

KIC 010713616

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})
010713616-01	OBS	1311.01	83.578059	202.459162	617.3	7.465	46.5	47.6	2.56	6056	7.10	43.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010713616-01	OBS	PC	0.94	0	0	0	0	NO_COMMENT

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

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

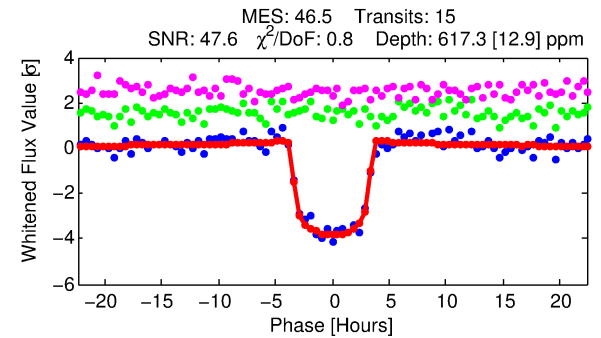
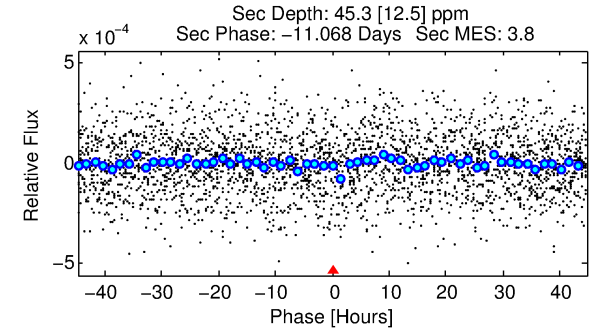
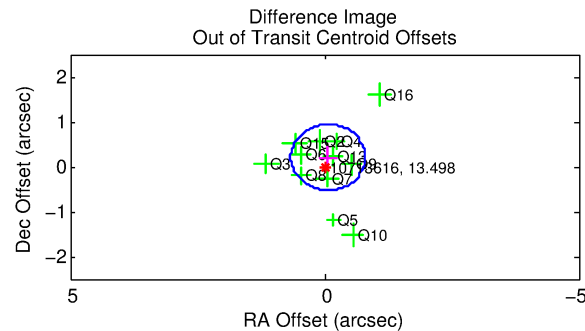
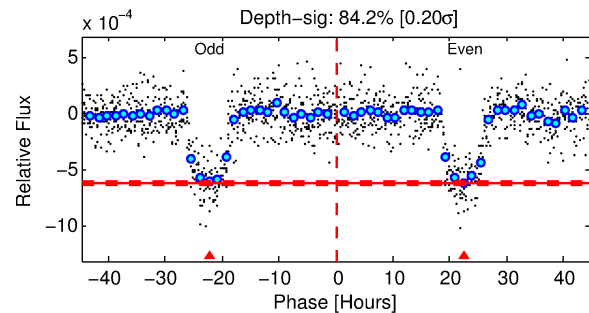
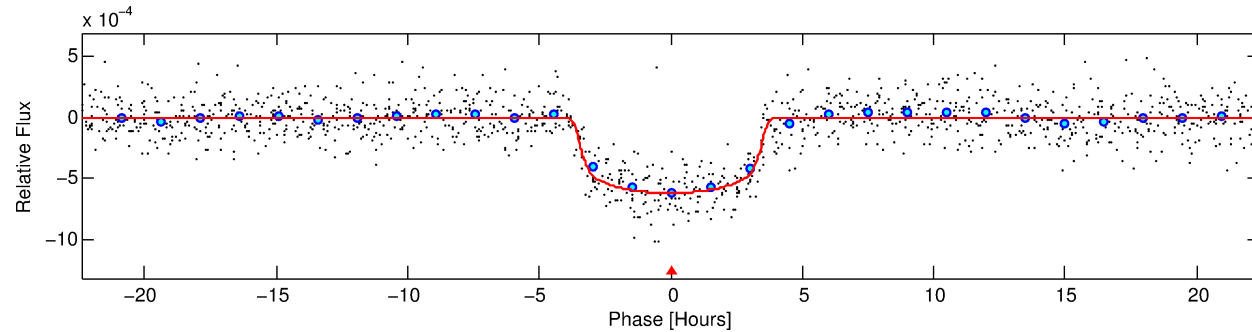
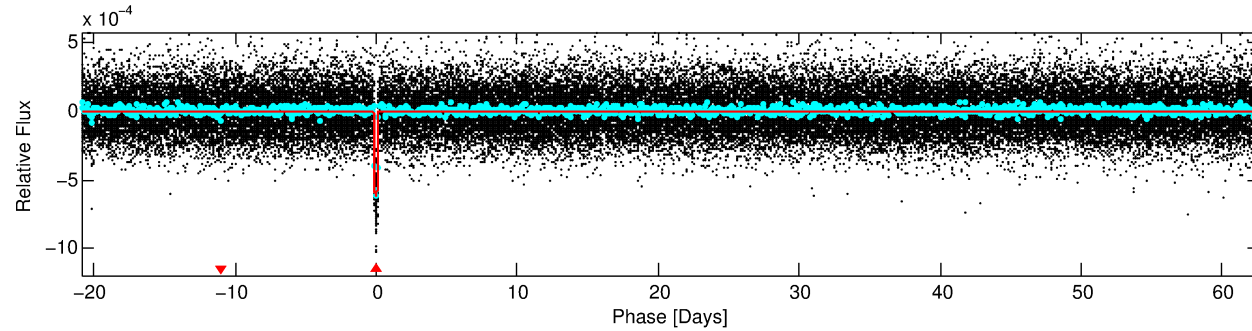
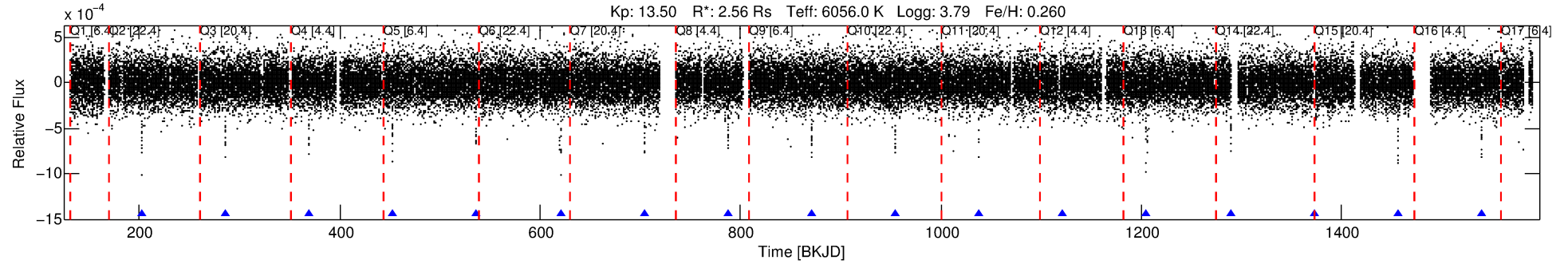
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010713616-01

No Significant Match Found

DV One-Page Summary

KIC: 10713616 Candidate: 1 of 1 Period: 83.578 d
KOI: K01311.01 Corr: 0.986



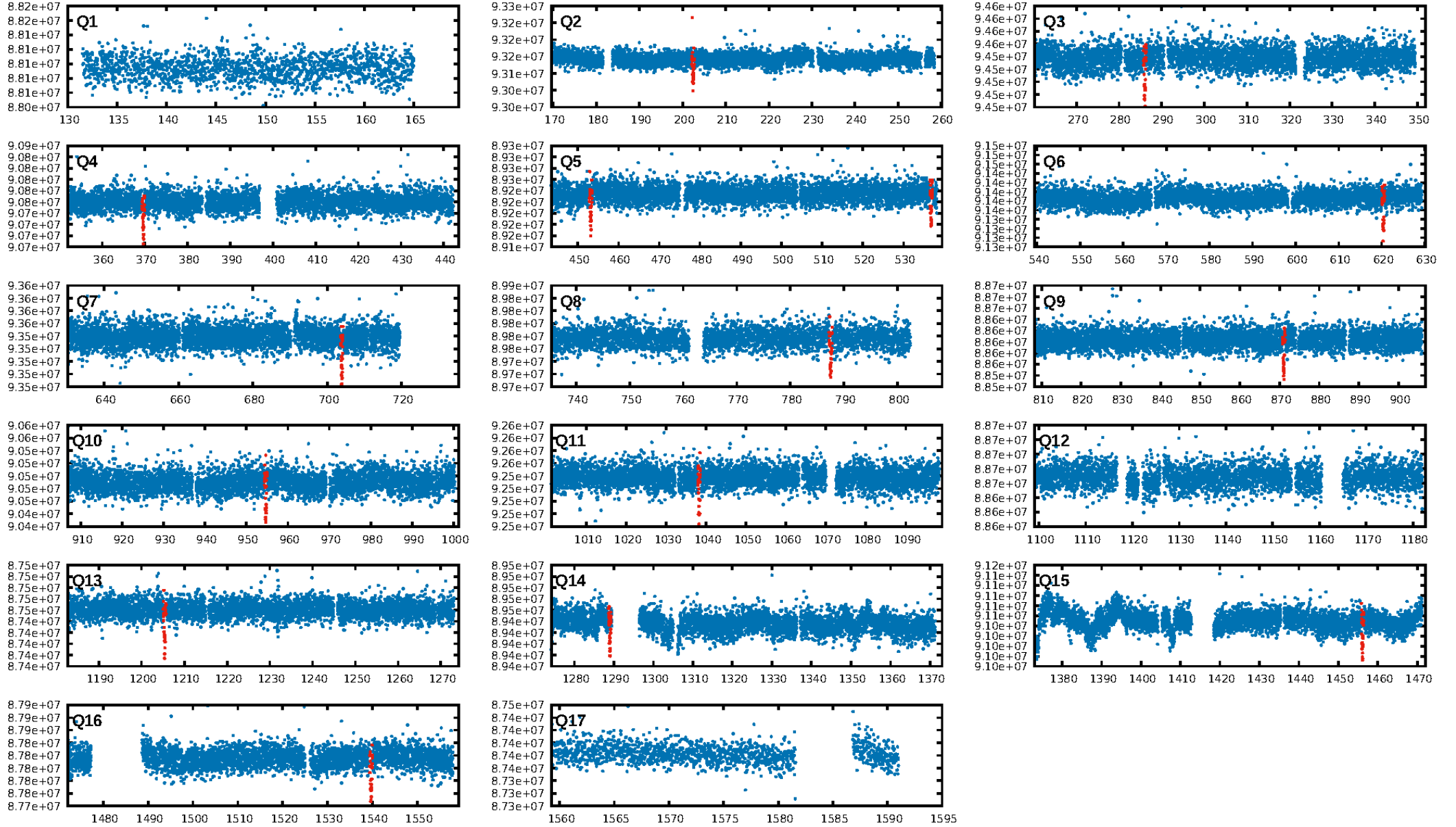
DV Fit Results:

