

KIC 007120842

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})
007120842-01	OBS	No	456.017186	431.604670	500.9	6.400	7.7	8.0	0.97	6032	2.27	0.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007120842-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

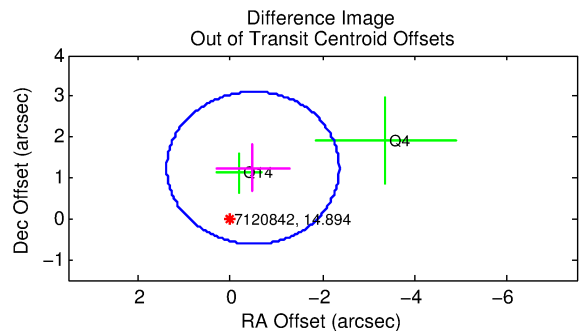
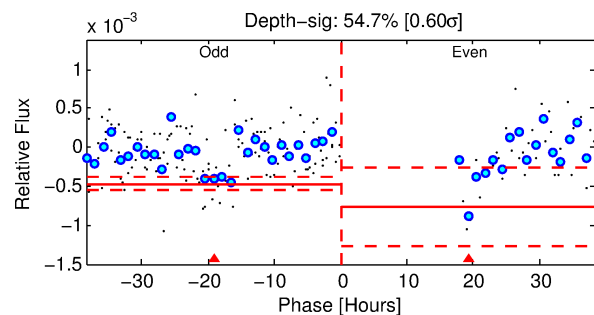
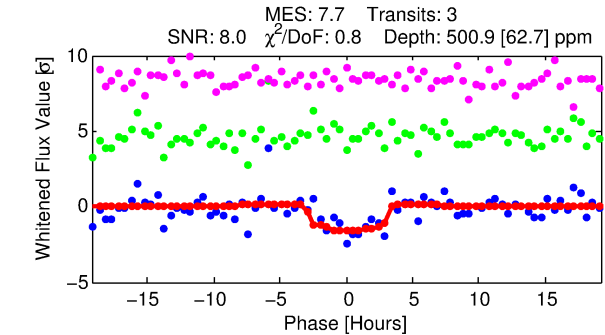
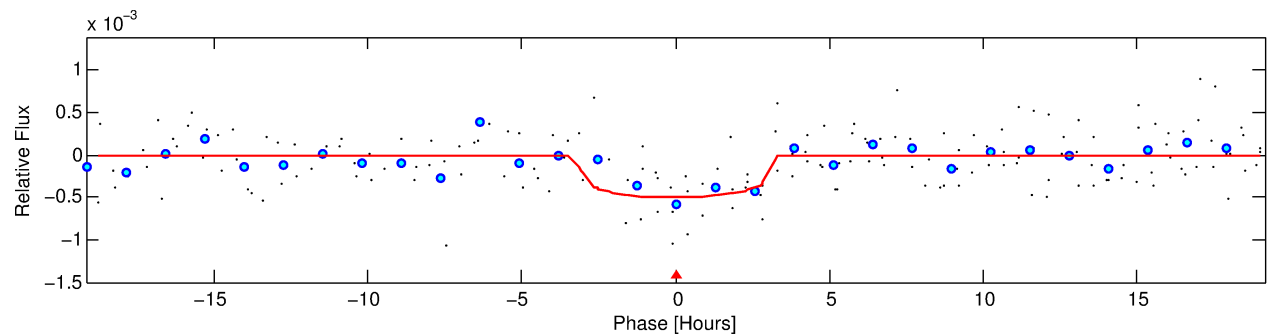
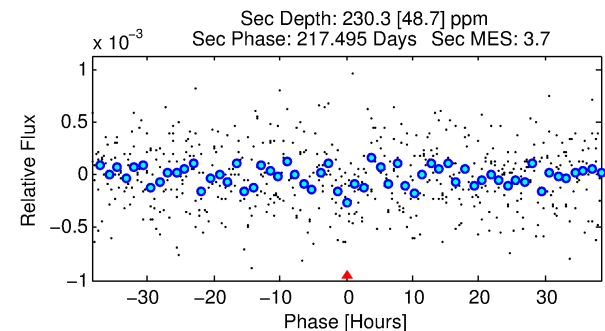
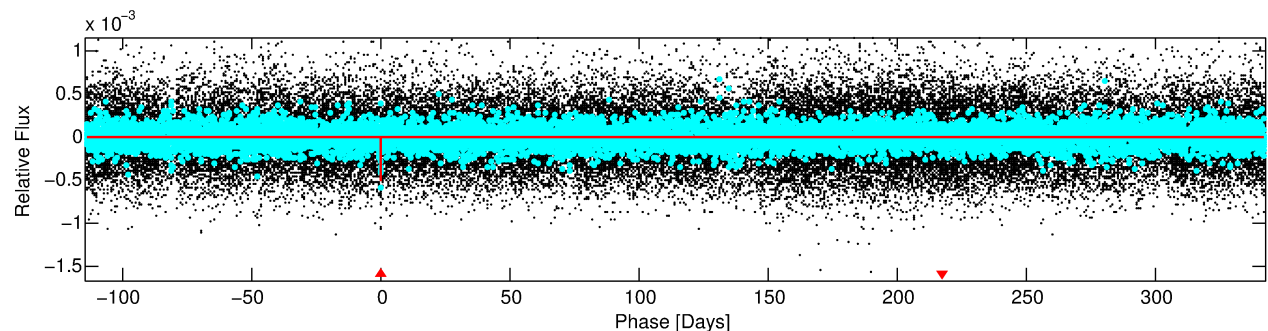
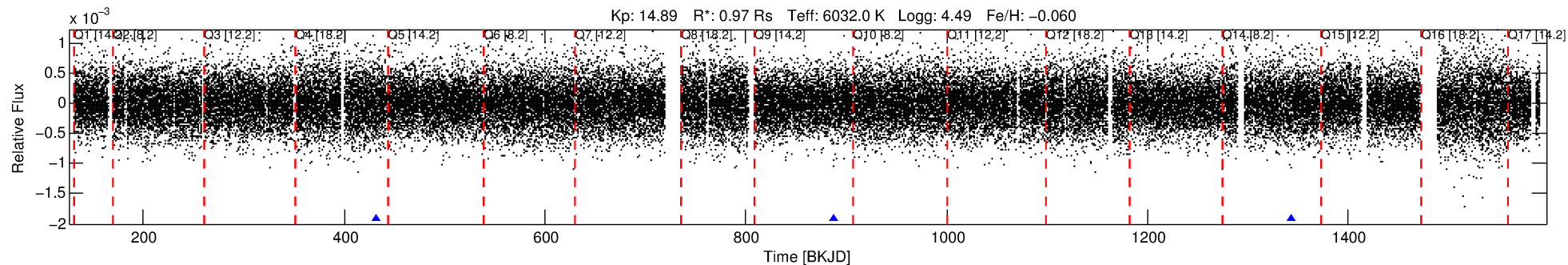
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007120842-01

