

KIC 005528728

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})
005528728-01	OBS	No	520.466468	487.434519	123.8	19.949	7.5	8.1	0.92	6332	1.09	0.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005528728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

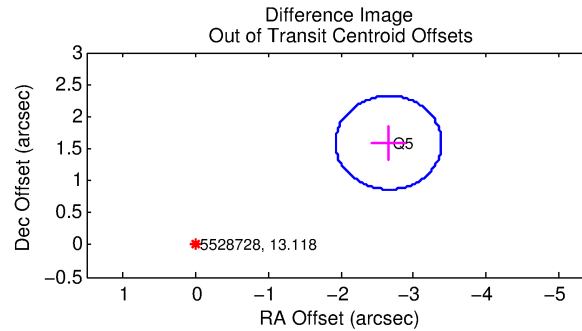
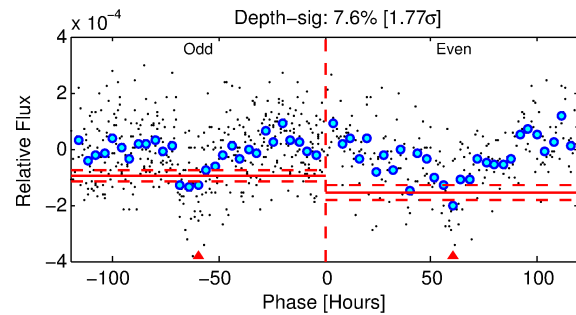
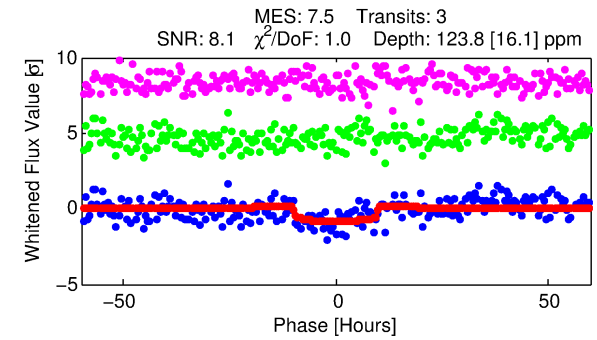
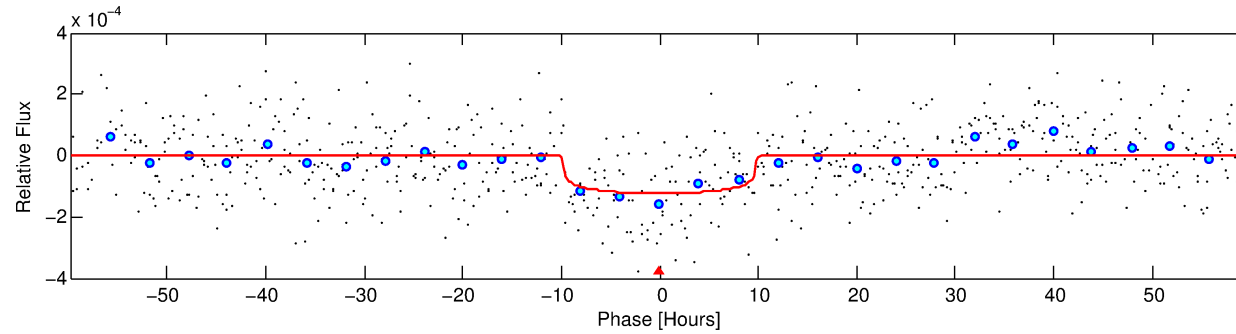
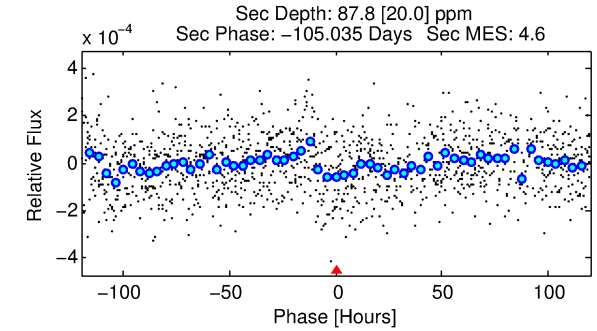
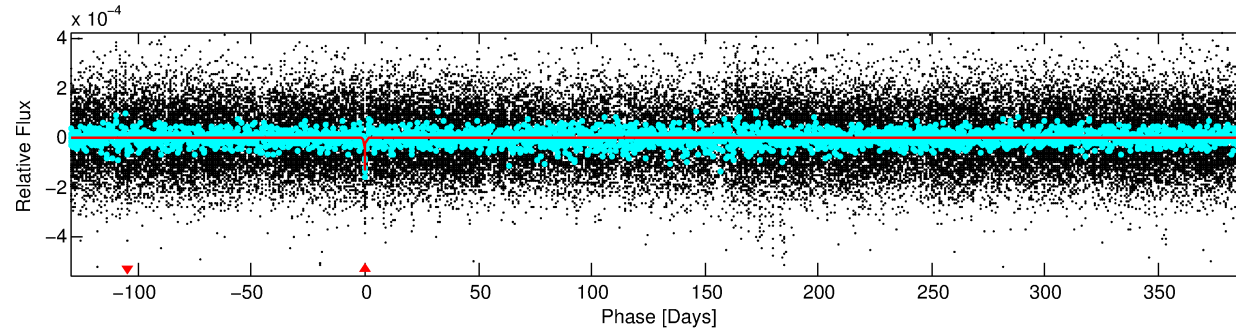
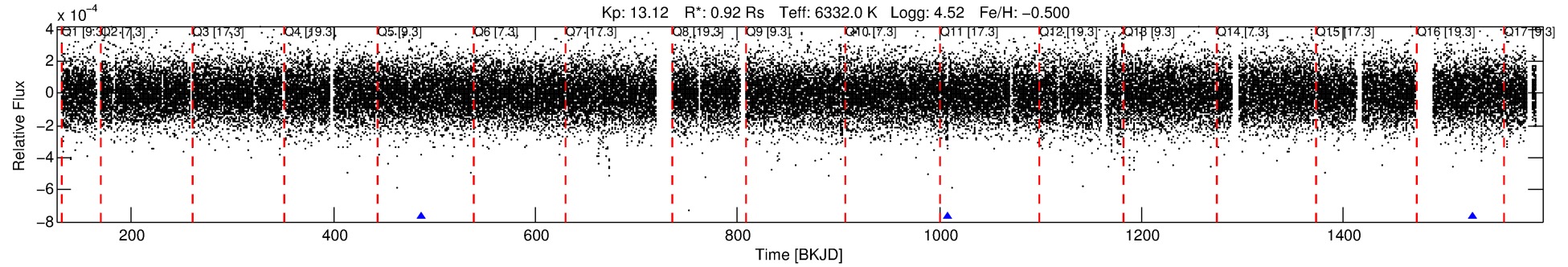
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005528728-01

