

KIC 010058115

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})
010058115-01	OBS	No	545.153248	372.744252	77.6	10.713	7.5	7.0	1.55	6466	1.56	1.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010058115-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

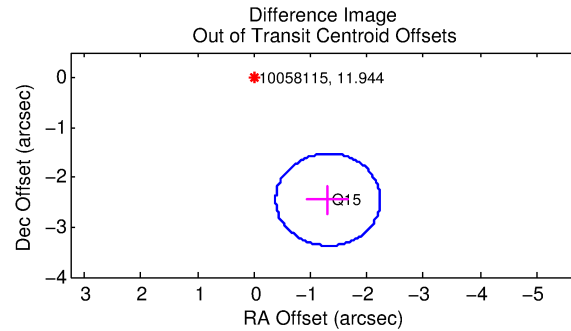
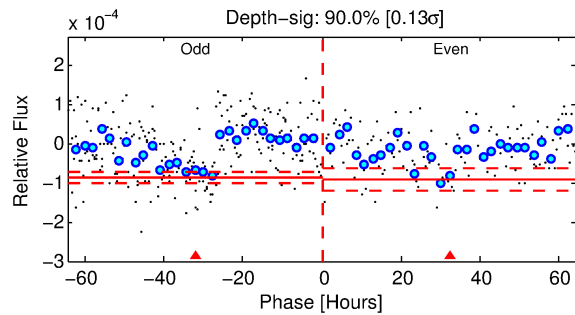
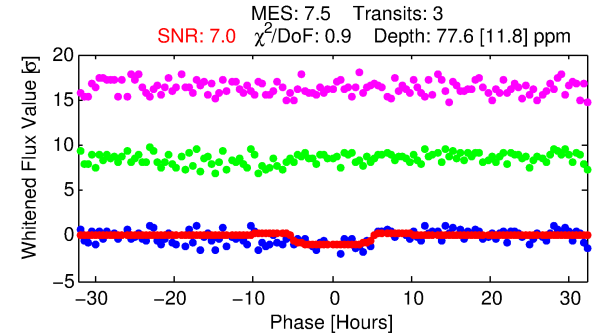
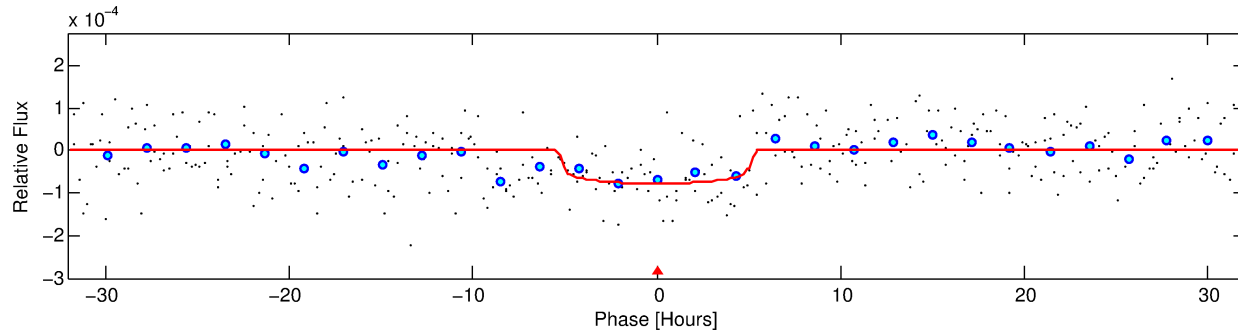
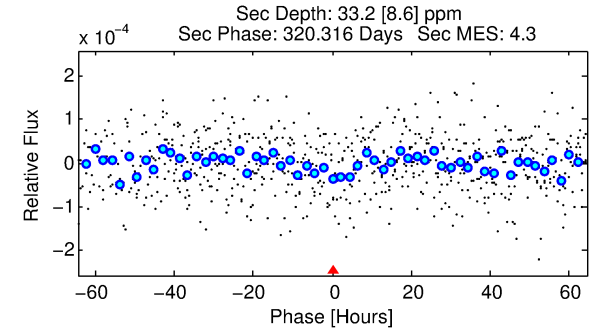
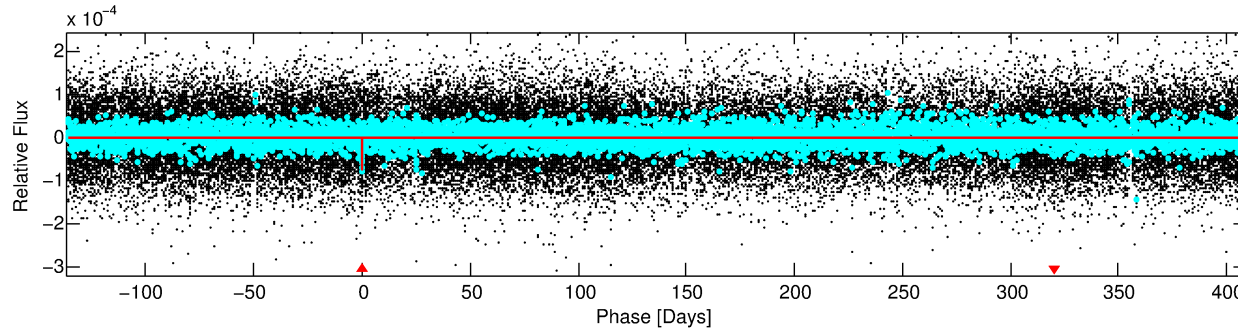
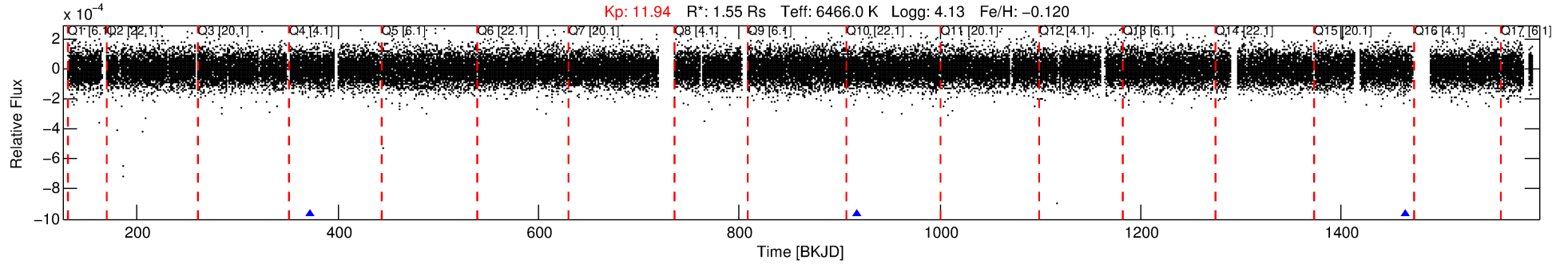
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010058115-01

No Significant Match Found

DV One-Page Summary

KIC: 10058115 Candidate: 1 of 1 Period: 545.153 d



DV Fit Results:

Period = 545.15325 [0.01442] d
Epoch = 372.7443 [0.0190] BKJD
Rp/R* = 0.0092 [0.0028]
a/R* = 197.75 [320.19]
b = 0.87 [0.45]
Seff = 1.97 [0.78]
Teq = 302 [30] K
Rp = 1.56 [0.65] Re
a = 1.3828 [0.3462] AU
Ag = 14297.52 [10820.60] [1.32σ]
Teffp = 5104 [848] K [5.66σ]

