

KIC 005966810

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})
005966810-01	OBS	3909.01	247.890515	133.927301	892.1	18.299	20.4	25.6	1.54	6121	4.59	4.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005966810-01	OBS	PC	0.97	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.

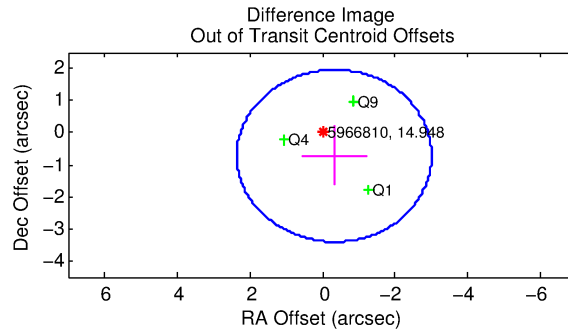
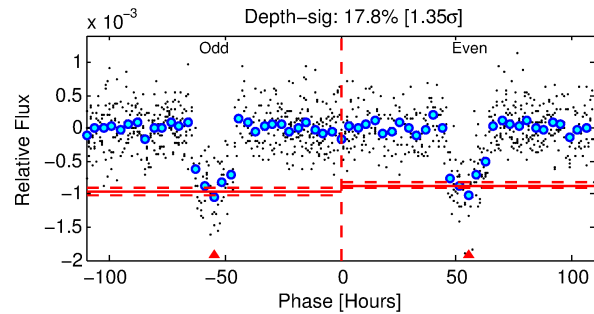
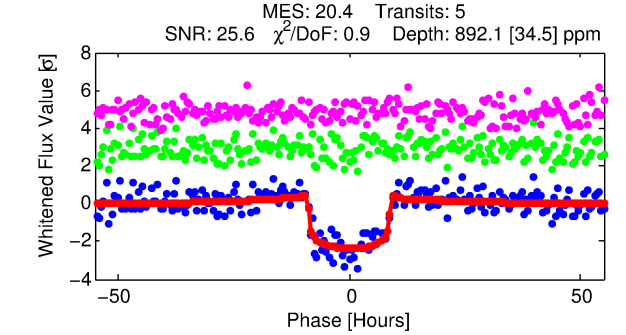
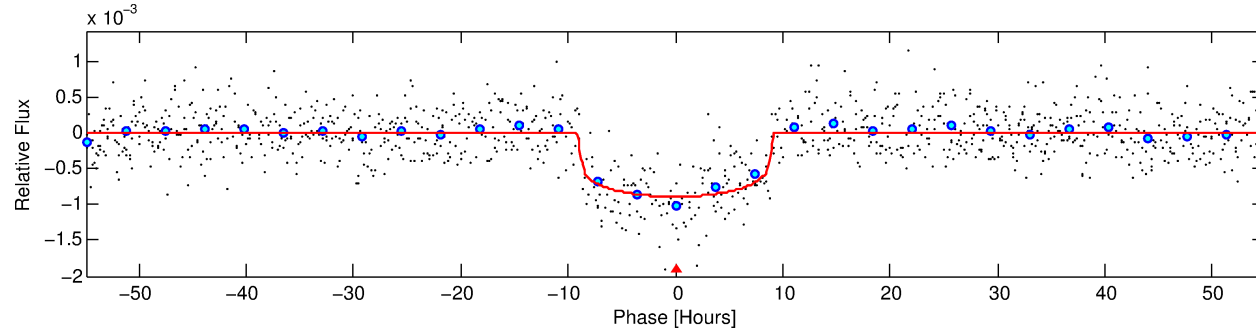
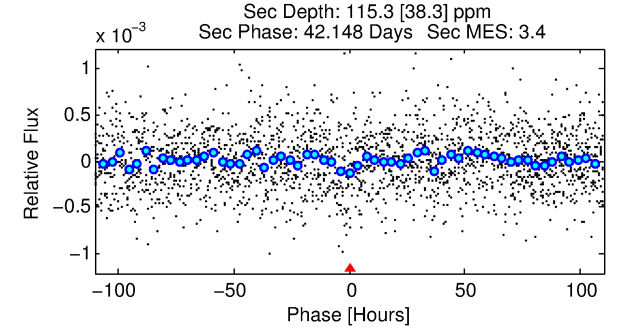
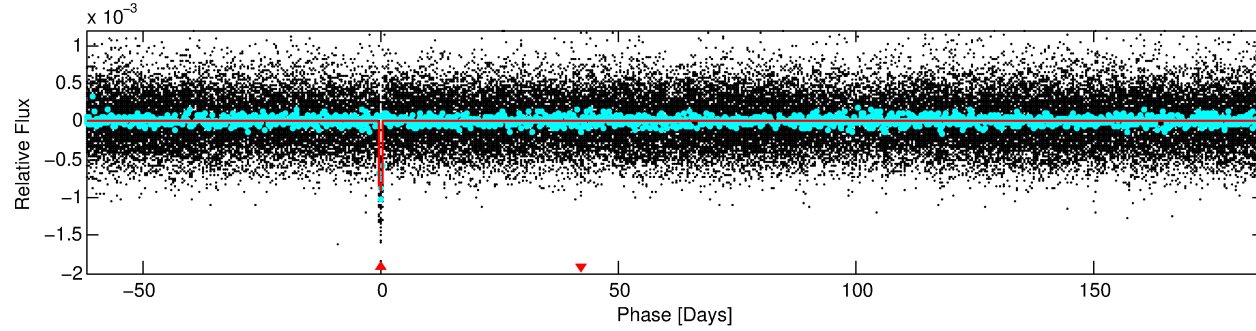
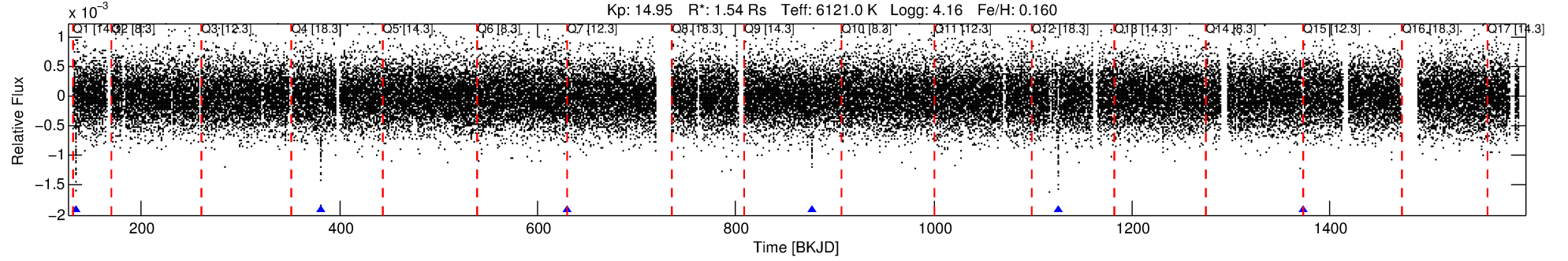
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005966810-01

