

KIC 008590776

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})
008590776-01	OBS	7900.01	33.893797	135.352042	218.3	2.073	7.1	6.9	0.85	5818	1.49	18.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008590776-01	OBS	FP	0.03	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT

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

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

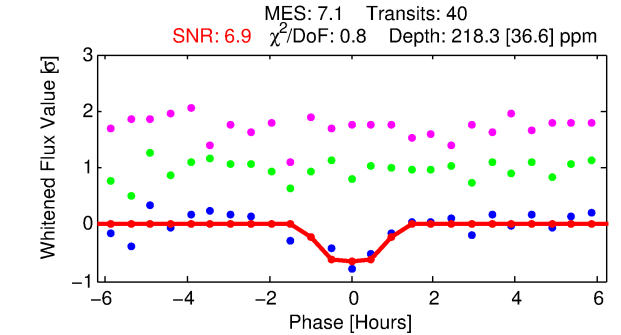
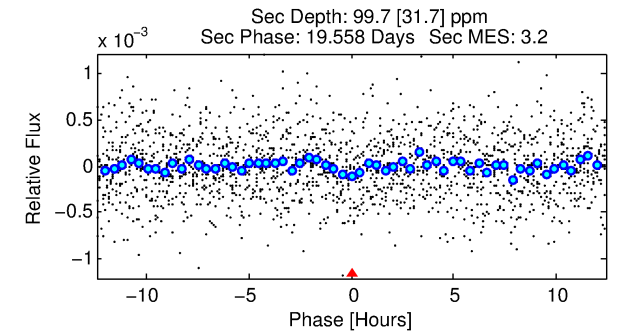
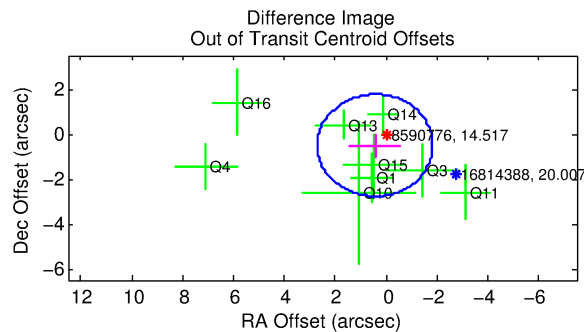
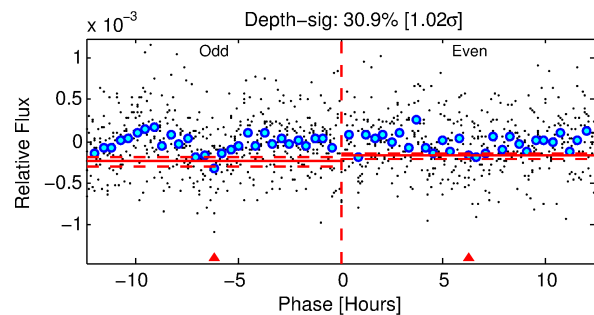
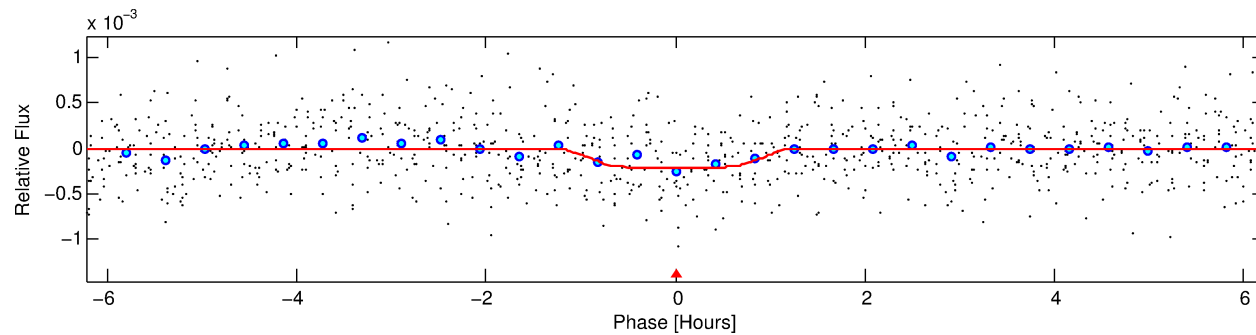
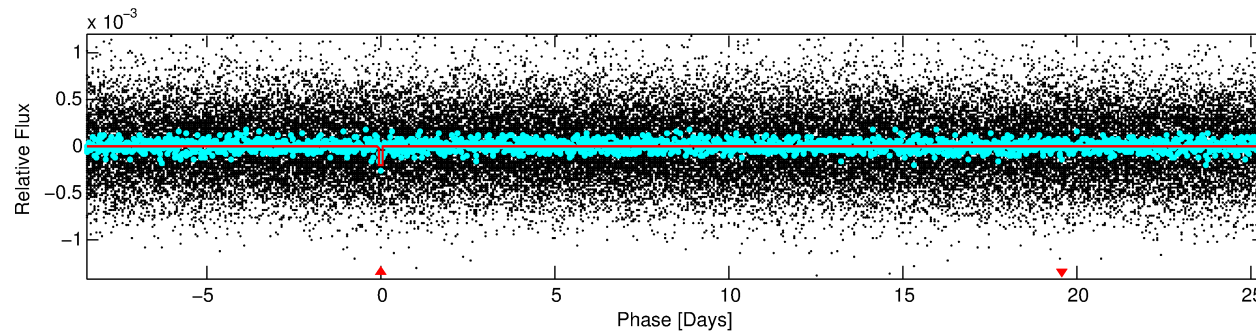
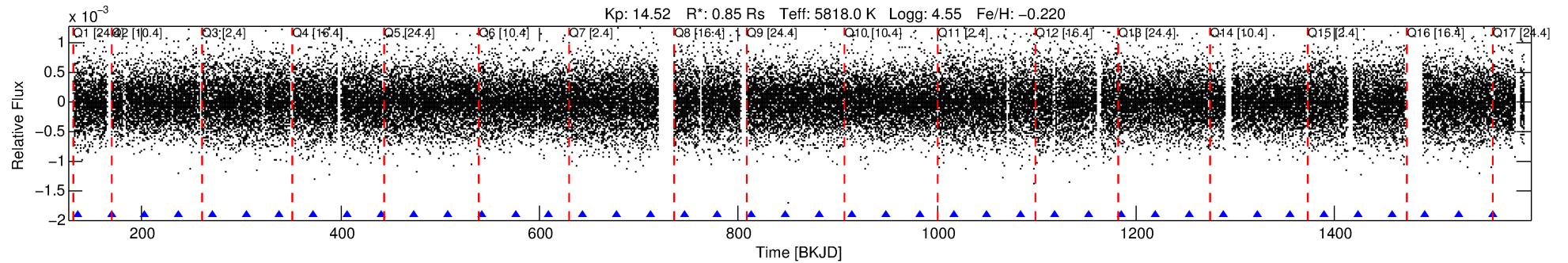
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008590776-01

No Significant Match Found

DV One-Page Summary

KIC: 8590776 Candidate: 1 of 1 Period: 33.894 d



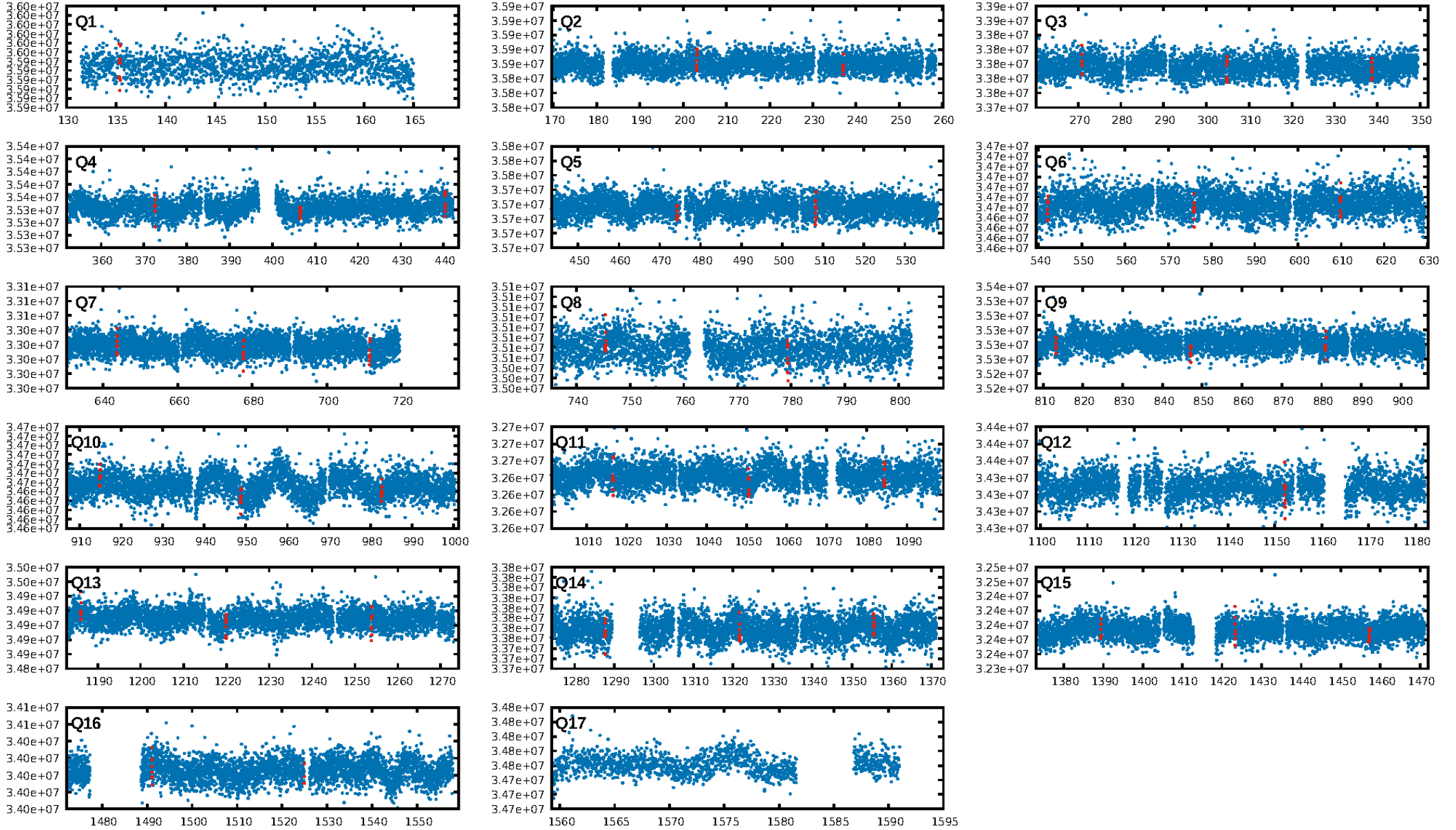
DV Fit Results:

Period = 33.89380 [0.00034] d
Epoch = 135.3520 [0.0082] BKJD
Rp/R* = 0.0161 [0.0185]
a/R* = 58.32 [328.59]
b = 0.90 [1.19]
Seff = 18.31 [6.77]
Teff = 527 [49] K
Rp = 1.49 [1.76] Re
a = 0.2008 [0.0481] AU
Ag = 996.41 [2335.16] [0.43σ]
Teffp = 4582 [2658] K [1.53σ]

