

KIC 010785538

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})
010785538-01	OBS	1313.01	0.522458	131.660403	86.2	0.619	10.7	26.4	0.95	5991	1.07	6717.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010785538-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

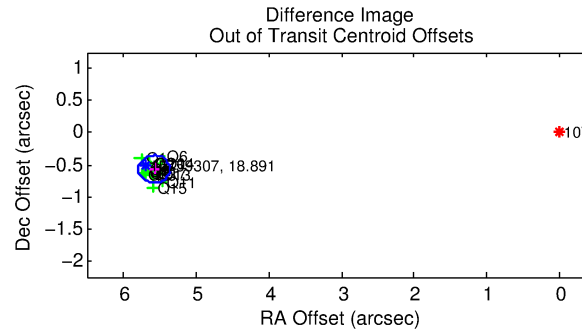
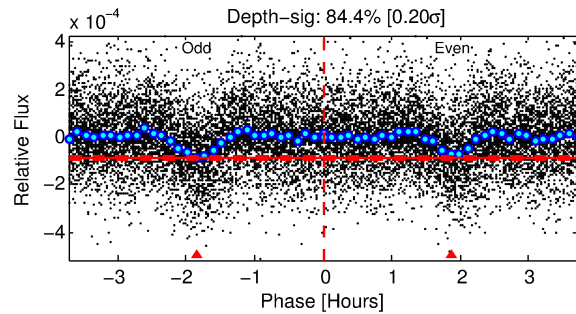
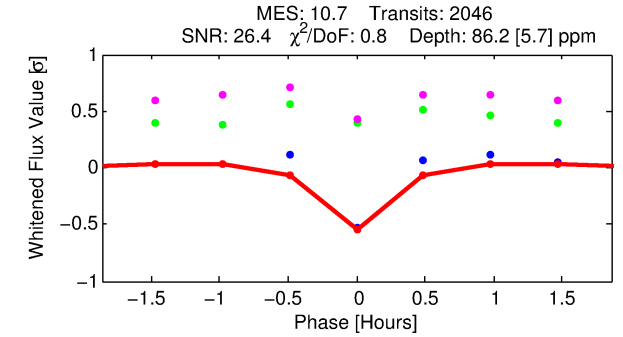
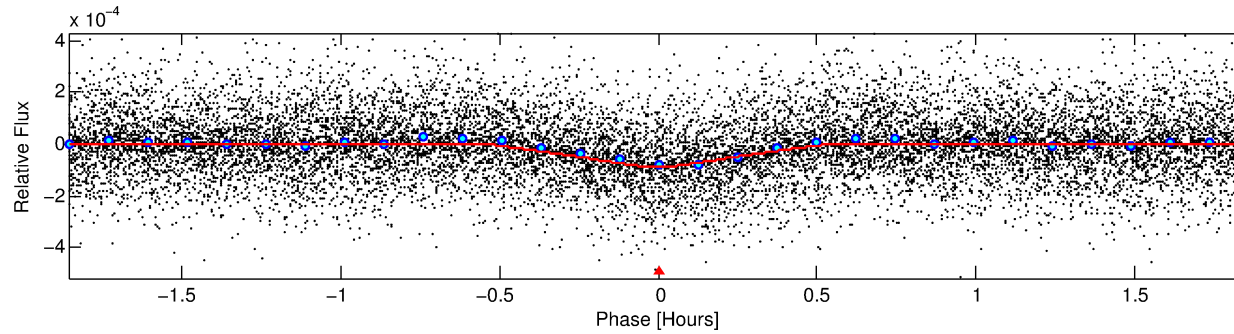
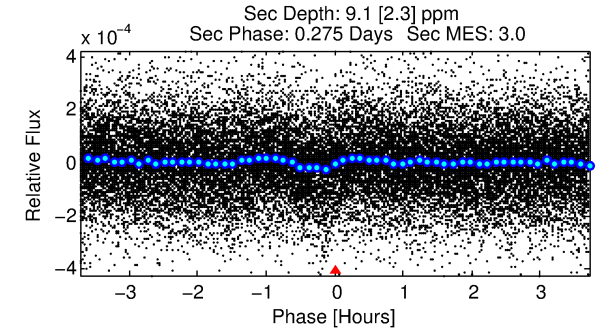
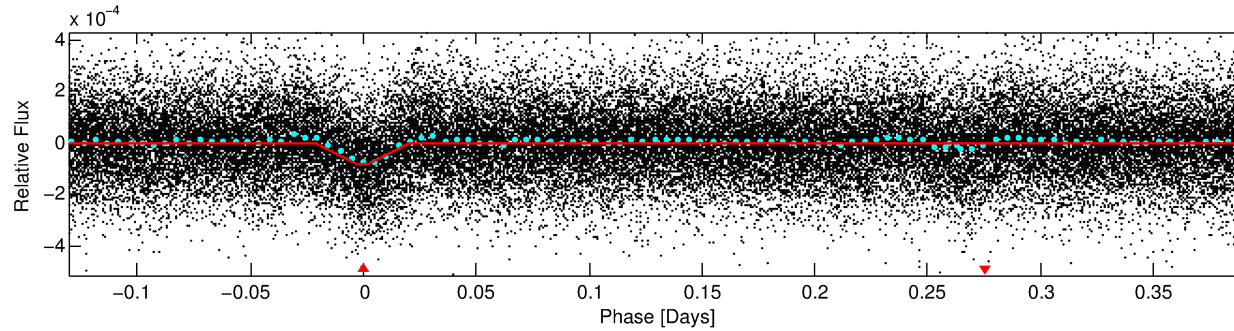
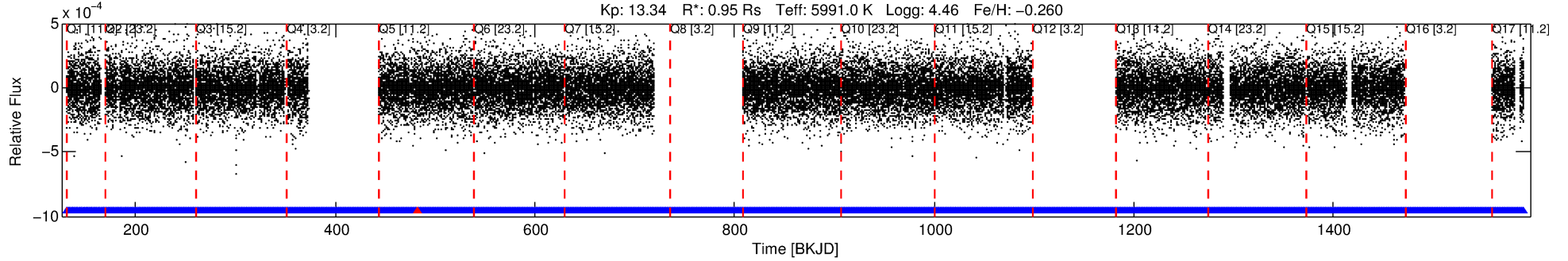
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010785538-01

No Significant Match Found

DV One-Page Summary

KIC: 10785538 Candidate: 1 of 1 Period: 0.522 d
KOI: K01313.01 Corr: 0.907



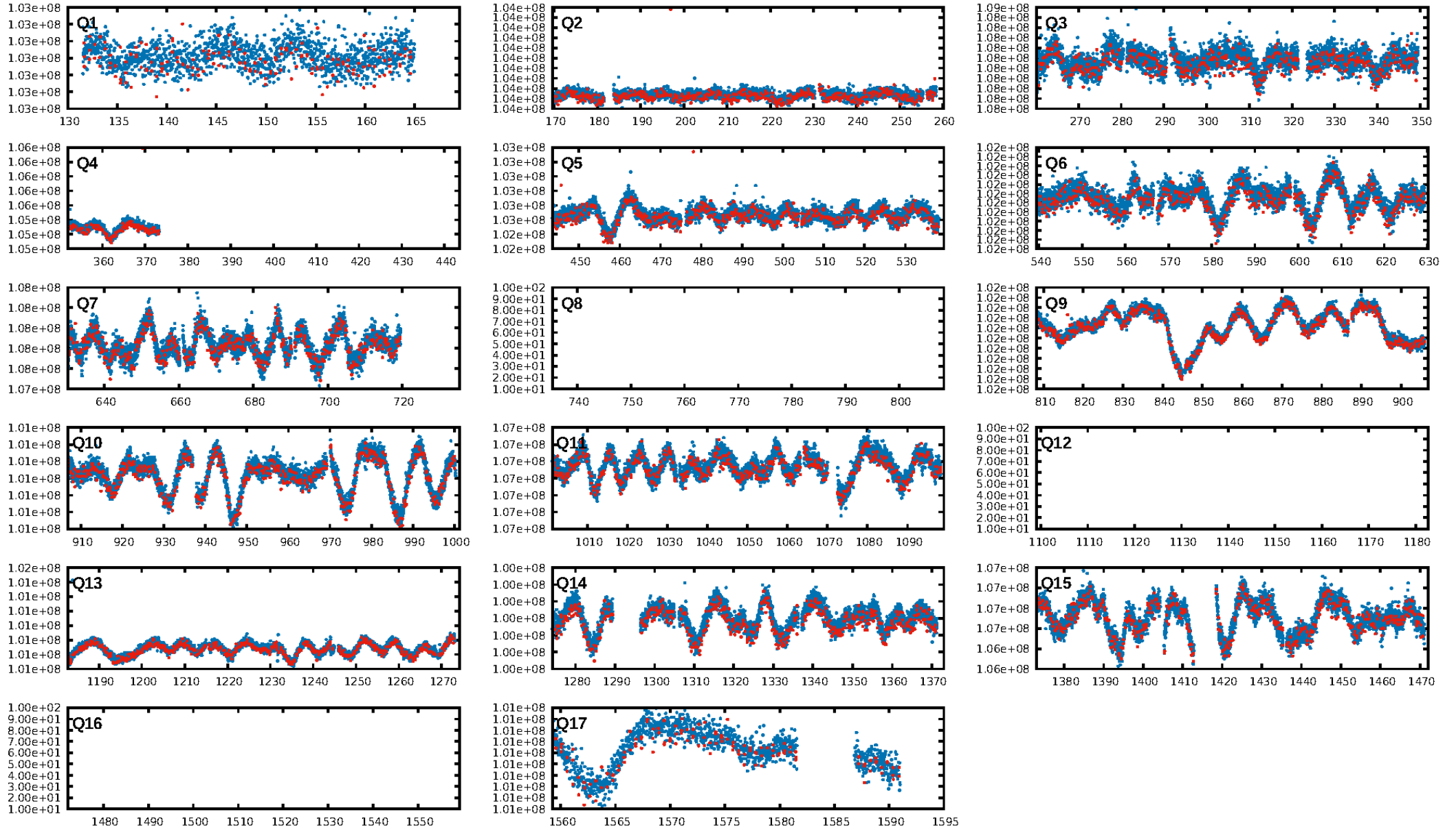
DV Fit Results:

Period = 0.52246 [0.00000] d
Epoch = 131.6604 [0.0005] BKJD
Rp/R* = 0.0103 [0.0012]
a/R* = 3.10 [1.66]
b = 0.90 [0.13]
Seff = 6717.20 [2523.16]
Teq = 2308 [217] K
Rp = 1.07 [0.33] Re
a = 0.0125 [0.0030] AU
Ag = 0.68 [0.34] [-0.93σ]
Teffp = 3245 [297] K [2.55σ]

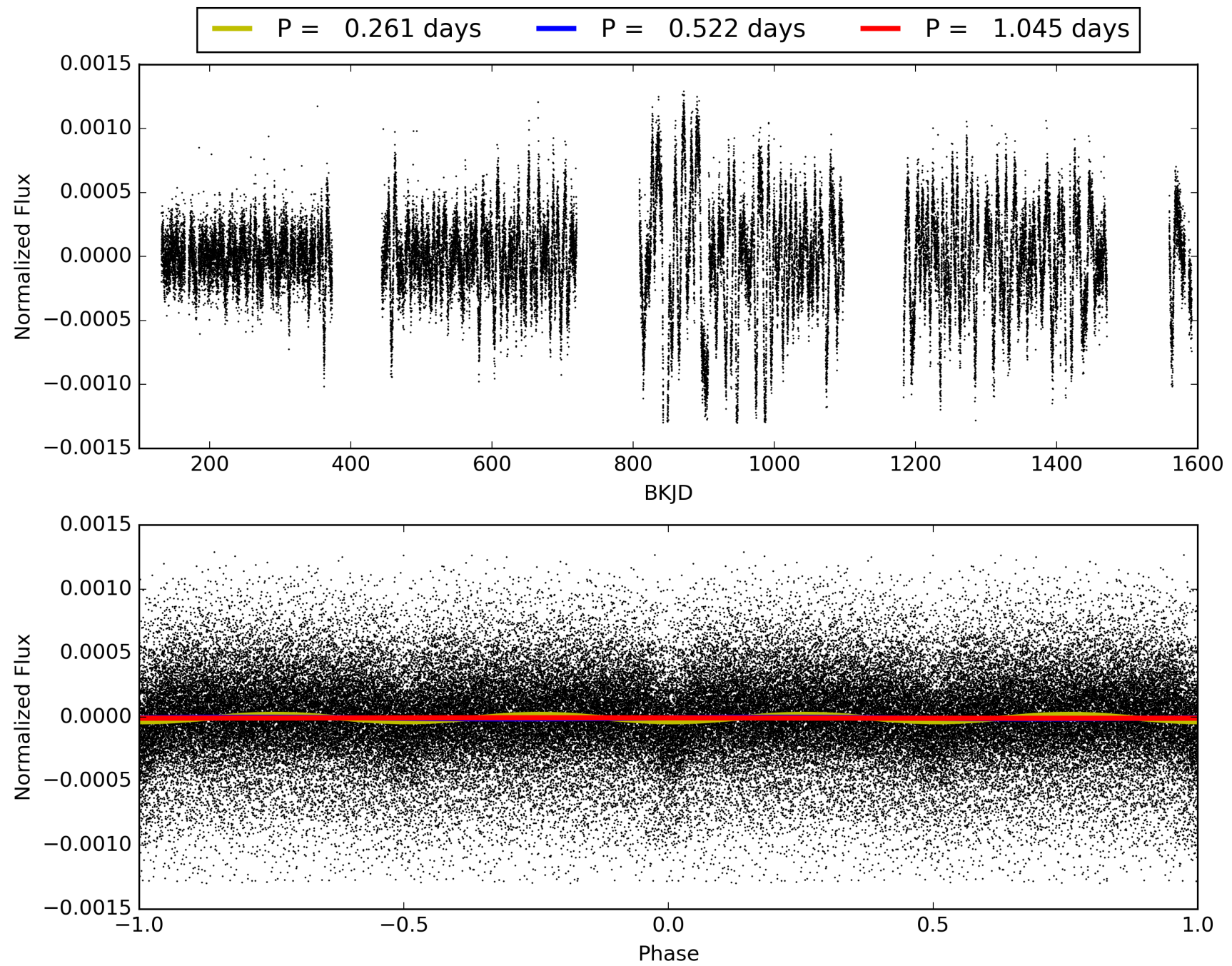
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.60e-25
RollingBand-fgt: 1.00 [1890/1891]
GhostDiagnostic-chr: -0.005769
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 5.602 arcsec [78.14σ]
KicOffset-rm: 5.571 arcsec [77.11σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010785538-01, PDC Light Curves

