

KIC 008125580

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})
008125580-01	OBS	1014.01	17.317128	142.359570	1451.7	3.176	33.5	36.1	0.50	4719	2.03	10.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008125580-01	OBS	PC	0.99	0	0	0	0	CENT_KIC_POS

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.

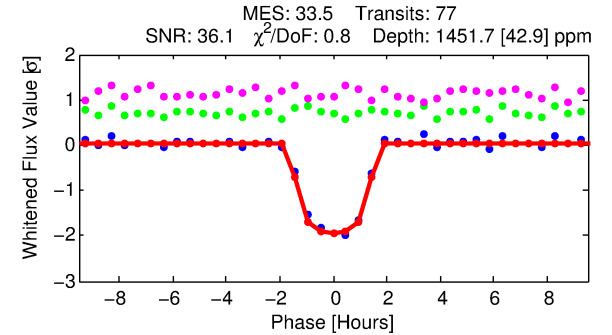
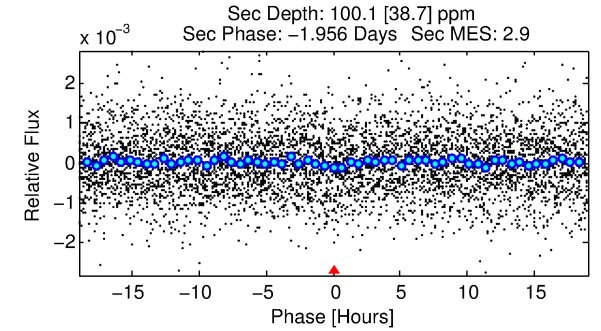
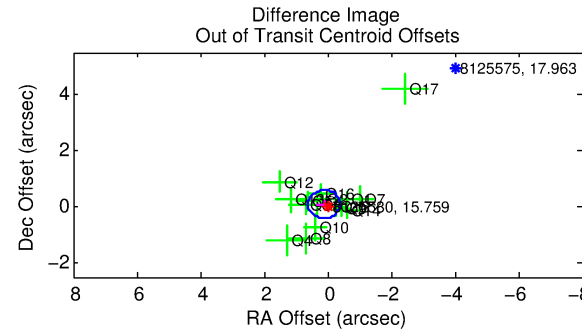
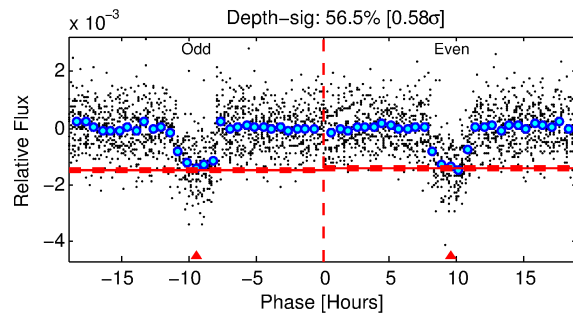
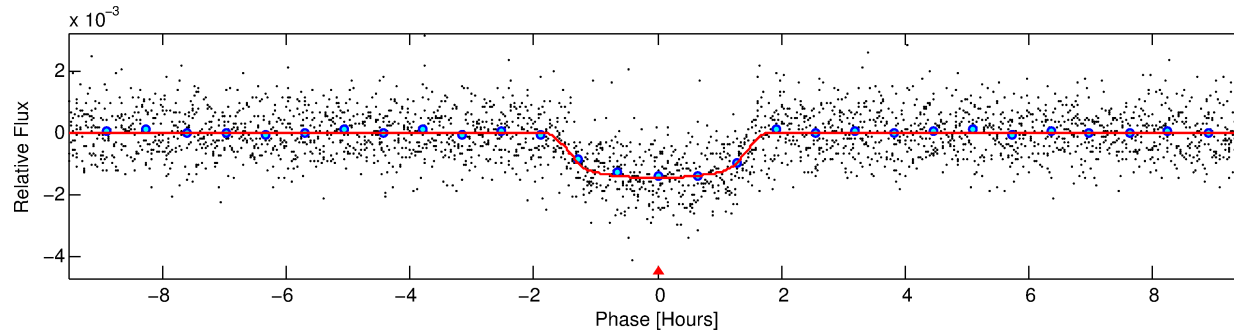
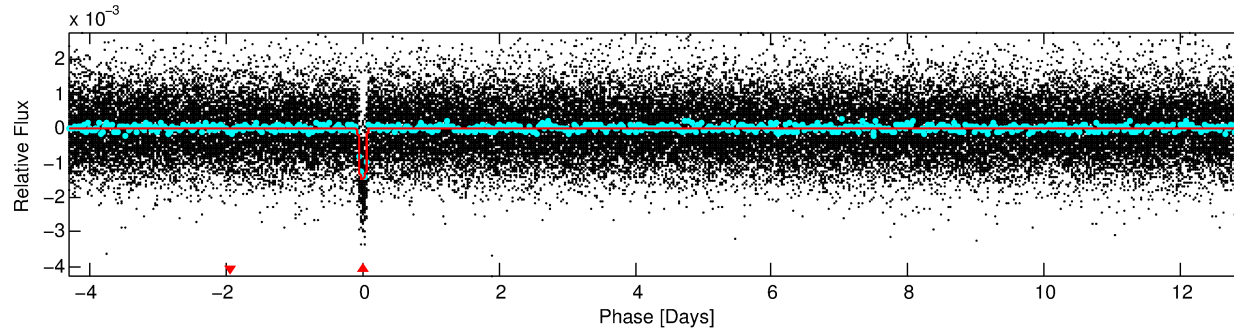
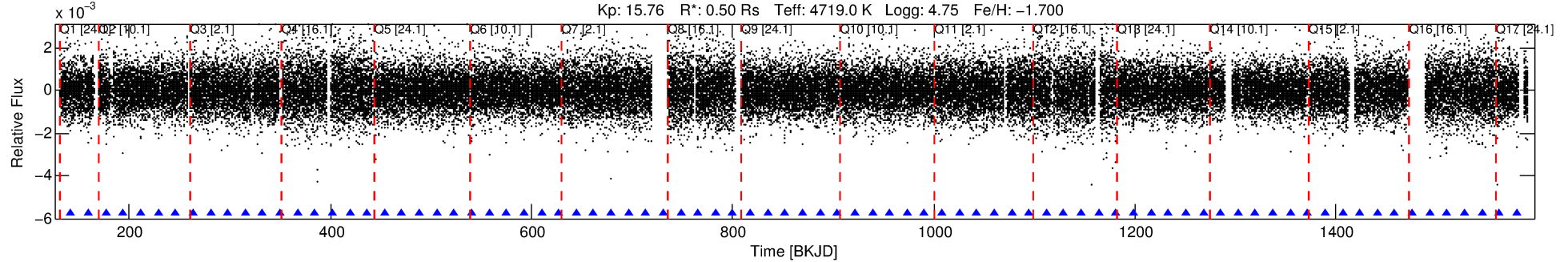
Ephemeris Match Information For 008125580-01

No Significant Match Found

DV One-Page Summary

KIC: 8125580 Candidate: 1 of 1 Period: 17.317 d
KOI: K01014.01 Corr: 0.993

Kp: 15.76 R*: 0.50 Rs Teff: 4719.0 K Logg: 4.75 Fe/H: -1.700



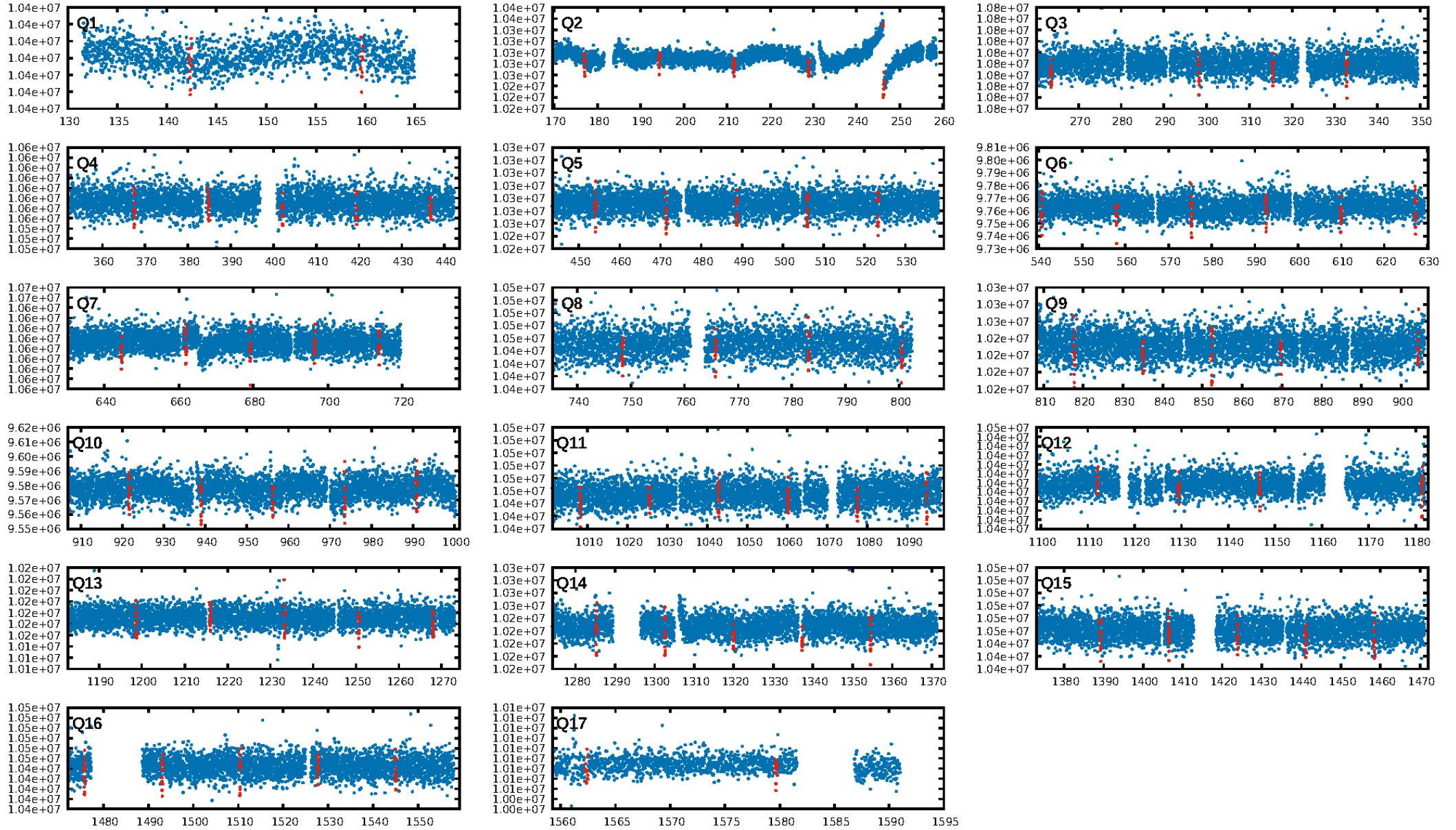
DV Fit Results:

