

KIC 005650699

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})
005650699-01	OBS	No	0.885290	132.381414	48.3	3.725	10.5	9.7	1.85	7003	1.50	18910.29
005650699-03	OBS	No	57.263276	138.425325	367.4	4.694	7.9	7.0	1.85	7003	4.00	72.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650699-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
005650699-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET

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

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

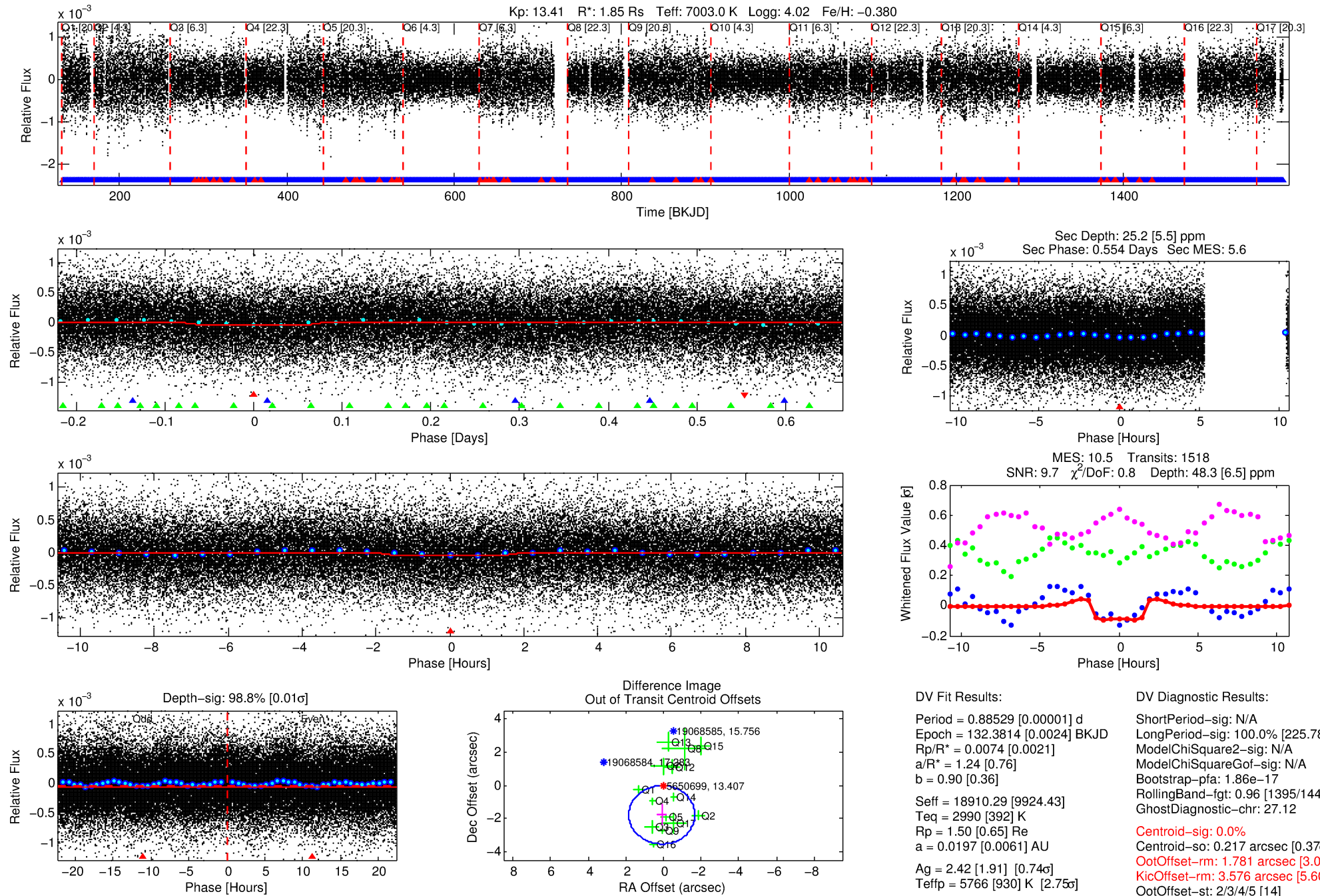
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005650699-01

No Significant Match Found

DV One-Page Summary

KIC: 5650699 Candidate: 1 of 3 Period: 0.885 d



DV Fit Results:

Period = 0.88529 [0.00001] d
Epoch = 132.3814 [0.0024] BKJD
Rp/R* = 0.0074 [0.0021]
a/R* = 1.24 [0.76]
b = 0.90 [0.36]
Seff = 18910.29 [9924.43]
Teff = 2990 [392] K
Rp = 1.50 [0.65] Re
a = 0.0197 [0.0061] AU
Ag = 2.42 [1.91] [0.74 σ]
Teffp = 5766 [930] K [2.75 σ]

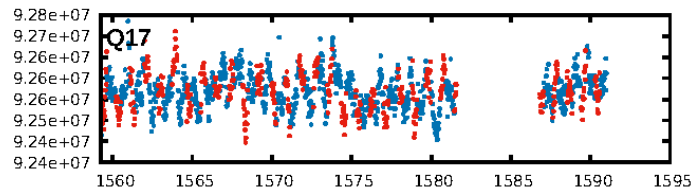
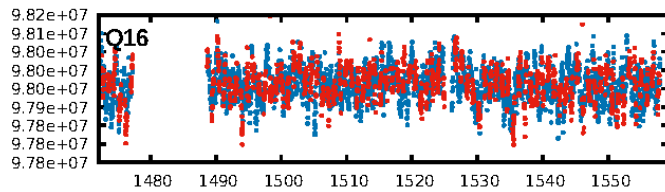
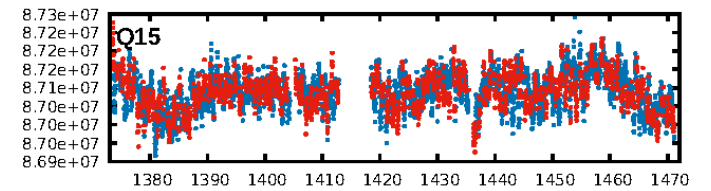
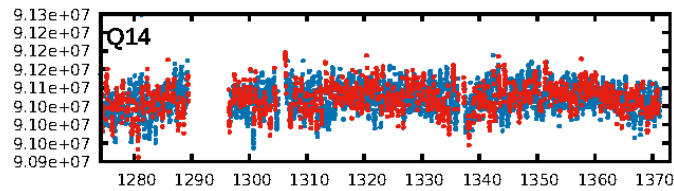
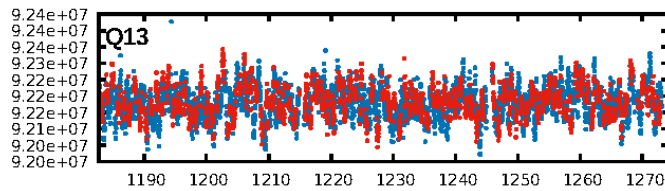
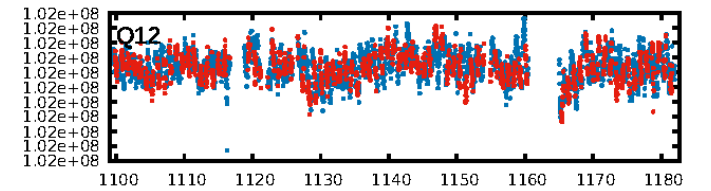
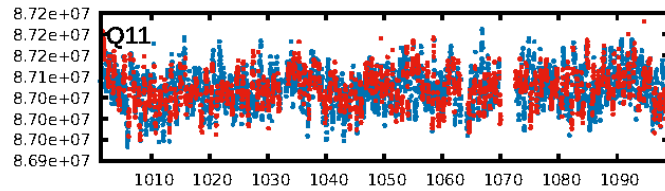
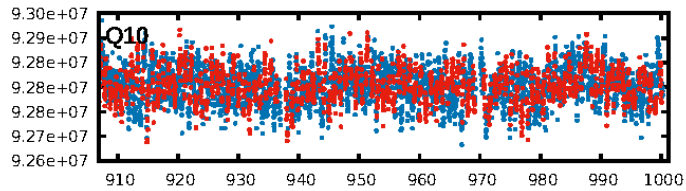
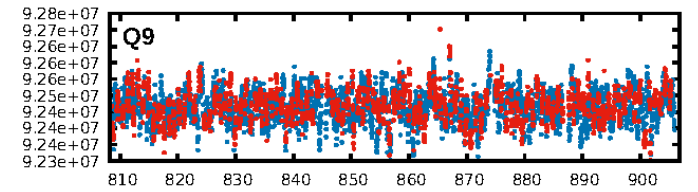
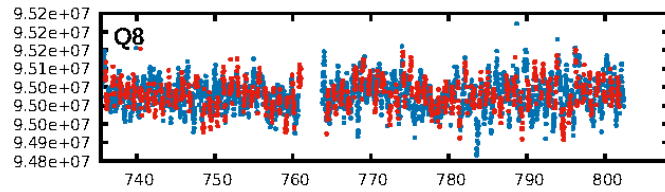
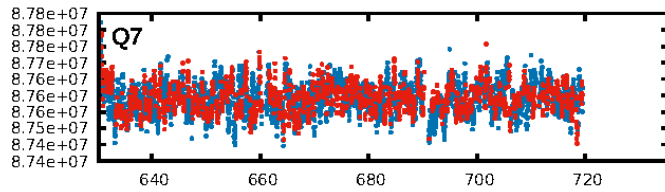
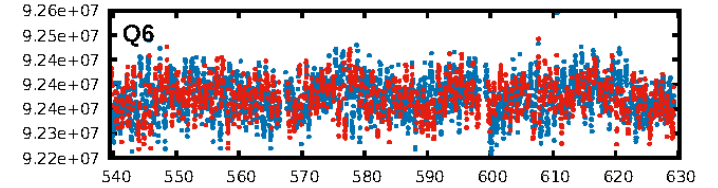
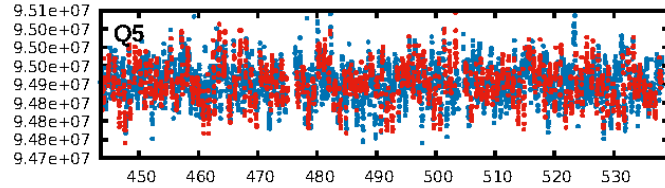
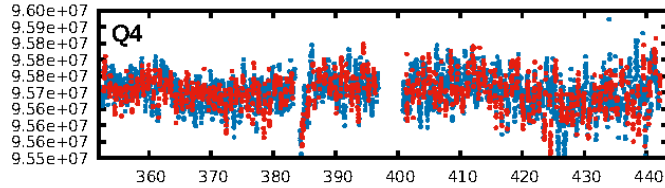
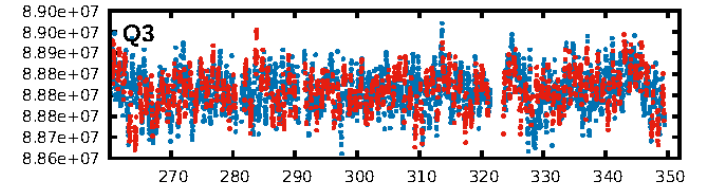
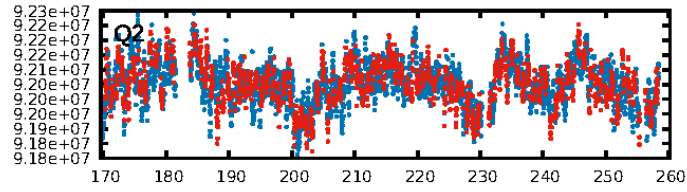
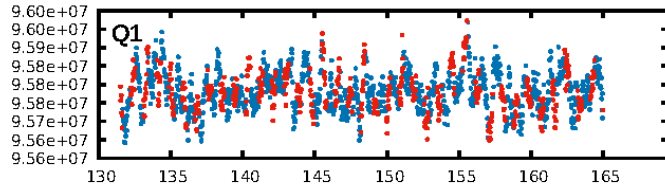
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [225.78 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.86e-17
RollingBand-fgt: 0.96 [1395/1449]
GhostDiagnostic-chr: 27.12
Centroid-sig: 0.0%
Centroid-so: 0.217 arcsec [0.37 σ]
OotOffset-rm: 1.781 arcsec [3.04 σ]
KicOffset-rm: 3.576 arcsec [5.60 σ]
OotOffset-st: 2/3/4/5 [14]
KicOffset-st: 2/3/4/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

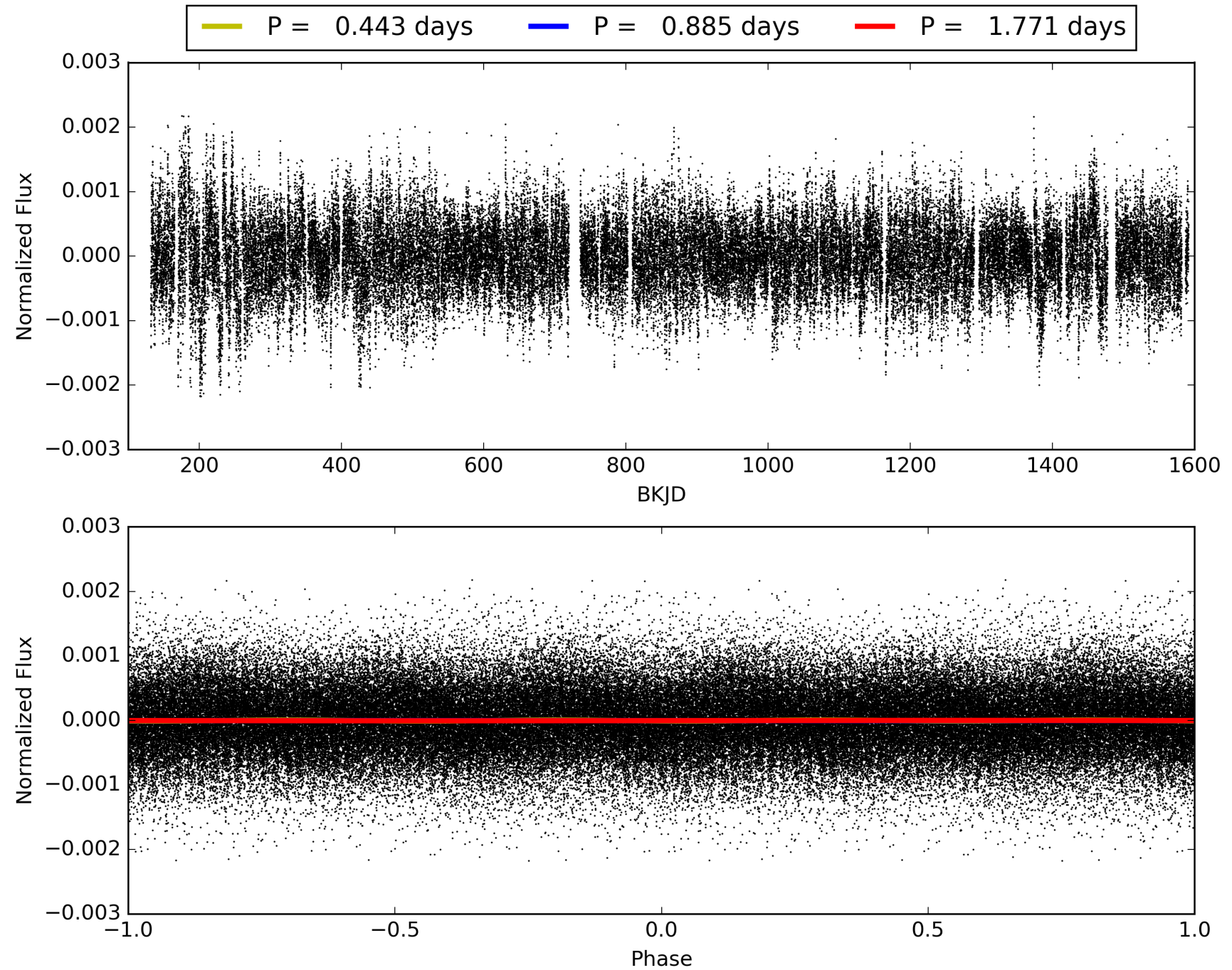
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:17:31 Z

