

KIC 009077348

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})
009077348-01	OBS	No	446.204385	187.271962	154.0	14.017	9.2	4.6	1.02	6284	1.42	1.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009077348-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_ALT—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.

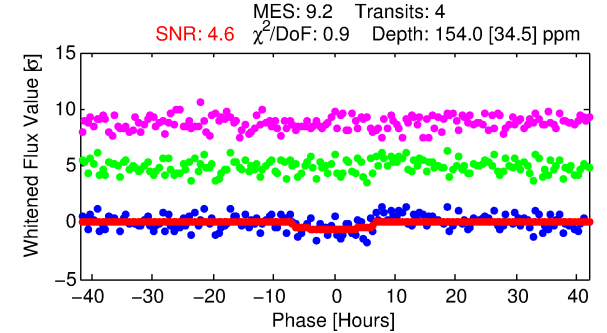
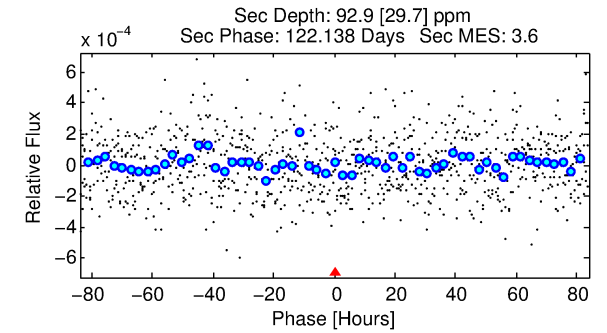
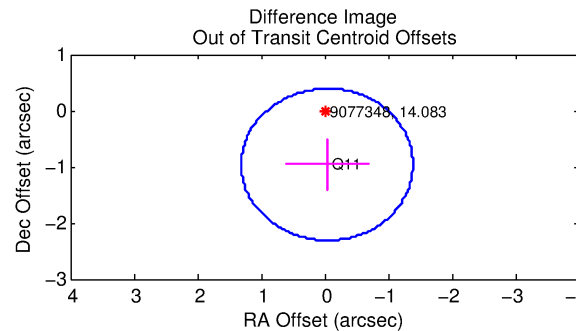
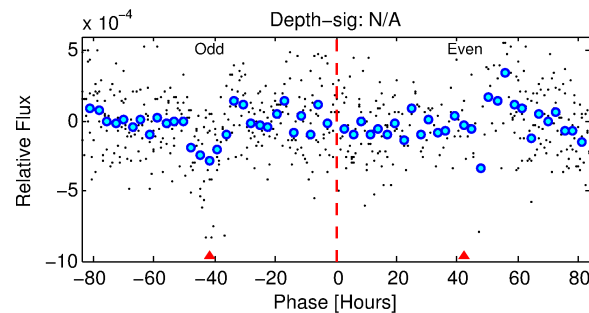
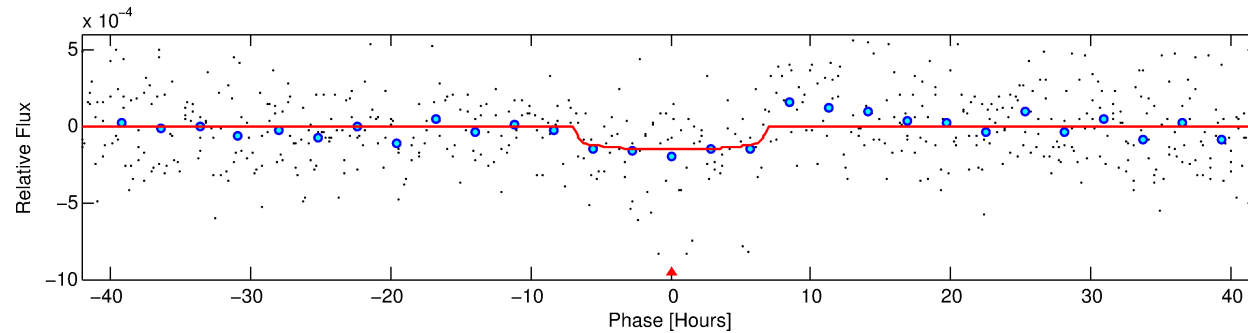
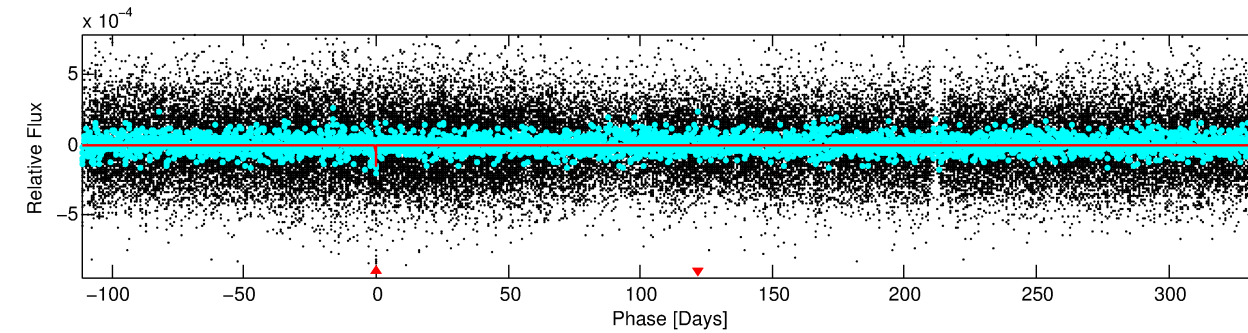
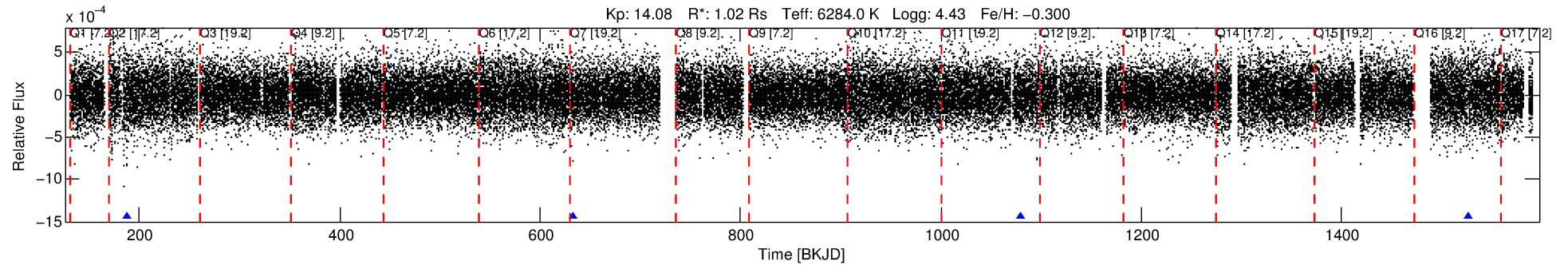
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009077348-01

No Significant Match Found

DV One-Page Summary

KIC: 9077348 Candidate: 1 of 1 Period: 446.204 d



DV Fit Results:

Period = 446.20439 [0.02209] d
Epoch = 187.2720 [0.0391] BKJD
Rp/R* = 0.0128 [0.0072]
a/R* = 140.00 [429.56]
b = 0.83 [1.12]
Seff = 1.10 [0.45]
Teq = 261 [27] K
Rp = 1.42 [0.93] Re
a = 1.1520 [0.3132] AU
Ag = 33665.18 [41764.88] [0.81σ]
Teffp = 5463 [1619] K [3.21σ]

