

KIC 009906489

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})
009906489-01	OBS	7249.01	8.965357	137.441200	129.4	30.617	19.7	25.1	1.16	6543	2.63	276.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009906489-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

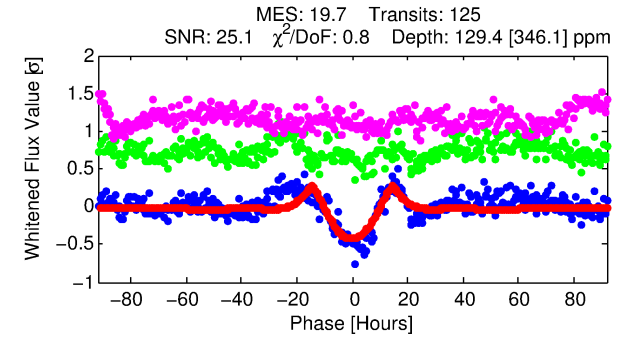
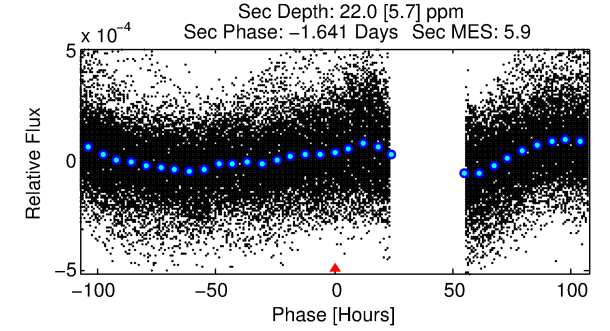
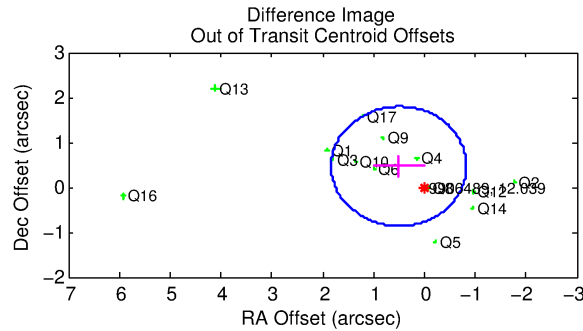
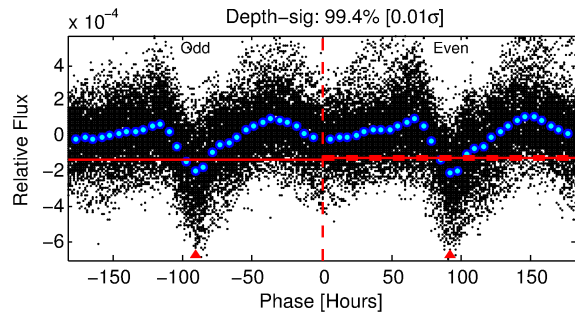
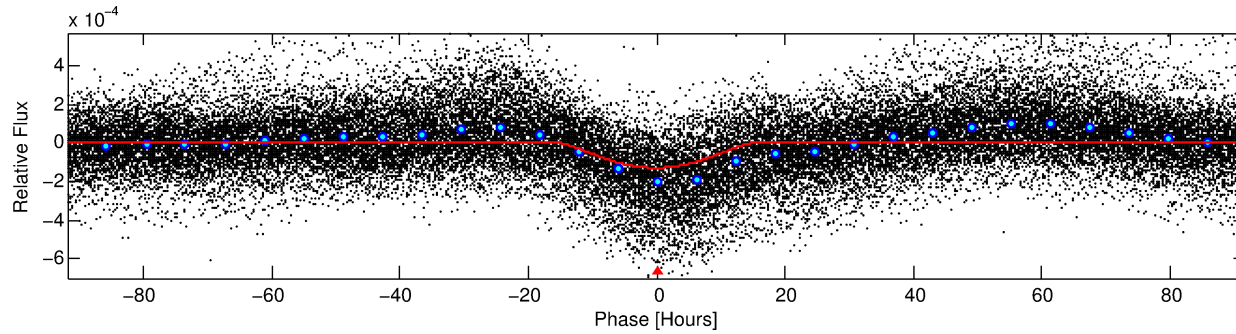
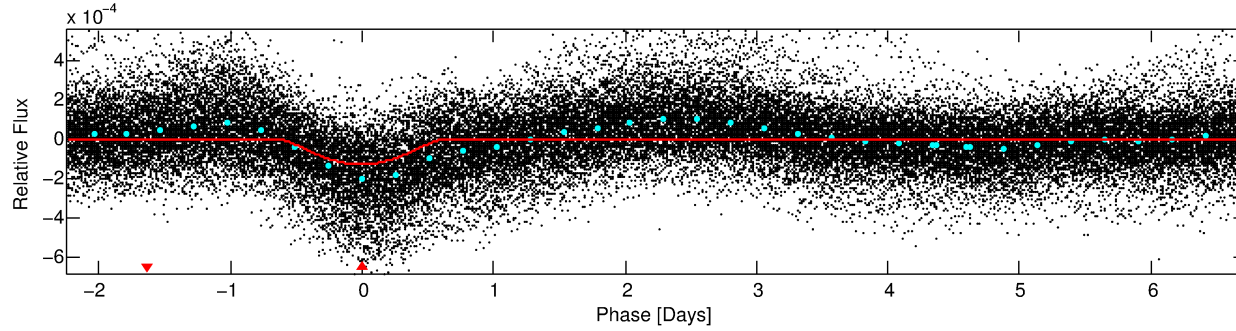
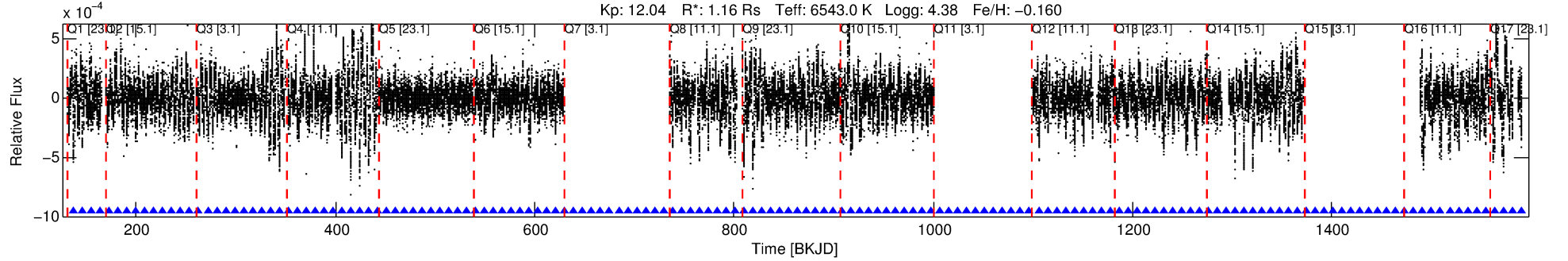
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009906489-01

No Significant Match Found

DV One-Page Summary

KIC: 9906489 Candidate: 1 of 1 Period: 8.965 d
KOI: K07249.01 Corr: 0.905



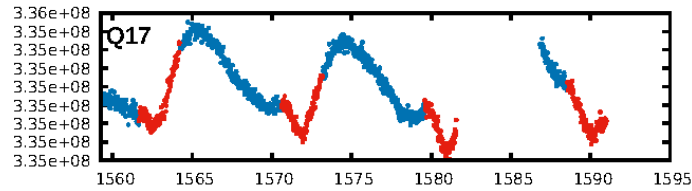
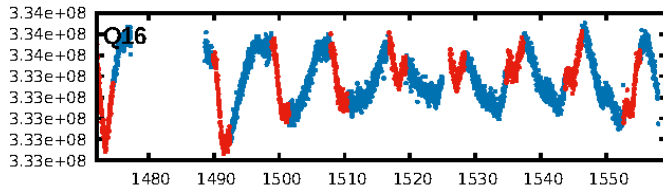
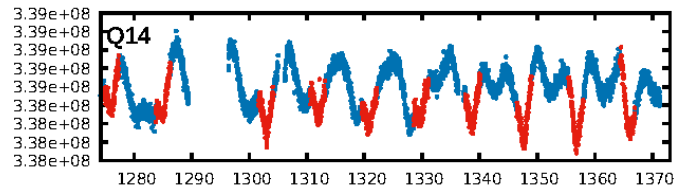
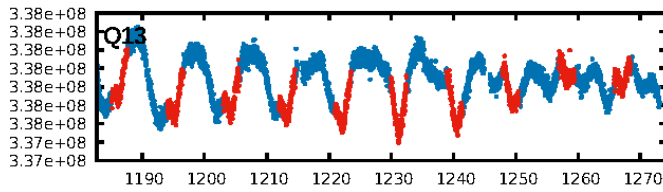
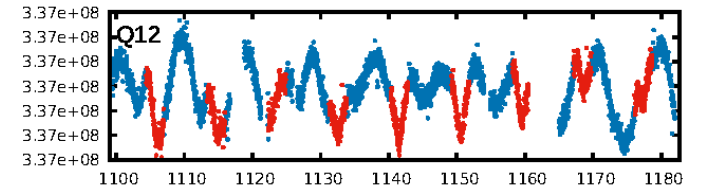
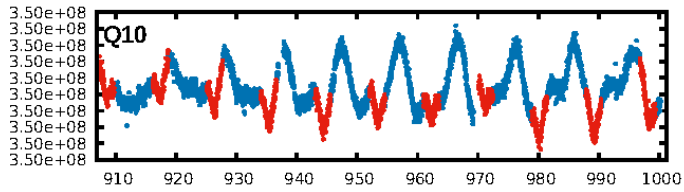
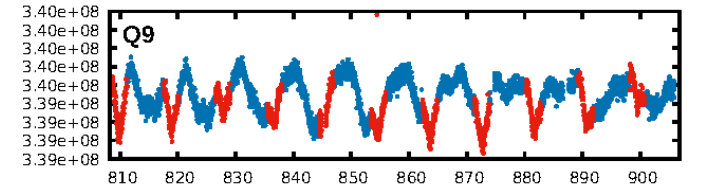
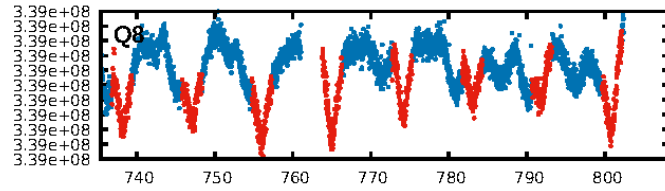
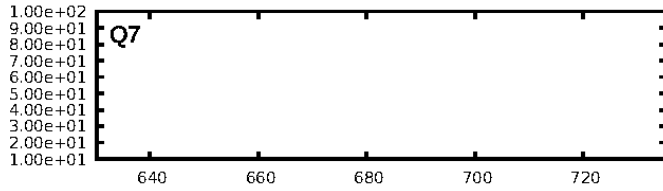
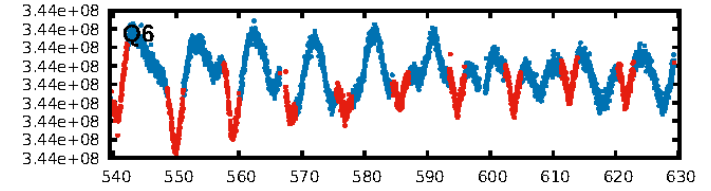
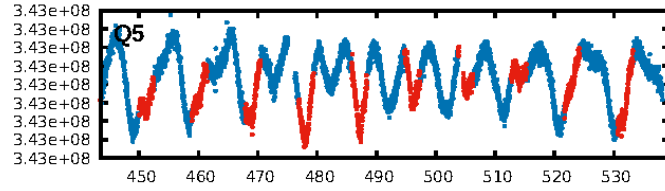
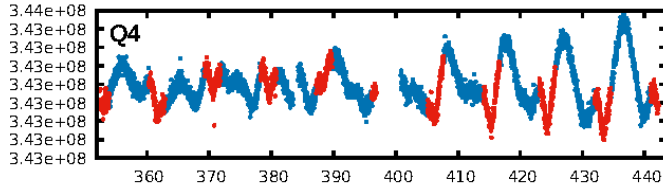
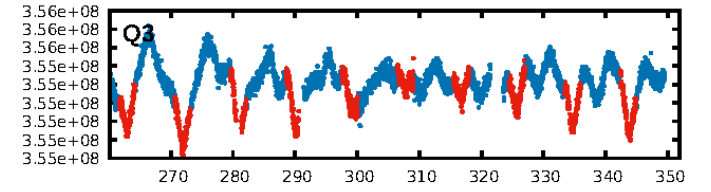
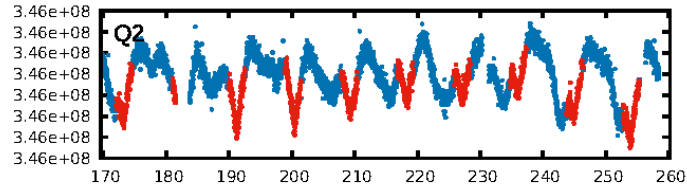
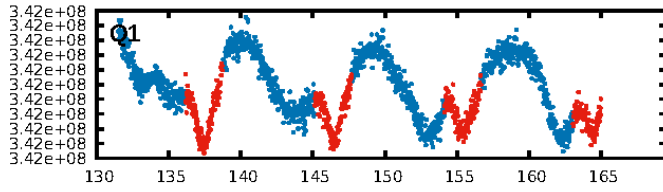
DV Fit Results:

