

KIC 004841374

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
004841374-01	OBS	0633.01	161.474726	170.602614	804.5	10.652	41.6	41.6	1.04	5761	3.26	3.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004841374-01	OBS	PC	1.00	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.

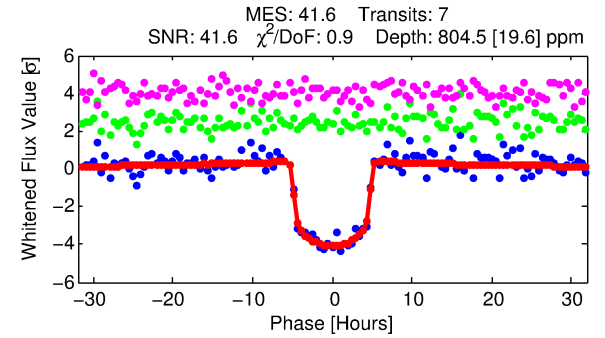
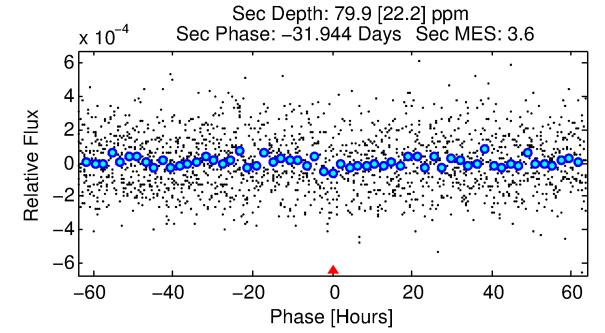
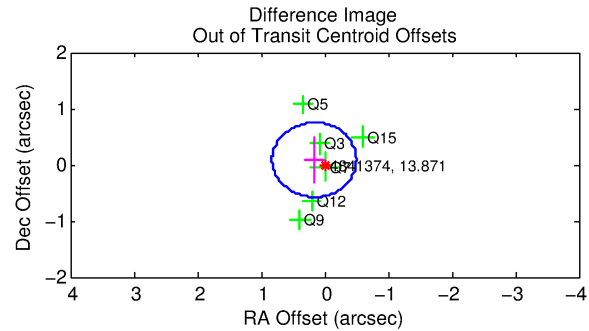
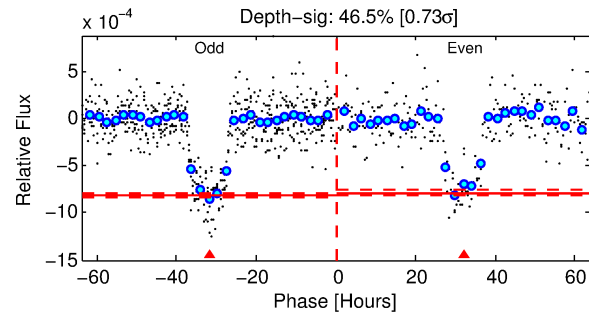
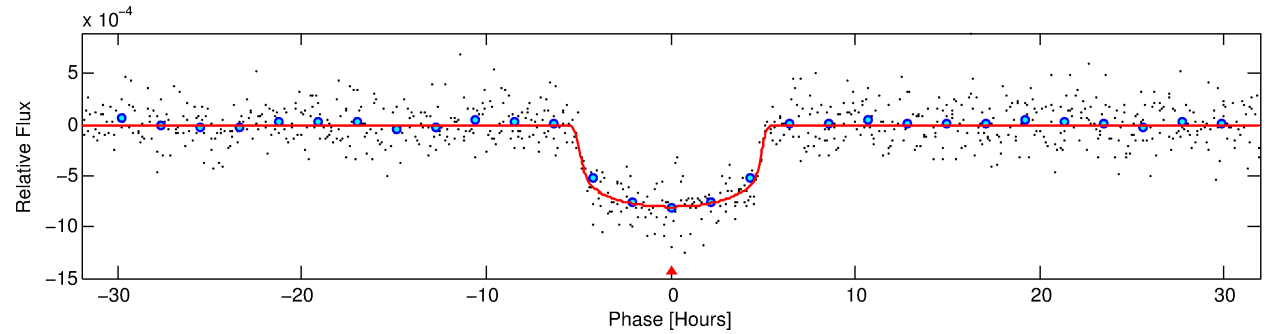
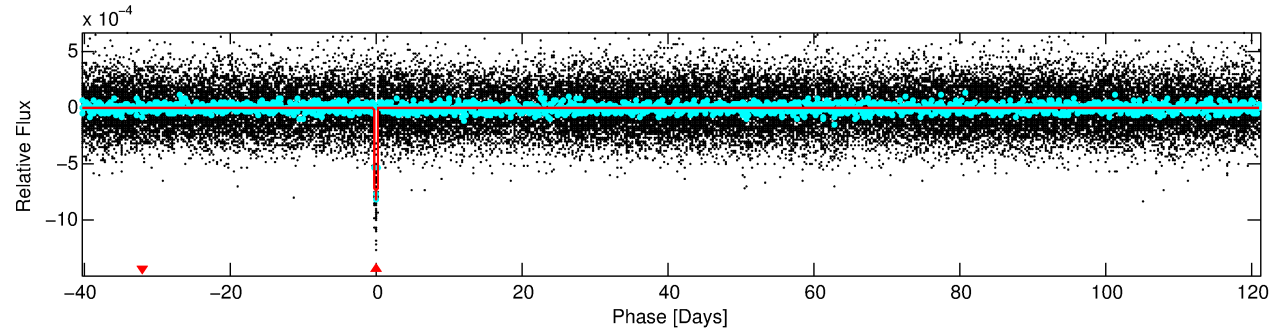
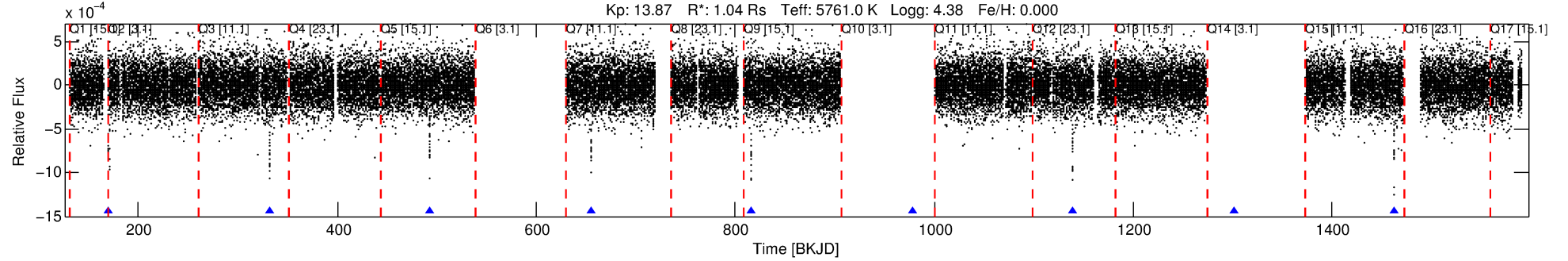
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004841374-01

No Significant Match Found

DV One-Page Summary

KIC: 4841374 Candidate: 1 of 1 Period: 161.475 d
KOI: K00633.01 Corr: 0.997



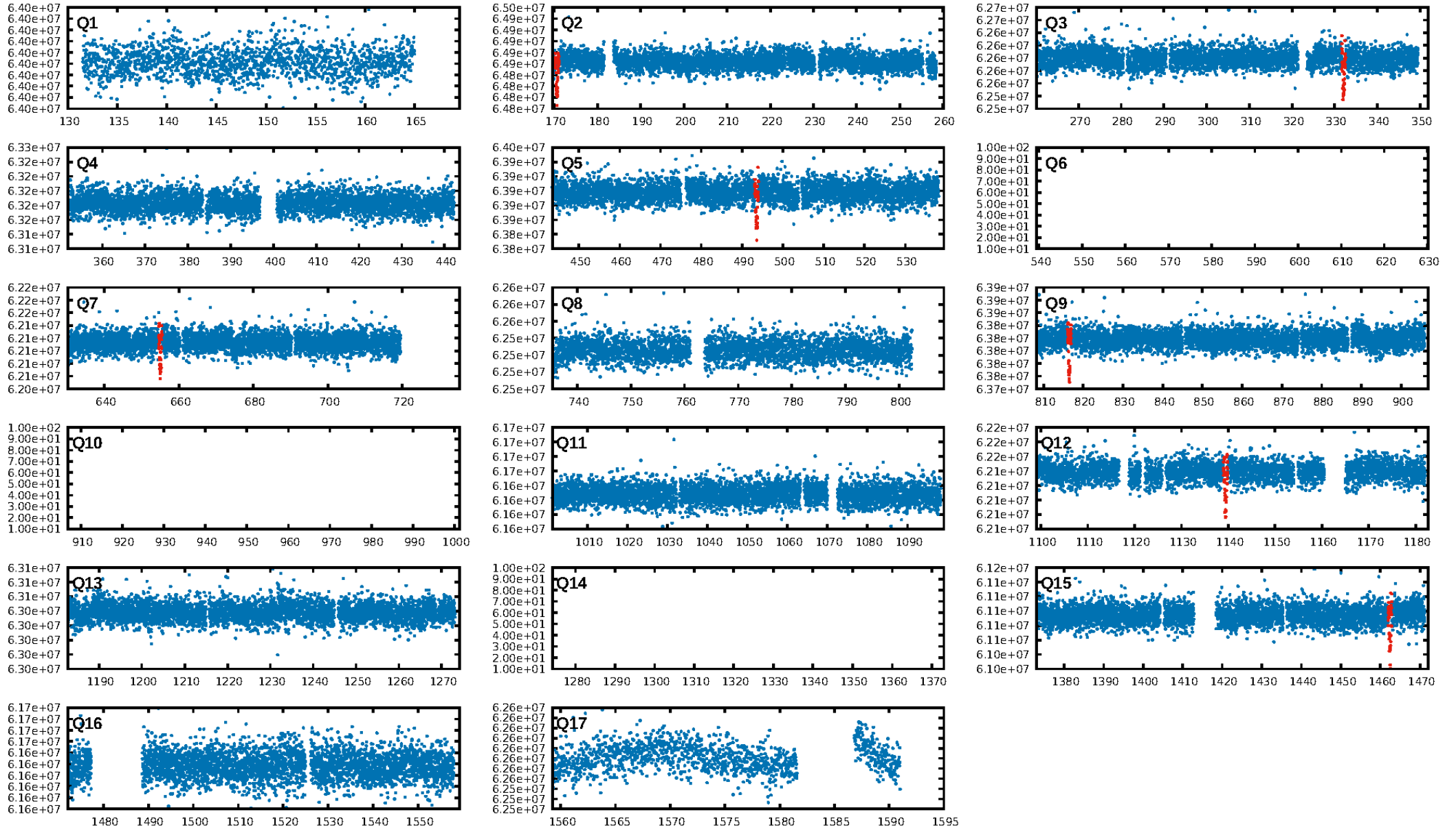
DV Fit Results:

Period = 161.47473 [0.00091] d
Epoch = 170.6026 [0.0039] BKJD
Rp/R* = 0.0287 [0.0017]
a/R* = 76.98 [19.77]
b = 0.79 [0.13]
Seff = 3.28 [0.72]
Teq = 343 [19] K
Rp = 3.26 [0.54] Re
a = 0.5727 [0.0782] AU
Ag = 1353.40 [494.59] [2.73 σ]
Teffp = 3218 [251] K [11.41 σ]

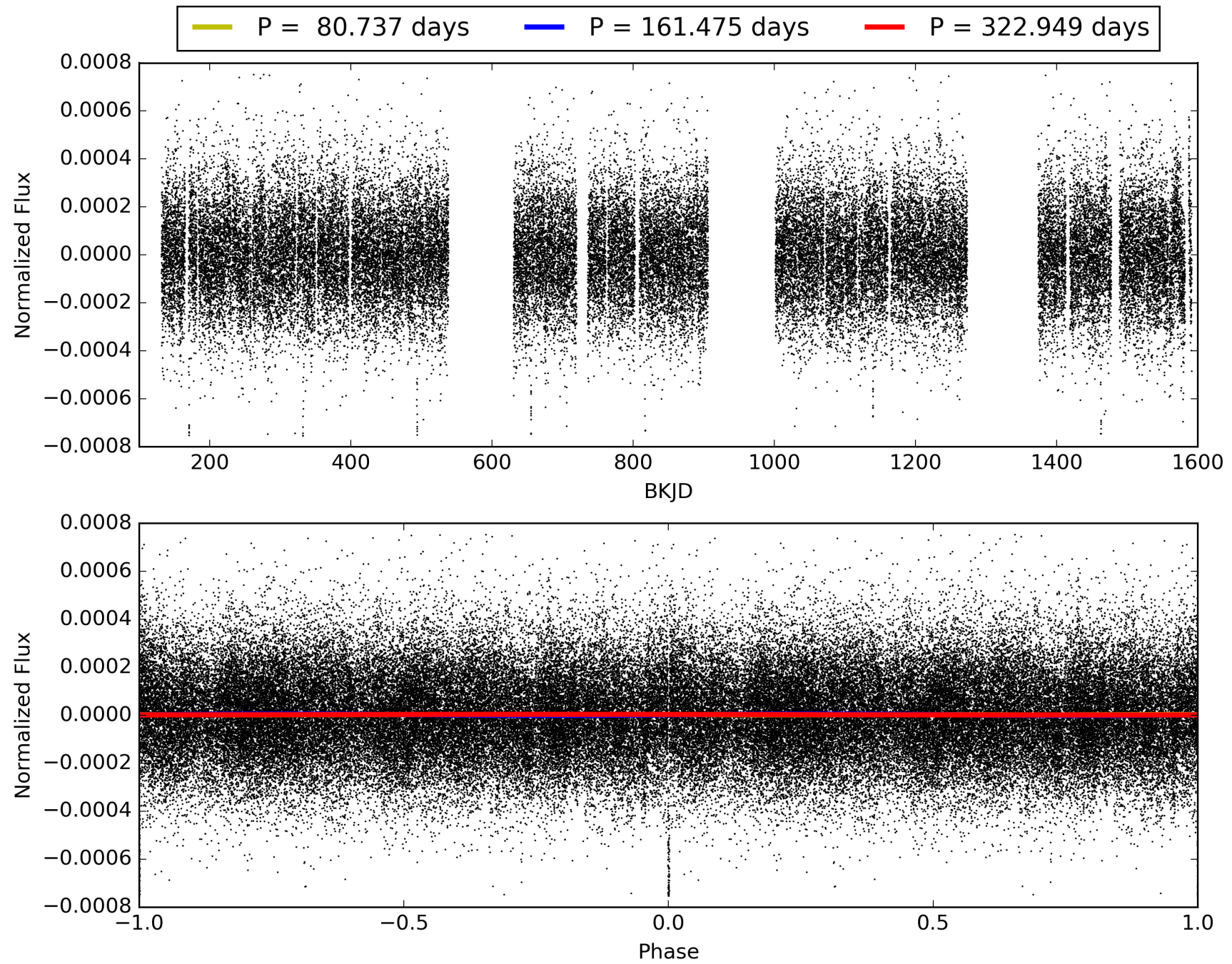
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.02e-236
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 5.727
Centroid-sig: 79.7%
Centroid-so: 0.221 arcsec [0.59 σ]
OotOffset-rm: 0.184 arcsec [0.83 σ]
OotOffset-st: 0/3/1/2 [6]
KicOffset-rm: 0.244 arcsec [1.47 σ]
KicOffset-st: 0/3/1/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

