

KIC 007700590

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})
007700590-01	OBS	3750.01	1.507106	132.089590	18936.3	4.785	1763.0	1216.1	0.88	5884	21.13	1451.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007700590-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—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 007700590-01

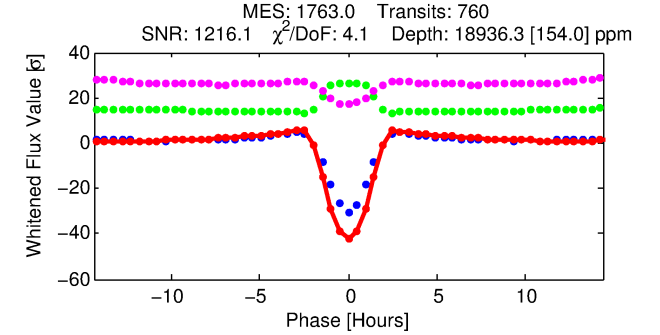
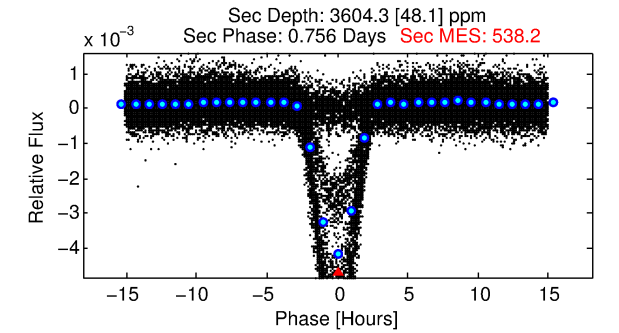
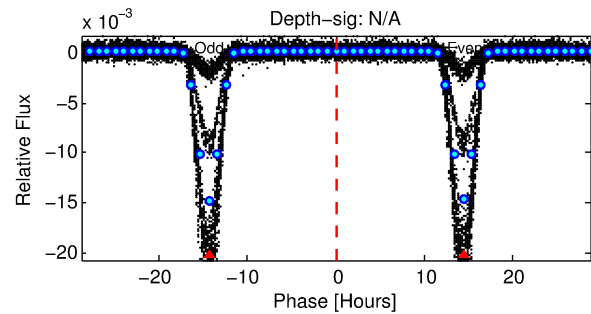
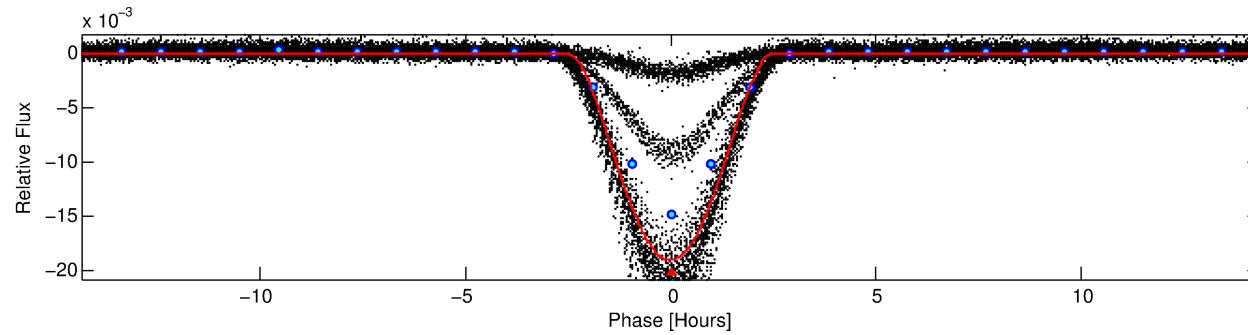
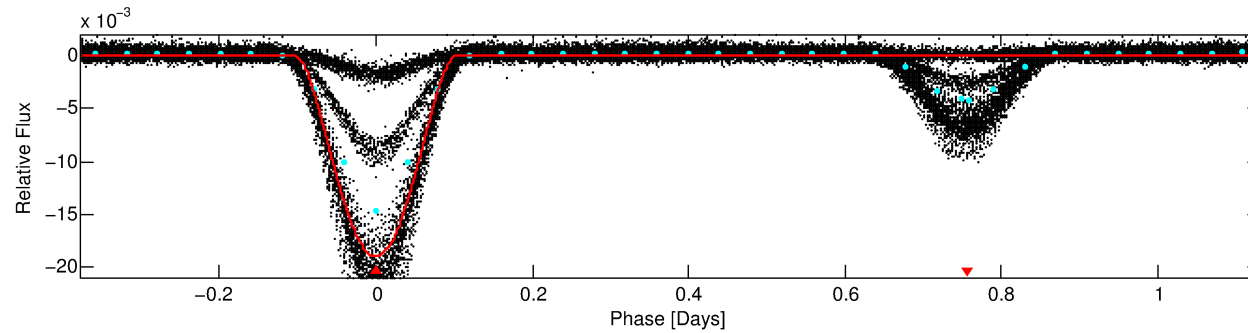
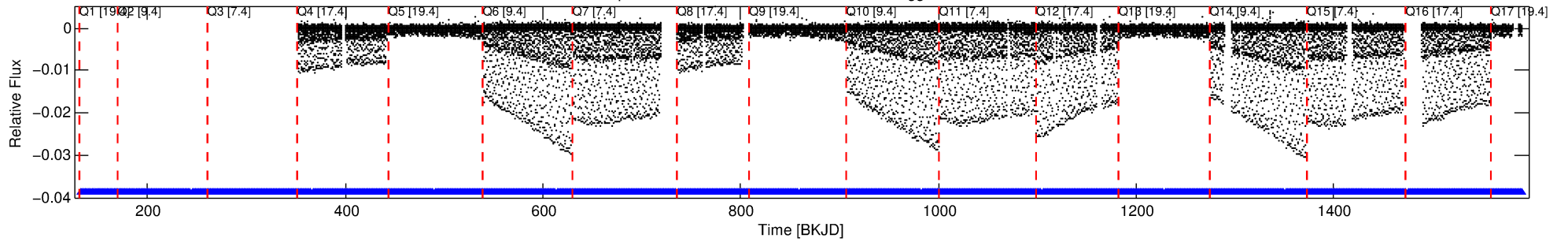
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007700590-01	7700590	6908.01	7700578	1:1	9.2	-1	-3	14.15	14.85	26.44	Direct-PRF	0	0.64	0.61

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.

DV One-Page Summary

KIC: 7700590 Candidate: 1 of 1 Period: 1.507 d
KOI: K03750 Corr: No Ephemeris Match

Kp: 14.85 R*: 0.88 Rs Teff: 5884.0 K Logg: 4.45 Fe/H: -0.640



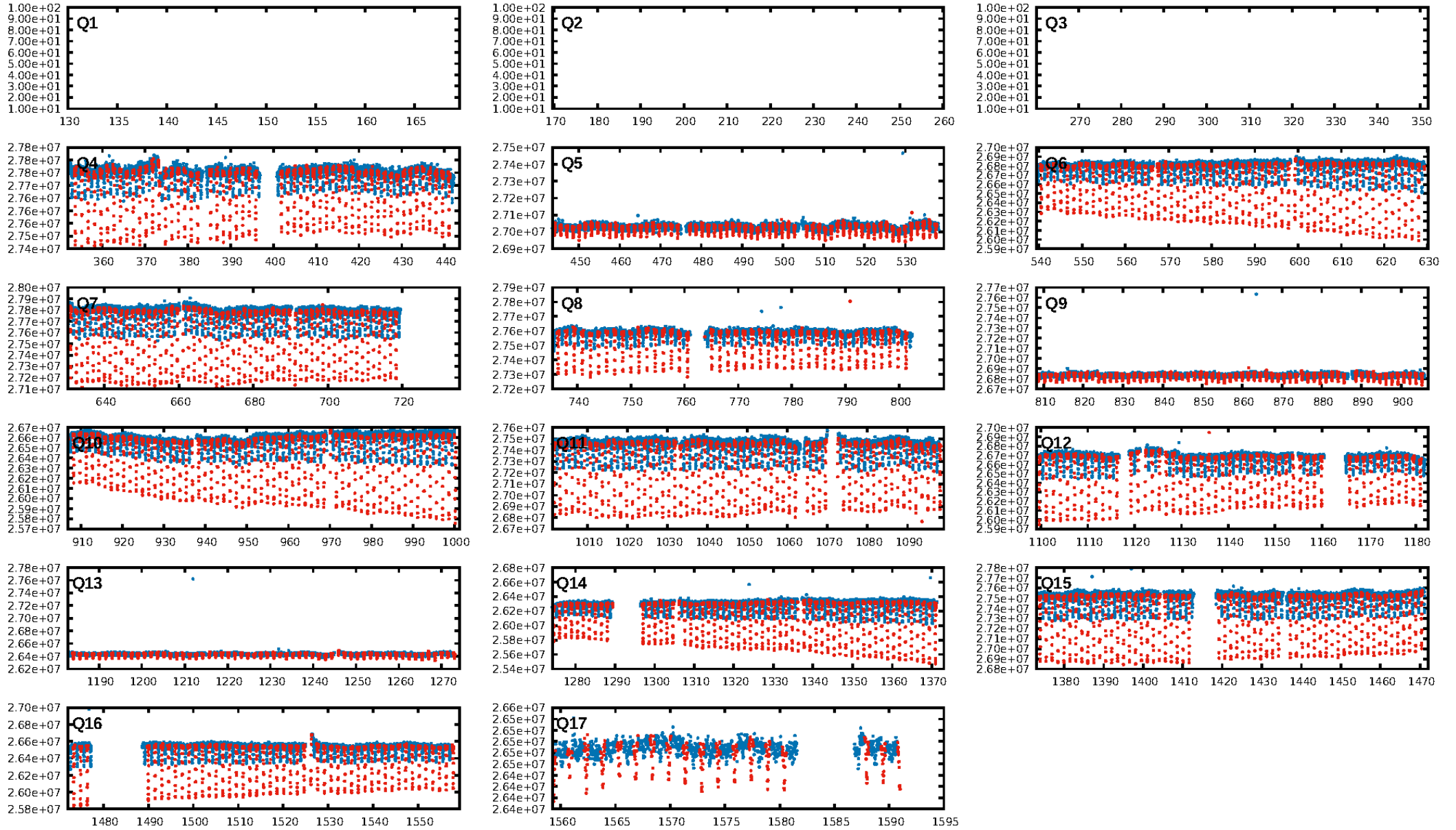
DV Fit Results:

Period = 1.50711 [0.00000] d
Epoch = 132.0896 [0.0001] BKJD
Rp/R* = 0.2210 [0.0121]
a/R* = 2.00 [0.00]
b = 1.00 [0.02]
Seff = 1451.21 [496.82]
Teq = 1574 [135] K
Rp = 21.13 [5.45] Re
a = 0.0238 [0.0051] AU
Ag = 2.52 [0.84] [1.80σ]
Teffp = 3067 [132] K [7.90σ]

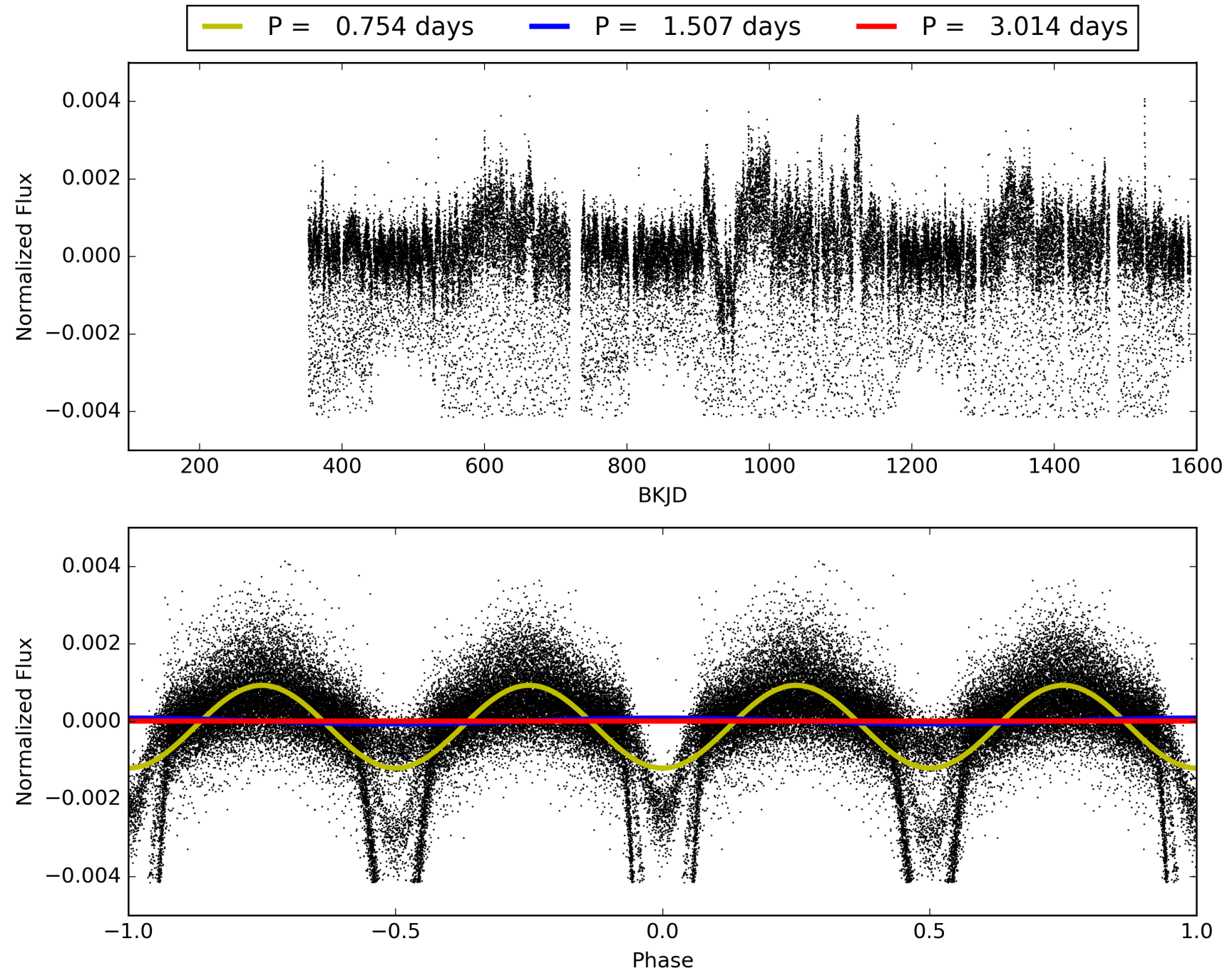
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [742/742]
GhostDiagnostic-chr: -0.158
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007700590-01, PDC Light Curves

