

KIC 002576197

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})
002576197-01	OBS	0489.01	2.217012	131.795863	389.1	2.075	39.4	41.6	1.28	6521	2.96	1963.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002576197-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

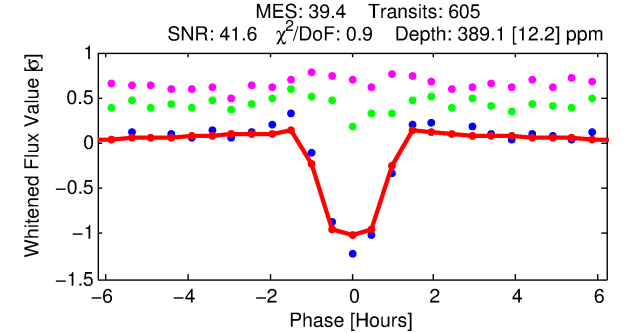
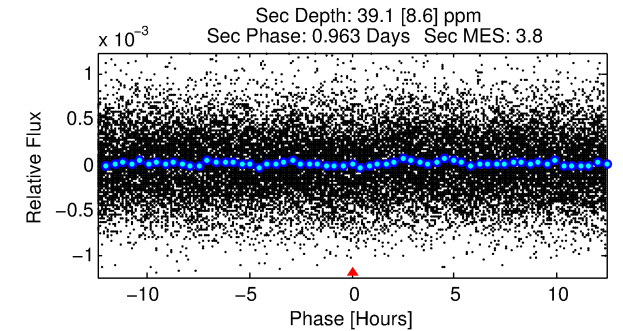
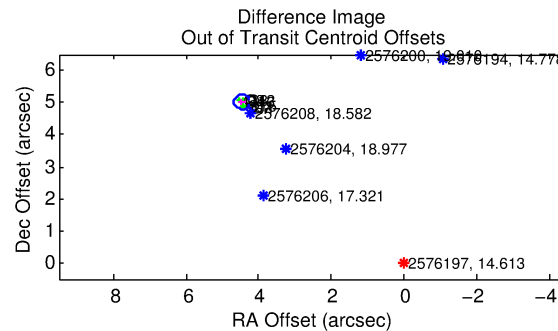
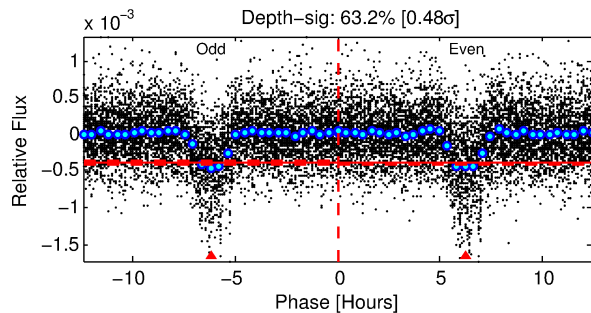
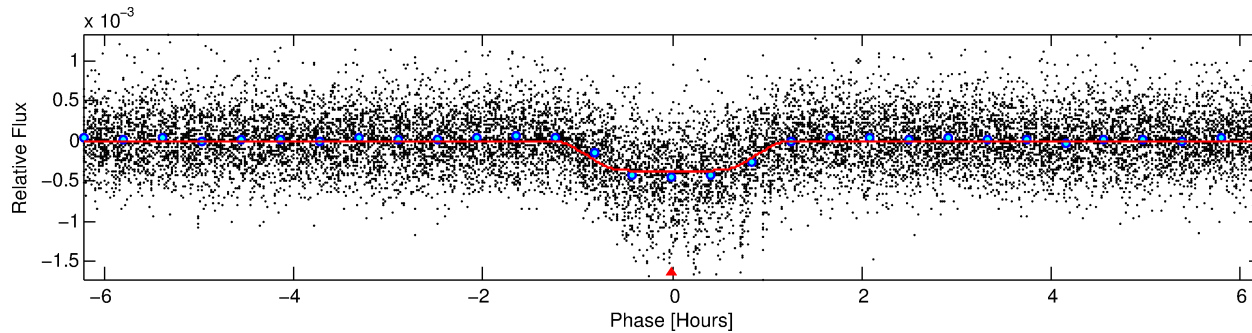
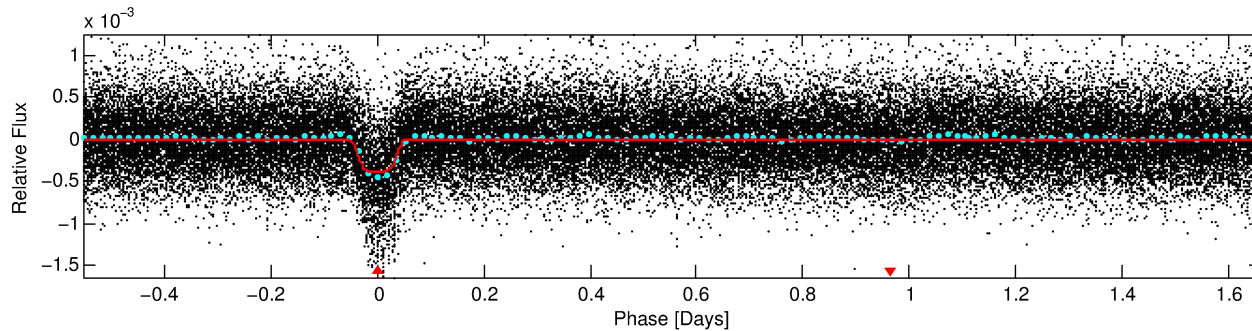
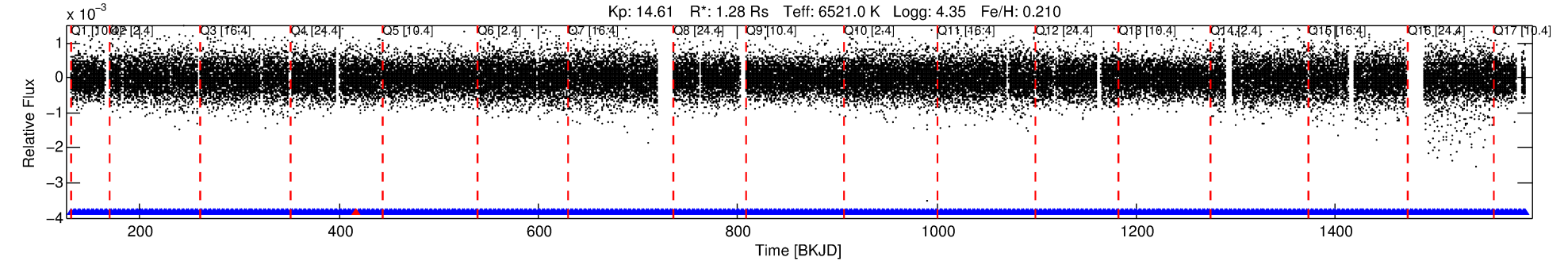
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002576197-01

No Significant Match Found

DV One-Page Summary

KIC: 2576197 Candidate: 1 of 1 Period: 2.217 d
KOI: K00489.01 Corr: 0.905



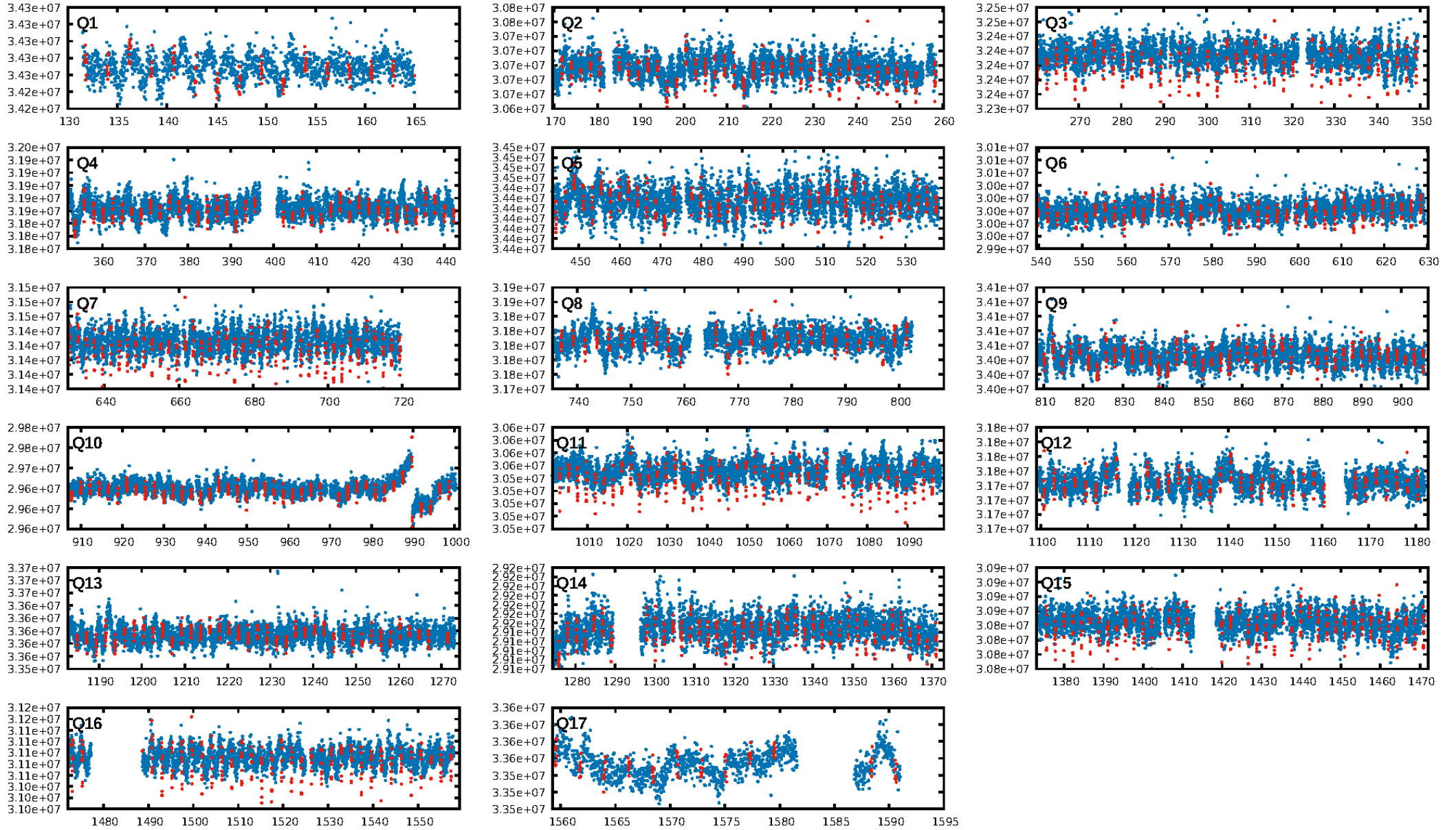
DV Fit Results:

Period = 2.21701 [0.00000] d
Epoch = 131.7959 [0.0007] BKJD
Rp/R* = 0.0213 [0.0020]
a/R* = 4.00 [1.86]
b = 0.90 [0.10]
Seff = 1963.48 [775.73]
Teq = 1697 [168] K
Rp = 2.96 [0.96] Re
a = 0.0367 [0.0093] AU
Ag = 3.29 [1.53] [1.50 σ]
Teffp = 3534 [289] K [5.50 σ]