Period = 8.96536 [0.00018] d
Epoch = 137.4412 [0.0154] BKJD
Rp/R* = 0.0208 [0.0092]
a/R* = 1.11 [0.01]
b = 1.00 [0.03]
Seff = 276.67 [75.34]
Teq = 1040 [71] K
Rp = 2.63 [1.27] Re
a = 0.0893 [0.0150] AU
Ag = 13.91 [13.21] [0.98 σ]
Teffp = 3105 [718] K [2.86 σ]

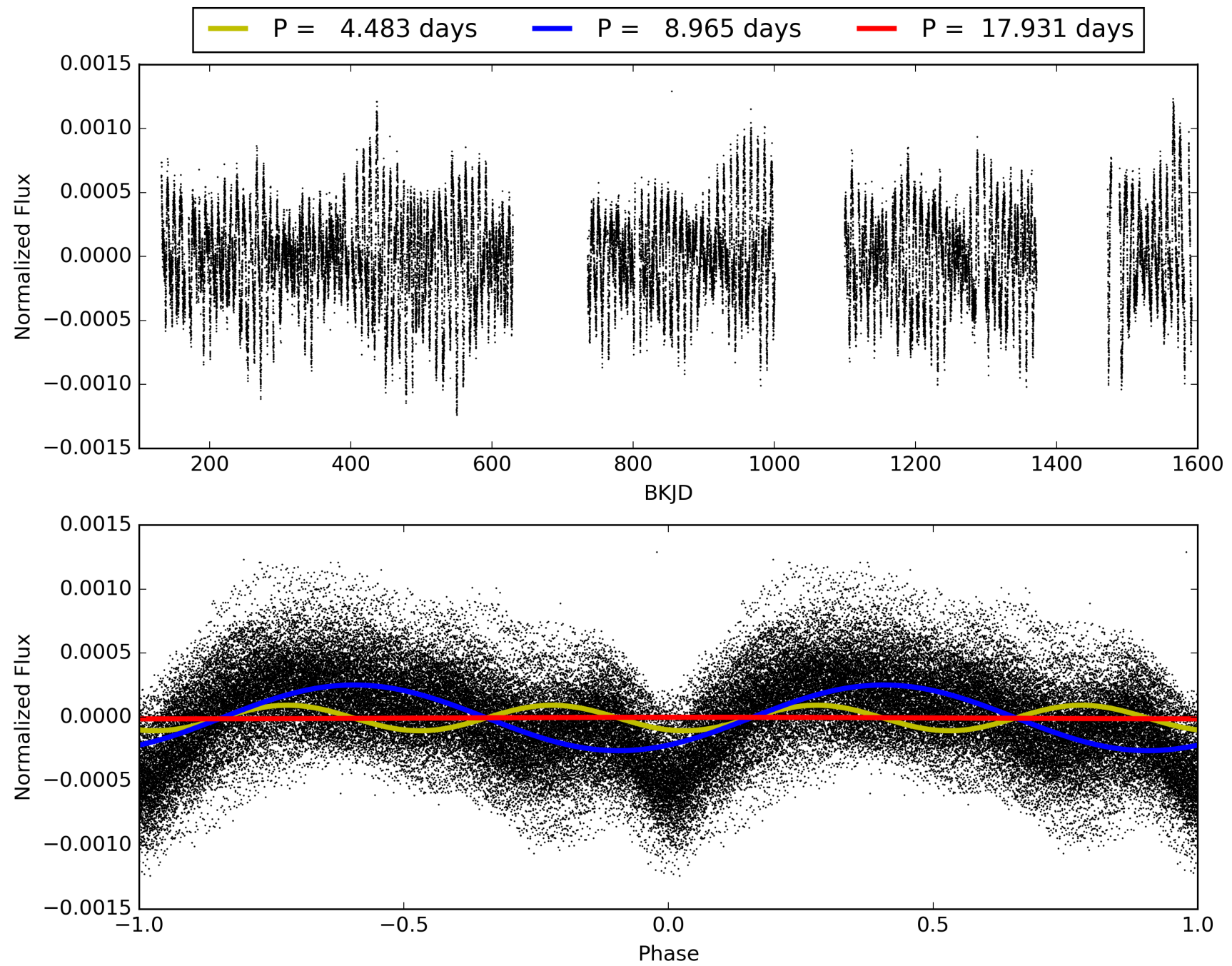
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.25e-96
RollingBand-fgt: 1.00 [117/117]
GhostDiagnostic-chr: 1.457
Centroid-sig: 0.0%
Centroid-so: 0.561 arcsec [3.02 σ]
OotOffset-rm: 0.685 arcsec [1.54 σ]
KicOffset-rm: 0.727 arcsec [1.60 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009906489-01, PDC Light Curves

