

KIC 010351231

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})
010351231-01	OBS	1166.01	7.674628	133.228294	495.8	1.901	18.0	20.8	1.00	6063	2.79	198.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010351231-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

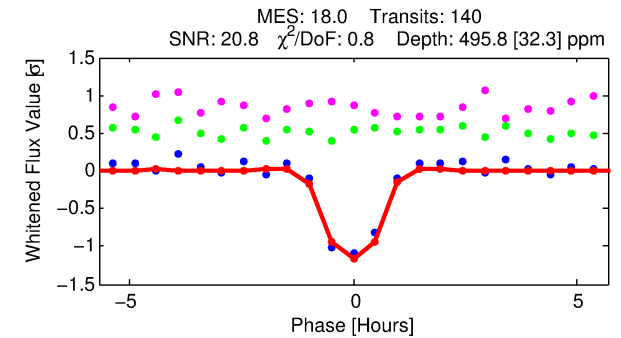
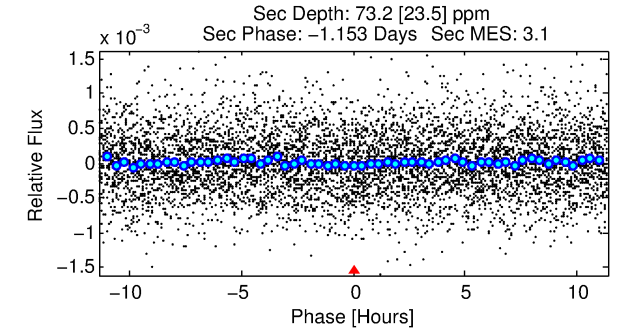
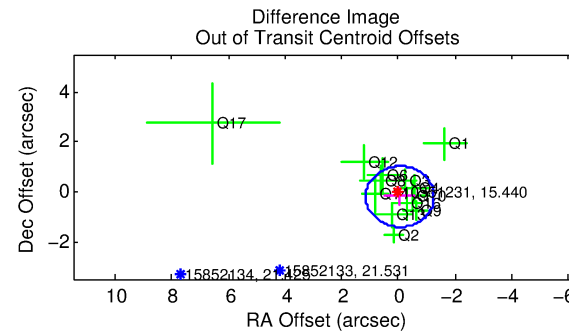
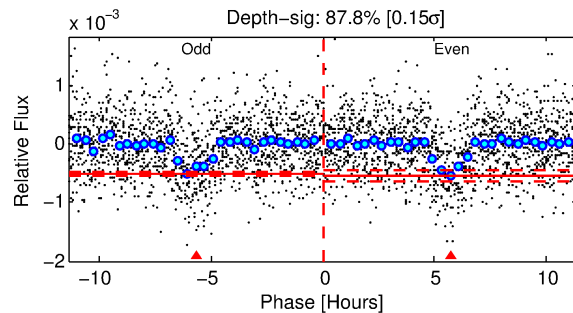
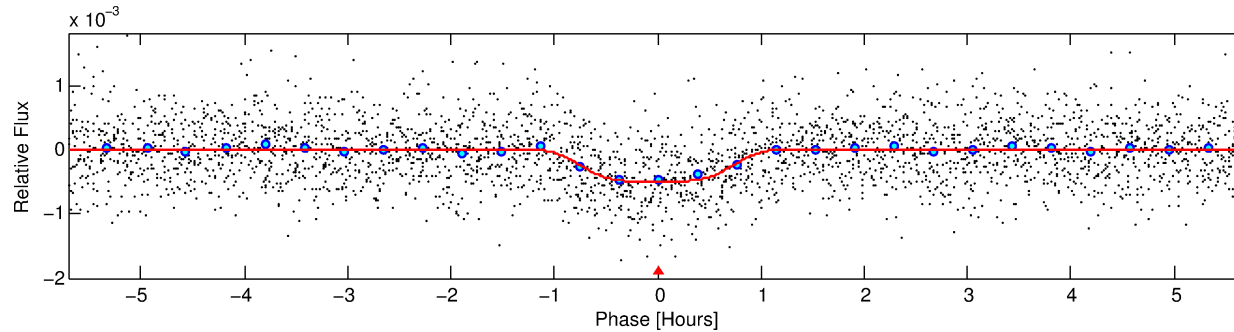
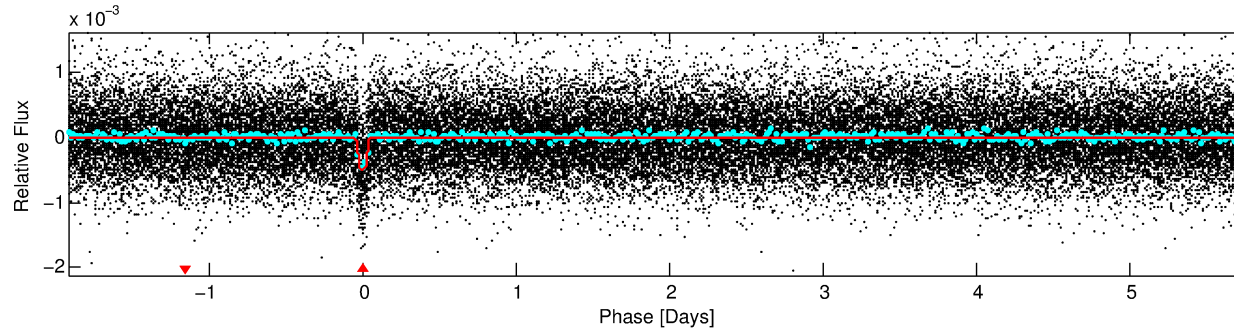
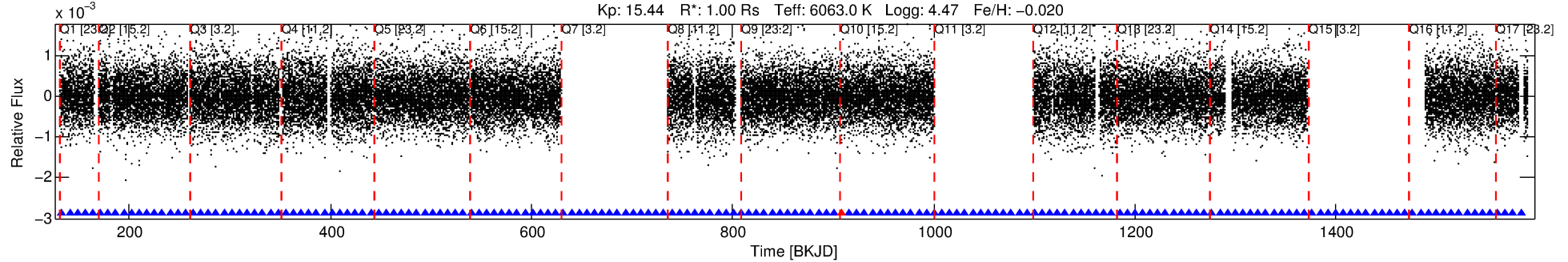
Ephemeris Match Information For 010351231-01

No Significant Match Found

DV One-Page Summary

KIC: 10351231 Candidate: 1 of 1 Period: 7.675 d
KOI: K01166.01 Corr: 0.944

Kp: 15.44 R*: 1.00 Rs Teff: 6063.0 K Logg: 4.47 Fe/H: -0.020



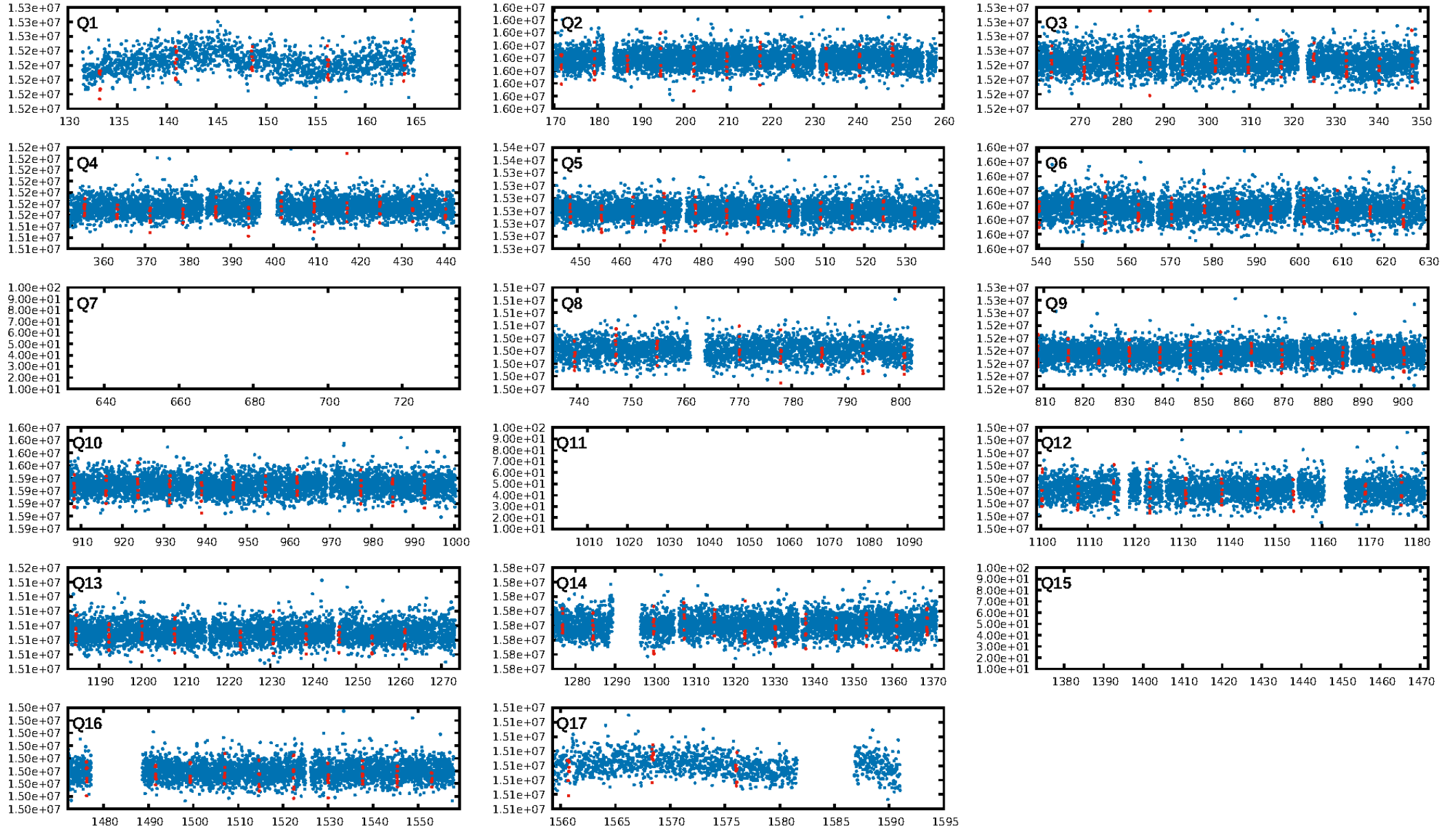
DV Fit Results:

Period = 7.67463 [0.00002] d
Epoch = 133.2283 [0.0022] BKJD
Rp/R* = 0.0255 [0.0029]
a/R* = 12.32 [6.24]
b = 0.95 [0.06]
Seff = 198.85 [83.95]
Teq = 958 [101] K
Rp = 2.78 [0.94] Re
a = 0.0781 [0.0210] AU
Ag = 31.71 [17.60] [1.74σ]
Teffp = 3513 [369] K [6.67σ]

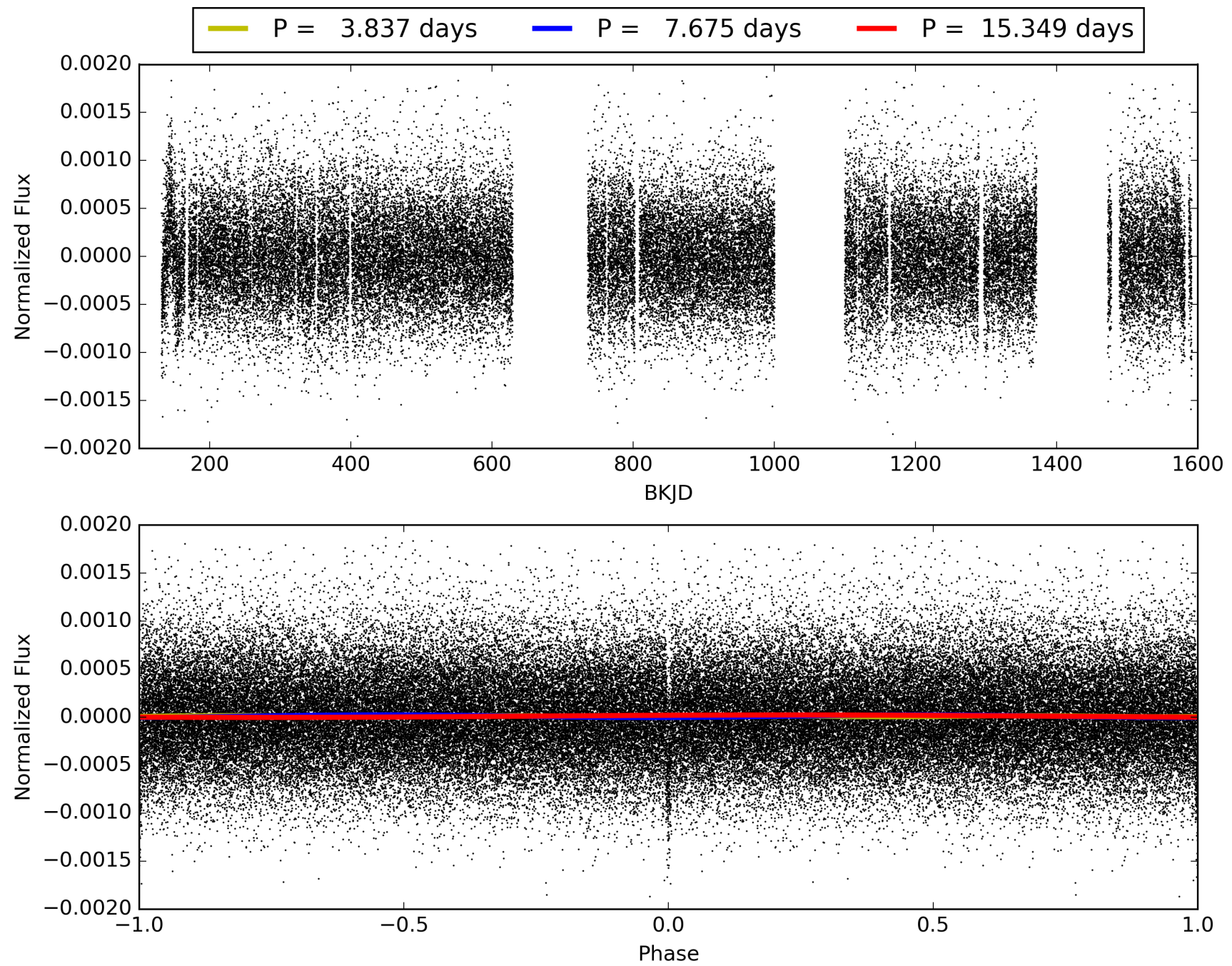
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.29e-71
RollingBand-fgt: 0.99 [131/132]
GhostDiagnostic-chr: -17.96
Centroid-sig: 0.0%
Centroid-so: 3.253 arcsec [4.16σ]
OotOffset-rm: 0.206 arcsec [0.51σ]
KicOffset-rm: 0.079 arcsec [0.19σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010351231-01, PDC Light Curves