No Significant Match Found

DV One-Page Summary

KIC: 5528728 Candidate: 1 of 1 Period: 520.466 d



DV Fit Results:

Period = 520.46647 [0.01723] d
Epoch = 487.4345 [0.0246] BKJD
Rp/R* = 0.0109 [0.0033]
a/R* = 145.46 [230.53]
b = 0.70 [1.16]
Seff = 0.75 [0.29]
Teq = 237 [23] K
Rp = 1.09 [0.44] Re
a = 1.2674 [0.3009] AU
Ag = 65454.15 [48068.04] [1.36σ]
Teff = 5870 [955] K [5.89σ]

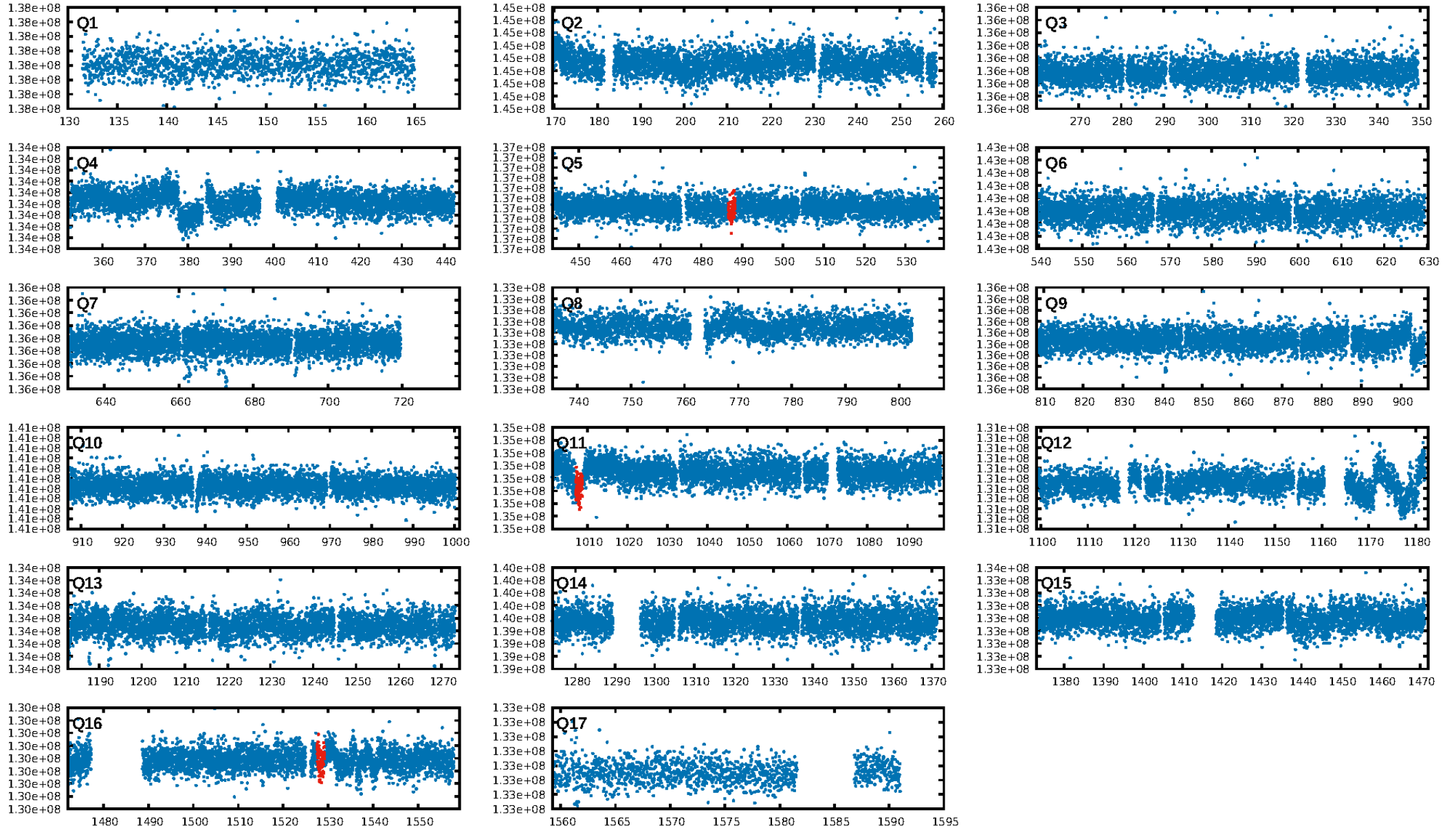
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.8%
ModelChiSquareGoF-sig: 99.8%
Bootstrap-pfa: 4.32e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.3816
Centroid-sig: 1.4%
Centroid-so: 2.841 arcsec [2.05σ]
OotOffset-rm: 3.096 arcsec [12.74σ]
KicOffset-rm: 3.003 arcsec [12.36σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

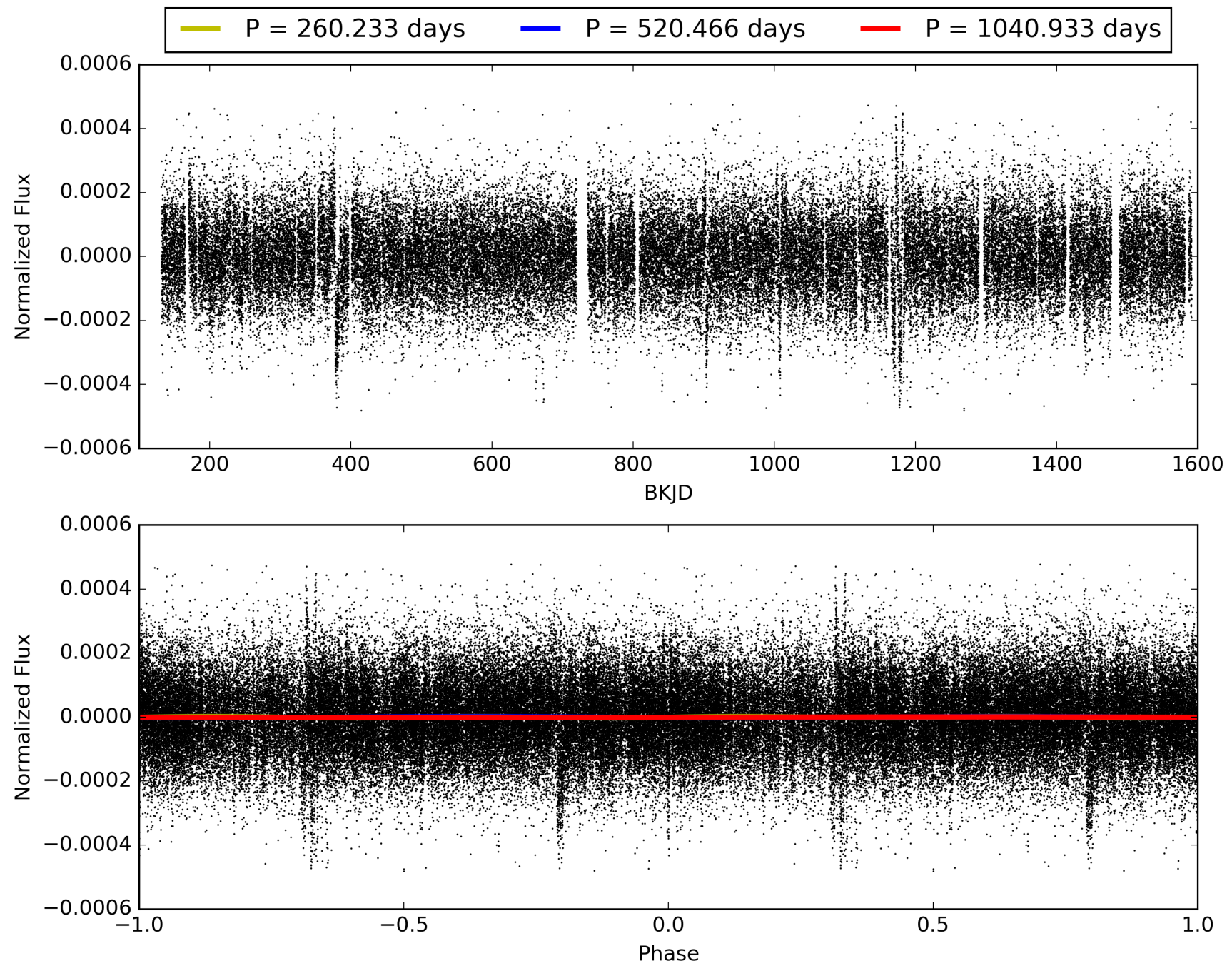
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:44:23 Z

