

KIC 007820535

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})
007820535-01	OBS	No	587.519575	325.987790	411.8	20.198	7.8	7.6	0.13	2826	0.27	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007820535-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

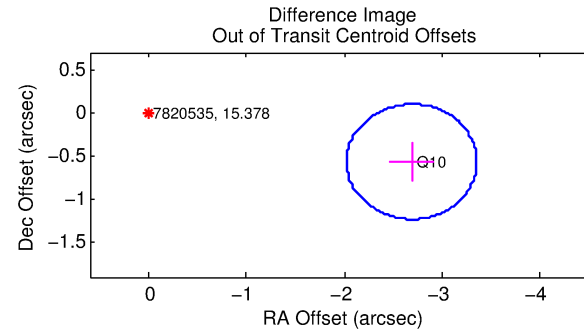
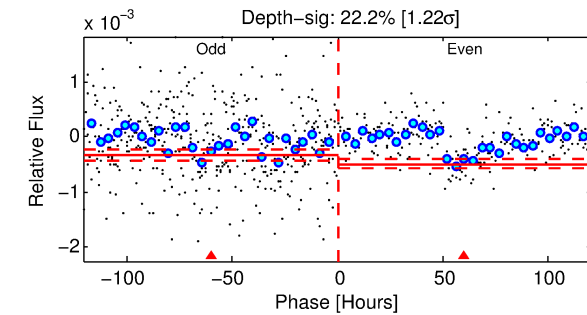
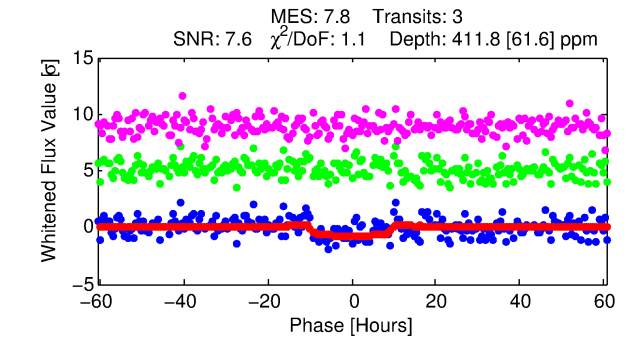
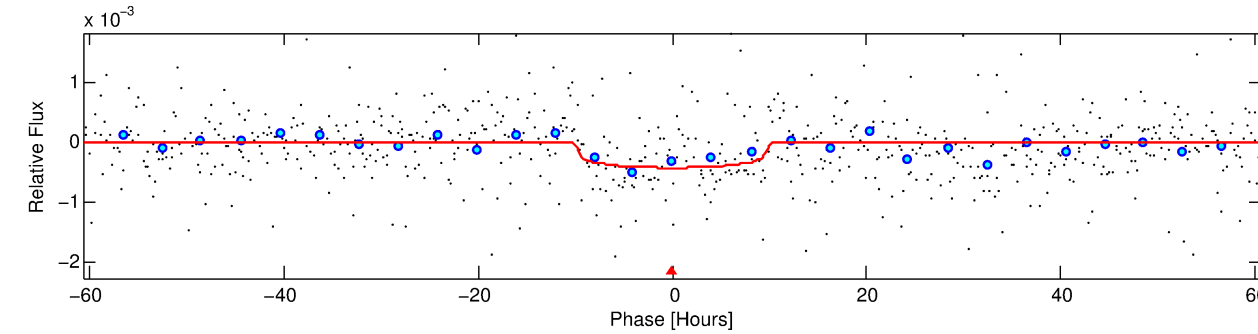
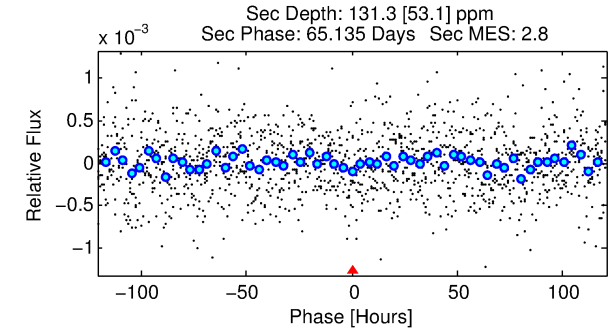
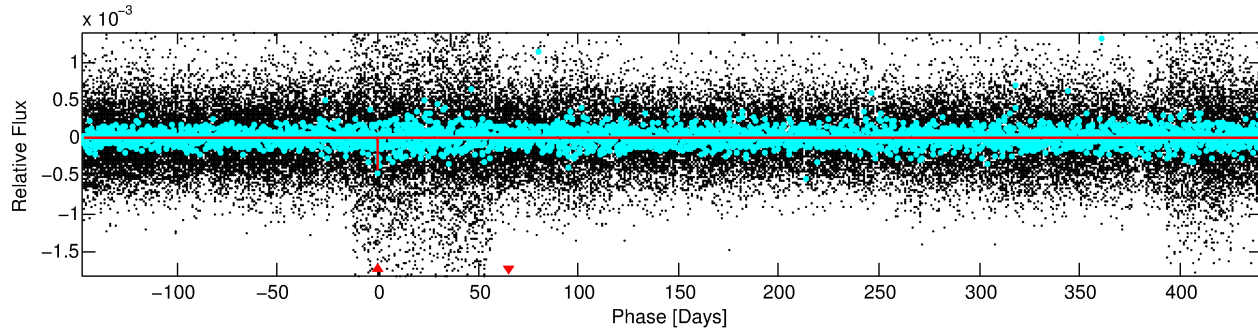
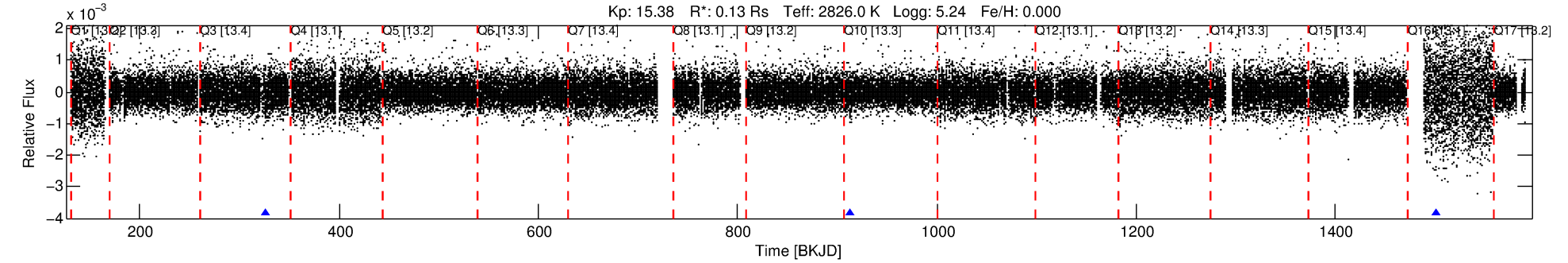
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007820535-01

