

KIC 003542542

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})
003542542-01	OBS	7658.01	3.471541	133.717059	114.8	5.148	8.2	8.9	0.72	5297	0.87	210.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003542542-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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

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

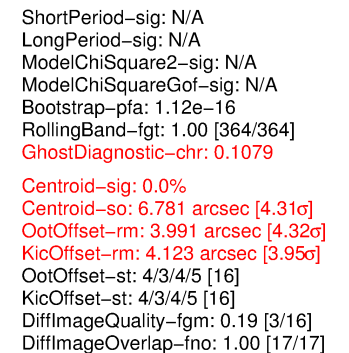
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003542542-01

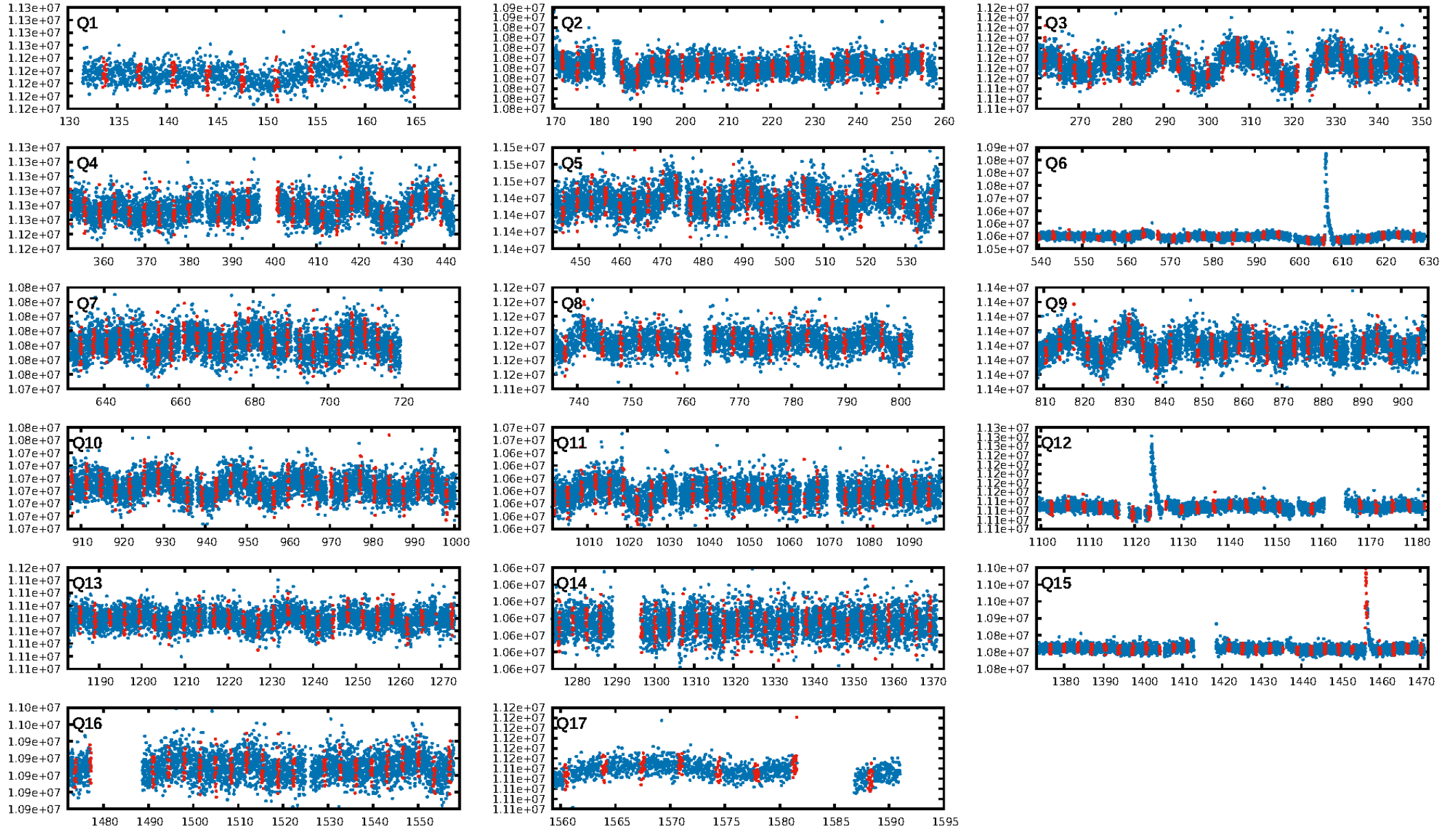
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003542542-01	3542542	003542574-01	3542574	1:1	33.2	0	-8	19.03	15.79	2548.50	Direct-PRF	0	2.06	0.98

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

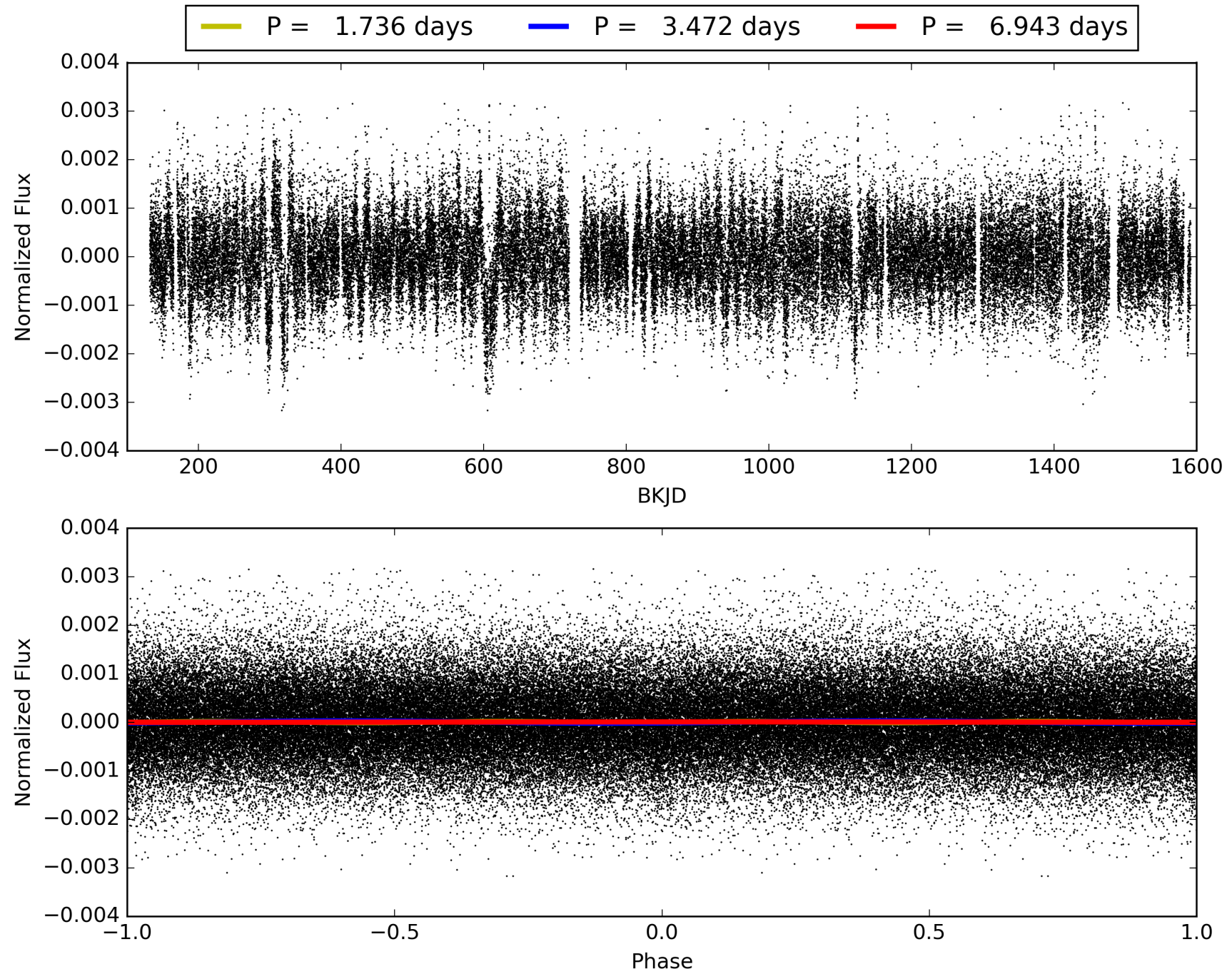
KIC: 3542542 Candidate: 1 of 1 Period: 3.472 d