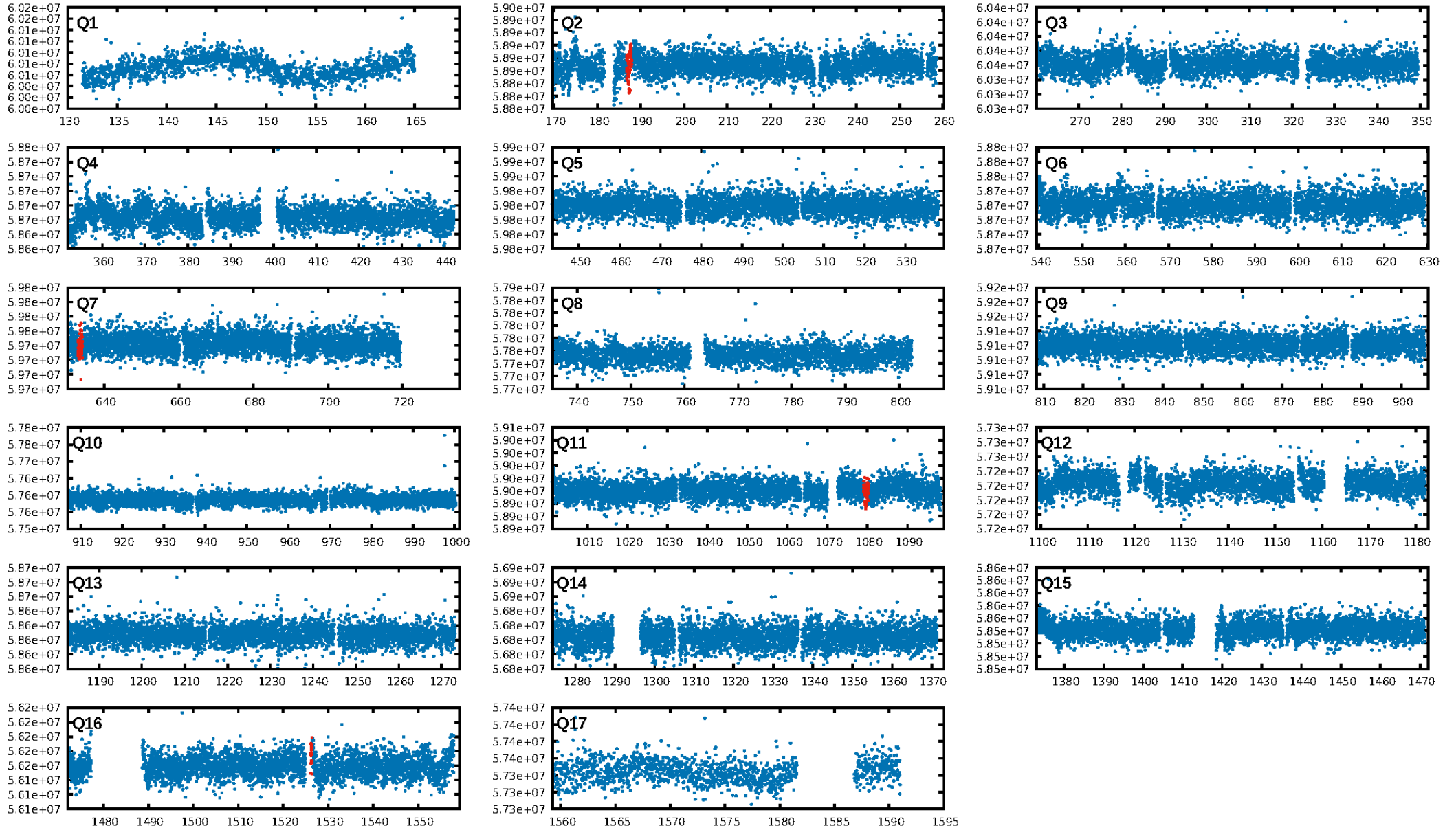
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.97e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.031
Centroid-sig: 4.5%
Centroid-so: 1.993 arcsec [1.00σ]
OotOffset-rm: 0.964 arcsec [2.14σ]
KicOffset-rm: 1.432 arcsec [3.10σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

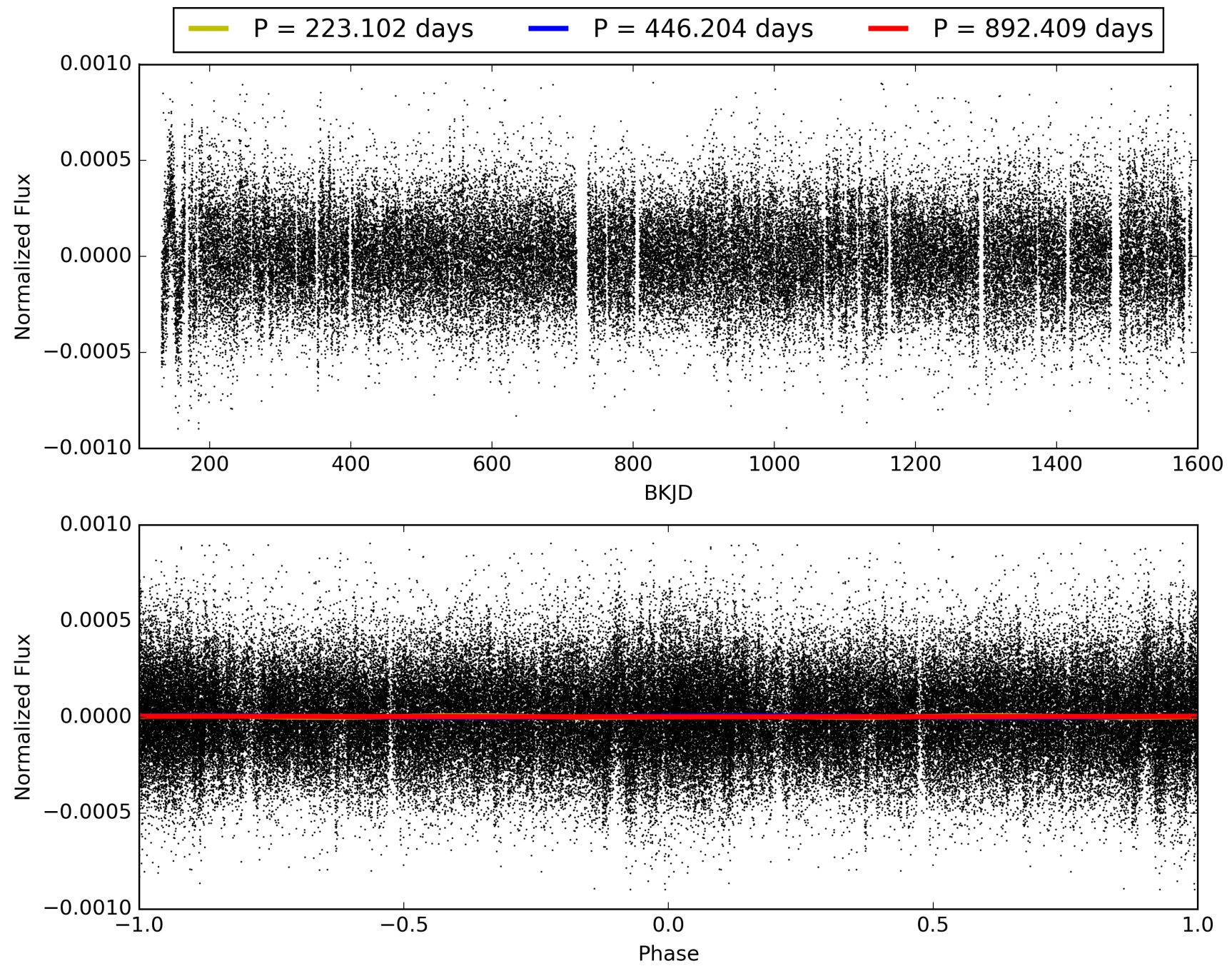
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:51:06 Z