TCE 004841374-01, PDC Light Curves

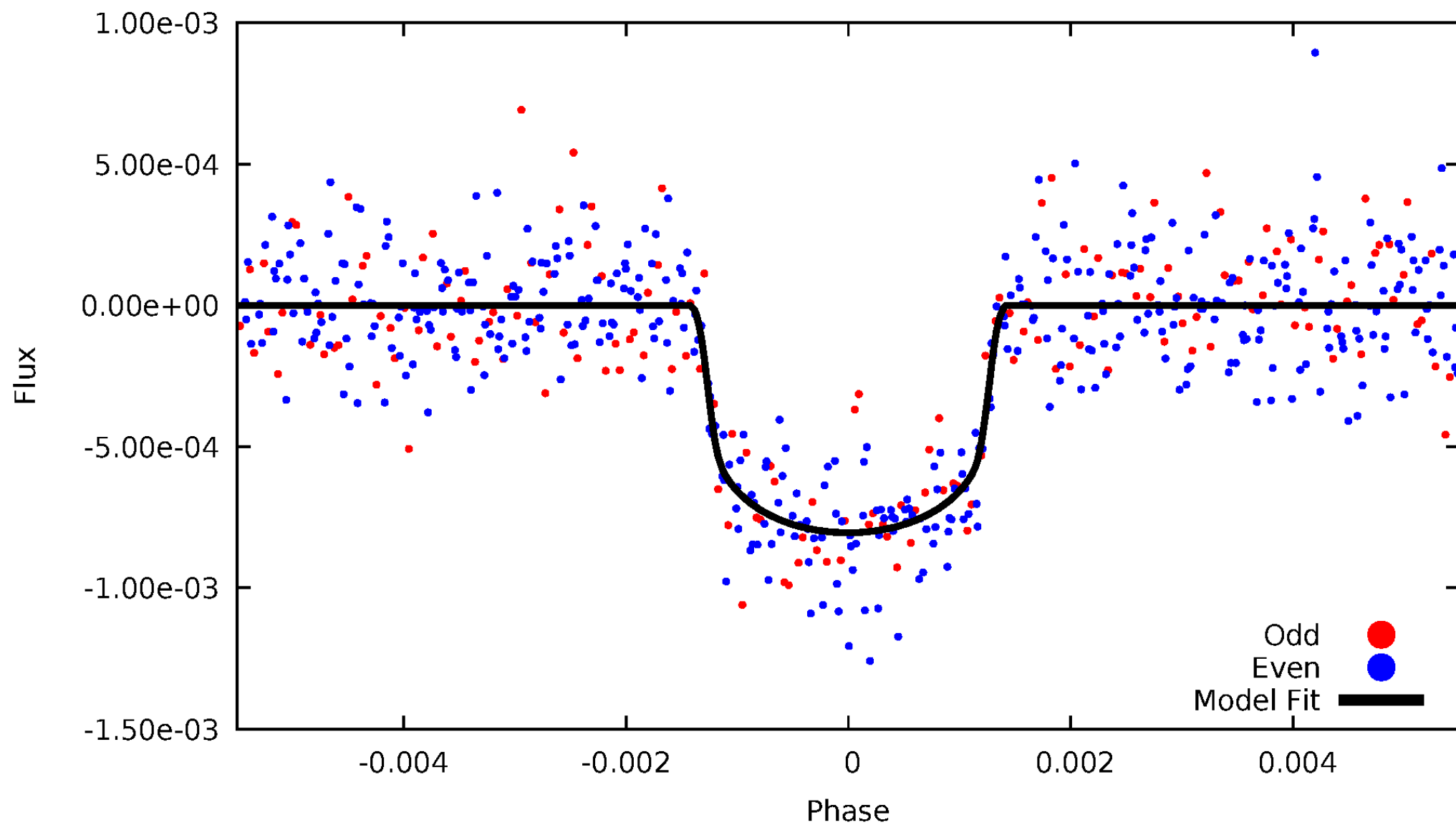


TCE 004841374-01



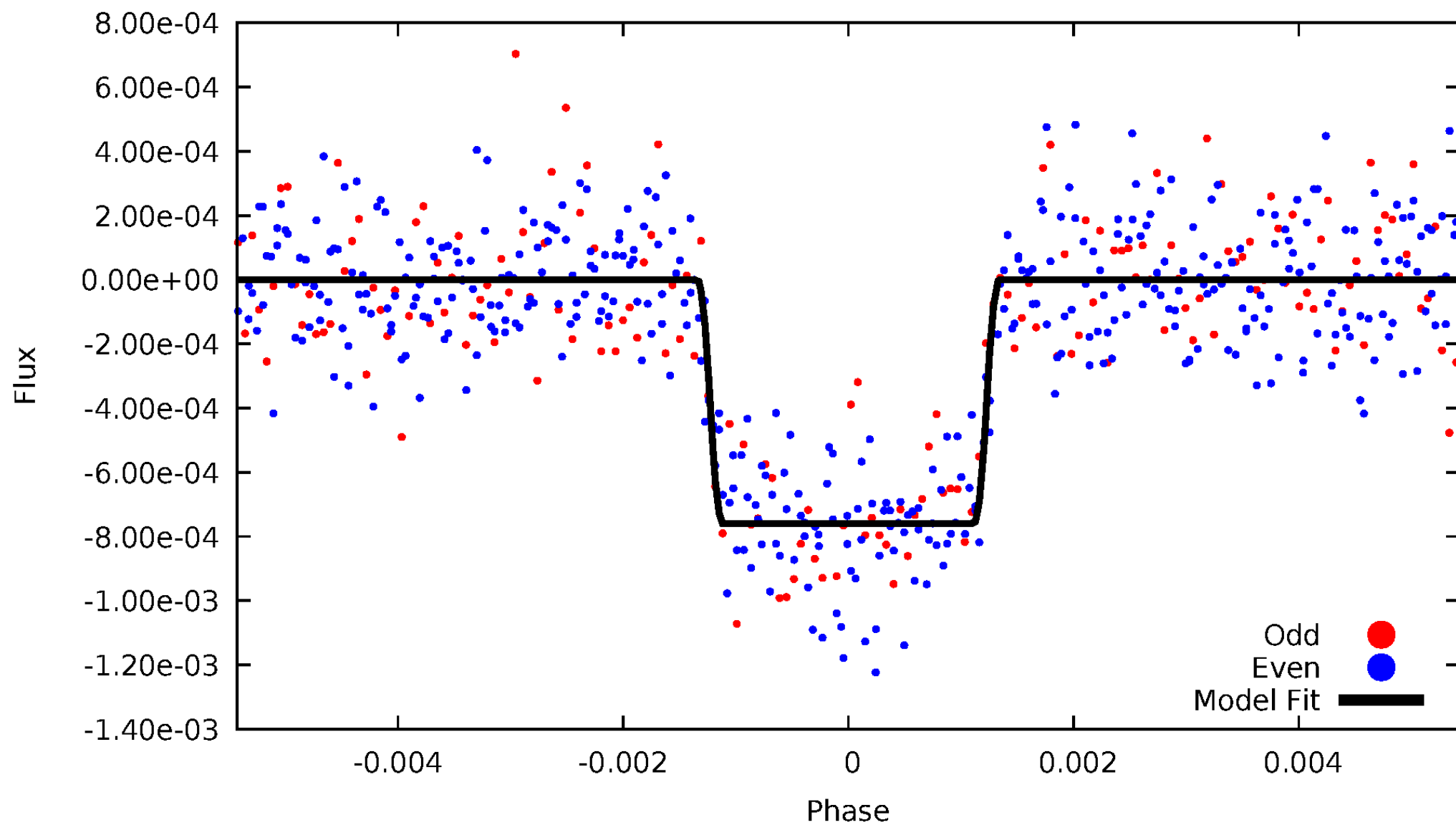
DV Odd/Even

TCE 004841374-01

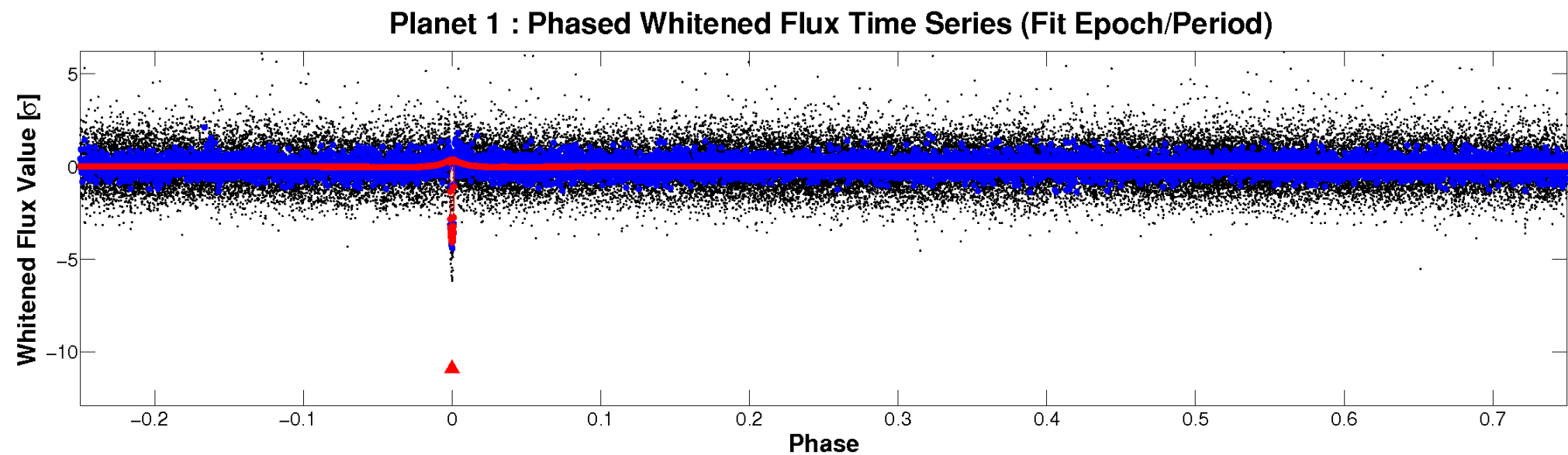
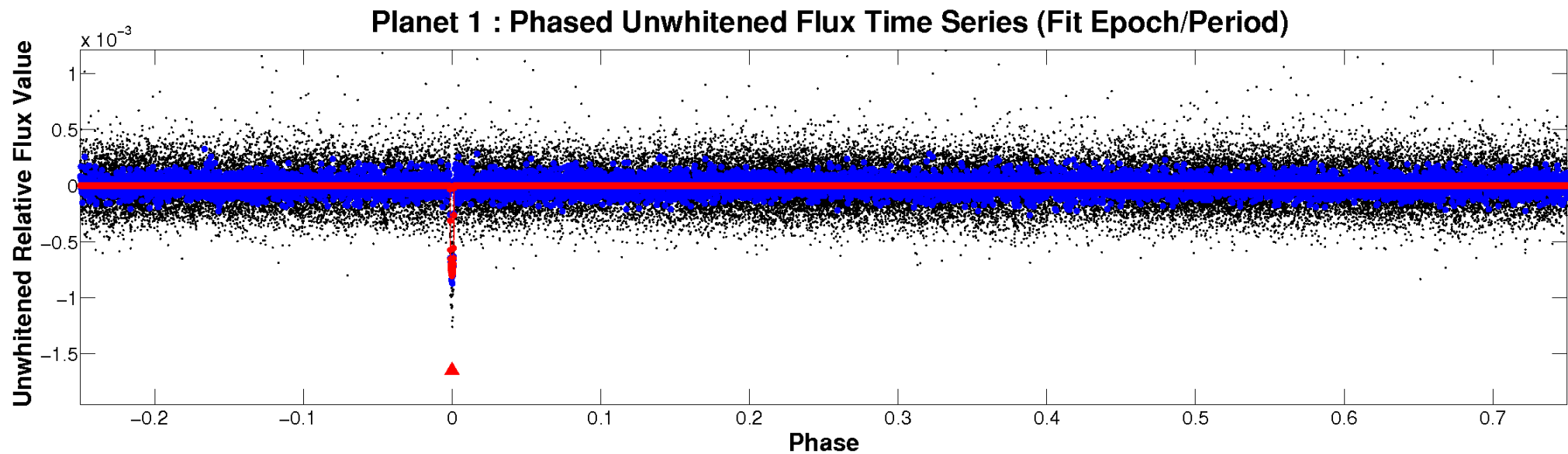