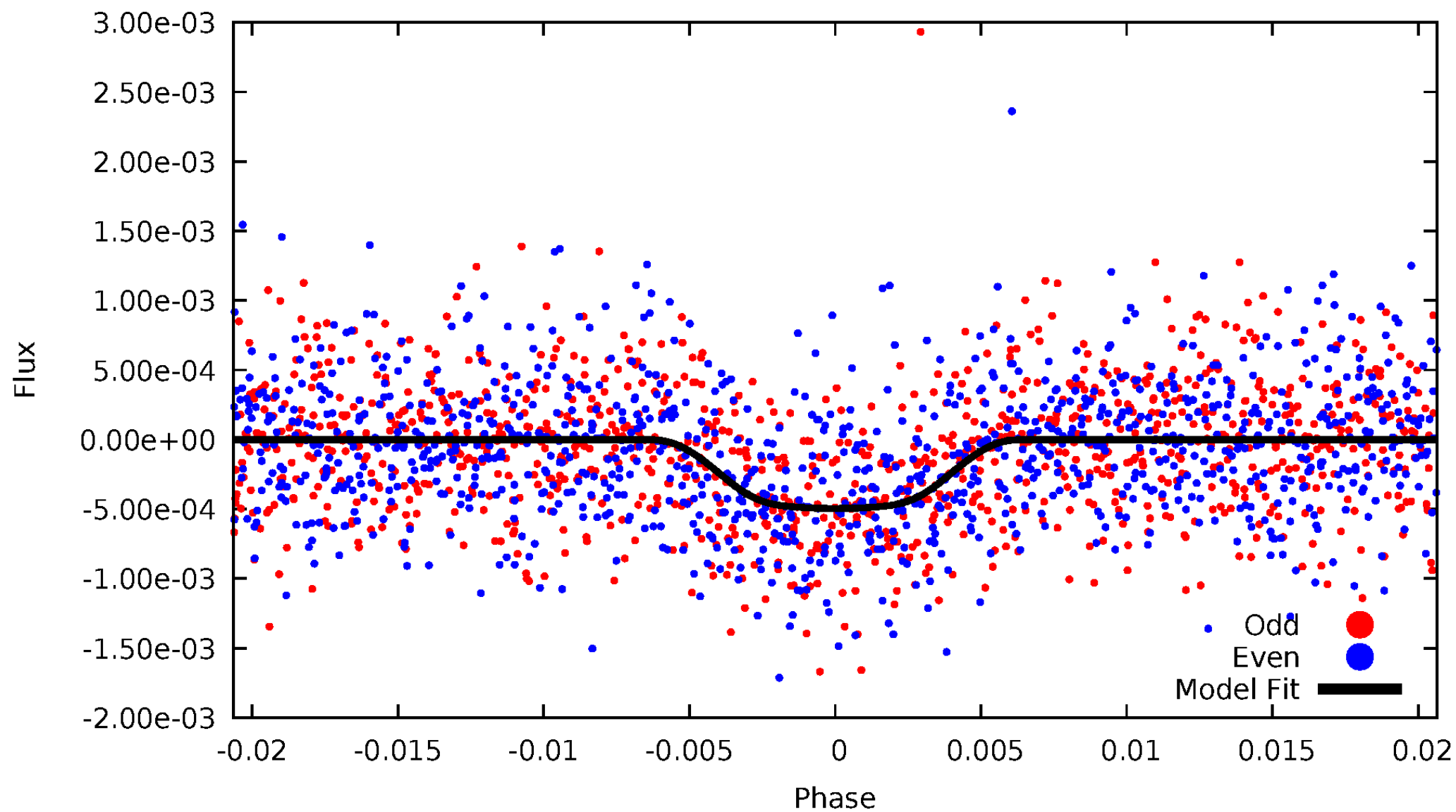


TCE 010351231-01



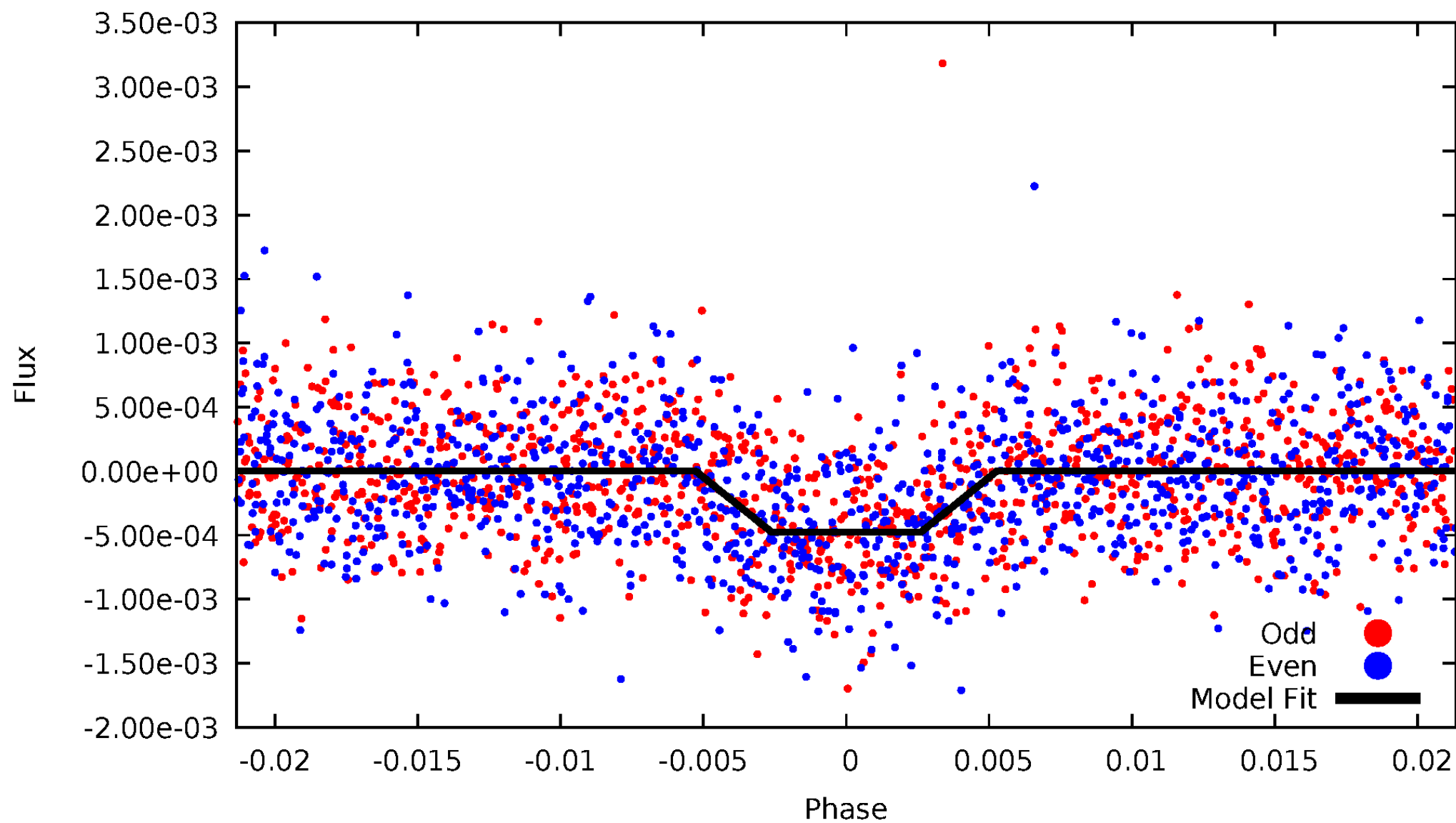
DV Odd/Even

TCE 010351231-01

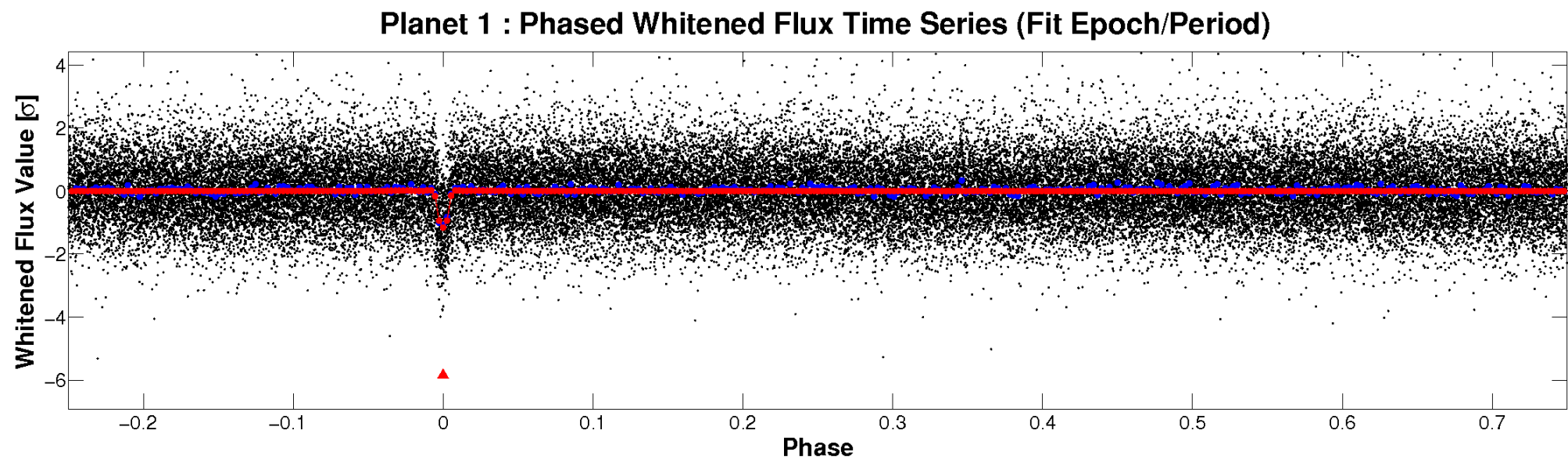
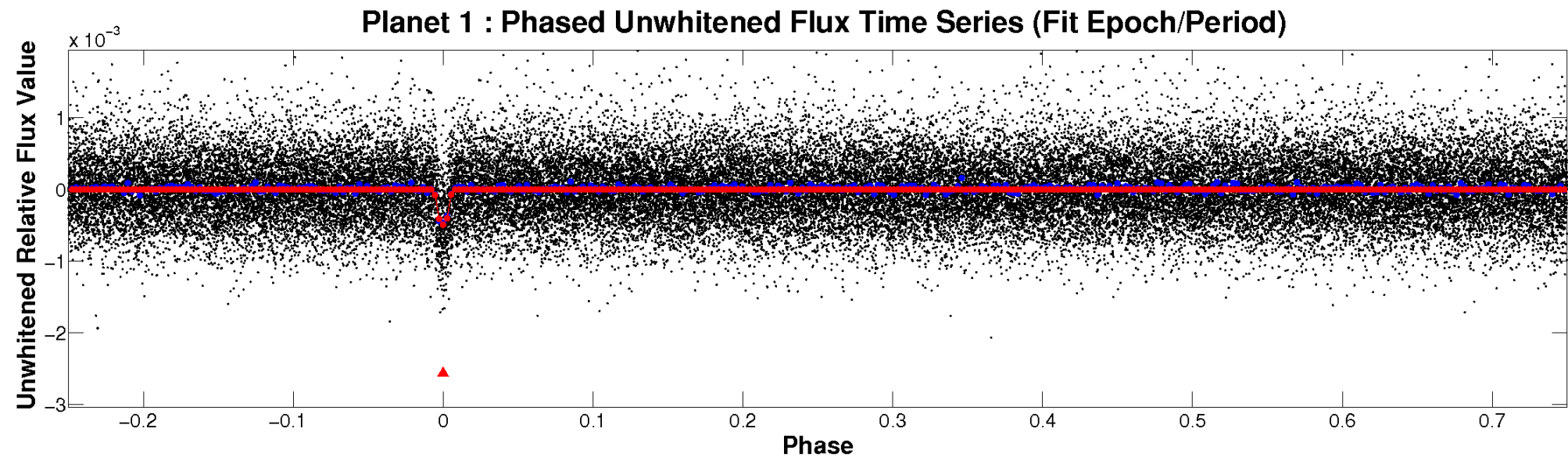


