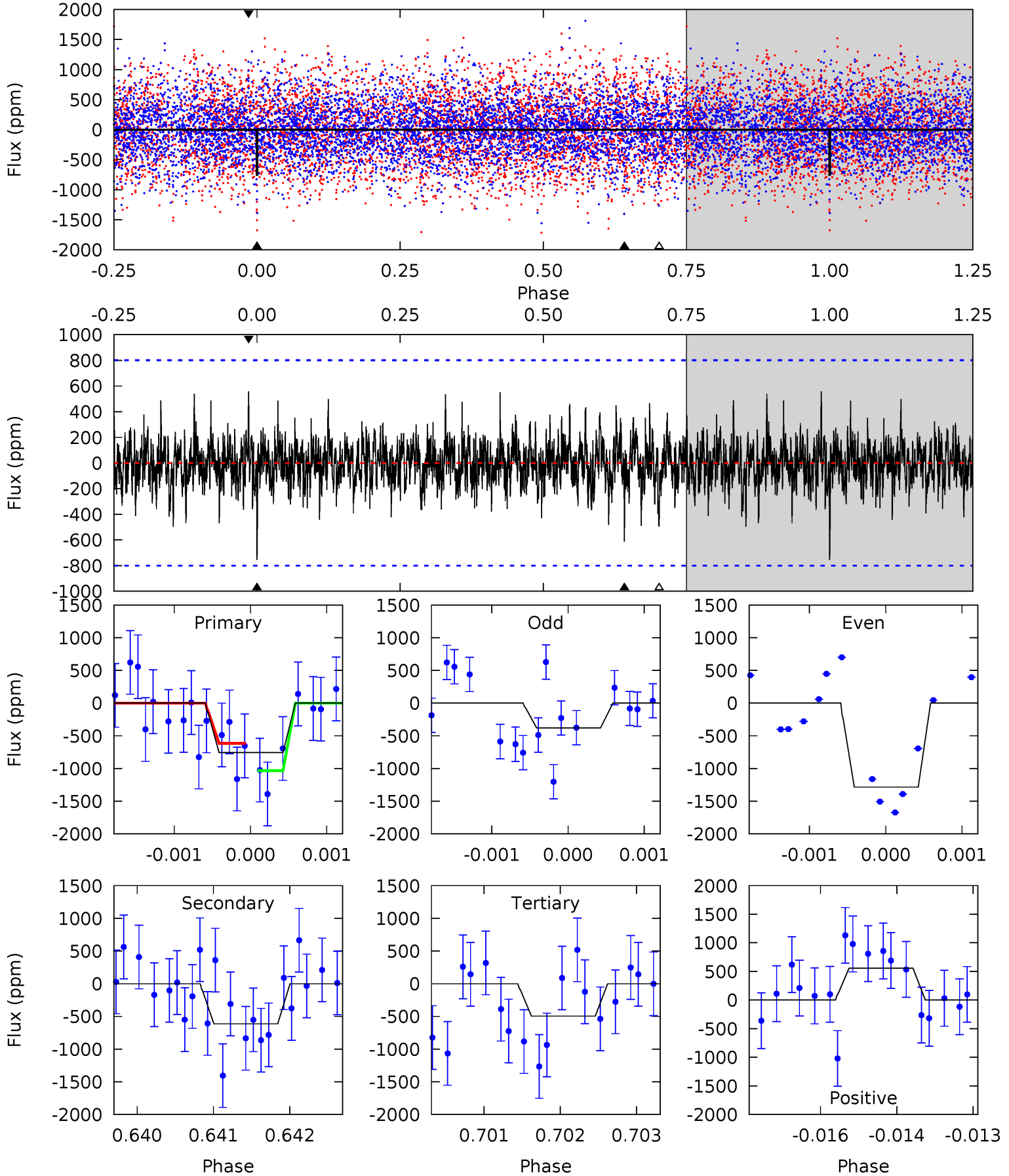
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.50	5.15	5.09	5.98	5.50	3.37	1.40	3.41	2.52	0.06	-0.83	0.06	1.03	0.41	0.29



Alt Model-Shift Uniqueness Test

006233899-08, P = 113.455692 Days, E = 27.049700 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.13	