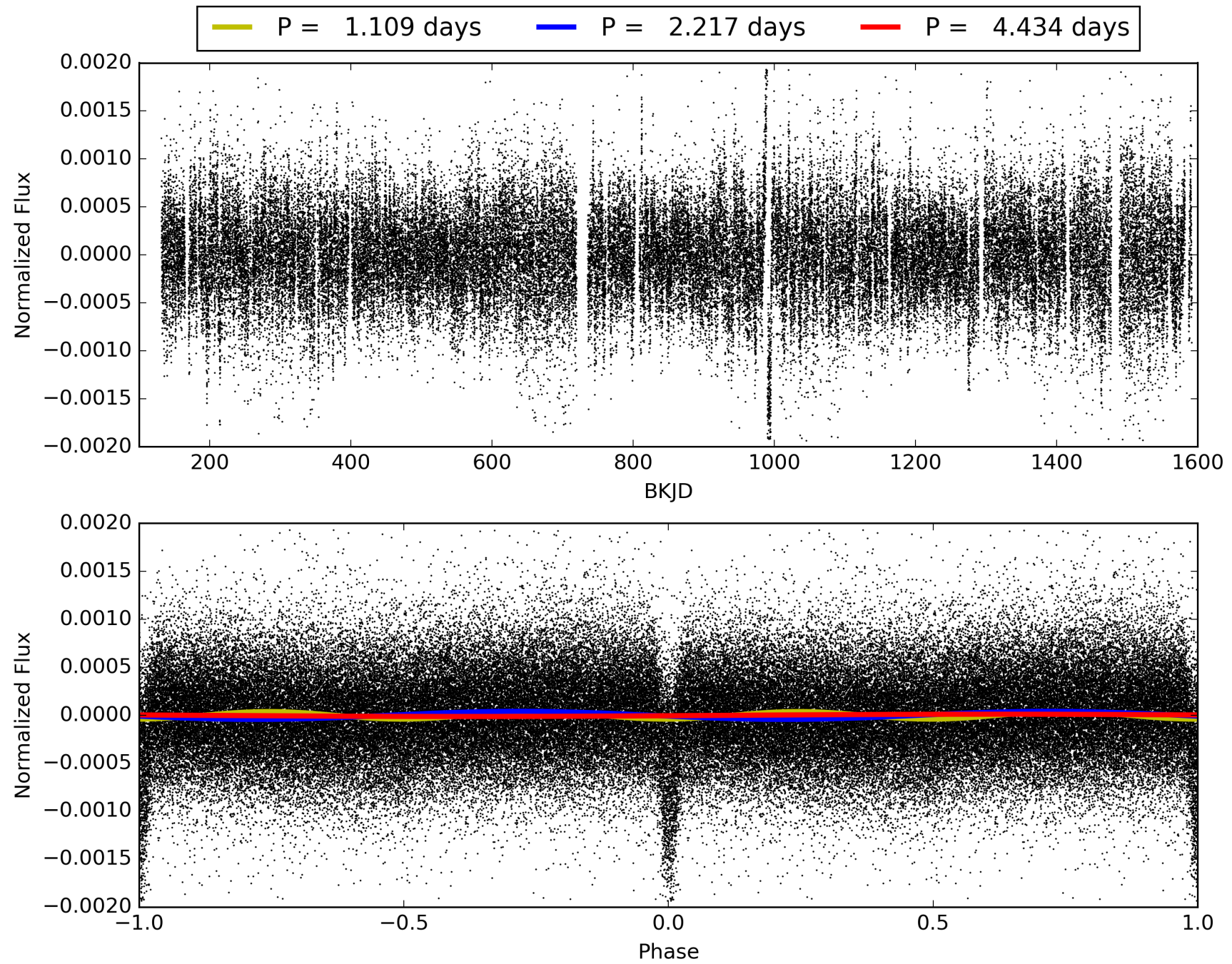
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [577/578]
GhostDiagnostic-chr: -0.2601
Centroid-sig: 0.0%
Centroid-so: 11.499 arcsec [37.83 σ]
OotOffset-rm: 6.720 arcsec [88.73 σ]
KicOffset-rm: 6.855 arcsec [96.63 σ]
OotOffset-st: 0/4/4/0 [8]
KicOffset-st: 0/4/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002576197-01, PDC Light Curves

