

KIC 010529541

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})
010529541-01	OBS	No	220.652436	255.249463	354.9	3.226	7.6	7.7	0.53	3900	1.09	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010529541-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

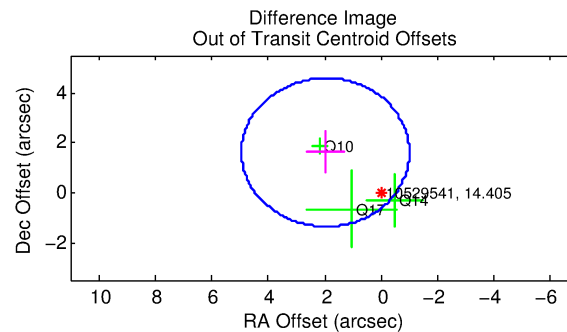
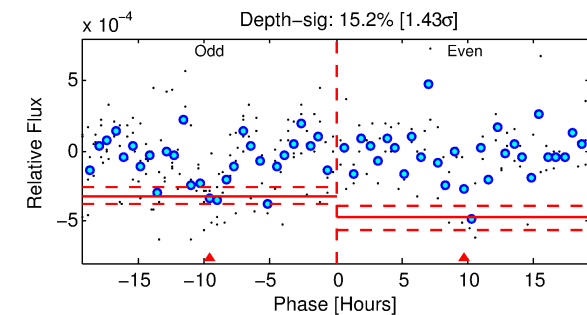
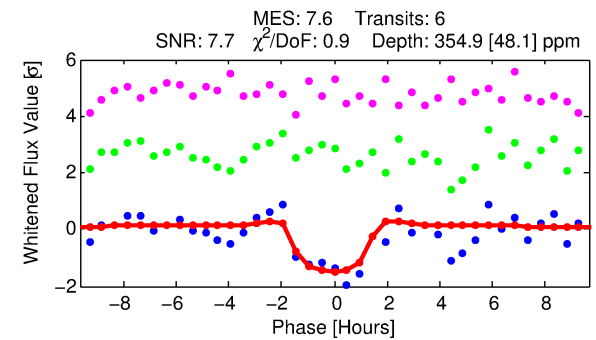
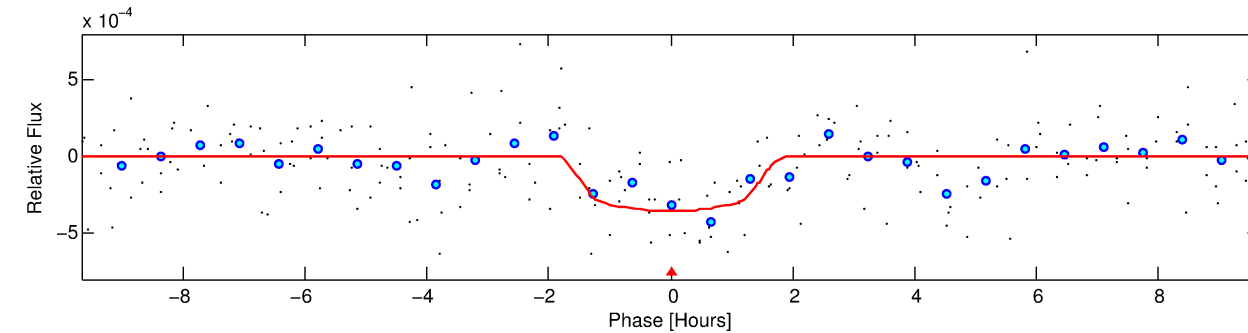
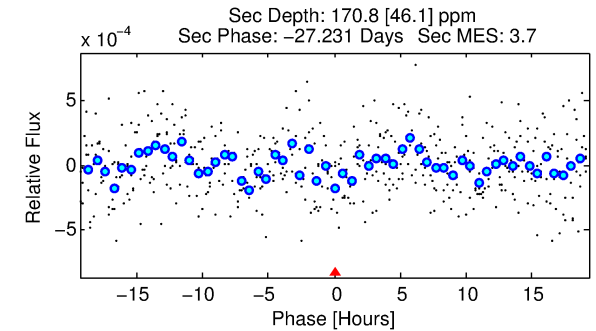
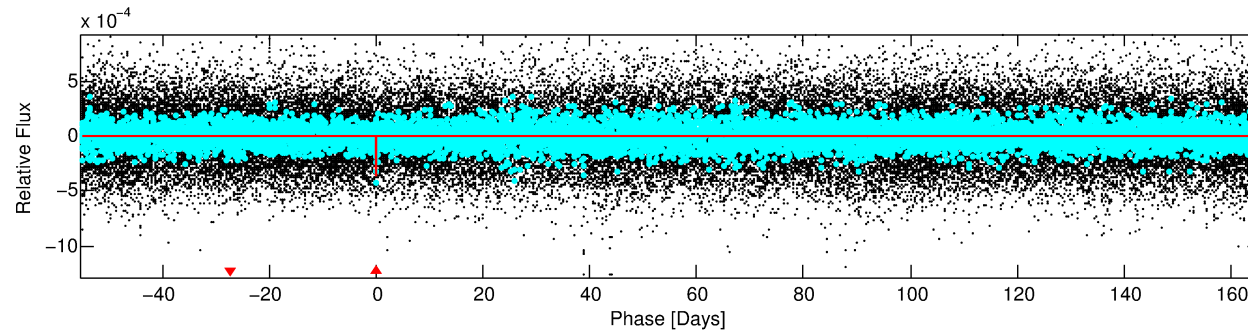
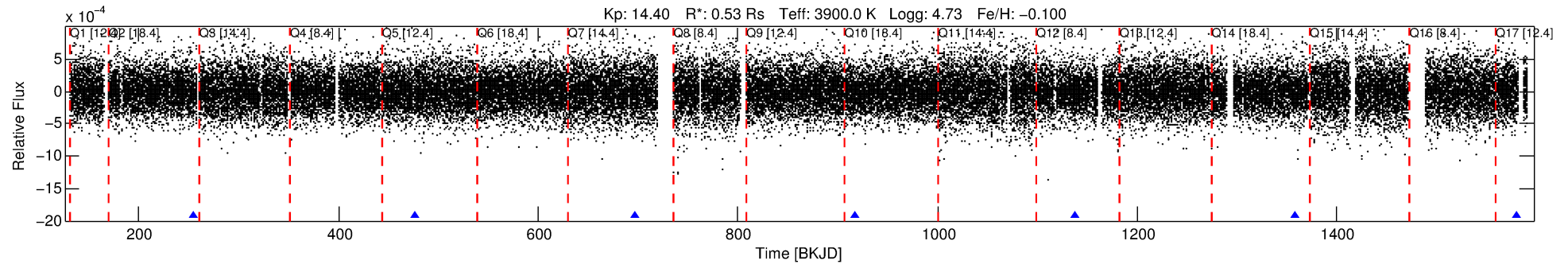
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010529541-01

No Significant Match Found

DV One-Page Summary

KIC: 10529541 Candidate: 1 of 1 Period: 220.652 d



DV Fit Results:

Period = 220.65244 [0.00258] d
Epoch = 255.2495 [0.0098] BKJD
Rp/R* = 0.0187 [0.0393]
a/R* = 361.04 [3320.84]
b = 0.75 [5.43]
Seff = 0.17 [0.01]
Teq = 164 [3] K
Rp = 1.09 [2.29] Re
a = 0.5873 [0.0202] AU
Ag = 27185.58 [114189.62] [0.24σ]
Teffp = 3257 [3420] K [0.90σ]