4.16	3.37	3.79	5.43	3.26	0.96	1.76	1.34	0.79	0.37	2.90	0.60	0.42	1.23



Stellar Parameters For KIC 006233899

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6634^{+184}_{-253}	$4.200^{+0.132}_{-0.198}$	$0.070^{+0.250}_{-0.350}$	$1.528^{+0.500}_{-0.308}$	$1.349^{+0.209}_{-0.209}$	$0.533^{+0.350}_{-0.266}$
	+3%/-4%	+3%/-5%	+357%/-500%	+33%/-20%	+15%/-15%	+66%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 006233899-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-184±36	$17.21^{+17.42}_{-11.92}$	715^{+58}_{-48}	3053^{+1463}_{-513}	85^{+800}_{-64}
Alt.	-613±147	$18.08^{+18.38}_{-13.01}$	719^{+57}_{-47}	3613^{+2486}_{-684}	252^{+3141}_{-190}

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 $A_{obs} \gg 1.0$

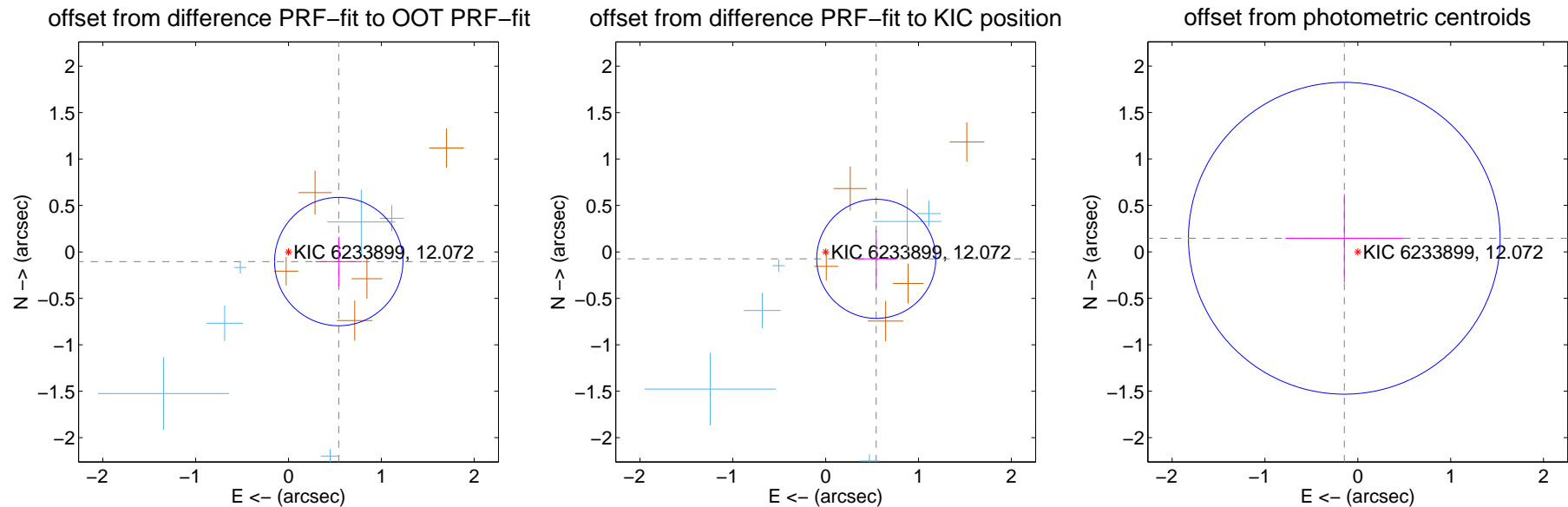
DV Centroid Data

Supplemental centroid analysis for 006233899-08. Kepler magnitude: 12.07. Transit SNR 8.50