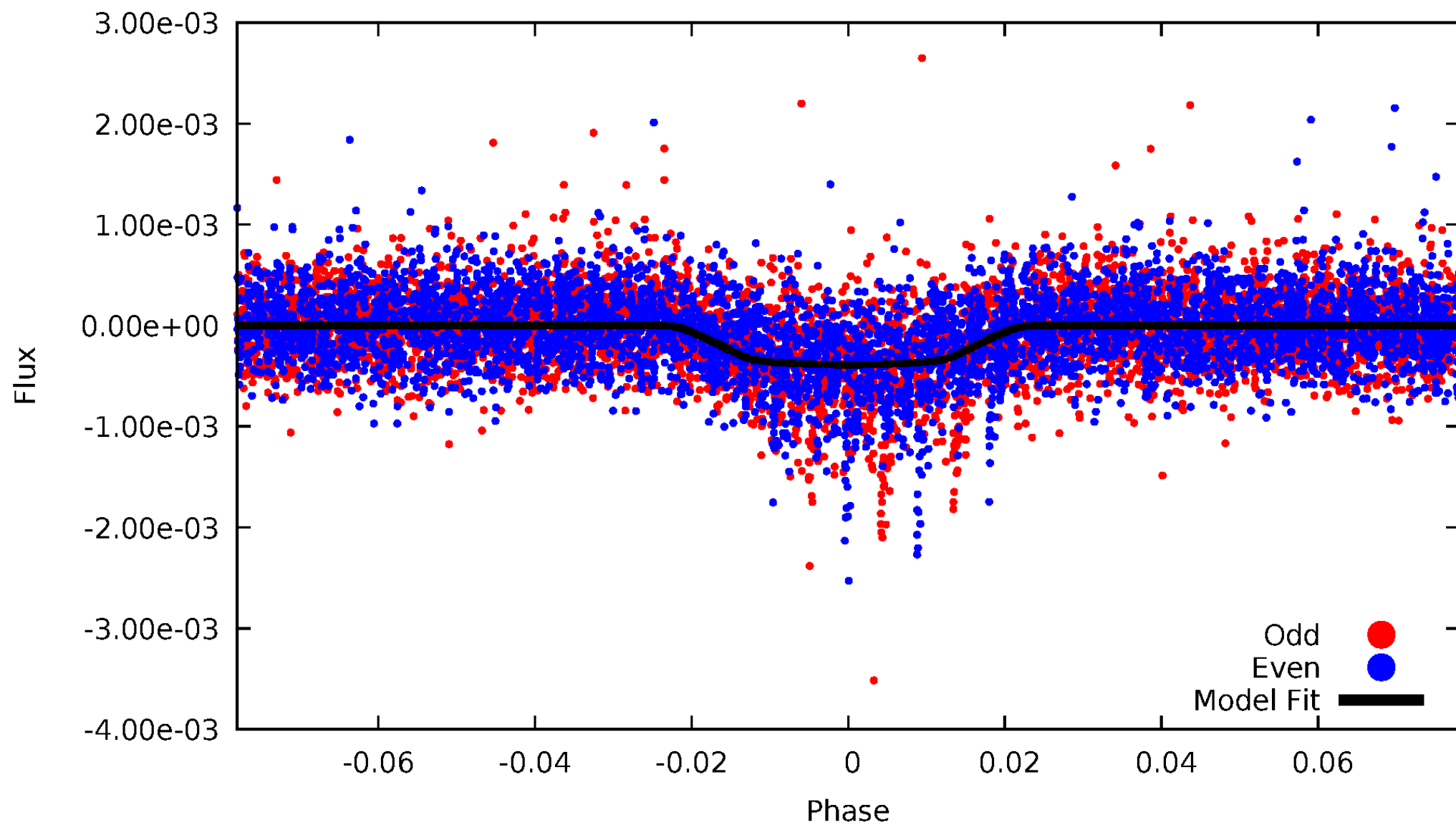


TCE 002576197-01



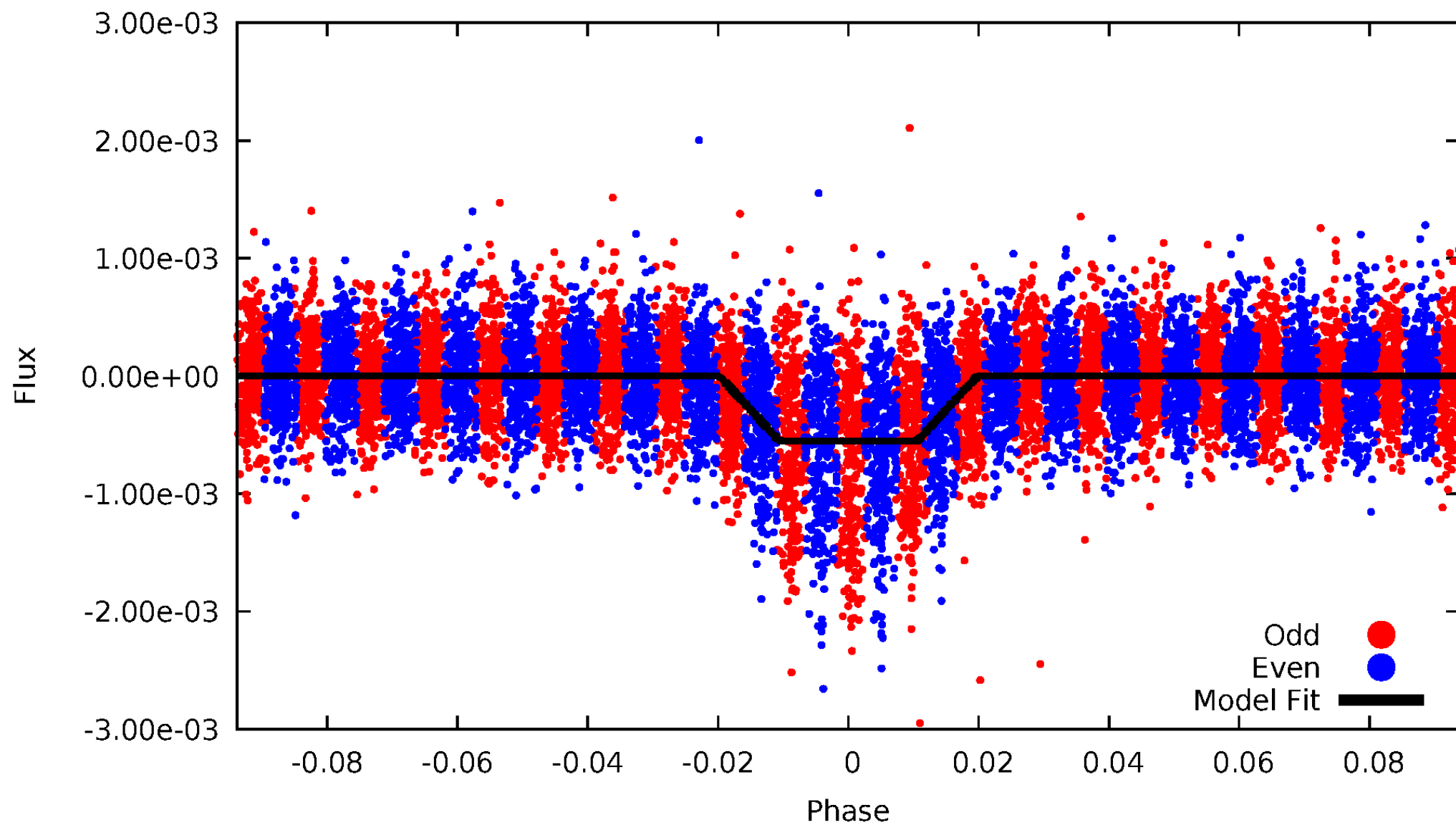
DV Odd/Even

TCE 002576197-01



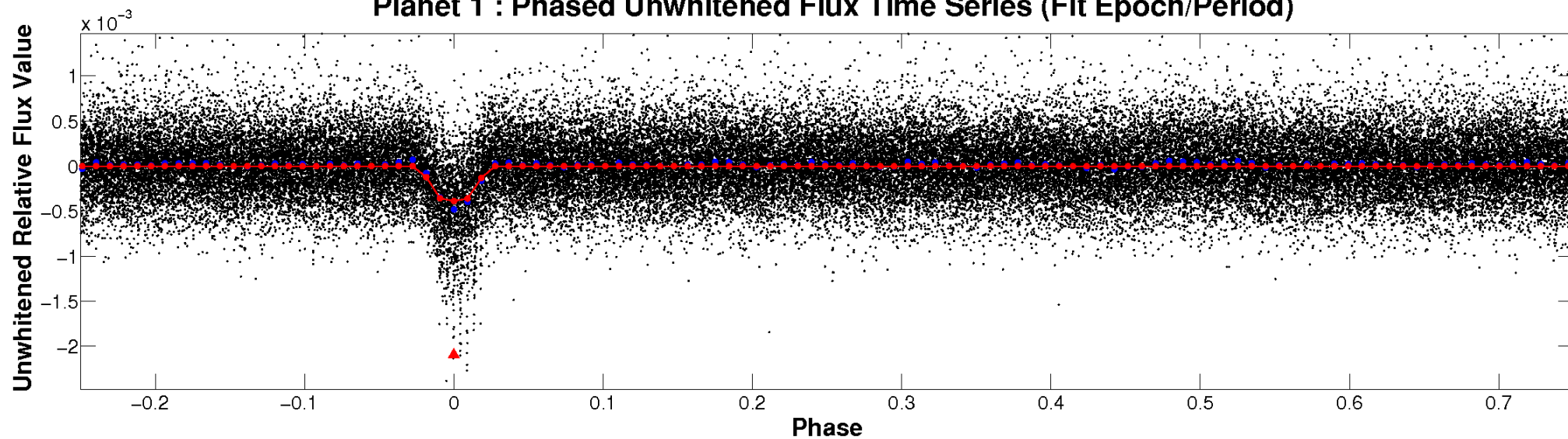
ALT Odd/Even

TCE 002576197-01

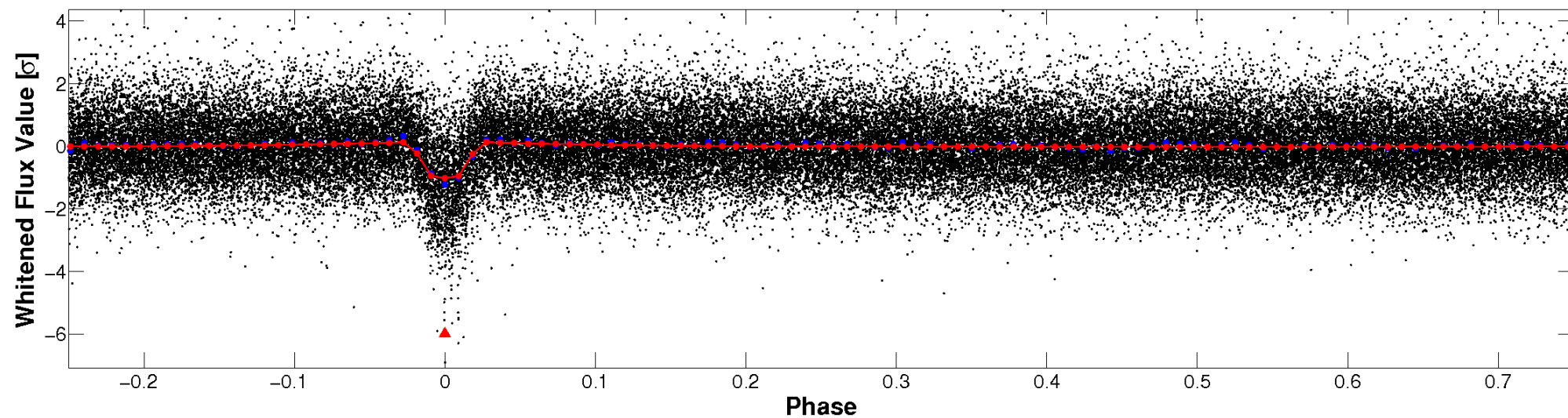


Non-Whitened Vs. Whitened Light Curve

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

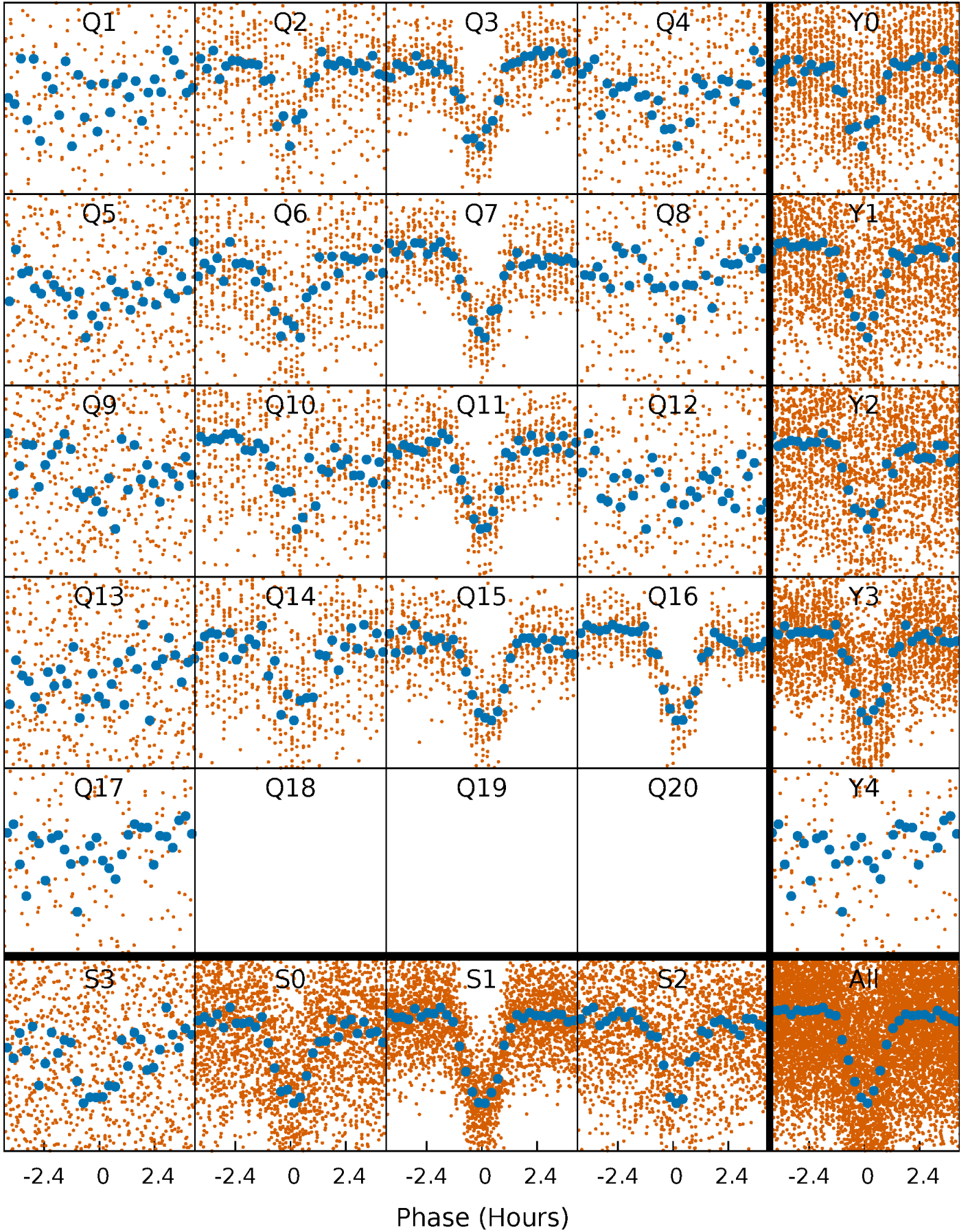


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



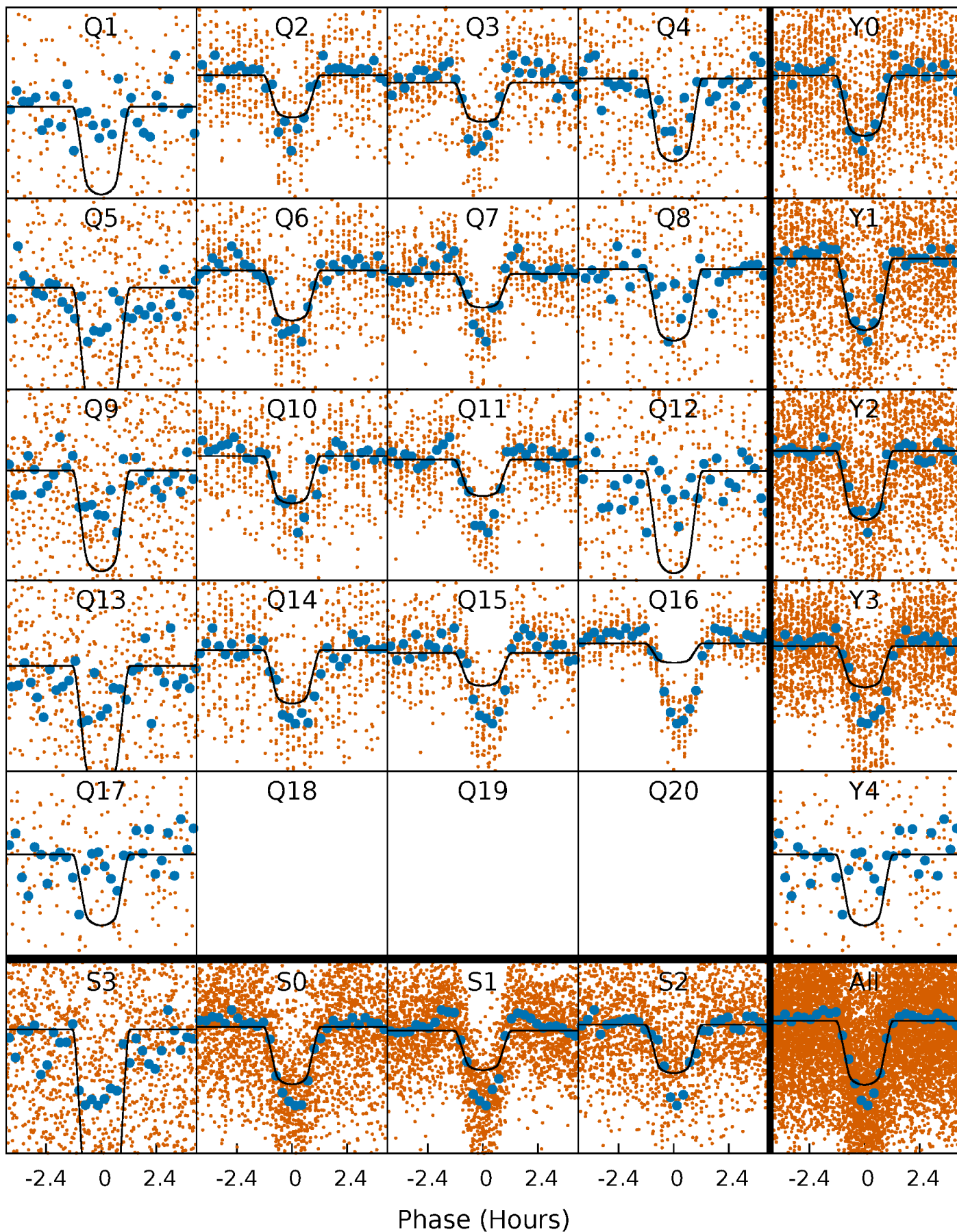
PDC Quarter-Phased Transit Curves

TCE 002576197-01 P= 2.217012 Days $T_0=131.795863$ (BKJD)



