

KIC 010162999

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})
010162999-01	OBS	No	3.429284	131.957016	85.1	9.503	11.4	12.3	2.73	6328	4.48	4370.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010162999-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_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.

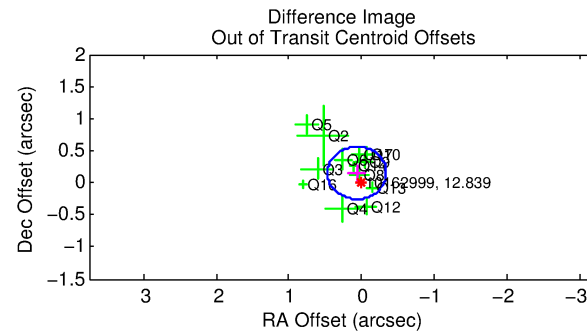
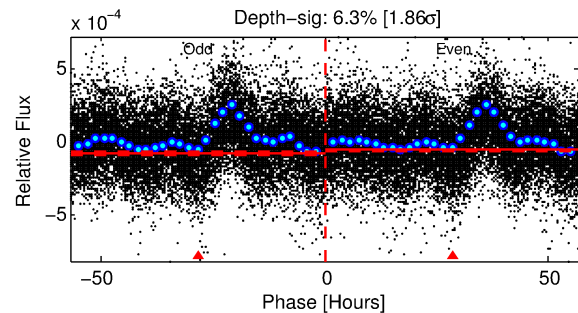
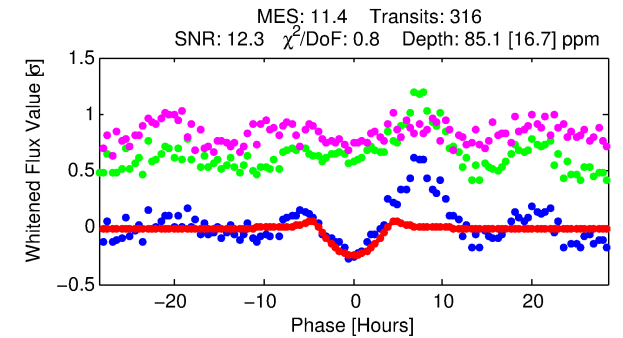
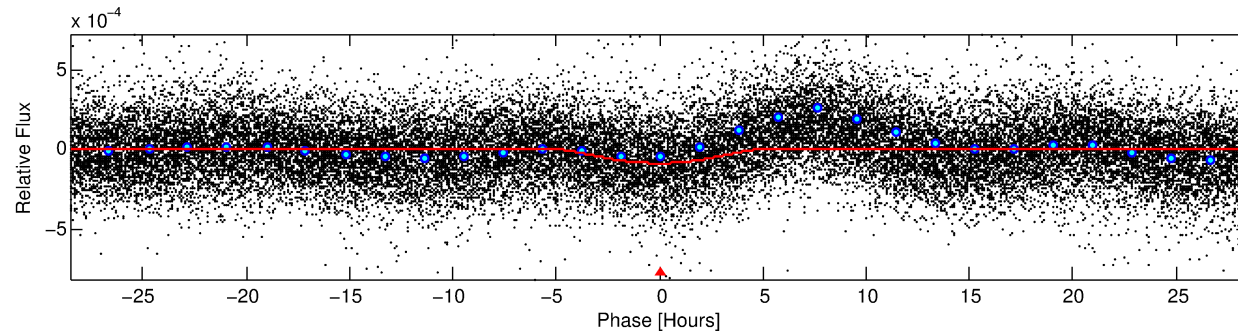
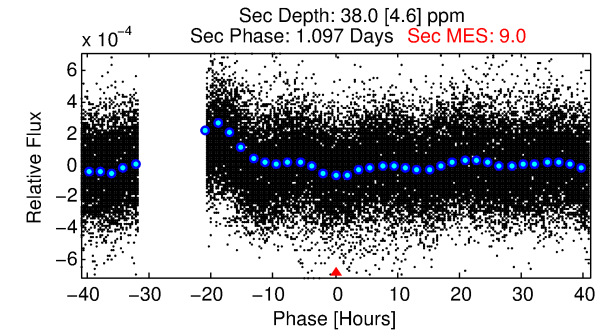
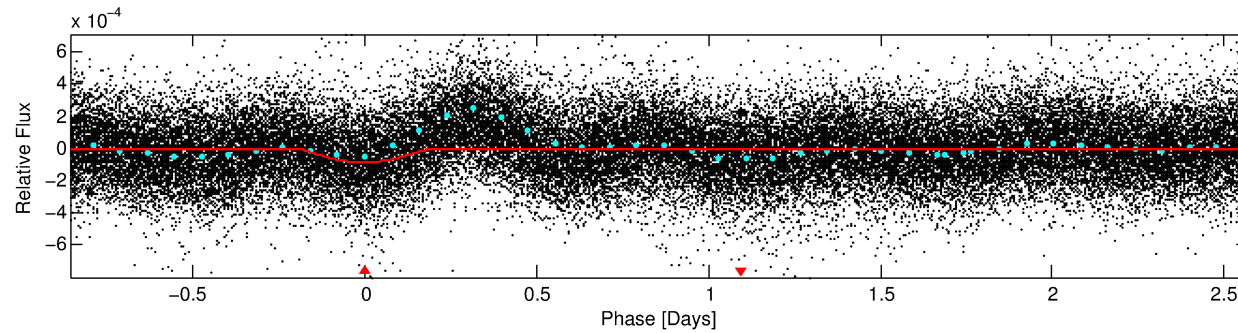
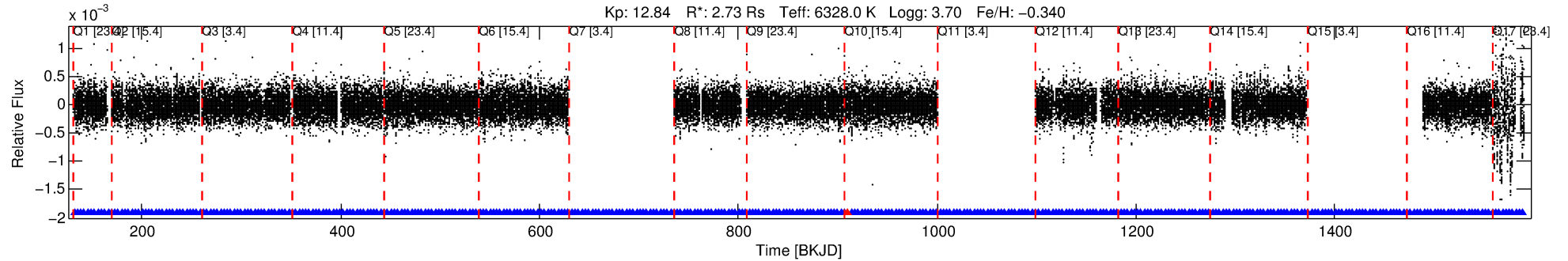
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010162999-01

