

KIC 006521020

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})
006521020-01	OBS	No	459.446567	578.778725	301.3	33.503	10.6	13.1	2.01	6971	3.77	5.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006521020-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

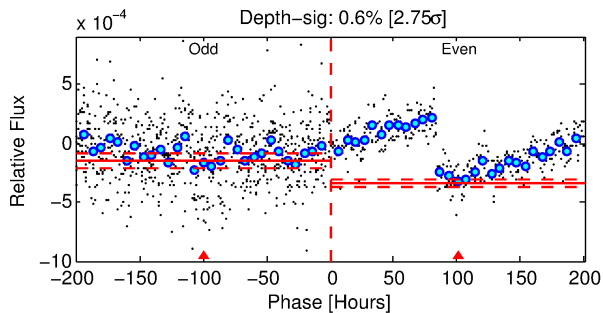
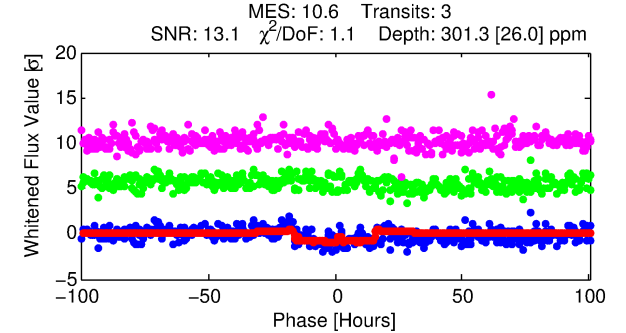
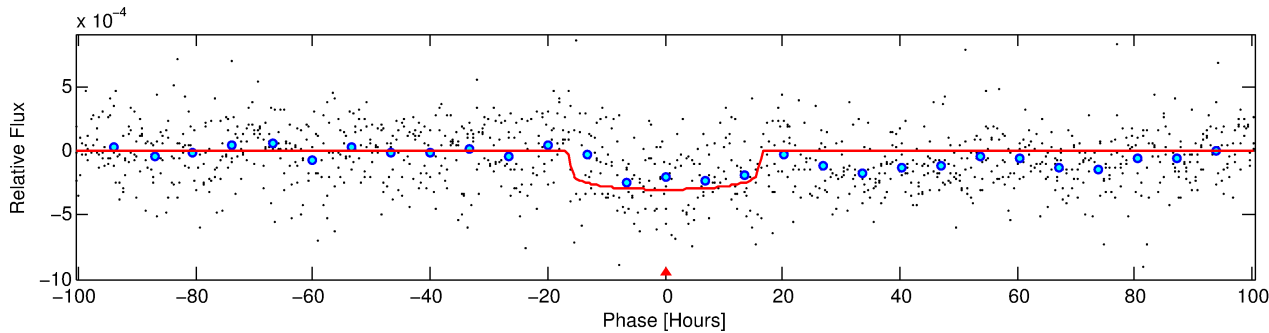
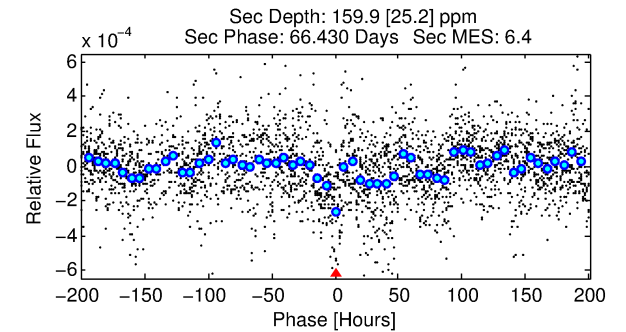
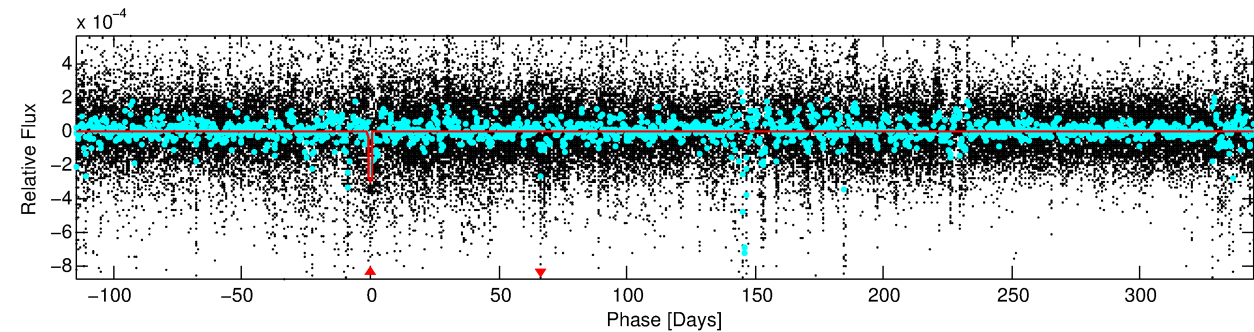
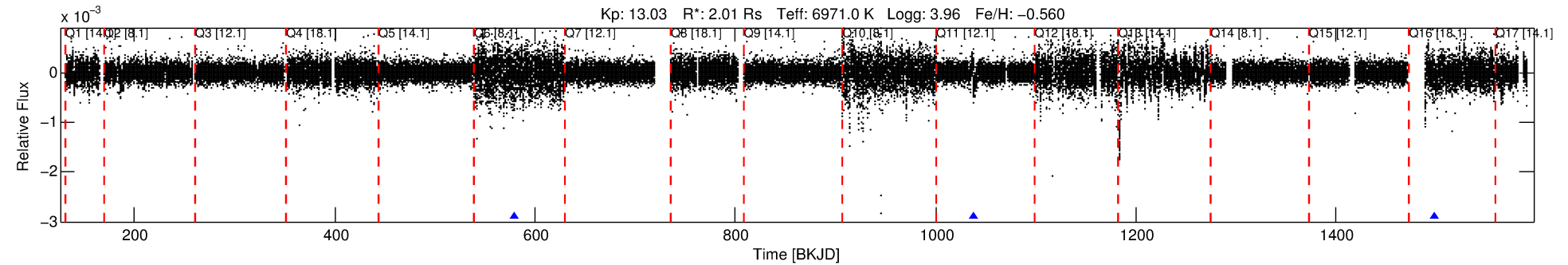
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006521020-01

No Significant Match Found

DV One-Page Summary

KIC: 6521020 Candidate: 1 of 1 Period: 459.447 d



DV Fit Results:

Period = 459.44657 [0.02286] d
Epoch = 578.7787 [0.0266] BKJD
Rp/R* = 0.0172 [0.0016]
a/R* = 74.28 [33.79]
b = 0.73 [0.29]
Seff = 5.20 [2.49]
Teq = 385 [46] K
Rp = 3.77 [1.22] Re
a = 1.2831 [0.3734] AU
Ag = 10197.70 [5275.50] [1.93σ]
Teffp = 5983 [414] K [13.45σ]