TCE 003542542-01, PDC Light Curves

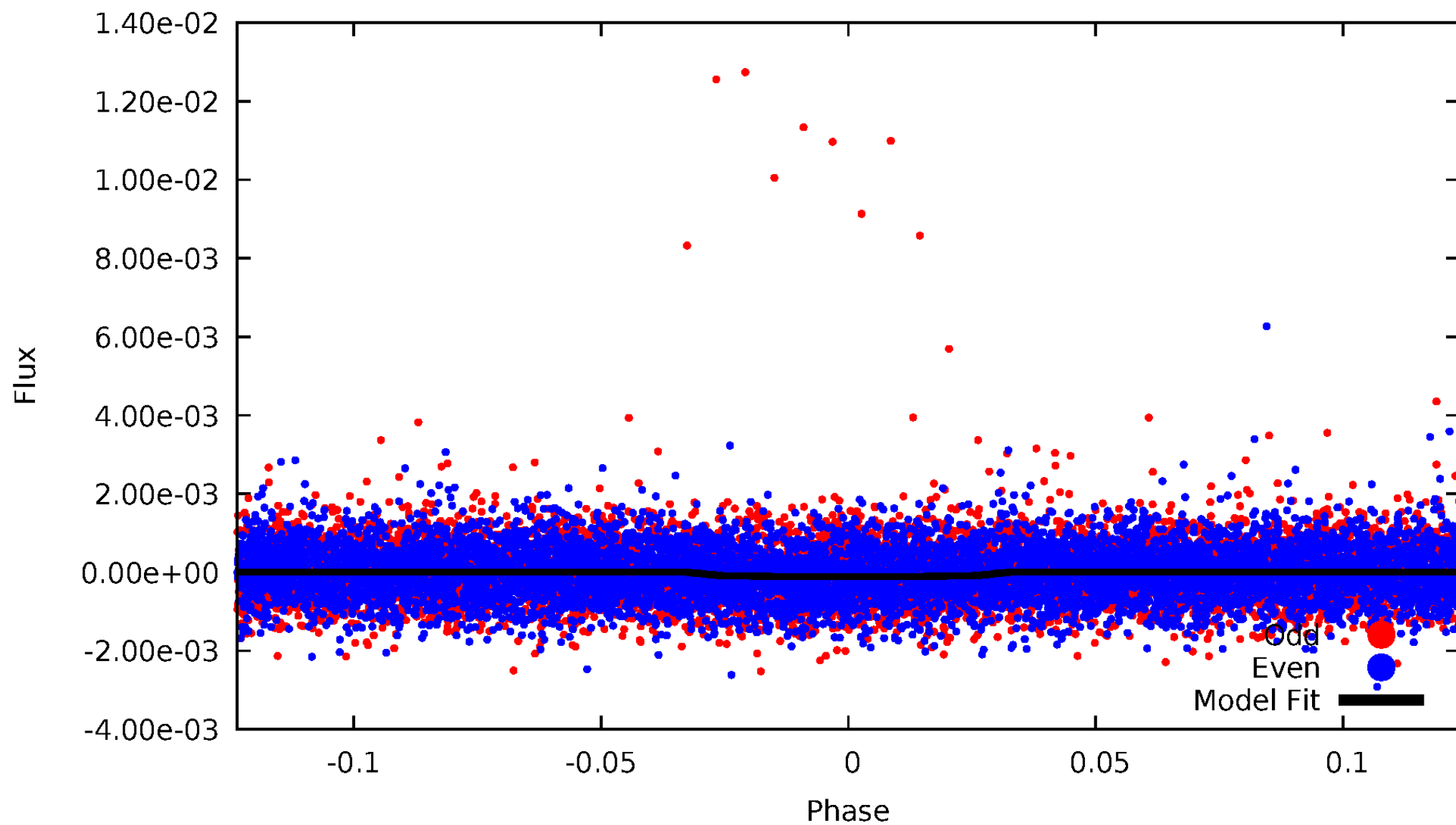


TCE 003542542-01



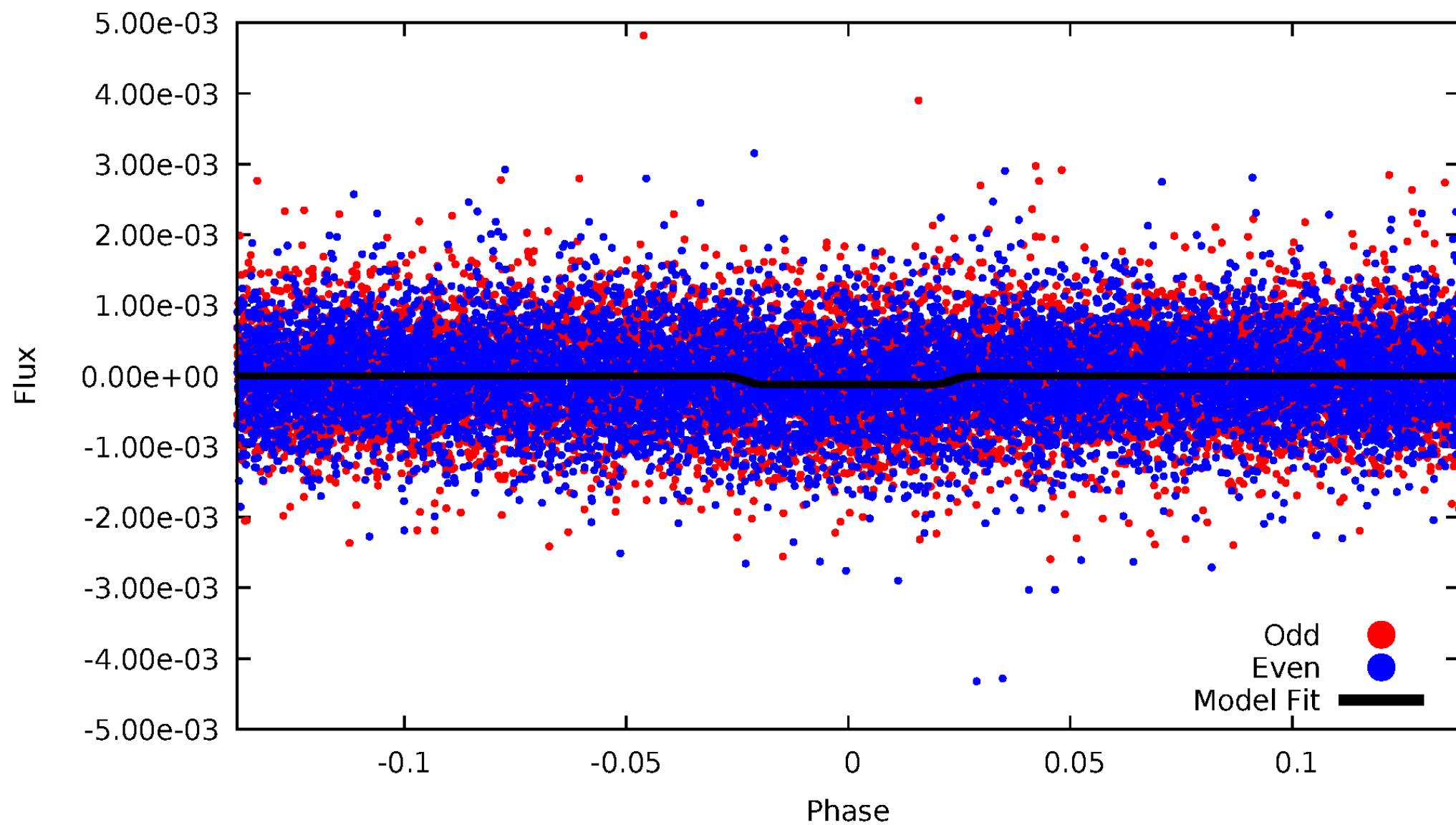
DV Odd/Even

TCE 003542542-01

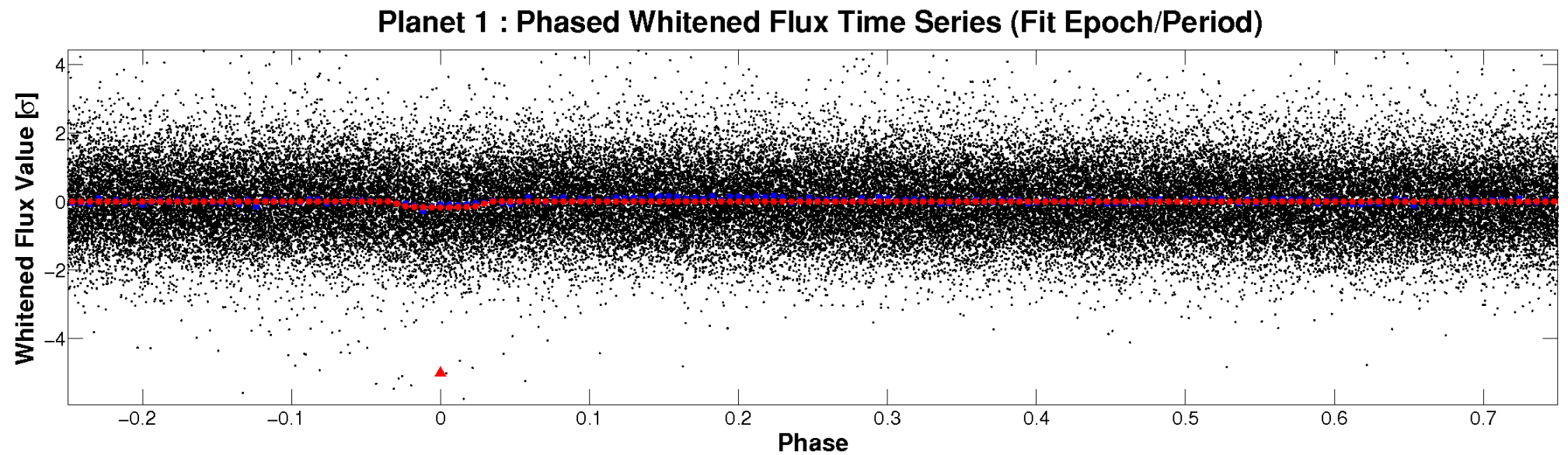
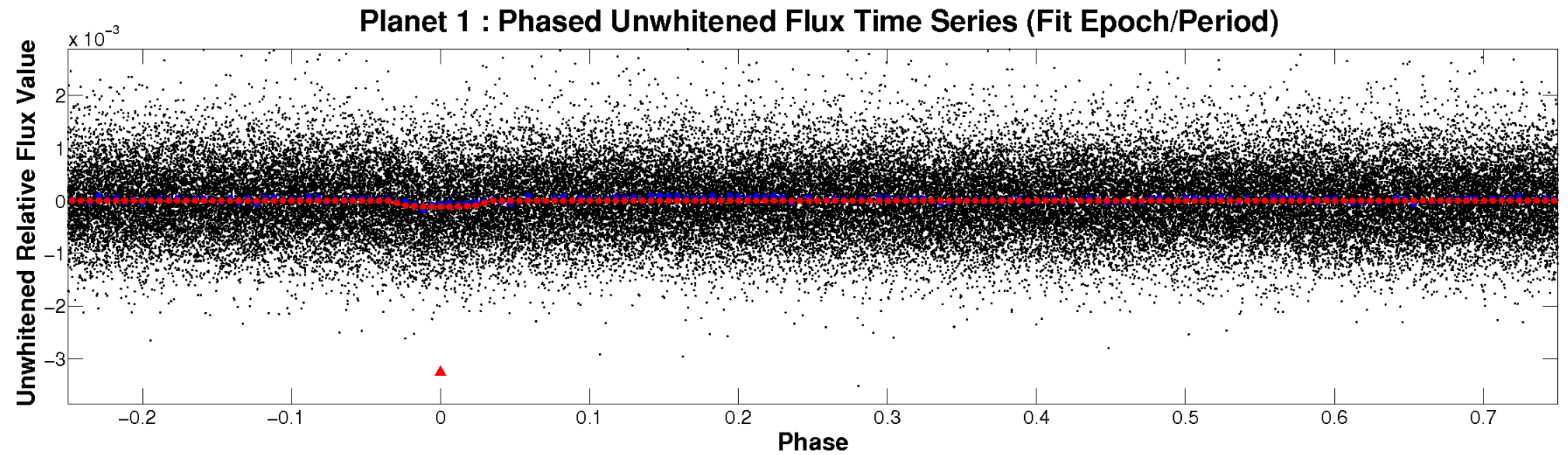