No Significant Match Found

DV One-Page Summary

KIC: 7120842 Candidate: 1 of 1 Period: 456.017 d



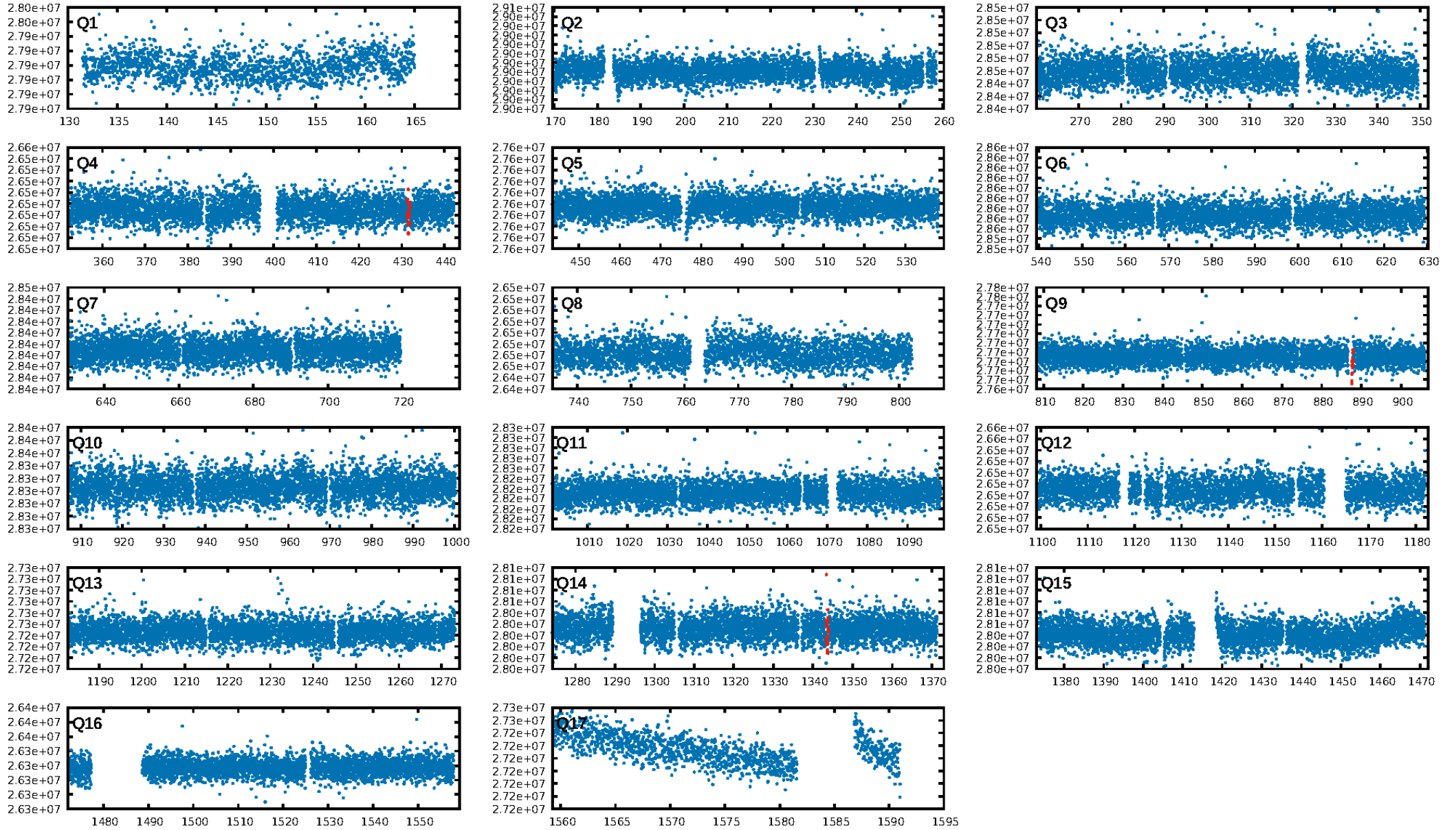
DV Fit Results:

Period = 456.01719 [0.00884] d
Epoch = 431.6047 [0.0118] BKJD
Rp/R* = 0.0214 [0.0261]
a/R* = 451.28 [2613.38]
b = 0.60 [6.31]
Seff = 0.81 [0.33]
Teq = 242 [24] K
Rp = 2.27 [2.86] Re
a = 1.1806 [0.3073] AU
Ag = 34241.55 [84870.85] [0.40 σ]
Teffp = 5081 [3116] K [1.55 σ]

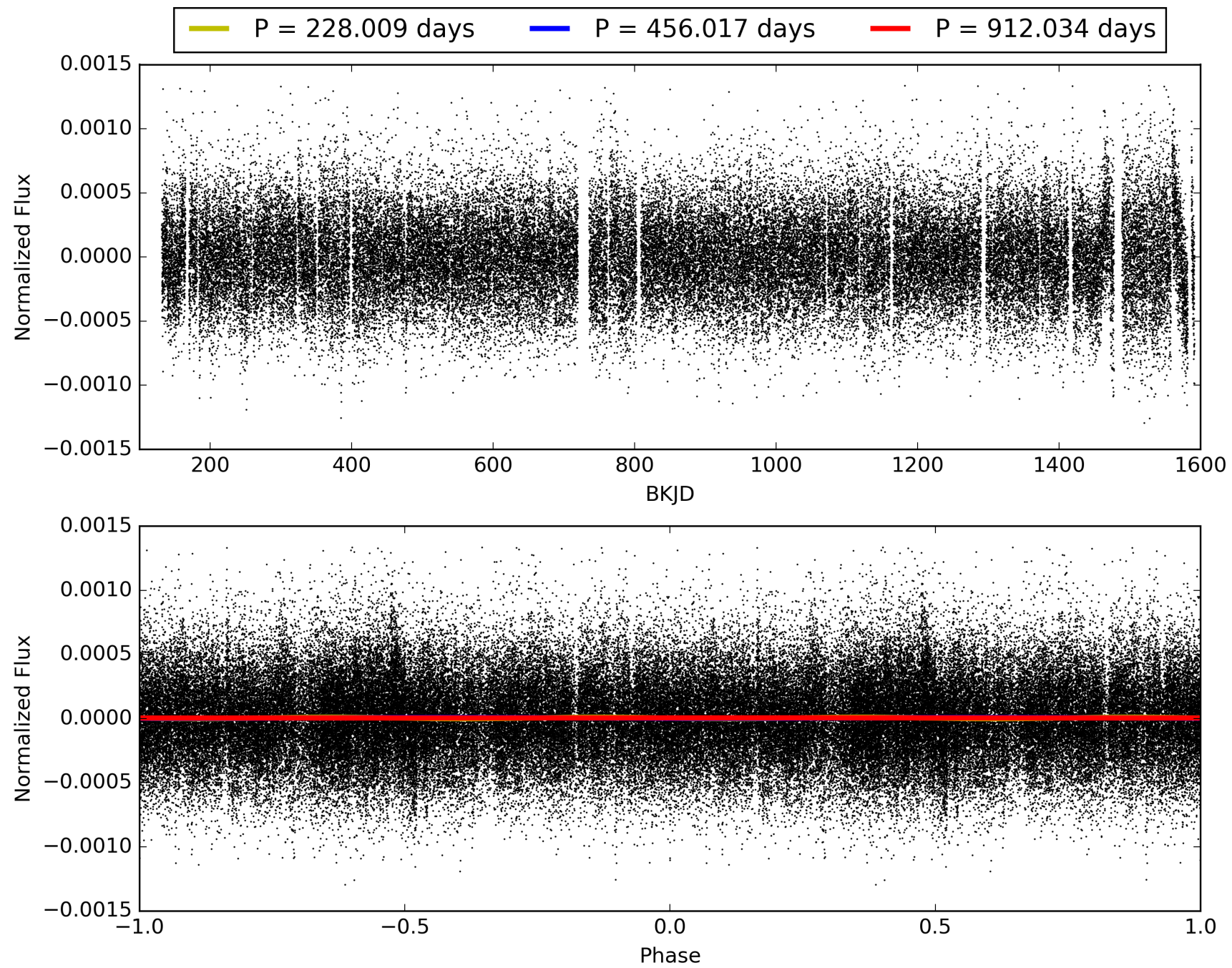
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.0%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.43e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.725
Centroid-sig: 2.0%
Centroid-so: 2.425 arcsec [1.50 σ]
OotOffset-rm: 1.341 arcsec [2.16 σ]
KicOffset-rm: 1.371 arcsec [2.18 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 007120842-01, PDC Light Curves

