

KIC 008107283

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})
008107283-02	OBS	No	416.618731	158.770926	1002.4	19.866	10.3	10.4	0.86	5759	2.79	0.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008107283-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—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.

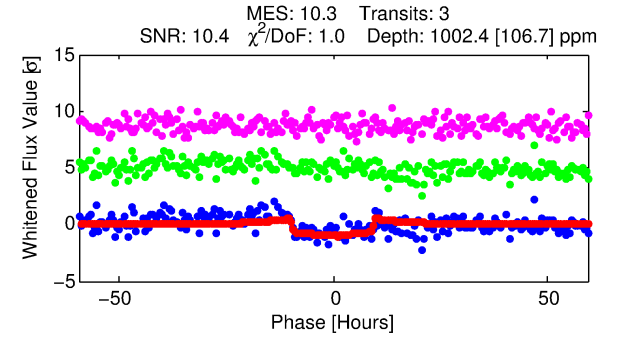
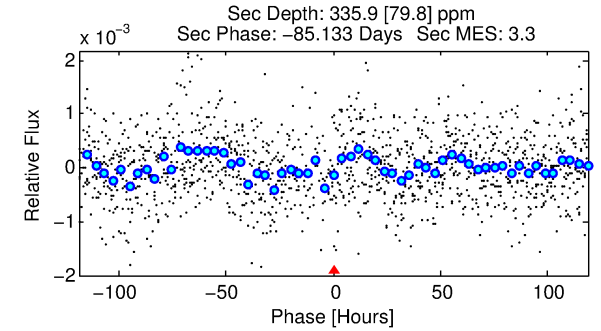
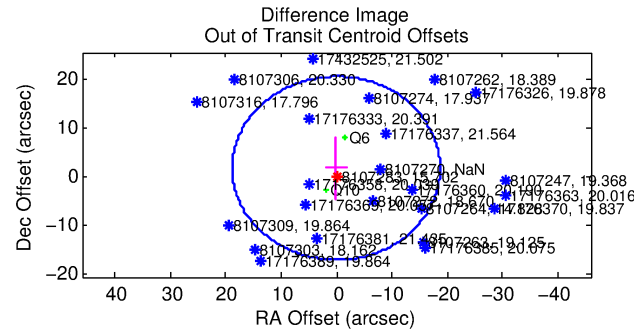
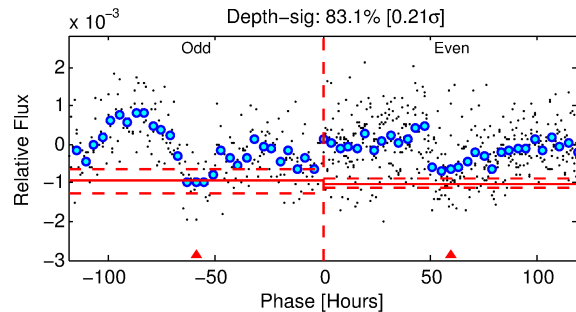
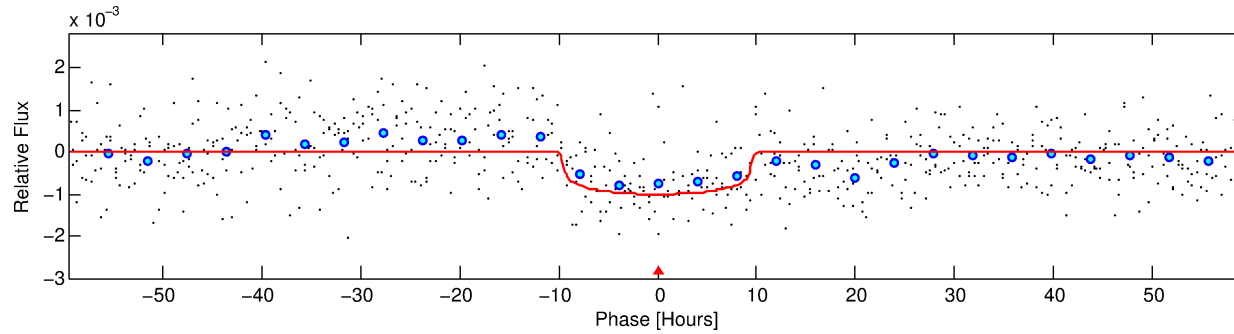
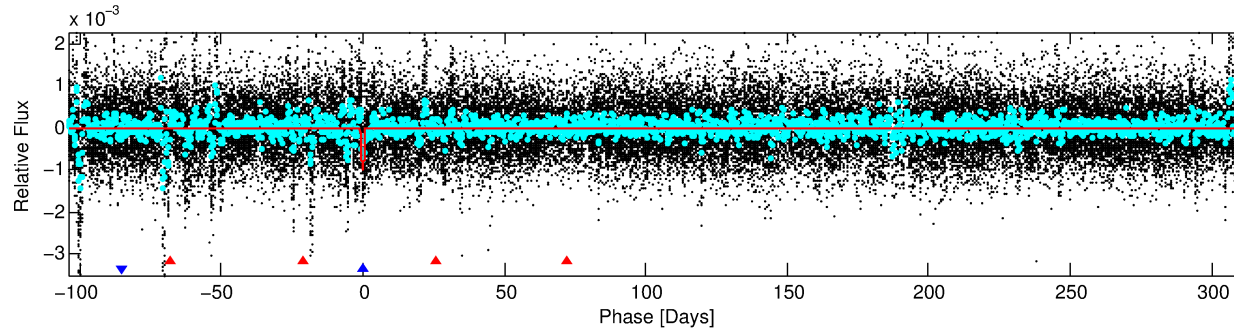
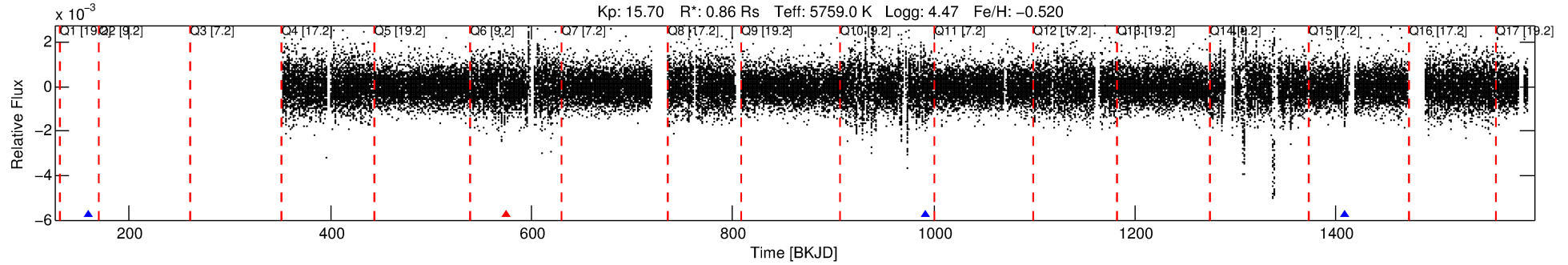
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008107283-02

No Significant Match Found

DV One-Page Summary

KIC: 8107283 Candidate: 2 of 2 Period: 416.619 d



DV Fit Results:

Period = 416.61873 [0.01409] d
Epoch = 158.7709 [0.0335] BKJD
Rp/R* = 0.0298 [0.0073]
a/R* = 143.30 [160.58]
b = 0.51 [1.63]
Seff = 0.71 [0.23]
Teq = 234 [19] K
Rp = 2.79 [0.94] Re
a = 1.0112 [0.2006] AU
Ag = 24262.50 [15010.96] [1.62 σ]
Teffp = 4516 [633] K [6.76 σ]