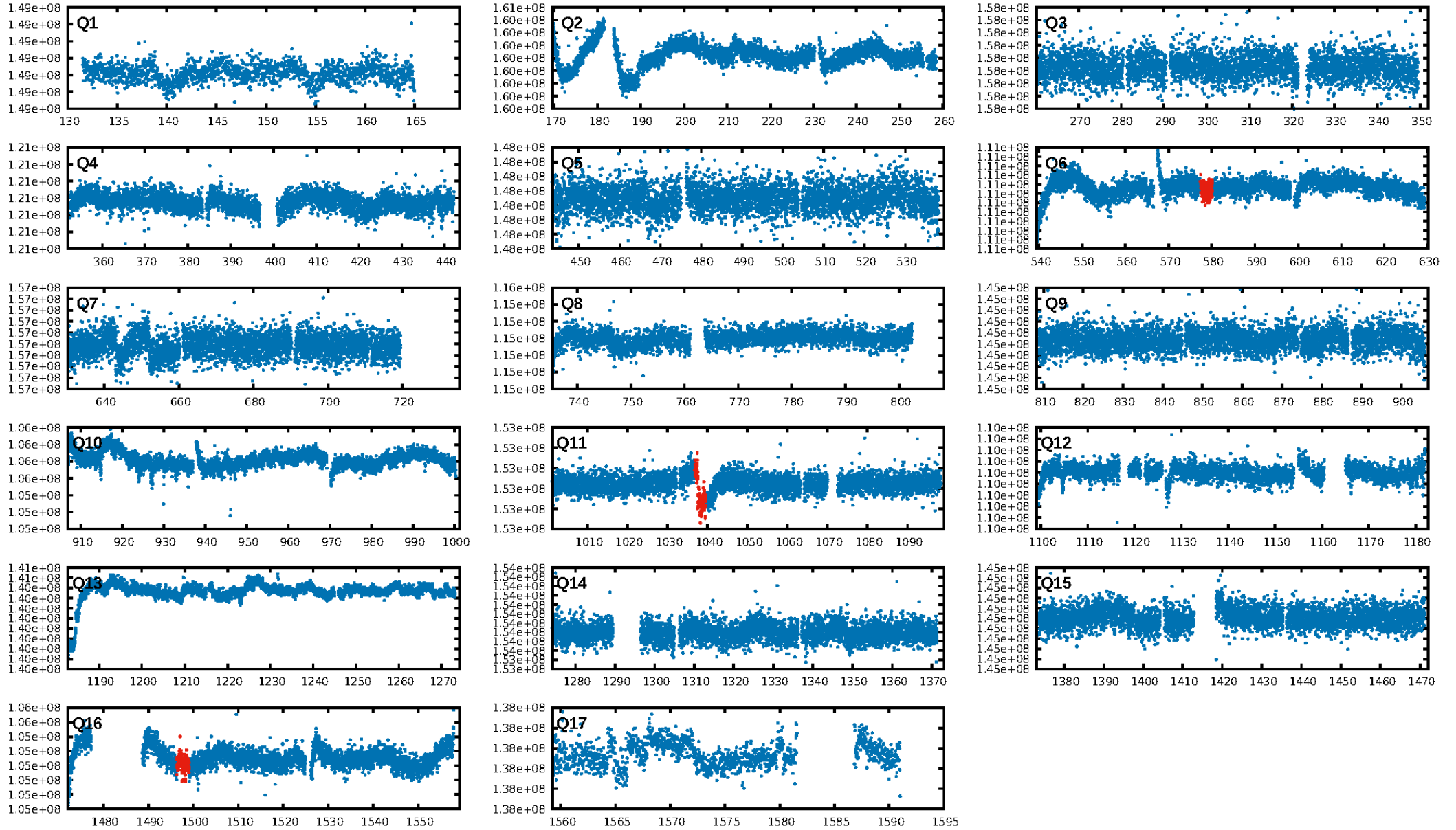
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.4%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 4.82e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.694
Centroid-sig: 8.2%
Centroid-so: 1.125 arcsec [2.48σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

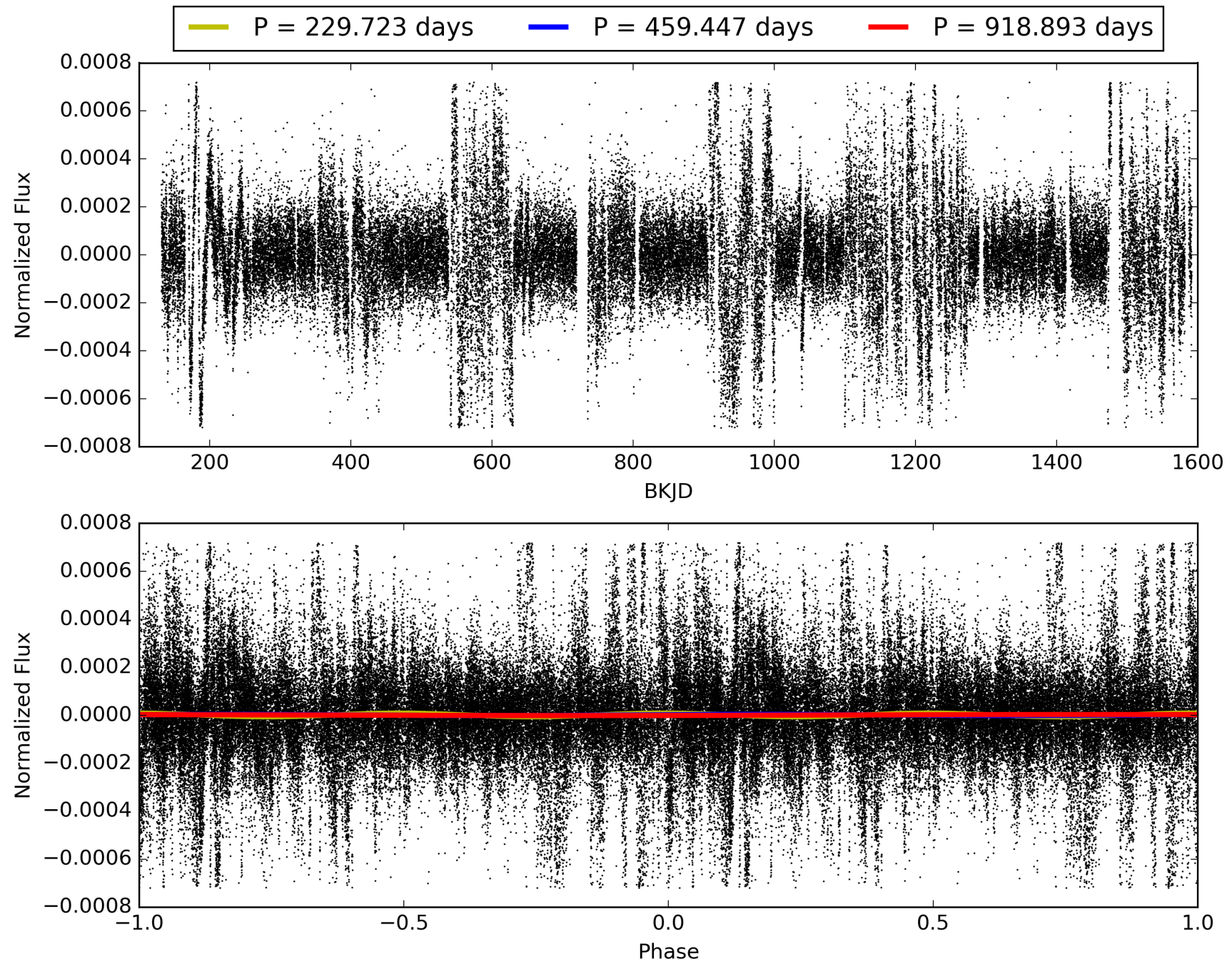
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:03:03 Z