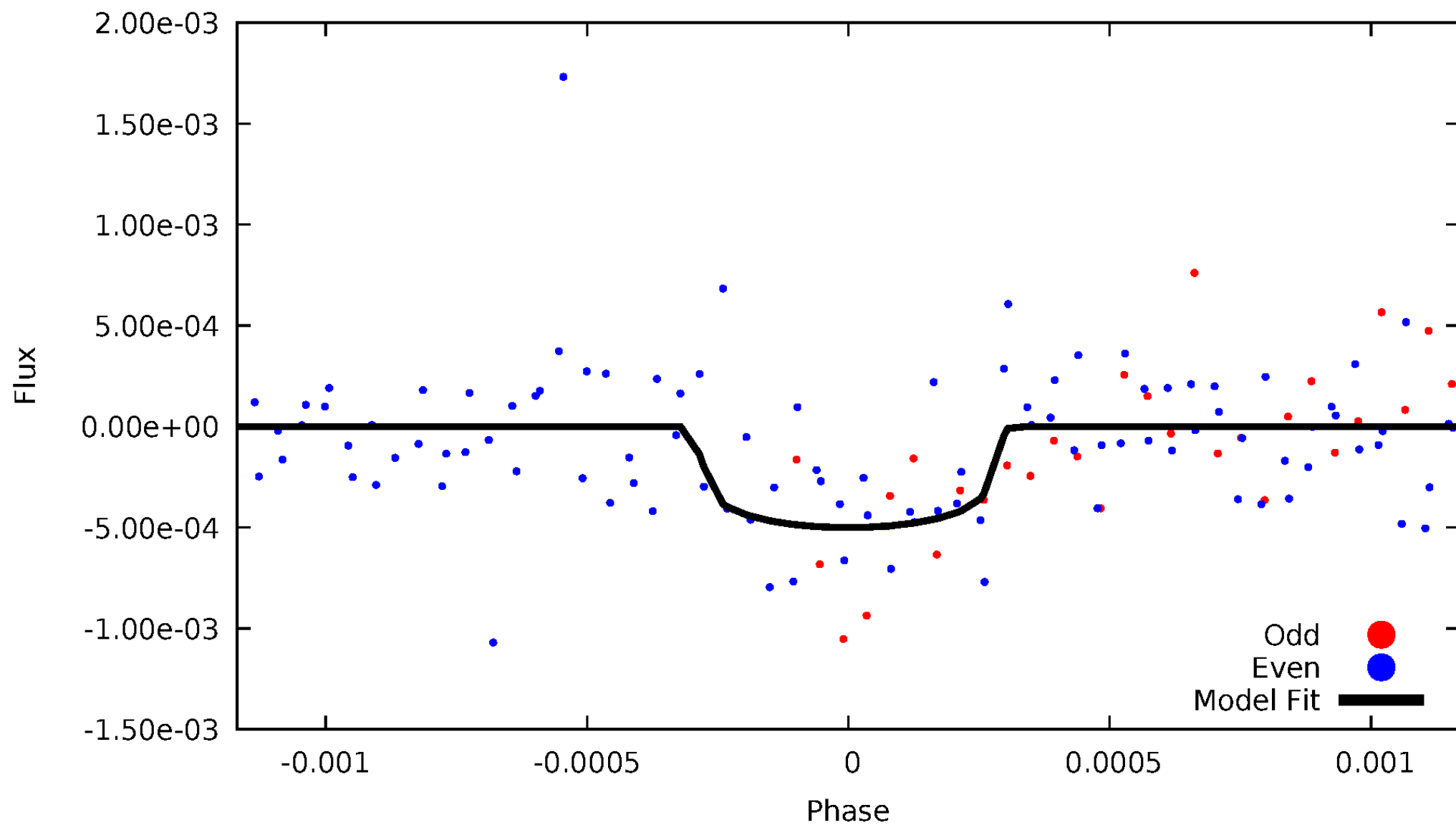


TCE 007120842-01



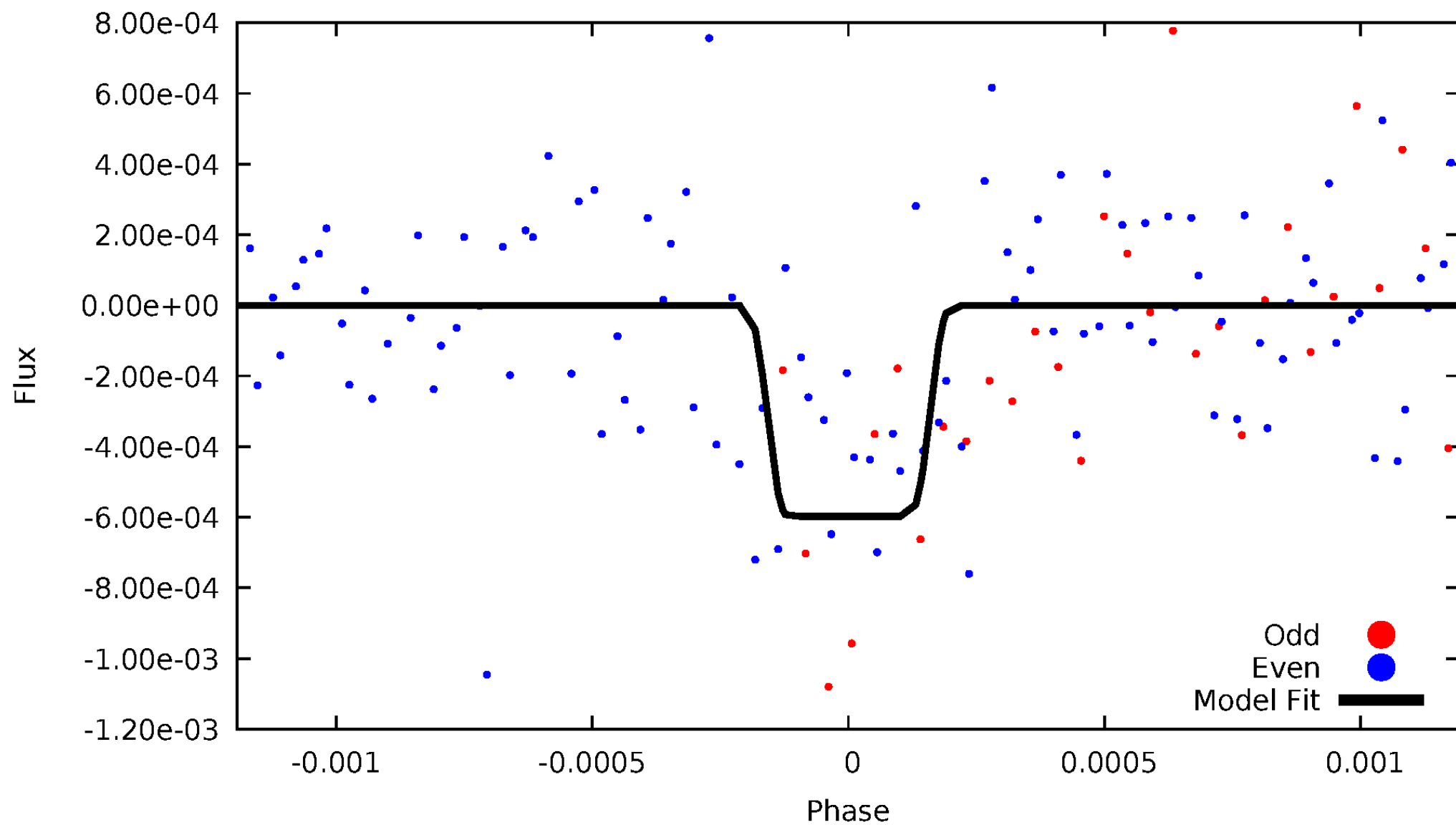
DV Odd/Even

TCE 007120842-01

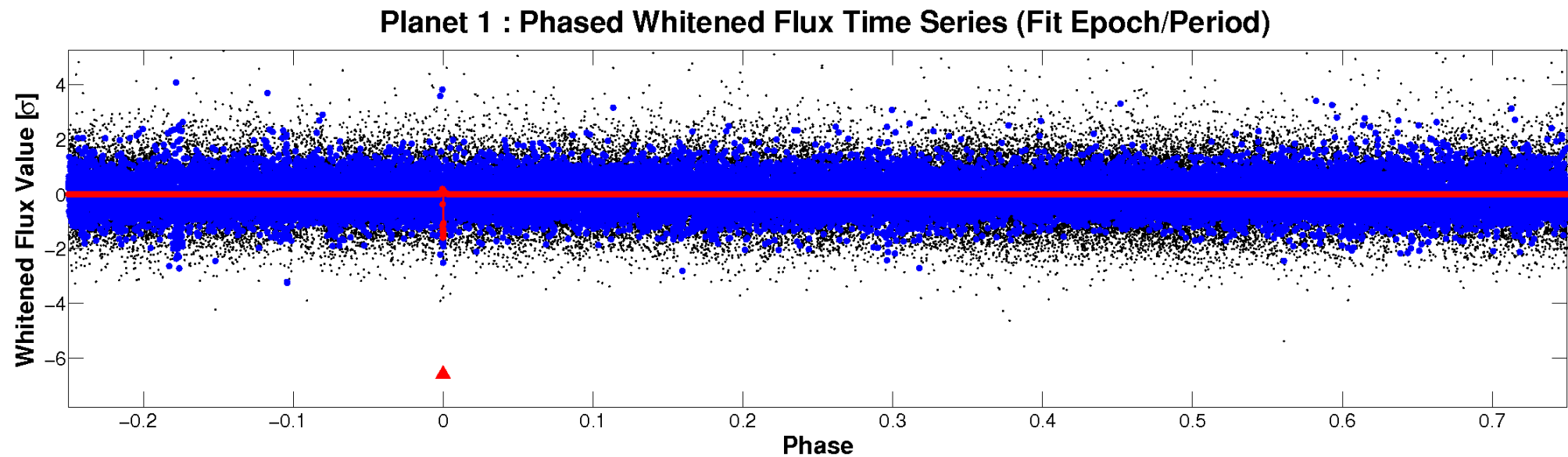
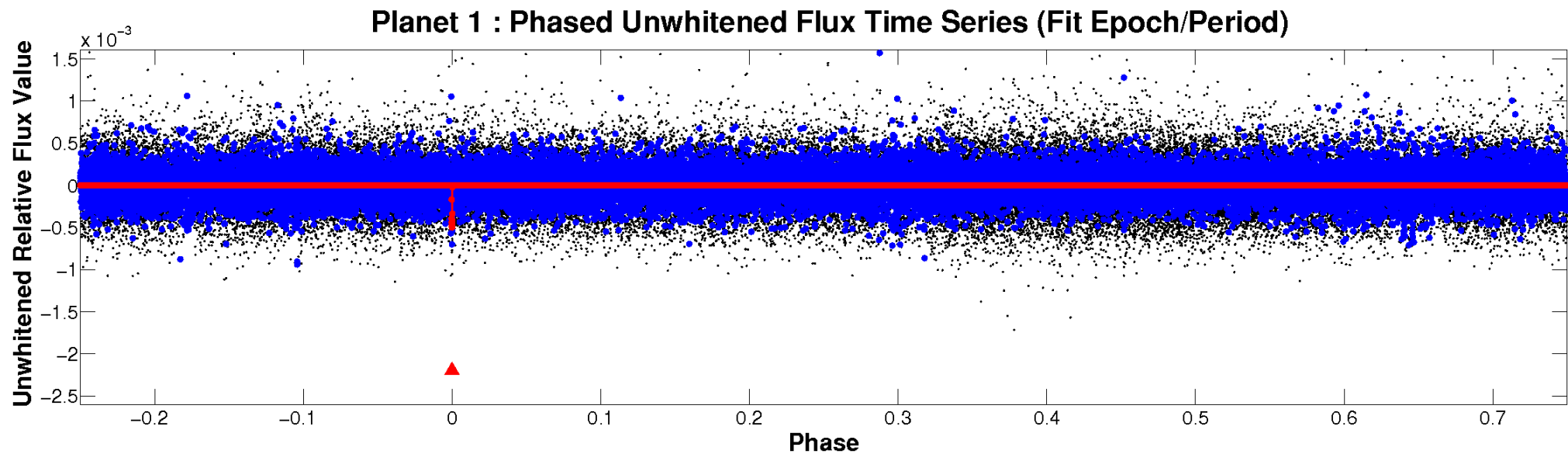