No Significant Match Found

DV One-Page Summary

KIC: 5966810 Candidate: 1 of 1 Period: 247.891 d
KOI: K03909.01 Corr: 0.919



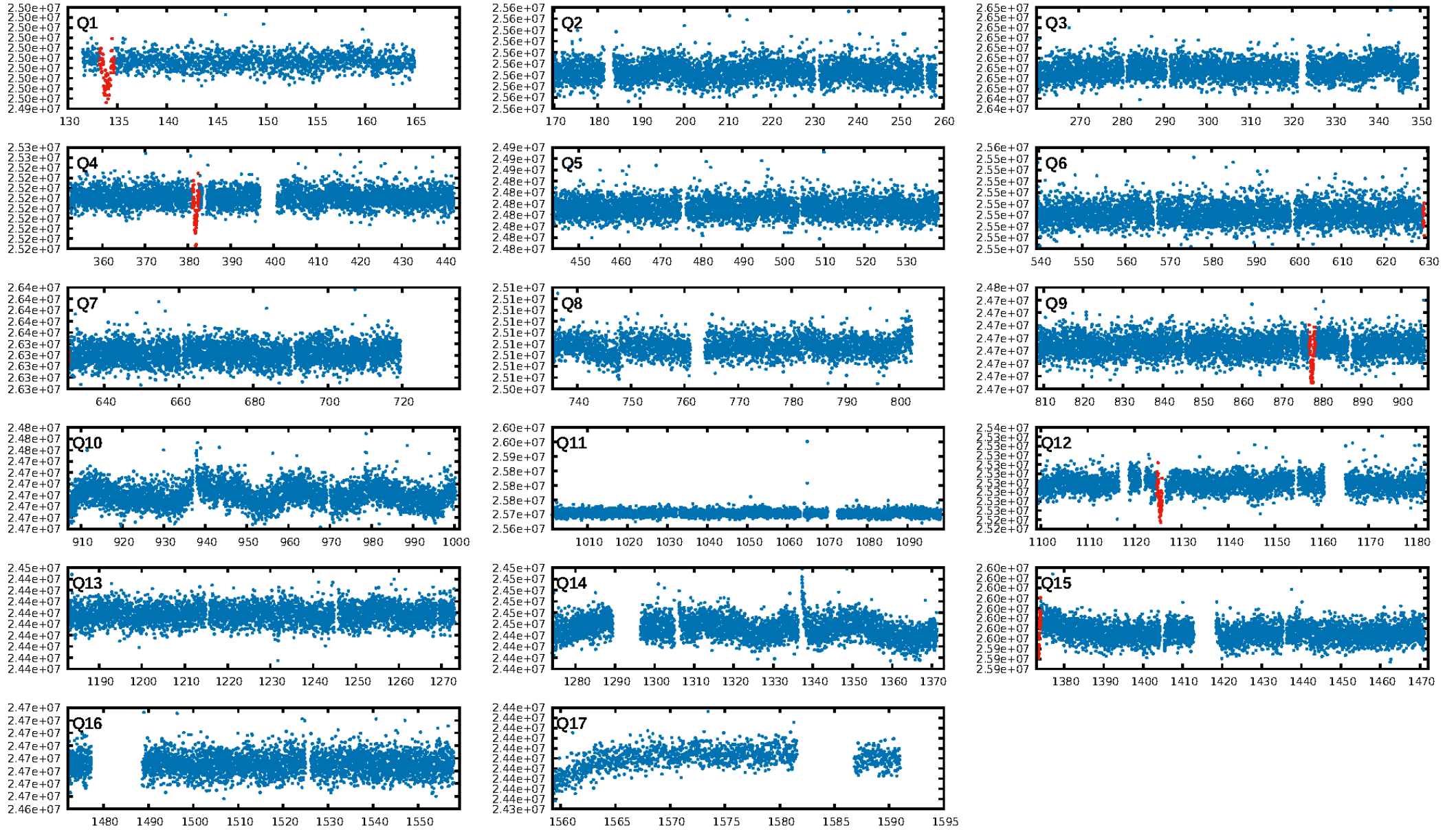
DV Fit Results:

Period = 247.89052 [0.00280] d
Epoch = 133.9273 [0.0081] BKJD
Rp/R* = 0.0274 [0.0065]
a/R* = 103.72 [116.25]
b = 0.23 [4.73]
Seff = 4.28 [1.16]
Teq = 367 [25] K
Rp = 4.59 [1.38] Re
a = 0.8327 [0.1414] AU
Ag = 2084.69 [1331.47] [1.56 σ]
Teffp = 3832 [559] K [6.20 σ]

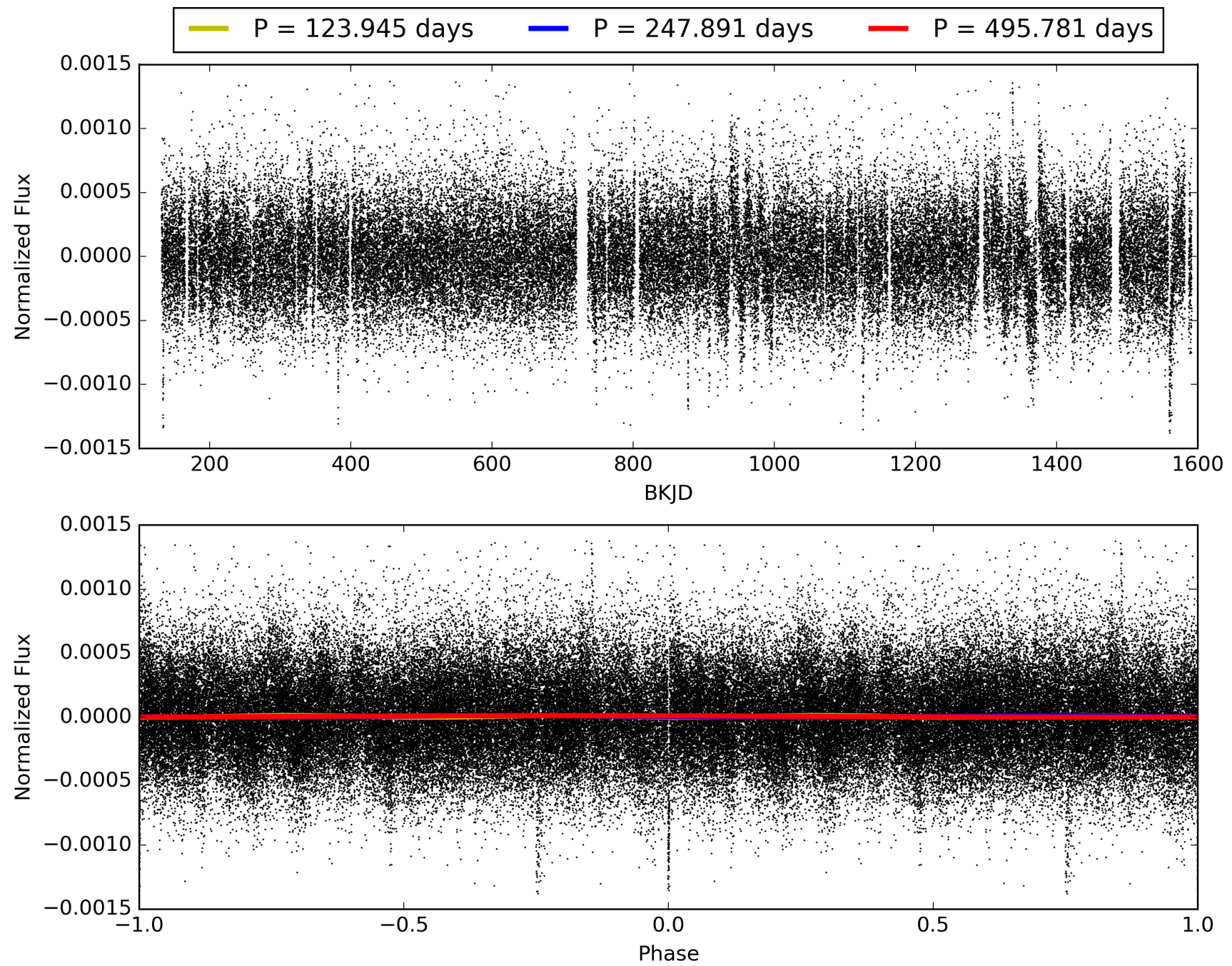
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.15e-58
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 6.865
Centroid-sig: 88.5%
Centroid-so: 0.083 arcsec [0.18 σ]
OotOffset-rm: 0.796 arcsec [0.89 σ]
OotOffset-st: 0/0/1/2 [3]
KicOffset-rm: 0.808 arcsec [0.91 σ]
KicOffset-st: 0/0/1/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 005966810-01, PDC Light Curves