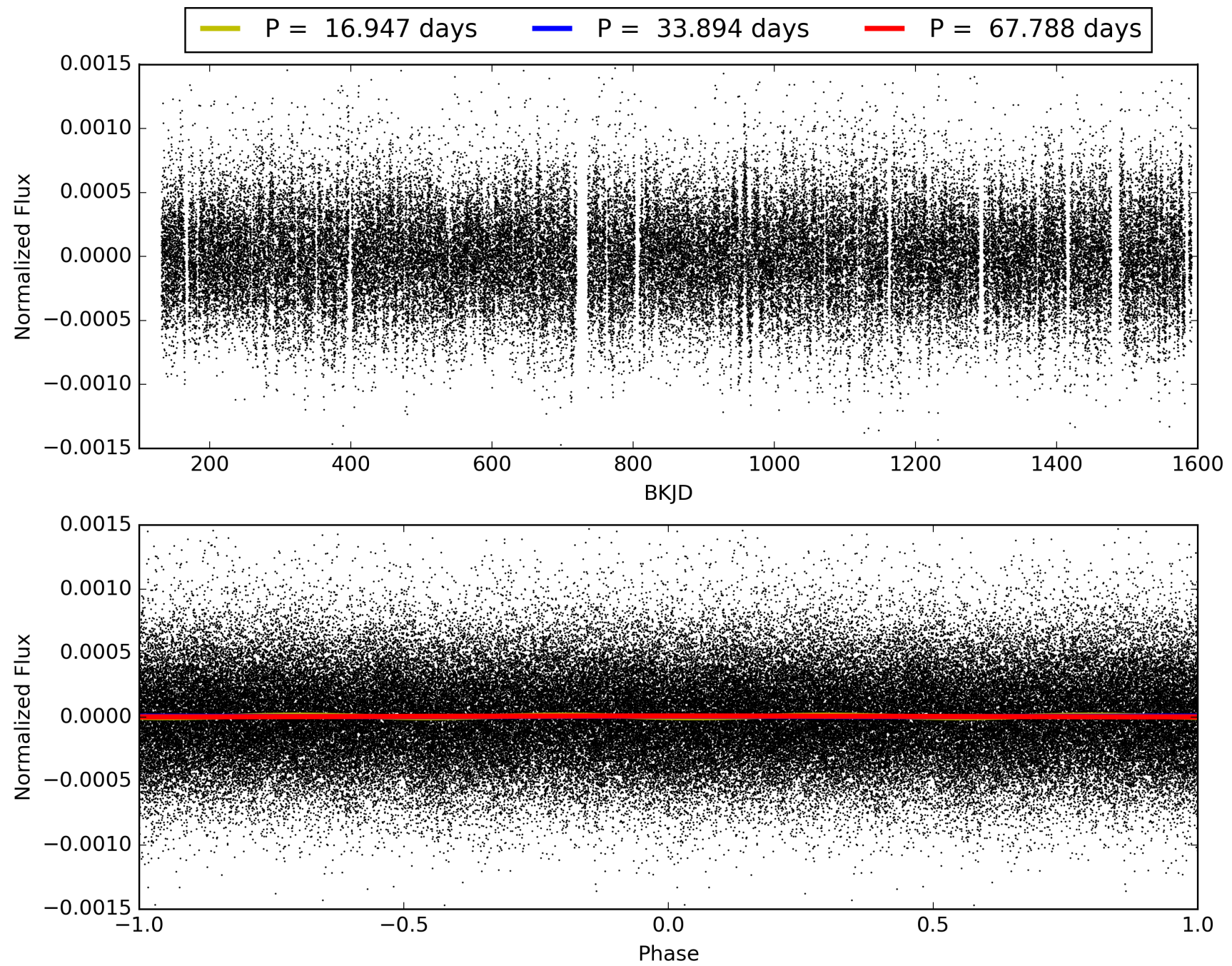
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.42e-13
RollingBand-fgt: 1.00 [39/39]
GhostDiagnostic-chr: 0.7011
Centroid-sig: N/A
Centroid-so: 1.163 arcsec [0.57σ]
OotOffset-rm: 0.670 arcsec [0.88σ]
KicOffset-rm: 0.604 arcsec [0.94σ]
OotOffset-st: 2/3/2/2 [9]
KicOffset-st: 2/3/2/2 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 008590776-01, PDC Light Curves