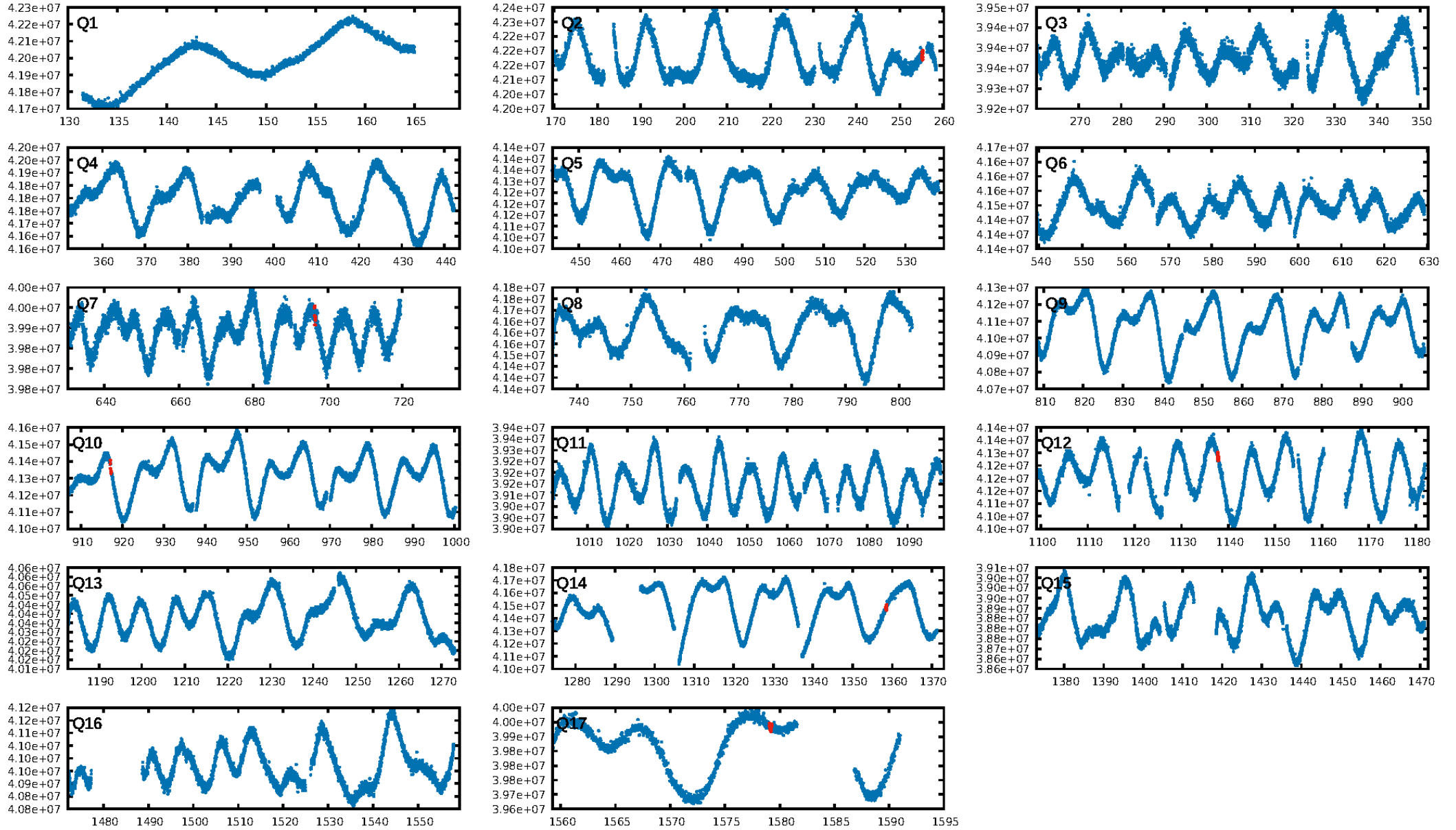
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 61.1%
ModelChiSquareGof-sig: 98.5%
Bootstrap-pfa: 4.32e-13
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.342
Centroid-sig: 0.1%
Centroid-so: 4.878 arcsec [2.90σ]
OotOffset-rm: 2.545 arcsec [2.57σ]
KicOffset-rm: 2.646 arcsec [4.18σ]
OotOffset-st: 2/0/0/1 [3]
KicOffset-st: 2/0/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [5/5]

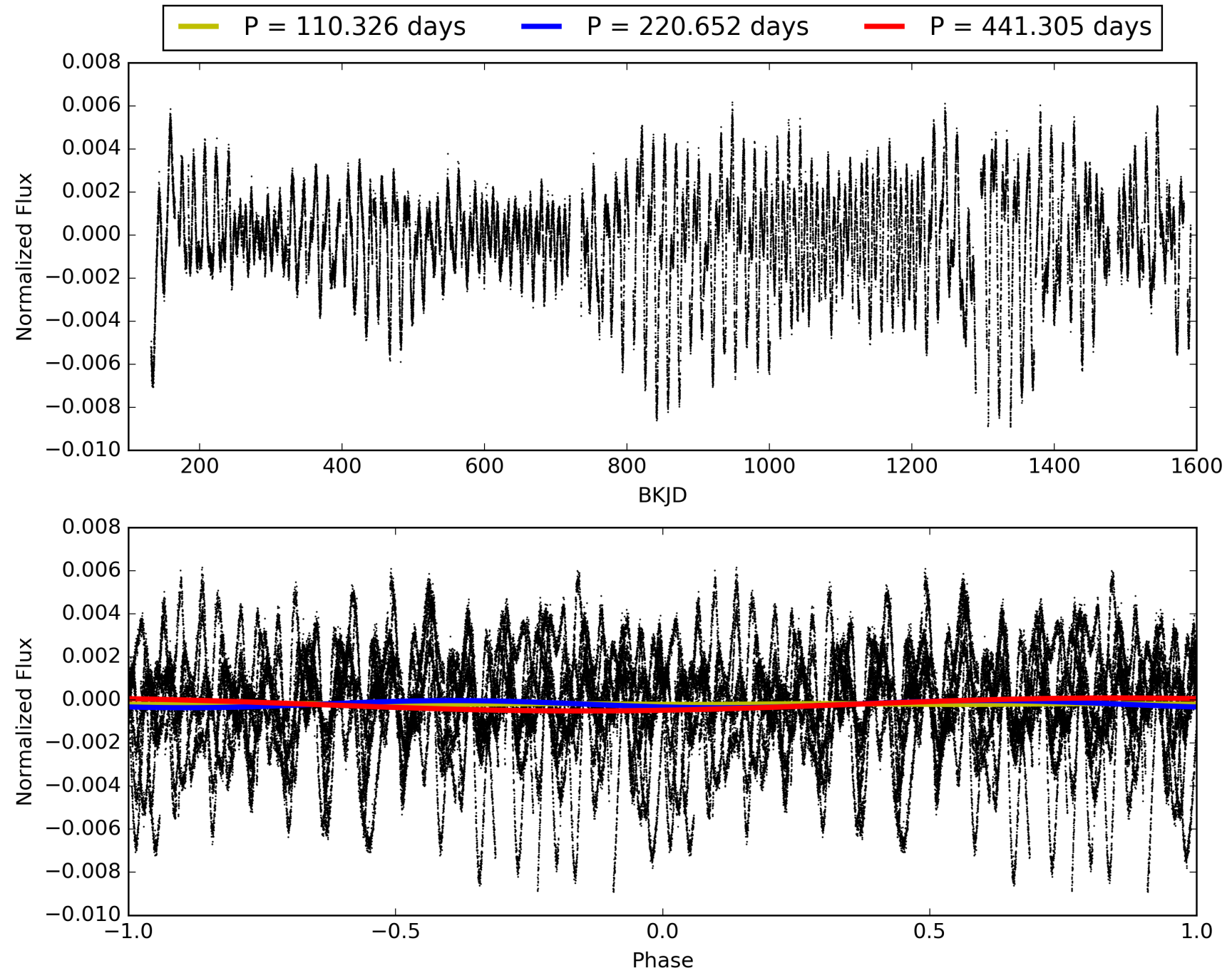
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:24:30 Z