Period = 17.31713 [0.00005] d
Epoch = 142.3596 [0.0021] BKJD
Rp/R* = 0.0370 [0.0090]
a/R* = 32.78 [36.67]
b = 0.68 [0.91]
Seff = 10.08 [1.59]
Teq = 454 [18] K
Rp = 2.03 [0.51] Re
a = 0.1054 [0.0053] AU
Ag = 148.69 [92.80] [1.59σ]
Teffp = 2453 [389] K [5.13σ]

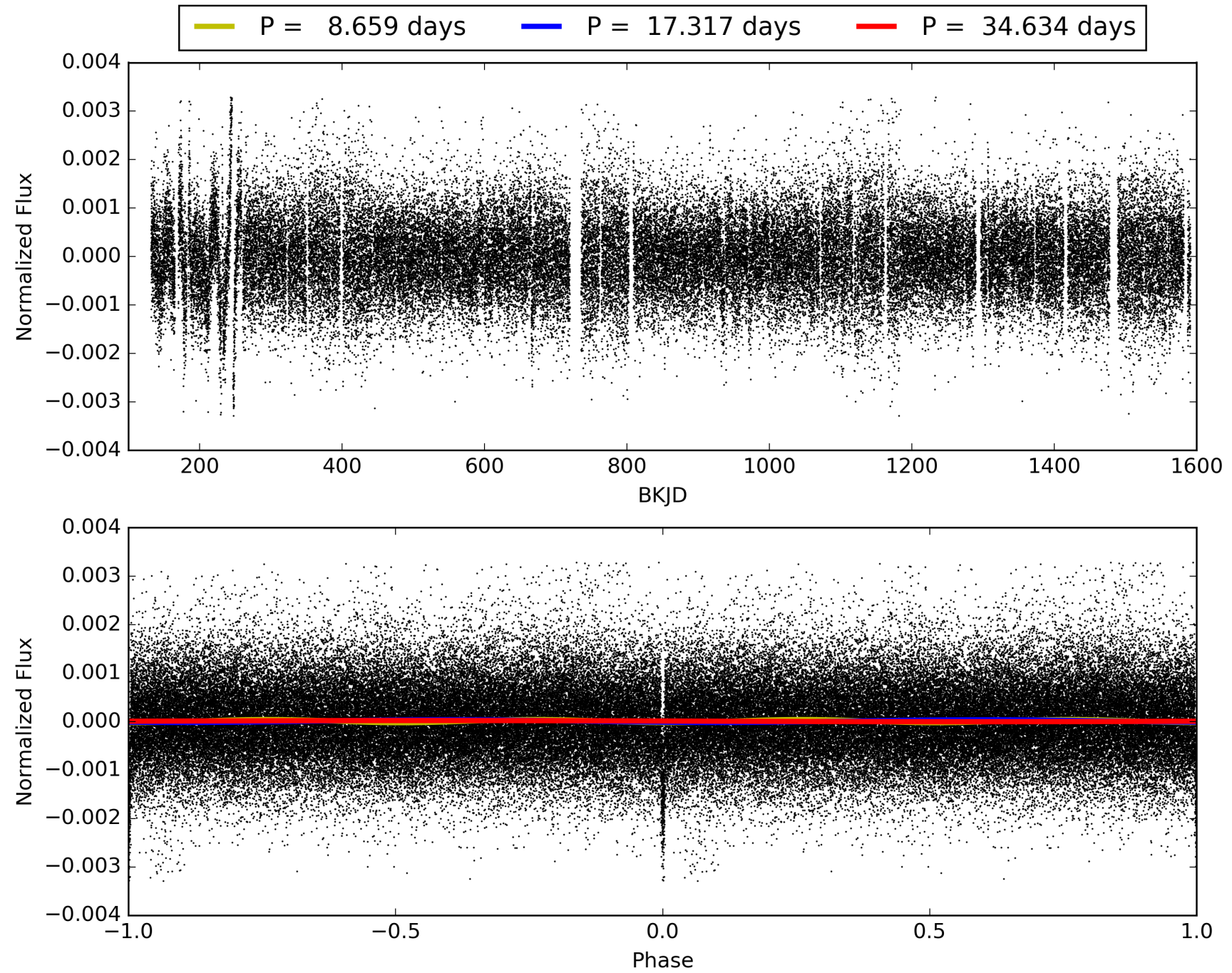
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.39e-240
RollingBand-fgt: 1.00 [73/73]
GhostDiagnostic-chr: 4.709
Centroid-sig: 9.3%
Centroid-so: 0.134 arcsec [0.35σ]
OotOffset-rm: 0.144 arcsec [0.86σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: **0.680 arcsec [3.01σ]**
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008125580-01, PDC Light Curves