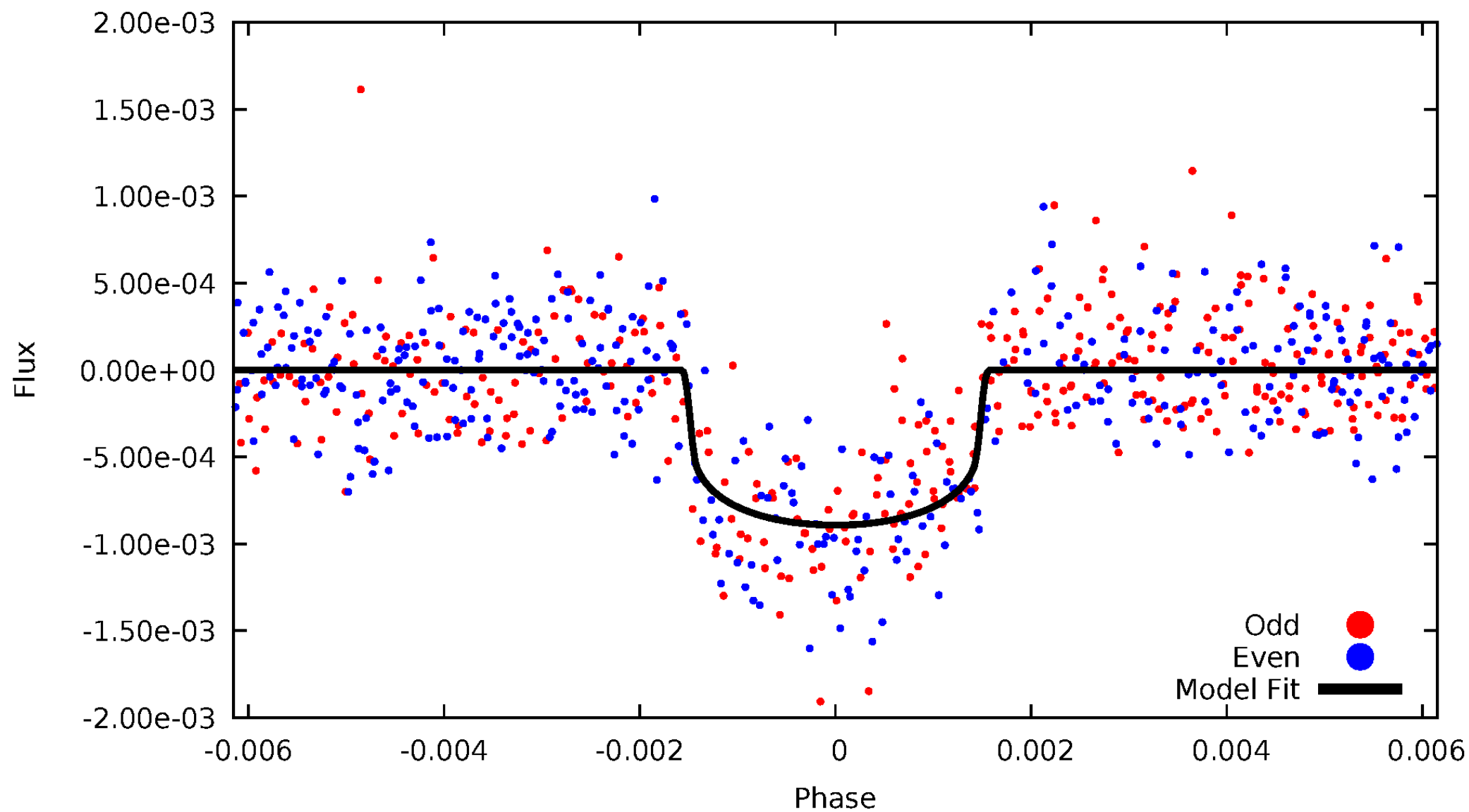


TCE 005966810-01



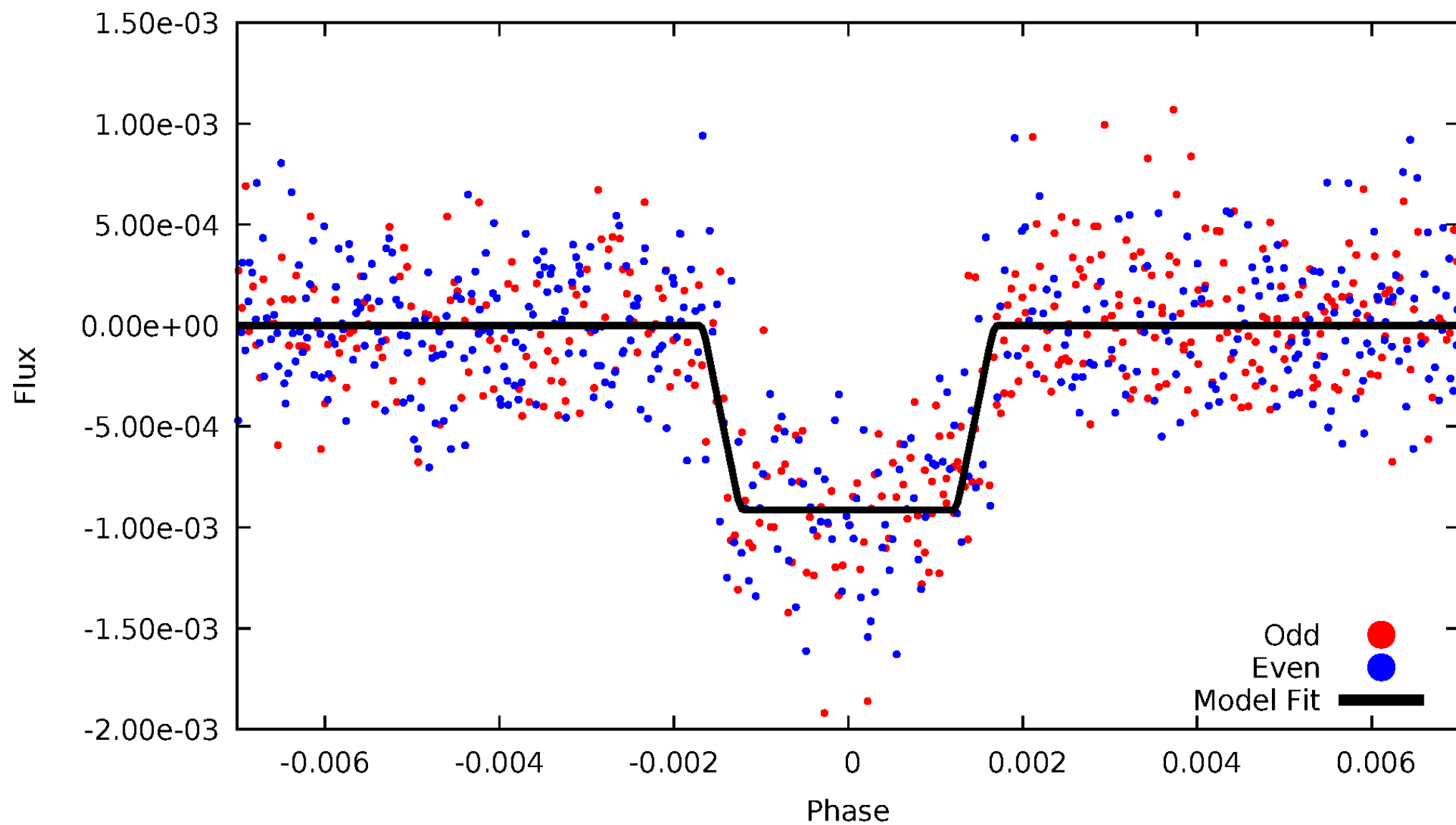
DV Odd/Even

TCE 005966810-01

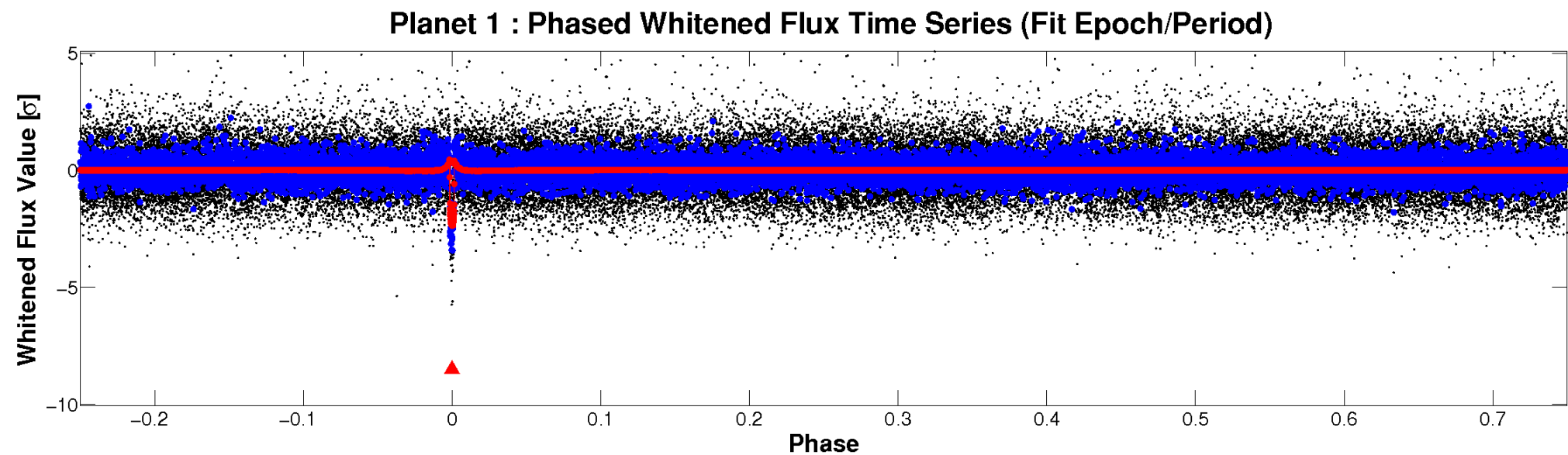
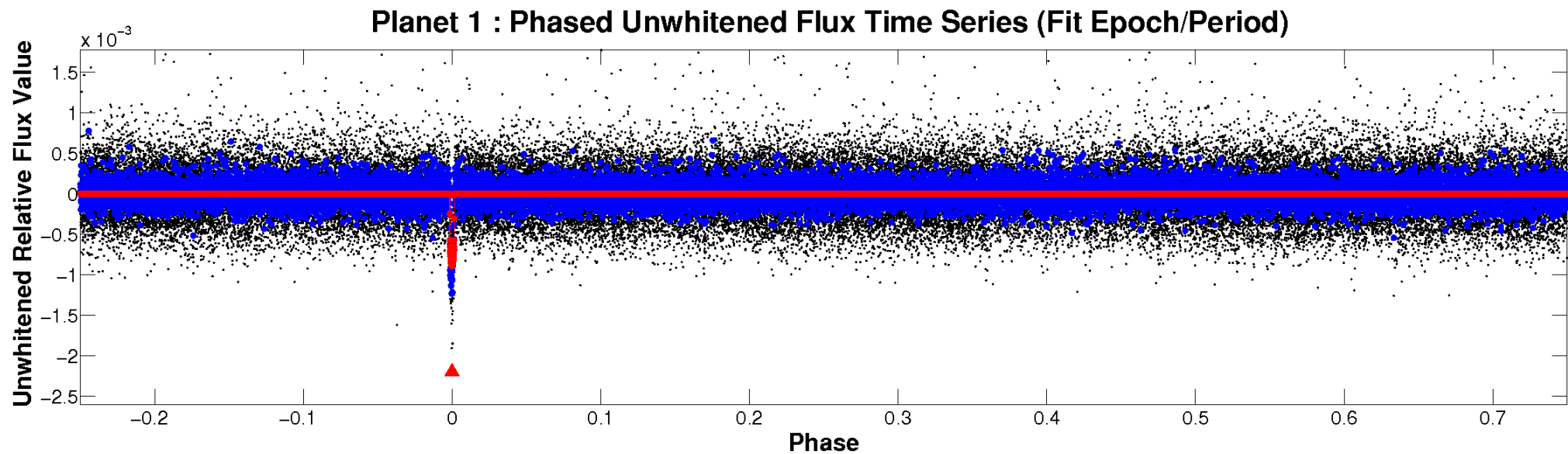


