

KIC 008621890

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})
008621890-01	OBS	No	375.960118	137.999292	736.2	16.438	8.1	8.0	1.12	6047	3.15	1.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008621890-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—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.

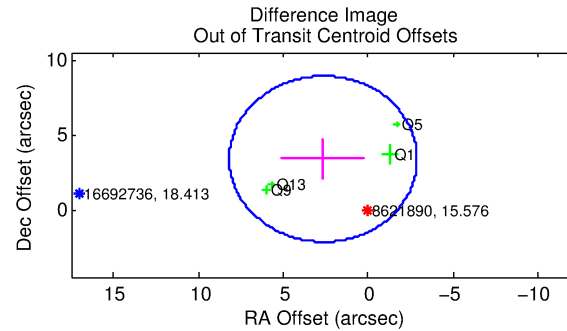
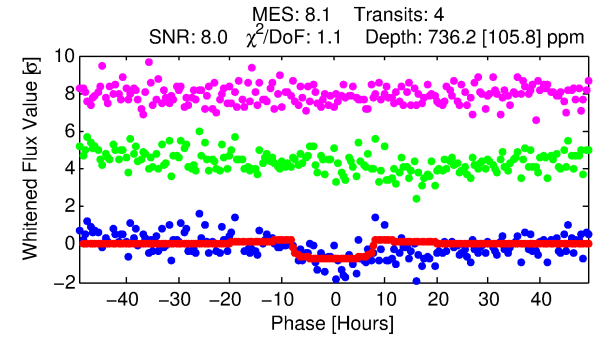
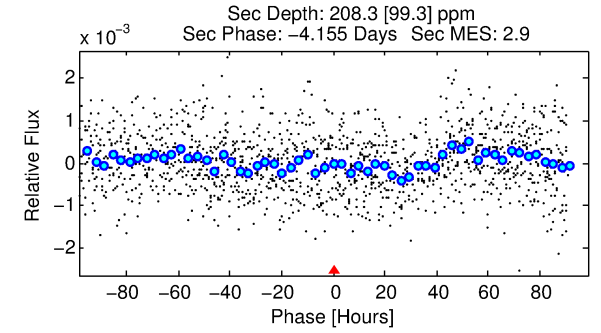
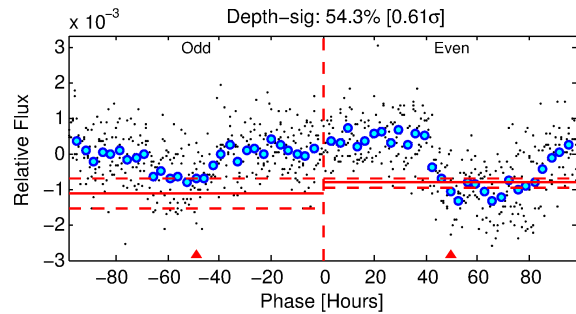
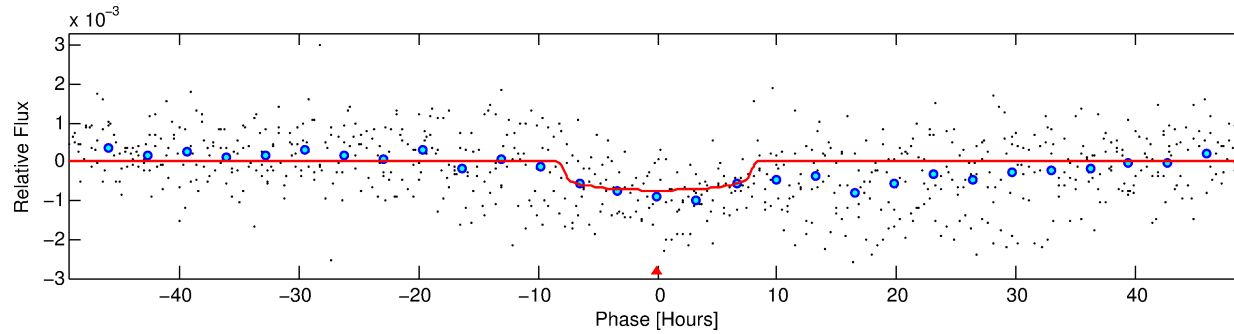
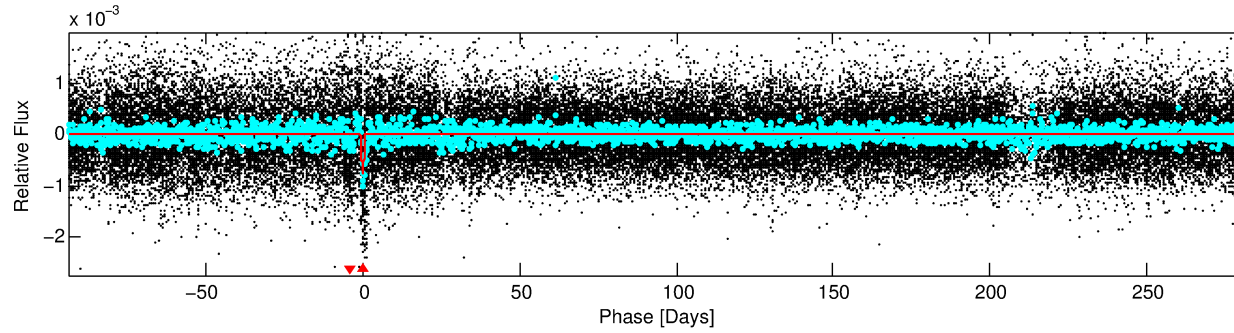
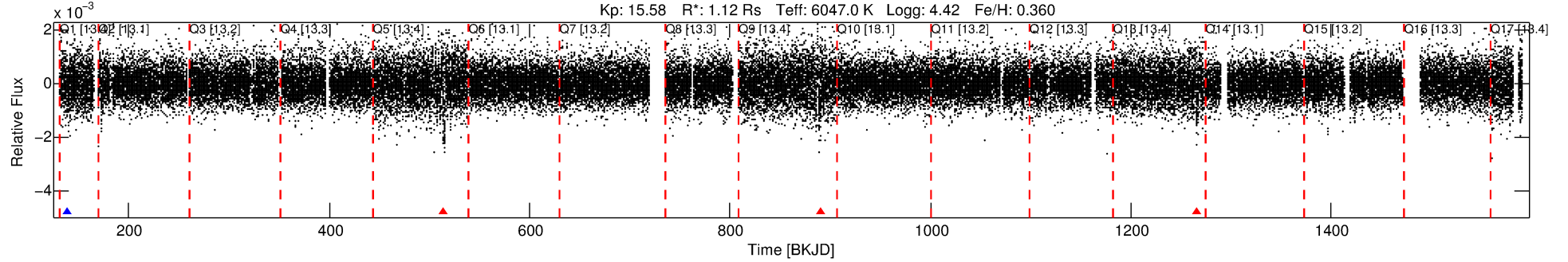
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008621890-01

No Significant Match Found

DV One-Page Summary

KIC: 8621890 Candidate: 1 of 1 Period: 375.960 d



DV Fit Results:

Period = 375.96012 [0.01259] d
Epoch = 137.9993 [0.0248] BKJD
Rp/R* = 0.0258 [0.0093]
a/R* = 147.38 [230.99]
b = 0.58 [1.79]
Seff = 1.27 [0.48]
Teq = 271 [25] K
Rp = 3.15 [1.43] Re
a = 1.0860 [0.2553] AU
Ag = 13665.65 [12721.77] [1.07 σ]
Teffp = 4523 [994] K [4.28 σ]