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

TCE 009077348-01, PDC Light Curves

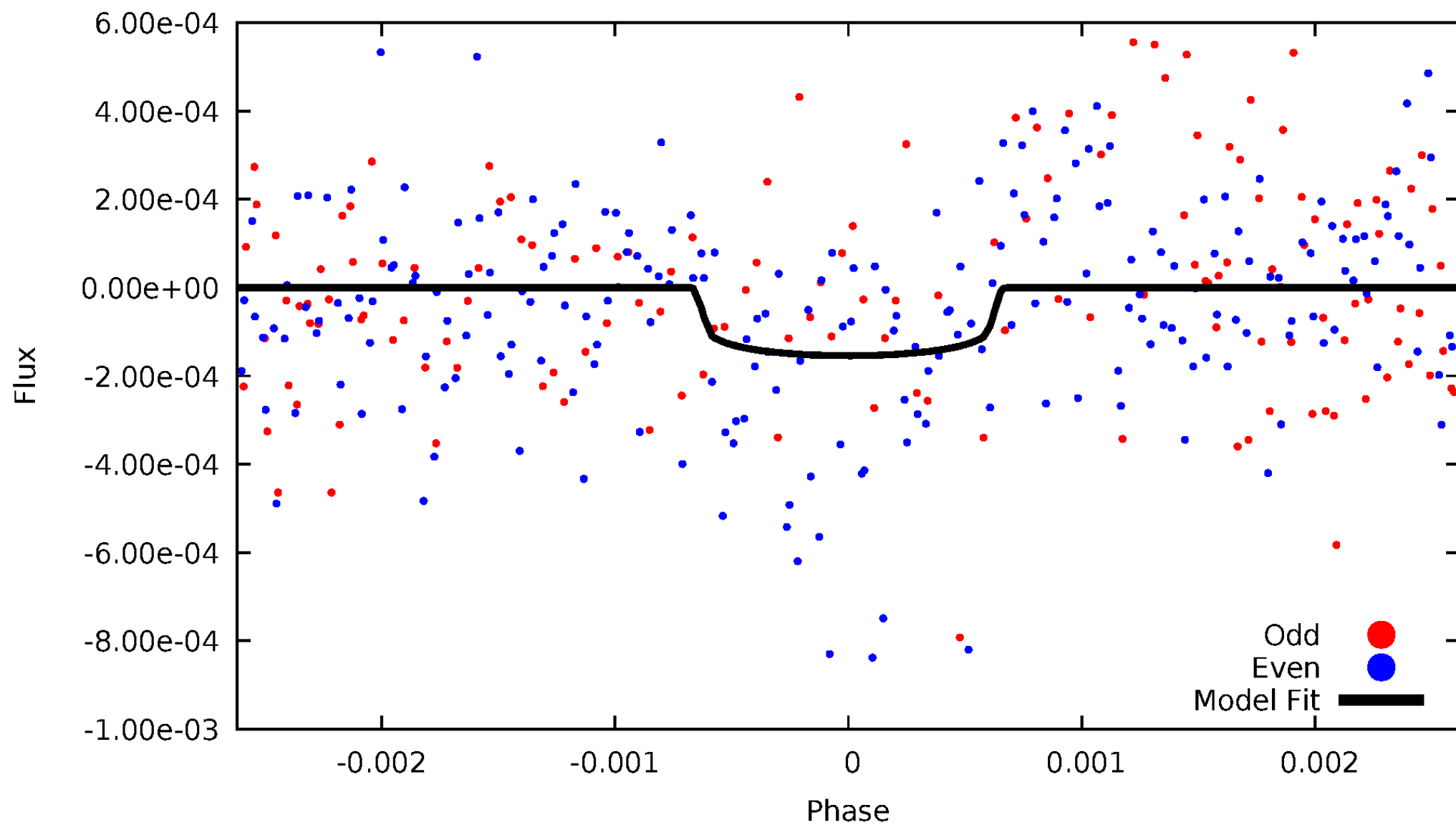


TCE 009077348-01



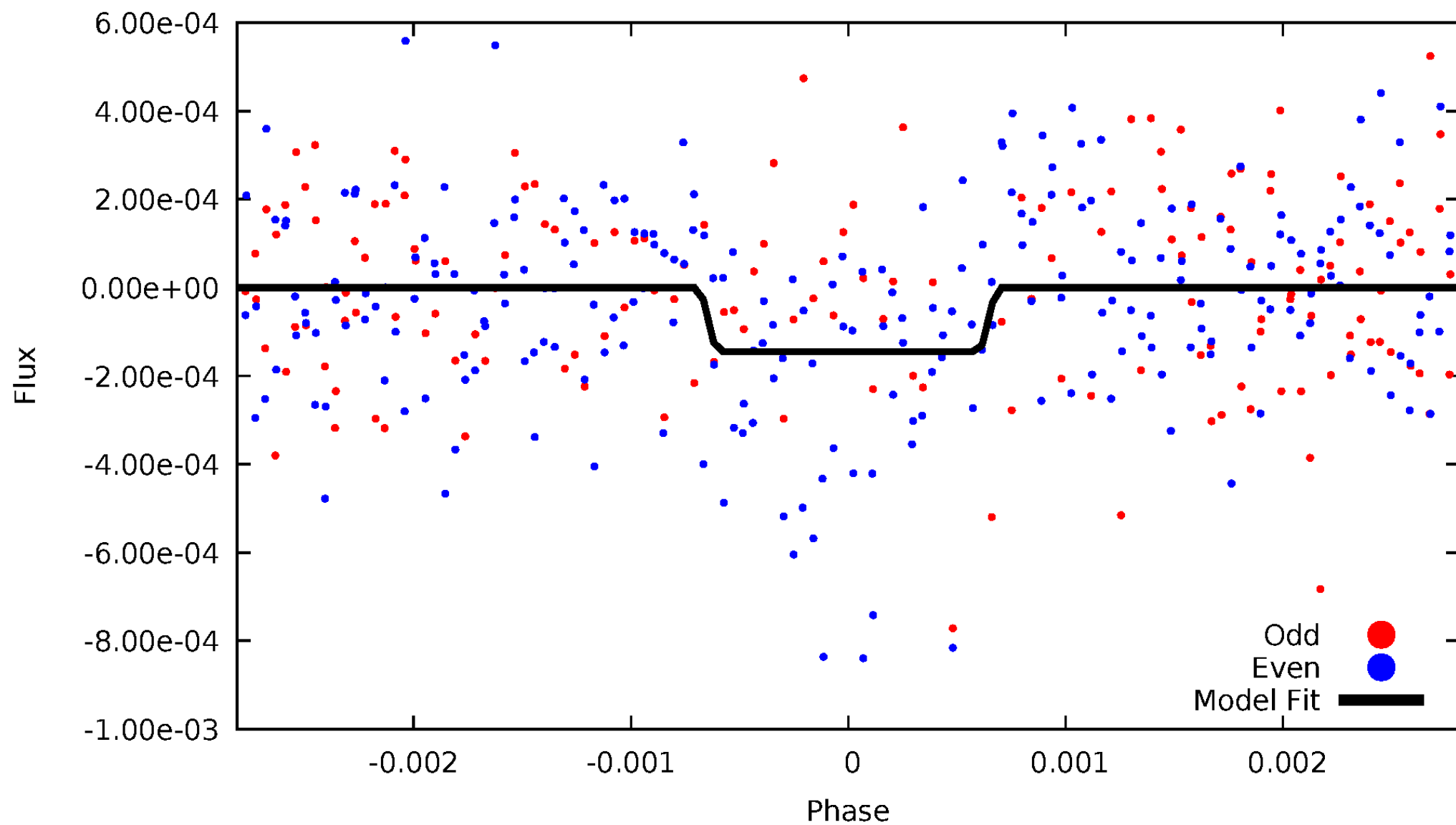
DV Odd/Even

TCE 009077348-01

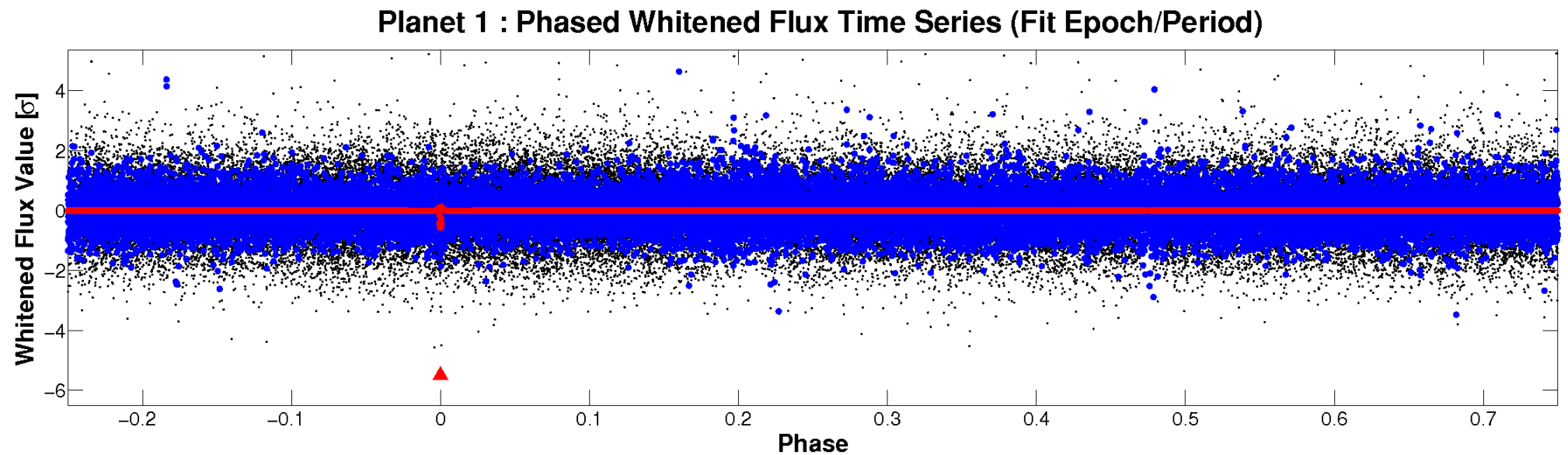
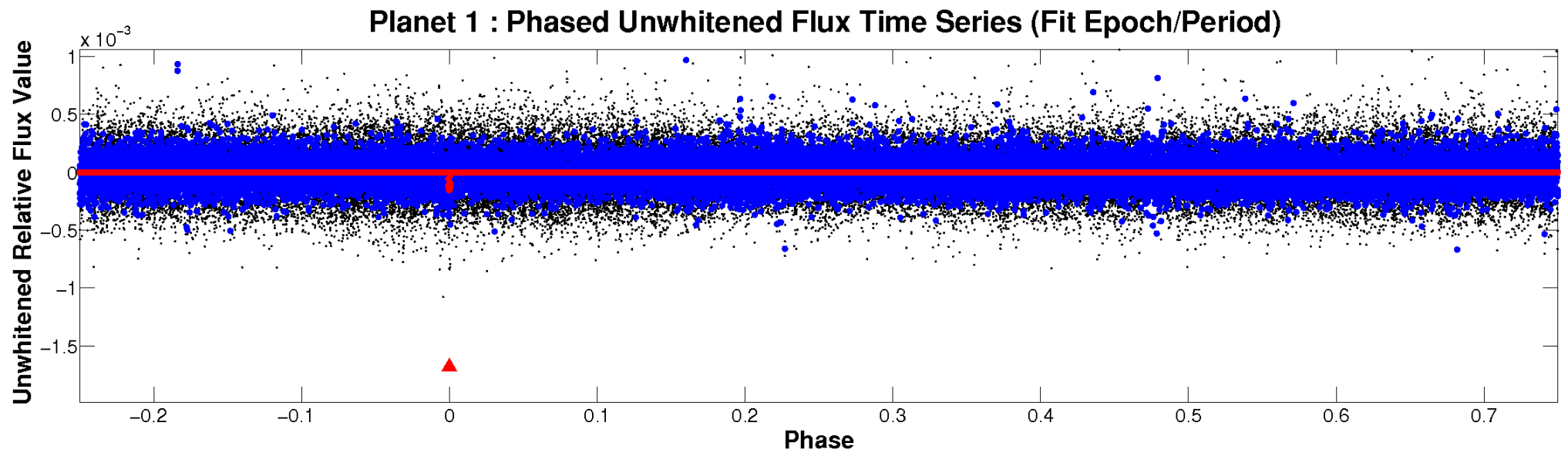