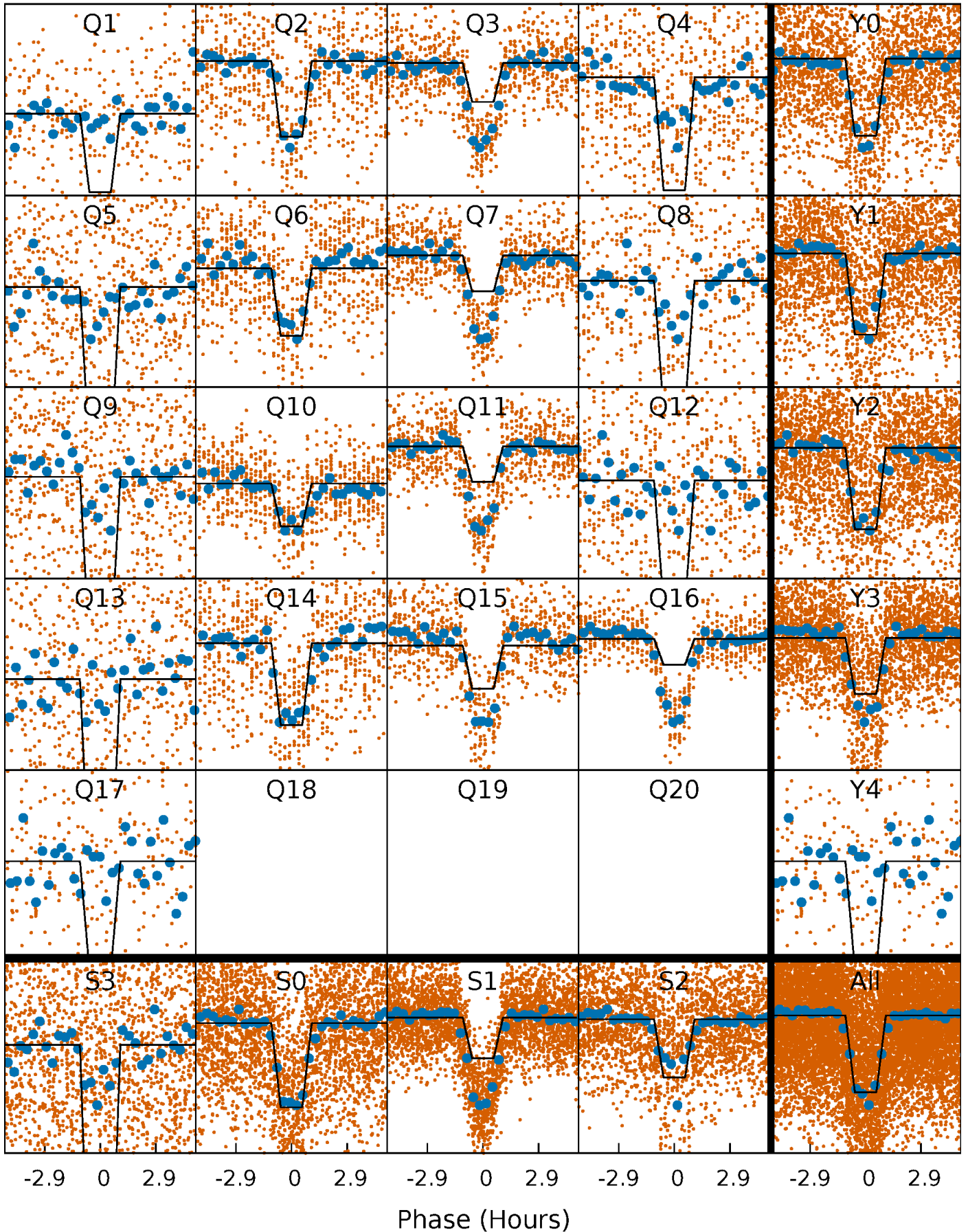
DV Quarter-Phased Transit Curves

TCE 002576197-01 P= 2.217012 Days $T_0=131.795863$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

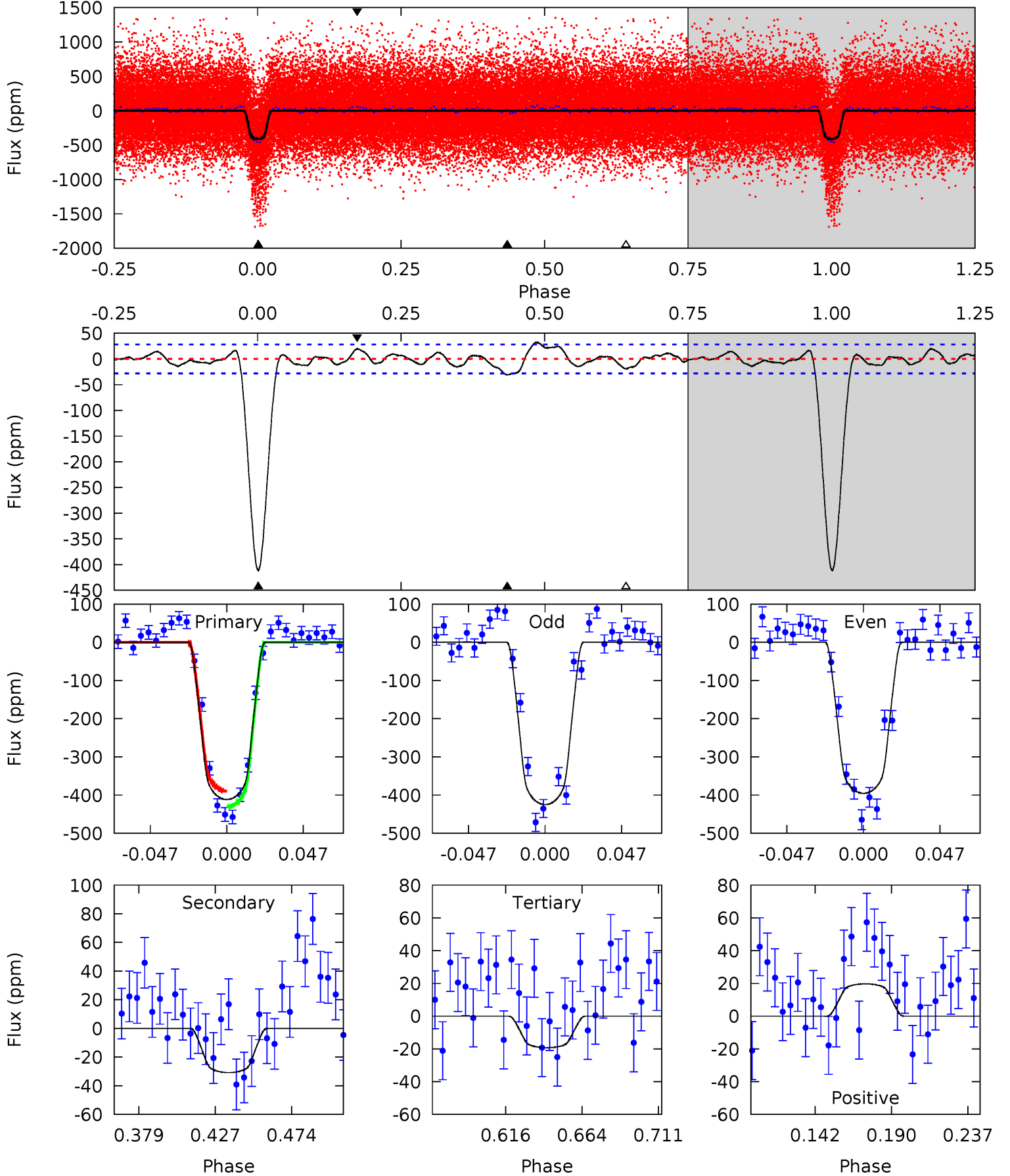
TCE 002576197-01 $P = 2.217034$ Days $T_0 = 131.790568$ (BKJD)



DV Model-Shift Uniqueness Test

002576197-01, P = 2.217012 Days, E = 129.578851 Days

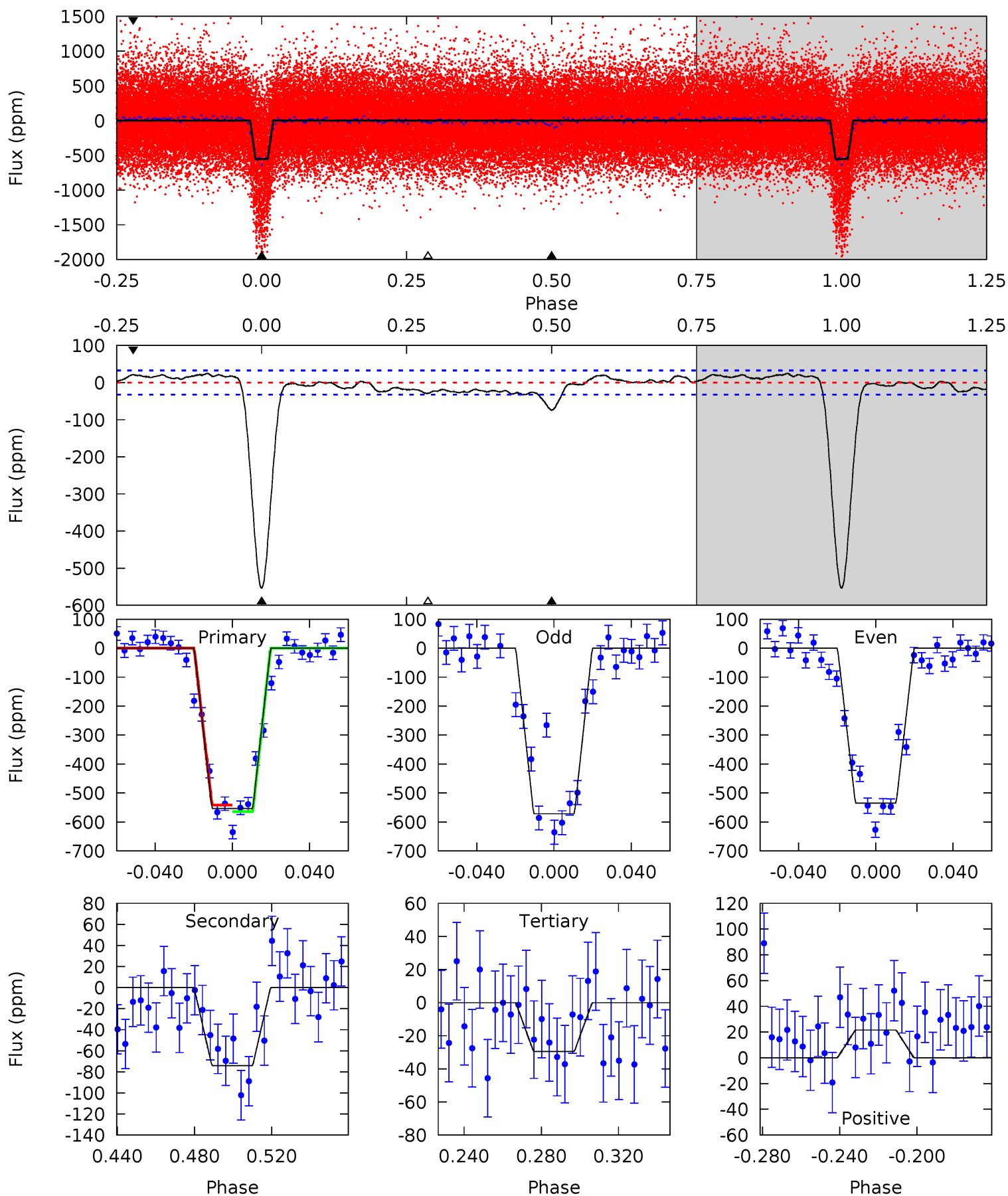
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.1	5.17	3.23	3.31	4.72	1.98	1.70	65.8	65.8	1.94	1.87	2.47	1.11	0.07	3.45