Period = 83.57806 [0.00029] d
Epoch = 202.4592 [0.0026] BKJD
Rp/R* = 0.0254 [0.0017]
a/R* = 53.26 [16.58]
b = 0.81 [0.13]
Seff = 43.71 [20.02]
Teff = 656 [75] K
Rp = 7.10 [2.25] Re
a = 0.4254 [0.1232] AU
Ag = 89.43 [49.05] [1.80 σ]
Teffp = 3117 [242] K [9.70 σ]

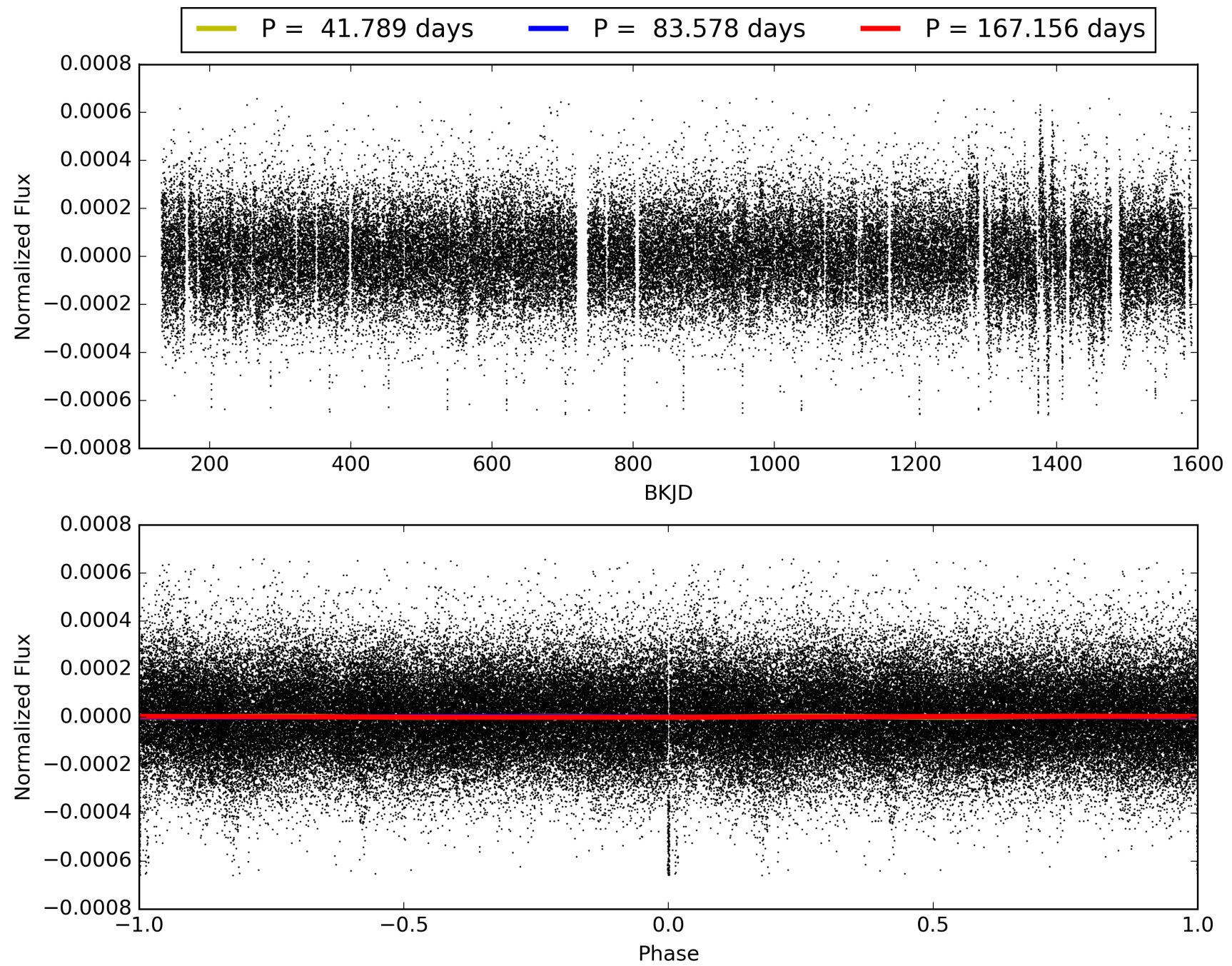
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: 5.25
Centroid-sig: 24.1%
Centroid-so: 0.462 arcsec [1.54 σ]
OotOffset-rm: 0.218 arcsec [0.89 σ]
KicOffset-rm: 0.489 arcsec [1.98 σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [12/12]