ALT Odd/Even

TCE 009077348-01

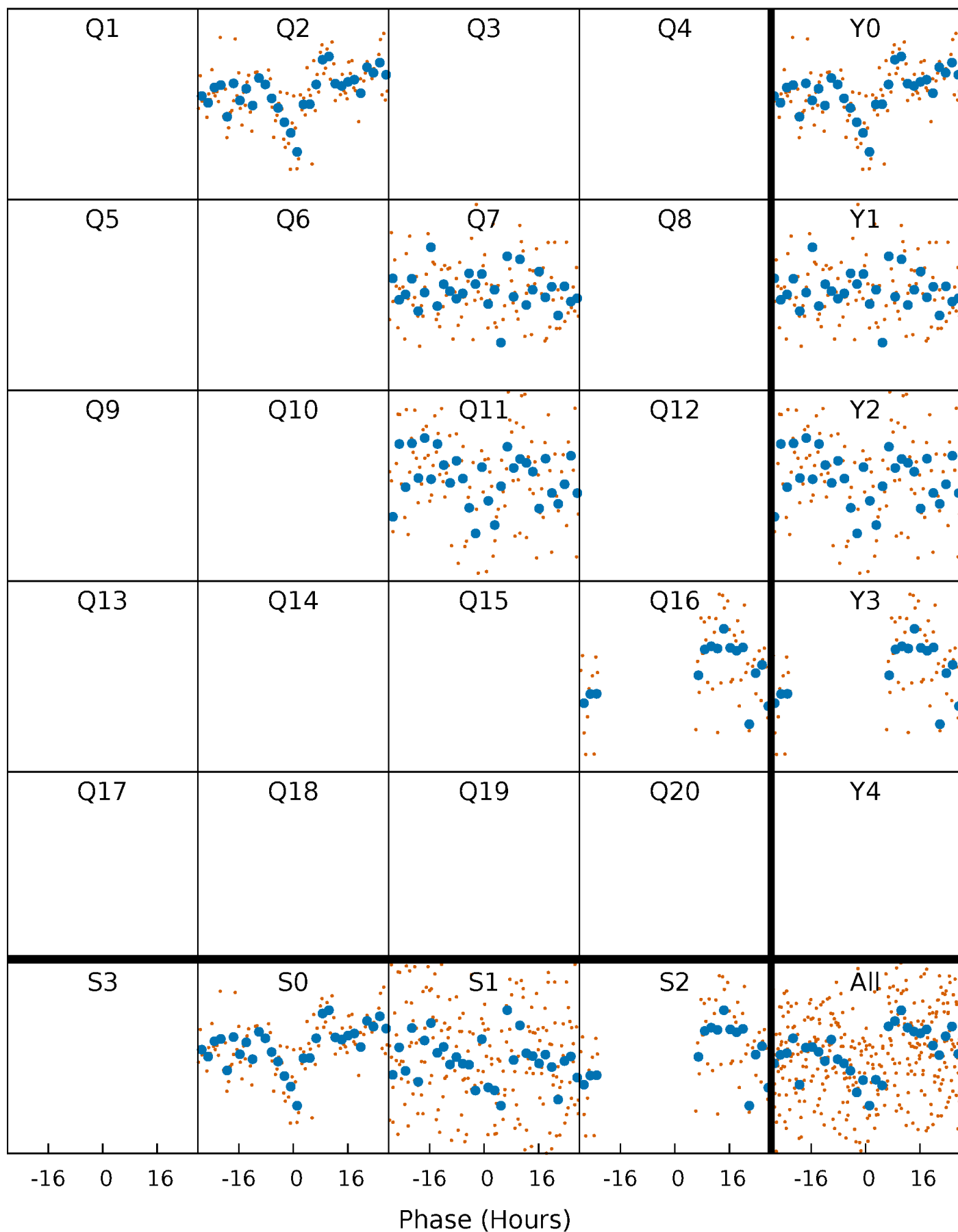


Non-Whitened Vs. Whitened Light Curve



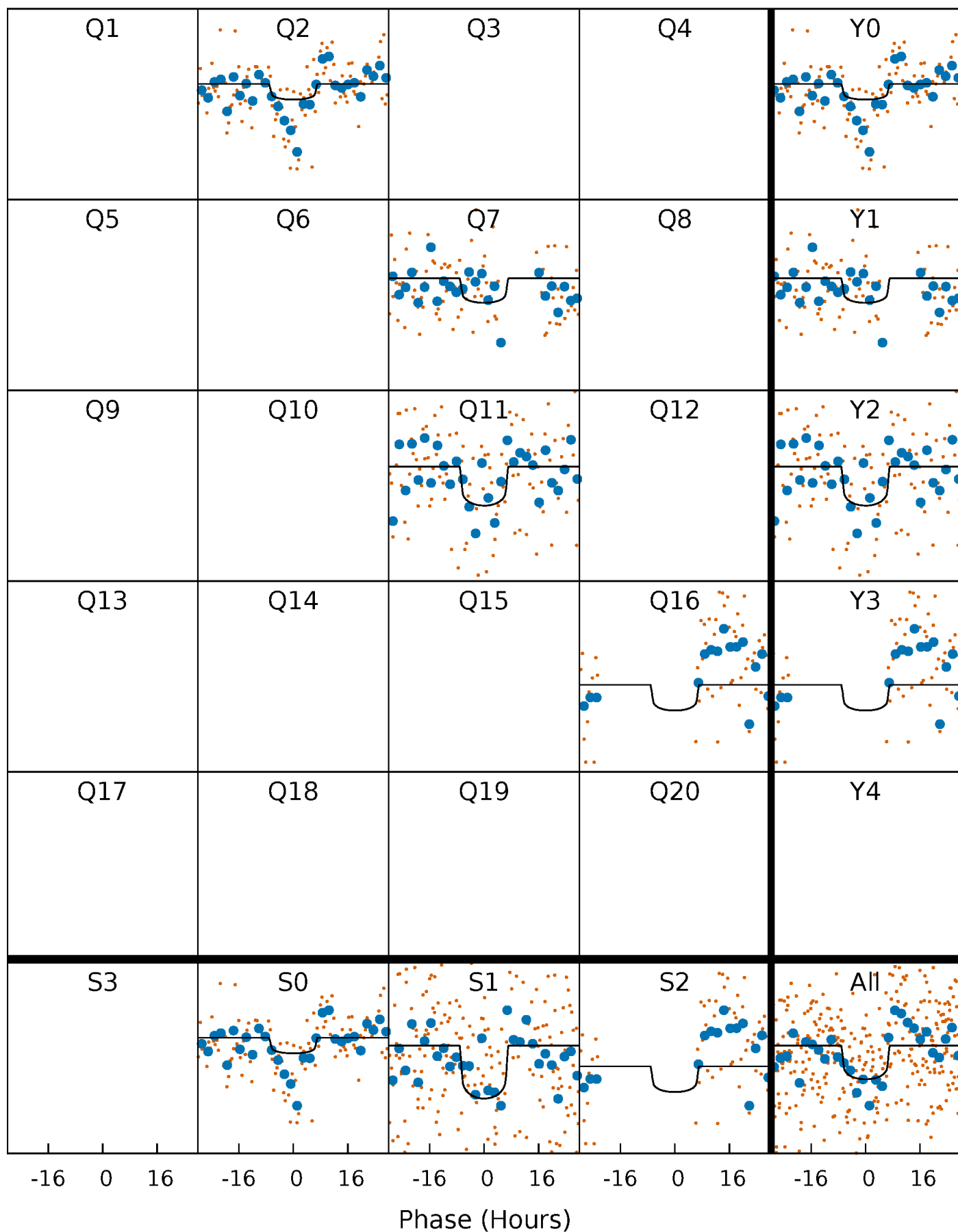
PDC Quarter-Phased Transit Curves

TCE 009077348-01 P=446.204385 Days $T_0=187.271962$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009077348-01 P=446.204385 Days $T_0=187.271962$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