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

TCE 006521020-01, PDC Light Curves

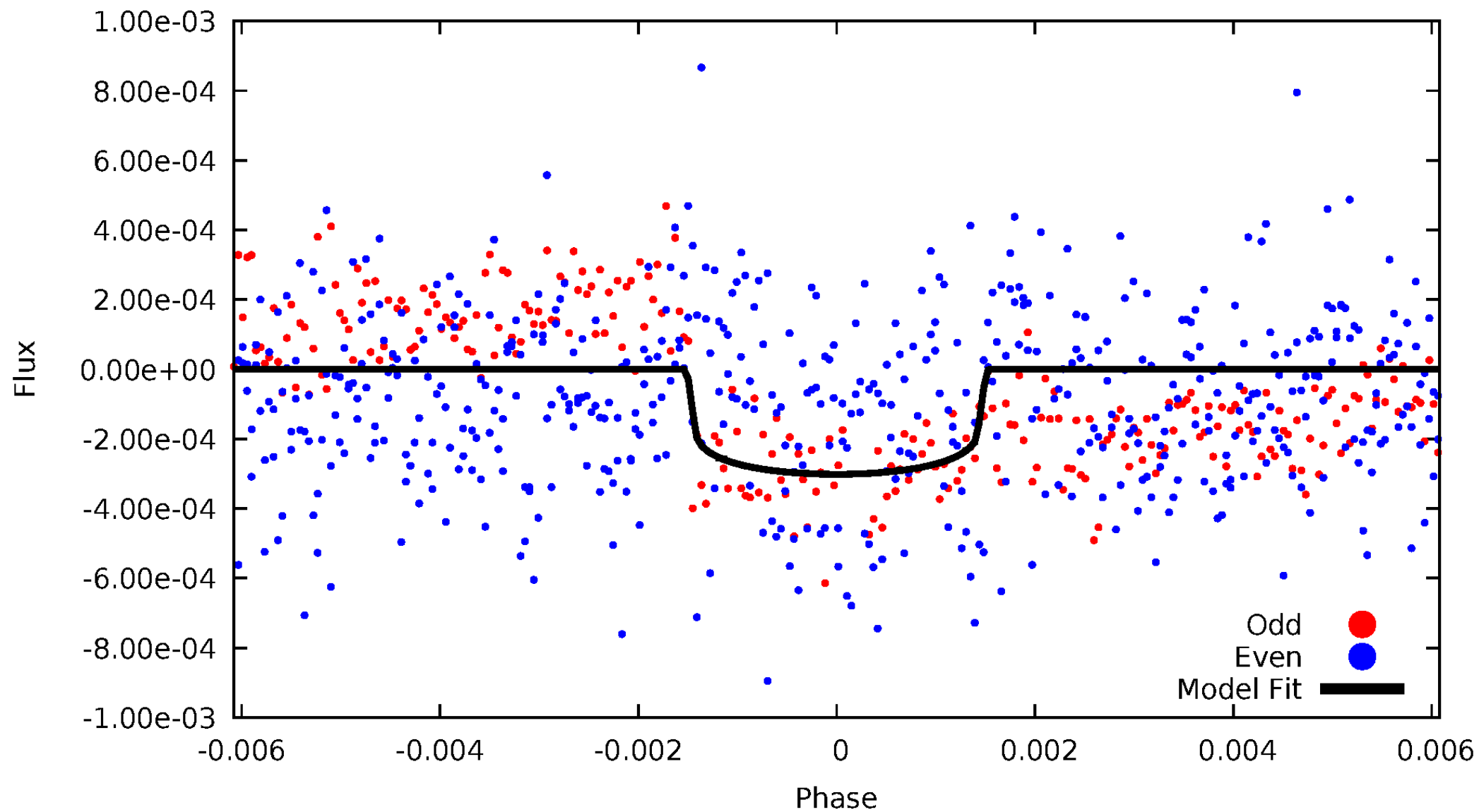


TCE 006521020-01