No Significant Match Found

DV One-Page Summary

KIC: 7820535 Candidate: 1 of 1 Period: 587.520 d



DV Fit Results:

Period = 587.51957 [0.03157] d
Epoch = 325.9878 [0.0326] BKJD
Rp/R* = 0.0195 [0.0099]
a/R* = 174.00 [373.20]
b = 0.65 [1.90]
Seff = 0.00 [0.00]
Teq = 55 [0] K
Rp = 0.27 [0.14] Re
a = 0.6407 [0.0000] AU
Ag = 411049.63 [448851.43] [0.92σ]
Teffp = 2164 [591] K [3.57σ]

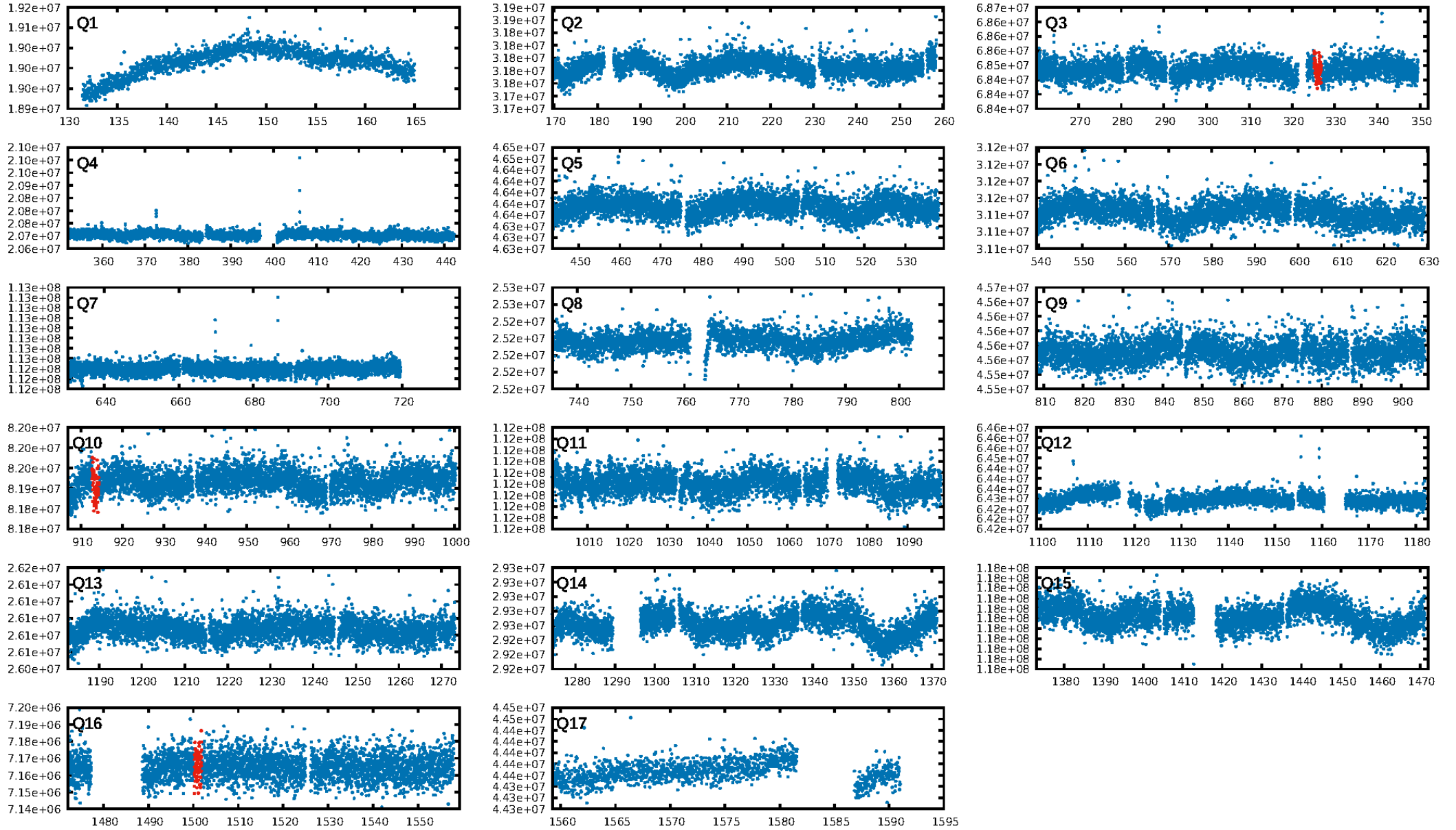
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 48.1%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 3.56e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 7.525
Centroid-sig: 10.0%
Centroid-so: 5.563 arcsec [5.33σ]
OotOffset-rm: 2.749 arcsec [12.38σ]
KicOffset-rm: 5.259 arcsec [24.21σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