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

TCE 005528728-01, PDC Light Curves

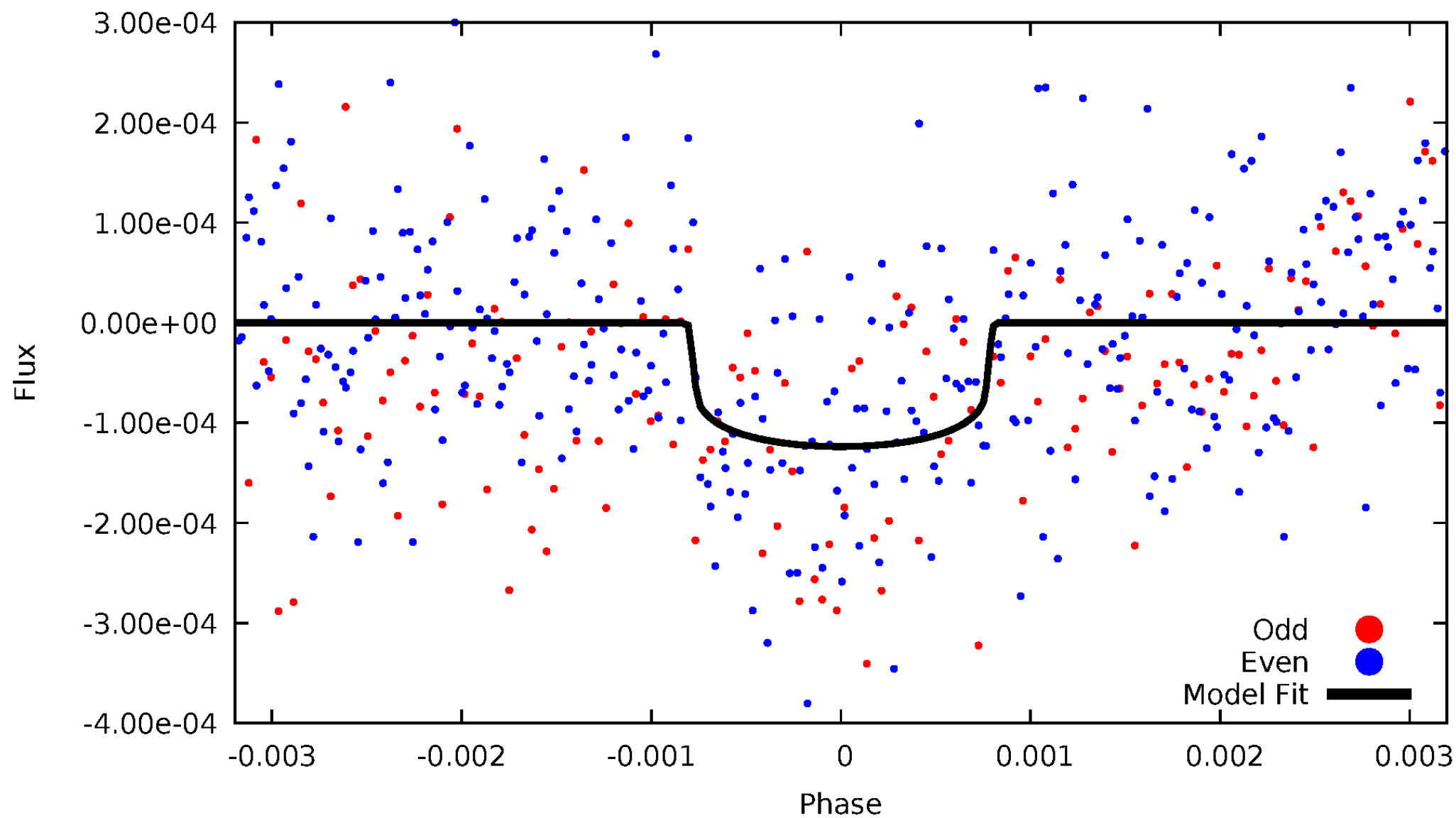


TCE 005528728-01