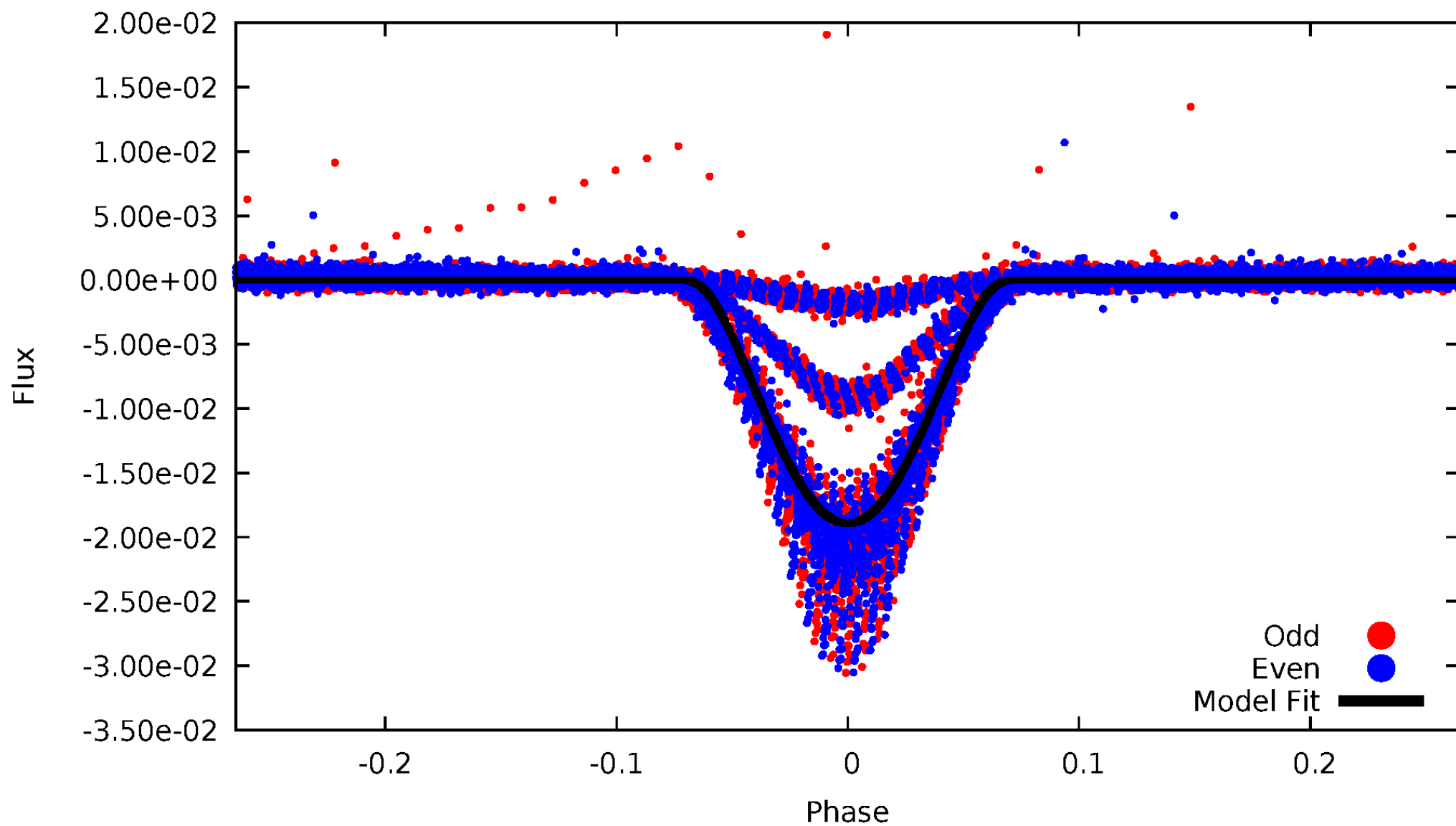


TCE 007700590-01



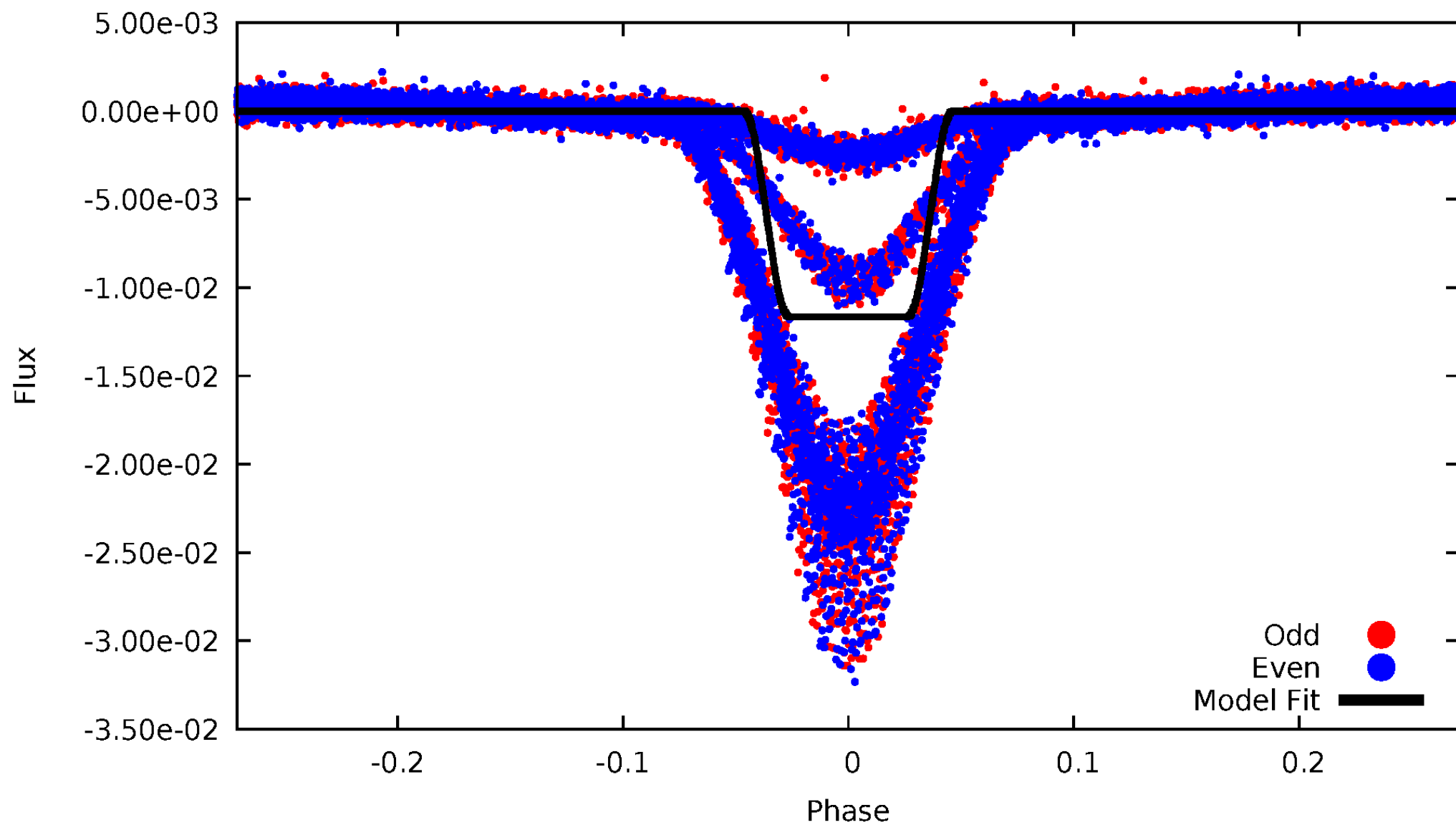
DV Odd/Even

TCE 007700590-01



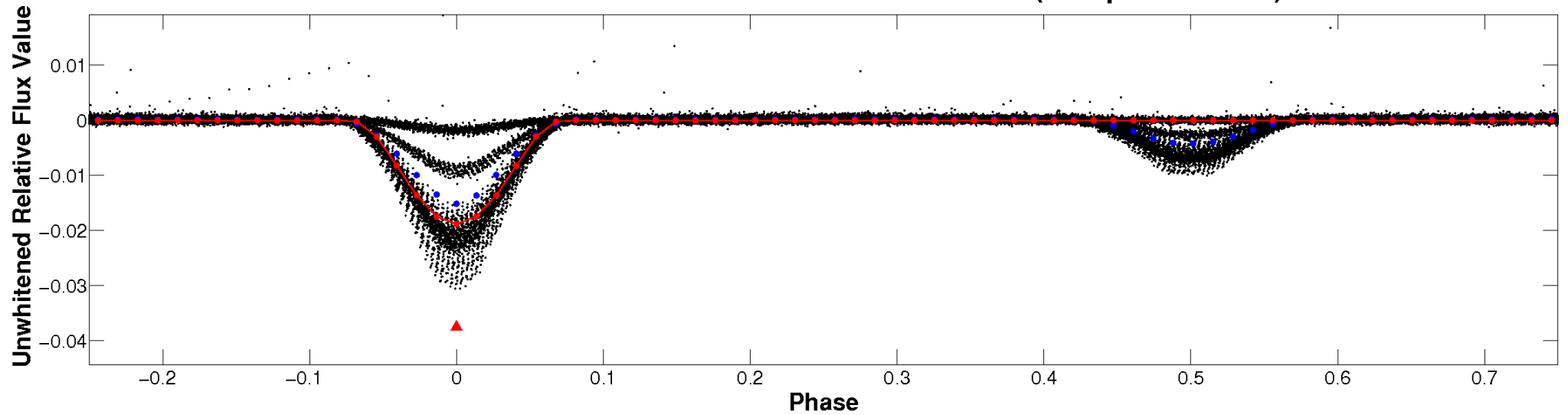
ALT Odd/Even

TCE 007700590-01

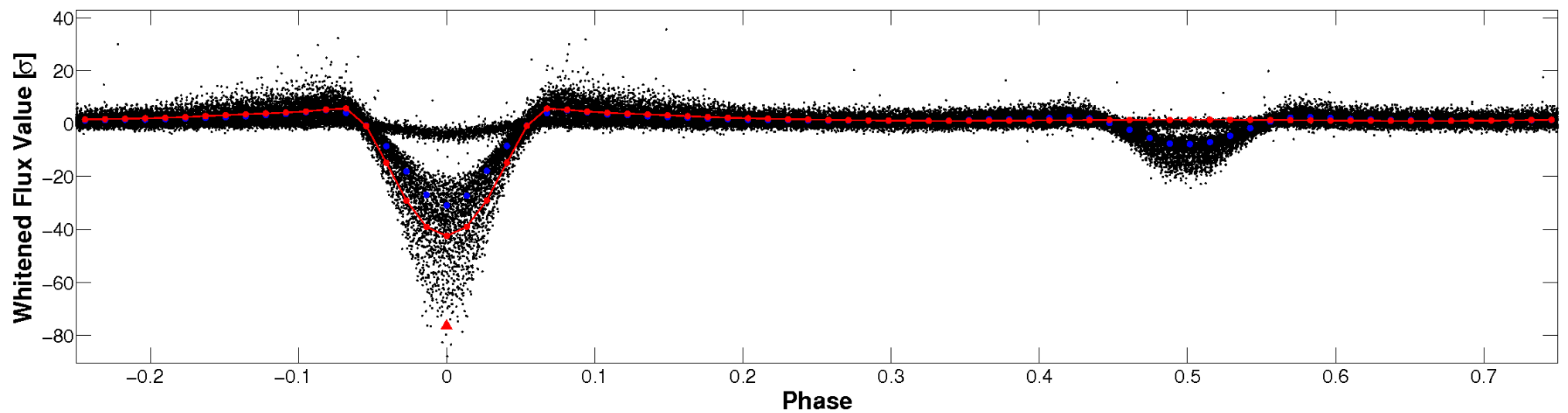


Non-Whitened Vs. Whitened Light Curve

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

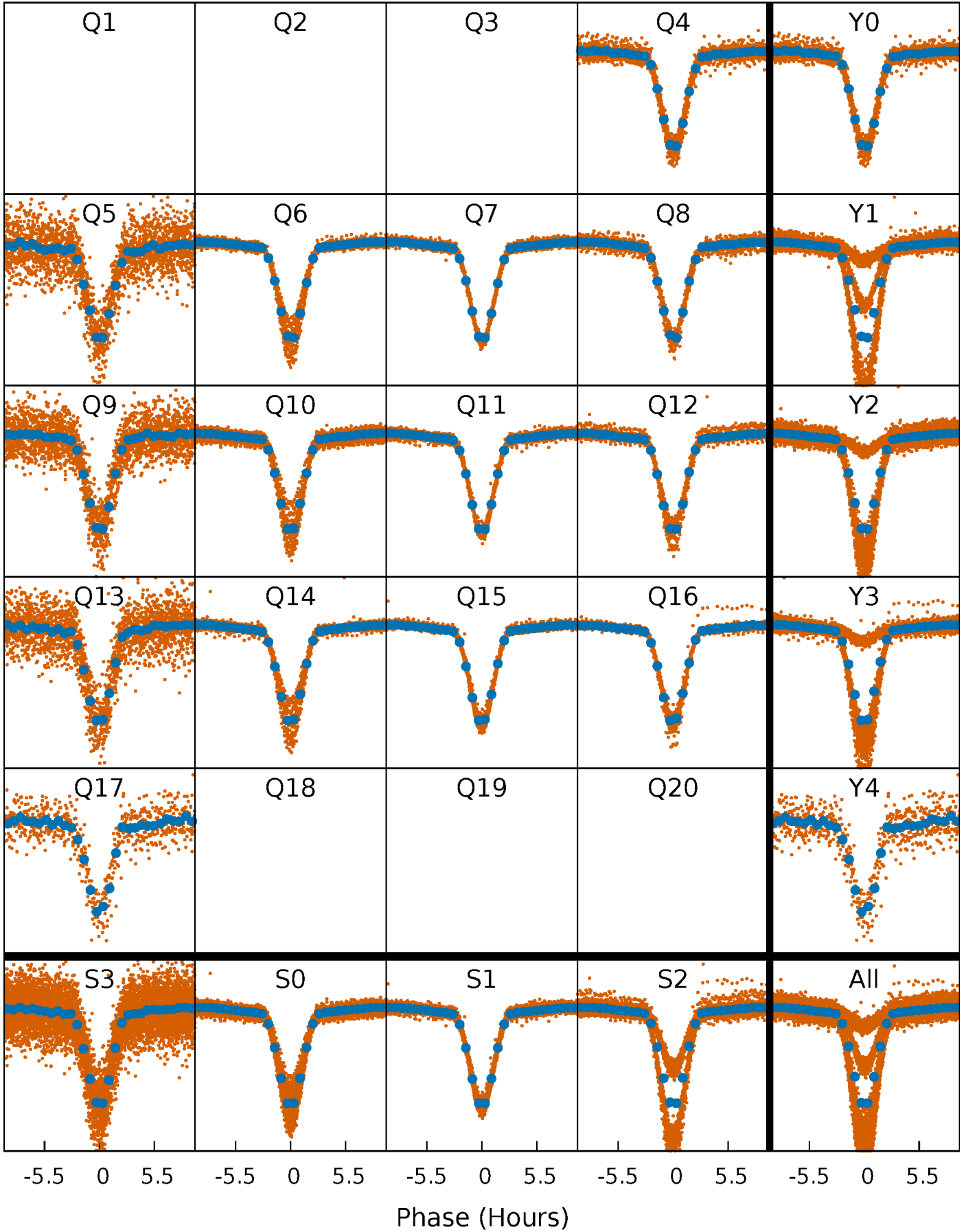


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