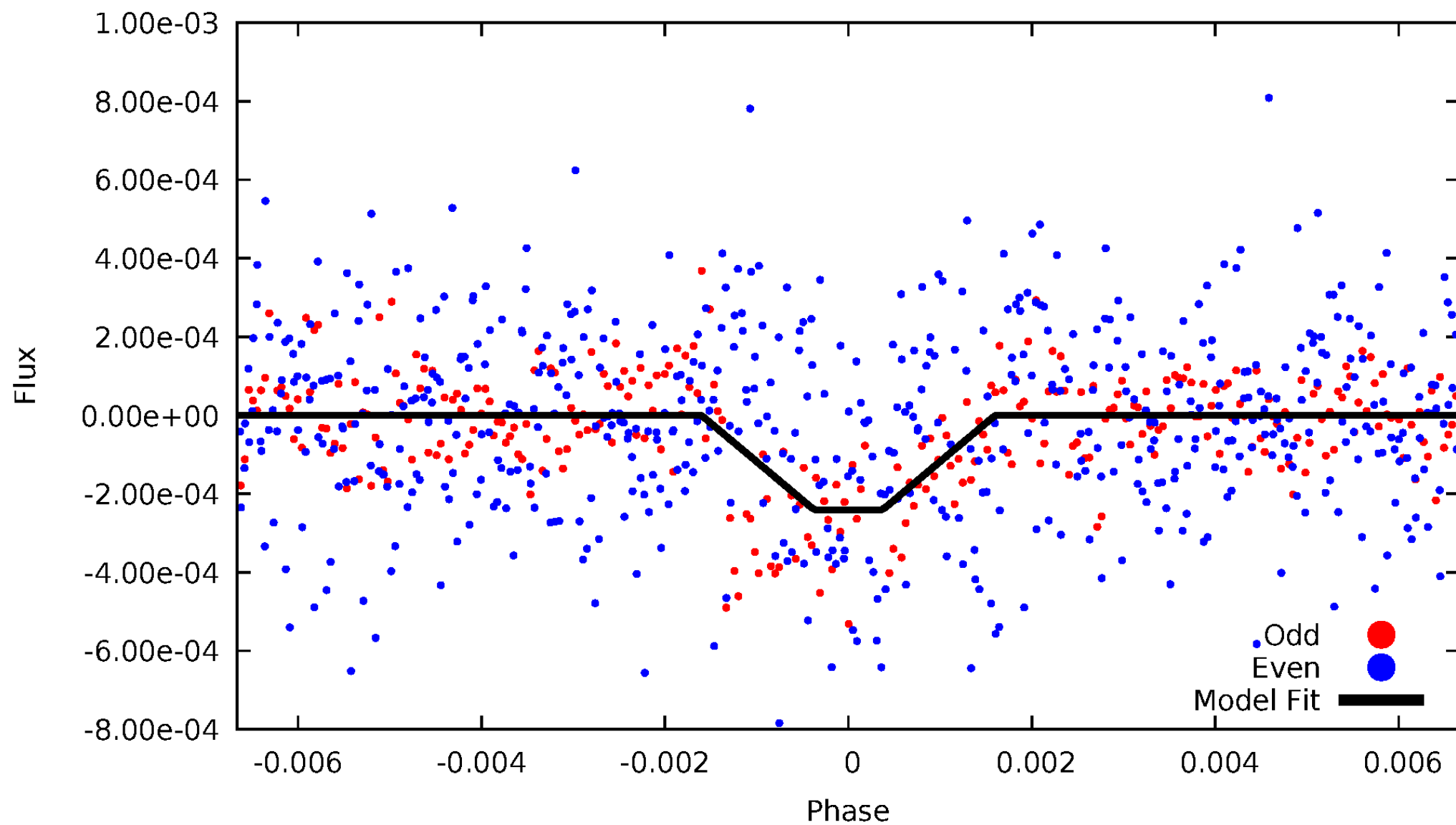
DV Odd/Even

TCE 006521020-01

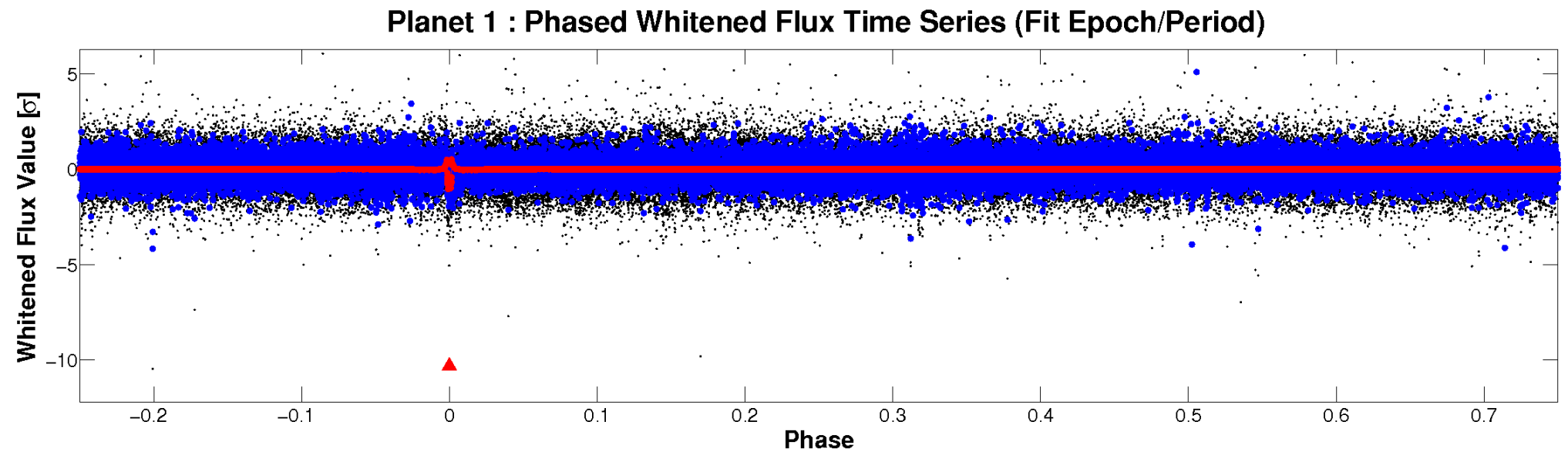
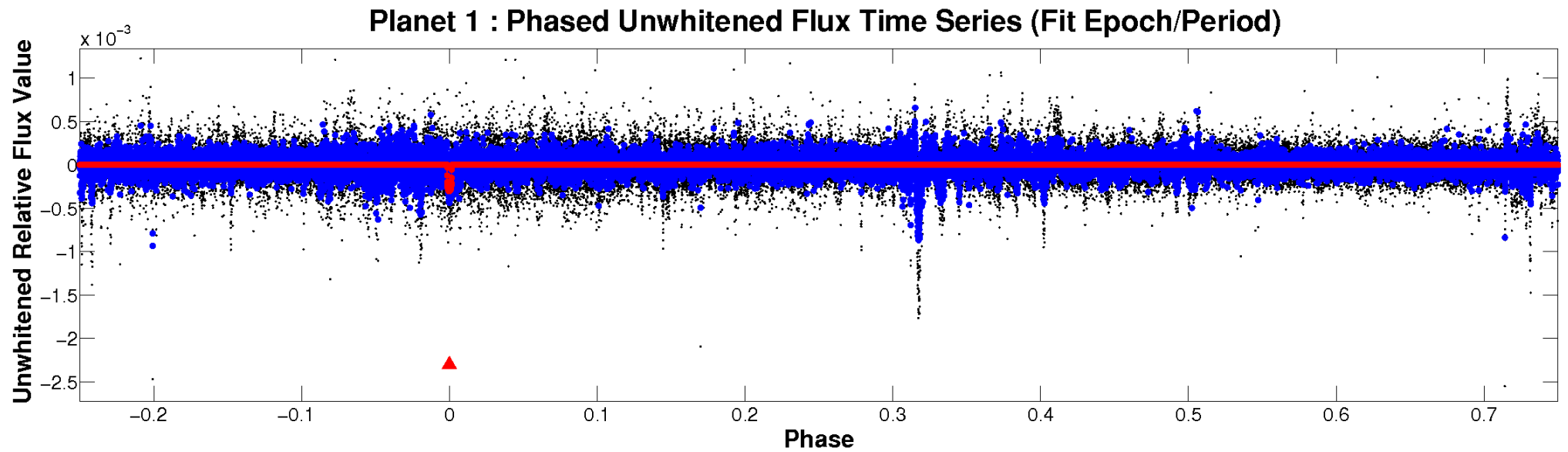