TCE 010713616-01, PDC Light Curves

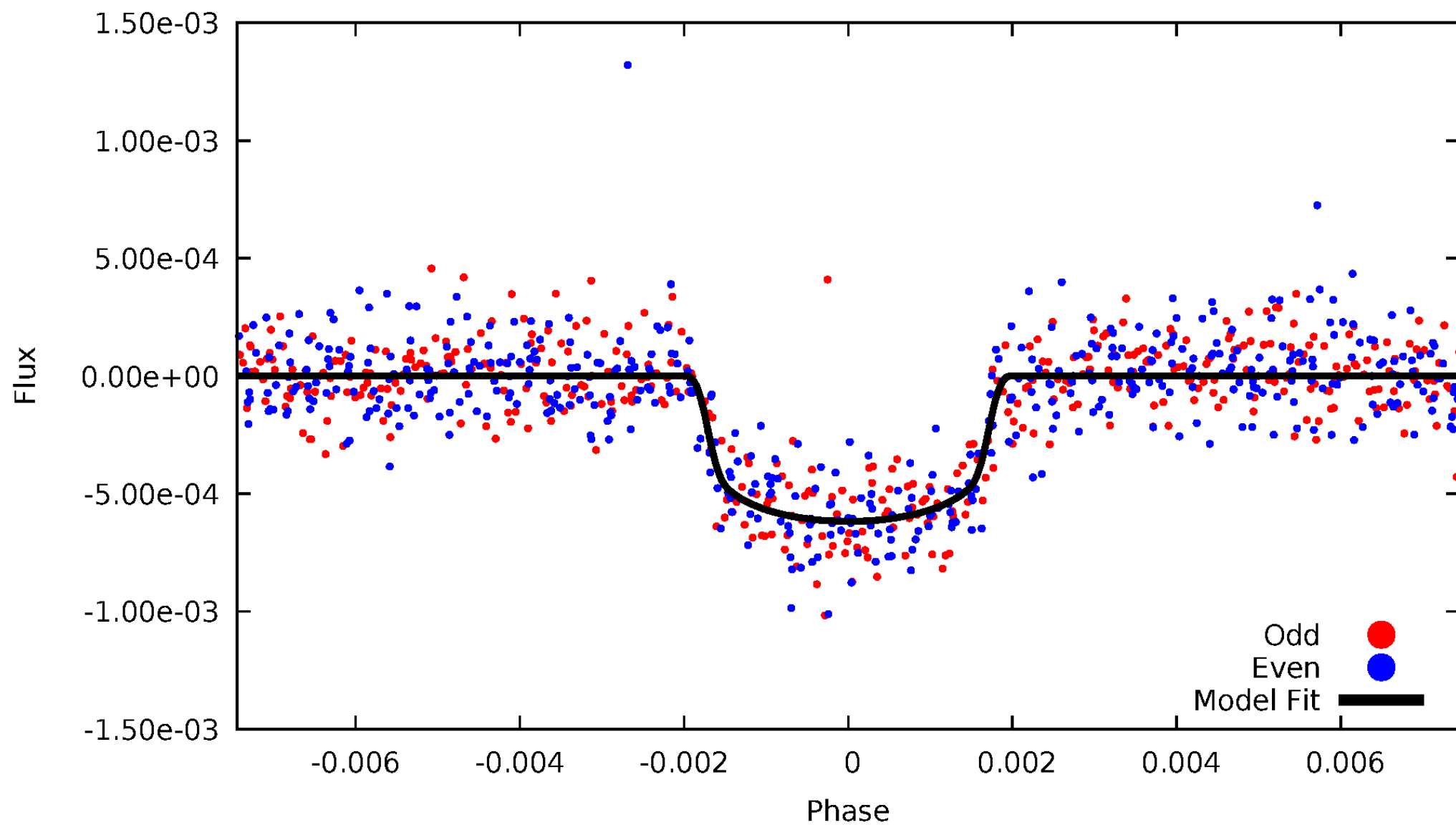


TCE 010713616-01



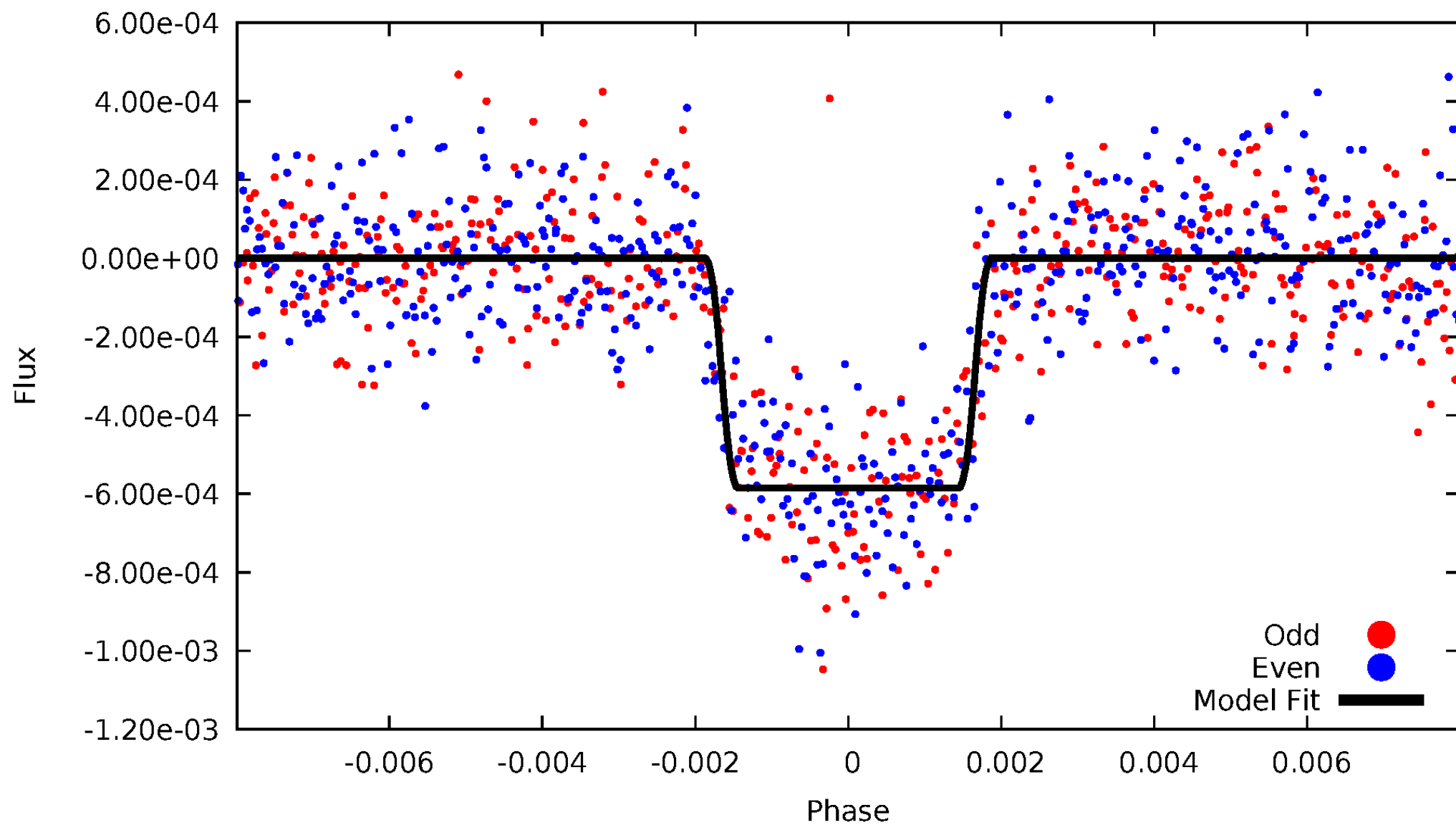
DV Odd/Even

TCE 010713616-01

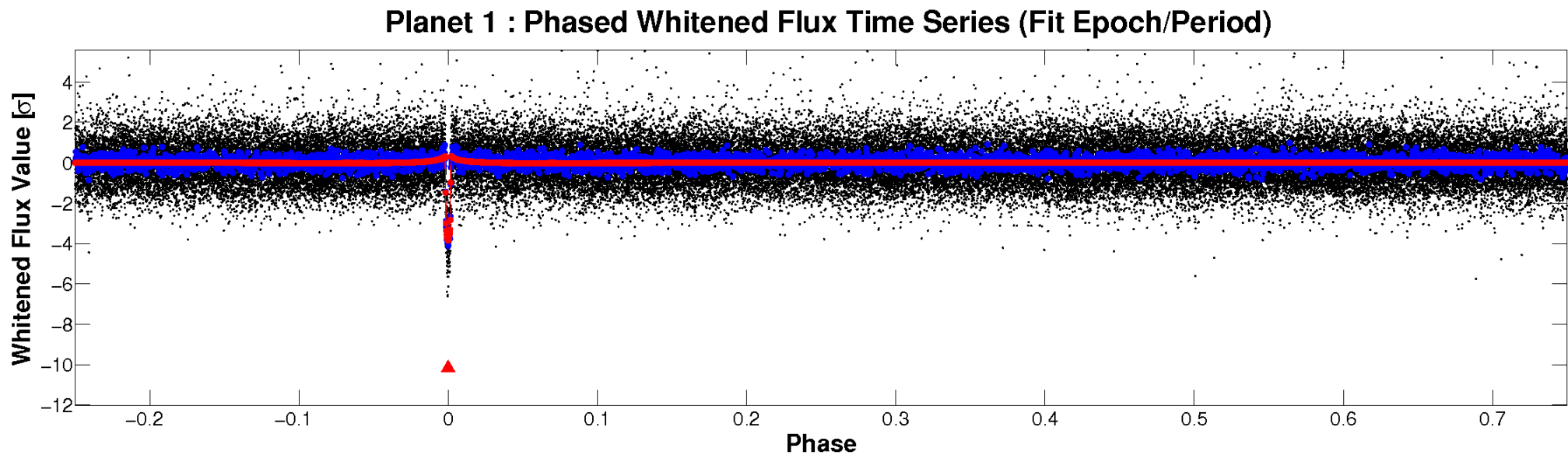
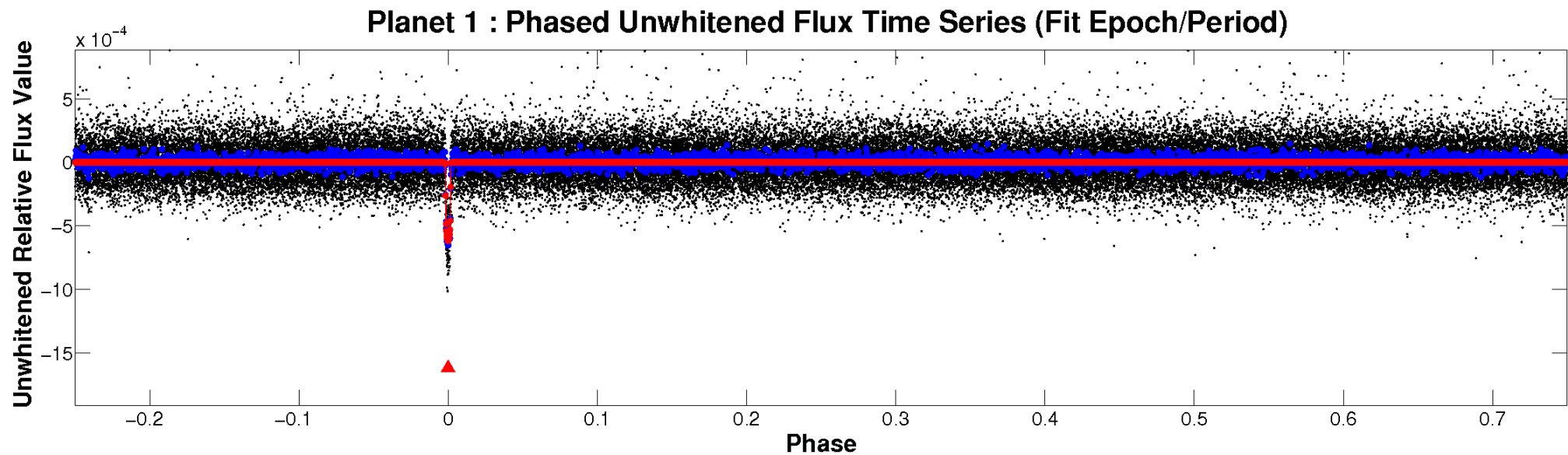