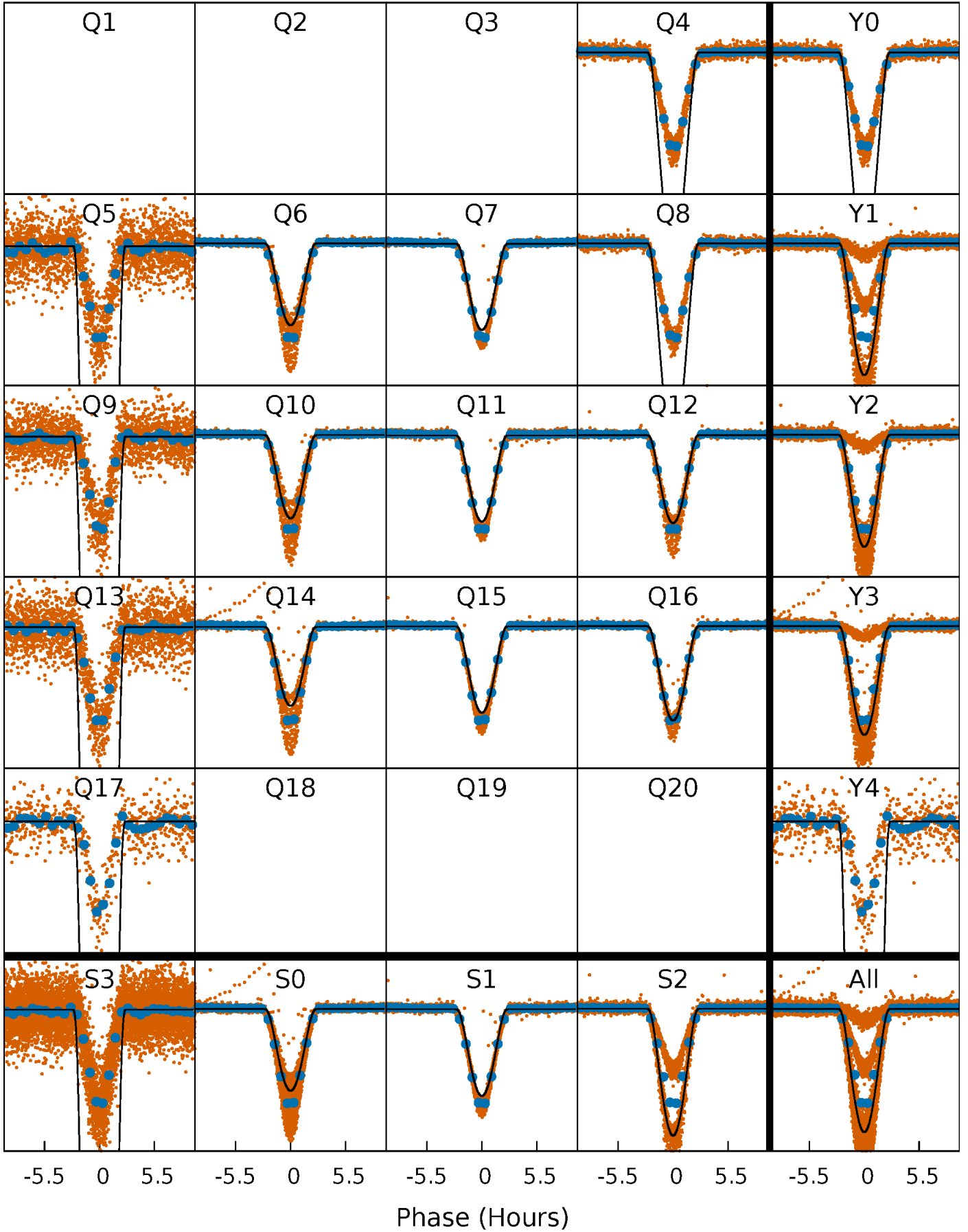
PDC Quarter-Phased Transit Curves

TCE 007700590-01 P= 1.507106 Days $T_0=132.089590$ (BKJD)



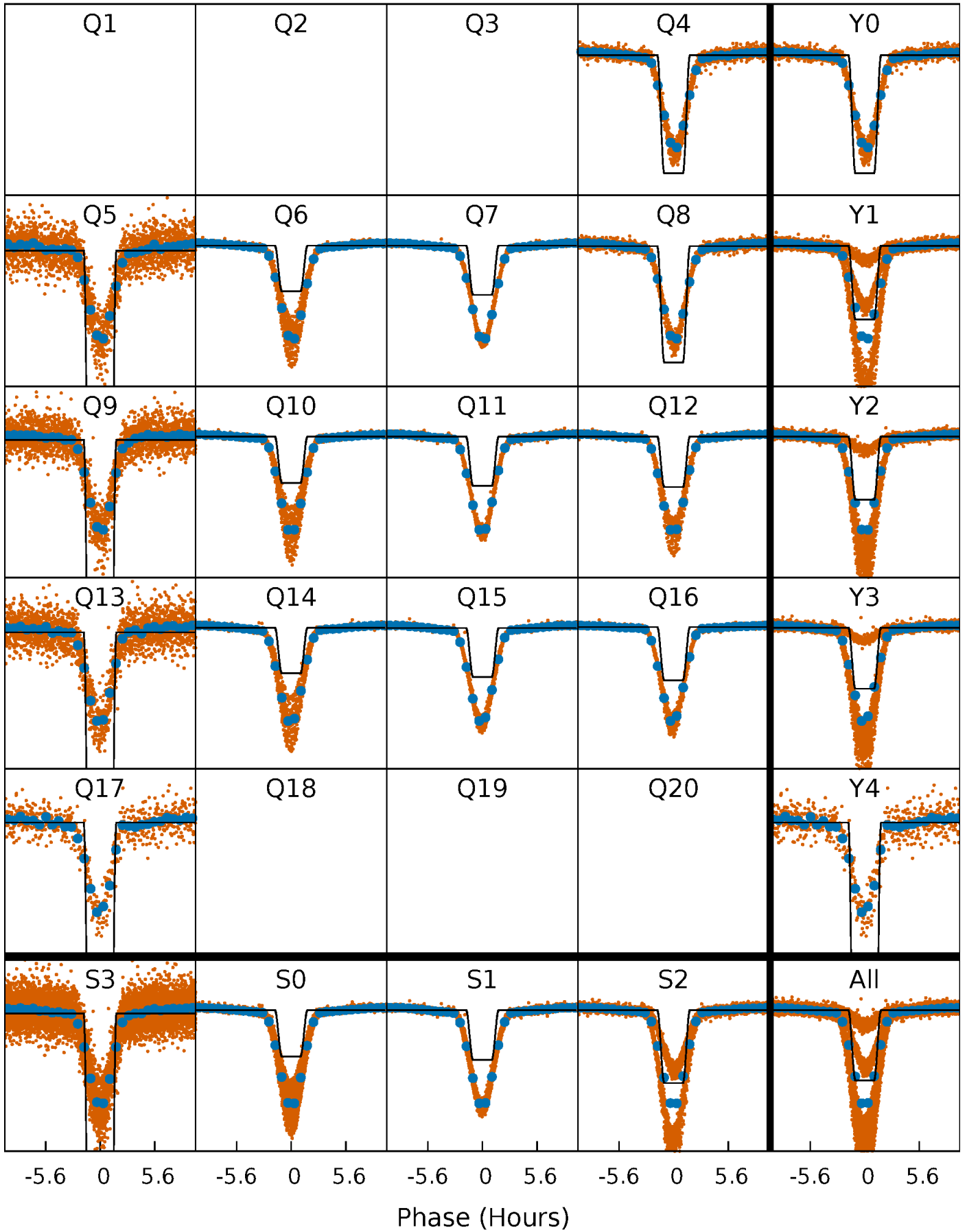
DV Quarter-Phased Transit Curves

TCE 007700590-01 P= 1.507106 Days $T_0=132.089590$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

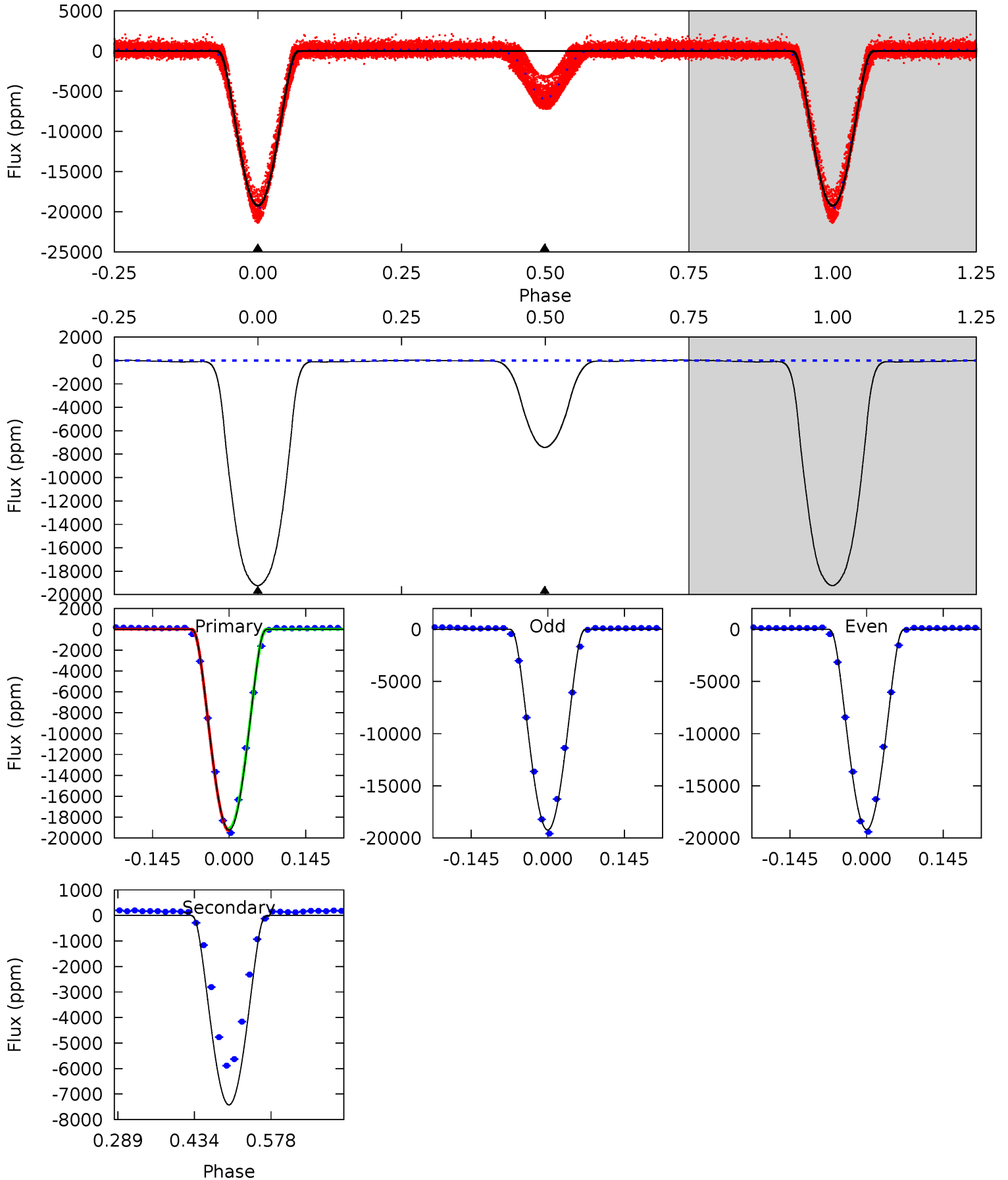
TCE 007700590-01 P= 1.507114 Days $T_0=132.085379$ (BKJD)