Alt Model-Shift Uniqueness Test

002576197-01, P = 2.217034 Days, E = 129.573534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.7	10.8	4.30	3.14	4.75	2.05	2.40	76.4	77.6	6.50	7.66	2.71	1.20	0.04	1.65



Stellar Parameters For KIC 002576197

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6521^{+155}_{-252}	$4.352^{+0.052}_{-0.195}$	$0.210^{+0.150}_{-0.350}$	$1.276^{+0.395}_{-0.141}$	$1.334^{+0.169}_{-0.187}$	$0.905^{+0.242}_{-0.456}$
	+2%/-4%	+1%/-4%	+71%/-167%	+31%/-11%	+13%/-14%	+27%/-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 002576197-01 / KOI 0489.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 6	$3.07^{+0.54}_{-0.39}$	2404^{+168}_{-112}	3630^{+205}_{-211}	$2.302^{+0.954}_{-0.693}$
Alt.	-74 ± 7	$3.39^{+0.56}_{-0.39}$	2406^{+200}_{-110}	4133^{+188}_{-178}	$4.617^{+1.326}_{-1.175}$

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

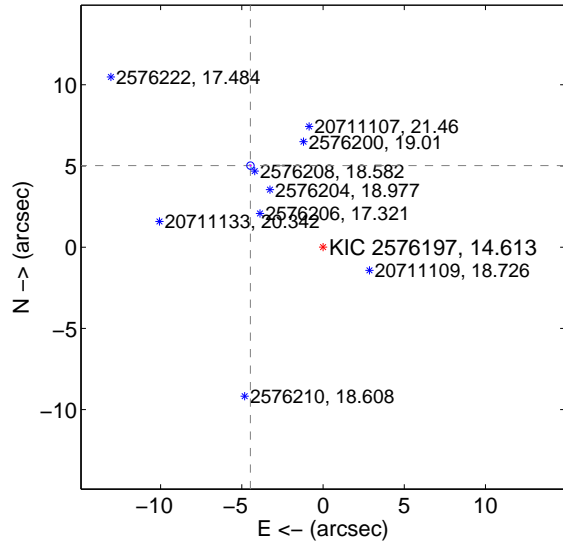
Supplemental centroid analysis for 002576197-01. Kepler magnitude: 14.61. Transit SNR 41.62

There are 8 quarters with good PRF difference image offsets

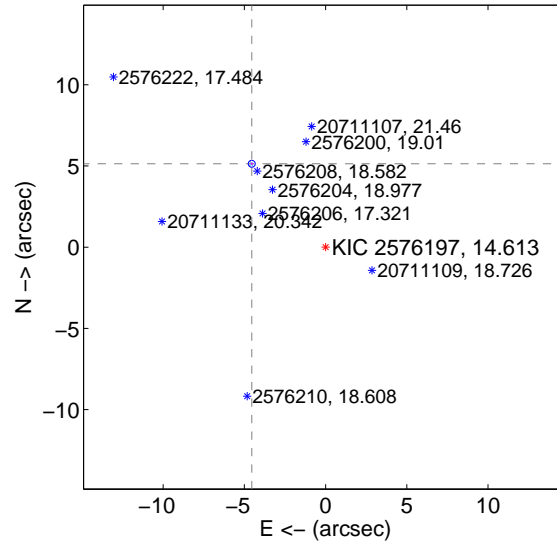
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.720 \pm 0.076	88.73	4.469 \pm 0.069	5.019 \pm 0.075
PRF-fit source offset from KIC position	6.855 \pm 0.071	96.63	4.544 \pm 0.070	5.133 \pm 0.072
photometric centroid source offset	11.50 \pm 0.30	37.83	9.37 \pm 0.31	6.67 \pm 0.29

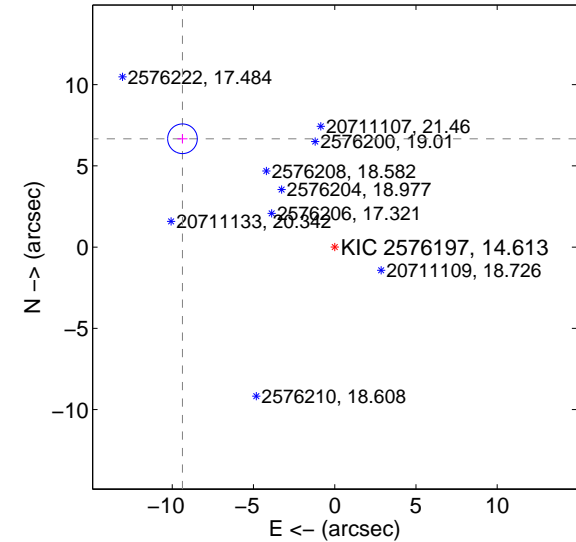
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

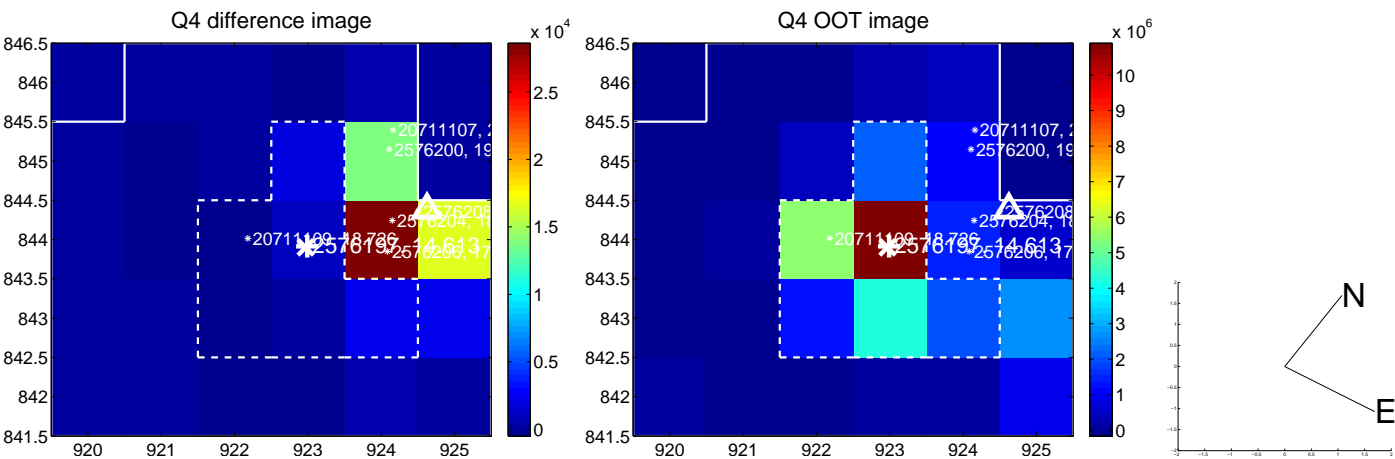
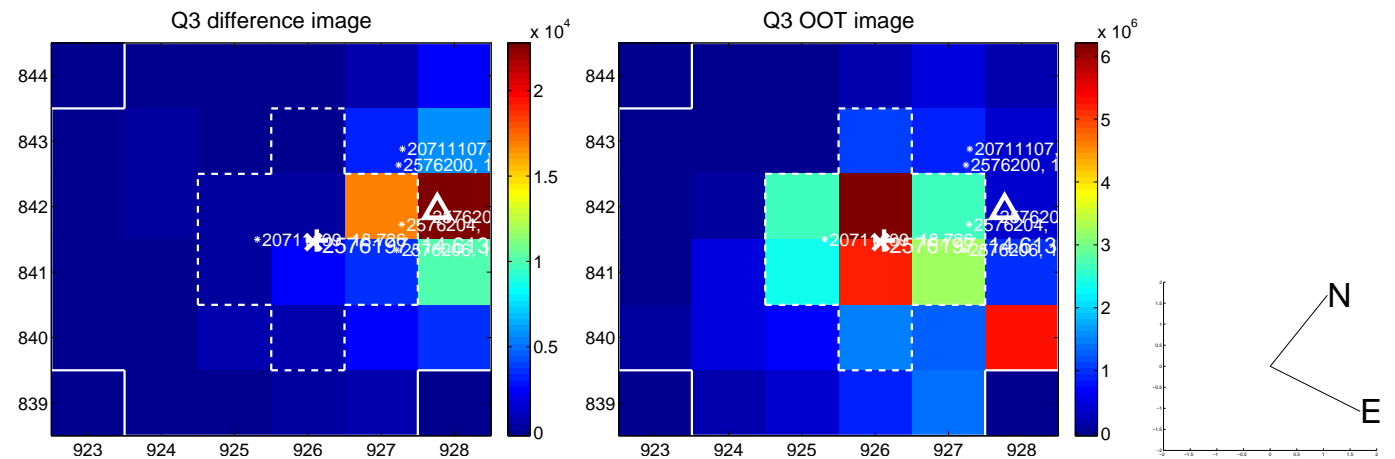
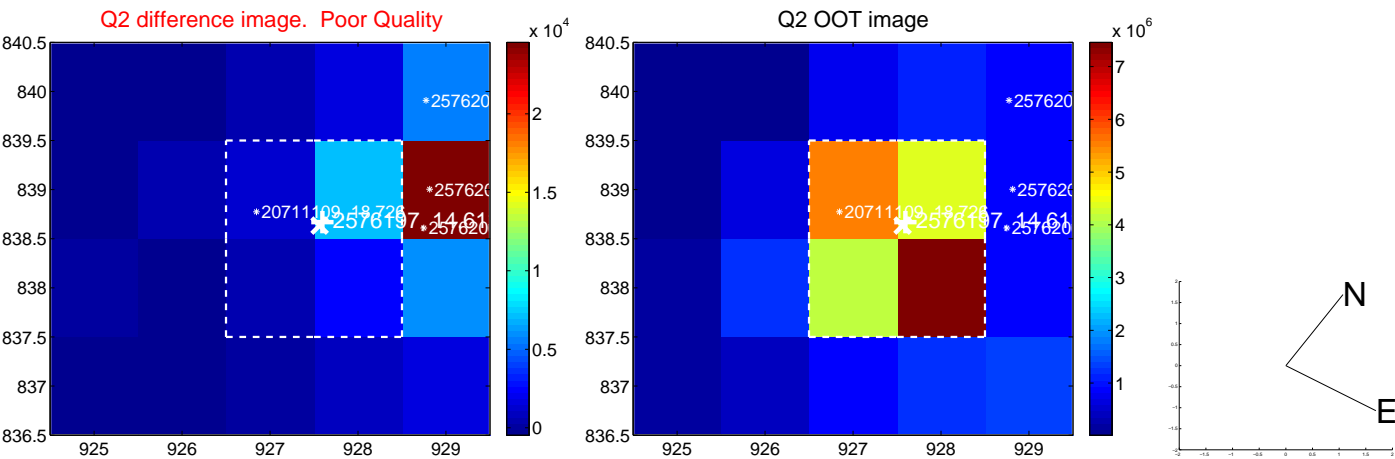
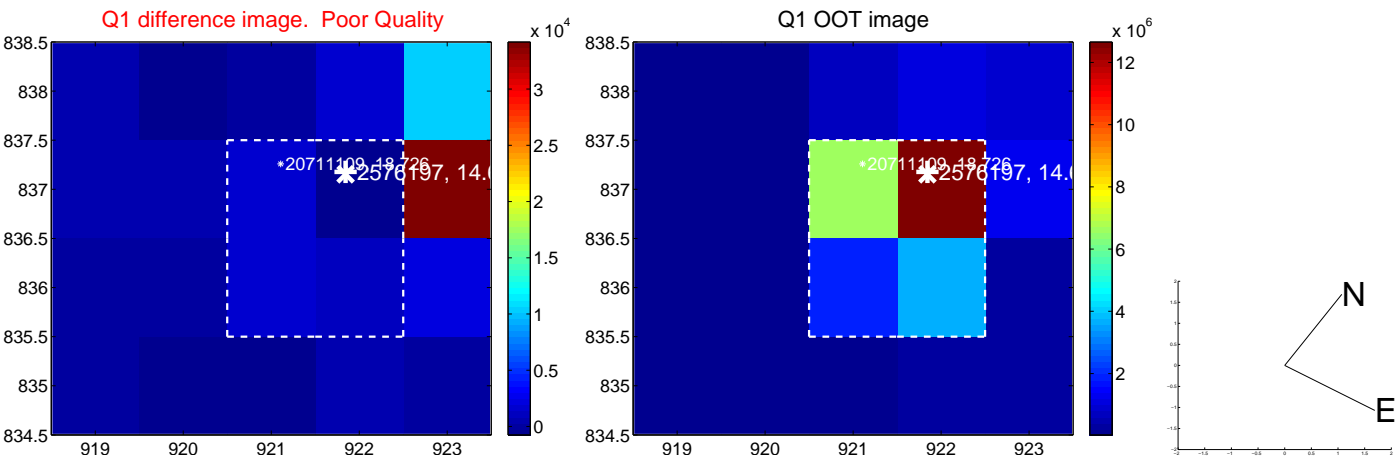