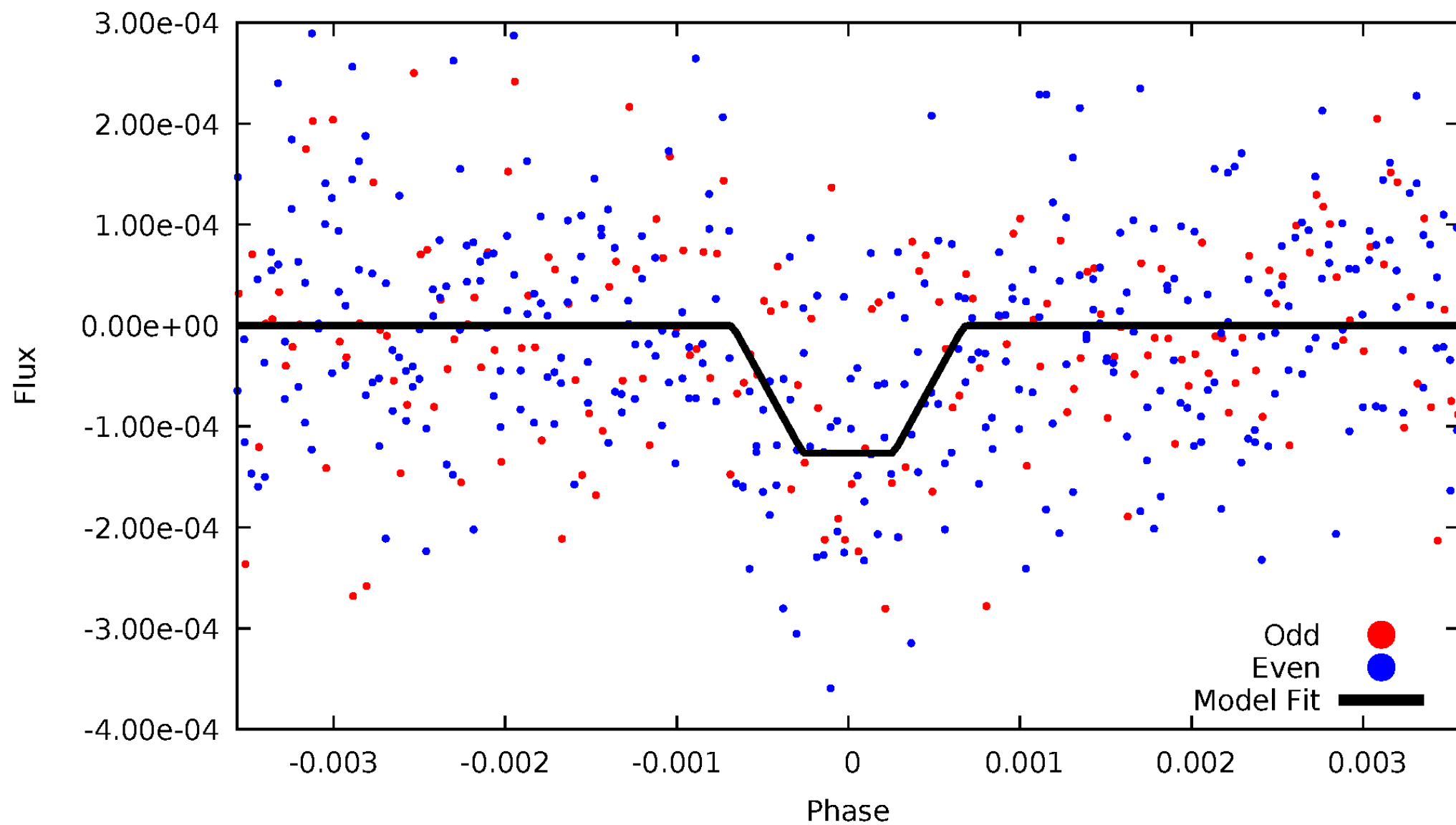
DV Odd/Even

TCE 005528728-01

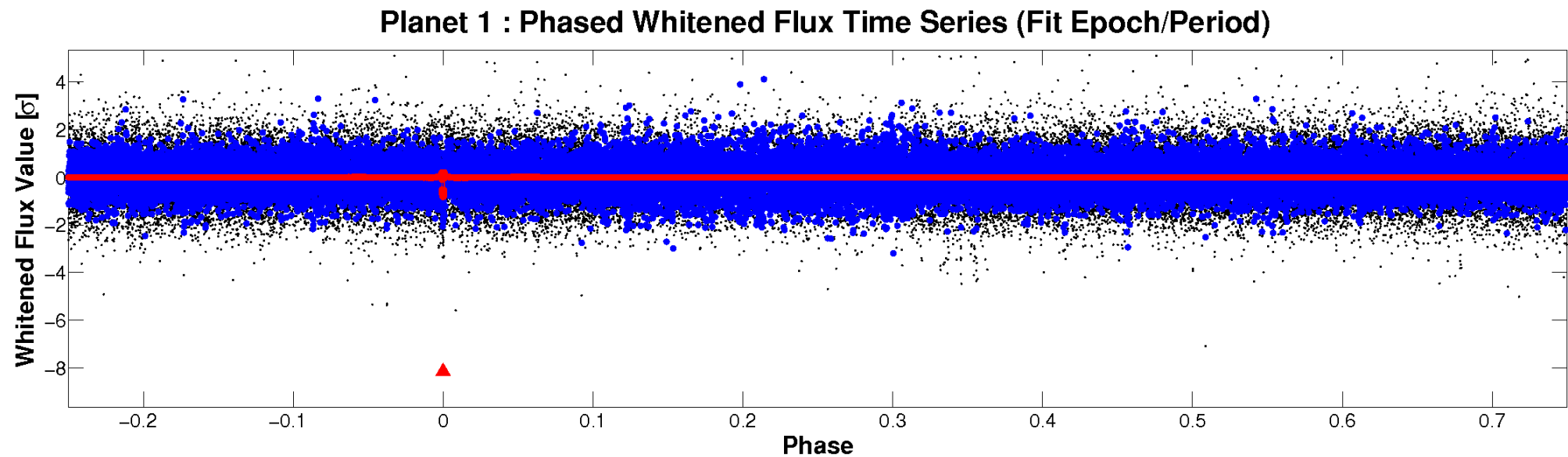
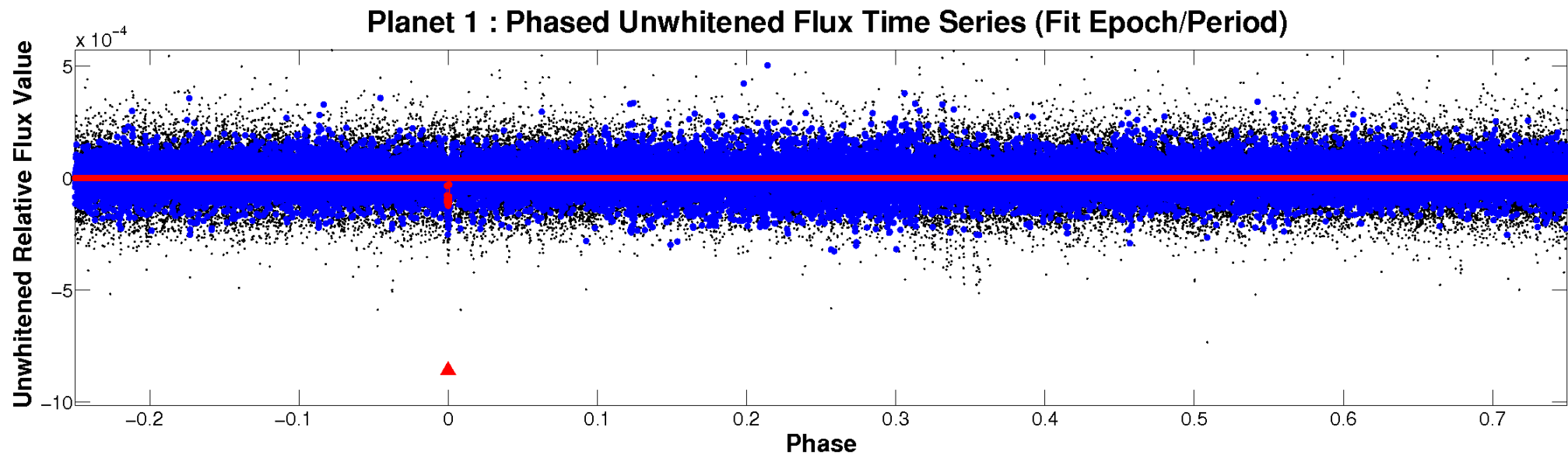