ALT Odd/Even

TCE 010713616-01

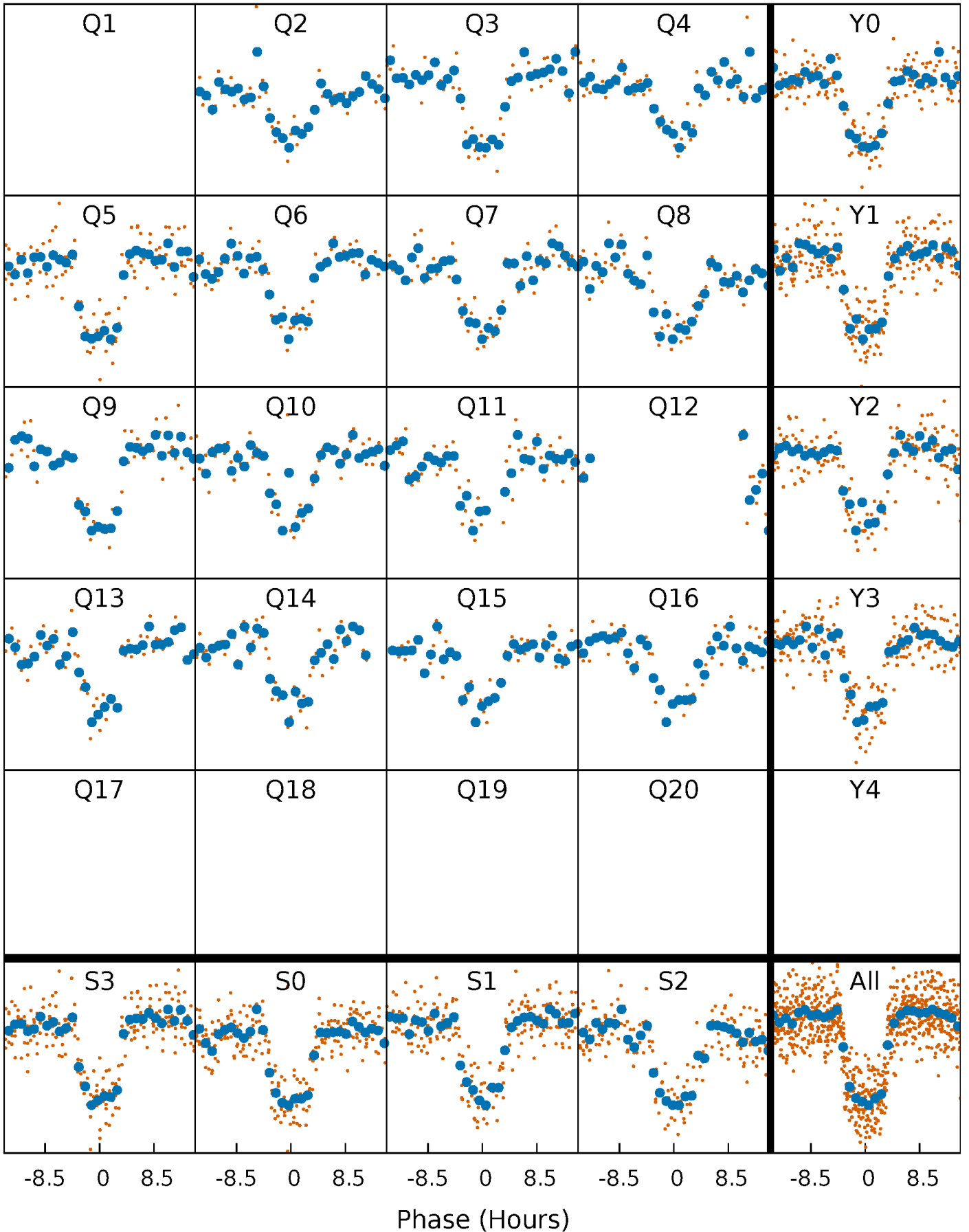


Non-Whitened Vs. Whitened Light Curve



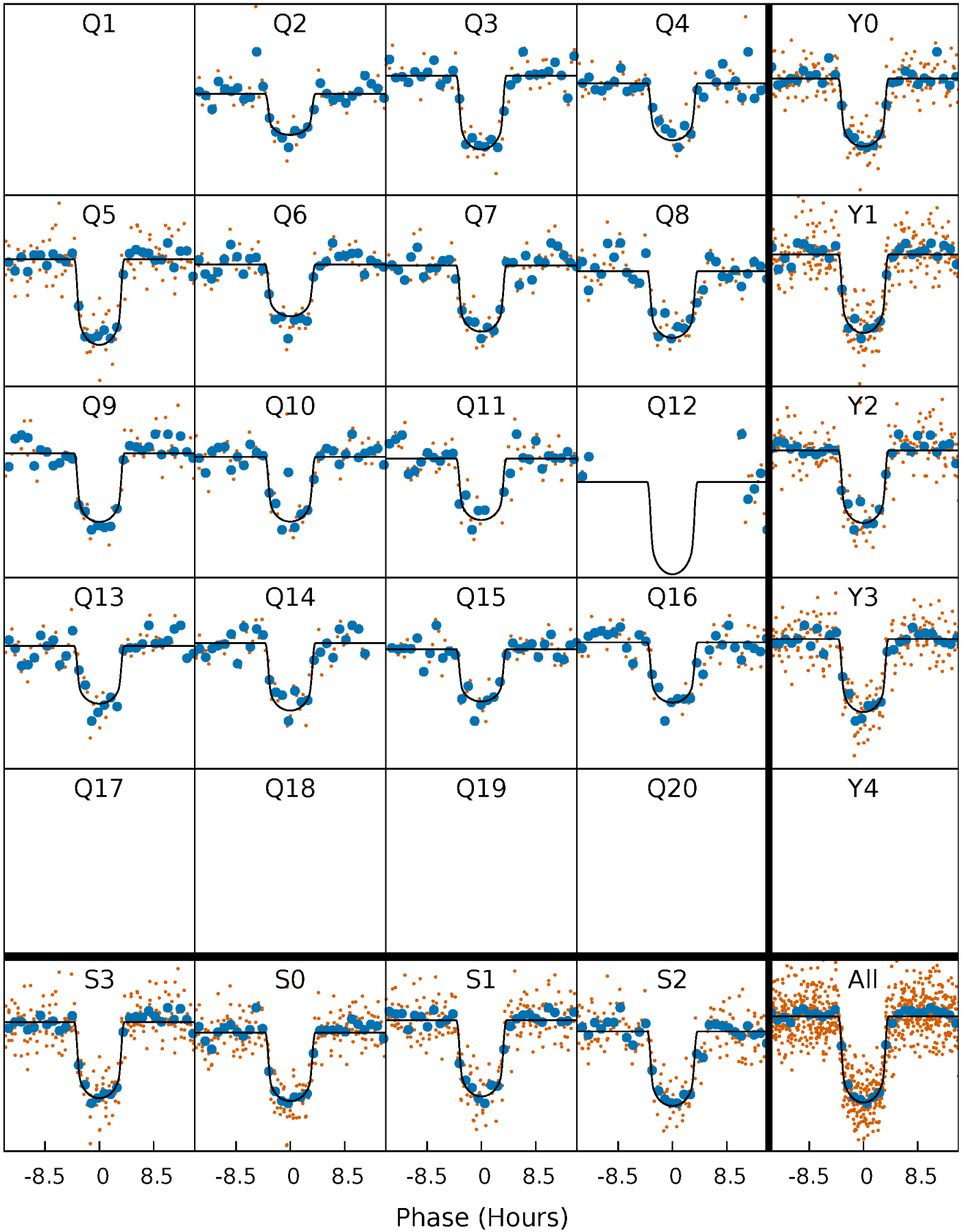
PDC Quarter-Phased Transit Curves

TCE 010713616-01 P= 83.578059 Days $T_0=202.459162$ (BKJD)



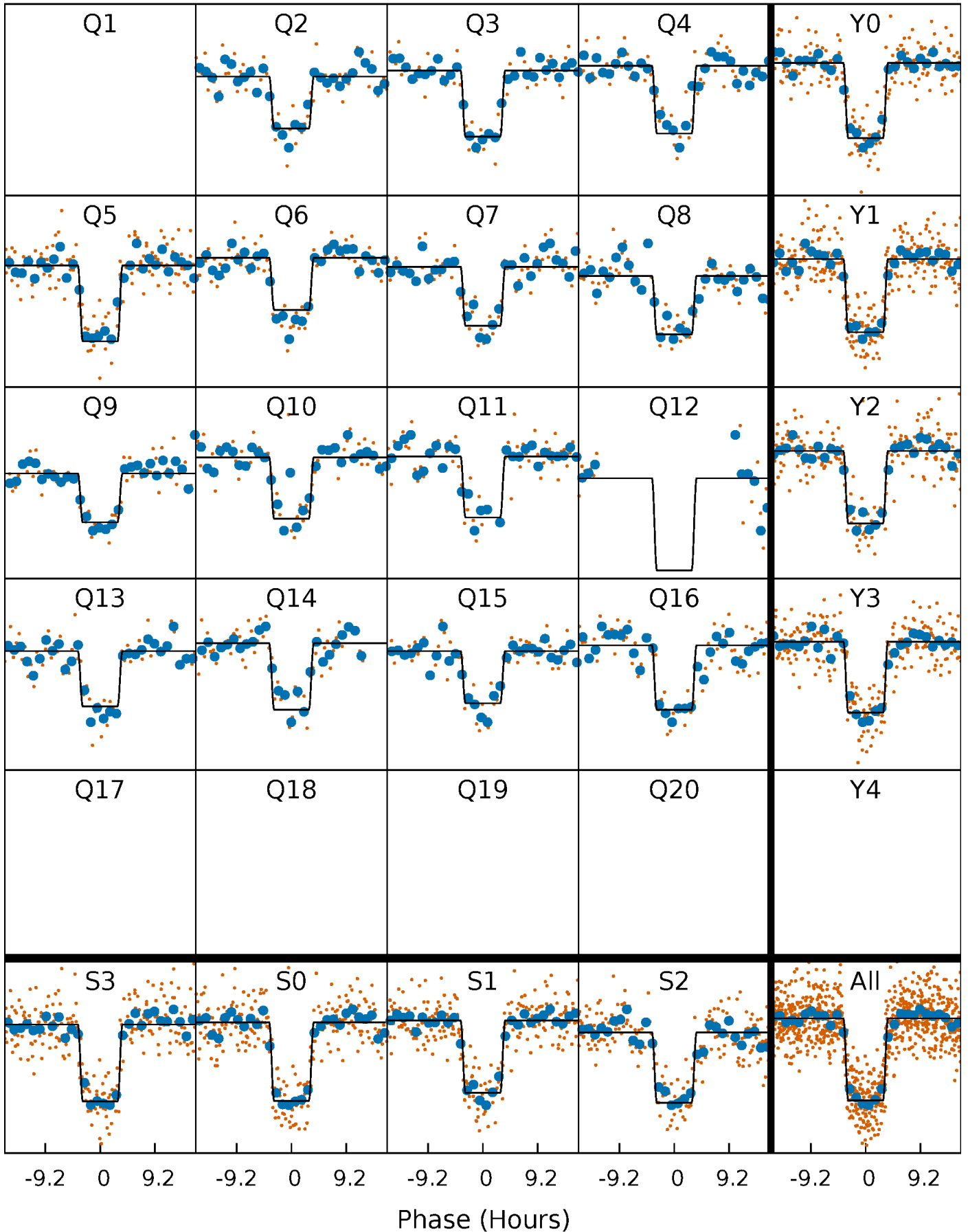
DV Quarter-Phased Transit Curves

TCE 010713616-01 P= 83.578059 Days $T_0=202.459162$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

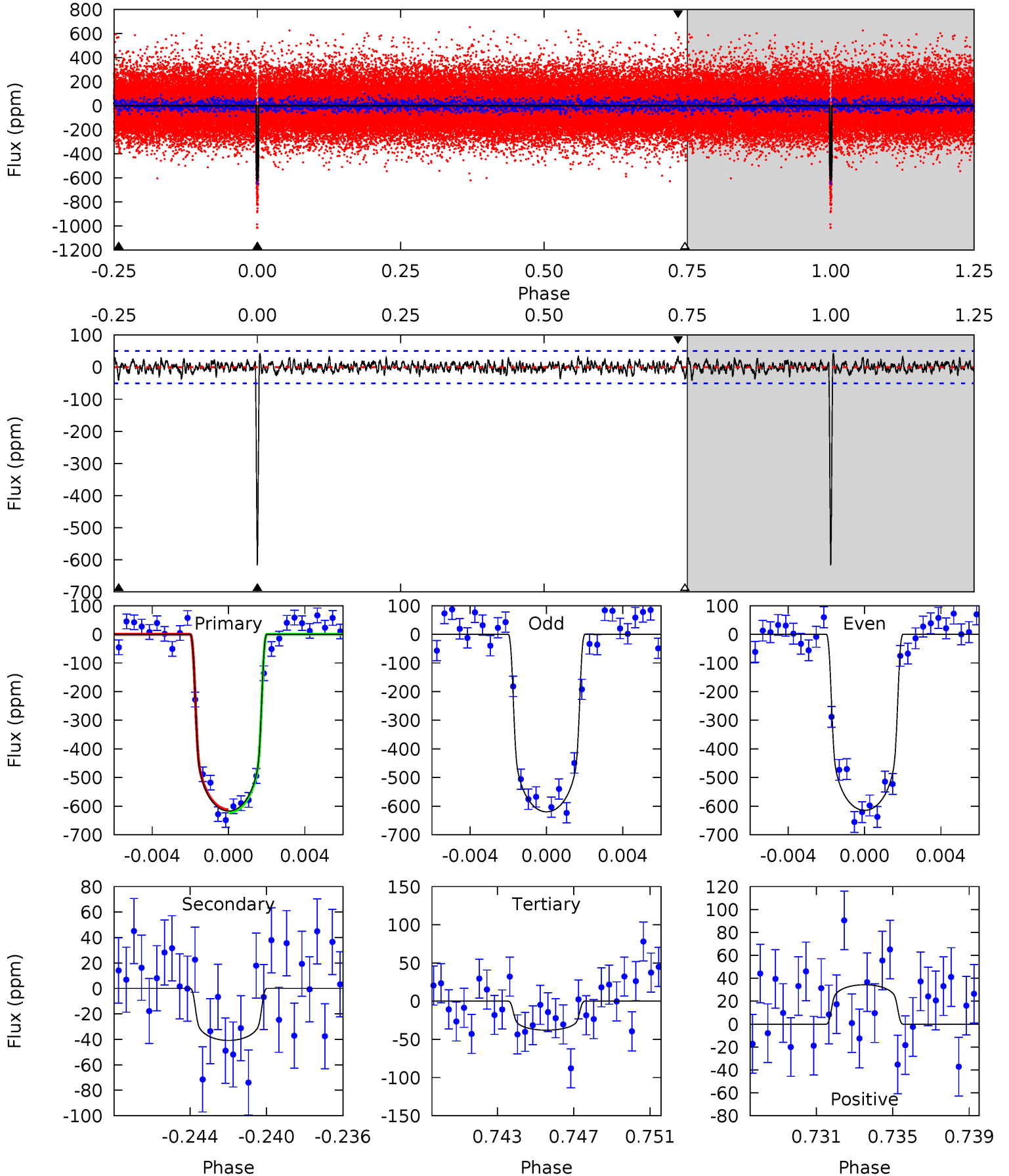
TCE 010713616-01 P= 83.576845 Days $T_0=202.469275$ (BKJD)