ALT Odd/Even

TCE 003542542-01

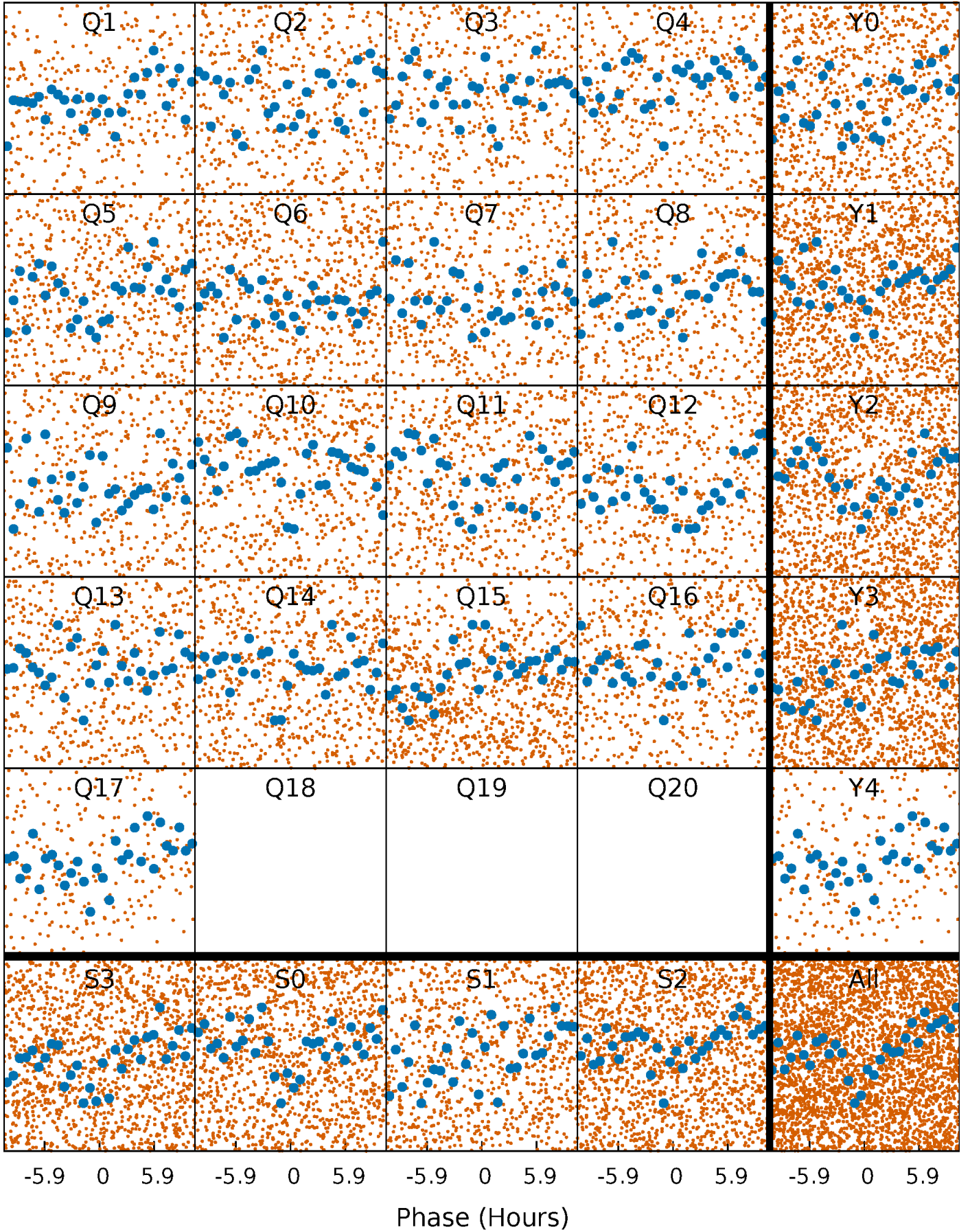


Non-Whitened Vs. Whitened Light Curve



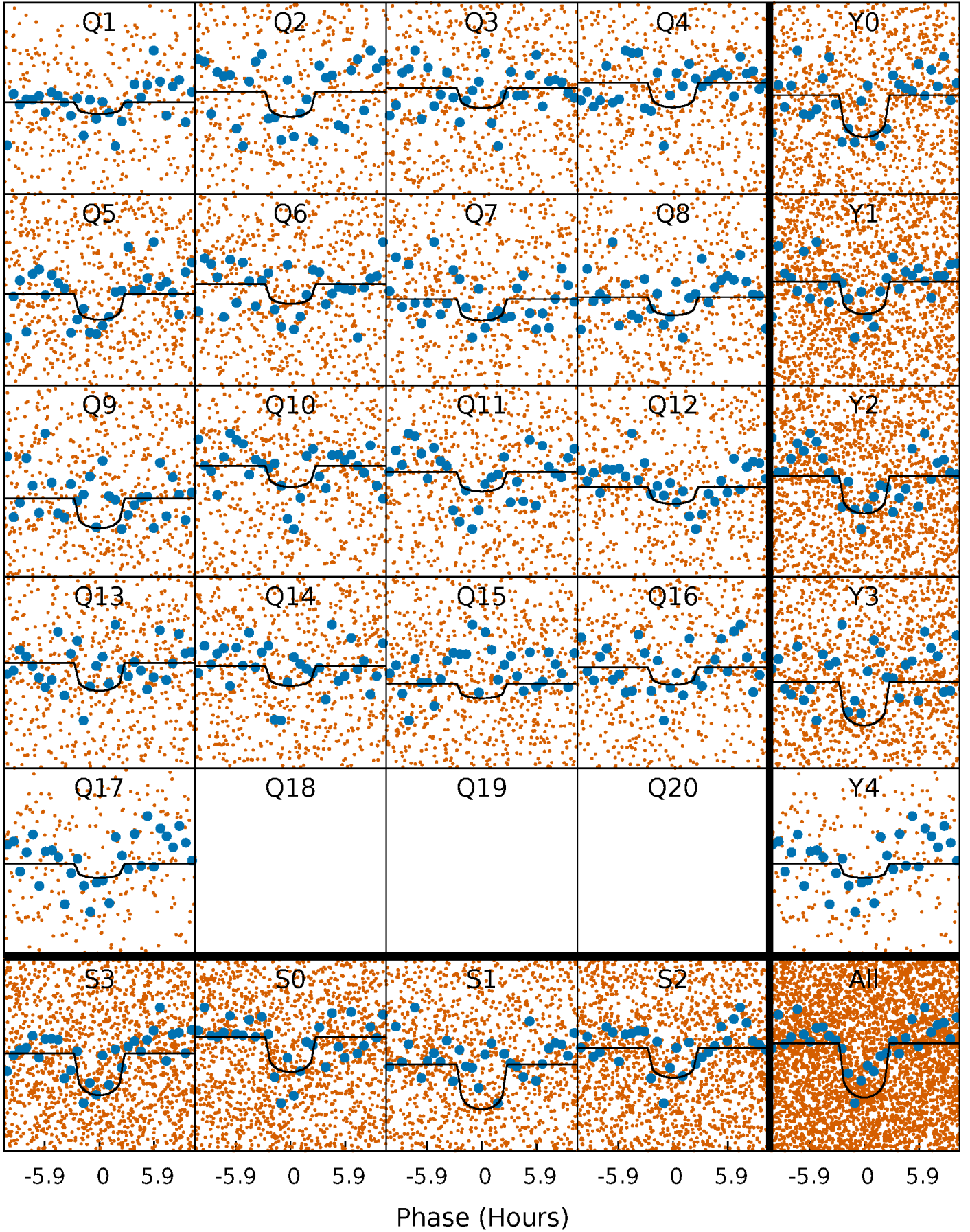
PDC Quarter-Phased Transit Curves

TCE 003542542-01 P= 3.471541 Days $T_0=133.717059$ (BKJD)



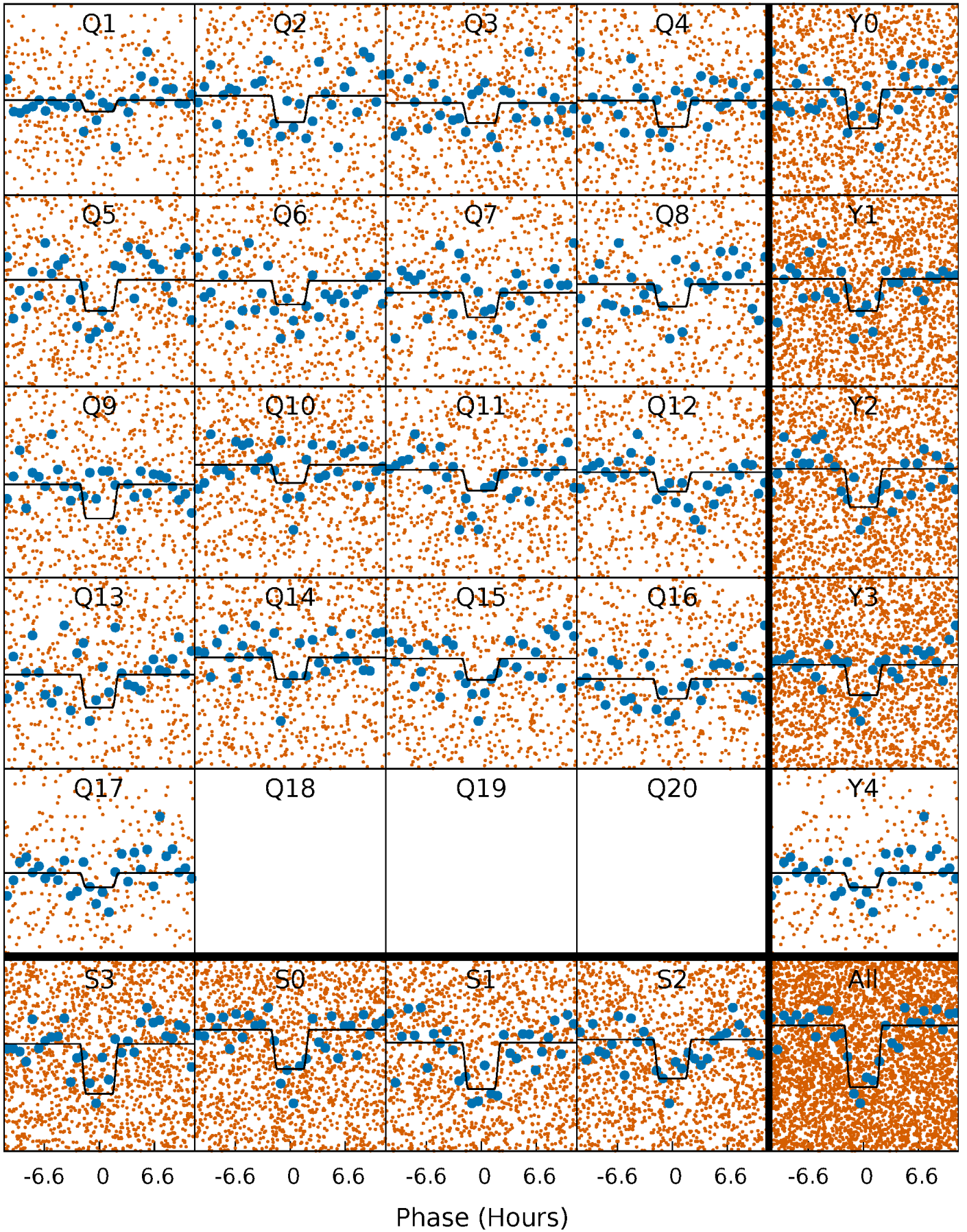
DV Quarter-Phased Transit Curves

TCE 003542542-01 P= 3.471541 Days $T_0=133.717059$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