No Significant Match Found

DV One-Page Summary

KIC: 10162999 Candidate: 1 of 1 Period: 3.429 d



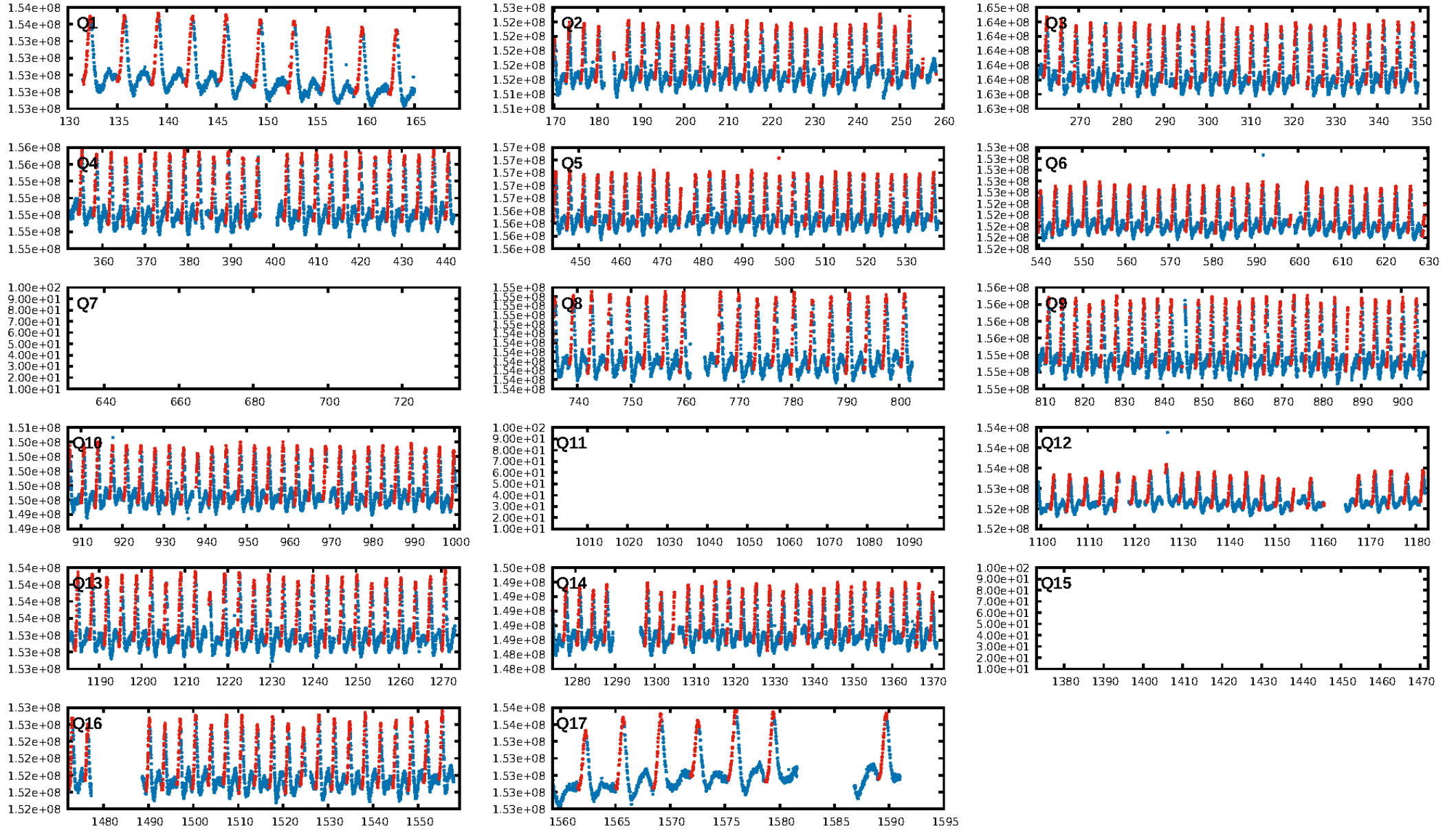
DV Fit Results:

Period = 3.42928 [0.00006] d
Epoch = 131.9570 [0.0126] BKJD
Rp/R* = 0.0150 [0.0125]
a/R* = 1.13 [0.05]
b = 1.00 [0.02]
Seff = 4370.89 [2550.87]
Teq = 2073 [303] K
Rp = 4.48 [4.08] Re
a = 0.0495 [0.0178] AU
Ag = 2.56 [4.50] [0.35σ]
Teffp = 4053 [1692] K [1.15σ]

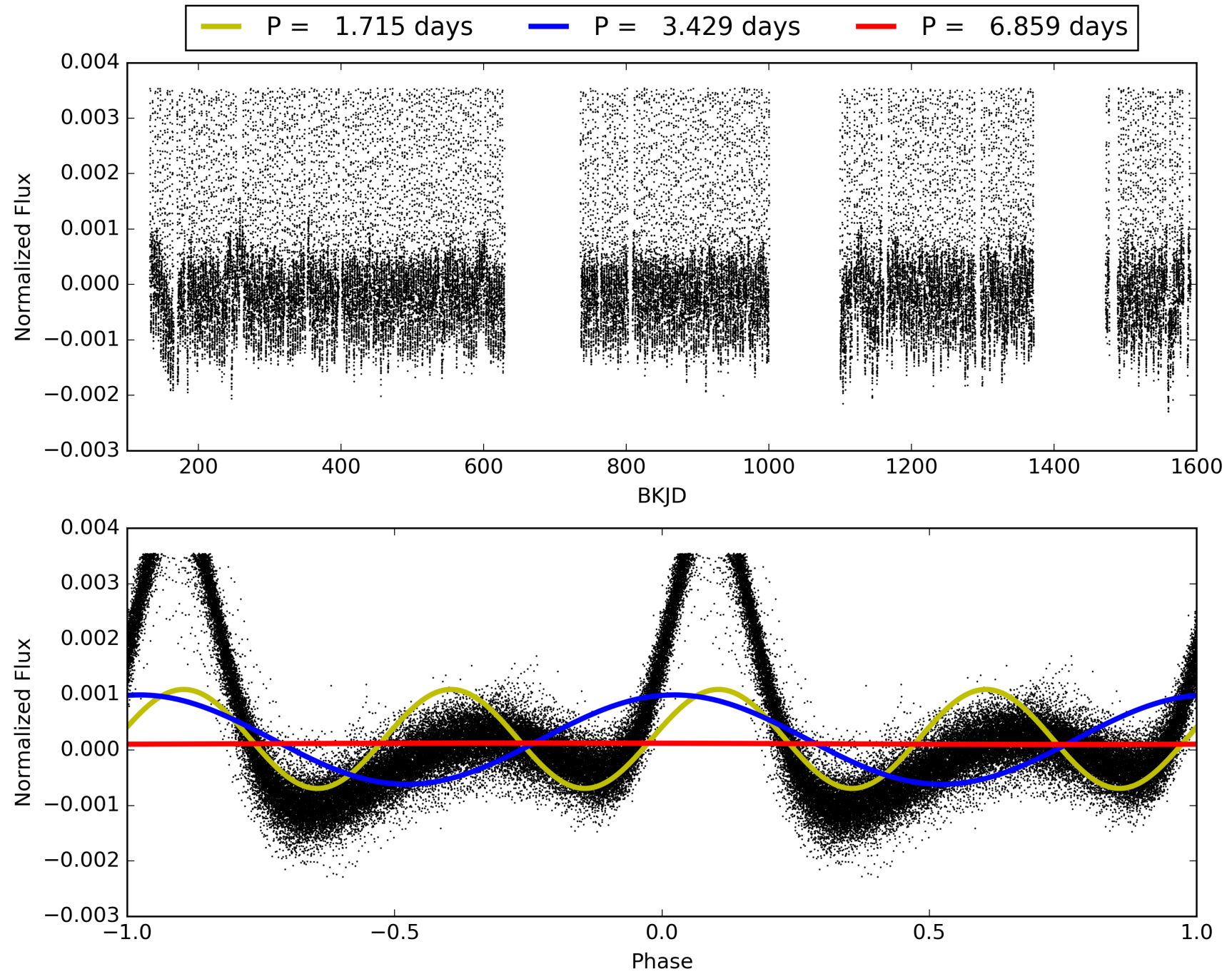
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.02e-20
RollingBand-fgt: 1.00 [298/299]
GhostDiagnostic-chr: 1.234
Centroid-sig: 0.0%
Centroid-so: 1.281 arcsec [2.68σ]
OotOffset-rm: 0.165 arcsec [1.22σ]
KicOffset-rm: 0.196 arcsec [1.56σ]
OotOffset-st: 4/1/4/4 [13]
KicOffset-st: 4/1/4/4 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010162999-01, PDC Light Curves