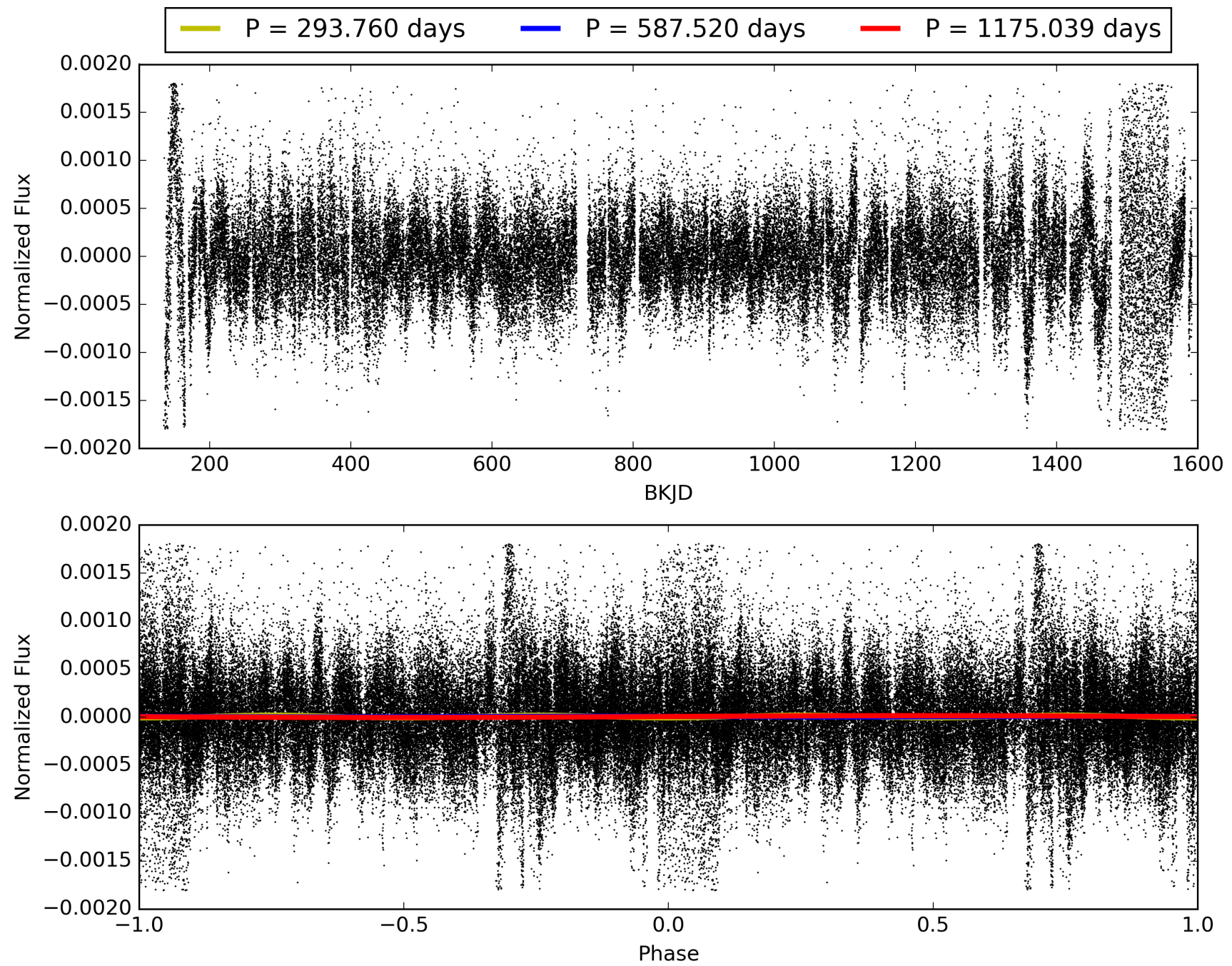
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:47:49 Z