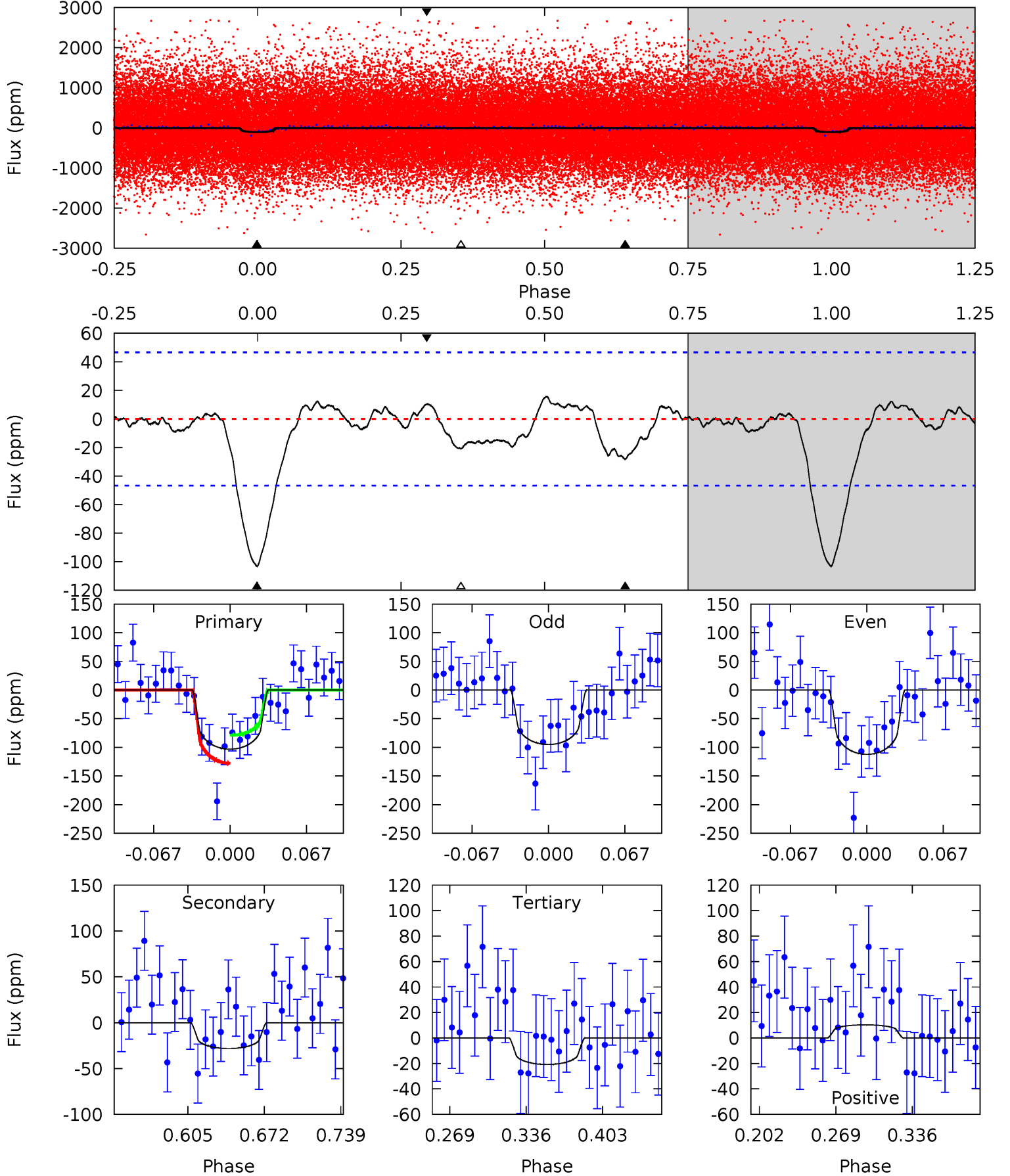
TCE 003542542-01 P= 3.471504 Days $T_0=133.716978$ (BKJD)



DV Model-Shift Uniqueness Test

003542542-01, P = 3.471541 Days, E = 130.245518 Days

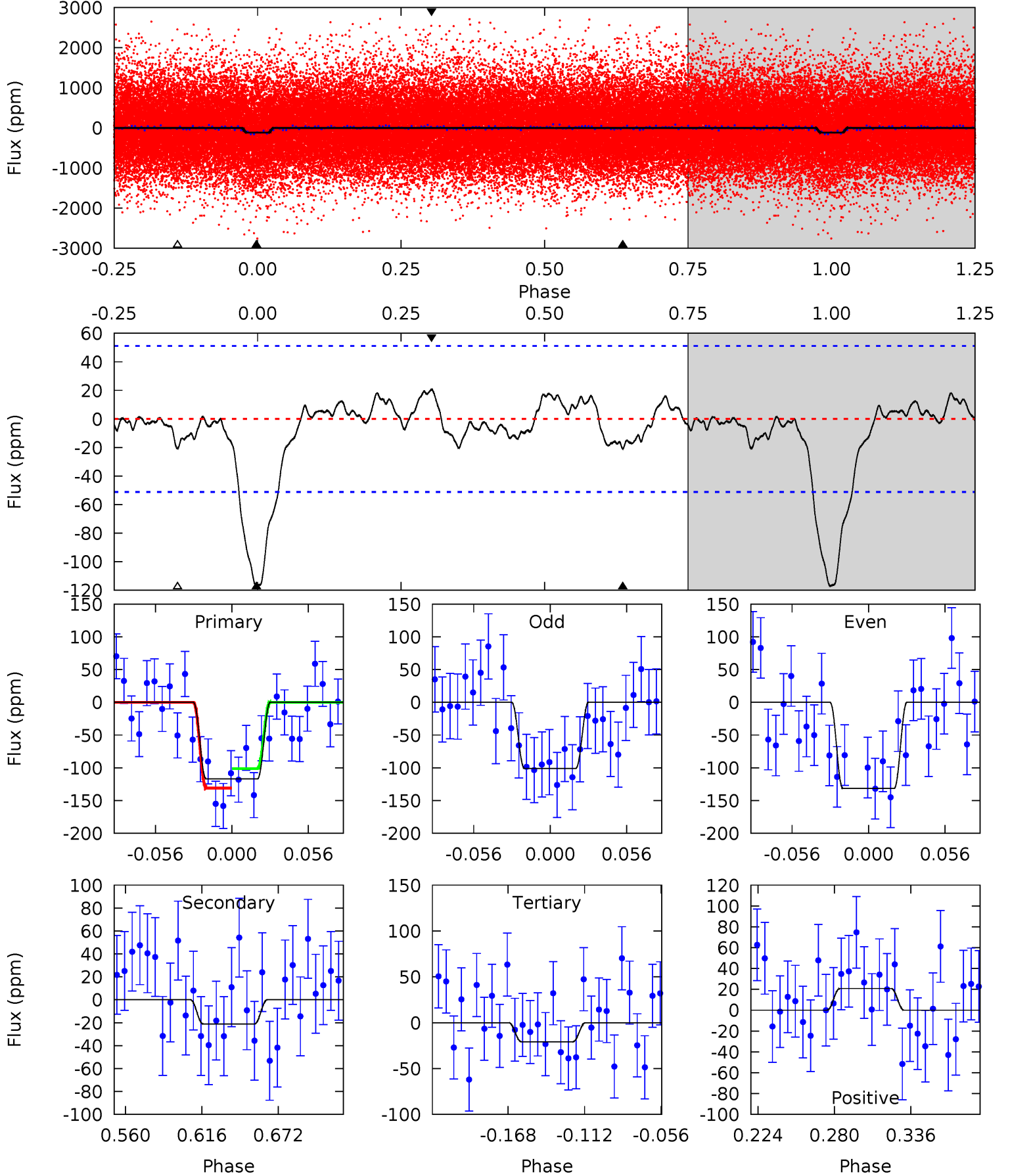
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	2.81	2.07	1.03	4.65	1.83	0.90	8.20	9.25	0.73	1.78	0.86	0.81	0.13	2.44



Alt Model-Shift Uniqueness Test

003542542-01, P = 3.471504 Days, E = 130.245474 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	1.93	1.91	1.90	4.68	1.91	0.87	8.82	8.82	0.03	0.03	1.40	1.08	0.15	1.36



Stellar Parameters For KIC 003542542

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5297^{+159}_{-159}	$4.626^{+0.032}_{-0.097}$	$-0.340^{+0.350}_{-0.300}$	$0.716^{+0.118}_{-0.055}$	$0.800^{+0.078}_{-0.086}$	$3.065^{+0.500}_{-0.962}$
	+3%/-3%	+1%/-2%	+103%/-88%	+16%/-8%	+10%/-11%	+16%/-31%
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 003542542-01 / KOI 7658.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 10	$1.02^{+0.74}_{-0.59}$	1373^{+55}_{-53}	3782^{+1581}_{-664}	25^{+125}_{-18}
Alt.	-21 ± 11	$0.98^{+0.75}_{-0.59}$	1374^{+55}_{-53}	3561^{+1519}_{-637}	18^{+100}_{-13}