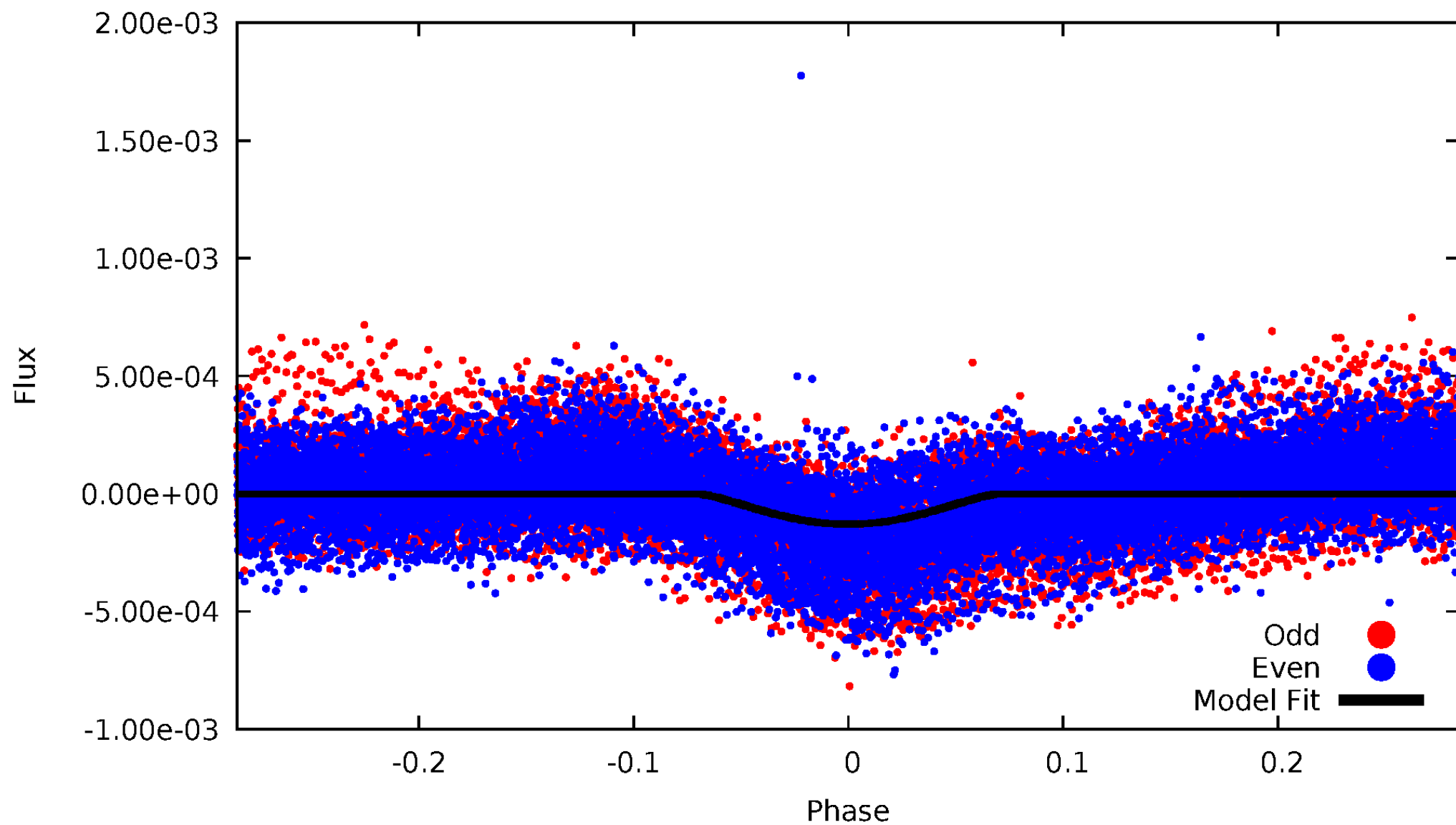


TCE 009906489-01



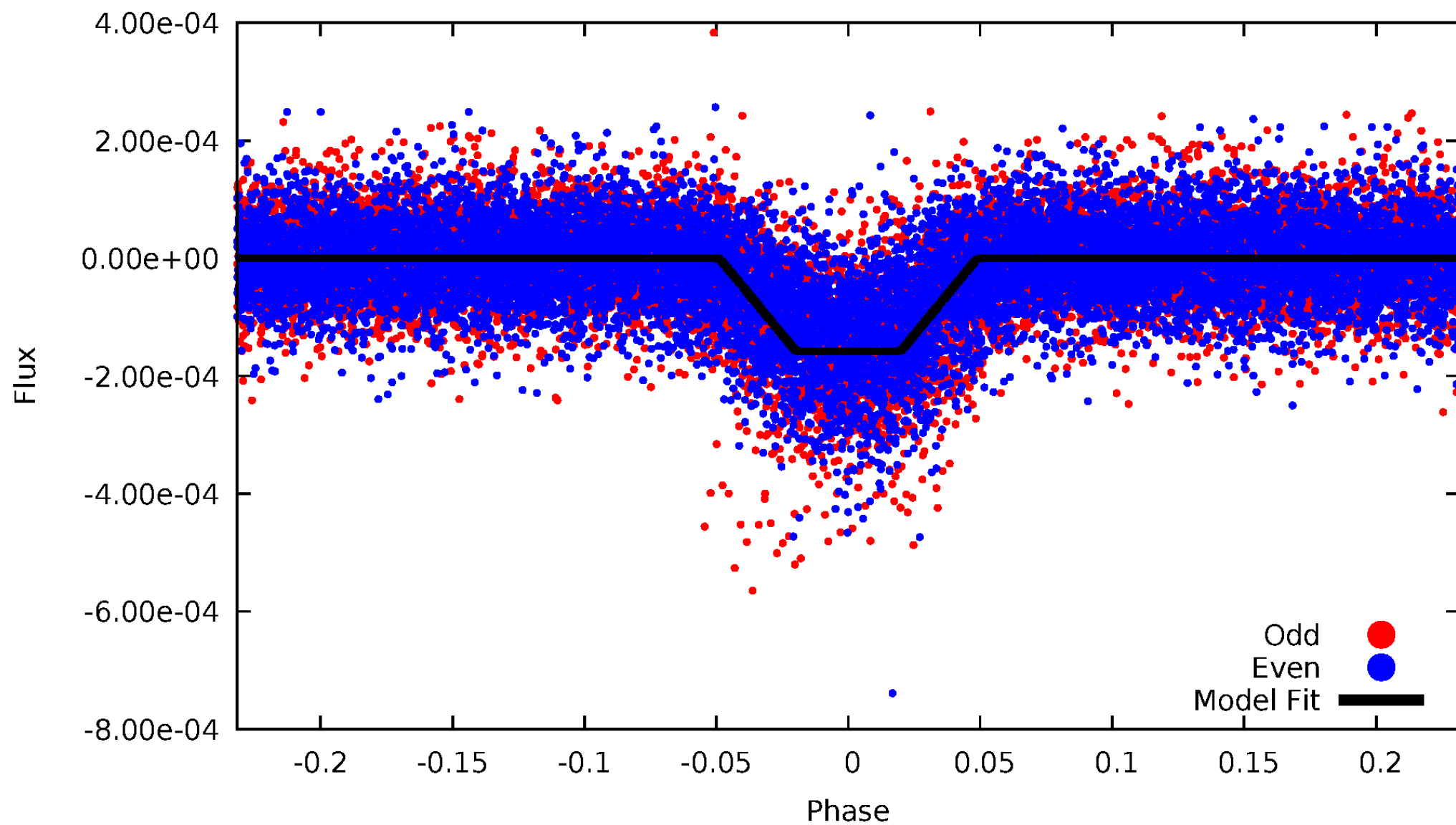
DV Odd/Even

TCE 009906489-01



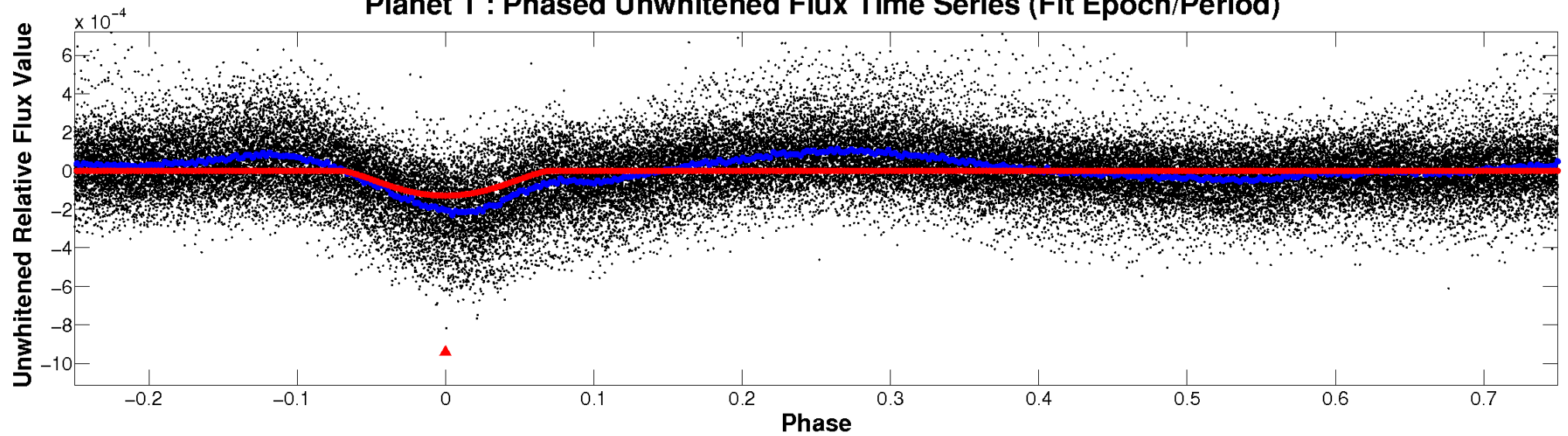
ALT Odd/Even

TCE 009906489-01

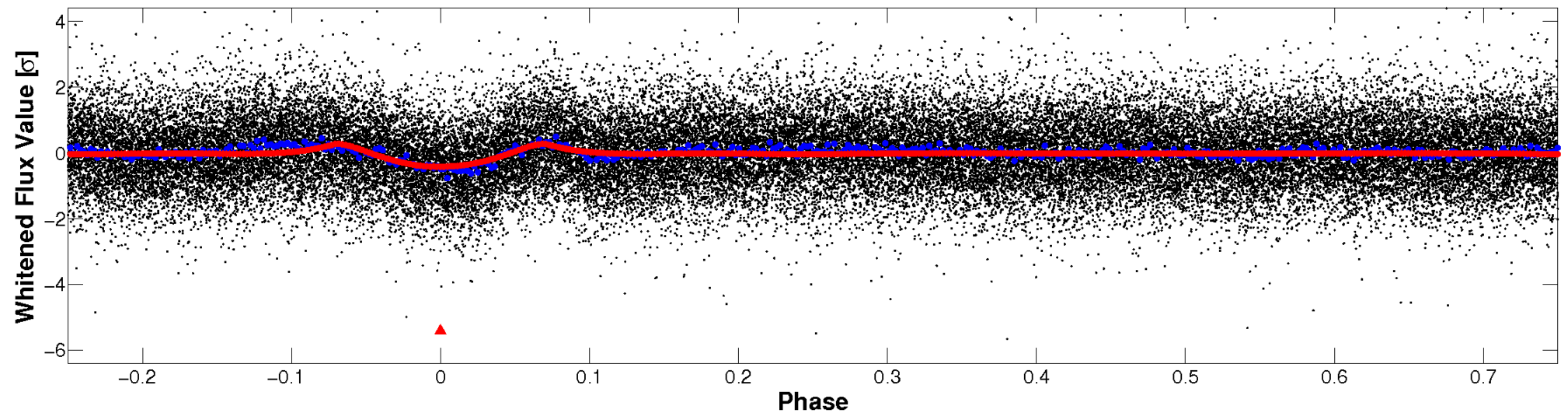


Non-Whitened Vs. Whitened Light Curve

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

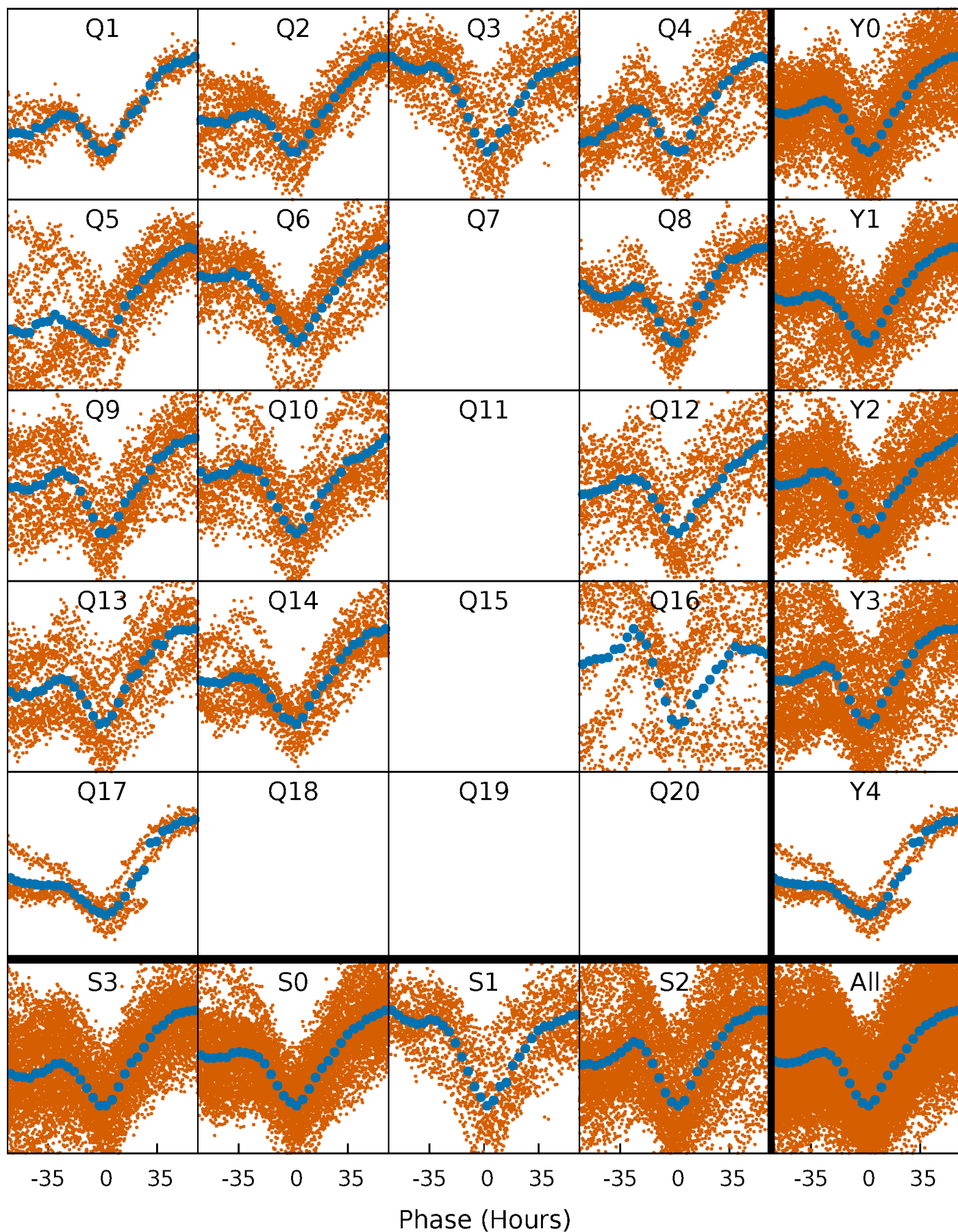


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