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

TCE 010529541-01, PDC Light Curves

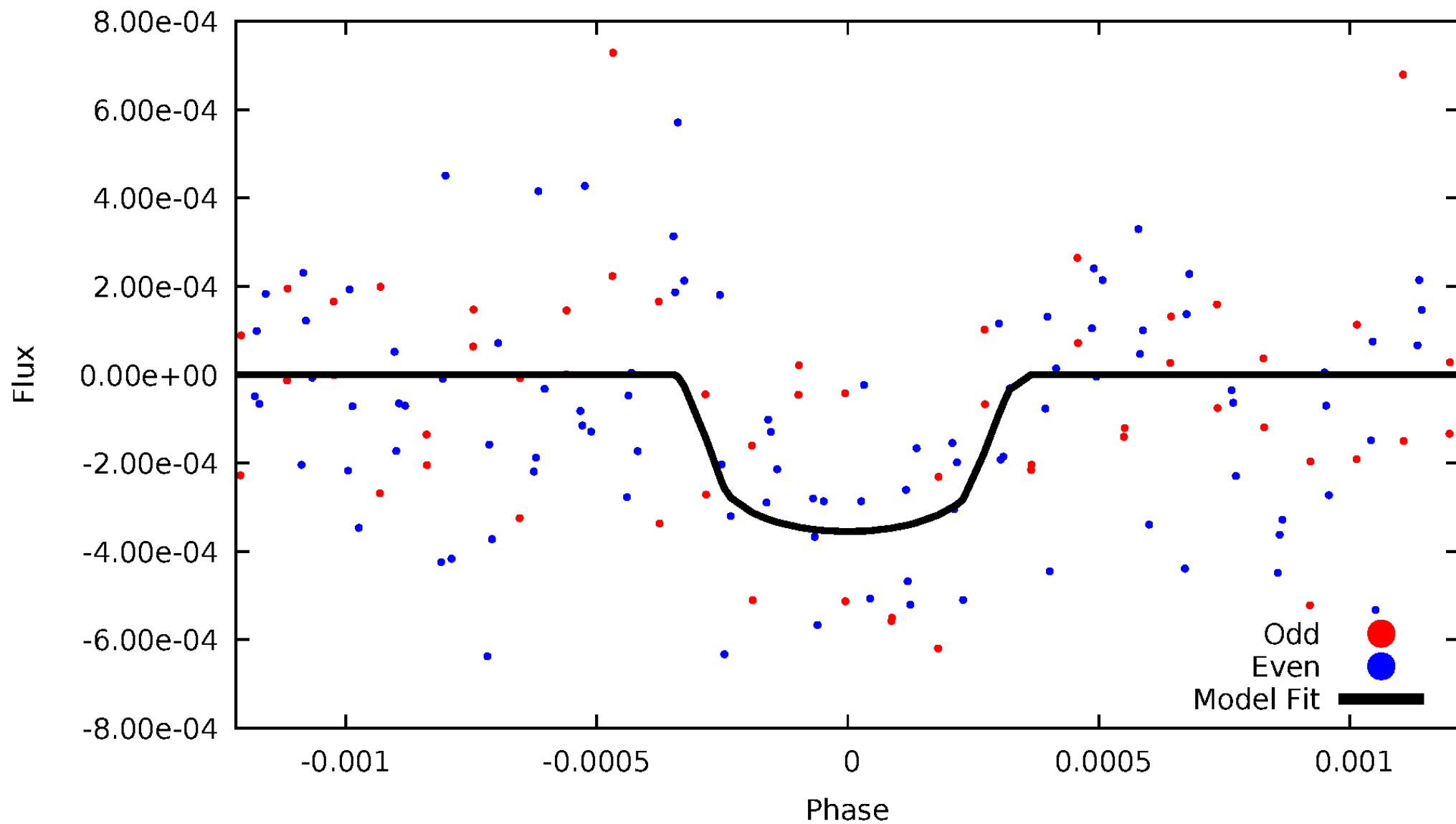


TCE 010529541-01



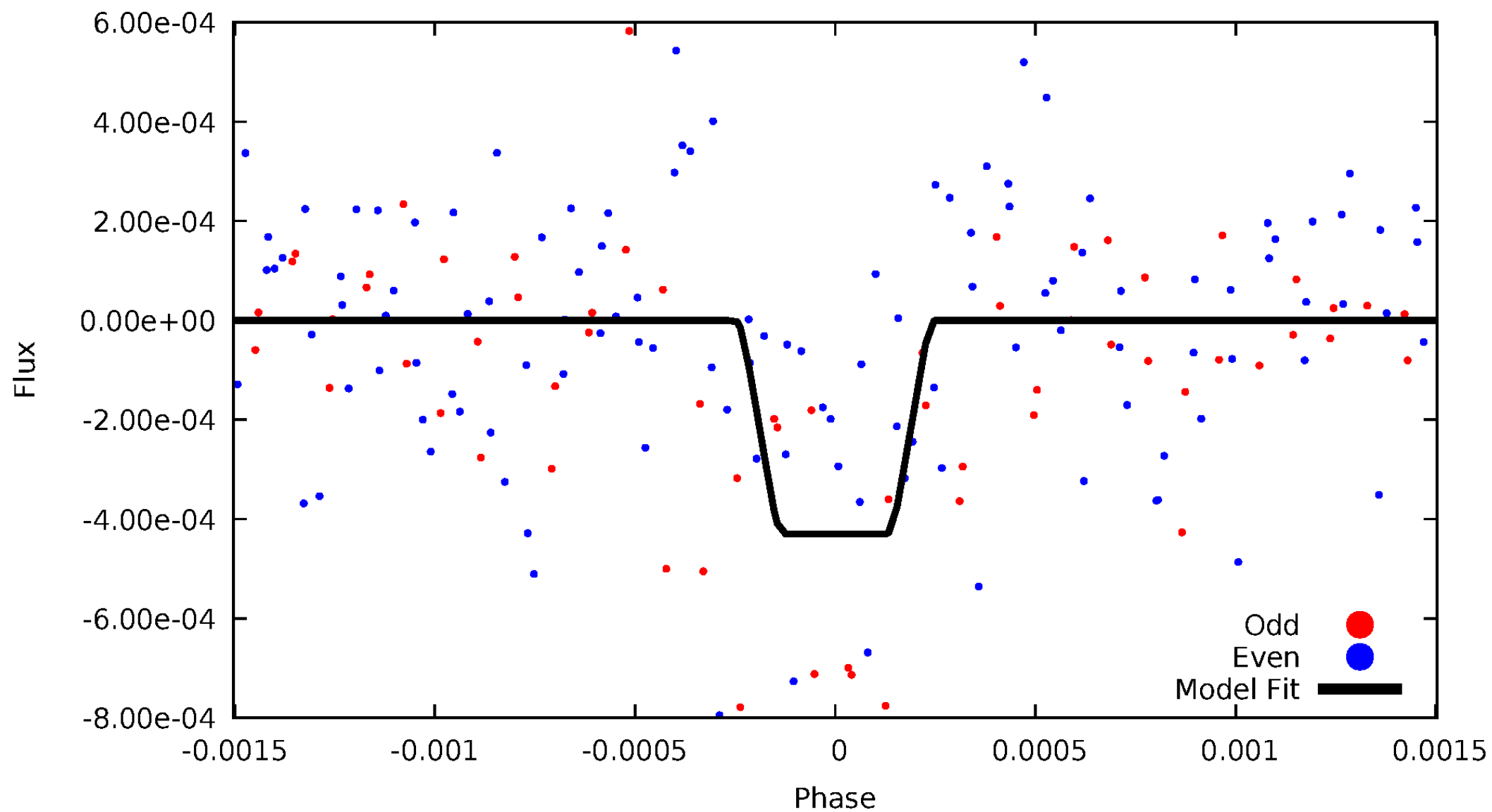
DV Odd/Even

TCE 010529541-01

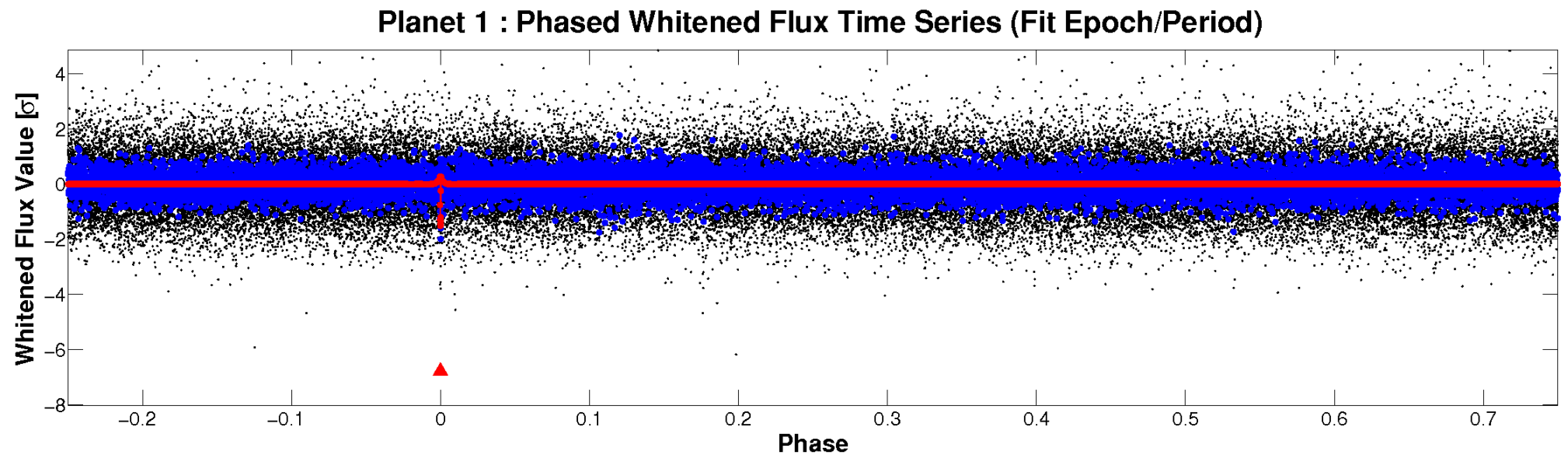
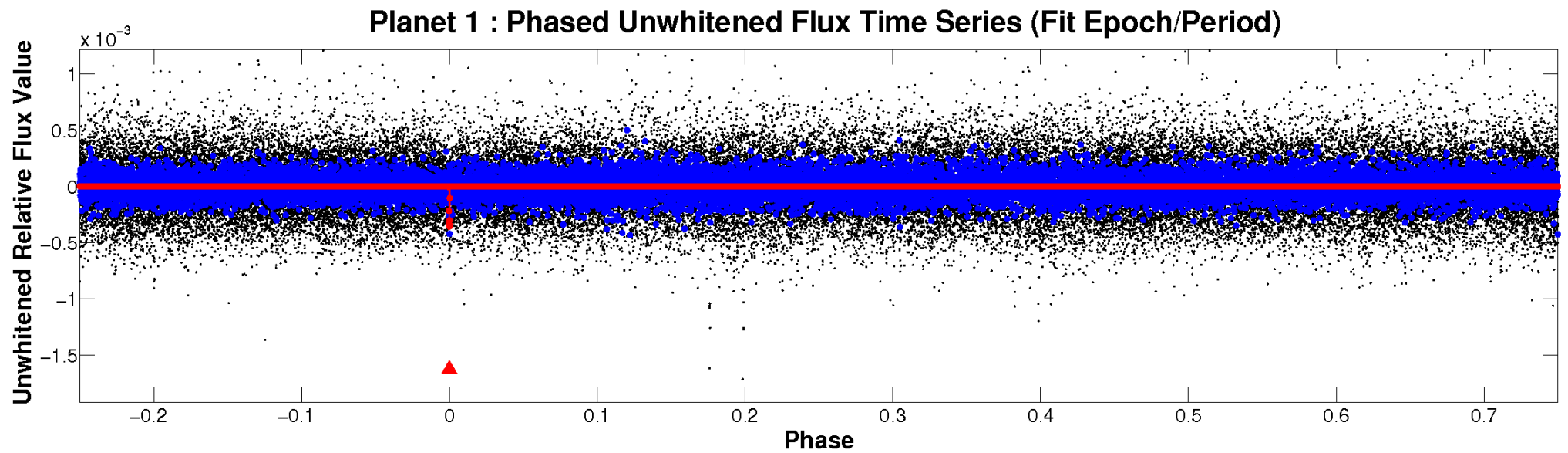