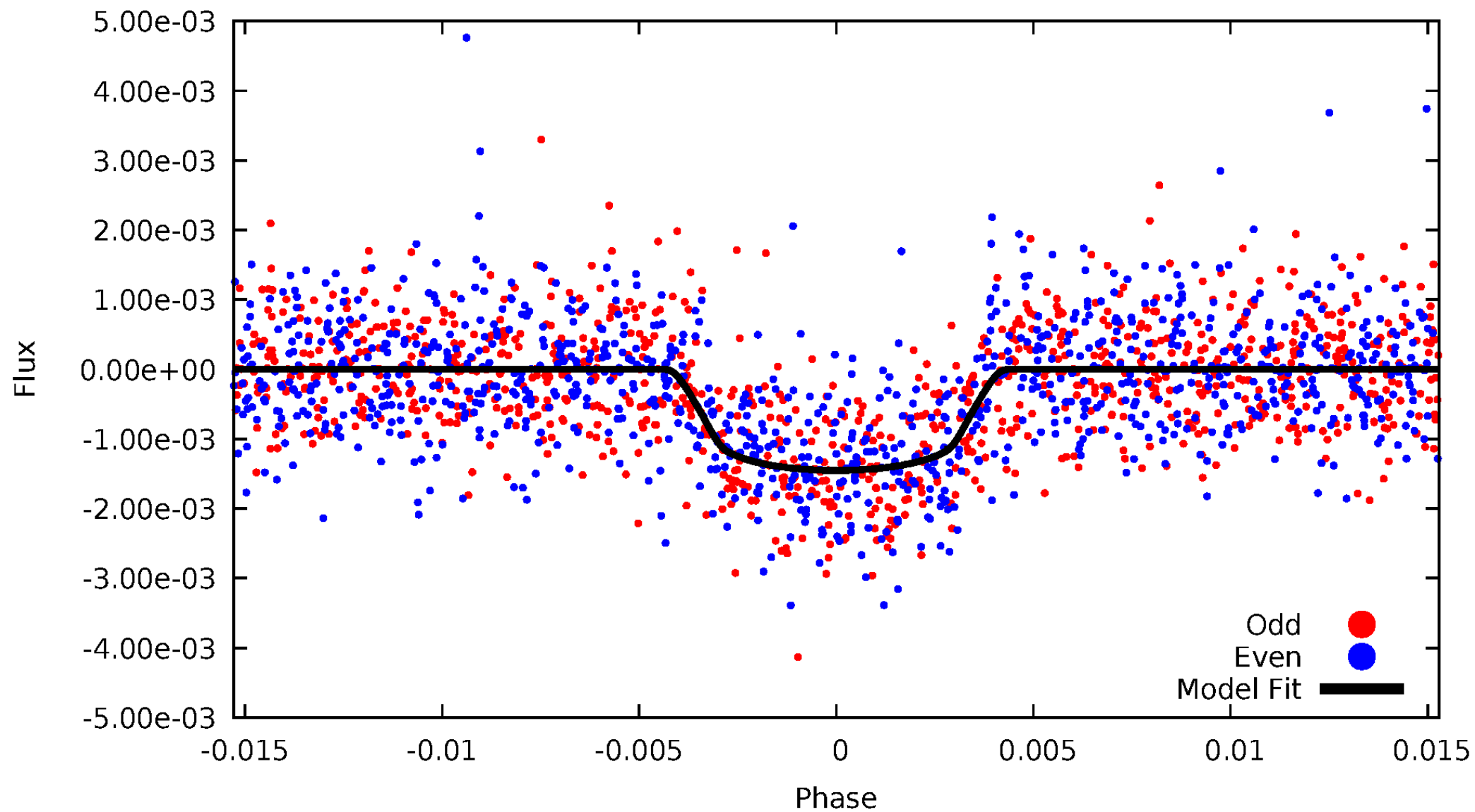


TCE 008125580-01



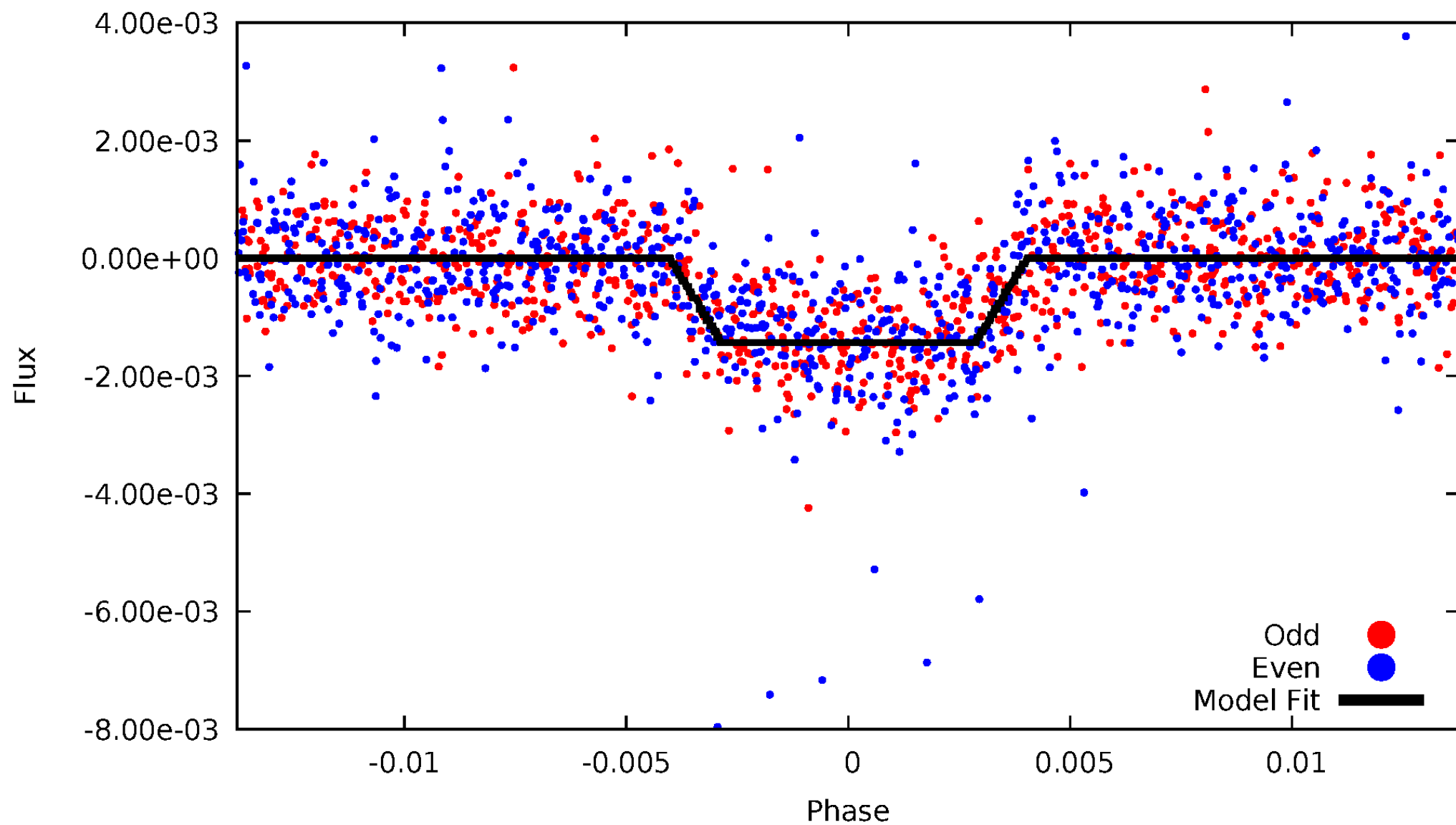
DV Odd/Even

TCE 008125580-01

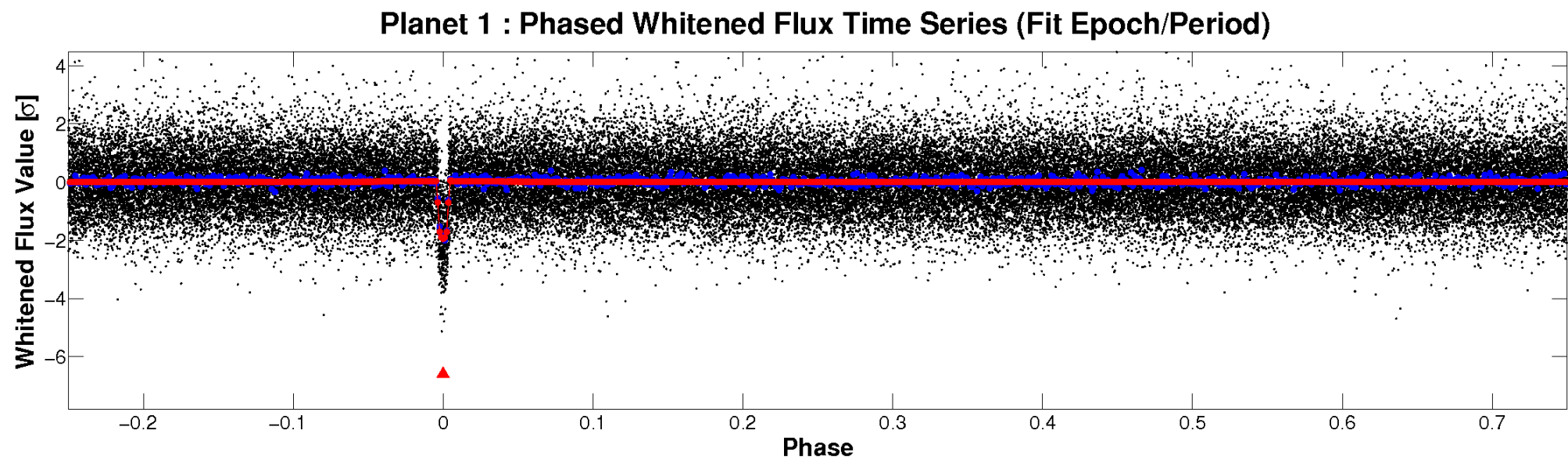
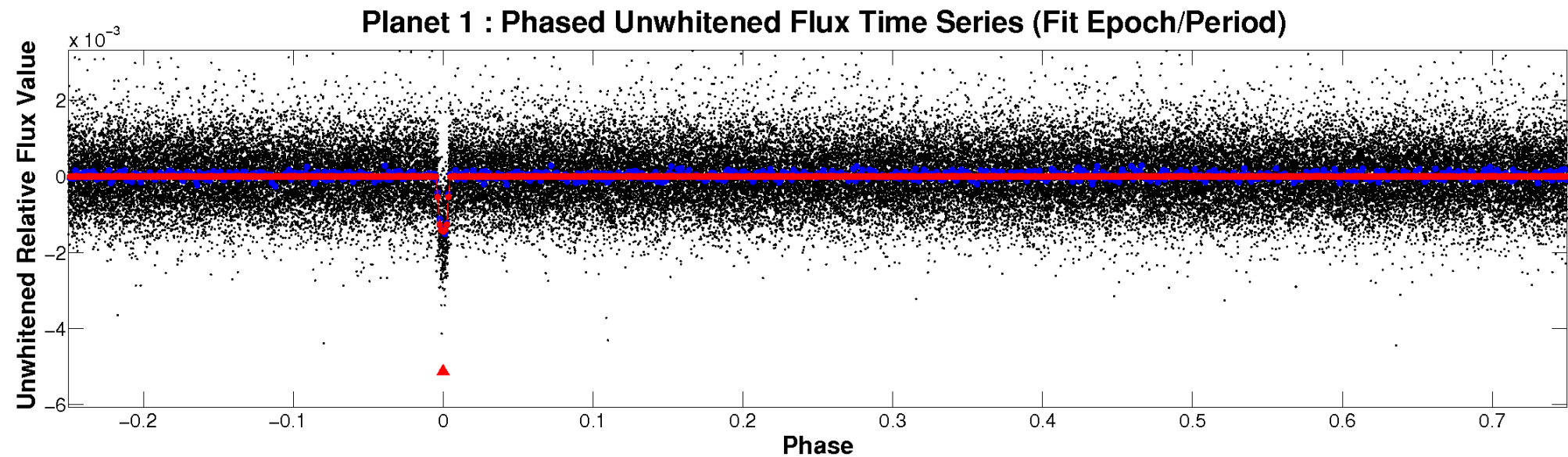