ALT Odd/Even

TCE 010351231-01

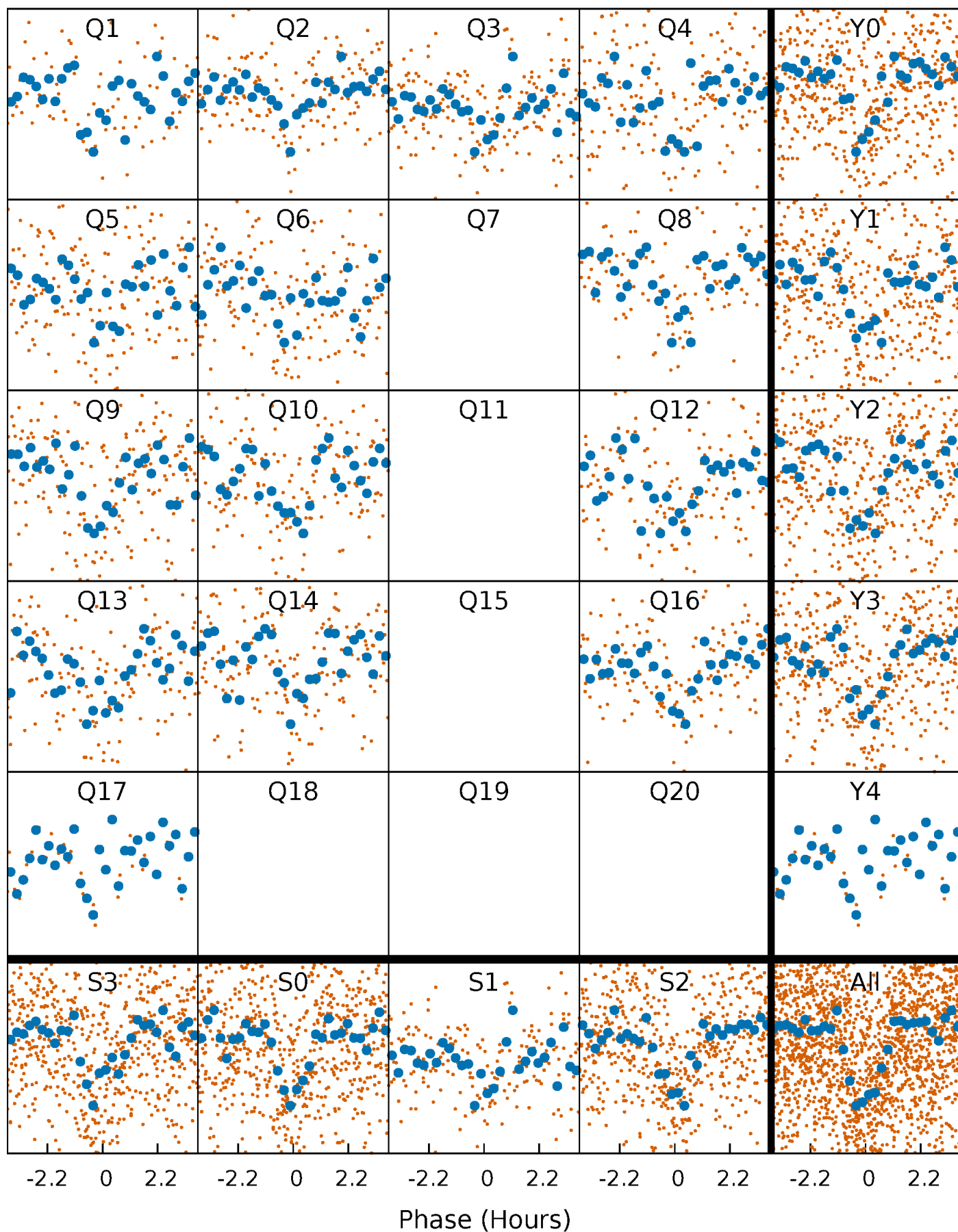


Non-Whitened Vs. Whitened Light Curve



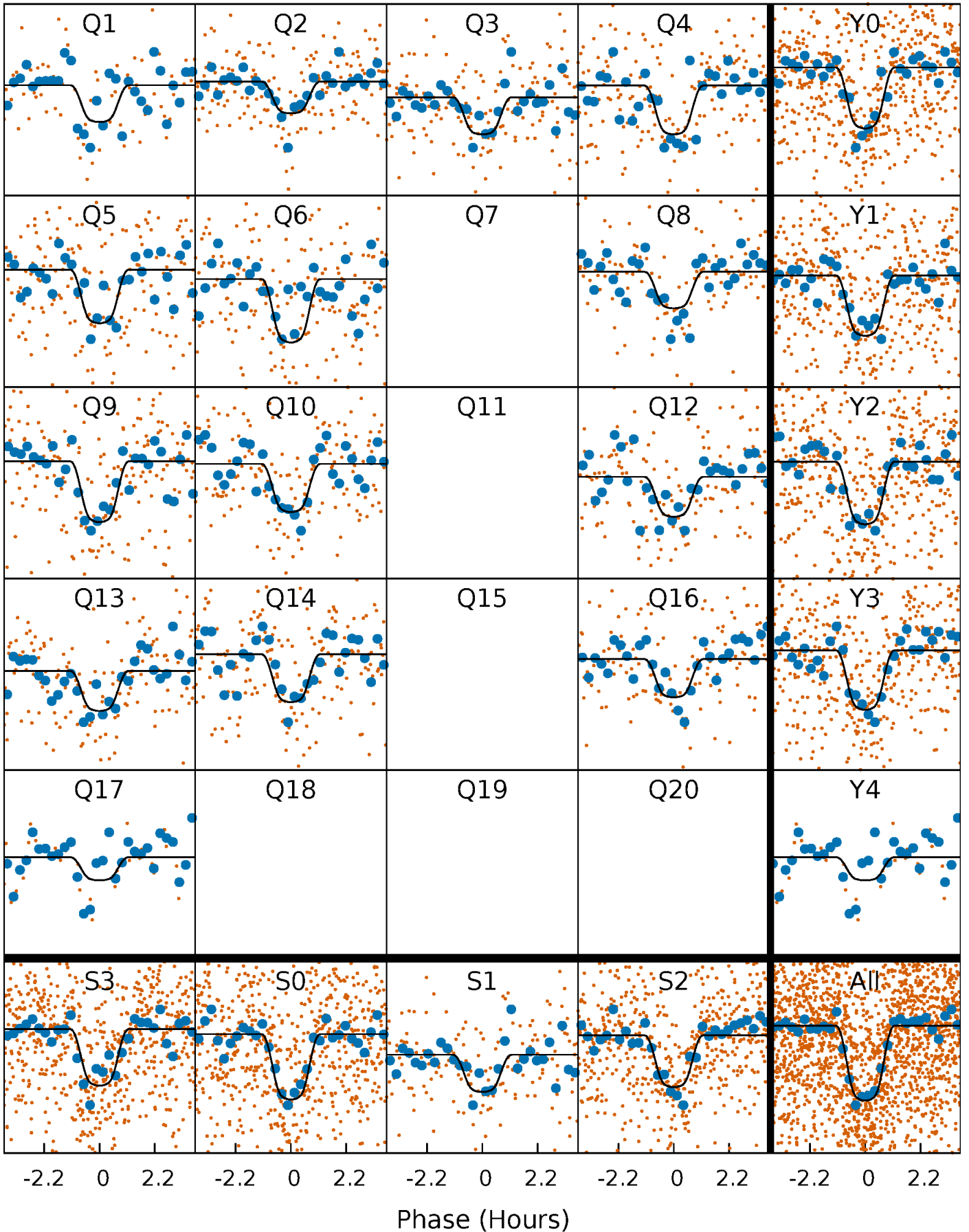
PDC Quarter-Phased Transit Curves

TCE 010351231-01 P= 7.674628 Days $T_0=133.228294$ (BKJD)



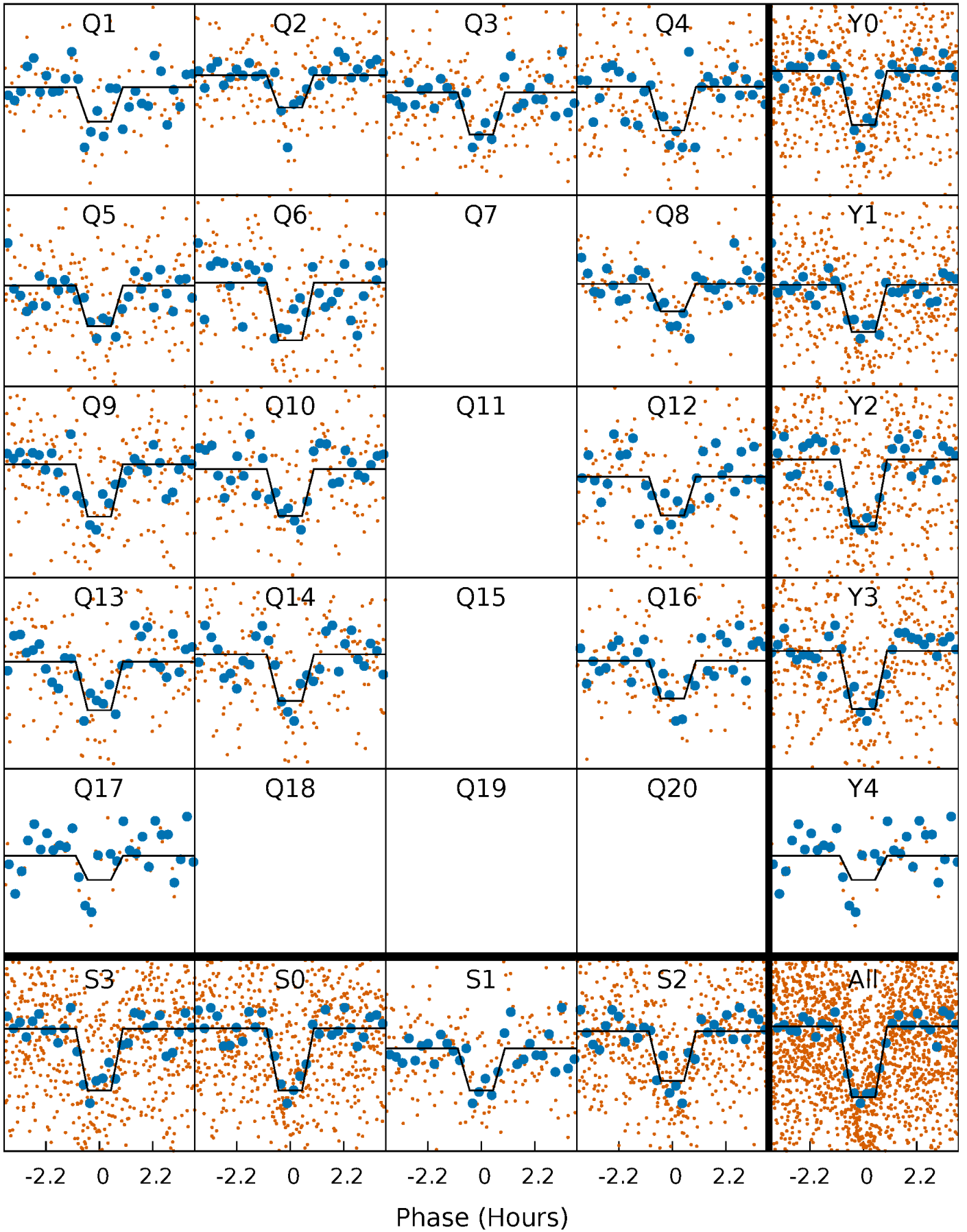
DV Quarter-Phased Transit Curves

TCE 010351231-01 P= 7.674628 Days $T_0=133.228294$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