ALT Odd/Even

TCE 006521020-01

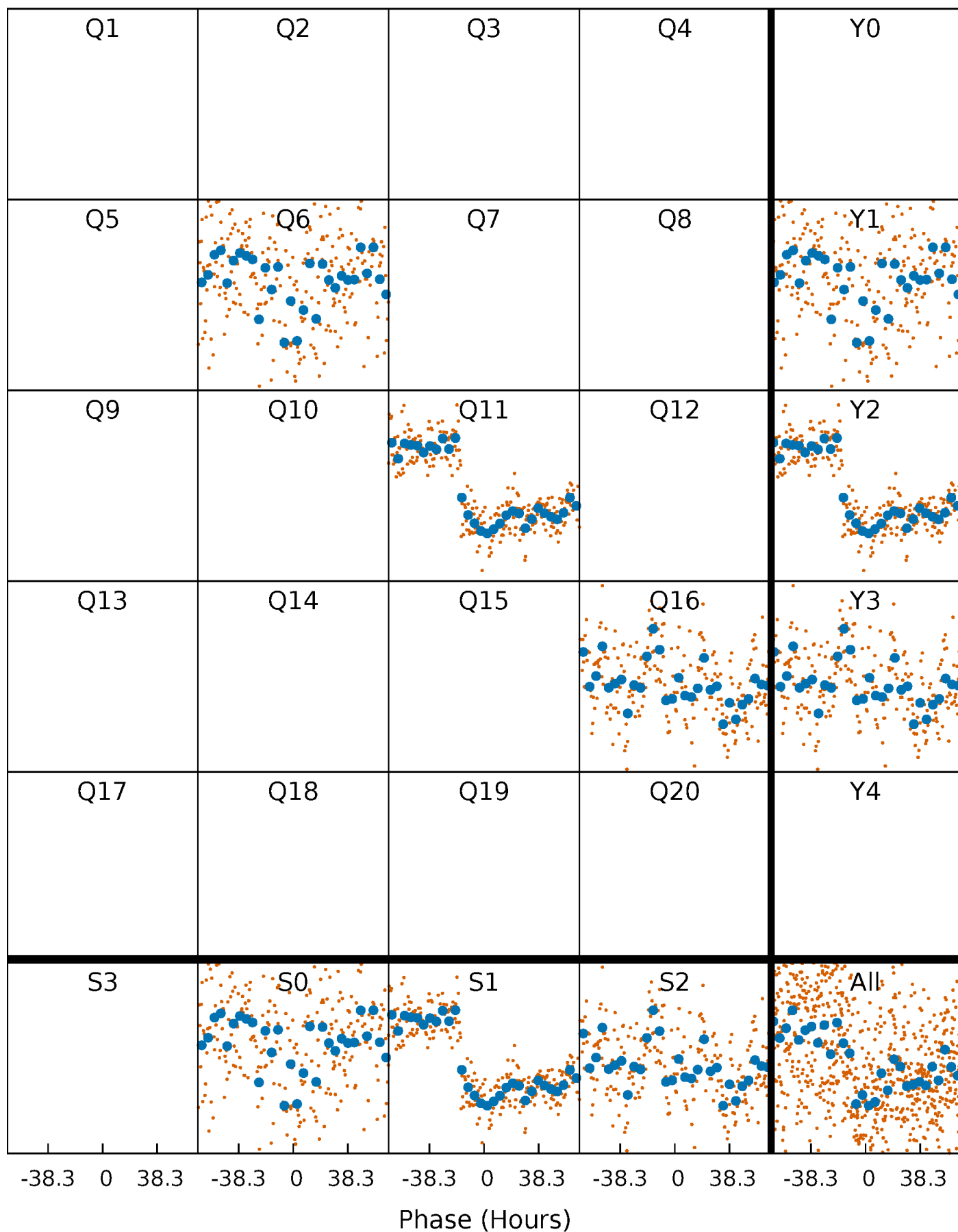


Non-Whitened Vs. Whitened Light Curve



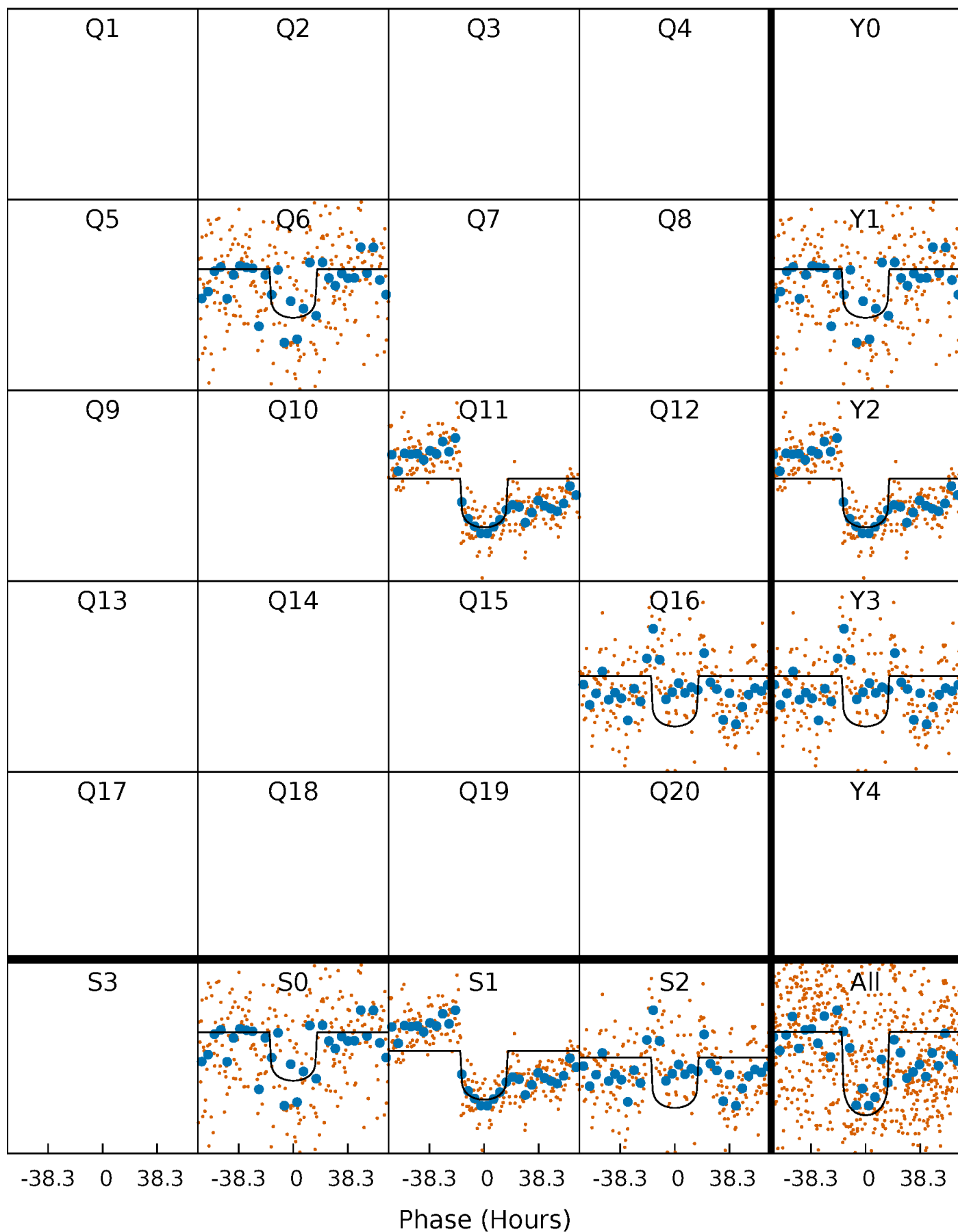
PDC Quarter-Phased Transit Curves

TCE 006521020-01 P=459.446567 Days $T_0=578.778725$ (BKJD)



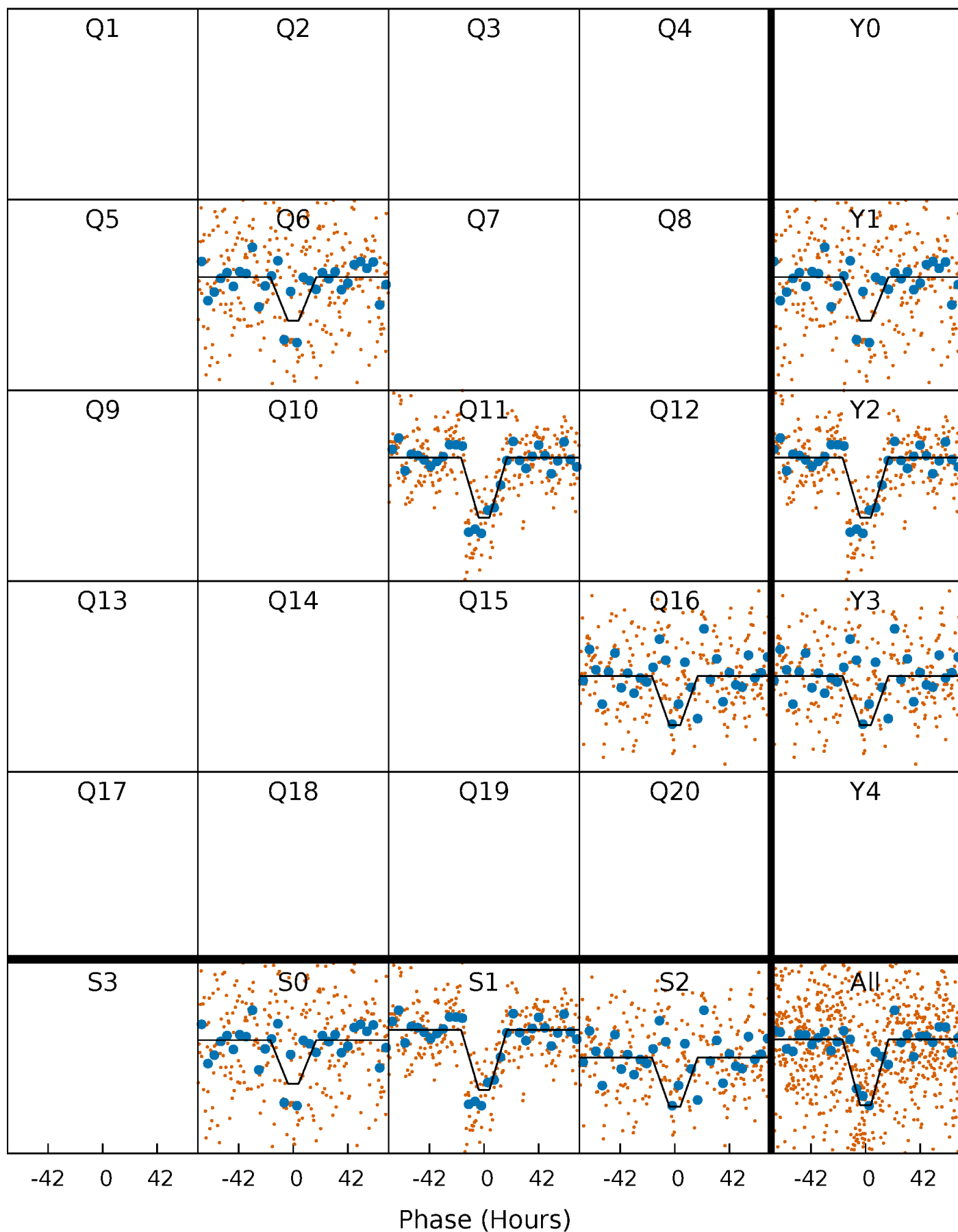
DV Quarter-Phased Transit Curves

TCE 006521020-01 P=459.446567 Days $T_0=578.778725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