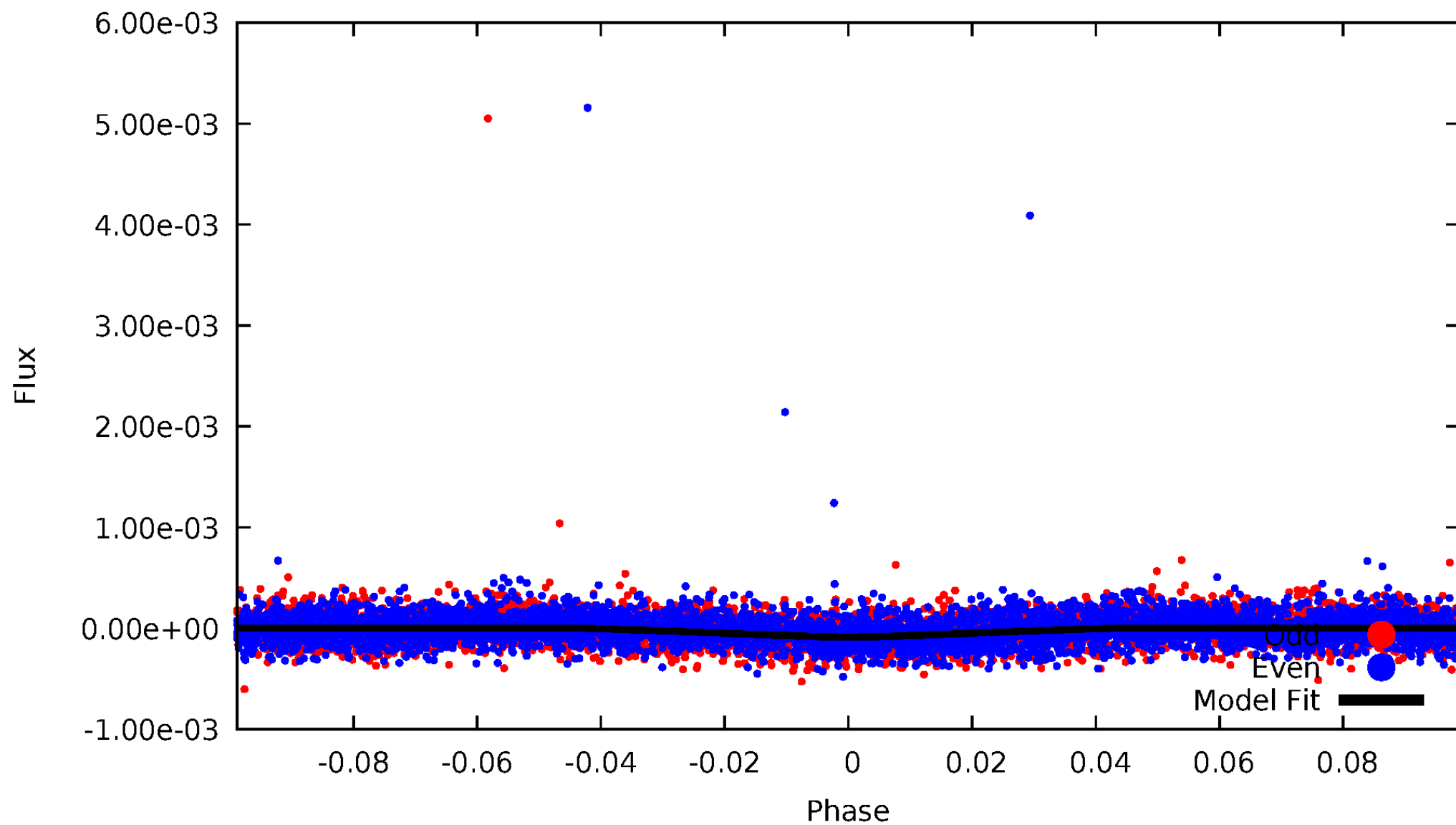


TCE 010785538-01



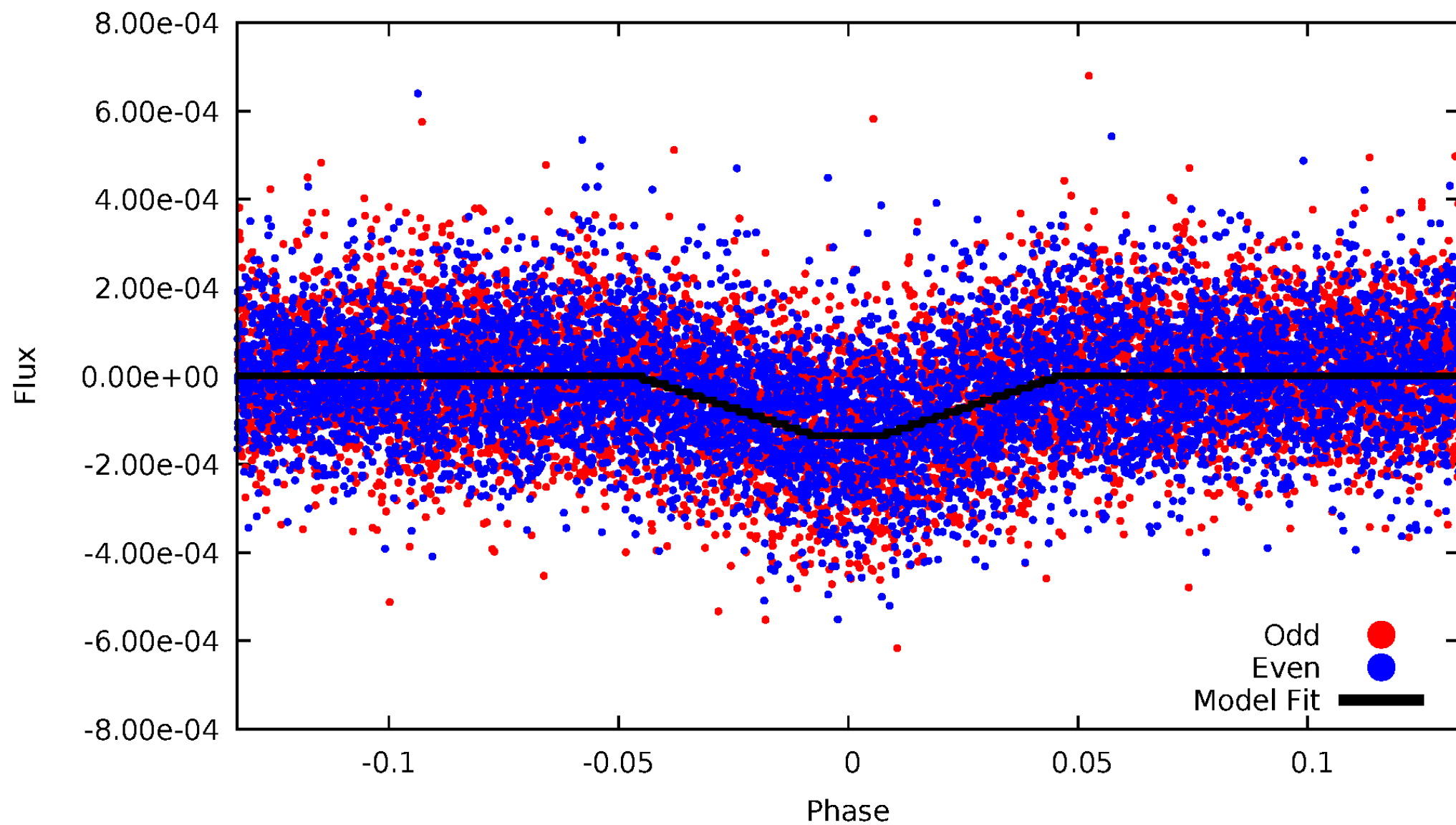
DV Odd/Even

TCE 010785538-01



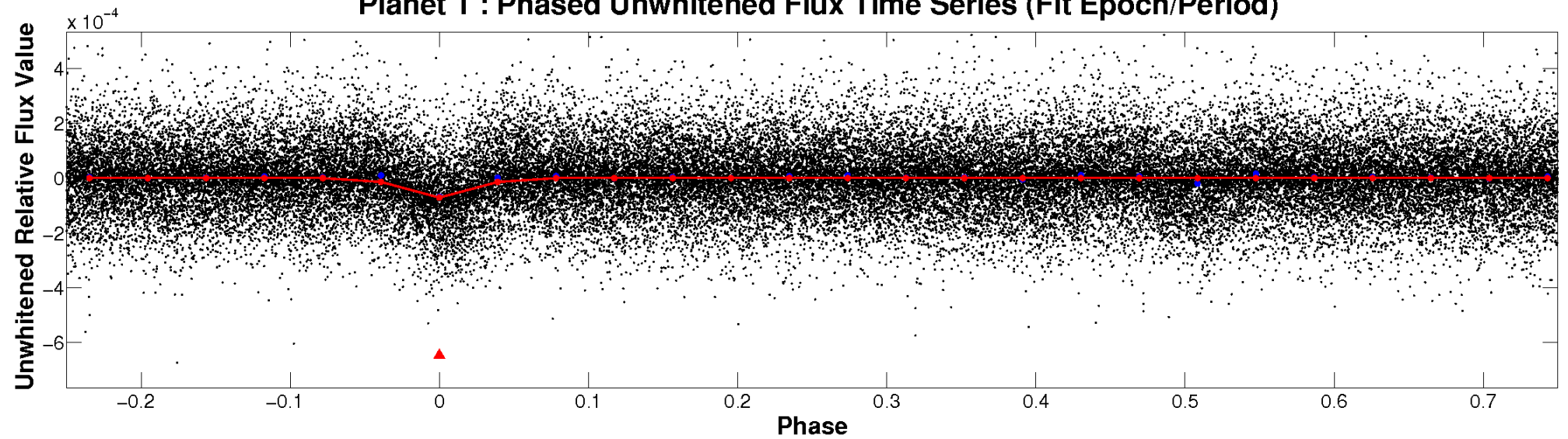
ALT Odd/Even

TCE 010785538-01

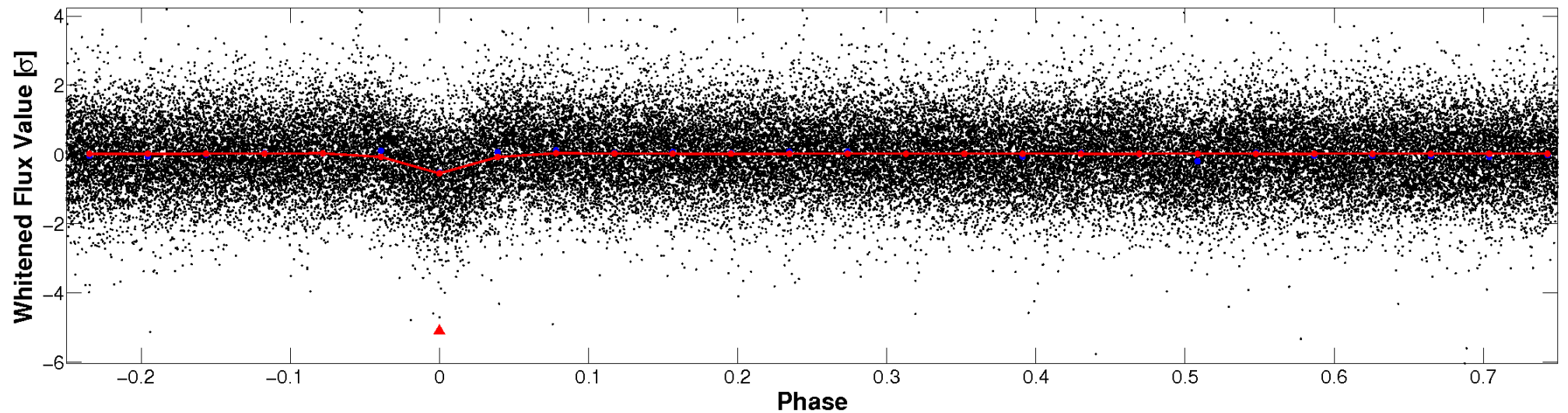


Non-Whitened Vs. Whitened Light Curve

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

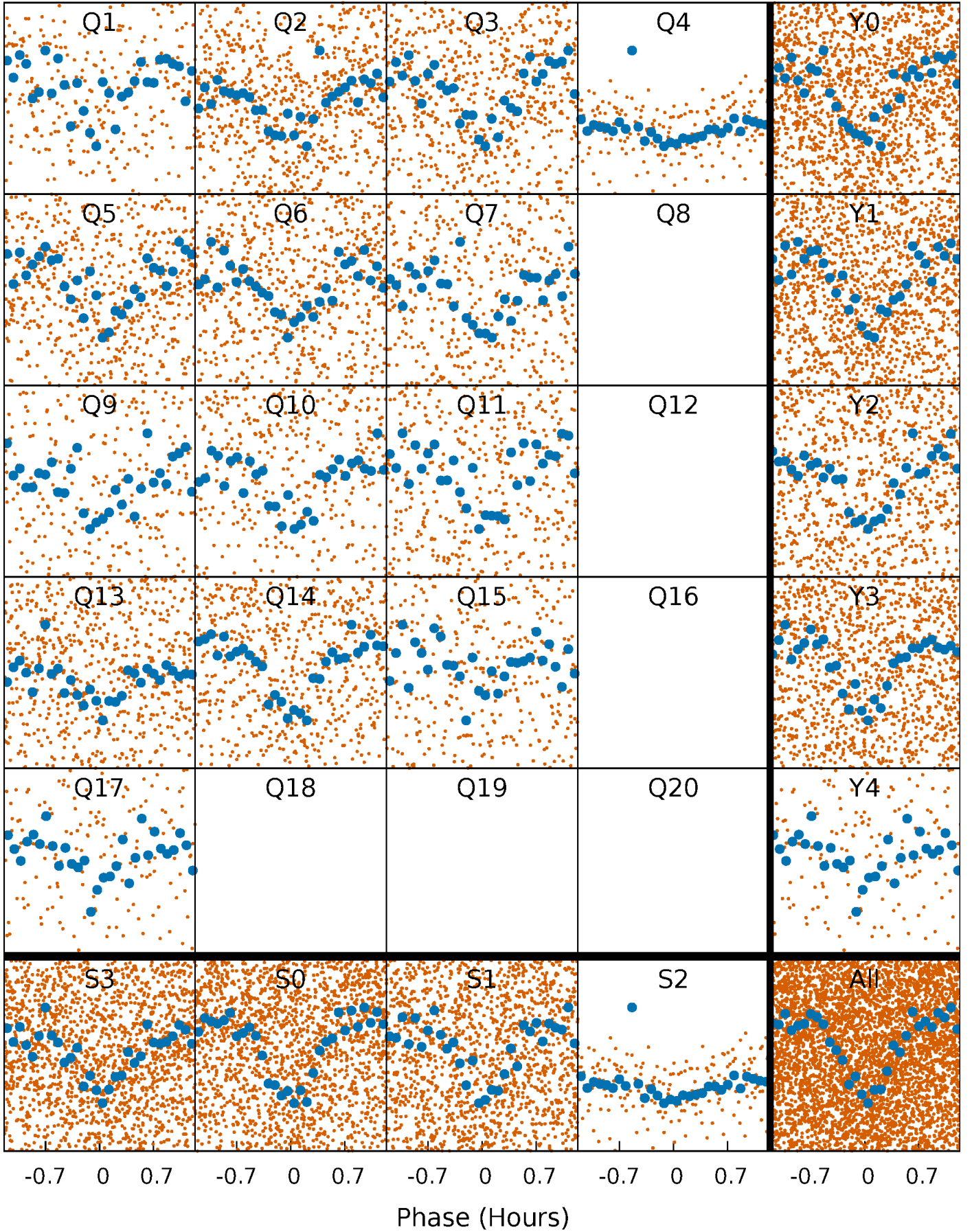