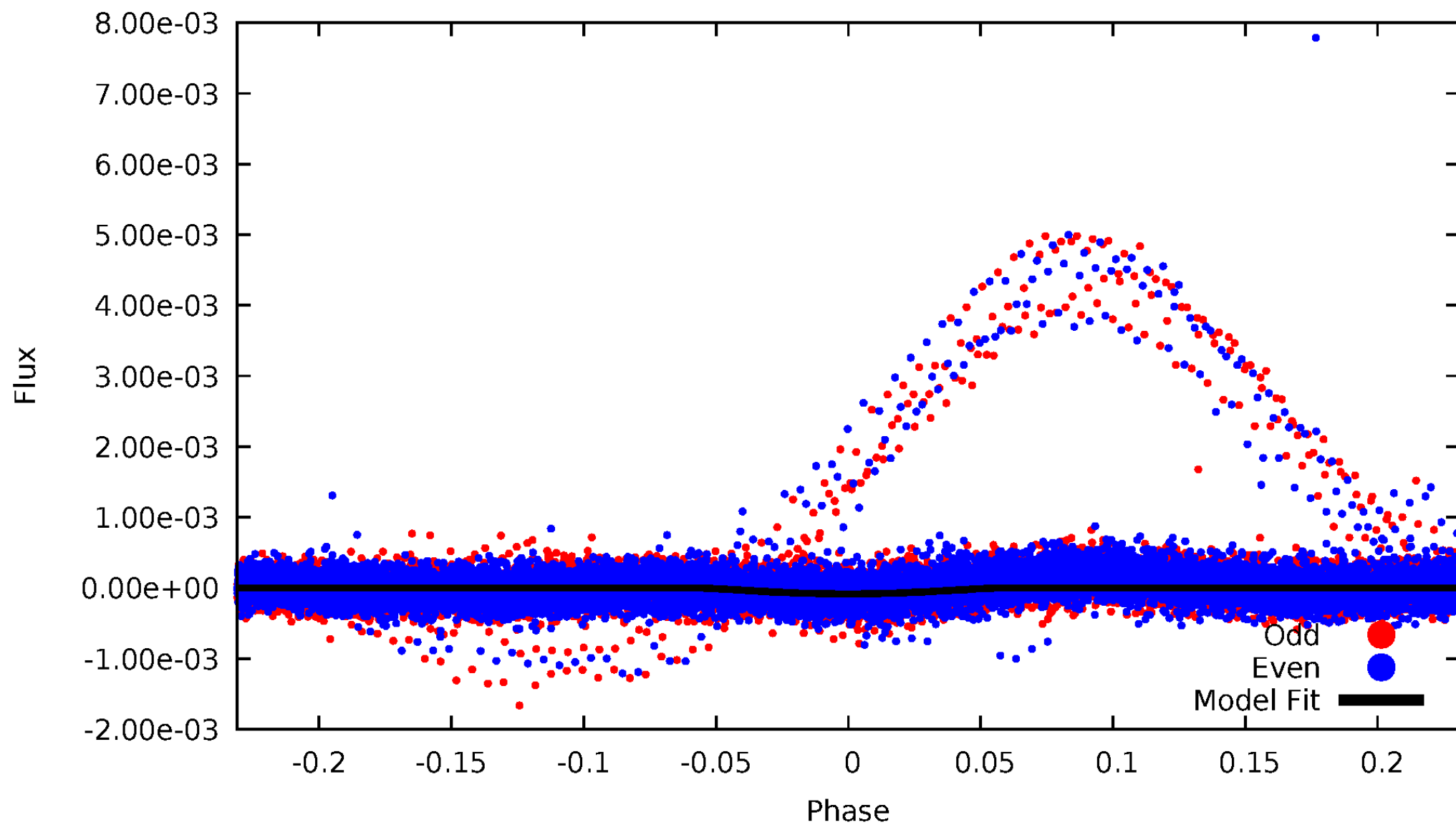


TCE 010162999-01



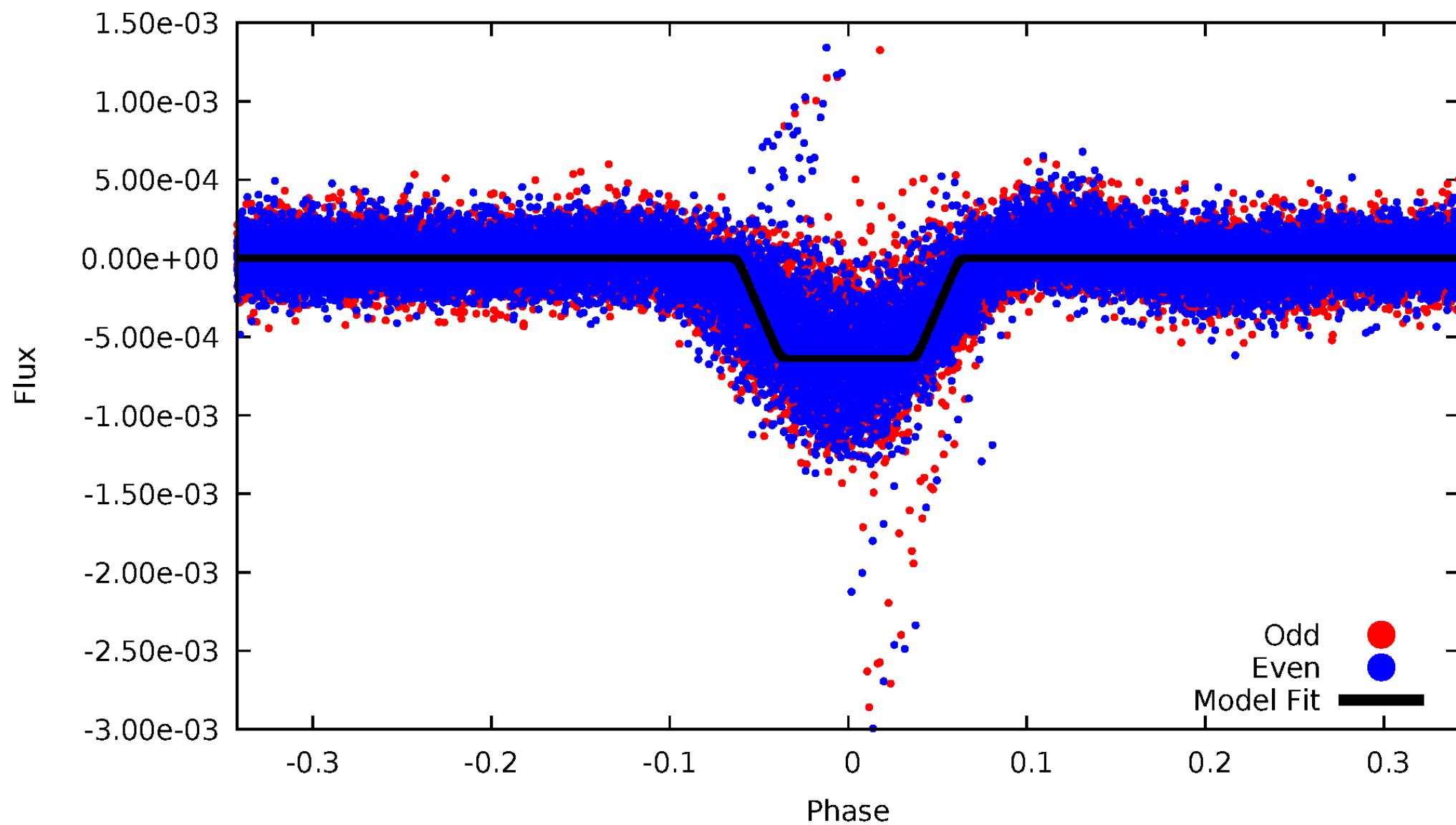
