

KIC 008700529

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})
008700529-01	OBS	No	637.041368	154.934097	167.7	20.972	8.4	7.2	1.30	6244	1.80	1.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008700529-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

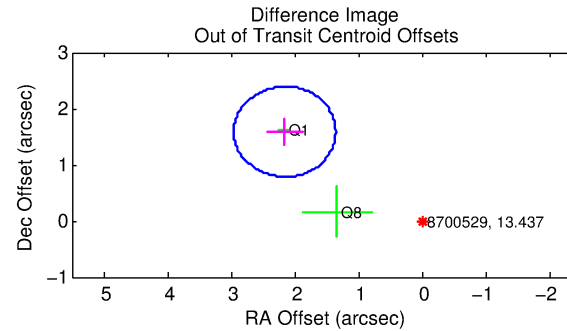
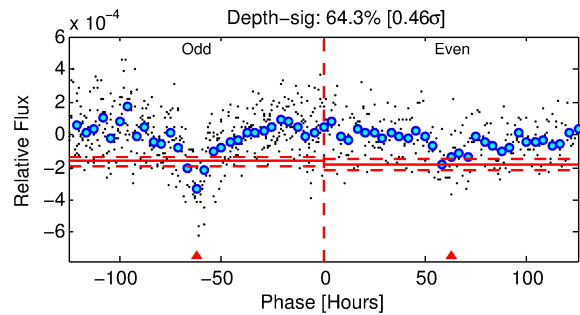
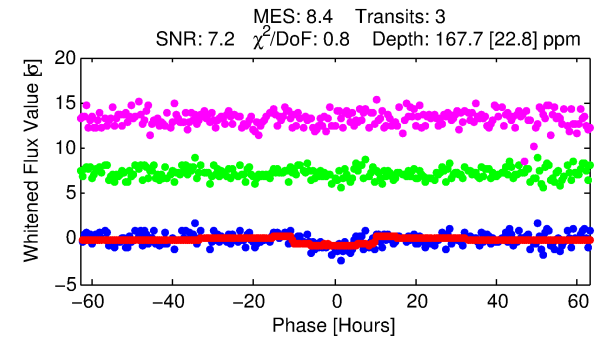
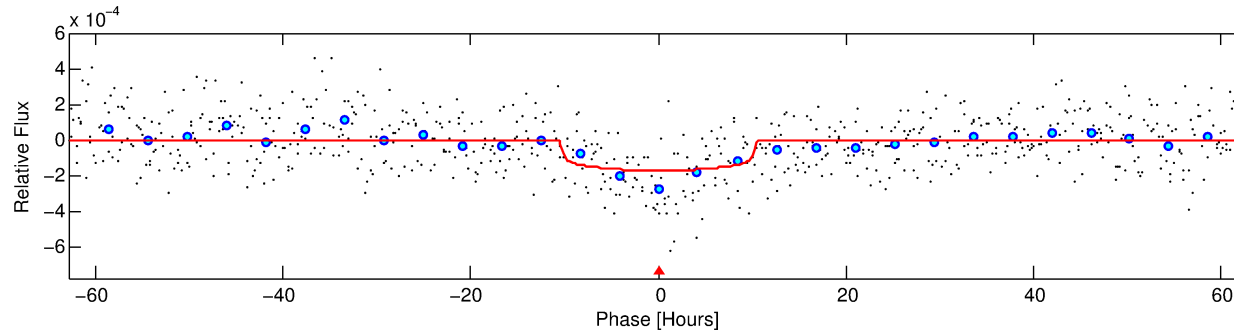
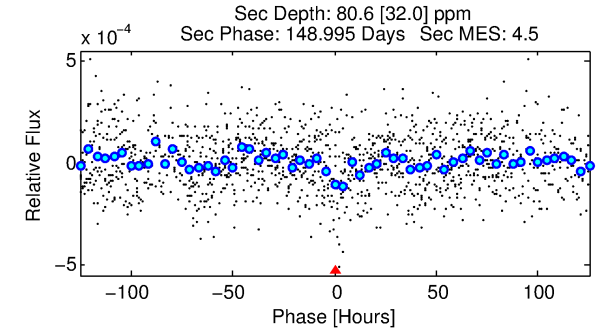
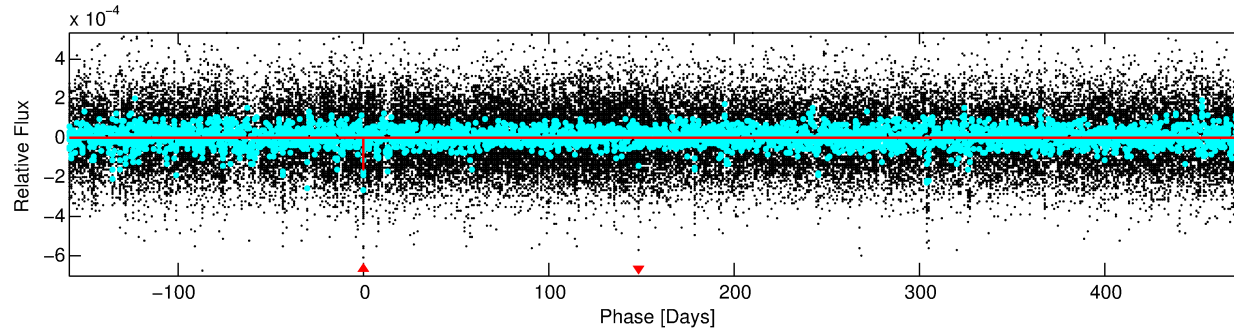
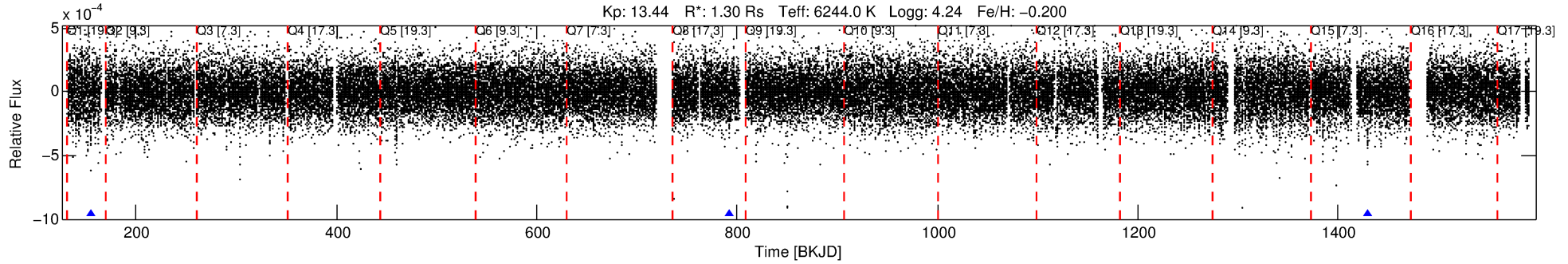
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008700529-01

No Significant Match Found

DV One-Page Summary

KIC: 8700529 Candidate: 1 of 1 Period: 637.041 d



DV Fit Results:

Period = 637.04137 [0.01688] d
Epoch = 154.9341 [0.0226] BKJD
Rp/R* = 0.0127 [0.0035]
a/R* = 168.33 [235.26]
b = 0.71 [0.99]
Seff = 1.05 [0.40]
Teq = 258 [24] K
Rp = 1.80 [0.75] Re
a = 1.4749 [0.3729] AU
Ag = 29798.01 [22904.54] [1.30σ]
Teffp = 5247 [912] K [5.47σ]

