

KIC 008012842

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})
008012842-01	OBS	No	476.881778	510.610437	163.4	18.779	13.2	12.3	1.30	5771	1.75	1.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008012842-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

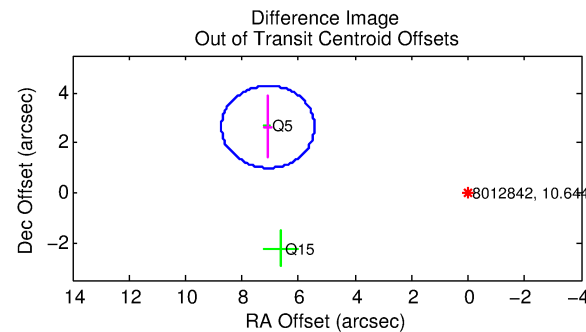
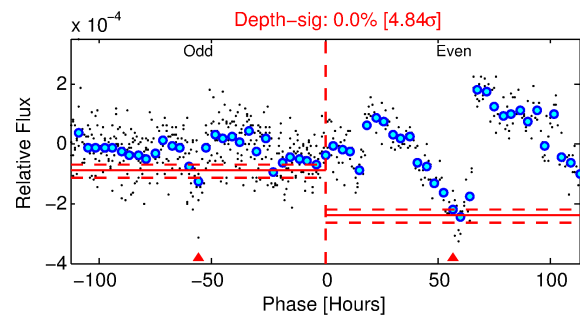
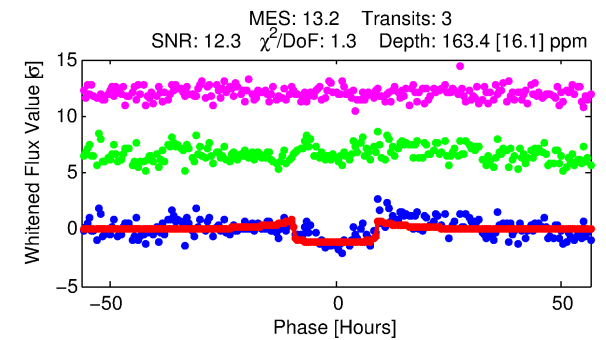
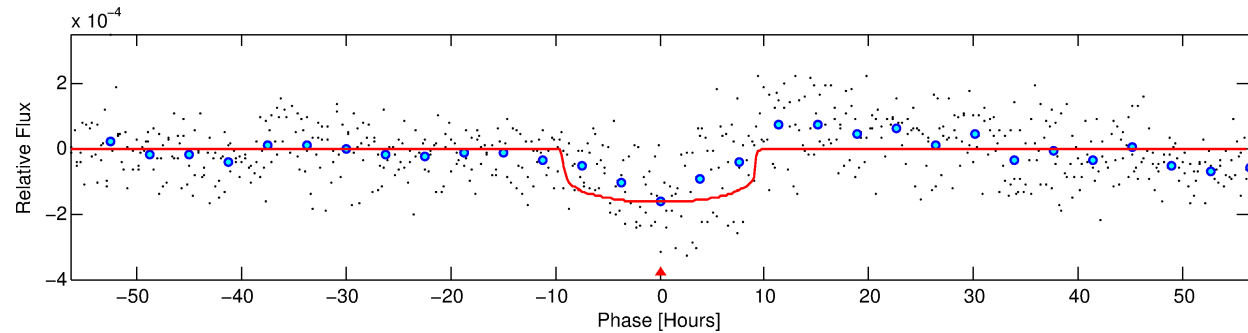
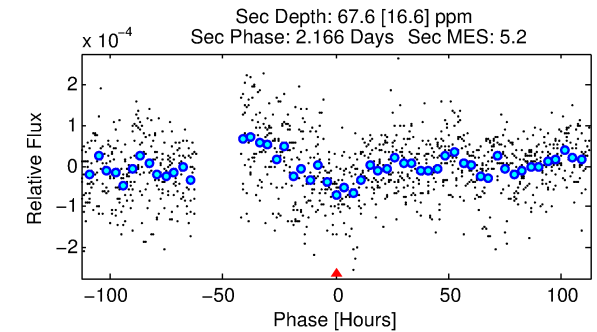
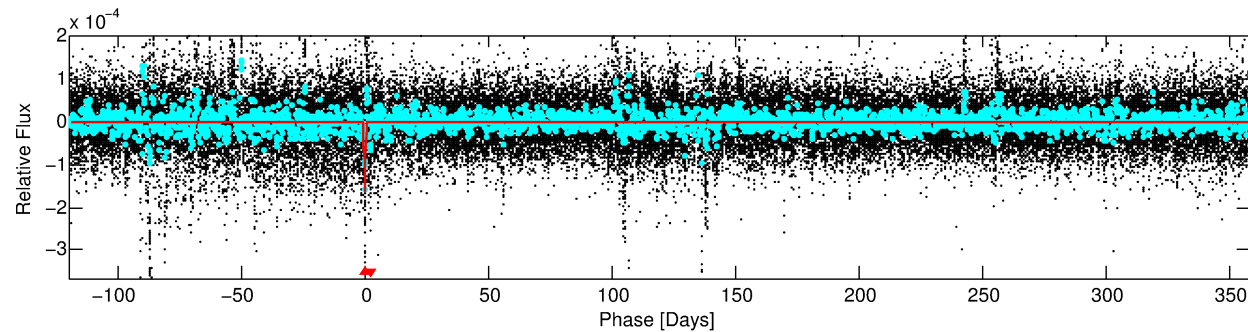
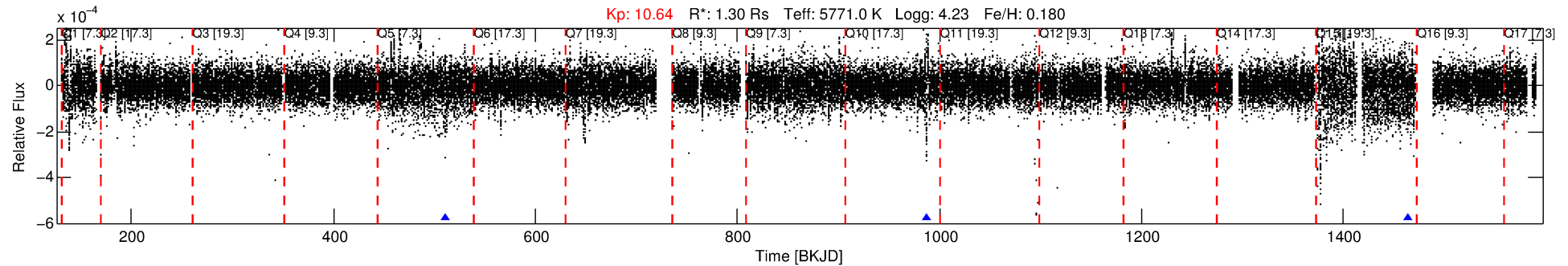
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008012842-01

No Significant Match Found

DV One-Page Summary

KIC: 8012842 Candidate: 1 of 1 Period: 476.882 d



DV Fit Results:

Period = 476.88178 [0.01037] d
Epoch = 510.6104 [0.0122] BKJD
Rp/R* = 0.0123 [0.0036]
a/R* = 153.44 [193.72]
b = 0.63 [1.21]
Seff = 1.15 [0.09]
Teq = 264 [5] K
Rp = 1.74 [0.53] Re
a = 1.2138 [0.0487] AU
Ag = 17998.18 [11622.97] [1.55σ]
Teff = 4726 [763] K [5.85σ]