DV Odd/Even

TCE 010162999-01

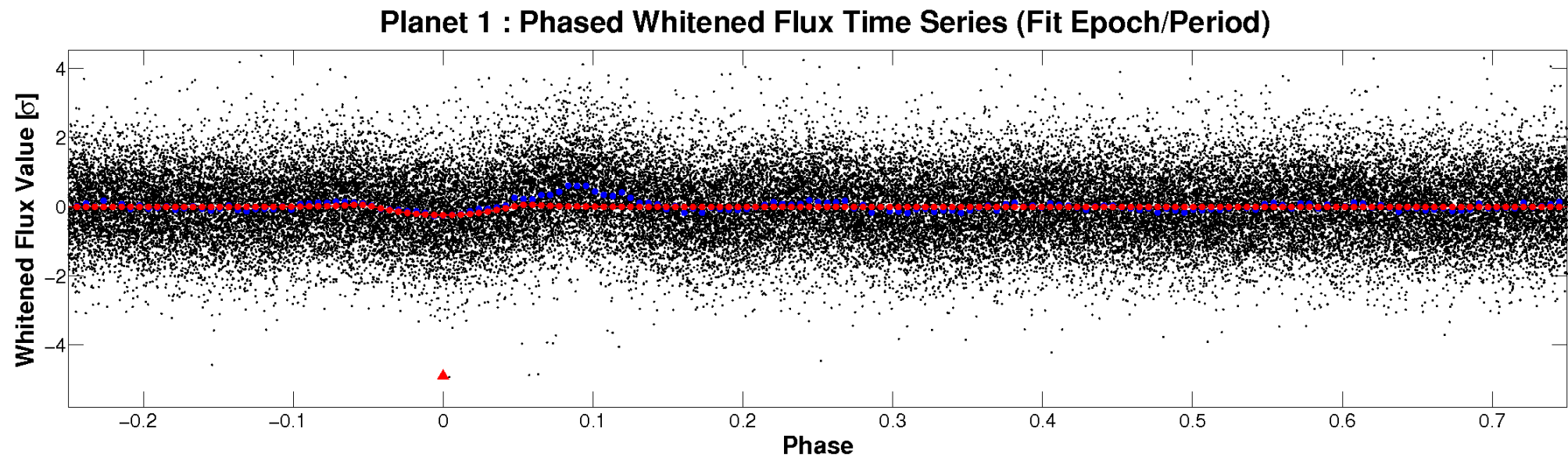
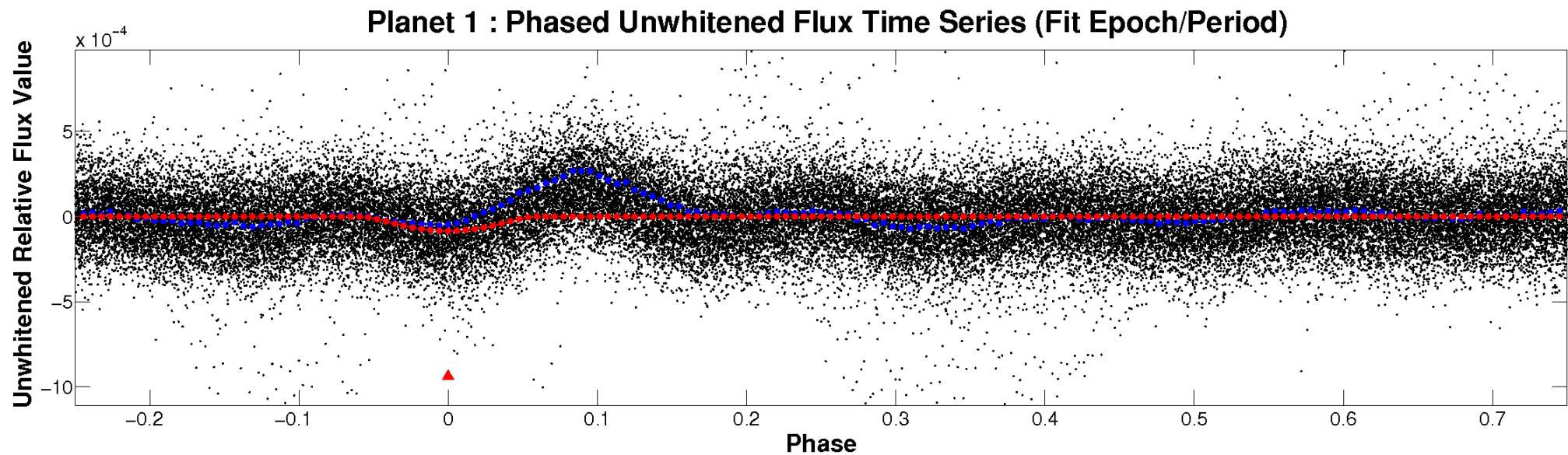