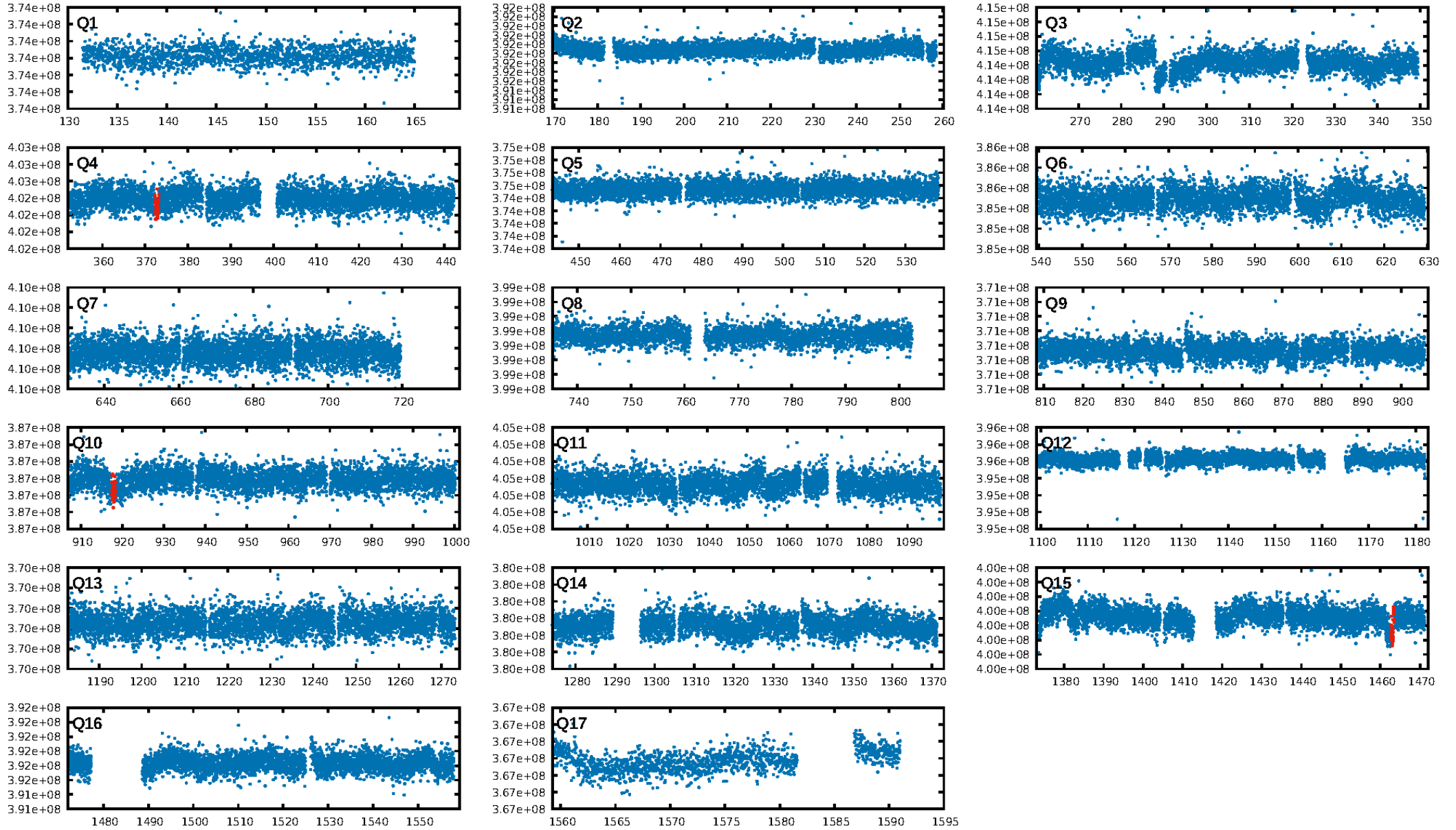
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 32.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.50e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.147
Centroid-sig: 28.0%
Centroid-so: 1.966 arcsec [1.04σ]
OotOffset-rm: 2.780 arcsec [9.03σ]
KicOffset-rm: 2.884 arcsec [9.41σ]
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]

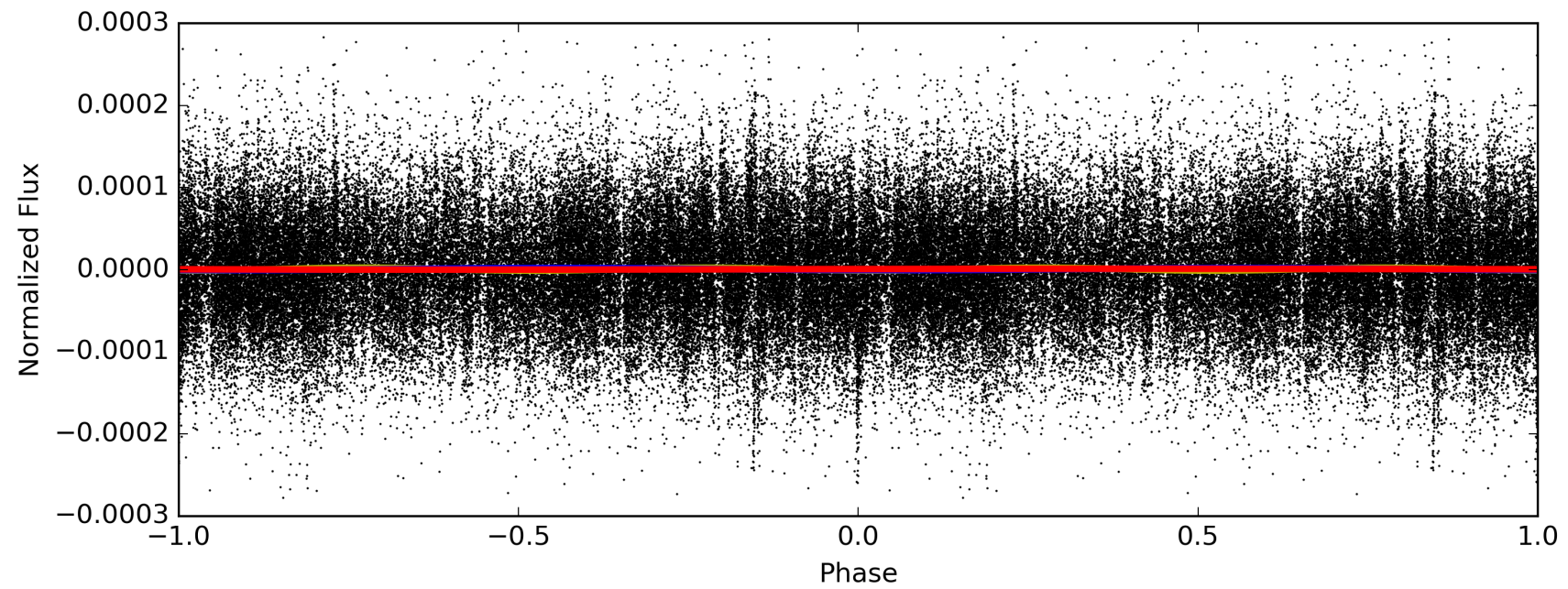
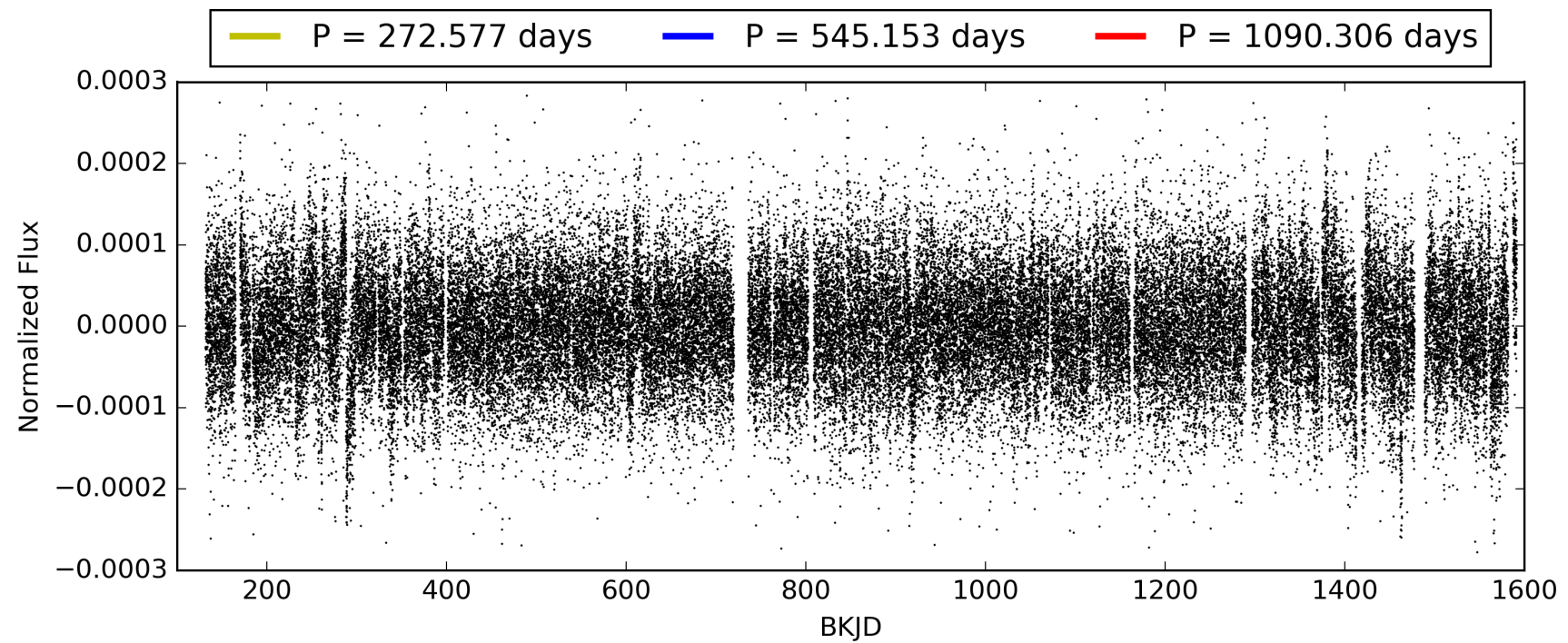
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:10:59 Z