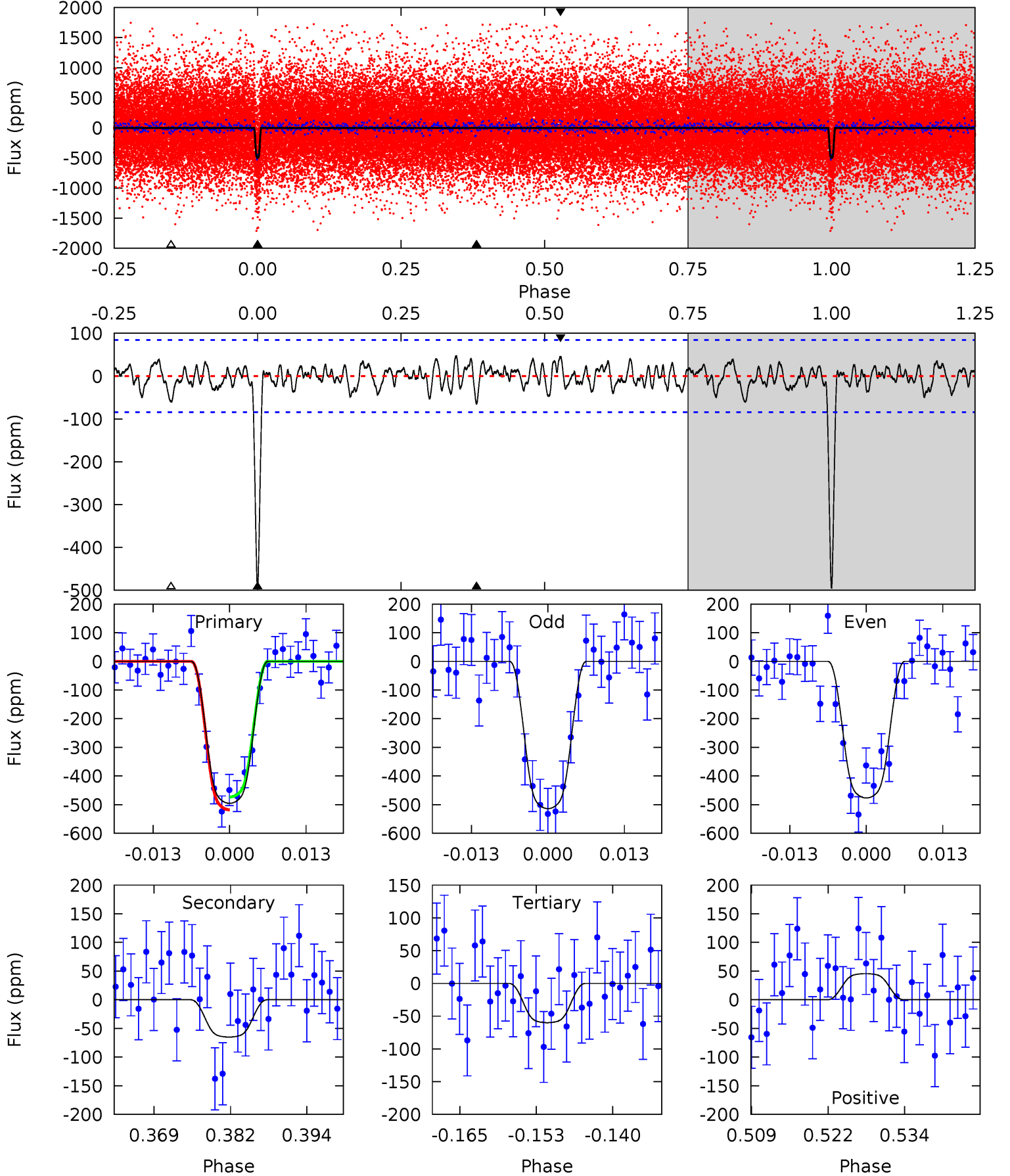
TCE 010351231-01 P= 7.674666 Days $T_0=133.223526$ (BKJD)



DV Model-Shift Uniqueness Test

010351231-01, P = 7.674628 Days, E = 125.553666 Days

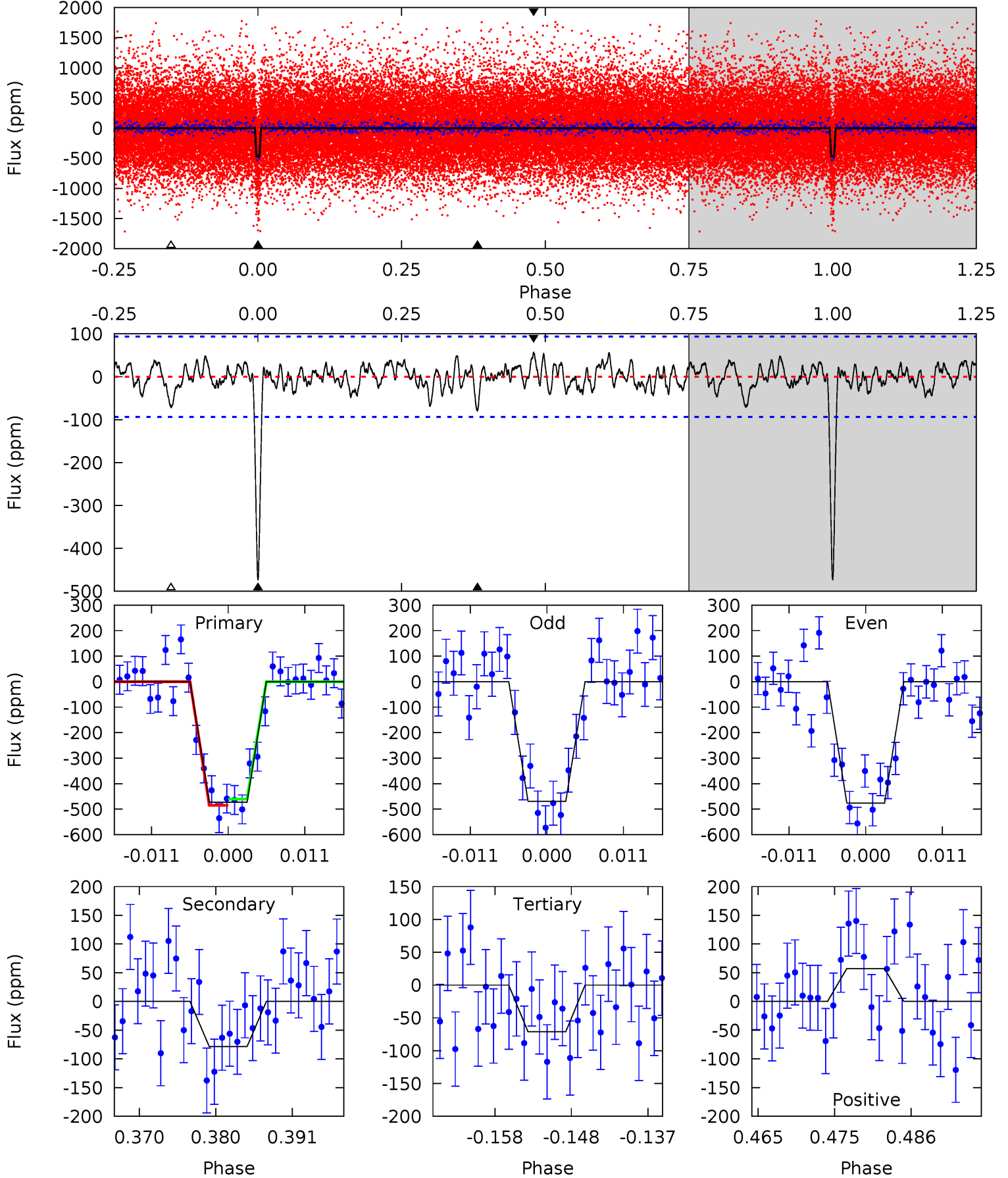
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.3	3.85	3.55	2.69	4.98	2.49	1.20	25.8	26.6	0.30	1.16	1.10	0.98	0.09	1.32



Alt Model-Shift Uniqueness Test

010351231-01, P = 7.674666 Days, E = 125.548860 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.3	4.22	3.82	3.07	5.02	2.56	1.22	21.5	22.3	0.40	1.15	0.19	0.96	0.11	0.66



Stellar Parameters For KIC 010351231

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6063^{+190}_{-232}	$4.470^{+0.054}_{-0.216}$	$-0.020^{+0.250}_{-0.300}$	$1.001^{+0.318}_{-0.106}$	$1.079^{+0.145}_{-0.145}$	$1.517^{+0.429}_{-0.792}$
	+3%/-4%	+1%/-5%	+1250%/-1500%	+32%/-11%	+13%/-13%	+28%/-52%
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 010351231-01 / KOI 1166.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-65 ± 17	$2.89^{+0.57}_{-0.38}$	1368^{+106}_{-73}	3774^{+248}_{-252}	24^{+13}_{-9}
Alt.	-79 ± 19	$2.49^{+0.52}_{-0.41}$	1362^{+112}_{-69}	4116^{+305}_{-274}	41^{+21}_{-14}

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 $A_{obs} \gg 1.0$

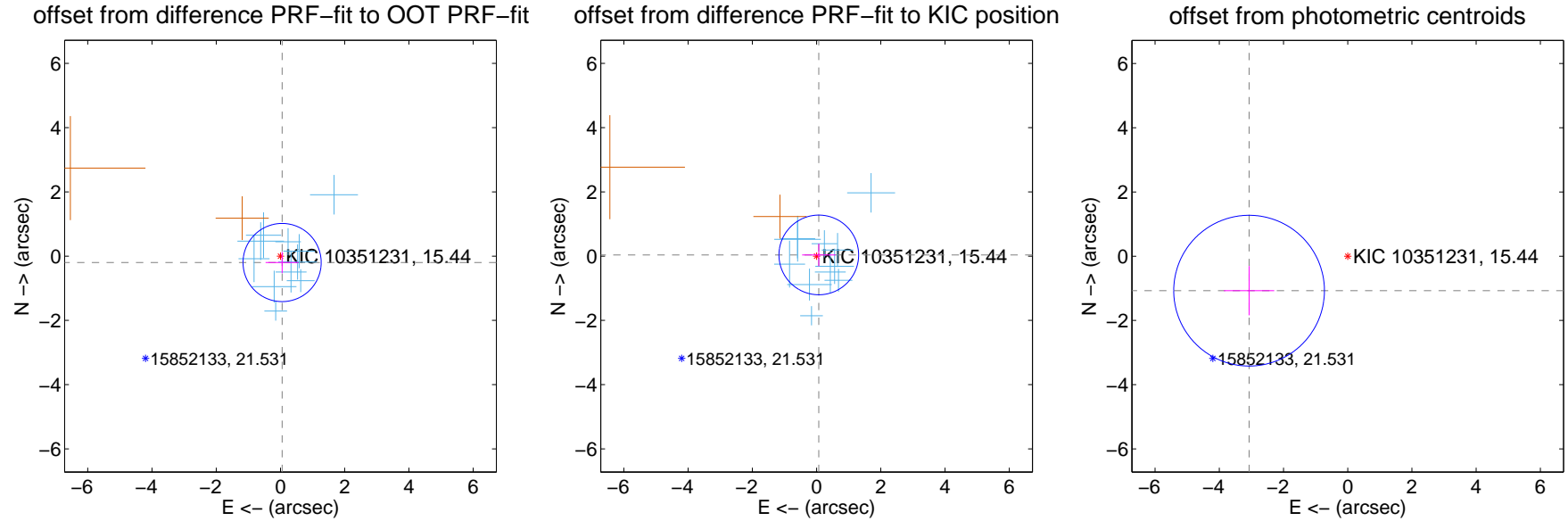
DV Centroid Data

Supplemental centroid analysis for 010351231-01. Kepler magnitude: 15.44. Transit SNR 20.82