DV Model-Shift Uniqueness Test

007700590-01, P = 1.507106 Days, E = 132.089590 Days

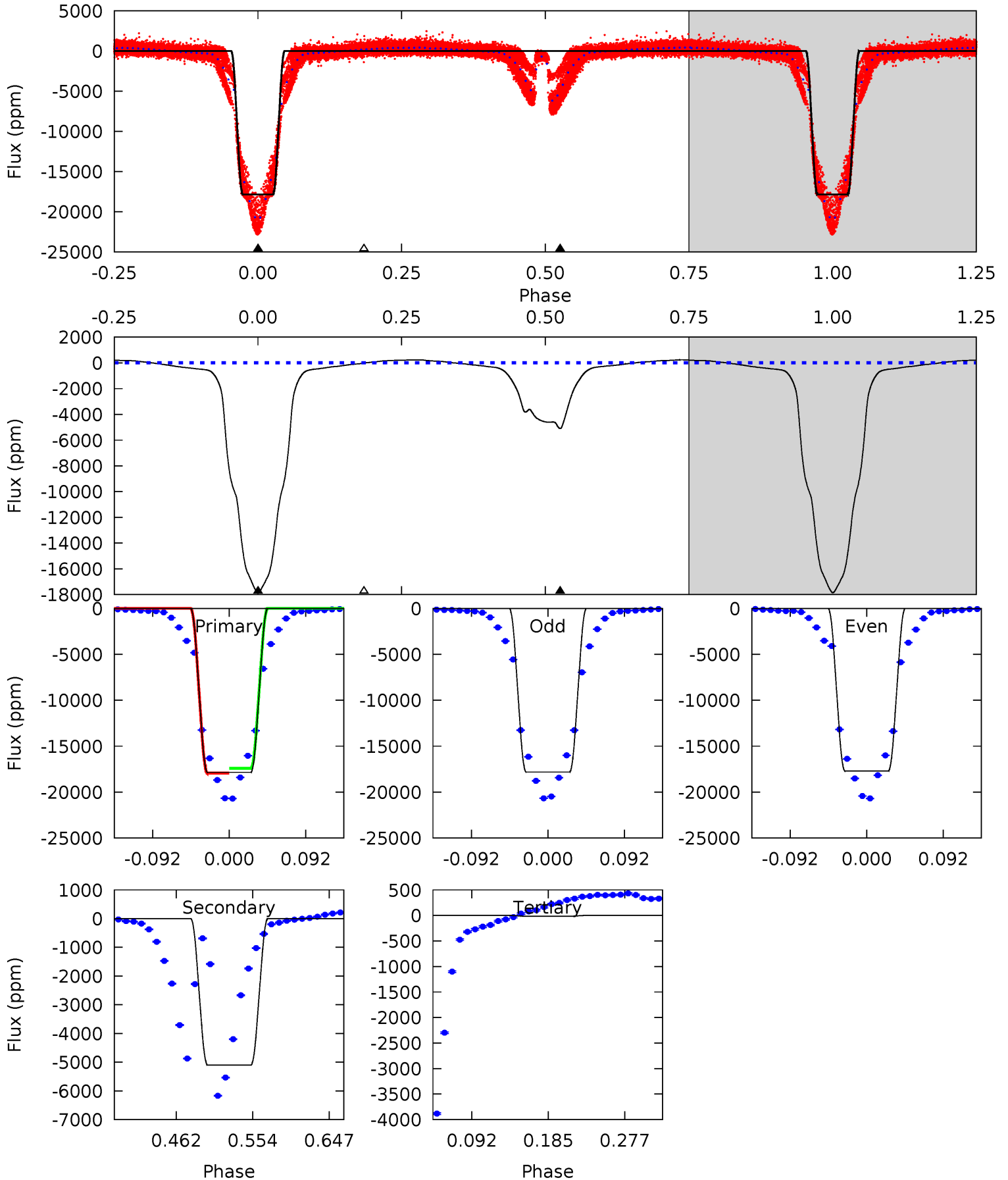
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3010	1161	0	0	4.49	1.46	6.46	3010	3010	1161	1161	3.97	0.77	0.00	0



Alt Model-Shift Uniqueness Test

007700590-01, P = 1.507114 Days, E = 132.085379 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1563	446.6	1.28	0	4.58	1.68	20.4	1562	1563	445.3	446.6	5.08	0.77	0.01	22.2



Stellar Parameters For KIC 007700590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5884^{+195}_{-195}	$4.453^{+0.130}_{-0.174}$	$-0.640^{+0.300}_{-0.300}$	$0.876^{+0.221}_{-0.136}$	$0.794^{+0.103}_{-0.055}$	$1.664^{+0.874}_{-0.787}$
	+3%/-3%	+3%/-4%	+47%/-47%	+25%/-16%	+13%/-7%	+52%/-47%
Source	KIC0	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 007700590-01 / KOI 3750.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7424 ± 6	$21.47^{+2.95}_{-2.39}$	2207^{+158}_{-124}	3955^{+124}_{-124}	$5.079^{+1.340}_{-1.086}$
Alt.	-5100 ± 11	$10.45^{+1.93}_{-1.55}$	2215^{+165}_{-136}	4875^{+309}_{-239}	15^{+5}_{-4}

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 $A_{obs} \gg 1.0$

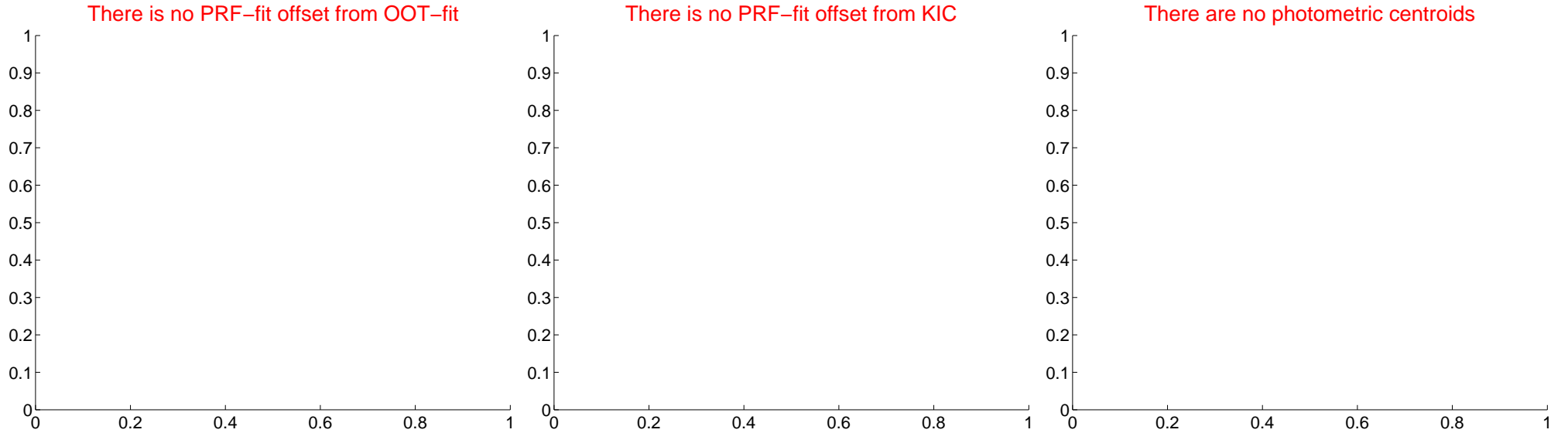
DV Centroid Data

Supplemental centroid analysis for 007700590-01. Kepler magnitude: 14.85. Transit SNR 1216.08