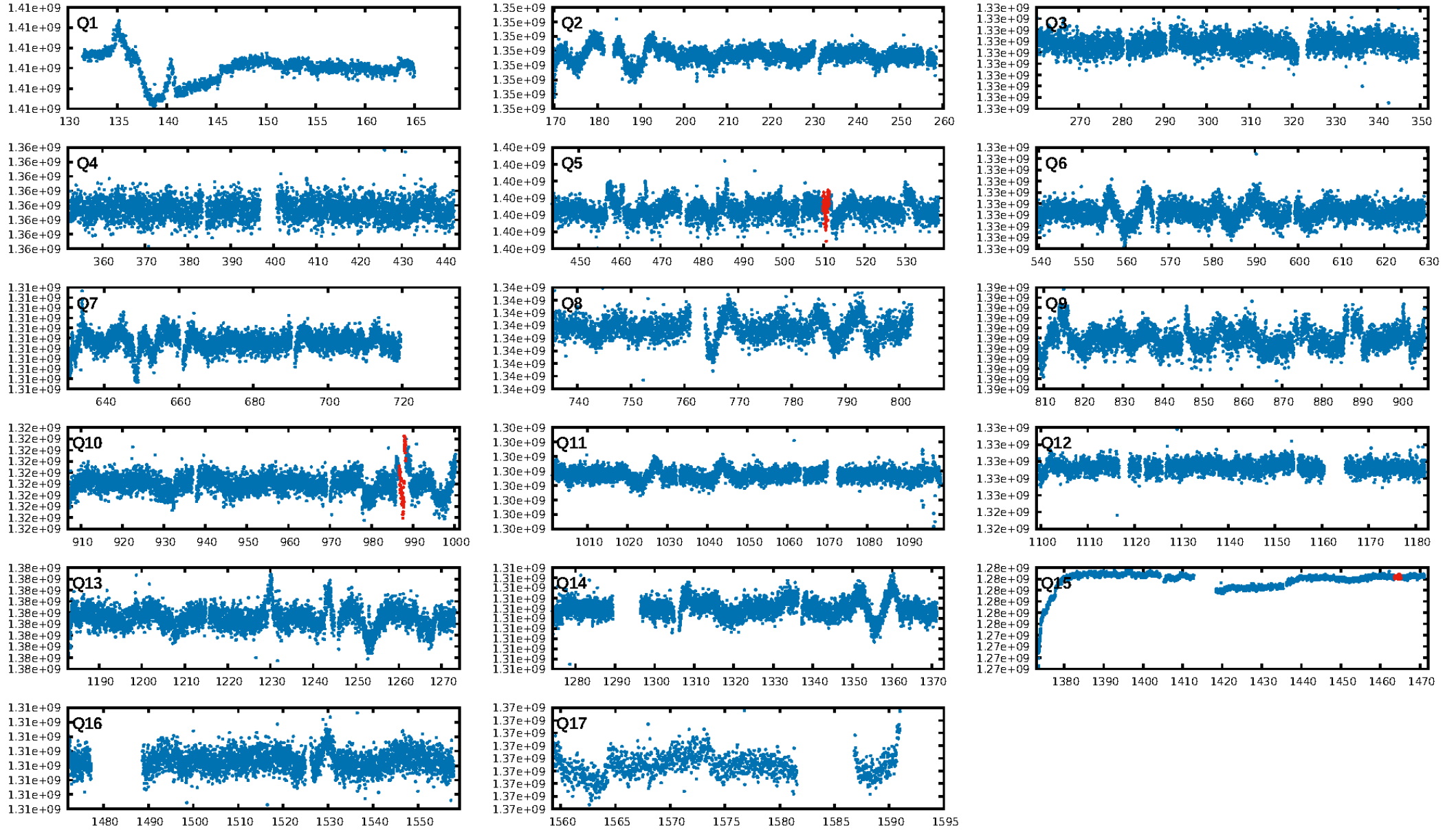
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 71.7%
Bootstrap-pfa: 4.63e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -2.267
Centroid-sig: 86.3%
Centroid-so: 0.458 arcsec [0.62σ]
OotOffset-rm: 7.558 arcsec [13.79σ]
KicOffset-rm: 8.541 arcsec [8.40σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

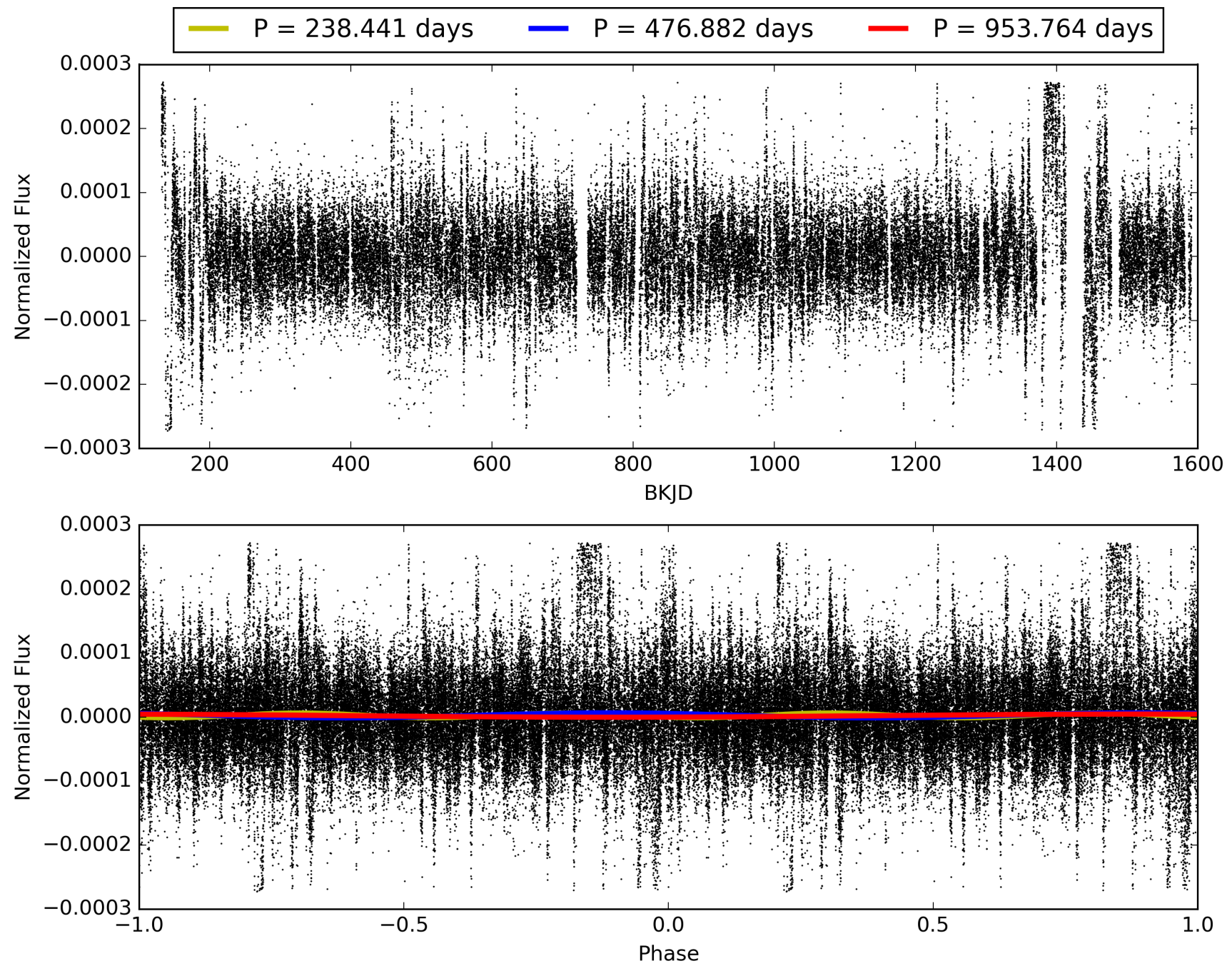
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:05:30 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008012842-01, PDC Light Curves