ALT Odd/Even

TCE 005528728-01



Non-Whitened Vs. Whitened Light Curve



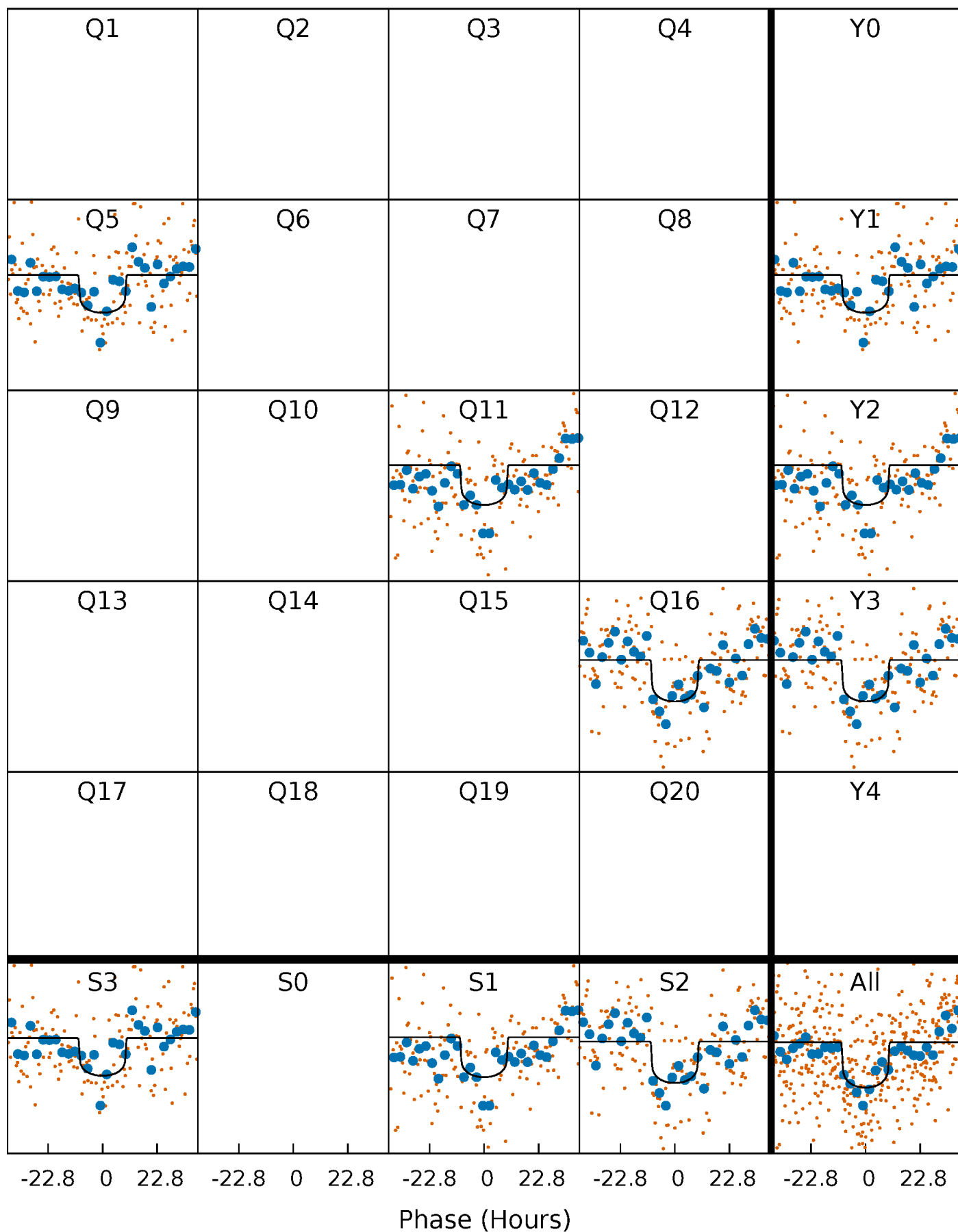
PDC Quarter-Phased Transit Curves

TCE 005528728-01 P=520.466468 Days $T_0=487.434519$ (BKJD)