ALT Odd/Even

TCE 008125580-01

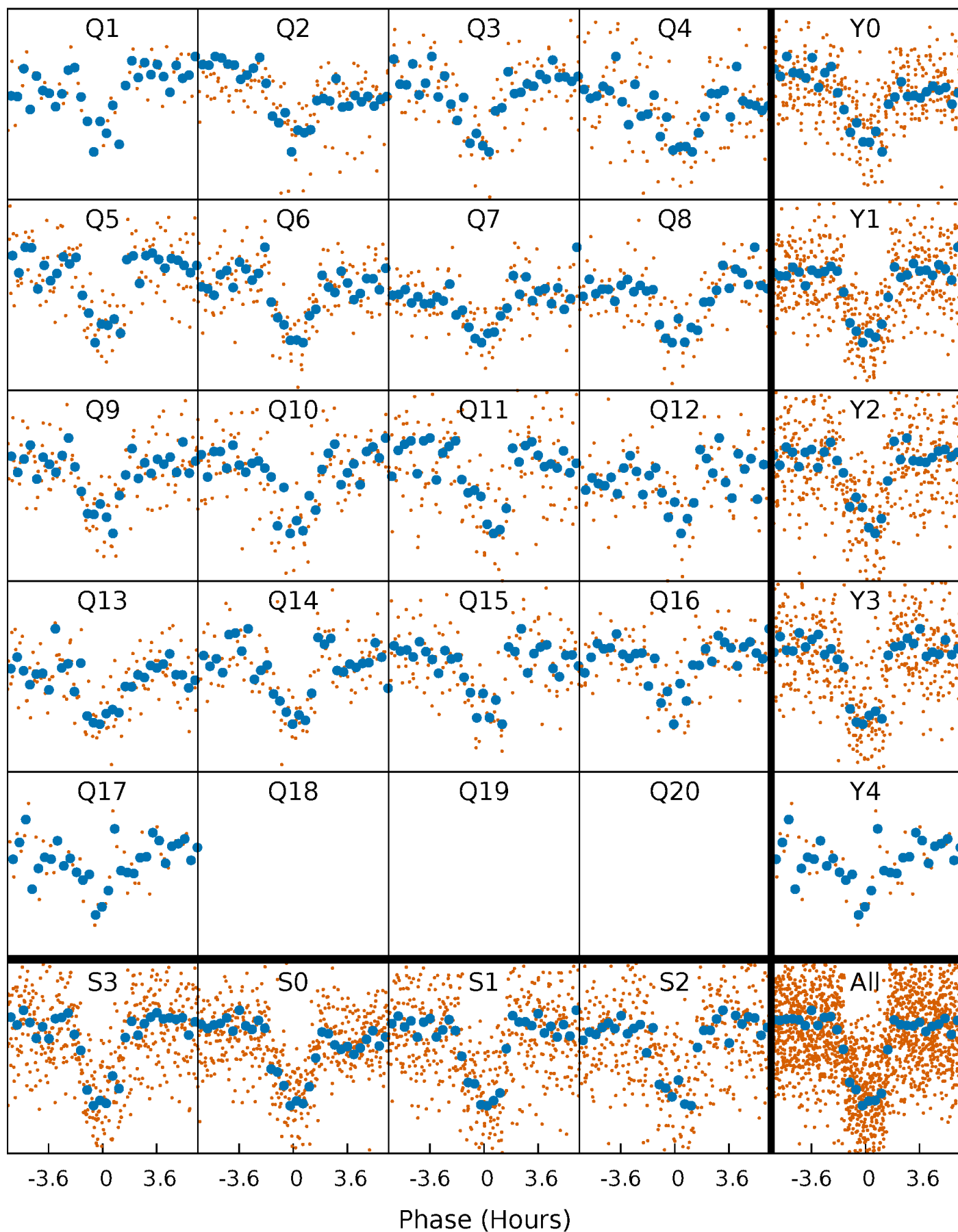


Non-Whitened Vs. Whitened Light Curve



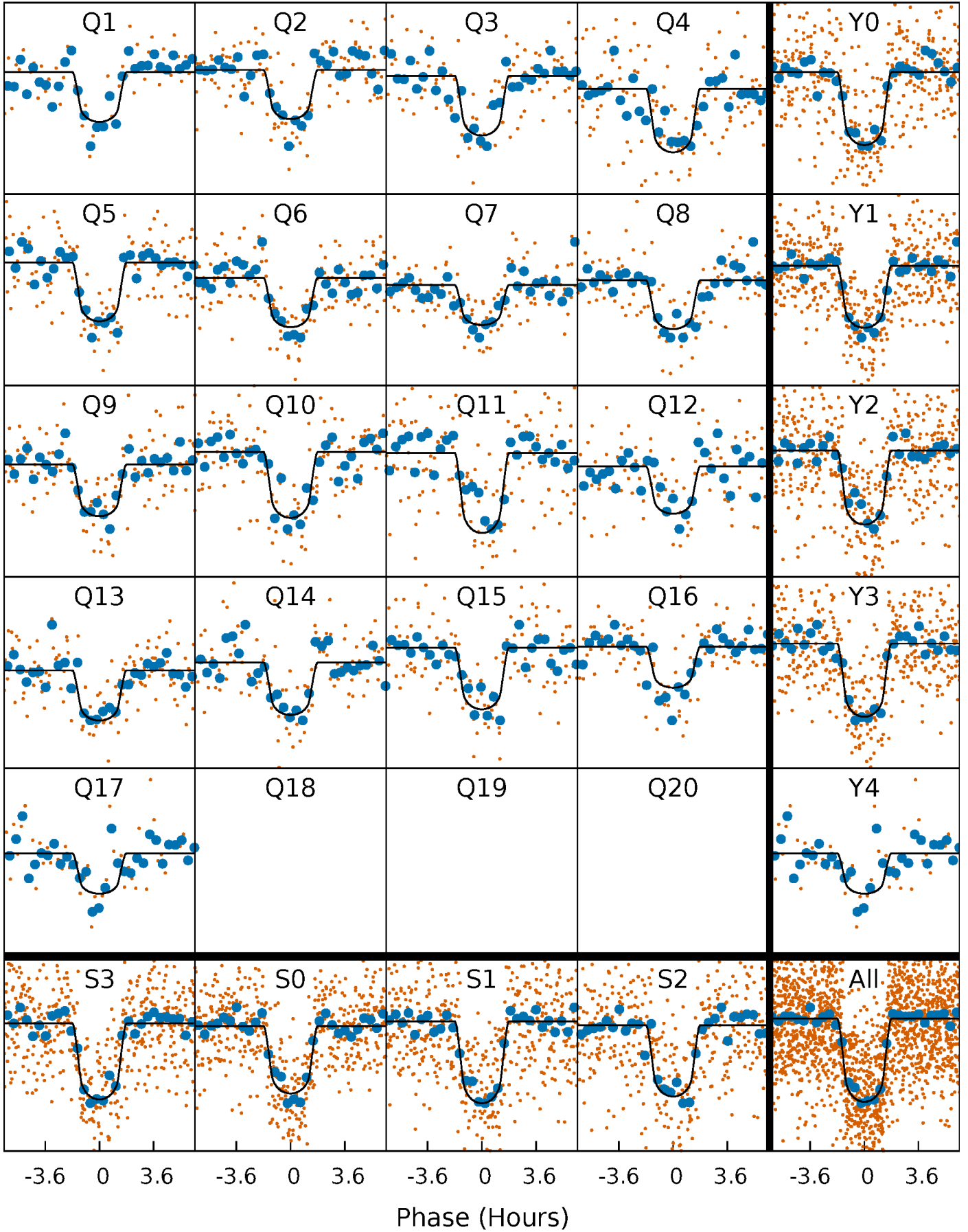
PDC Quarter-Phased Transit Curves

TCE 008125580-01 P= 17.317128 Days $T_0=142.359570$ (BKJD)