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

TCE 010058115-01, PDC Light Curves

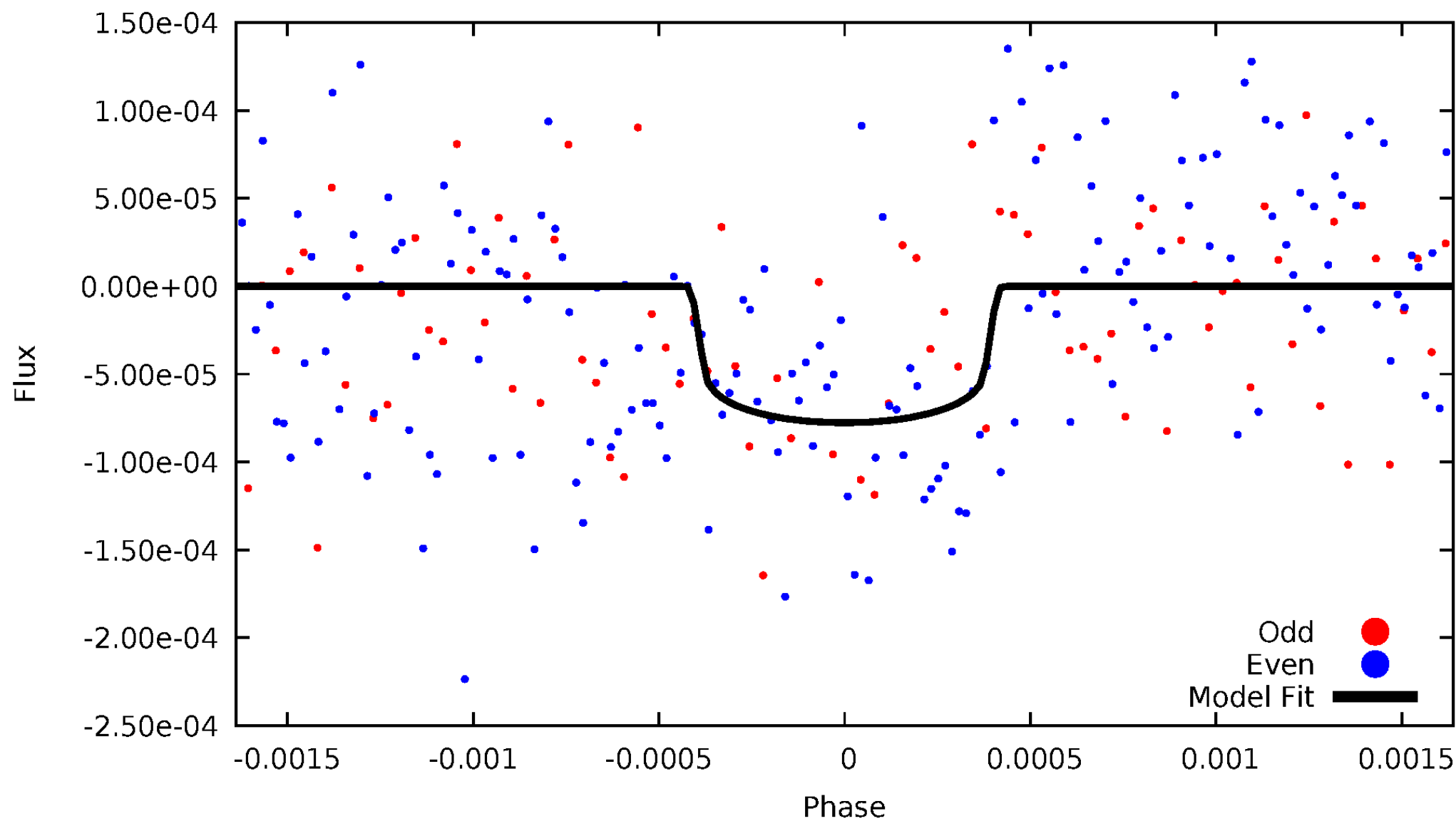


TCE 010058115-01