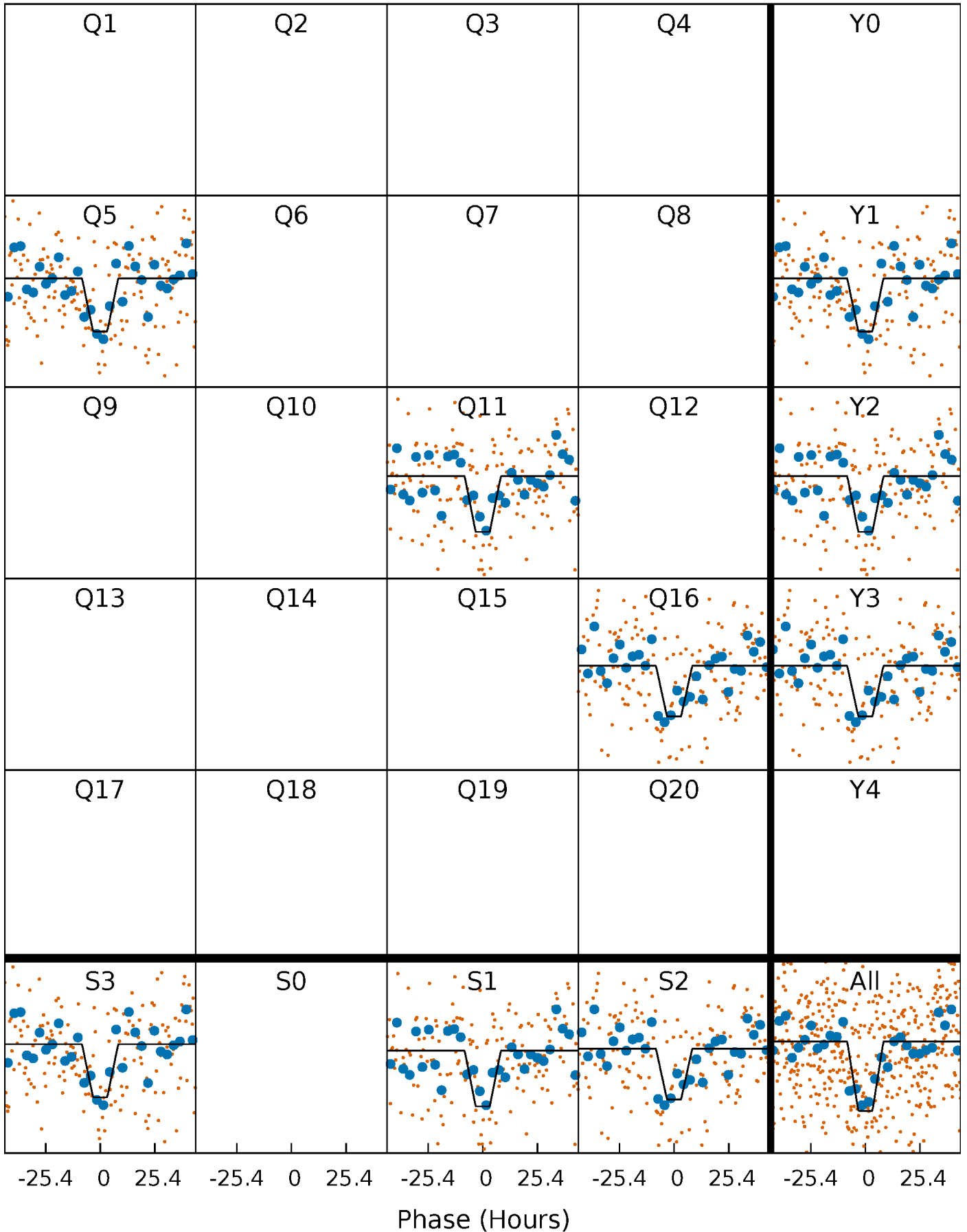
DV Quarter-Phased Transit Curves

TCE 005528728-01 P=520.466468 Days $T_0=487.434519$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

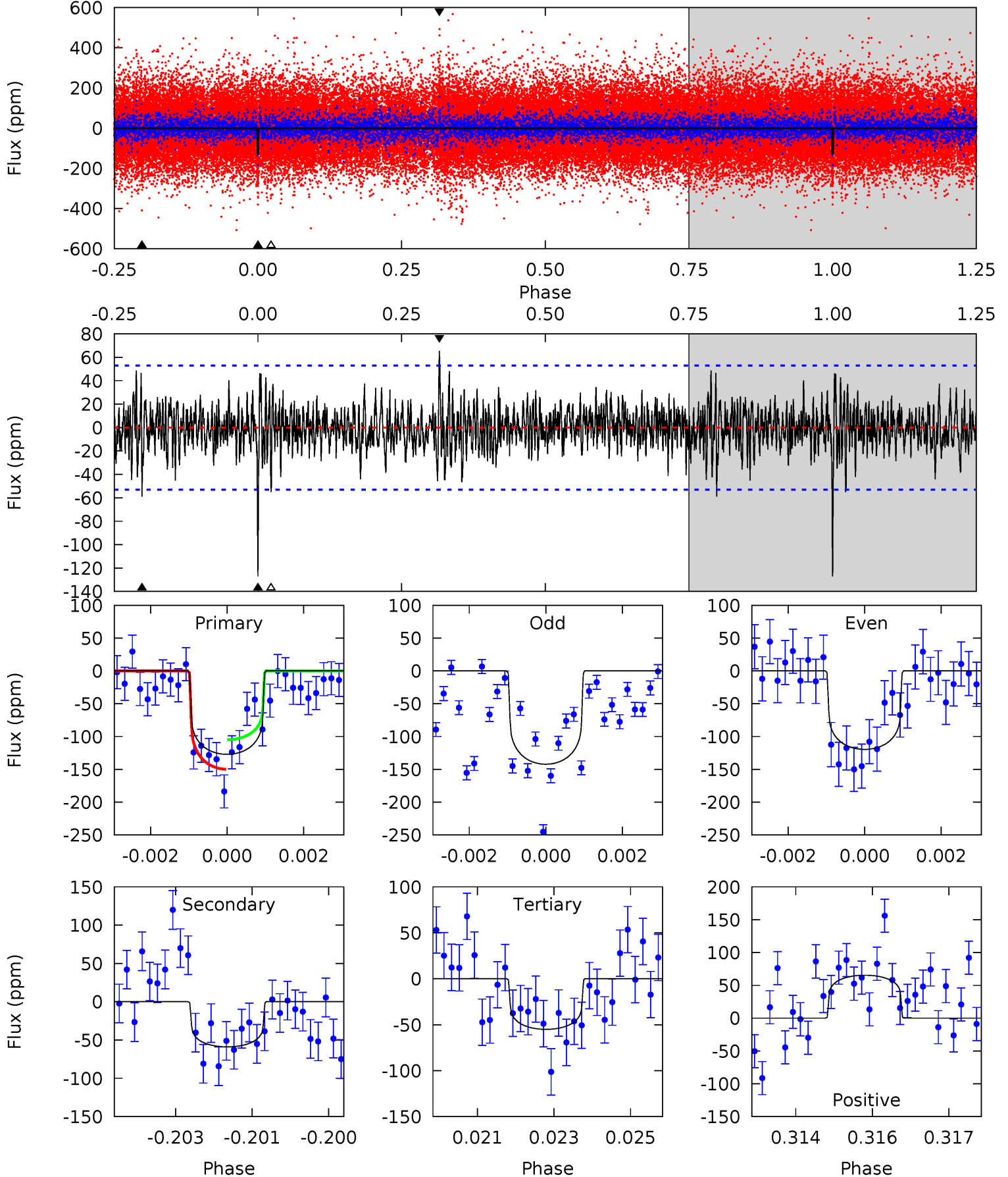
TCE 005528728-01 P=520.463207 Days $T_0=487.396328$ (BKJD)