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

TCE 007820535-01, PDC Light Curves

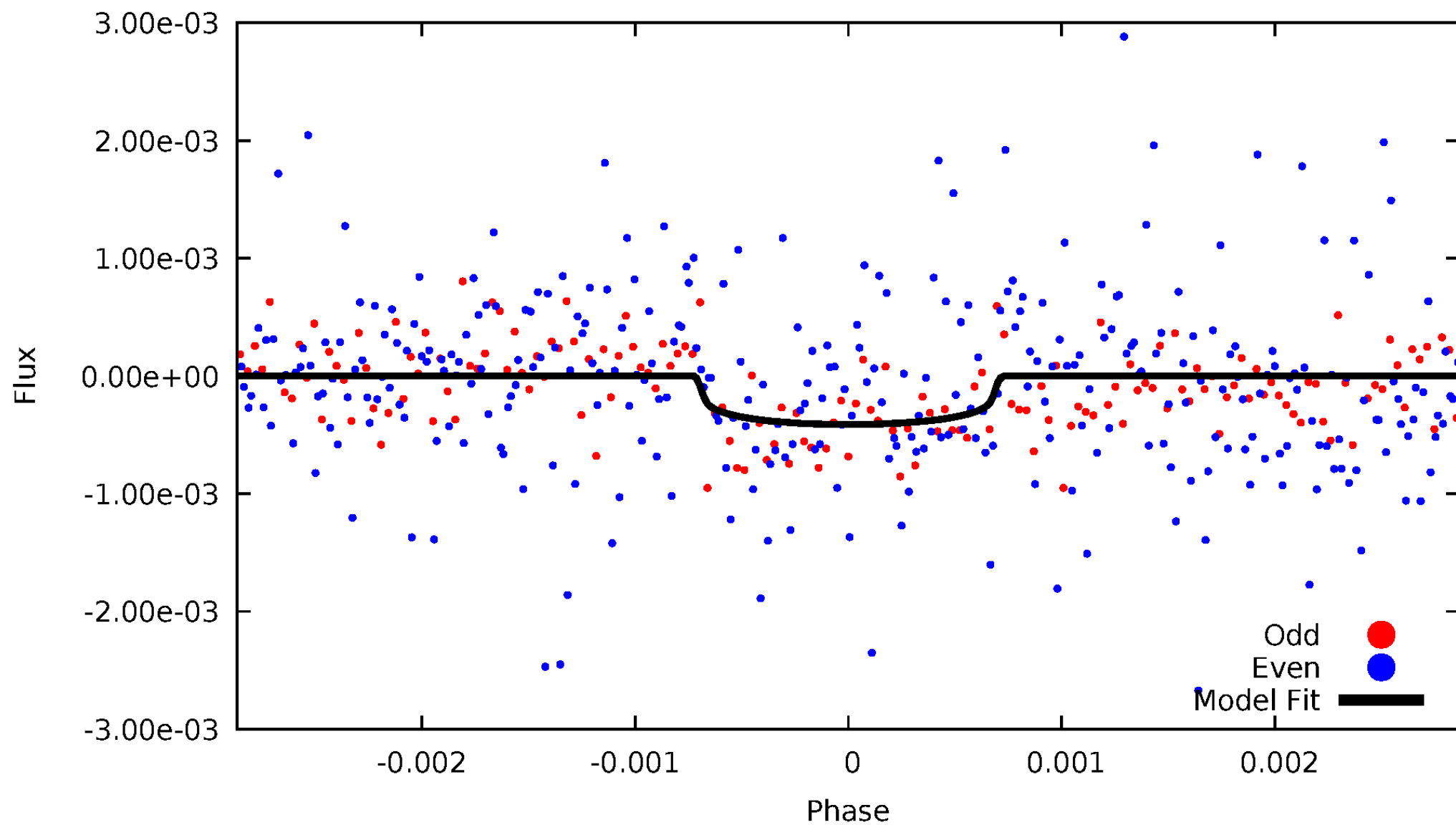


TCE 007820535-01



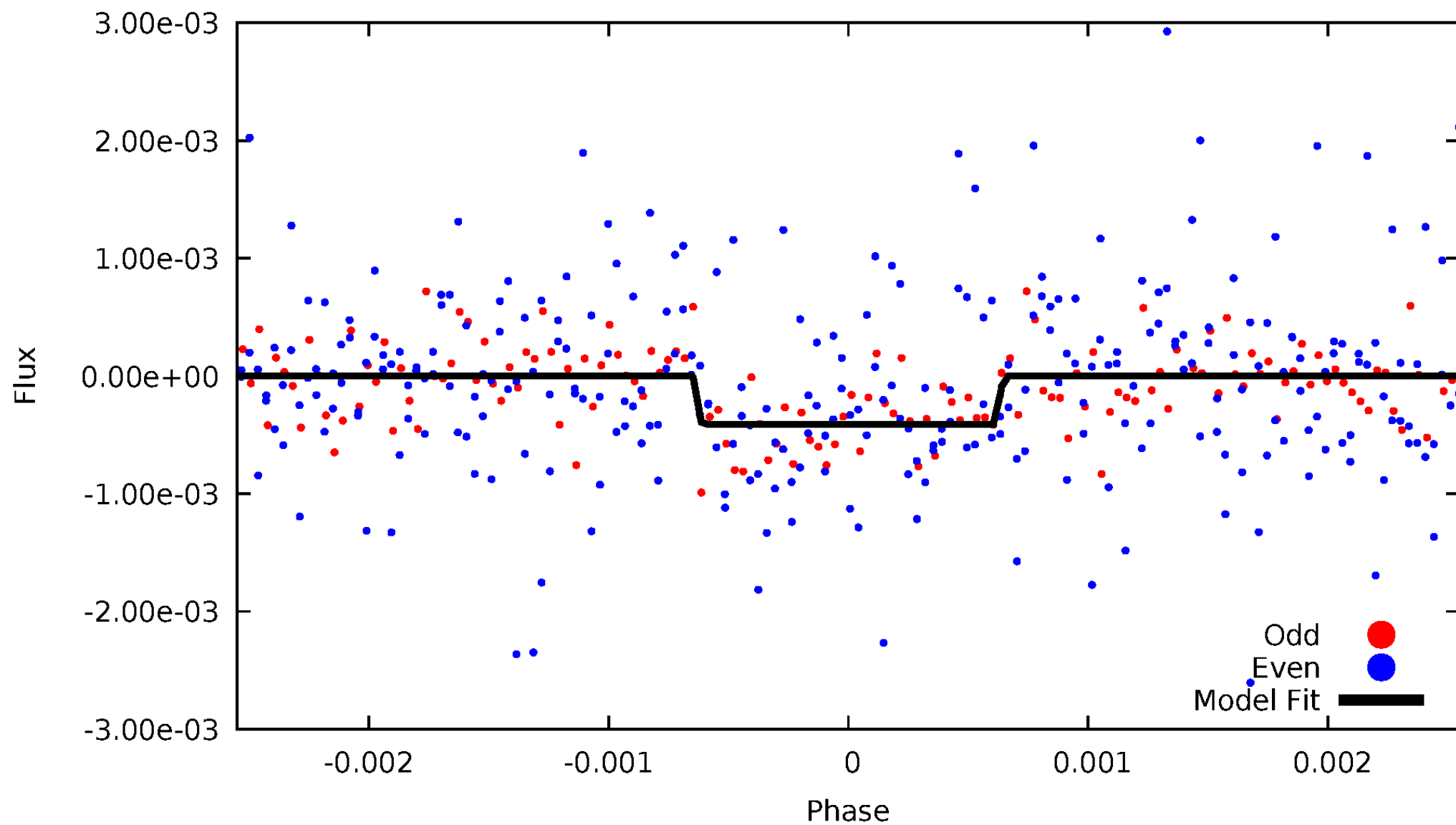
DV Odd/Even

TCE 007820535-01



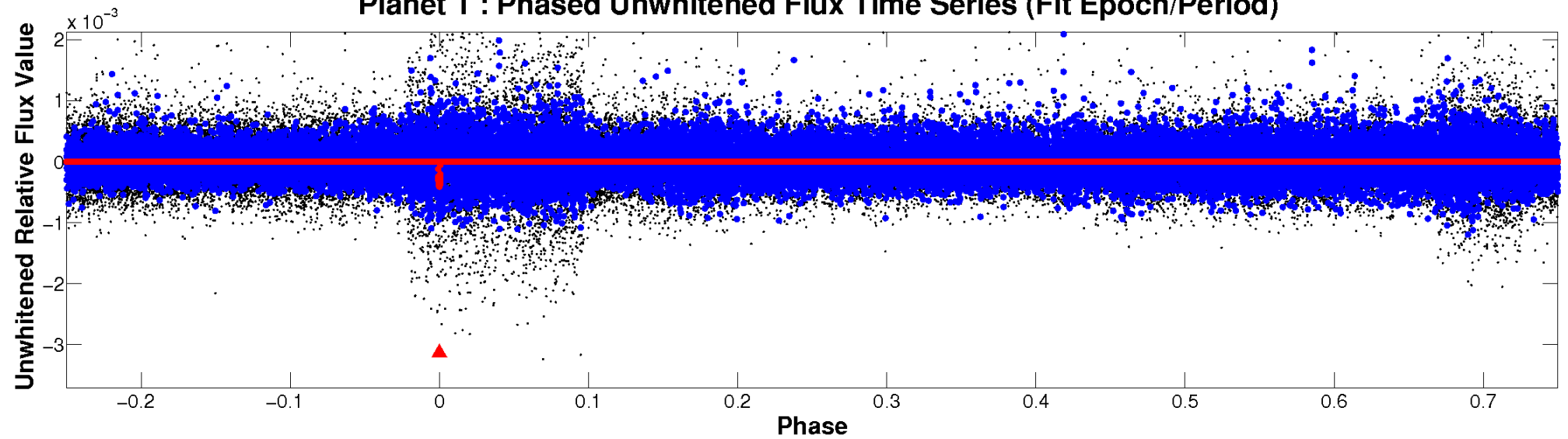
ALT Odd/Even

TCE 007820535-01

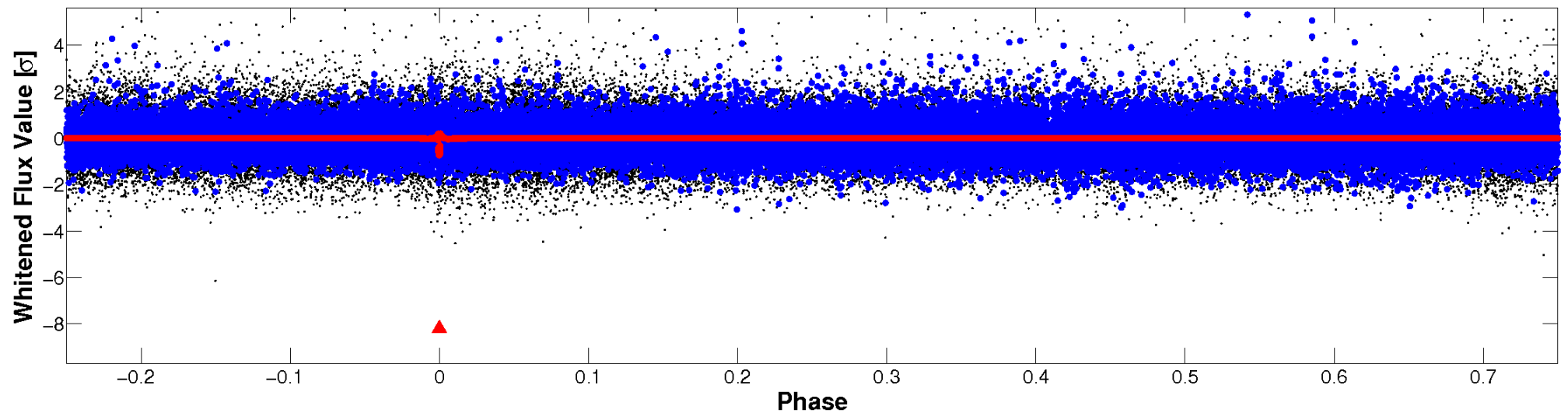


Non-Whitened Vs. Whitened Light Curve