DV Model-Shift Uniqueness Test

010713616-01, $P = 83.578059$ Days, $E = 118.881103$ Days

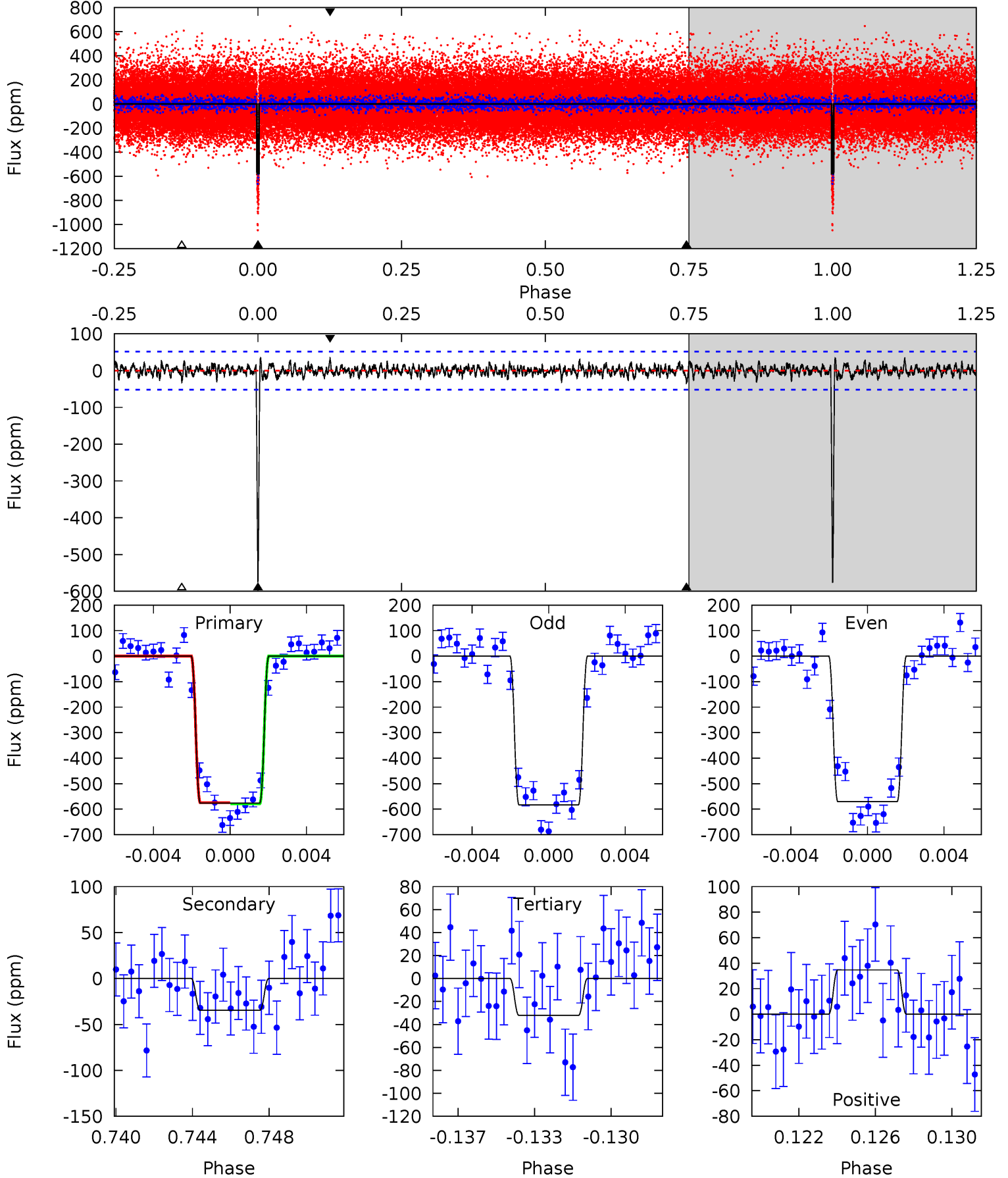
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.0	4.23	3.94	3.56	5.20	2.88	1.17	60.0	60.4	0.30	0.67	0.27	1.00	0.06	0.48



Alt Model-Shift Uniqueness Test

010713616-01, $P = 83.576845$ Days, $E = 118.892430$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.2	3.50	3.25	3.50	5.21	2.90	1.00	54.9	54.7	0.25	-0.00	0.66	1.00	0.06	0.21



Stellar Parameters For KIC 010713616

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6056^{+81}_{-72}	$3.788^{+0.264}_{-0.066}$	$0.260^{+0.150}_{-0.150}$	$2.562^{+0.341}_{-0.795}$	$1.468^{+0.167}_{-0.204}$	$0.123^{+0.192}_{-0.033}$
	+1%/-1%	+7%/-2%	+58%/-58%	+13%/-31%	+11%/-14%	+156%/-27%
Source	SPE90	FLK73	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010713616-01 / KOI 1311.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-41 ± 10	$6.85^{+0.87}_{-1.20}$	901^{+39}_{-74}	3512^{+149}_{-150}	89^{+44}_{-27}
Alt.	-35 ± 10	$6.50^{+0.83}_{-1.10}$	900^{+39}_{-67}	3483^{+178}_{-200}	83^{+42}_{-27}

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 $A_{obs} \gg 1.0$

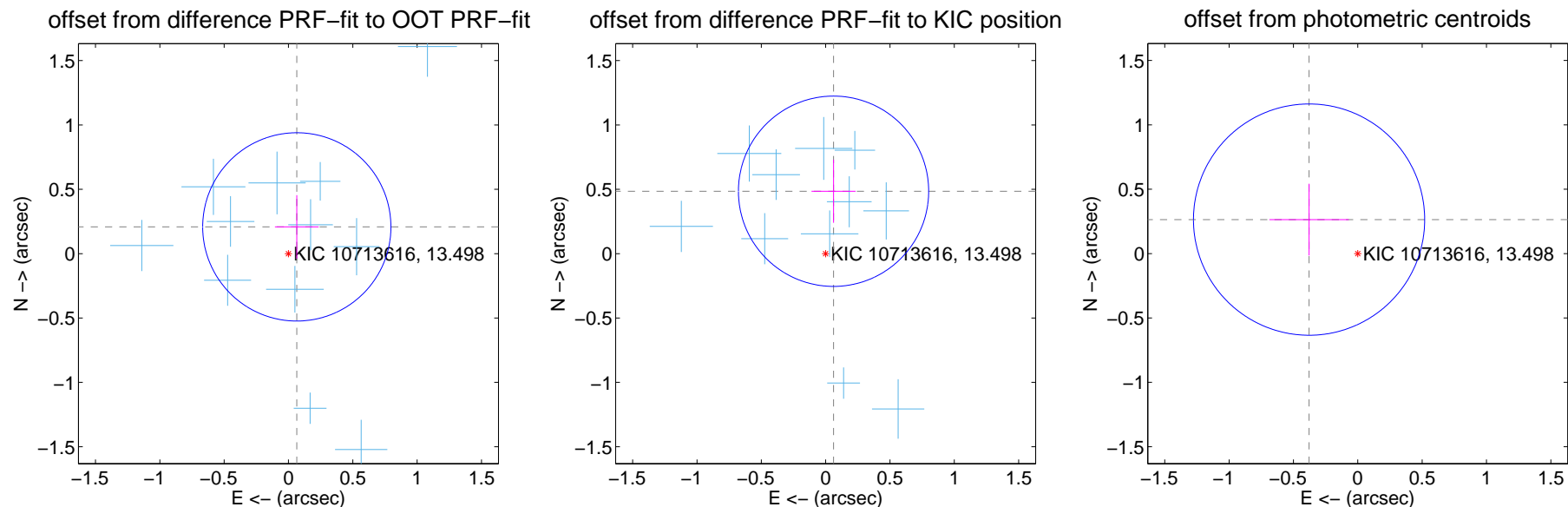
DV Centroid Data

Supplemental centroid analysis for 010713616-01. Kepler magnitude: 13.50. Transit SNR 47.61