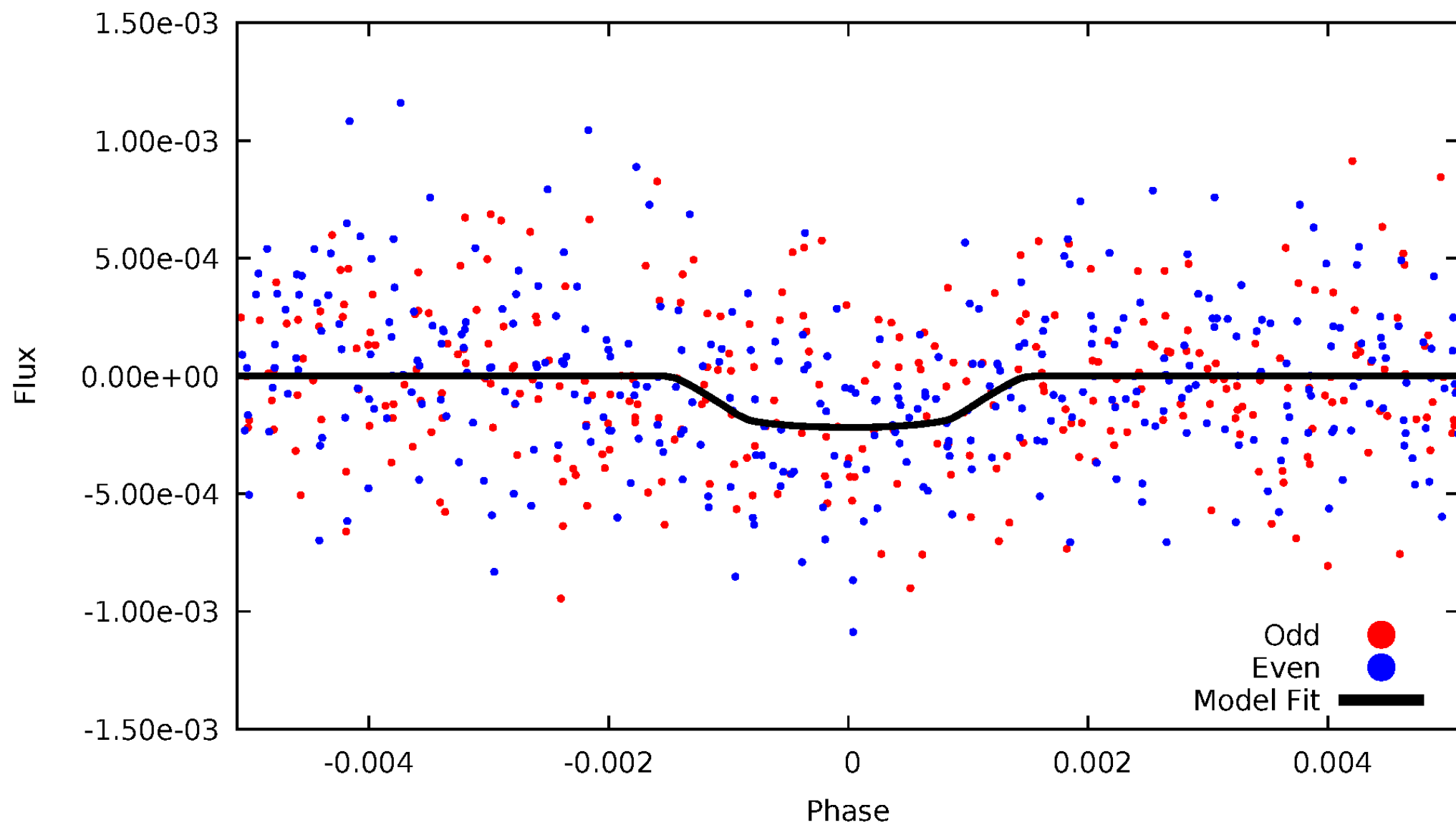


TCE 008590776-01



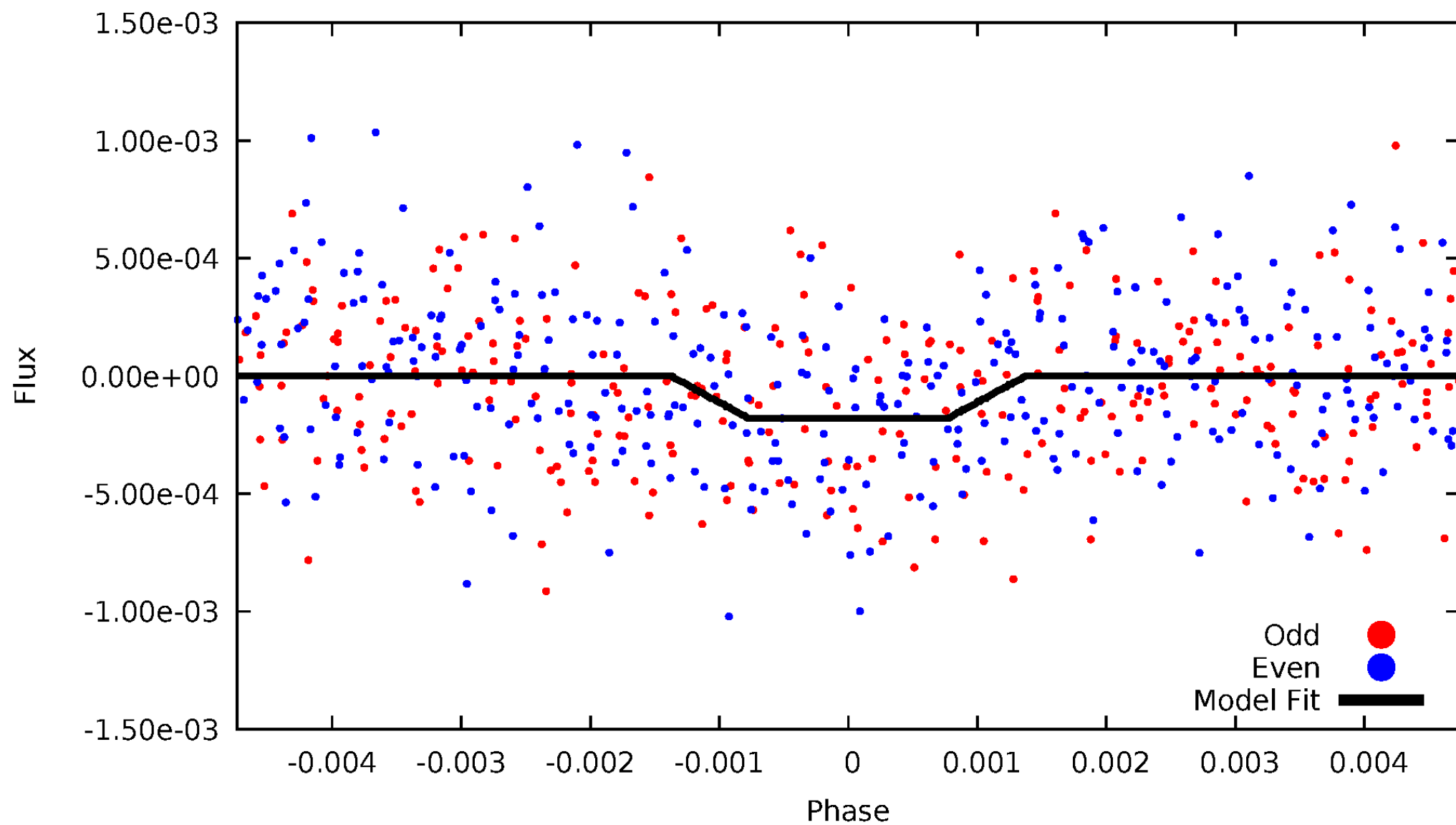
DV Odd/Even

TCE 008590776-01



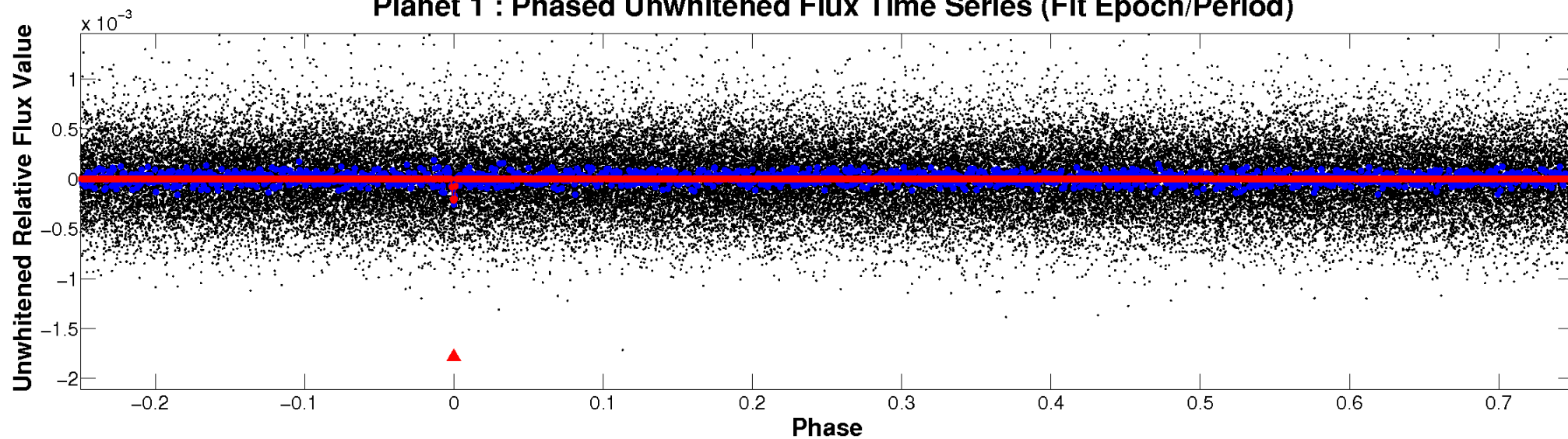
ALT Odd/Even

TCE 008590776-01

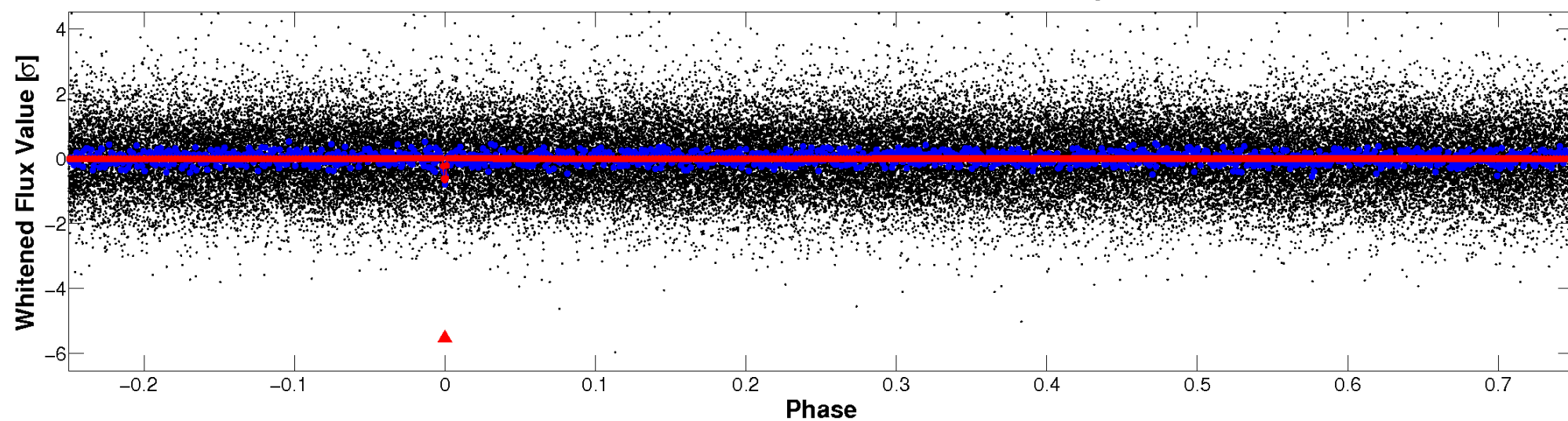


Non-Whitened Vs. Whitened Light Curve

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

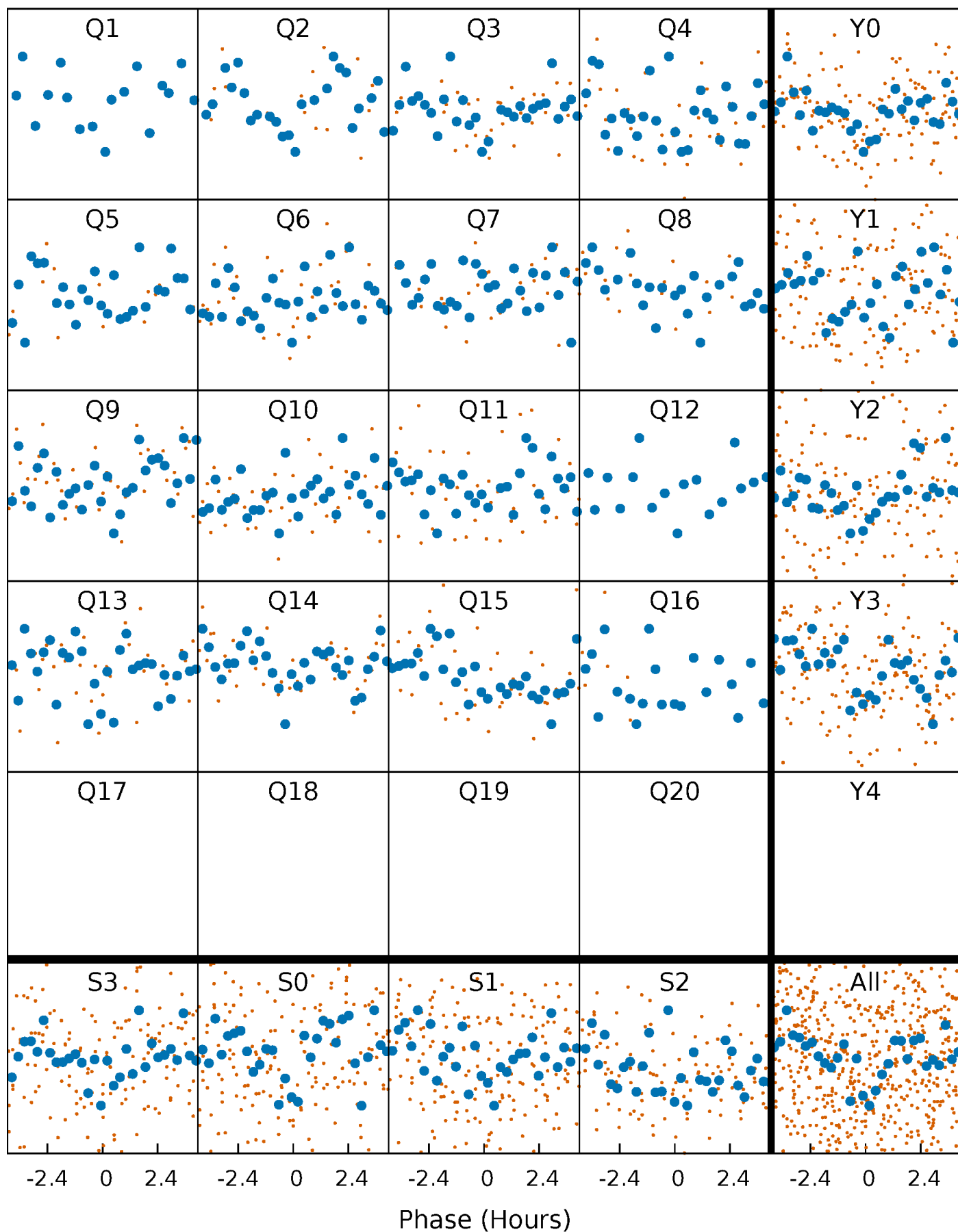


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



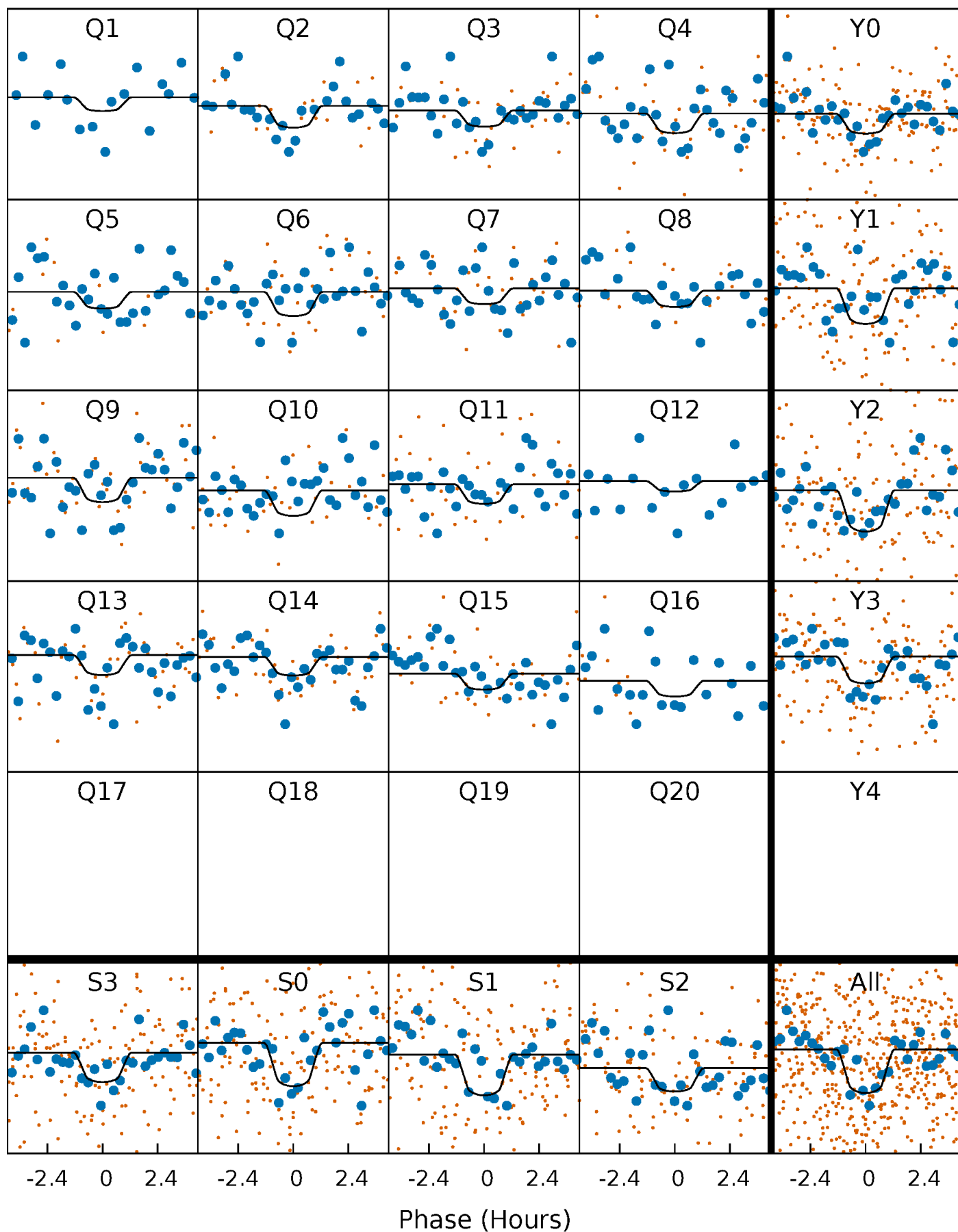
PDC Quarter-Phased Transit Curves

TCE 008590776-01 P= 33.893797 Days $T_0=135.352042$ (BKJD)