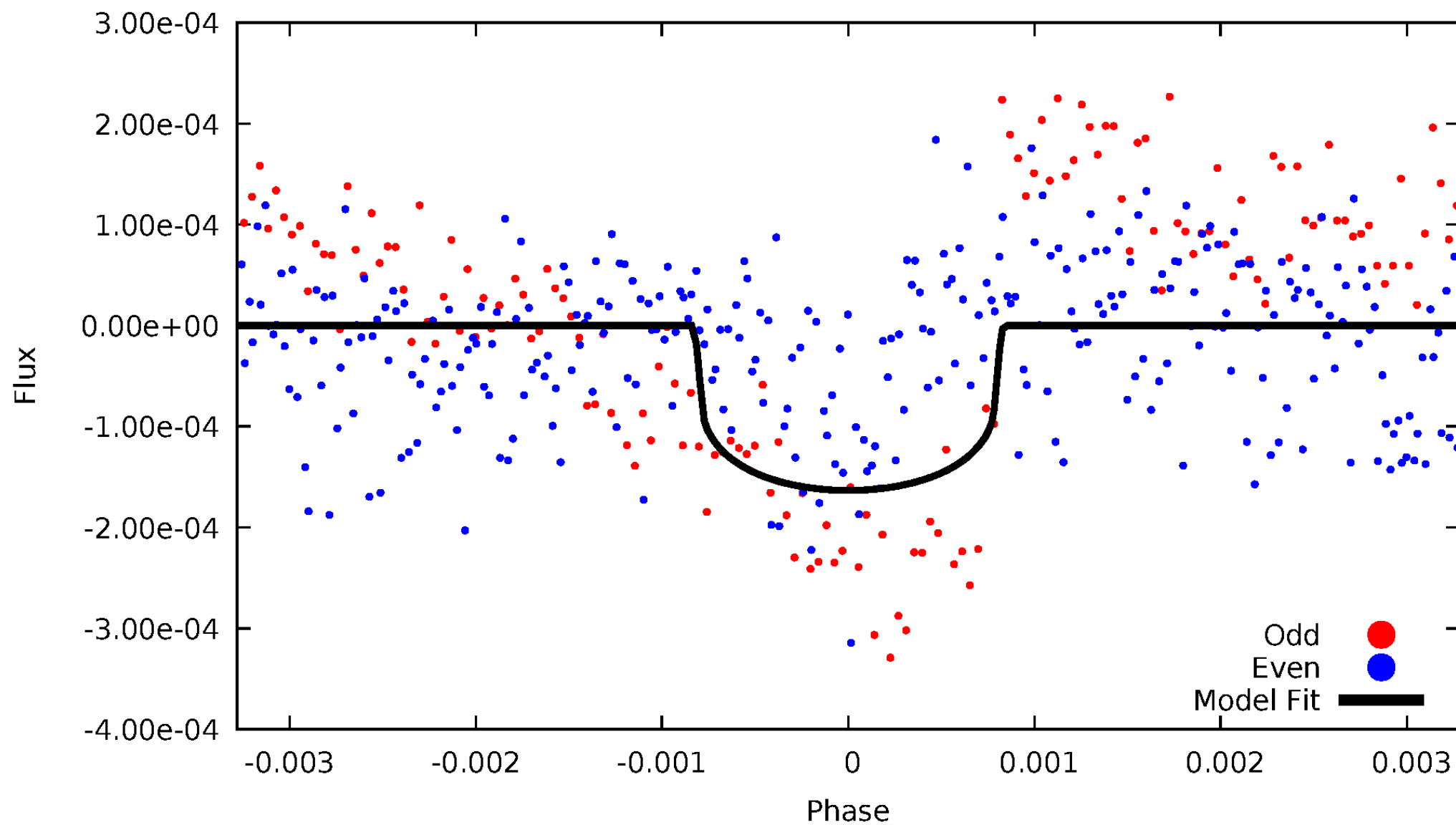


TCE 008012842-01



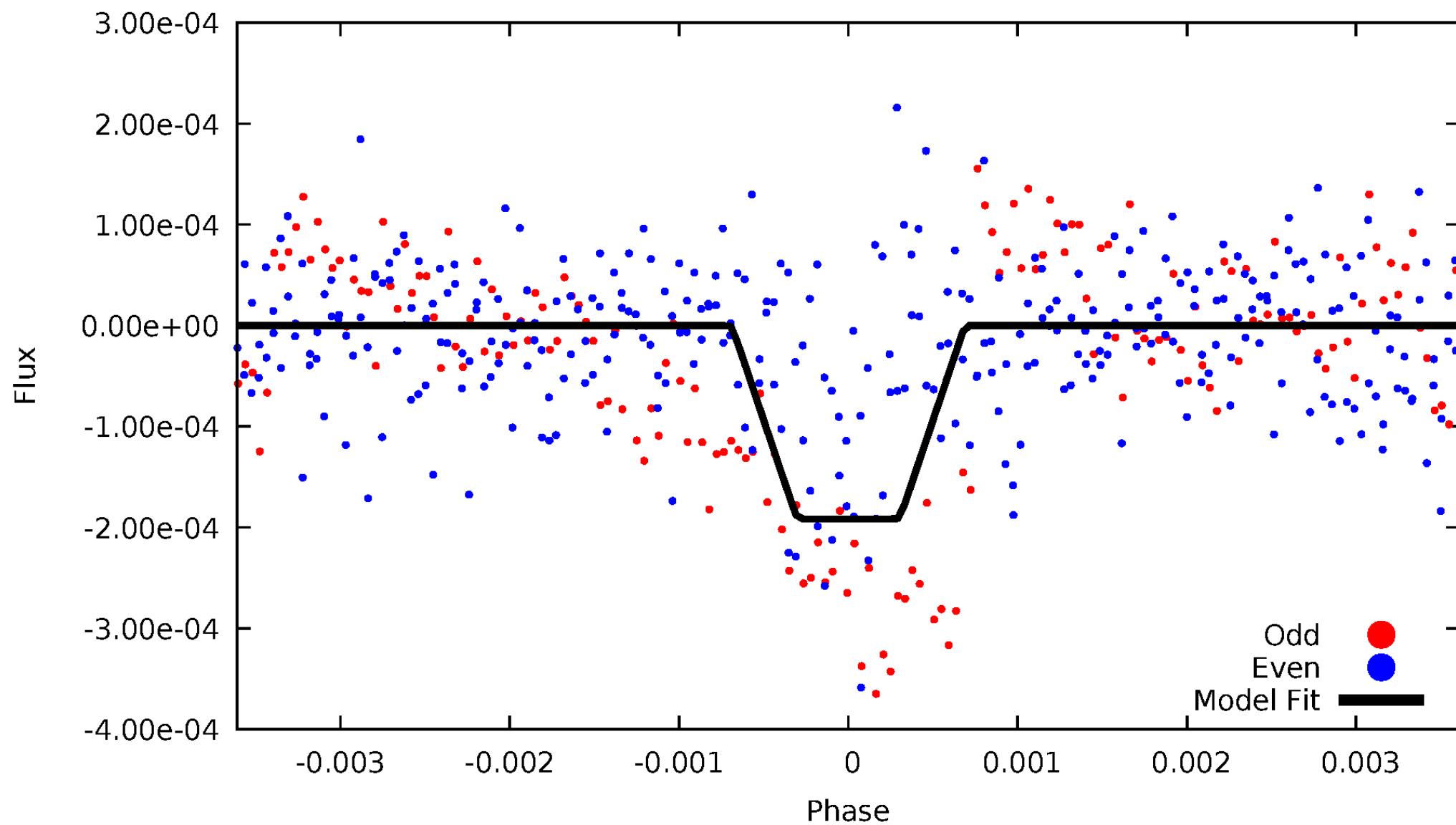
DV Odd/Even

TCE 008012842-01



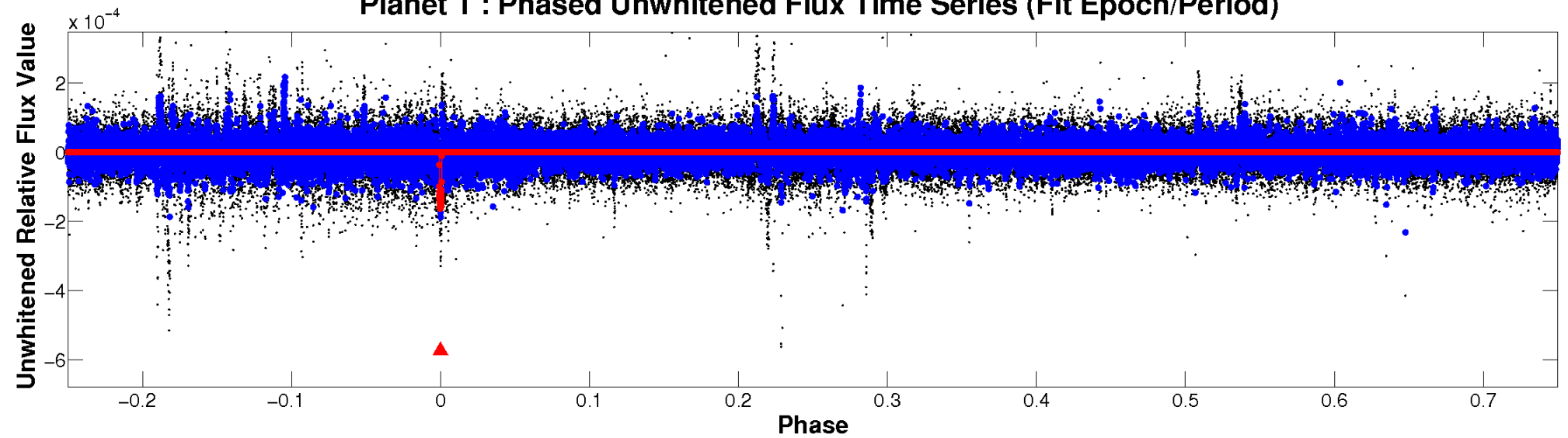
ALT Odd/Even

TCE 008012842-01

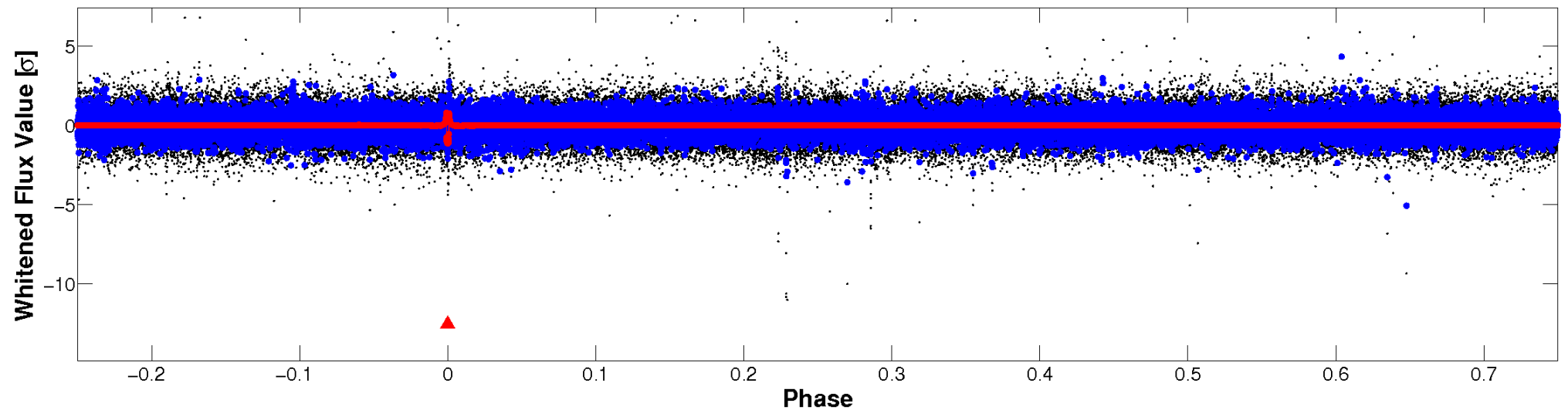