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 007820535-01 P=587.519575 Days $T_0=325.987790$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007820535-01 P=587.519575 Days $T_0=325.987790$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

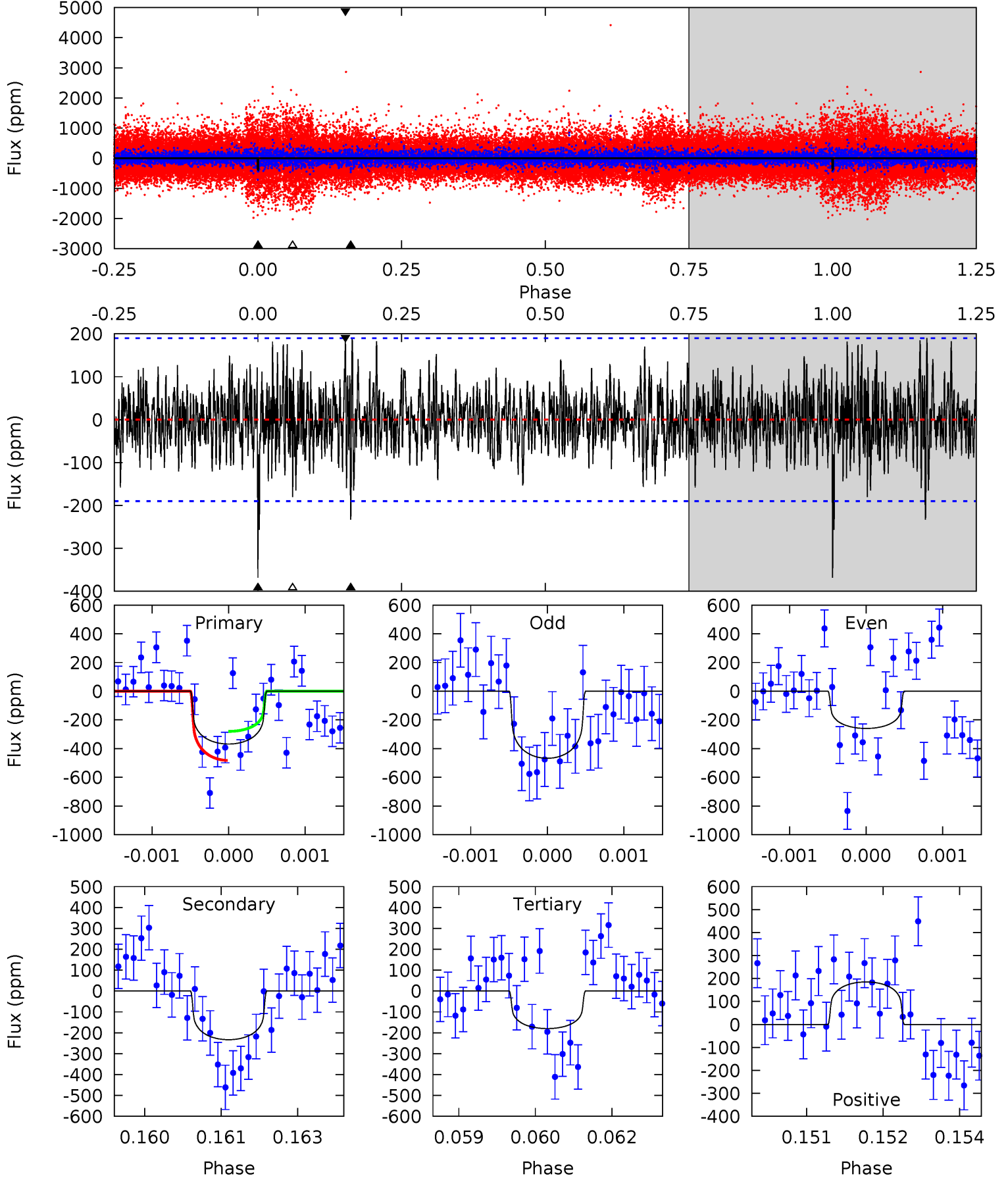
TCE 007820535-01 P=587.526151 Days $T_0=325.953147$ (BKJD)