There are 12 quarters with good PRF difference image offsets

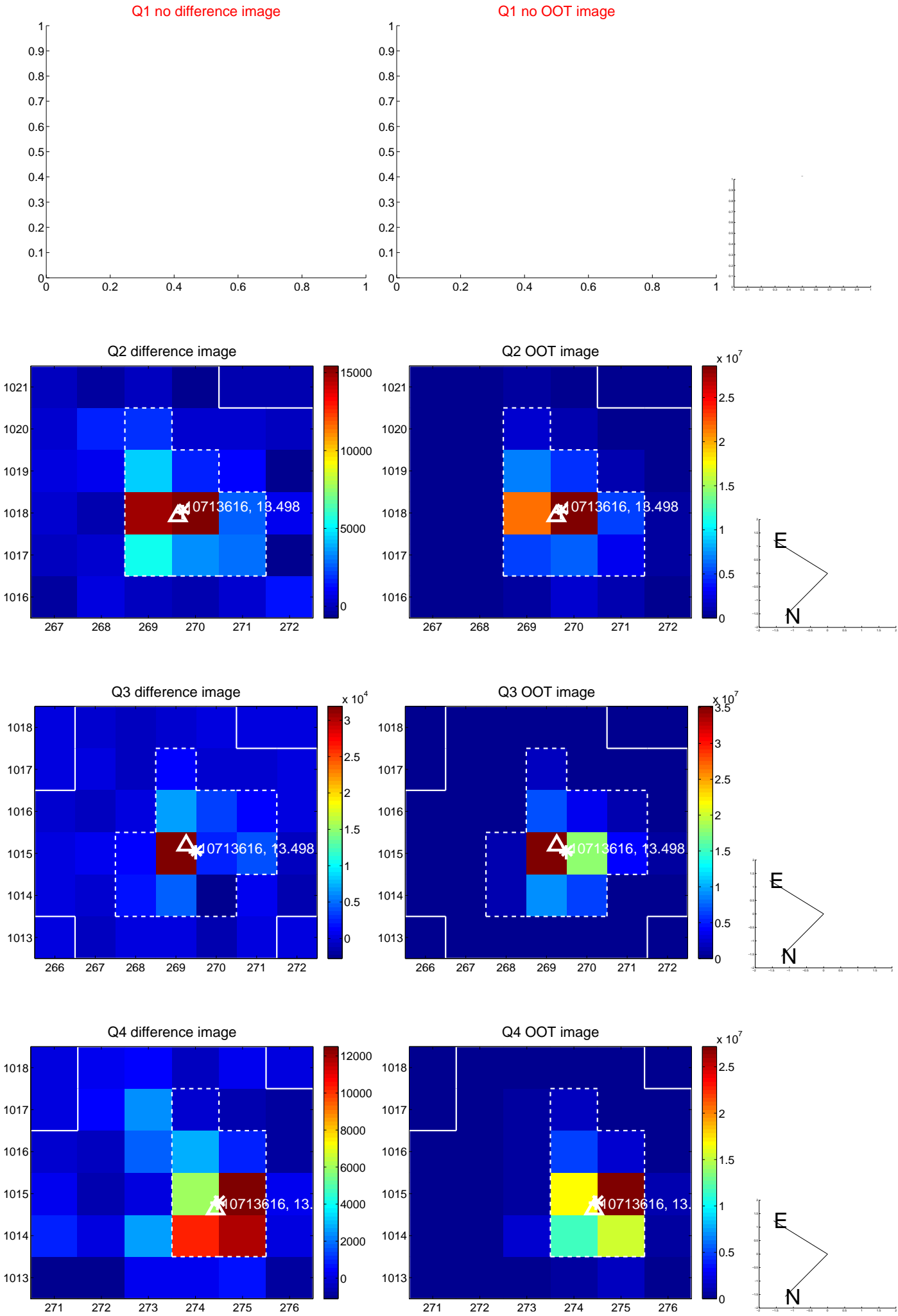
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.218 ± 0.244	0.89	-0.065 ± 0.170	0.208 ± 0.247
PRF-fit source offset from KIC position	0.489 ± 0.246	1.98	-0.061 ± 0.171	0.485 ± 0.245
photometric centroid source offset	0.46 ± 0.30	1.54	0.38 ± 0.31	0.26 ± 0.28

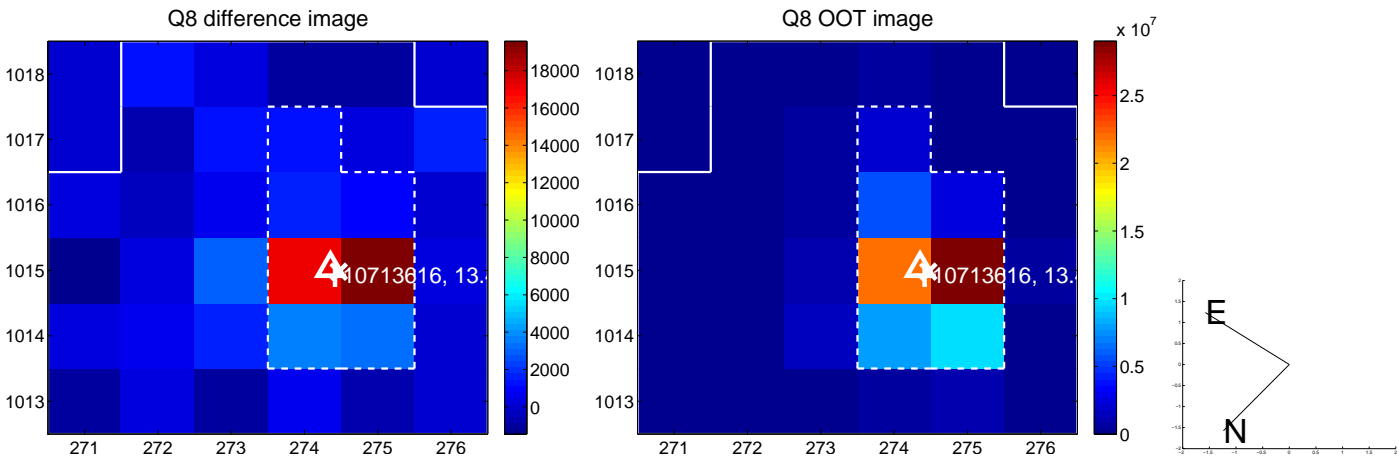
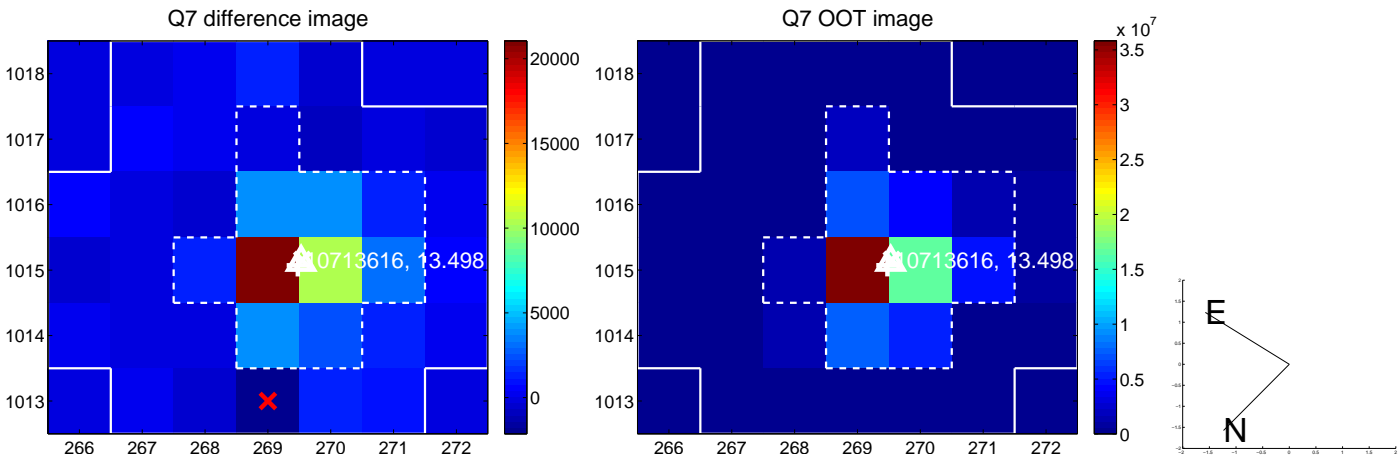
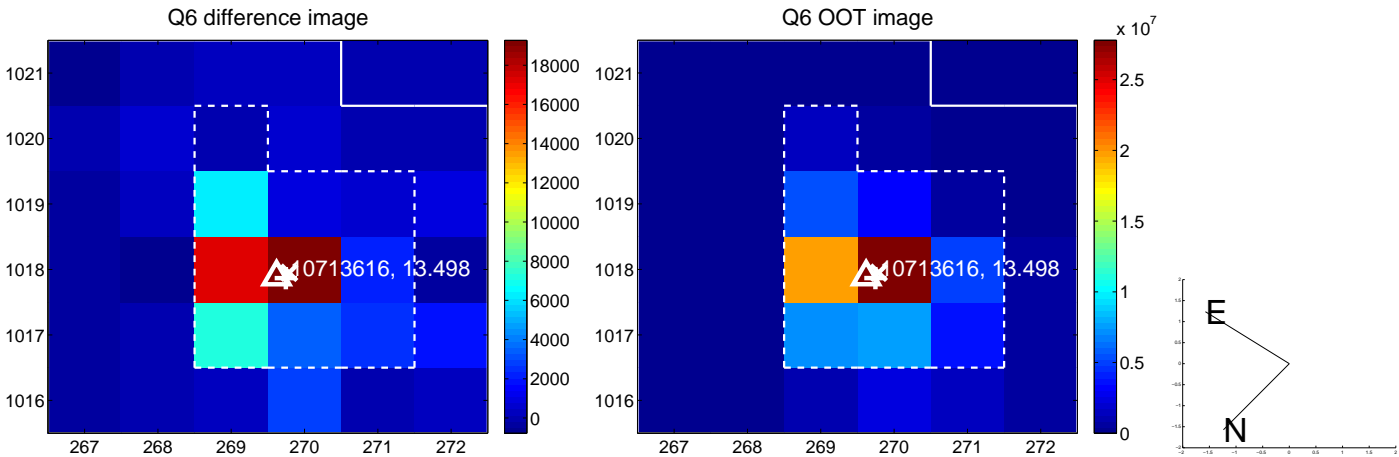
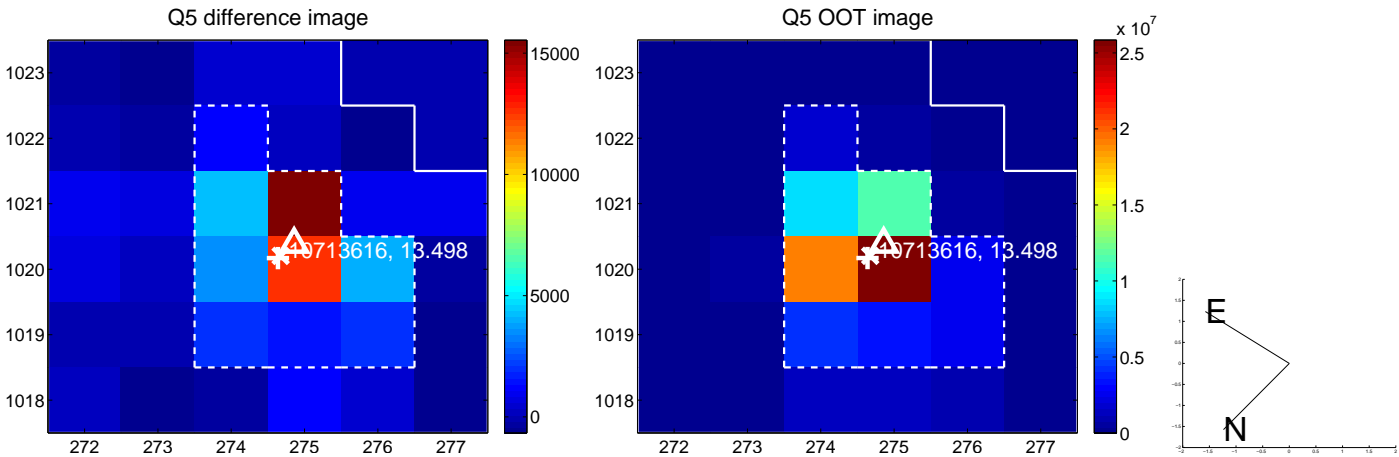