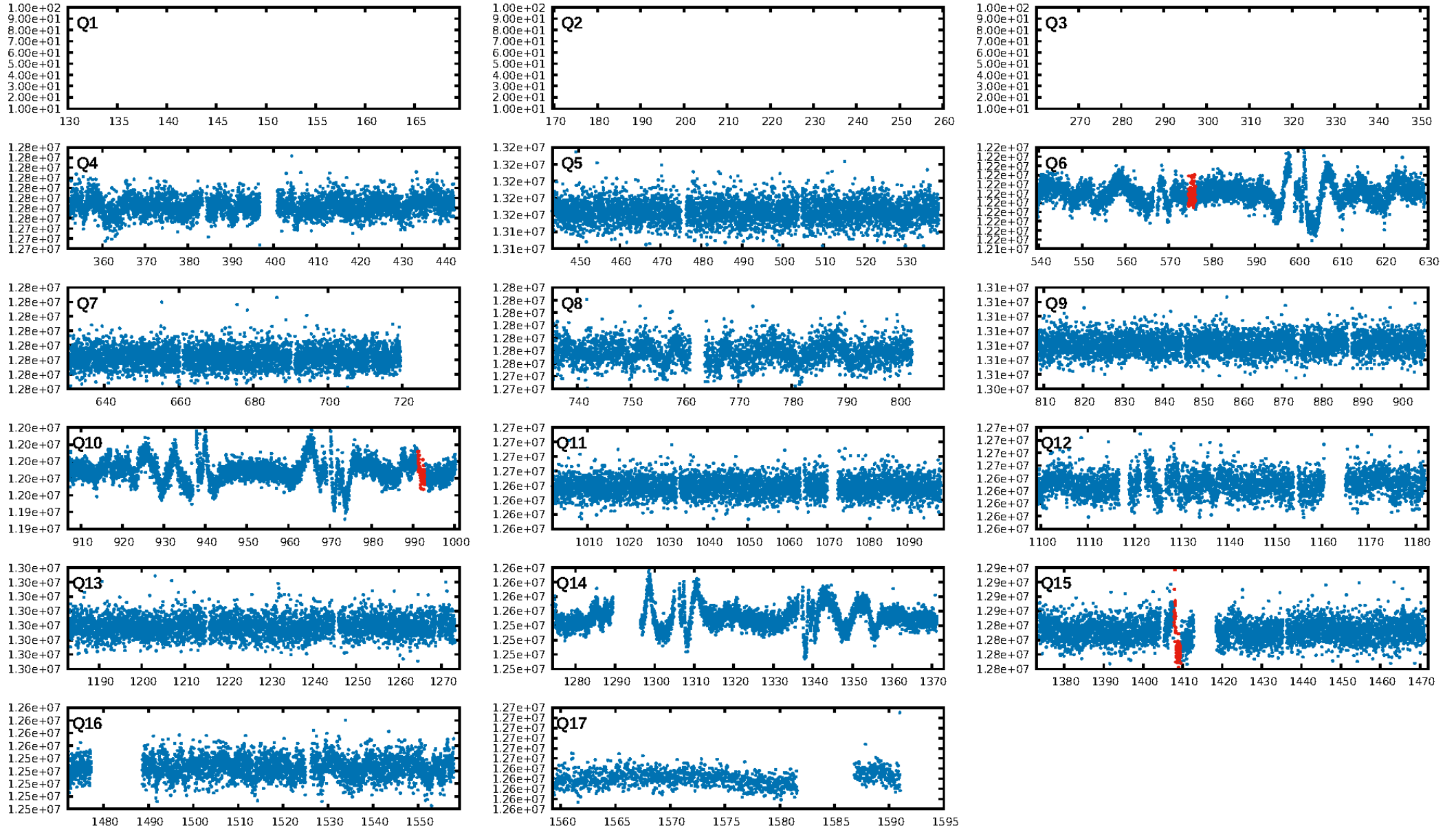
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [35.58 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.70e-13
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 2.404
Centroid-sig: 67.4%
Centroid-so: 1.274 arcsec [0.94 σ]
OotOffset-rm: 1.775 arcsec [0.28 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 1.638 arcsec [0.26 σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [2/2]

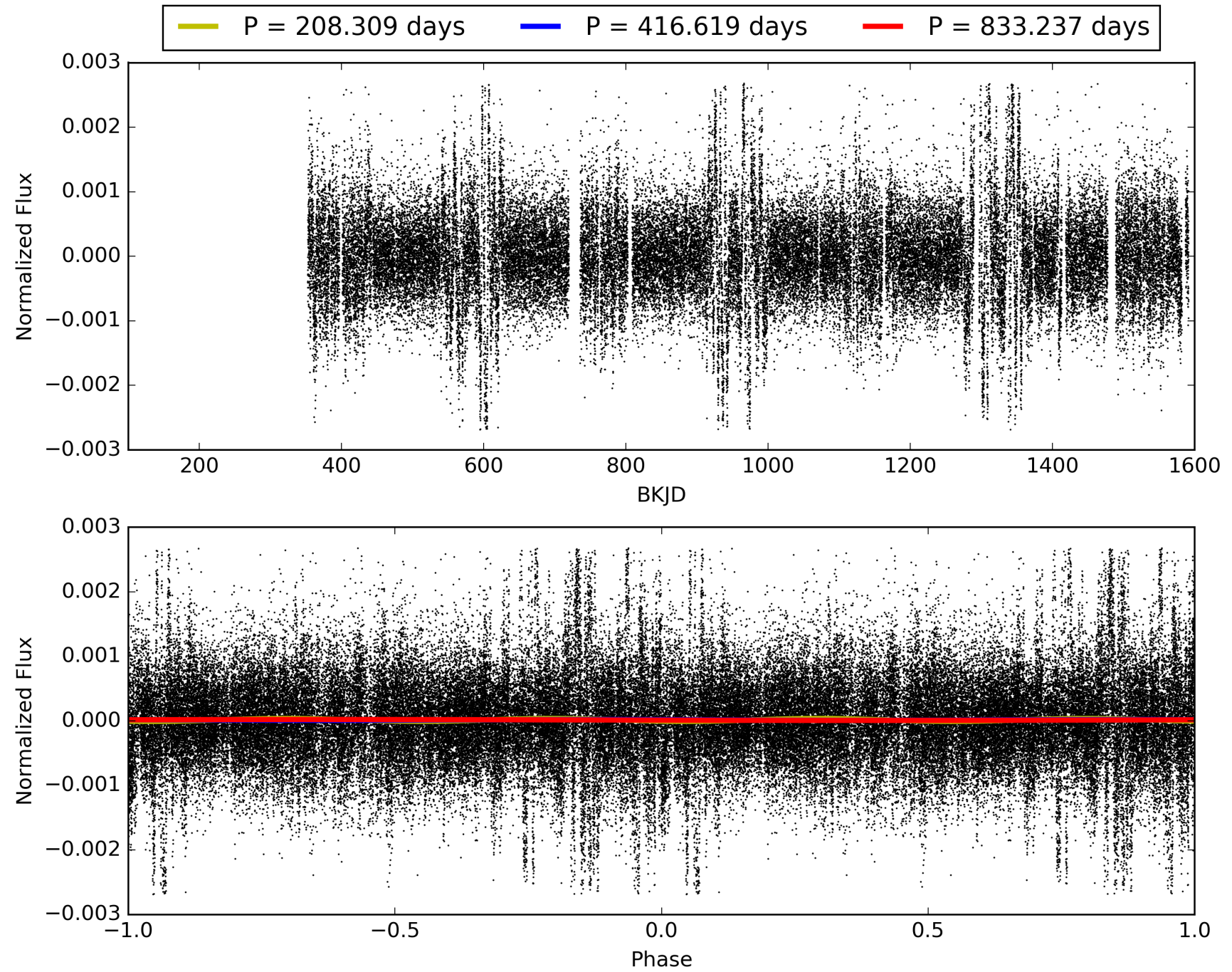
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:32:36 Z