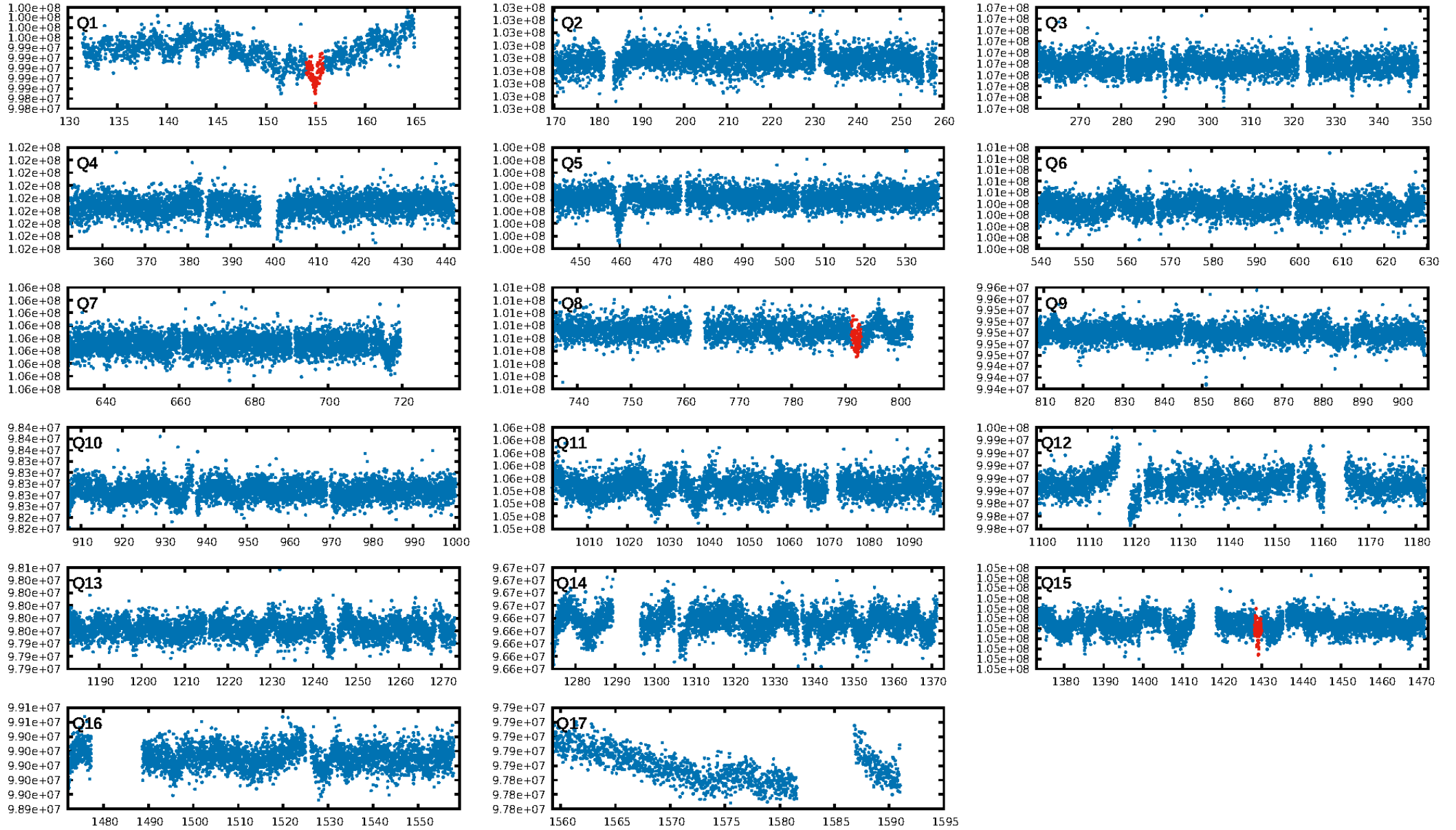
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.5%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 2.06e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.452
Centroid-sig: 25.2%
Centroid-so: 1.340 arcsec [1.55σ]
OotOffset-rm: 2.675 arcsec [10.00σ]
KicOffset-rm: 2.609 arcsec [3.12σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

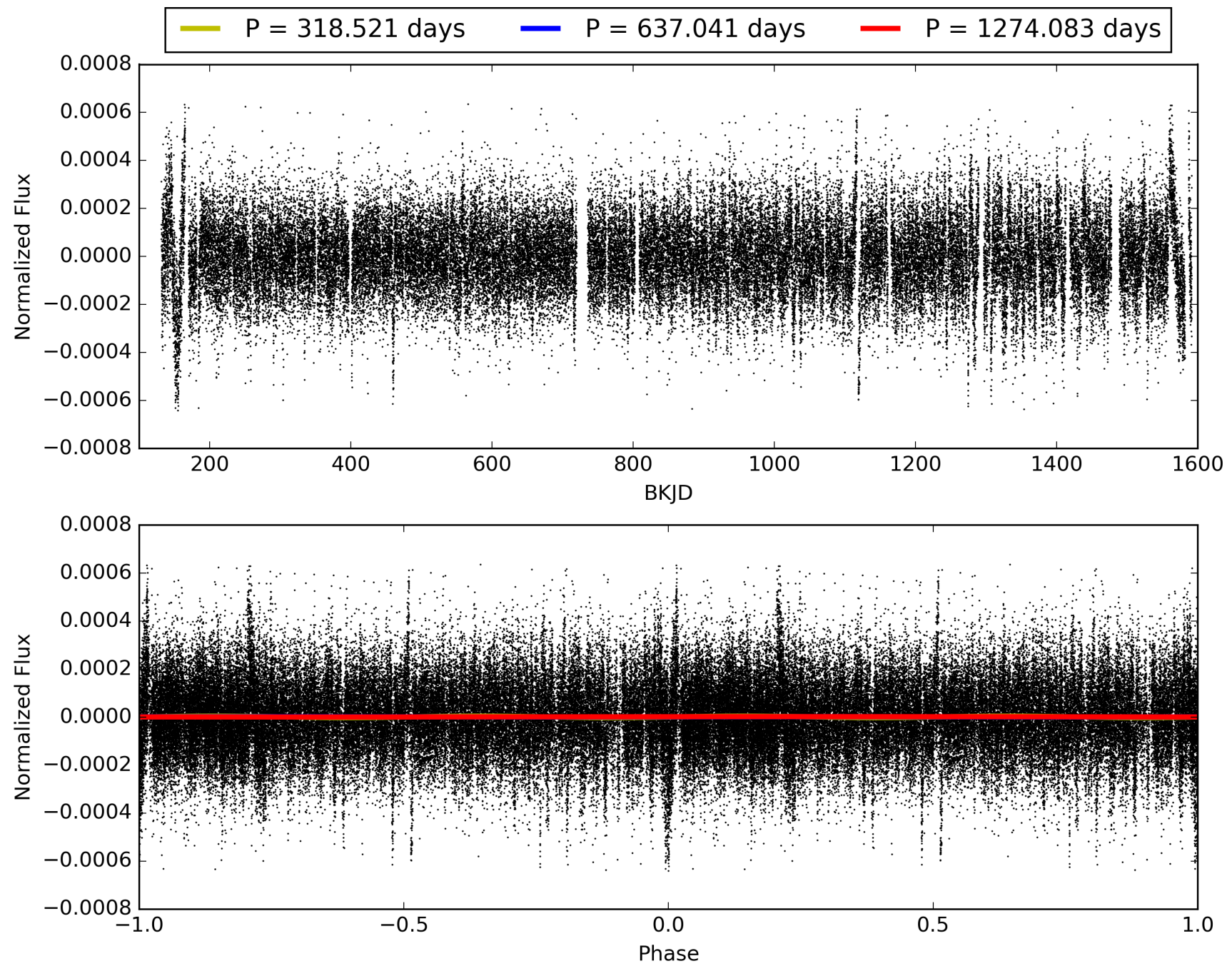
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:24:24 Z