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

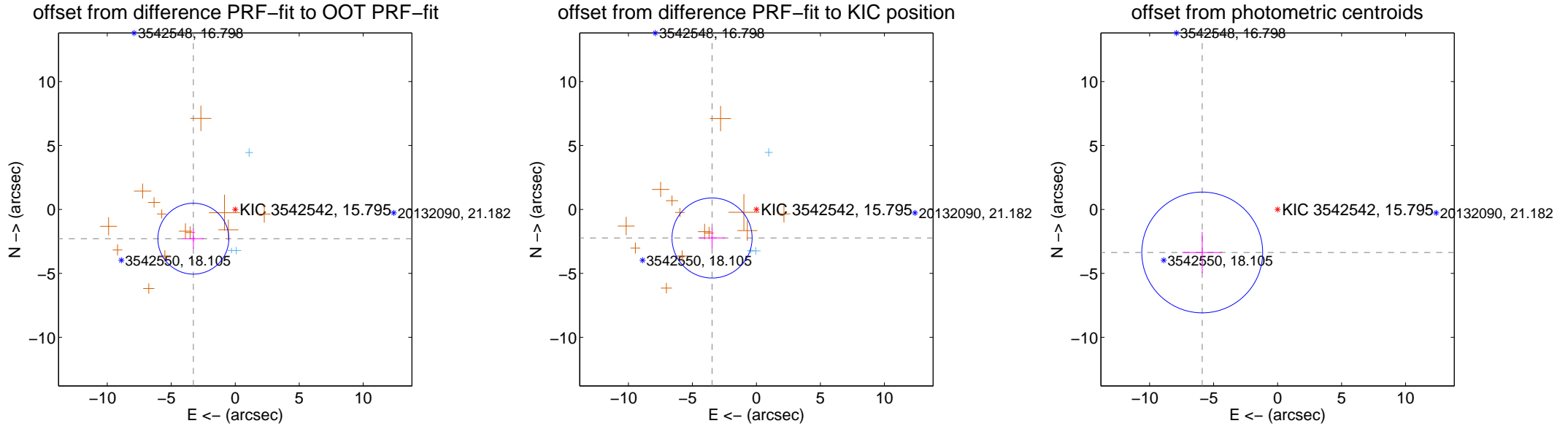
DV Centroid Data

Supplemental centroid analysis for 003542542-01. Kepler magnitude: 15.79. Transit SNR 8.86

There are 3 quarters with good PRF difference image offsets

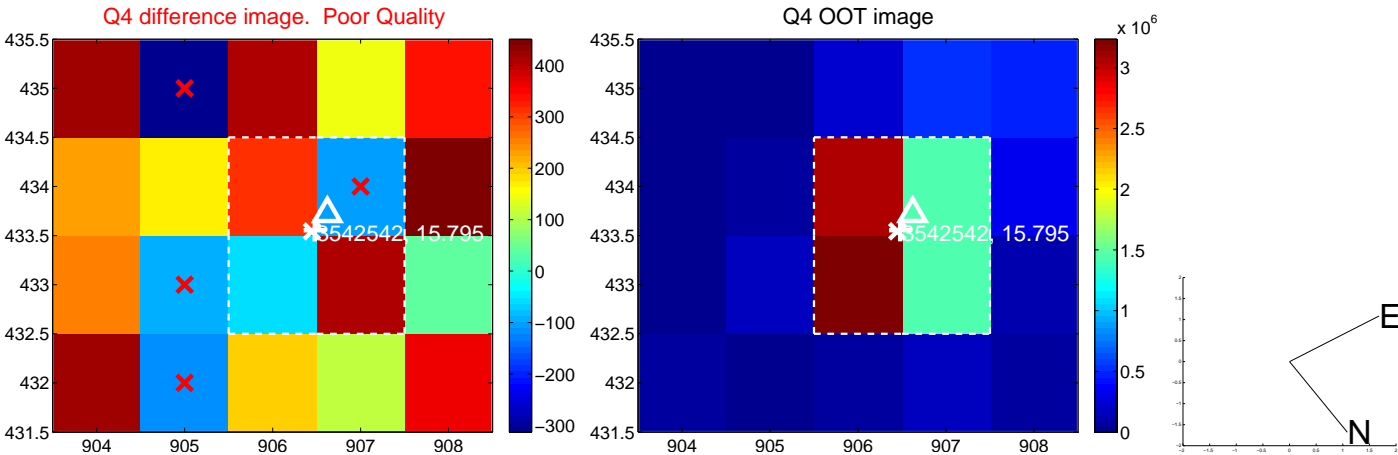
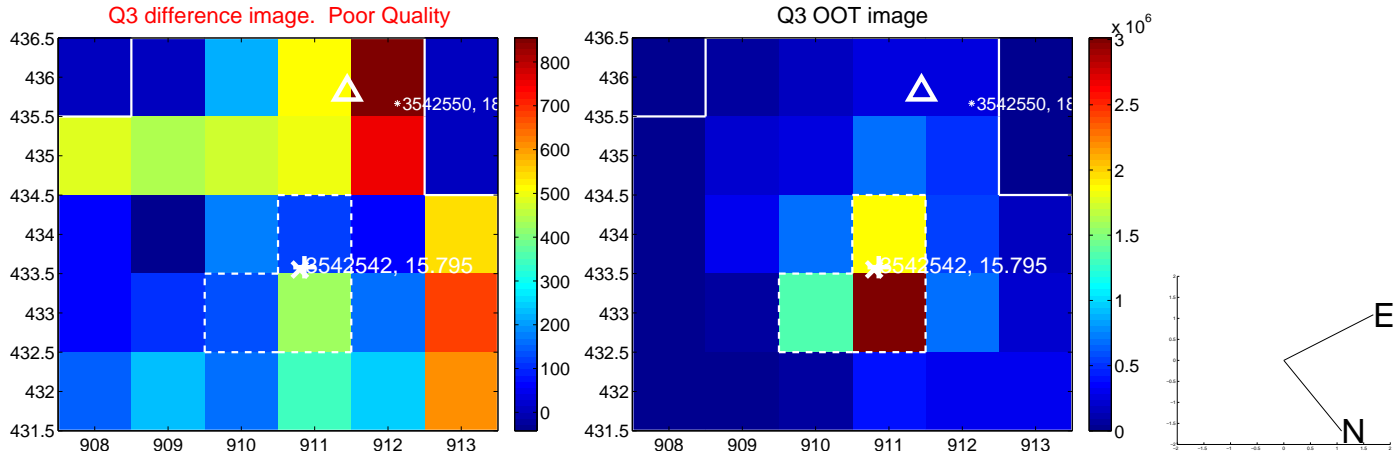
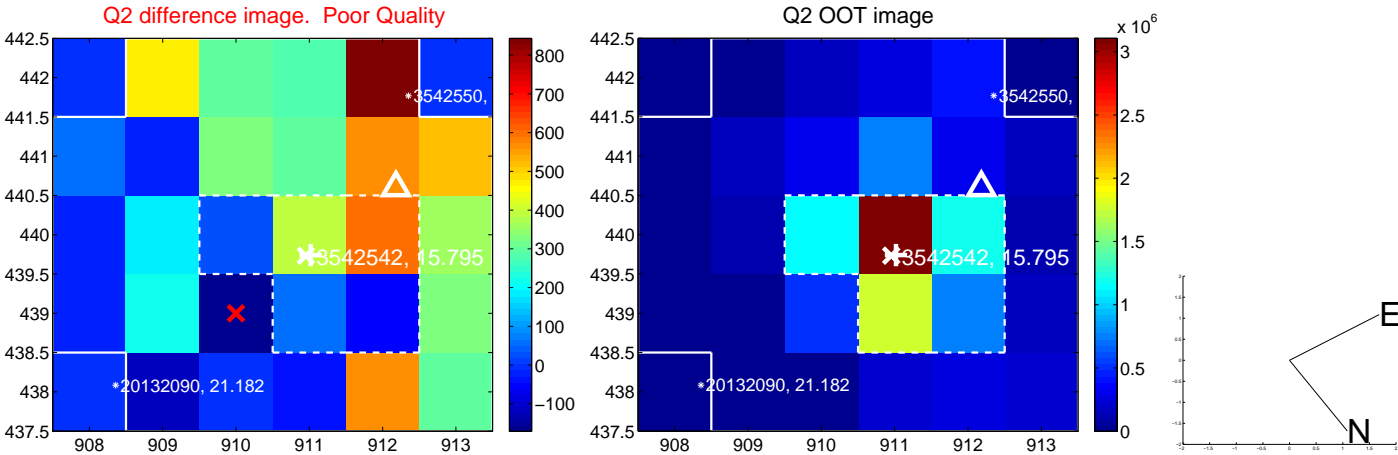
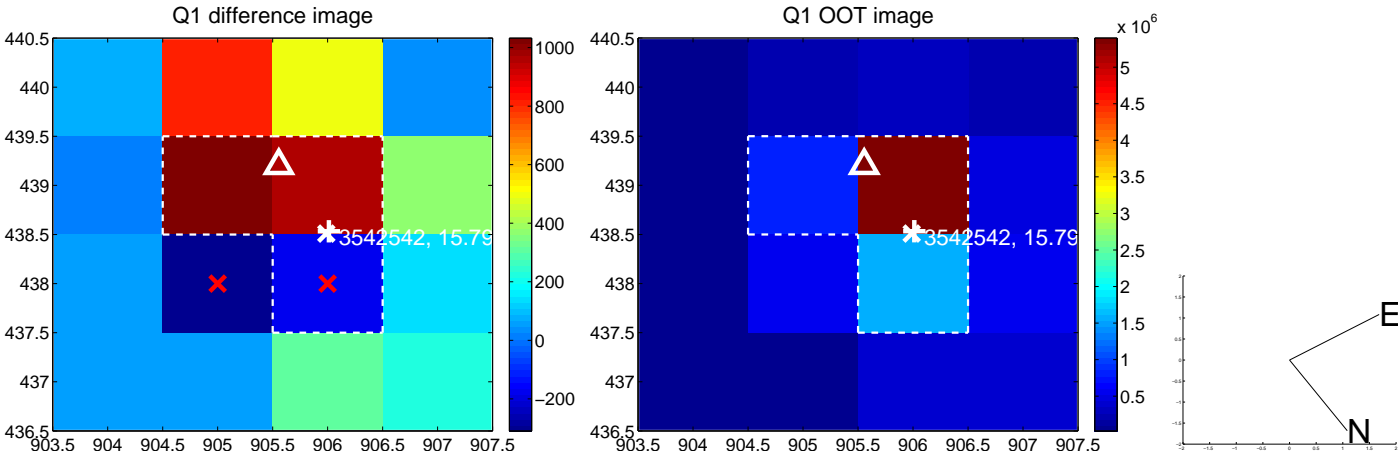
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.991 ± 0.924	4.32	3.271 ± 0.851	-2.287 ± 0.783
PRF-fit source offset from KIC position	4.123 ± 1.043	3.95	3.466 ± 1.018	-2.233 ± 0.801
photometric centroid source offset	6.78 ± 1.57	4.31	5.89 ± 1.56	-3.37 ± 1.61