ALT Odd/Even

TCE 010529541-01

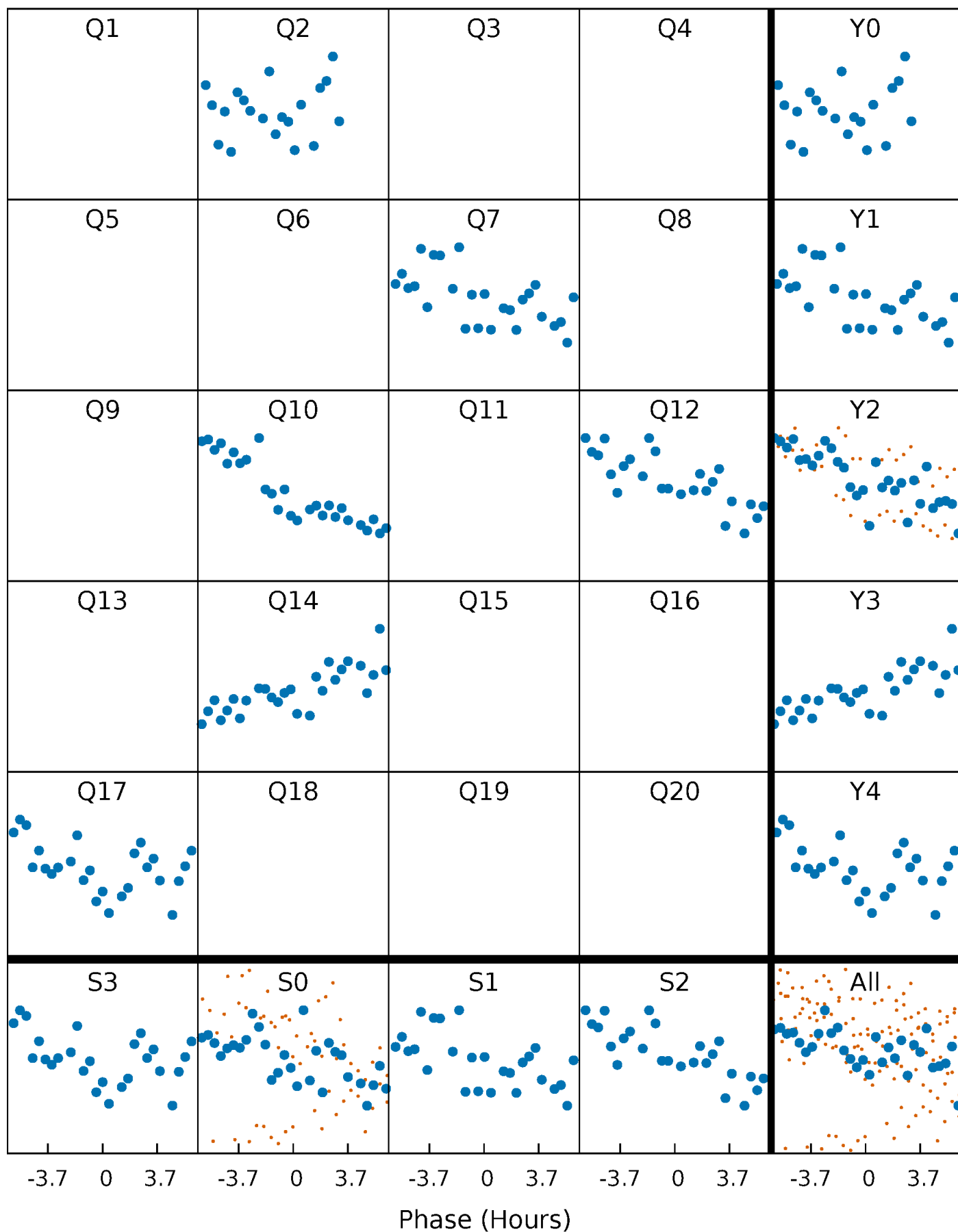


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 010529541-01 P=220.652436 Days $T_0=255.249463$ (BKJD)



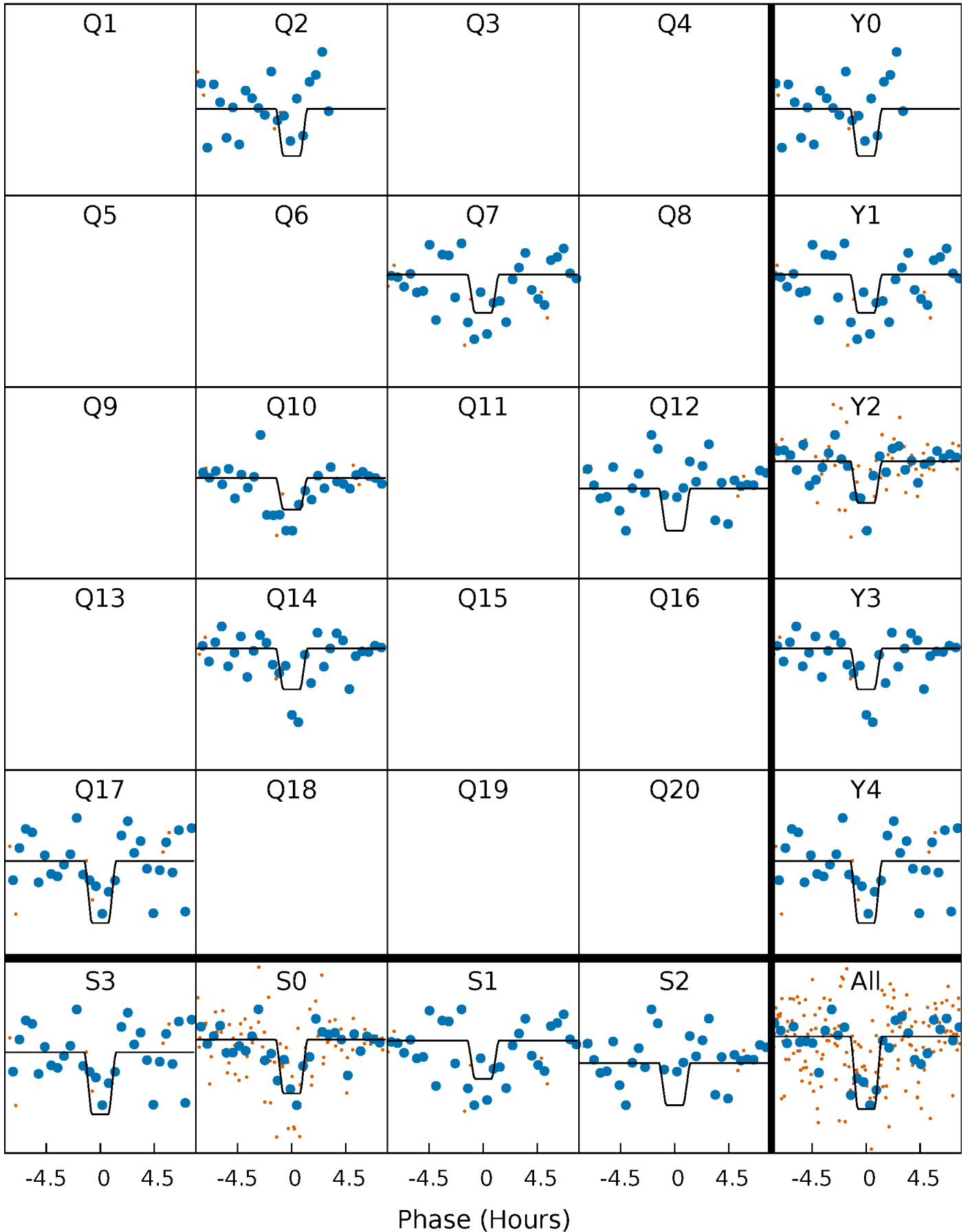
DV Quarter-Phased Transit Curves

TCE 010529541-01 $P=220.652436$ Days $T_0=255.249463$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