ALT Odd/Even

TCE 007120842-01

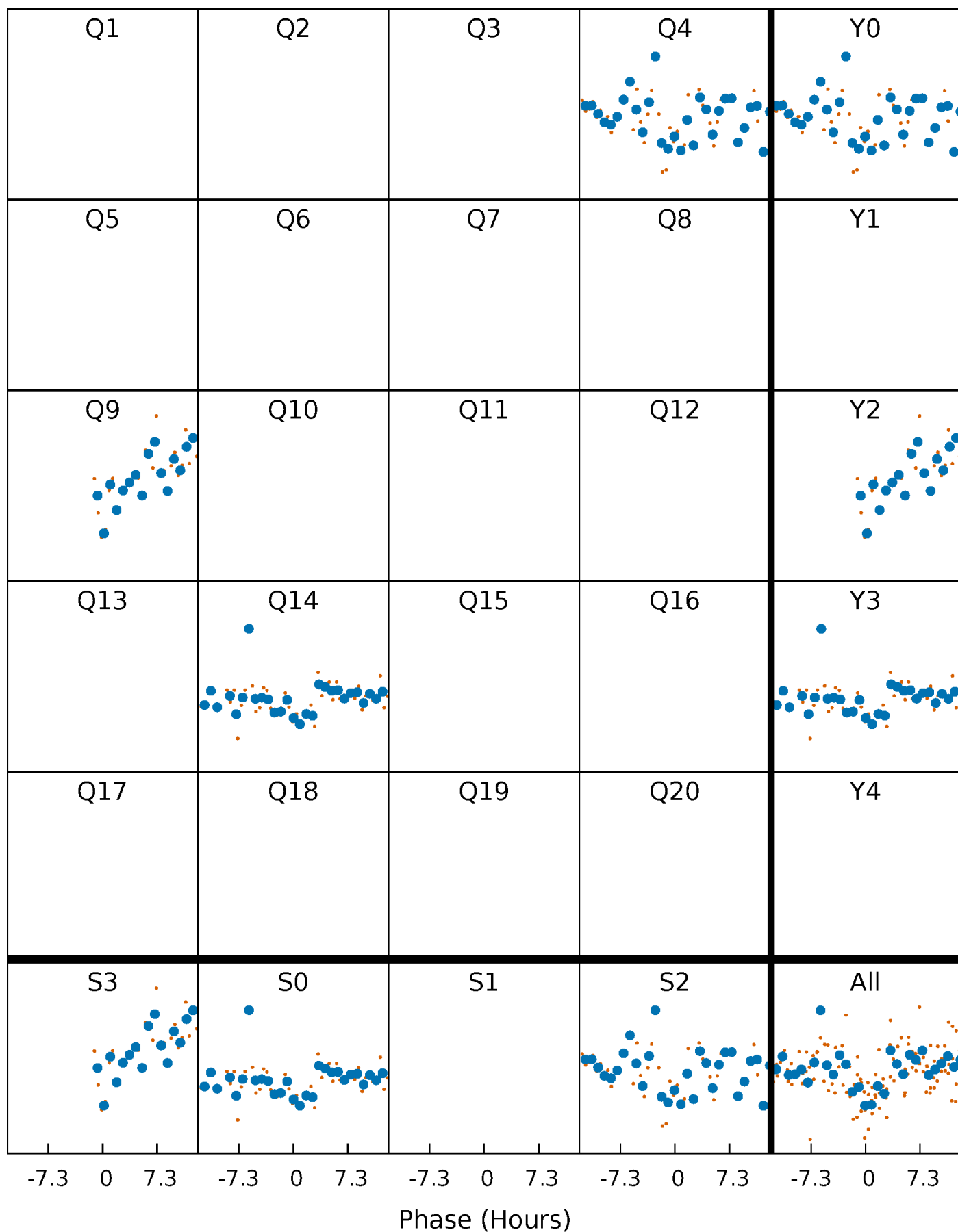


Non-Whitened Vs. Whitened Light Curve



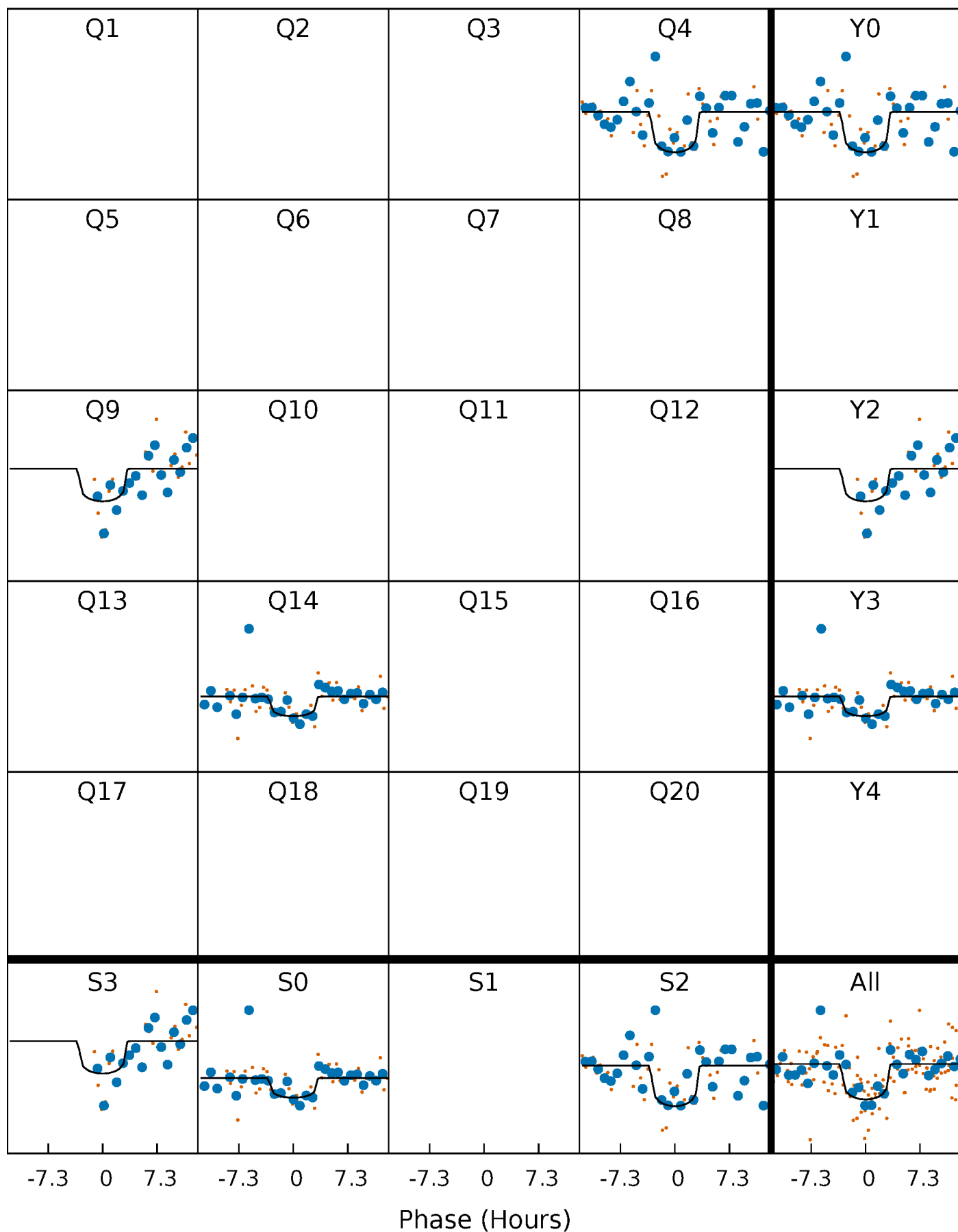
PDC Quarter-Phased Transit Curves

TCE 007120842-01 P=456.017186 Days $T_0=431.604670$ (BKJD)