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

TCE 005650699-01, PDC Light Curves

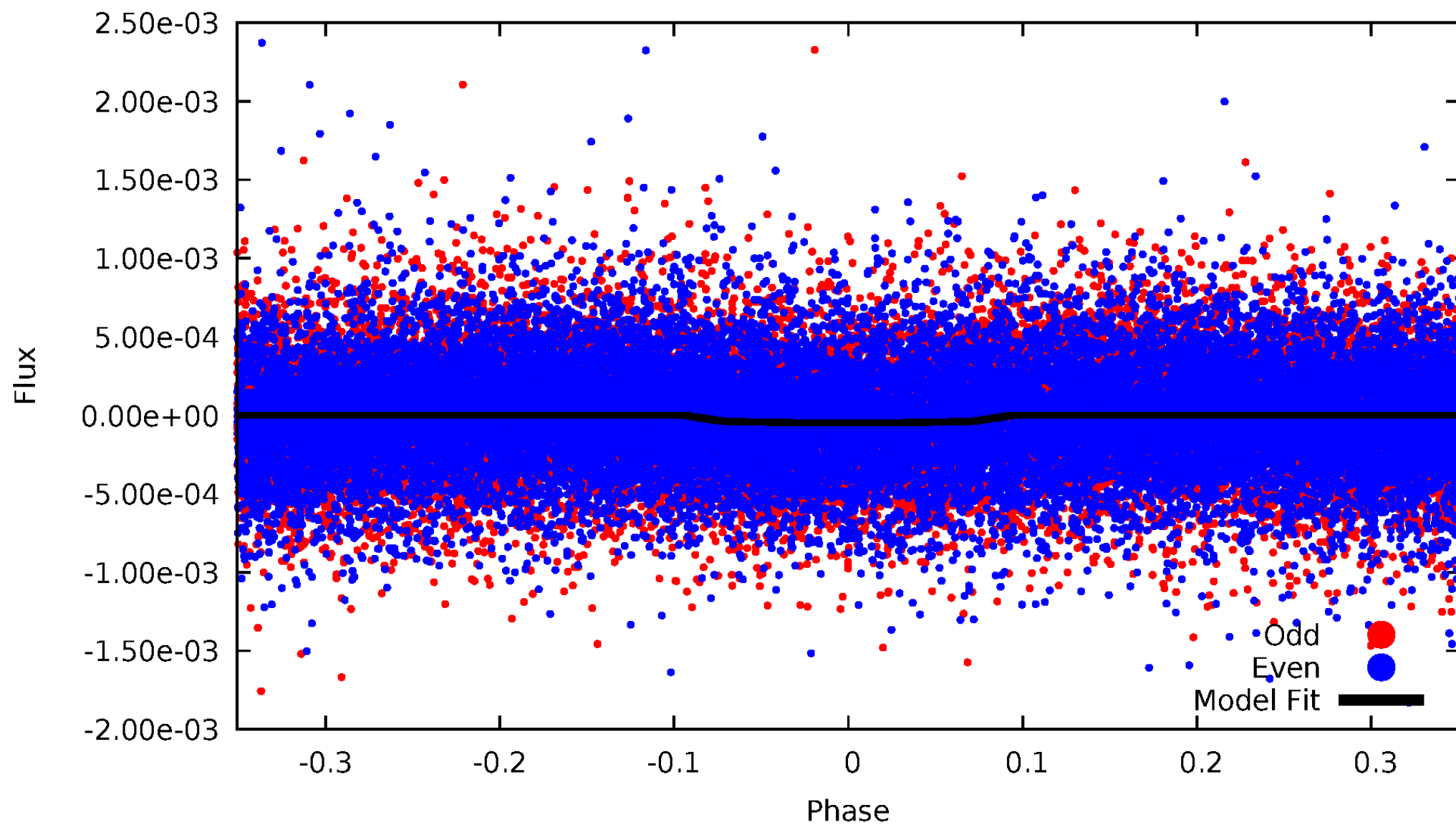


TCE 005650699-01



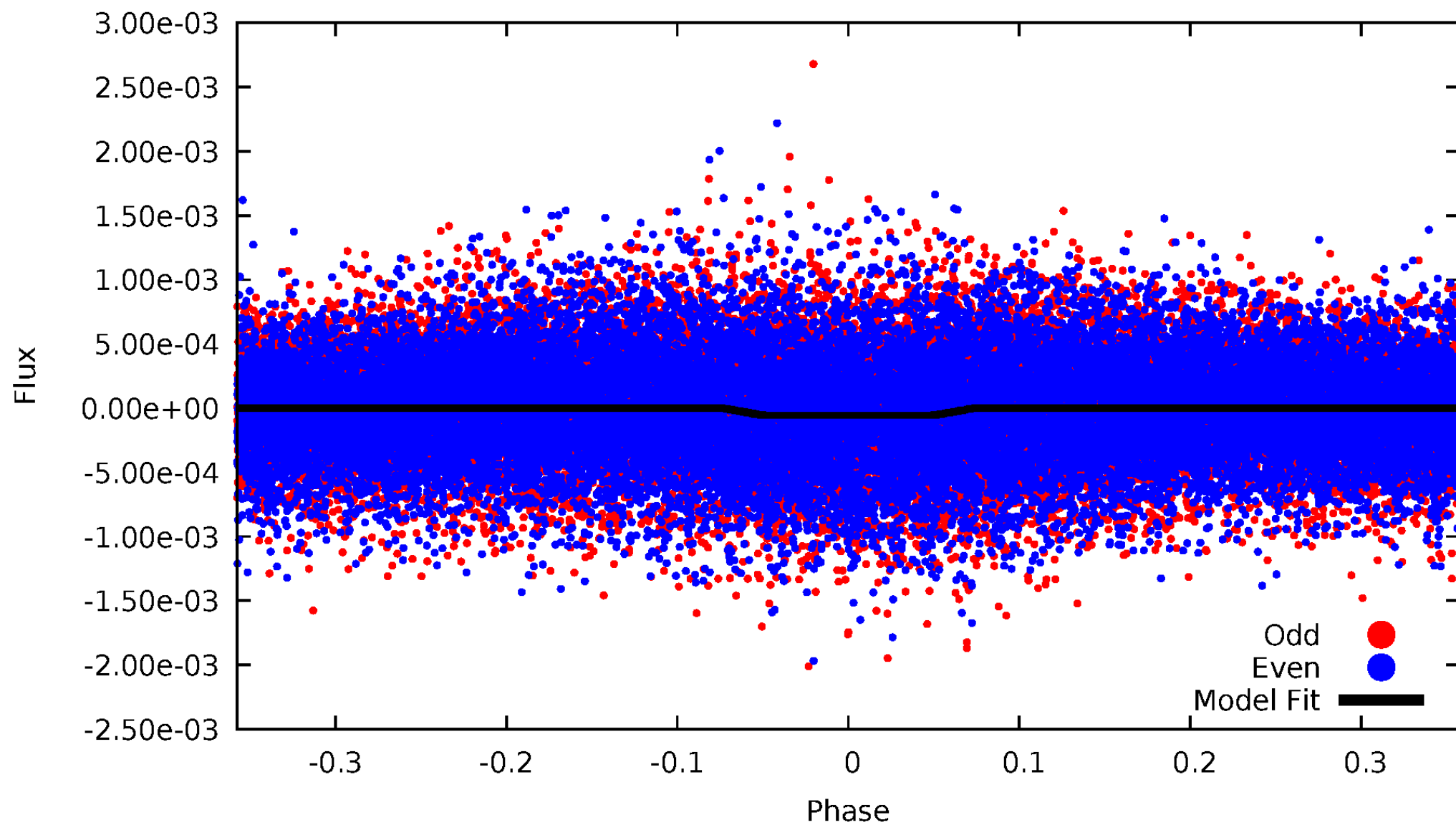
DV Odd/Even

TCE 005650699-01



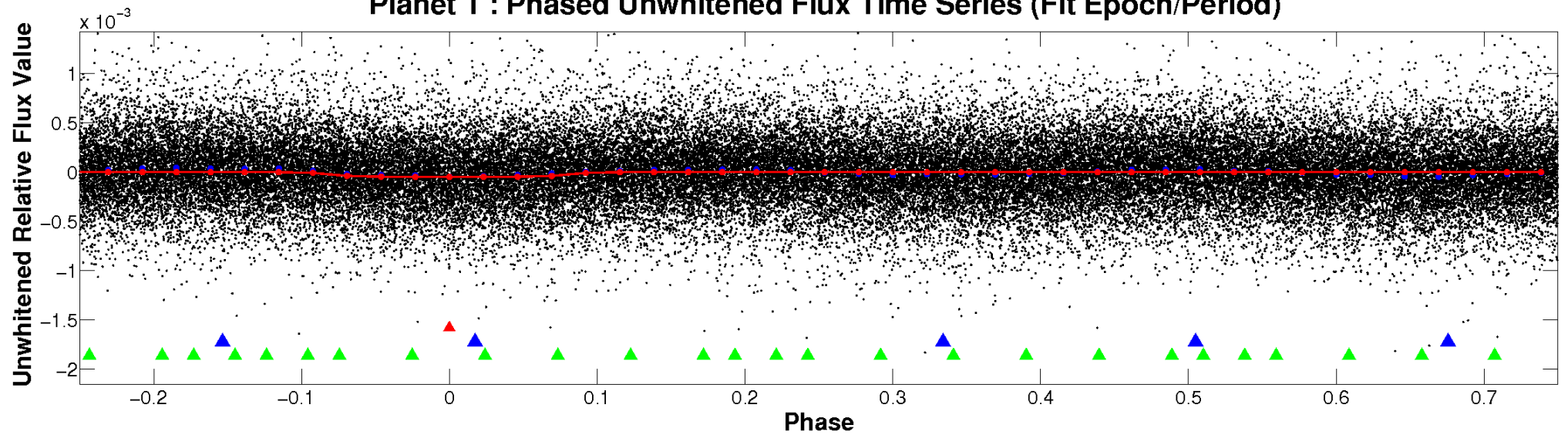
ALT Odd/Even

TCE 005650699-01

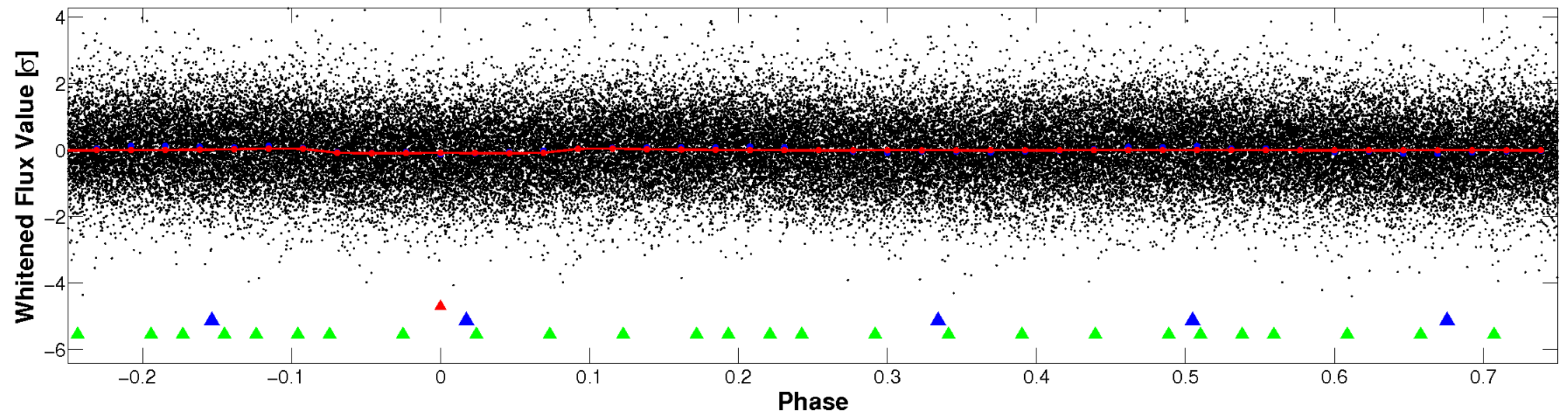


Non-Whitened Vs. Whitened Light Curve

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

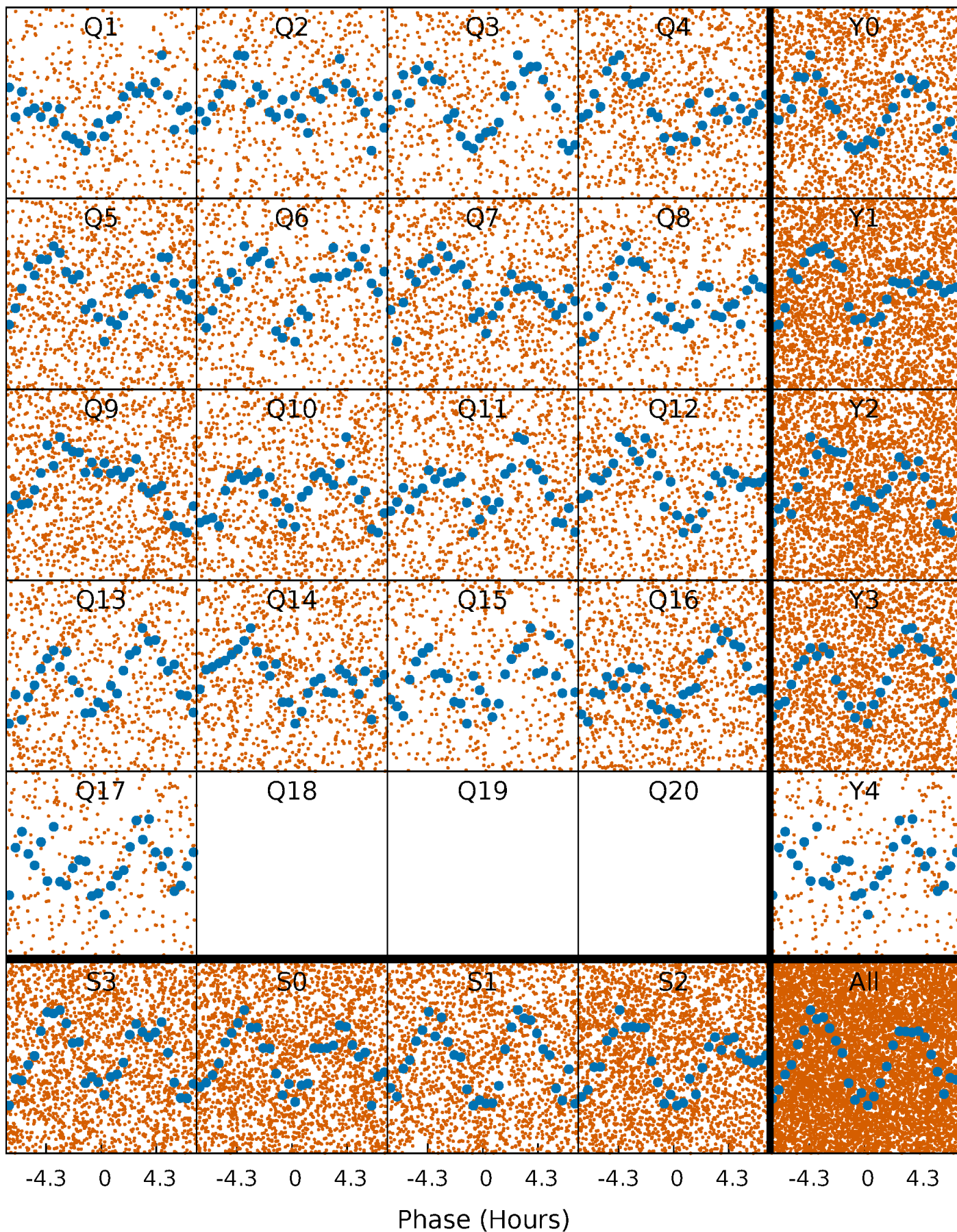


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



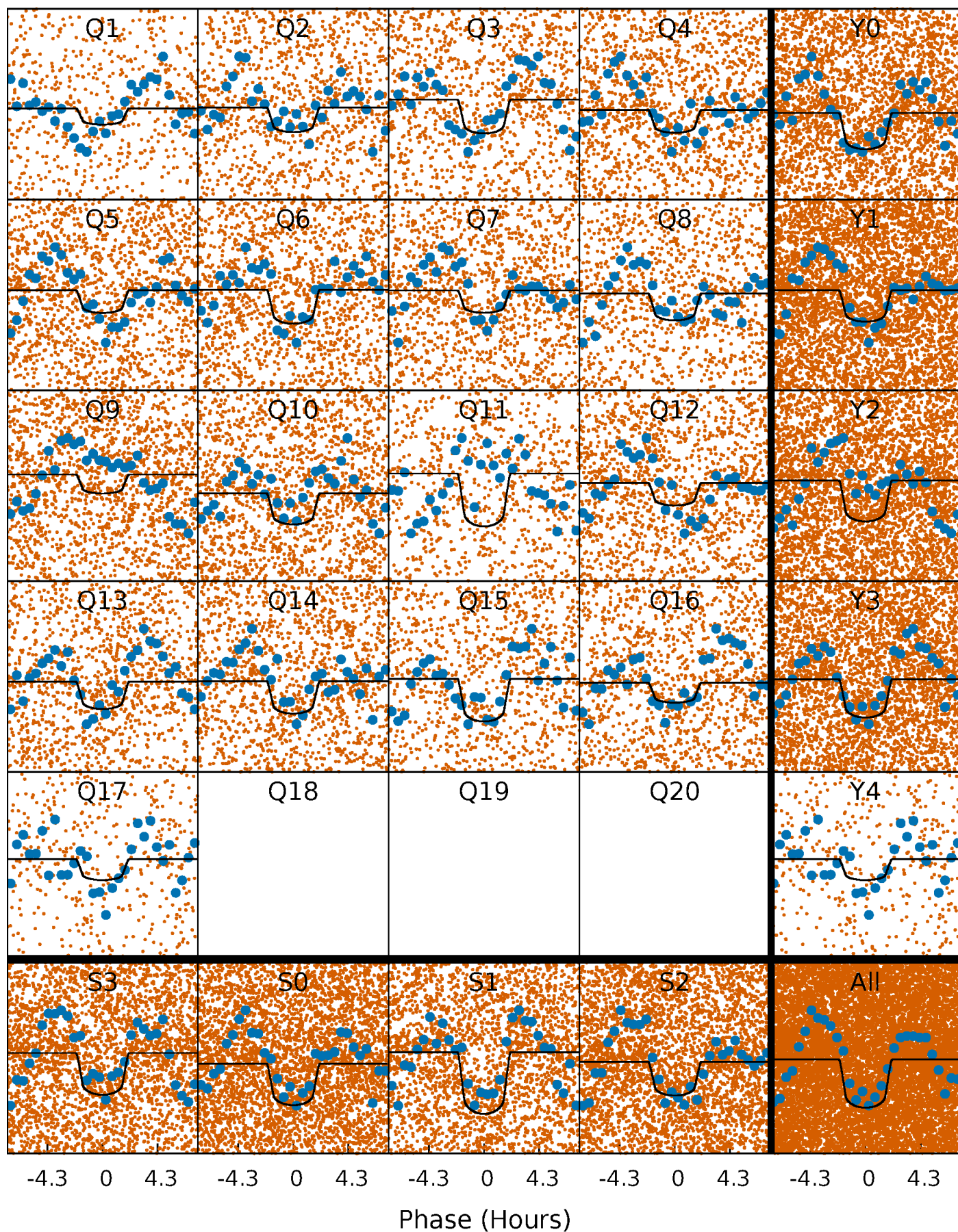
PDC Quarter-Phased Transit Curves

TCE 005650699-01 P= 0.885290 Days $T_0=132.381414$ (BKJD)



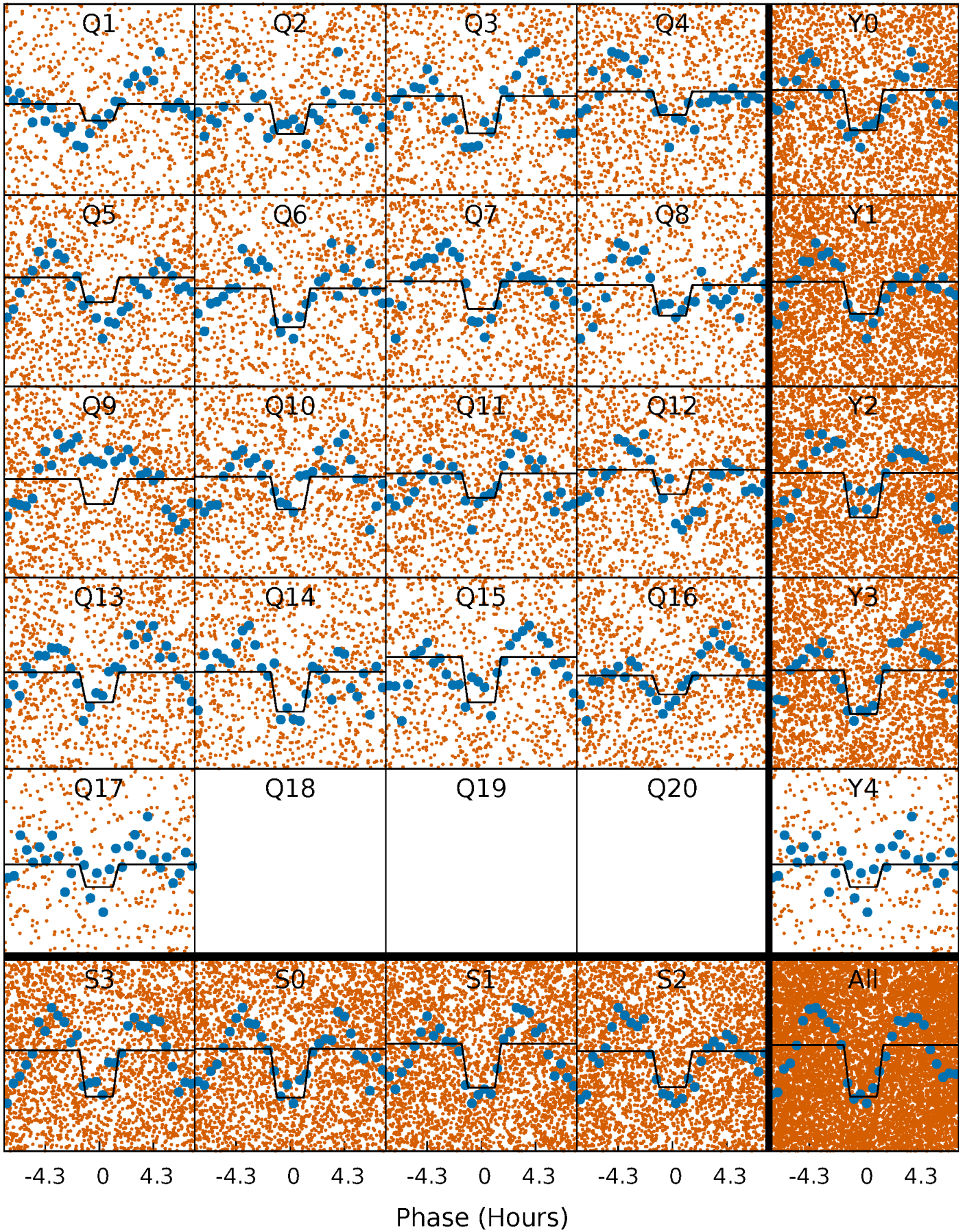
DV Quarter-Phased Transit Curves

TCE 005650699-01 P= 0.885290 Days $T_0=132.381414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

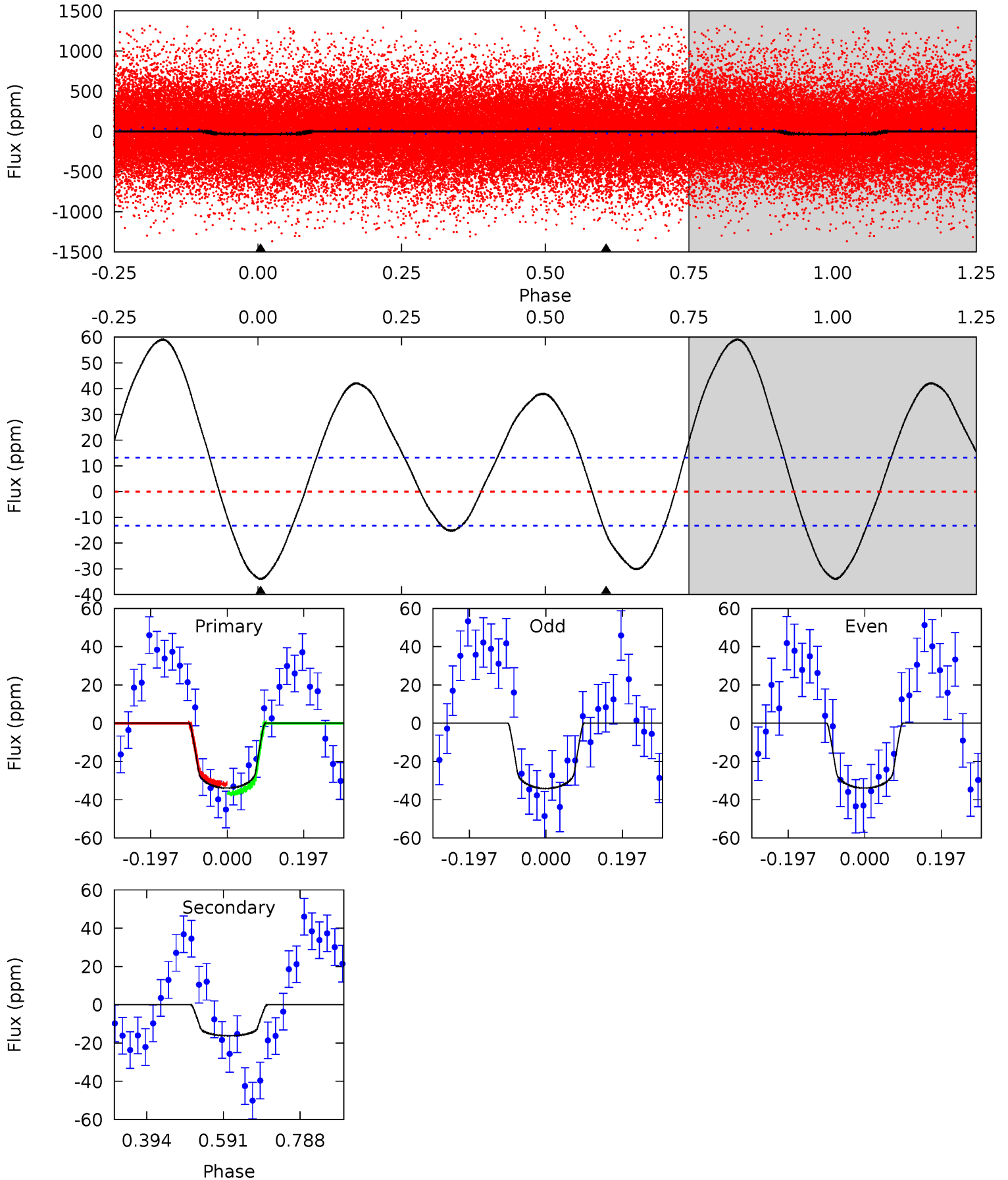
TCE 005650699-01 P= 0.885292 Days $T_0=132.380346$ (BKJD)