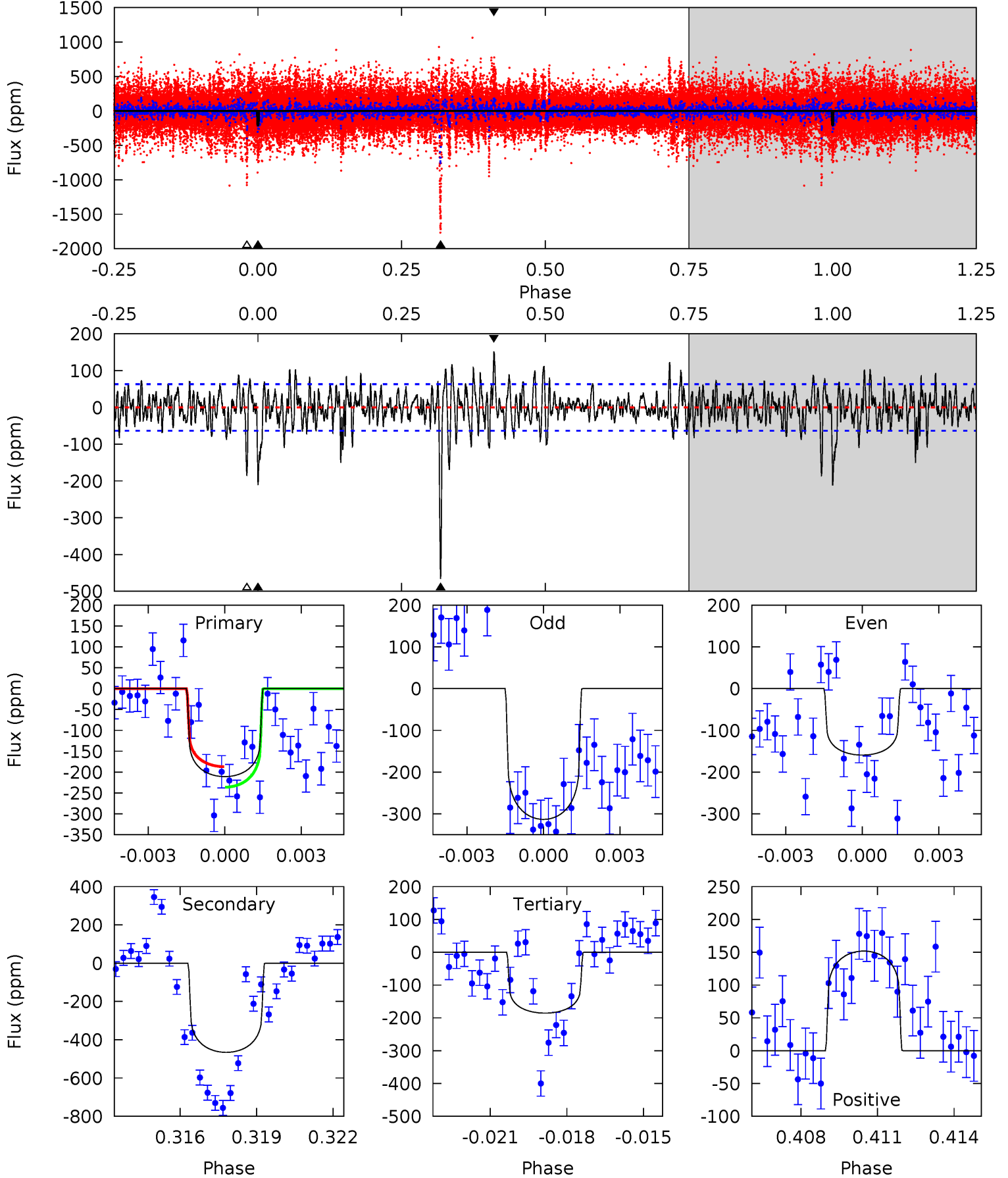
TCE 006521020-01 P=459.366862 Days $T_0=578.803593$ (BKJD)



DV Model-Shift Uniqueness Test

006521020-01, P = 459.446567 Days, E = 119.332158 Days

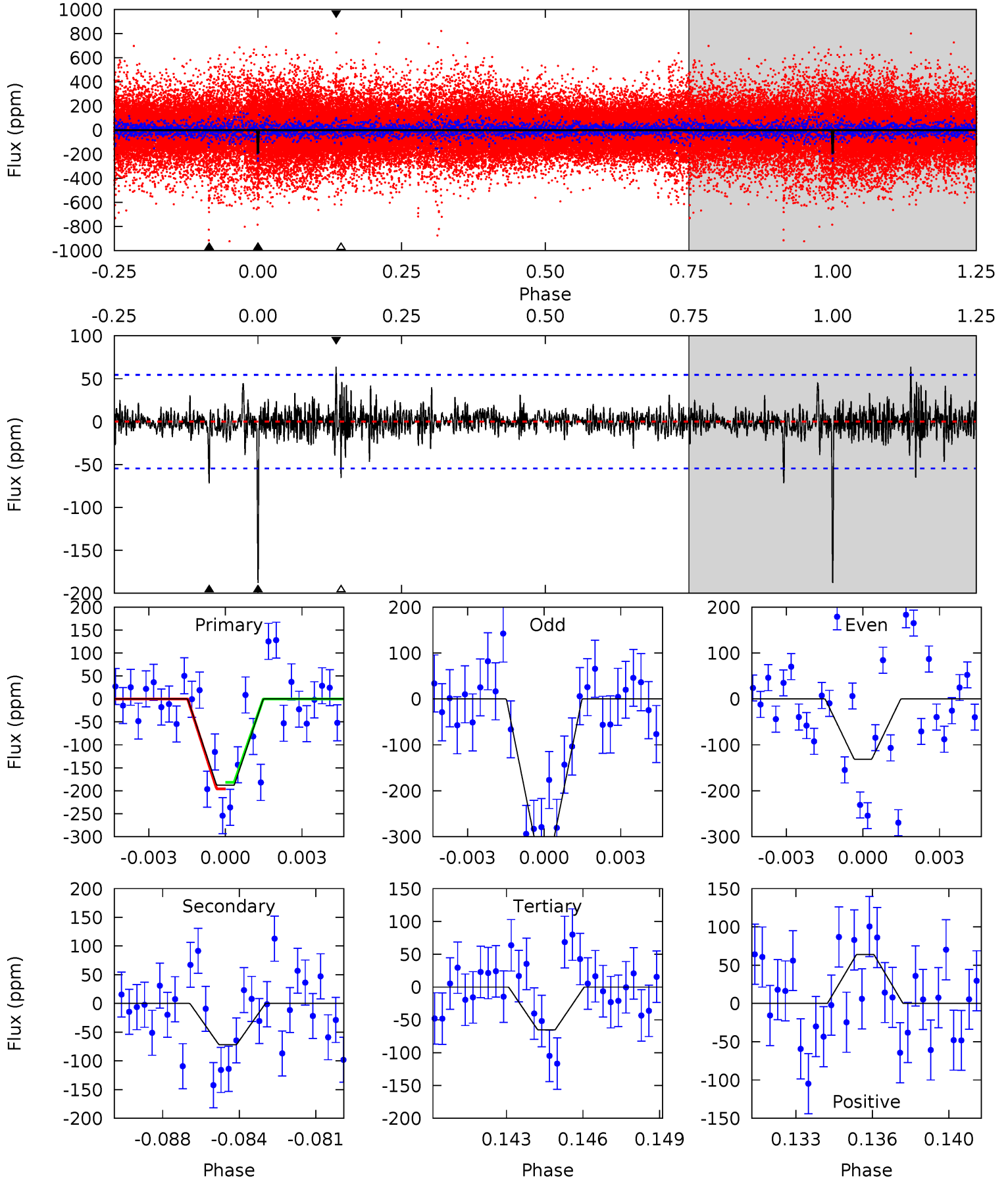
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.5	38.6	15.4	12.6	5.25	2.96	3.26	2.09	4.89	23.2	26.0	5.78	0.82	0.25	2.06