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

TCE 008107283-02, PDC Light Curves

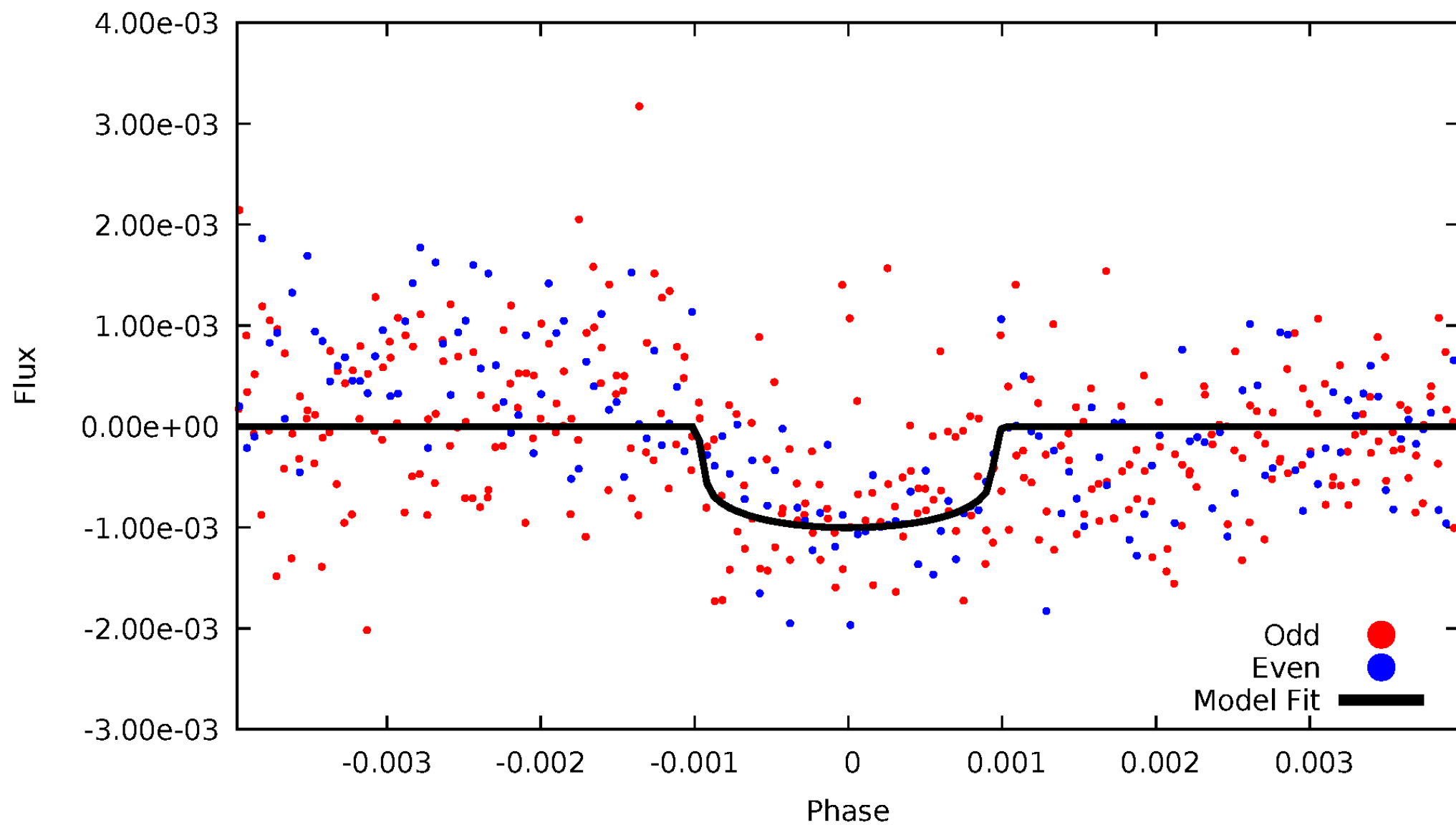


TCE 008107283-02



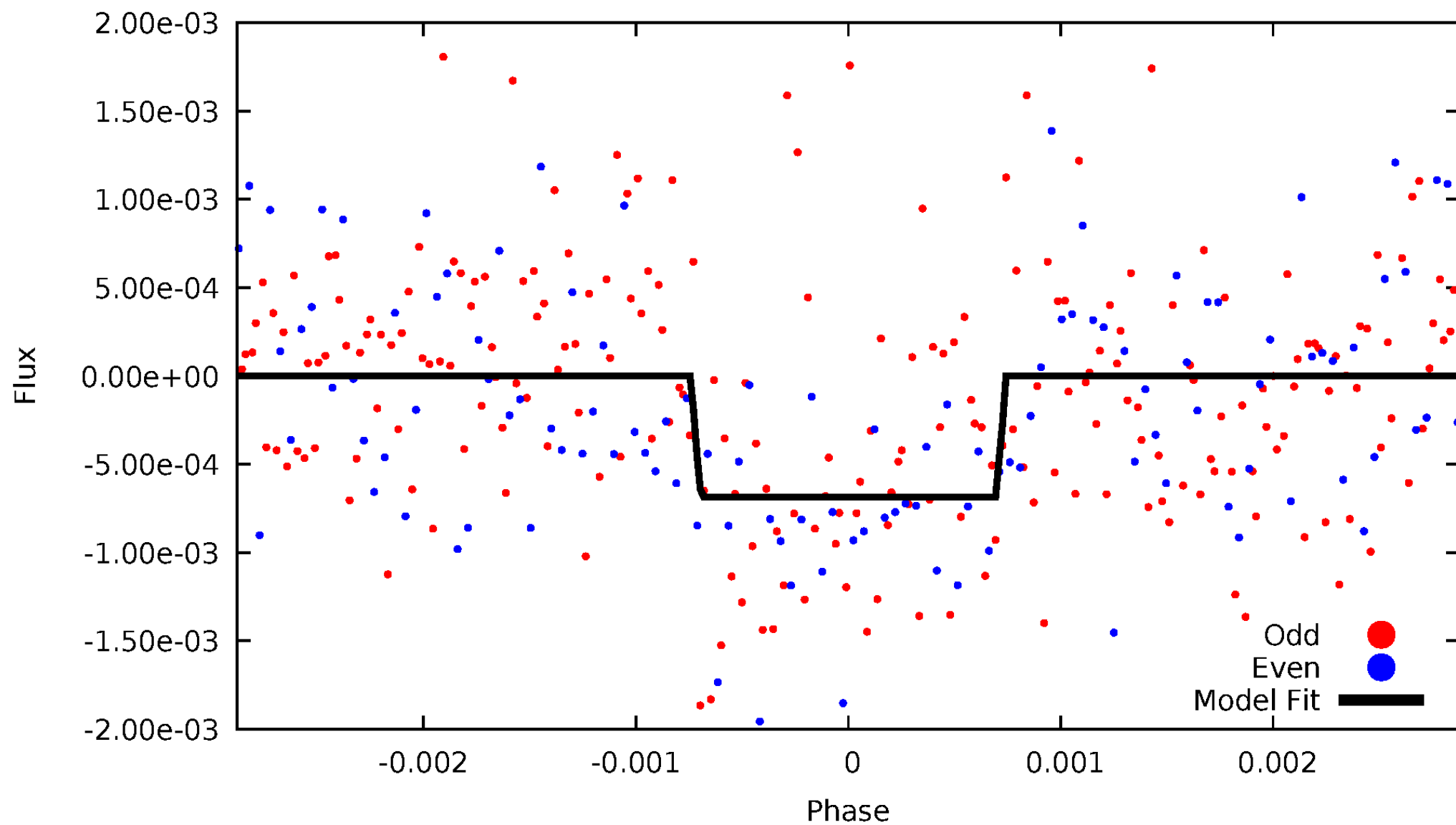
DV Odd/Even

TCE 008107283-02



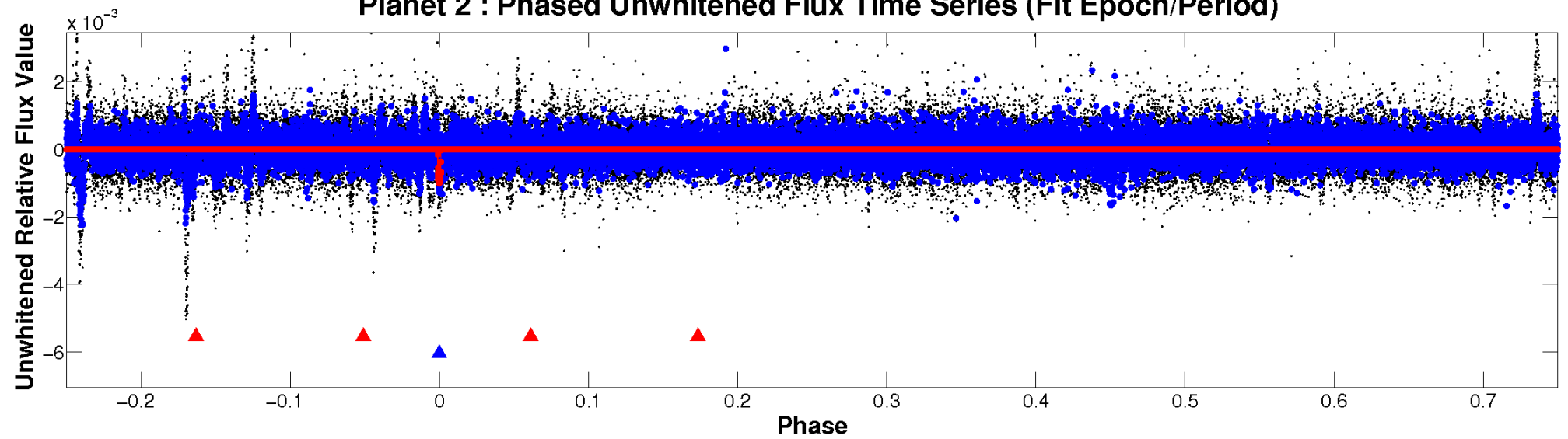