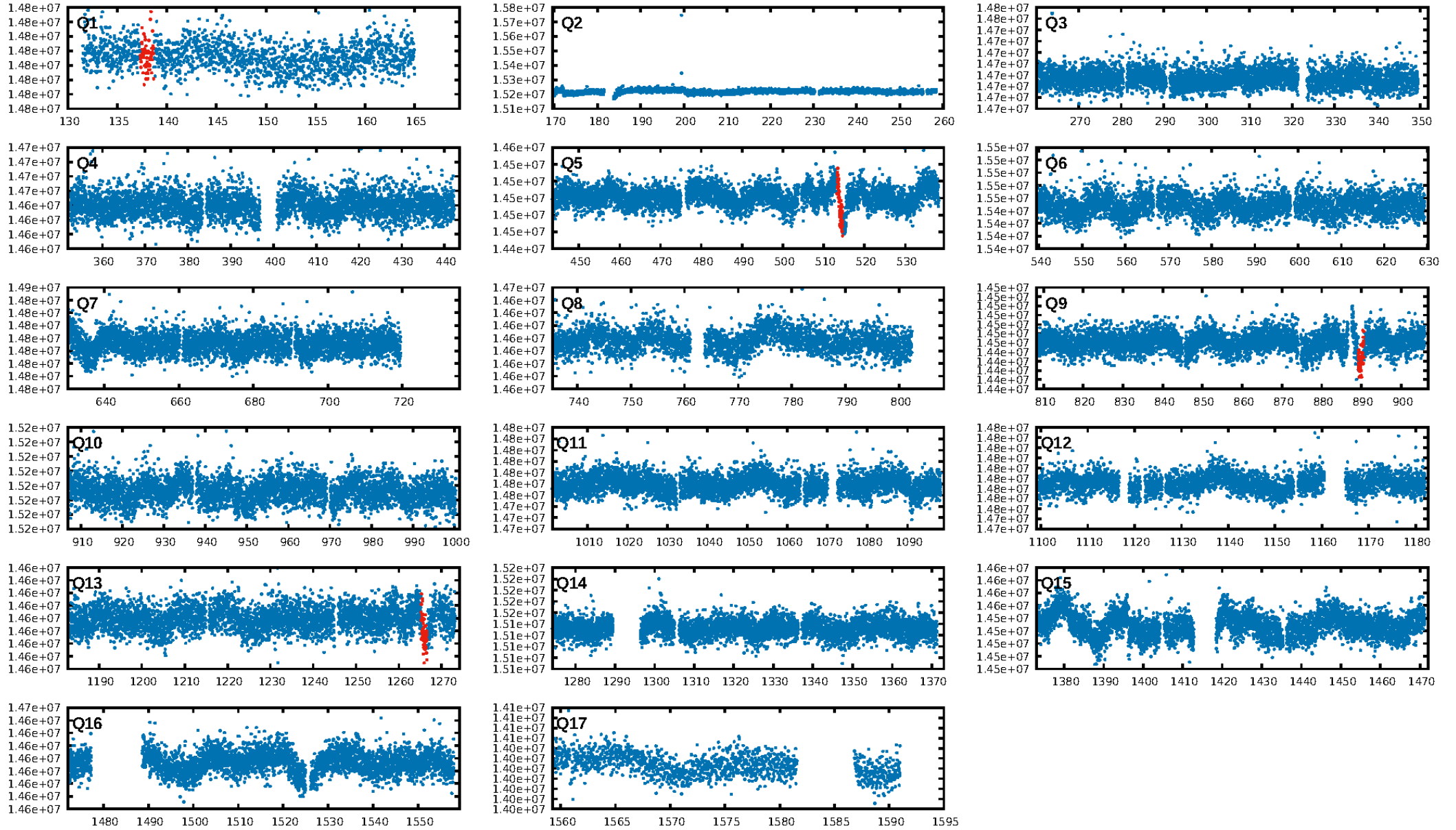
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 30.4%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 8.77e-10
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: 1.434
Centroid-sig: 33.9%
Centroid-so: 1.522 arcsec [0.92 σ]
OotOffset-rm: 4.287 arcsec [2.32 σ]
KicOffset-rm: 4.181 arcsec [2.26 σ]
OotOffset-st: 0/0/0/4 [4]
KicOffset-st: 0/0/0/4 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

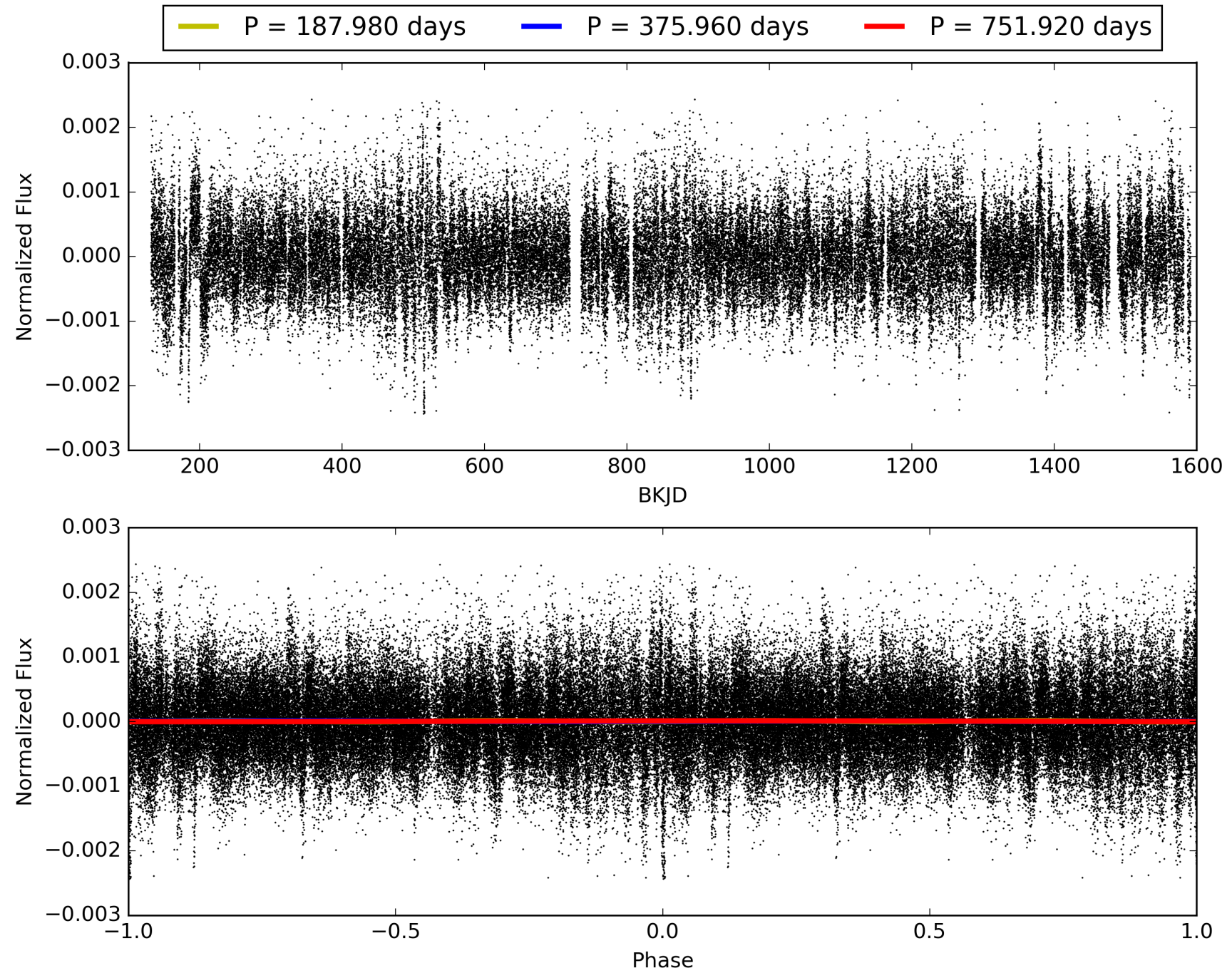
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:33:00 Z