Alt Model-Shift Uniqueness Test

006521020-01, P = 459.366862 Days, E = 119.436731 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	6.91	6.26	6.13	5.24	2.94	1.04	11.8	11.9	0.65	0.77	8.15	0.98	0.25	0.67



Stellar Parameters For KIC 006521020

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6971^{+190}_{-238}	$3.956^{+0.266}_{-0.114}$	$-0.560^{+0.300}_{-0.250}$	$2.012^{+0.365}_{-0.626}$	$1.334^{+0.173}_{-0.259}$	$0.231^{+0.388}_{-0.079}$
	+3%/-3%	+7%/-3%	+54%/-45%	+18%/-31%	+13%/-19%	+168%/-34%
Source	PHO1	FLK73	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 006521020-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-466 ± 12	$3.67^{+0.59}_{-0.67}$	531^{+33}_{-43}	7959^{+546}_{-481}	31340^{+13732}_{-7494}
Alt.	-72 ± 10	$3.29^{+0.60}_{-0.59}$	529^{+35}_{-40}	5161^{+346}_{-307}	5987^{+2849}_{-1793}

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 $A_{obs} \gg 1.0$

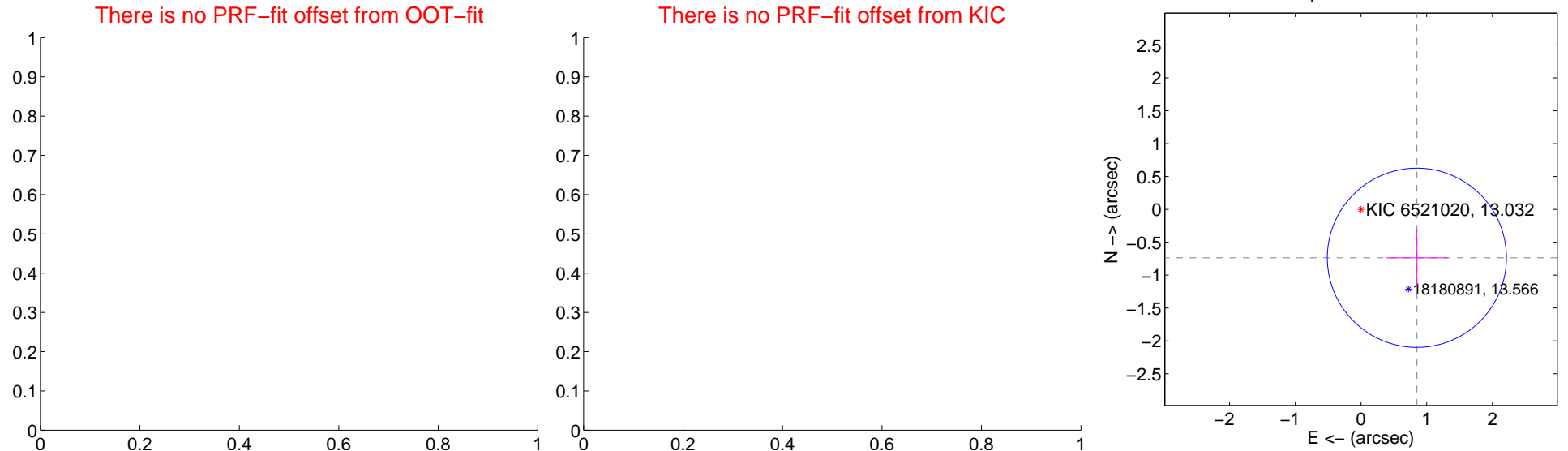
DV Centroid Data

Supplemental centroid analysis for 006521020-01. Kepler magnitude: 13.03. Transit SNR 13.07

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.12 ± 0.45	2.48	-0.85 ± 0.47	-0.74 ± 0.43