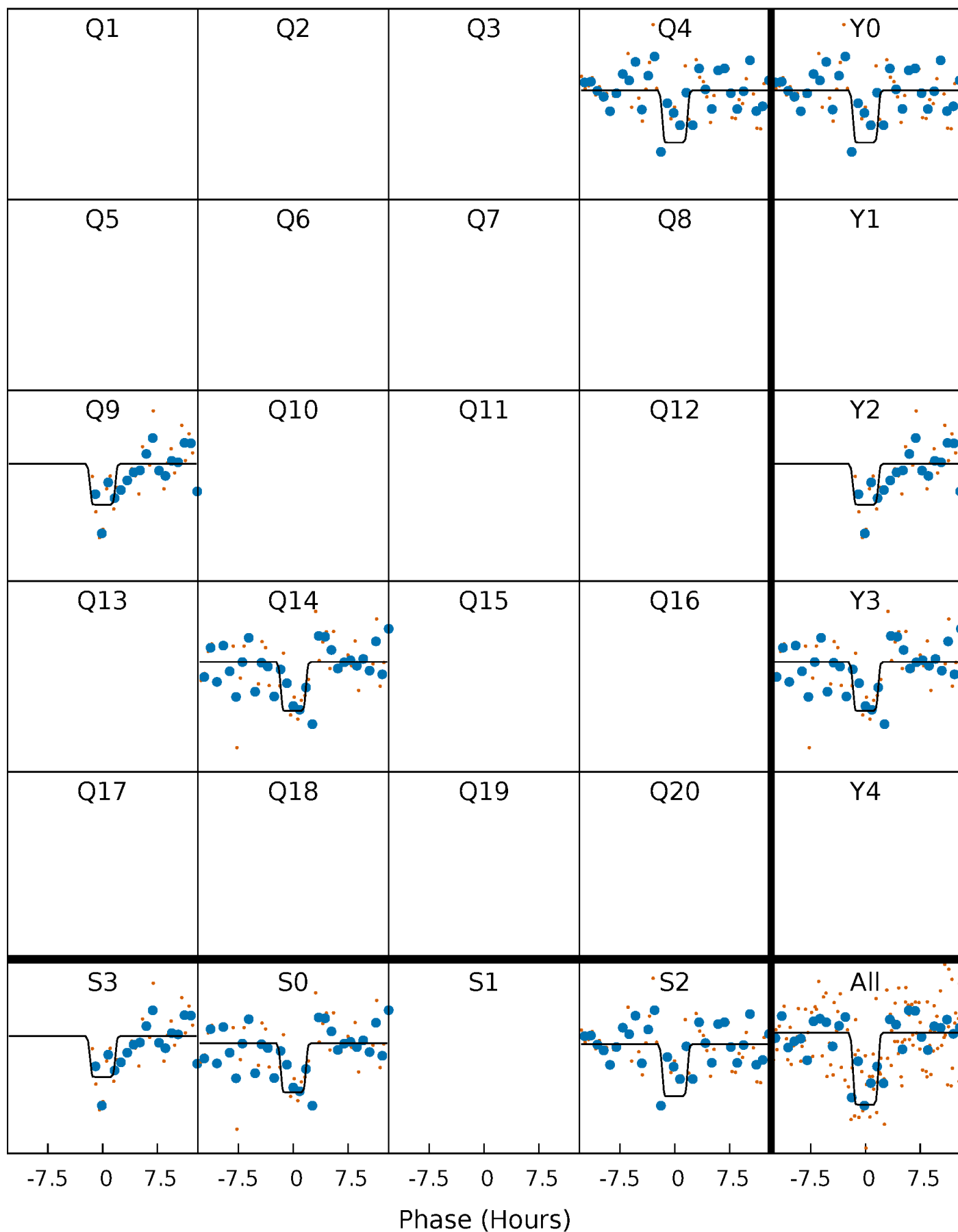
DV Quarter-Phased Transit Curves

TCE 007120842-01 P=456.017186 Days $T_0=431.604670$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

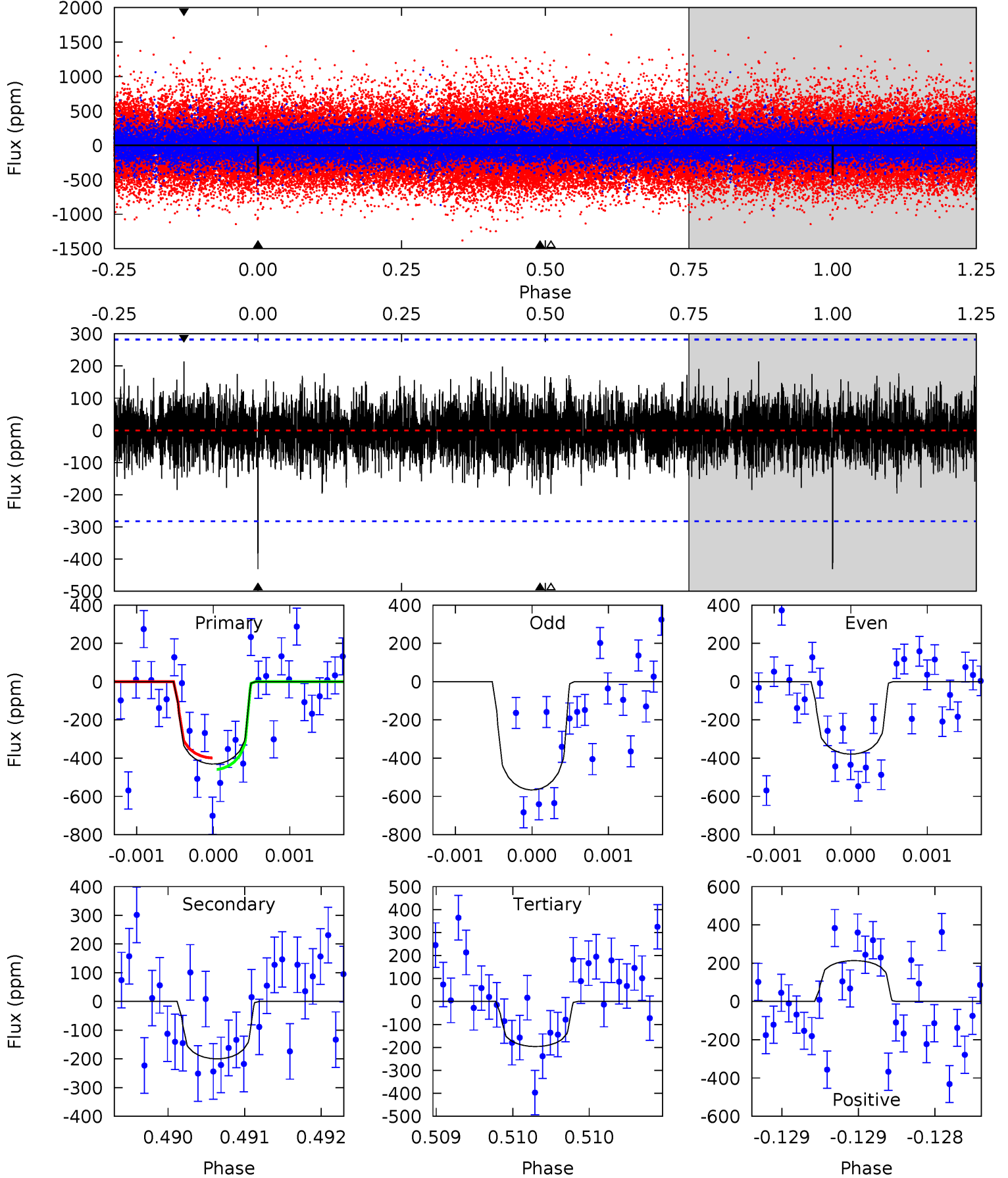
TCE 007120842-01 P=456.015759 Days $T_0=431.619111$ (BKJD)