DV Model-Shift Uniqueness Test

007820535-01, P = 587.519575 Days, E = 325.987790 Days

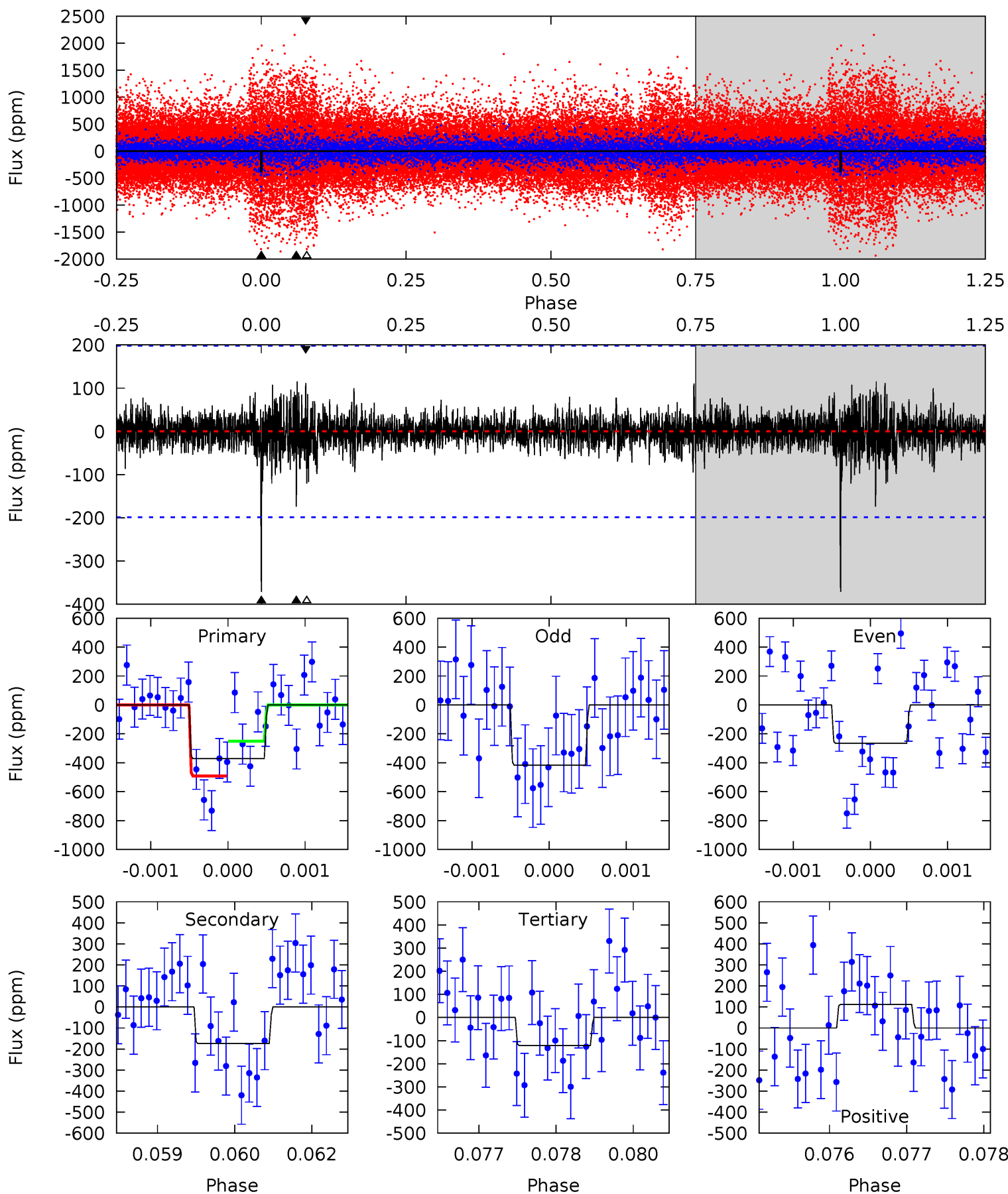
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	6.61	5.10	5.24	5.38	3.18	1.56	5.33	5.19	1.51	1.37	2.92	1.06	0.34	2.87



Alt Model-Shift Uniqueness Test

007820535-01, P = 587.526151 Days, E = 325.953147 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	4.74	3.29	3.04	5.41	3.22	0.72	6.82	7.07	1.45	1.70	2.07	0.77	0.24	3.28



Stellar Parameters For KIC 007820535

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	2826^{+1}_{-1}	$5.244^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$0.126^{+1.000}_{-1.000}$	$0.102^{+1.000}_{-1.000}$	$71.560^{+1.000}_{-1.000}$
	+0%/-0%	+19%/-19%	+inf%/-inf%	+794%/-794%	+980%/-980%	+1%/-1%
Source	PHO54	PHO54	PHO54	BTSL		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007820535-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-233 ± 35	$0.30^{+0.21}_{-0.15}$	79^{+8}_{-8}	2644^{+542}_{-307}	$679539^{+1751718}_{-418685}$
Alt.	-174 ± 37	$0.32^{+0.21}_{-0.17}$	79^{+8}_{-8}	2524^{+438}_{-278}	$423094^{+1207619}_{-230652}$

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

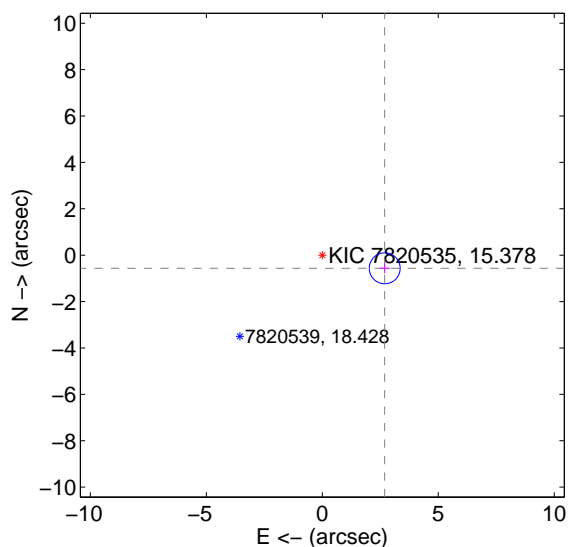
Supplemental centroid analysis for 007820535-01. Kepler magnitude: 15.38. Transit SNR 7.65

There are 1 quarters with good PRF difference image offsets

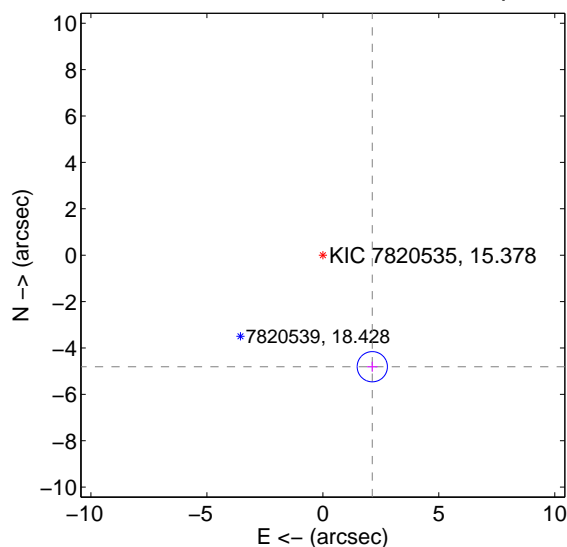
The OOT PRF centroid is offset from the target star catalog position by about 4.28 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.749 ± 0.222	12.38	-2.690 ± 0.222	-0.566 ± 0.216
PRF-fit source offset from KIC position	5.259 ± 0.217	24.21	-2.131 ± 0.222	-4.808 ± 0.216
photometric centroid source offset	5.56 ± 1.04	5.33	1.81 ± 1.28	-5.26 ± 1.01