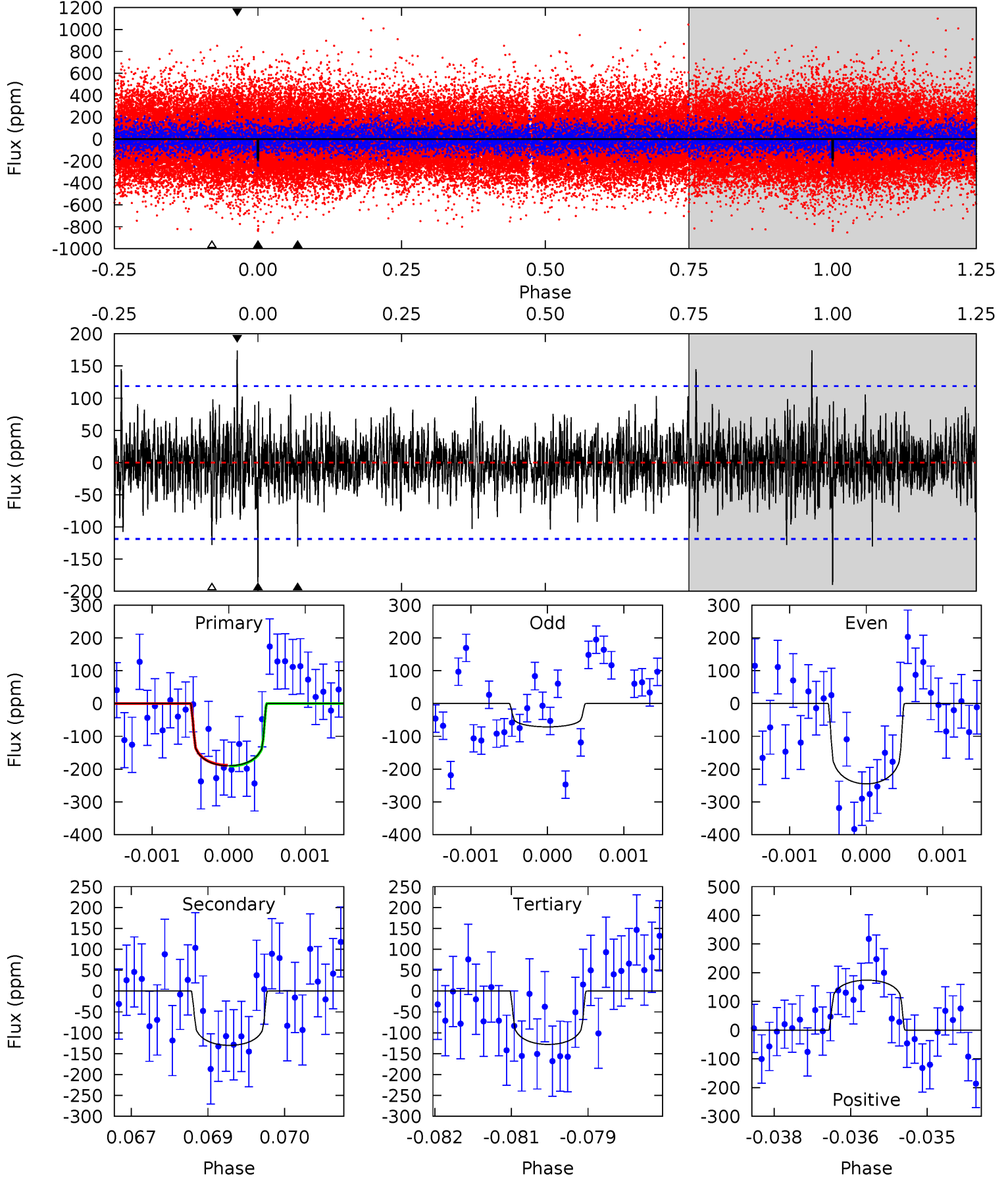
TCE 009077348-01 P=446.187216 Days $T_0=187.287452$ (BKJD)



DV Model-Shift Uniqueness Test

009077348-01, P = 446.204385 Days, E = 187.271962 Days

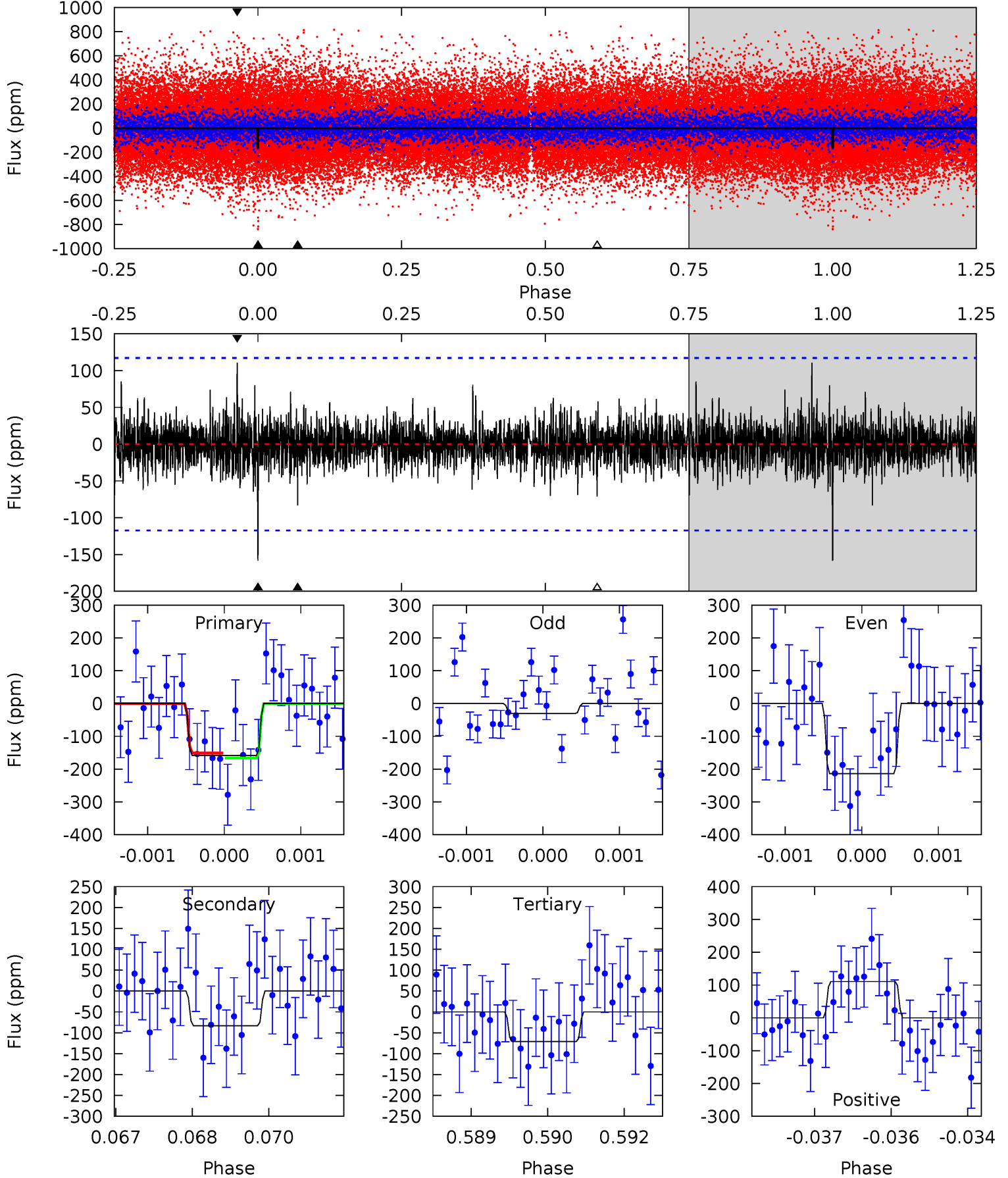
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	5.92	5.82	7.92	5.40	3.21	1.44	2.81	0.71	0.10	-2.00	3.67	0.94	0.48	0.05



Alt Model-Shift Uniqueness Test

009077348-01, P = 446.187216 Days, E = 187.287452 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.30	3.82	3.26	5.10	5.40	3.20	0.91	4.04	2.20	0.56	-1.28	3.89	1.13	0.41	0.35



Stellar Parameters For KIC 009077348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6284^{+169}_{-206}	$4.431^{+0.070}_{-0.210}$	$-0.300^{+0.250}_{-0.300}$	$1.020^{+0.335}_{-0.112}$	$1.018^{+0.147}_{-0.120}$	$1.353^{+0.408}_{-0.746}$
	+3%/-3%	+2%/-5%	+83%/-100%	+33%/-11%	+14%/-12%	+30%/-55%
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 009077348-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-130 ± 22	$1.55^{+0.72}_{-0.85}$	370^{+28}_{-18}	5815^{+3242}_{-933}	$39341^{+150992}_{-21673}$
Alt.	-83 ± 22	$1.46^{+0.80}_{-0.83}$	371^{+25}_{-18}	5360^{+3189}_{-883}	$27797^{+127102}_{-16687}$