There are 11 quarters with good PRF difference image offsets

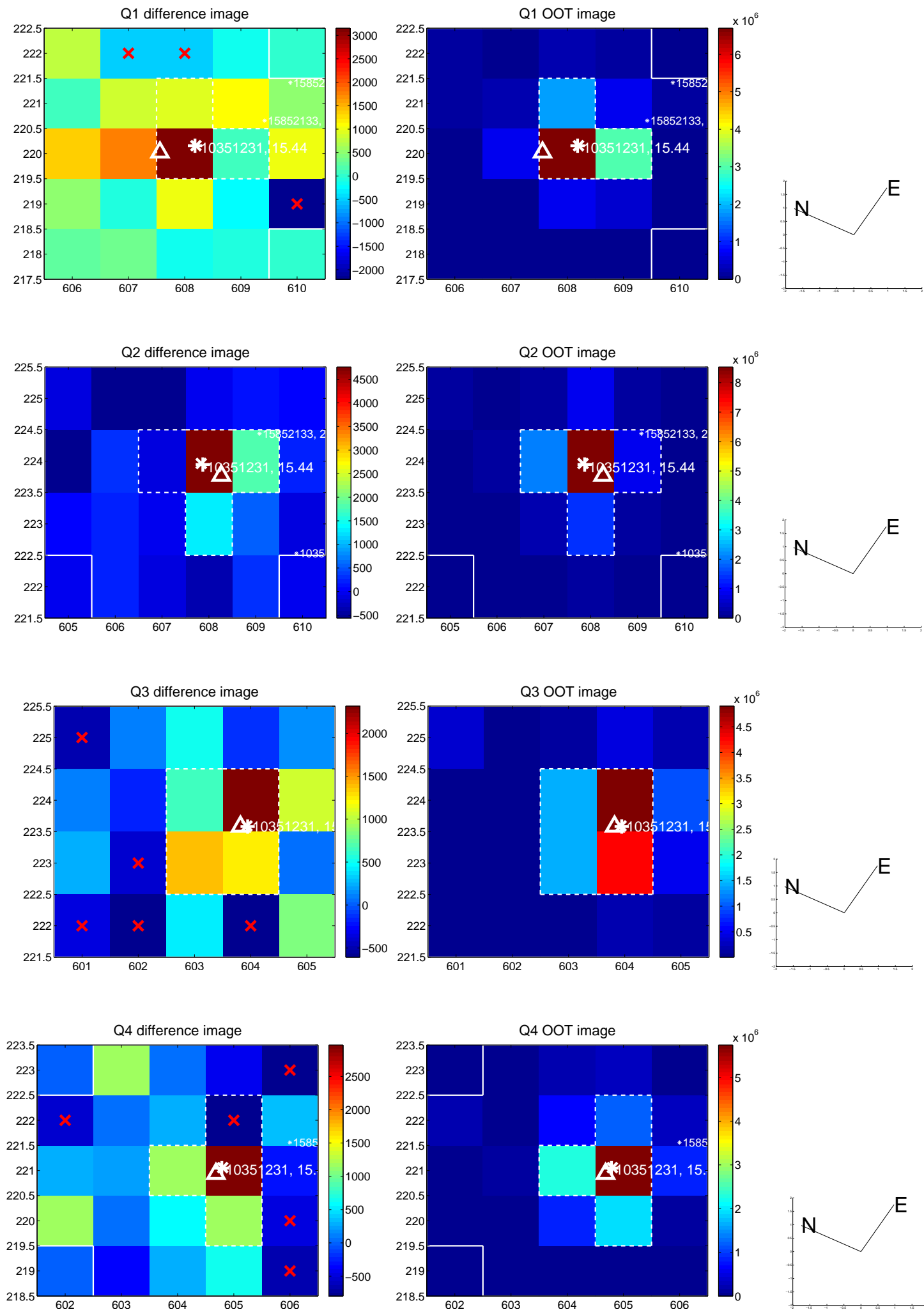
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.206 ± 0.405	0.51	-0.052 ± 0.514	-0.199 ± 0.330
PRF-fit source offset from KIC position	0.079 ± 0.413	0.19	-0.069 ± 0.519	0.037 ± 0.353
photometric centroid source offset	3.25 ± 0.78	4.16	3.07 ± 0.78	-1.07 ± 0.77

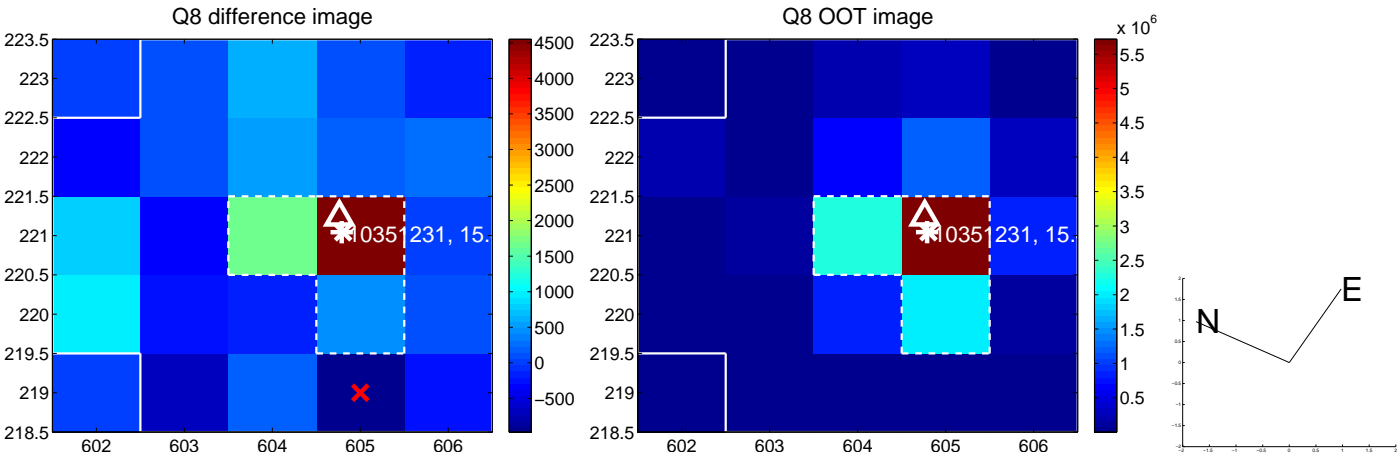
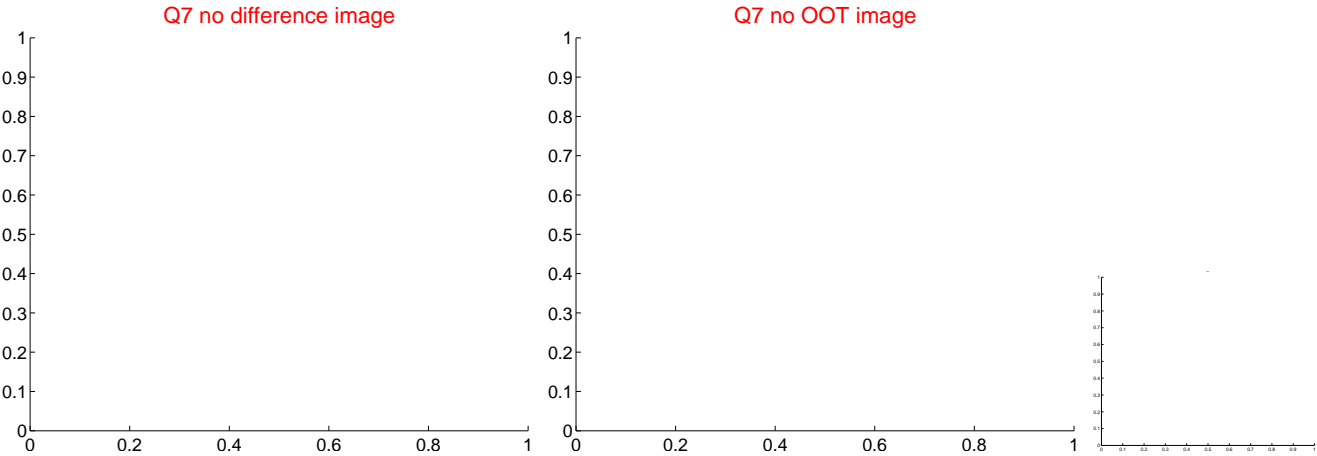
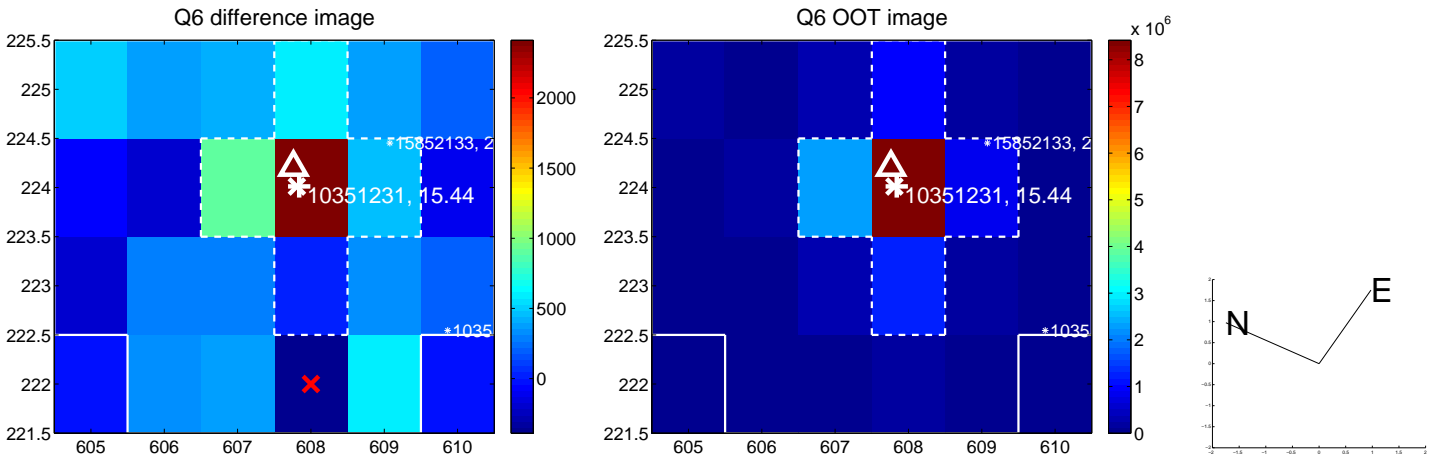
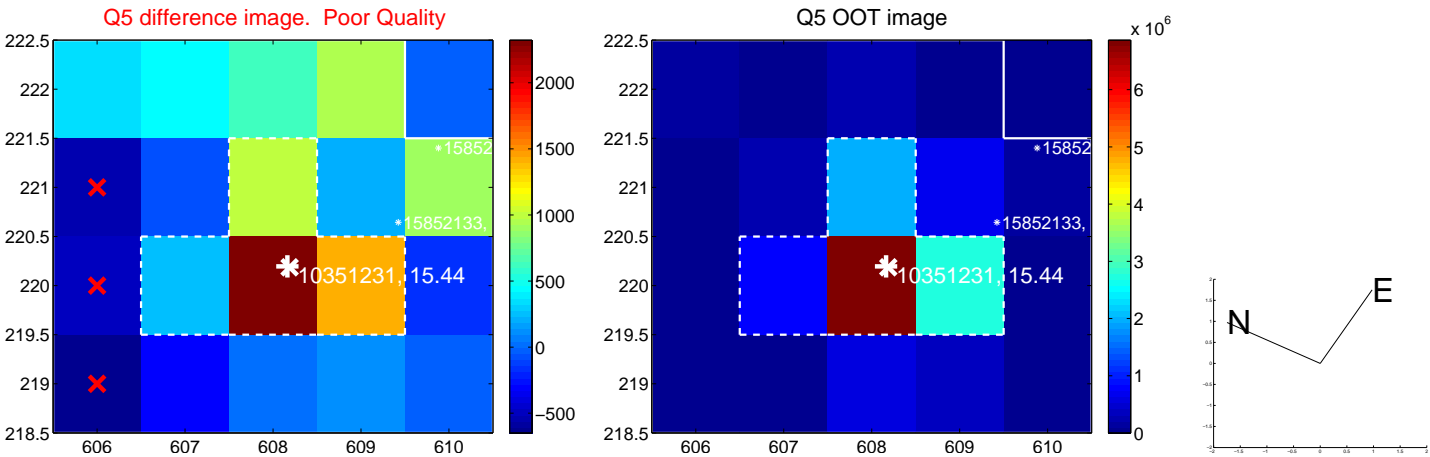