Non-Whitened Vs. Whitened Light Curve

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



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



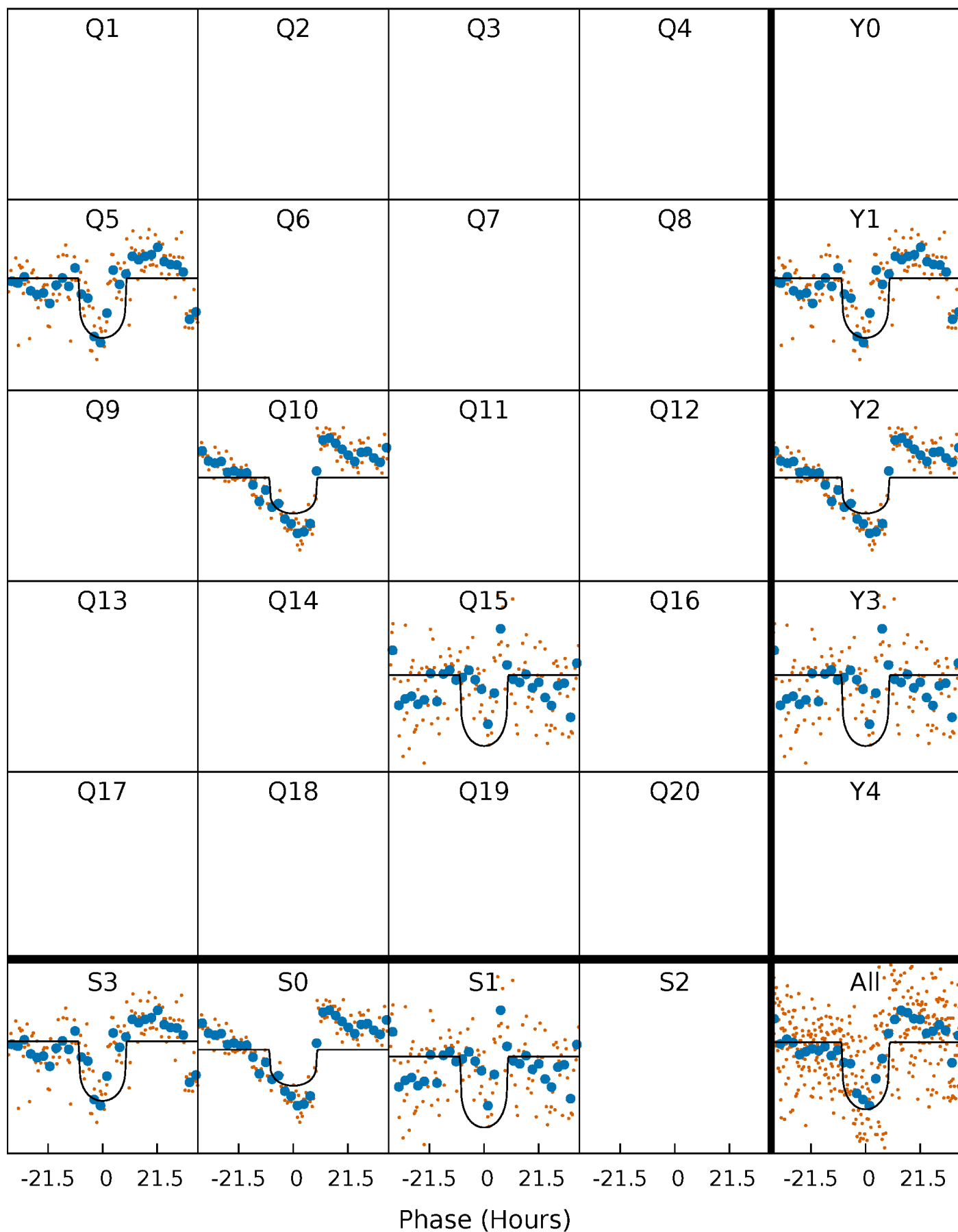
PDC Quarter-Phased Transit Curves

TCE 008012842-01 P=476.881778 Days $T_0=510.610437$ (BKJD)