ALT Odd/Even

TCE 010162999-01

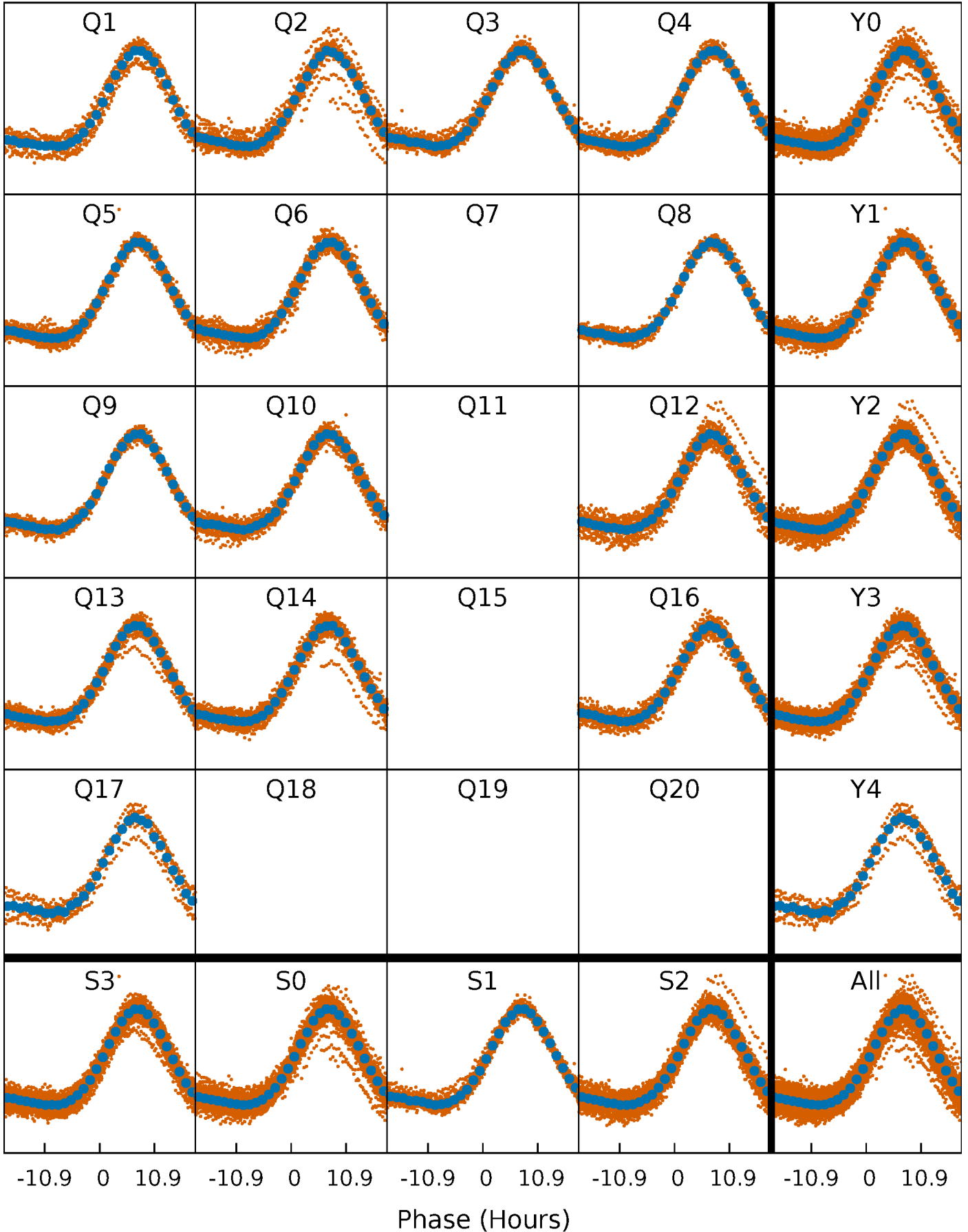


Non-Whitened Vs. Whitened Light Curve



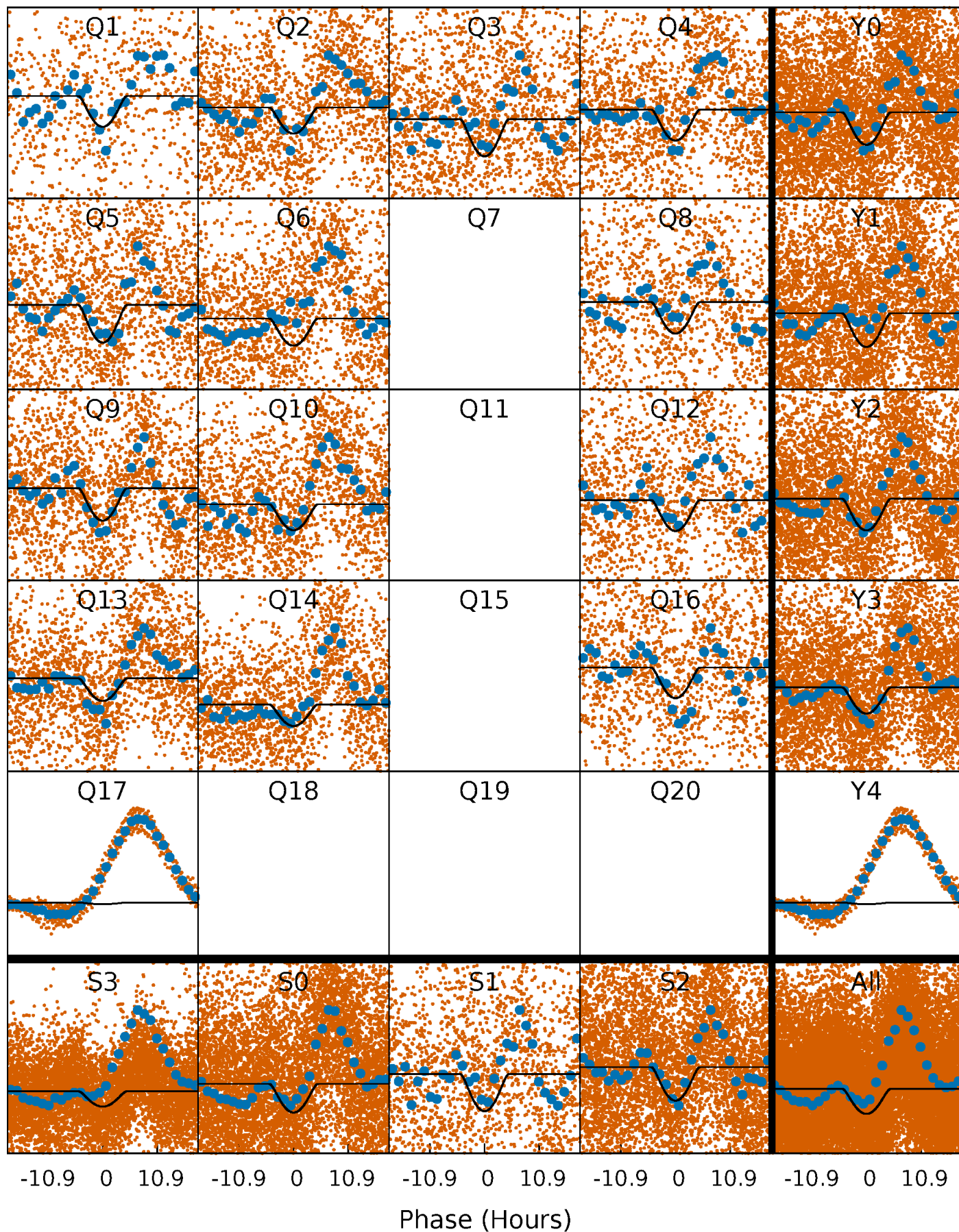
PDC Quarter-Phased Transit Curves

TCE 010162999-01 P= 3.429284 Days $T_0=131.957016$ (BKJD)