ALT Odd/Even

TCE 005966810-01

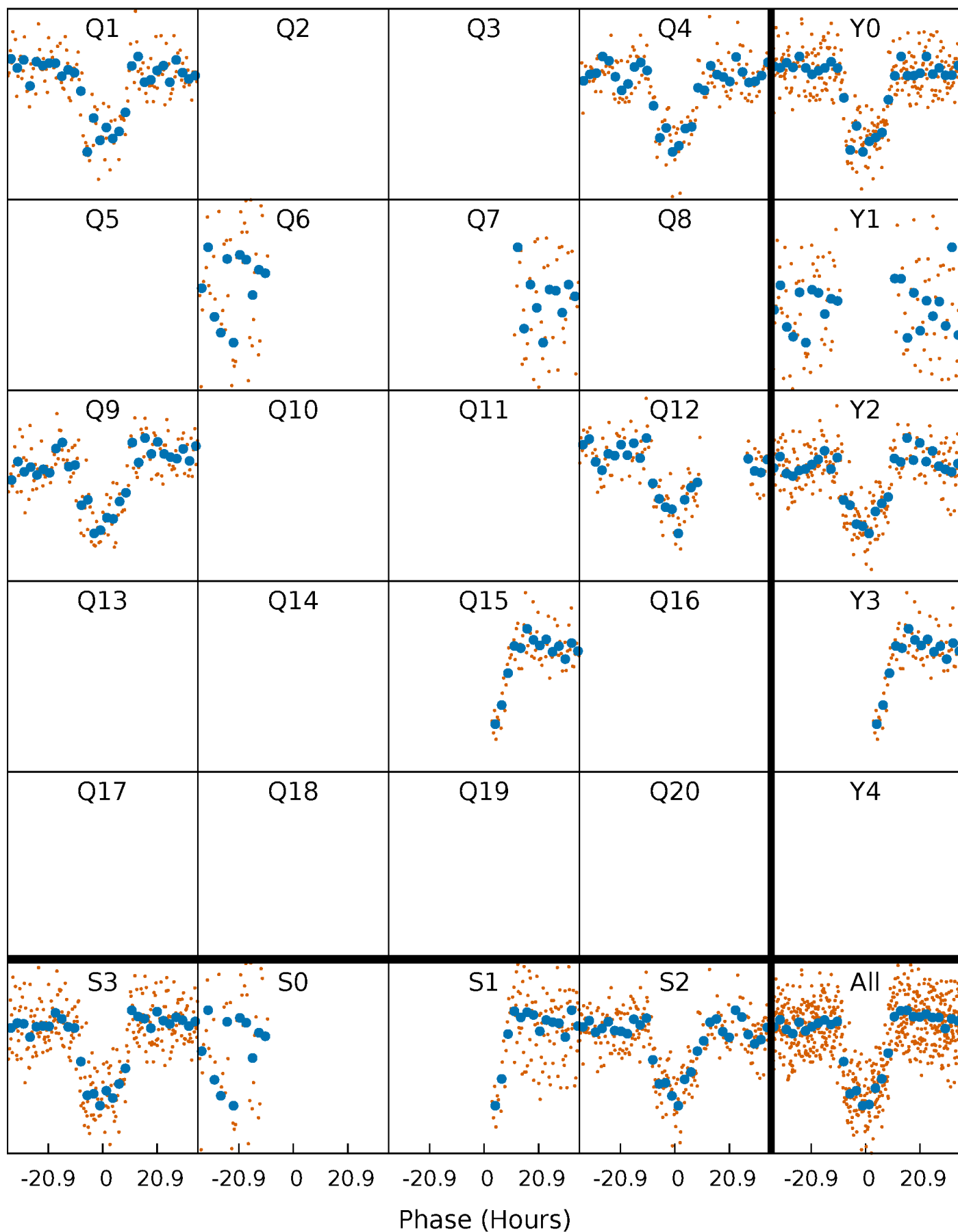


Non-Whitened Vs. Whitened Light Curve



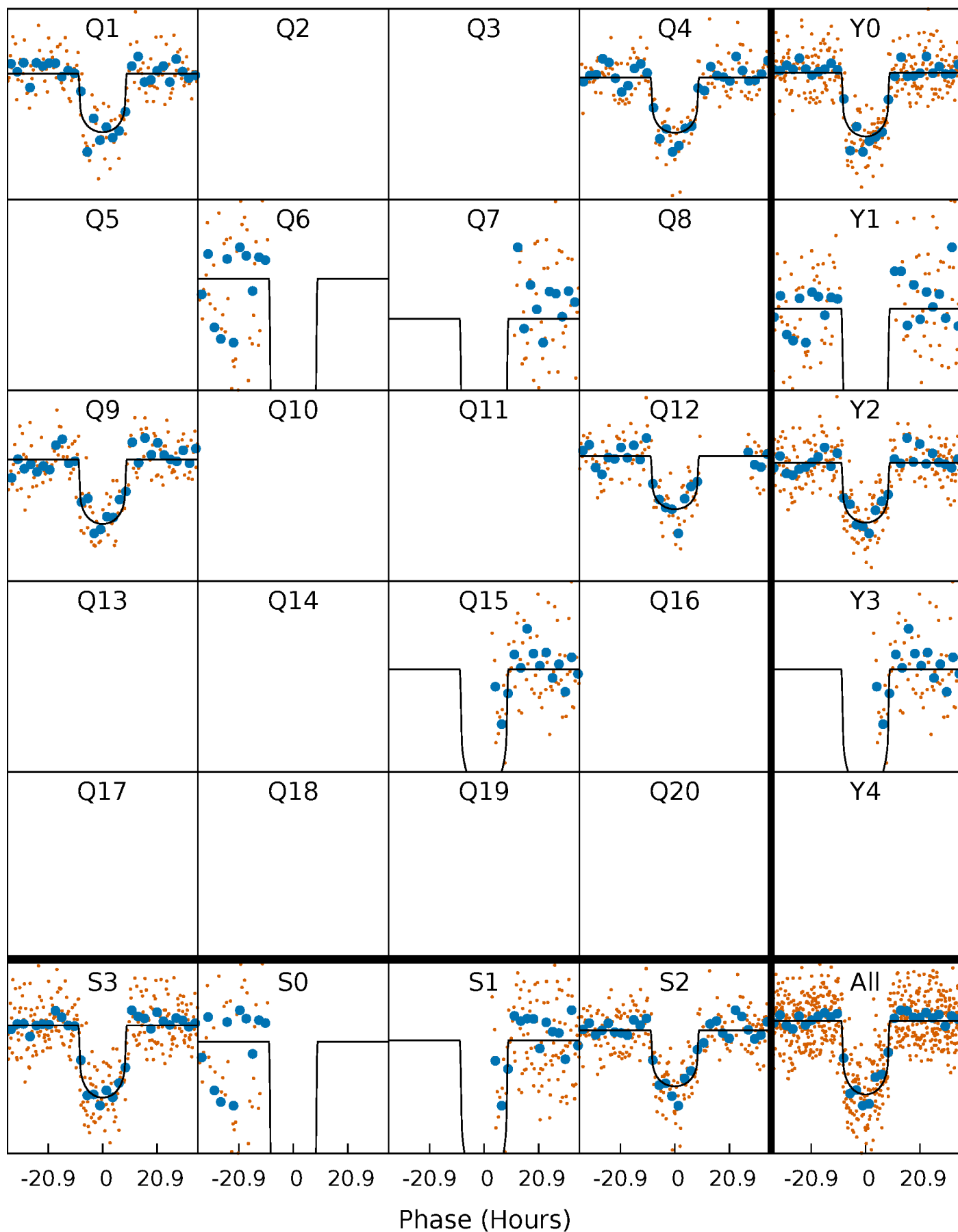
PDC Quarter-Phased Transit Curves

TCE 005966810-01 P=247.890515 Days $T_0=133.927301$ (BKJD)