ALT Odd/Even

TCE 004841374-01

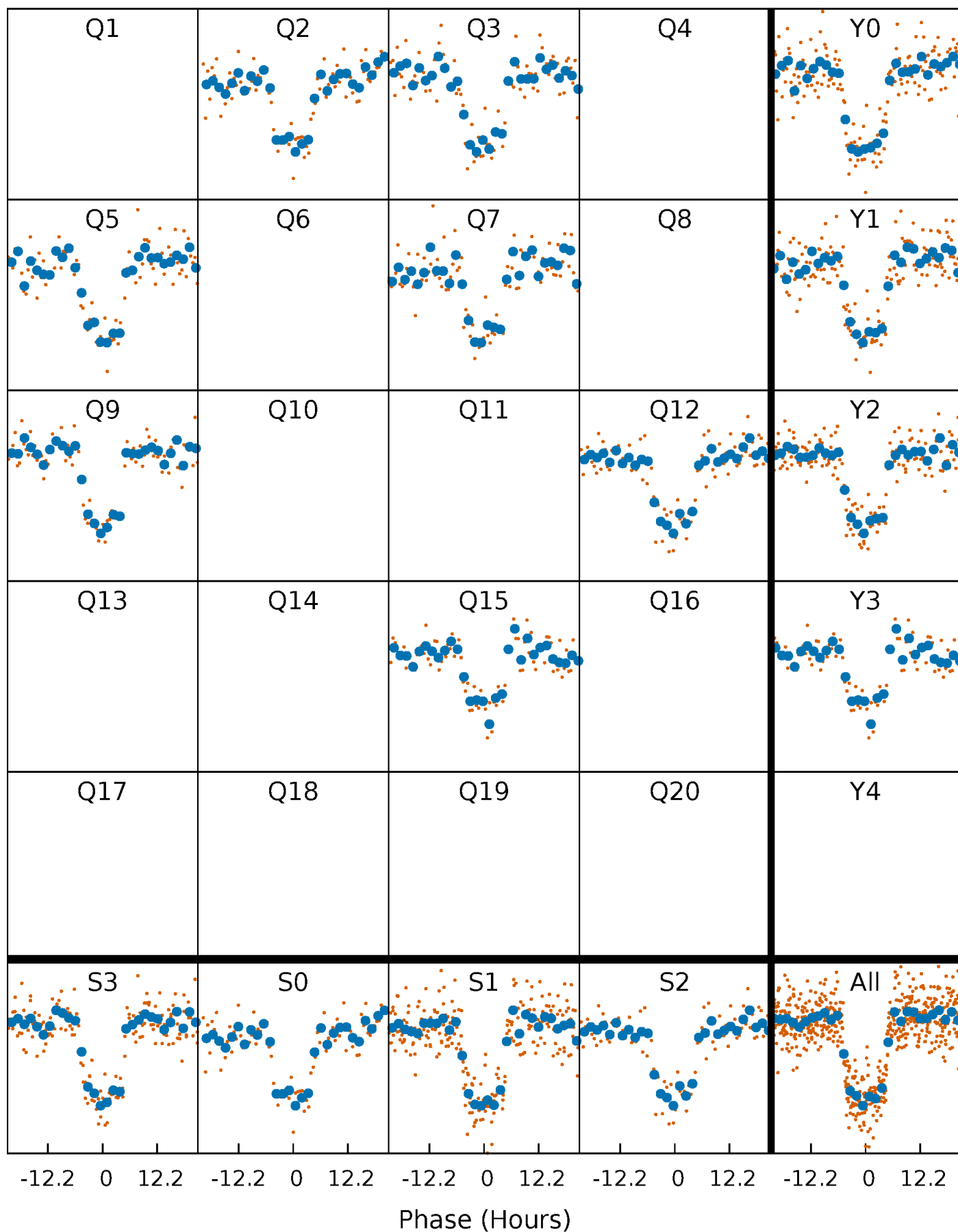


Non-Whitened Vs. Whitened Light Curve



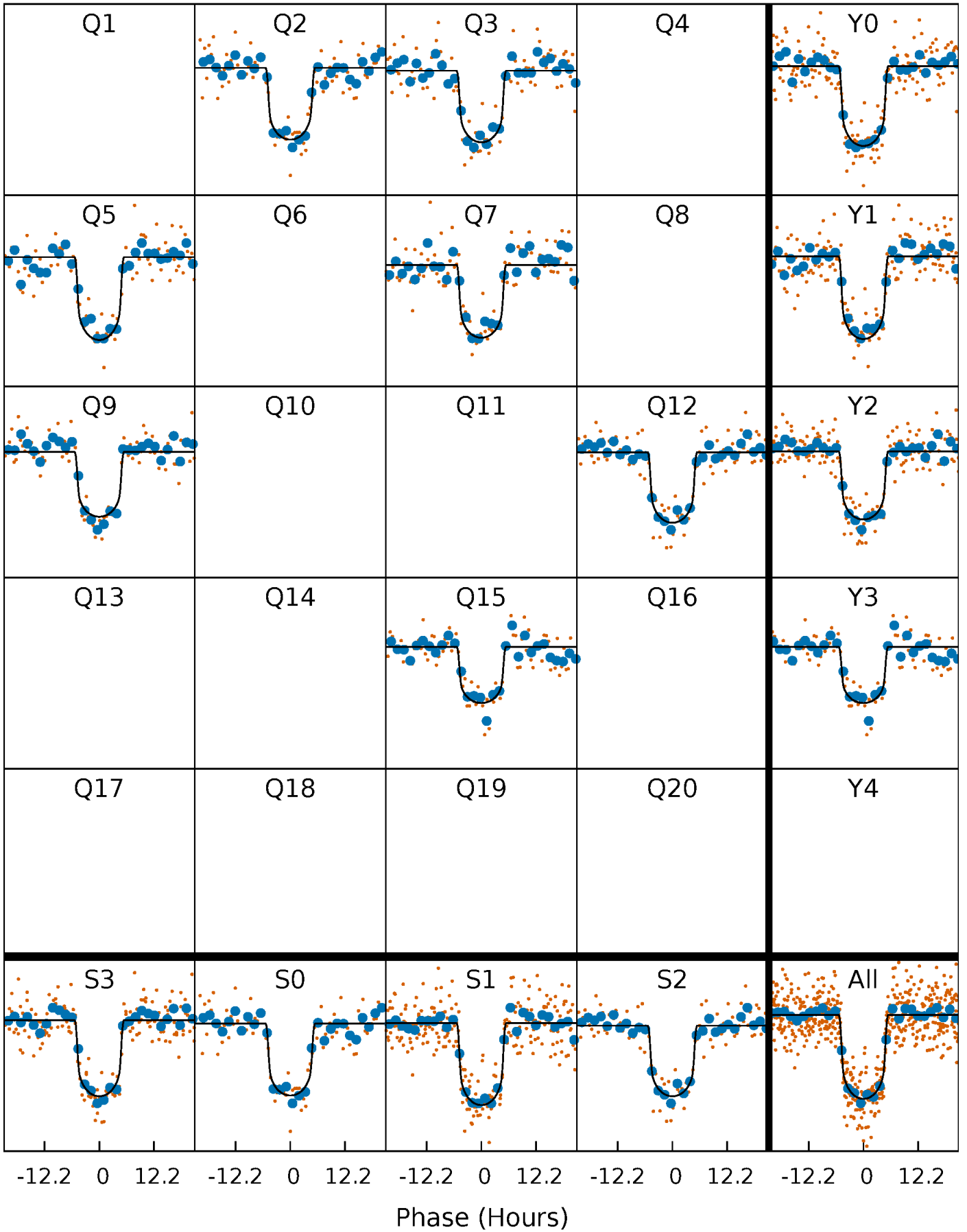
PDC Quarter-Phased Transit Curves

TCE 004841374-01 P=161.474726 Days $T_0=170.602614$ (BKJD)