There are 6 quarters with good PRF difference image offsets

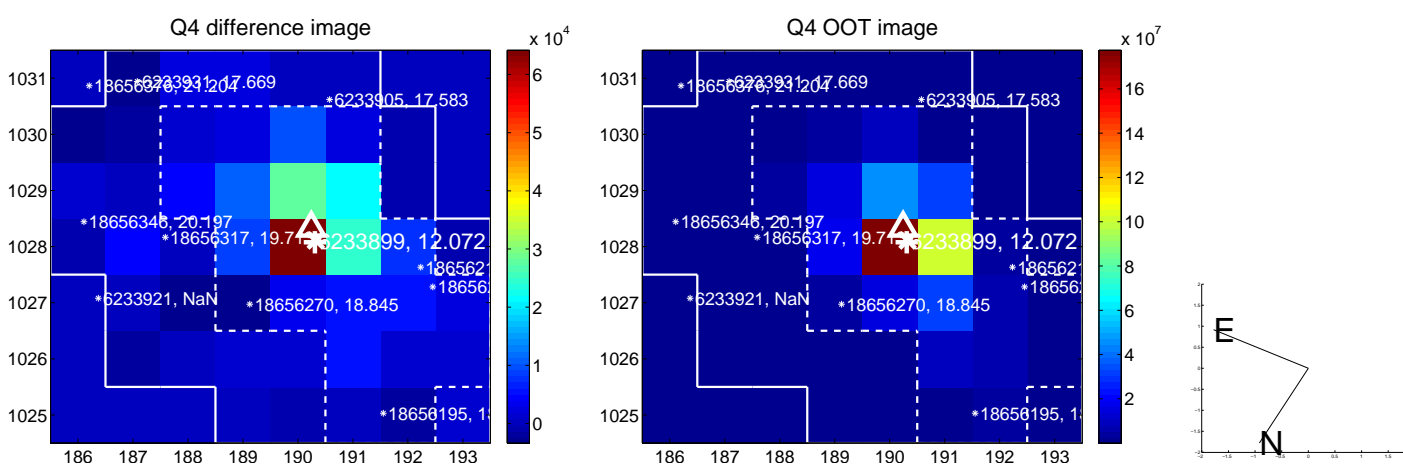
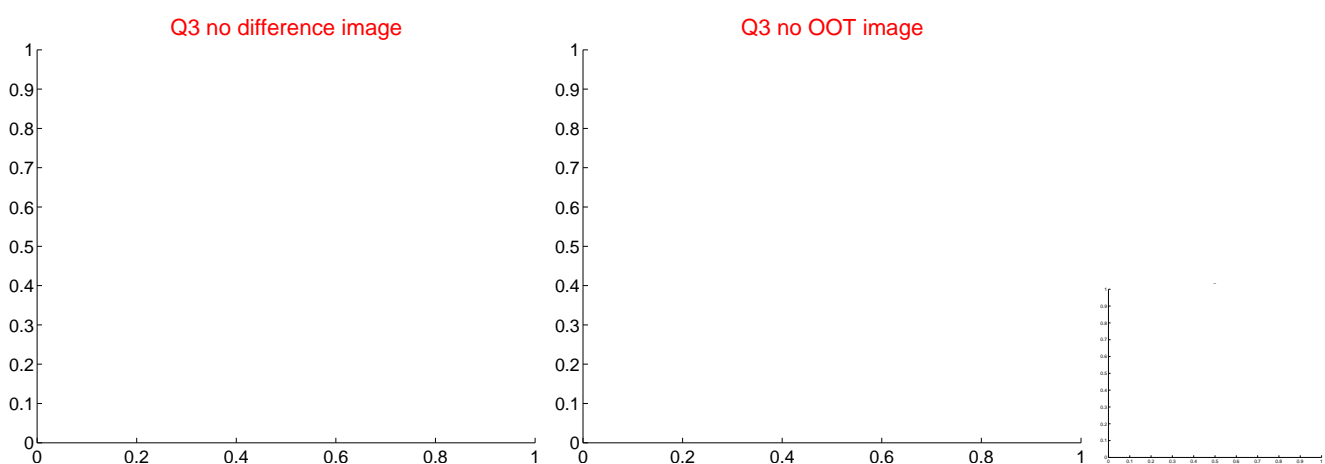
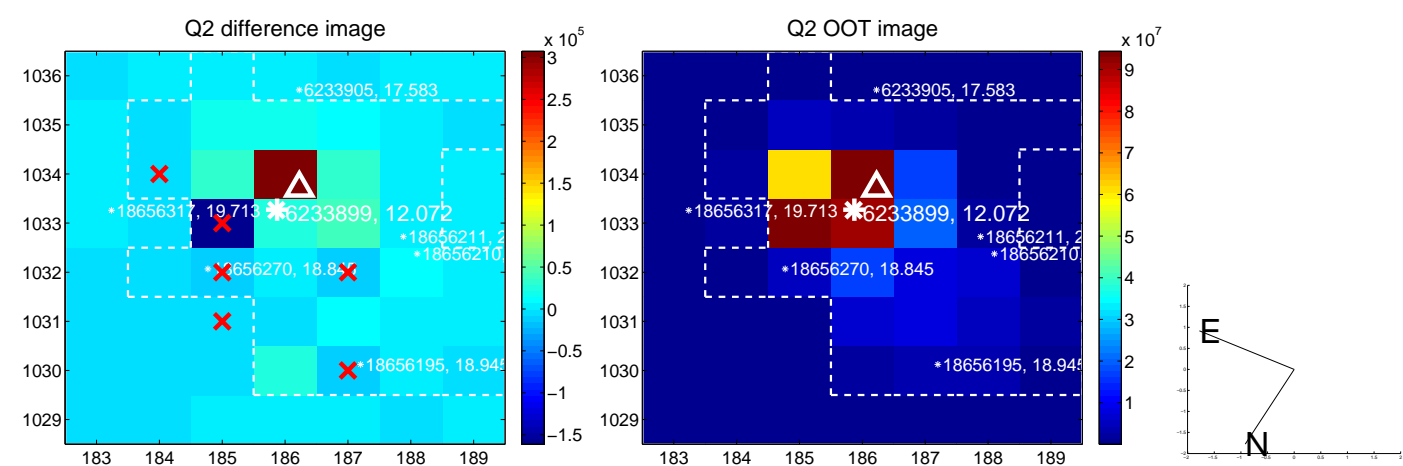
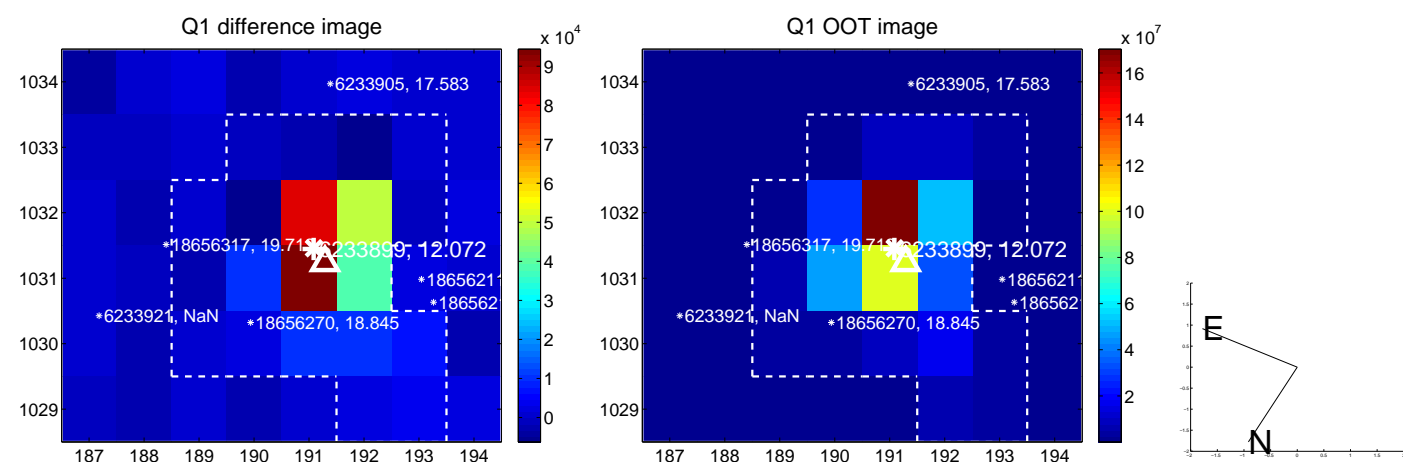