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

TCE 008621890-01, PDC Light Curves

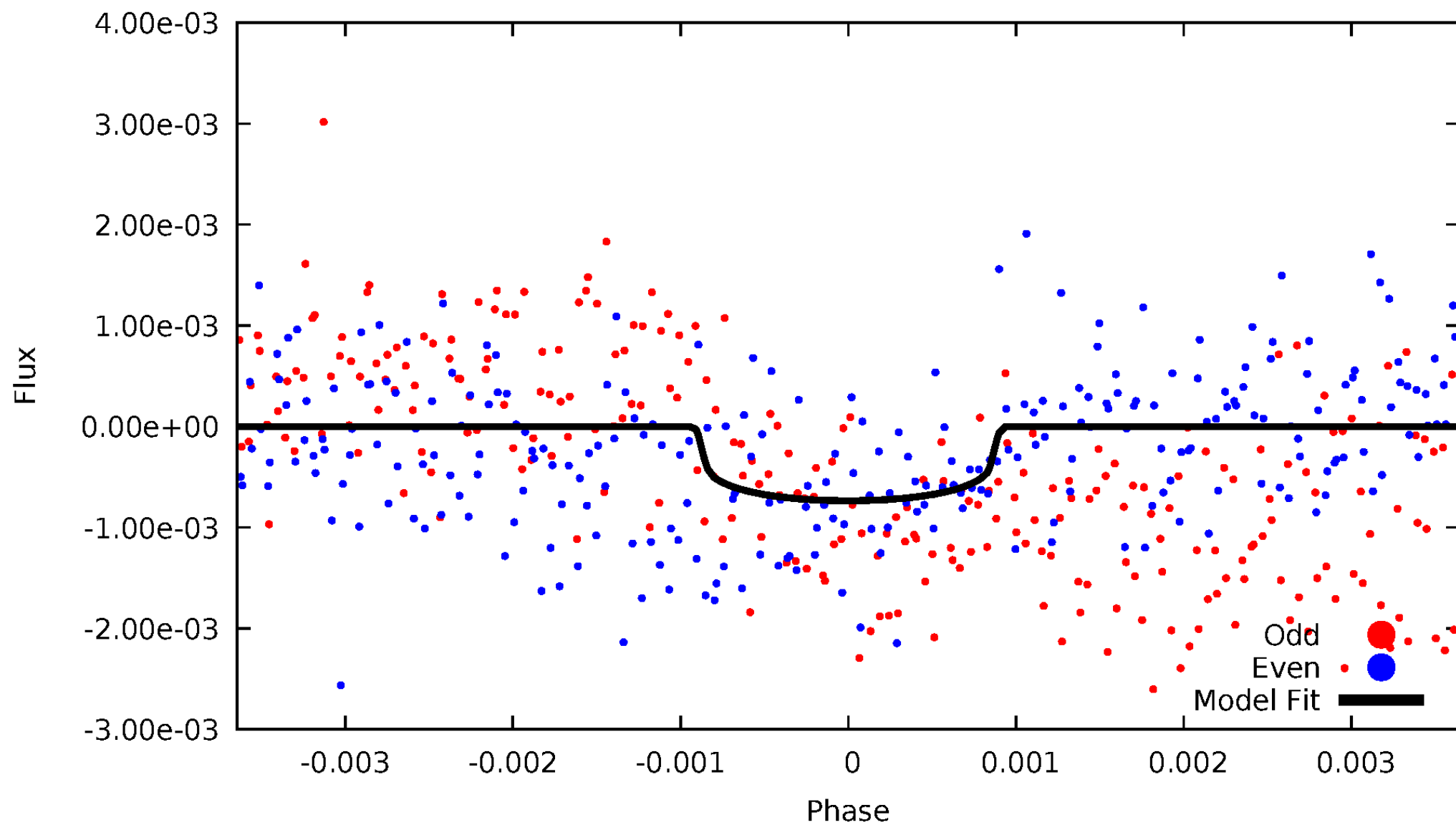


TCE 008621890-01



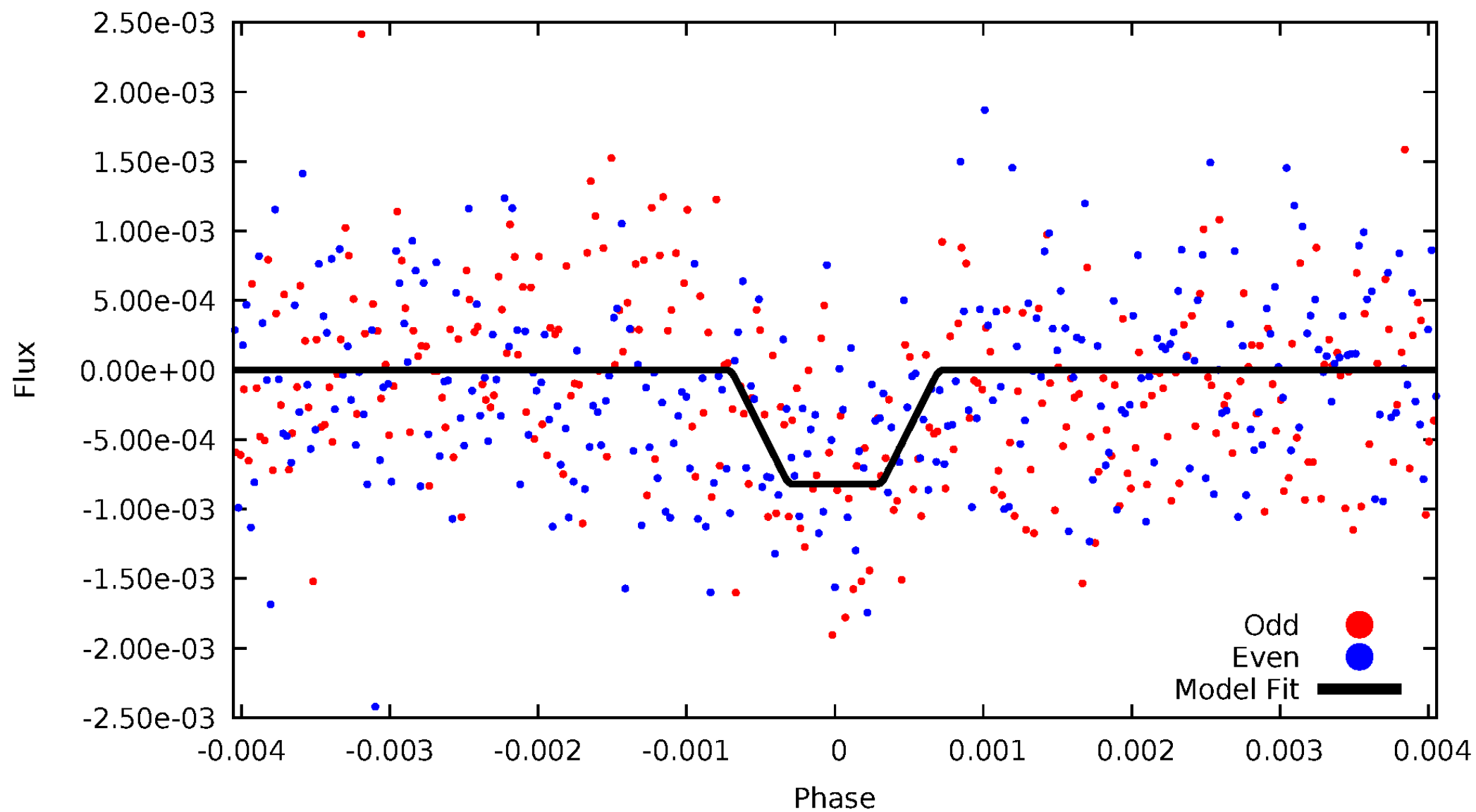
DV Odd/Even

TCE 008621890-01



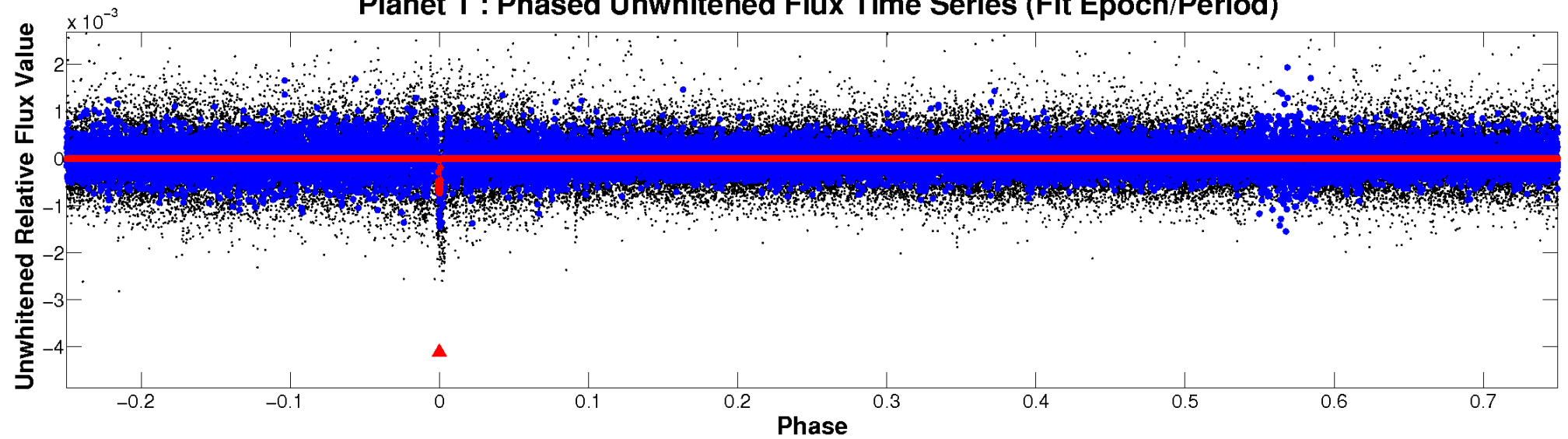
ALT Odd/Even

TCE 008621890-01

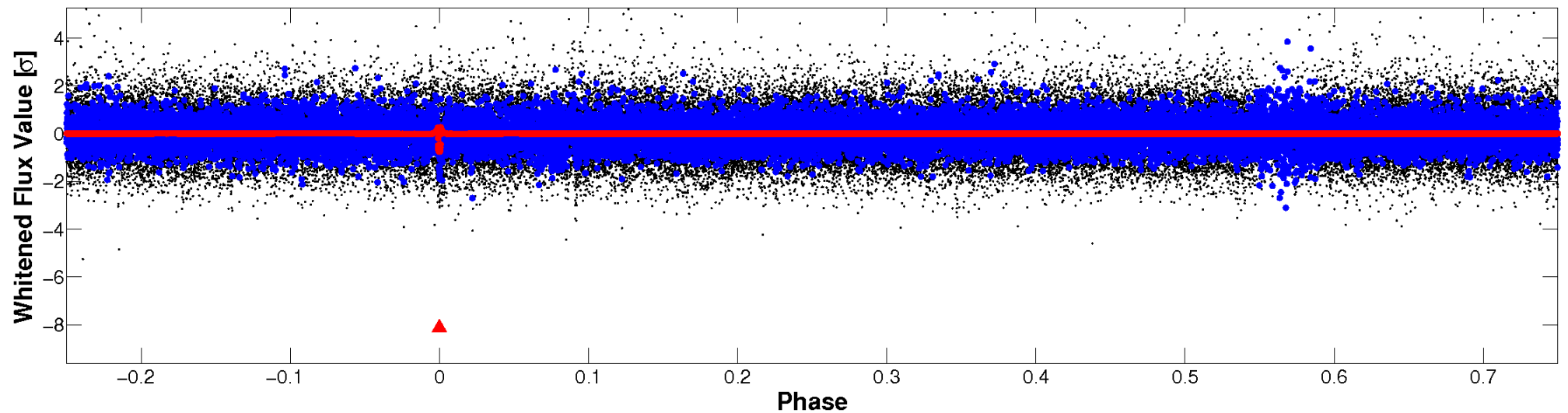


Non-Whitened Vs. Whitened Light Curve