DV Model-Shift Uniqueness Test

005528728-01, P = 520.466468 Days, E = 487.434519 Days

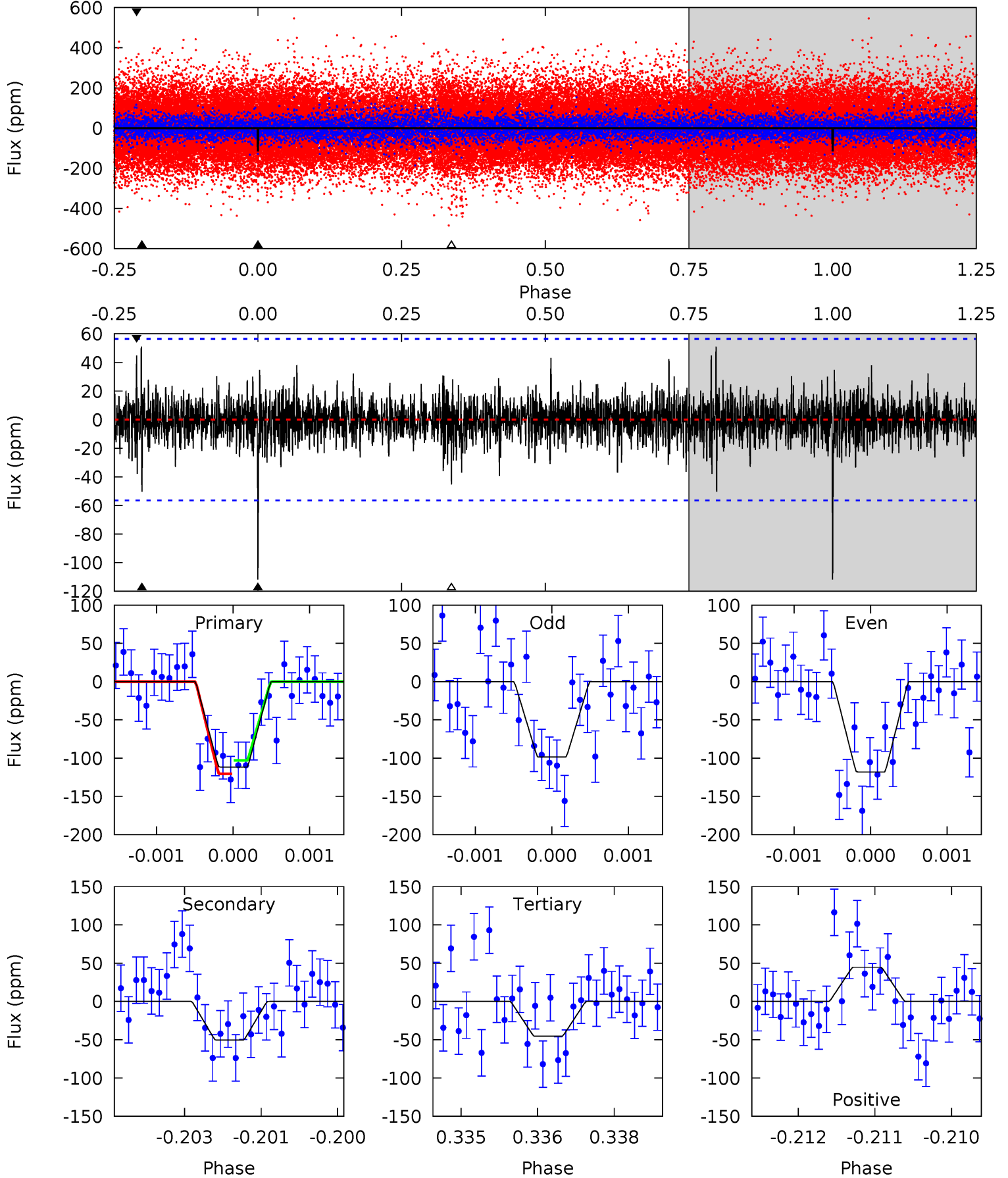
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	5.96	5.57	6.61	5.36	3.15	1.45	7.29	6.25	0.39	-0.65	1.07	0.95	0.34	2.28



Alt Model-Shift Uniqueness Test

005528728-01, P = 520.463207 Days, E = 487.396328 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.81	4.33	4.27	5.39	3.20	1.02	6.33	6.39	0.48	0.54	0.88	0.98	0.31	0.84



Stellar Parameters For KIC 005528728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6332^{+158}_{-190}	$4.516^{+0.036}_{-0.204}$	$-0.500^{+0.250}_{-0.350}$	$0.915^{+0.245}_{-0.082}$	$1.001^{+0.112}_{-0.134}$	$1.841^{+0.351}_{-0.925}$
	+2%/-3%	+1%/-5%	+50%/-70%	+27%/-9%	+11%/-13%	+19%/-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 005528728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-59 ± 10	$1.14^{+0.39}_{-0.34}$	340^{+24}_{-16}	5351^{+1059}_{-651}	38849^{+43852}_{-17739}
Alt.	-50 ± 10	$1.18^{+0.38}_{-0.33}$	340^{+22}_{-14}	5055^{+878}_{-555}	30366^{+29759}_{-13651}

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

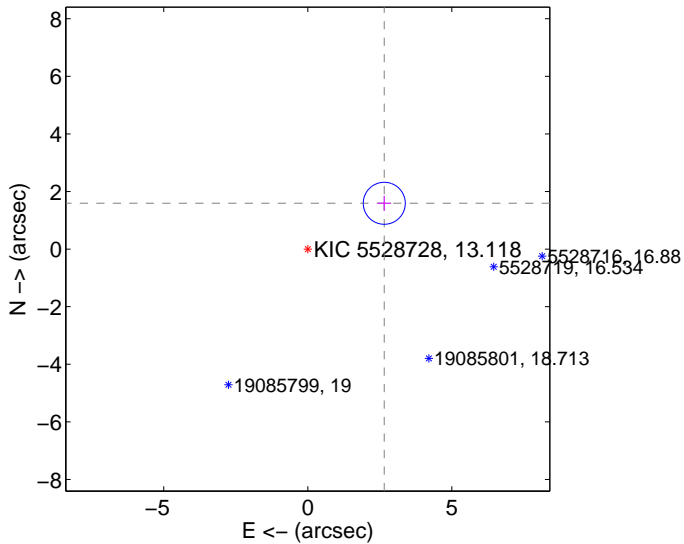
Supplemental centroid analysis for 005528728-01. Kepler magnitude: 13.12. Transit SNR 8.15

There are 1 quarters with good PRF difference image offsets

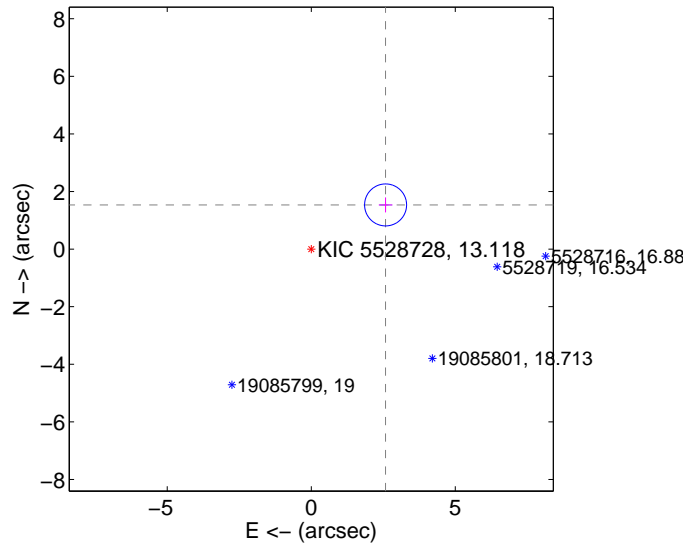
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.096 ± 0.243	12.74	-2.656 ± 0.238	1.591 ± 0.258
PRF-fit source offset from KIC position	3.003 ± 0.243	12.36	-2.581 ± 0.238	1.534 ± 0.258
photometric centroid source offset	2.84 ± 1.39	2.05	-2.81 ± 1.39	0.41 ± 1.44