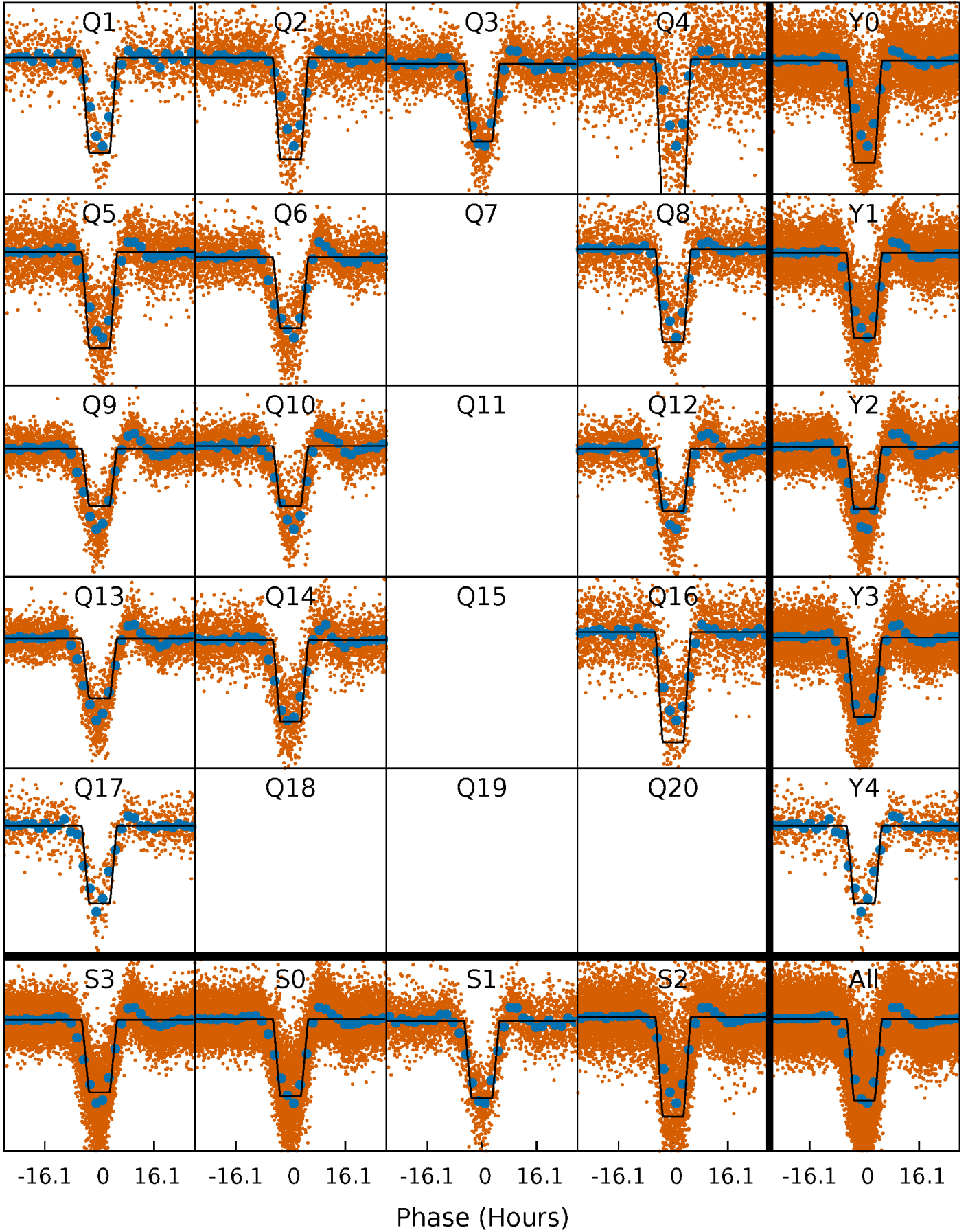
DV Quarter-Phased Transit Curves

TCE 010162999-01 P= 3.429284 Days $T_0=131.957016$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

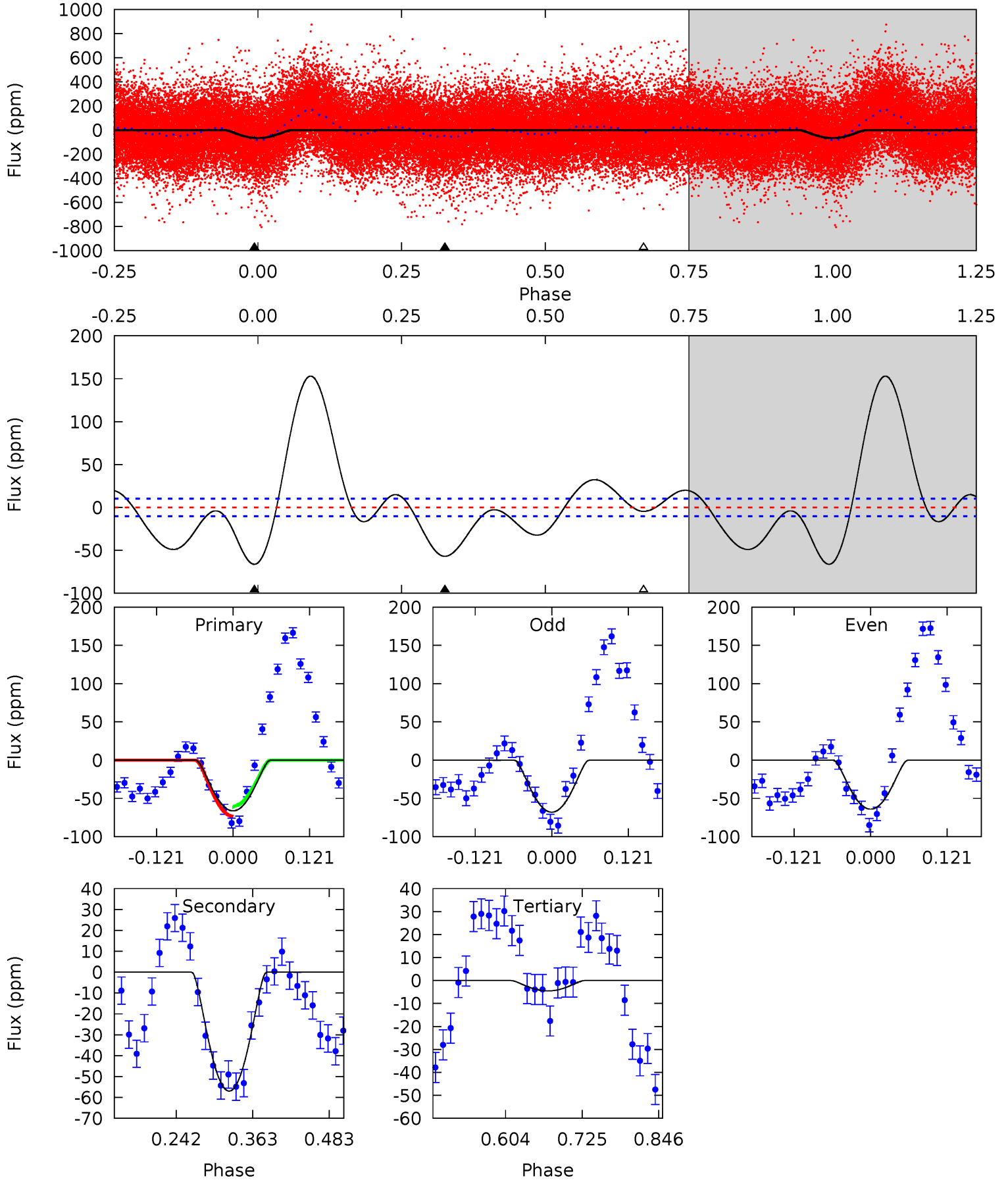
TCE 010162999-01 P= 3.429214 Days $T_0=131.918245$ (BKJD)