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

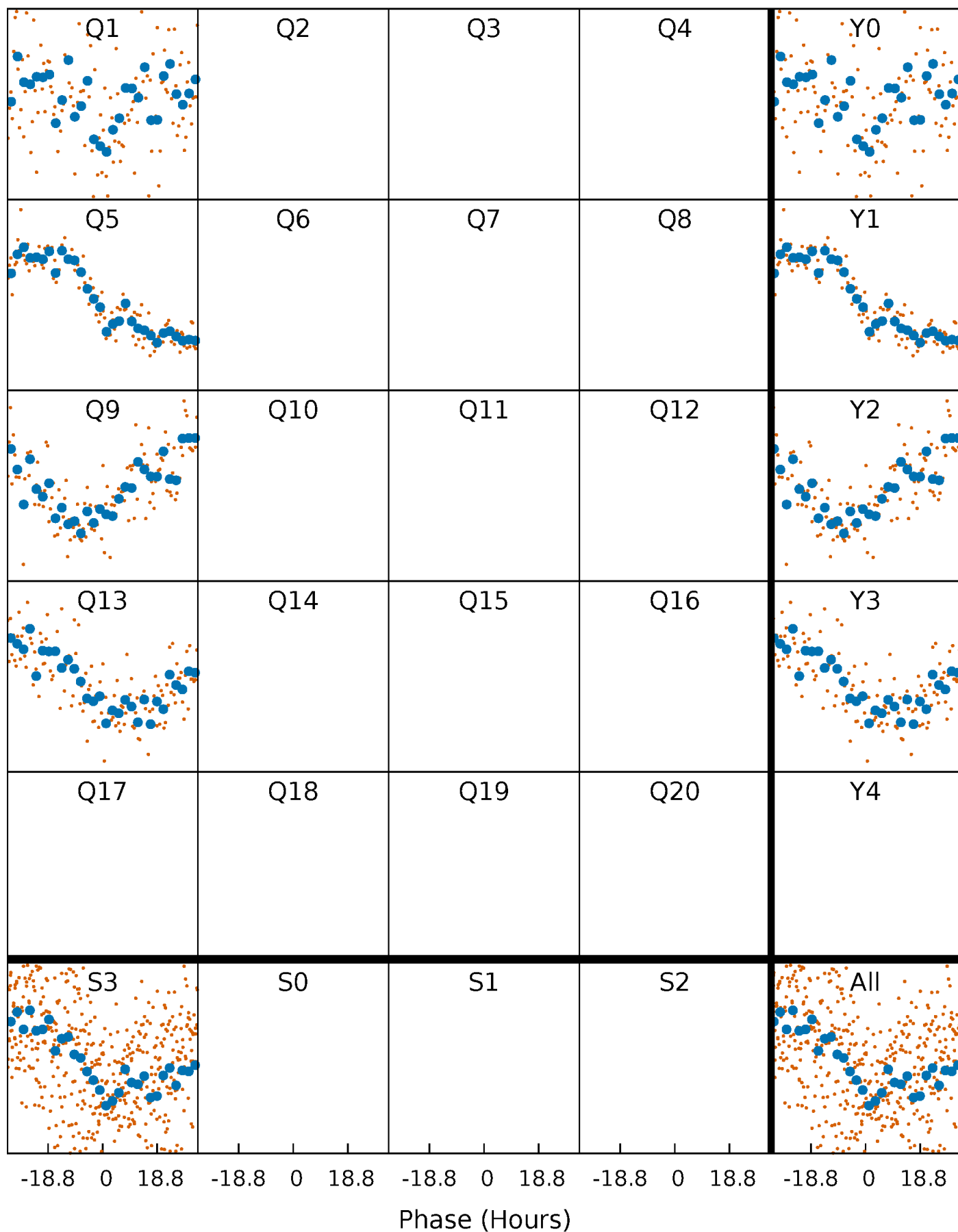


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008621890-01 P=375.960118 Days $T_0=137.999292$ (BKJD)



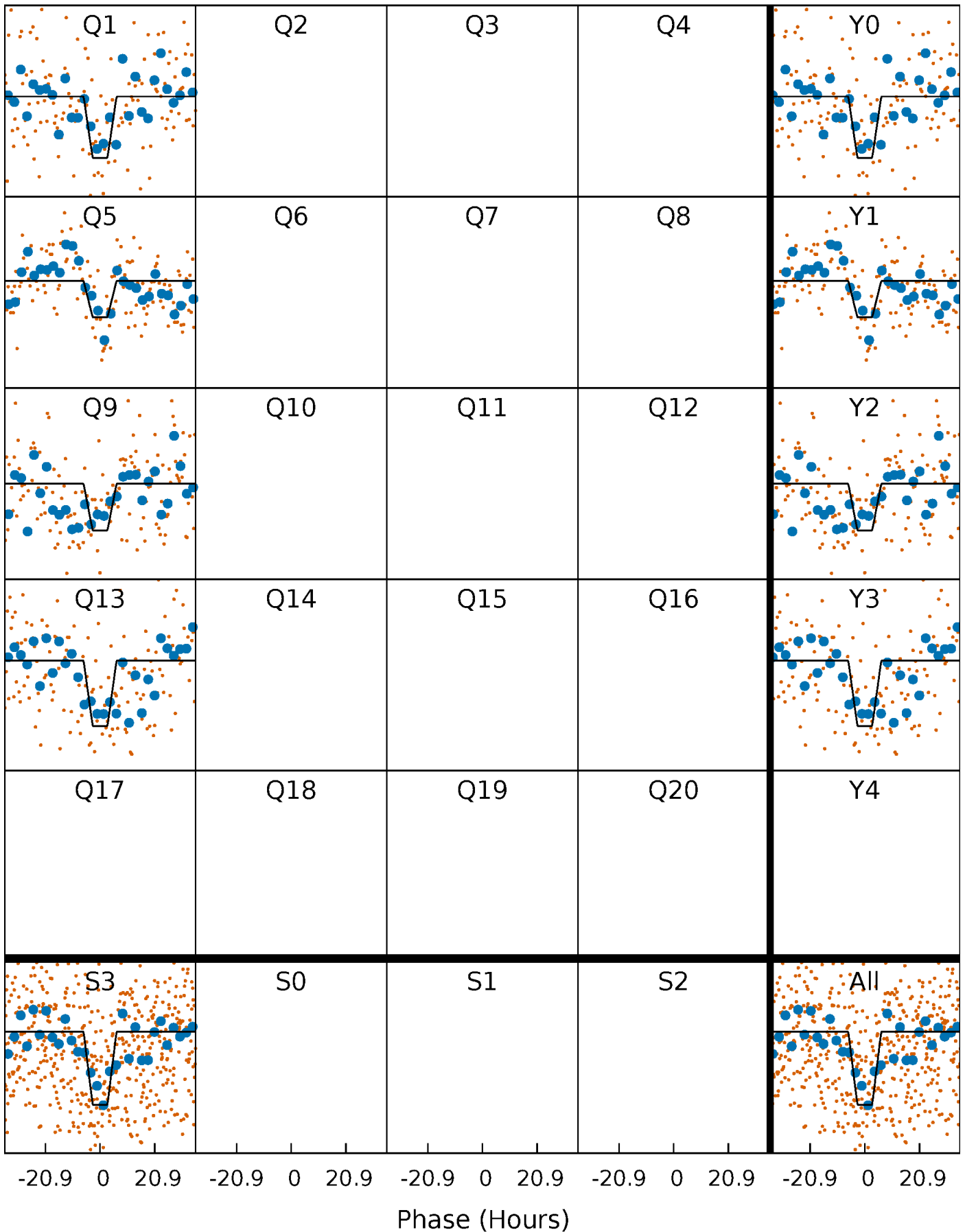
DV Quarter-Phased Transit Curves

TCE 008621890-01 $P=375.960118$ Days $T_0=137.999292$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