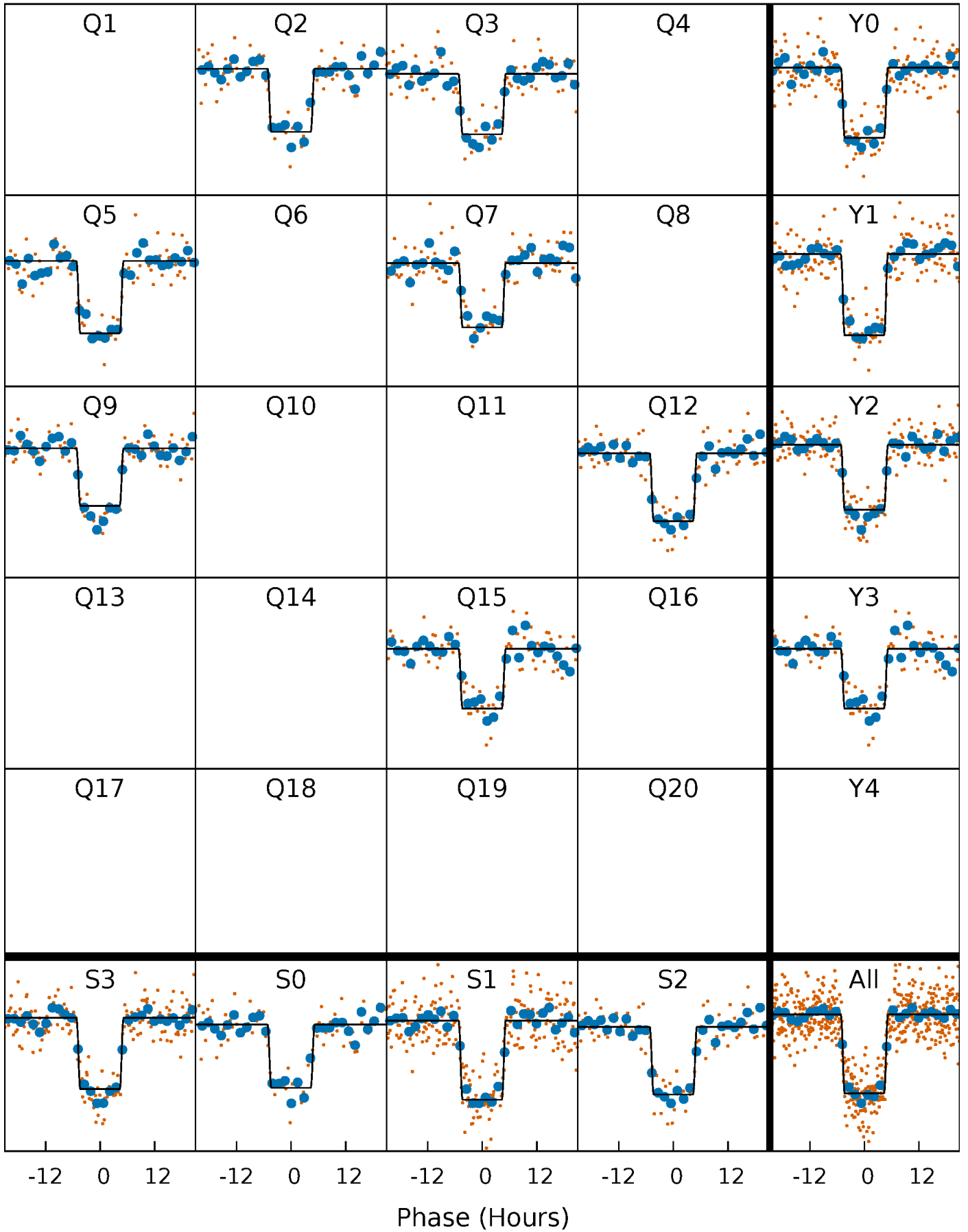
DV Quarter-Phased Transit Curves

TCE 004841374-01 P=161.474726 Days $T_0=170.602614$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

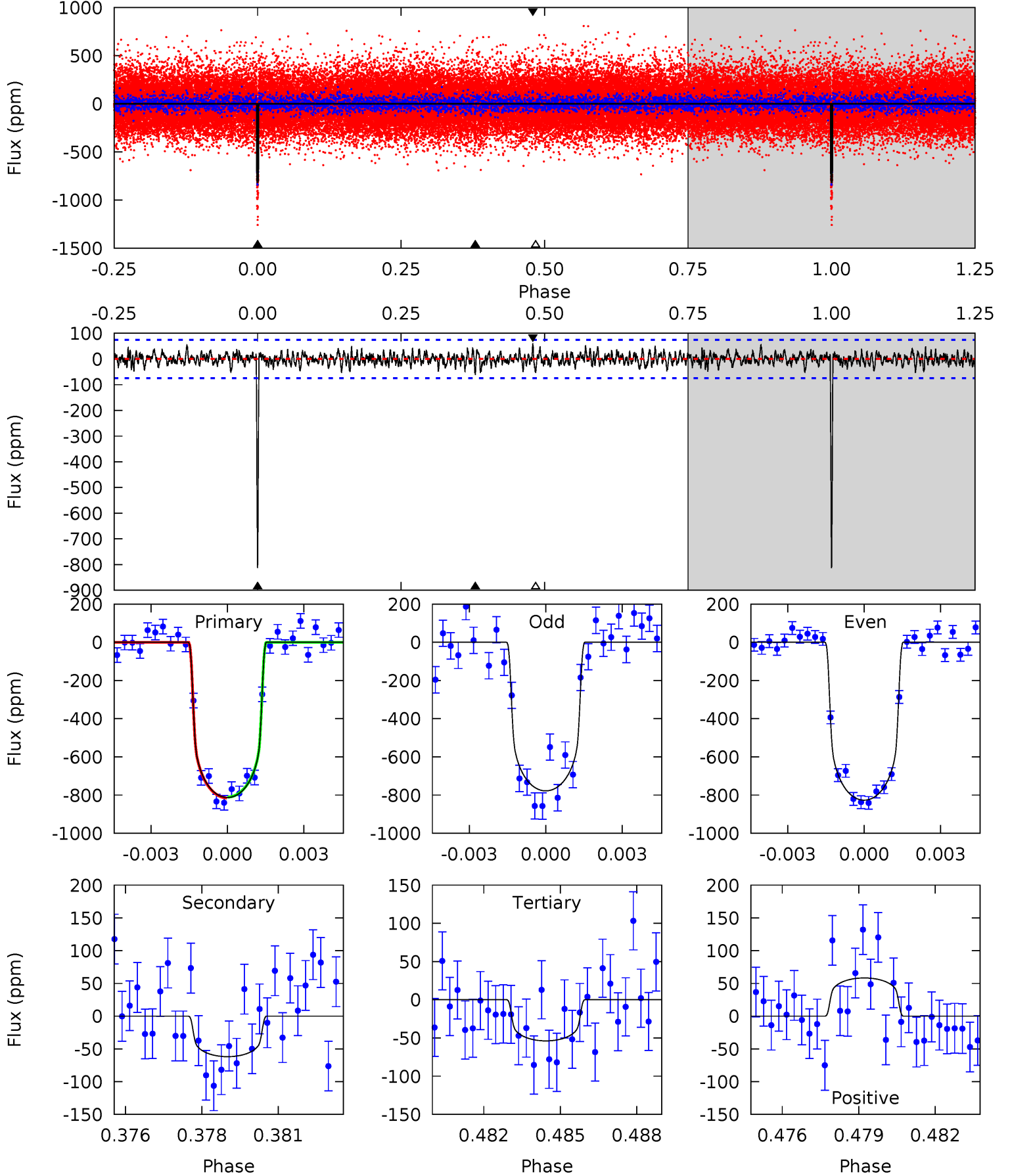
TCE 004841374-01 P=161.472802 Days $T_0=170.610317$ (BKJD)



DV Model-Shift Uniqueness Test

004841374-01, P = 161.474726 Days, E = 9.127888 Days

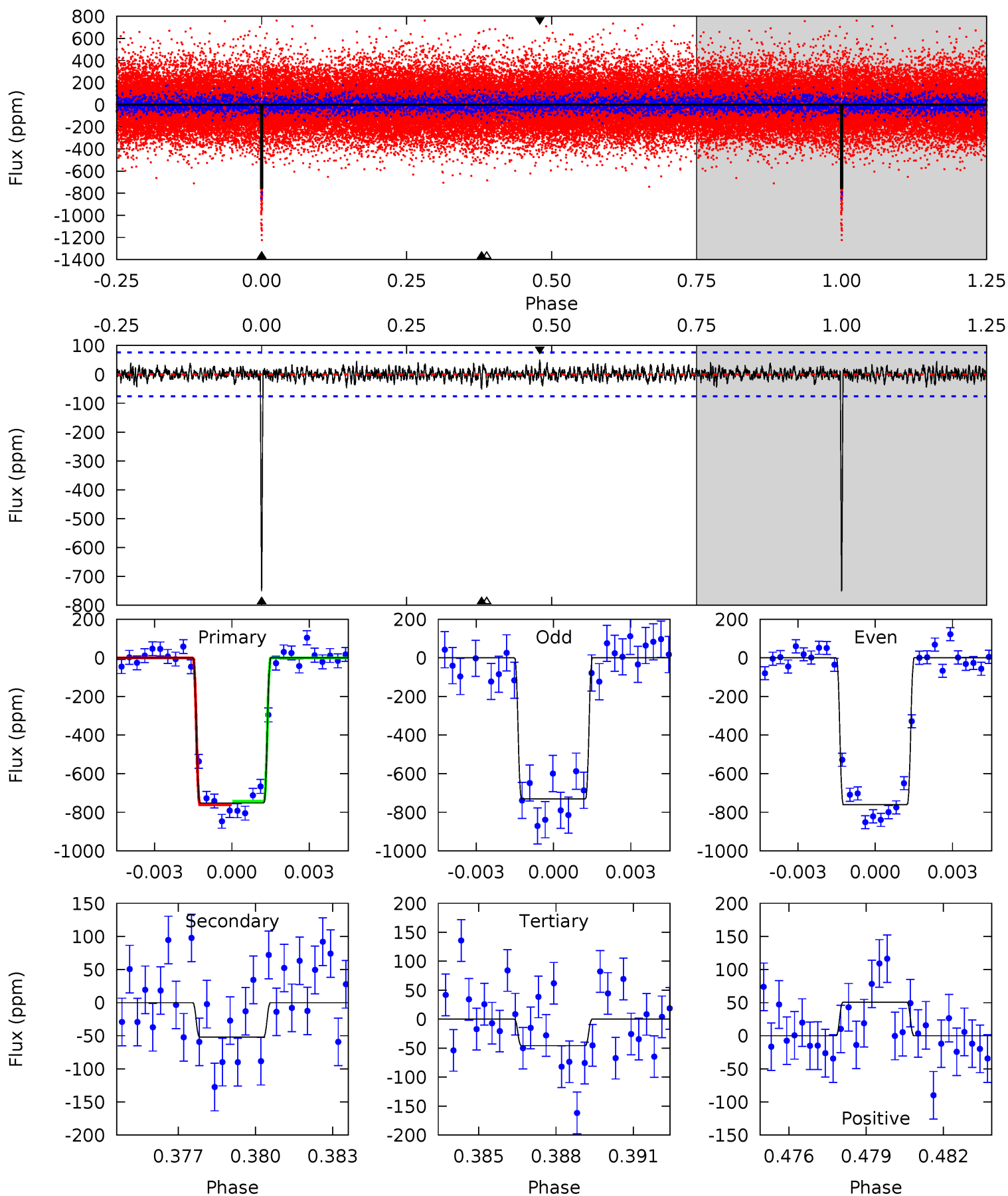
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.3	4.36	3.79	4.11	5.27	2.99	1.22	53.5	53.2	0.57	0.25	1.54	0.99	0.07	0.16



Alt Model-Shift Uniqueness Test

004841374-01, P = 161.472802 Days, E = 9.137515 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.1	3.60	3.16	3.50	5.27	3.00	0.93	48.9	48.6	0.44	0.11	0.92	1.03	0.06	0.65