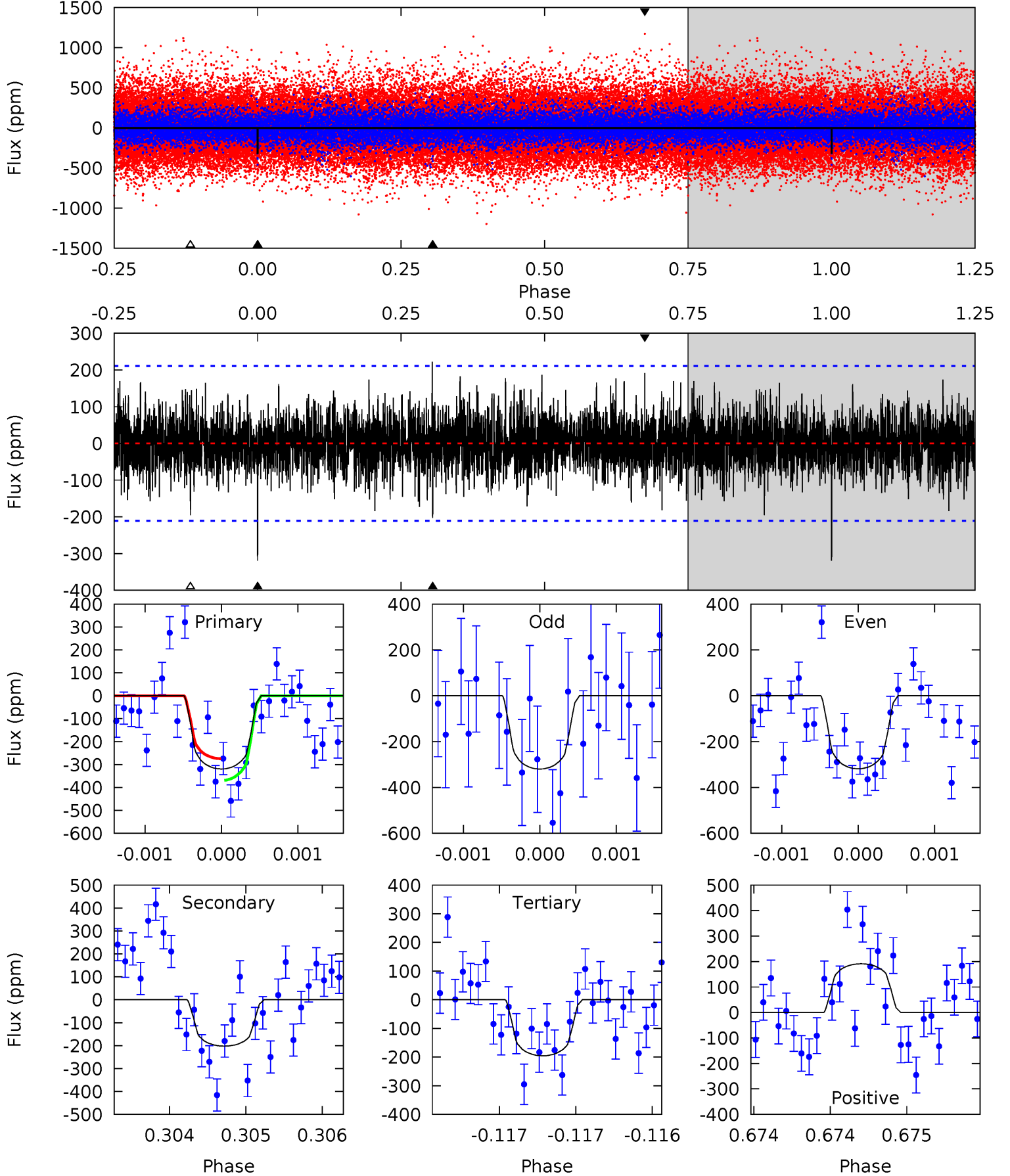
TCE 010529541-01 P=220.653212 Days $T_0=255.257545$ (BKJD)



DV Model-Shift Uniqueness Test

010529541-01, P = 220.652436 Days, E = 34.597027 Days

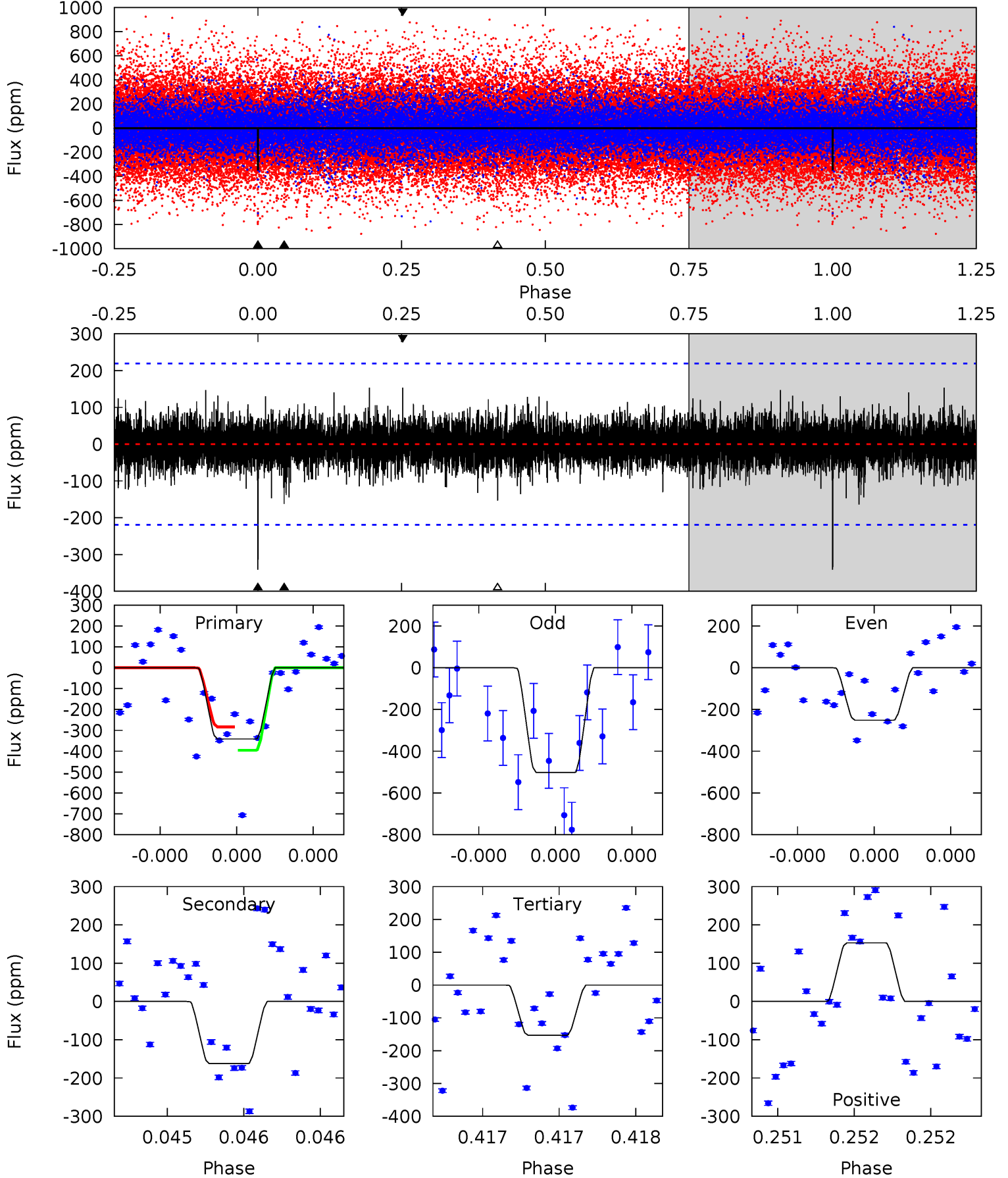
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.36	5.30	5.12	5.00	5.51	3.39	1.37	3.24	3.36	0.18	0.29	0.01	0.92	0.41	1.24