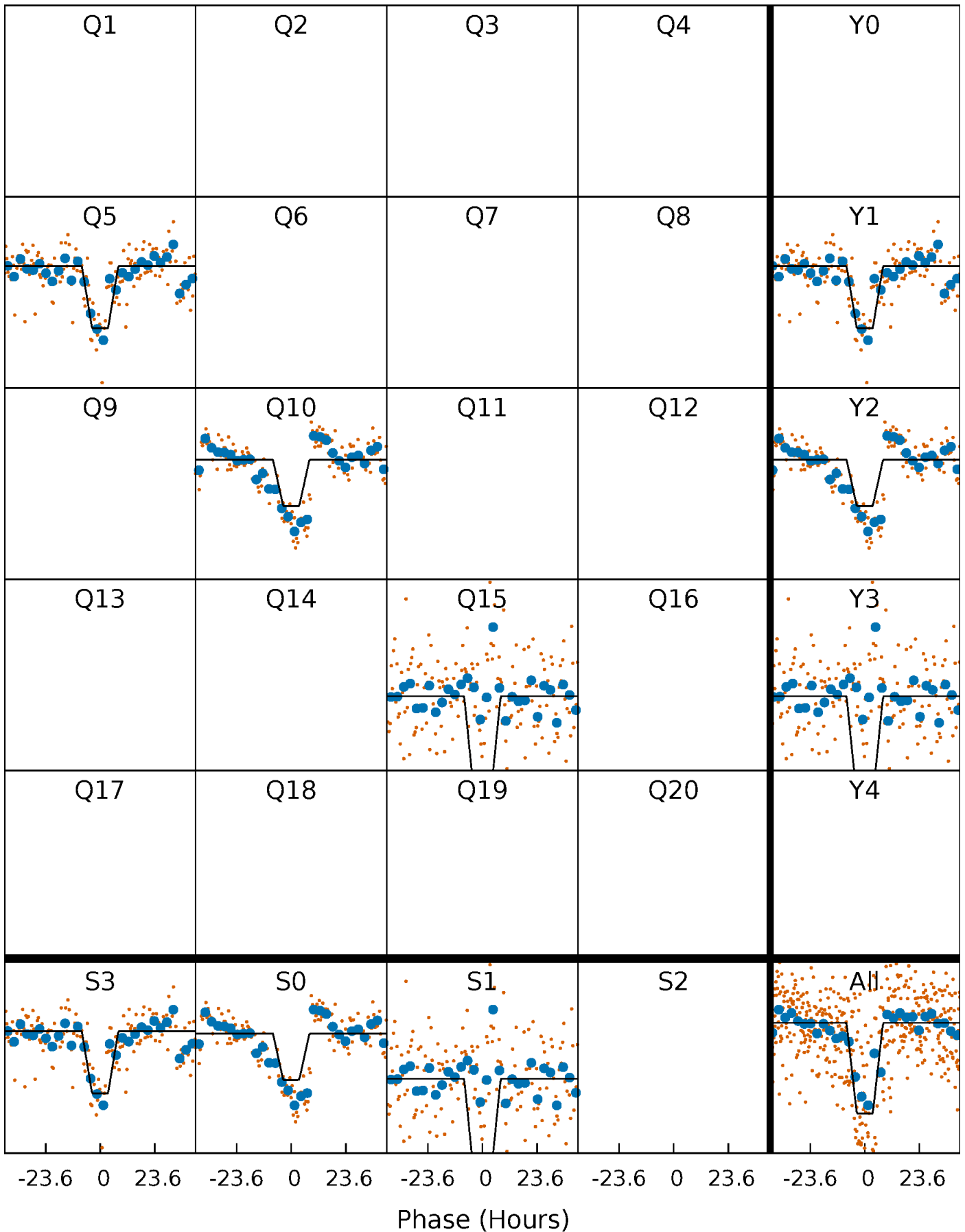
DV Quarter-Phased Transit Curves

TCE 008012842-01 P=476.881778 Days $T_0=510.610437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

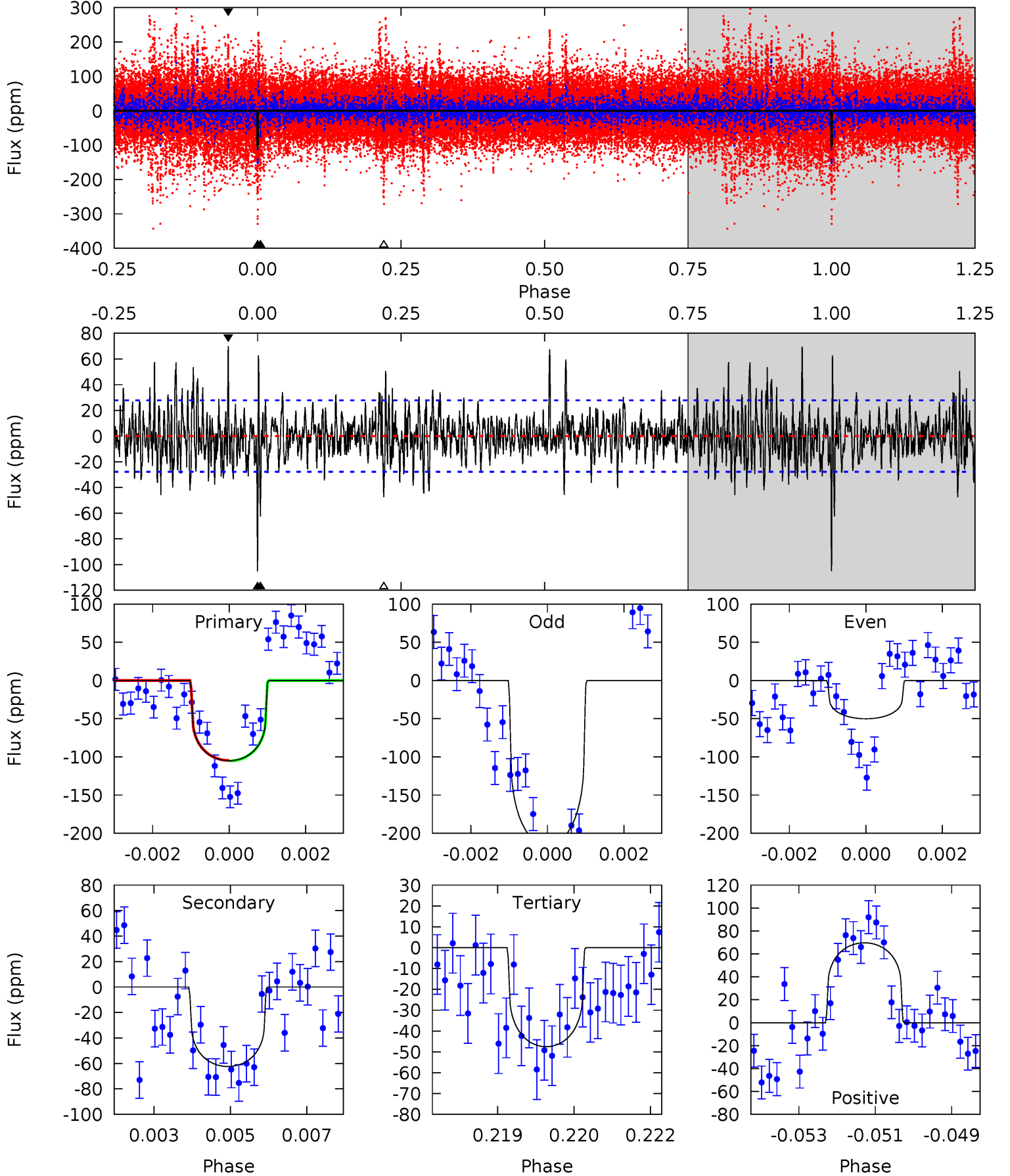
TCE 008012842-01 P=476.939724 Days $T_0=510.581578$ (BKJD)