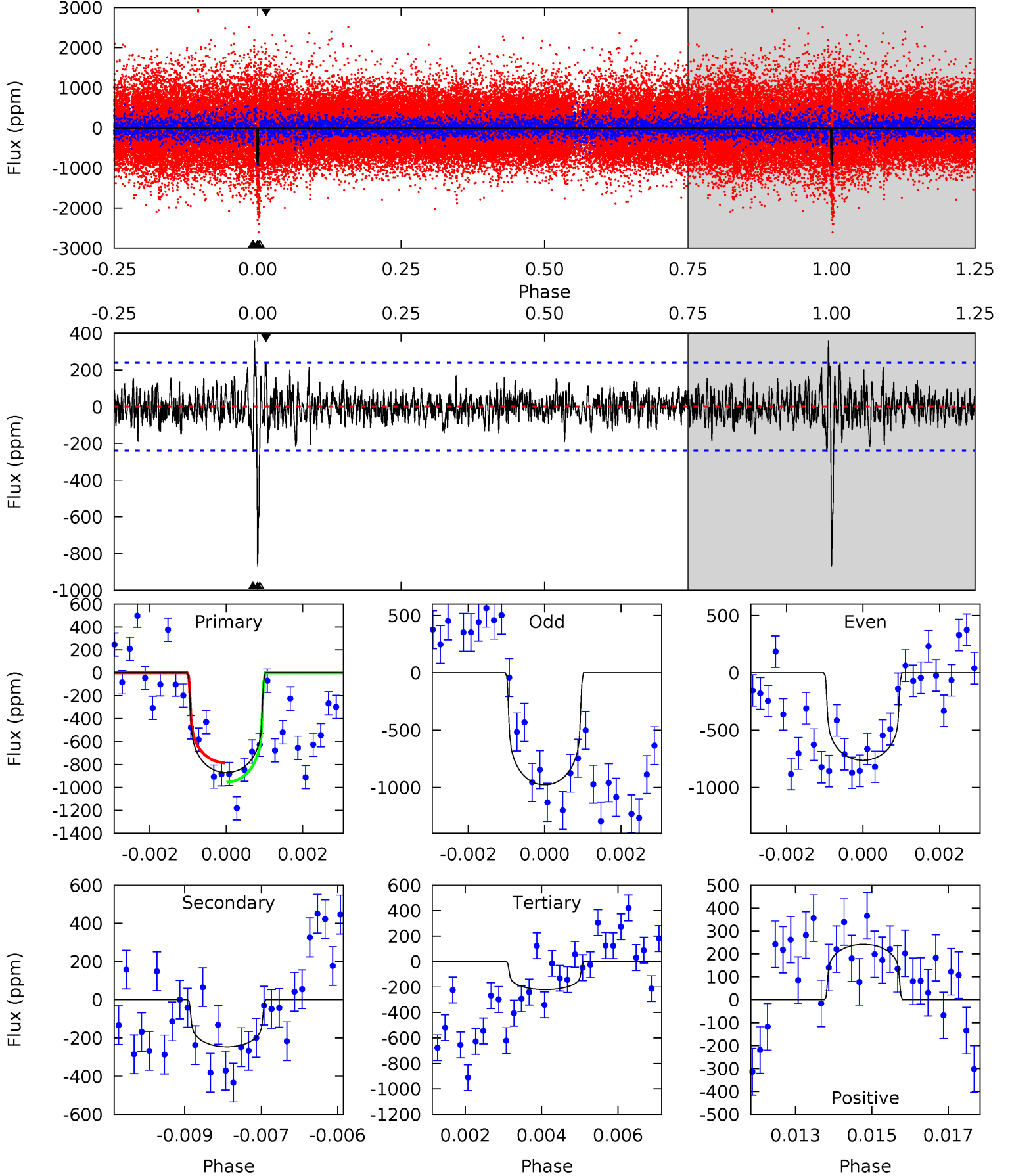
TCE 008621890-01 P=375.963882 Days $T_0=138.019161$ (BKJD)



DV Model-Shift Uniqueness Test

008621890-01, $P = 375.960118$ Days, $E = 137.999292$ Days

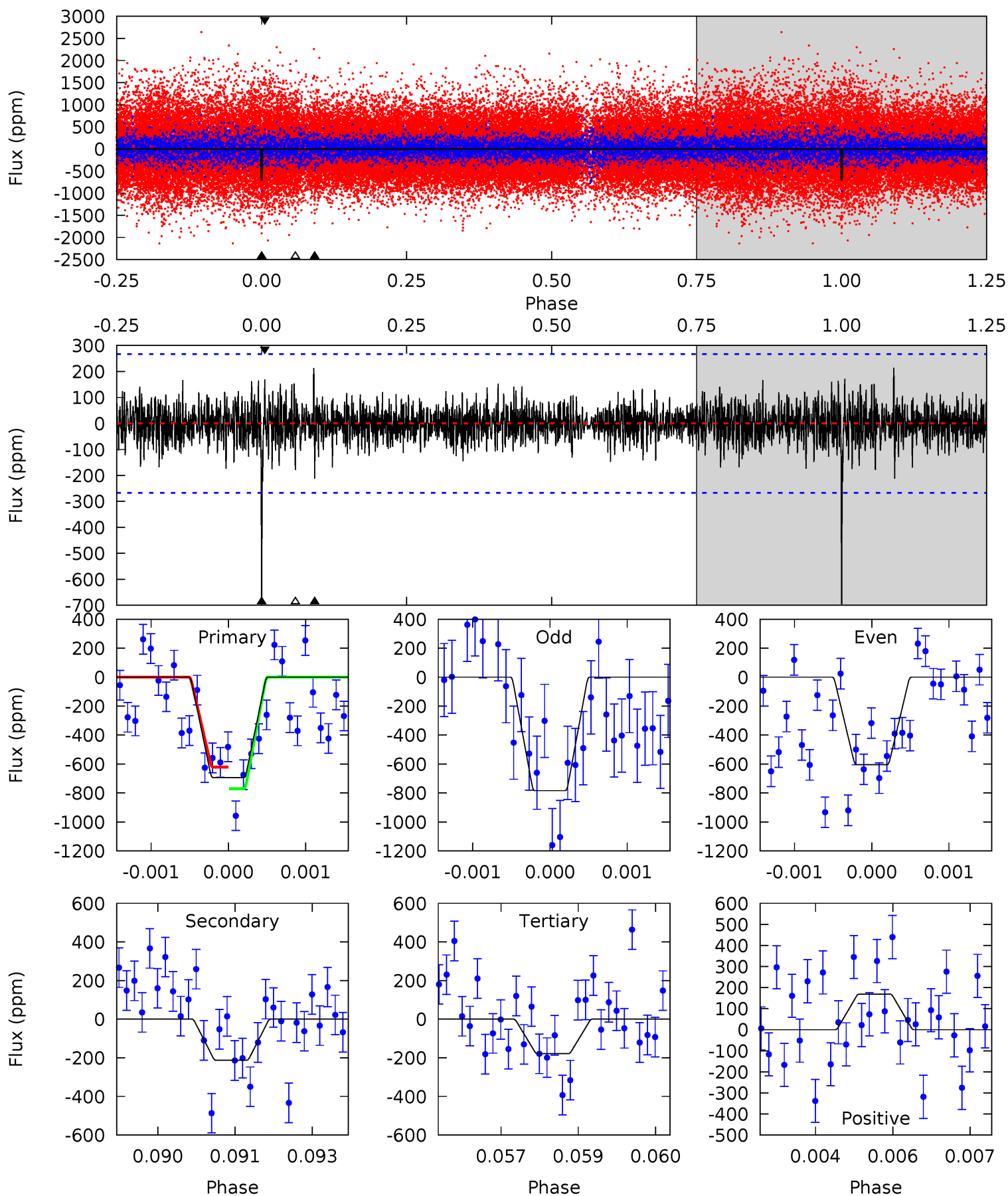
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	5.50	4.91	5.39	5.34	3.11	1.45	14.5	14.0	0.59	0.10	2.41	0.89	0.29	1.87