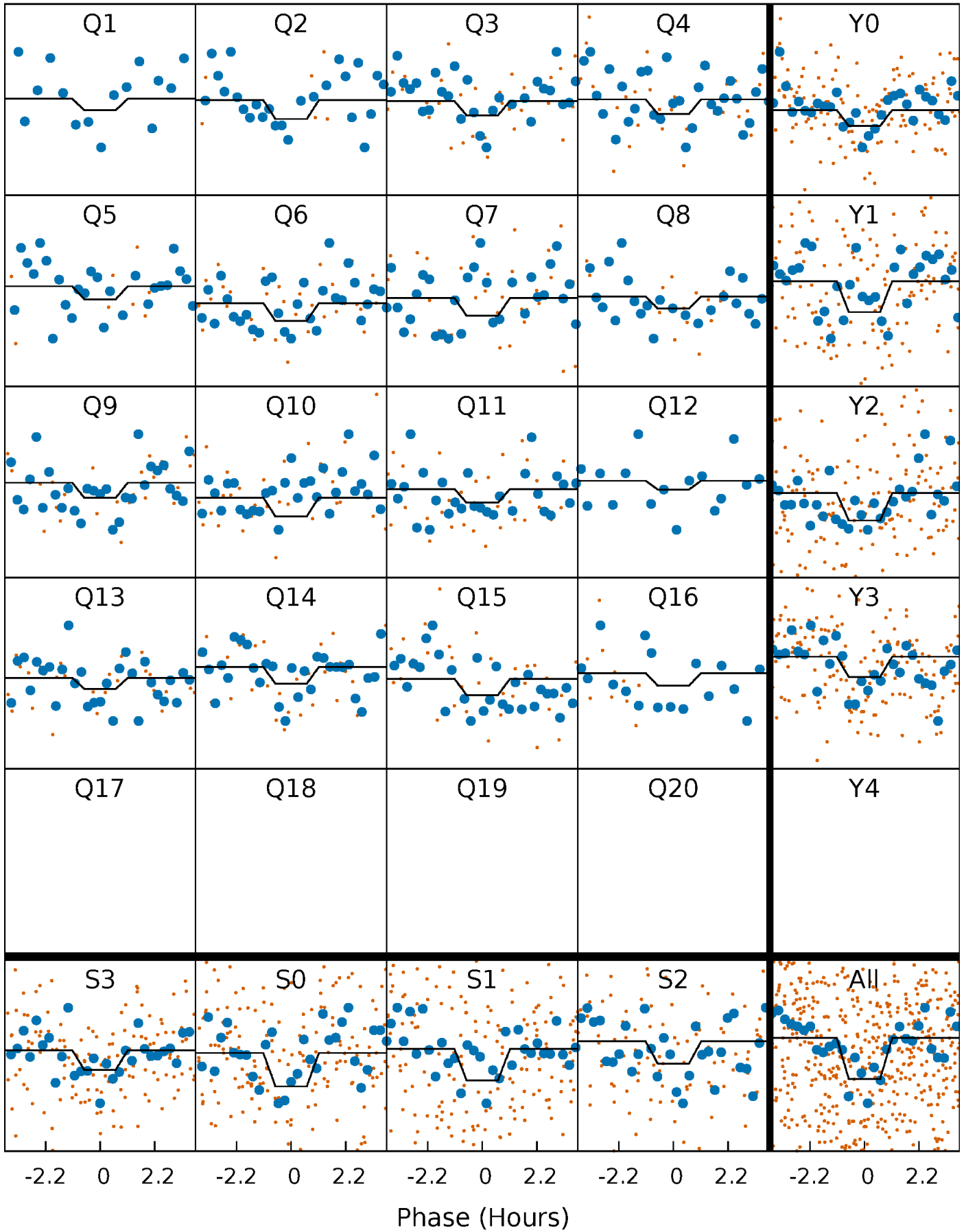
DV Quarter-Phased Transit Curves

TCE 008590776-01 P= 33.893797 Days $T_0=135.352042$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

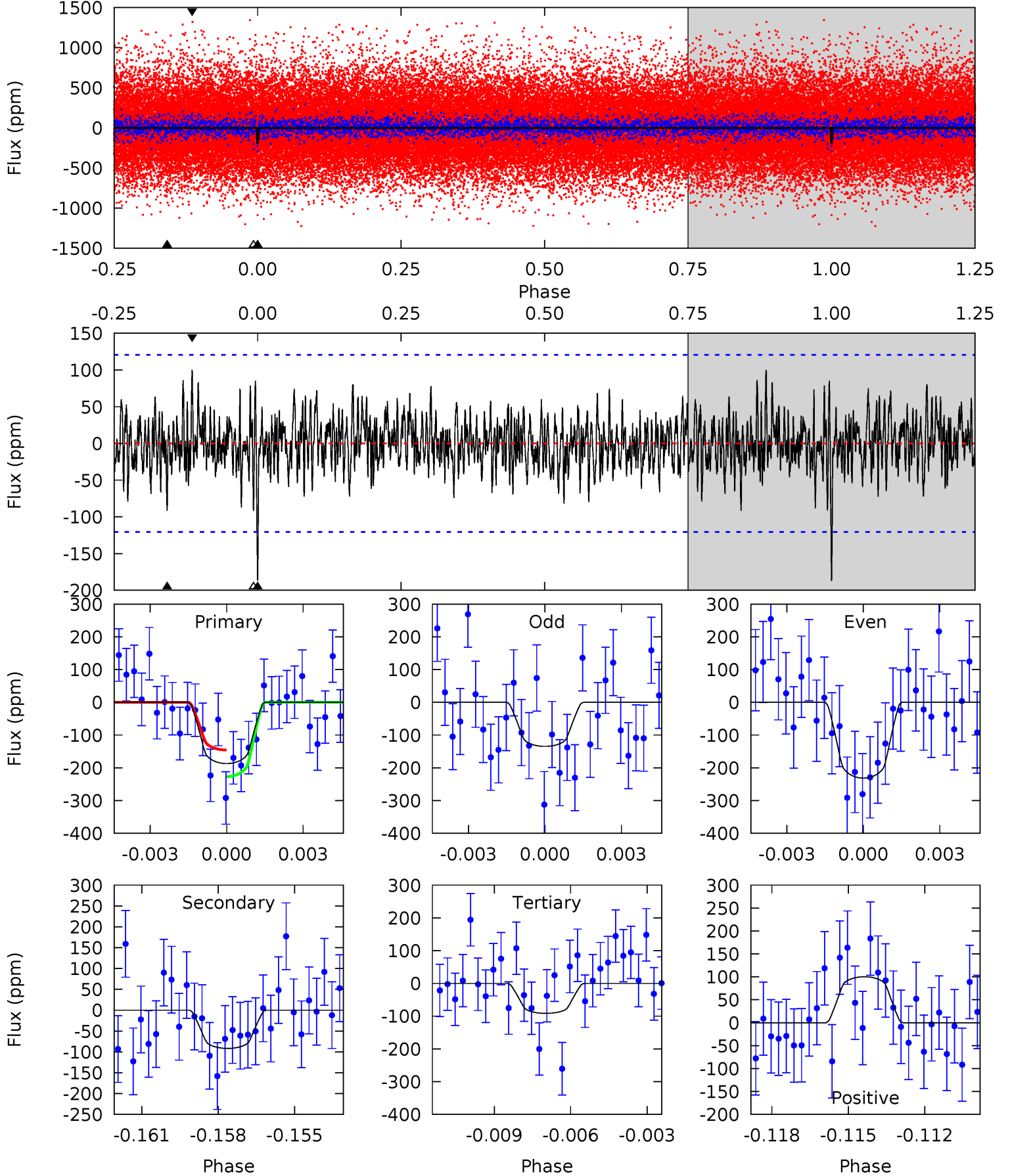
TCE 008590776-01 P= 33.893718 Days $T_0=135.352752$ (BKJD)