DV Model-Shift Uniqueness Test

005650699-01, P = 0.885290 Days, E = 131.496124 Days

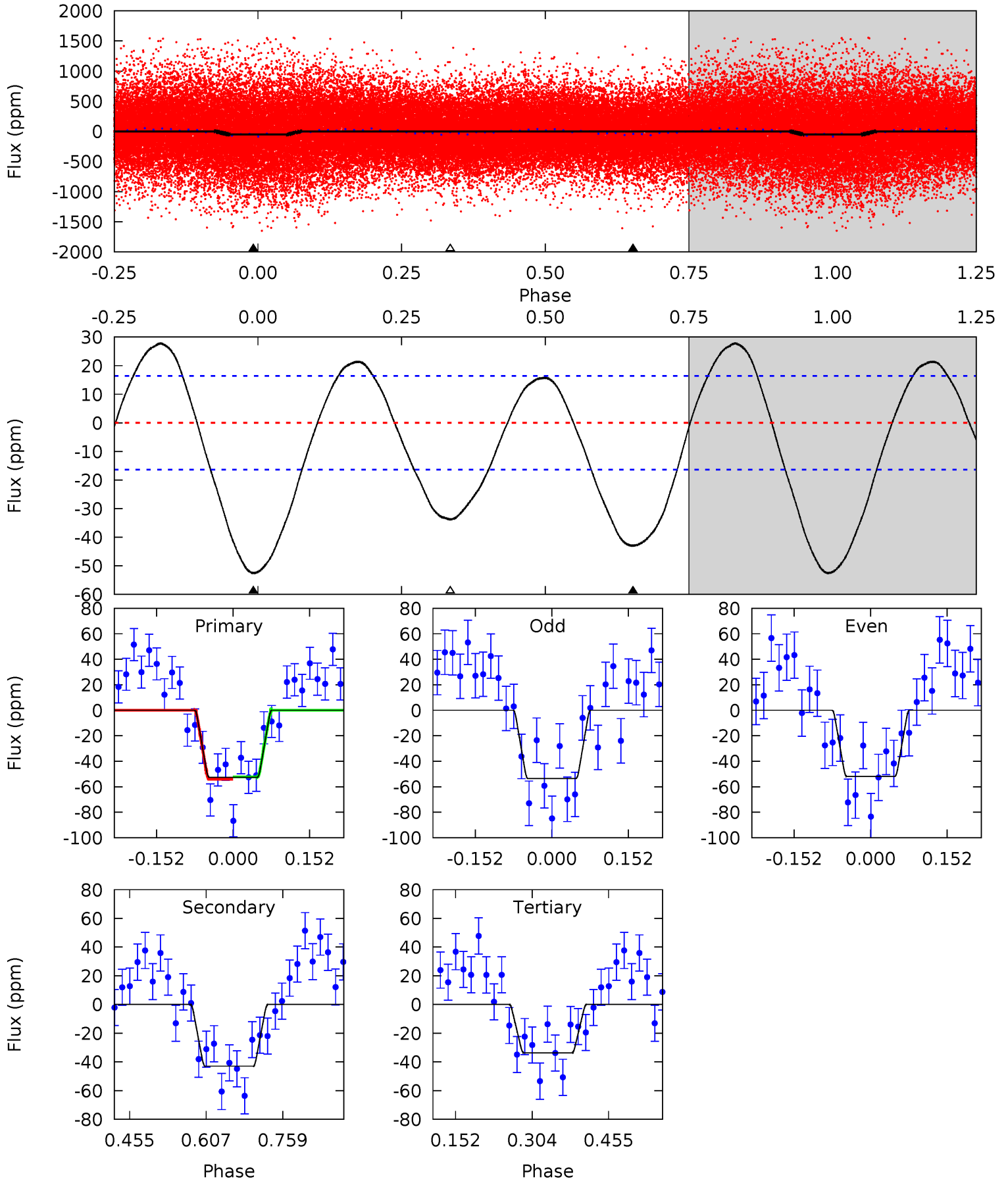
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	5.41	0	0	4.42	1.29	5.62	11.3	11.3	5.41	5.41	0.04	0.98	0.64	0.83



Alt Model-Shift Uniqueness Test

005650699-01, P = 0.885292 Days, E = 131.495054 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	11.7	9.23	0	4.48	1.43	5.62	5.13	14.4	2.51	11.7	0.21	1.03	0.35	0.25



Stellar Parameters For KIC 005650699

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7003^{+219}_{-329}	$4.021^{+0.286}_{-0.154}$	$-0.380^{+0.300}_{-0.300}$	$1.850^{+0.494}_{-0.604}$	$1.311^{+0.202}_{-0.224}$	$0.292^{+0.540}_{-0.124}$
	+3%/-5%	+7%/-4%	+79%/-79%	+27%/-33%	+15%/-17%	+185%/-43%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005650699-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 3	$1.44^{+0.55}_{-0.45}$	4126^{+338}_{-384}	4925^{+996}_{-644}	$1.697^{+1.778}_{-0.808}$
Alt.	-43 ± 4	$1.43^{+0.50}_{-0.44}$	4107^{+321}_{-387}	6321^{+1371}_{-758}	$4.425^{+4.969}_{-1.950}$

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

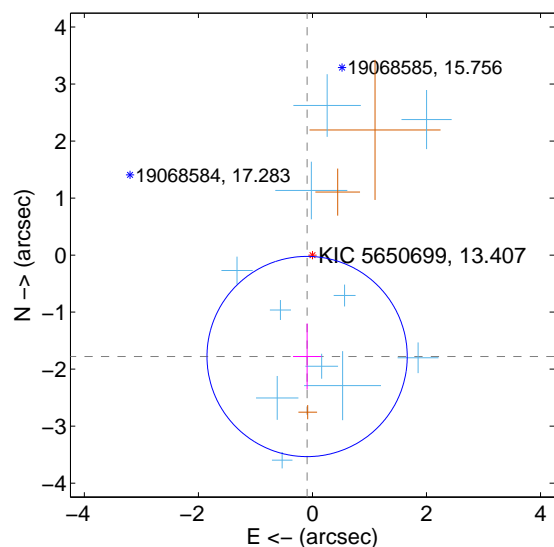
Supplemental centroid analysis for 005650699-01. Kepler magnitude: 13.41. Transit SNR 9.74

There are 11 quarters with good PRF difference image offsets

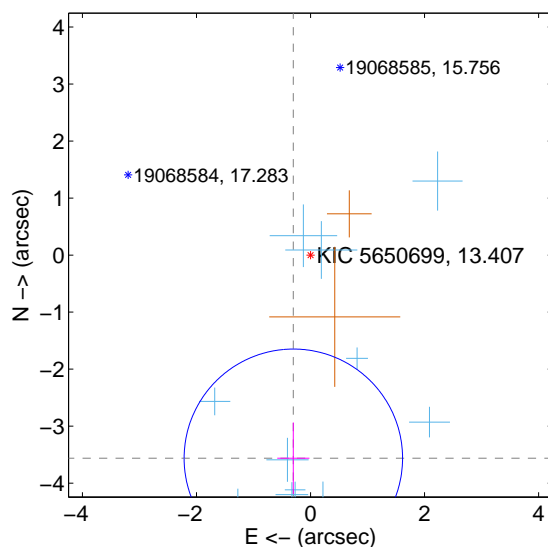
The OOT PRF centroid is offset from the target star catalog position by about 2.31 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.781 ± 0.585	3.04	0.093 ± 0.248	-1.779 ± 0.580
PRF-fit source offset from KIC position	3.576 ± 0.639	5.60	0.301 ± 0.282	-3.564 ± 0.628
photometric centroid source offset	0.22 ± 0.59	0.37	-0.12 ± 0.36	-0.18 ± 0.67

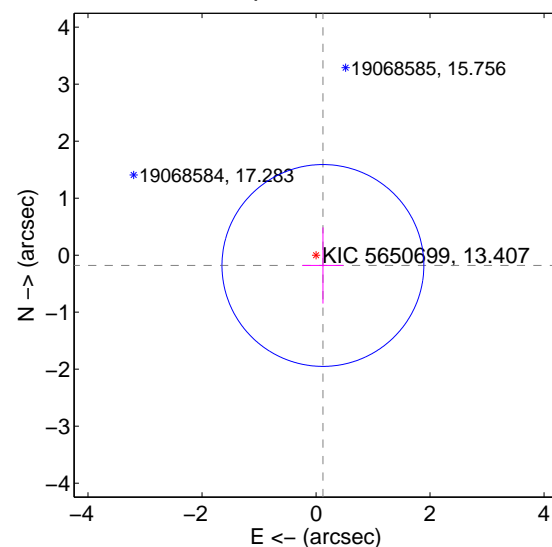
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

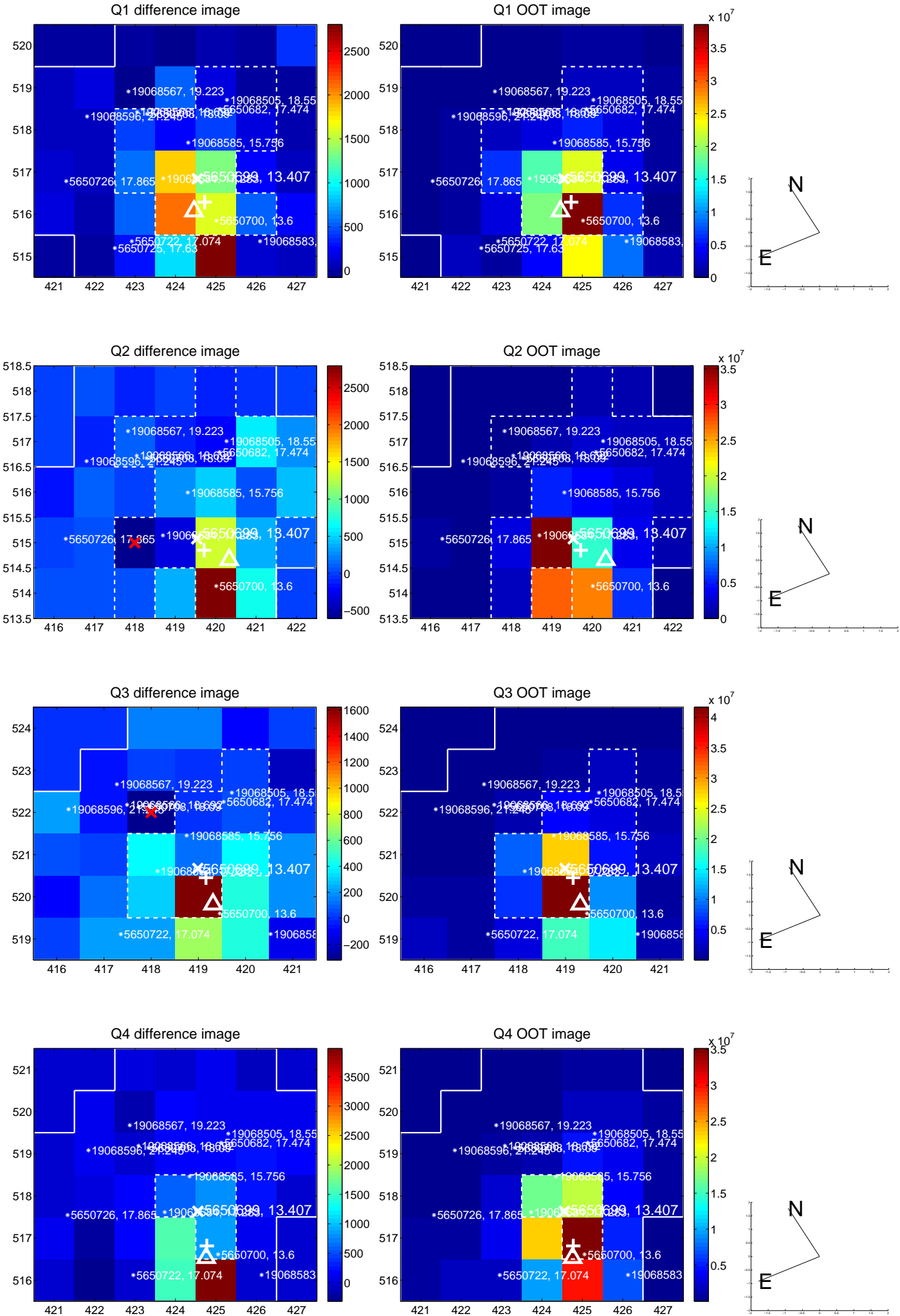


offset from photometric centroids

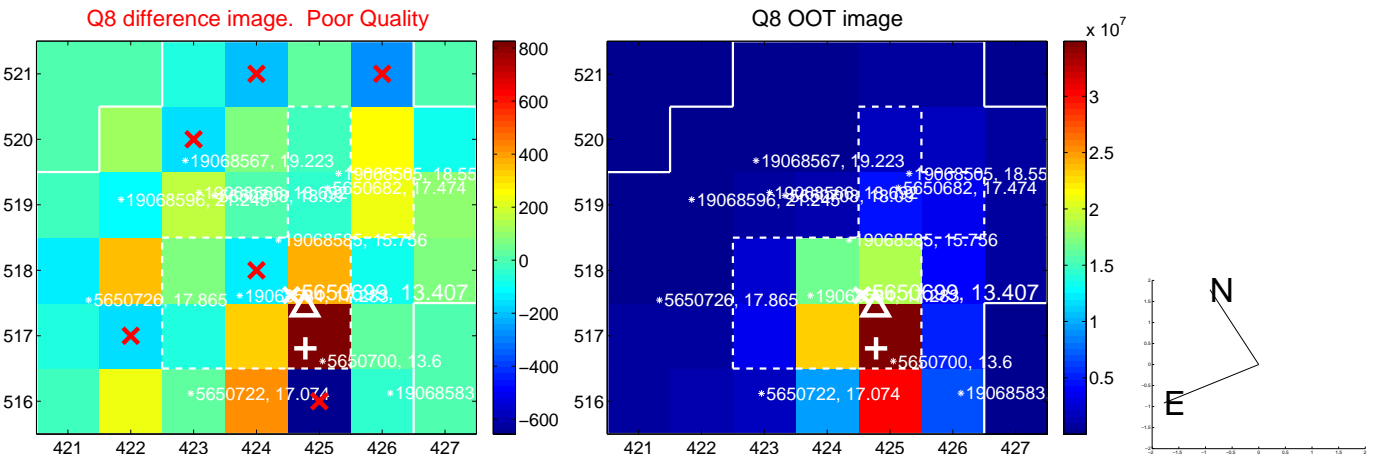
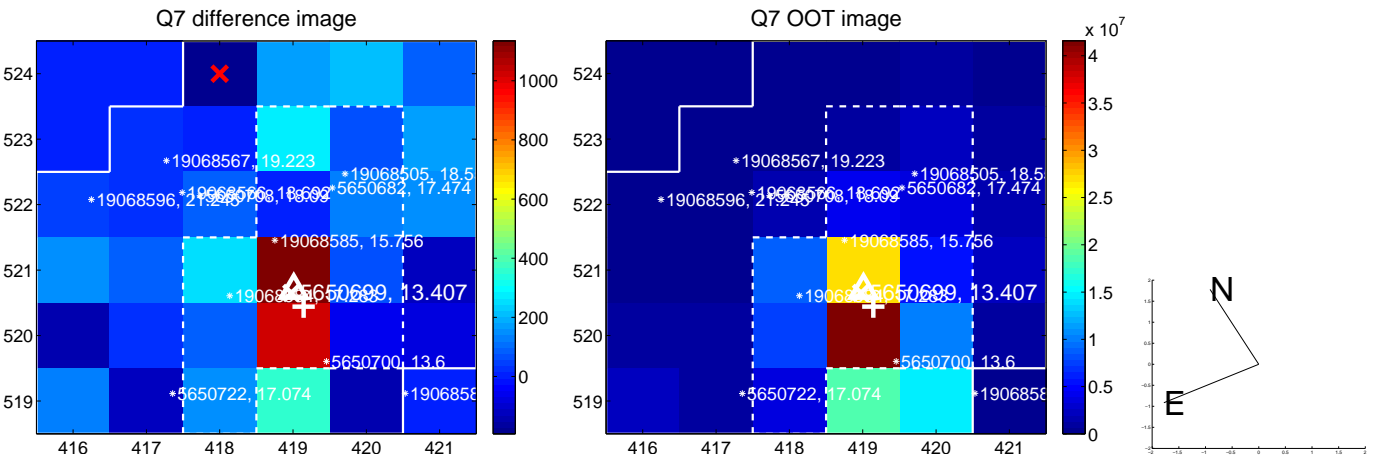
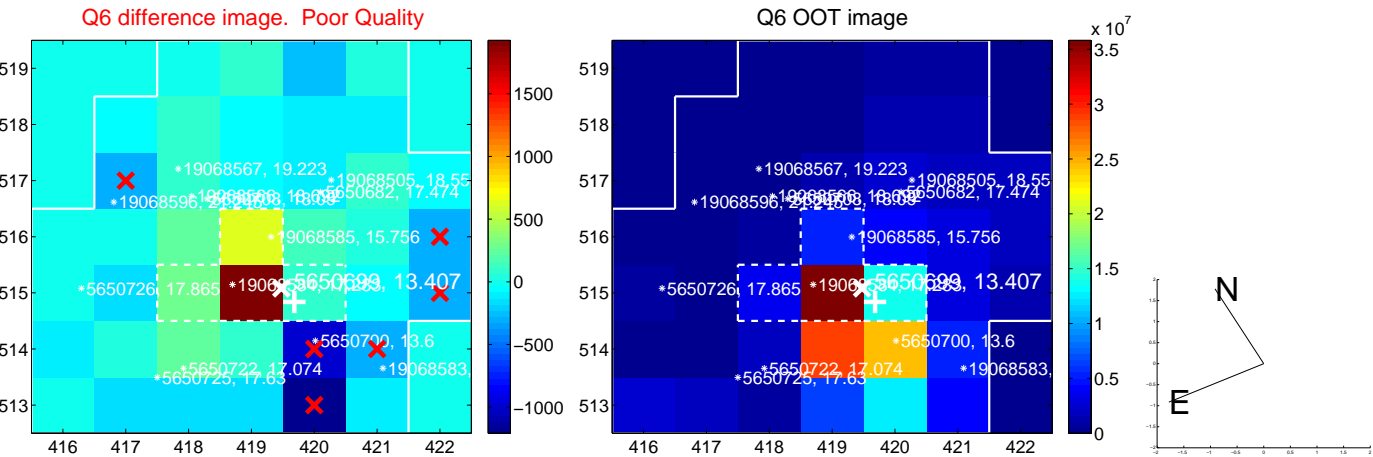
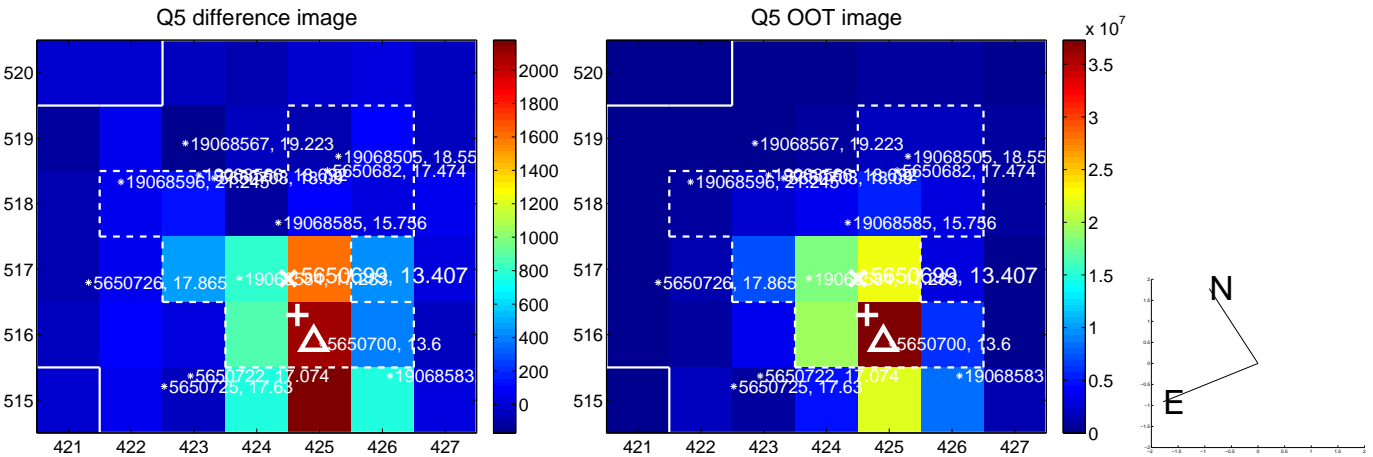