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.551 ± 0.230	2.39	-0.541 ± 0.251	-0.104 ± 0.267
PRF-fit source offset from KIC position	0.550 ± 0.214	2.57	-0.545 ± 0.229	-0.074 ± 0.311
photometric centroid source offset	0.21 ± 0.56	0.37	0.15 ± 0.63	0.15 ± 0.48

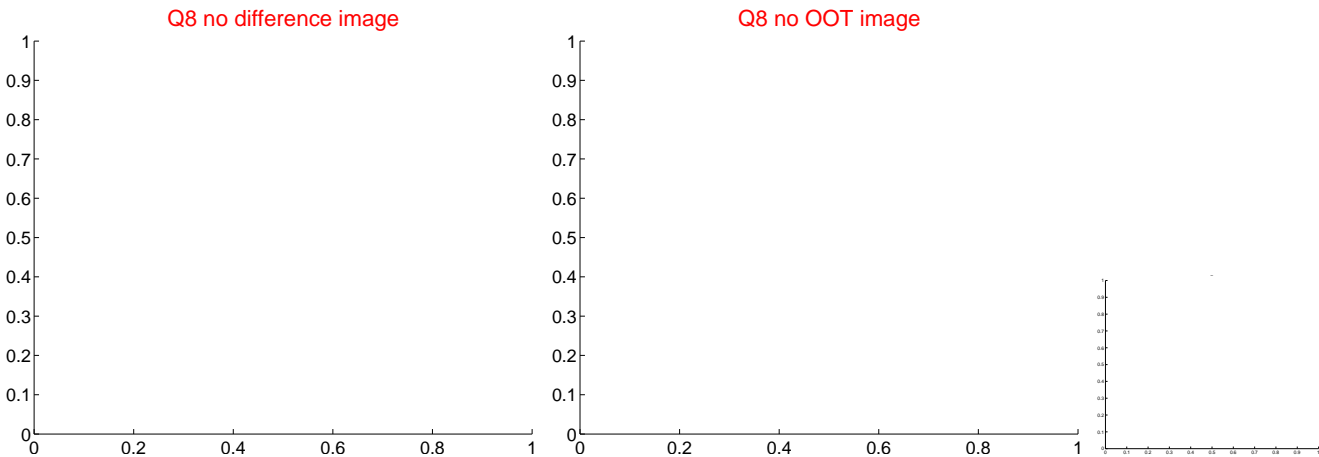