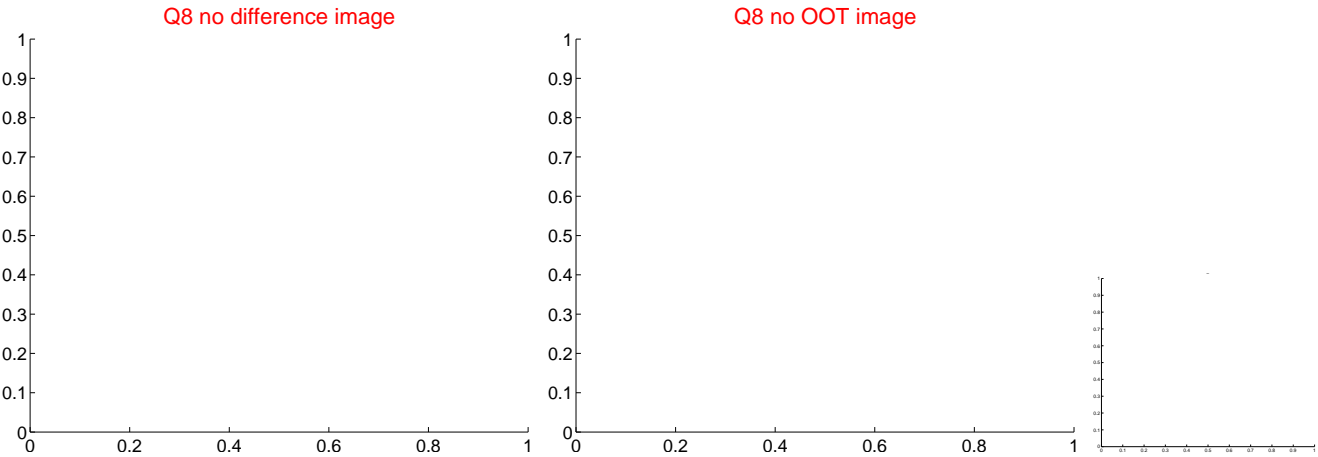
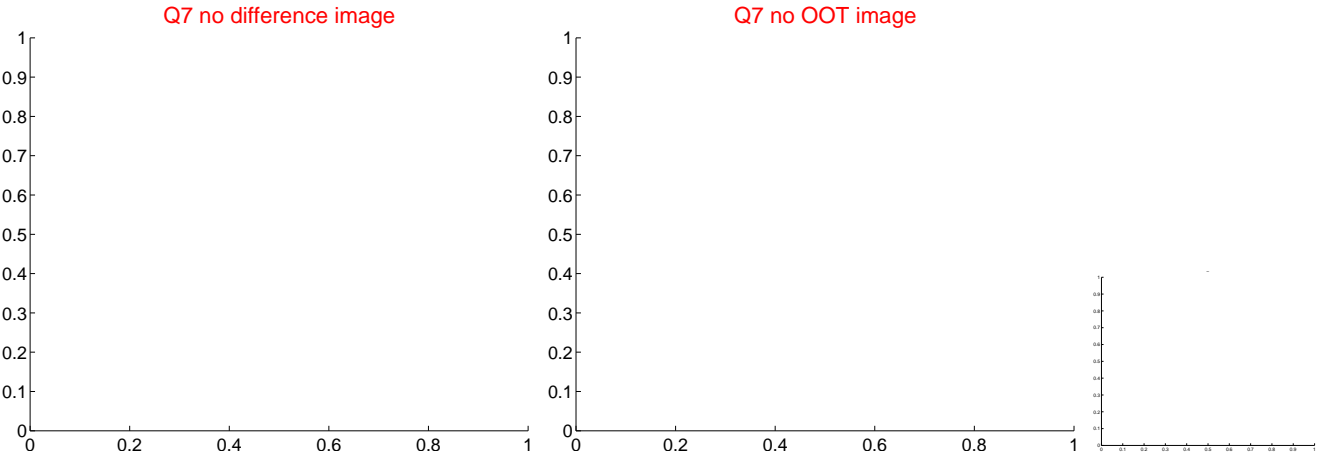
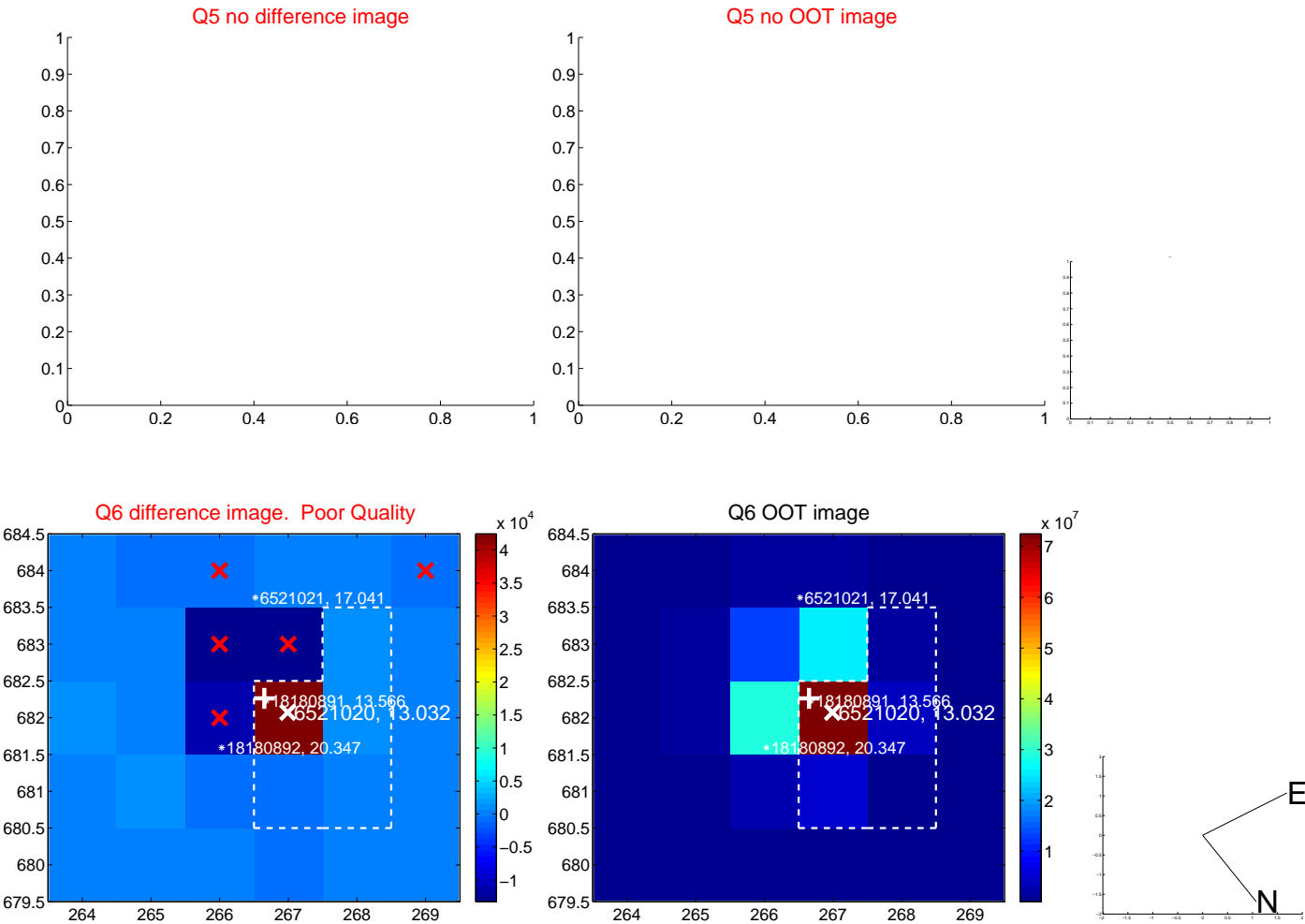


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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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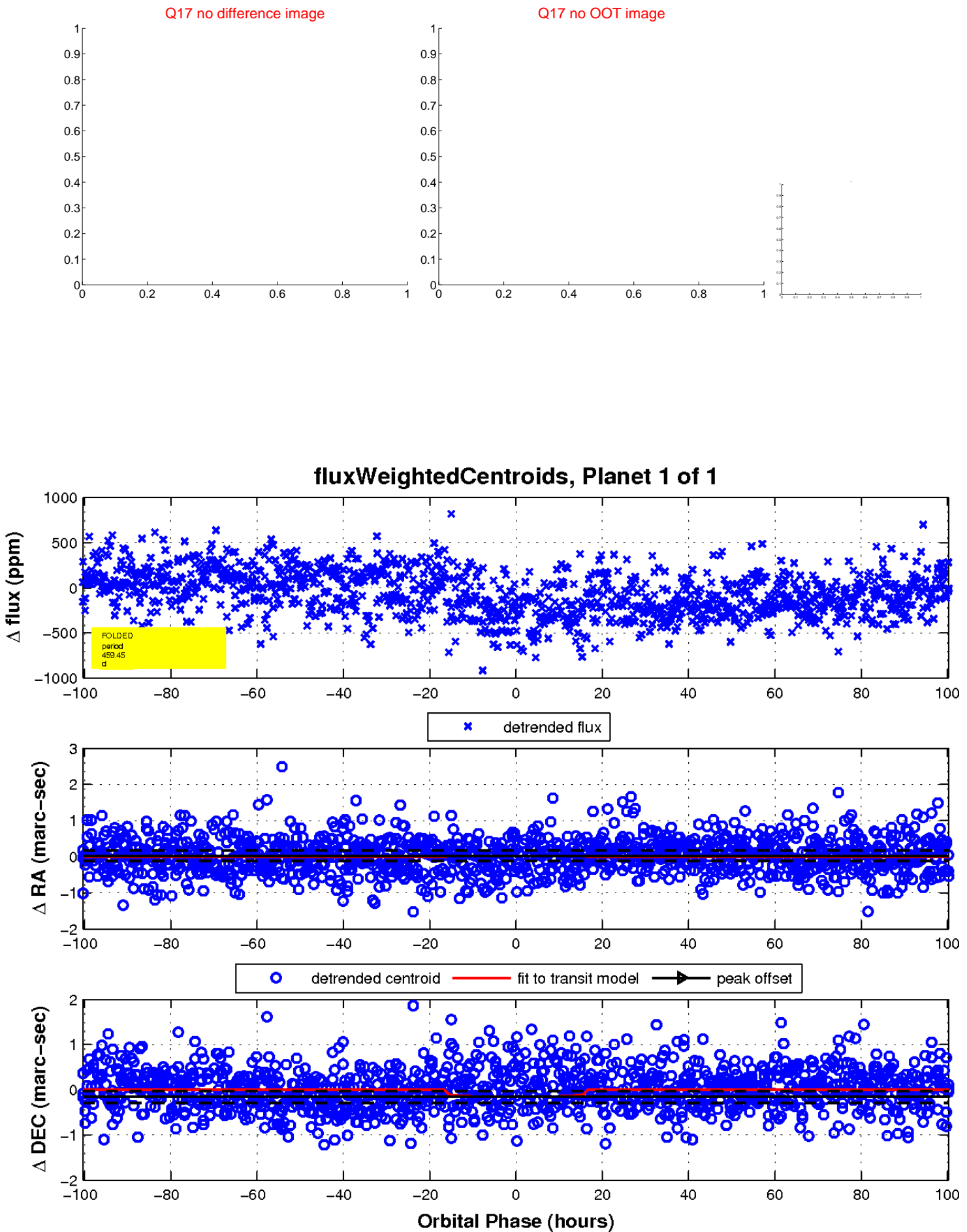
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