DV Model-Shift Uniqueness Test

008590776-01, P = 33.893797 Days, E = 101.458245 Days

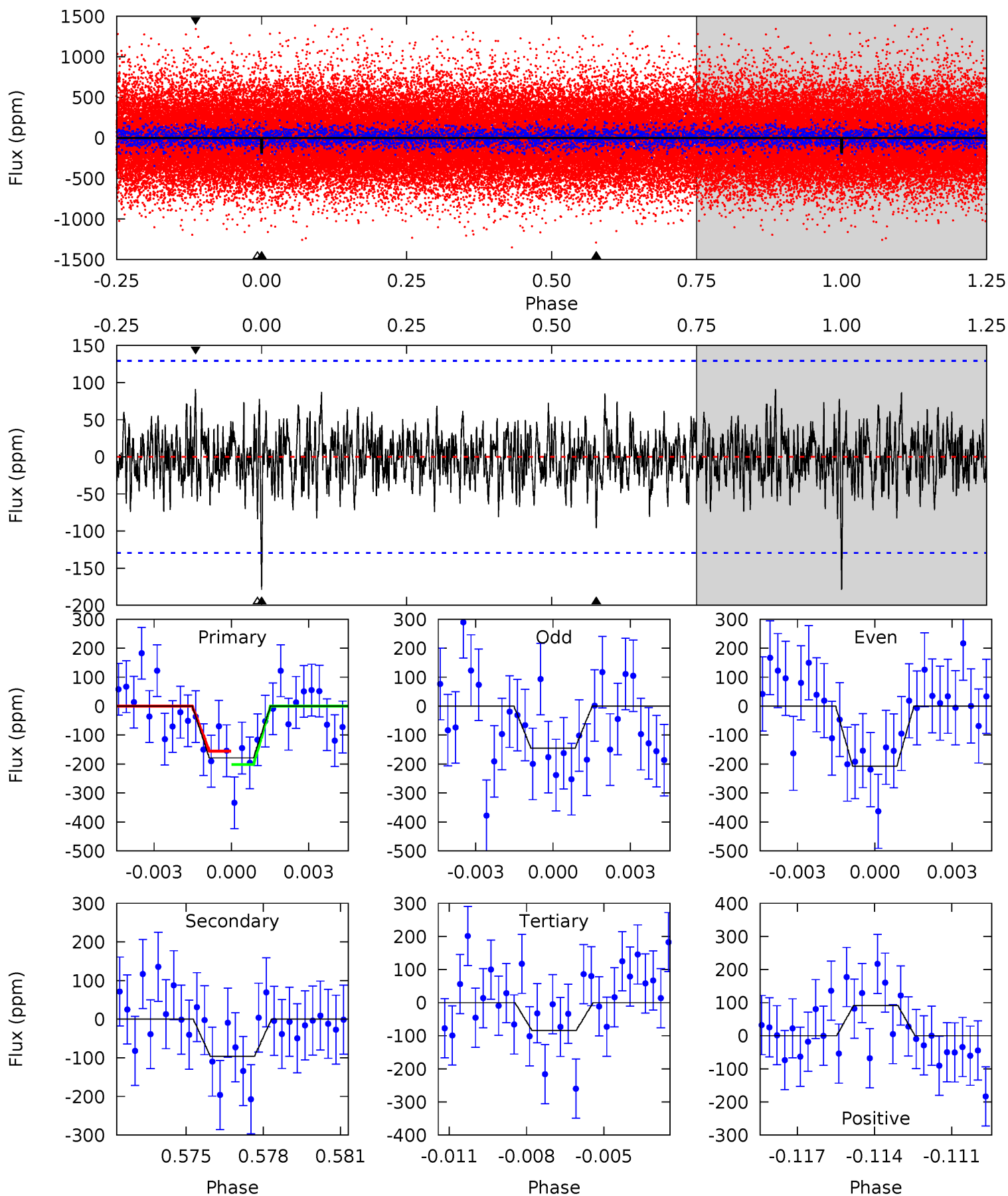
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.15	3.99	3.98	4.36	5.25	2.96	1.24	4.16	3.79	0.01	-0.37	2.11	0.98	0.35	1.77



Alt Model-Shift Uniqueness Test

008590776-01, P = 33.893718 Days, E = 101.459034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.29	3.91	3.42	3.72	5.27	3.00	1.14	3.86	3.57	0.48	0.19	1.26	0.88	0.34	0.94



Stellar Parameters For KIC 008590776

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5818^{+156}_{-174}	$4.554^{+0.036}_{-0.192}$	$-0.220^{+0.300}_{-0.300}$	$0.848^{+0.240}_{-0.080}$	$0.937^{+0.099}_{-0.110}$	$2.166^{+0.411}_{-1.082}$
	+3%/-3%	+1%/-4%	+136%/-136%	+28%/-9%	+11%/-12%	+19%/-50%
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 008590776-01 / KOI 7900.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 23	$1.97^{+1.63}_{-1.27}$	756^{+47}_{-33}	4216^{+2469}_{-787}	512^{+3163}_{-364}
Alt.	-96 ± 25	$1.85^{+1.55}_{-1.20}$	754^{+49}_{-32}	4355^{+2995}_{-841}	598^{+4368}_{-428}

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

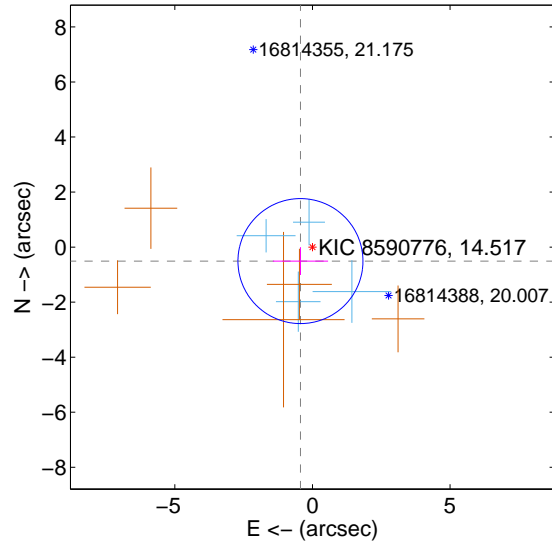
Supplemental centroid analysis for 008590776-01. Kepler magnitude: 14.52. Transit SNR 6.94

There are 4 quarters with good PRF difference image offsets

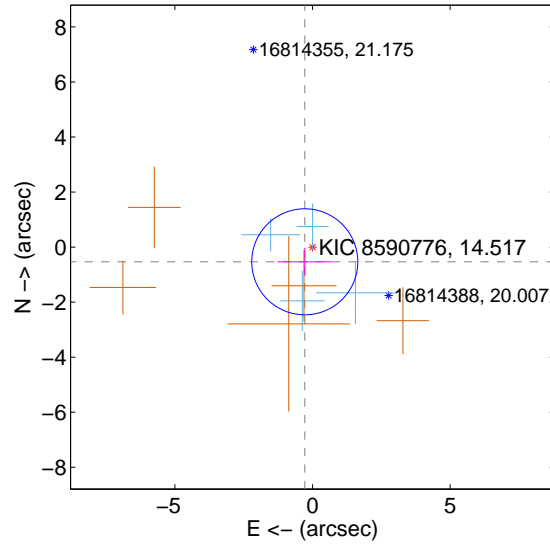
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.670 ± 0.757	0.88	0.436 ± 1.003	-0.509 ± 0.506
PRF-fit source offset from KIC position	0.604 ± 0.642	0.94	0.282 ± 0.992	-0.535 ± 0.503
photometric centroid source offset	1.16 ± 2.05	0.57	-0.67 ± 1.85	0.95 ± 2.15

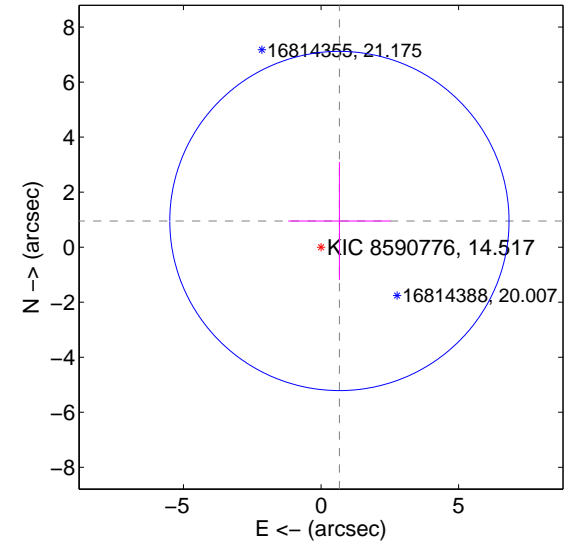
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

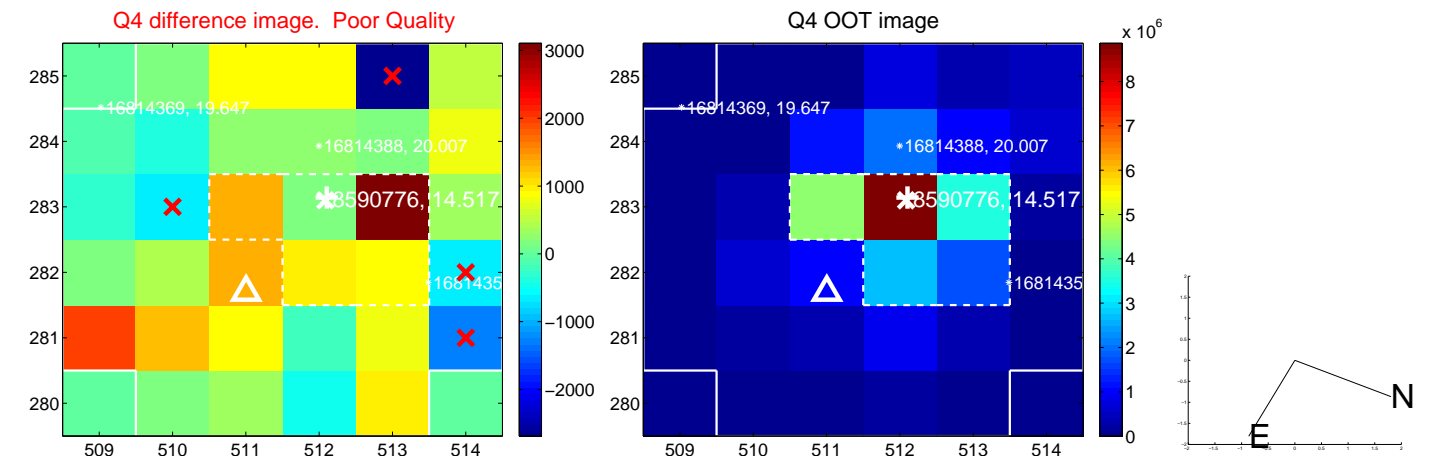
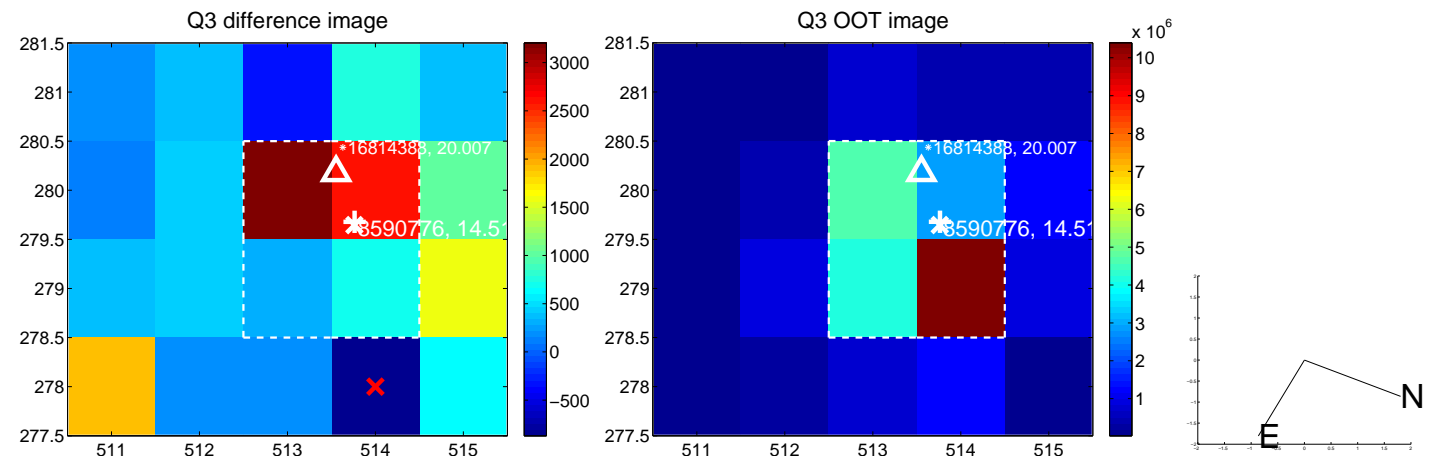
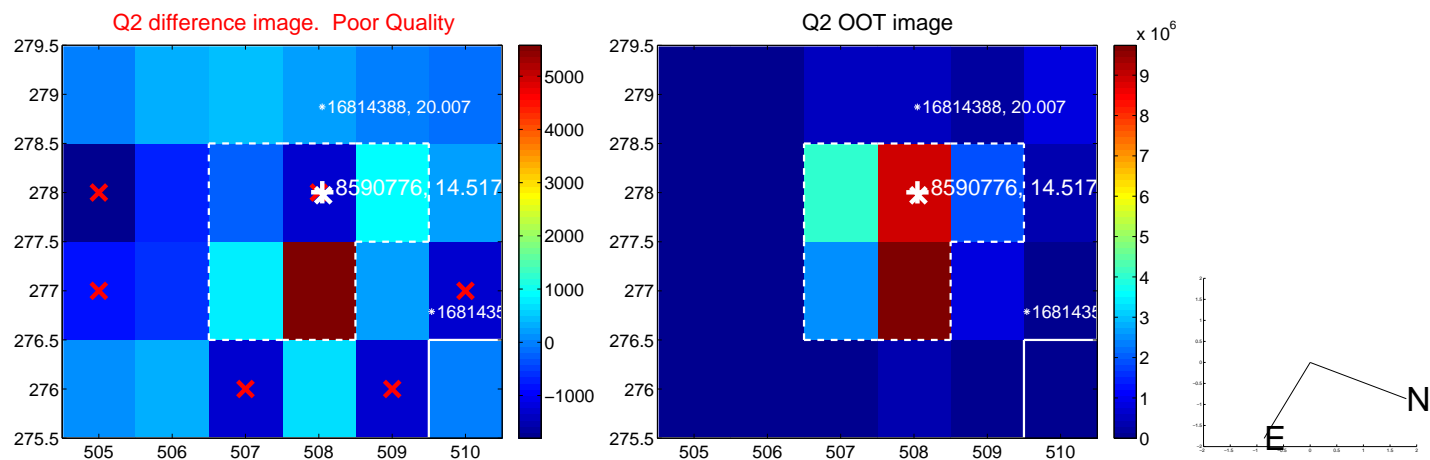
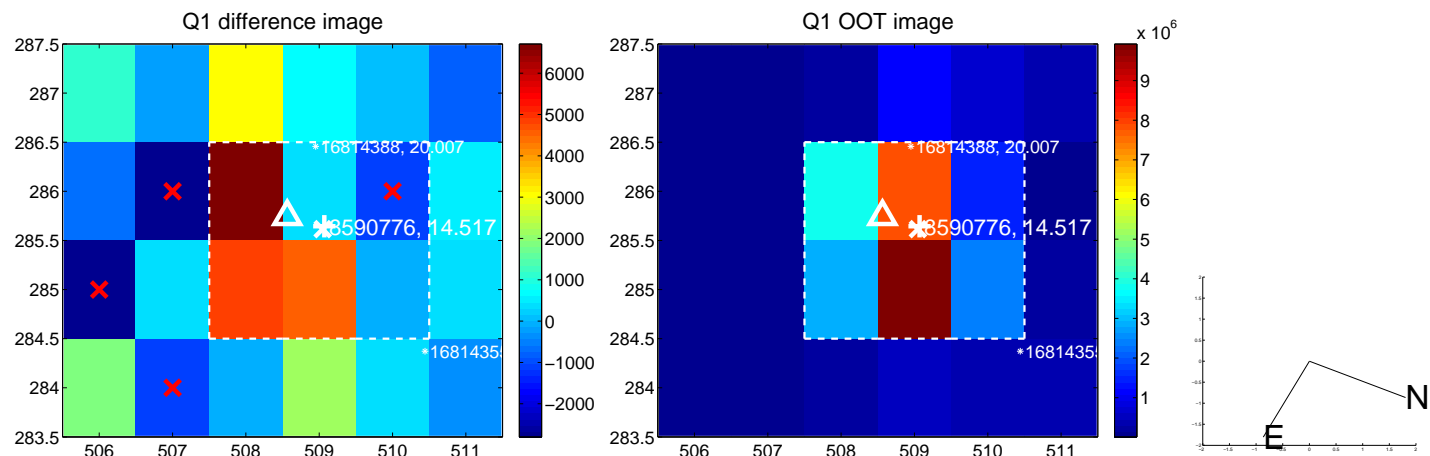