ALT Odd/Even

TCE 008107283-02

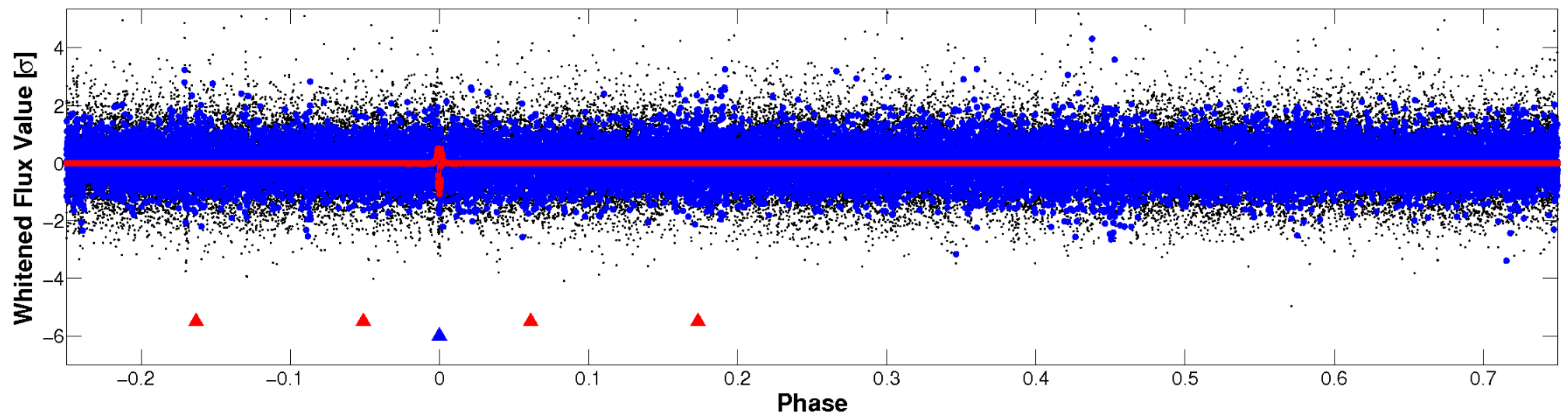


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



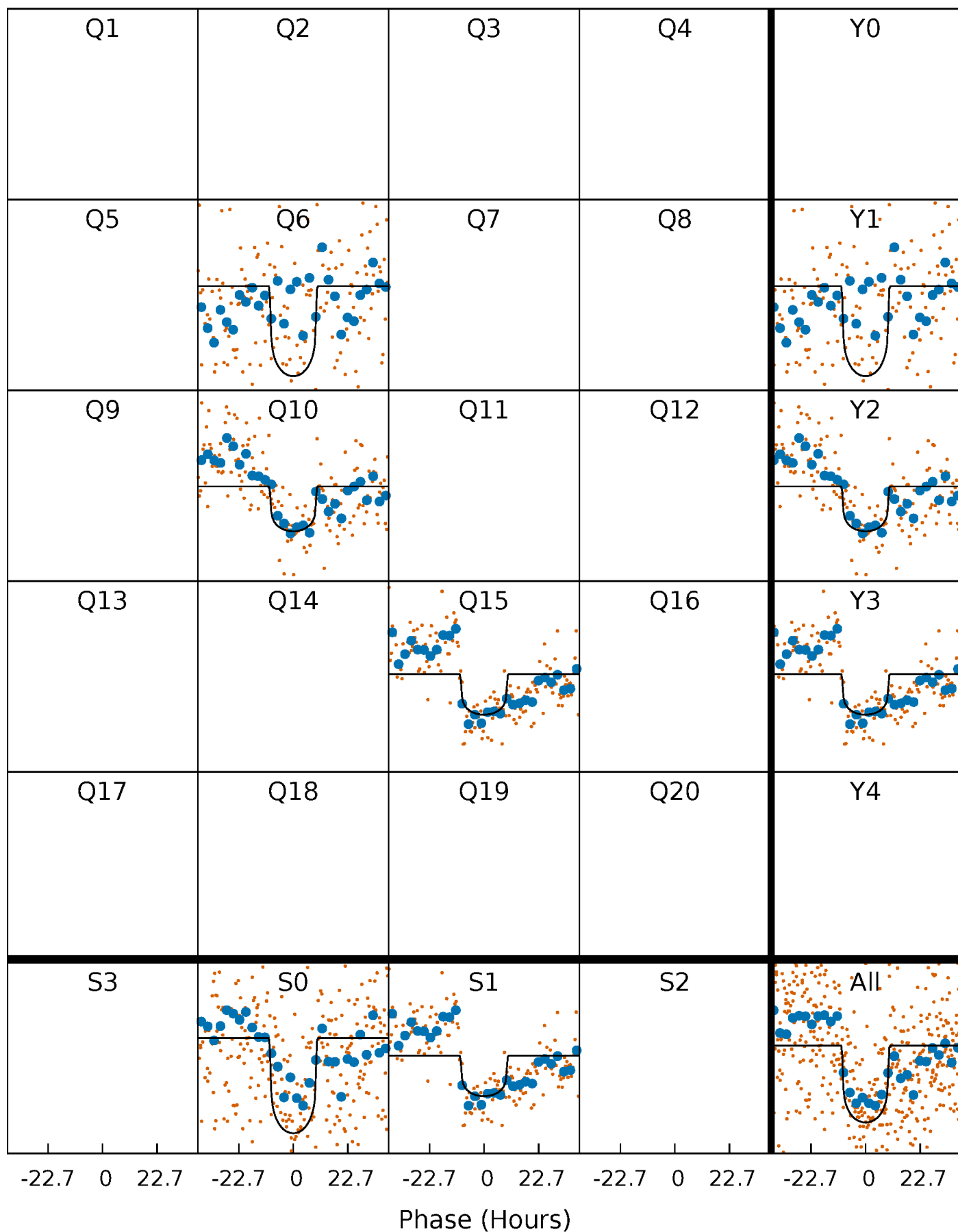
PDC Quarter-Phased Transit Curves

TCE 008107283-02 P=416.618731 Days $T_0=158.770927$ (BKJD)