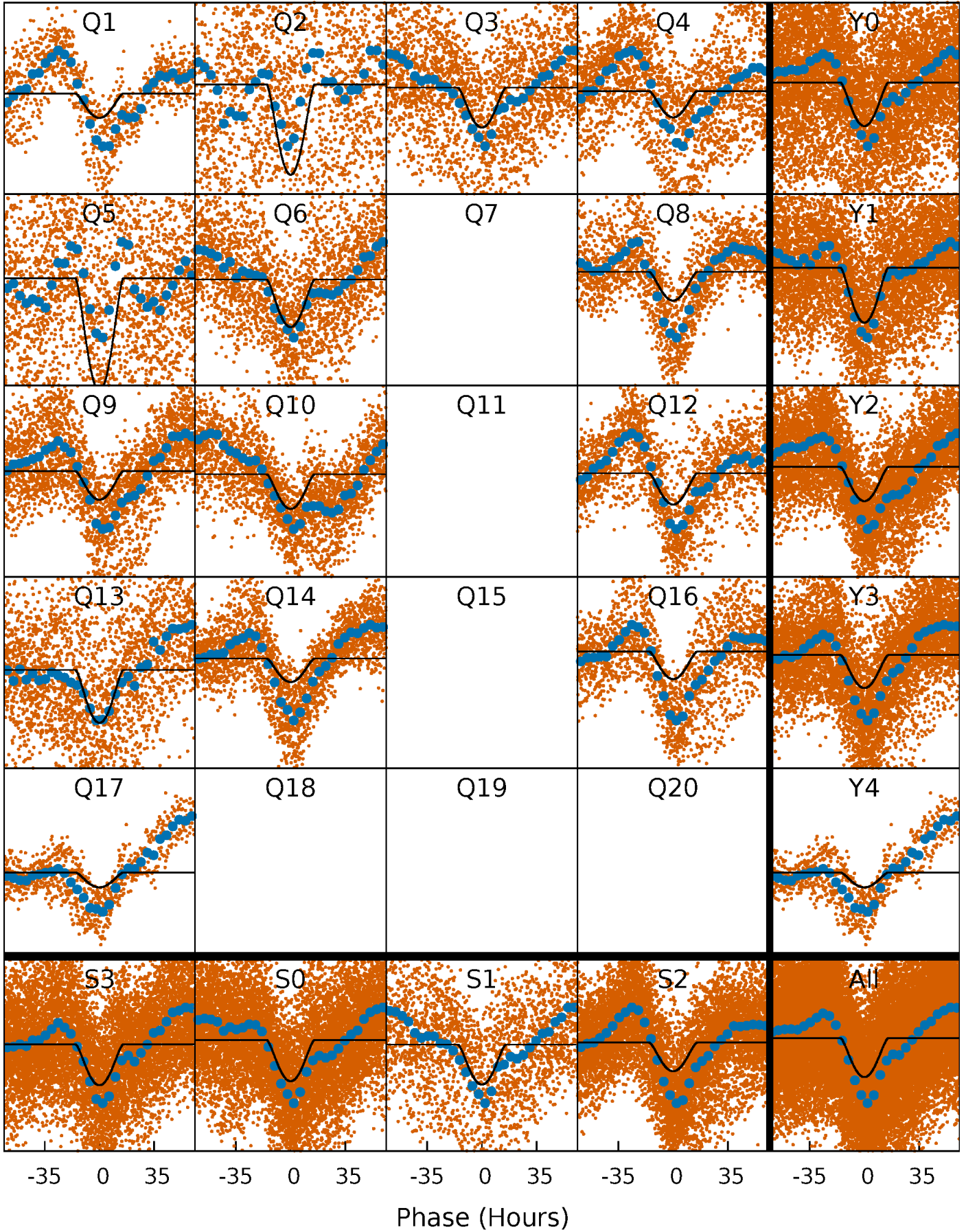
PDC Quarter-Phased Transit Curves

TCE 009906489-01 P= 8.965357 Days $T_0=137.441201$ (BKJD)



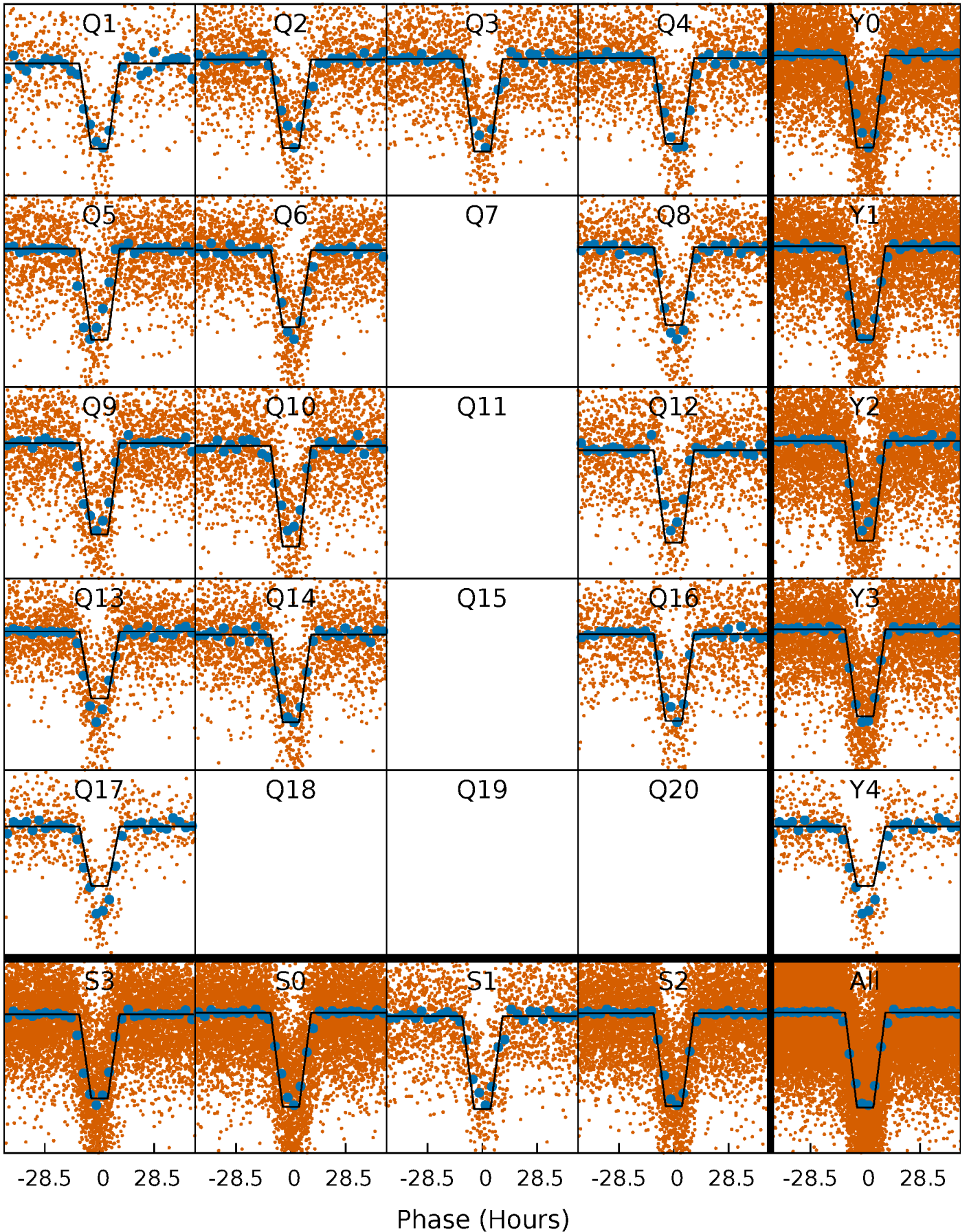
DV Quarter-Phased Transit Curves

TCE 009906489-01 P= 8.965357 Days $T_0=137.441201$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

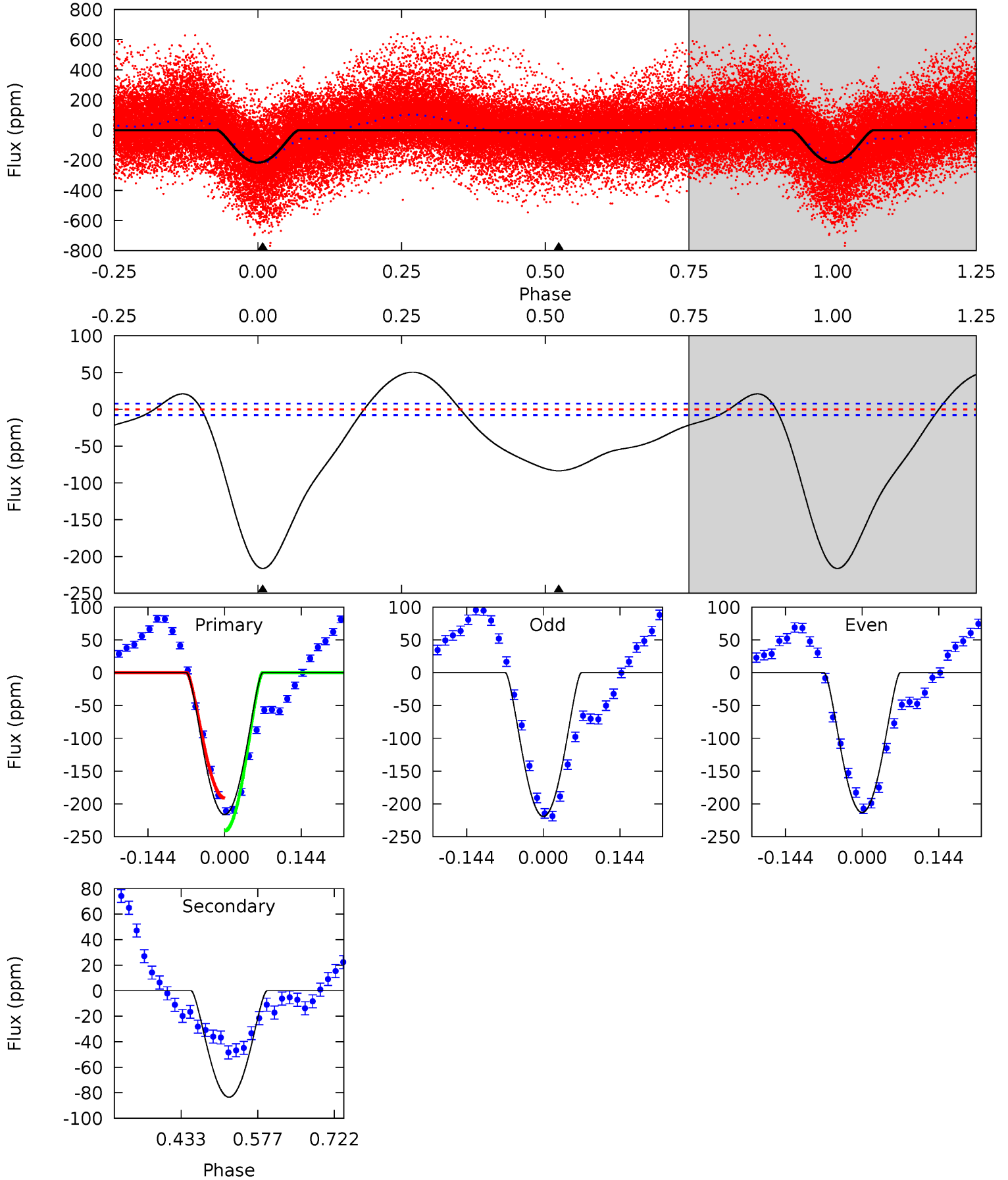
TCE 009906489-01 P= 8.965355 Days $T_0=137.517681$ (BKJD)