There are 0 quarters with good PRF difference image offsets

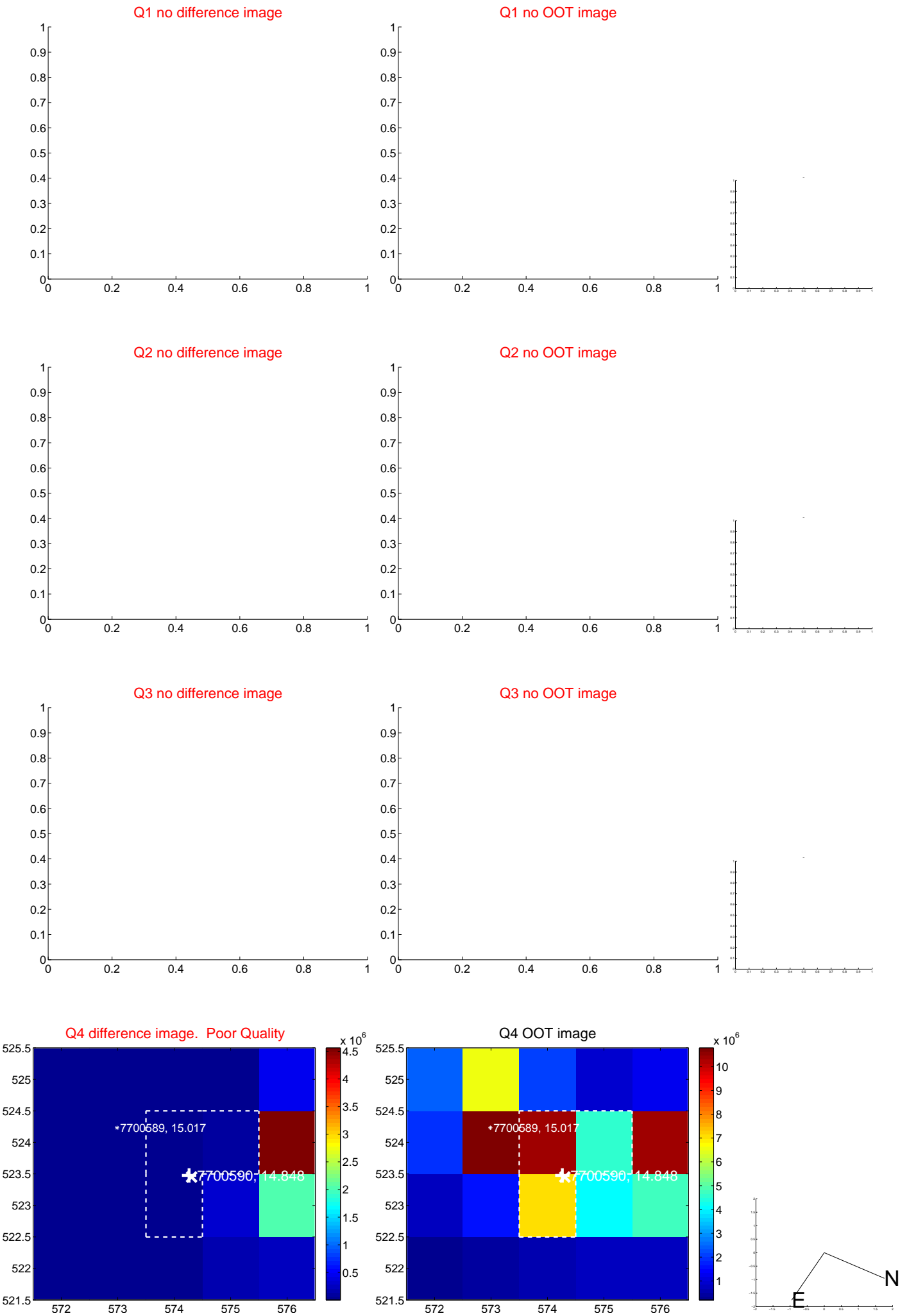
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

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

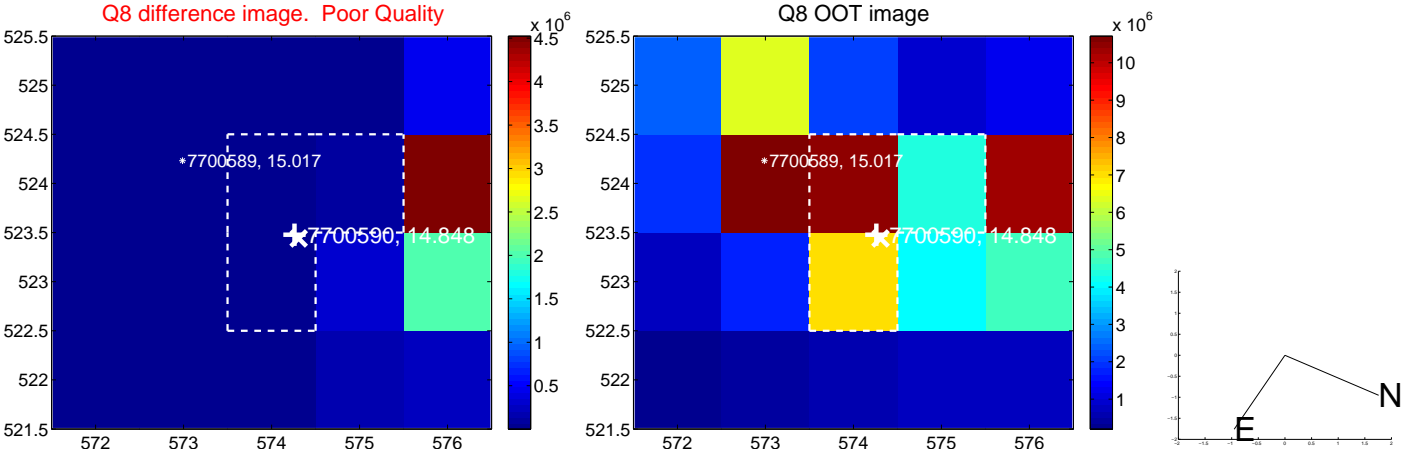
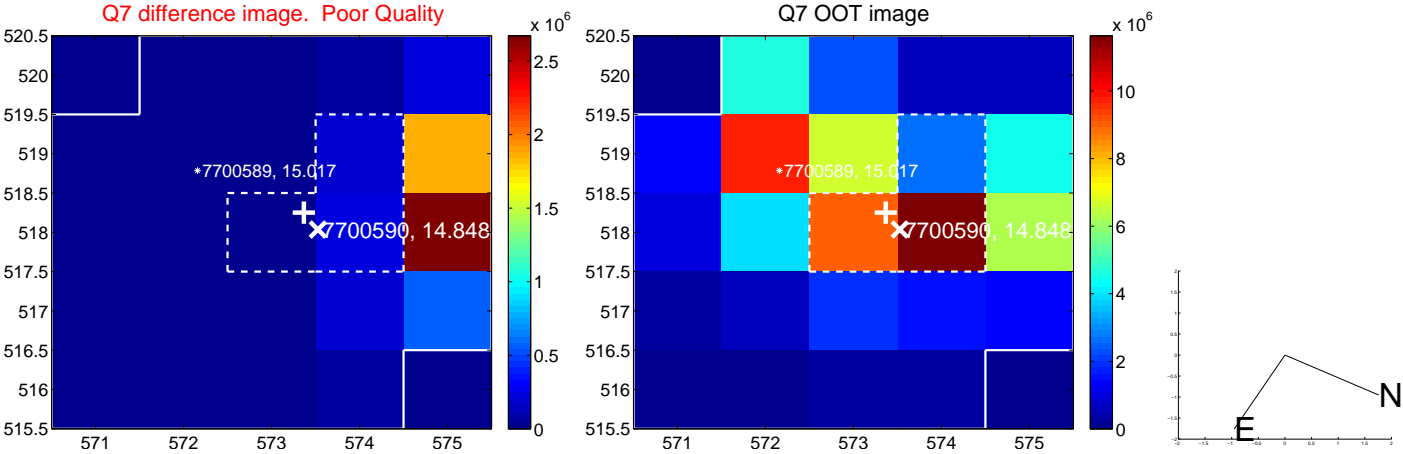
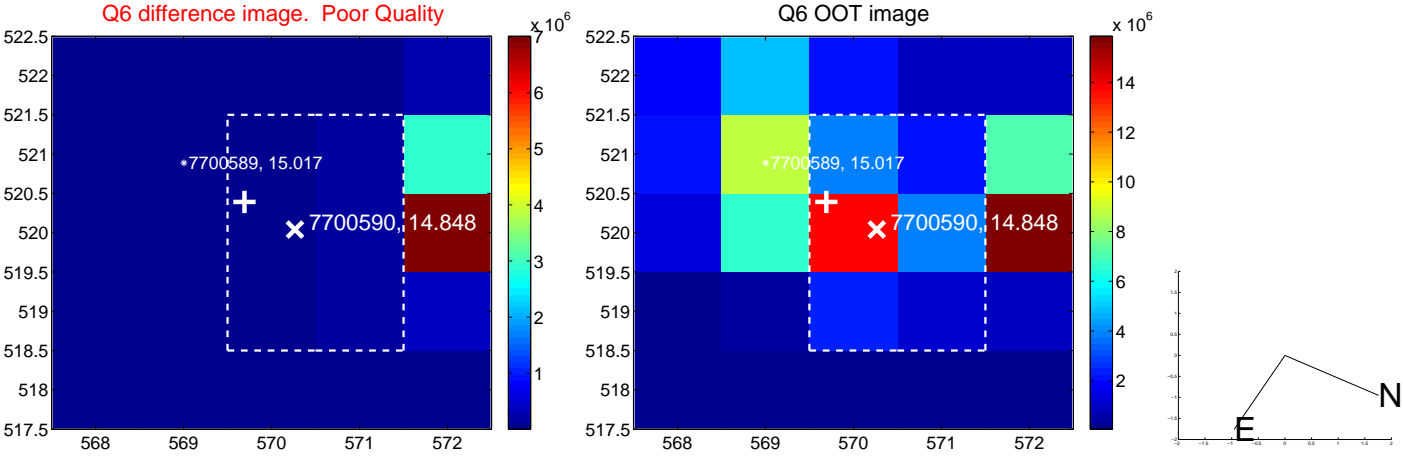
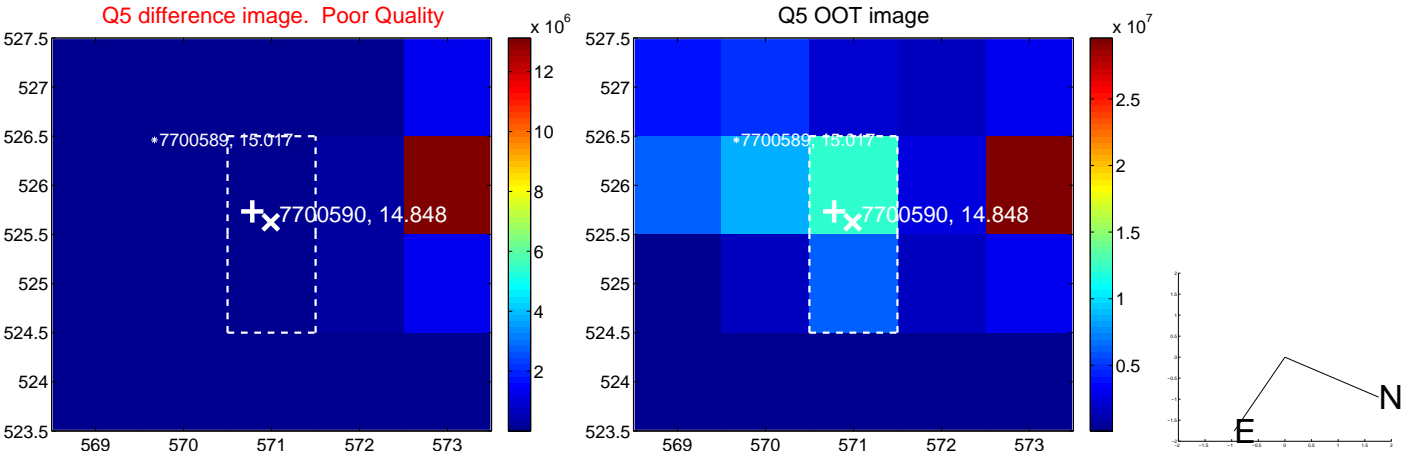