Alt Model-Shift Uniqueness Test

010529541-01, P = 220.653212 Days, E = 34.604333 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.67	4.13	3.89	3.89	5.58	3.49	0.93	4.78	4.78	0.24	0.23	3.09	0.88	0.31	1.42



Stellar Parameters For KIC 010529541

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3900^{+46}_{-50}	$4.727^{+0.017}_{-0.022}$	$-0.100^{+0.100}_{-0.100}$	$0.534^{+0.024}_{-0.021}$	$0.555^{+0.020}_{-0.025}$	$5.136^{+0.442}_{-0.450}$
	+1%/-1%	+0%/-0%	+100%/-100%	+4%/-4%	+4%/-5%	+9%/-9%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 010529541-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-202 ± 38	$2.01^{+1.95}_{-1.39}$	230^{+3}_{-3}	2984^{+1397}_{-492}	9599^{+96474}_{-7110}
Alt.	-162 ± 39	$2.12^{+2.07}_{-1.42}$	229^{+3}_{-3}	2824^{+1141}_{-437}	6799^{+54636}_{-5050}

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

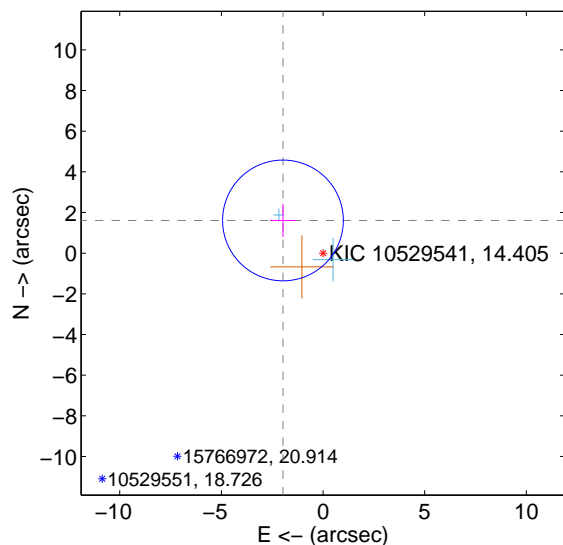
Supplemental centroid analysis for 010529541-01. Kepler magnitude: 14.40. Transit SNR 7.74

There are 2 quarters with good PRF difference image offsets

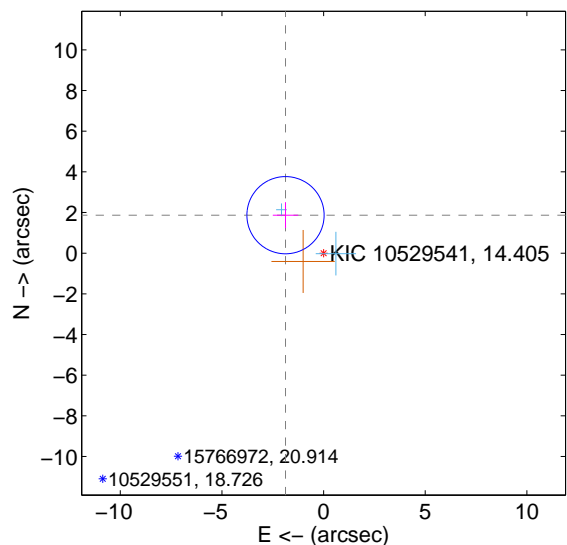
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.545 ± 0.990	2.57	1.972 ± 0.641	1.610 ± 0.817
PRF-fit source offset from KIC position	2.646 ± 0.633	4.18	1.873 ± 0.626	1.869 ± 0.641
photometric centroid source offset	4.88 ± 1.68	2.90	3.64 ± 1.62	3.24 ± 1.76

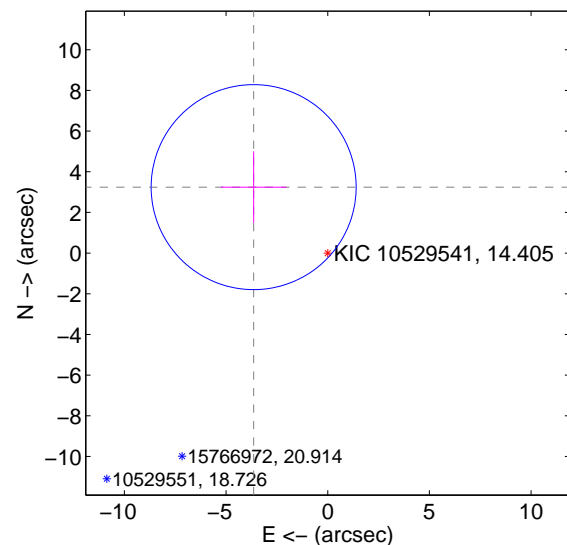
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

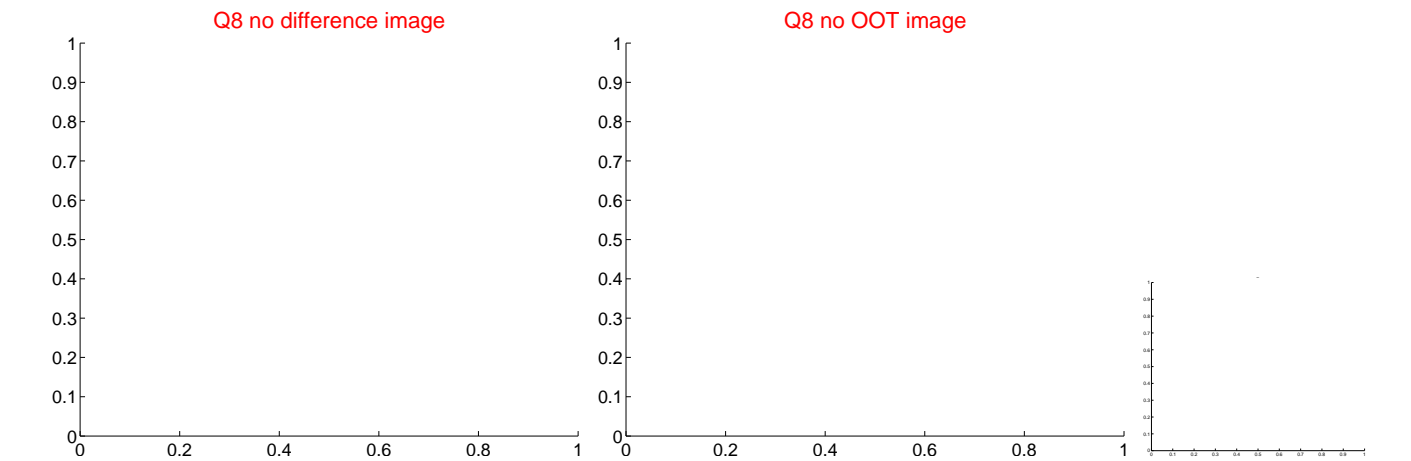
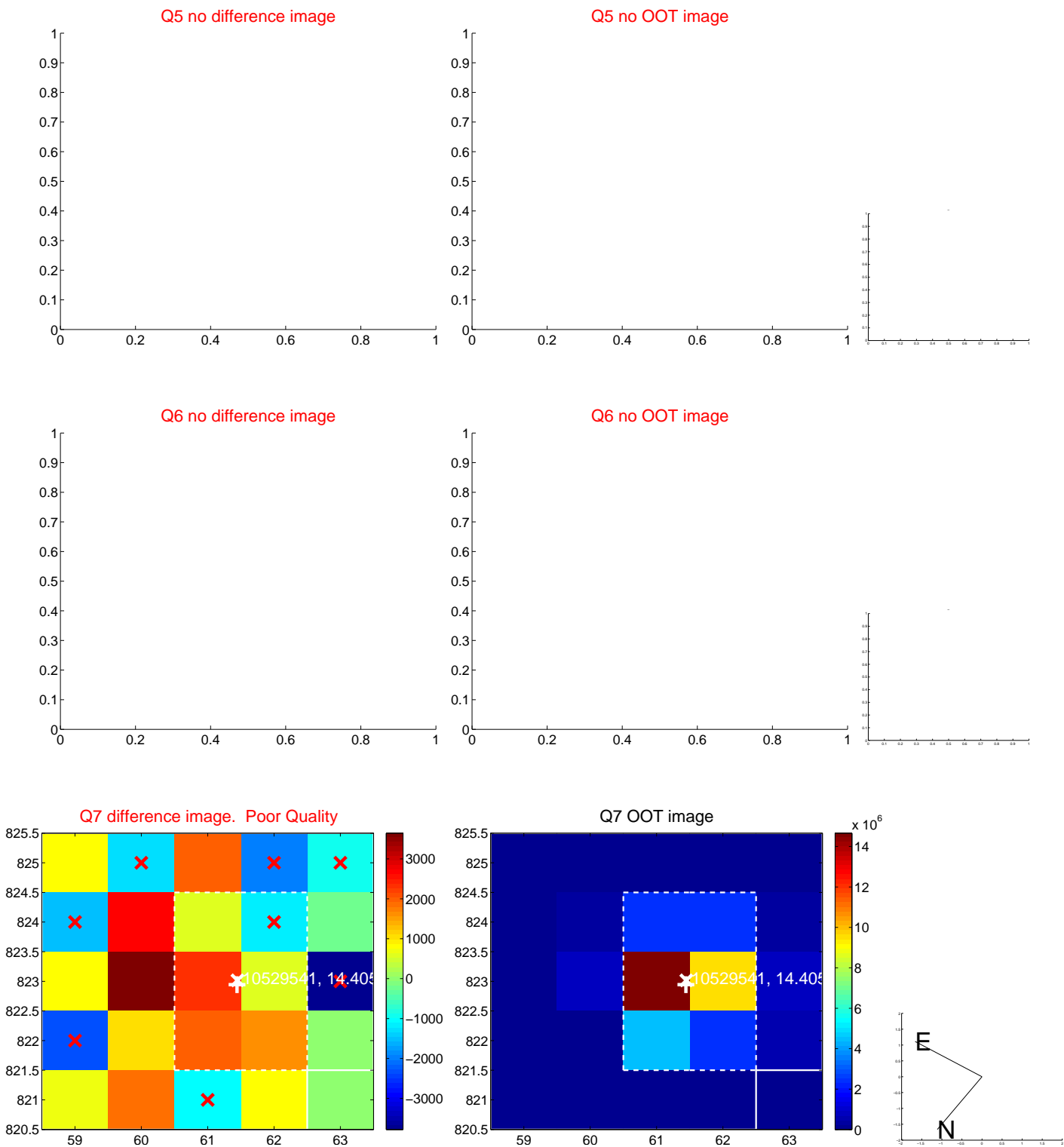