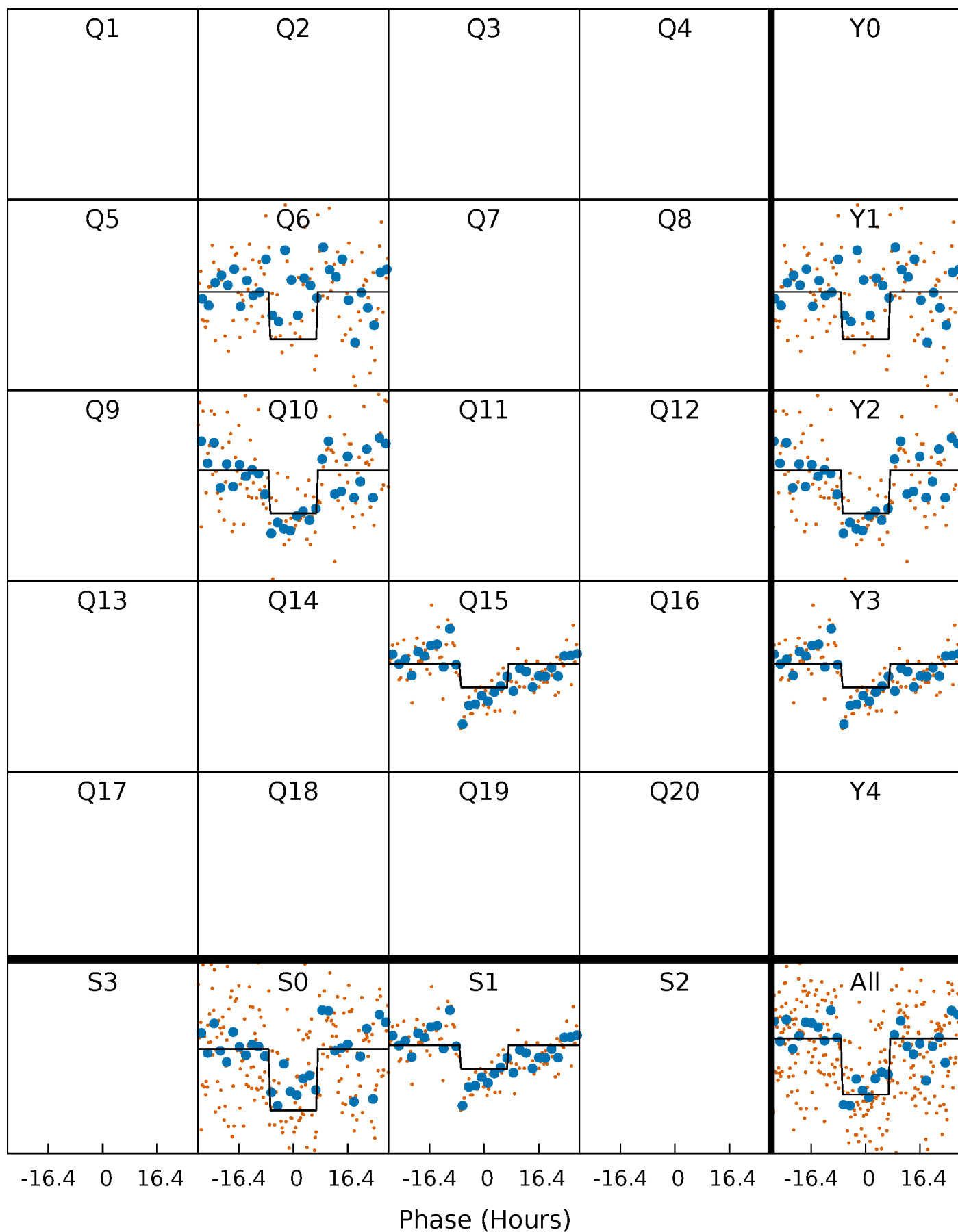
DV Quarter-Phased Transit Curves

TCE 008107283-02 P=416.618731 Days $T_0=158.770927$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

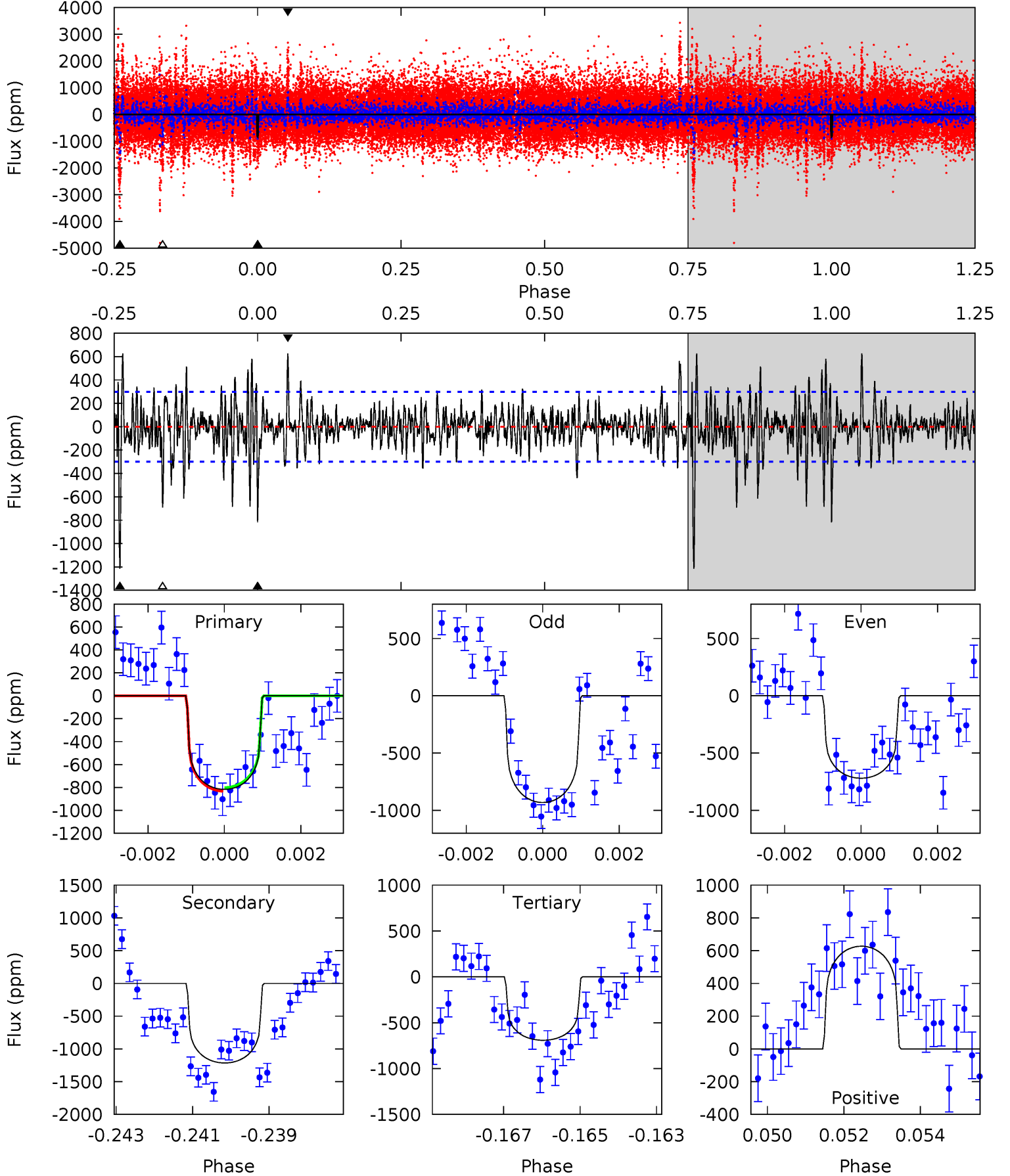
TCE 008107283-02 P=416.531309 Days $T_0=158.961540$ (BKJD)