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

TCE 008700529-01, PDC Light Curves

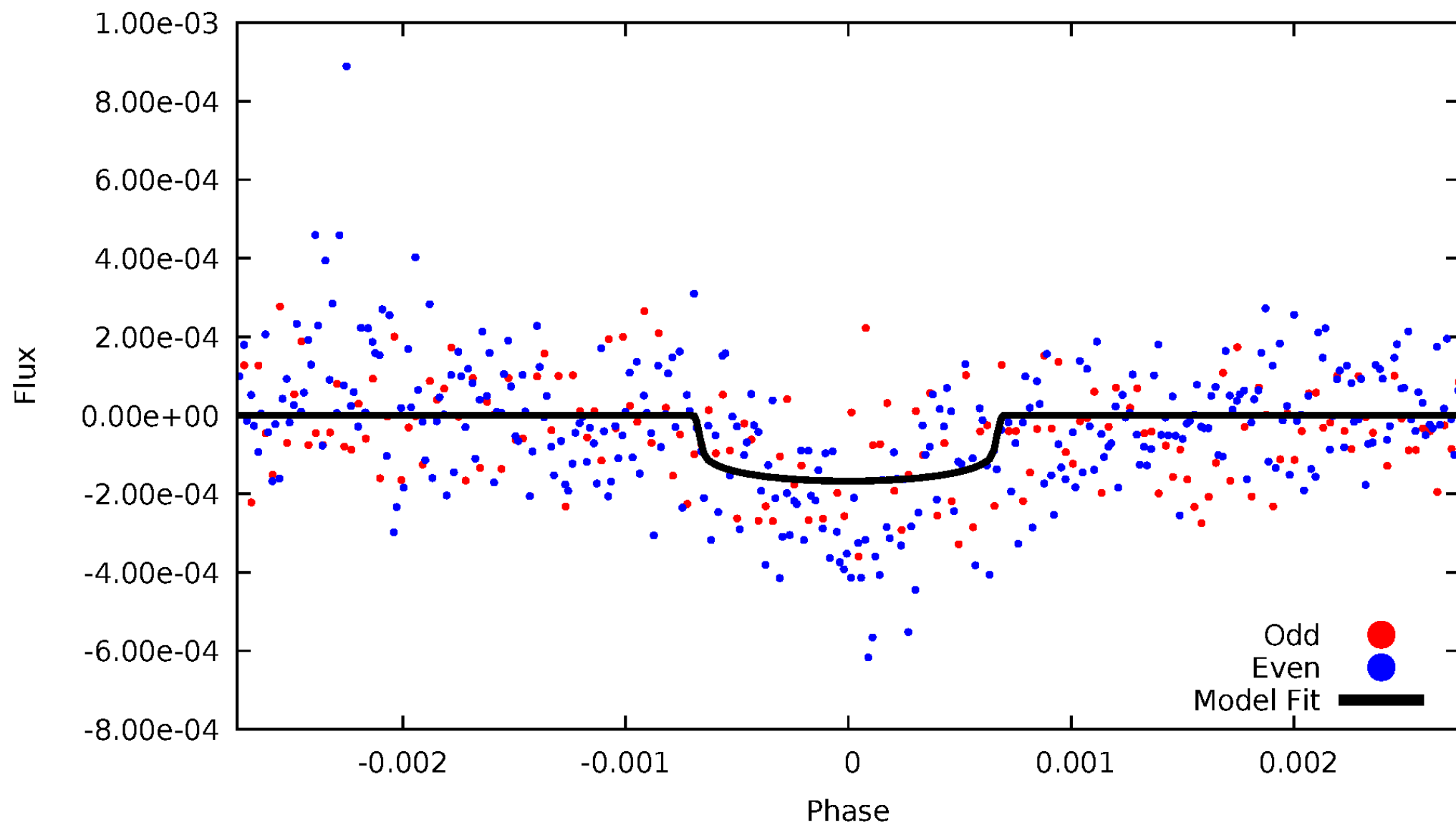


TCE 008700529-01



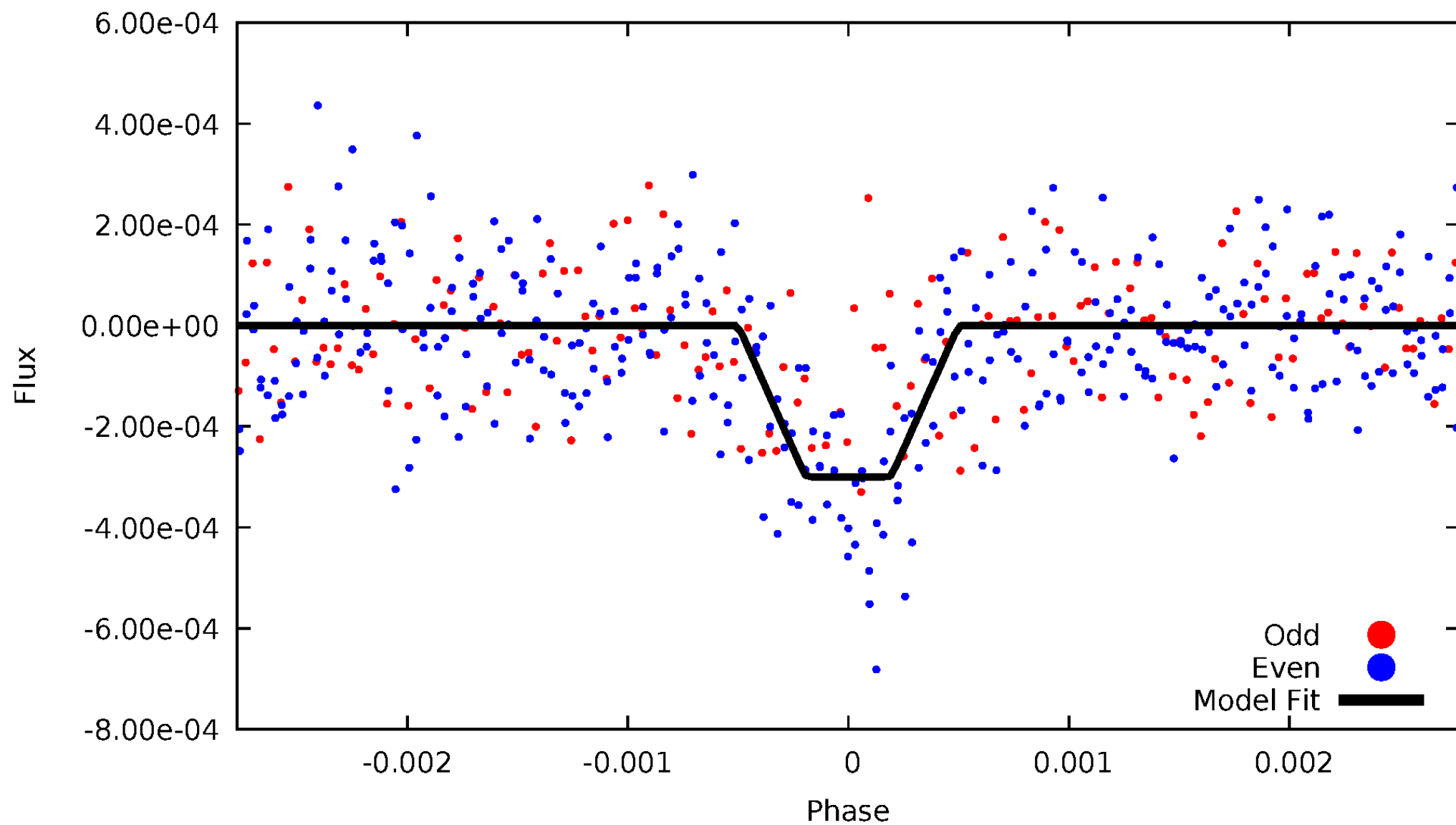
DV Odd/Even

TCE 008700529-01