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 $A_{obs} \gg 1.0$

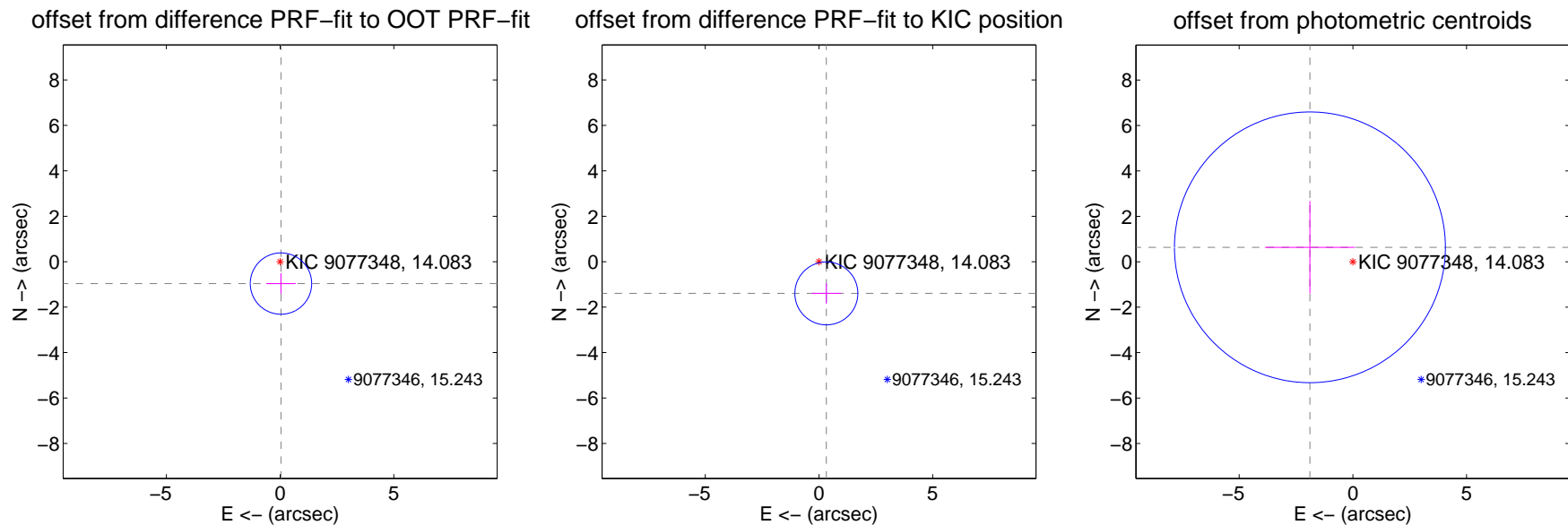
DV Centroid Data

Supplemental centroid analysis for 009077348-01. Kepler magnitude: 14.08. Transit SNR 4.58

There are 1 quarters with good PRF difference image offsets

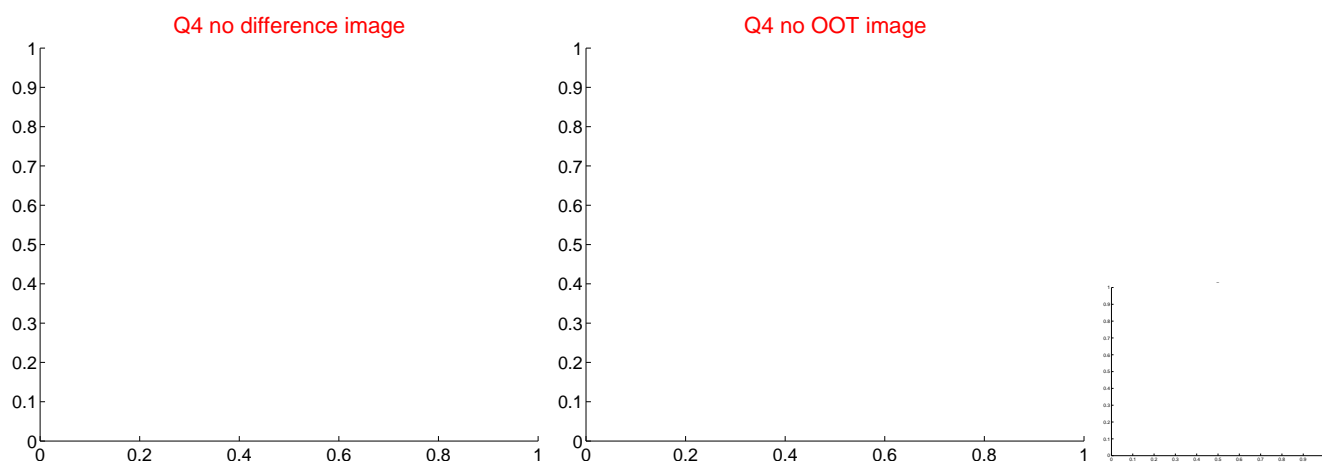
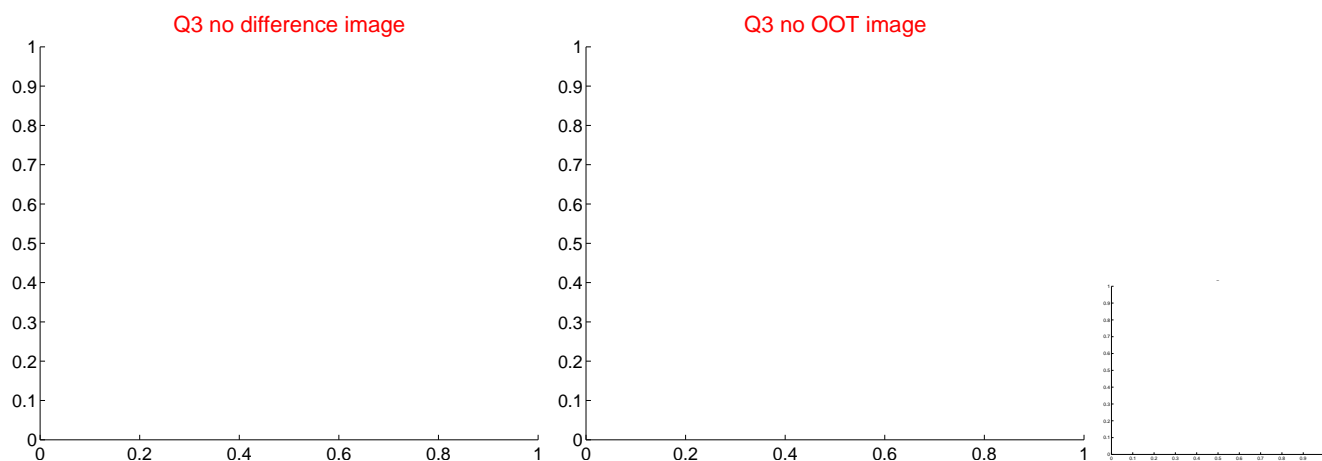
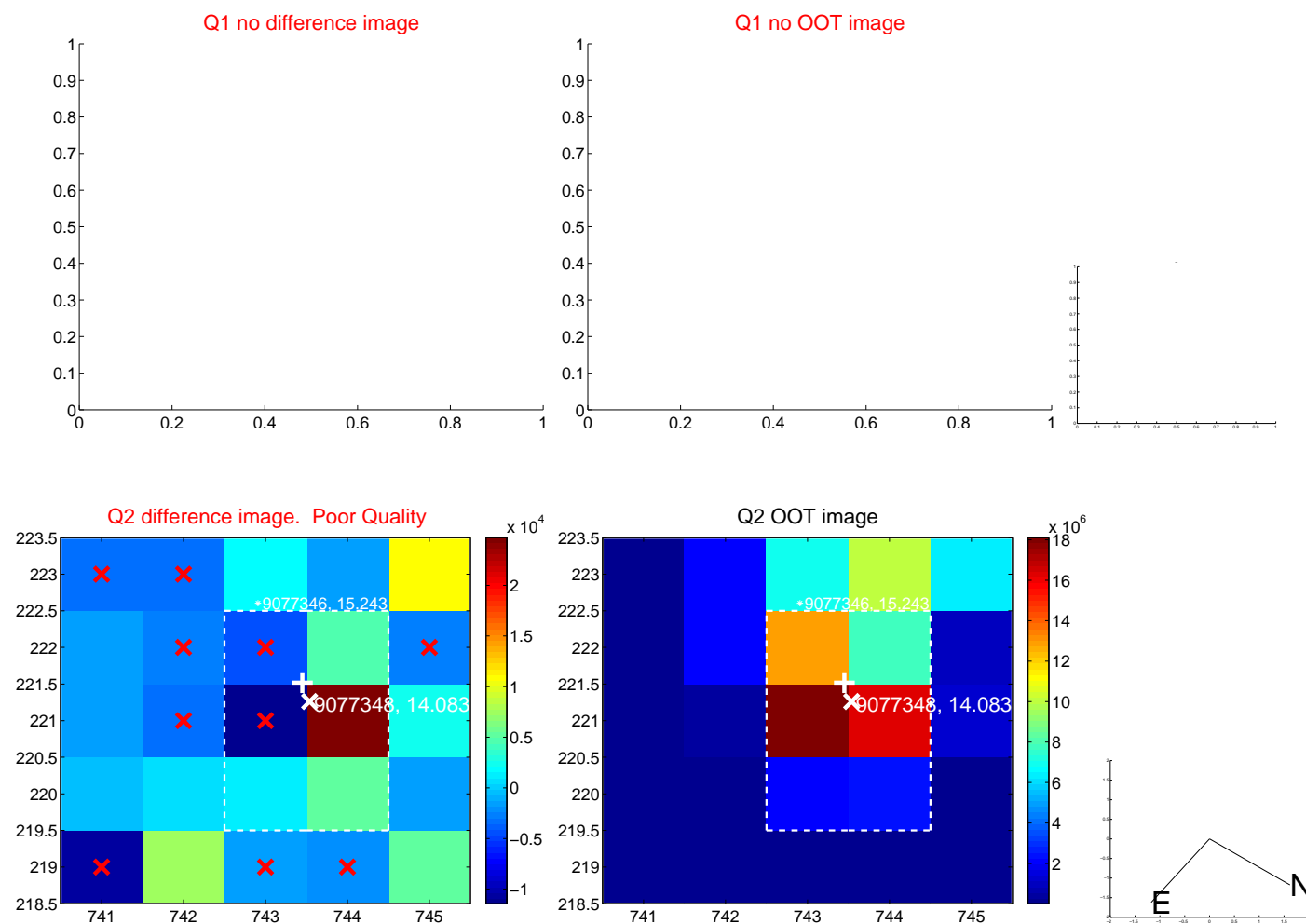
The direct PRF centroid is offset from the target star catalog position by about 0.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.964 ± 0.450	2.14	-0.038 ± 0.645	-0.963 ± 0.450
PRF-fit source offset from KIC position	1.432 ± 0.462	3.10	-0.324 ± 0.645	-1.395 ± 0.450
photometric centroid source offset	1.99 ± 1.99	1.00	1.89 ± 1.98	0.64 ± 2.04