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

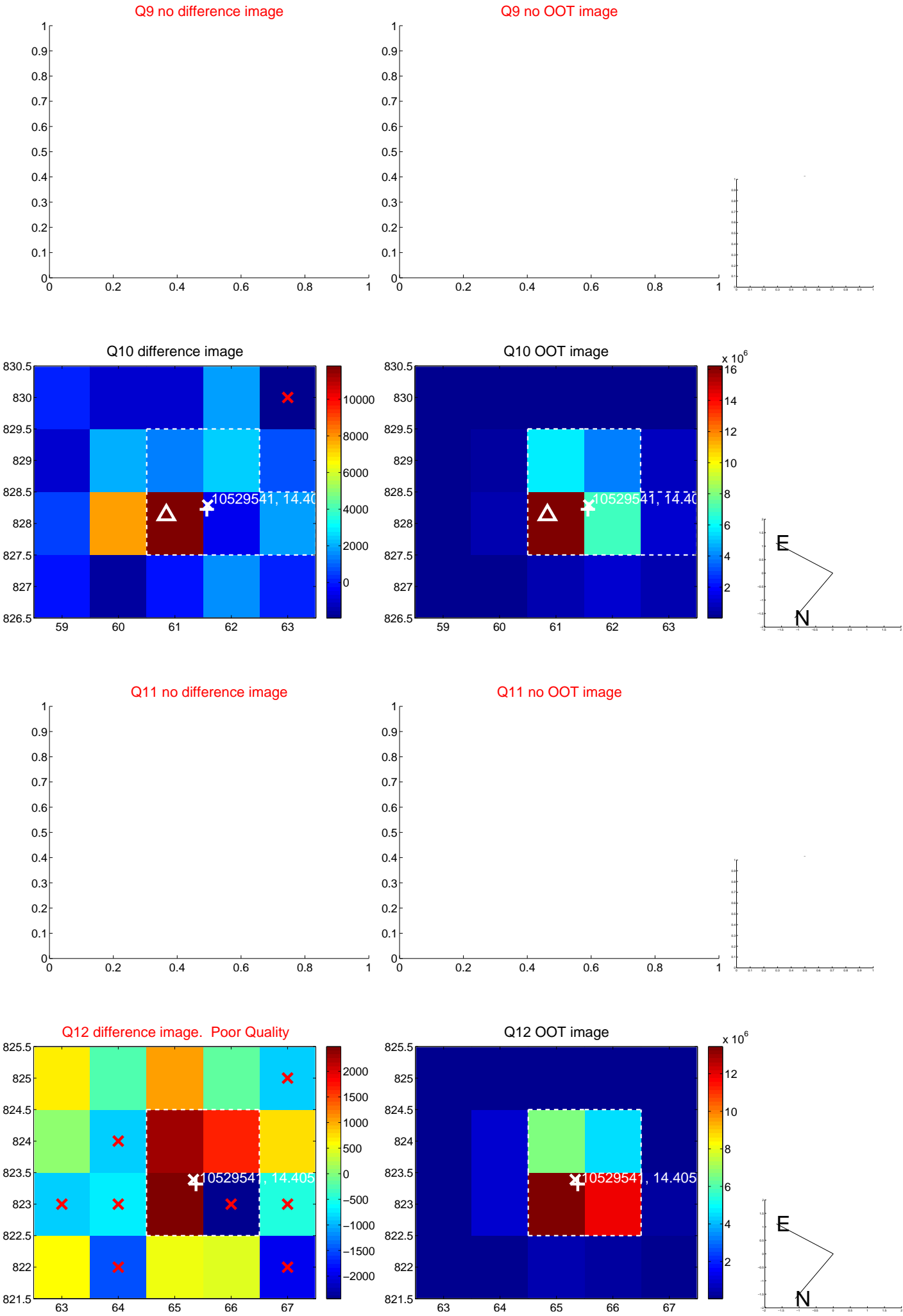
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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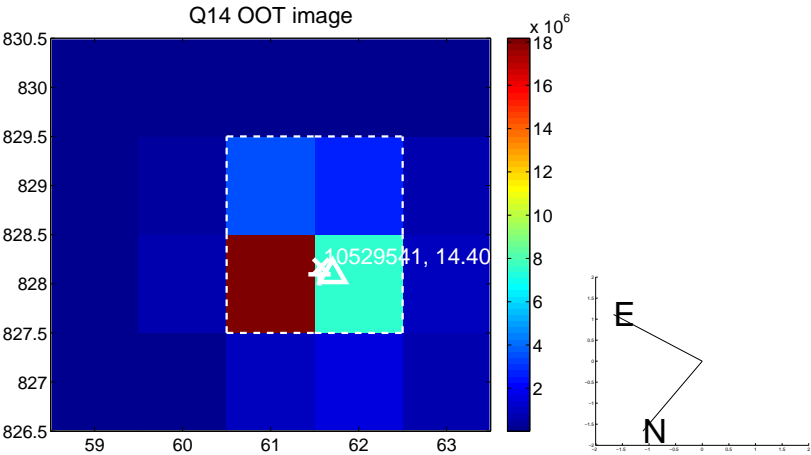
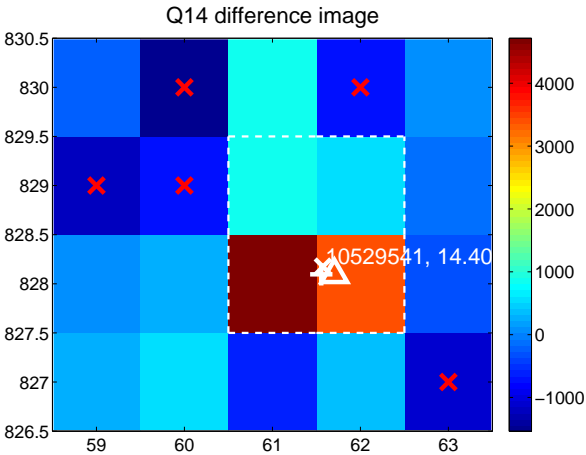