Stellar Parameters For KIC 004841374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5761^{+104}_{-115}	$4.383^{+0.095}_{-0.116}$	$0.000^{+0.150}_{-0.150}$	$1.044^{+0.162}_{-0.122}$	$0.960^{+0.072}_{-0.065}$	$1.189^{+0.472}_{-0.400}$
	+2%/-2%	+2%/-3%	+inf%/-inf%	+16%/-12%	+8%/-7%	+40%/-34%
Source	SPE57	SPE57	SPE57	DSEP		

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

Secondary Eclipse Parameters for KIC 004841374-01 / KOI 0633.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-62 ± 14	$3.28^{+0.34}_{-0.30}$	480^{+20}_{-19}	3500^{+145}_{-161}	1030^{+337}_{-289}
Alt.	-52 ± 14	$3.16^{+0.36}_{-0.31}$	481^{+21}_{-19}	3439^{+157}_{-188}	918^{+347}_{-295}

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 $A_{obs} \gg 1.0$

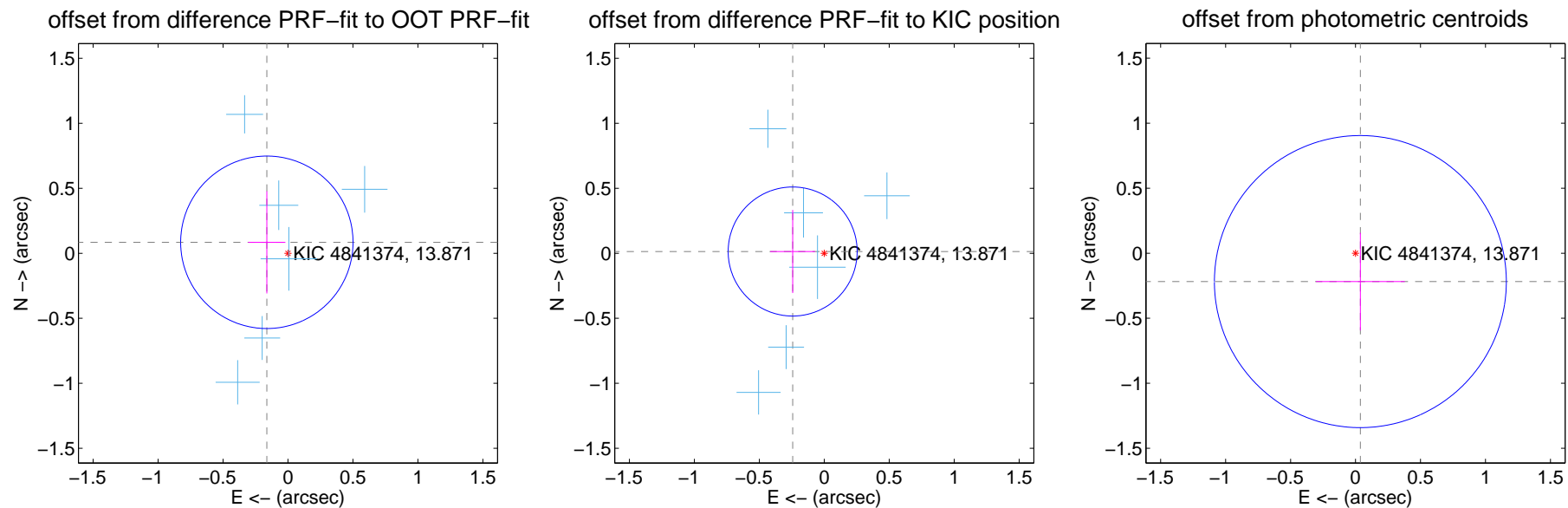
DV Centroid Data

Supplemental centroid analysis for 004841374-01. Kepler magnitude: 13.87. Transit SNR 41.57

There are 6 quarters with good PRF difference image offsets

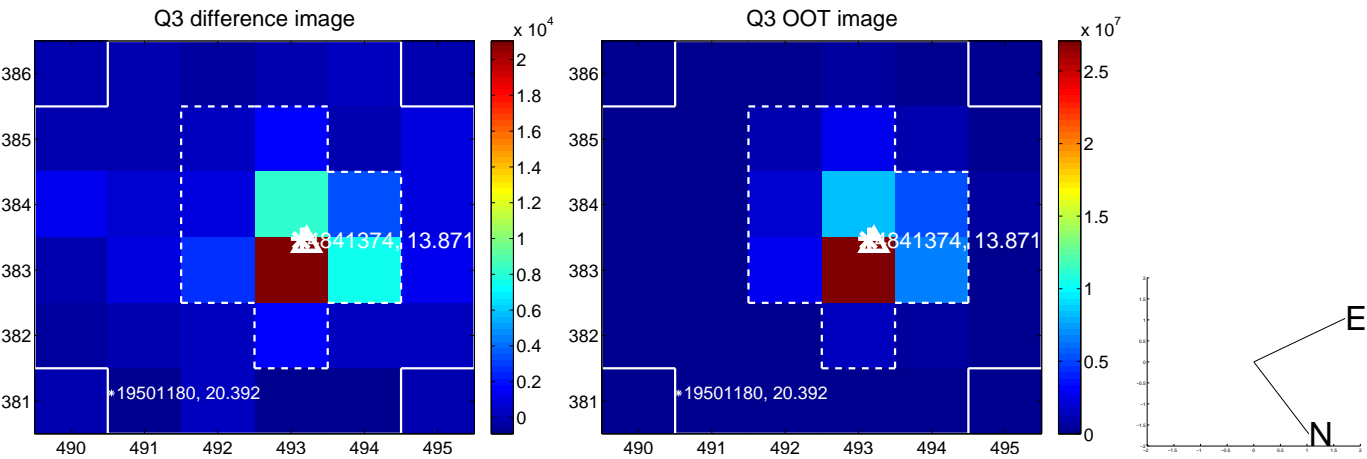
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.221	0.83	0.163 ± 0.143	0.085 ± 0.393
PRF-fit source offset from KIC position	0.244 ± 0.165	1.47	0.243 ± 0.173	0.014 ± 0.319
photometric centroid source offset	0.22 ± 0.37	0.59	-0.04 ± 0.34	-0.22 ± 0.38

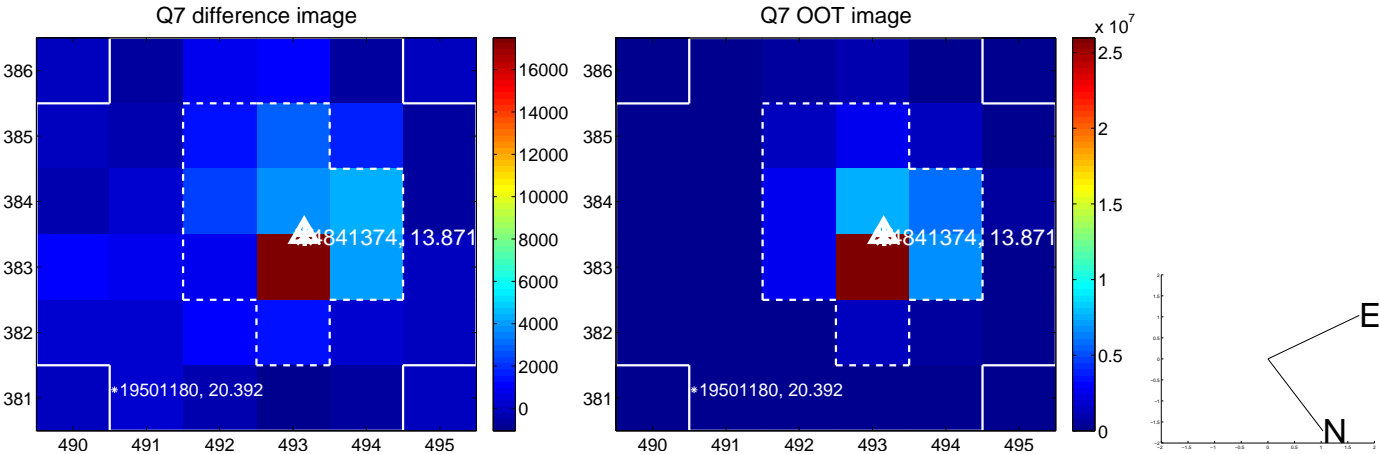
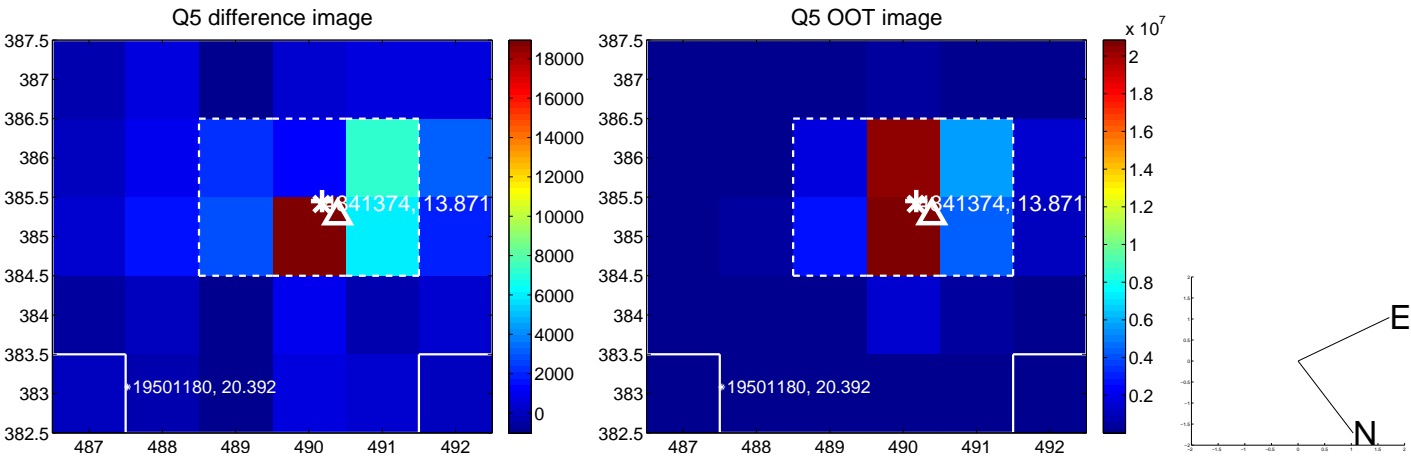