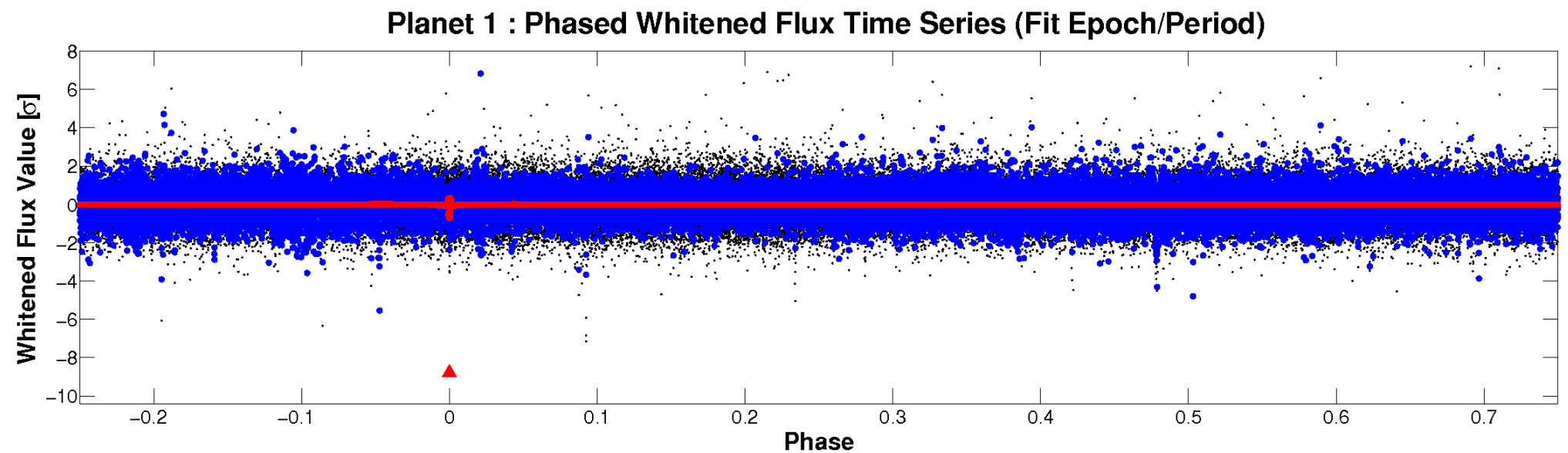
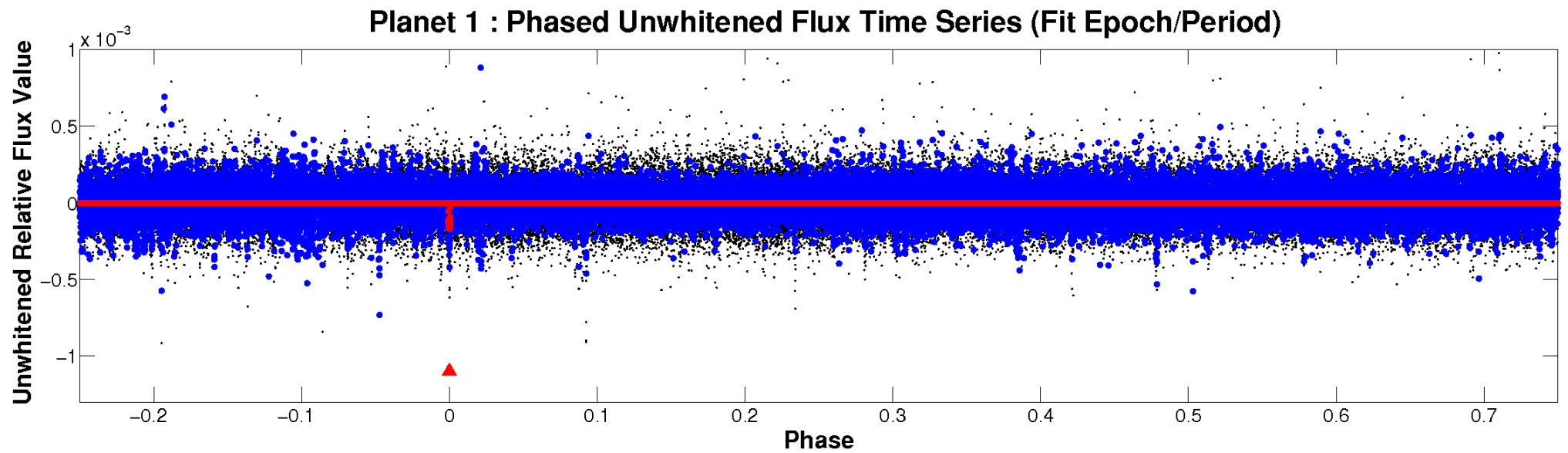


ALT Odd/Even

TCE 008700529-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008700529-01 P=637.041368 Days $T_0=154.934097$ (BKJD)