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

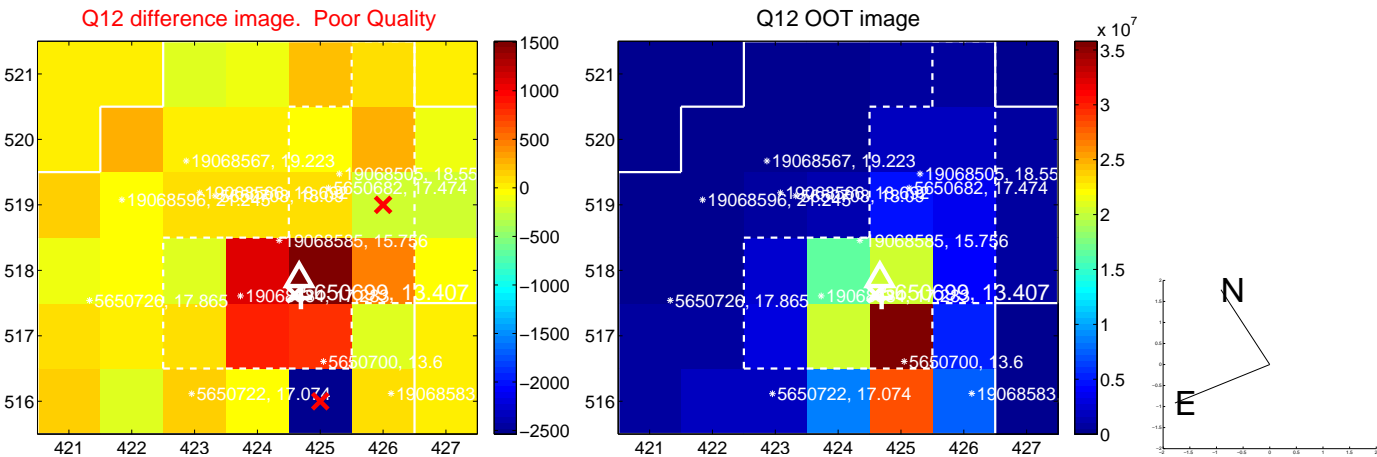
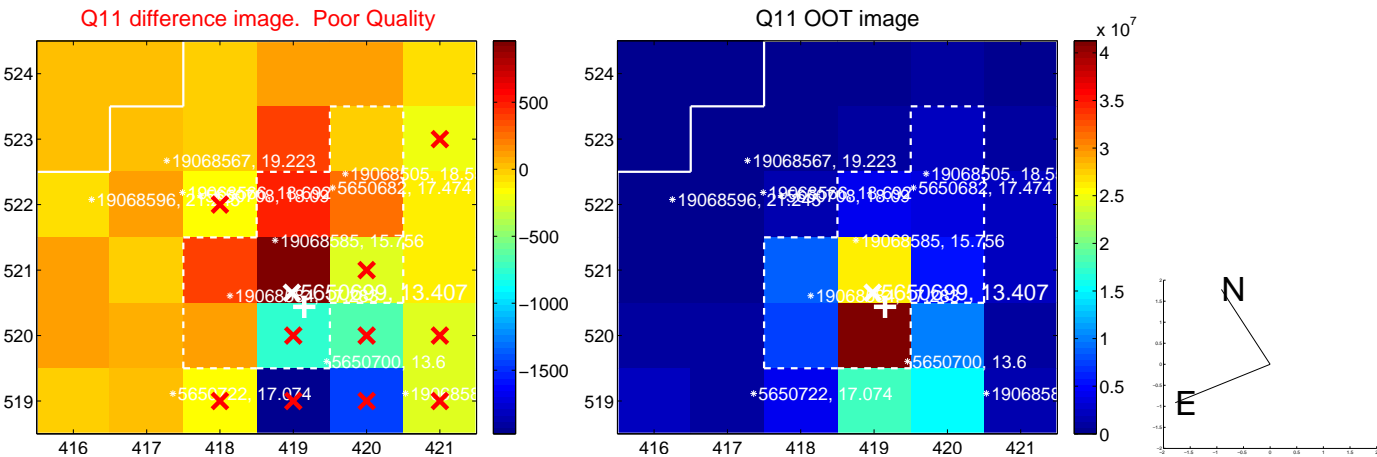
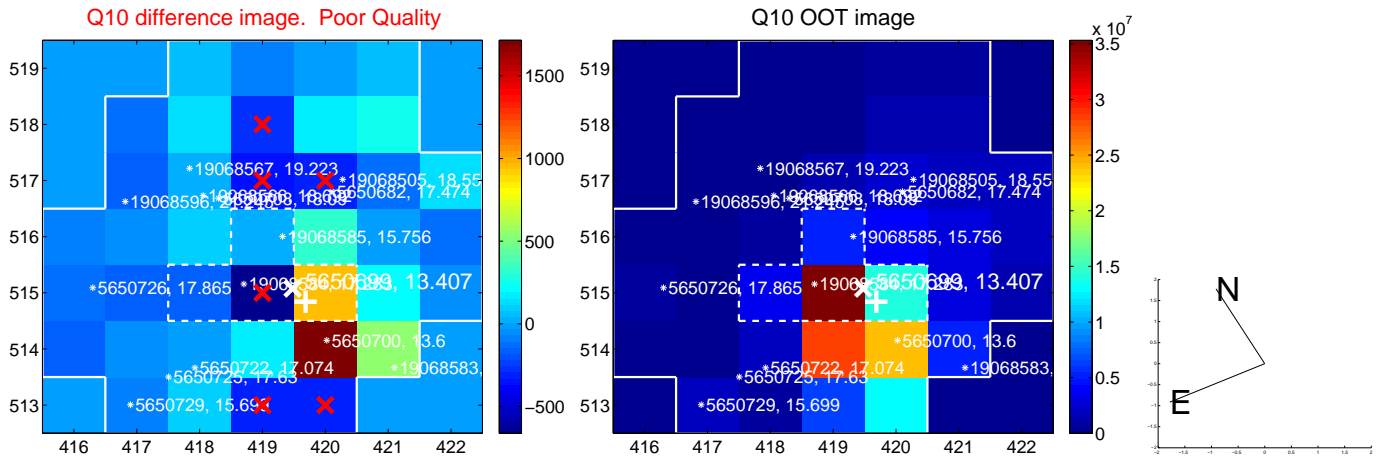
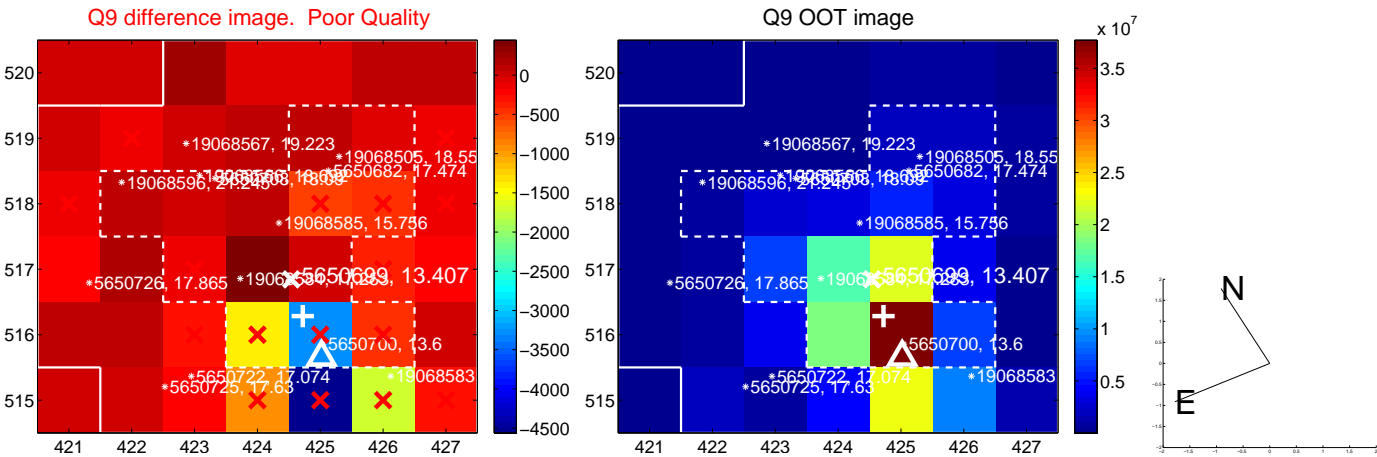
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



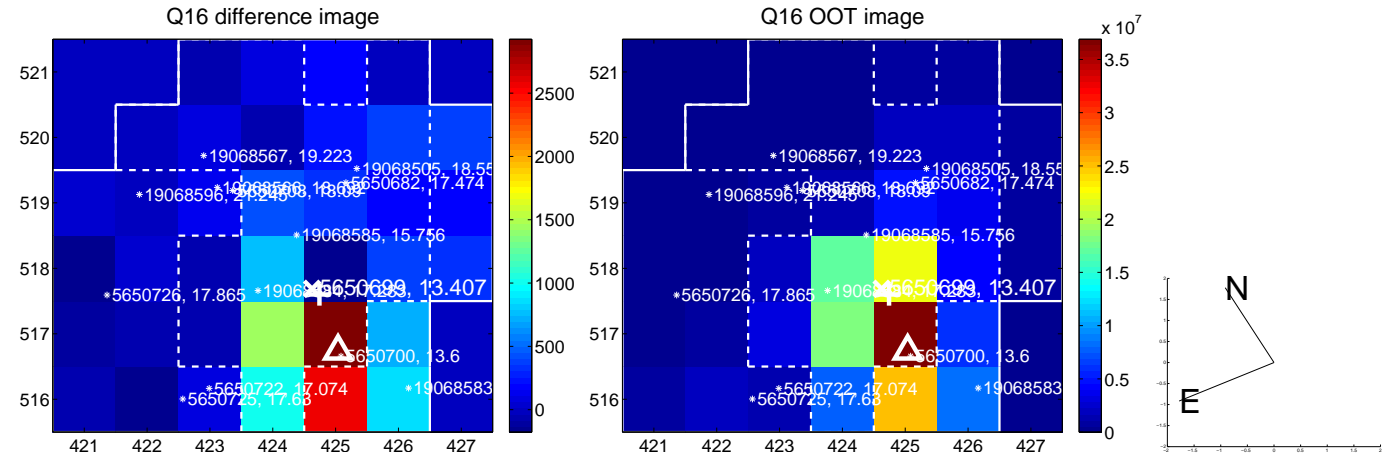
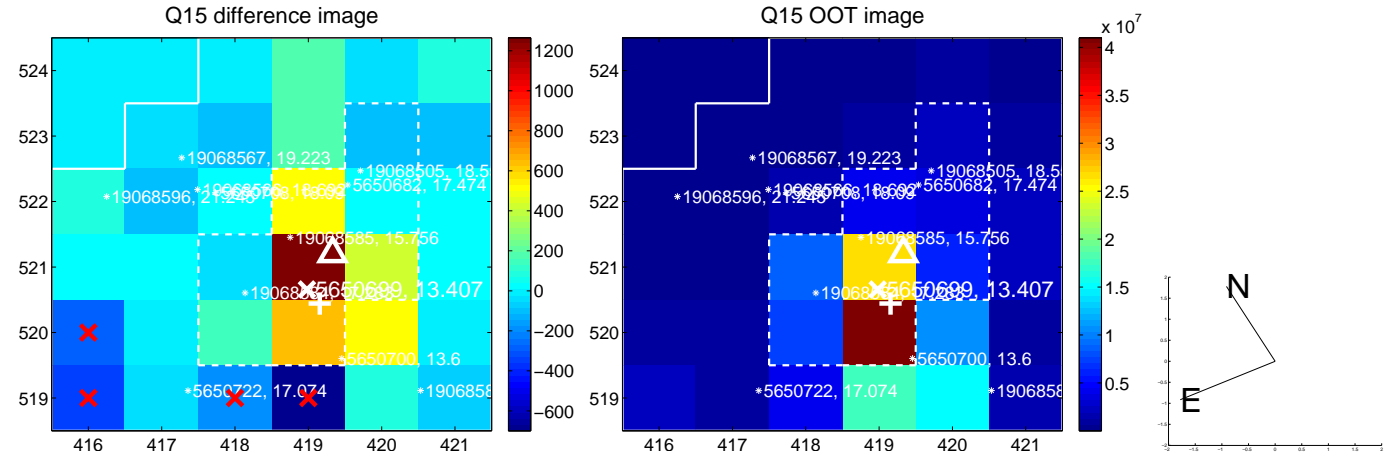
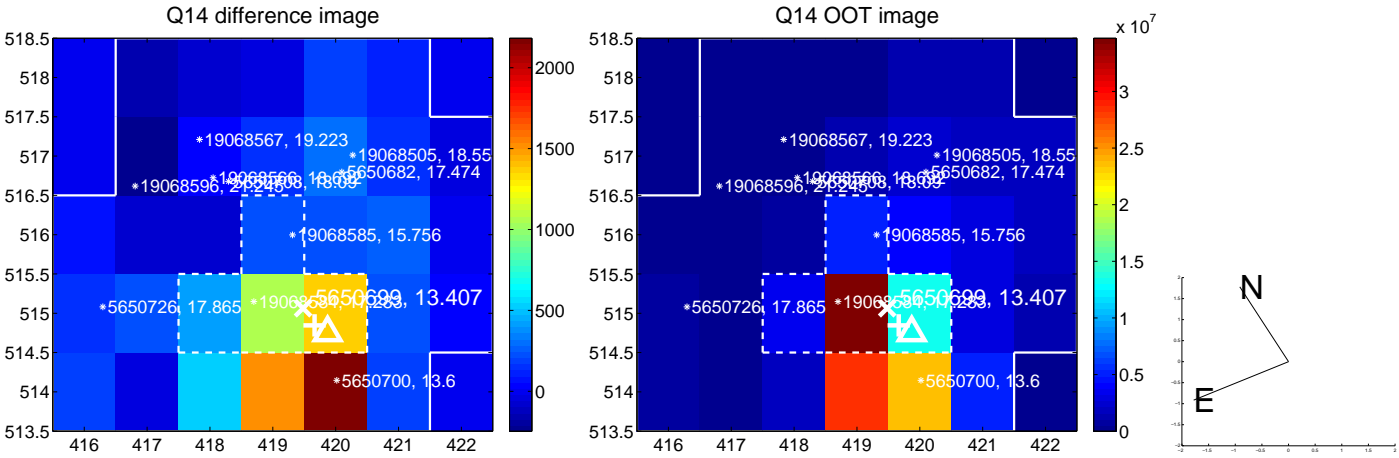
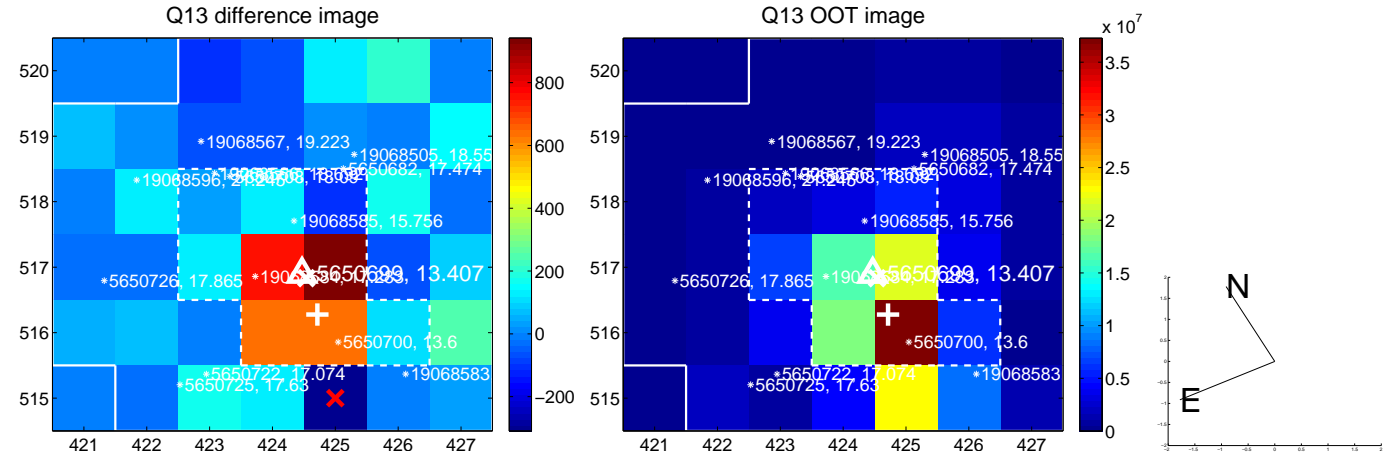
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



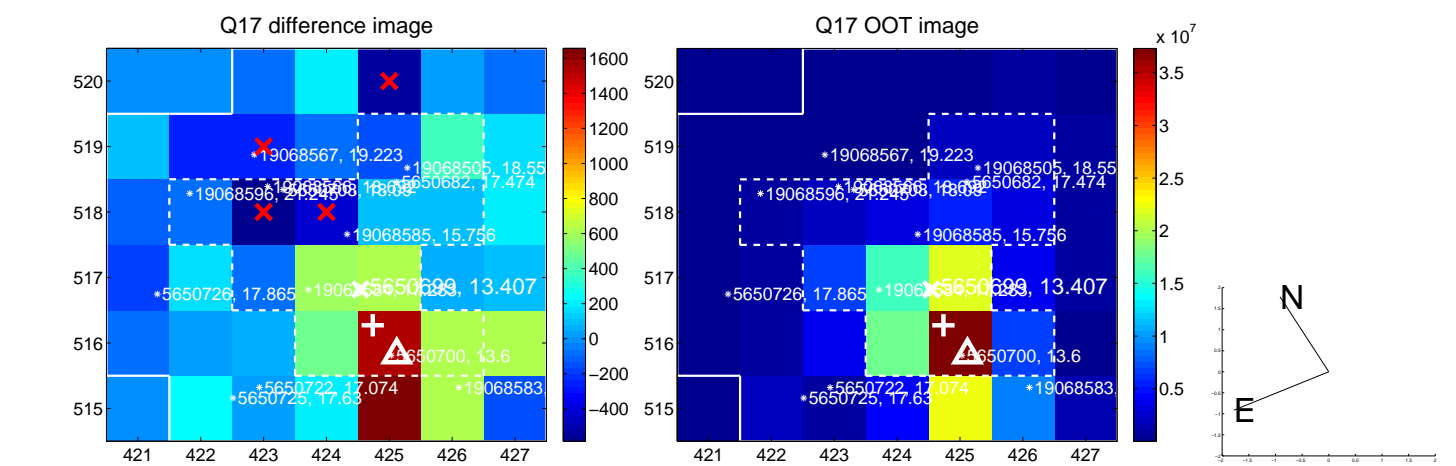
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



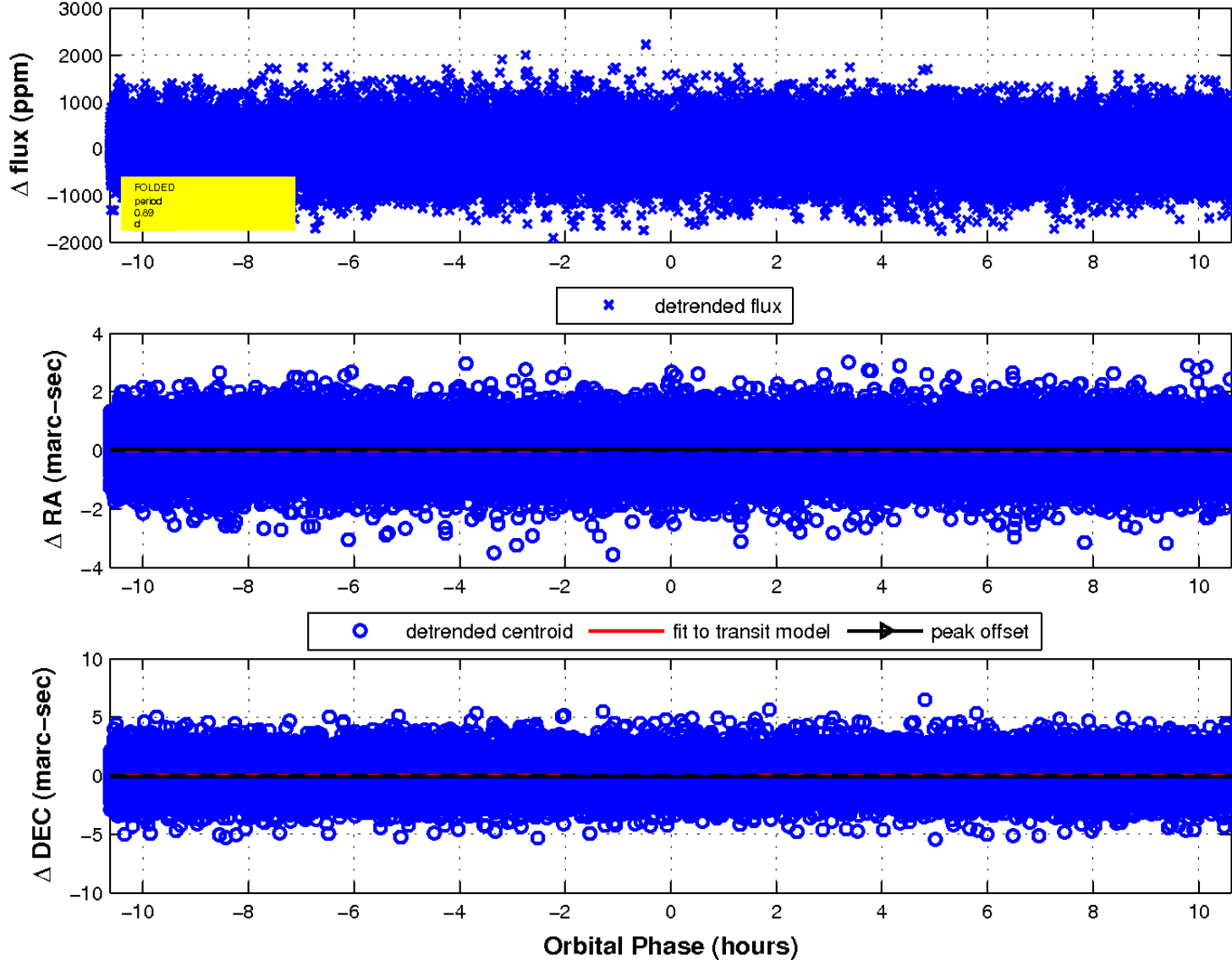
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