DV Model-Shift Uniqueness Test

009906489-01, P = 8.965357 Days, E = 128.475844 Days

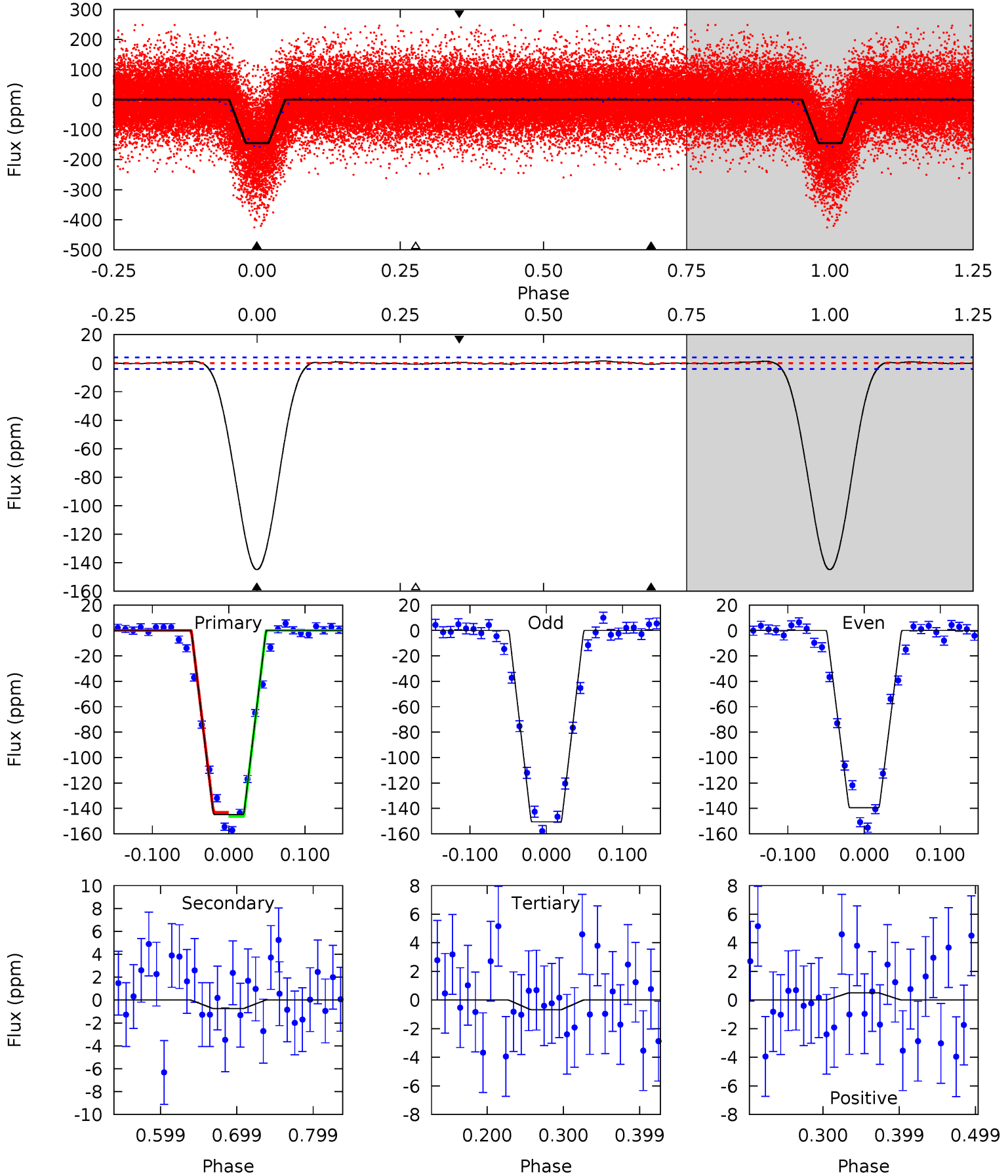
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
124.0	47.9	0	0	4.49	1.46	16.7	124.0	124.0	47.9	47.9	1.74	1.13	0.19	14.5



Alt Model-Shift Uniqueness Test

009906489-01, P = 8.965355 Days, E = 128.552326 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
163.3	0.84	0.77	0.57	4.57	1.65	0.55	162.5	162.7	0.08	0.28	6.29	1.05	0.01	1.73



Stellar Parameters For KIC 009906489

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6543^{+132}_{-198}	$4.382^{+0.057}_{-0.133}$	$-0.160^{+0.200}_{-0.300}$	$1.159^{+0.232}_{-0.125}$	$1.181^{+0.125}_{-0.153}$	$1.068^{+0.319}_{-0.412}$
	+2%/-3%	+1%/-3%	+125%/-188%	+20%/-11%	+11%/-13%	+30%/-39%
Source	PHO1	FLK73	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 009906489-01 / KOI 7249.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-83 ± 2	$2.71^{+1.27}_{-1.20}$	1467^{+69}_{-62}	4504^{+1234}_{-612}	49^{+111}_{-27}
Alt.	-1 ± 1	$1.77^{+1.15}_{-0.99}$	1470^{+69}_{-56}	2235^{+785}_{-4512}	$0.715^{+4.204}_{-0.884}$

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

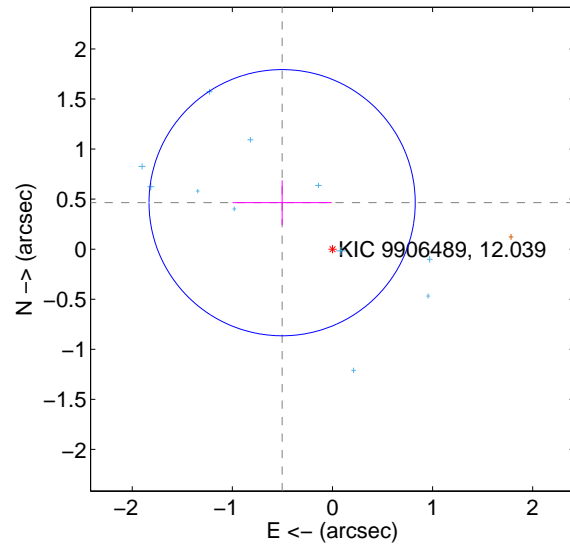
Supplemental centroid analysis for 009906489-01. Kepler magnitude: 12.04. Transit SNR 25.07

There are 12 quarters with good PRF difference image offsets

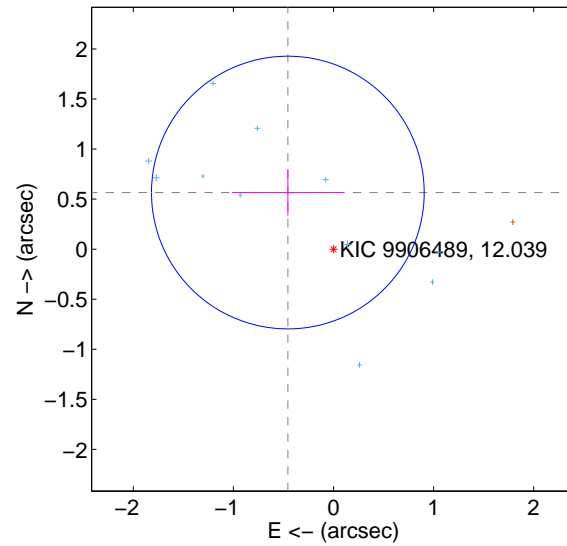
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.685 ± 0.443	1.54	0.503 ± 0.495	0.464 ± 0.223
PRF-fit source offset from KIC position	0.727 ± 0.454	1.60	0.456 ± 0.560	0.566 ± 0.231
photometric centroid source offset	0.56 ± 0.19	3.02	-0.21 ± 0.22	0.52 ± 0.18

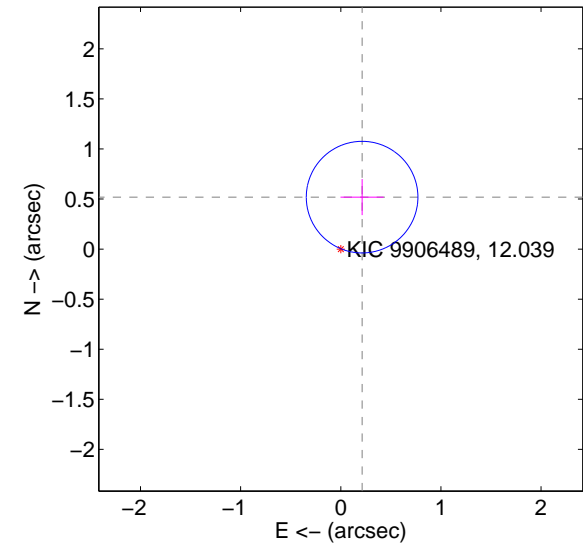
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

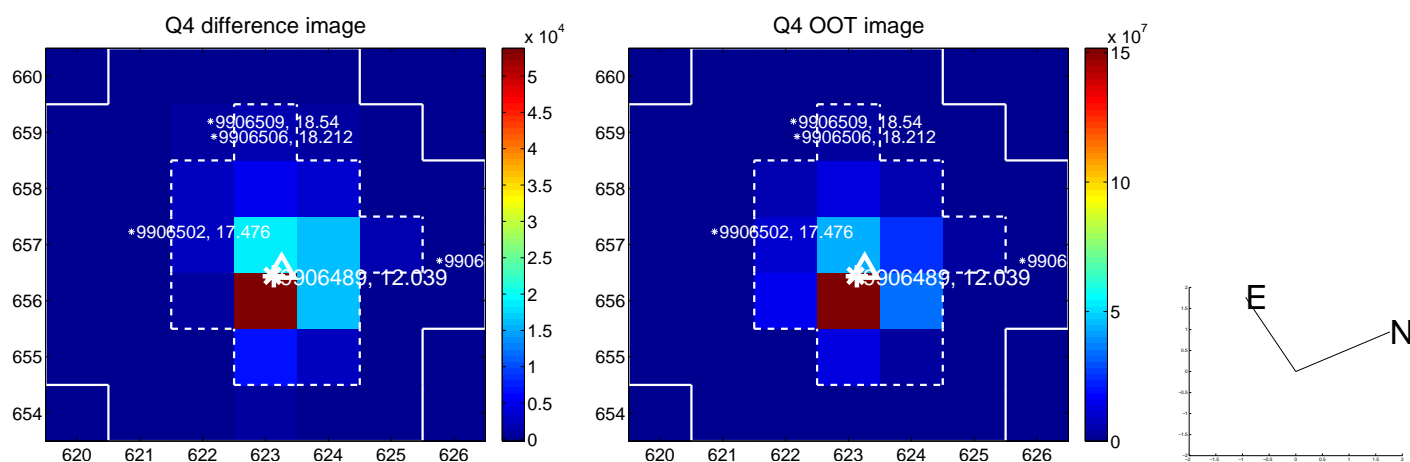
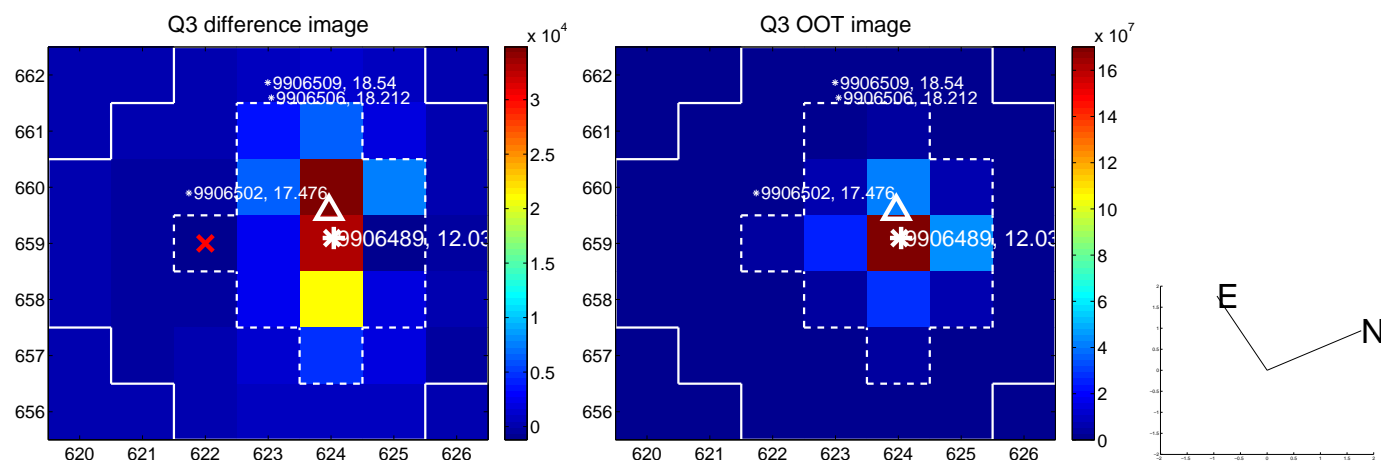
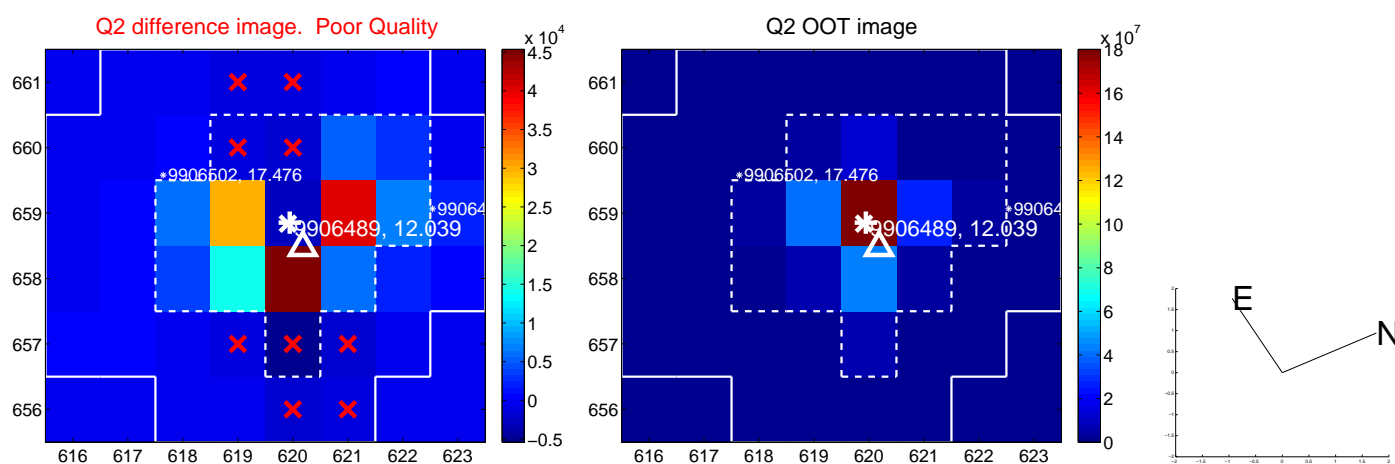
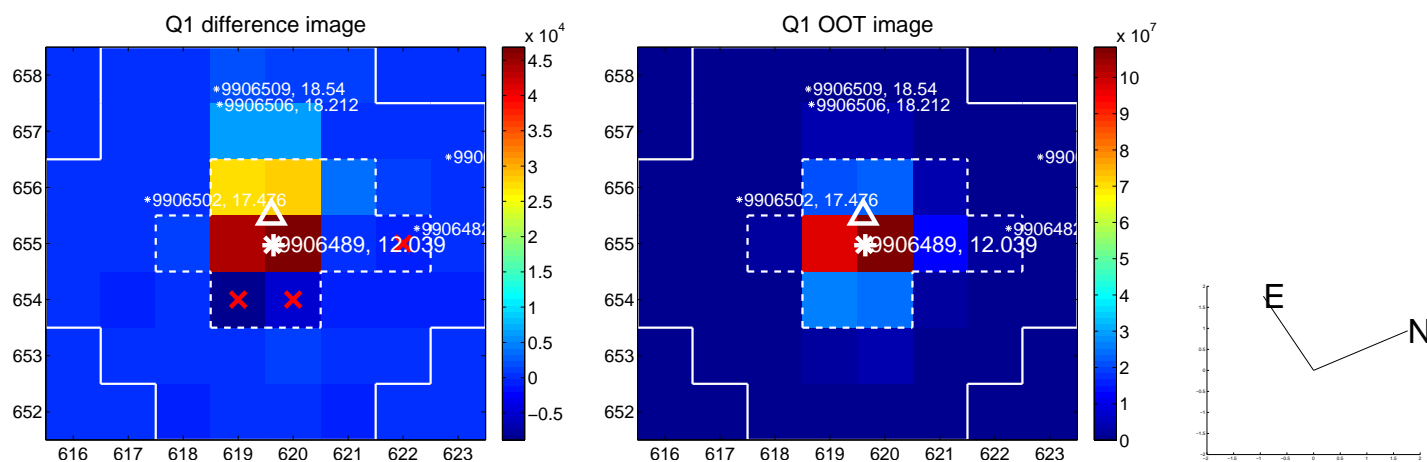