DV Model-Shift Uniqueness Test

008012842-01, $P = 476.881778$ Days, $E = 33.728659$ Days

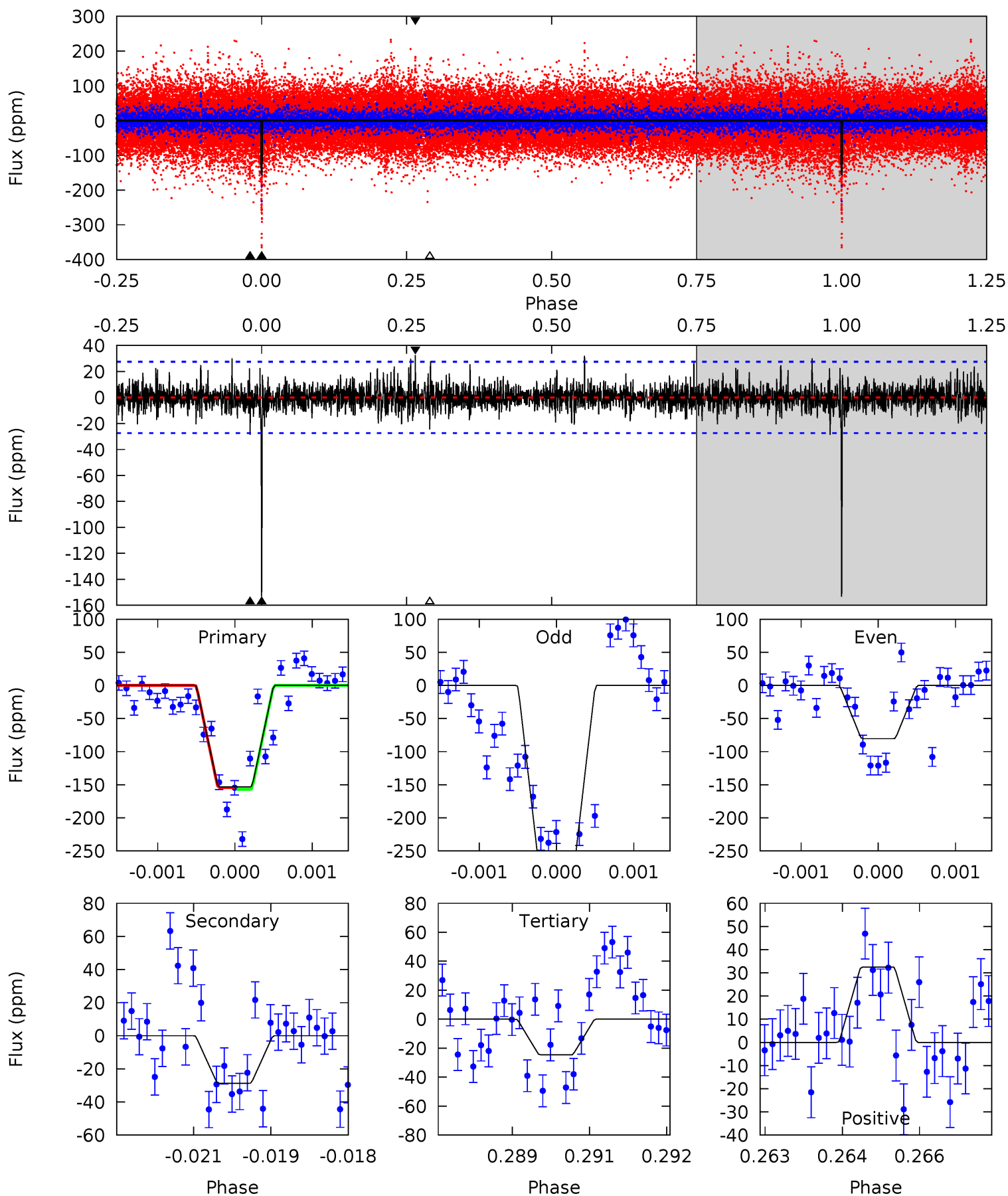
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.2	12.0	9.16	13.4	5.36	3.15	2.78	11.1	6.82	2.86	-1.41	15.2	1.28	0.40	0.07



Alt Model-Shift Uniqueness Test

008012842-01, $P = 476.939724$ Days, $E = 33.641854$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	5.64	4.83	6.38	5.39	3.20	1.30	25.3	23.7	0.81	-0.74	19.8	0.86	0.17	0.22



Stellar Parameters For KIC 008012842

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5771^{+78}_{-78}	$4.228^{+0.025}_{-0.023}$	$0.180^{+0.150}_{-0.150}$	$1.304^{+0.069}_{-0.055}$	$1.046^{+0.104}_{-0.064}$	$0.665^{+0.057}_{-0.059}$
	+1%/-1%	+1%/-1%	+83%/-83%	+5%/-4%	+10%/-6%	+9%/-9%
Source	SPE72	AST10	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 008012842-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-62 ± 5	$1.73^{+0.57}_{-0.55}$	368^{+7}_{-6}	4785^{+821}_{-522}	17012^{+19498}_{-7365}
Alt.	-29 ± 5	$1.98^{+0.50}_{-0.53}$	369^{+6}_{-6}	3924^{+469}_{-319}	5914^{+5370}_{-2307}

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 $A_{obs} \gg 1.0$

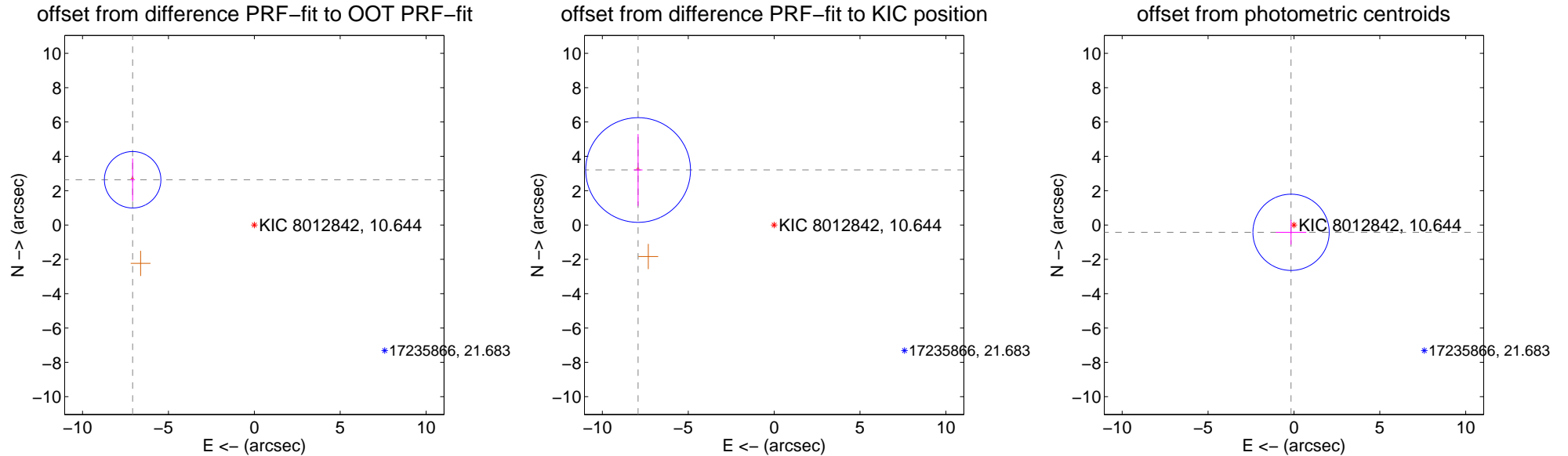
DV Centroid Data

Supplemental centroid analysis for 008012842-01. **Kepler magnitude: 10.64.** Transit SNR 12.27

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.81 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.558 ± 0.548	13.79	7.083 ± 0.137	2.636 ± 1.240
PRF-fit source offset from KIC position	8.541 ± 1.016	8.40	7.918 ± 0.256	3.204 ± 2.093
photometric centroid source offset	0.46 ± 0.74	0.62	0.17 ± 0.89	-0.43 ± 0.71