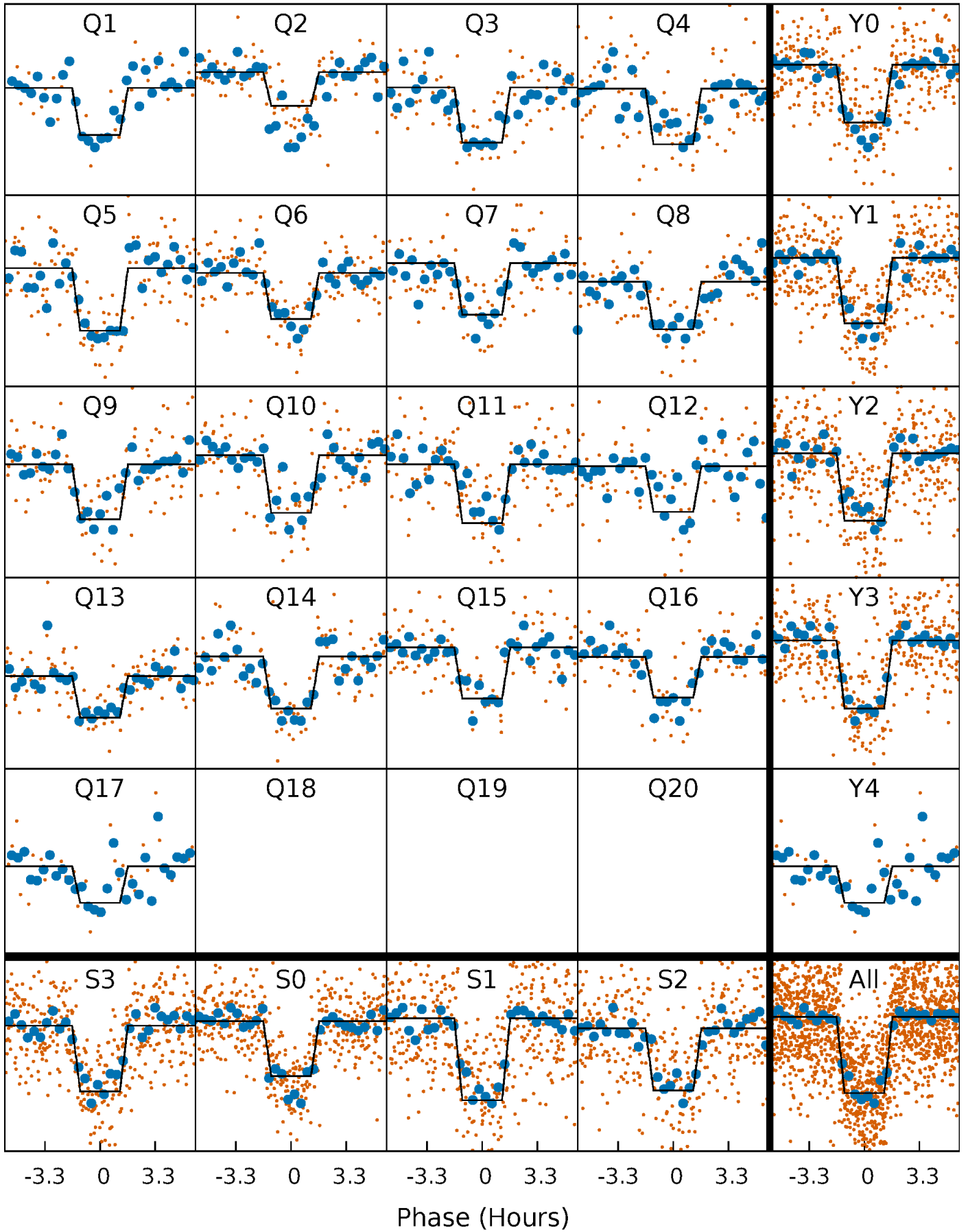
DV Quarter-Phased Transit Curves

TCE 008125580-01 P= 17.317128 Days $T_0=142.359570$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

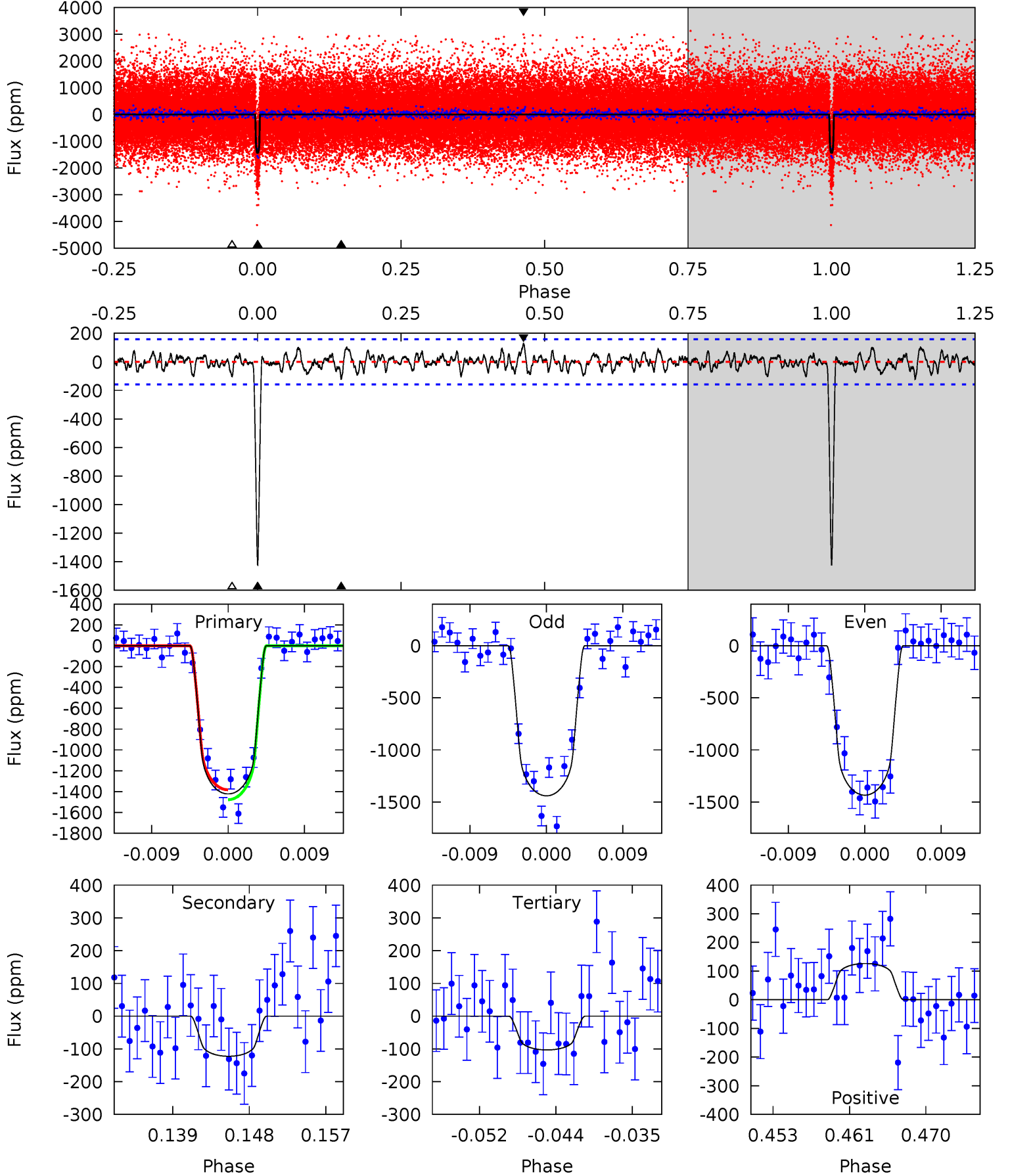
TCE 008125580-01 P= 17.317203 Days $T_0=142.355959$ (BKJD)