offset from photometric centroids

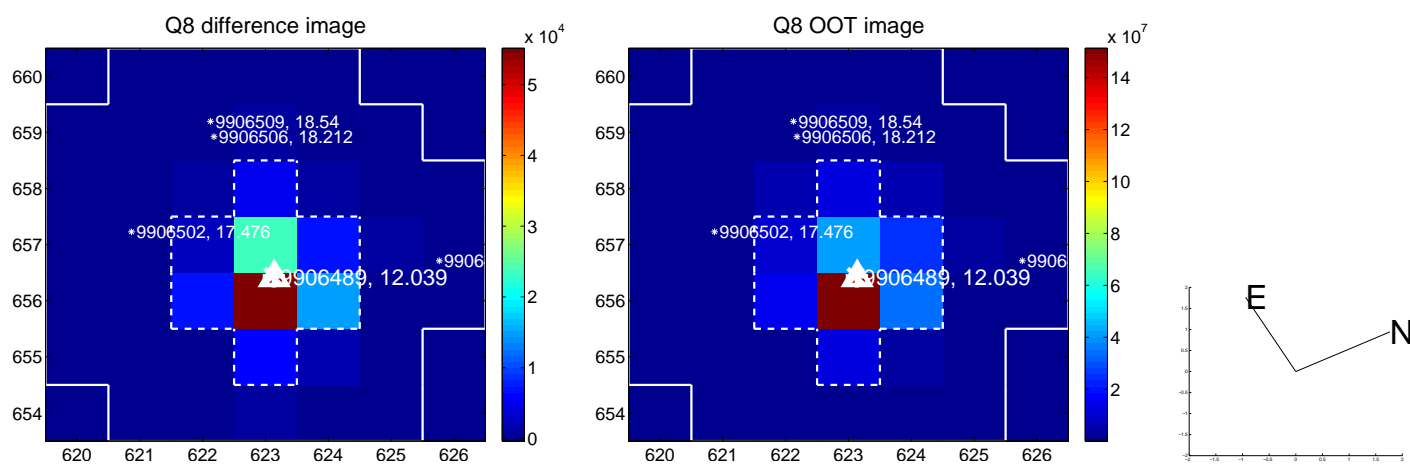
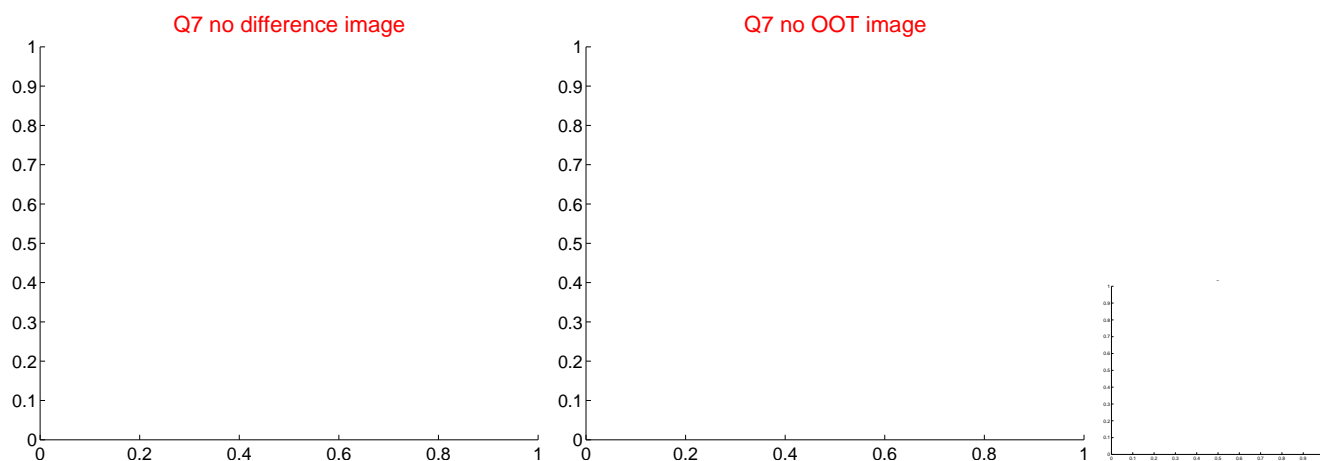
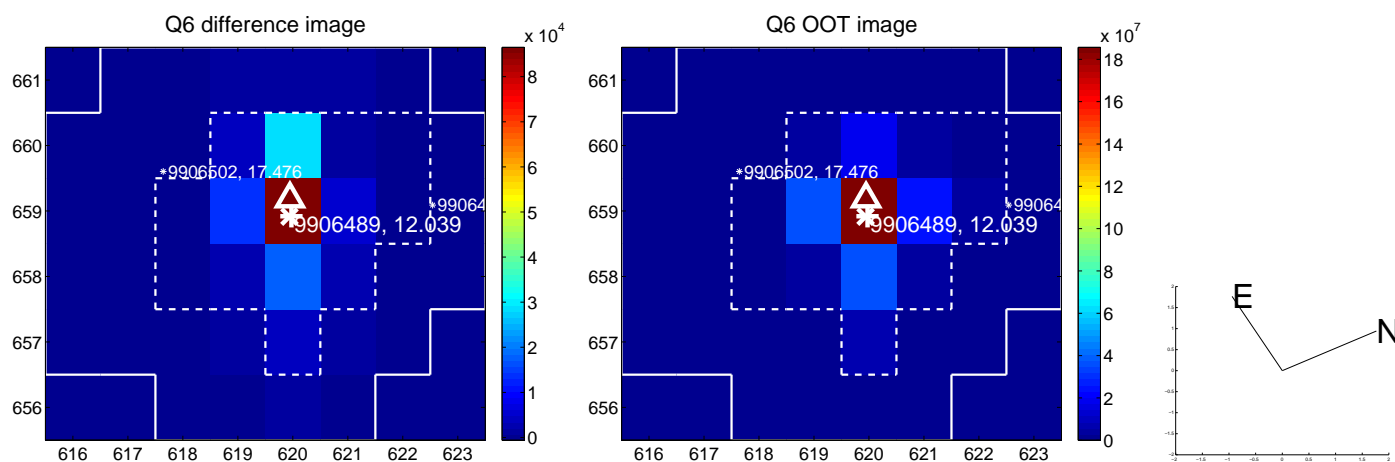
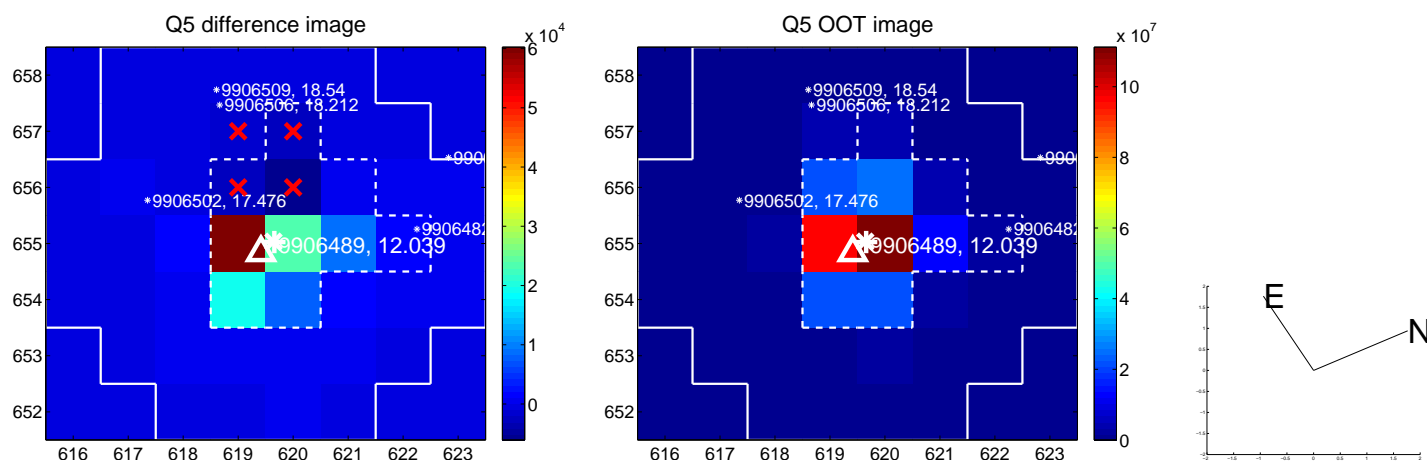