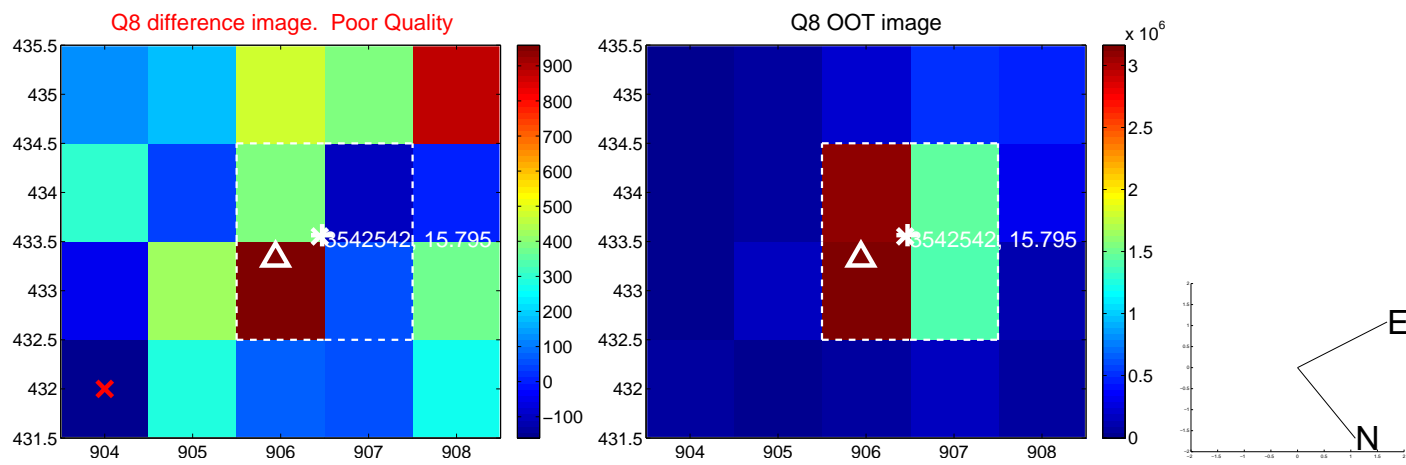
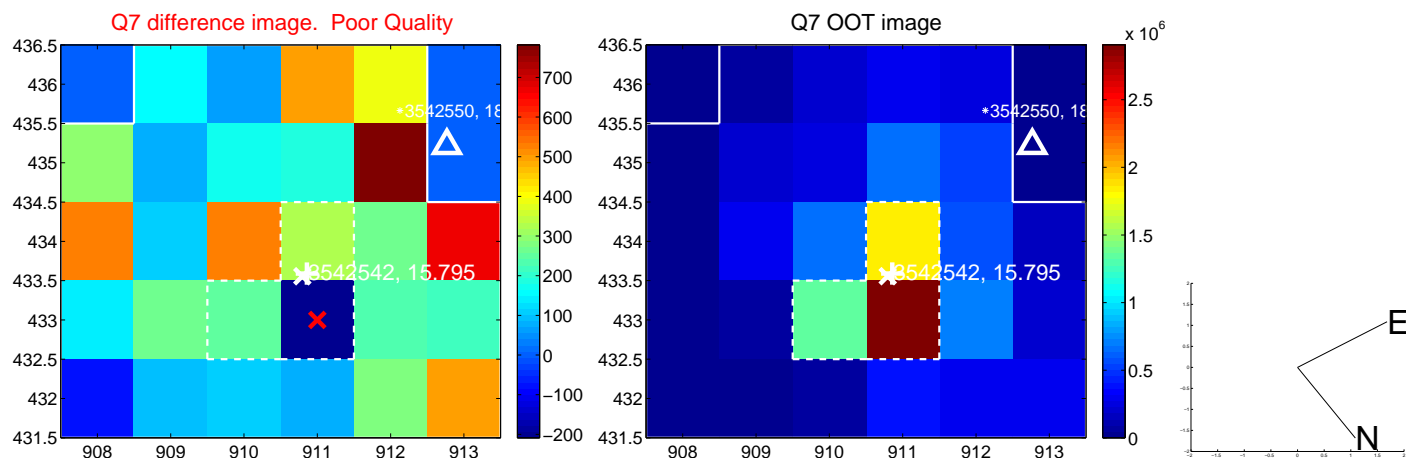
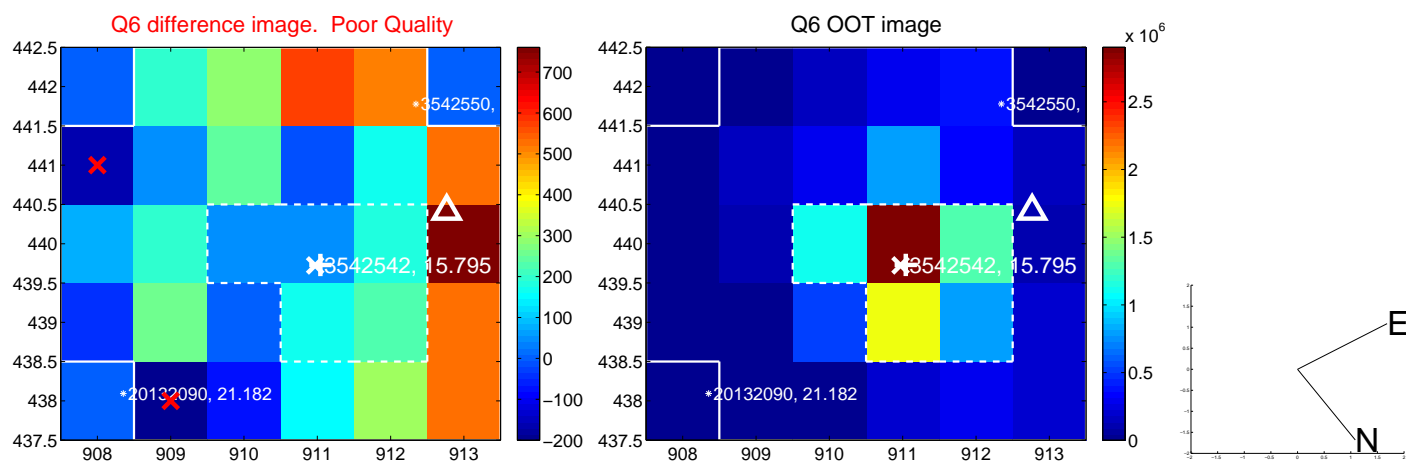
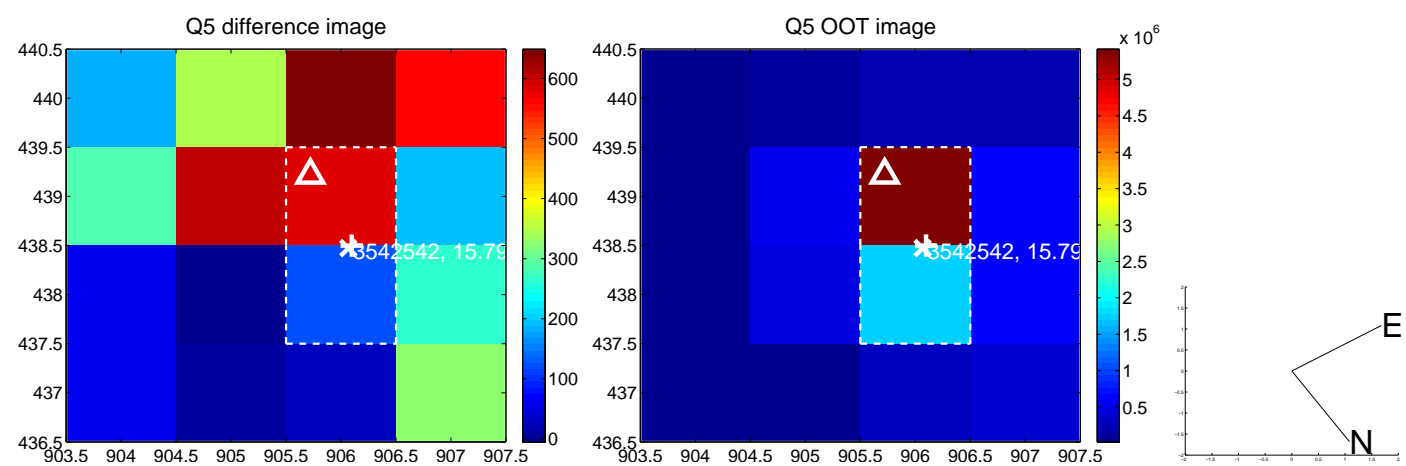