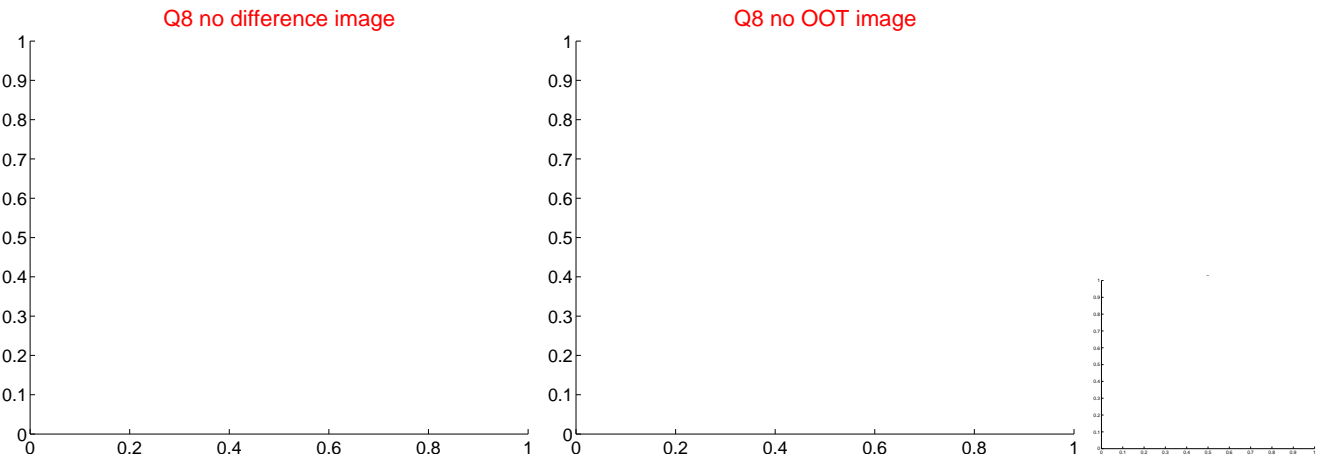
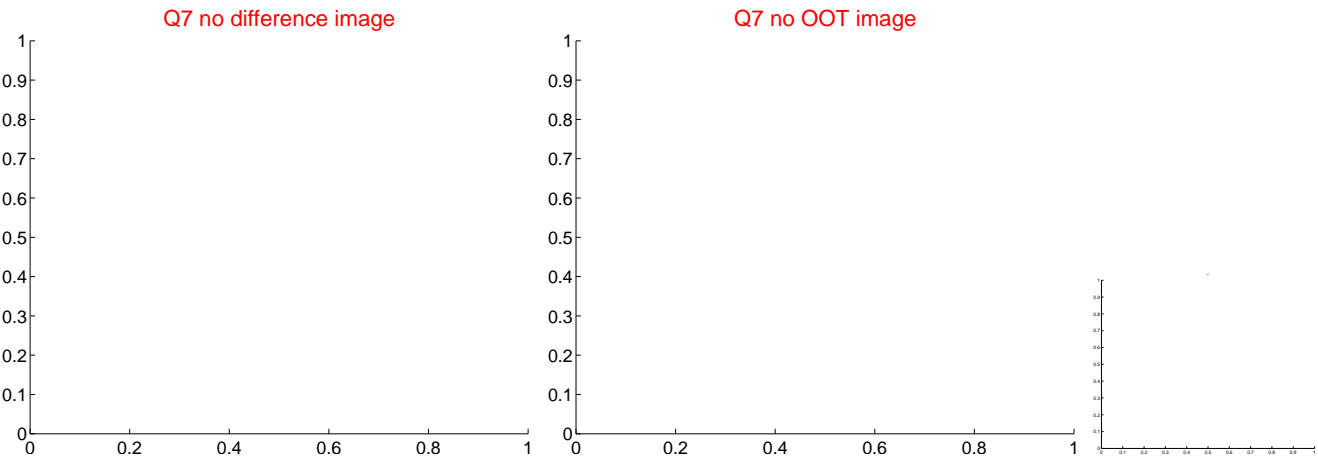
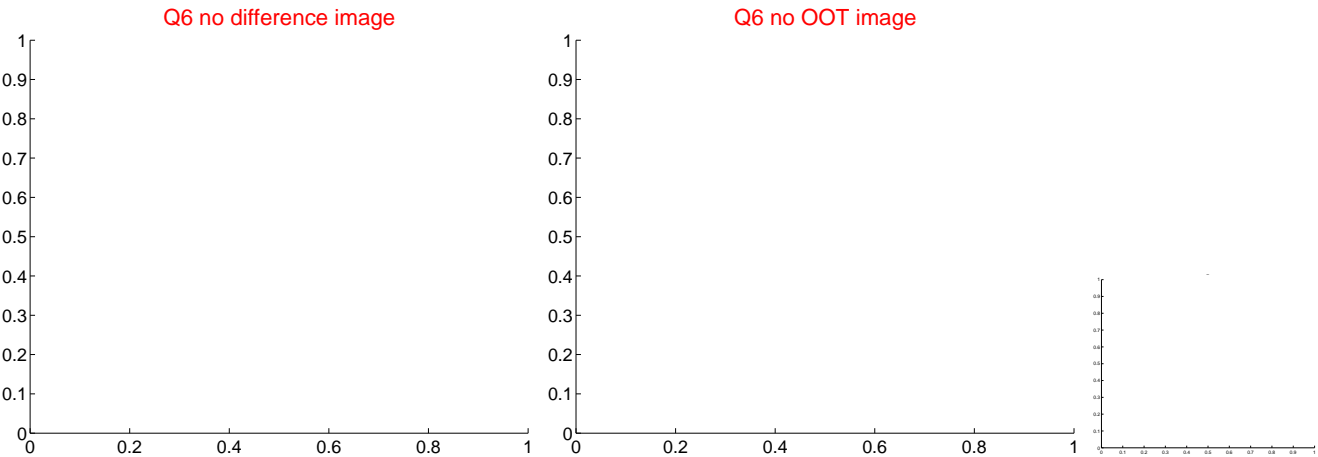
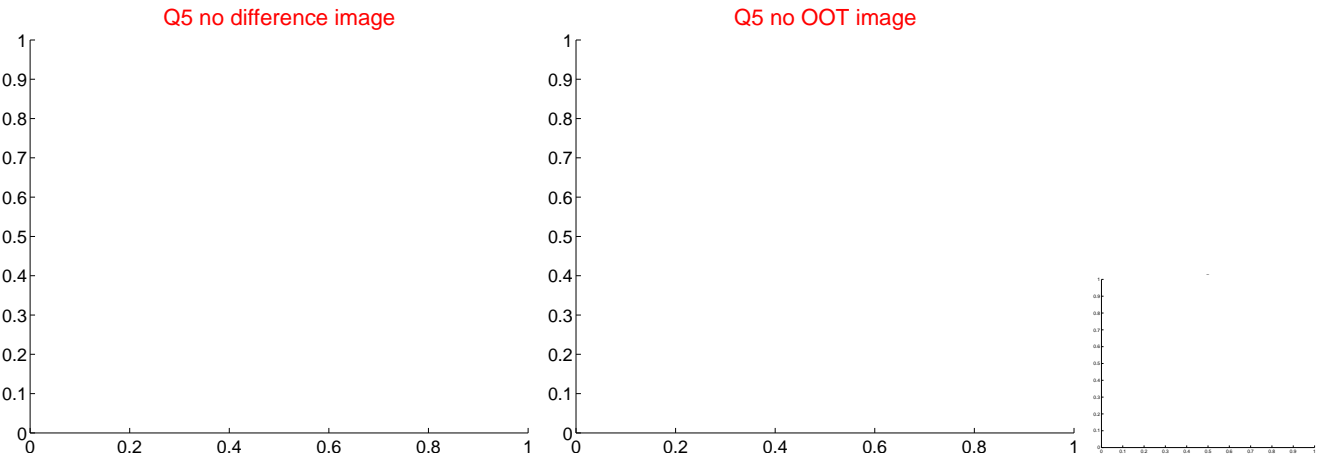