DV Model-Shift Uniqueness Test

008107283-02, P = 416.618731 Days, E = 158.770927 Days

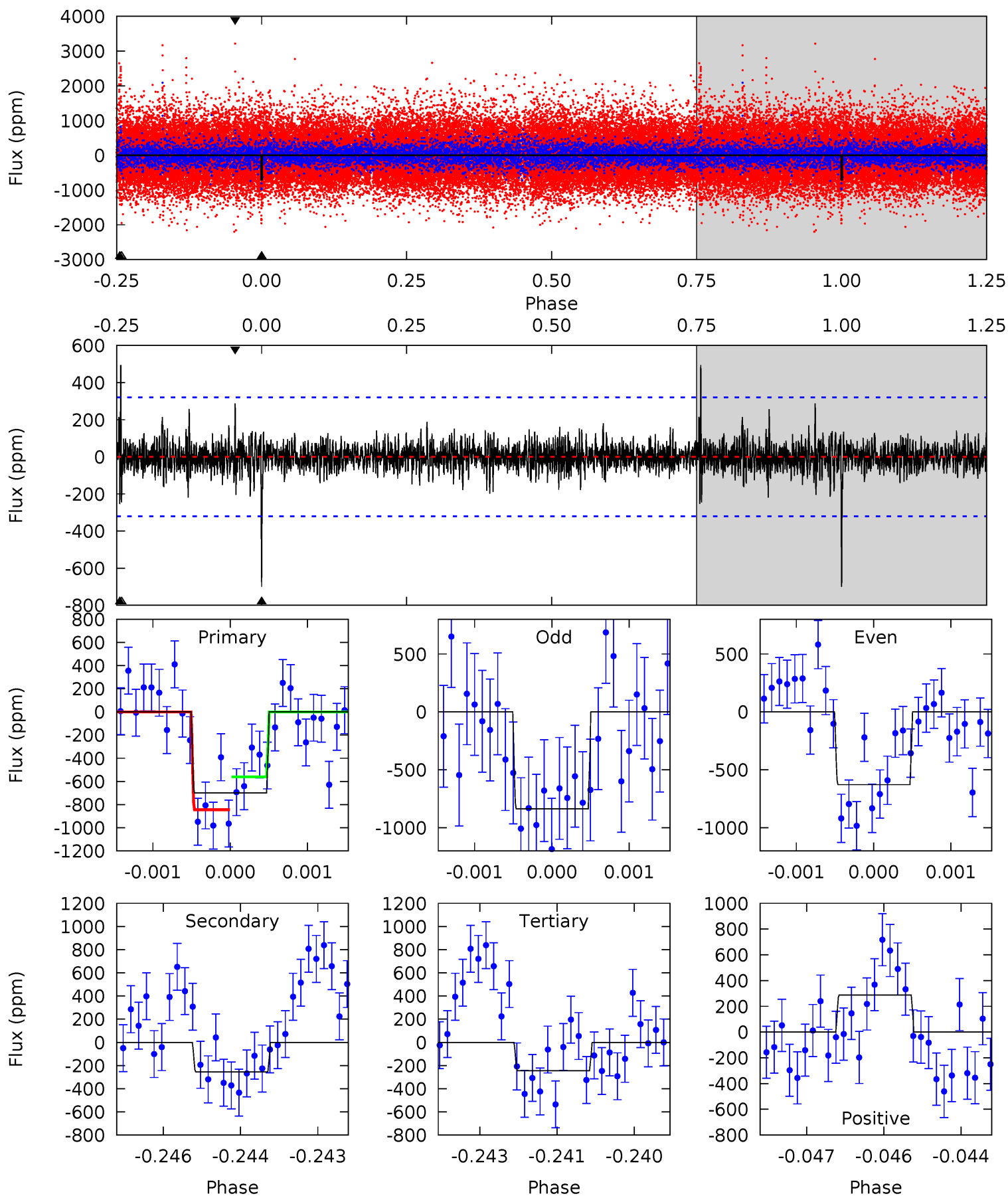
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	21.7	12.3	11.2	5.33	3.09	2.64	2.24	3.39	9.34	10.5	1.78	0.82	0.34	0.27



Alt Model-Shift Uniqueness Test

008107283-02, P = 416.531309 Days, E = 158.961540 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.27	4.10	4.82	5.38	3.18	0.92	7.66	6.94	0.16	-0.55	1.68	0.76	0.41	2.38



Stellar Parameters For KIC 008107283

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5759^{+192}_{-192}	$4.471^{+0.108}_{-0.162}$	$-0.520^{+0.300}_{-0.300}$	$0.858^{+0.199}_{-0.116}$	$0.793^{+0.108}_{-0.054}$	$1.769^{+0.862}_{-0.786}$
	+3%/-3%	+2%/-4%	+58%/-58%	+23%/-14%	+14%/-7%	+49%/-44%
Source	KIC0	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 008107283-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1215 ± 56	$2.86^{+0.81}_{-0.75}$	328^{+23}_{-17}	6187^{+1008}_{-660}	84898^{+68375}_{-32798}
Alt.	-254 ± 60	$2.49^{+0.80}_{-0.69}$	329^{+21}_{-19}	4617^{+760}_{-480}	23622^{+22803}_{-11329}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

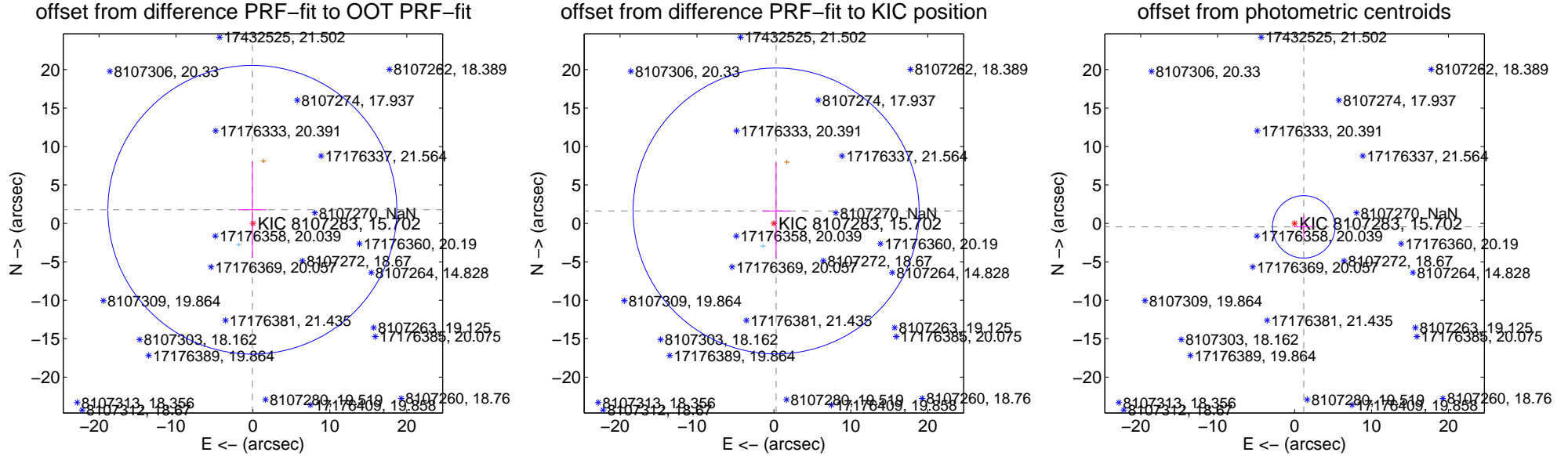
DV Centroid Data

Supplemental centroid analysis for 008107283-02. Kepler magnitude: 15.70. Transit SNR 10.38

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.775 ± 6.261	0.28	0.075 ± 1.871	1.773 ± 6.266
PRF-fit source offset from KIC position	1.638 ± 6.199	0.26	-0.287 ± 1.810	1.613 ± 6.288
photometric centroid source offset	1.27 ± 1.35	0.94	-1.19 ± 1.33	-0.45 ± 1.53