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

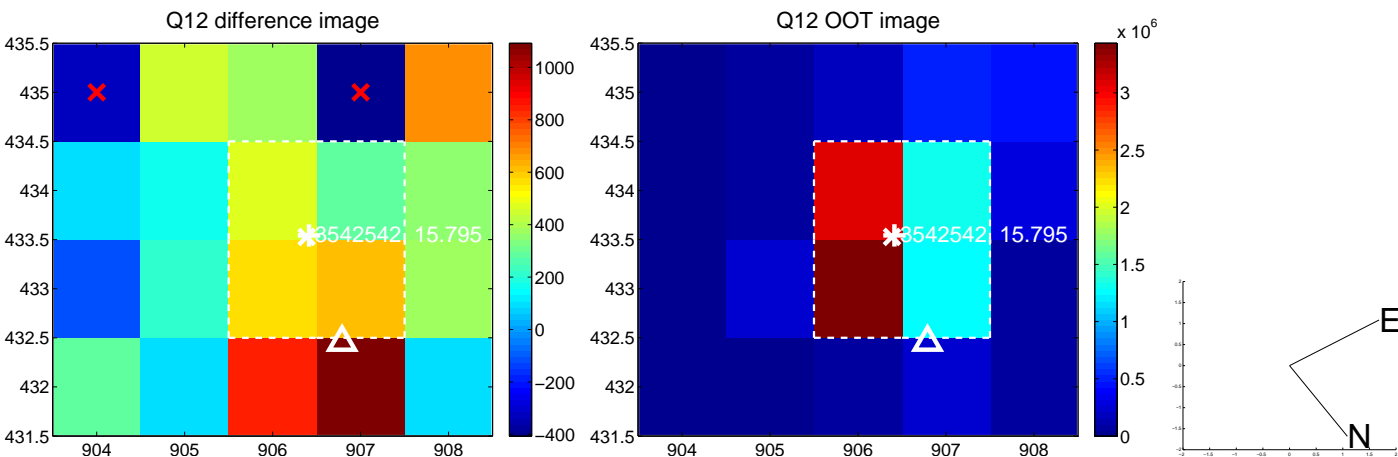
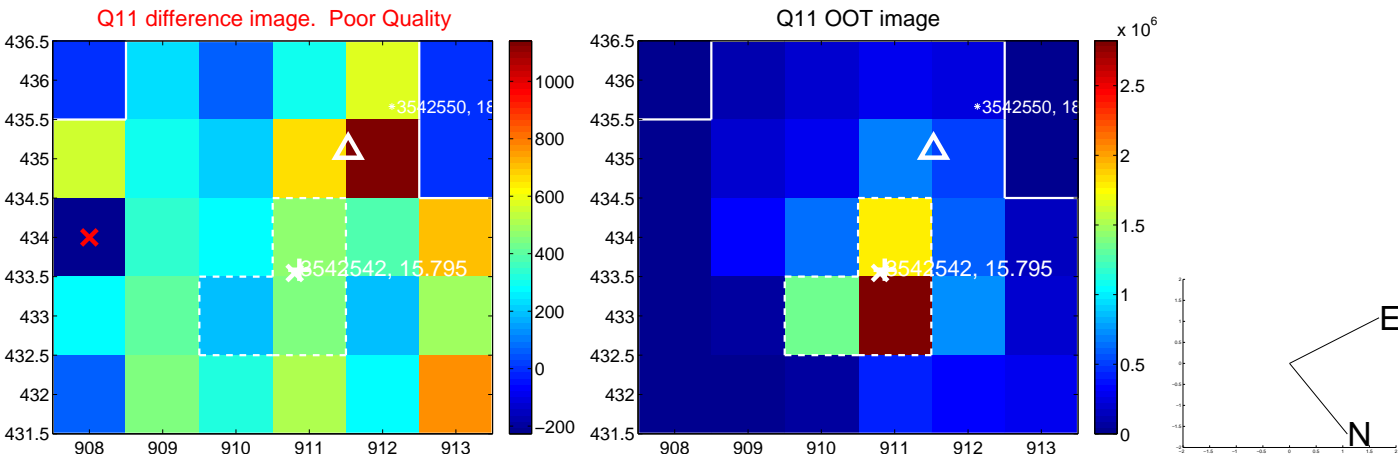
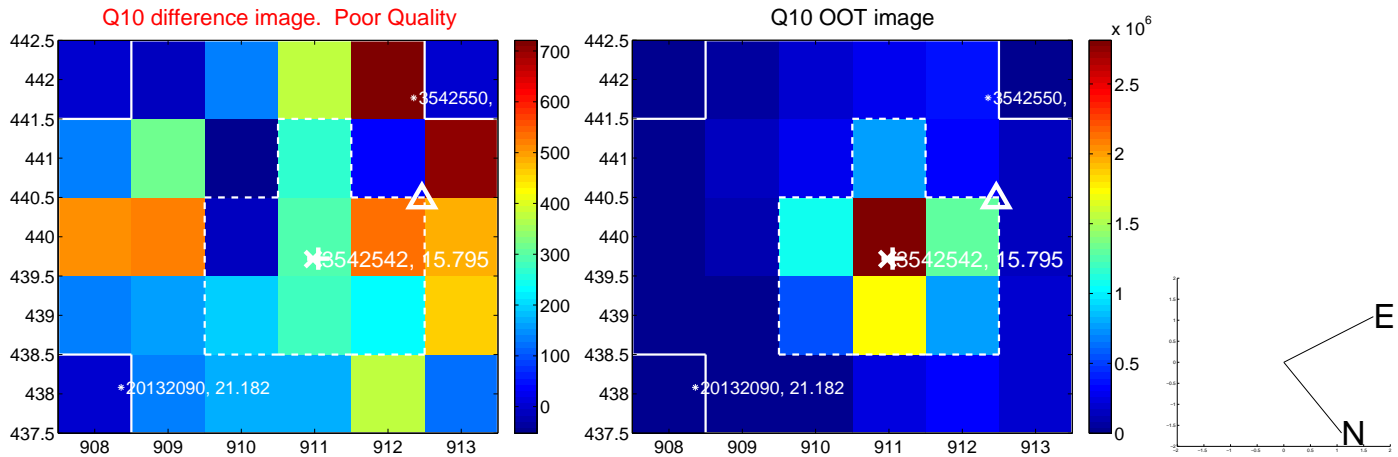
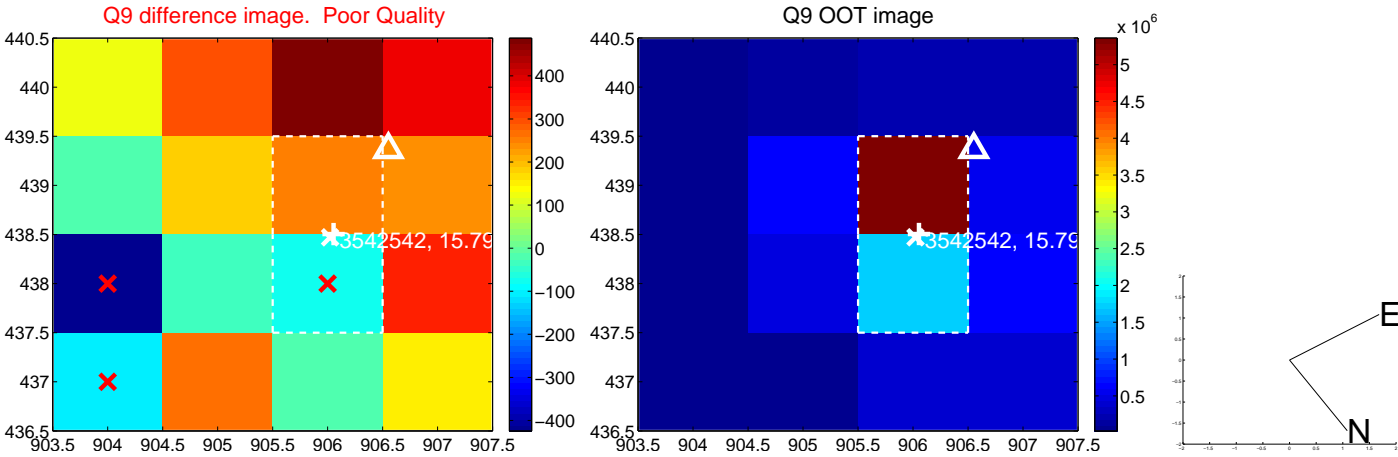
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