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



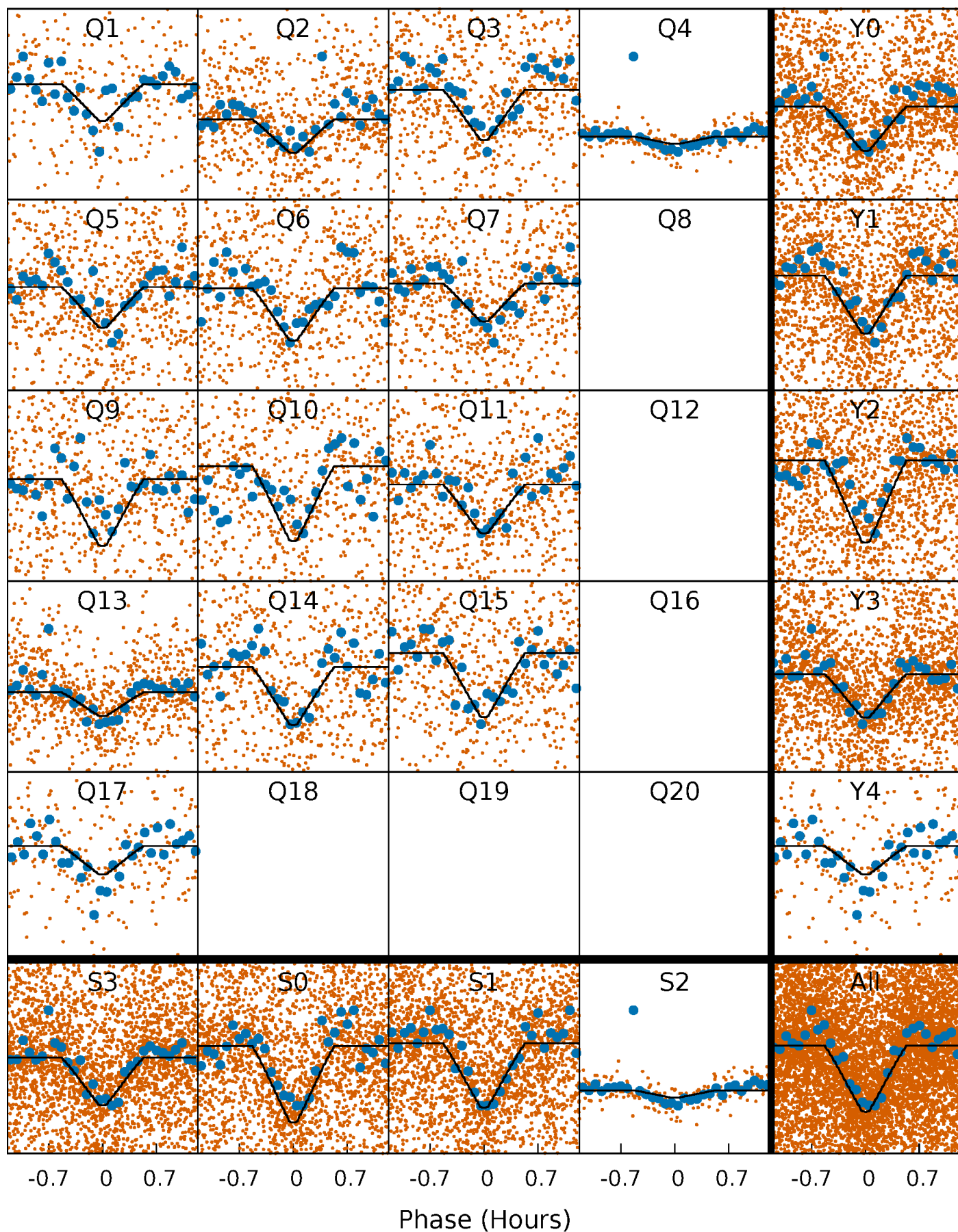
PDC Quarter-Phased Transit Curves

TCE 010785538-01 P= 0.522458 Days $T_0=131.660403$ (BKJD)



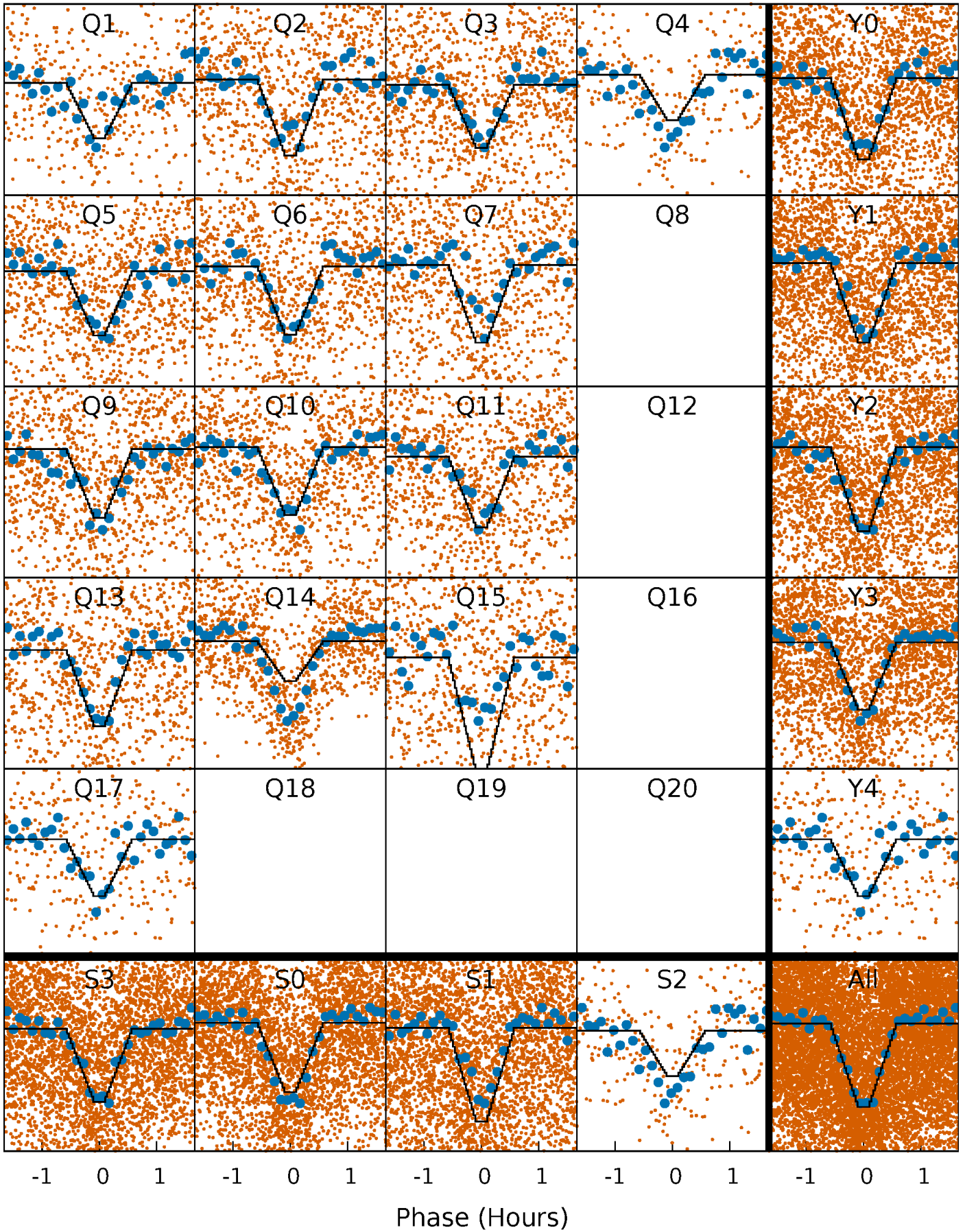
DV Quarter-Phased Transit Curves

TCE 010785538-01 P= 0.522458 Days $T_0=131.660403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