offset from photometric centroids

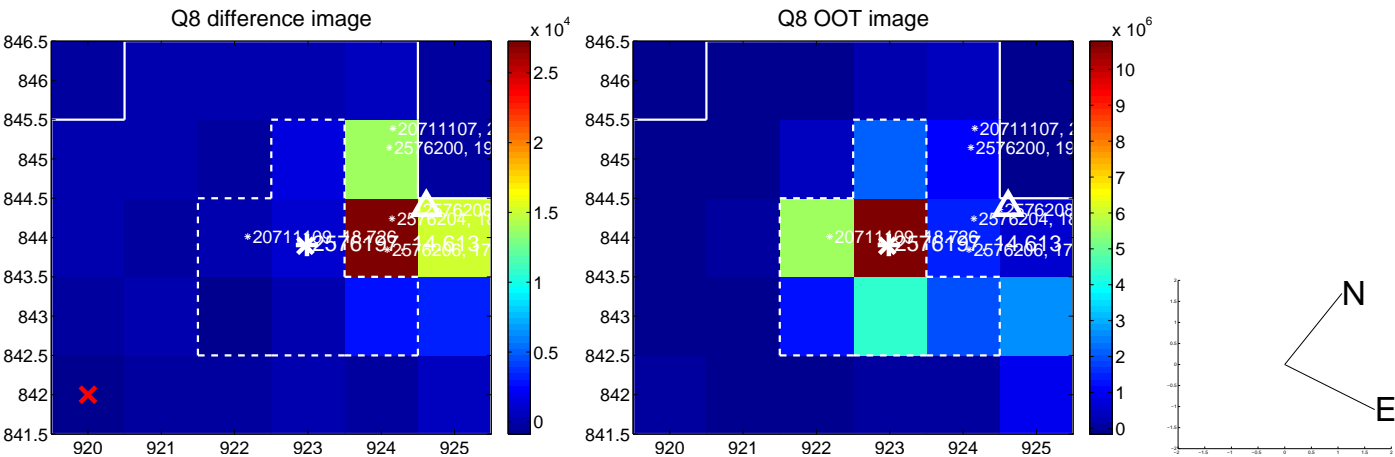
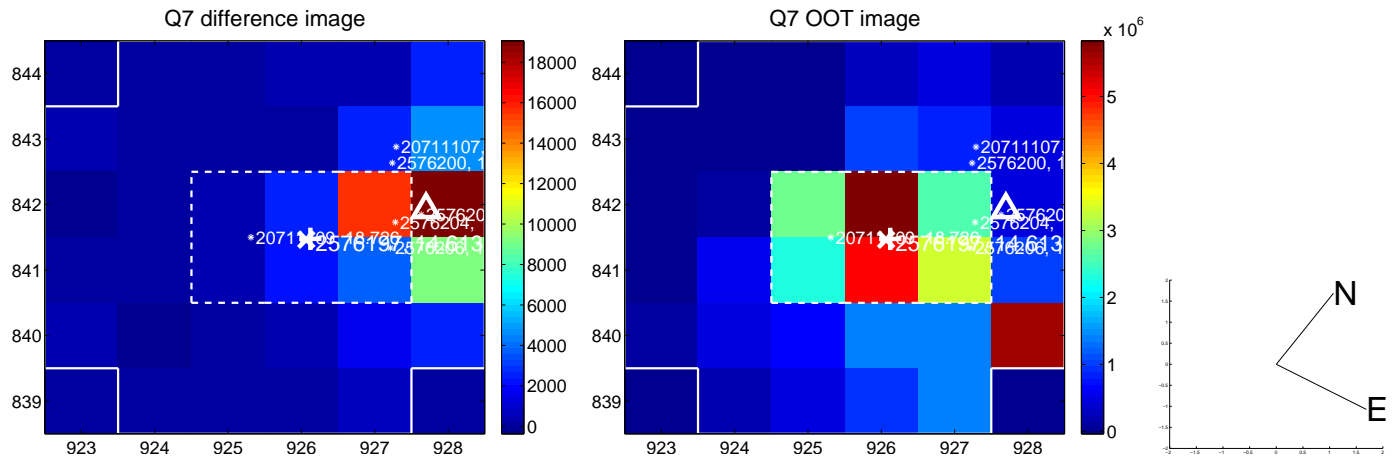
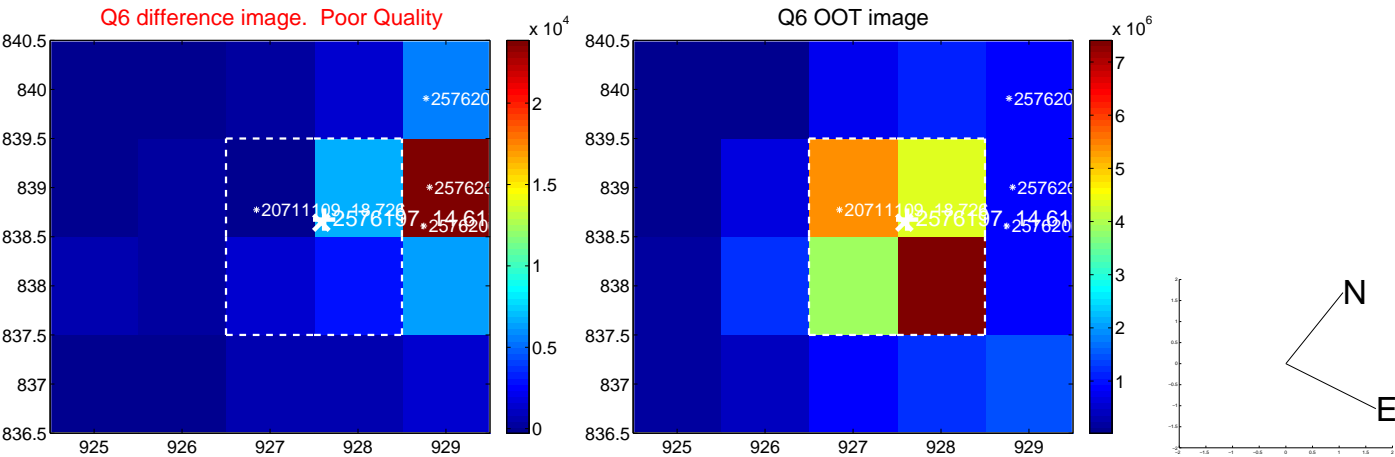
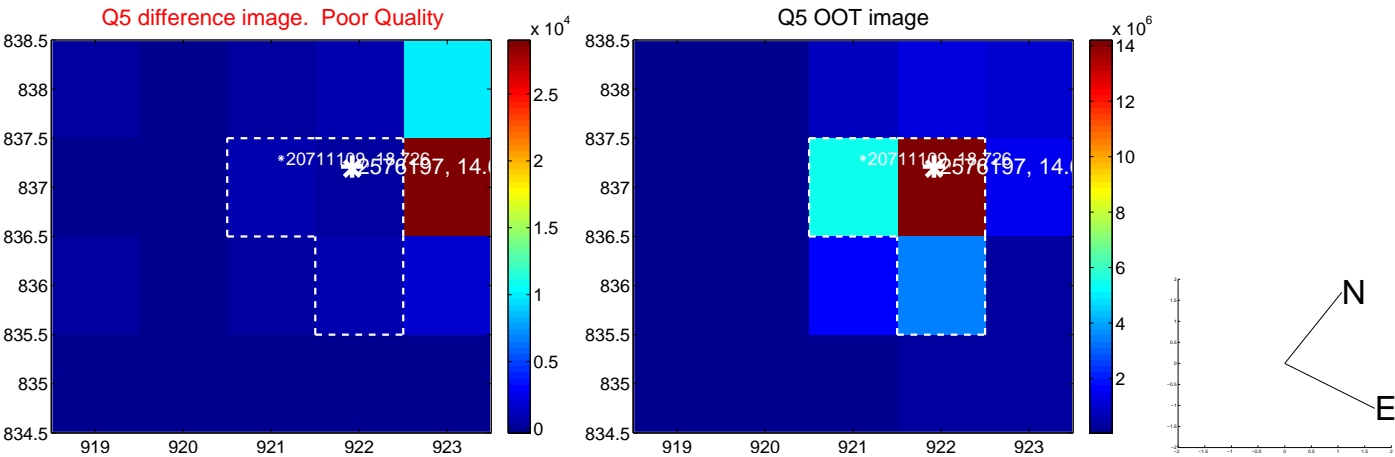