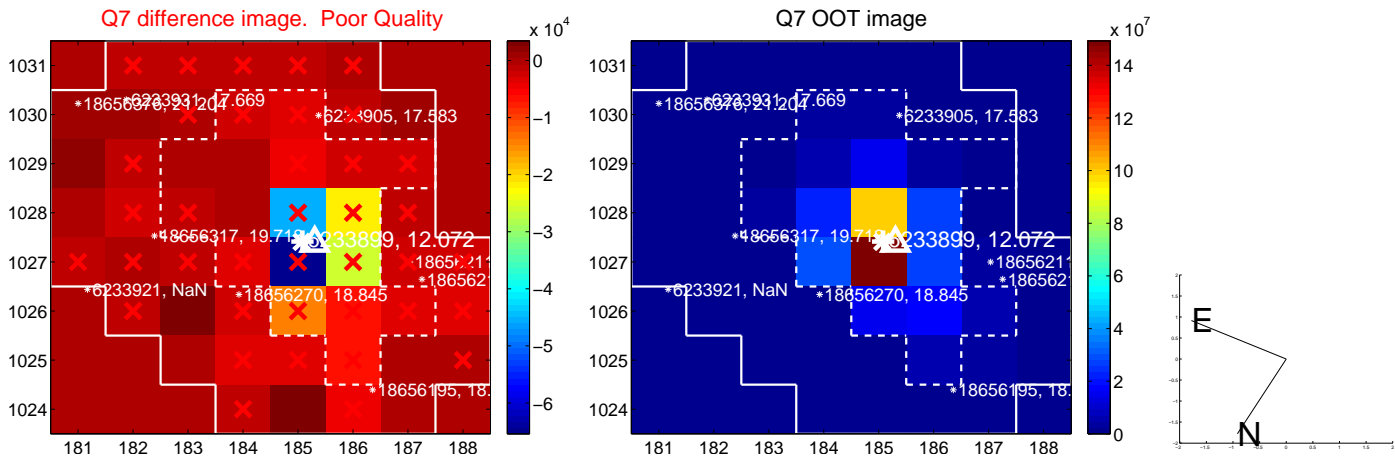
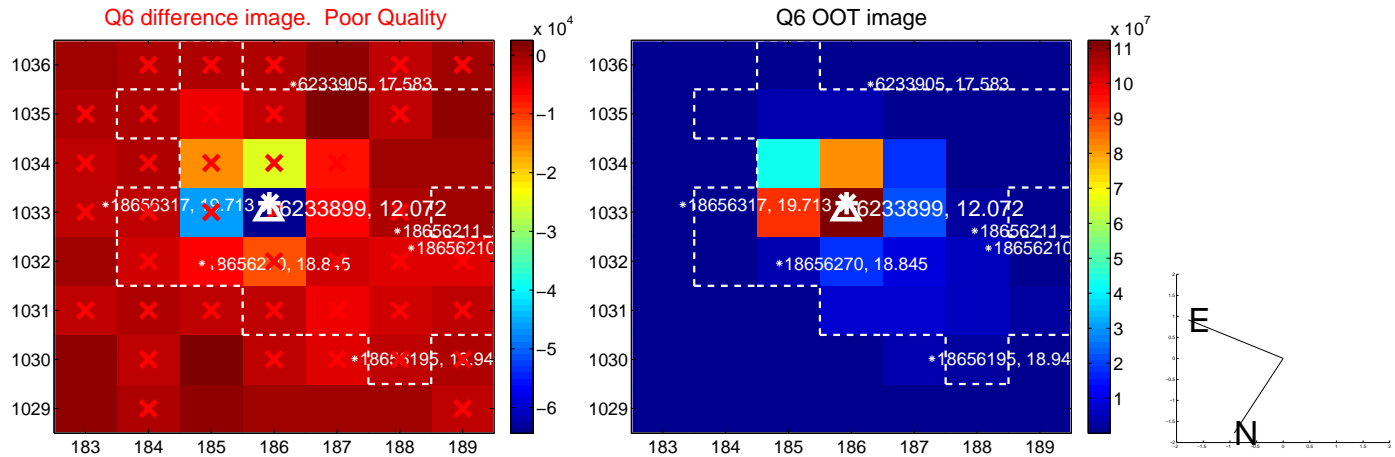
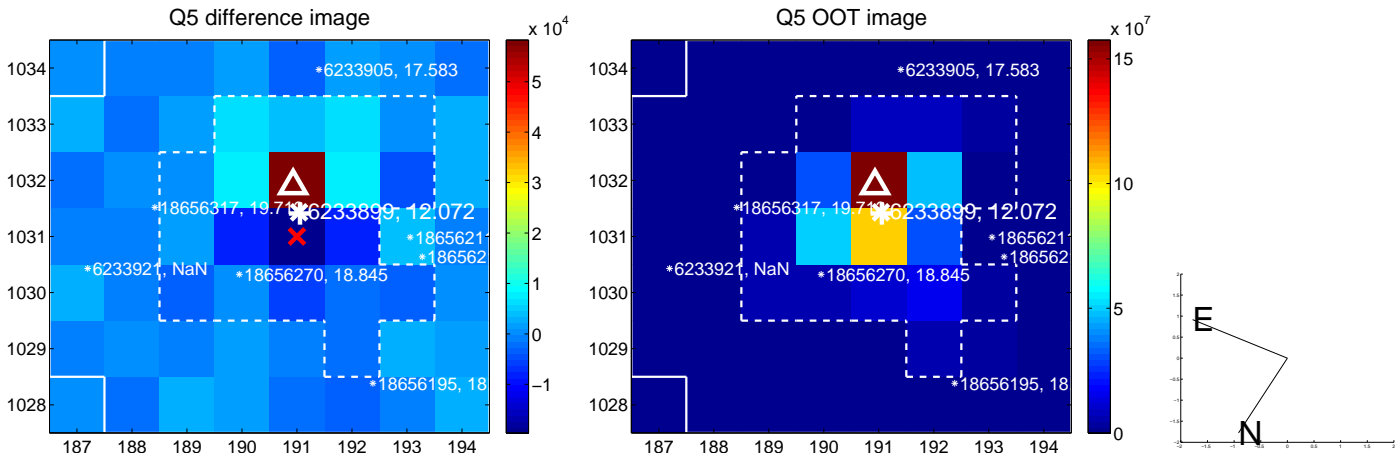


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

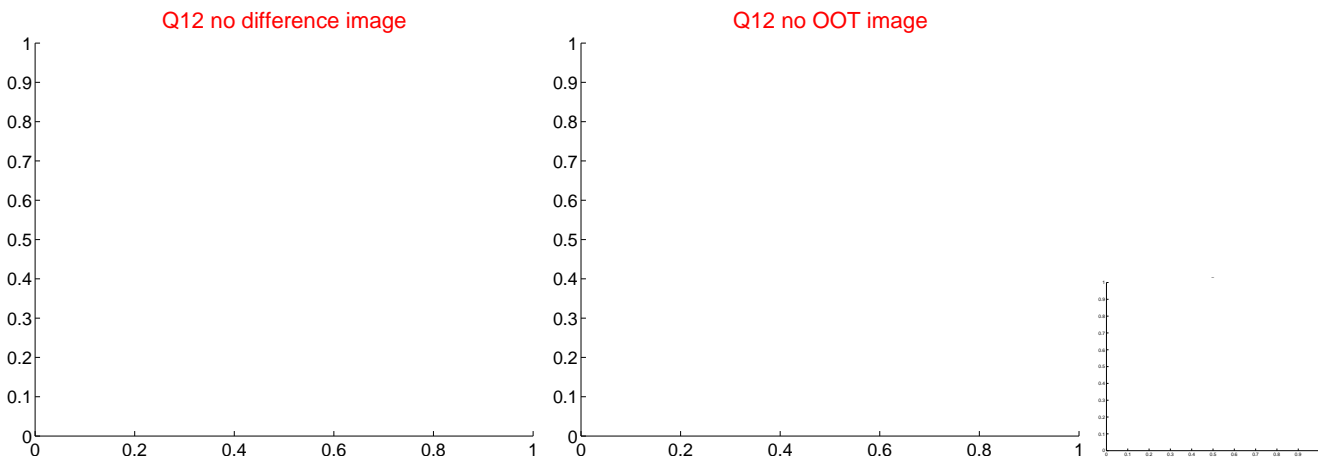
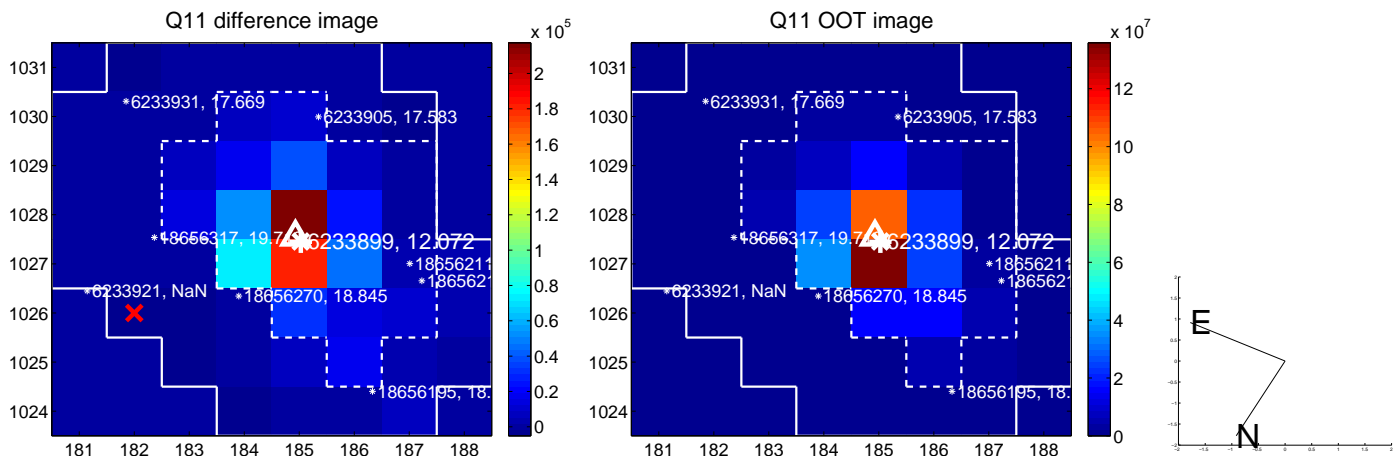
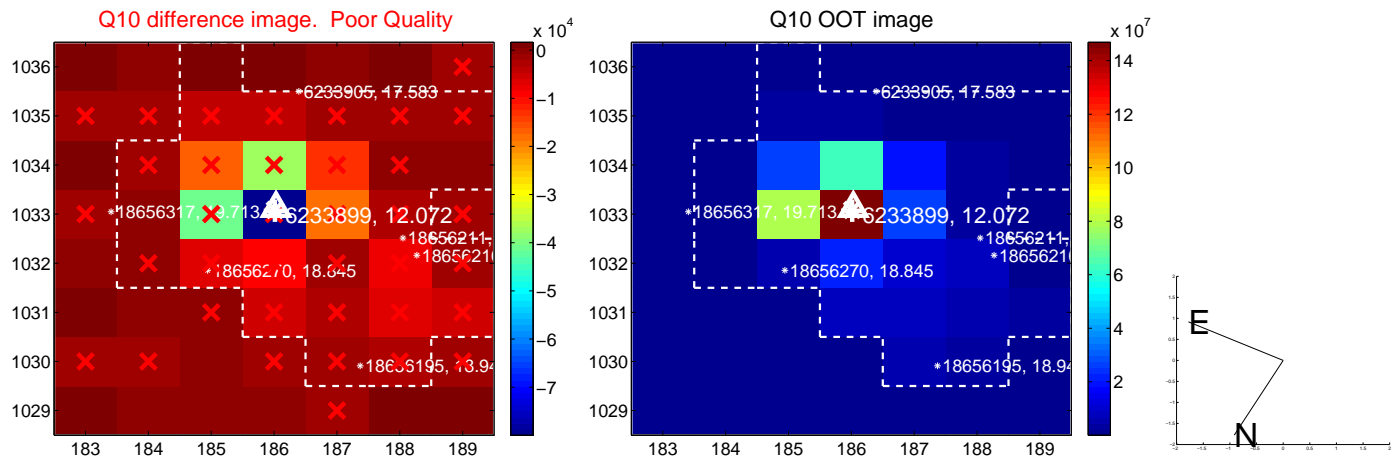