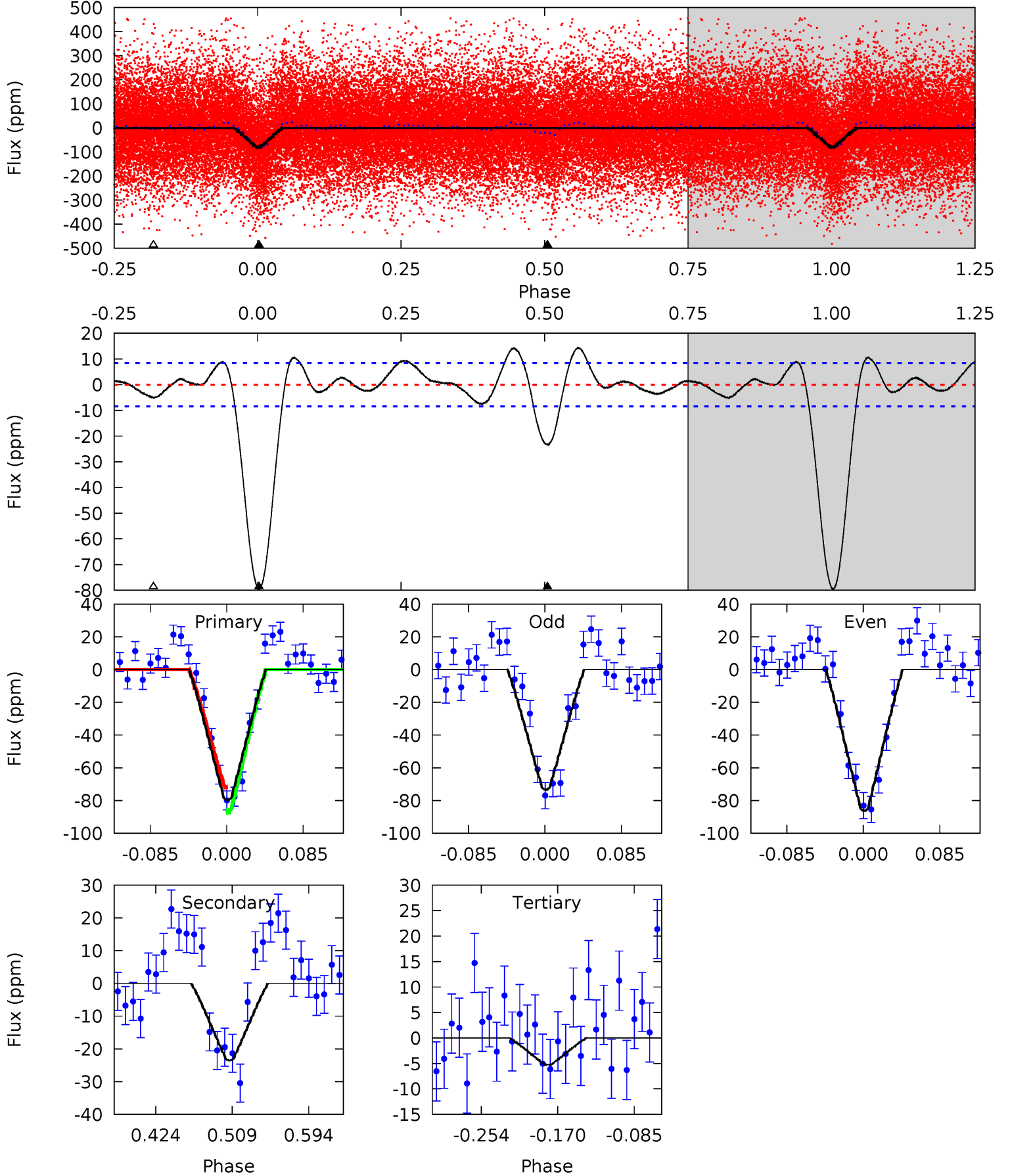
TCE 010785538-01 P= 0.522458 Days $T_0=131.661617$ (BKJD)



DV Model-Shift Uniqueness Test

010785538-01, P = 0.522458 Days, E = 131.137945 Days

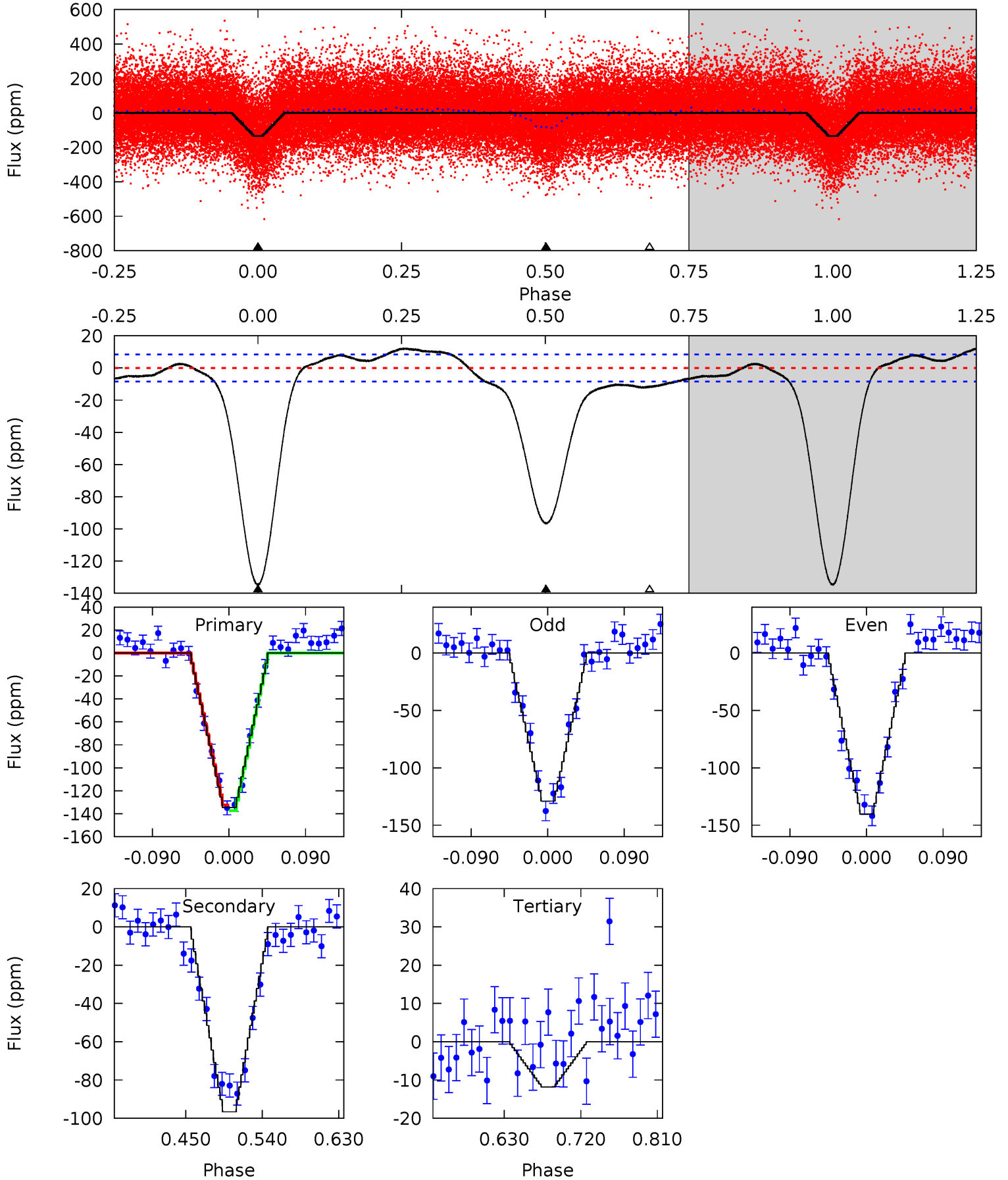
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	12.8	2.87	0	4.60	1.72	1.79	40.5	43.4	9.92	12.8	3.52	0.94	0.15	4.02



Alt Model-Shift Uniqueness Test

010785538-01, P = 0.522458 Days, E = 131.139159 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.0	52.4	6.41	0	4.59	1.70	4.30	66.6	73.0	46.0	52.4	3.08	1.00	0.08	1.33



Stellar Parameters For KIC 010785538

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5991^{+162}_{-180}	$4.459^{+0.084}_{-0.196}$	$-0.260^{+0.300}_{-0.300}$	$0.954^{+0.272}_{-0.117}$	$0.956^{+0.122}_{-0.111}$	$1.550^{+0.553}_{-0.792}$
	+3%/-3%	+2%/-4%	+115%/-115%	+29%/-12%	+13%/-12%	+36%/-51%
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 010785538-01 / KOI 1313.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 2	$1.10^{+0.21}_{-0.17}$	3266^{+248}_{-174}	4168^{+286}_{-230}	$1.656^{+0.647}_{-0.474}$
Alt.	-97 ± 2	$1.23^{+0.23}_{-0.16}$	3259^{+220}_{-158}	5448^{+319}_{-290}	$5.397^{+1.604}_{-1.465}$