DV Model-Shift Uniqueness Test

007120842-01, P = 456.017186 Days, E = 431.604670 Days

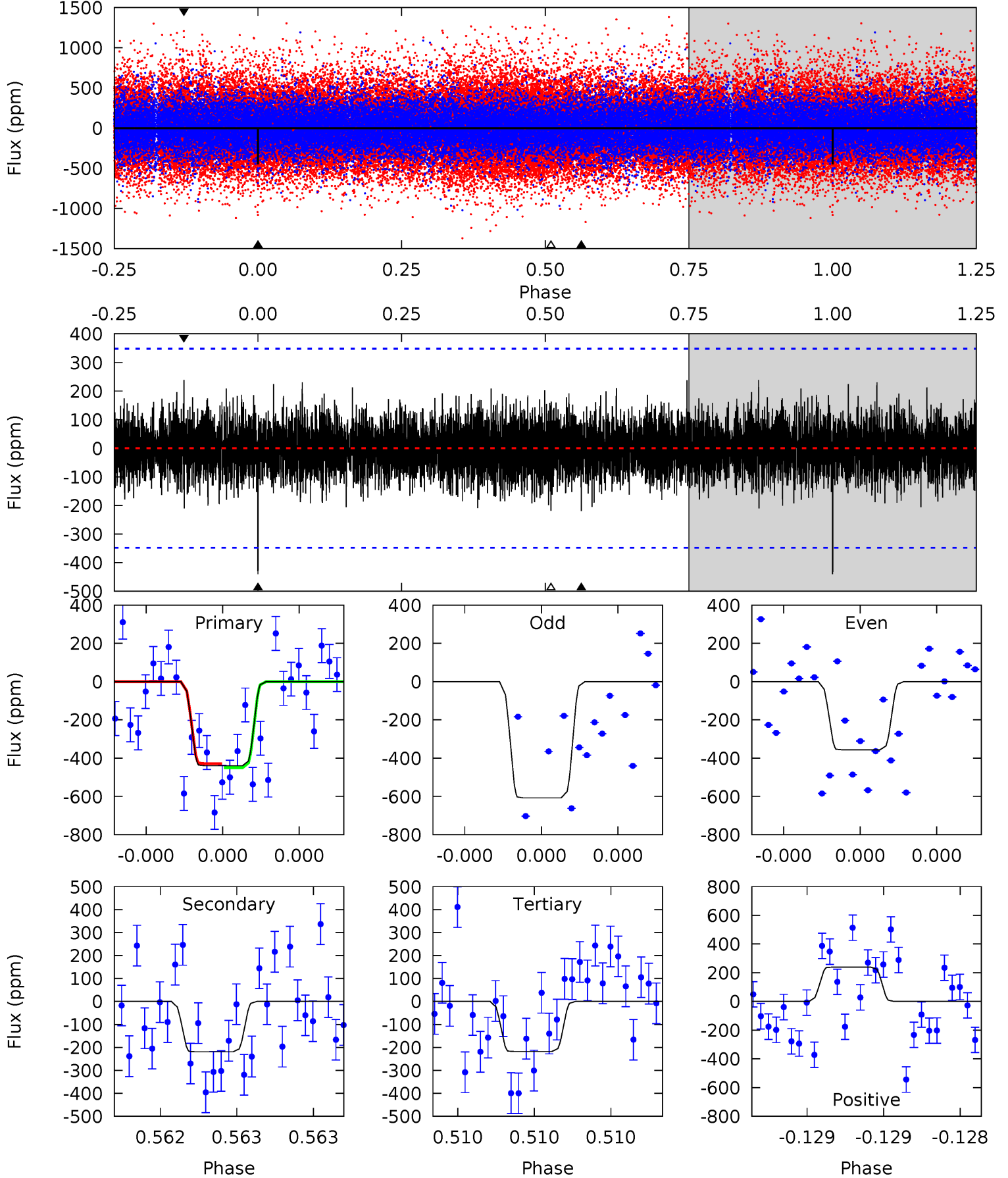
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.45	3.92	3.85	4.19	5.54	3.42	1.08	4.60	4.26	0.07	-0.27	1.67	0.98	0.33	0.58



Alt Model-Shift Uniqueness Test

007120842-01, P = 456.015759 Days, E = 431.619111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.10	3.54	3.52	3.86	5.62	3.55	0.98	3.58	3.24	0.02	-0.32	1.96	1.04	0.35	0.17



Stellar Parameters For KIC 007120842

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6032^{+189}_{-210}	$4.485^{+0.052}_{-0.208}$	$-0.060^{+0.250}_{-0.350}$	$0.973^{+0.300}_{-0.100}$	$1.055^{+0.139}_{-0.139}$	$1.612^{+0.447}_{-0.834}$
	+3%/-3%	+1%/-5%	+417%/-583%	+31%/-10%	+13%/-13%	+28%/-52%
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 007120842-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-200 ± 51	$3.28^{+2.72}_{-2.07}$	346^{+25}_{-19}	4351^{+2480}_{-815}	13218^{+82383}_{-9160}
Alt.	-219 ± 62	$3.41^{+2.58}_{-2.02}$	344^{+25}_{-18}	4343^{+2347}_{-756}	14056^{+70031}_{-9802}

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 $A_{obs} \gg 1.0$

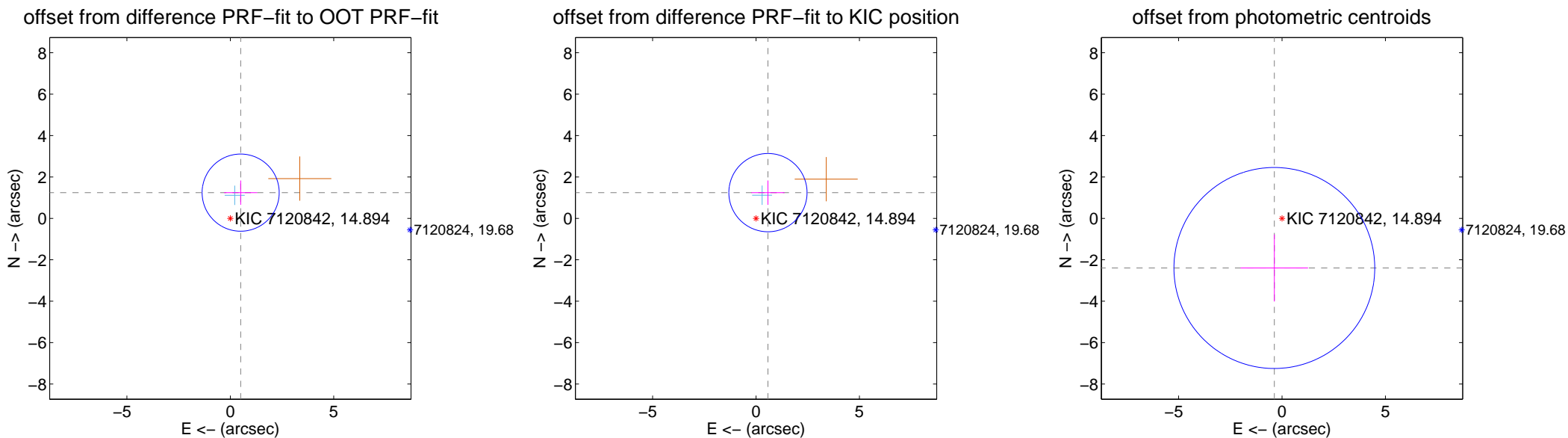
DV Centroid Data

Supplemental centroid analysis for 007120842-01. Kepler magnitude: 14.89. Transit SNR 7.96