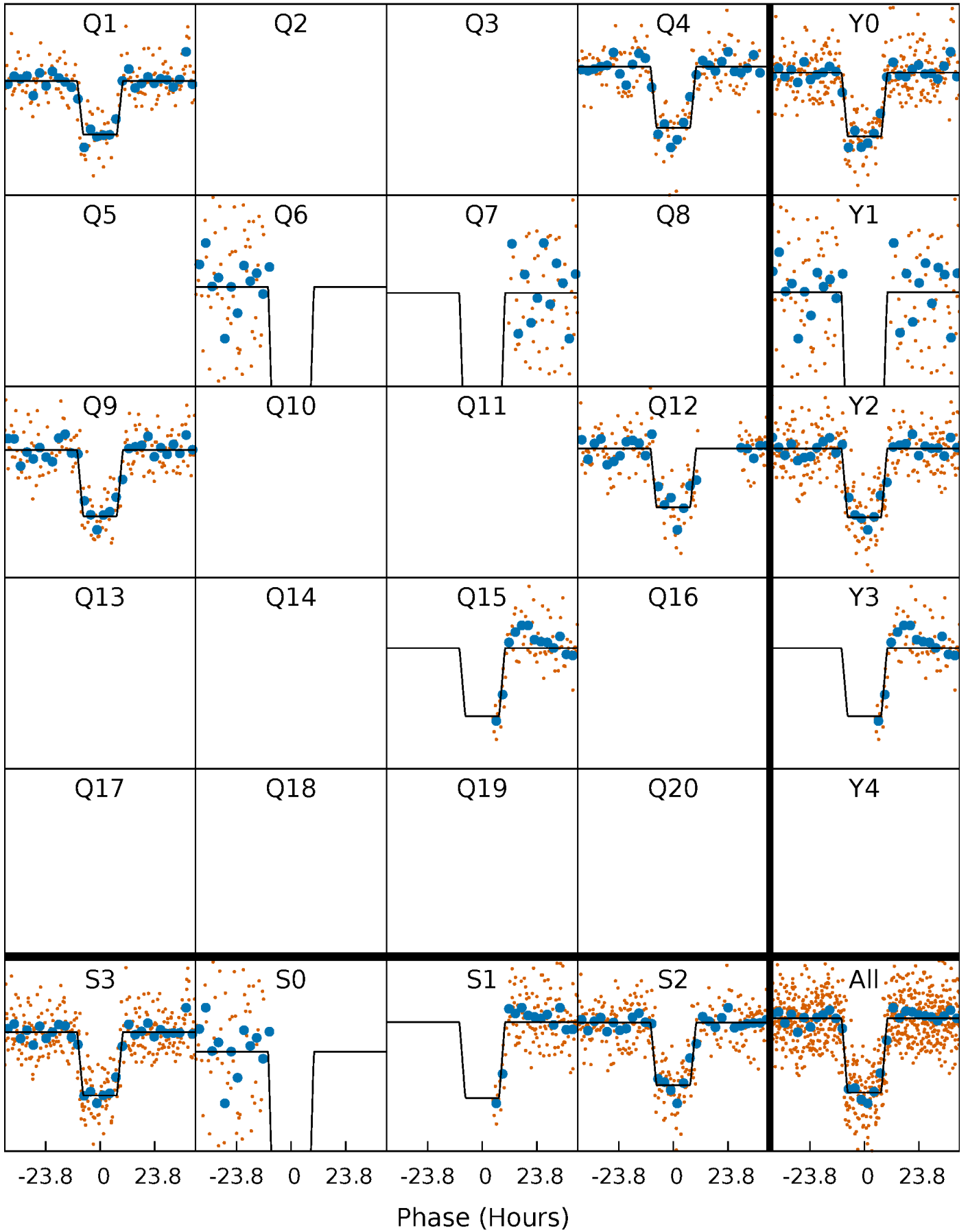
DV Quarter-Phased Transit Curves

TCE 005966810-01 P=247.890515 Days $T_0=133.927301$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

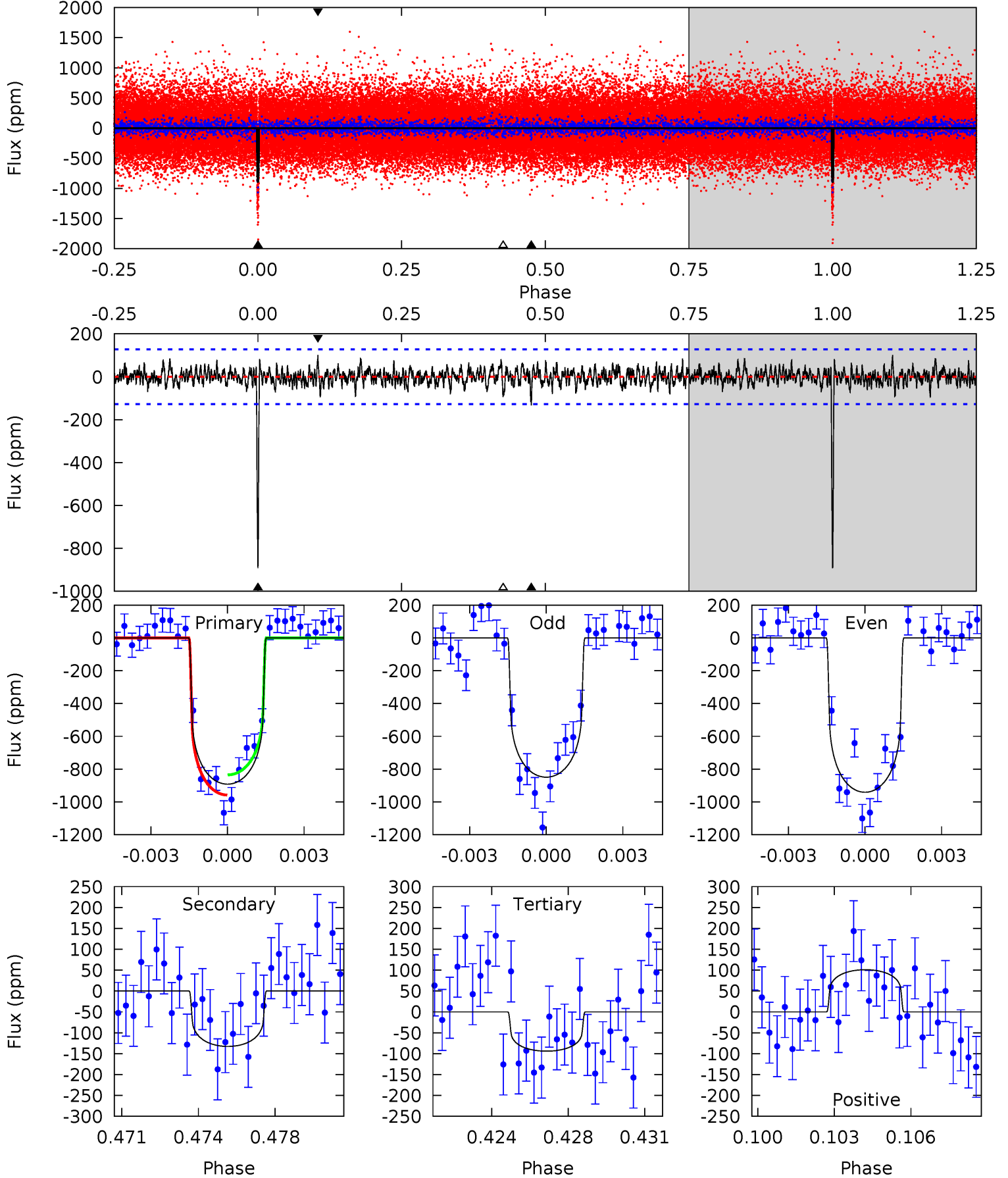
TCE 005966810-01 P=247.865894 Days $T_0=133.982216$ (BKJD)