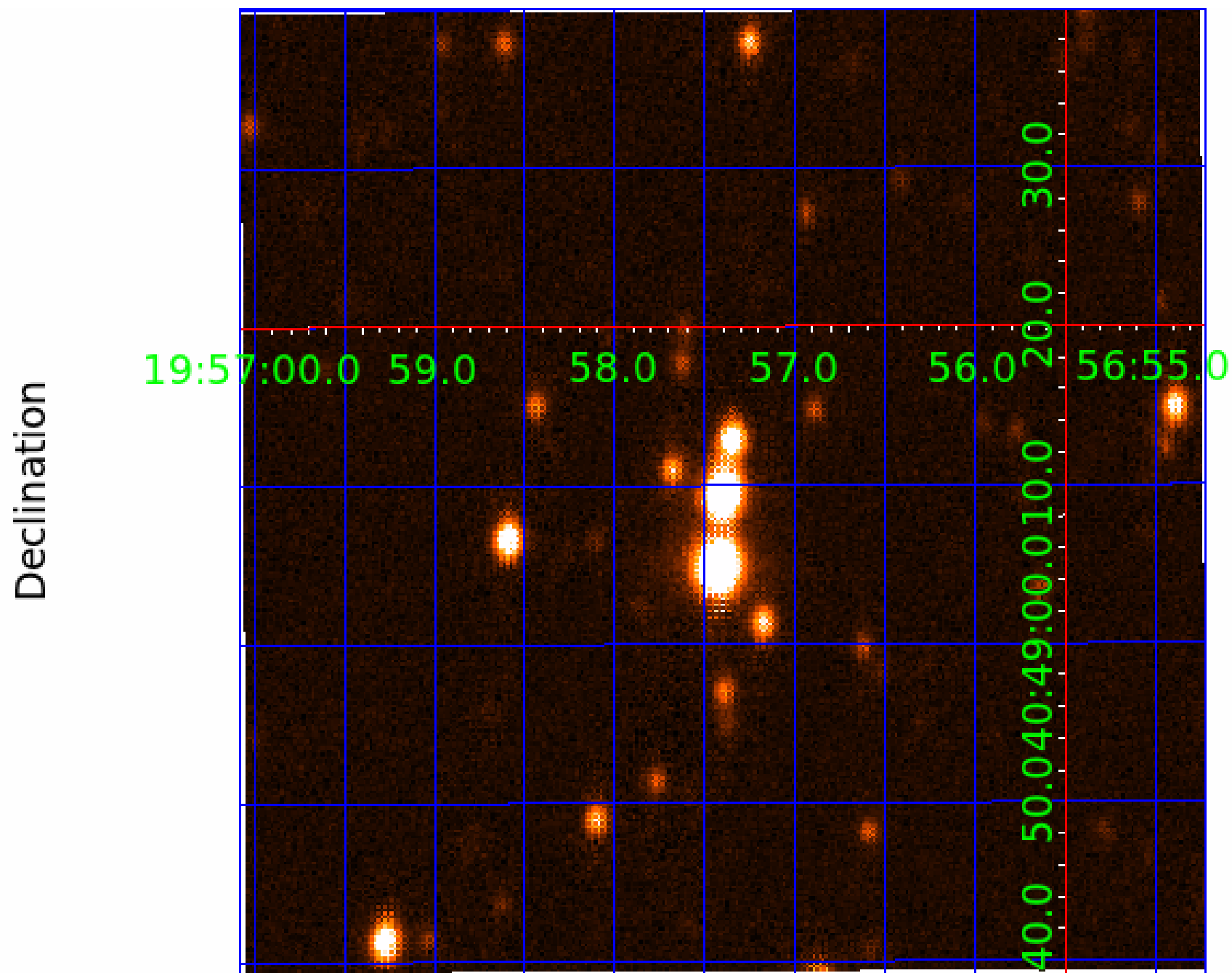
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 005650699

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})
005650699-01	OBS	No	0.885290	132.381414	48.3	3.725	10.5	9.7	1.85	7003	1.50	18910.29
005650699-03	OBS	No	57.263276	138.425325	367.4	4.694	7.9	7.0	1.85	7003	4.00	72.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650699-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
005650699-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_RESOLVED_OFFSET

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

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

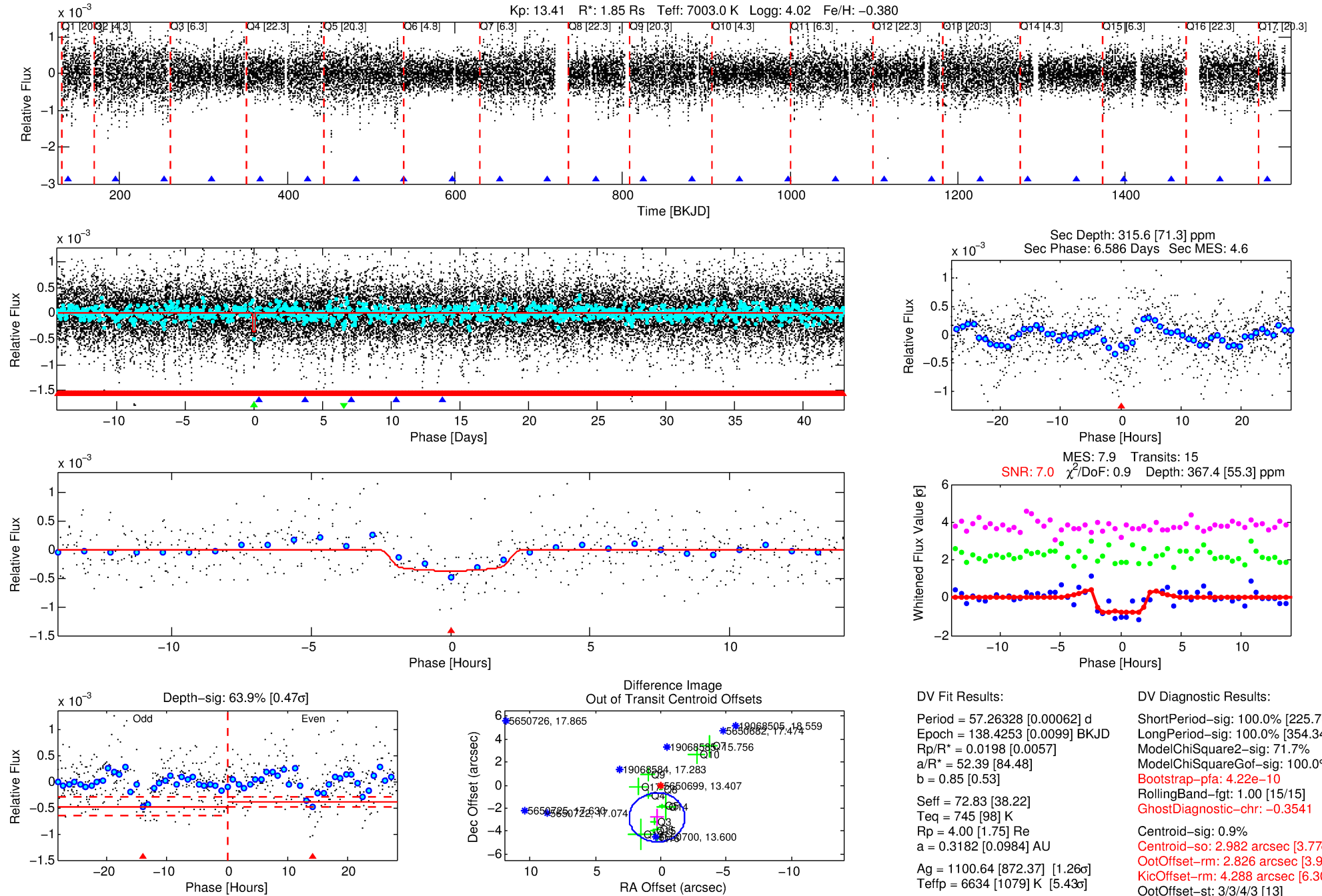
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005650699-03

No Significant Match Found

DV One-Page Summary

KIC: 5650699 Candidate: 3 of 3 Period: 57.263 d



DV Fit Results:

Period = 57.26328 [0.00062] d
Epoch = 138.4253 [0.0099] BKJD
Rp/R* = 0.0198 [0.0057]
a/R* = 52.39 [84.48]
b = 0.85 [0.53]
Seff = 72.83 [38.22]
Teq = 745 [98] K
Rp = 4.00 [1.75] Re
a = 0.3182 [0.0984] AU
Ag = 1100.64 [872.37] [1.26 σ]
Teffp = 6634 [1079] K [5.43 σ]

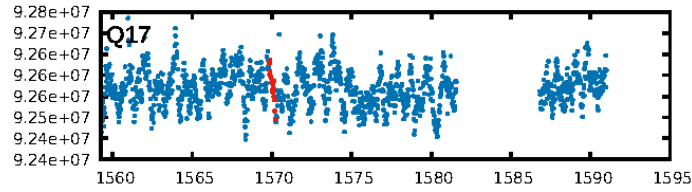
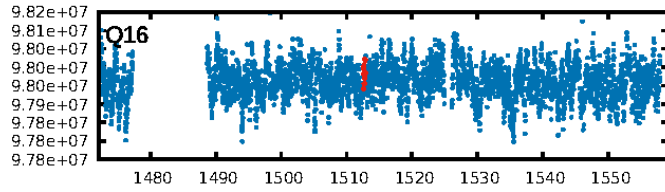
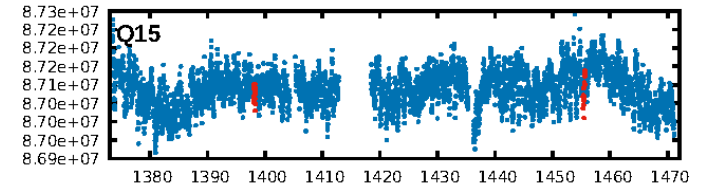
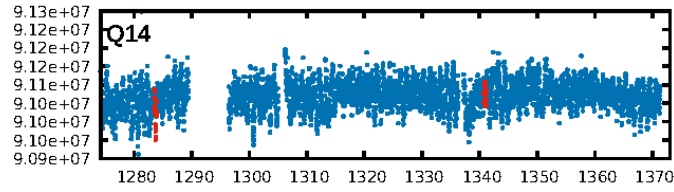
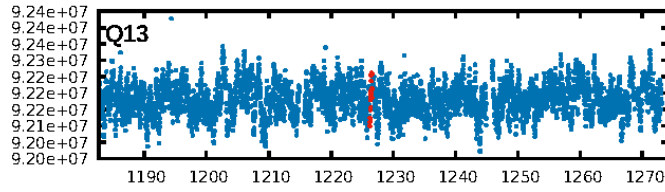
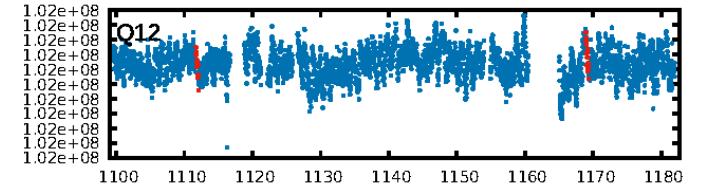
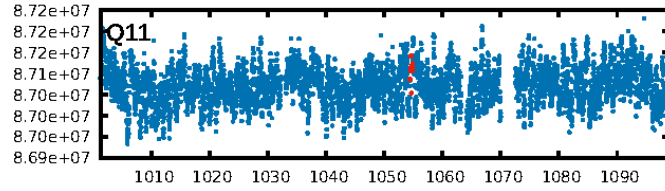
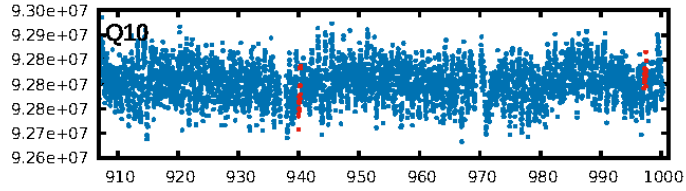
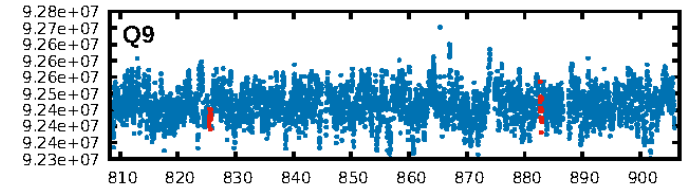
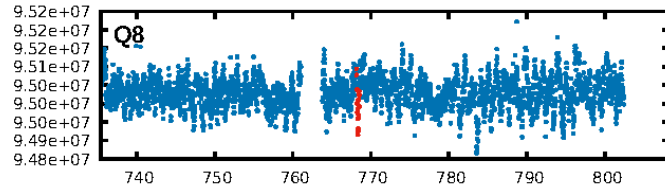
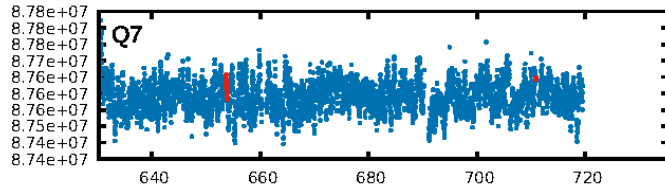
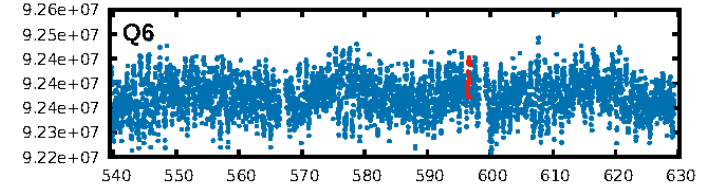
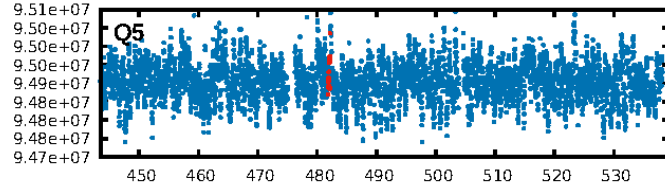
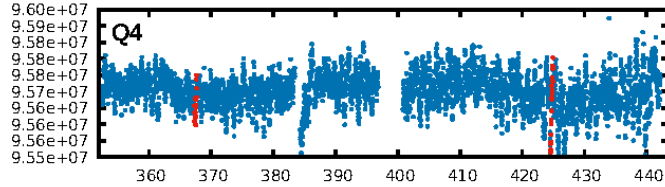
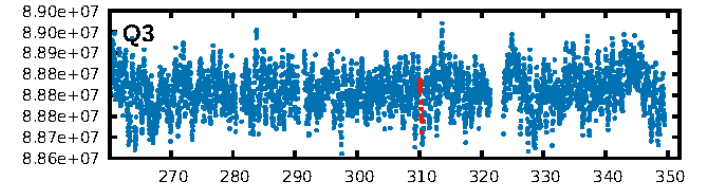
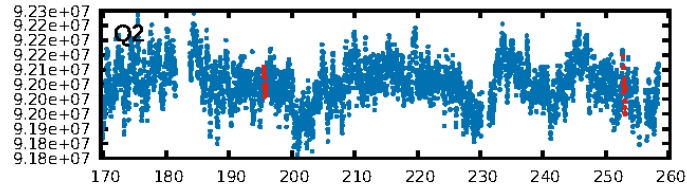
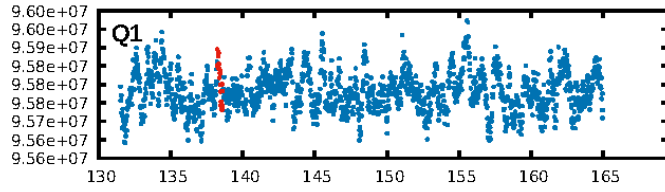
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [225.78 σ]
LongPeriod-sig: 100.0% [354.34 σ]
ModelChiSquare2-sig: 71.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.22e-10
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -0.3541
Centroid-sig: 0.9%
Centroid-so: 2.982 arcsec [3.77 σ]
OotOffset-rm: 2.826 arcsec [3.99 σ]
KicOffset-rm: 4.288 arcsec [6.30 σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.00 [0/16]

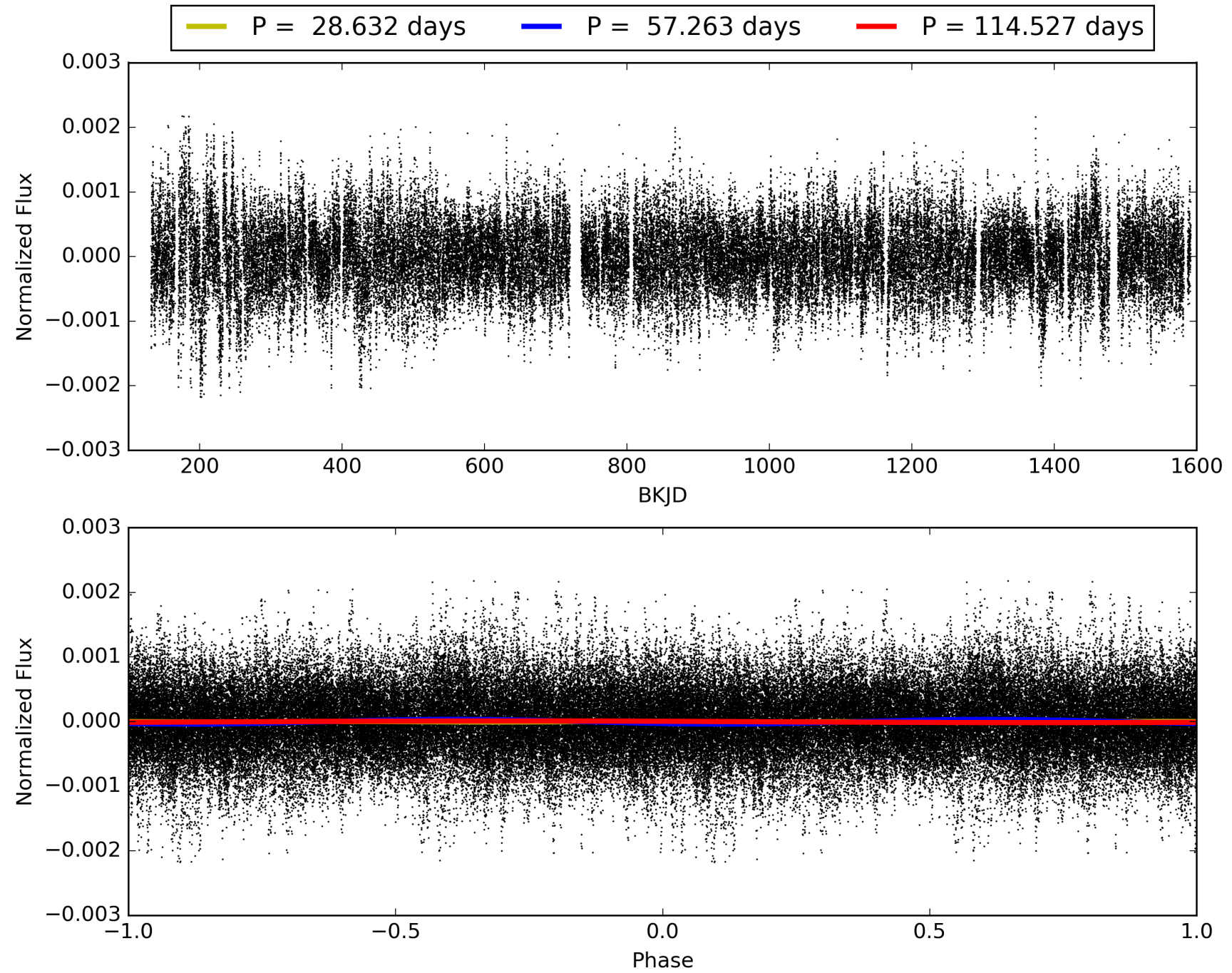
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:17:47 Z