There are 1 quarters with good PRF difference image offsets

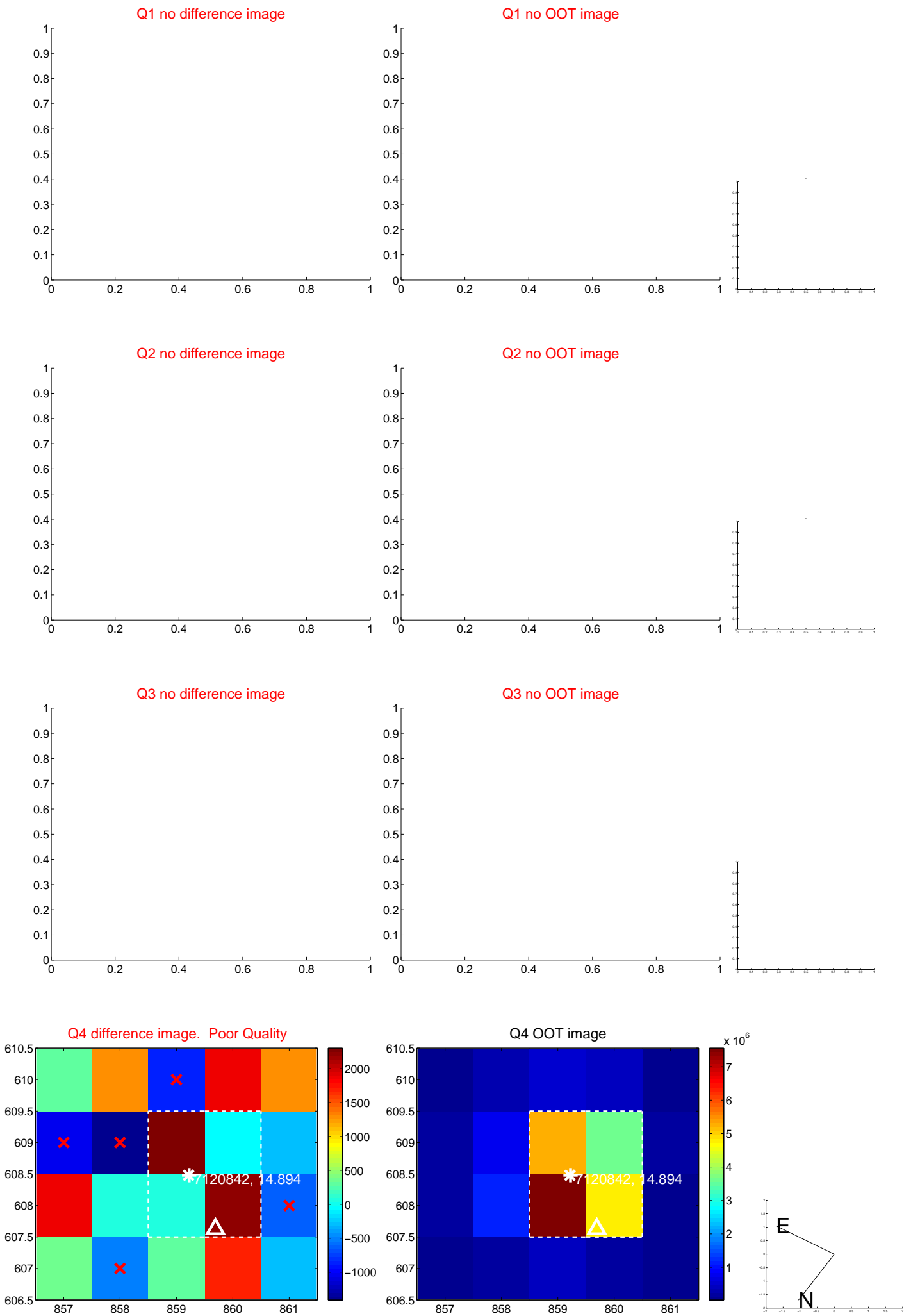
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.341 ± 0.621	2.16	-0.500 ± 0.801	1.244 ± 0.587
PRF-fit source offset from KIC position	1.371 ± 0.630	2.18	-0.577 ± 0.801	1.244 ± 0.587
photometric centroid source offset	2.42 ± 1.62	1.50	0.37 ± 1.63	-2.40 ± 1.62