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

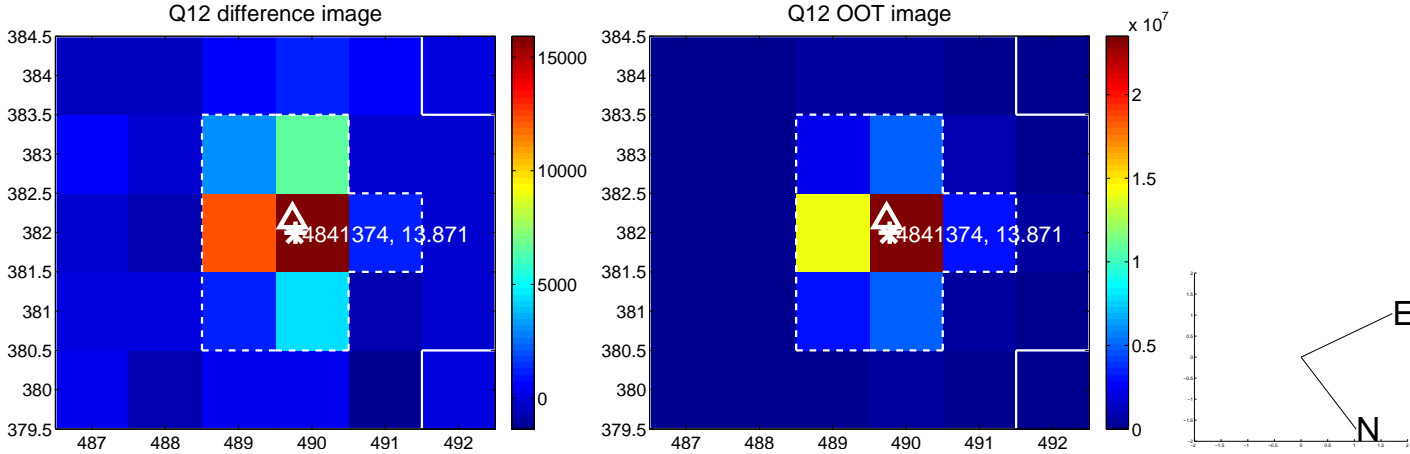
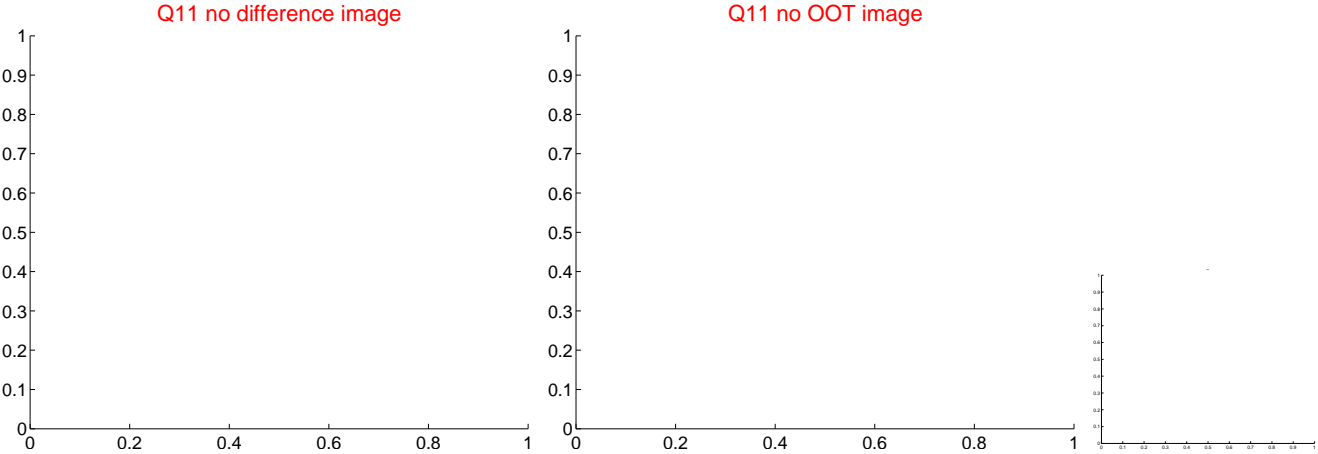
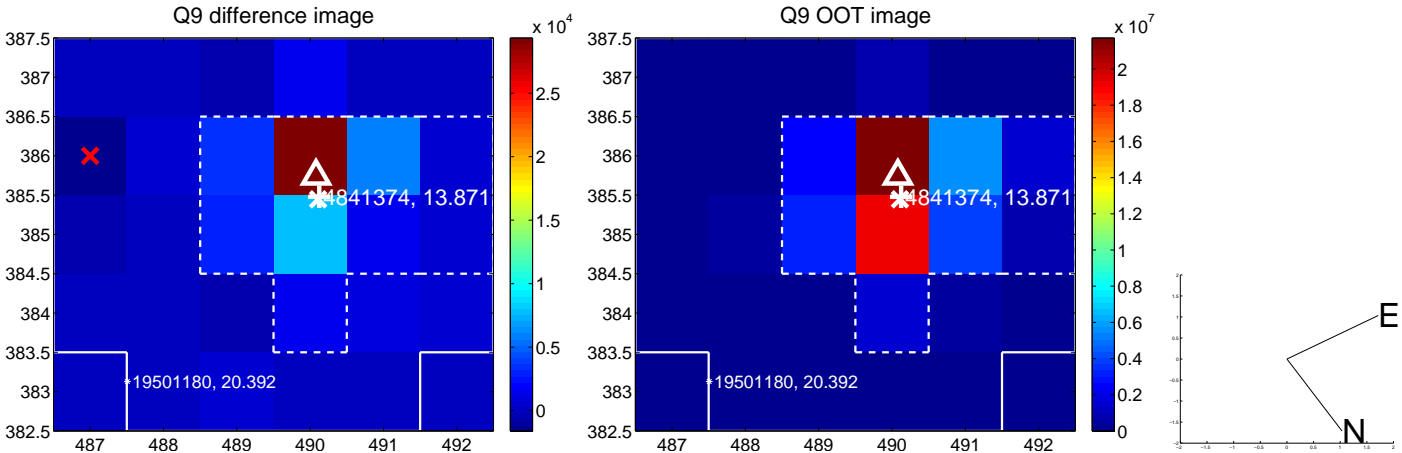
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