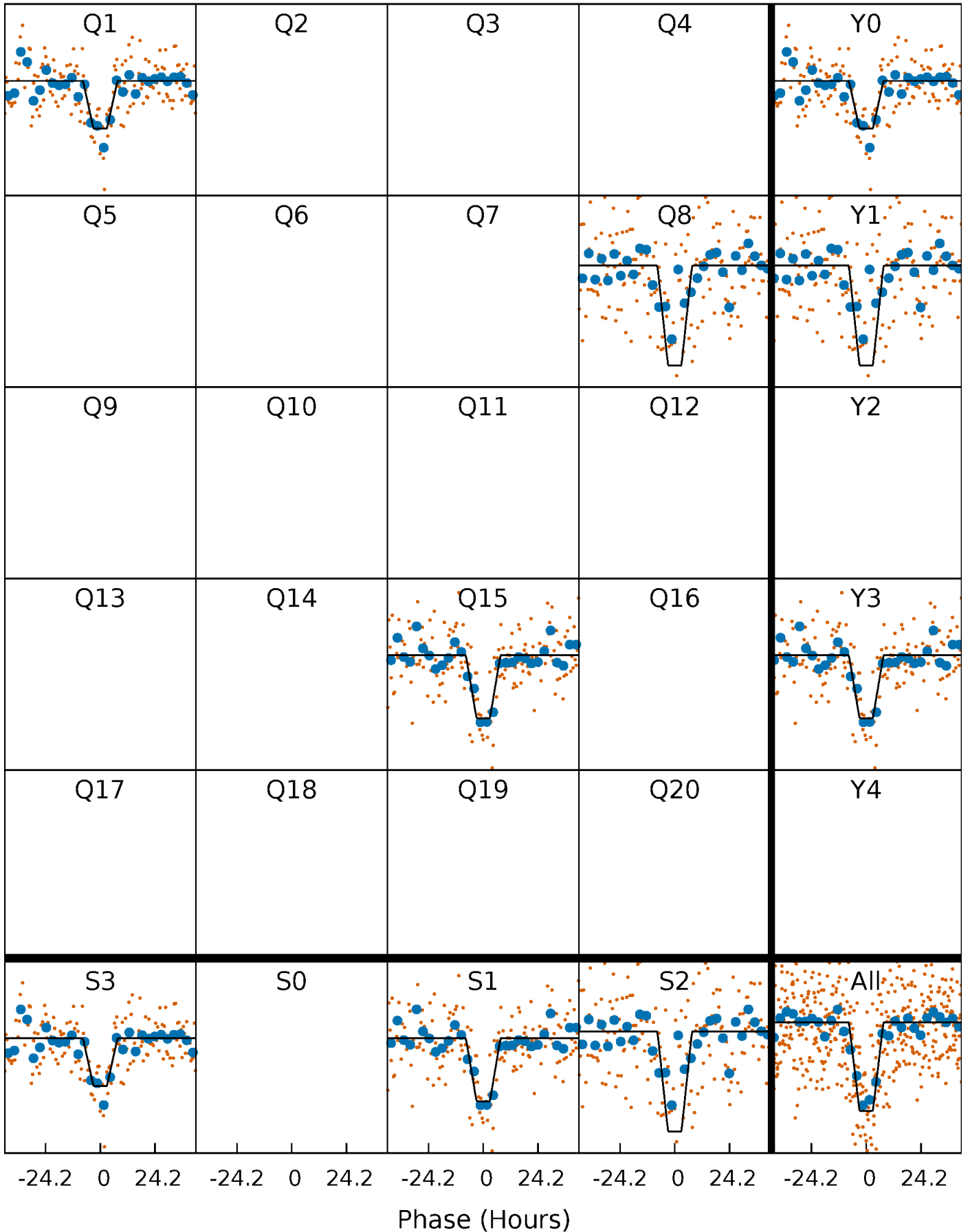
DV Quarter-Phased Transit Curves

TCE 008700529-01 P=637.041368 Days $T_0=154.934097$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

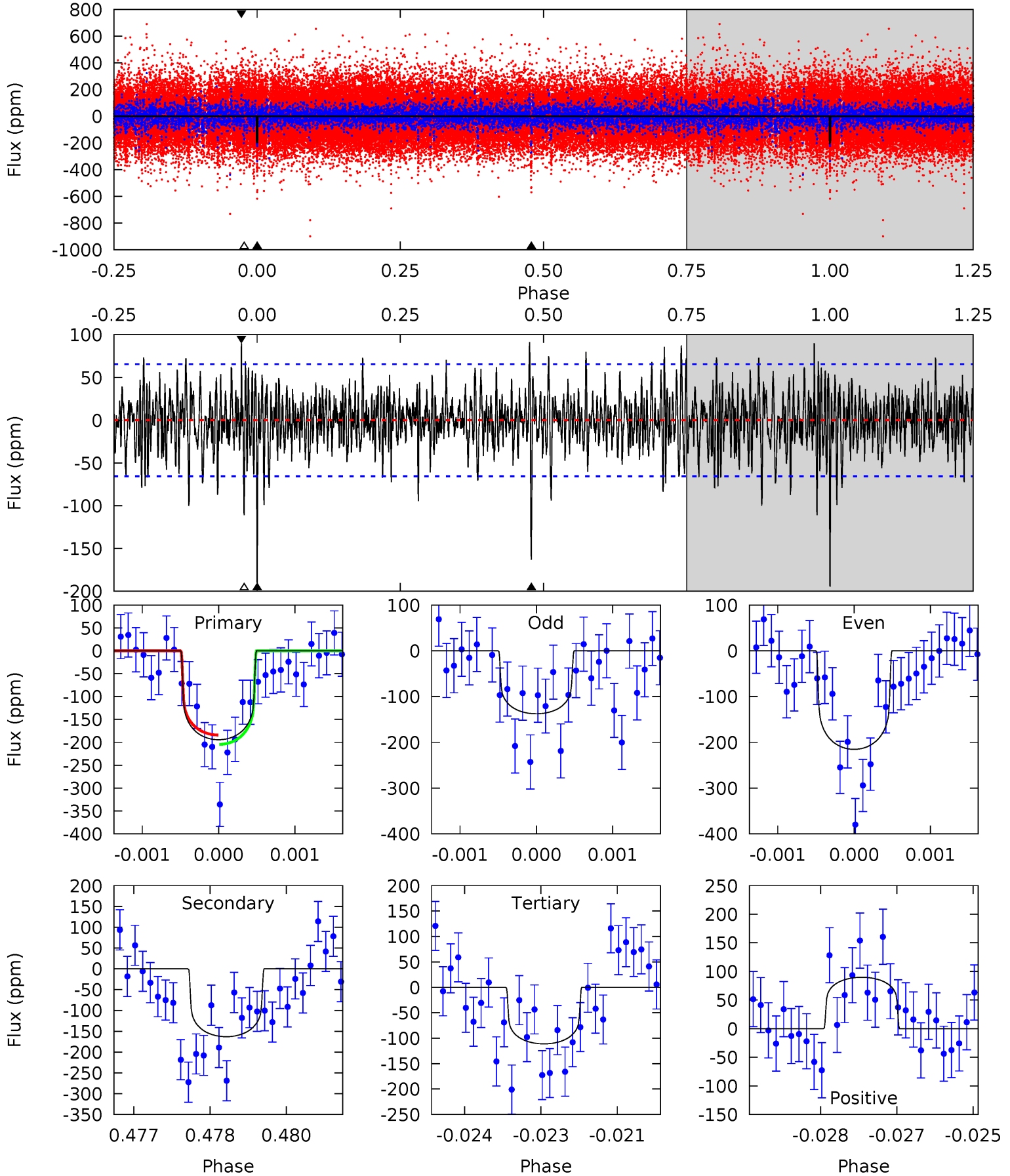
TCE 008700529-01 P=637.057100 Days $T_0=154.910518$ (BKJD)