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

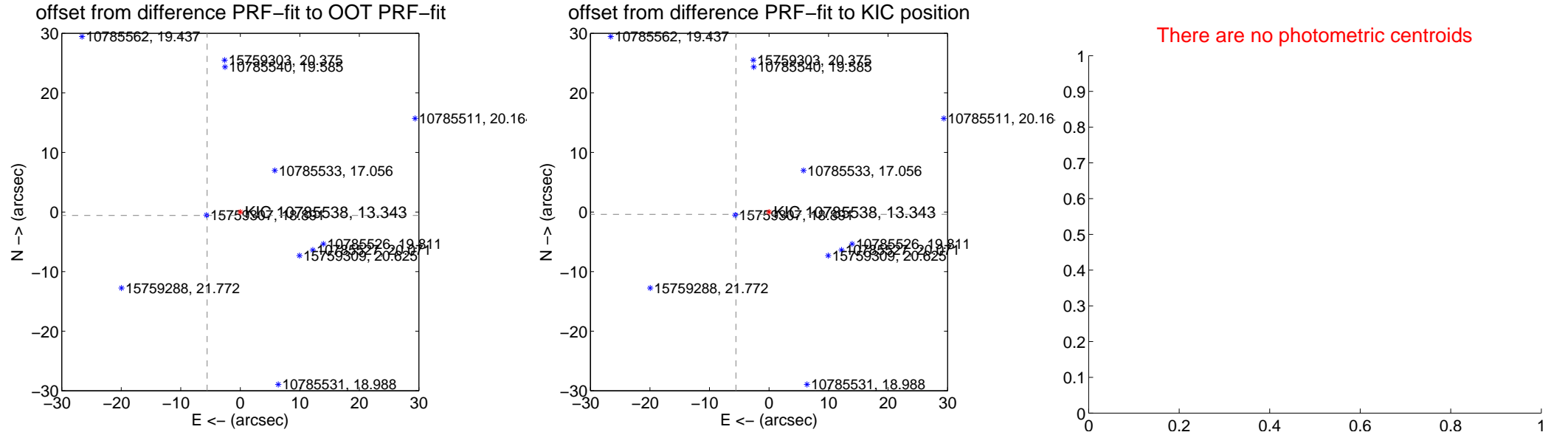
DV Centroid Data

Supplemental centroid analysis for 010785538-01. Kepler magnitude: 13.34. Transit SNR 26.36

There are 14 quarters with good PRF difference image offsets

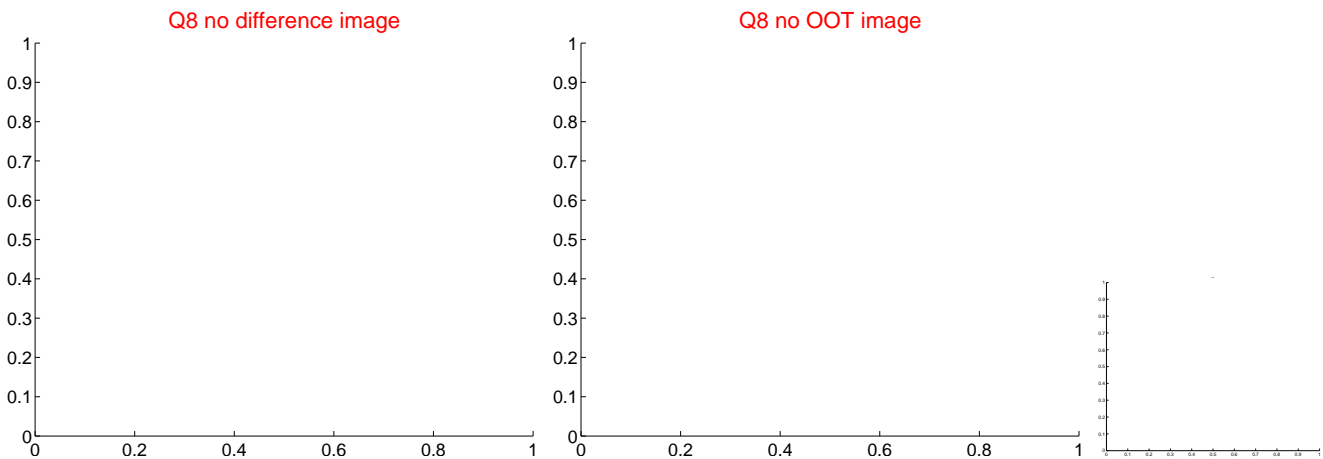
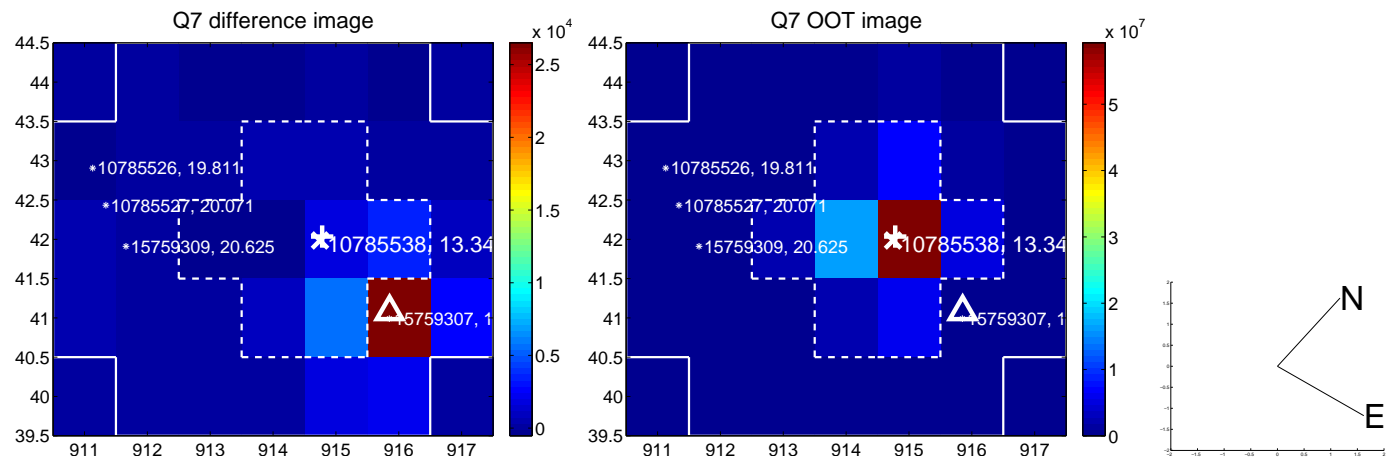
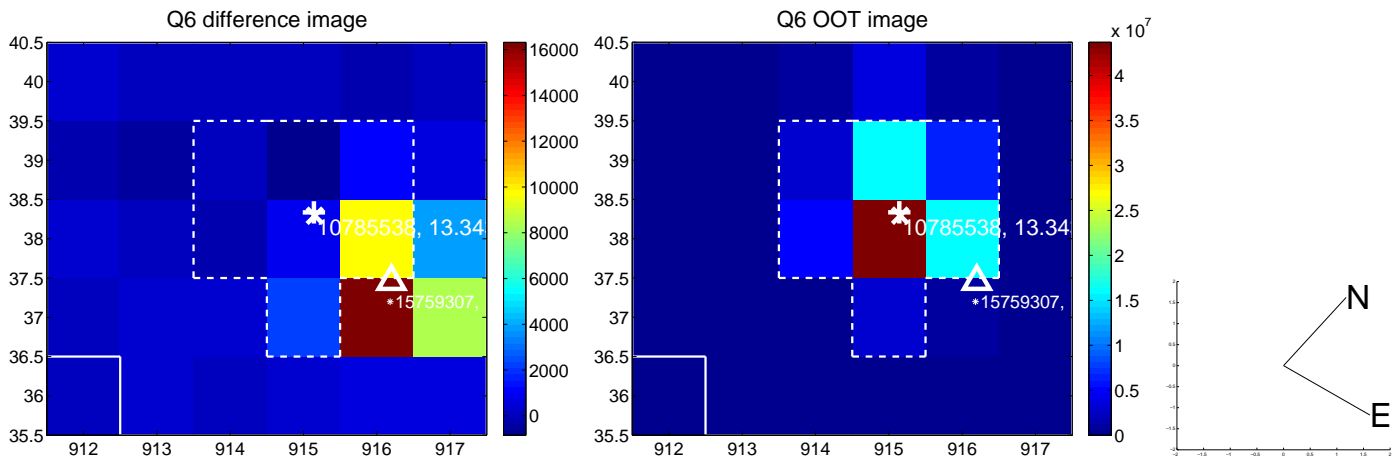
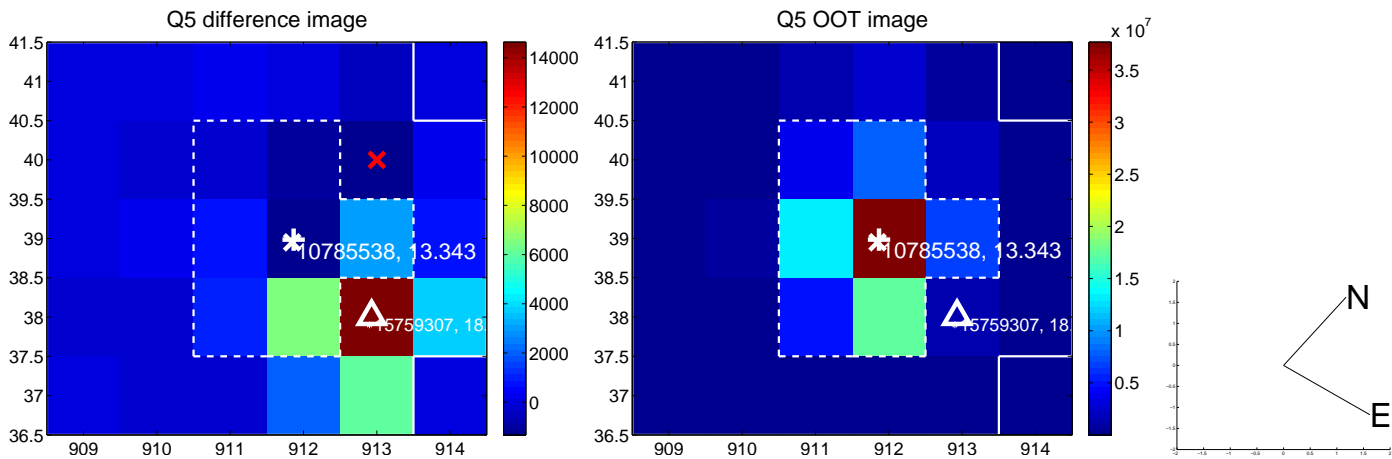
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.602 \pm 0.072	78.14	5.573 \pm 0.072	-0.569 \pm 0.077
PRF-fit source offset from KIC position	5.571 \pm 0.072	77.11	5.557 \pm 0.072	-0.390 \pm 0.076
photometric centroid source offset	—	—	—	—