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

TCE 005650699-03, PDC Light Curves

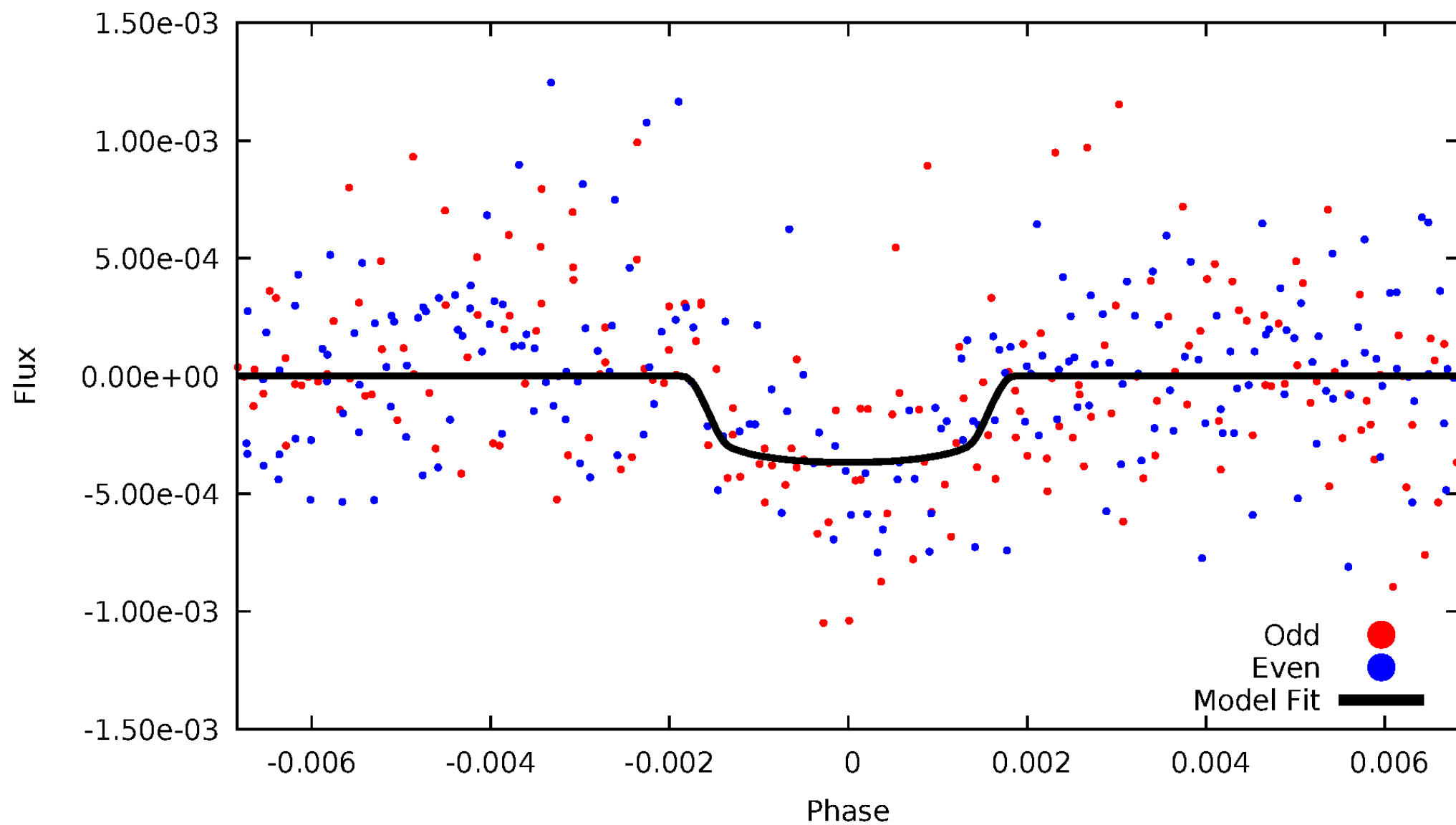


TCE 005650699-03



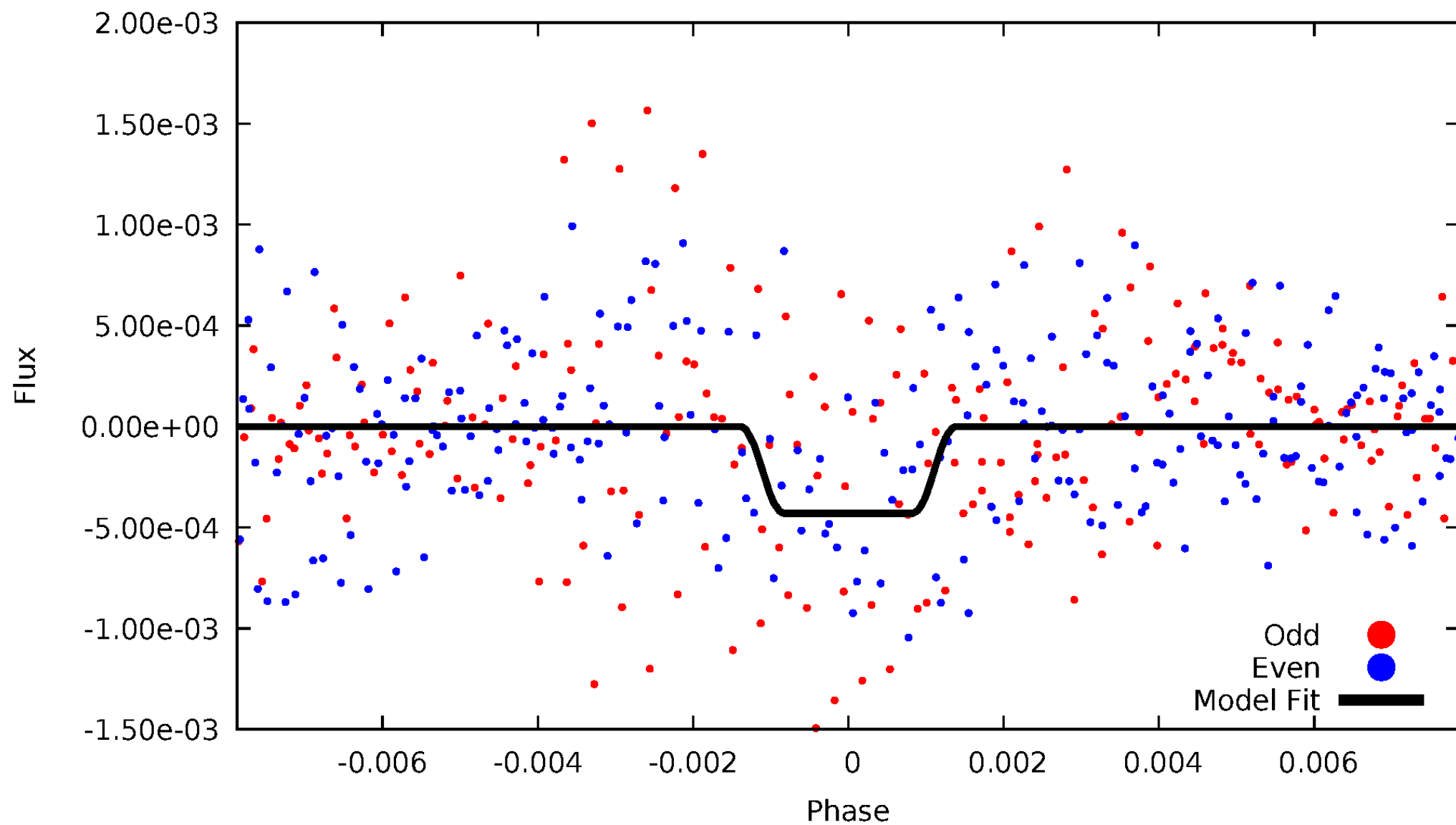
DV Odd/Even

TCE 005650699-03



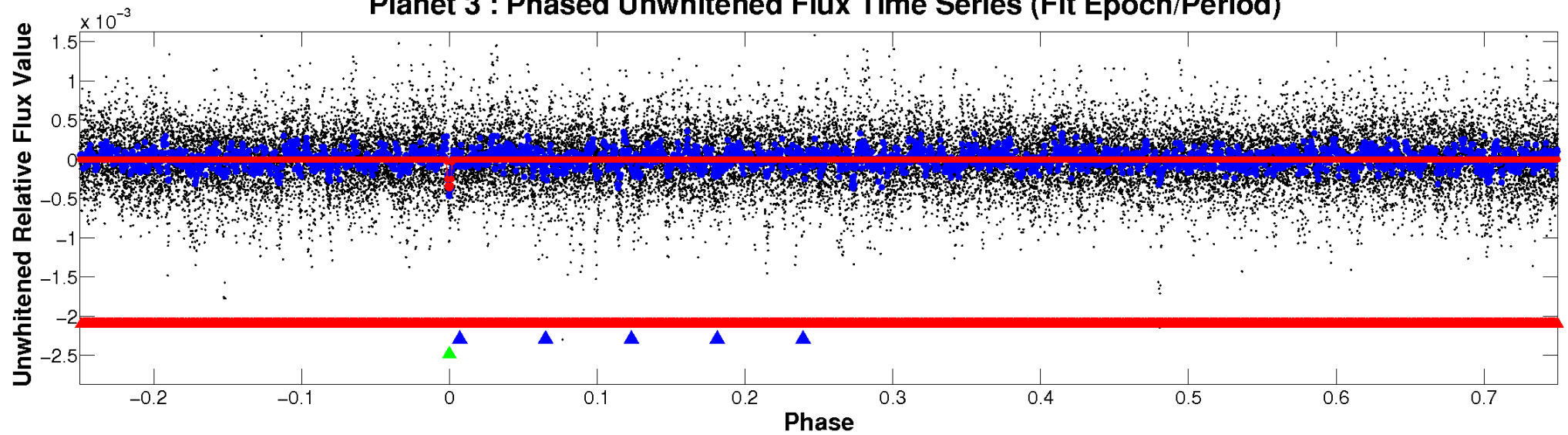
ALT Odd/Even

TCE 005650699-03

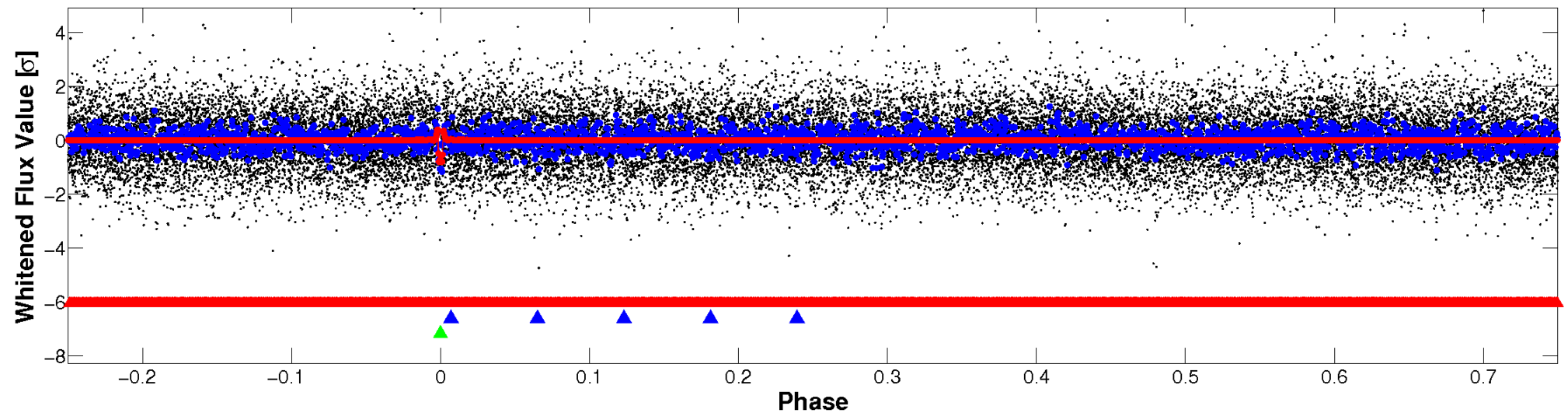


Non-Whitened Vs. Whitened Light Curve

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

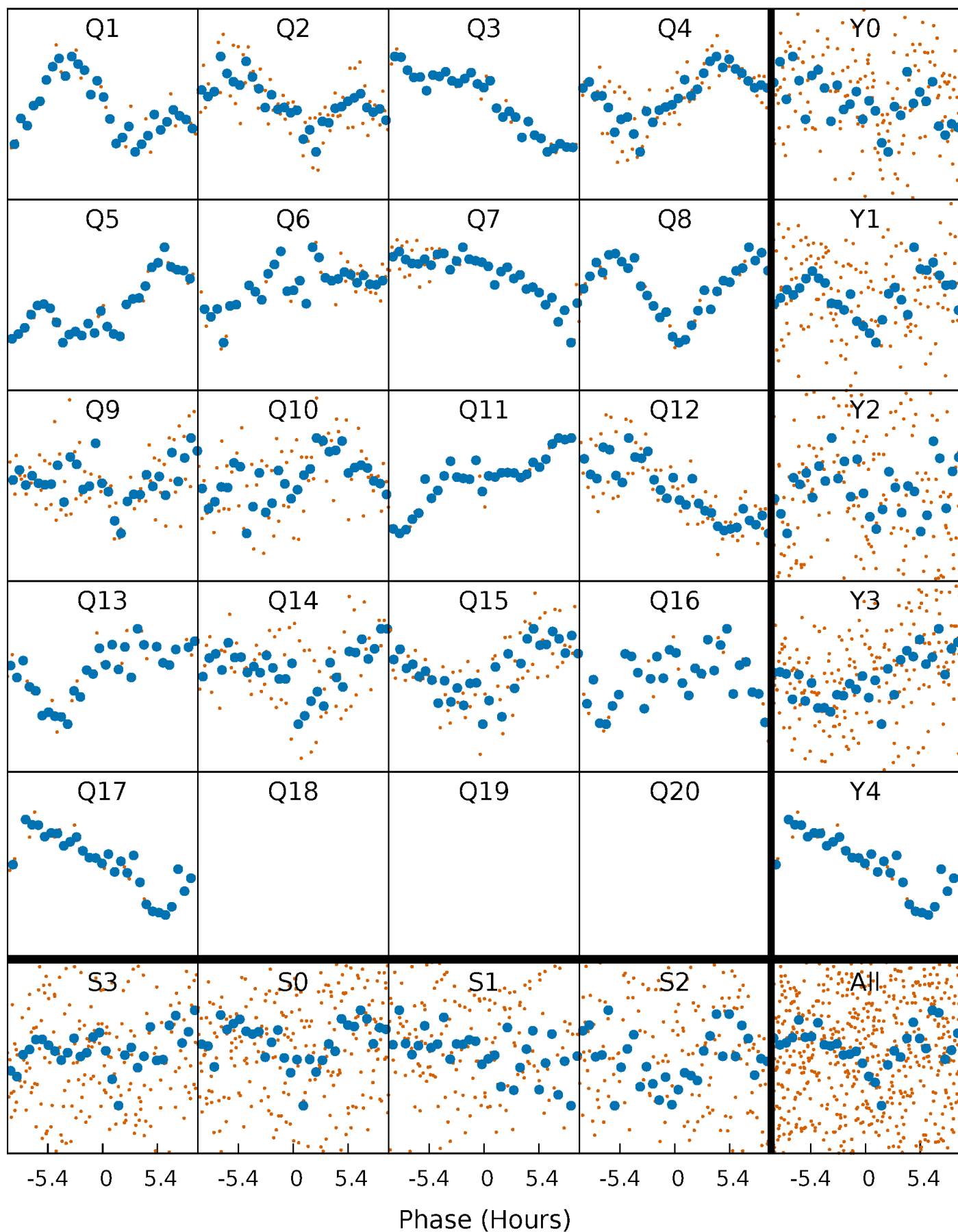


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



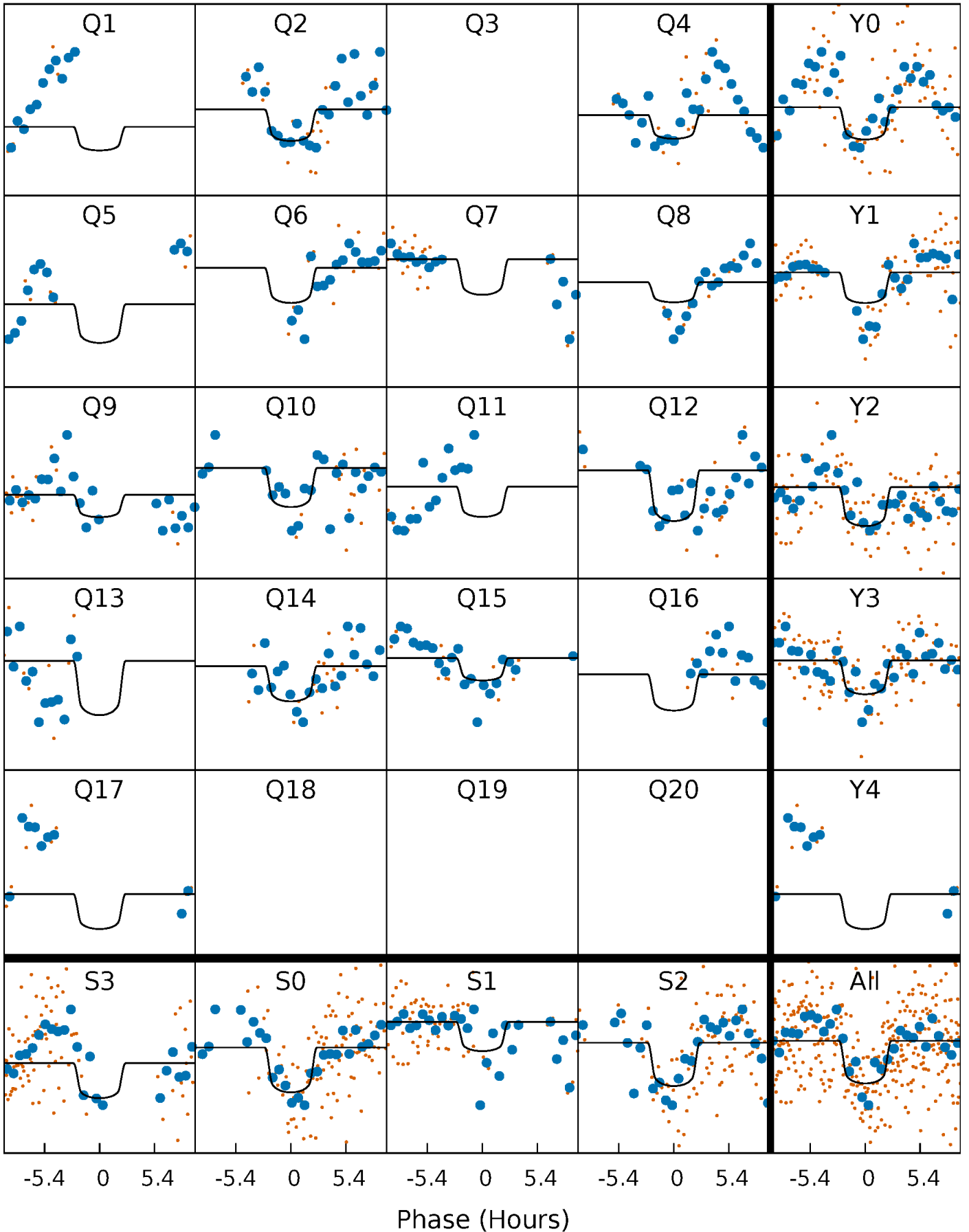
PDC Quarter-Phased Transit Curves

TCE 005650699-03 P= 57.263276 Days $T_0=138.425325$ (BKJD)



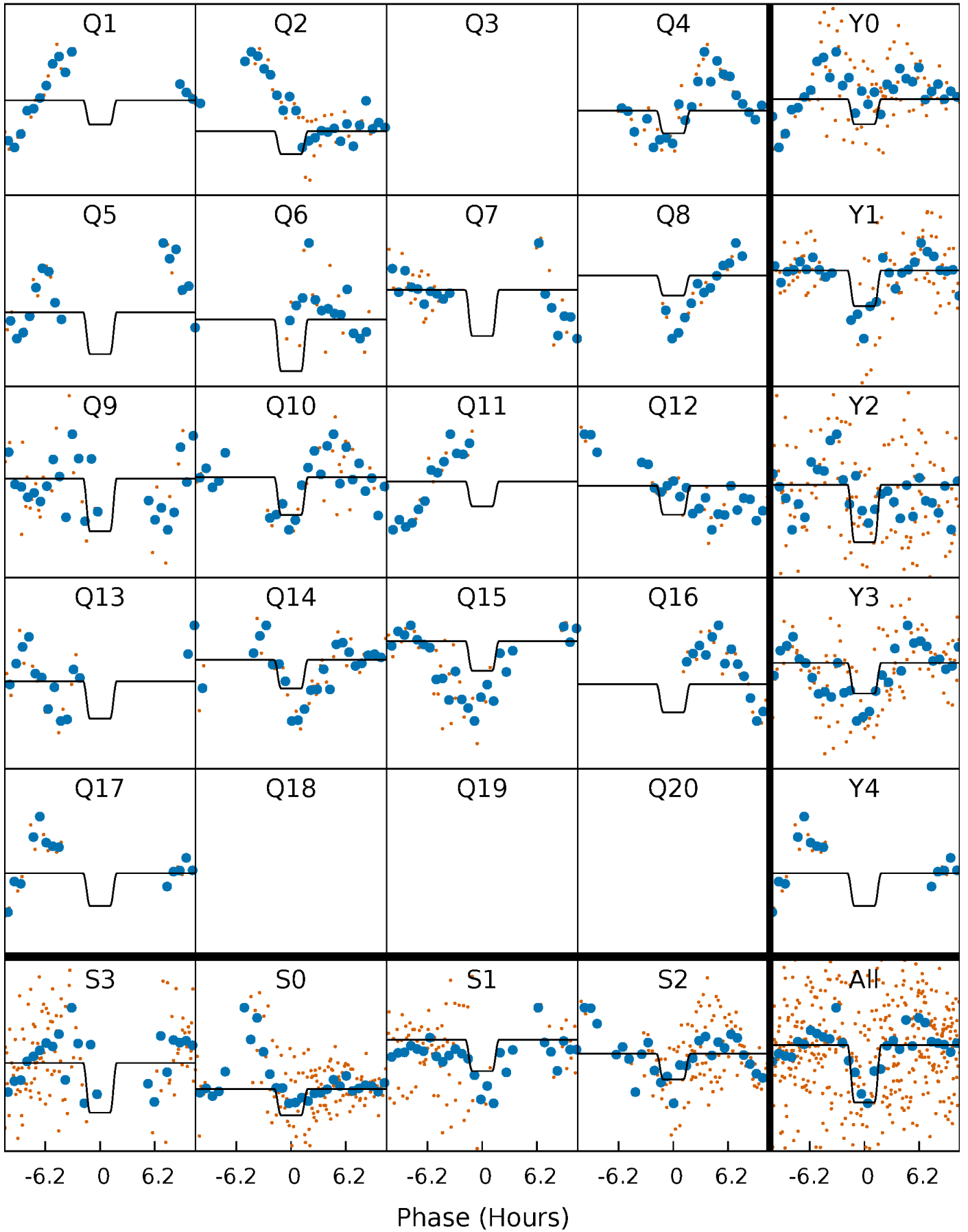
DV Quarter-Phased Transit Curves

TCE 005650699-03 P= 57.263276 Days $T_0=138.425325$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