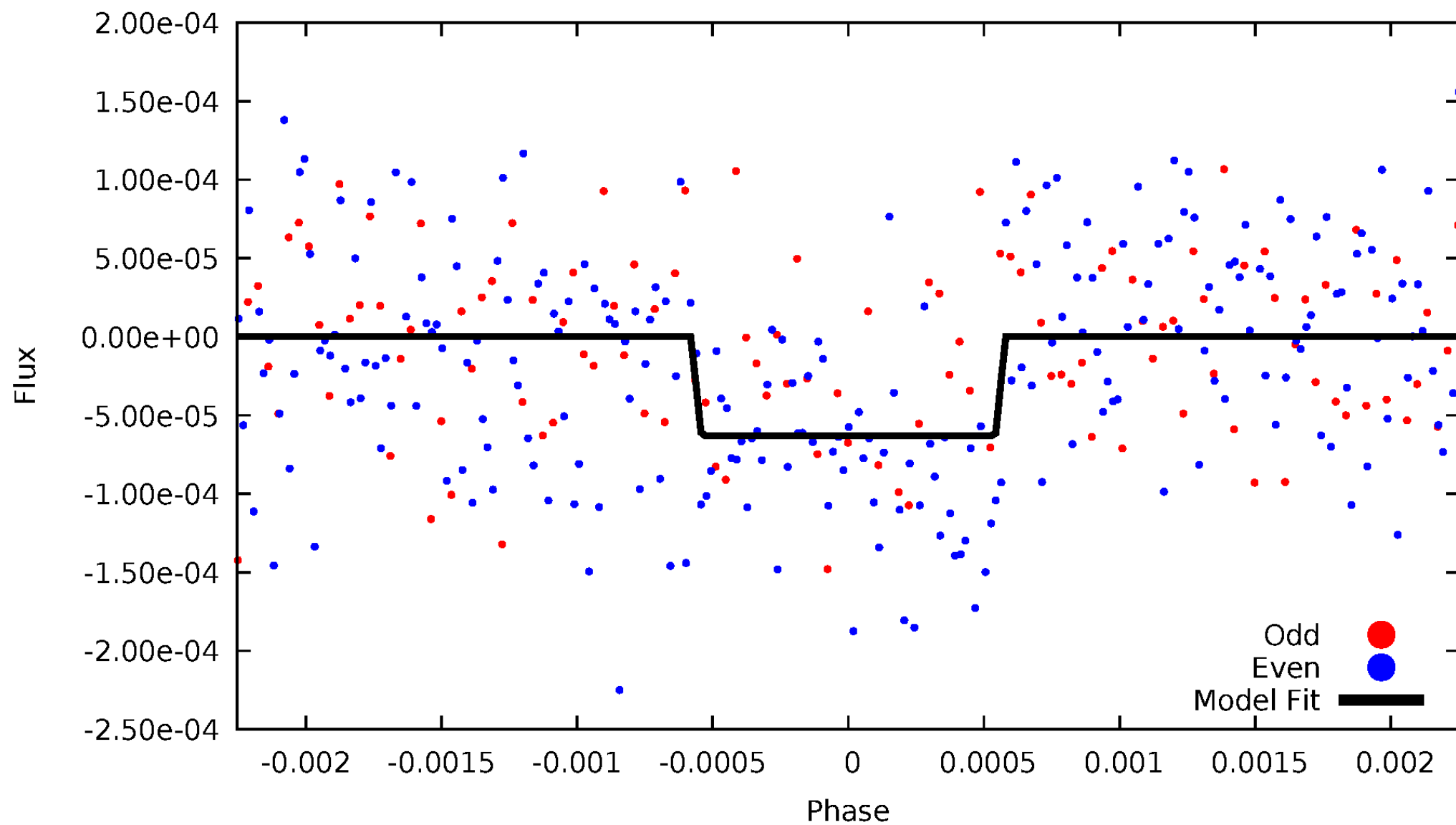
DV Odd/Even

TCE 010058115-01

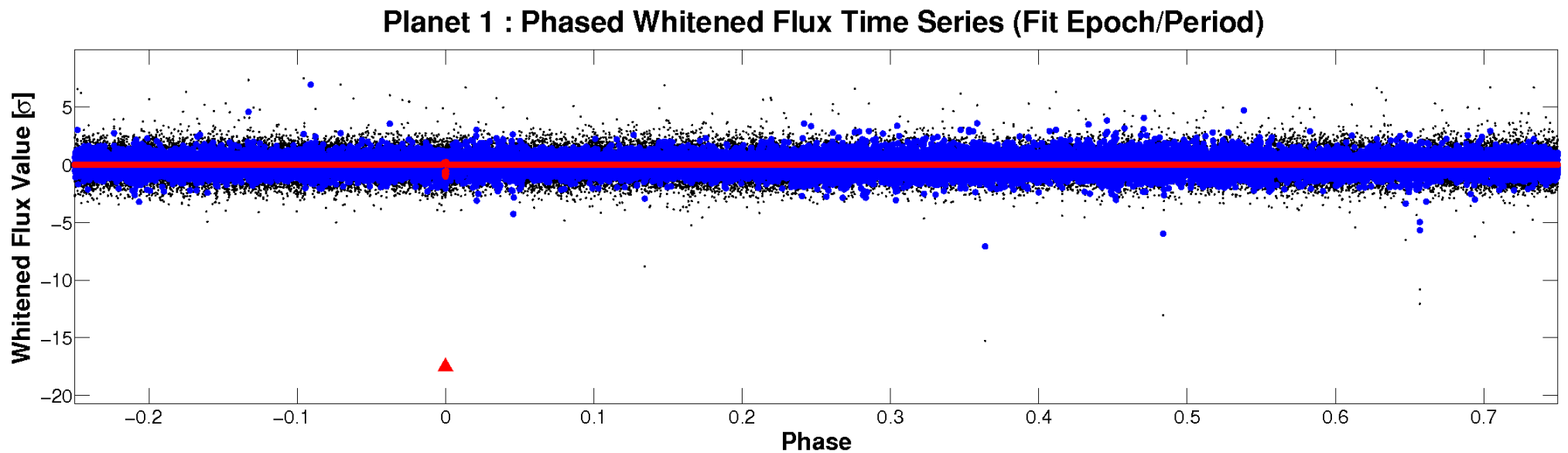
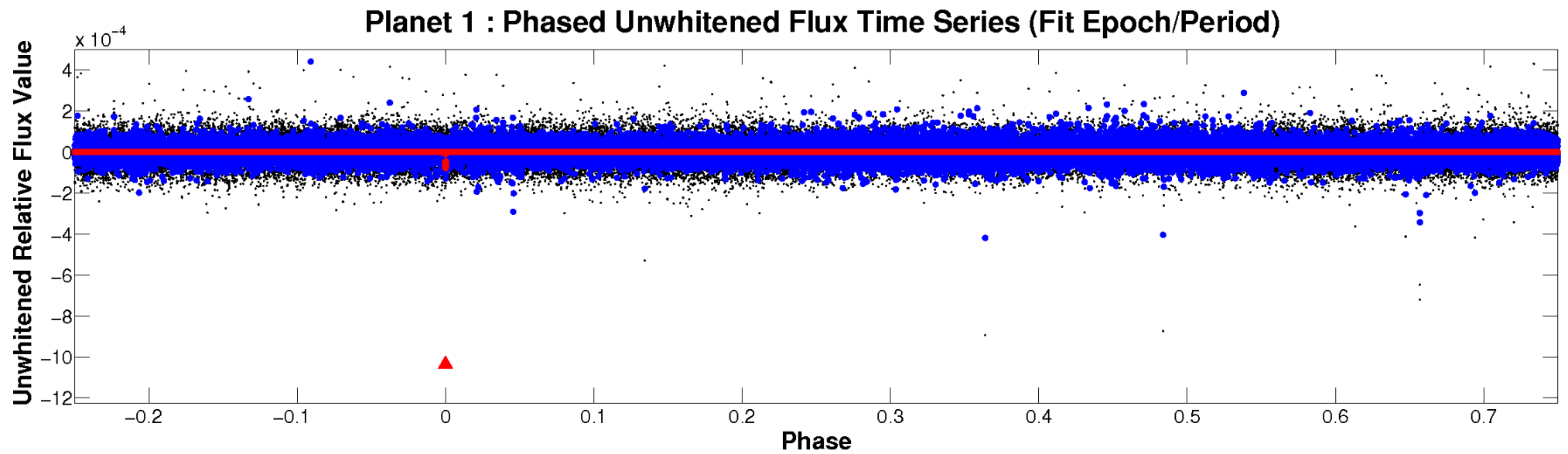