DV Model-Shift Uniqueness Test

008125580-01, $P = 17.317128$ Days, $E = 125.042442$ Days

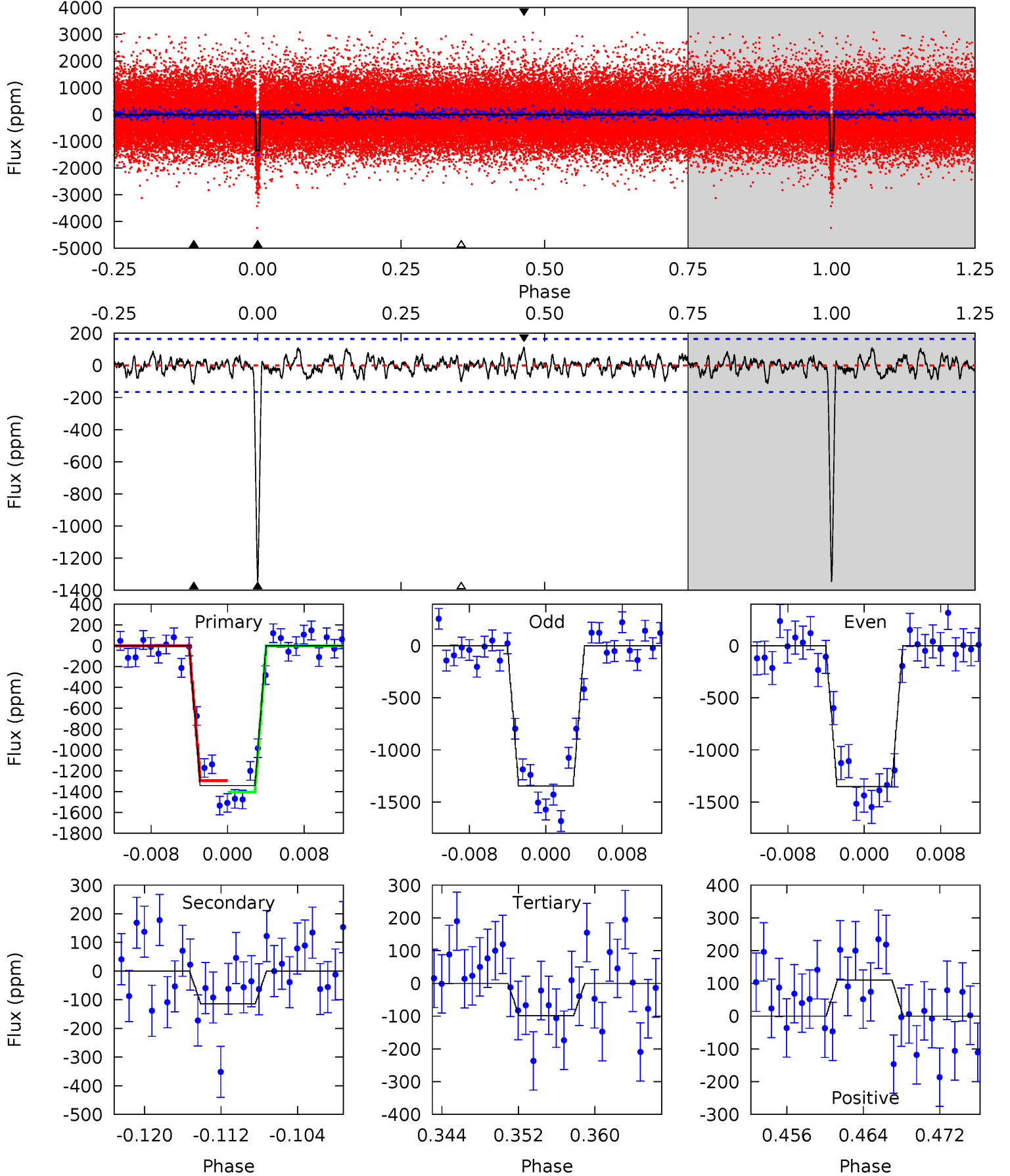
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.6	3.93	3.31	4.05	5.05	2.62	1.23	42.3	41.5	0.62	-0.12	0.10	1.01	0.08	1.52



Alt Model-Shift Uniqueness Test

008125580-01, $P = 17.317203$ Days, $E = 125.038756$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.2	3.50	3.03	3.38	5.07	2.65	1.13	38.2	37.8	0.47	0.11	0.09	1.07	0.08	1.69



Stellar Parameters For KIC 008125580

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4719^{+131}_{-164}	$4.753^{+0.042}_{-0.024}$	$-1.700^{+0.300}_{-0.200}$	$0.502^{+0.023}_{-0.029}$	$0.520^{+0.032}_{-0.021}$	$5.781^{+0.932}_{-0.508}$
	+3%/-3%	+1%/-1%	+18%/-12%	+5%/-6%	+6%/-4%	+16%/-9%
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 008125580-01 / KOI 1014.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-123 ± 31	$2.02^{+0.50}_{-0.52}$	632^{+20}_{-22}	3108^{+319}_{-224}	179^{+170}_{-70}
Alt.	-114 ± 33	$2.05^{+0.52}_{-0.44}$	634^{+19}_{-24}	3066^{+292}_{-217}	162^{+128}_{-65}

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 $A_{obs} \gg 1.0$

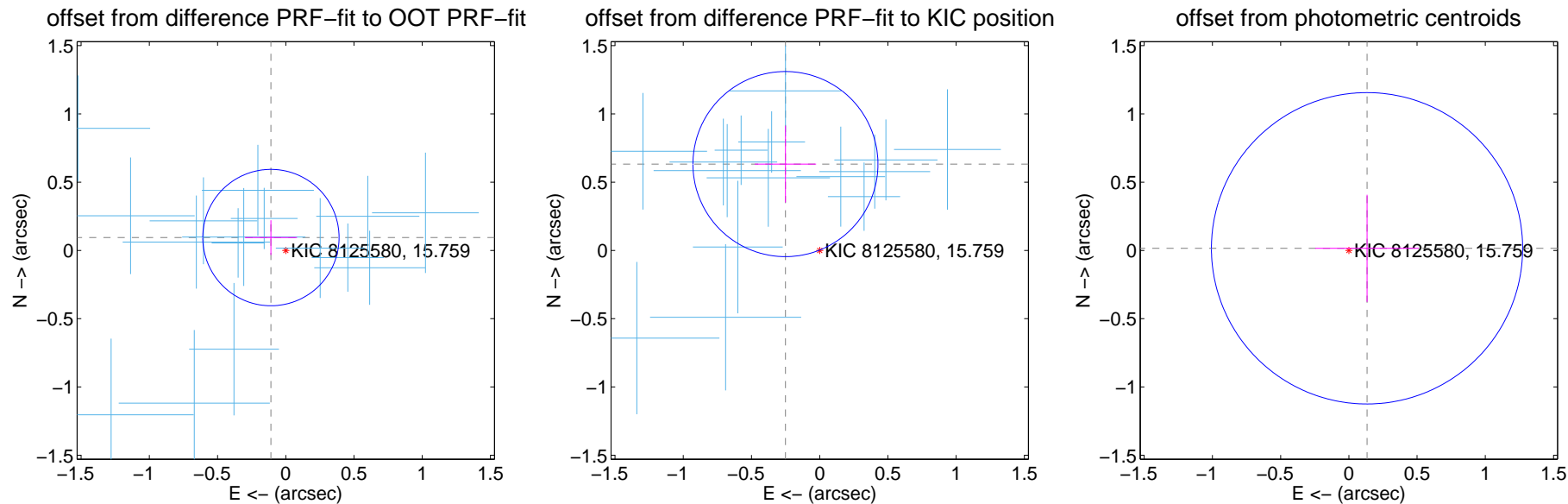
DV Centroid Data

Supplemental centroid analysis for 008125580-01. Kepler magnitude: 15.76. Transit SNR 36.15

There are 16 quarters with good PRF difference image offsets

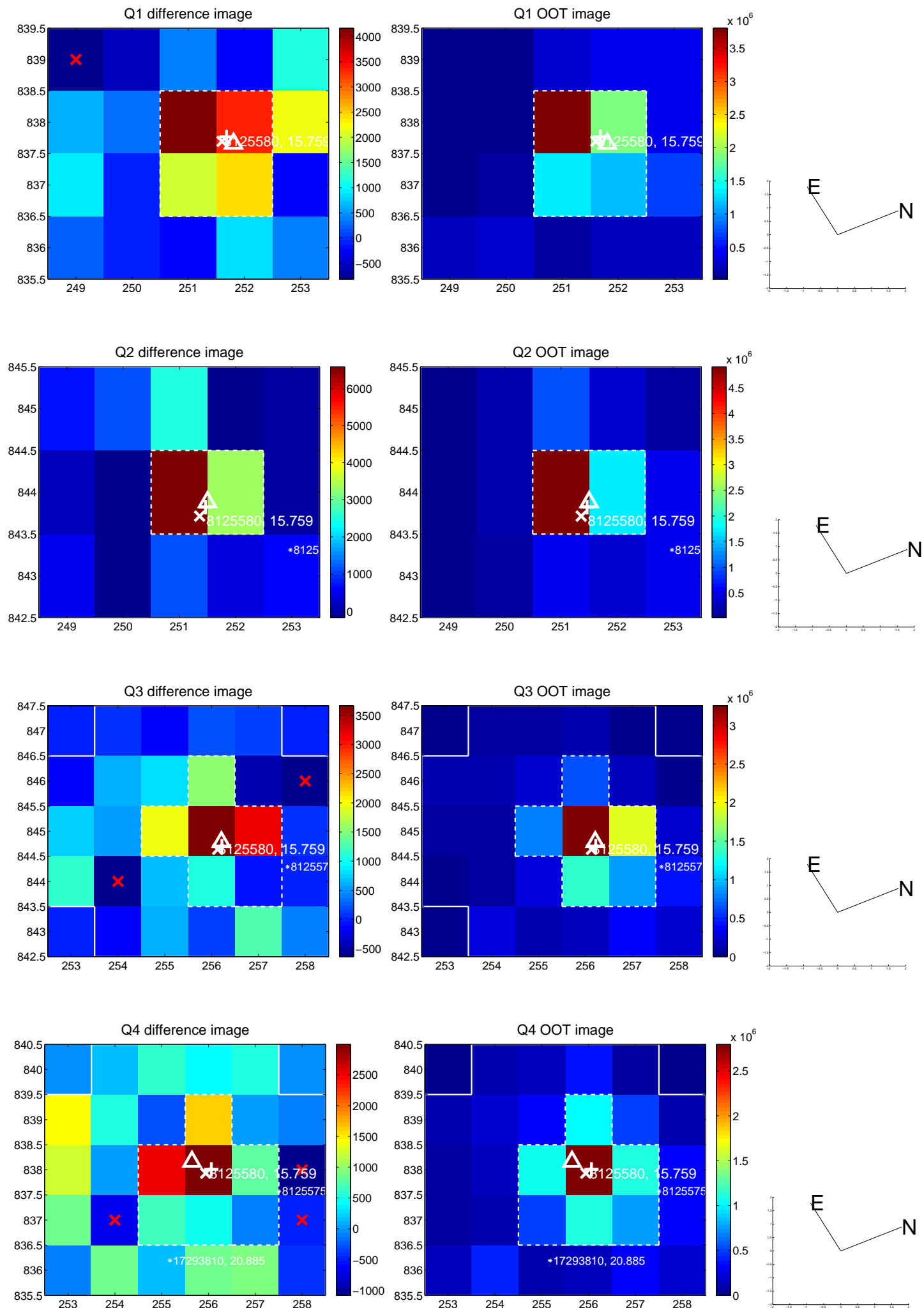
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.144 ± 0.167	0.86	0.109 ± 0.191	0.094 ± 0.127
PRF-fit source offset from KIC position	0.680 ± 0.226	3.01	0.251 ± 0.225	0.632 ± 0.281
photometric centroid source offset	0.13 ± 0.38	0.35	-0.13 ± 0.38	0.02 ± 0.39