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

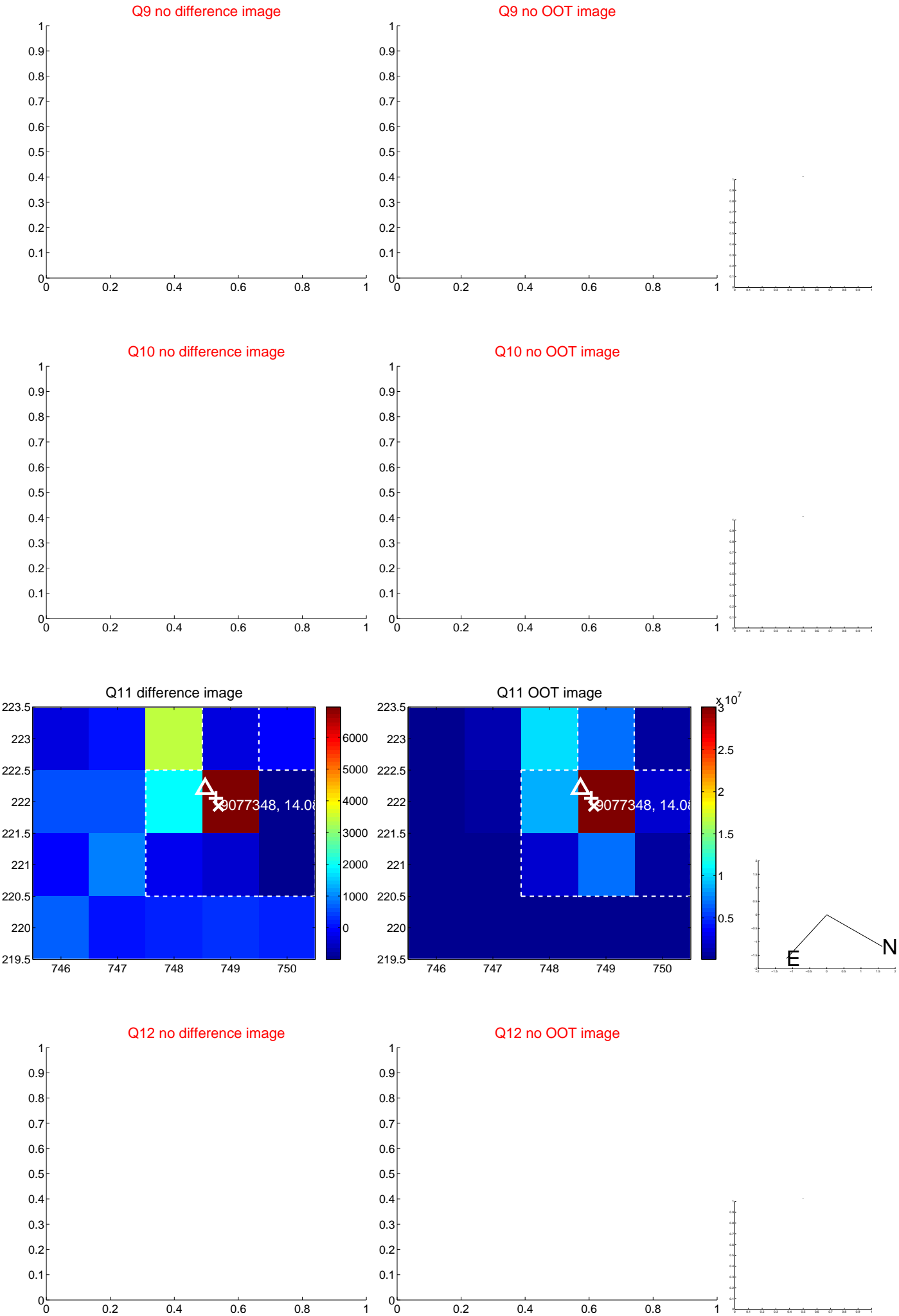
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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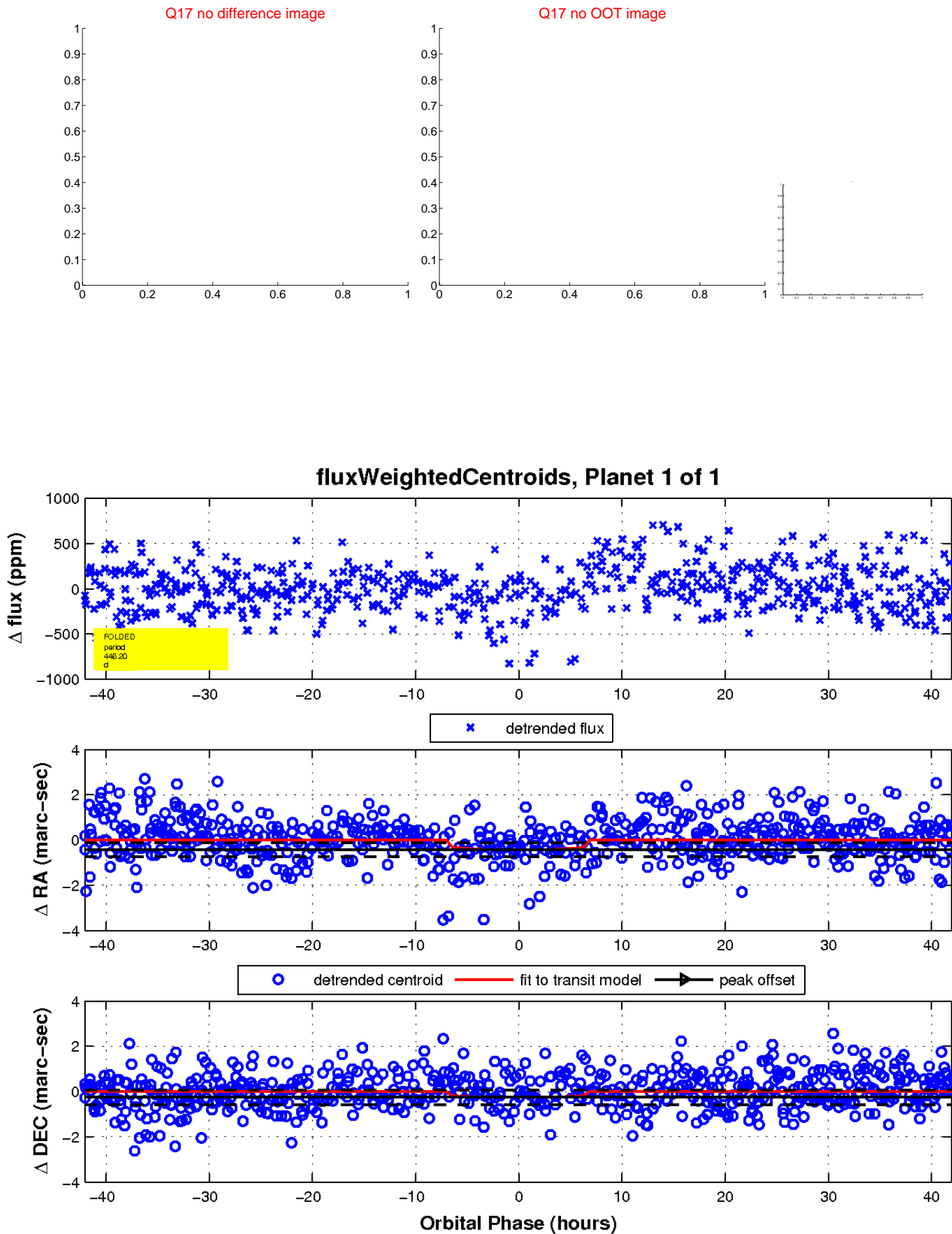
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