ALT Odd/Even

TCE 010058115-01

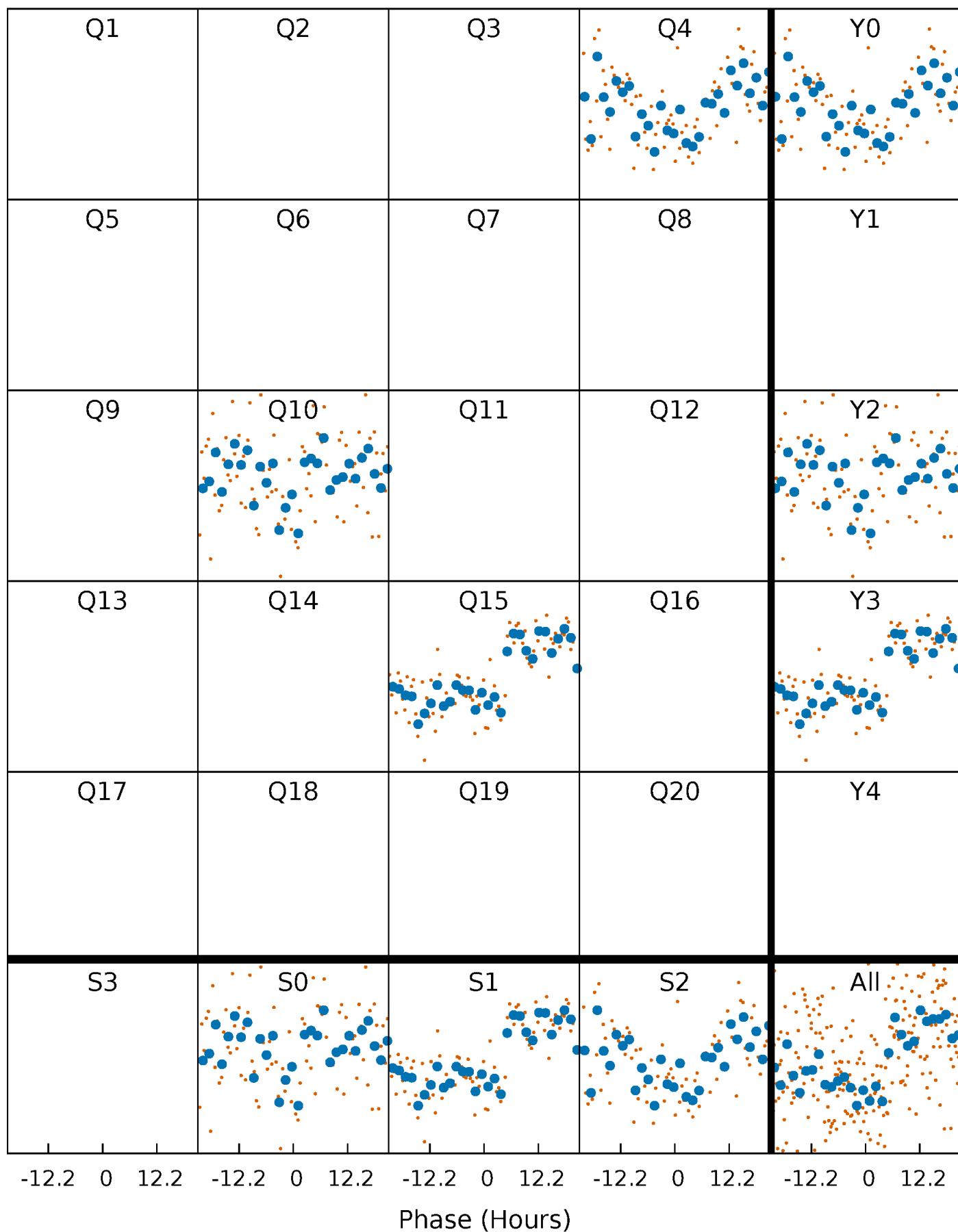


Non-Whitened Vs. Whitened Light Curve



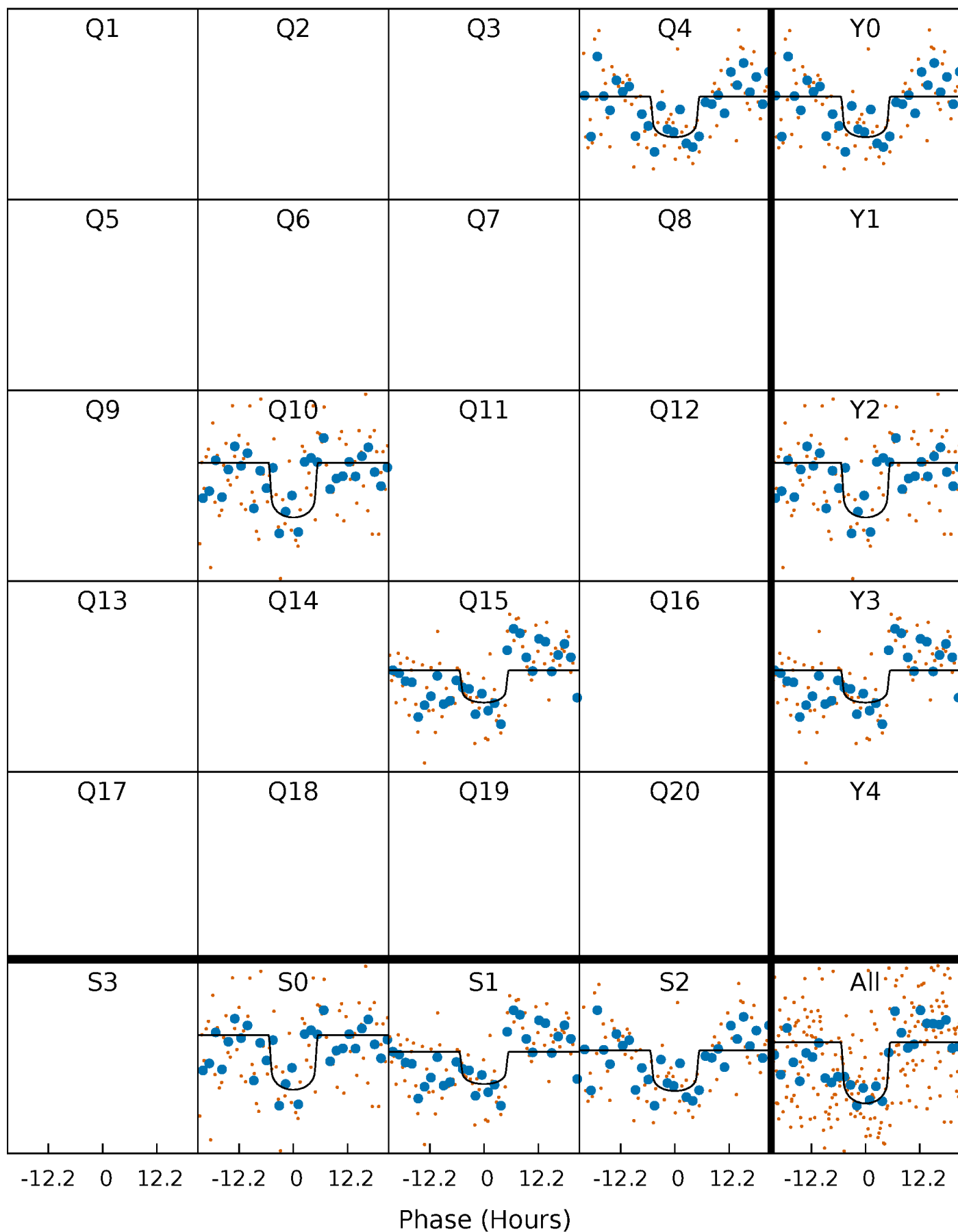
PDC Quarter-Phased Transit Curves

TCE 010058115-01 P=545.153248 Days $T_0=372.744252$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010058115-01 P=545.153248 Days $T_0=372.744252$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