Alt Model-Shift Uniqueness Test

008621890-01, $P = 375.963882$ Days, $E = 138.019161$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	4.28	3.60	3.41	5.39	3.19	1.04	10.4	10.6	0.68	0.87	1.81	1.06	0.23	1.50



Stellar Parameters For KIC 008621890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6047^{+190}_{-232}	$4.424^{+0.050}_{-0.188}$	$0.360^{+0.100}_{-0.350}$	$1.117^{+0.311}_{-0.111}$	$1.207^{+0.111}_{-0.166}$	$1.221^{+0.315}_{-0.606}$
	+3%/-4%	+1%/-4%	+28%/-97%	+28%/-10%	+9%/-14%	+26%/-50%
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 008621890-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-246 ± 45	$3.27^{+1.25}_{-1.23}$	386^{+26}_{-19}	4804^{+1028}_{-561}	14617^{+21838}_{-7495}
Alt.	-212 ± 50	$3.56^{+1.28}_{-1.19}$	384^{+27}_{-19}	4507^{+829}_{-515}	10329^{+14085}_{-5079}

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

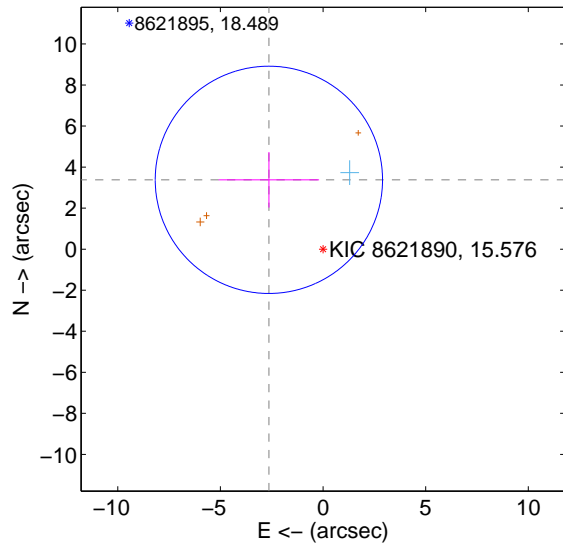
Supplemental centroid analysis for 008621890-01. Kepler magnitude: 15.58. Transit SNR 7.97

There are 1 quarters with good PRF difference image offsets

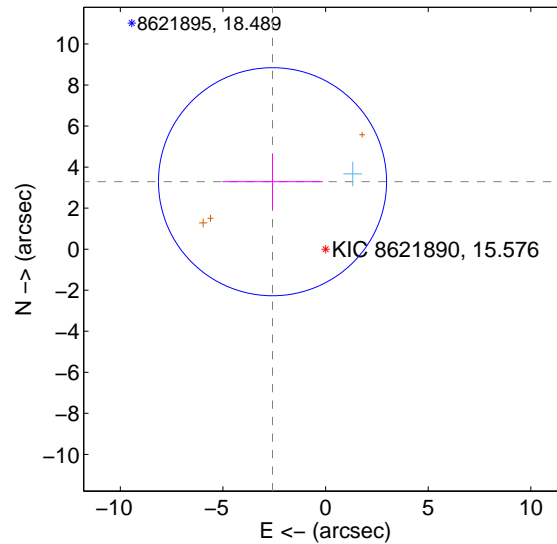
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.287 ± 1.846	2.32	2.638 ± 2.448	3.379 ± 1.352
PRF-fit source offset from KIC position	4.181 ± 1.852	2.26	2.585 ± 2.451	3.286 ± 1.354
photometric centroid source offset	1.52 ± 1.66	0.92	1.25 ± 1.61	-0.87 ± 1.76

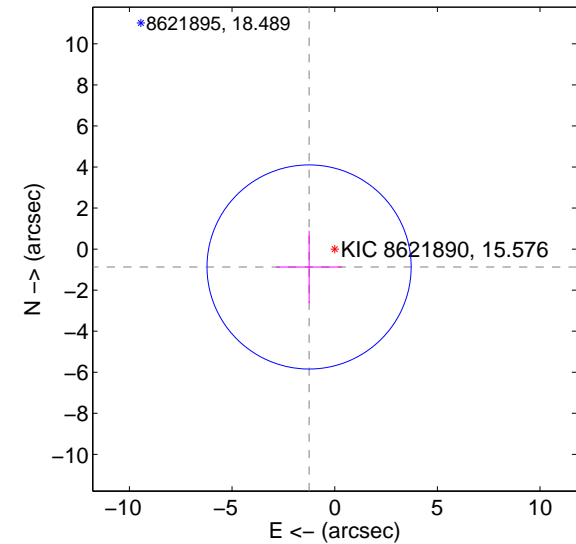
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