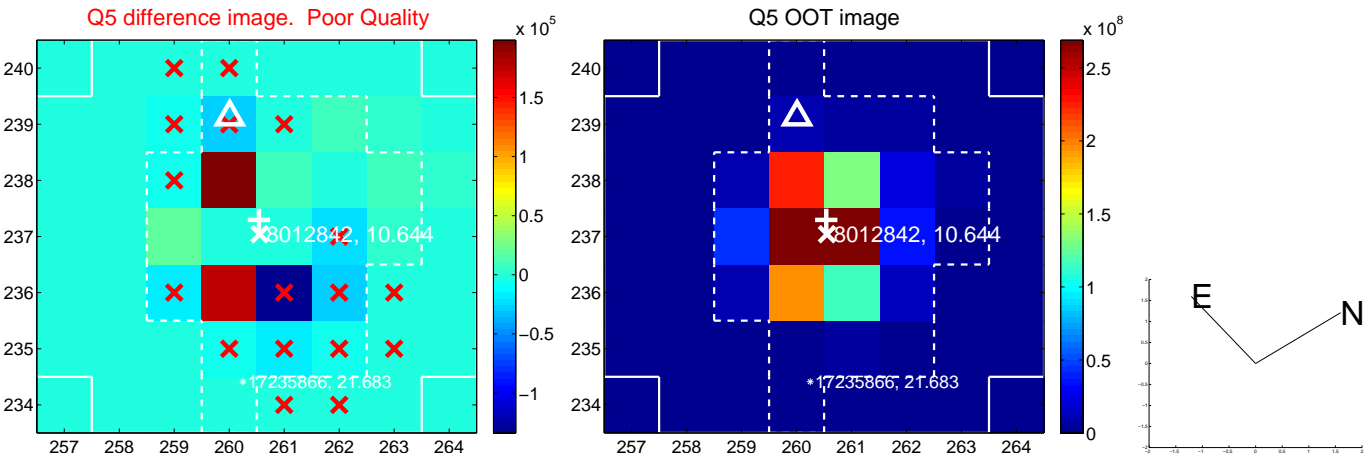


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

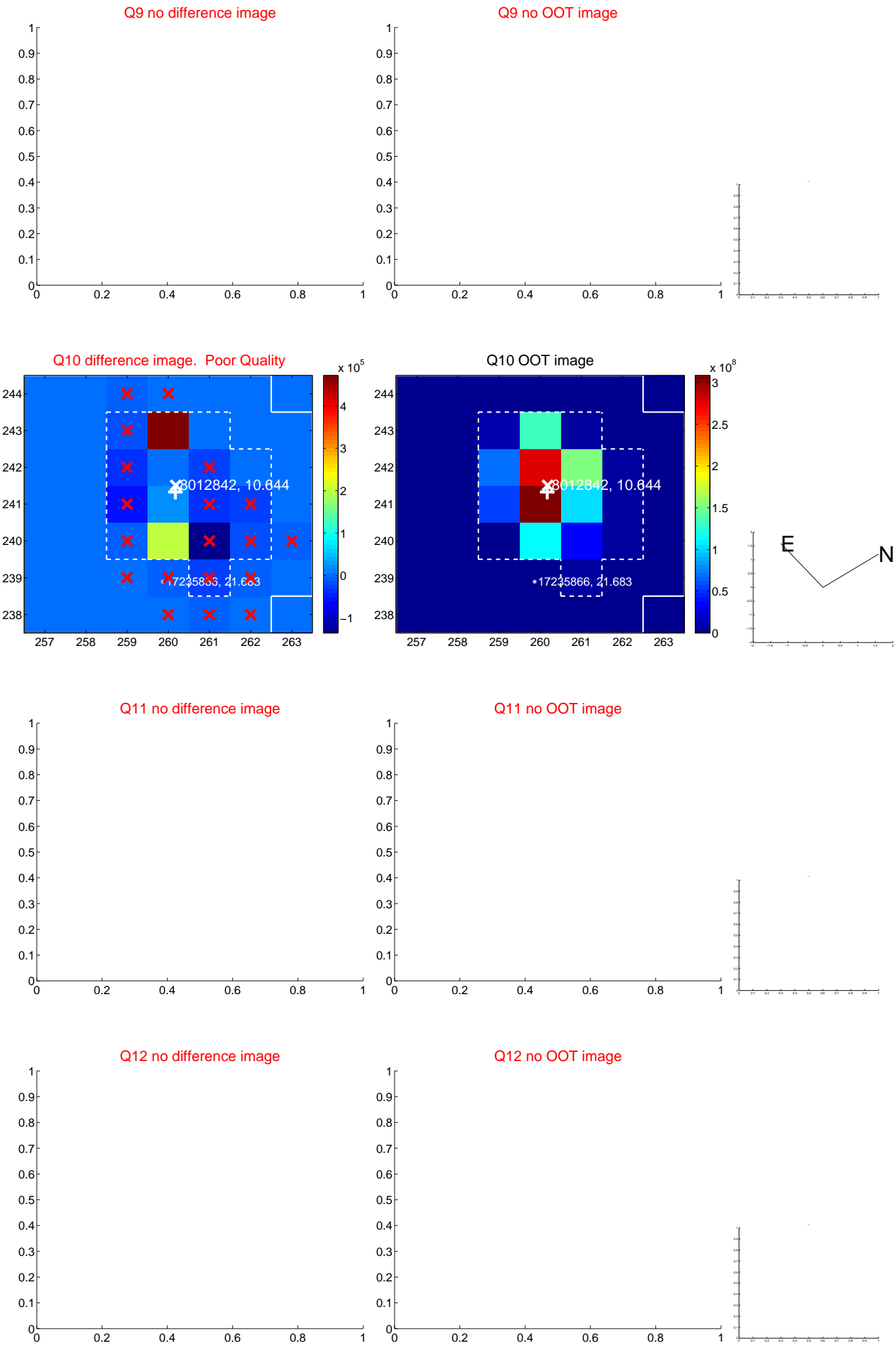
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