DV Model-Shift Uniqueness Test

005966810-01, P = 247.890515 Days, E = 133.927301 Days

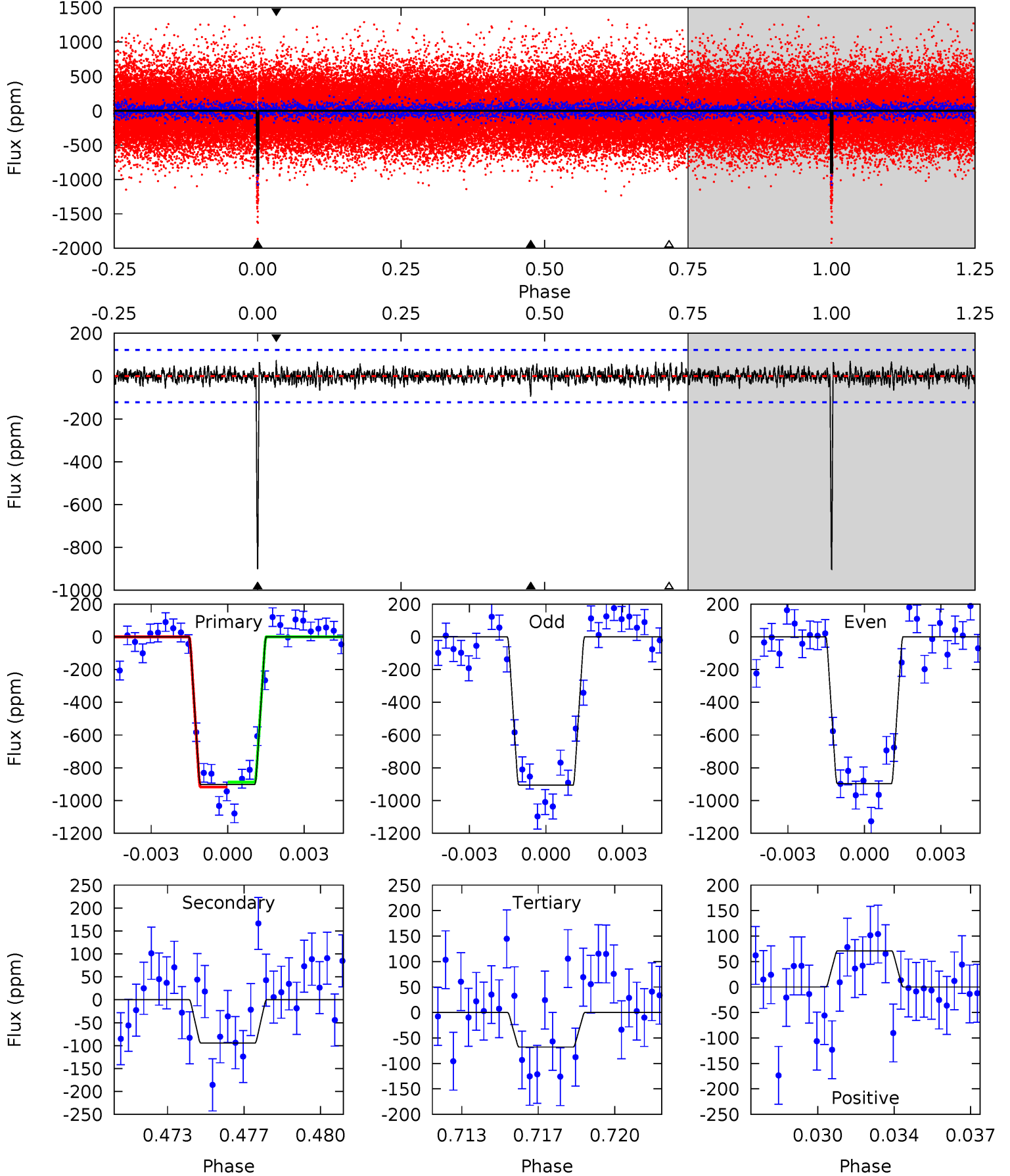
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.6	5.45	3.86	4.14	5.25	2.96	1.17	32.7	32.5	1.59	1.30	1.88	0.90	0.10	2.51



Alt Model-Shift Uniqueness Test

005966810-01, P = 247.865894 Days, E = 133.982216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.8	4.06	2.92	3.05	5.23	2.93	0.85	35.9	35.7	1.14	1.01	0.20	1.00	0.07	0.66



Stellar Parameters For KIC 005966810

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6121^{+82}_{-82}	$4.163^{+0.154}_{-0.126}$	$0.160^{+0.150}_{-0.150}$	$1.536^{+0.281}_{-0.281}$	$1.257^{+0.095}_{-0.131}$	$0.489^{+0.370}_{-0.180}$
	+1%/-1%	+4%/-3%	+94%/-94%	+18%/-18%	+8%/-10%	+76%/-37%
Source	SPE90	SPE90	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 005966810-01 / KOI 3909.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-133 ± 24	$4.45^{+1.36}_{-1.12}$	512^{+27}_{-26}	4217^{+548}_{-327}	2464^{+2187}_{-1020}
Alt.	-94 ± 23	$5.05^{+1.14}_{-1.22}$	511^{+26}_{-25}	3843^{+363}_{-311}	1413^{+1044}_{-583}

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 $A_{obs} \gg 1.0$

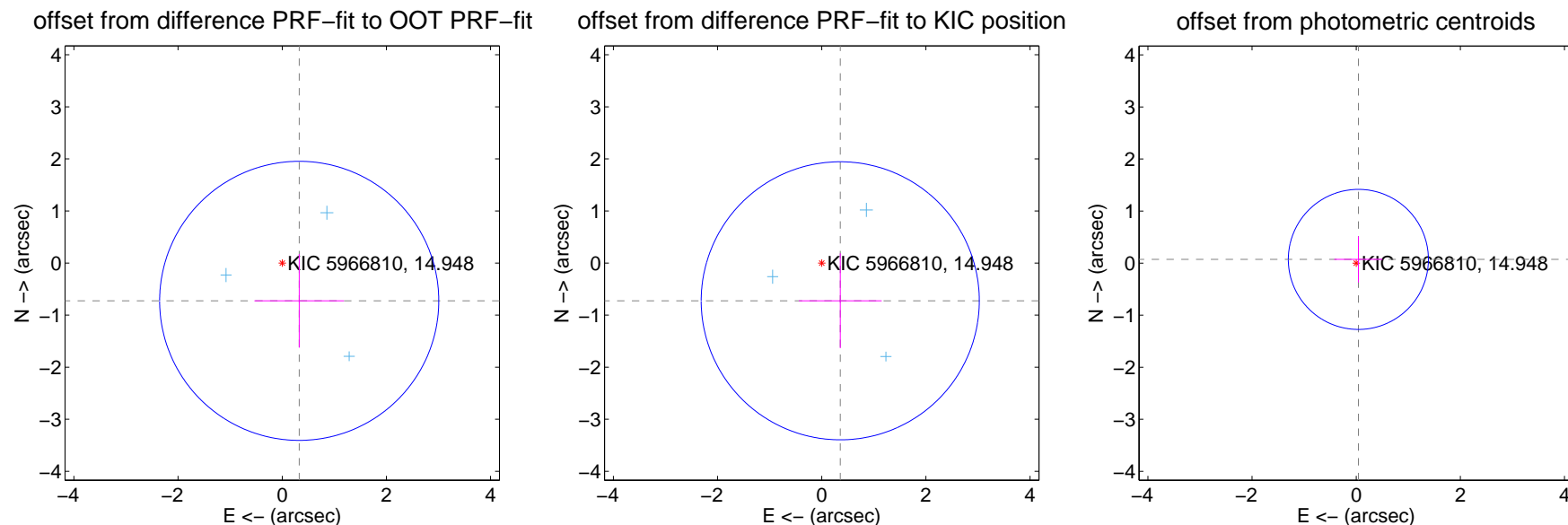
DV Centroid Data

Supplemental centroid analysis for 005966810-01. Kepler magnitude: 14.95. Transit SNR 25.56