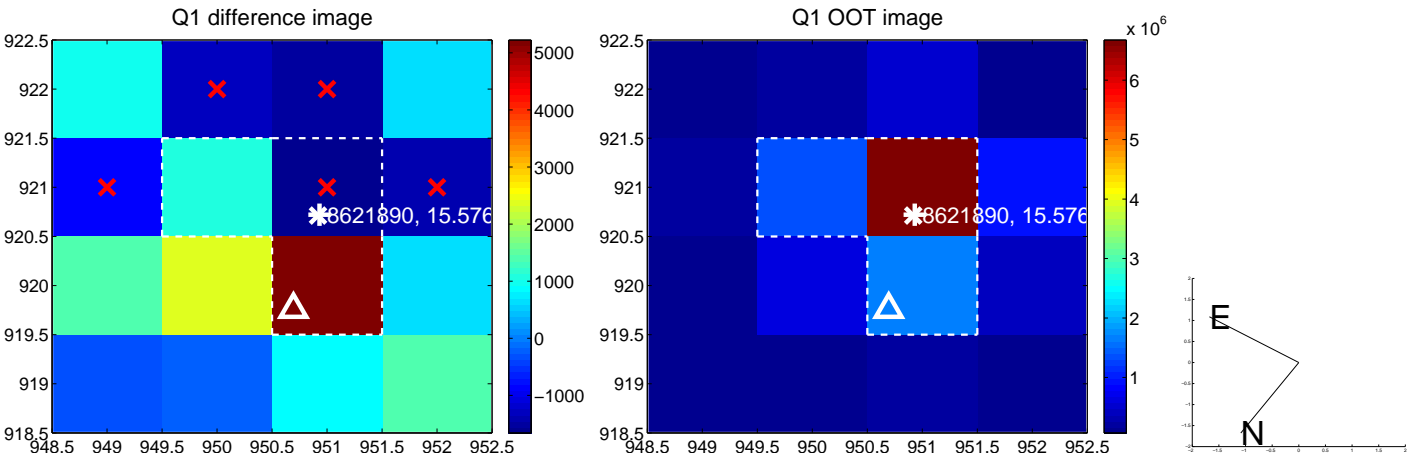


offset from photometric centroids

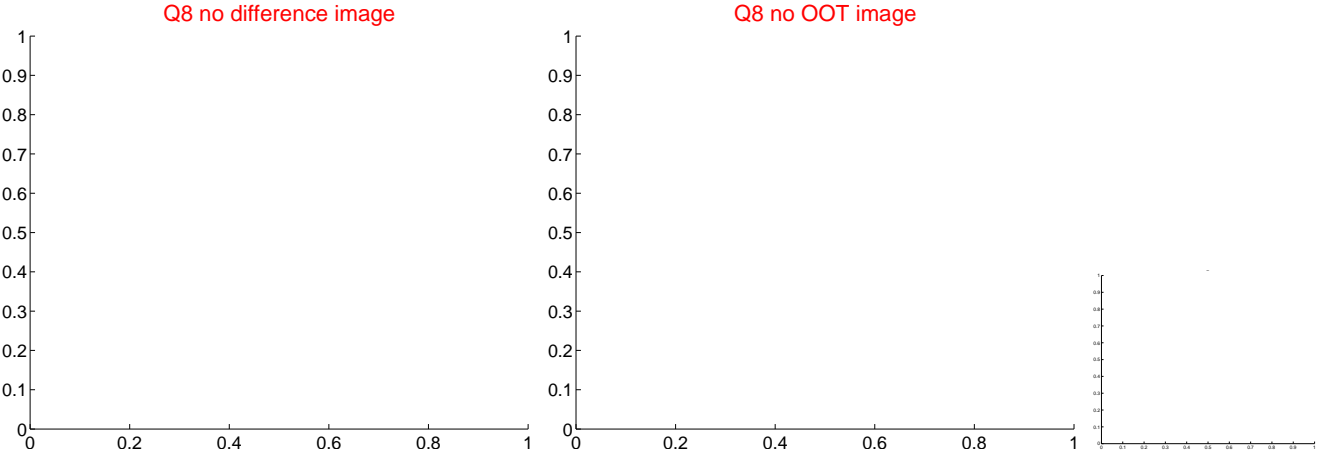
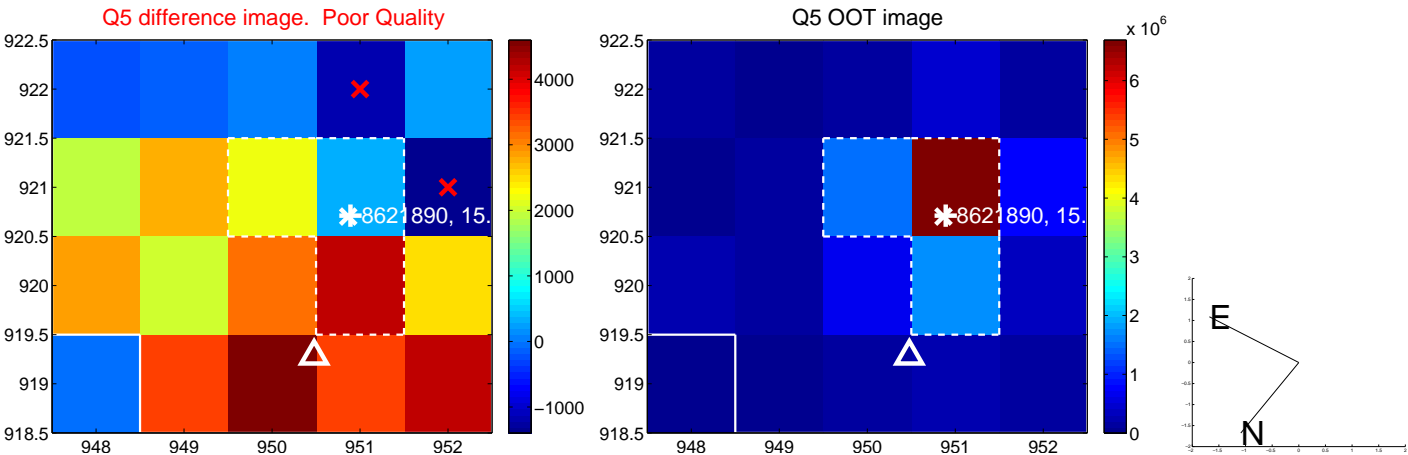


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

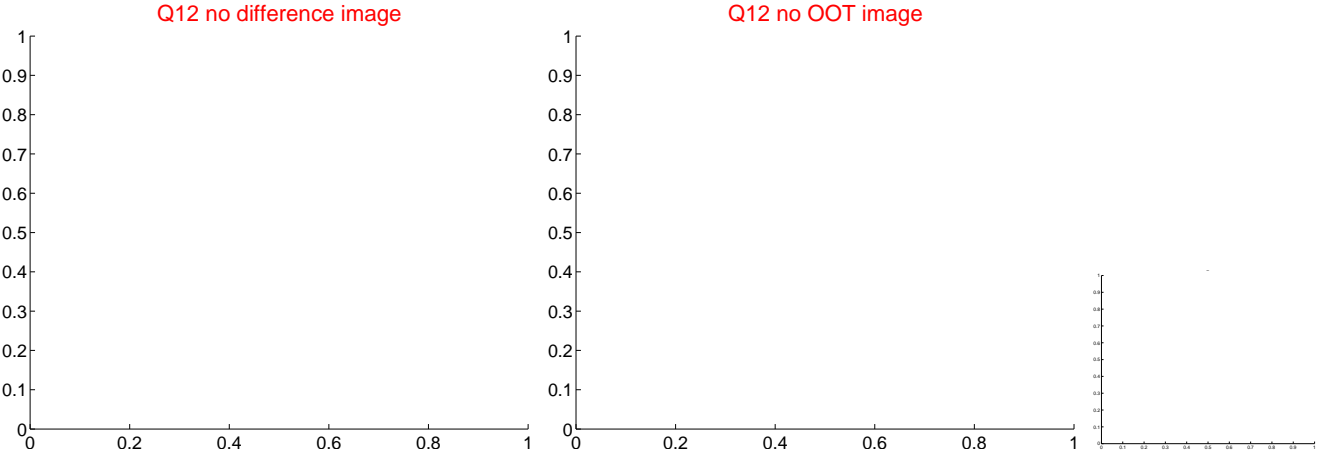
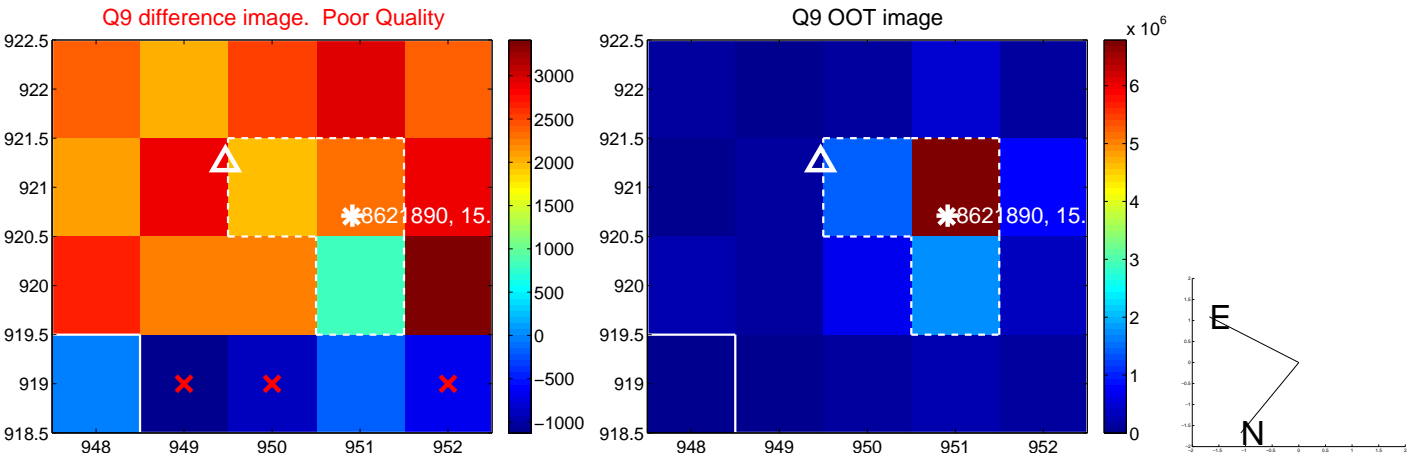
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