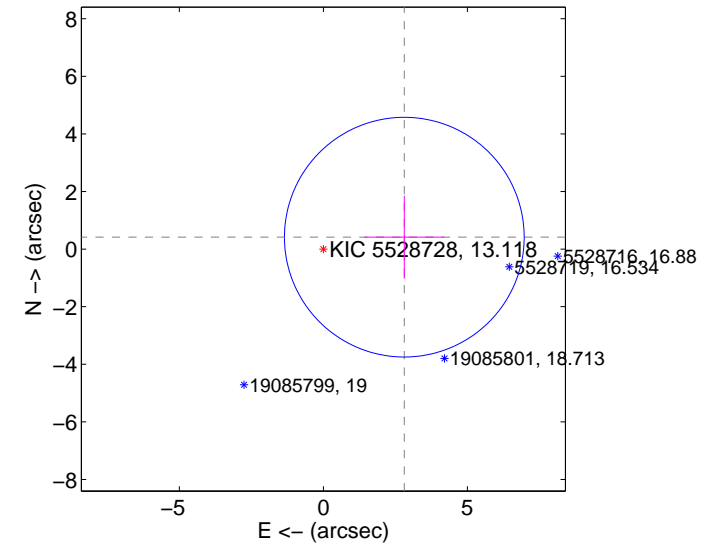
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

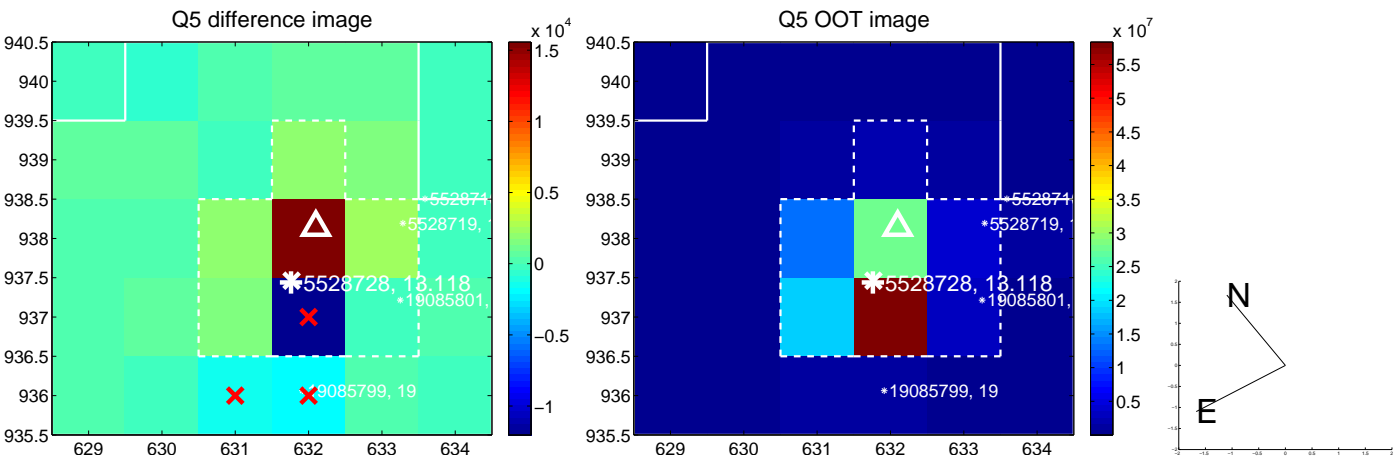


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



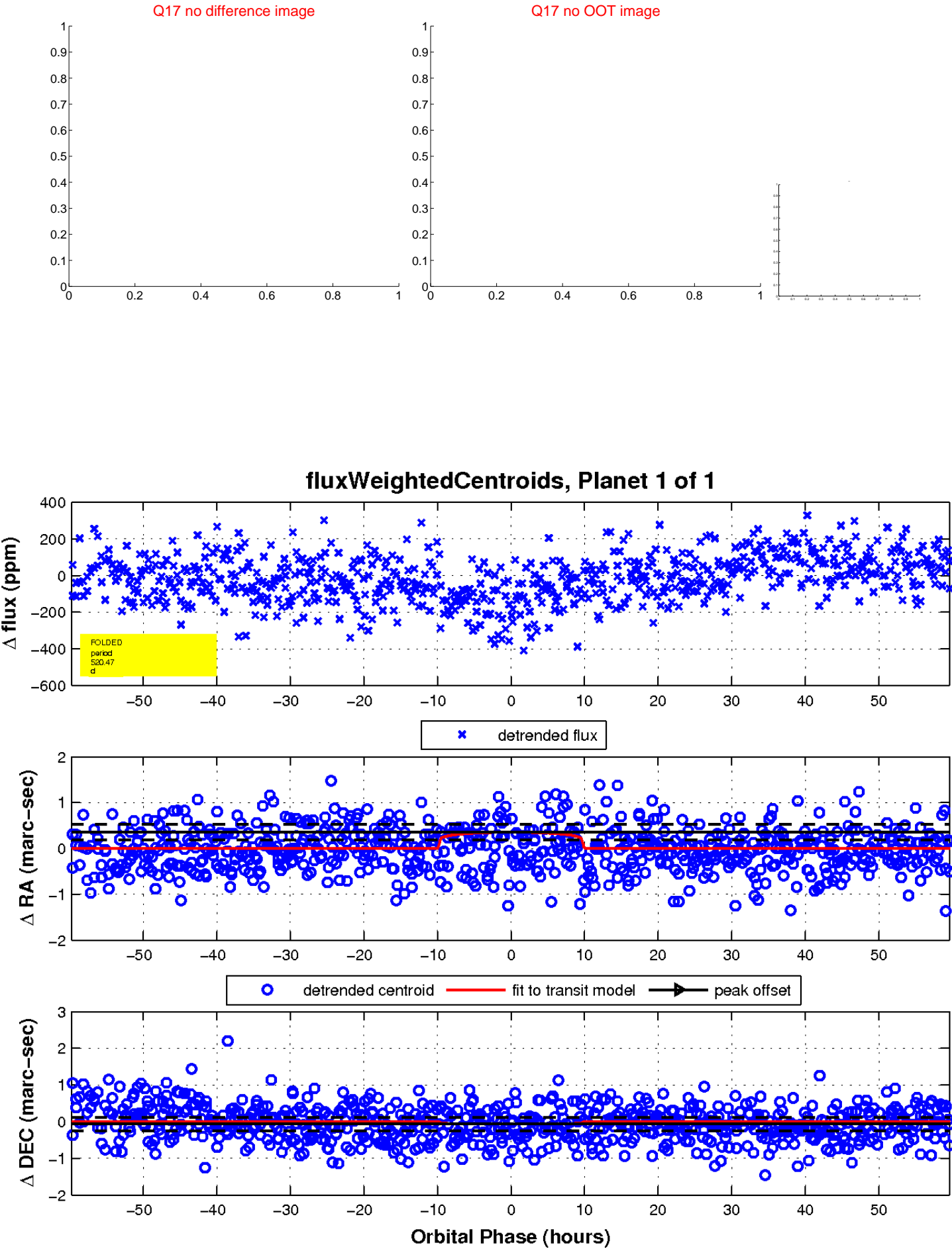
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