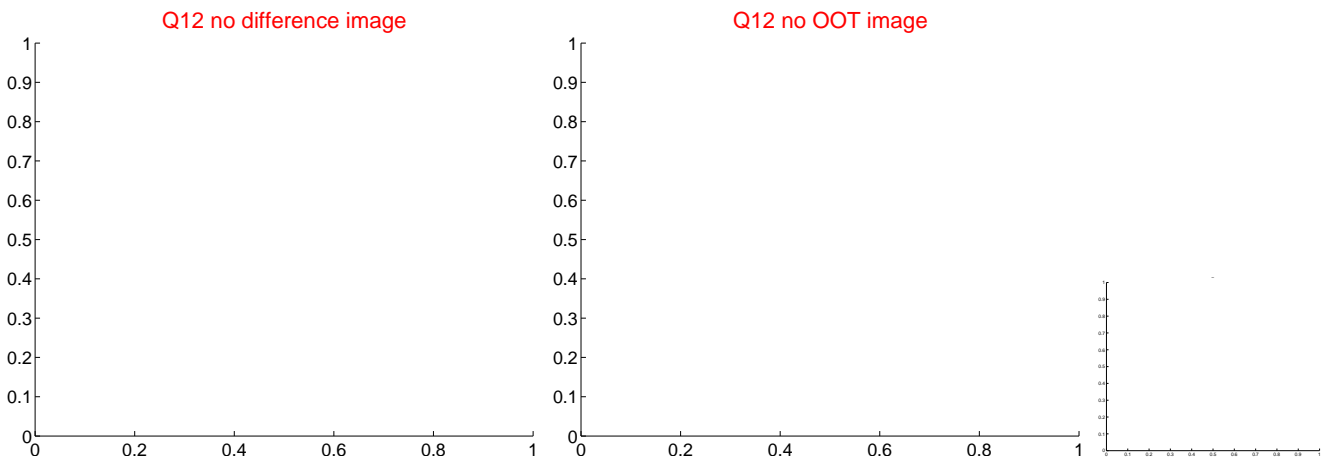
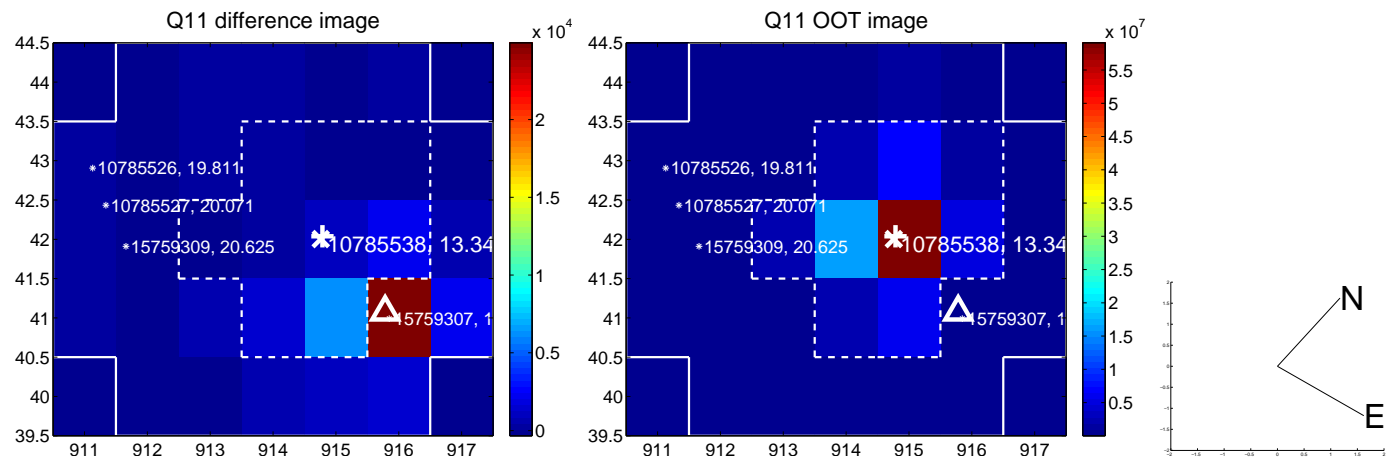
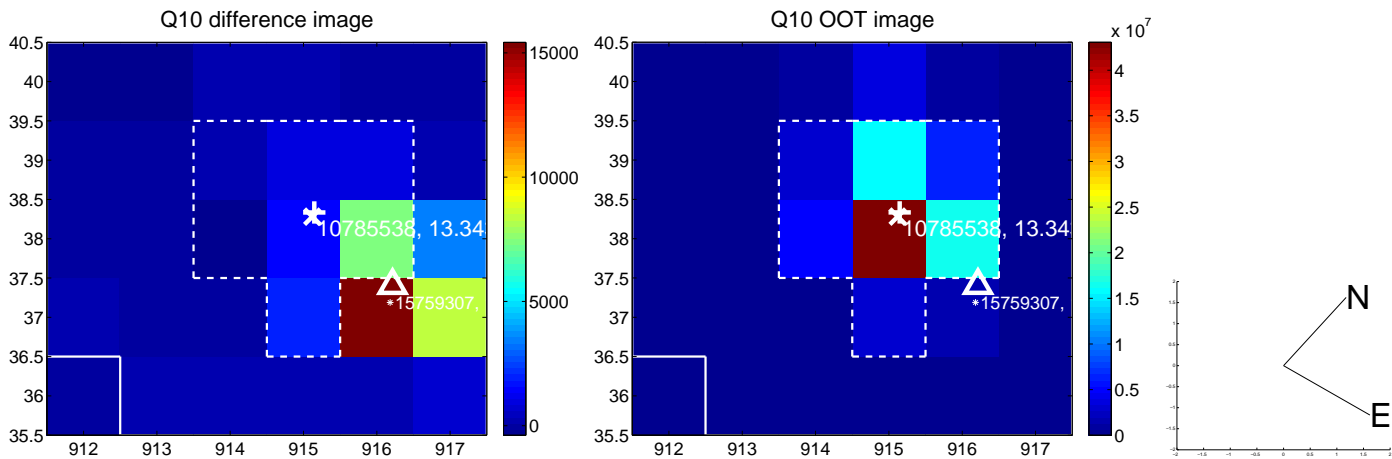
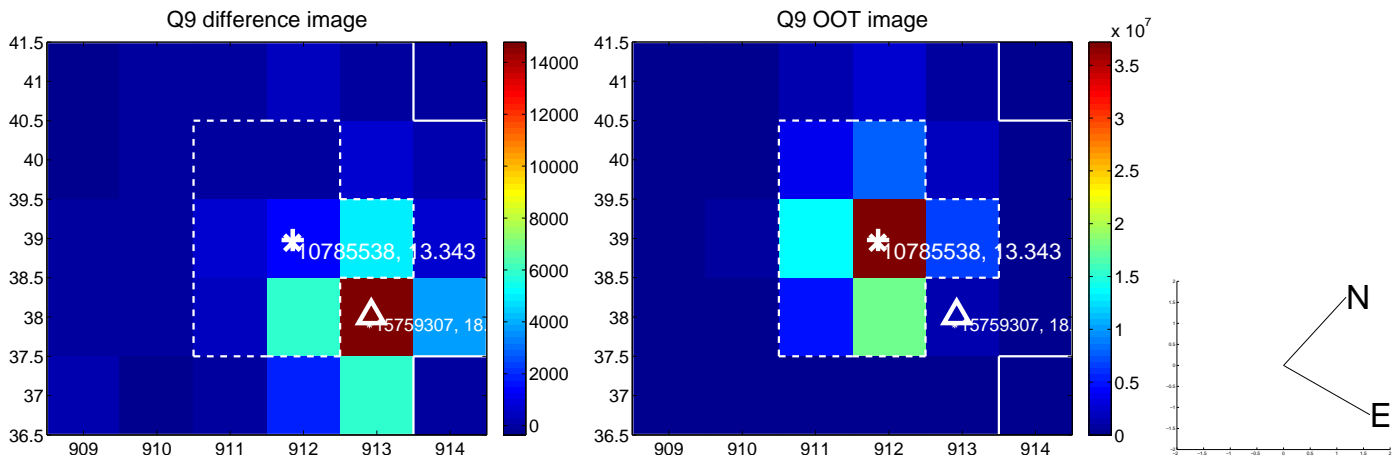