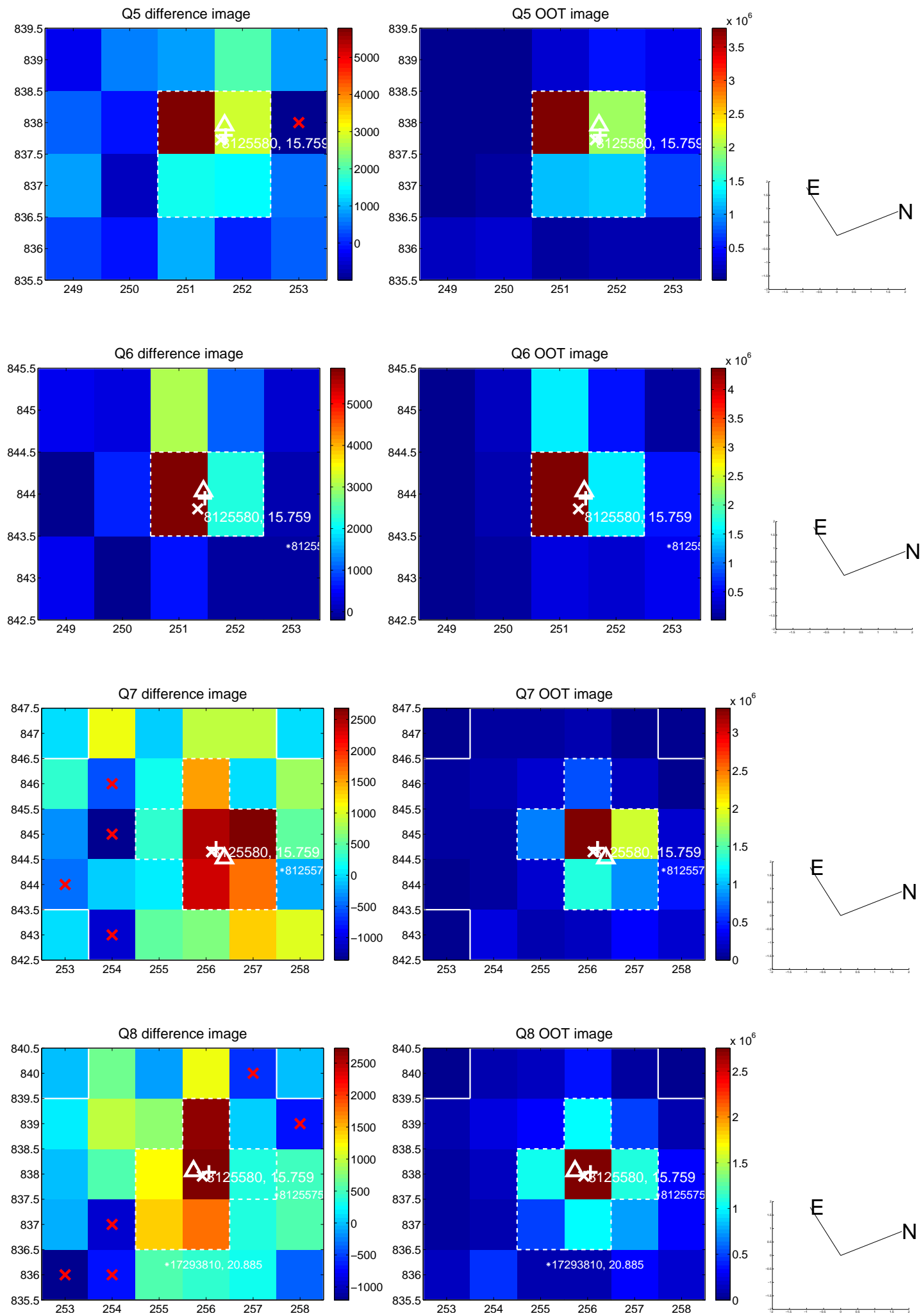


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

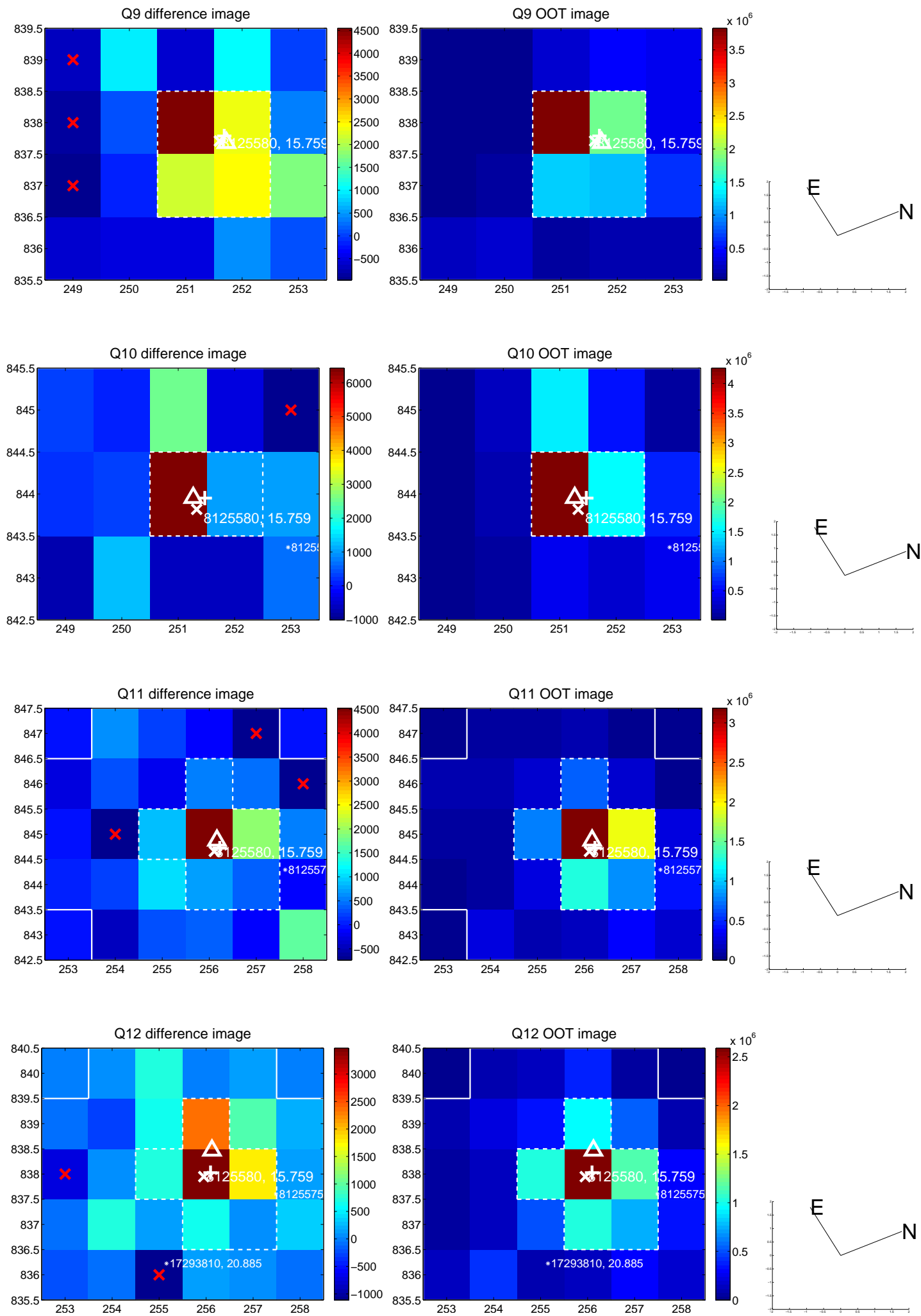
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