There are 3 quarters with good PRF difference image offsets

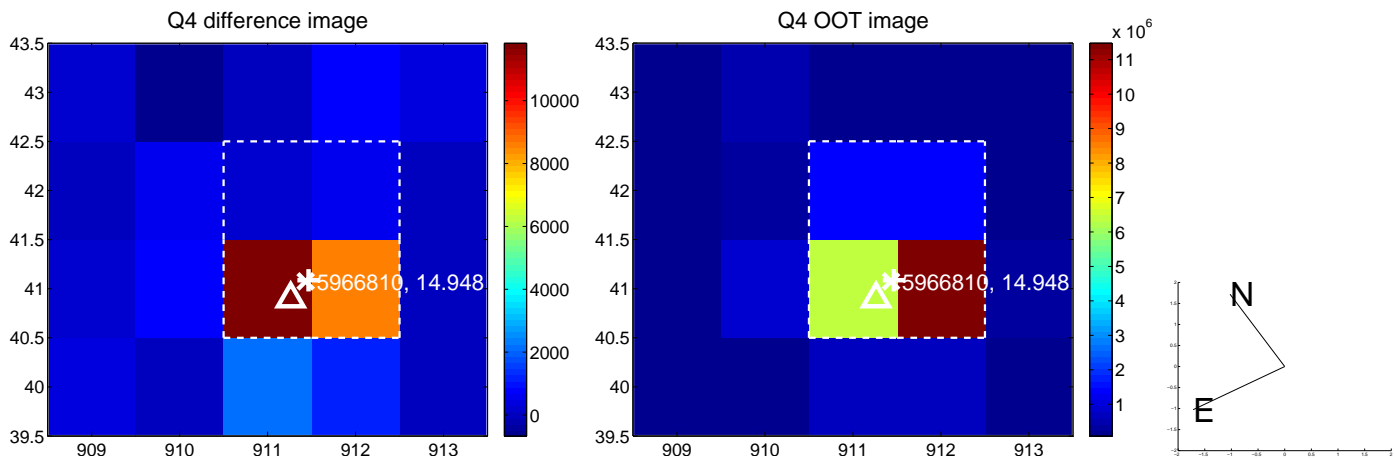
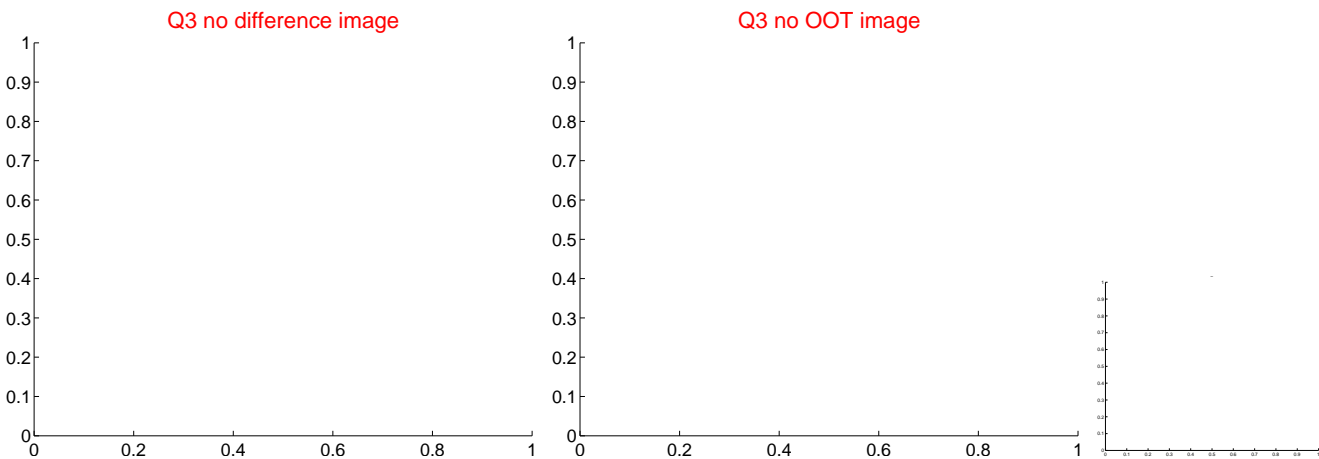
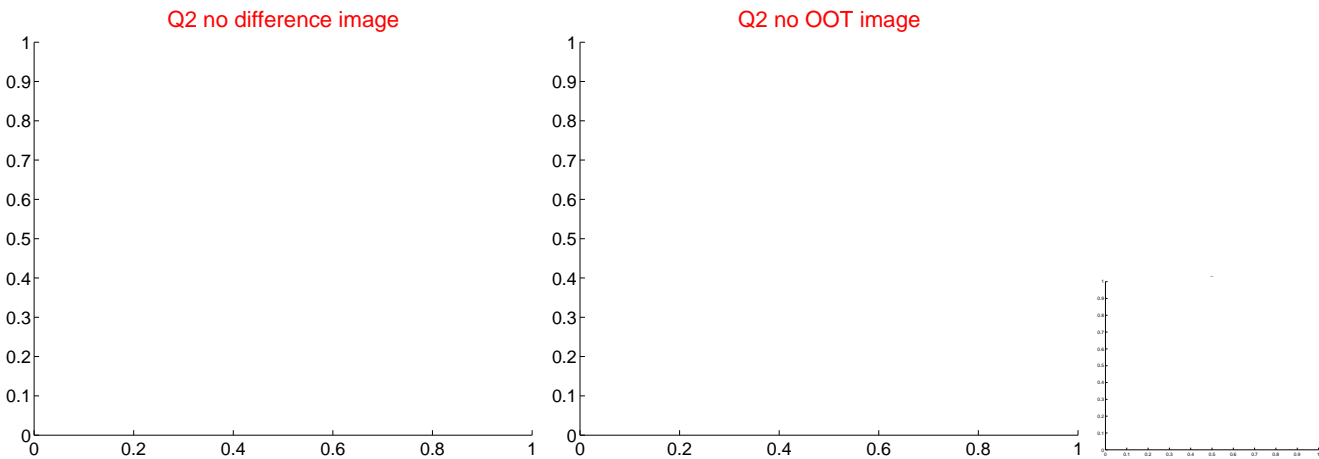
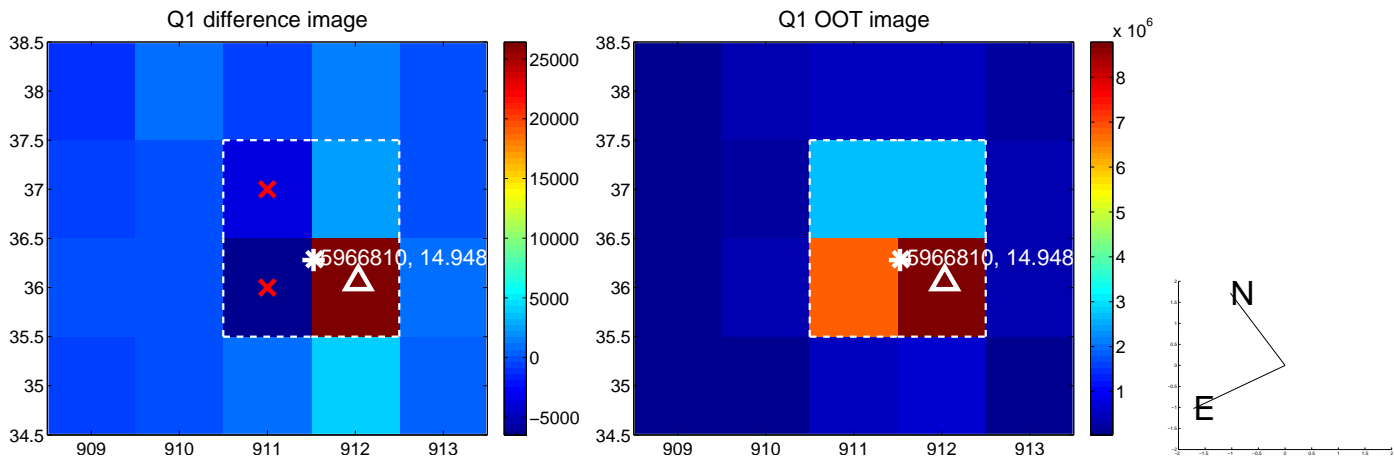
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.796 ± 0.893	0.89	-0.326 ± 0.860	-0.726 ± 0.900
PRF-fit source offset from KIC position	0.808 ± 0.890	0.91	-0.356 ± 0.796	-0.725 ± 0.911
photometric centroid source offset	0.08 ± 0.45	0.18	-0.04 ± 0.46	0.07 ± 0.44



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.