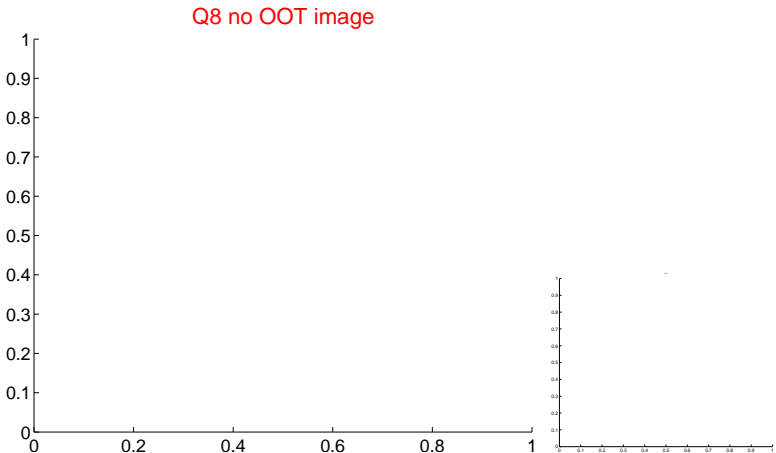
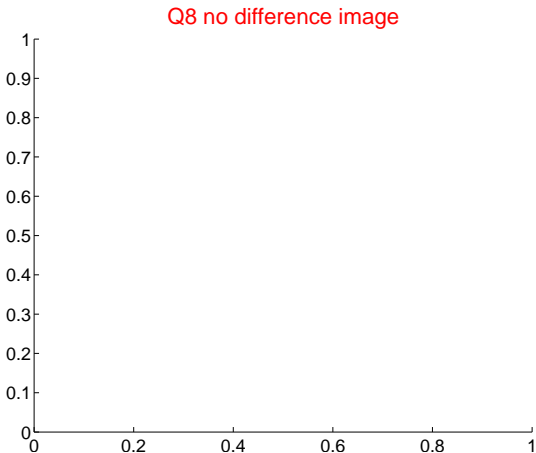
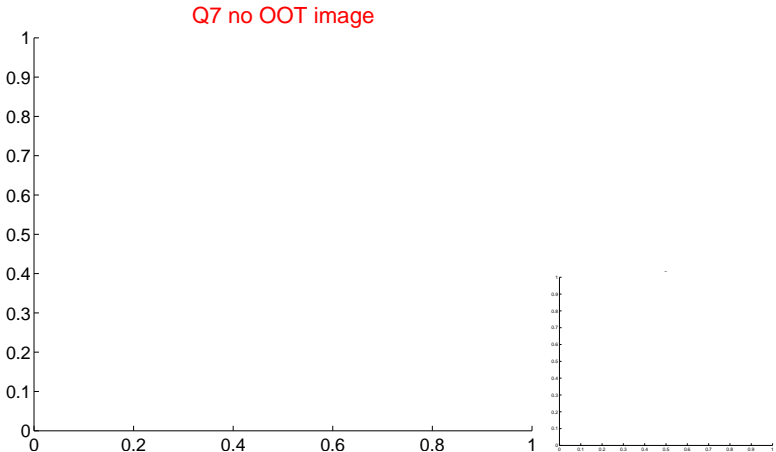
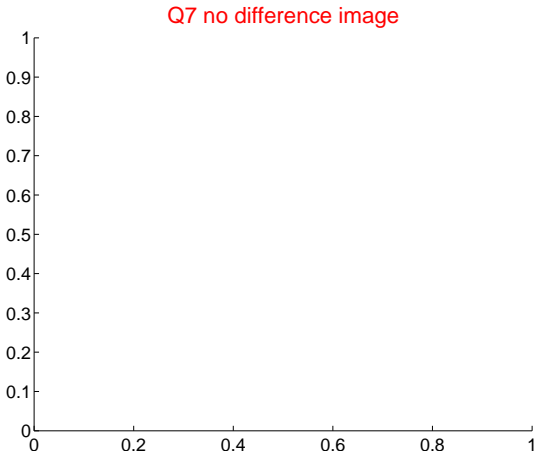
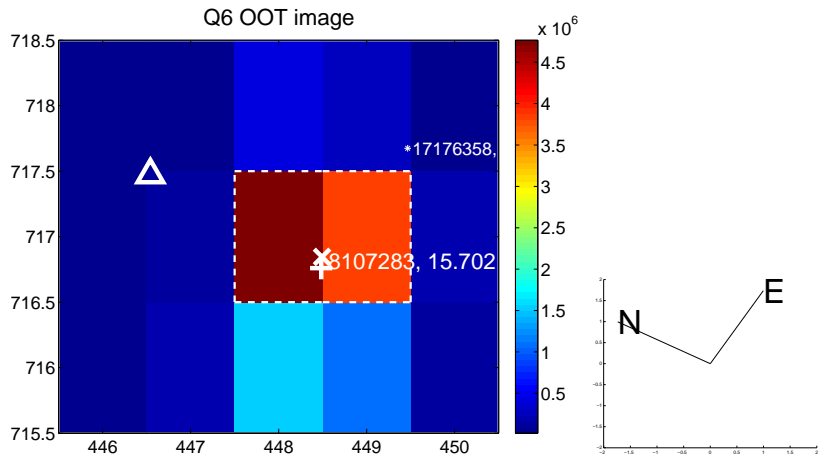
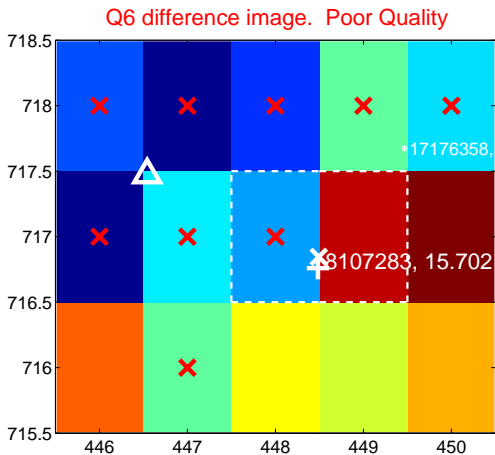
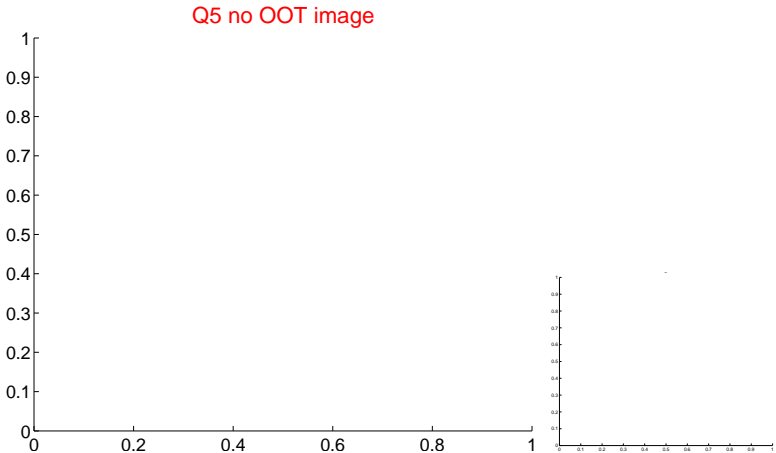
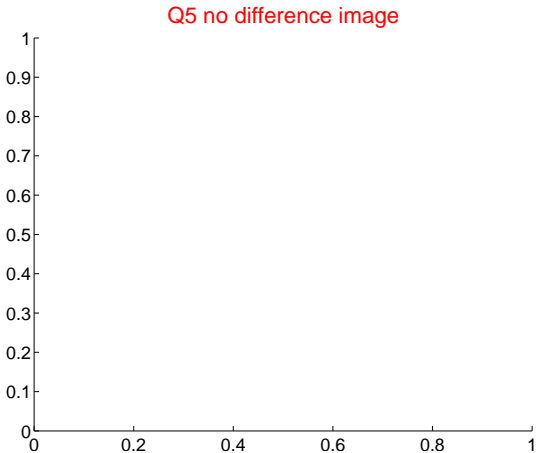