offset from photometric centroids

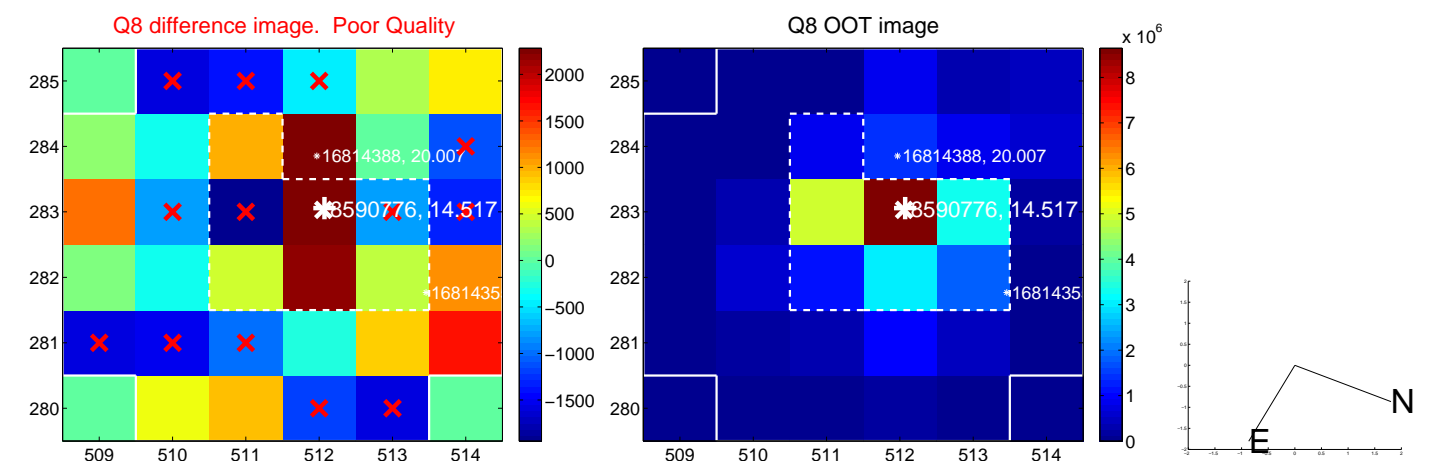
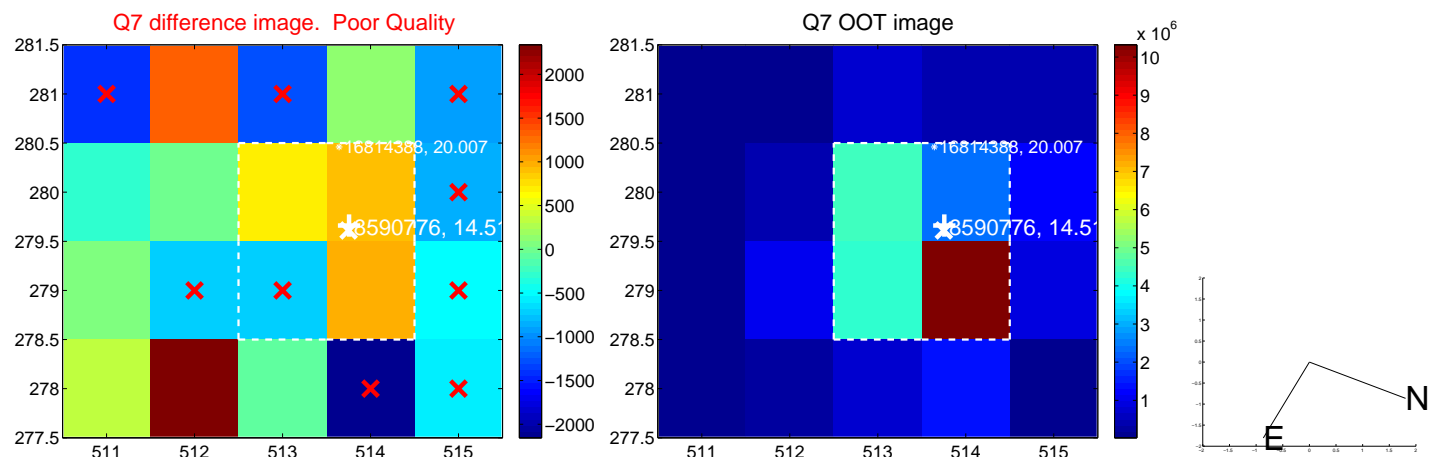
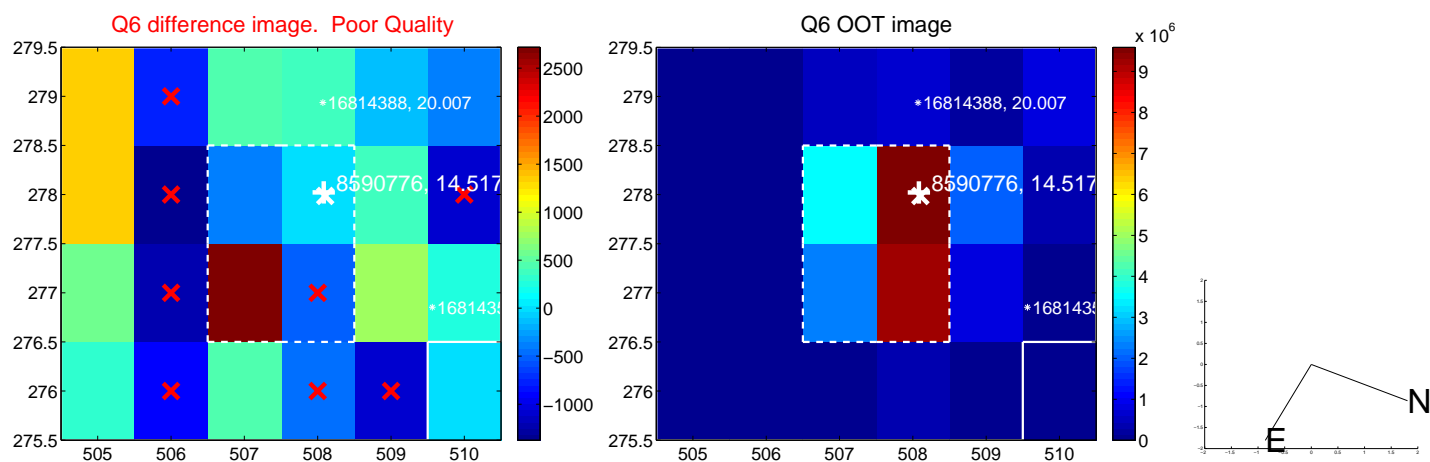
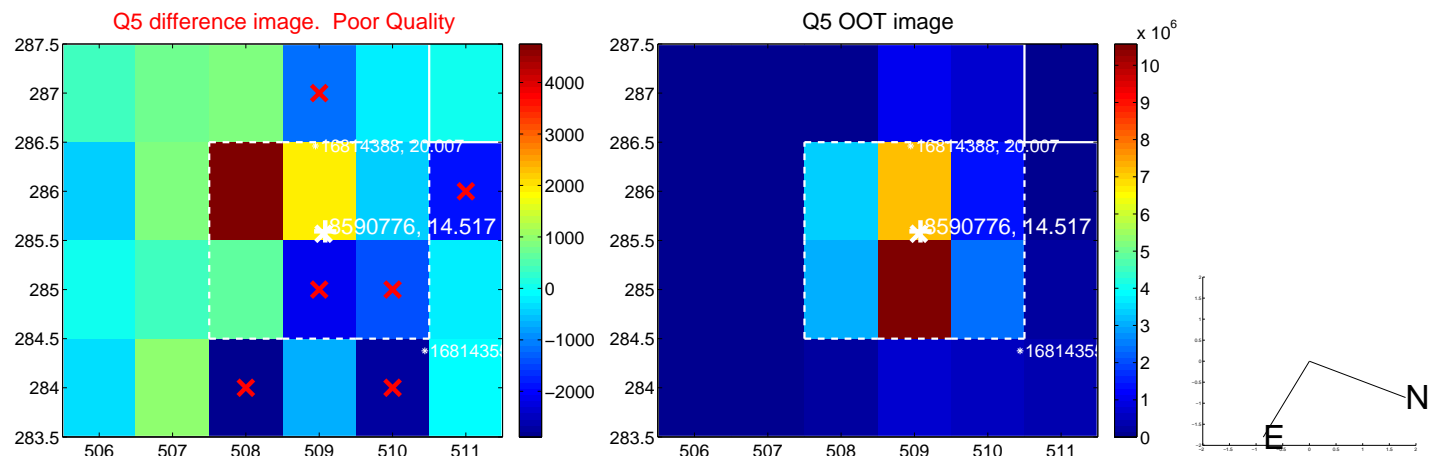