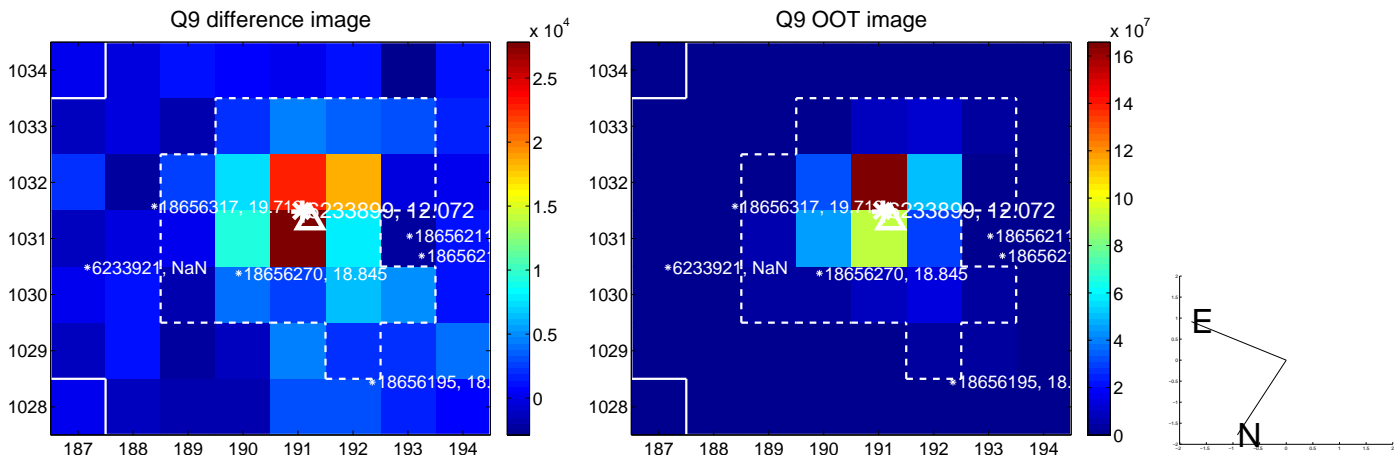
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



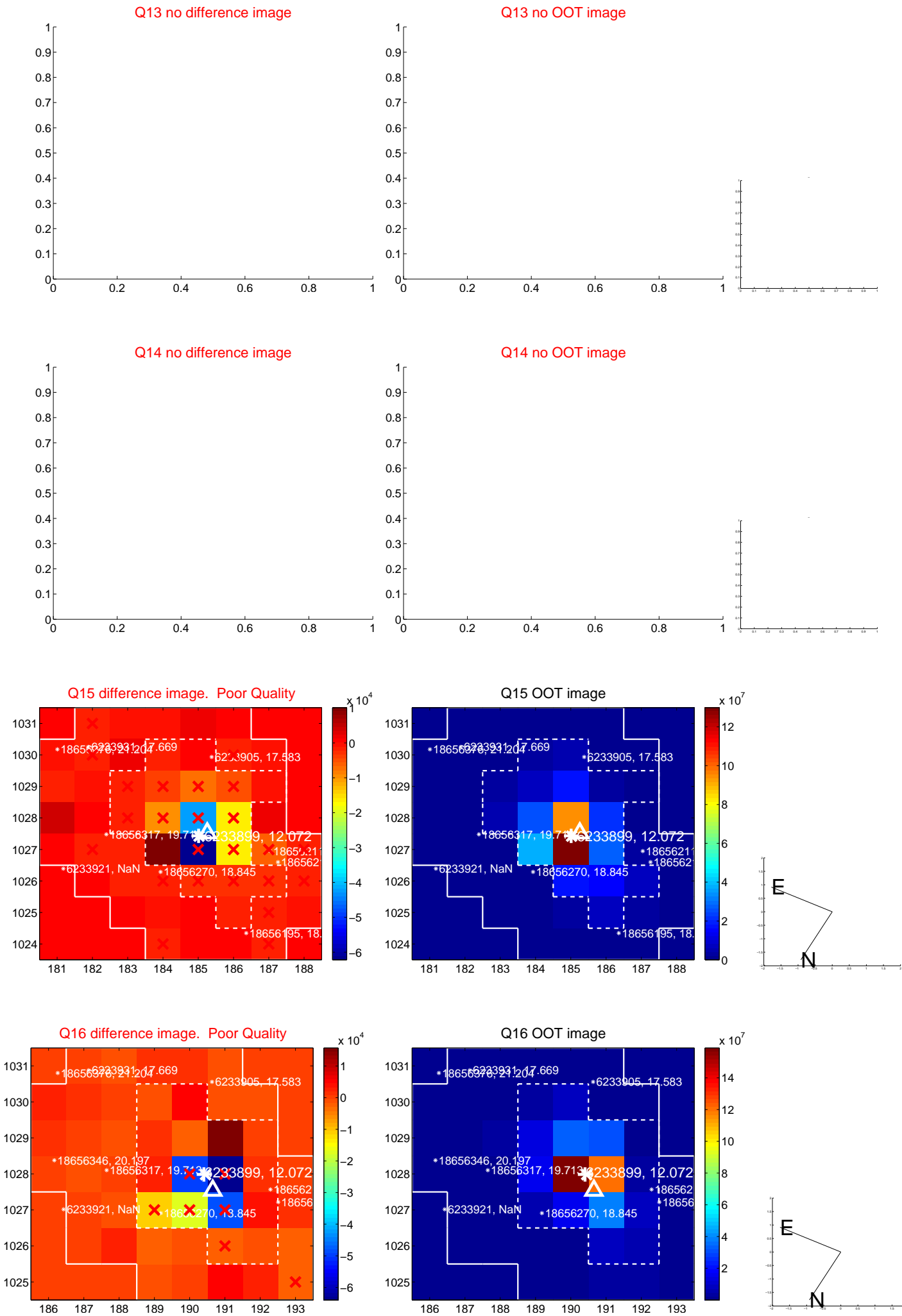
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



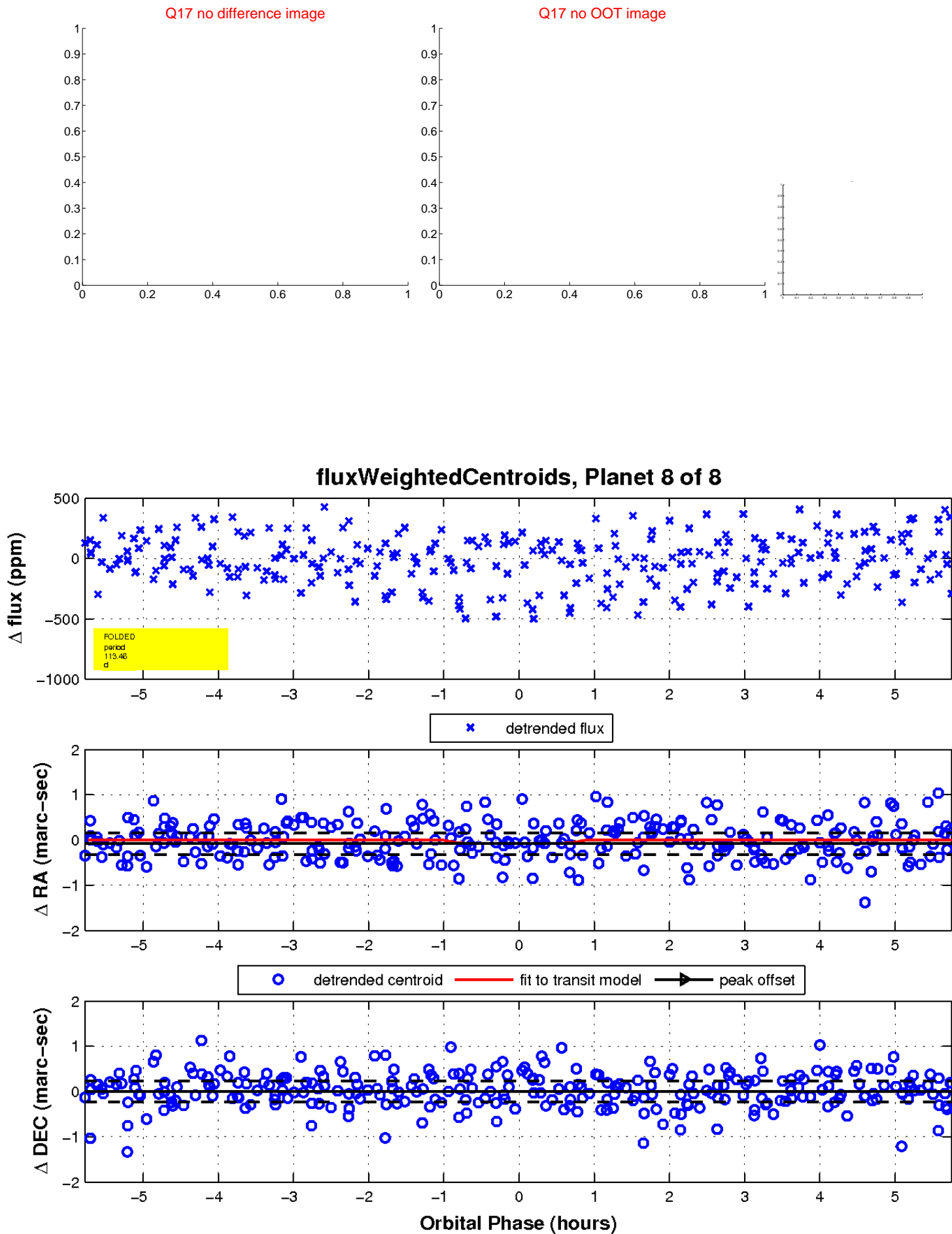
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