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

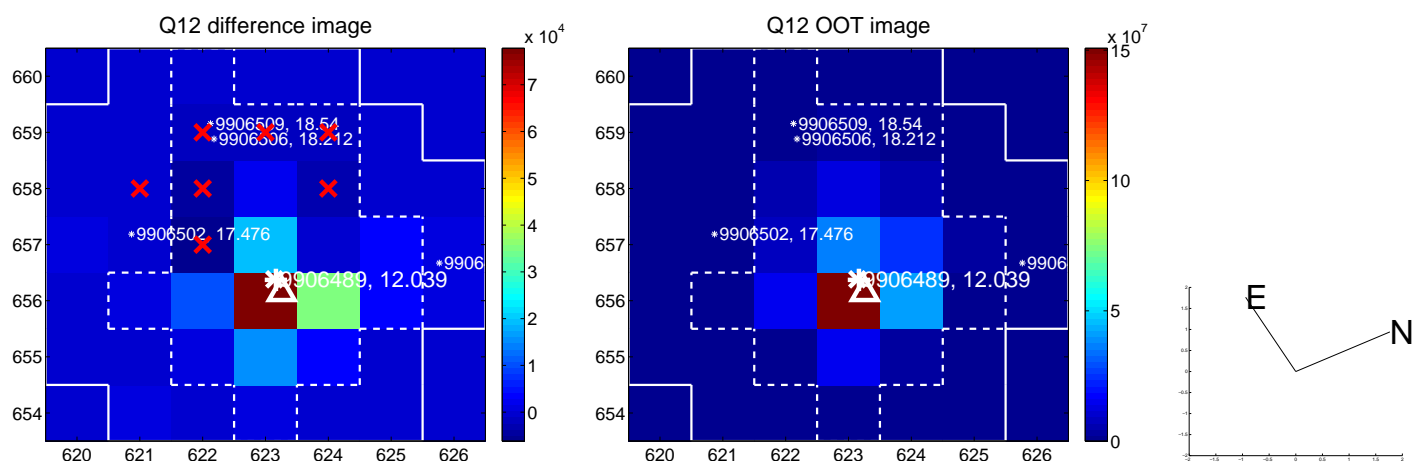
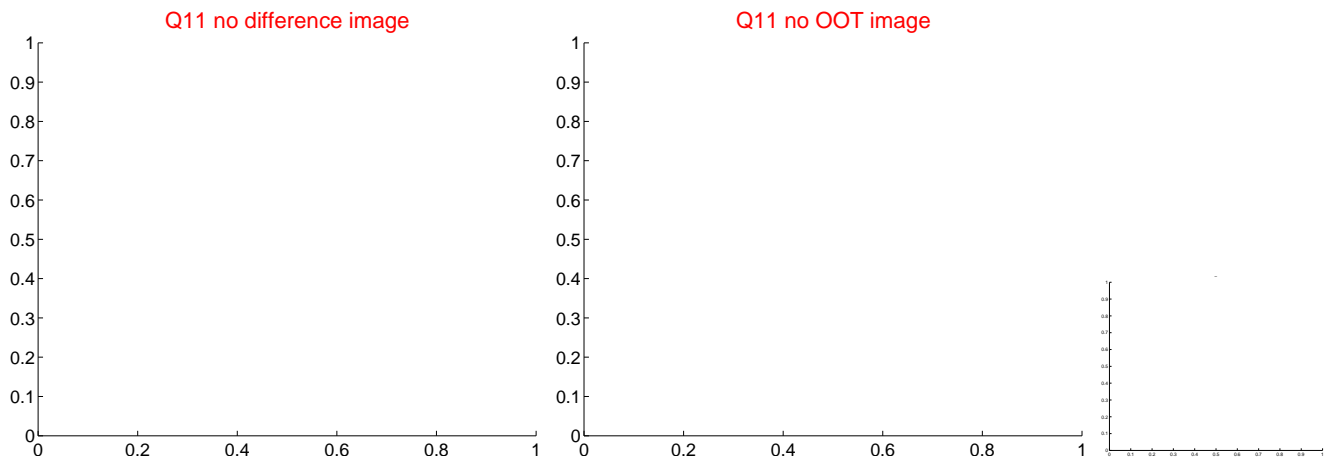
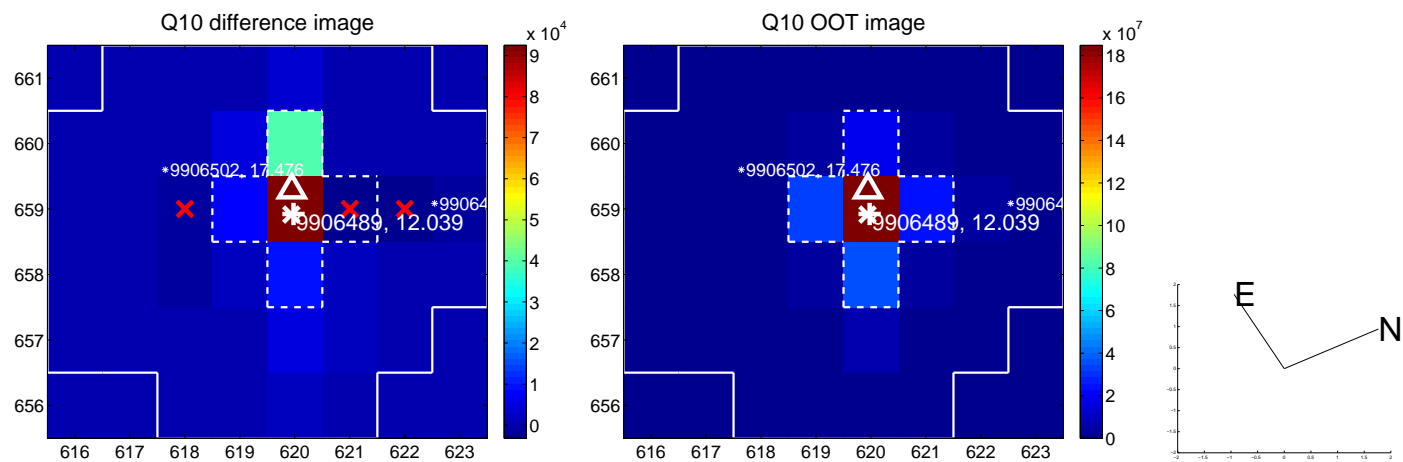
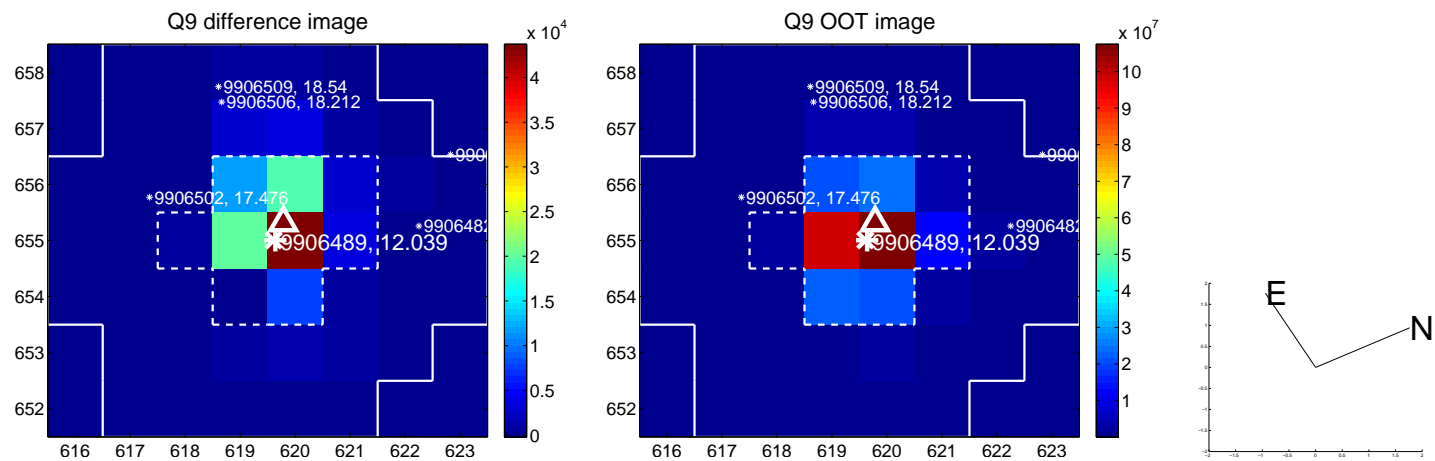
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