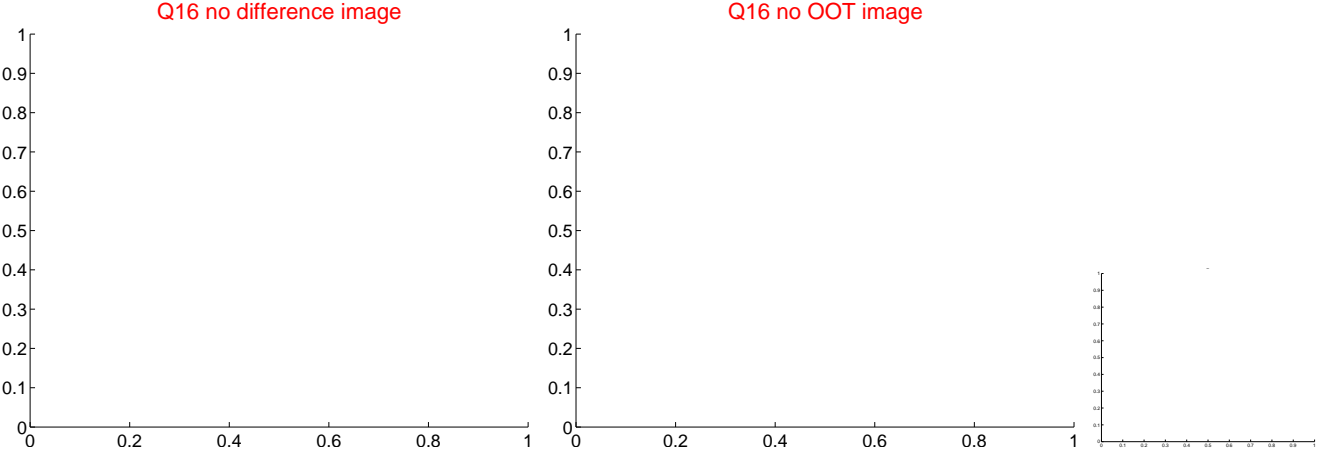
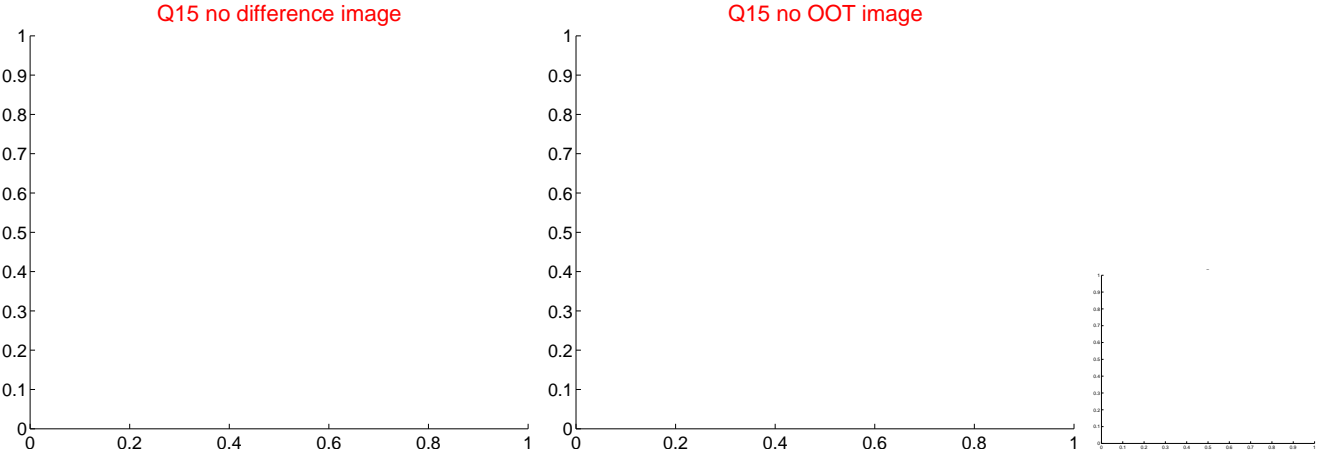
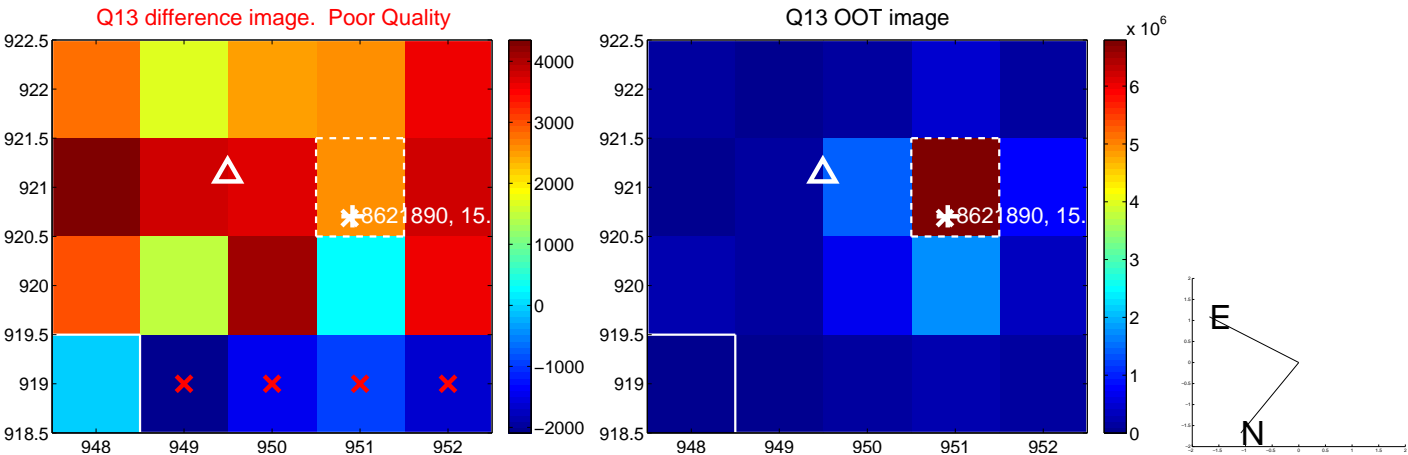
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



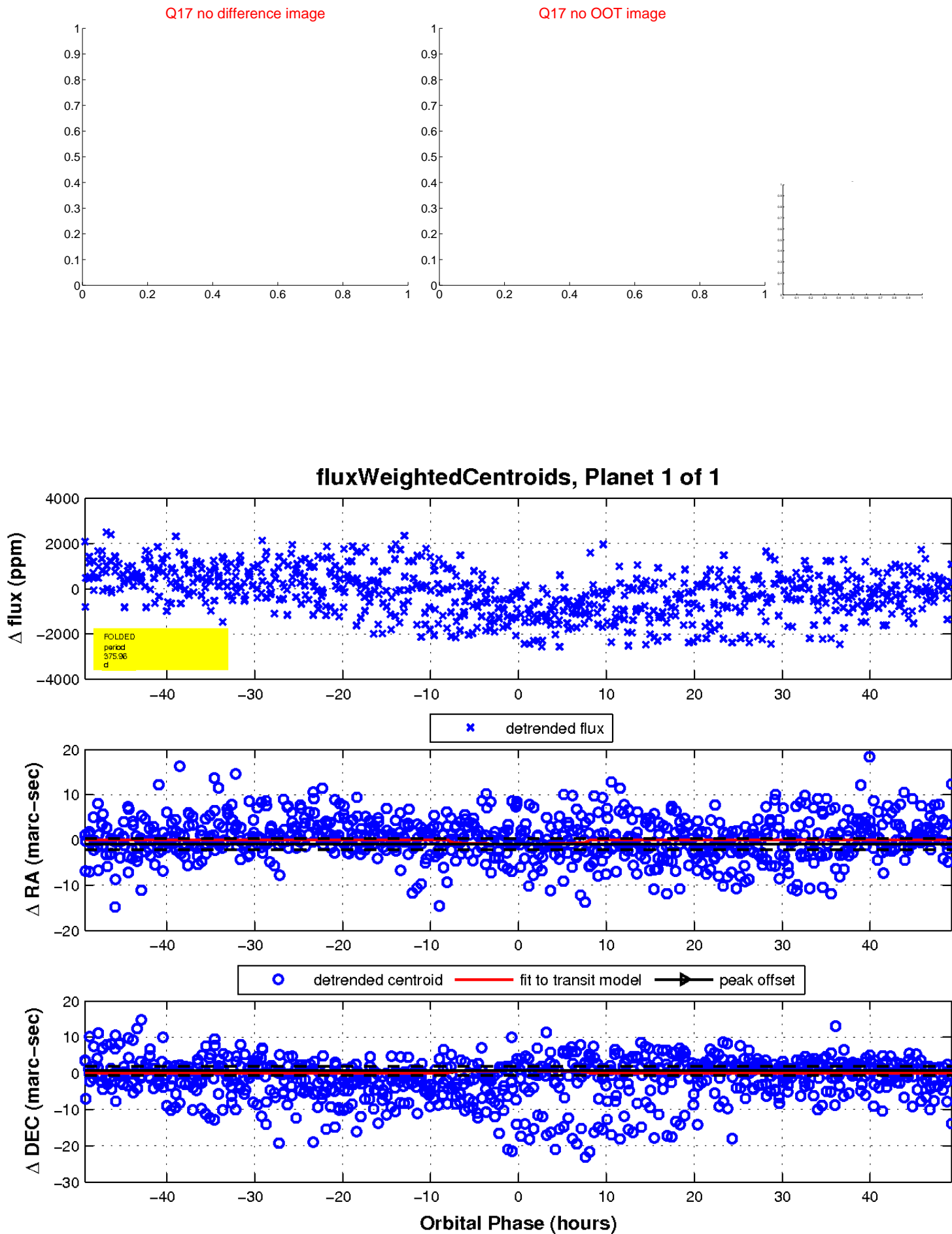
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