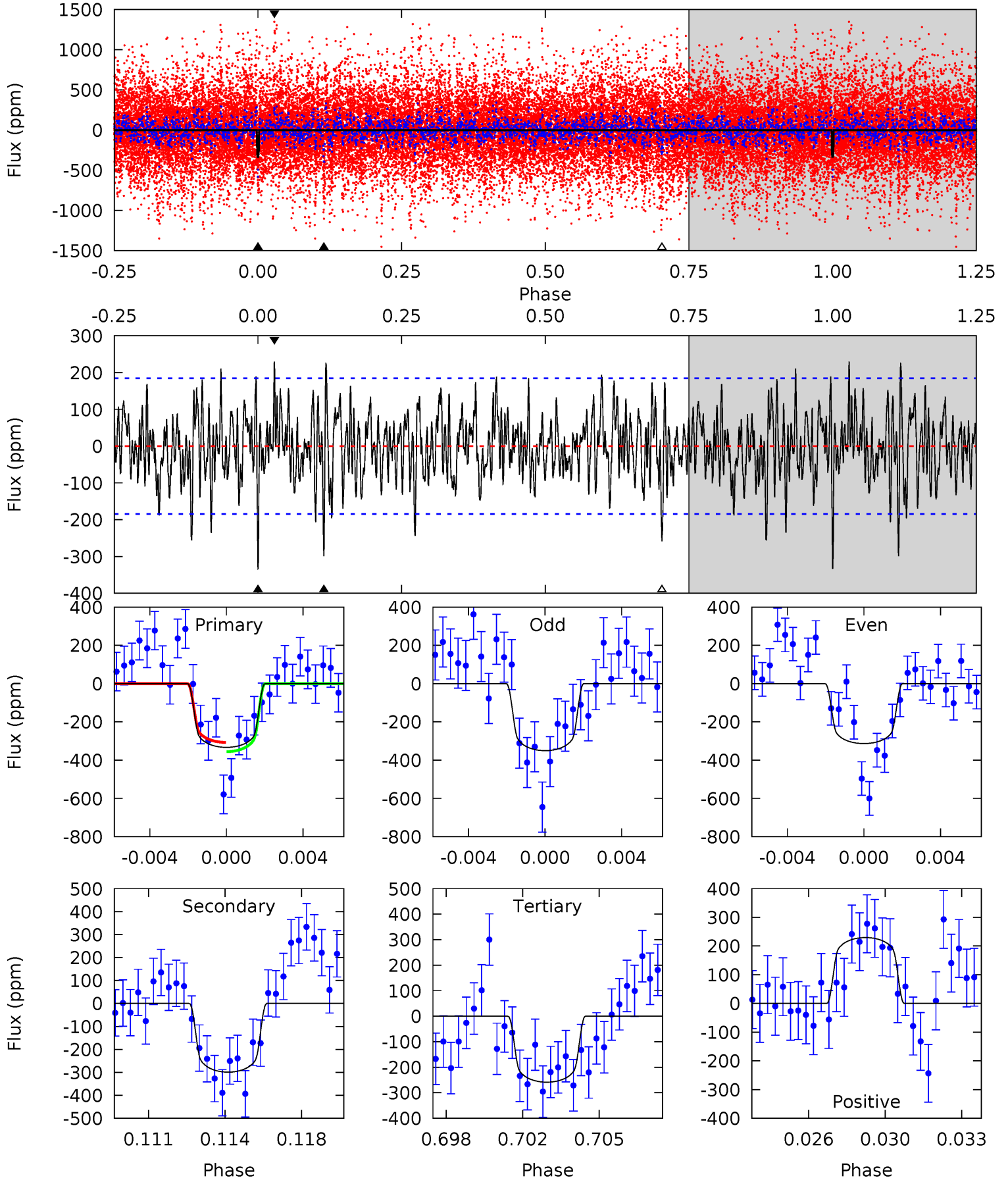
TCE 005650699-03 P= 57.263044 Days $T_0=138.438611$ (BKJD)



DV Model-Shift Uniqueness Test

005650699-03, P = 57.263276 Days, E = 81.162049 Days

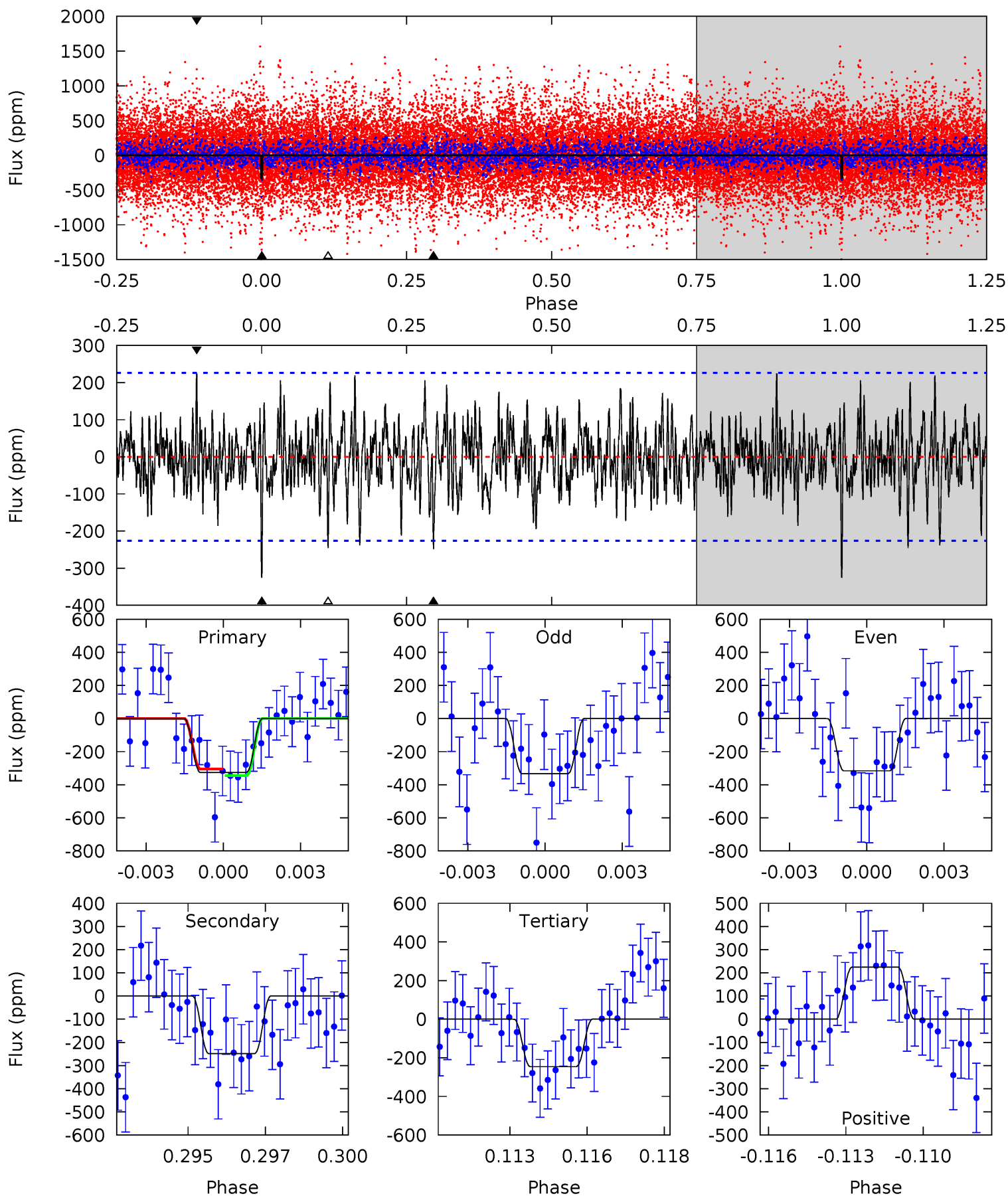
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	8.44	7.30	6.48	5.21	2.90	2.13	2.11	2.93	1.15	1.97	0.53	0.81	0.41	0.68



Alt Model-Shift Uniqueness Test

005650699-03, P = 57.263044 Days, E = 81.175567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.58	5.78	5.73	5.23	5.27	2.99	1.62	1.85	2.35	0.05	0.55	0.20	1.27	0.41	0.47



Stellar Parameters For KIC 005650699

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7003^{+219}_{-329}	$4.021^{+0.286}_{-0.154}$	$-0.380^{+0.300}_{-0.300}$	$1.850^{+0.494}_{-0.604}$	$1.311^{+0.202}_{-0.224}$	$0.292^{+0.540}_{-0.124}$
	+3%/-5%	+7%/-4%	+79%/-79%	+27%/-33%	+15%/-17%	+185%/-43%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005650699-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-299 ± 35	$3.78^{+1.41}_{-1.26}$	1020^{+86}_{-91}	6546^{+1382}_{-888}	1189^{+1369}_{-576}
Alt.	-248 ± 43	$3.97^{+1.37}_{-1.23}$	1018^{+90}_{-89}	6065^{+1181}_{-696}	886^{+989}_{-401}

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

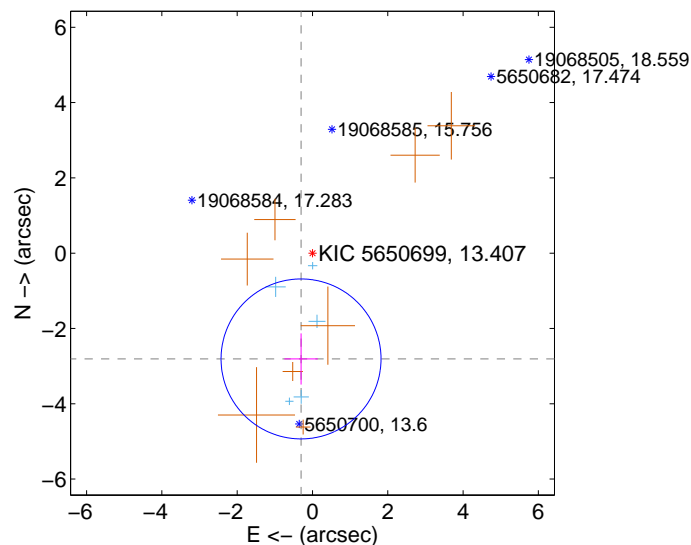
Supplemental centroid analysis for 005650699-03. Kepler magnitude: 13.41. Transit SNR 7.01

There are 5 quarters with good PRF difference image offsets

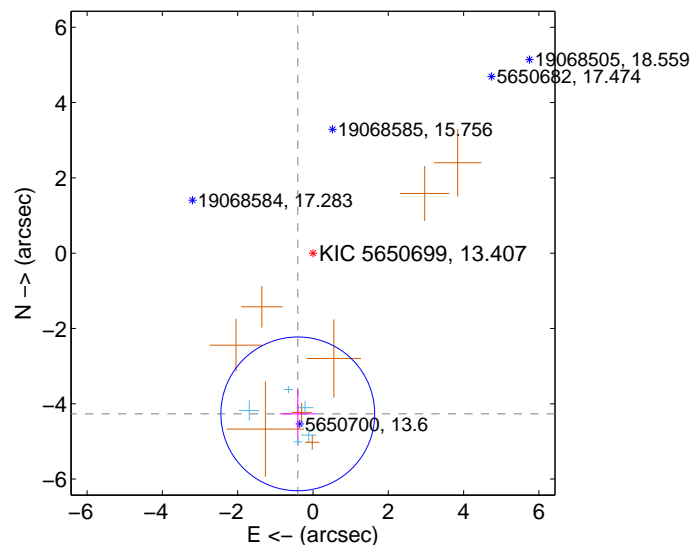
The OOT PRF centroid is offset from the target star catalog position by about 2.31 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.826 ± 0.708	3.99	0.304 ± 0.444	-2.809 ± 0.679
PRF-fit source offset from KIC position	4.288 ± 0.681	6.30	0.404 ± 0.479	-4.269 ± 0.649
photometric centroid source offset	2.98 ± 0.79	3.77	0.17 ± 0.36	-2.98 ± 0.79

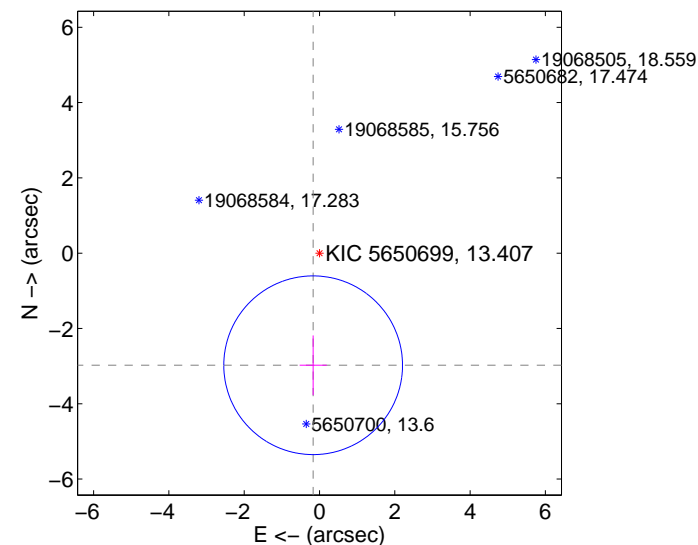
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

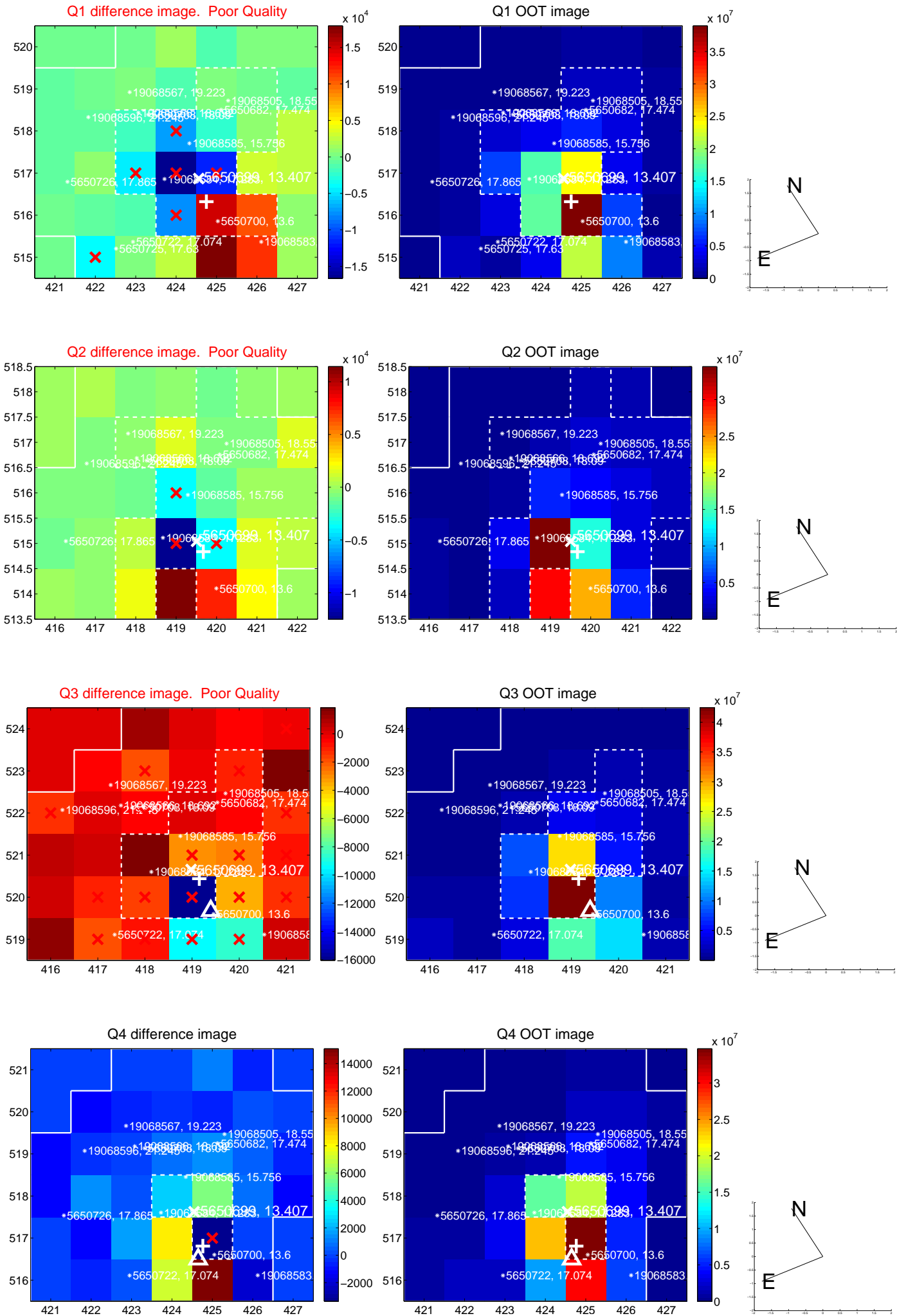


offset from photometric centroids

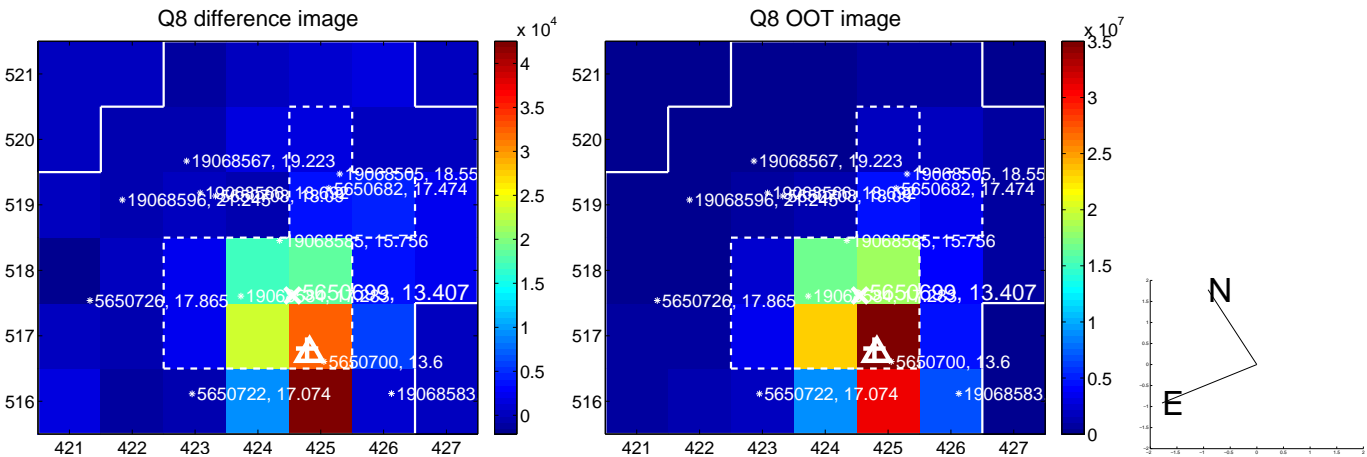
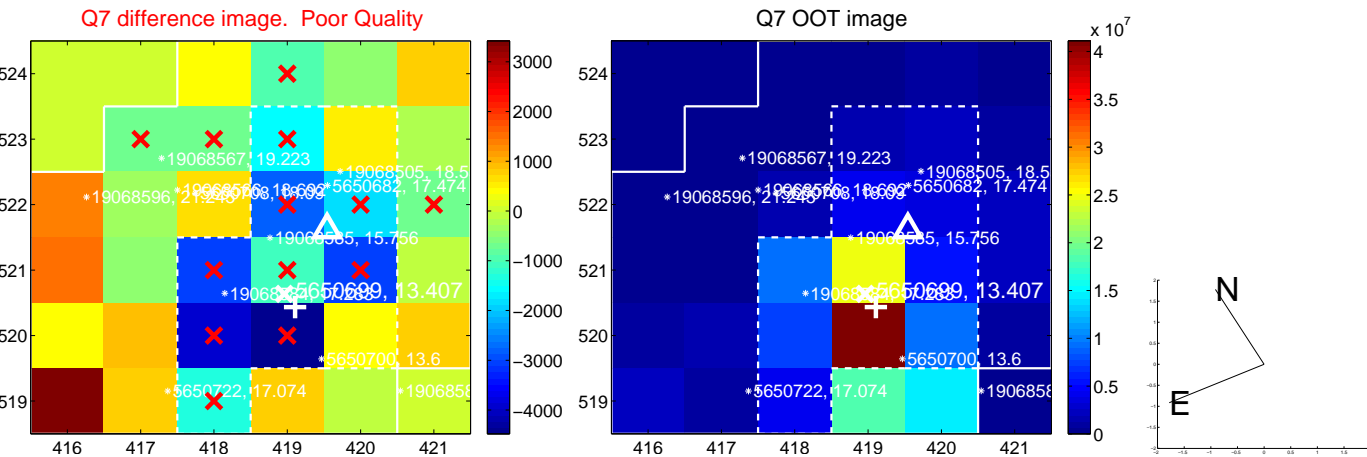
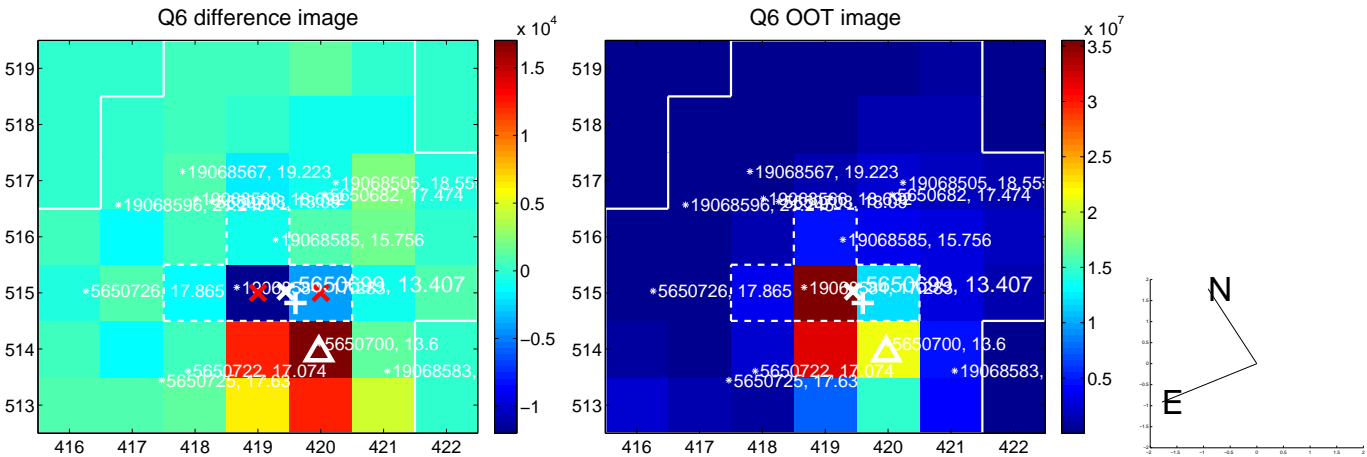
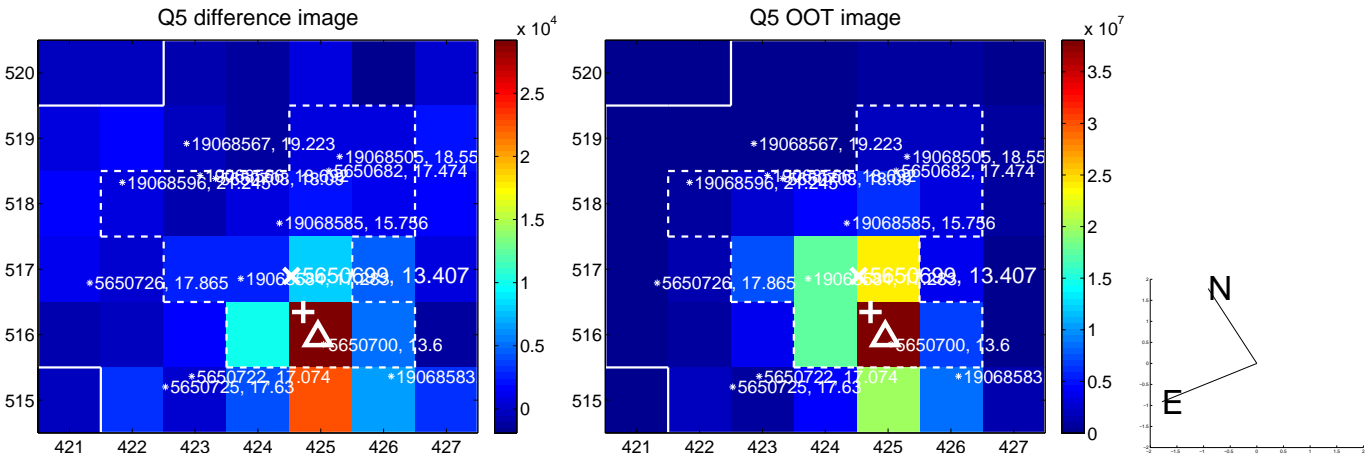