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

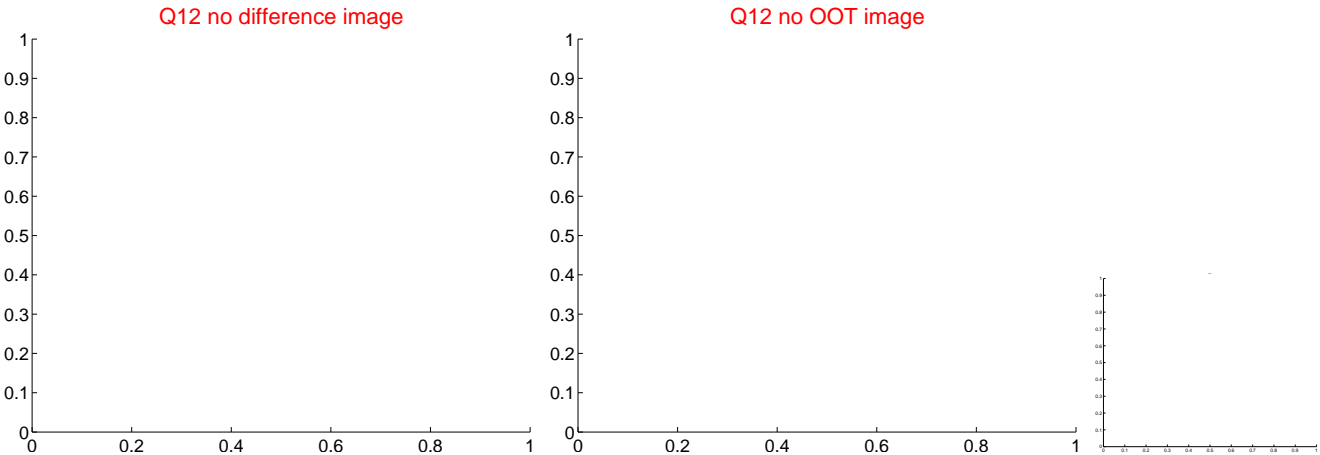
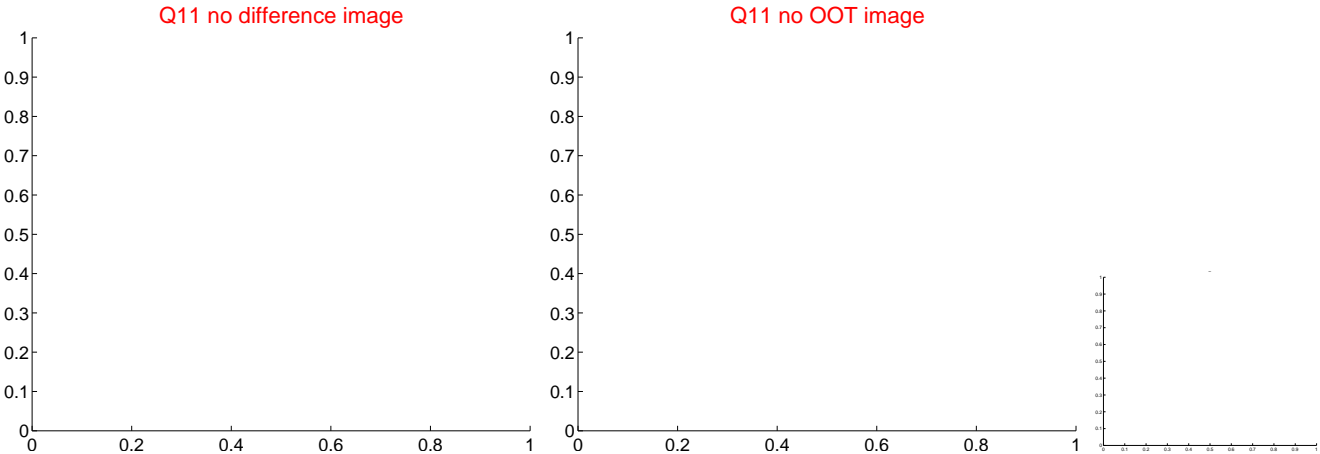
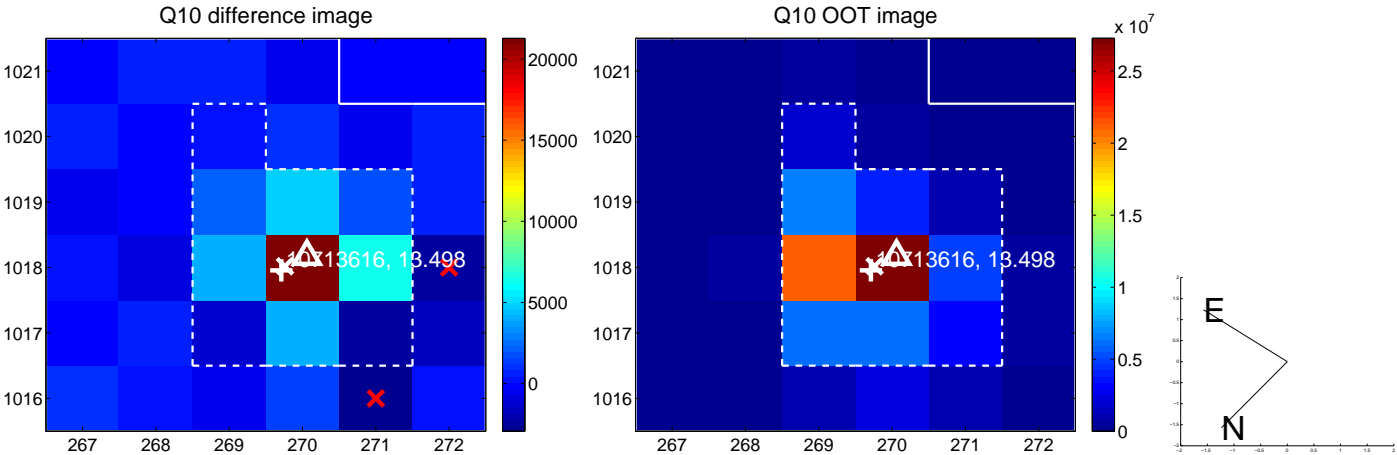
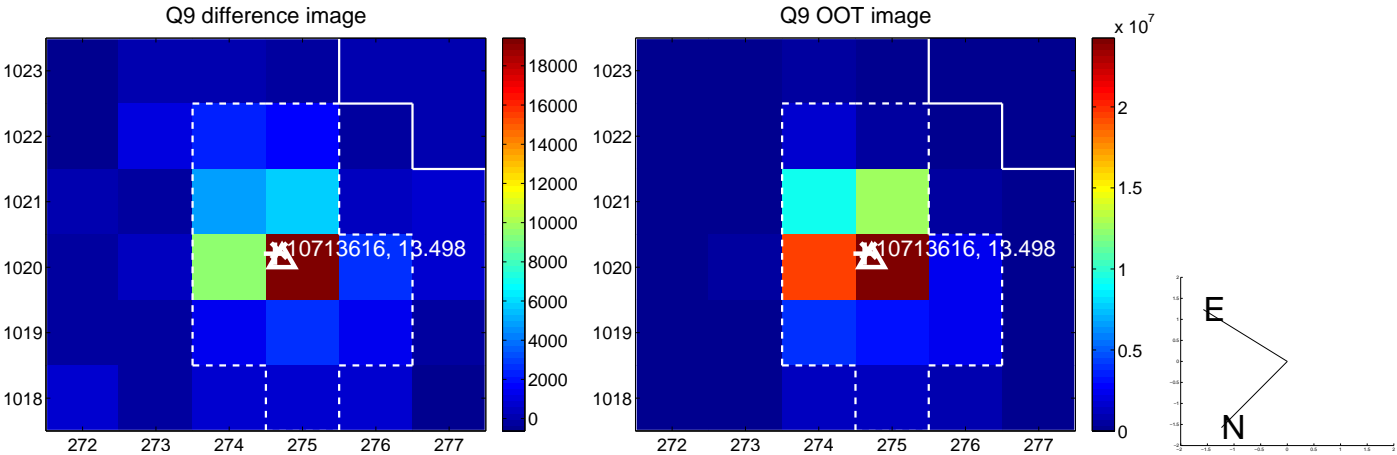
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