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

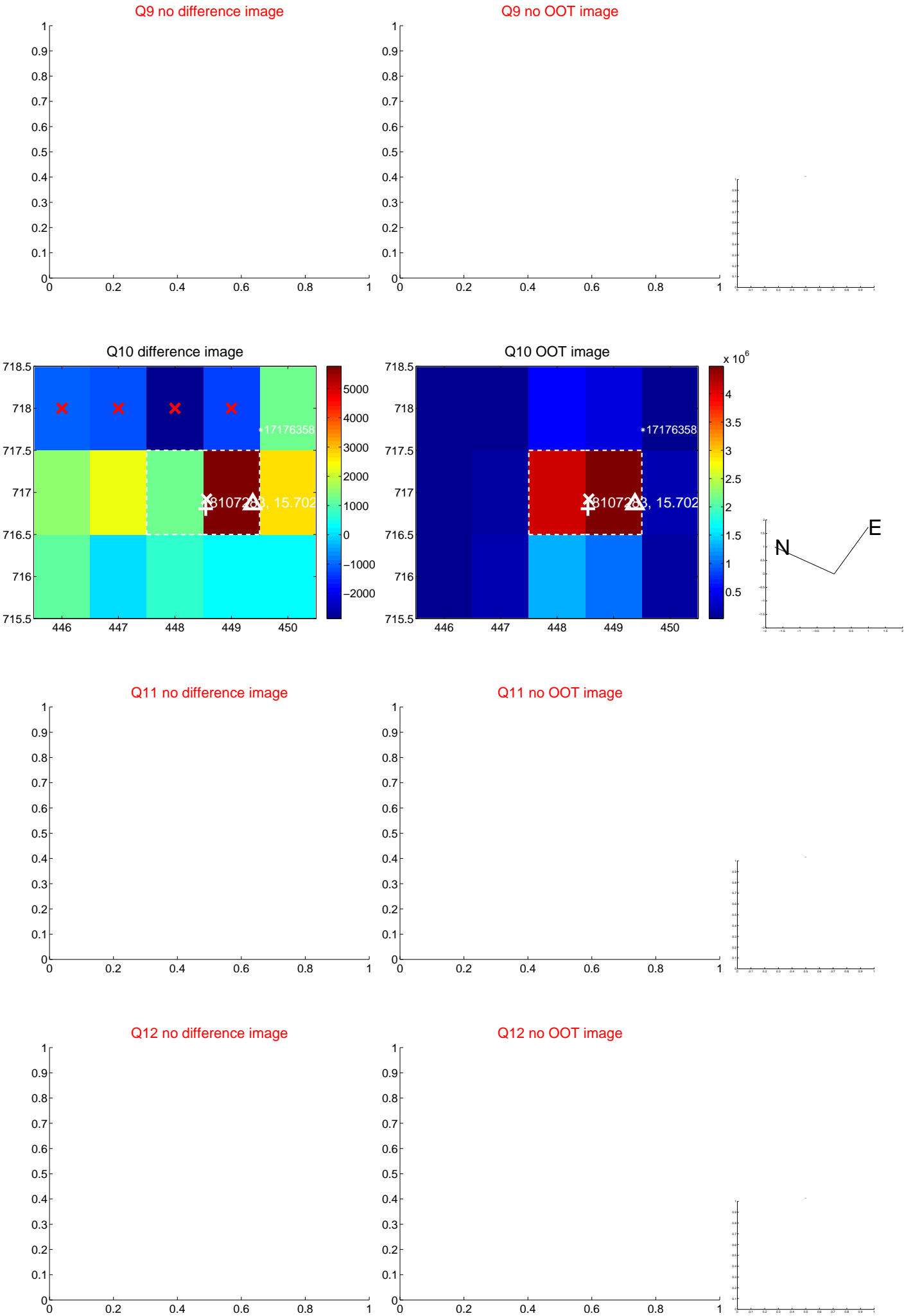
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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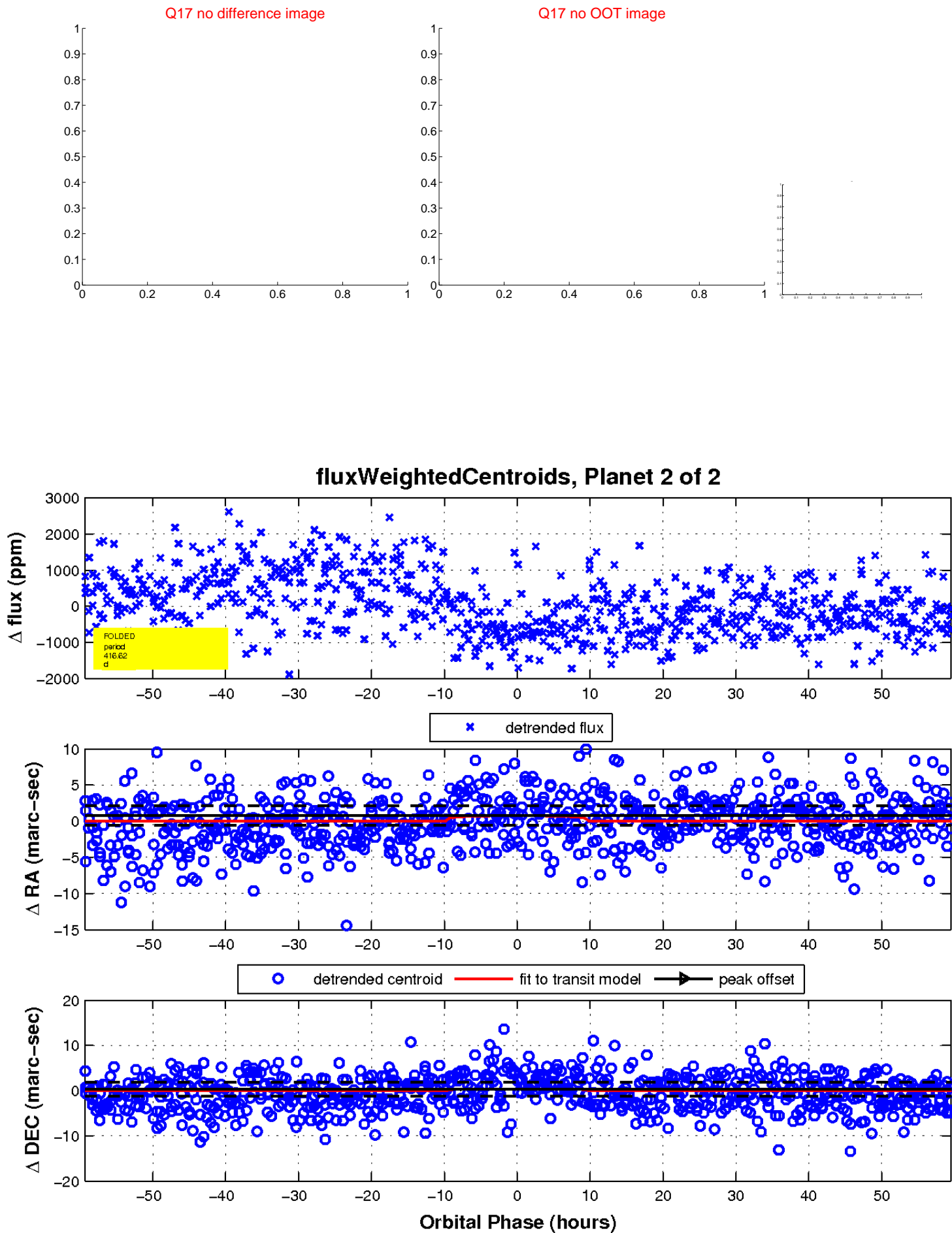
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