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

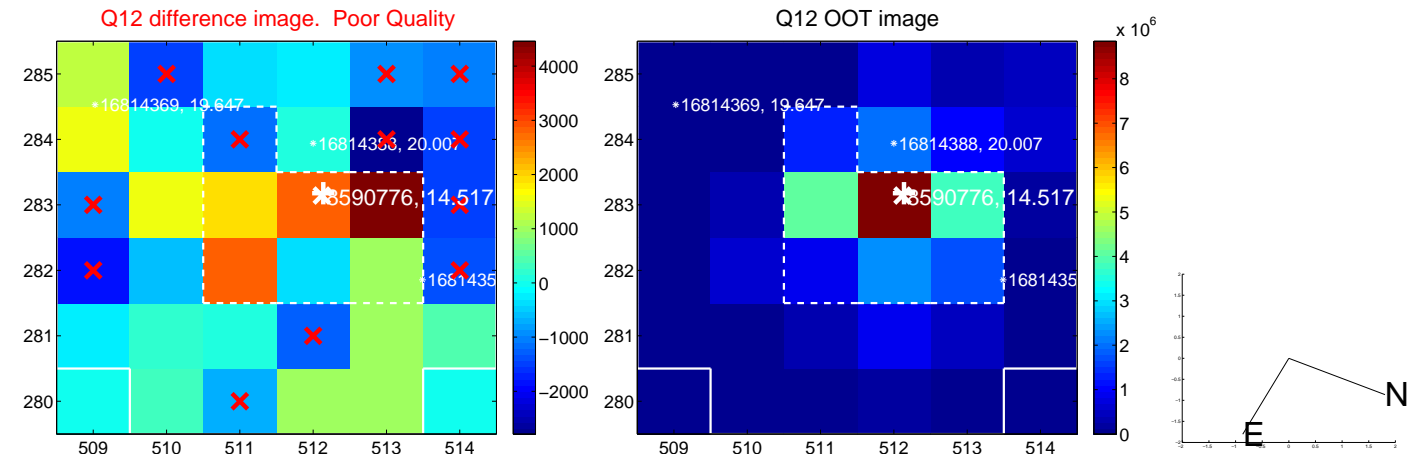
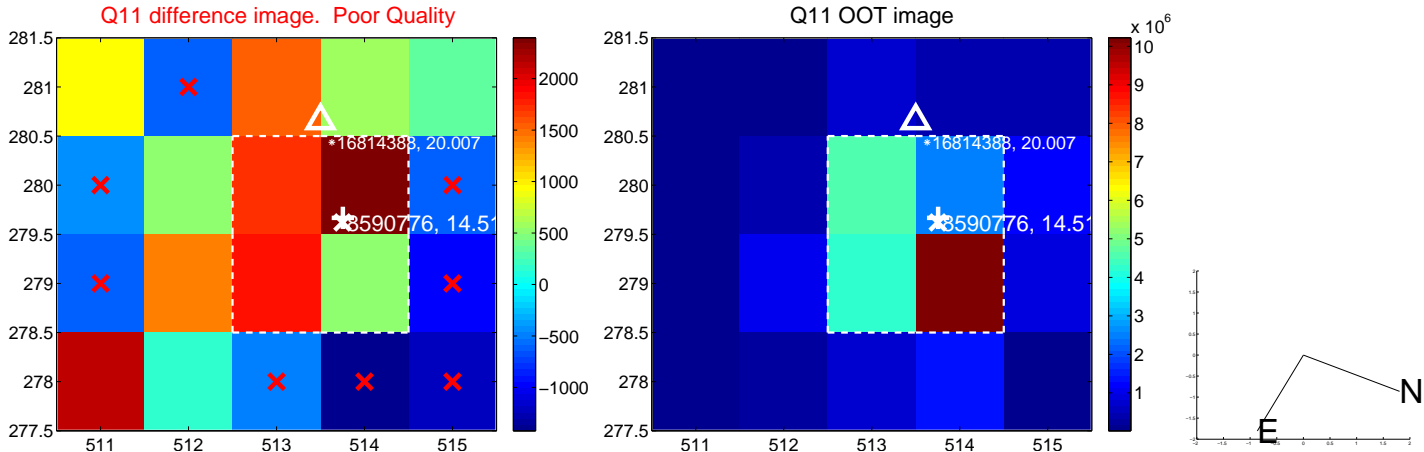
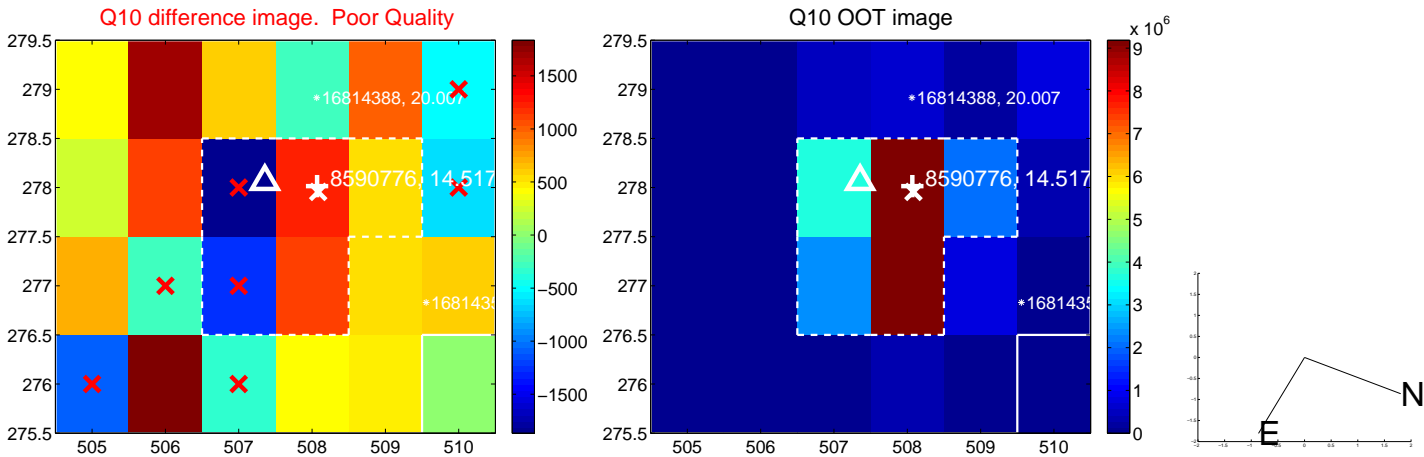
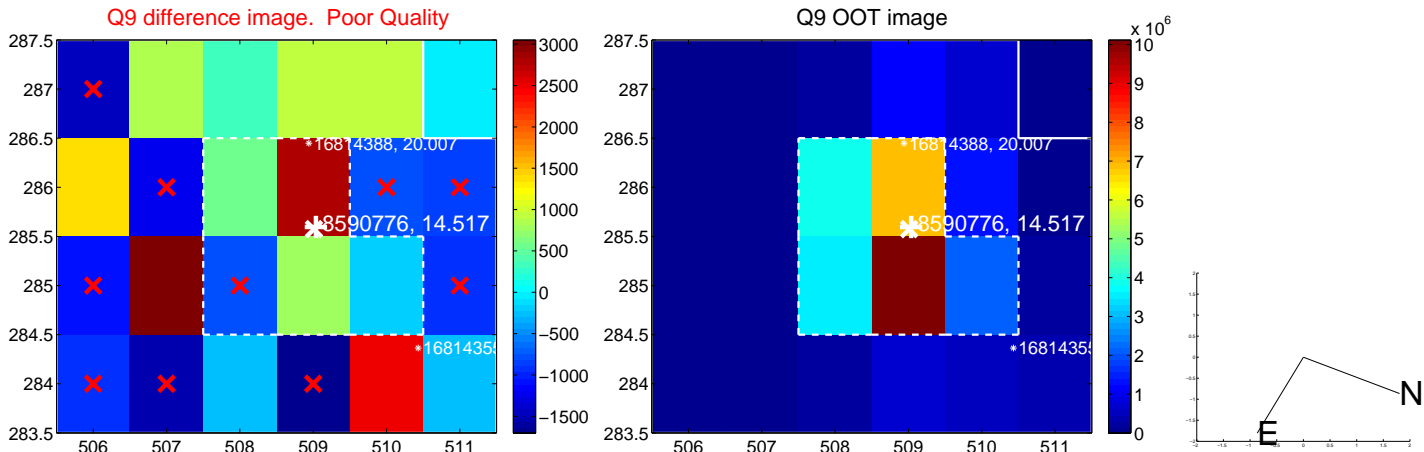
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