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

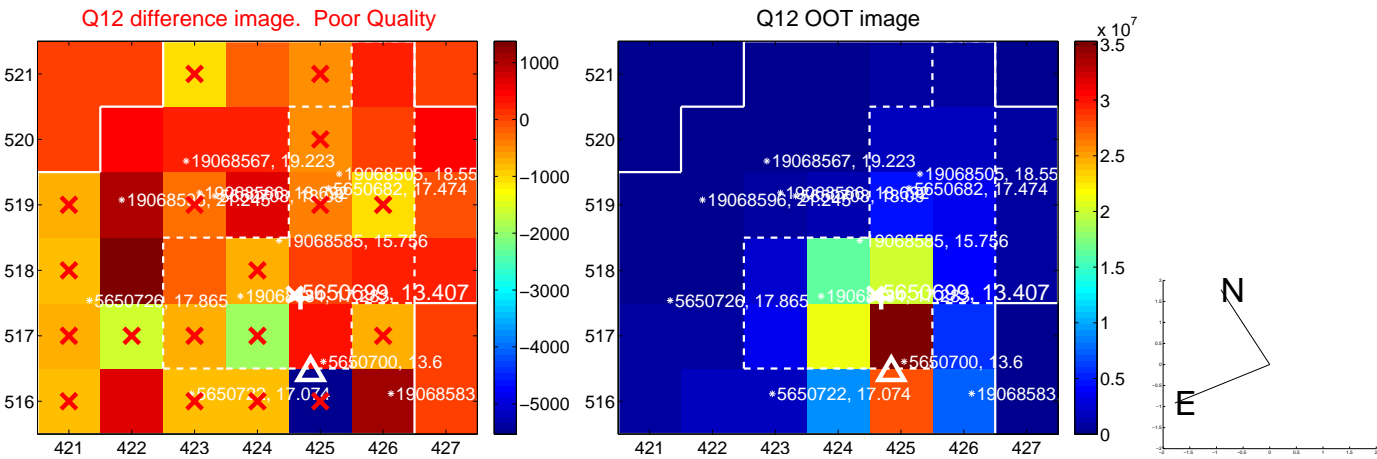
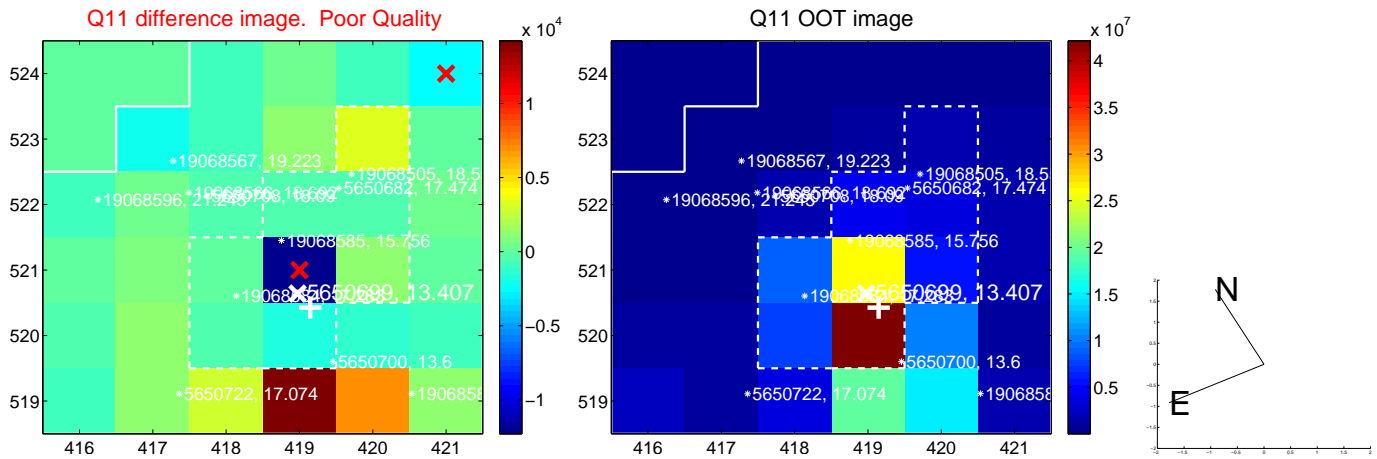
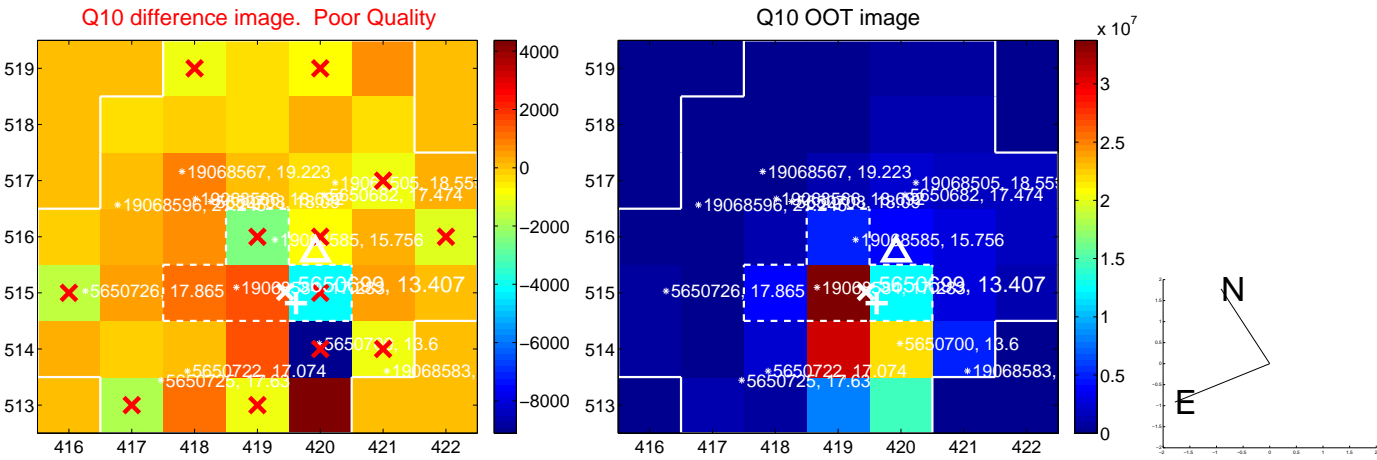
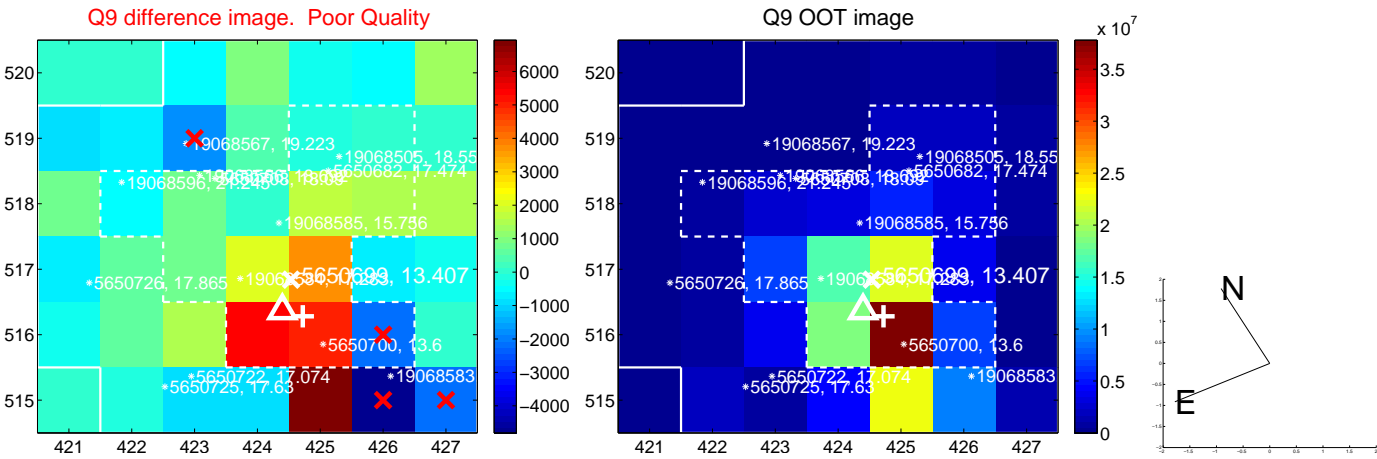
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



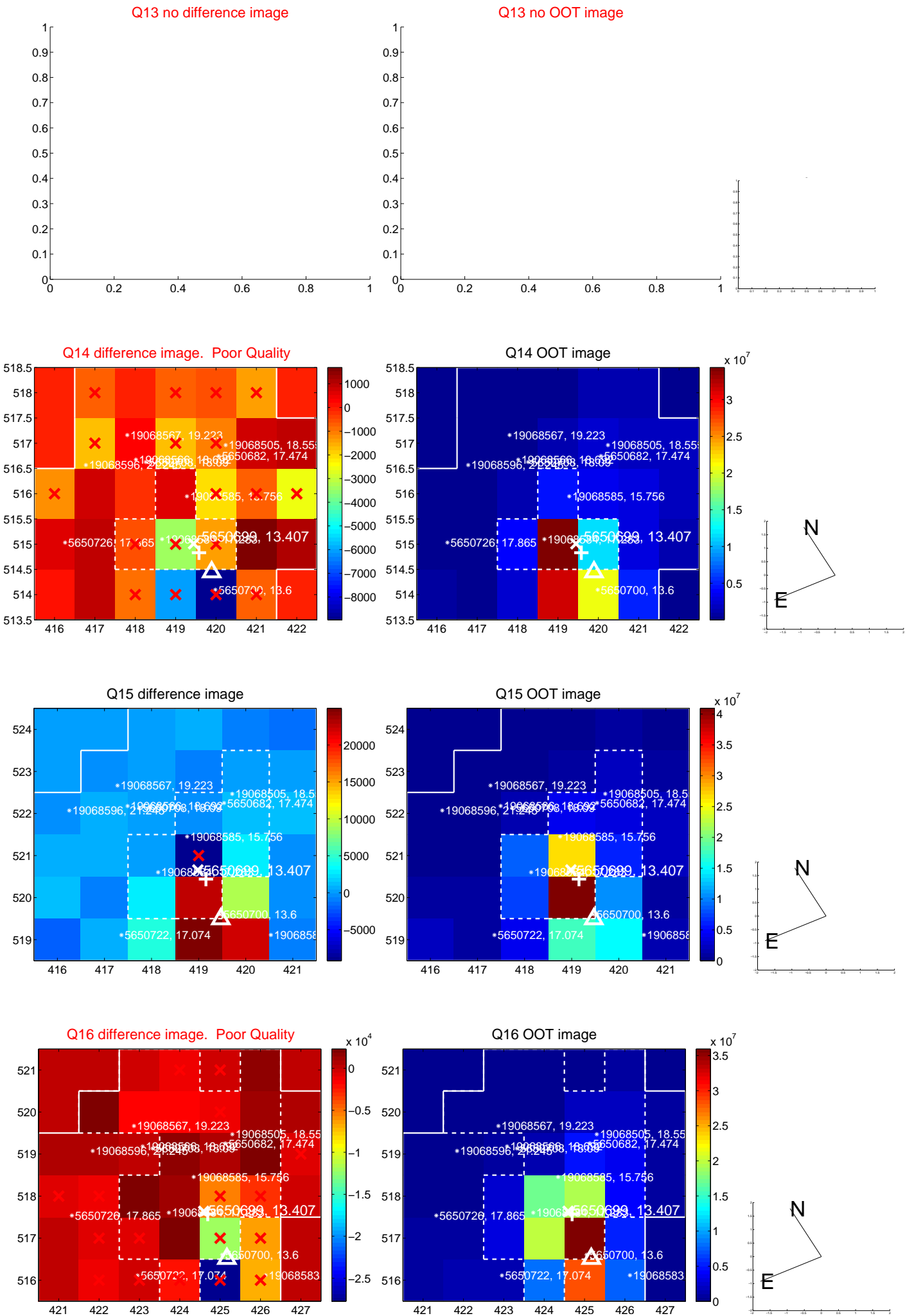
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



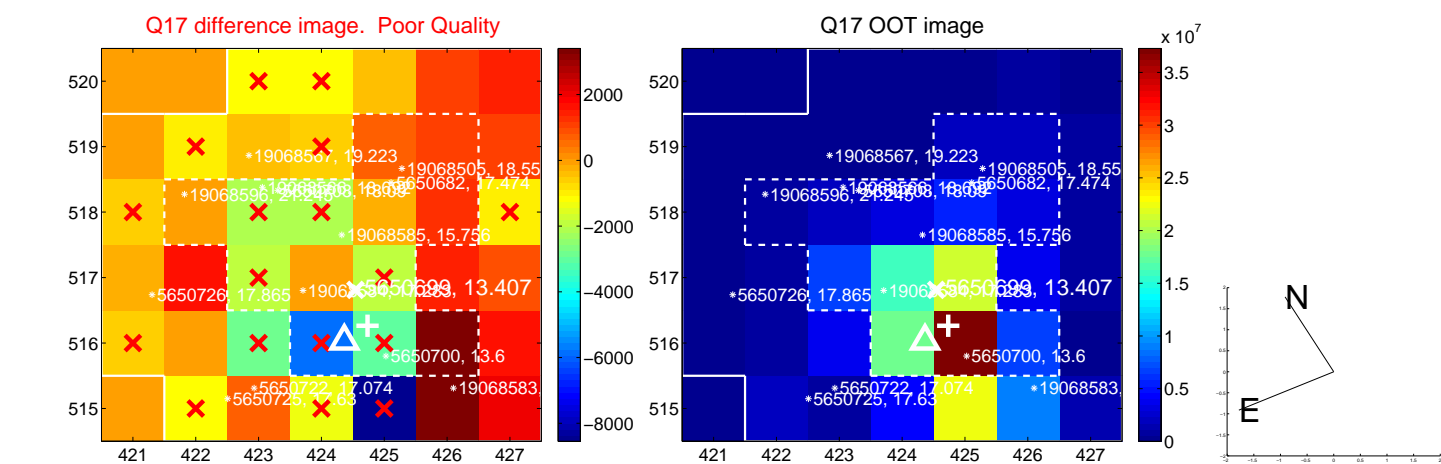
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



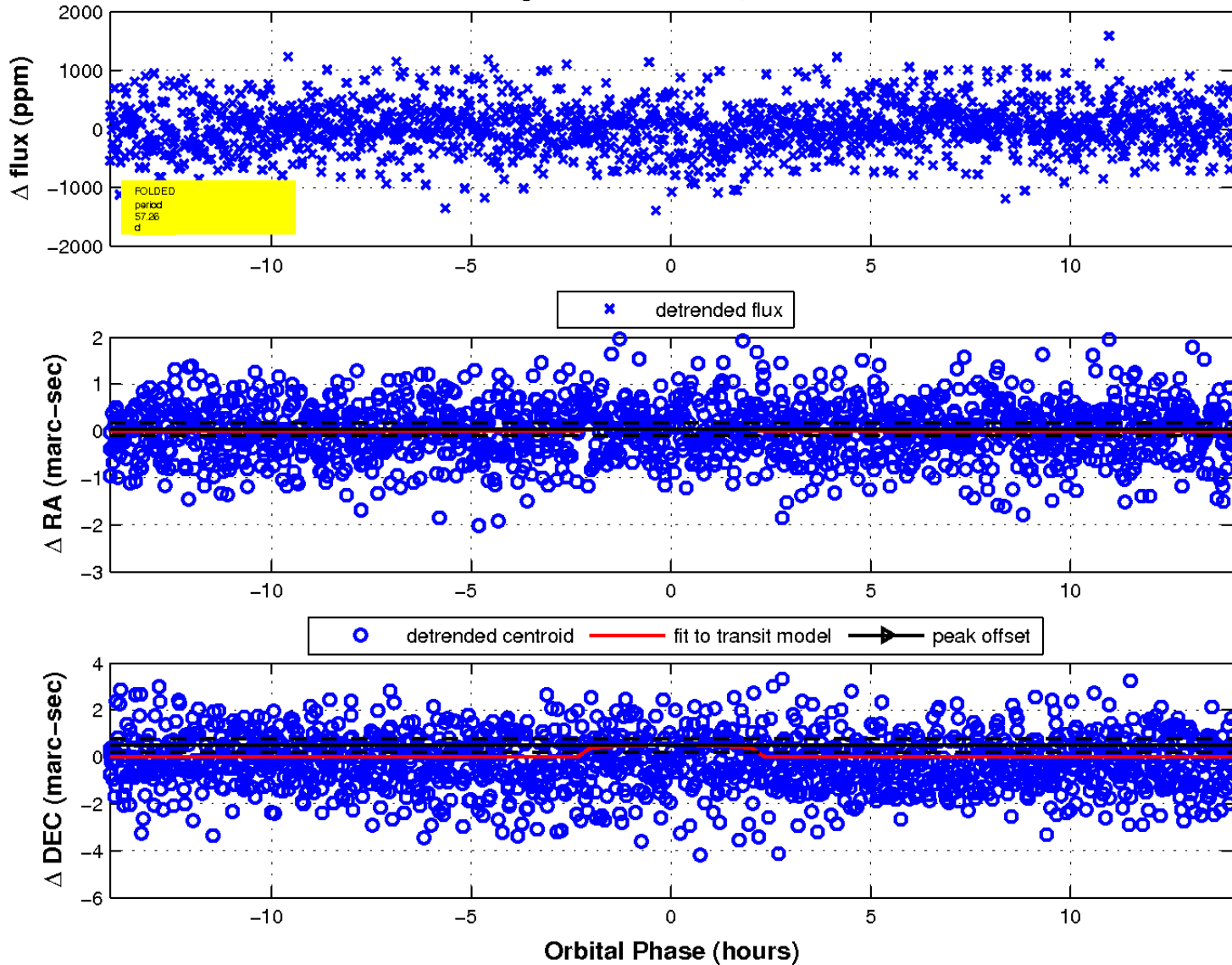
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