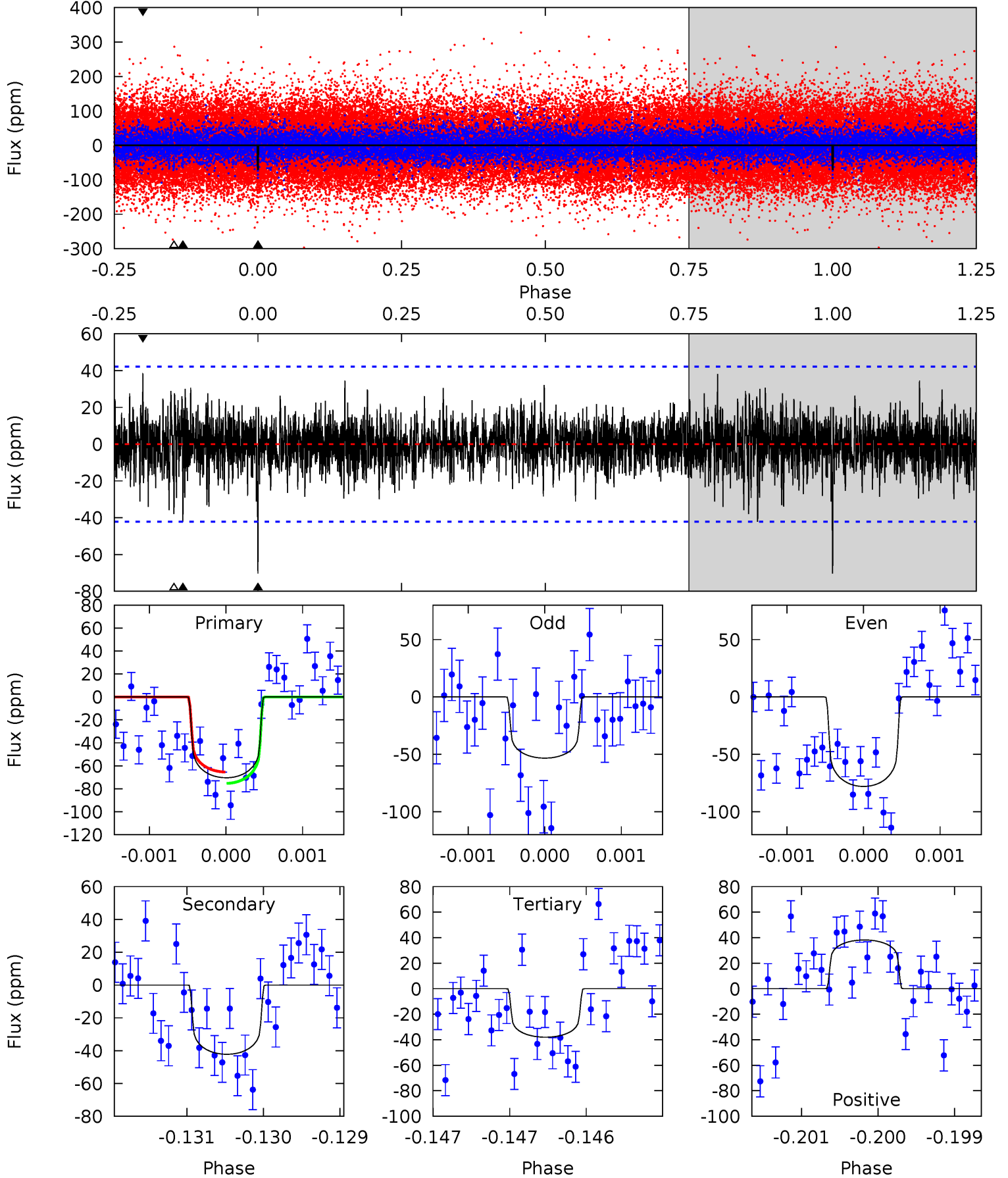
TCE 010058115-01 P=545.133325 Days $T_0=372.686654$ (BKJD)



DV Model-Shift Uniqueness Test

010058115-01, P = 545.153248 Days, E = 372.744252 Days

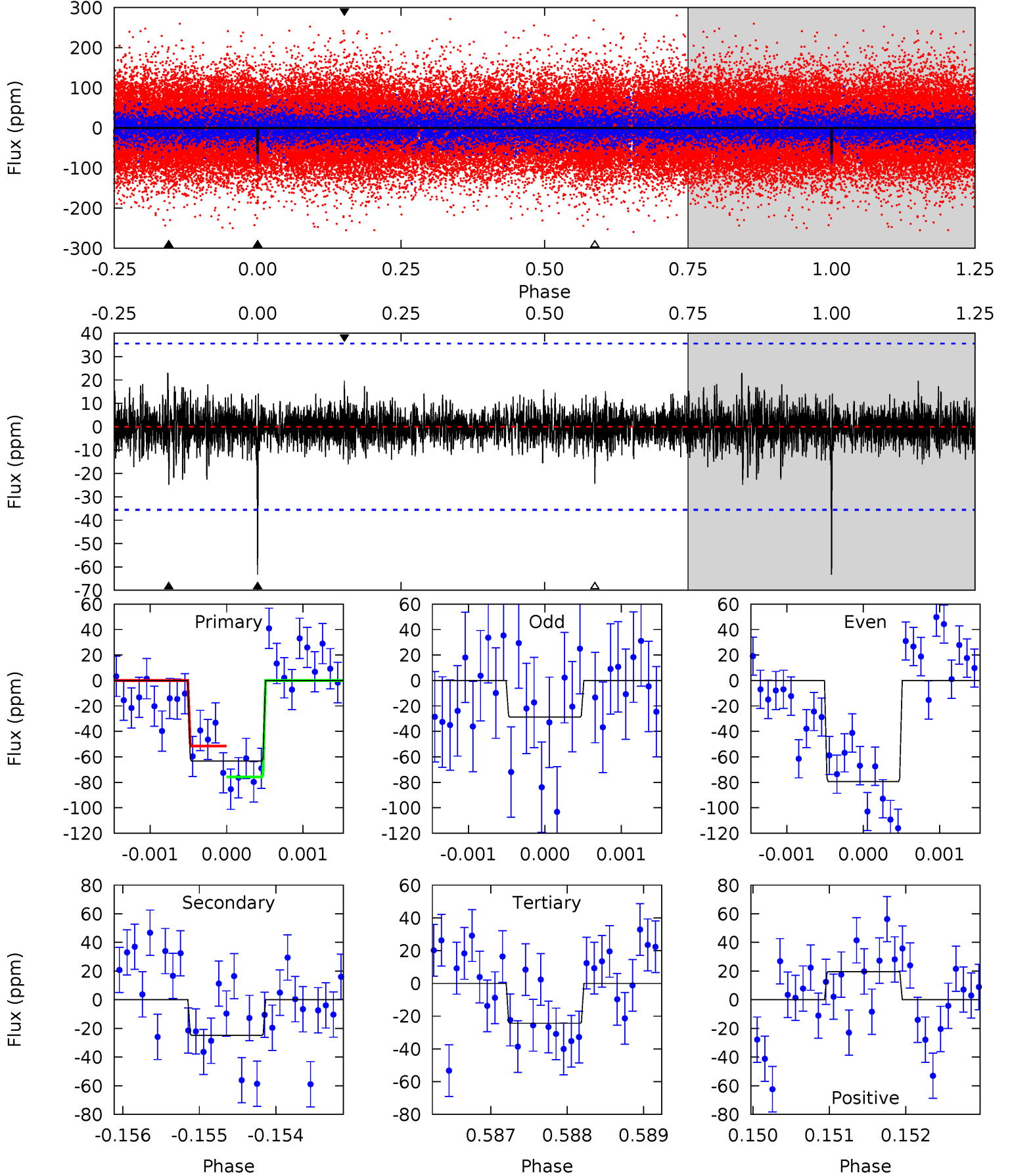
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.14	5.48	4.93	4.96	5.48	3.33	1.23	4.21	4.18	0.54	0.52	1.50	1.03	0.35	0.64