DV Model-Shift Uniqueness Test

008700529-01, P = 637.041368 Days, E = 154.934097 Days

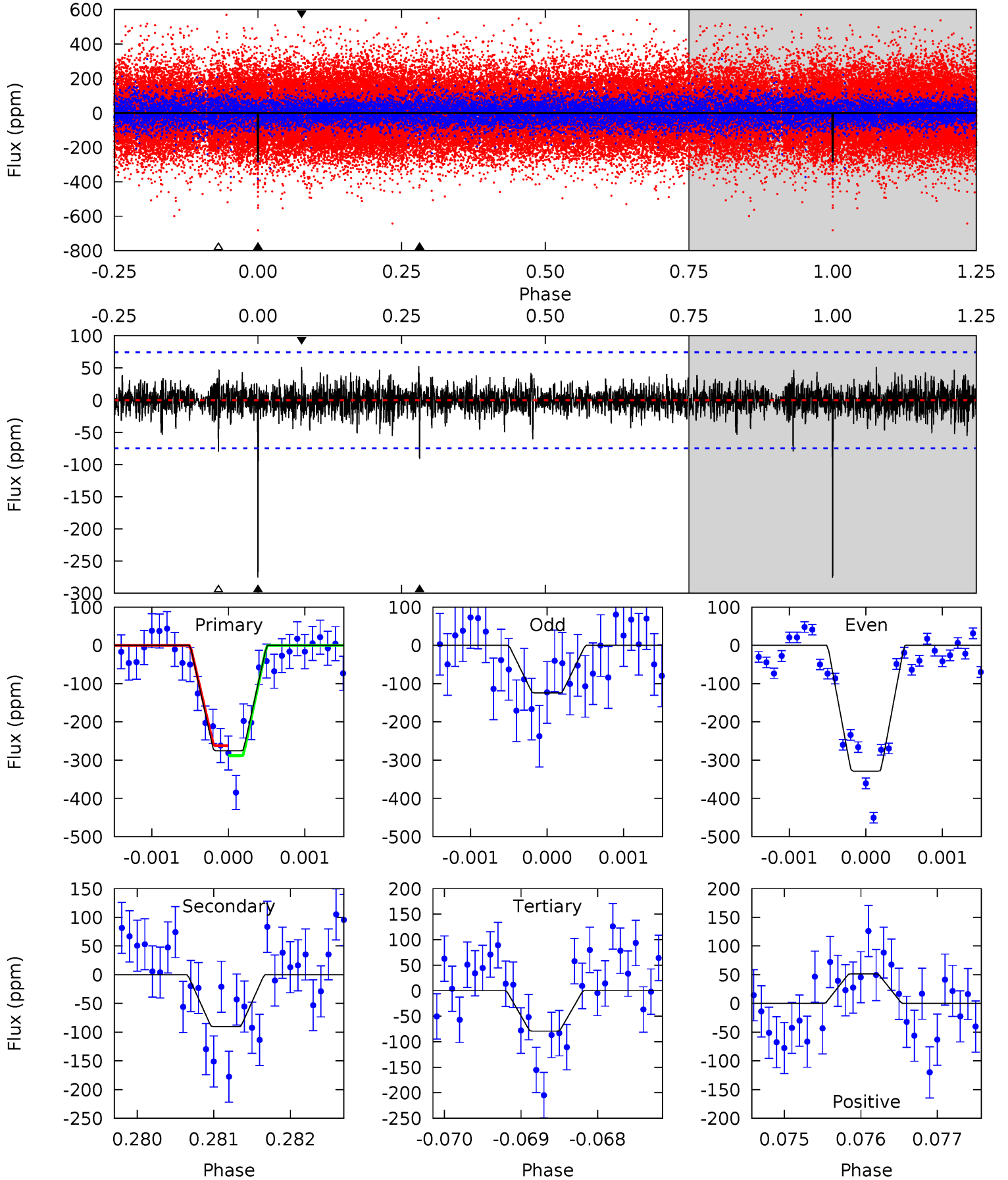
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	13.4	9.14	7.39	5.39	3.19	2.19	6.85	8.61	4.27	6.03	3.04	0.90	0.32	0.85



Alt Model-Shift Uniqueness Test

008700529-01, P = 637.057100 Days, E = 154.910518 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	6.61	5.80	3.76	5.45	3.29	1.06	14.4	16.4	0.81	2.85	7.02	0.83	0.16	0.95



Stellar Parameters For KIC 008700529

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6244^{+169}_{-206}	$4.235^{+0.185}_{-0.185}$	$-0.200^{+0.250}_{-0.300}$	$1.297^{+0.407}_{-0.305}$	$1.053^{+0.169}_{-0.123}$	$0.679^{+0.681}_{-0.345}$
	+3%/-3%	+4%/-4%	+125%/-150%	+31%/-24%	+16%/-12%	+100%/-51%
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 008700529-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 12	$1.80^{+0.61}_{-0.52}$	360^{+26}_{-26}	6222^{+1132}_{-719}	59990^{+55416}_{-25276}
Alt.	-90 ± 14	$2.45^{+0.74}_{-0.61}$	360^{+30}_{-26}	4736^{+480}_{-383}	18007^{+13417}_{-7380}

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

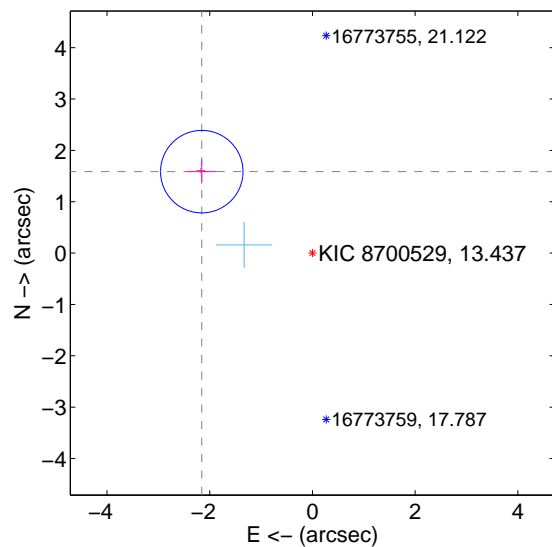
Supplemental centroid analysis for 008700529-01. Kepler magnitude: 13.44. Transit SNR 7.22

There are 1 quarters with good PRF difference image offsets

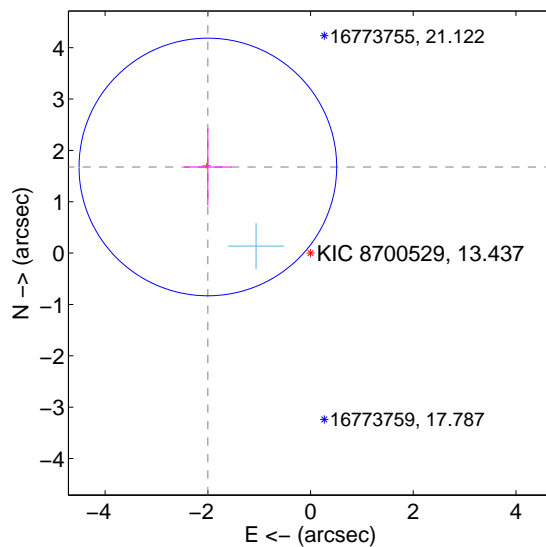
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.675 ± 0.268	10.00	2.155 ± 0.284	1.586 ± 0.235
PRF-fit source offset from KIC position	2.609 ± 0.836	3.12	1.999 ± 0.465	1.677 ± 0.751
photometric centroid source offset	1.34 ± 0.86	1.55	-1.27 ± 0.83	0.44 ± 1.08

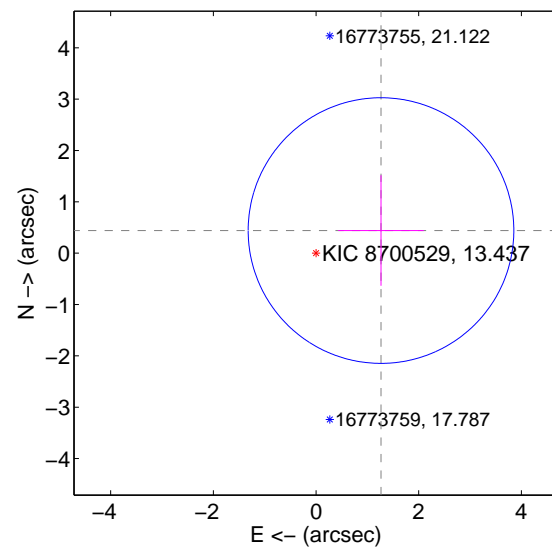
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