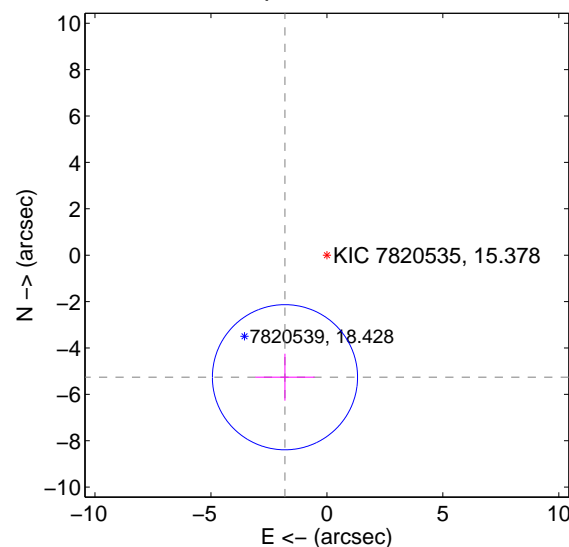
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

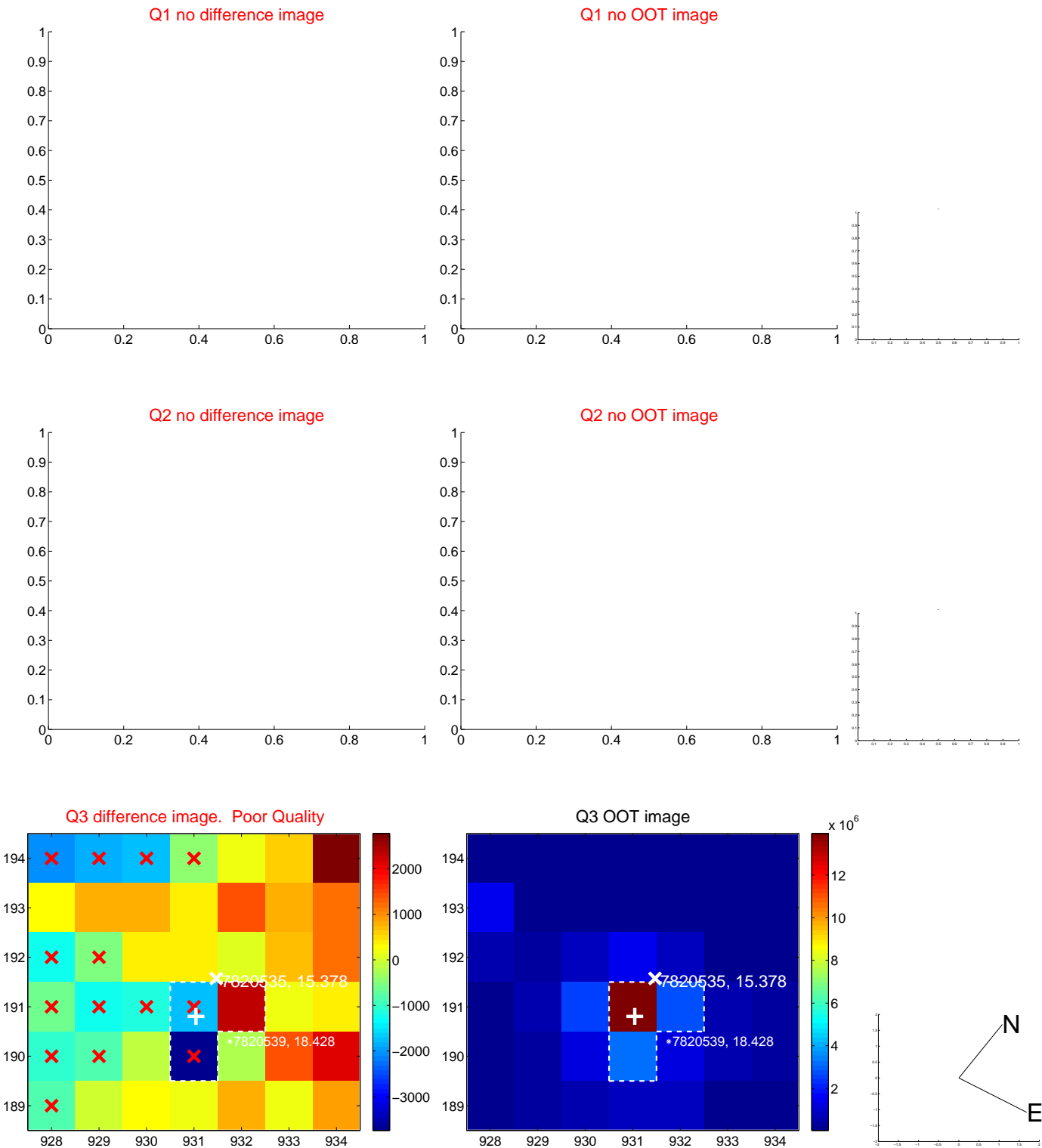


offset from photometric centroids



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.



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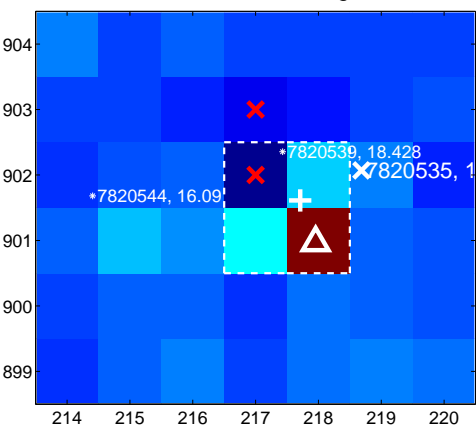
Q9 no difference image



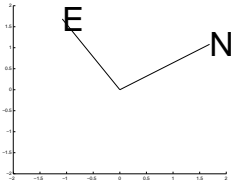
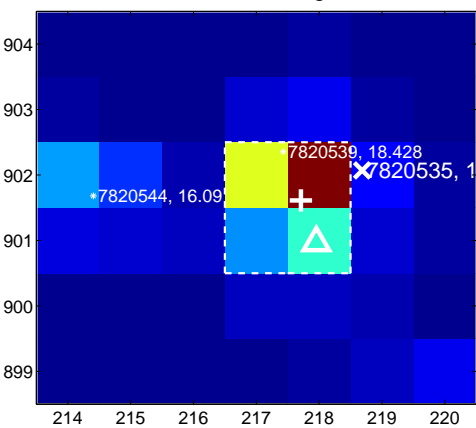
Q9 no OOT image