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

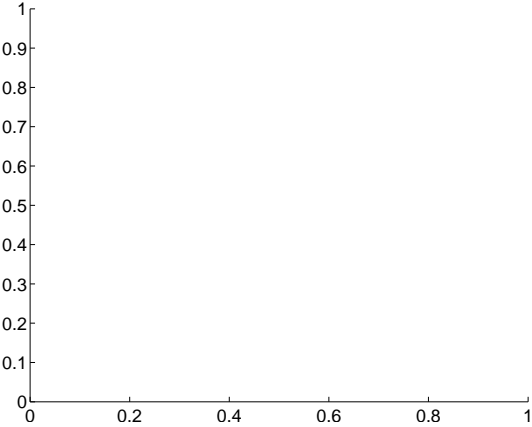
Q13 no difference image



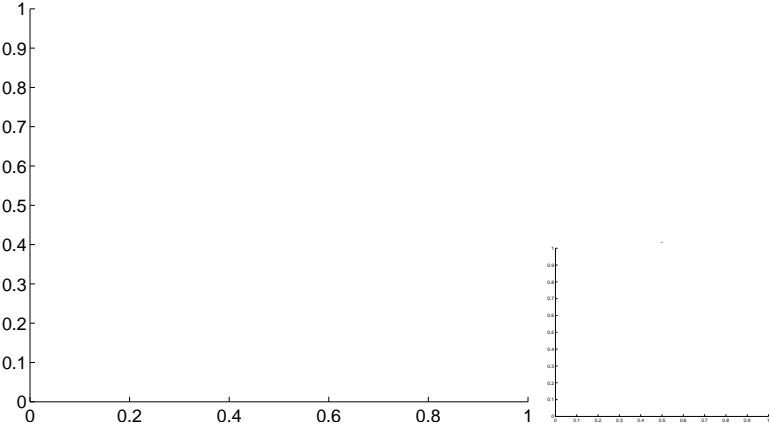
Q13 no OOT image



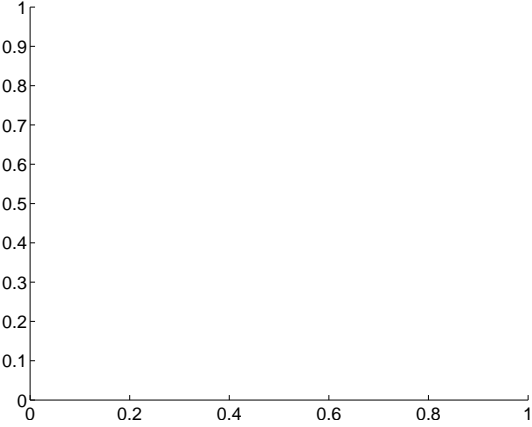
Q15 no difference image



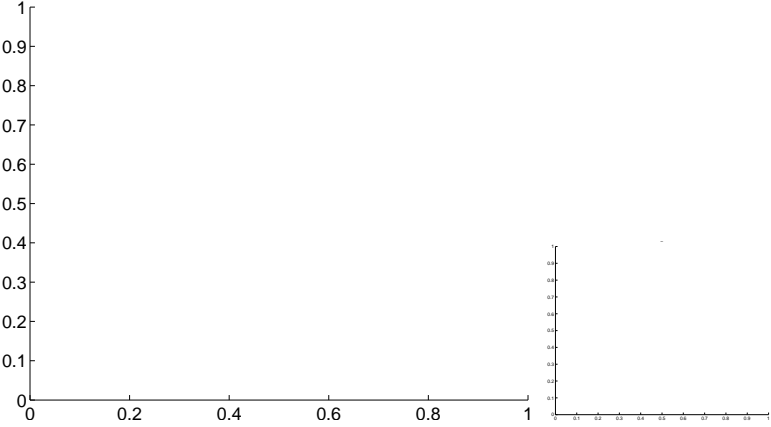
Q15 no OOT image



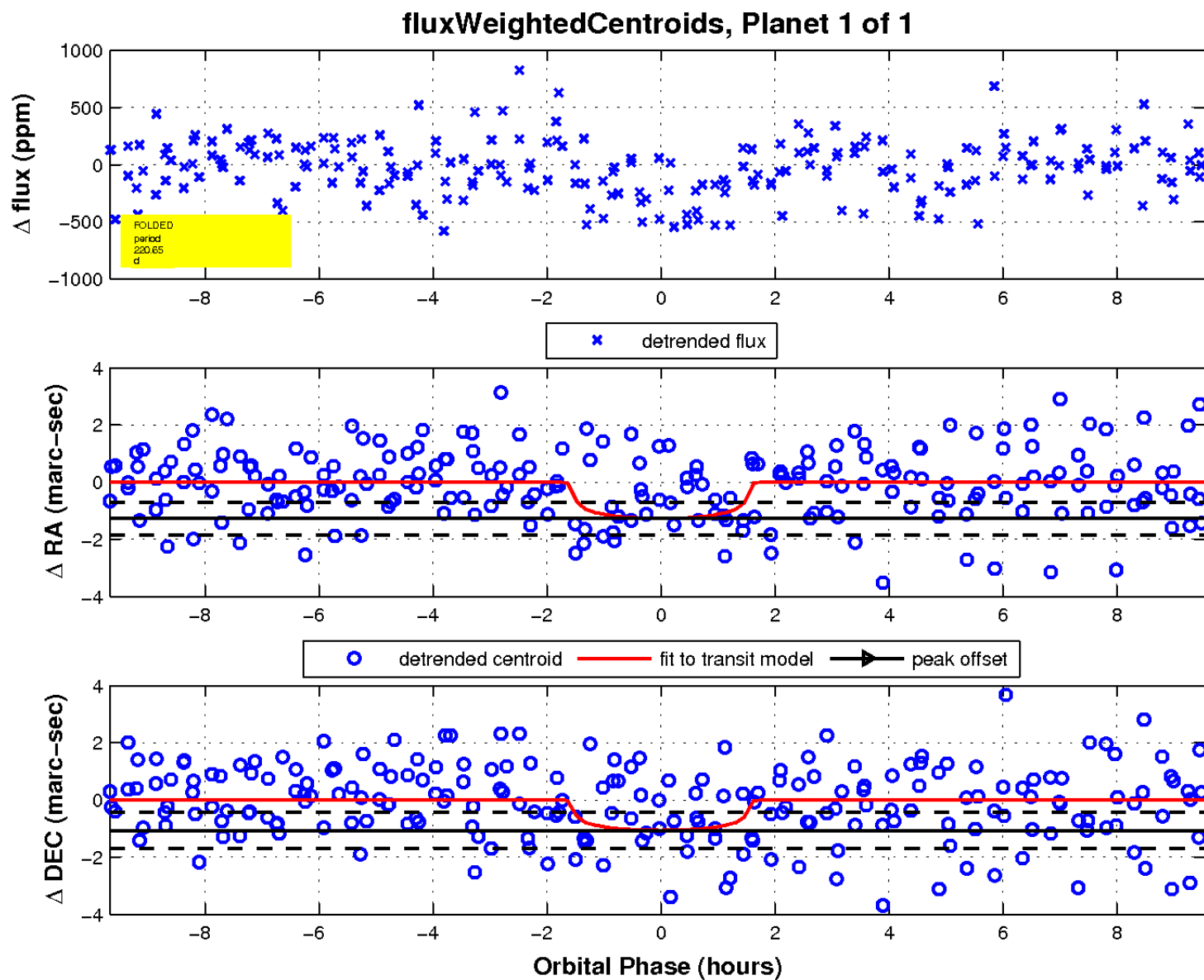
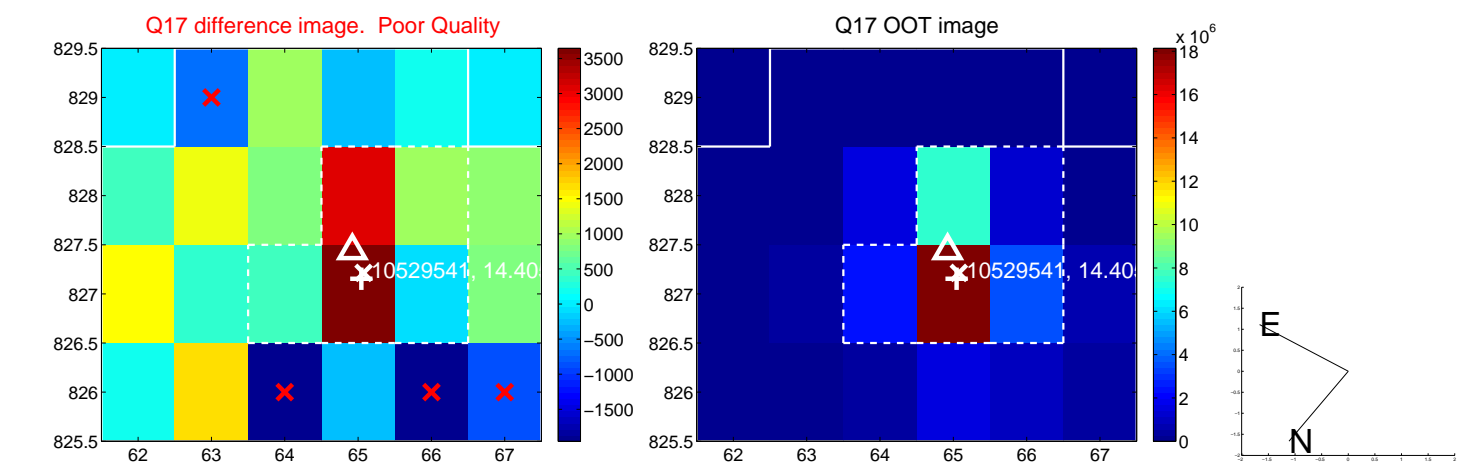
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