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

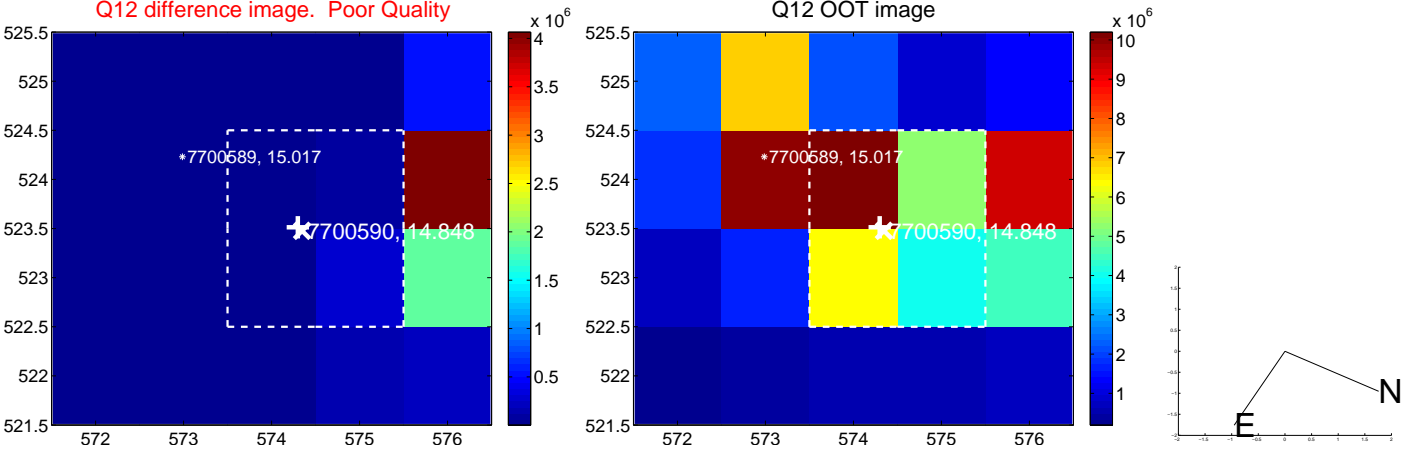
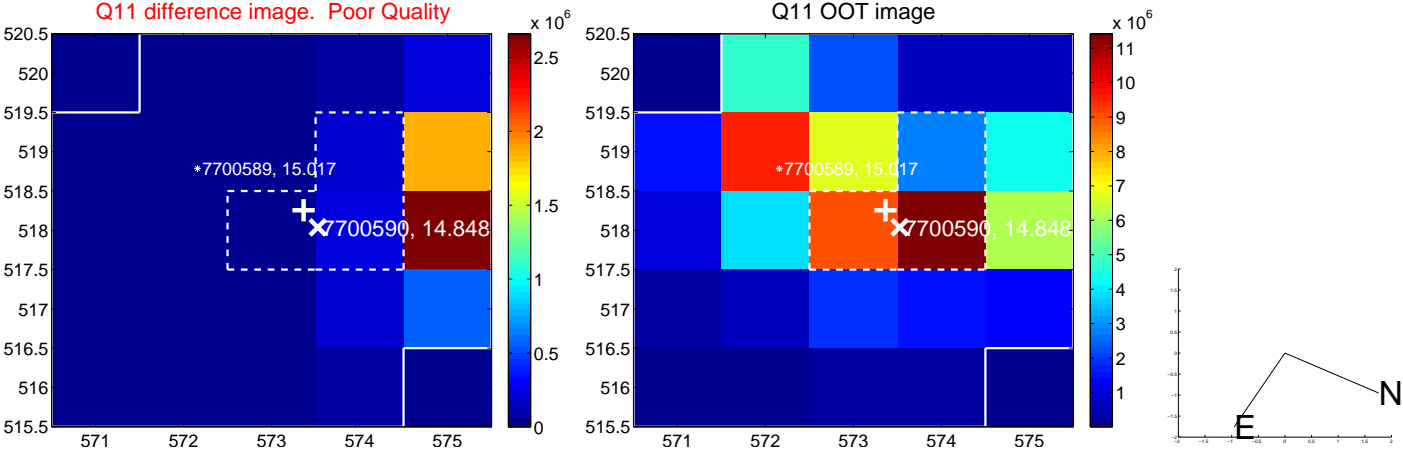
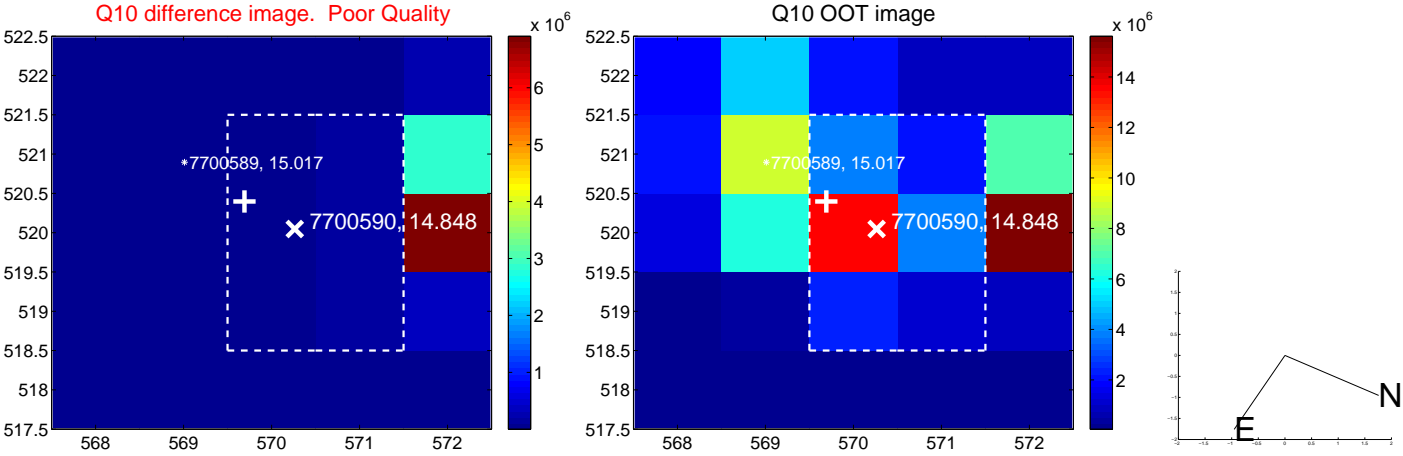
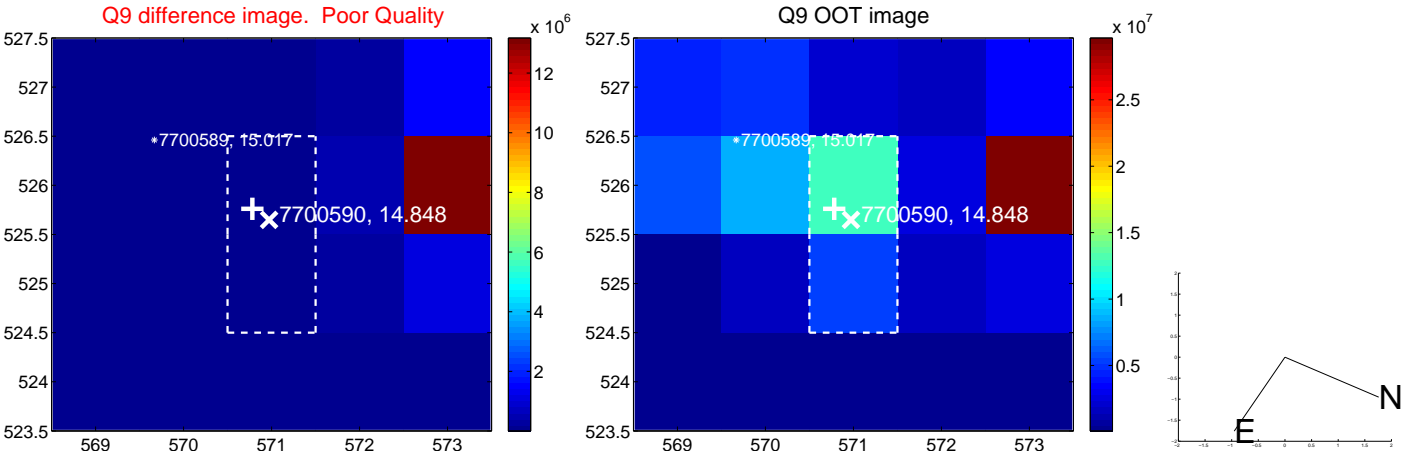
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