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

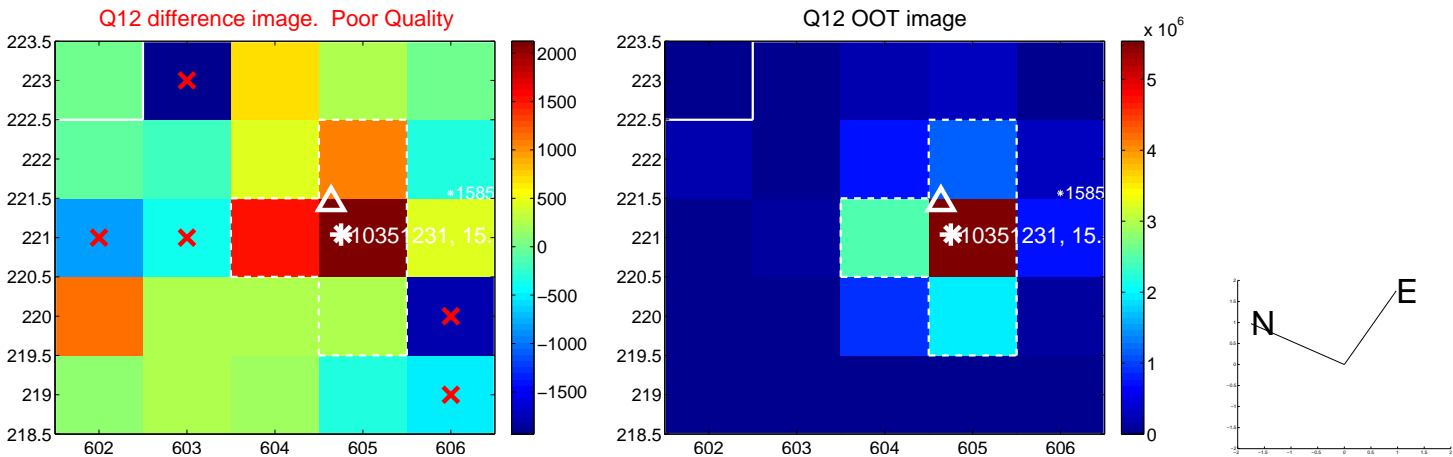
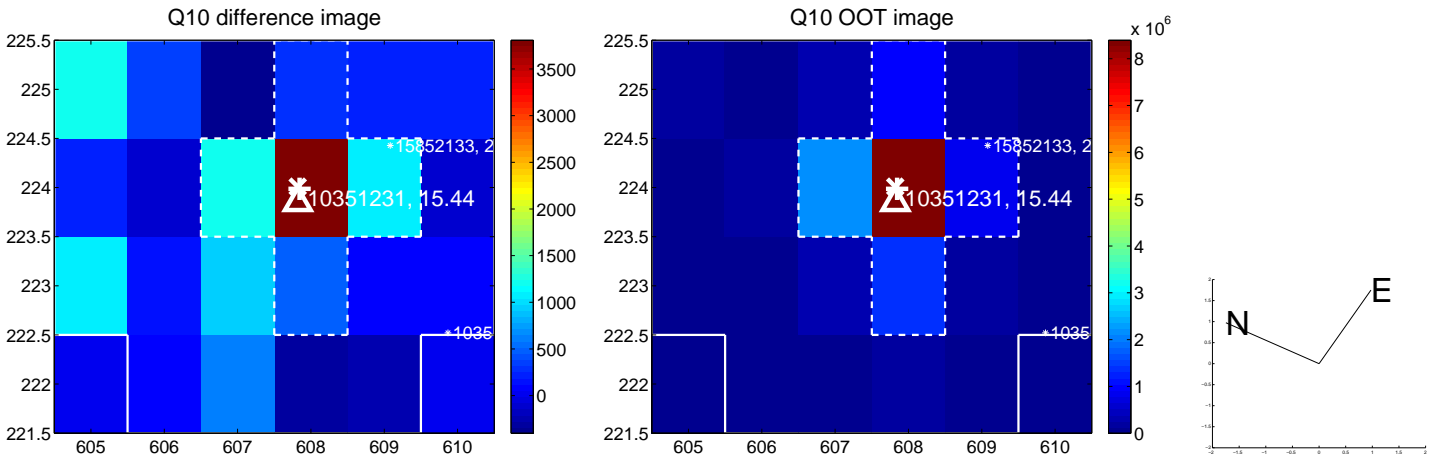
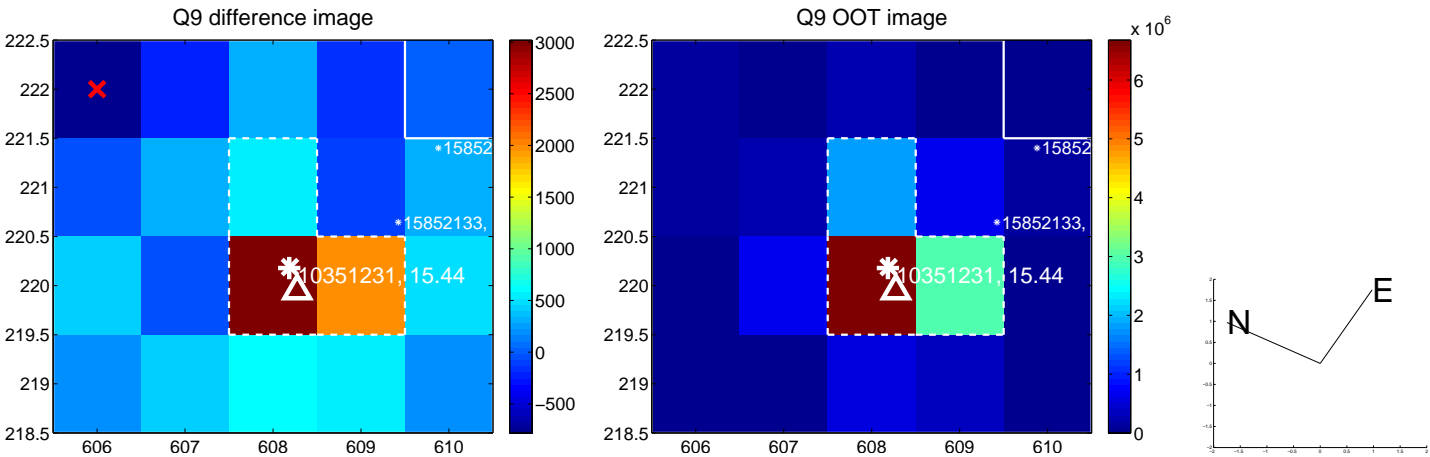
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