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

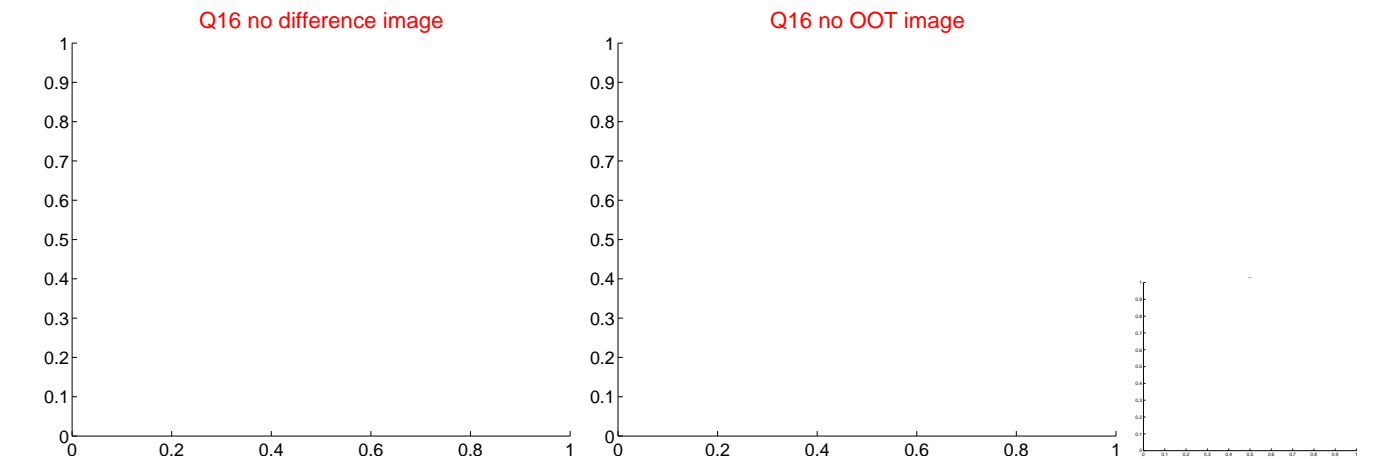
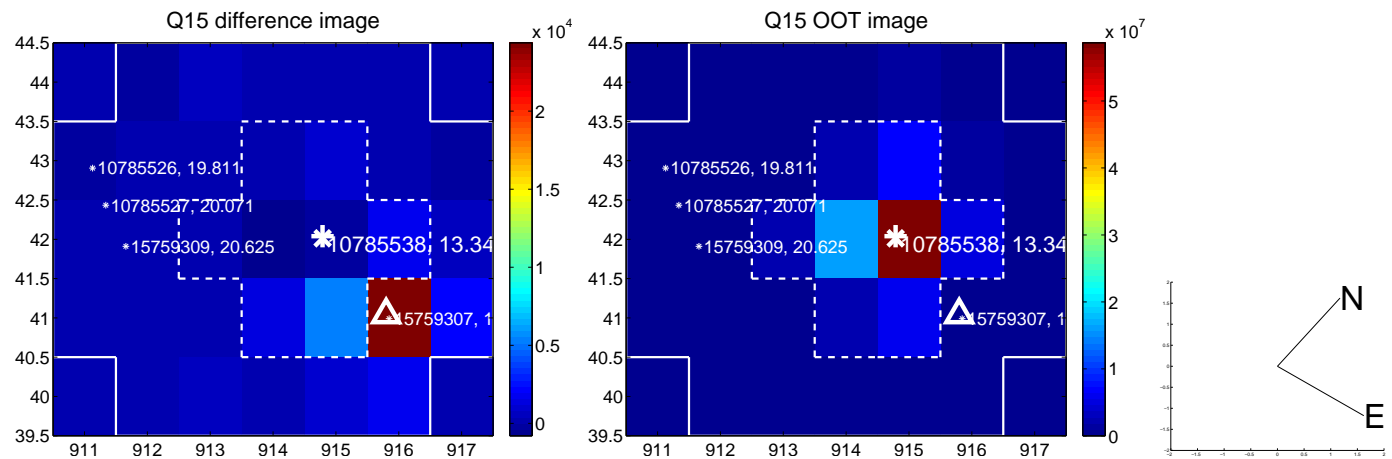
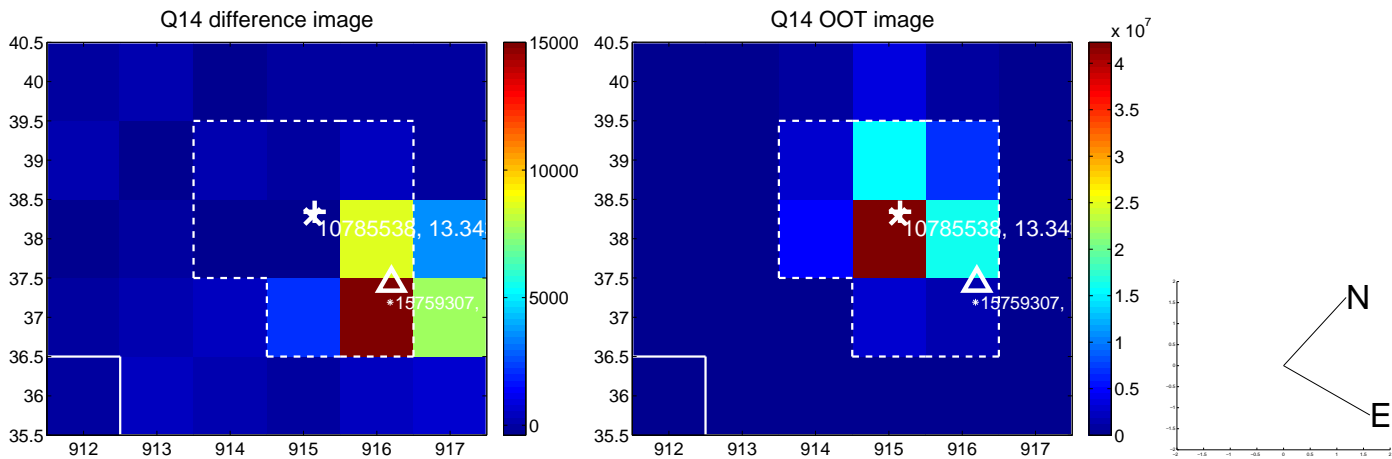
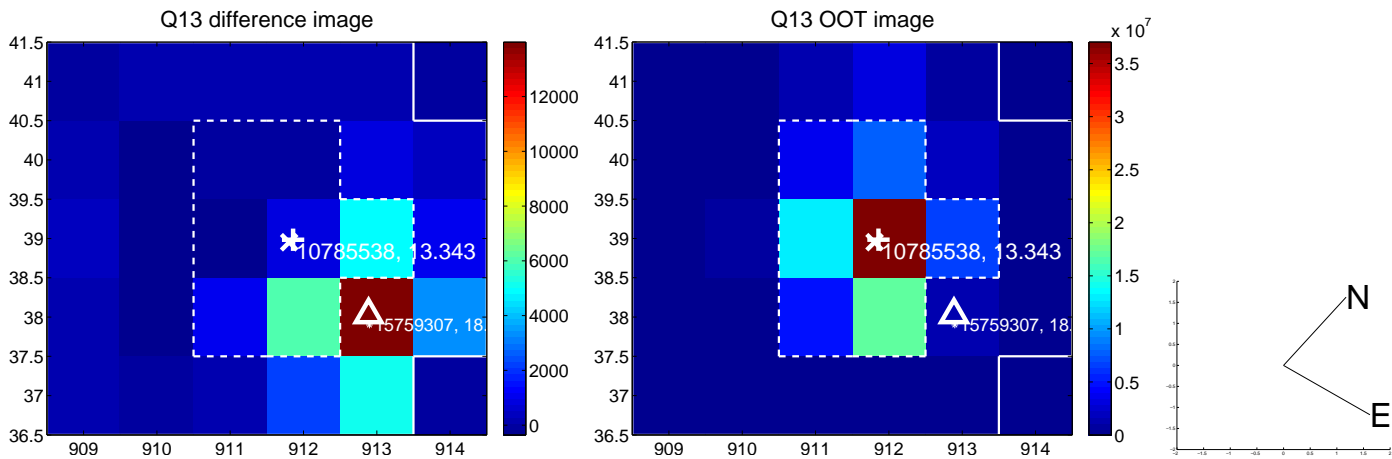
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



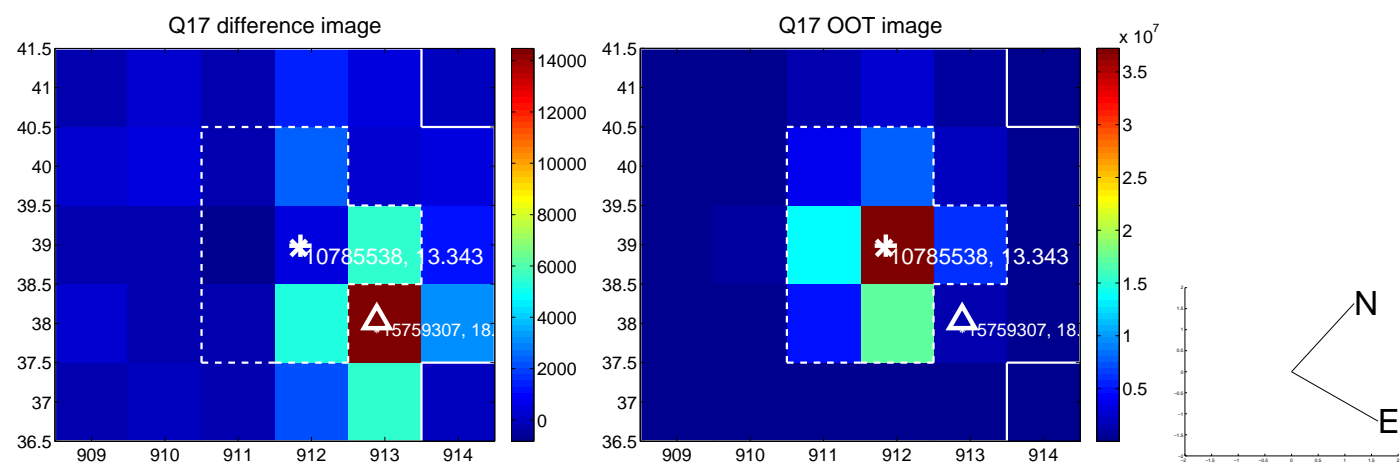
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