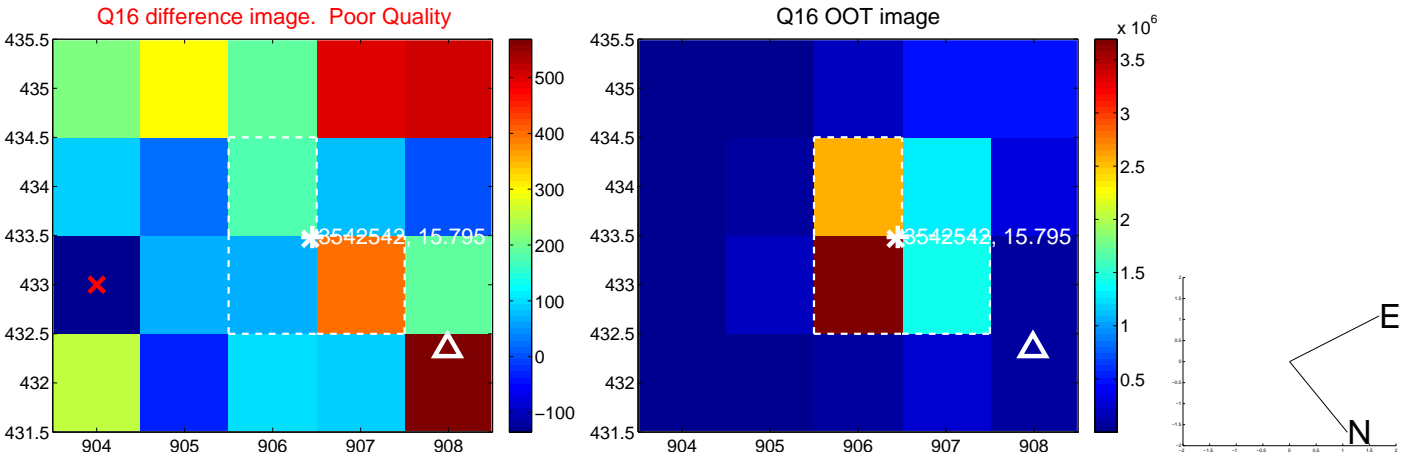
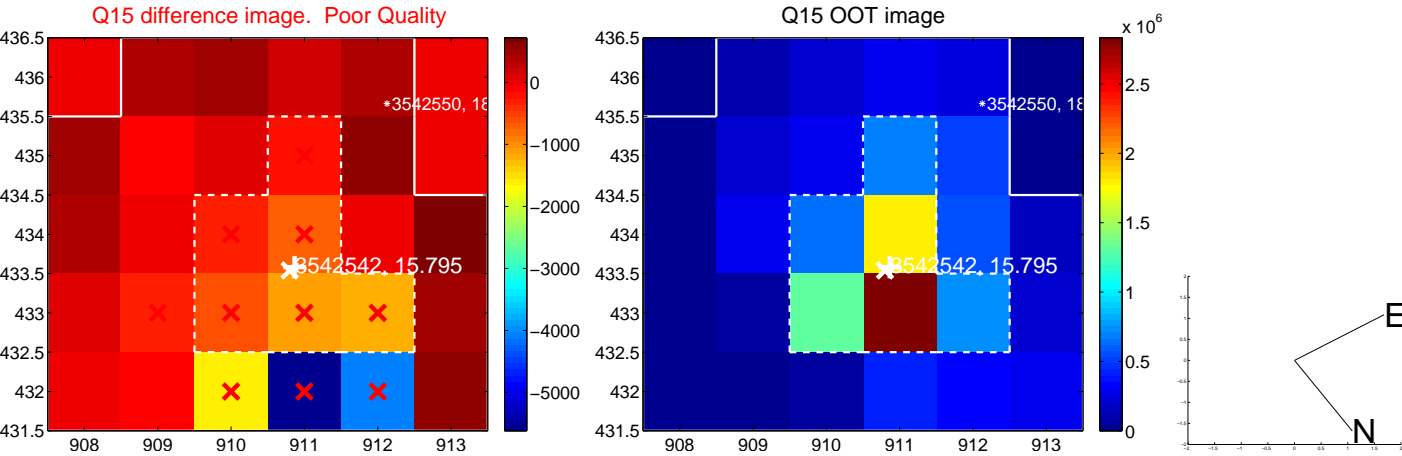
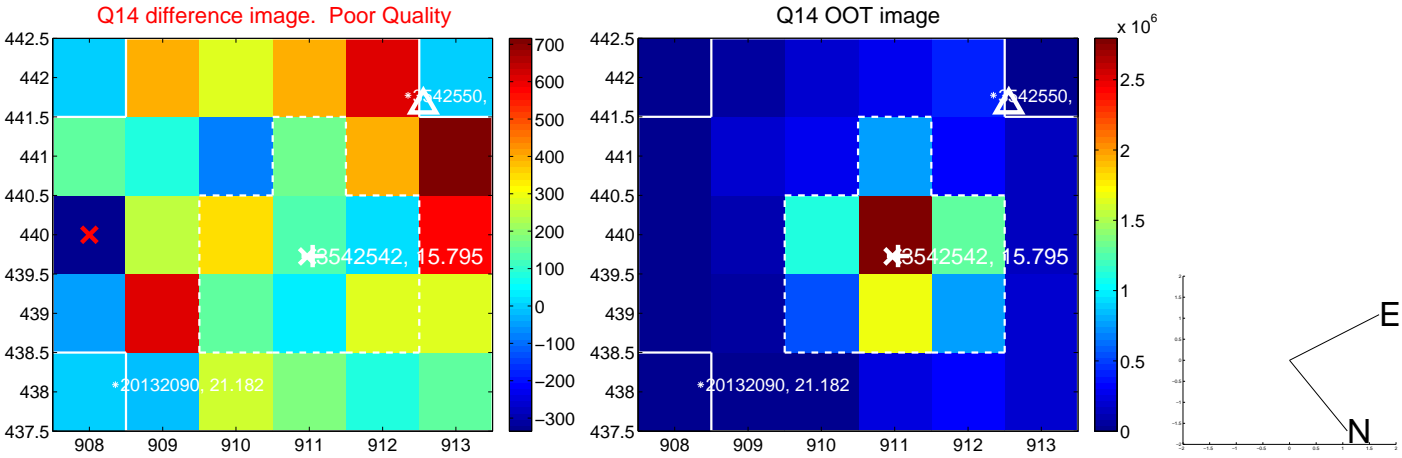
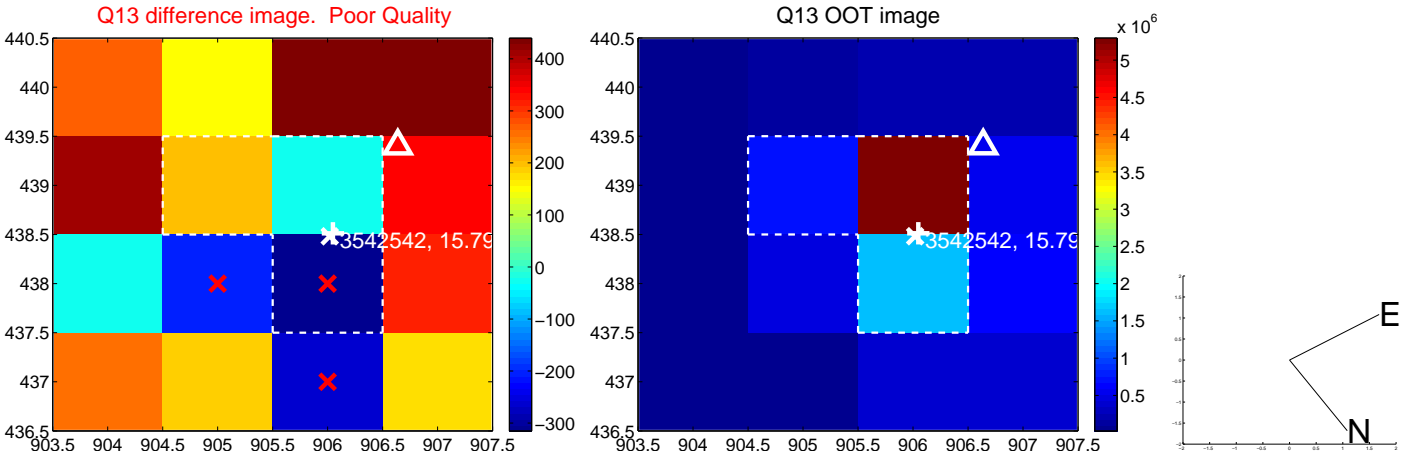
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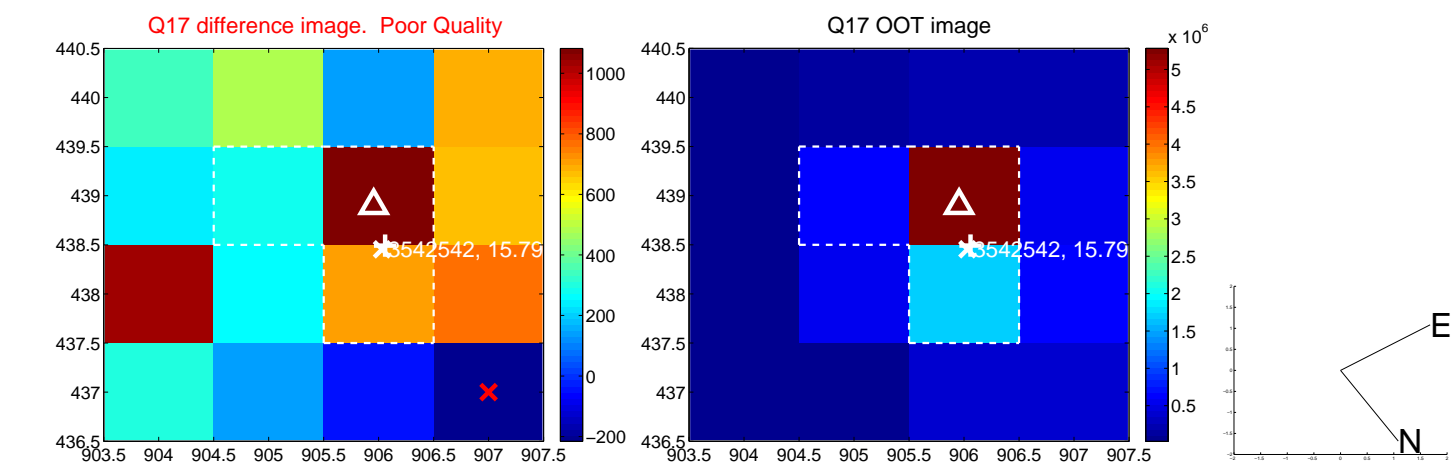
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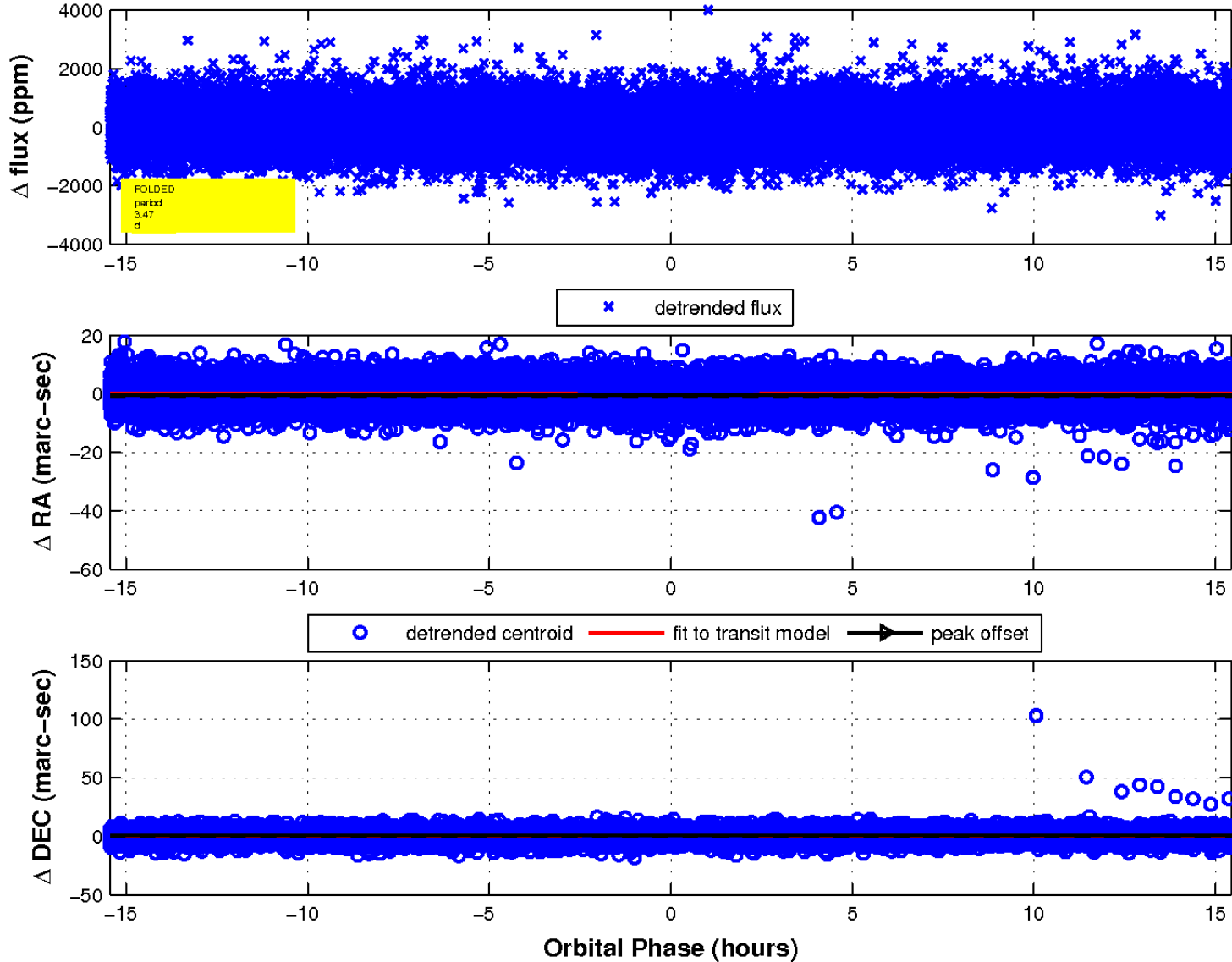
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