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

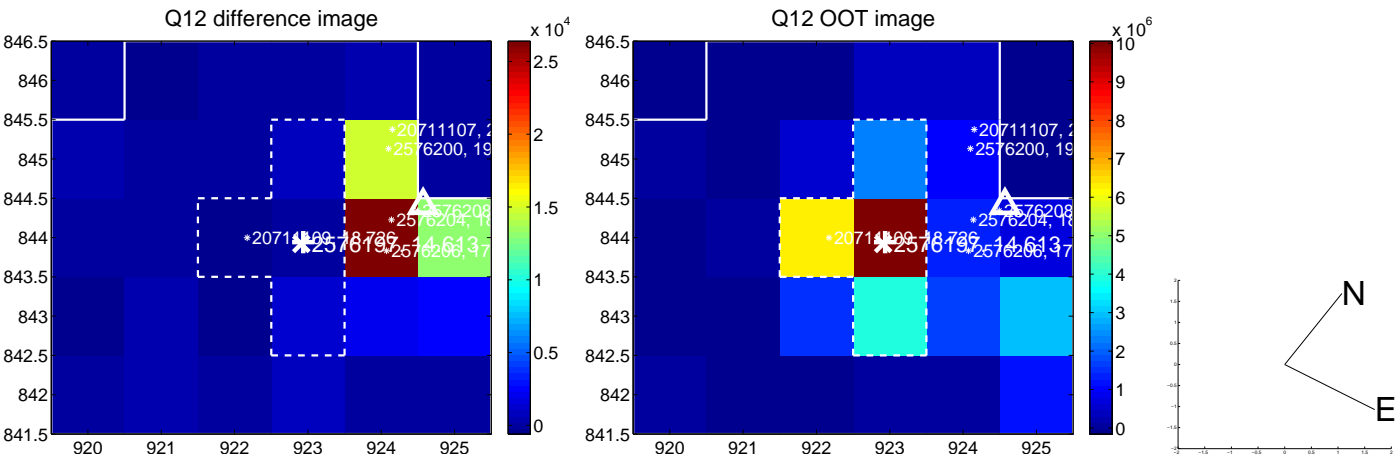
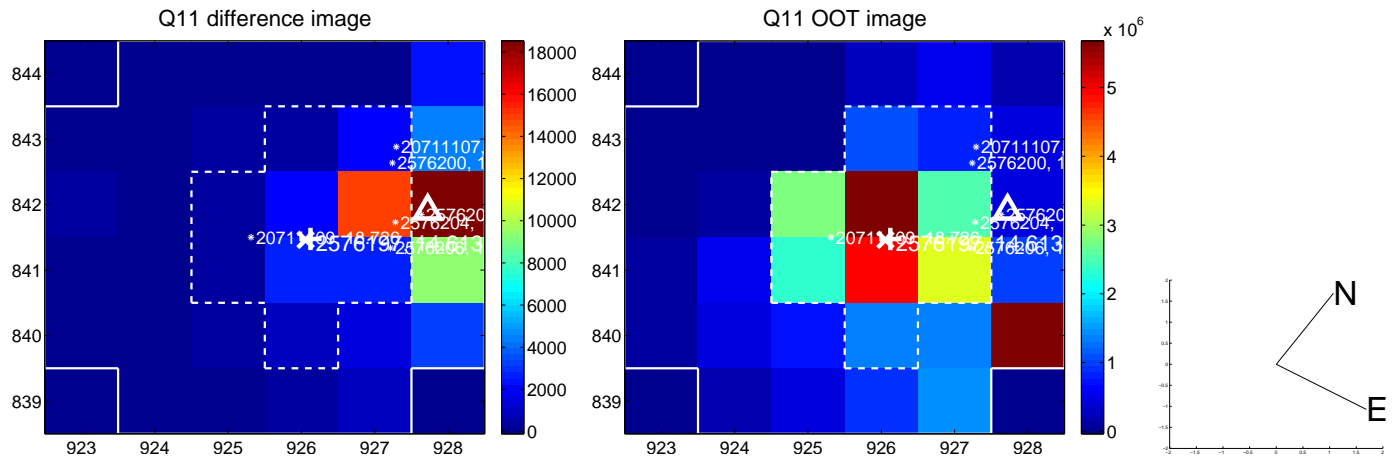
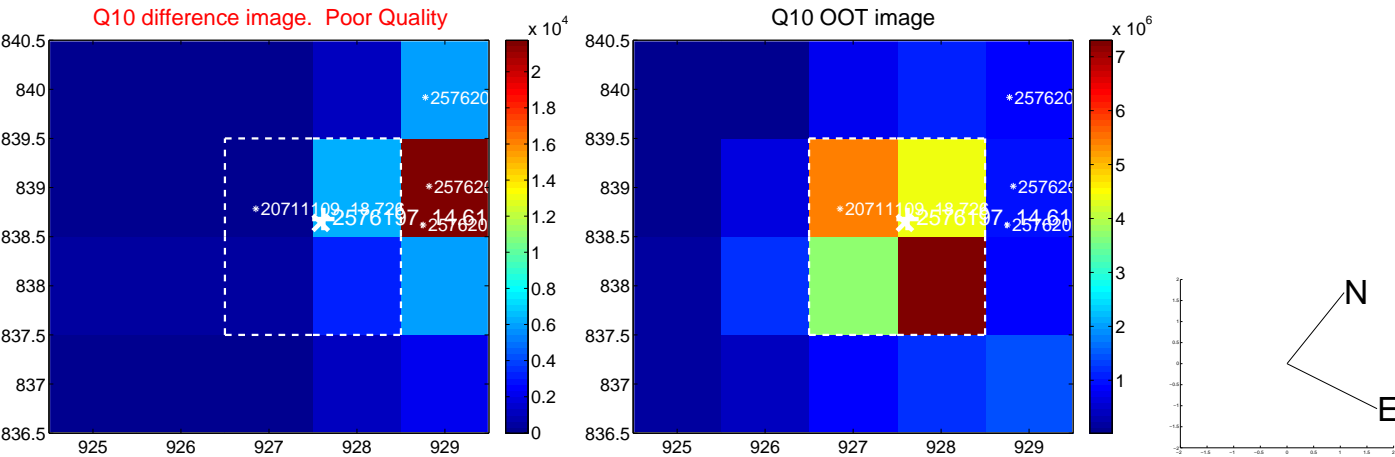
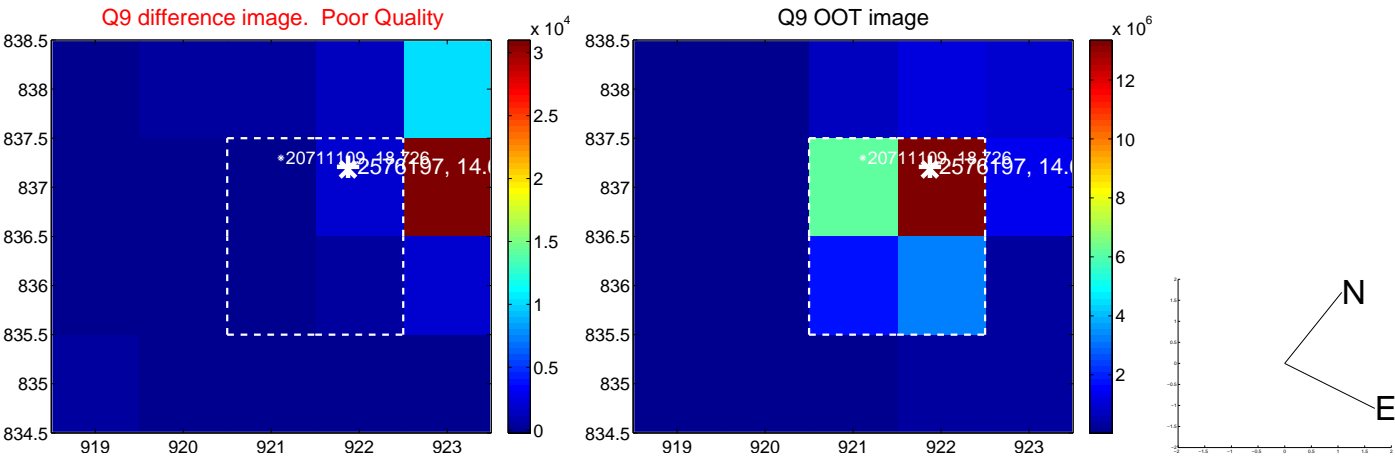
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