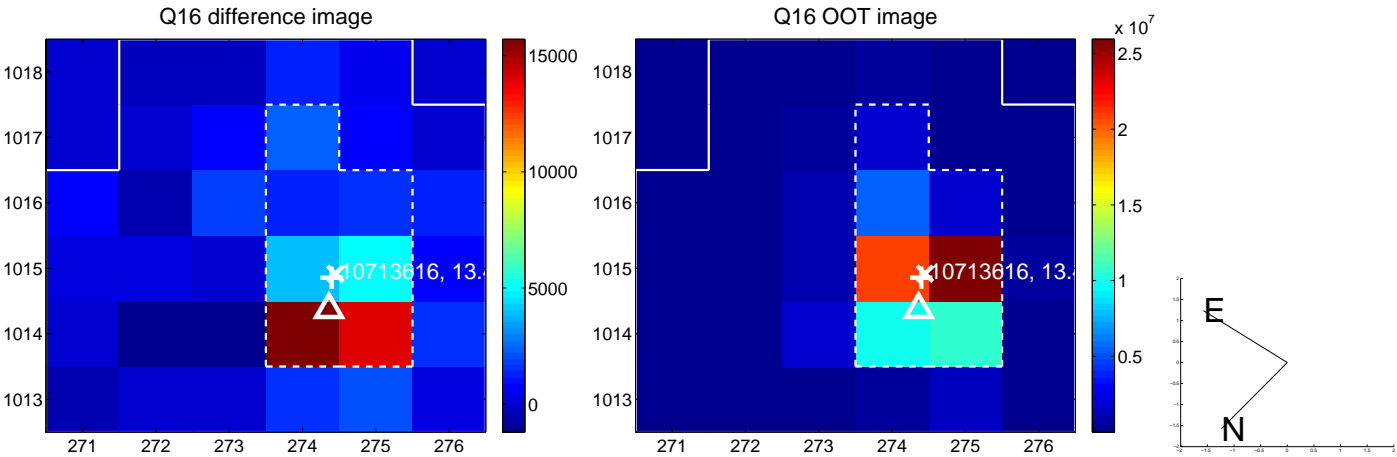
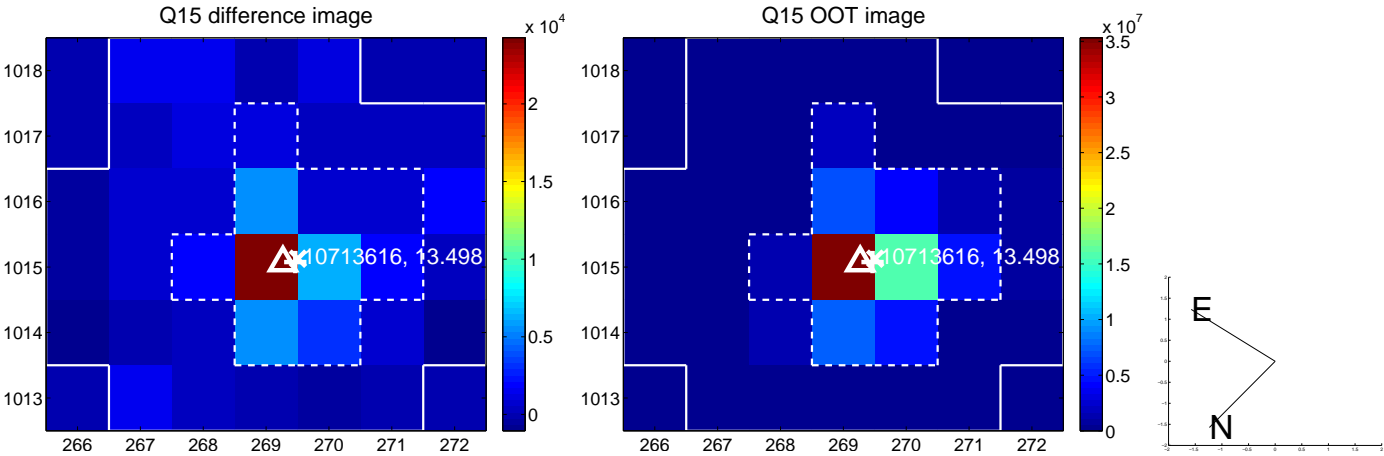
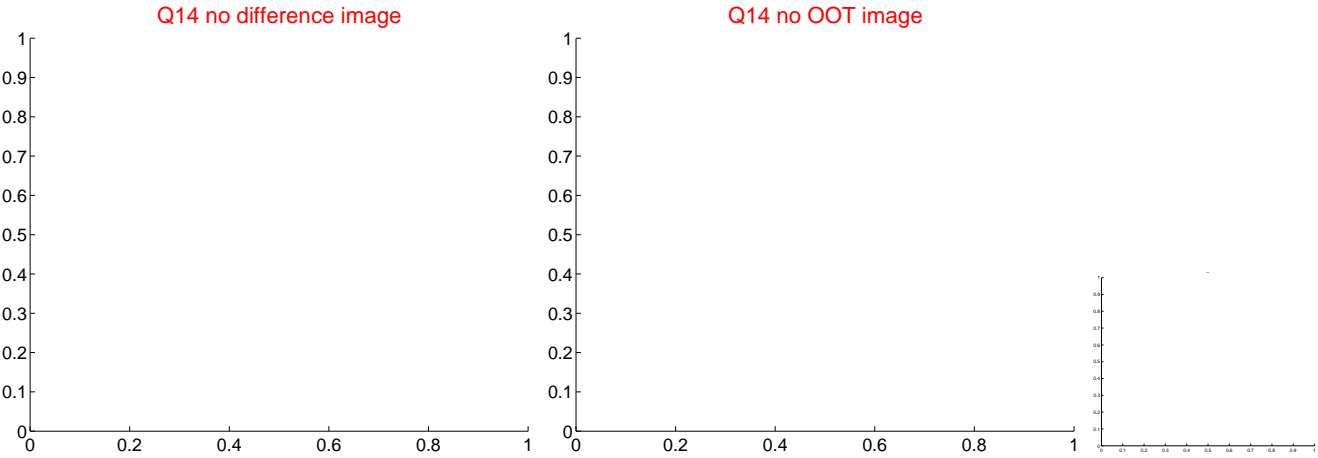
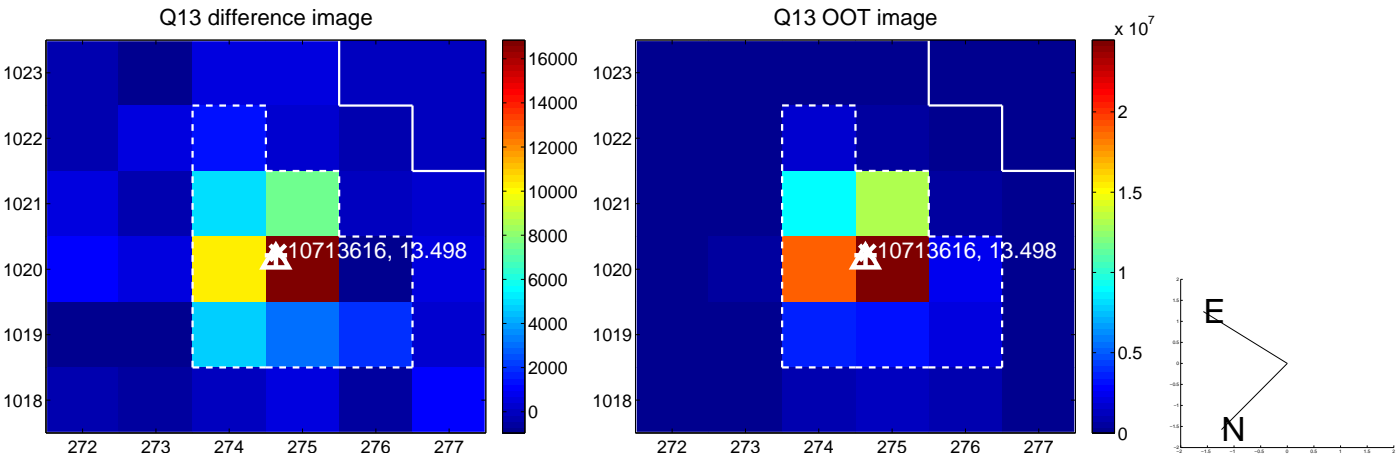
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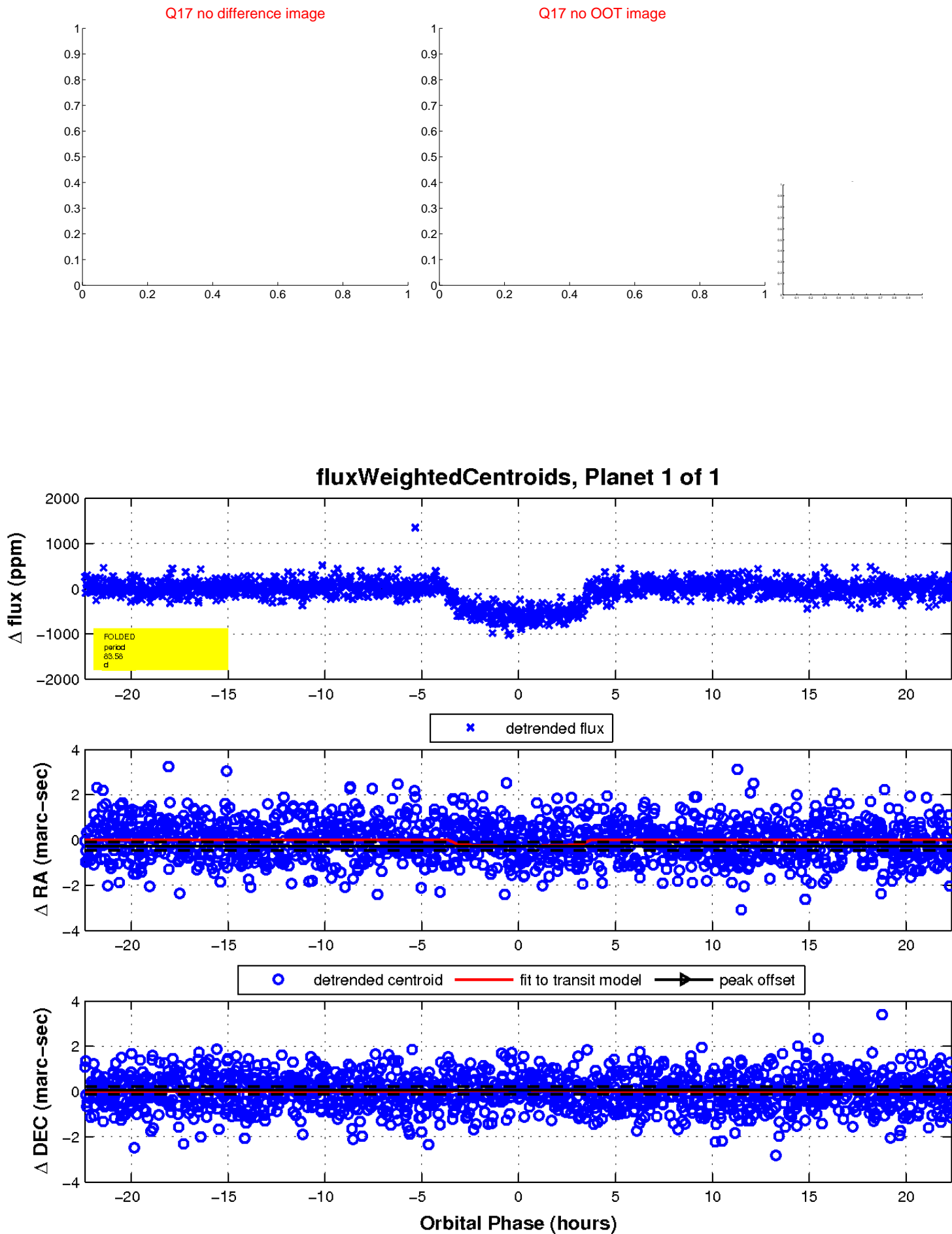
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UKIRT Image

Declination