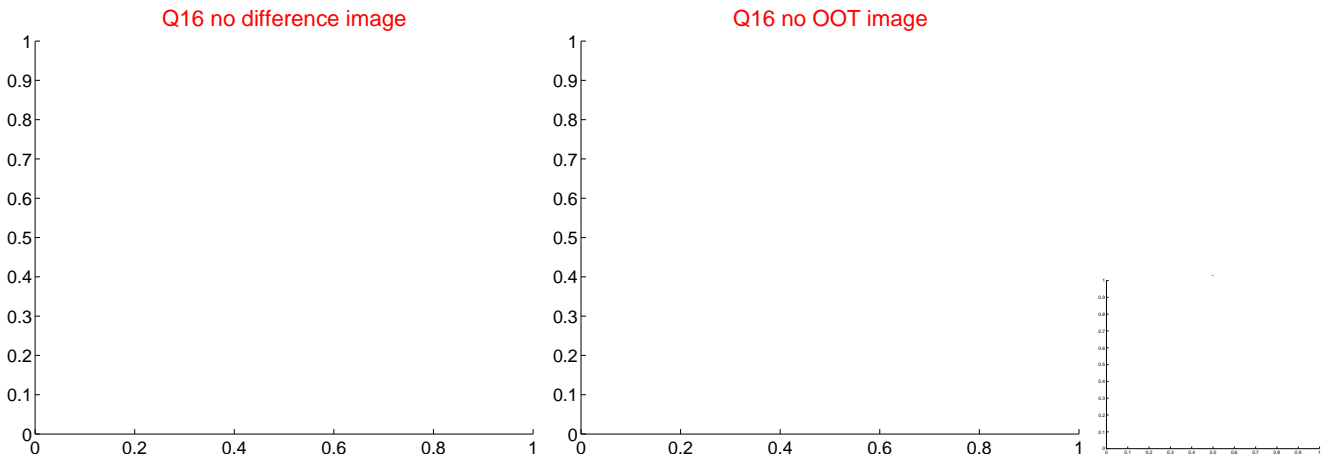
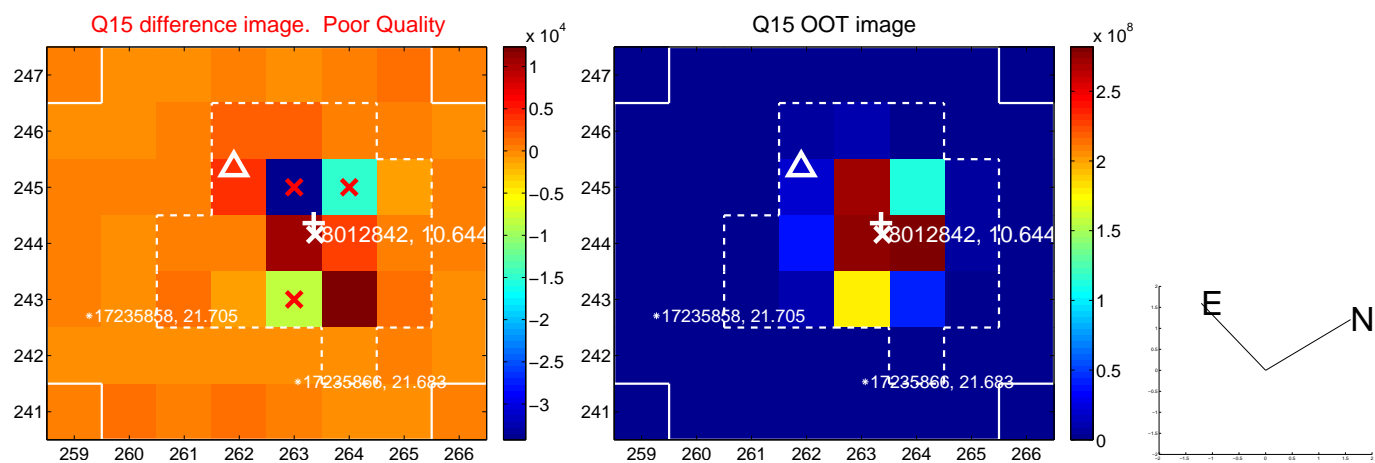
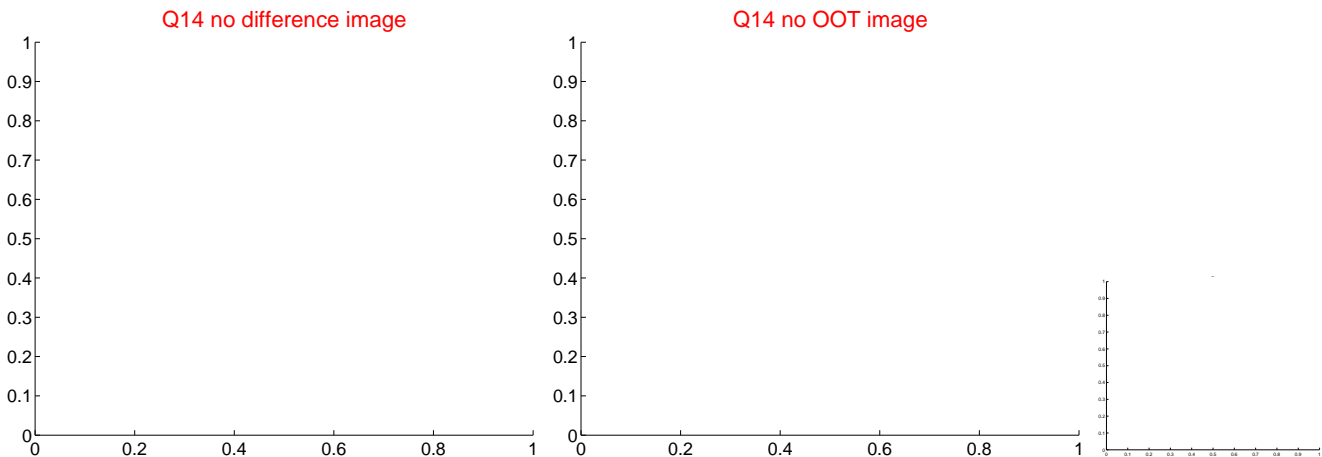
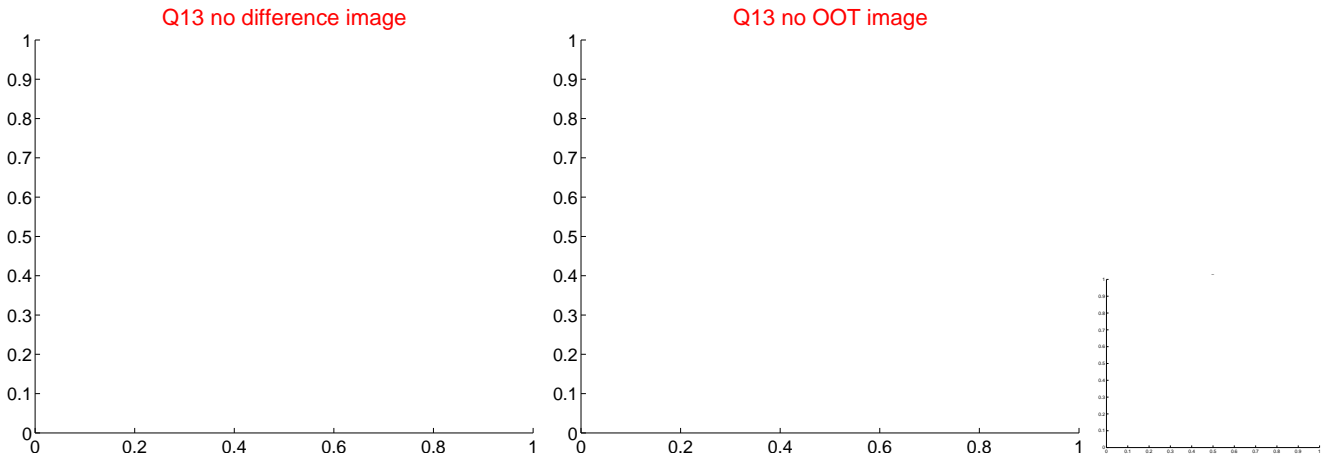
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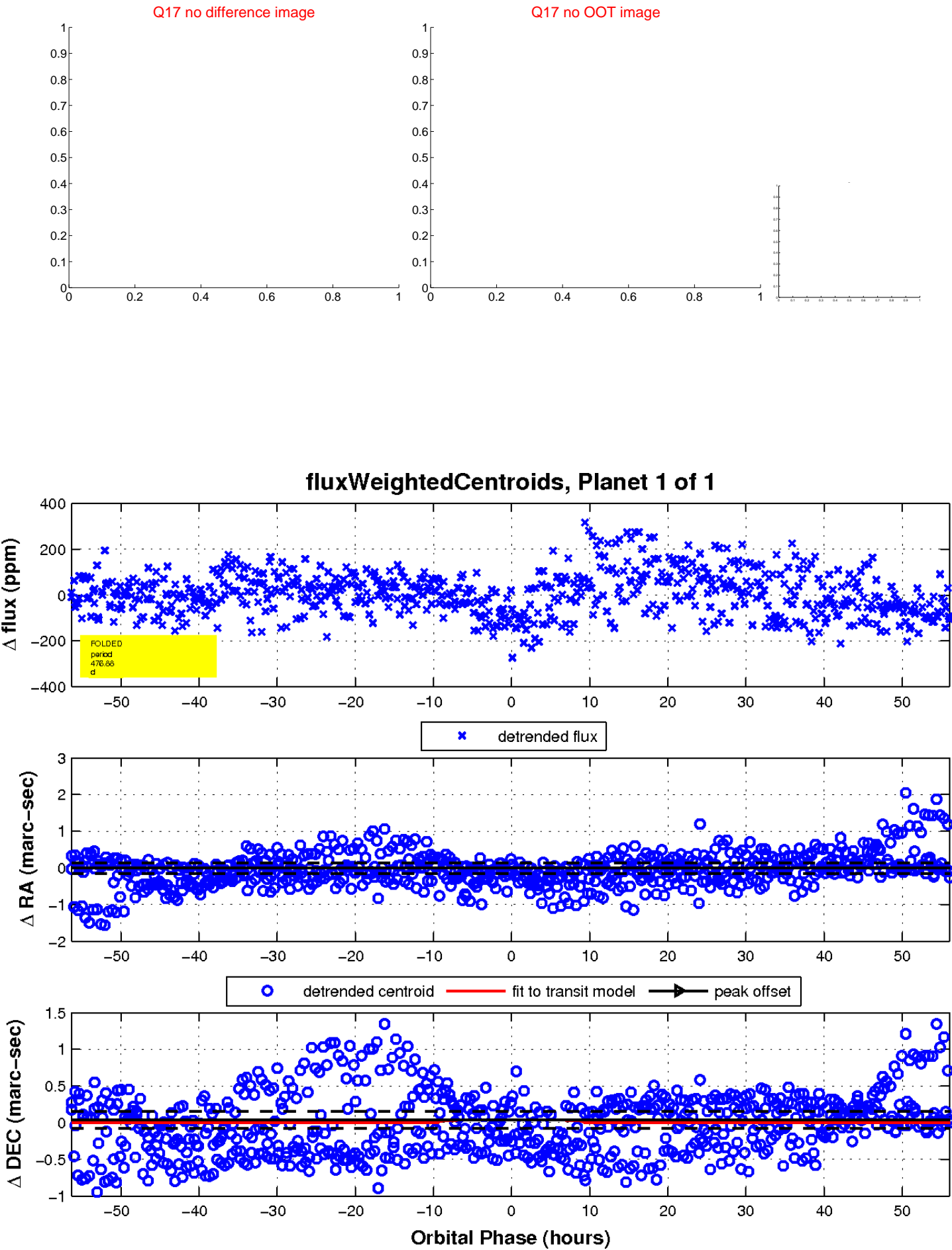
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UKIRT Image

Declination