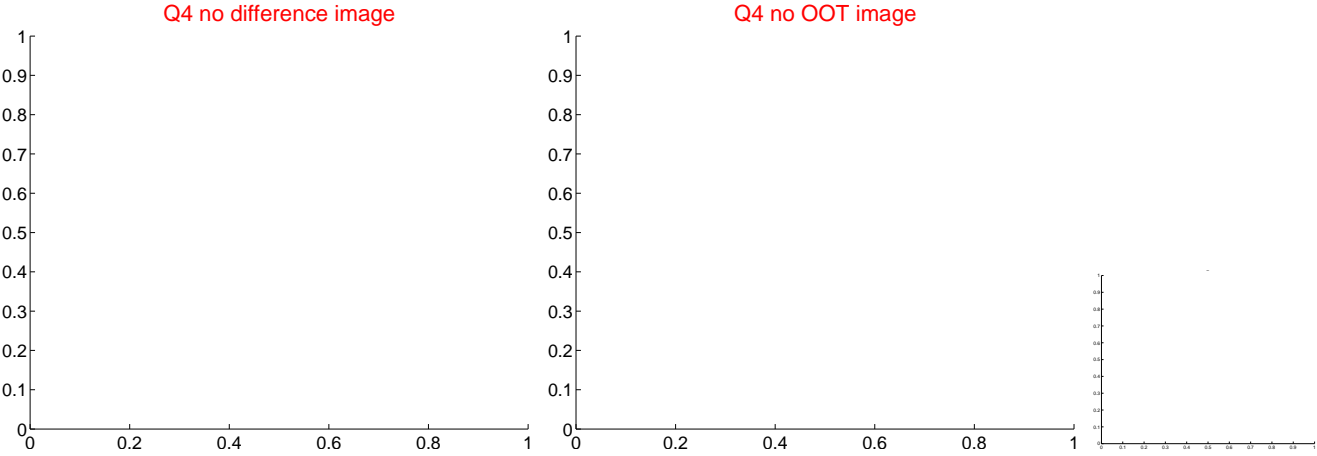
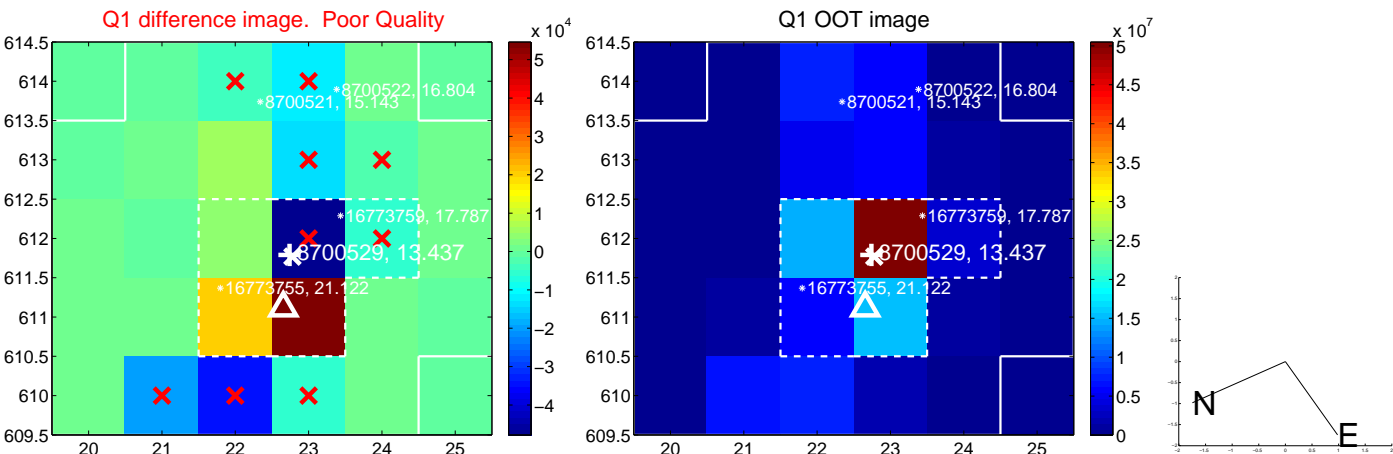