Alt Model-Shift Uniqueness Test

010058115-01, P = 545.133325 Days, E = 372.686654 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.65	3.79	3.72	2.99	5.43	3.25	0.78	5.93	6.66	0.07	0.80	3.61	0.84	0.27	1.85



Stellar Parameters For KIC 010058115

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6466^{+146}_{-178}	$4.132^{+0.214}_{-0.175}$	$-0.120^{+0.250}_{-0.300}$	$1.549^{+0.439}_{-0.395}$	$1.186^{+0.206}_{-0.150}$	$0.450^{+0.544}_{-0.214}$
	+2%/-3%	+5%/-4%	+208%/-250%	+28%/-26%	+17%/-13%	+121%/-48%
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 010058115-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-42 ± 8	$1.51^{+0.53}_{-0.48}$	417^{+32}_{-30}	5438^{+1155}_{-621}	18928^{+23704}_{-8560}
Alt.	-25 ± 7	$1.29^{+0.58}_{-0.45}$	418^{+32}_{-30}	5189^{+1259}_{-717}	15667^{+23368}_{-8720}

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

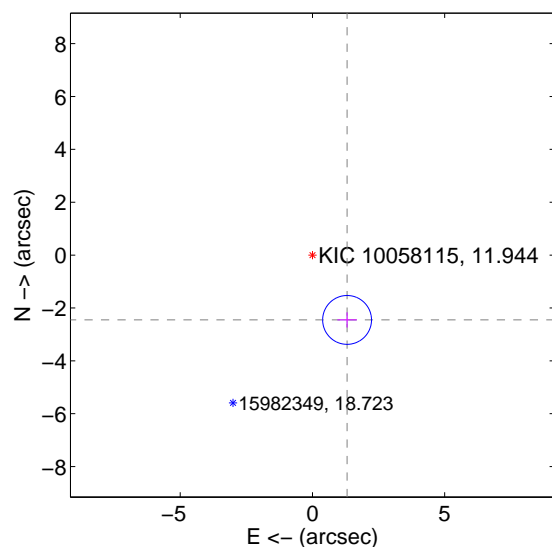
Supplemental centroid analysis for 010058115-01. **Kepler magnitude: 11.94.** Transit SNR 7.04

There are 1 quarters with good PRF difference image offsets

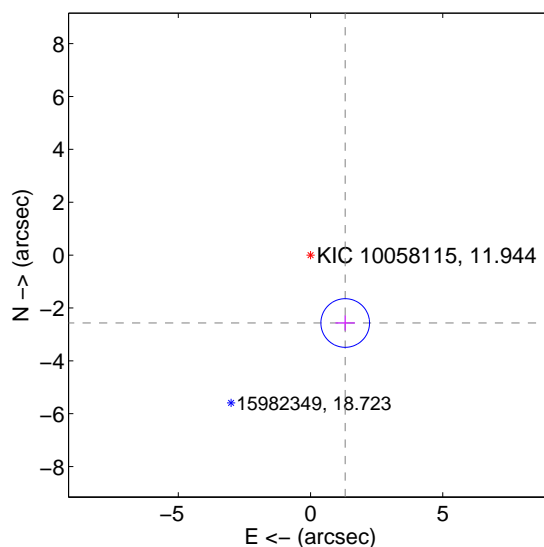
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.780 ± 0.308	9.03	-1.310 ± 0.368	-2.452 ± 0.288
PRF-fit source offset from KIC position	2.884 ± 0.307	9.41	-1.312 ± 0.368	-2.569 ± 0.288
photometric centroid source offset	1.97 ± 1.89	1.04	-1.79 ± 1.88	0.81 ± 1.92

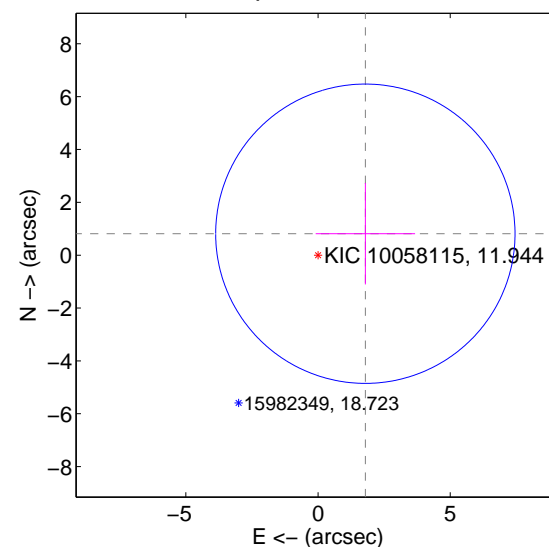
offset from difference PRF-fit to OOT PRF-fit



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.

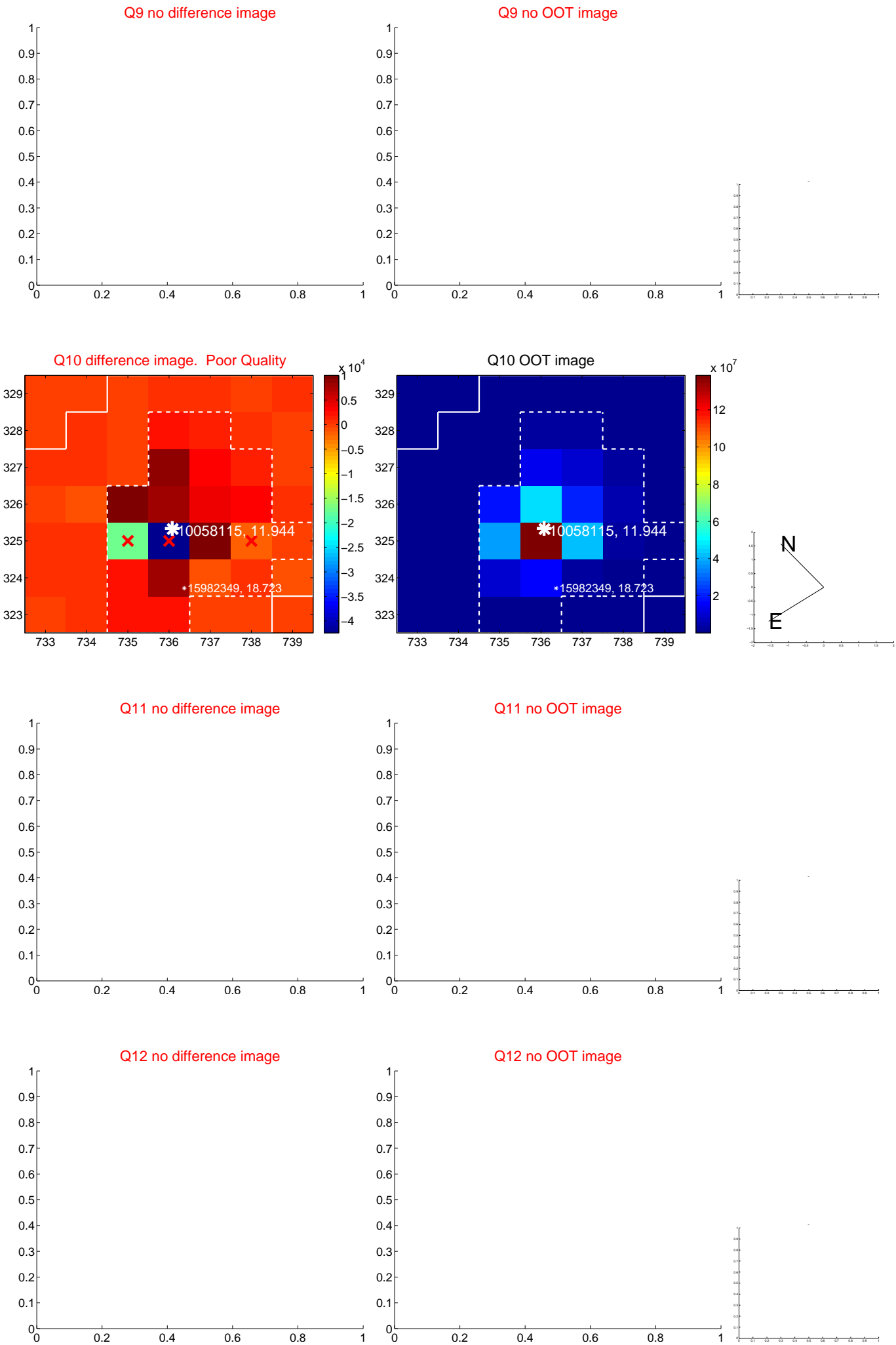
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