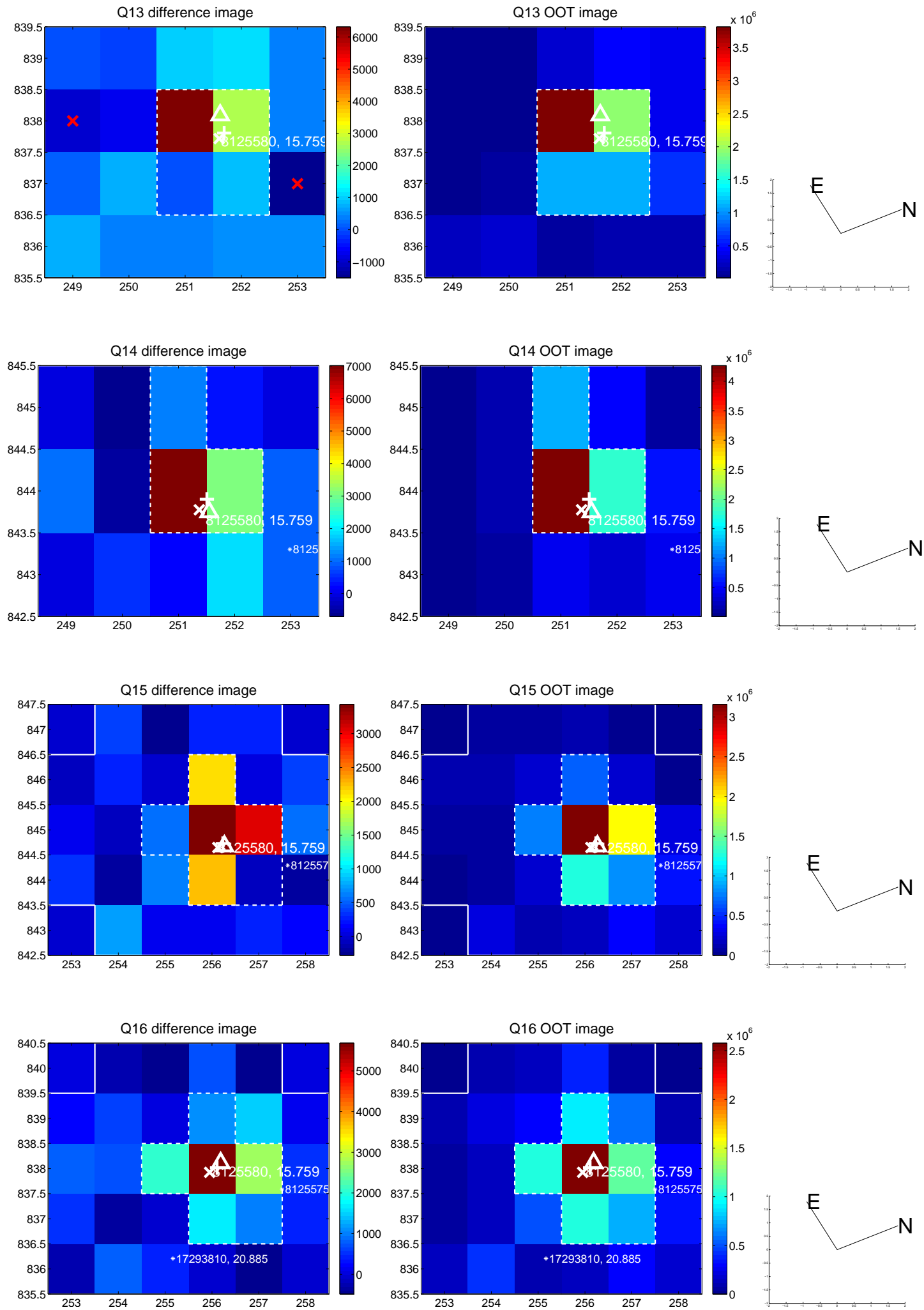
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



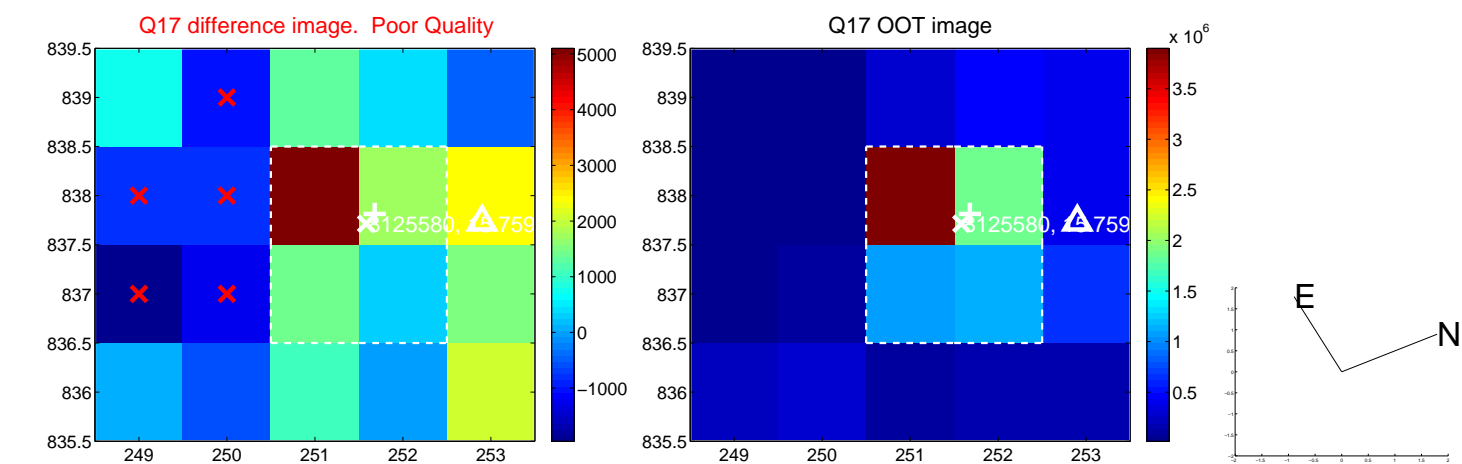
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



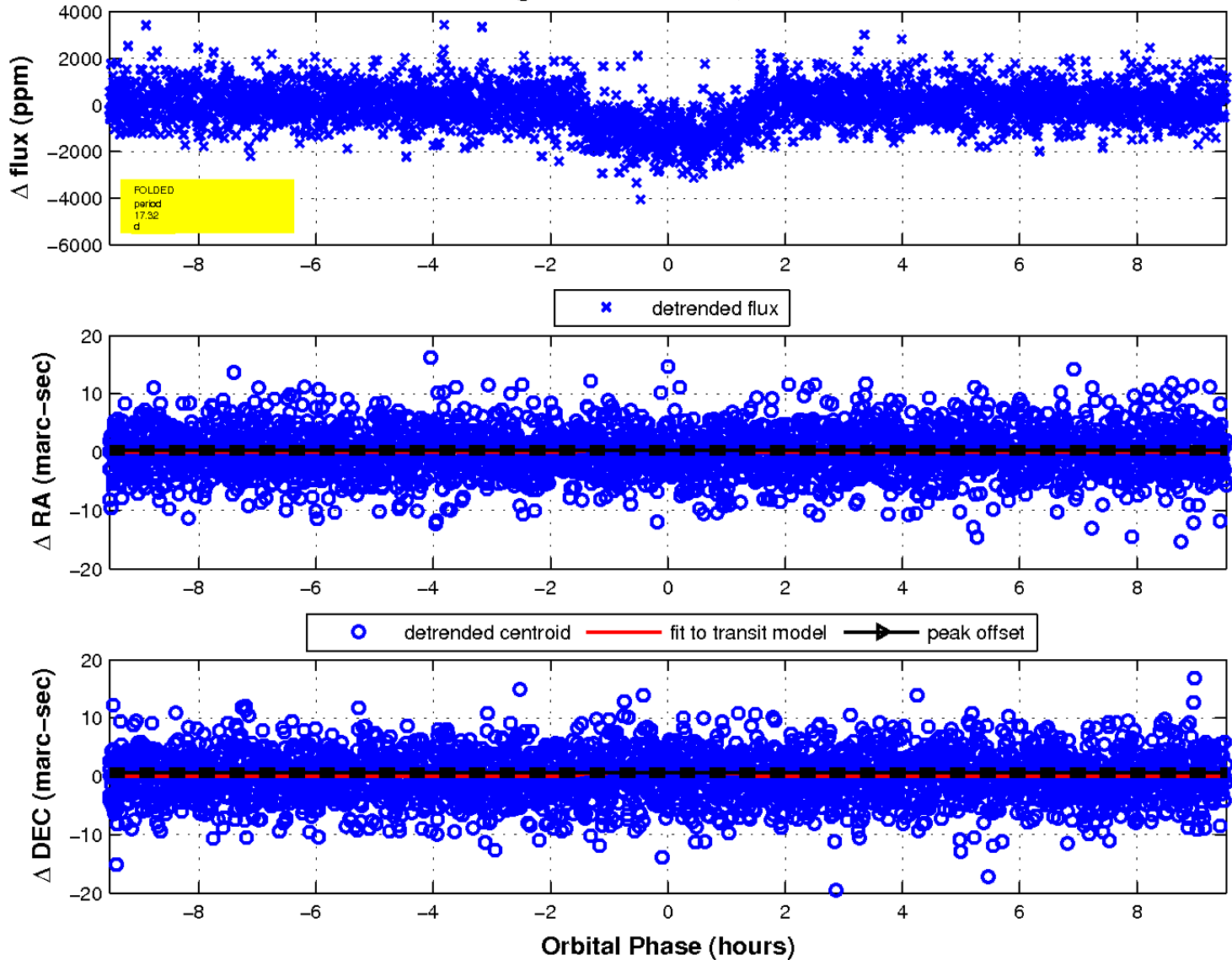
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