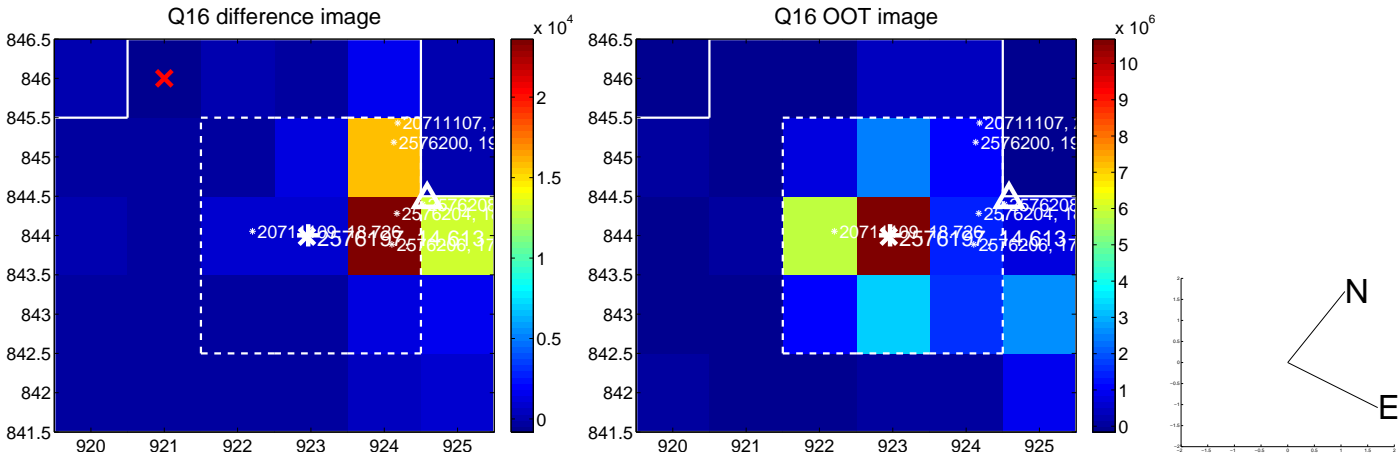
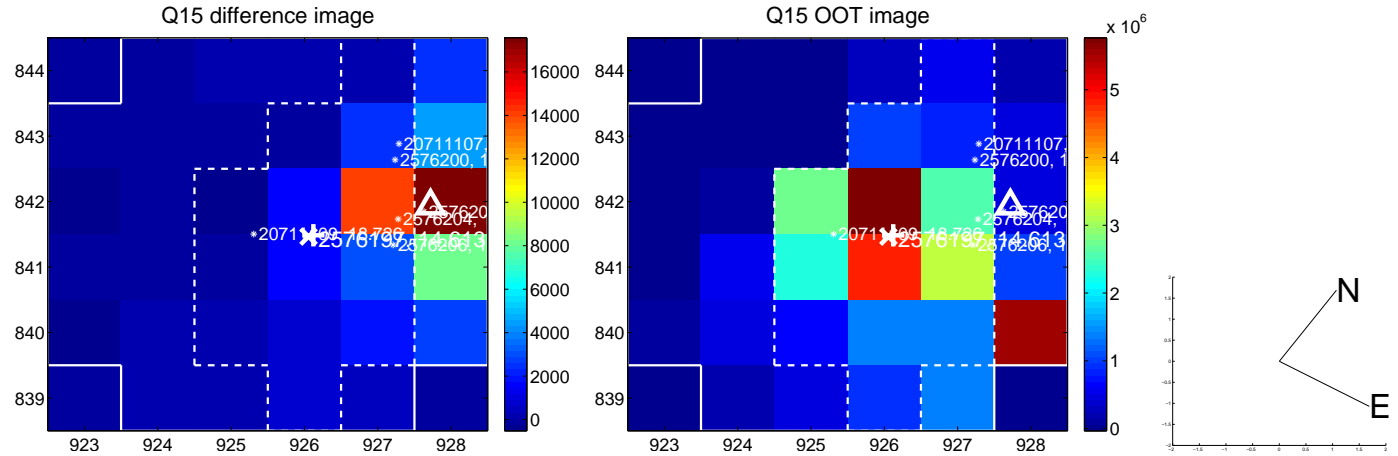
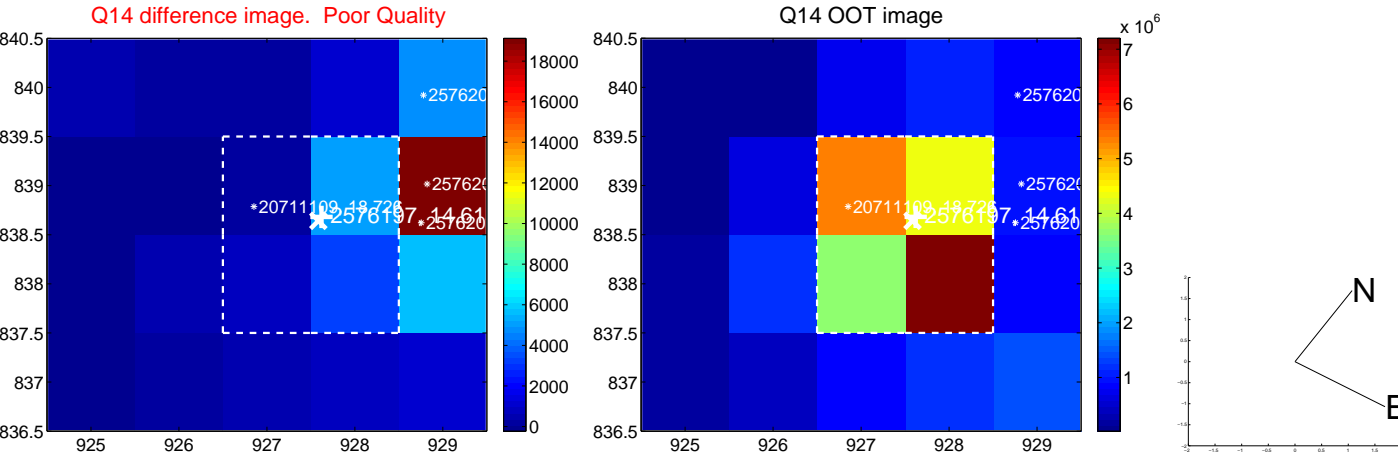
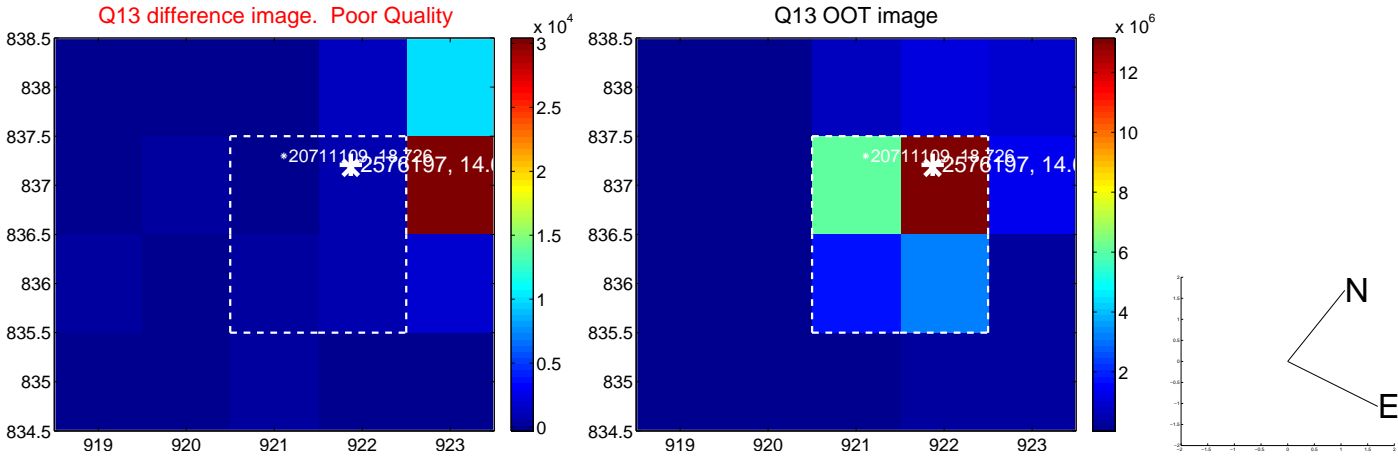
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



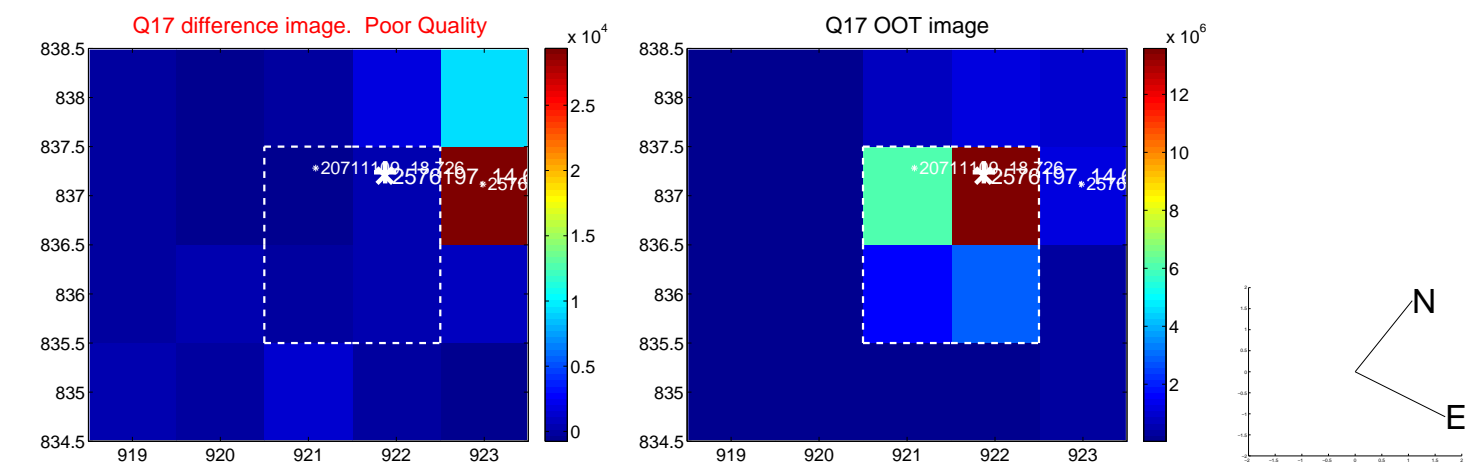
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



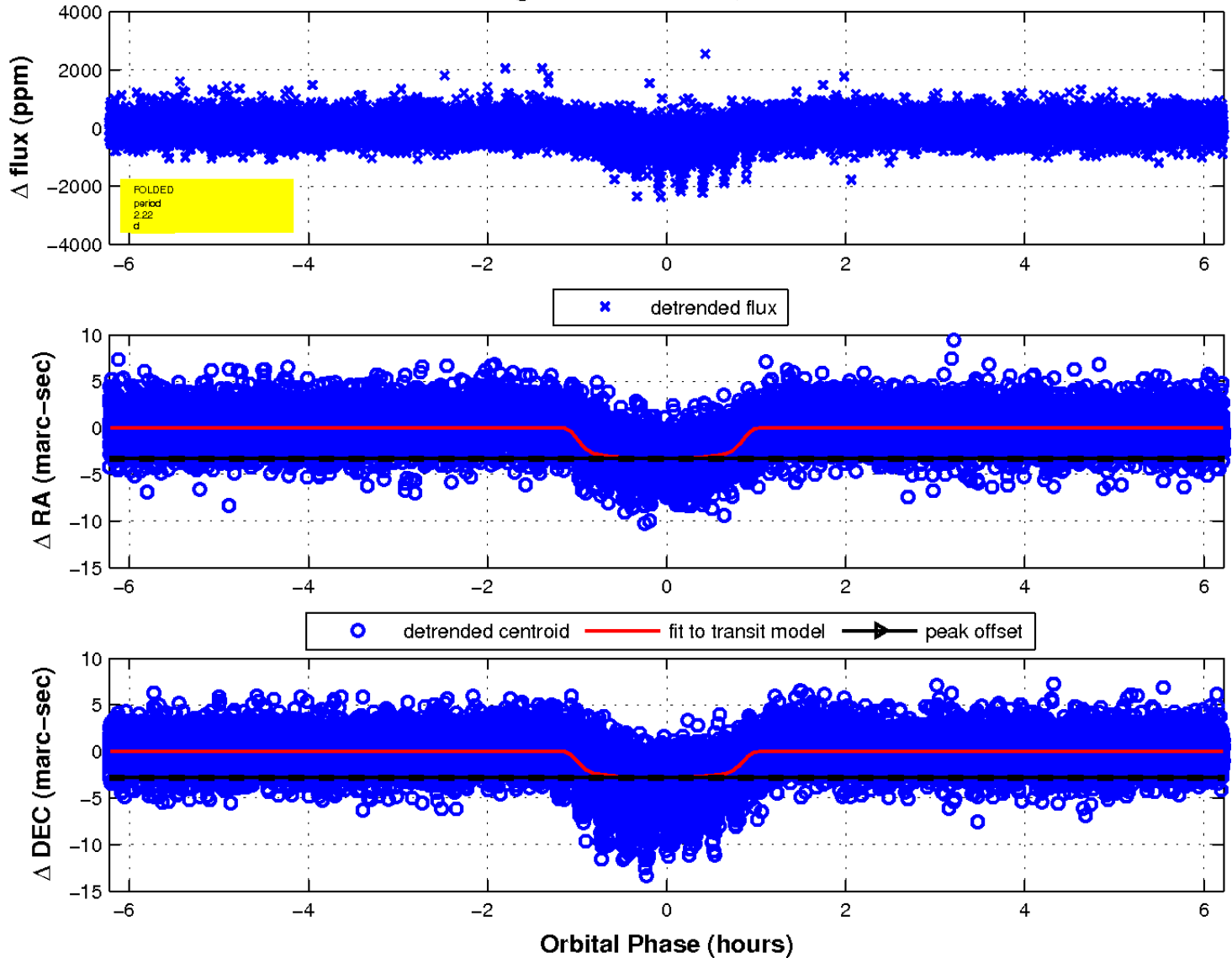
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