DV Model-Shift Uniqueness Test

010162999-01, P = 3.429284 Days, E = 128.527732 Days

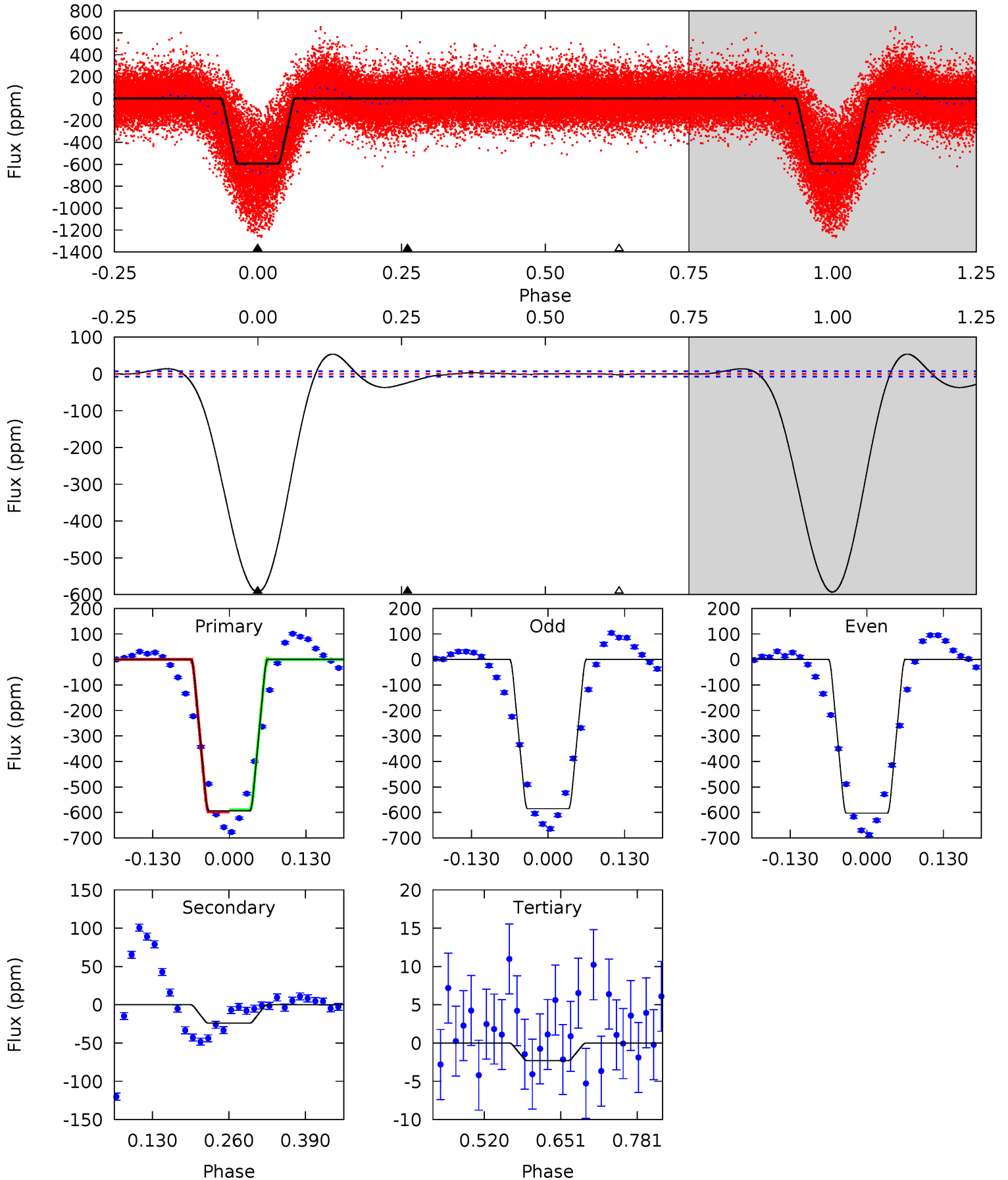
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	25.0	2.00	0	4.52	1.55	13.5	27.1	29.1	23.0	25.0	0.87	0.29	0.70	2.87



Alt Model-Shift Uniqueness Test

010162999-01, P = 3.429214 Days, E = 128.489031 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
375.3	15.2	1.45	0	4.51	1.51	2.71	373.8	375.3	13.8	15.2	5.59	1.02	0.08	2.55



Stellar Parameters For KIC 010162999

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6328^{+173}_{-173}	$3.704^{+0.336}_{-0.084}$	$-0.340^{+0.350}_{-0.250}$	$2.731^{+0.439}_{-1.025}$	$1.377^{+0.239}_{-0.292}$	$0.095^{+0.214}_{-0.031}$
	+3%/-3%	+9%/-2%	+103%/-74%	+16%/-38%	+17%/-21%	+224%/-32%
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 010162999-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-57 ± 2	$4.91^{+3.50}_{-3.04}$	2829^{+178}_{-291}	4305^{+2259}_{-810}	$3.351^{+19.260}_{-2.187}$
Alt.	-24 ± 2	$6.82^{+4.00}_{-3.17}$	2832^{+165}_{-258}	3056^{+976}_{-5093}	$0.708^{+1.821}_{-0.422}$