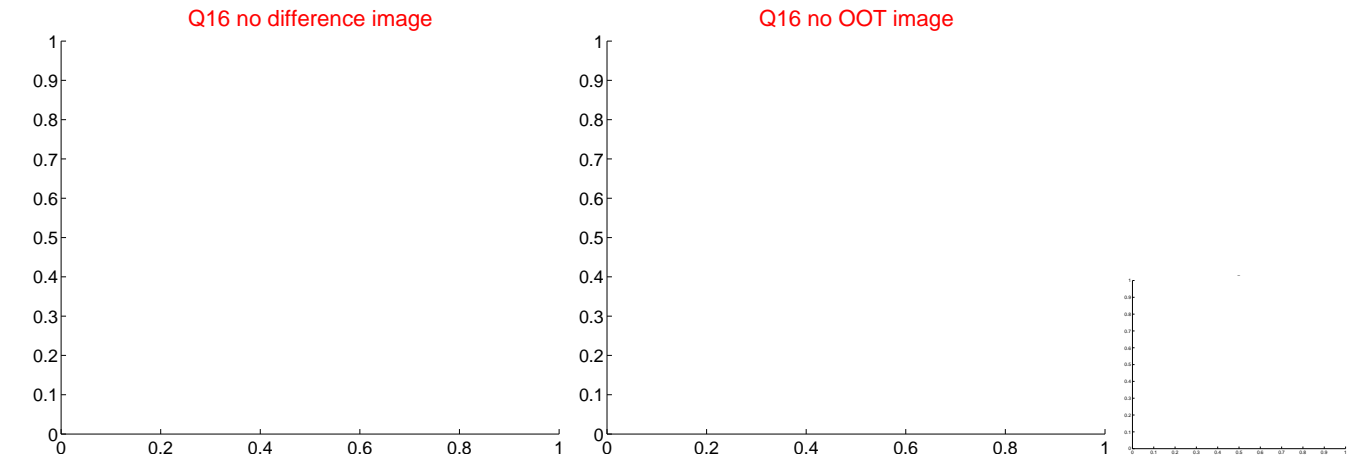
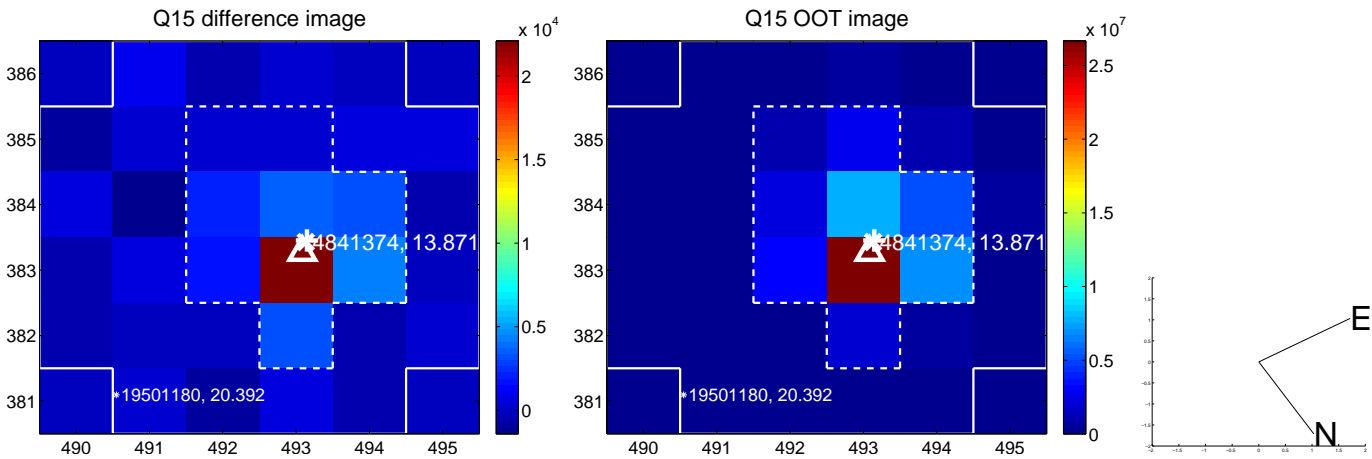
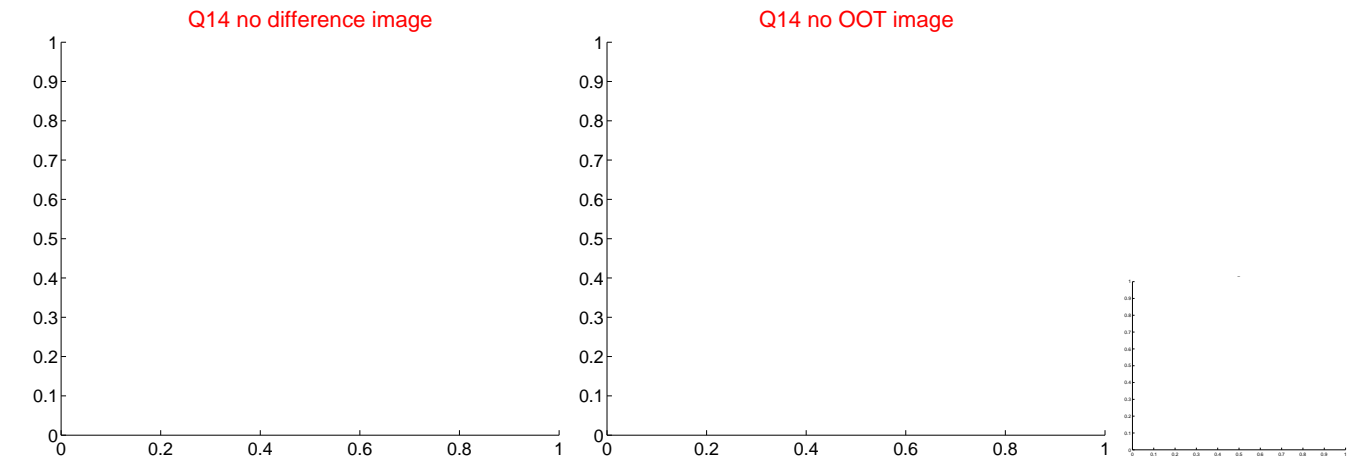
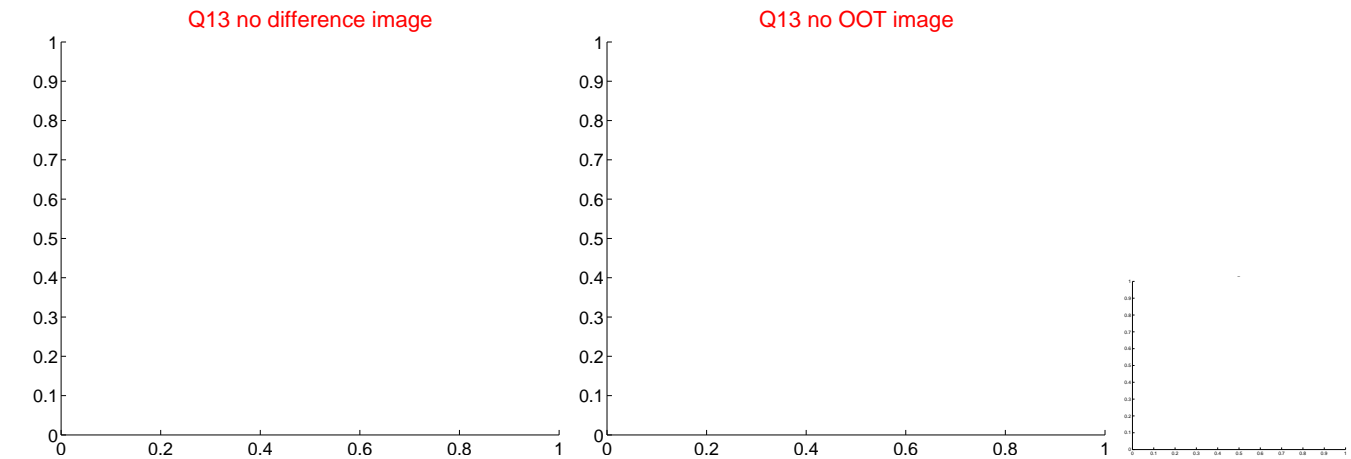
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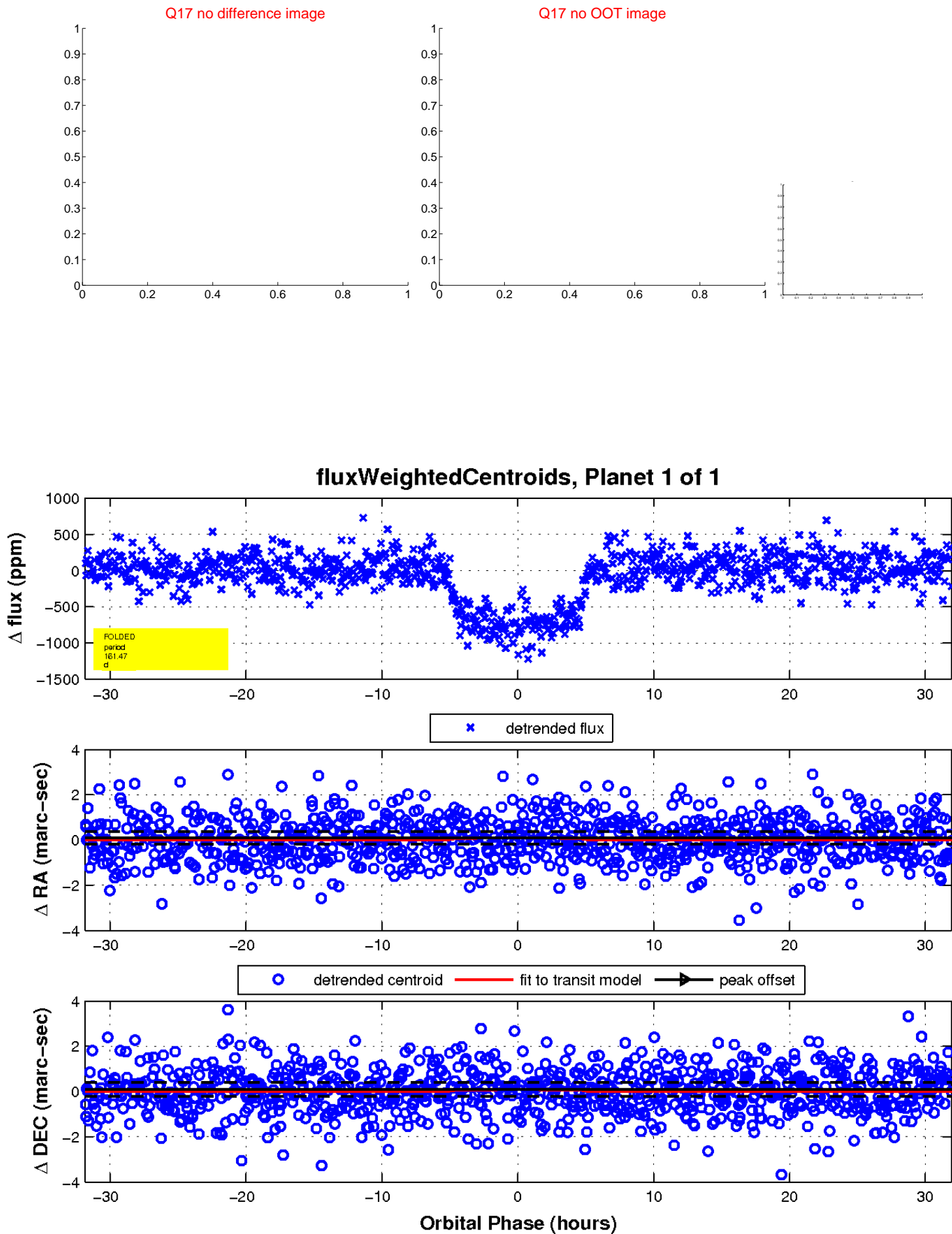
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UKIRT Image

Declination