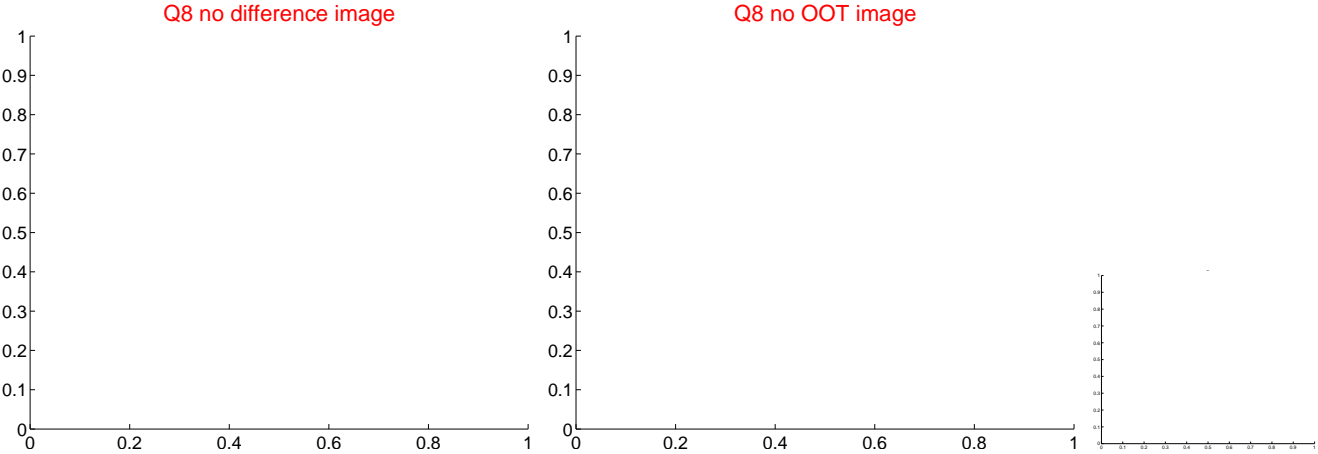


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



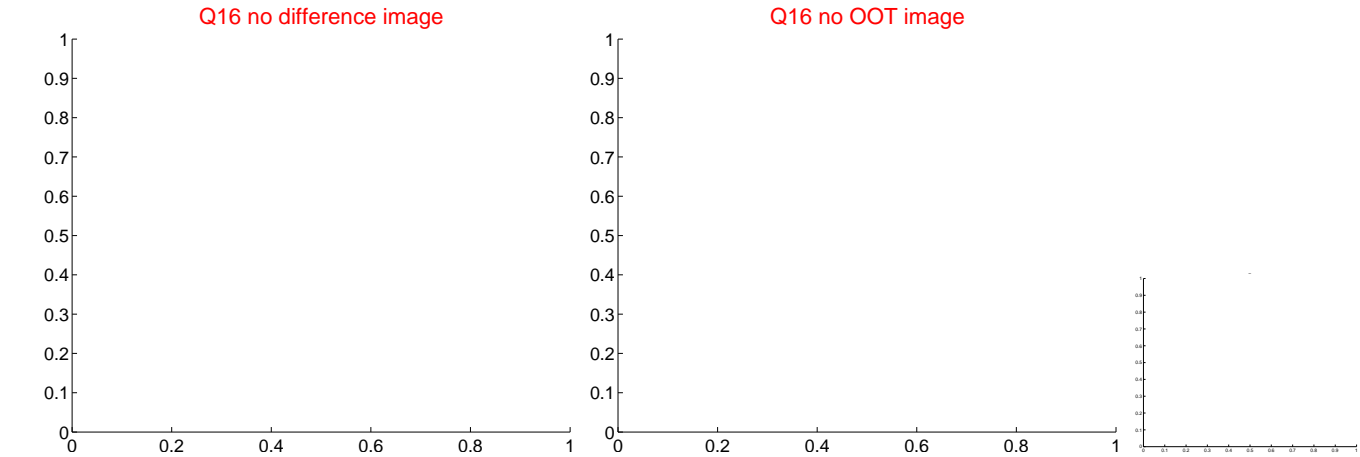
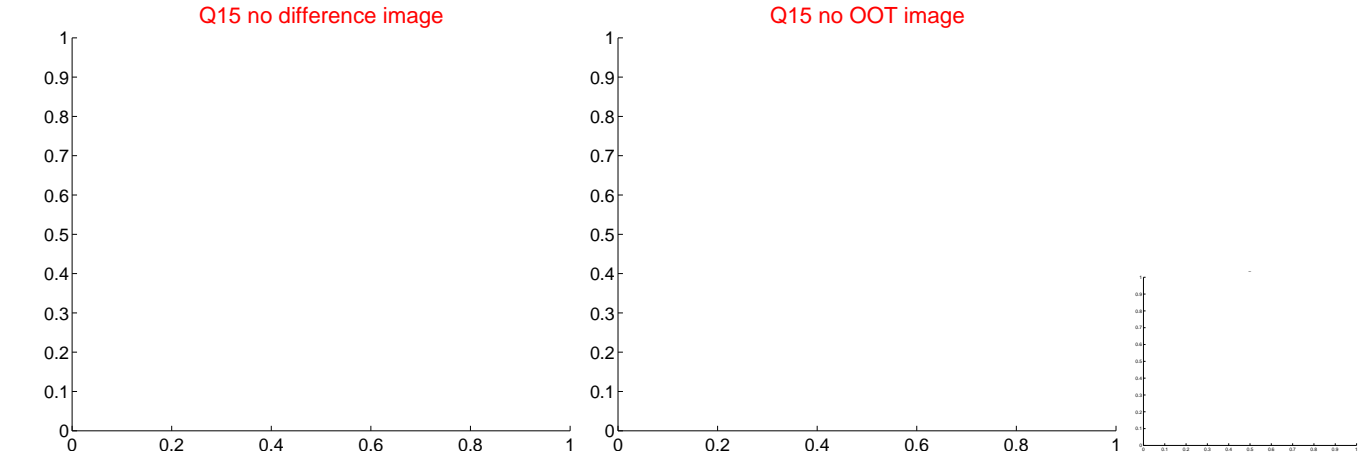
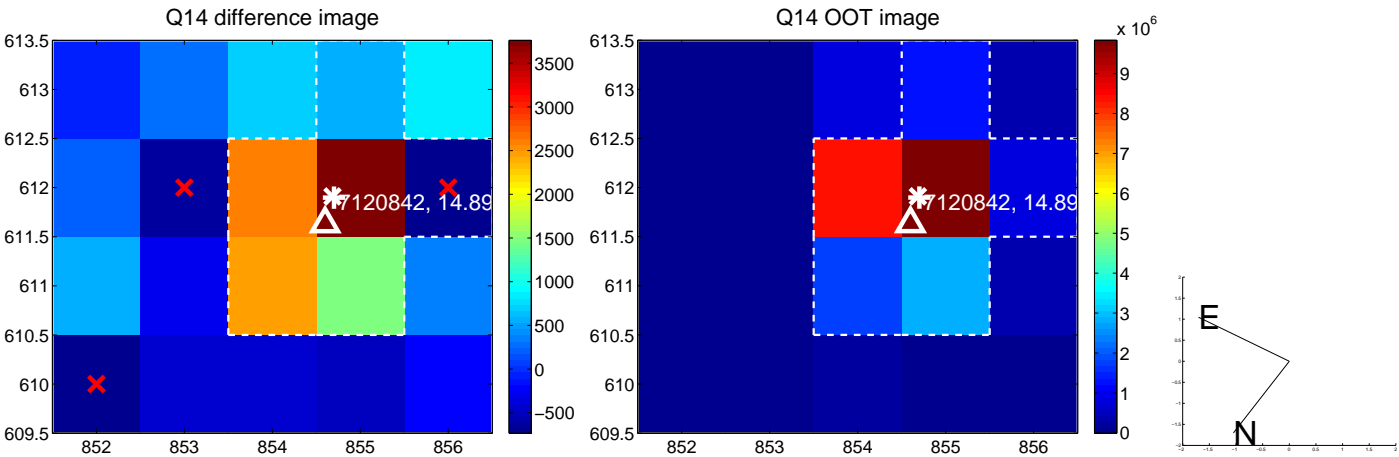
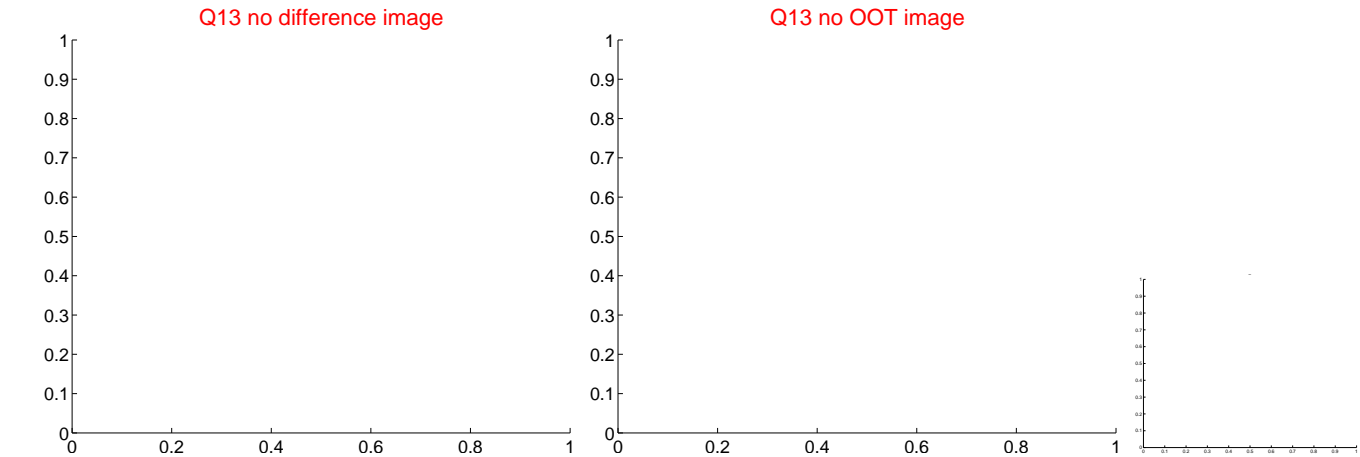
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



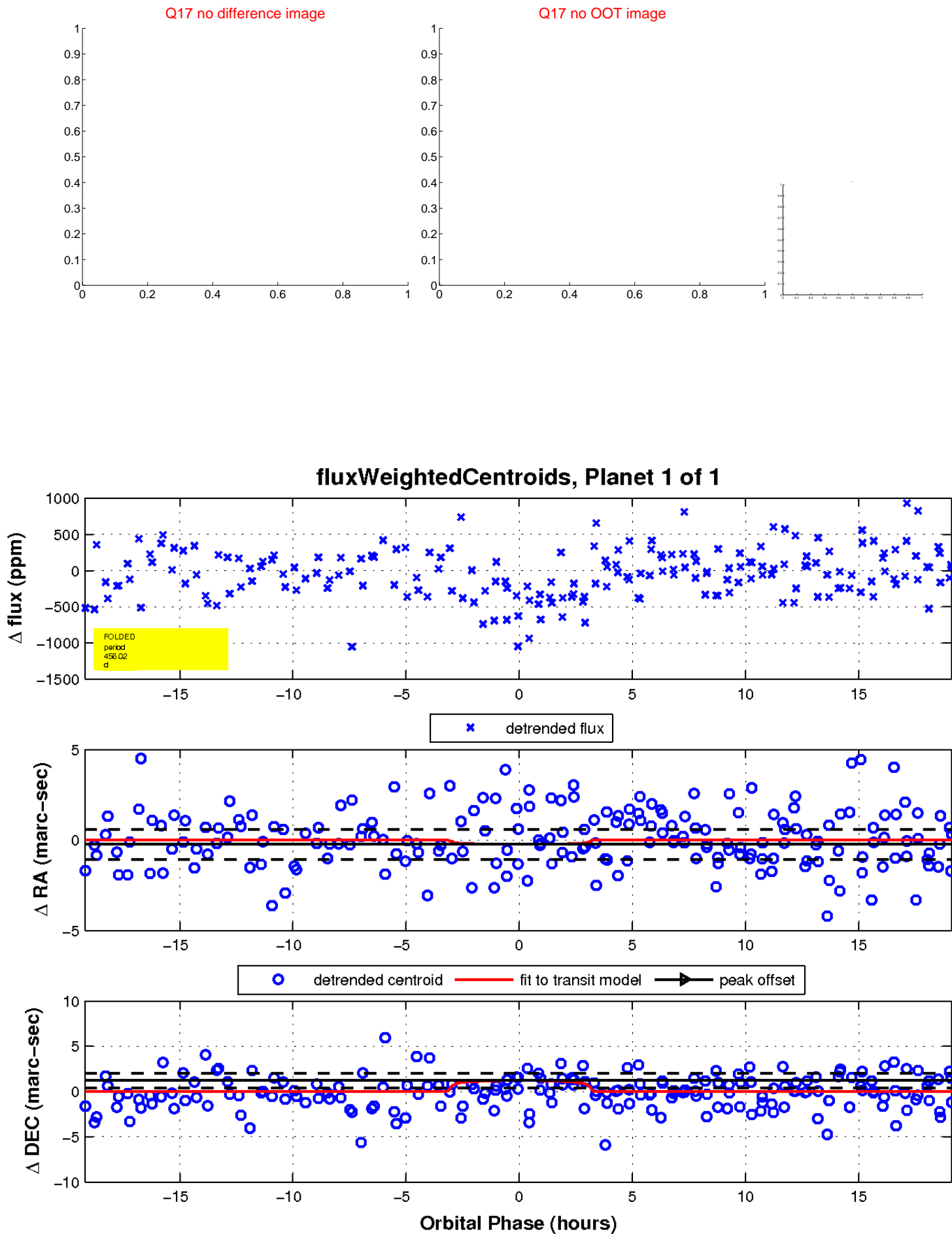
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UKIRT Image

Declination