Q10 difference image



Q10 OOT image



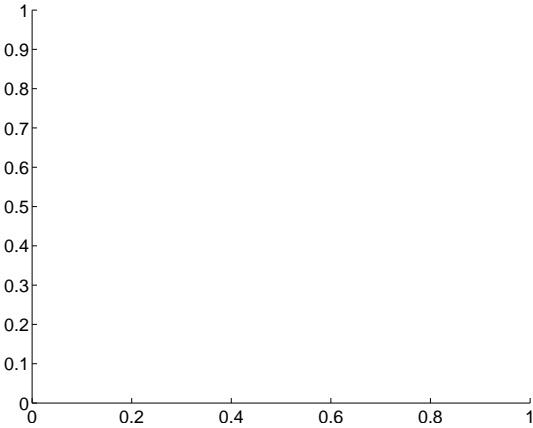
Q11 no difference image



Q11 no OOT image



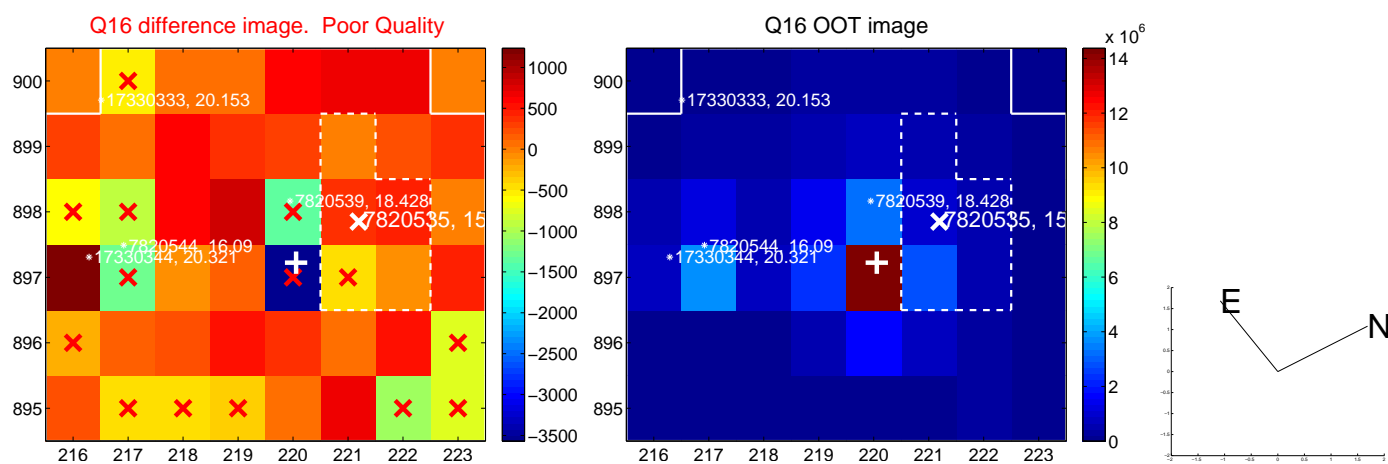
Q12 no difference image



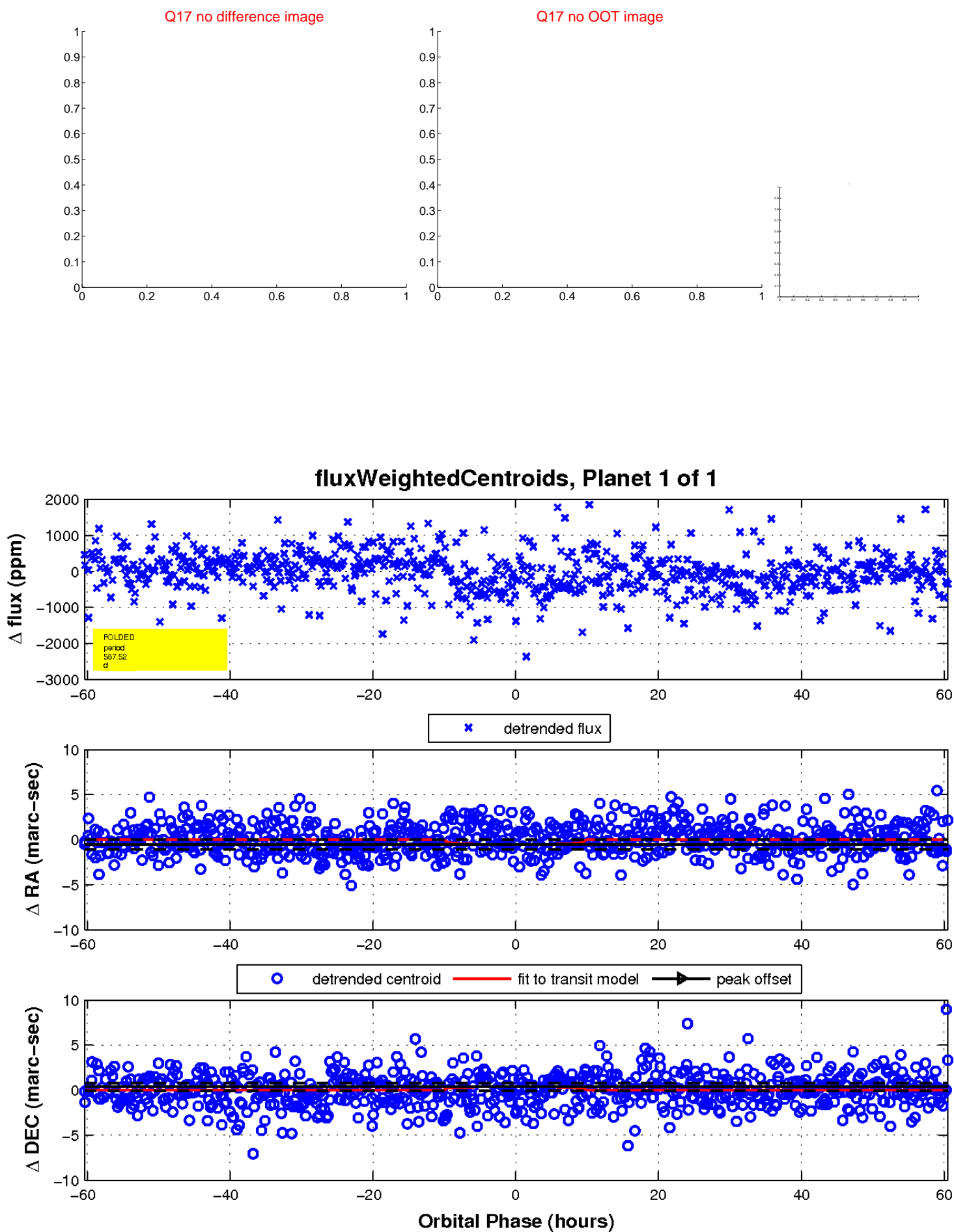
Q12 no OOT image



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.



UKIRT Image