offset from photometric centroids

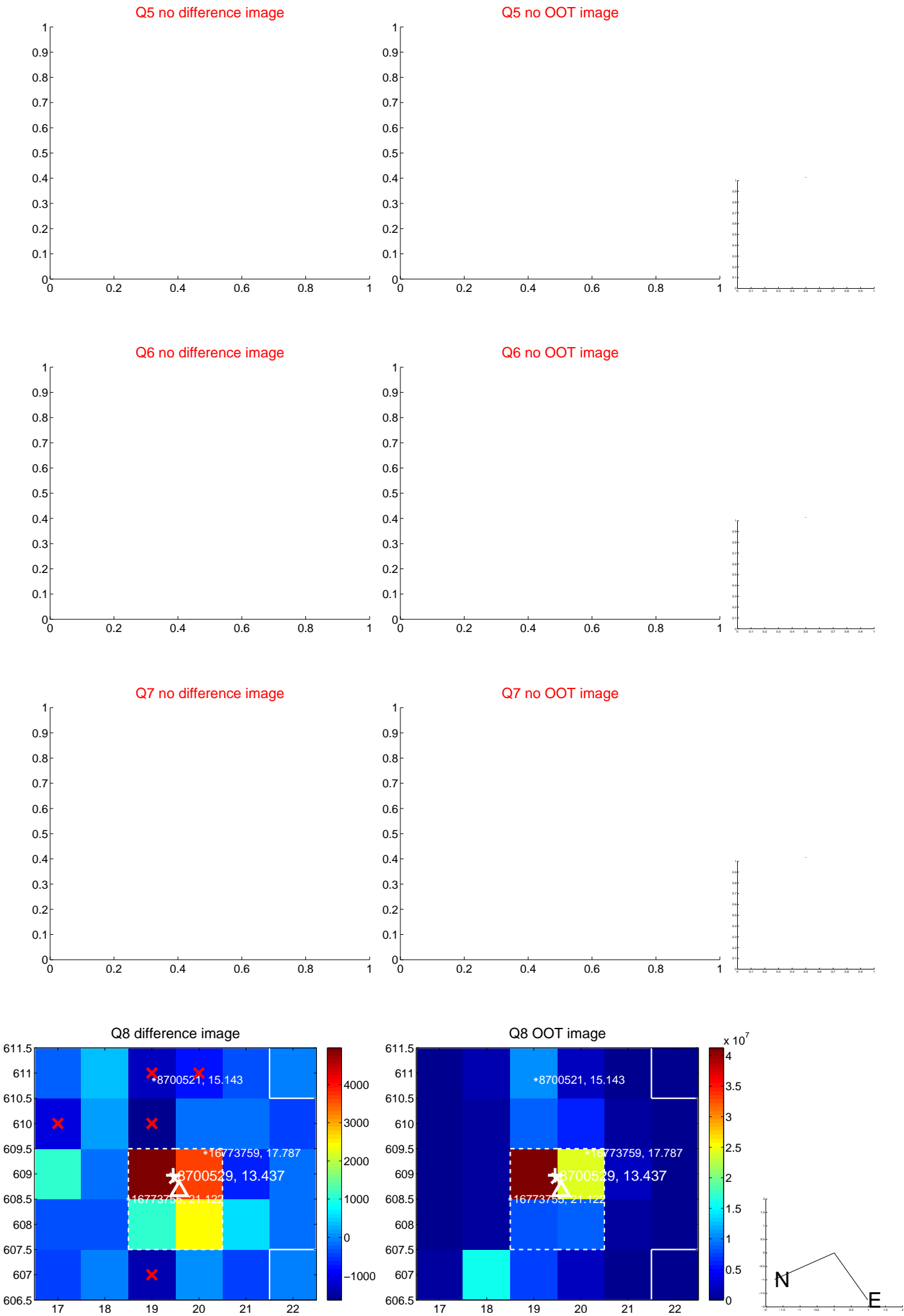


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



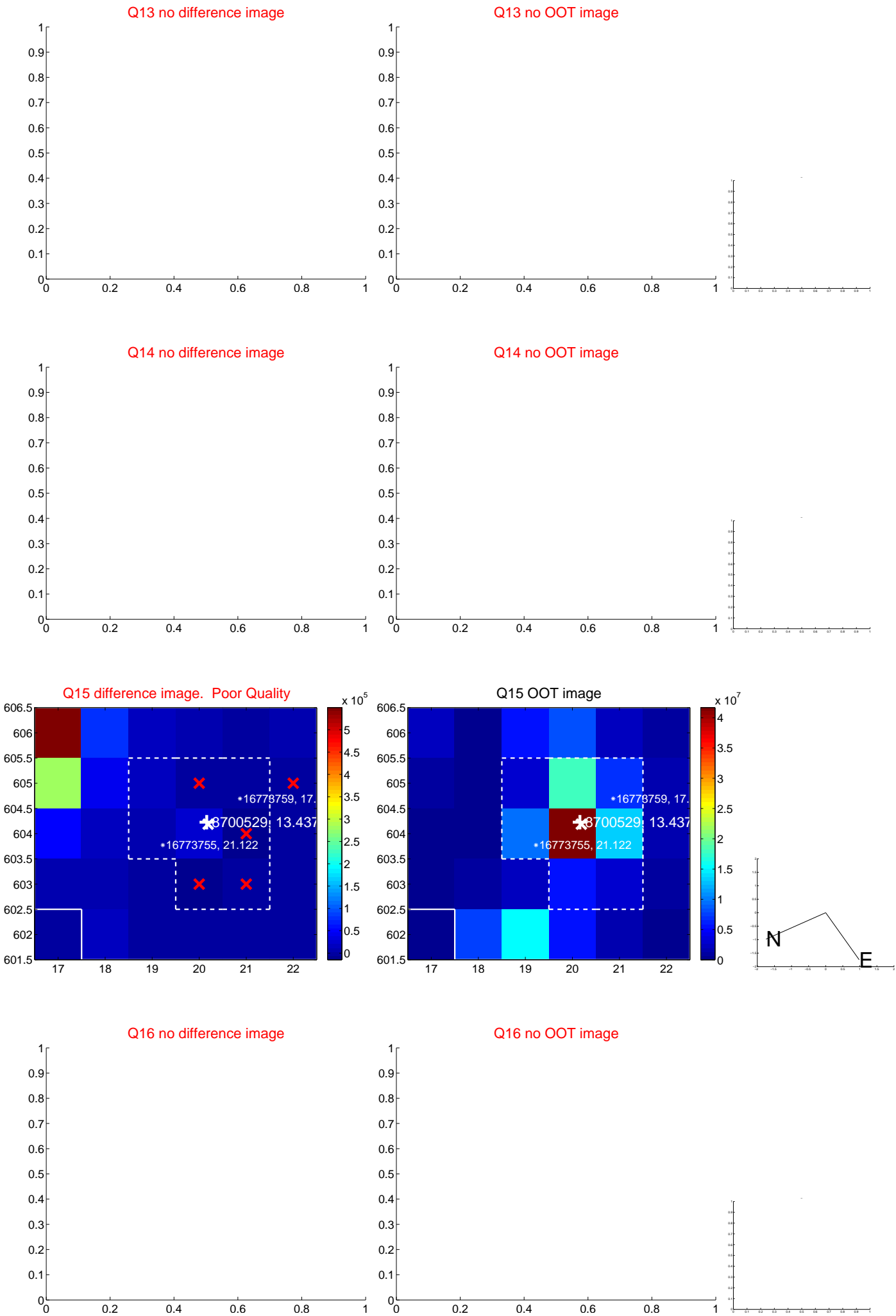
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



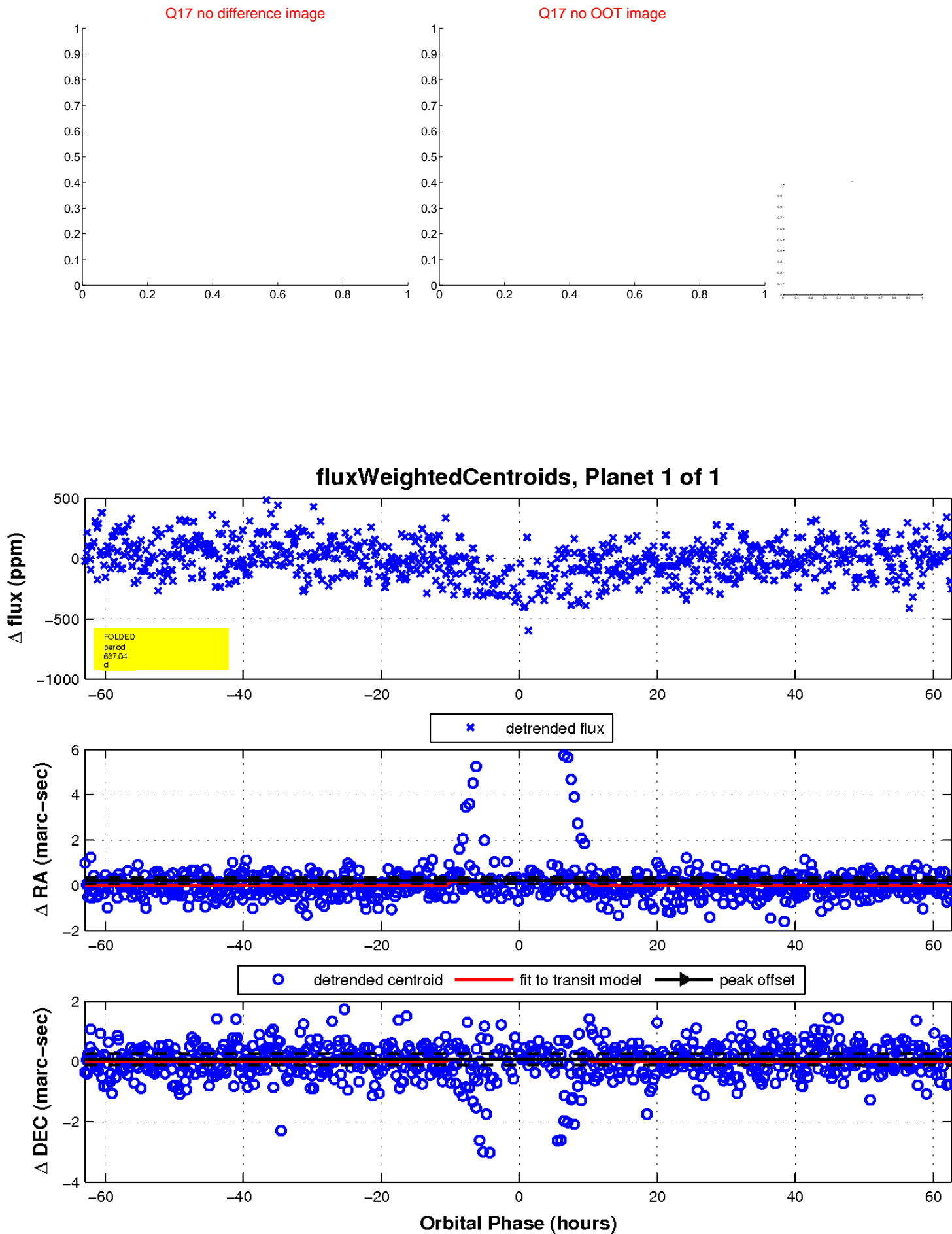
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