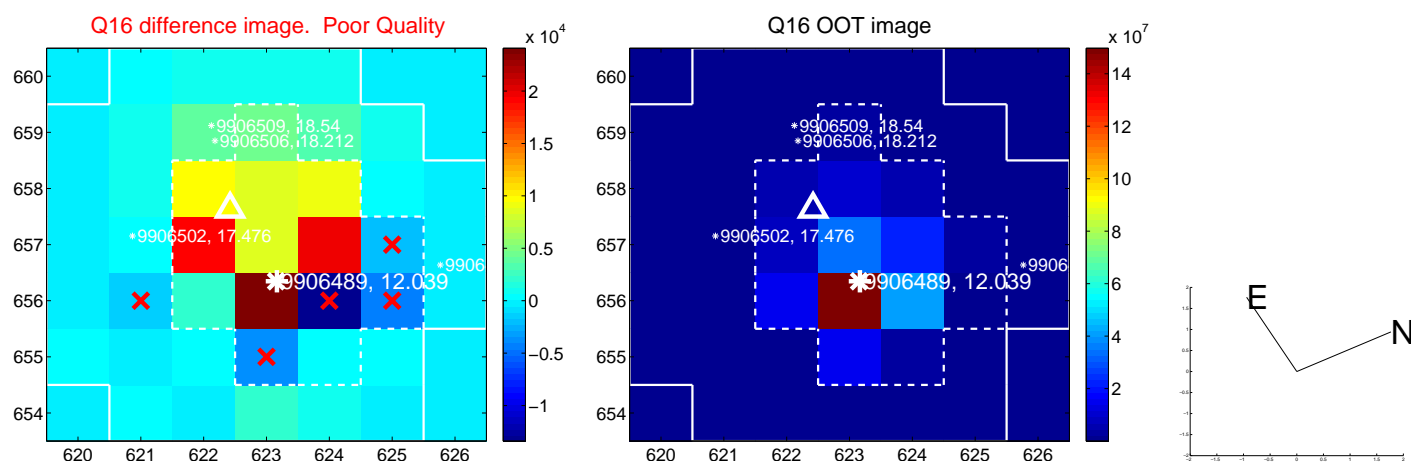
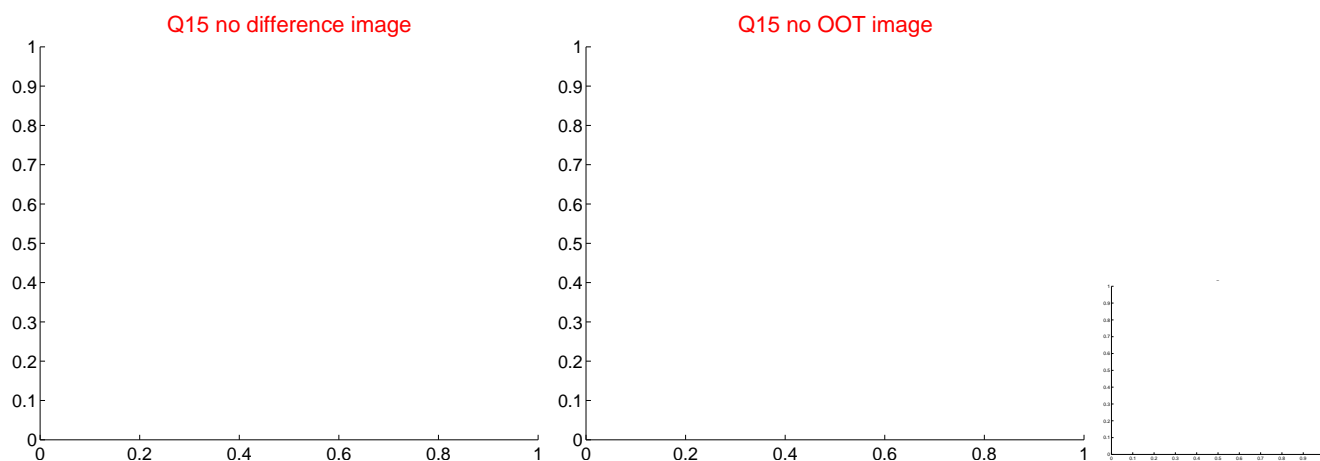
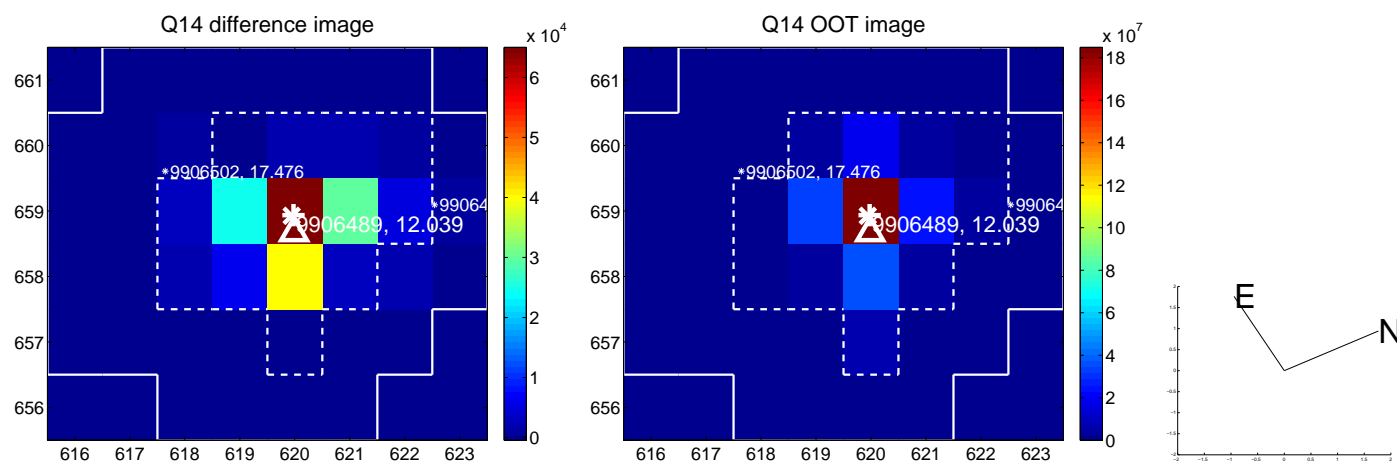
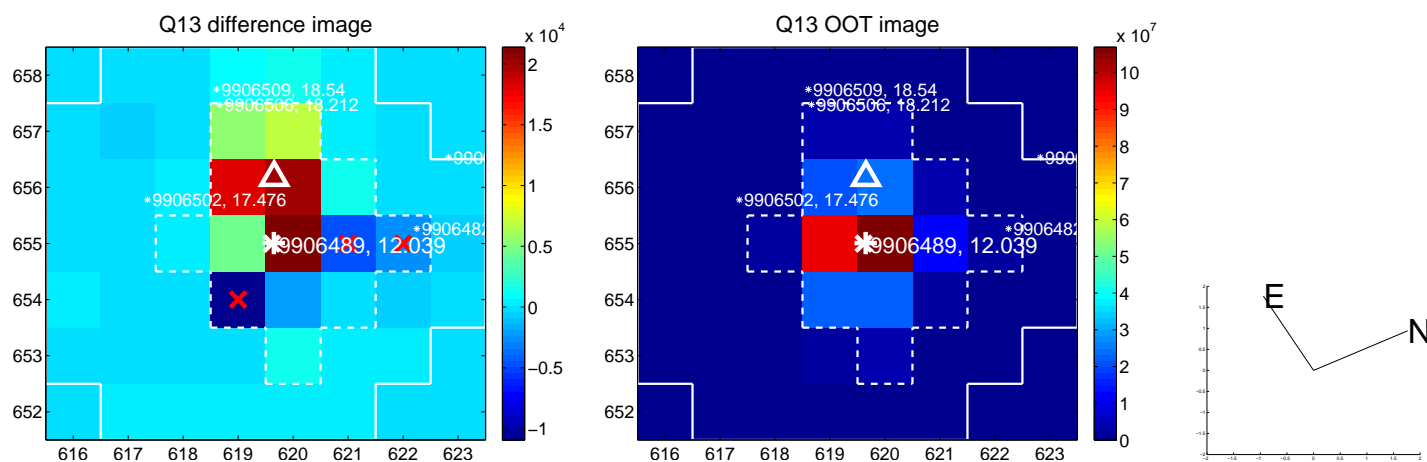
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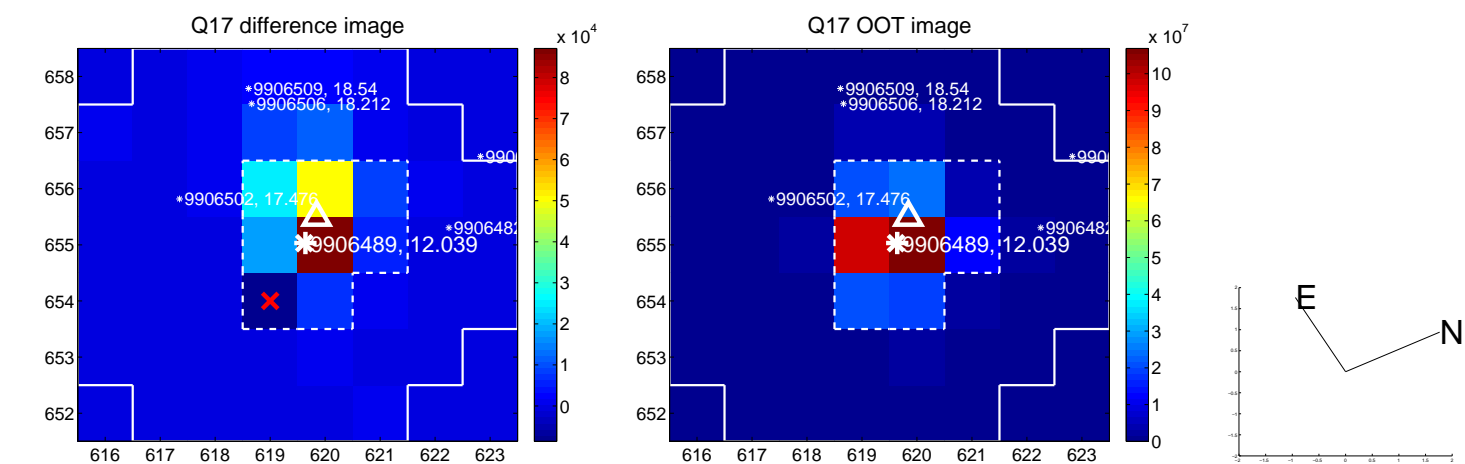
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



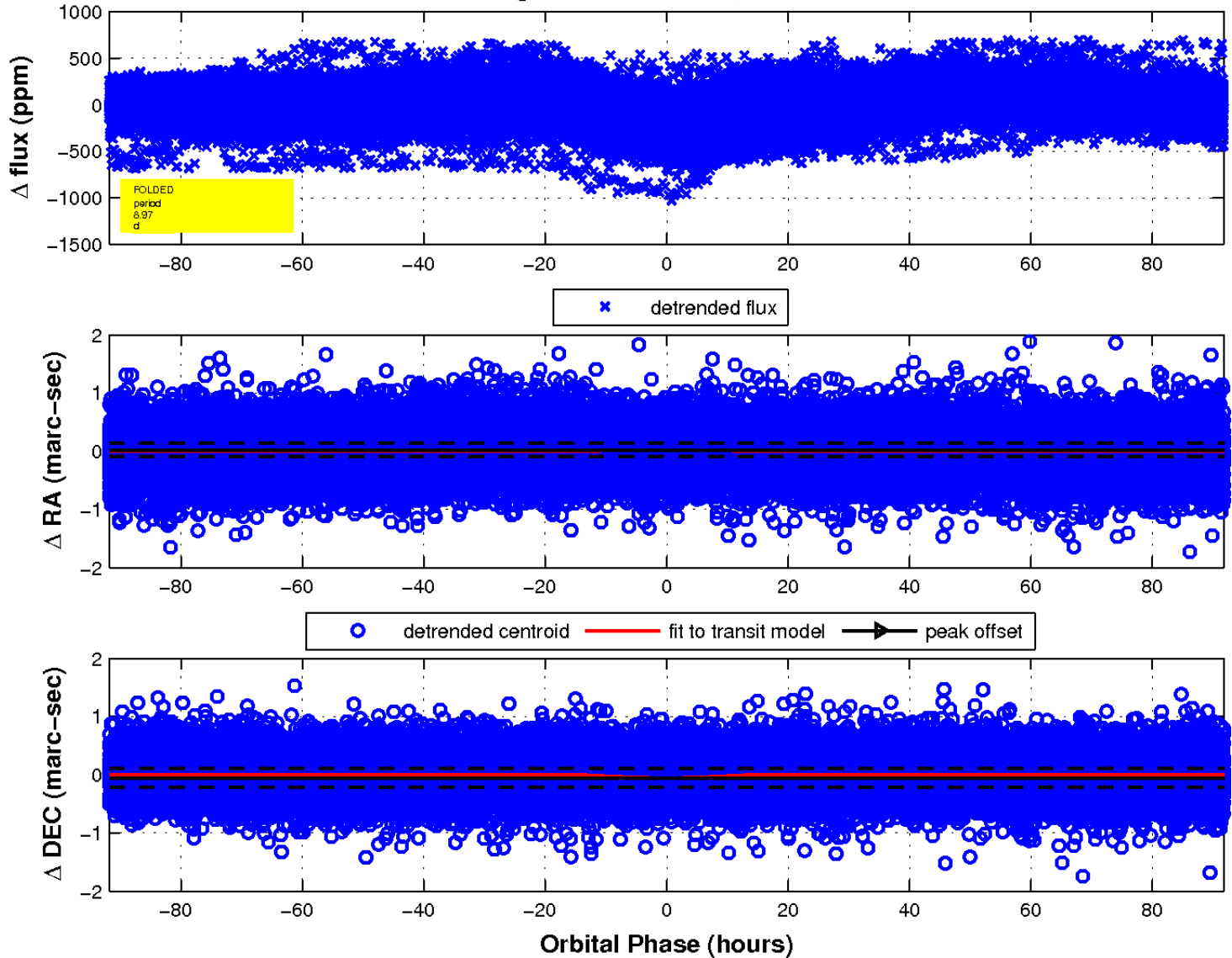
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