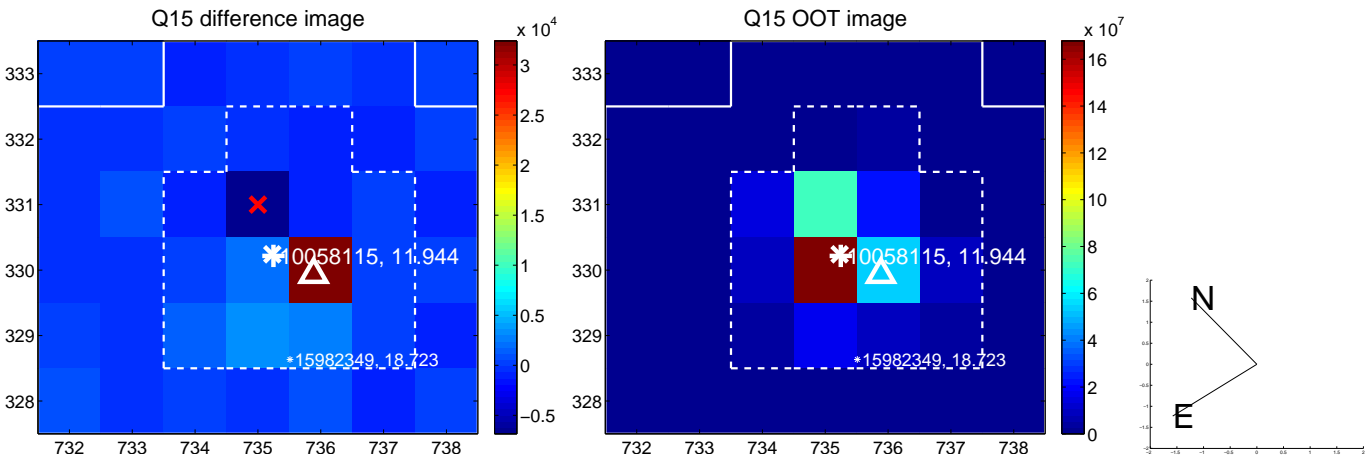
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



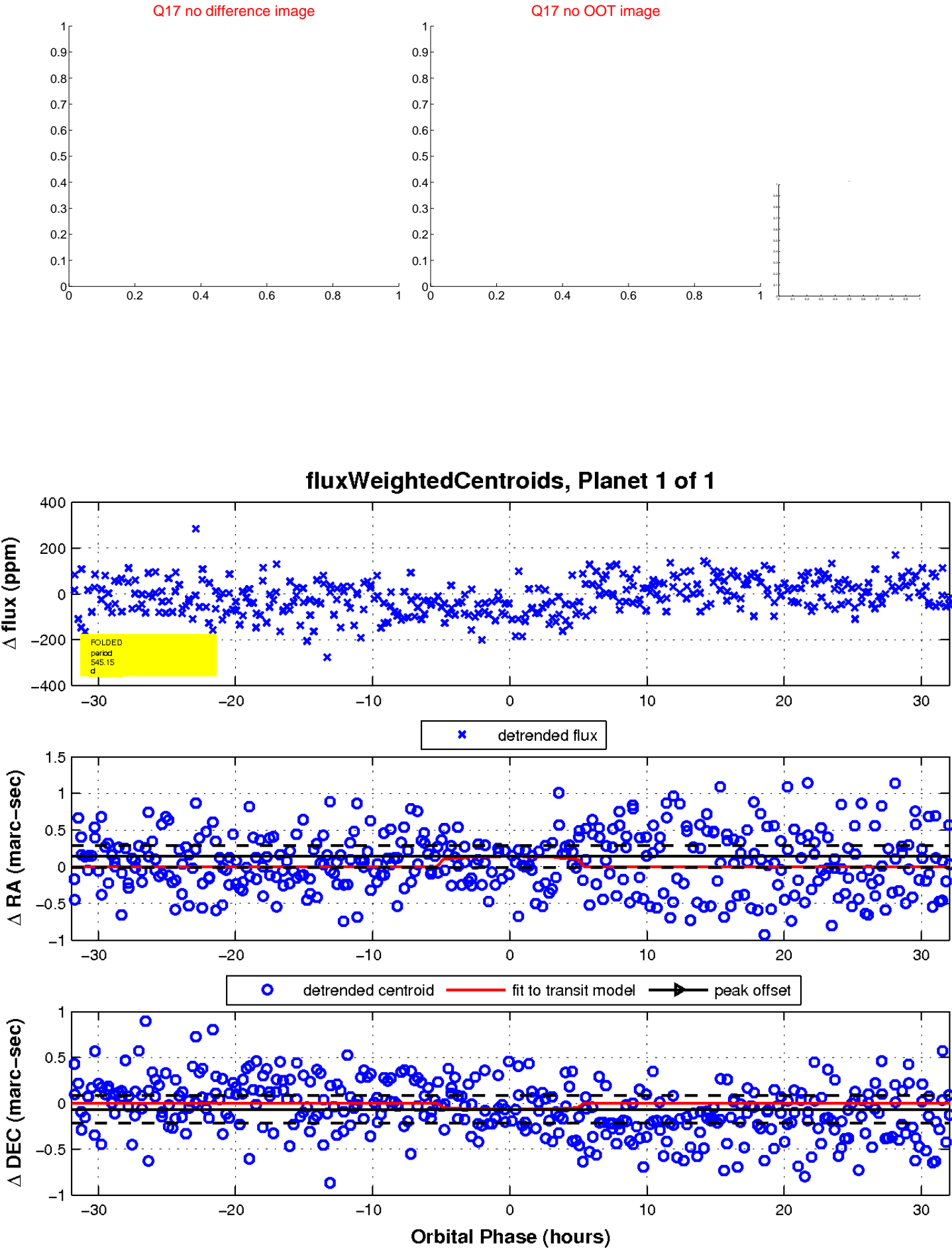
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