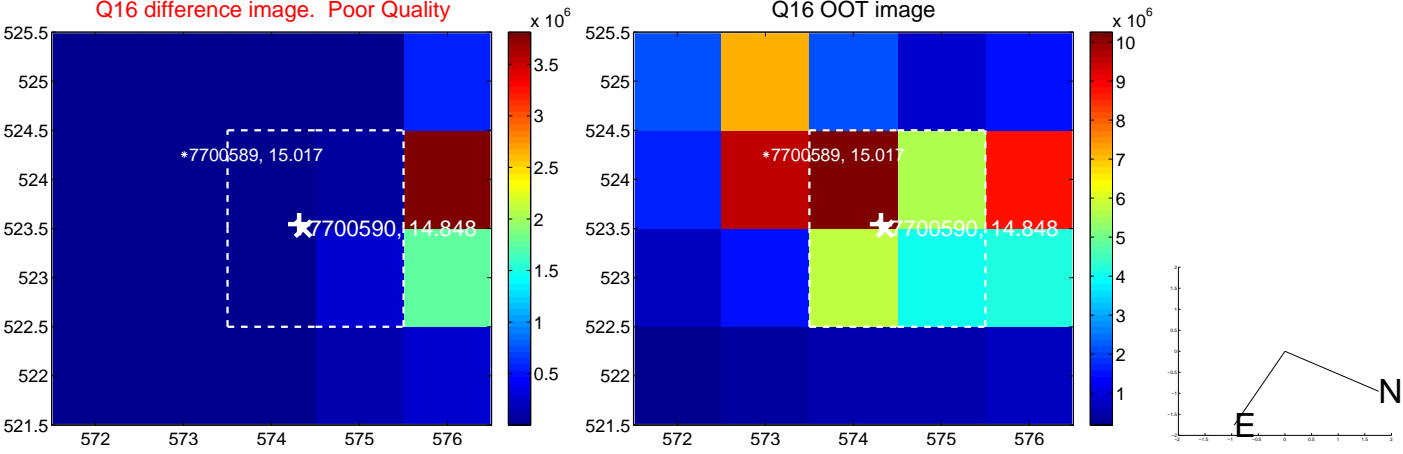
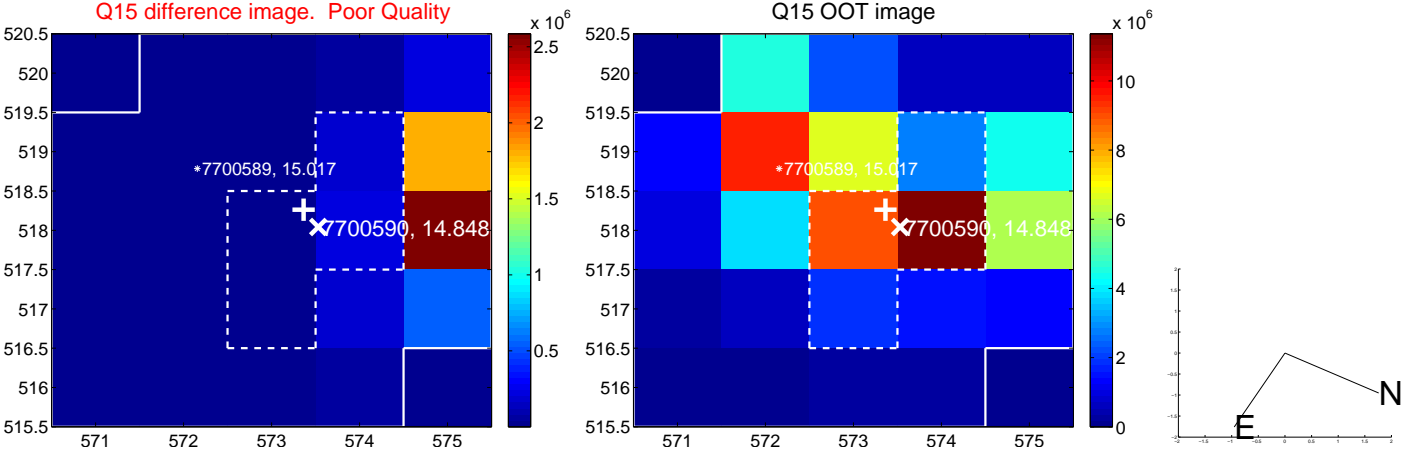
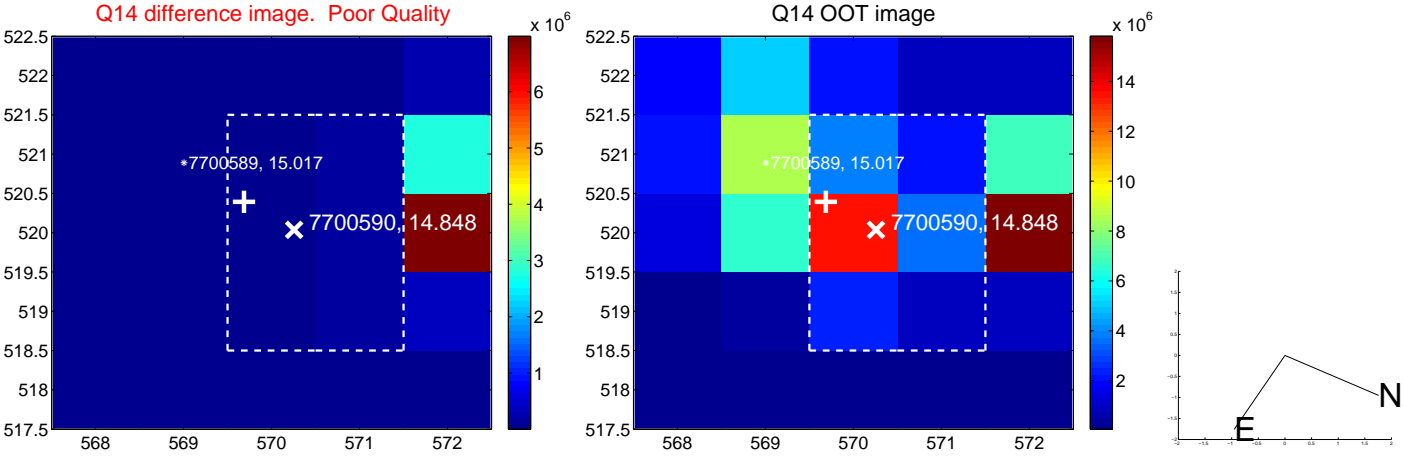
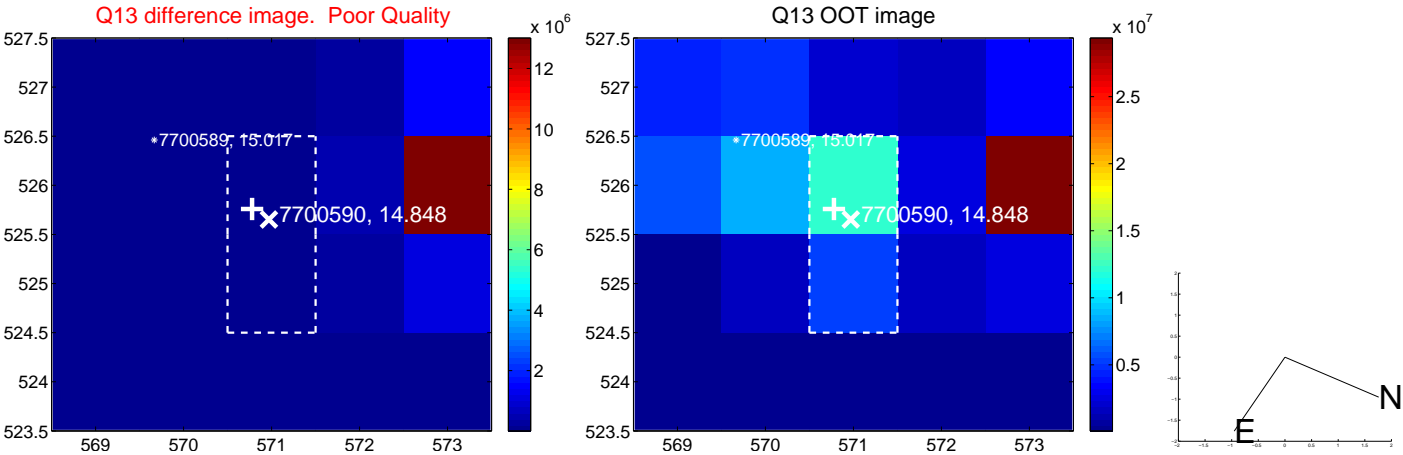
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



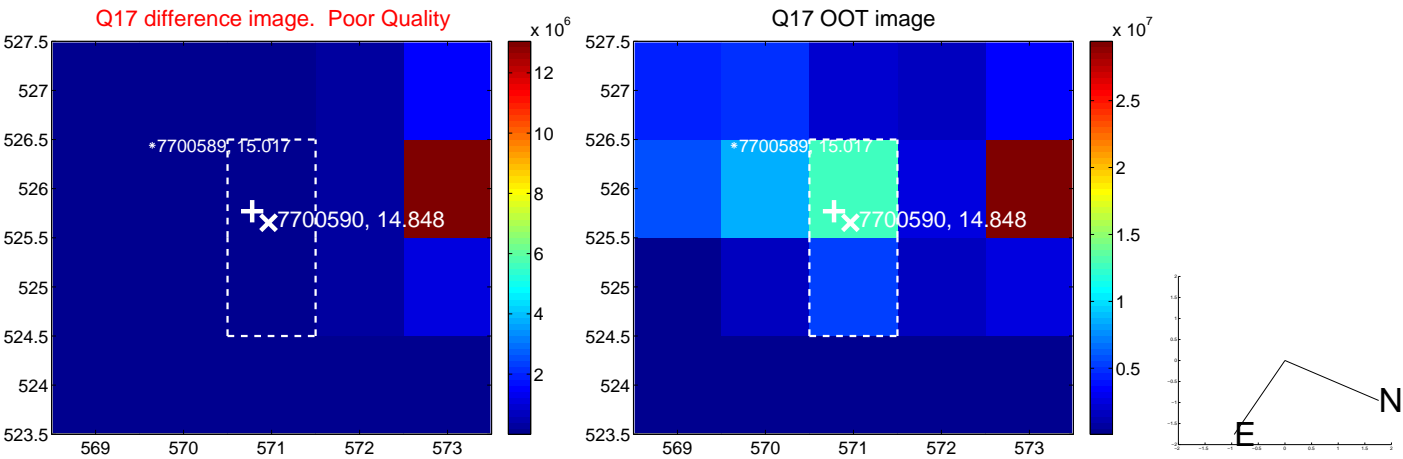
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