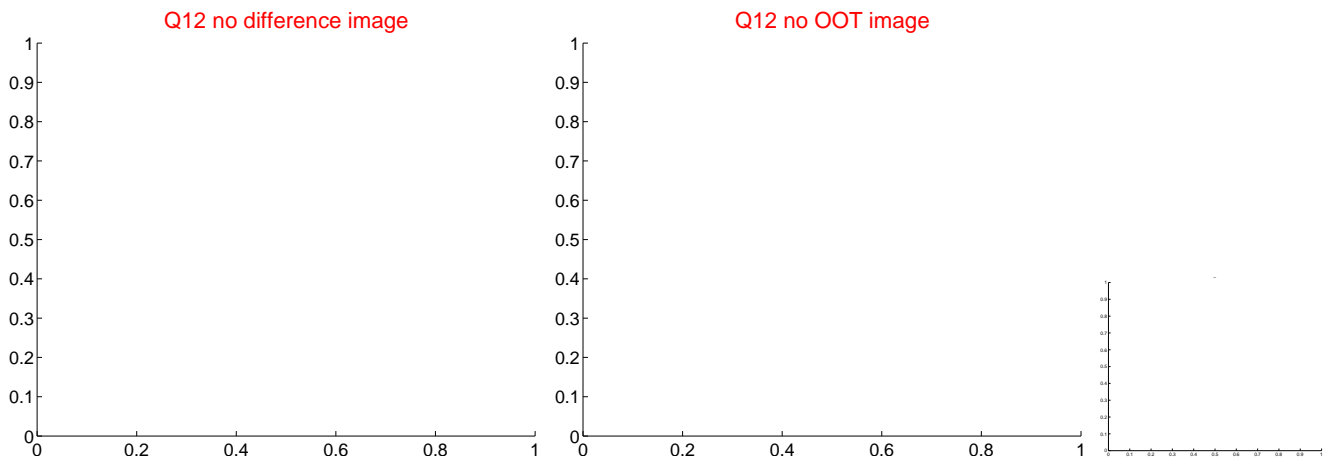
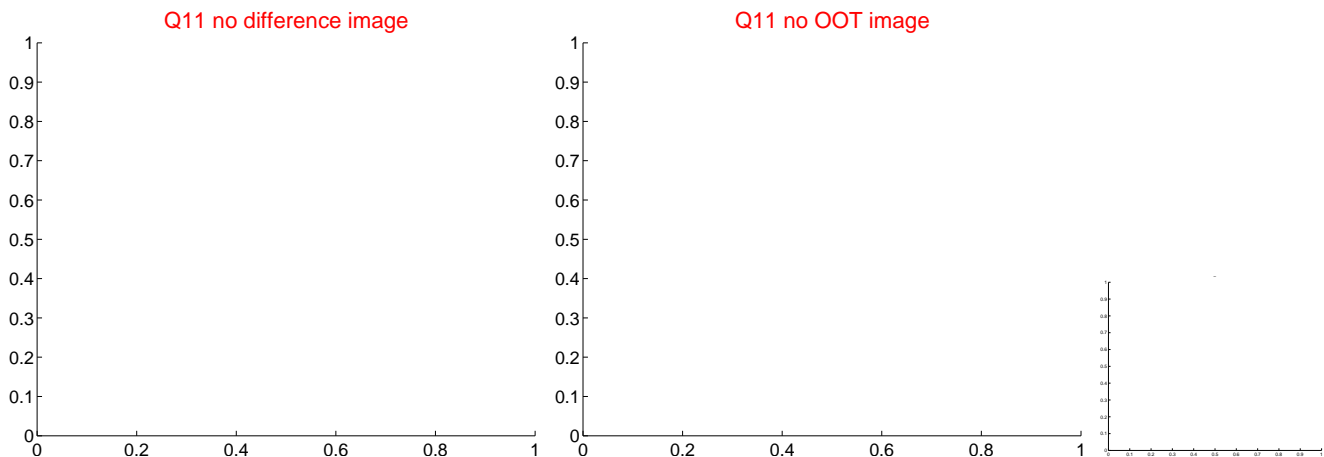
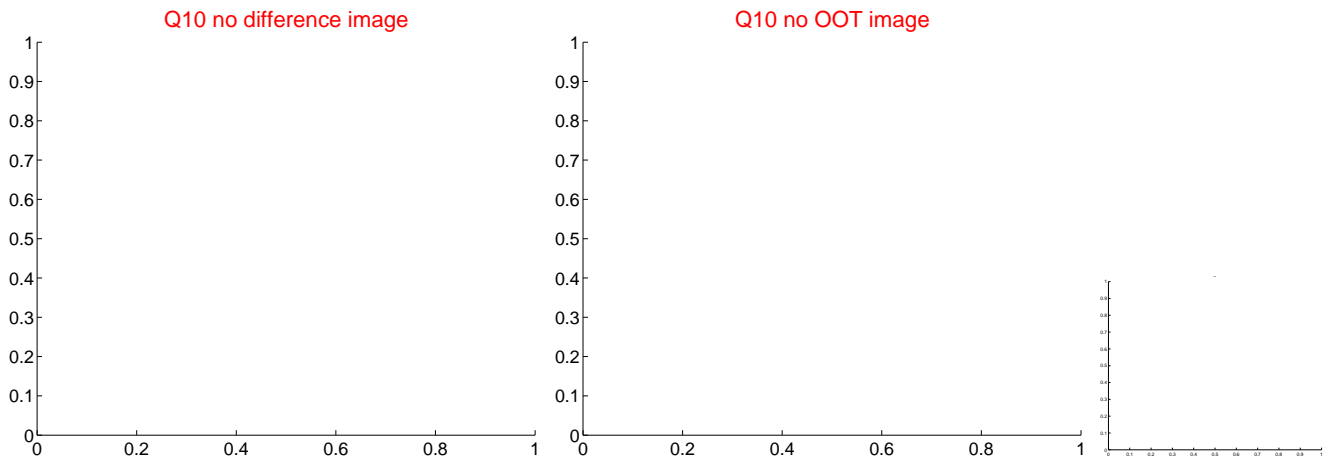
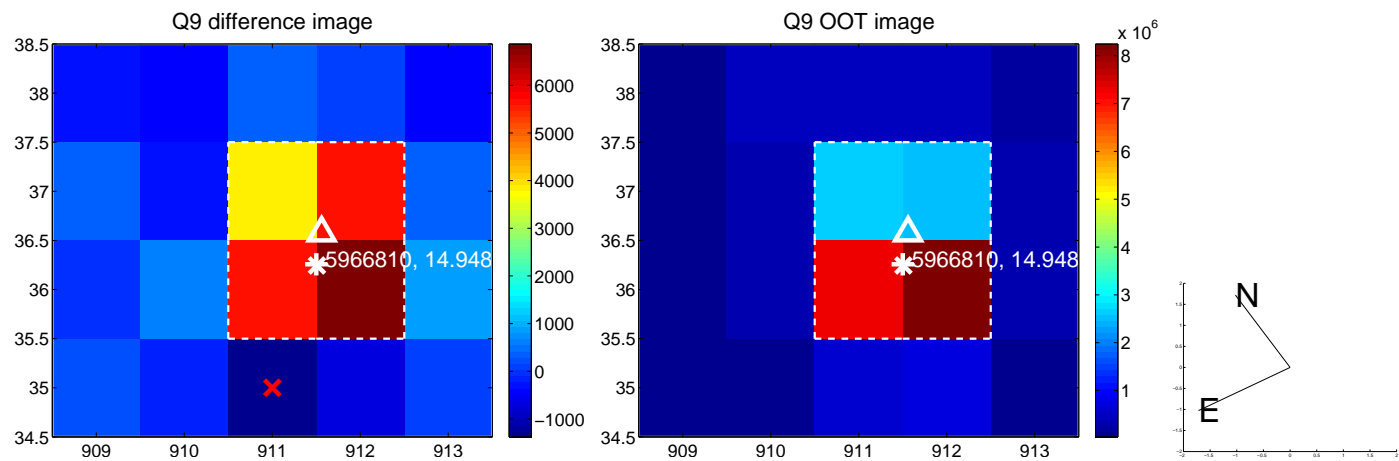
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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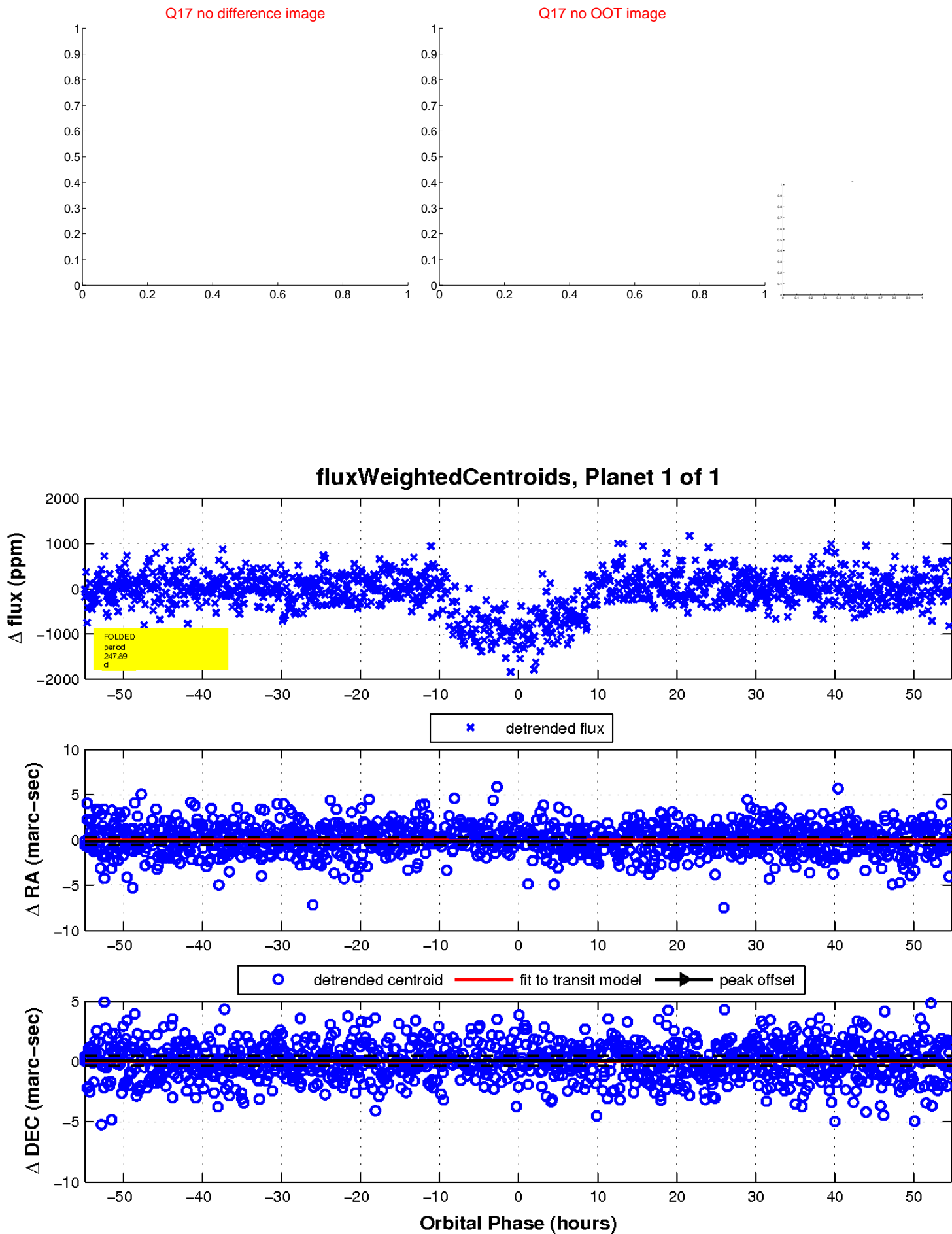
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UKIRT Image