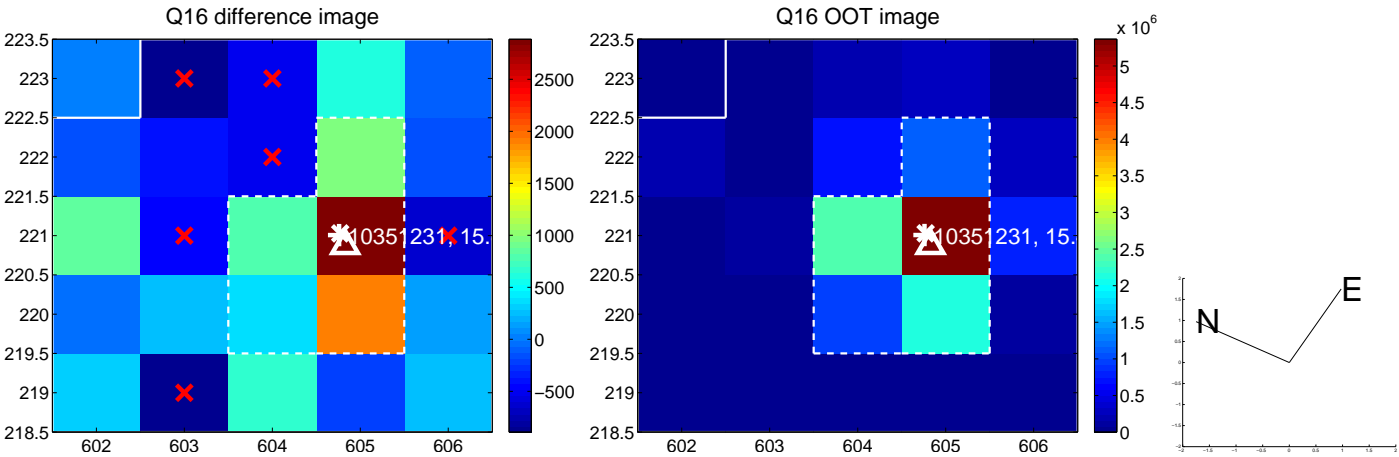
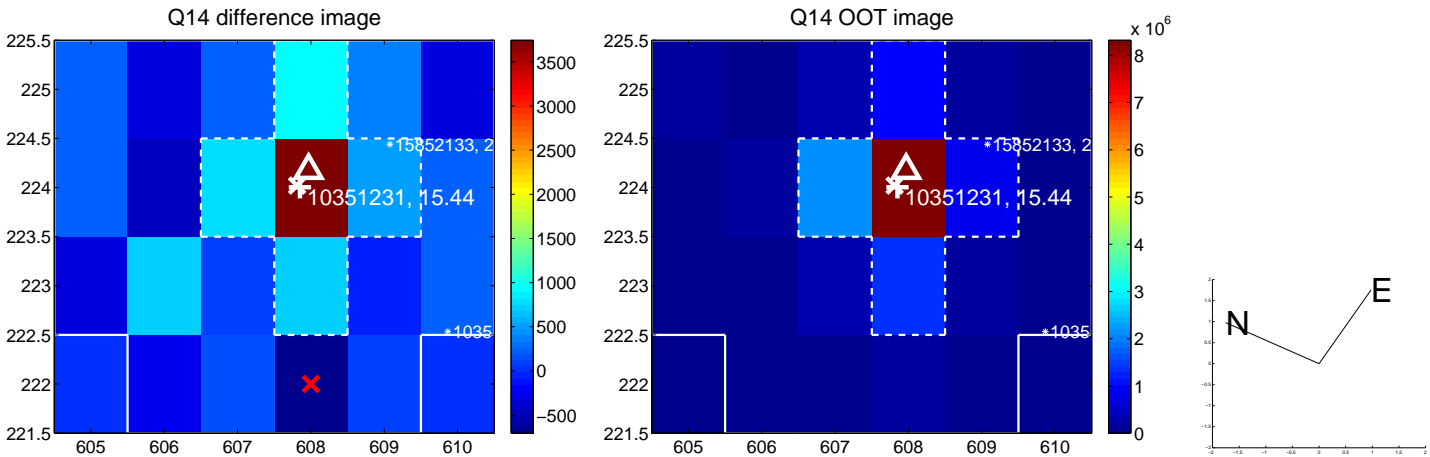
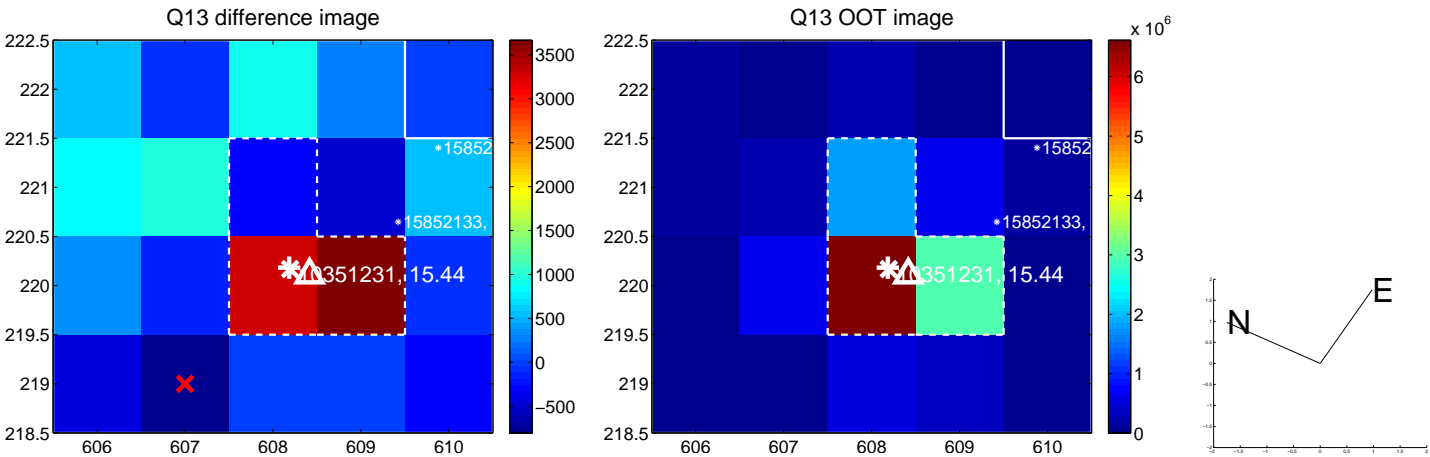
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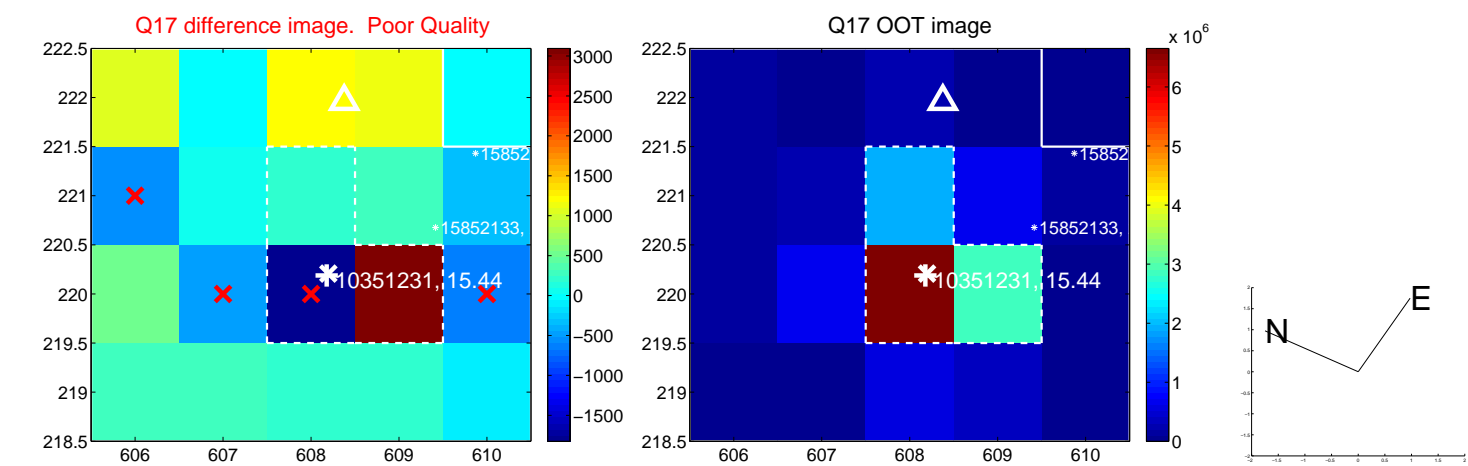
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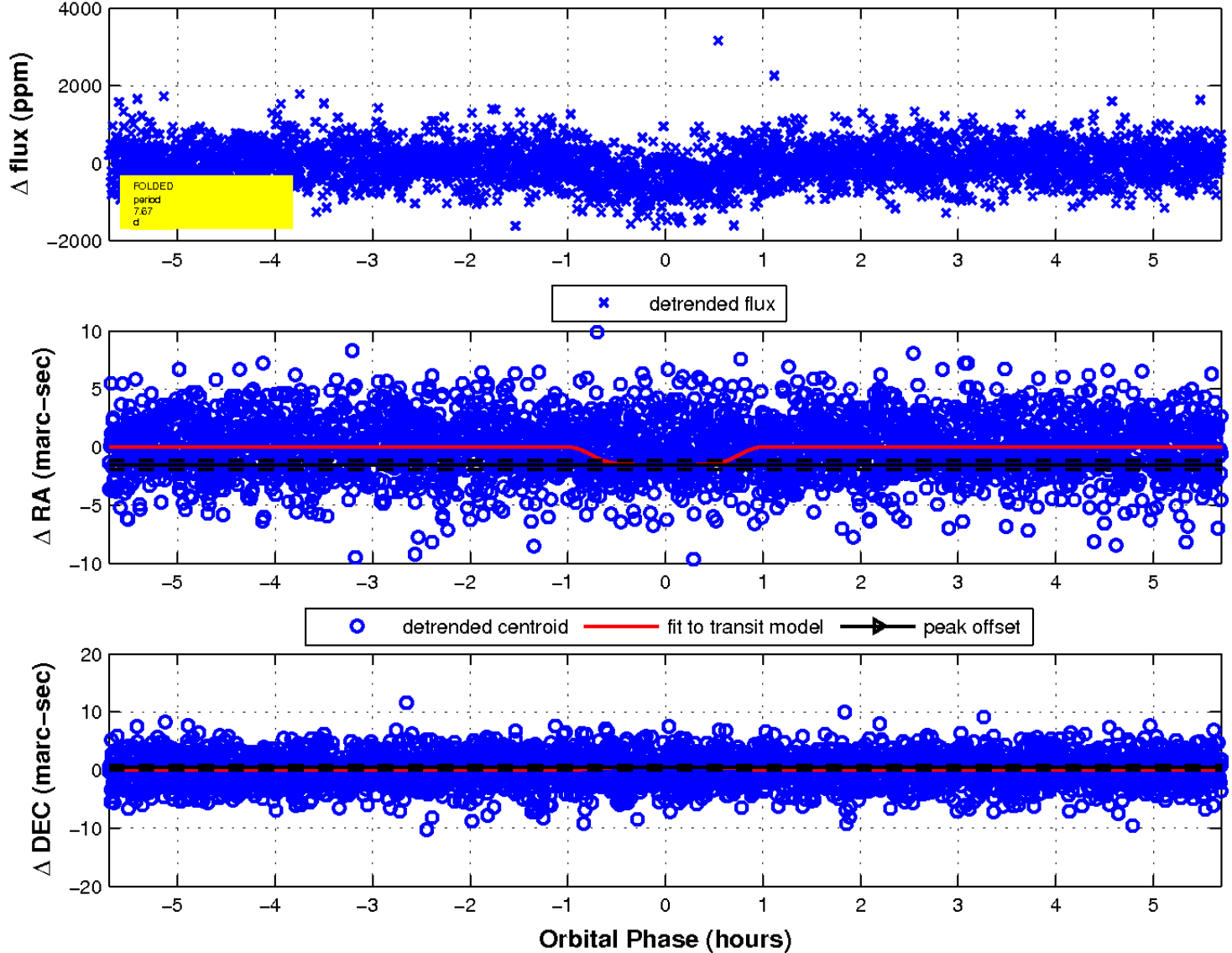
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