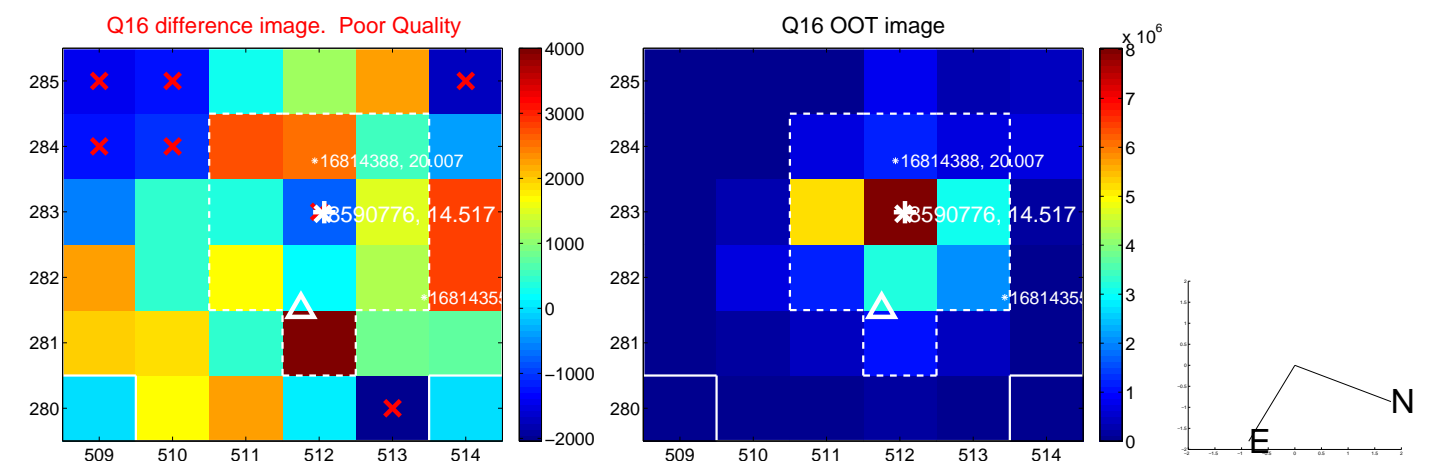
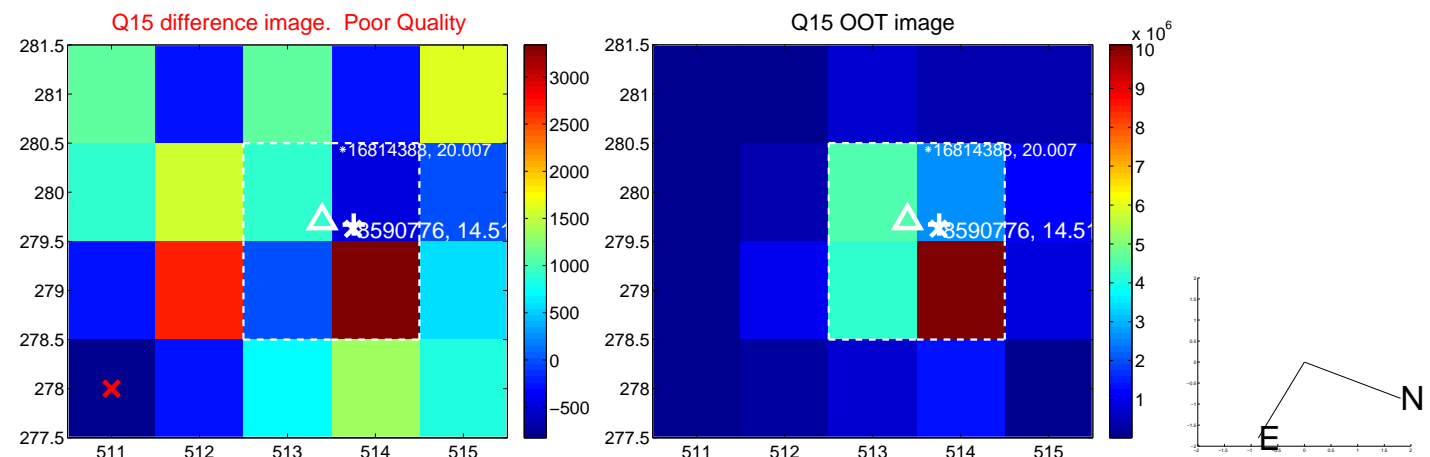
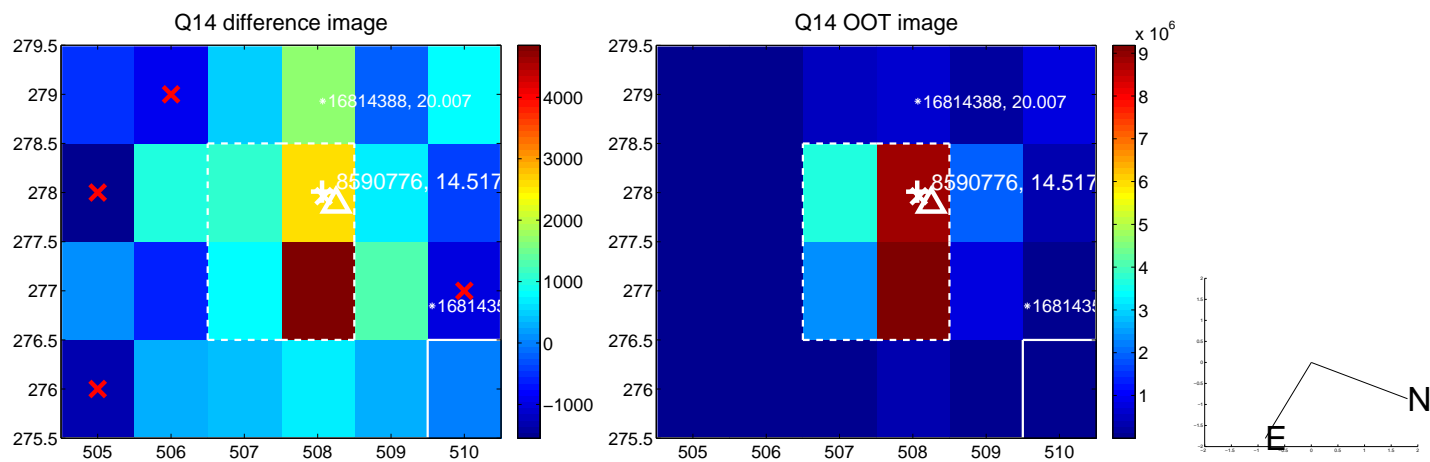
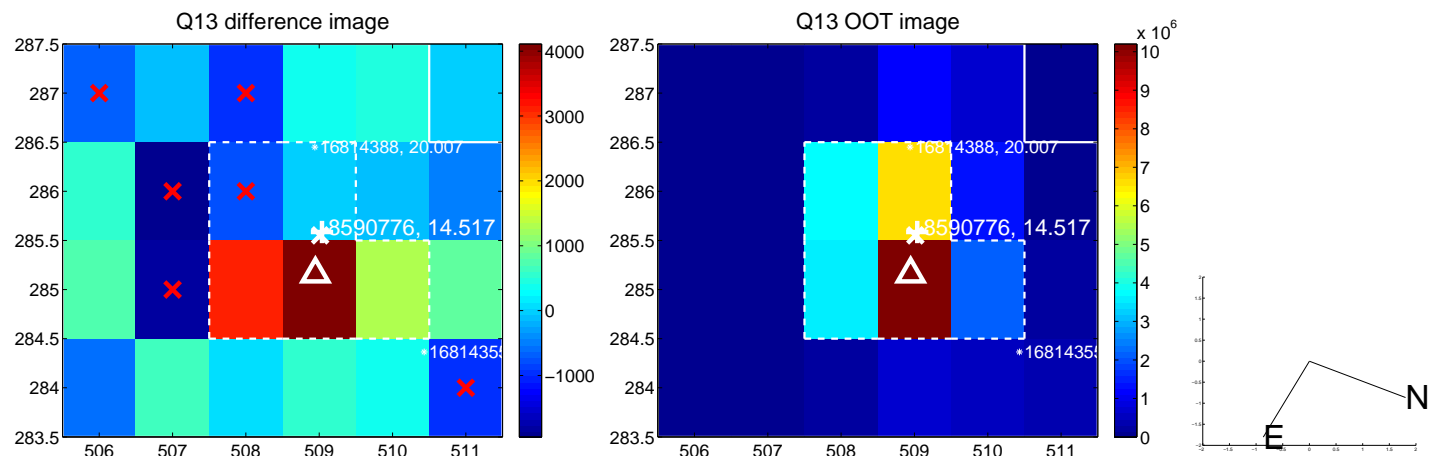
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



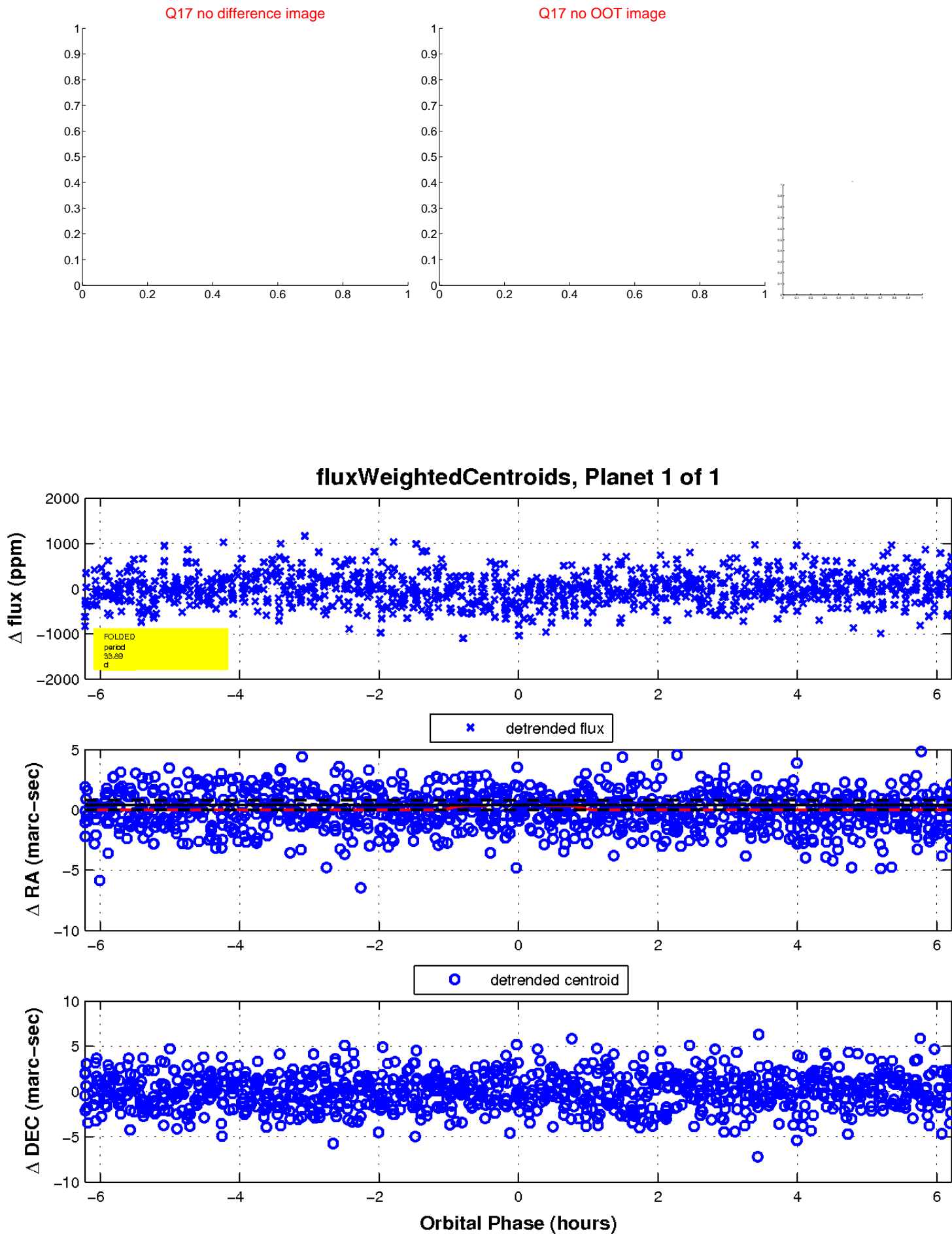
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