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 $A_{obs} \gg 1.0$

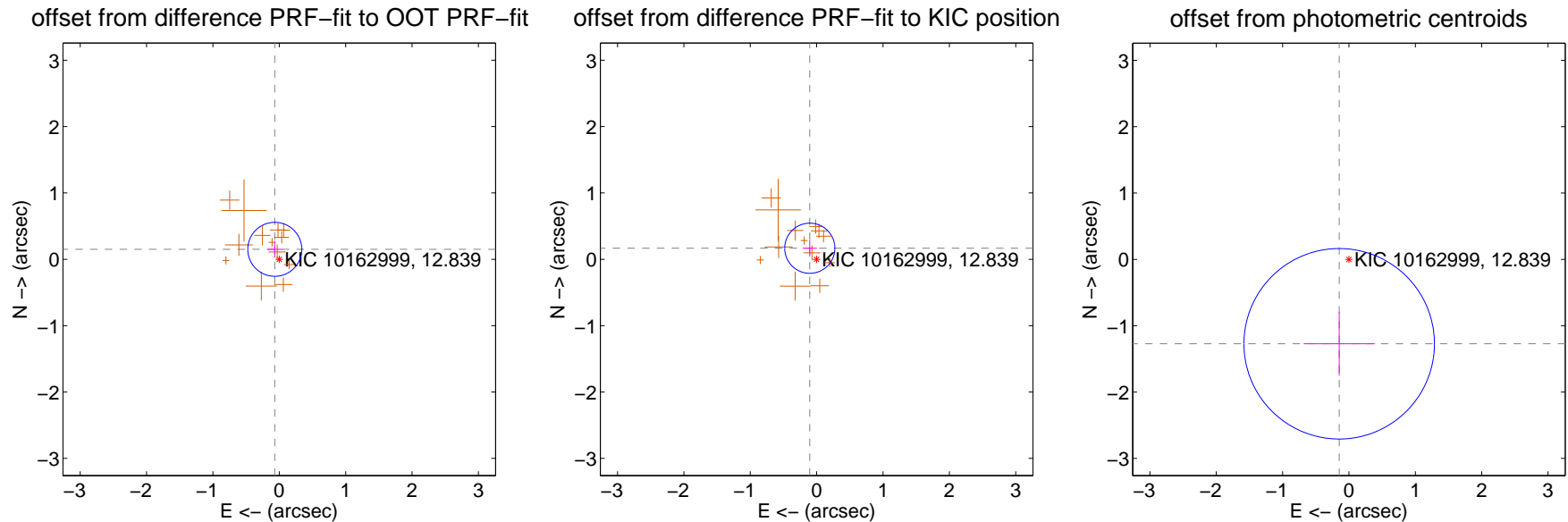
DV Centroid Data

Supplemental centroid analysis for 010162999-01. Kepler magnitude: 12.84. Transit SNR 12.25

There are 0 quarters with good PRF difference image offsets

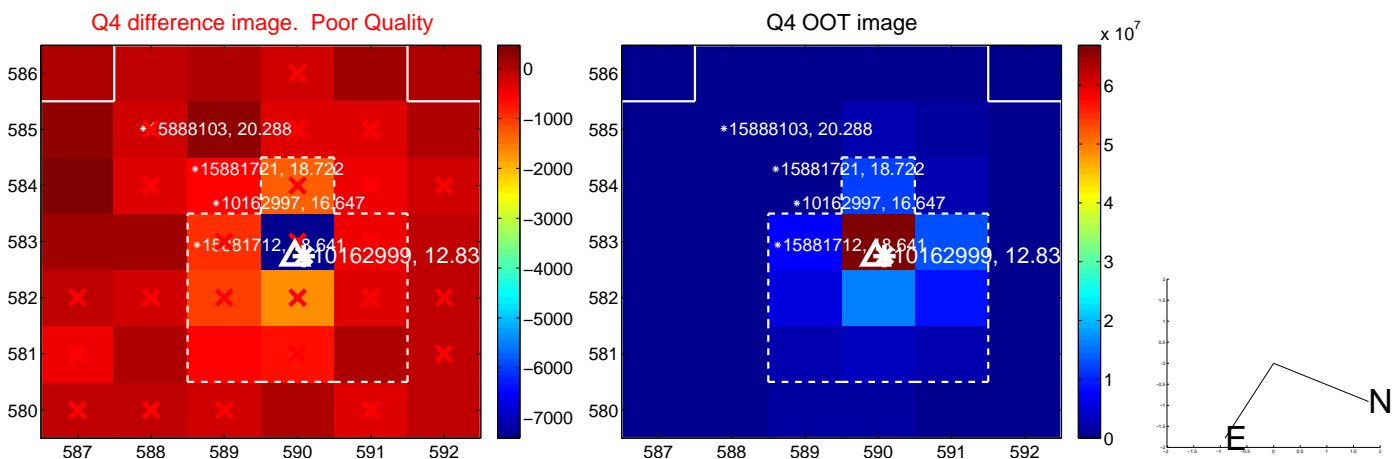
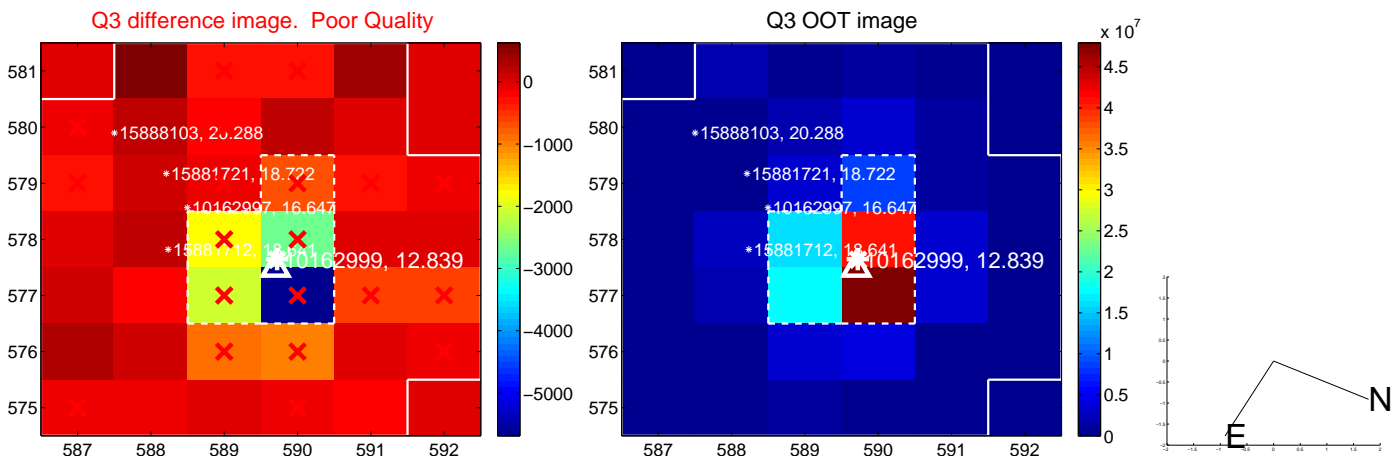
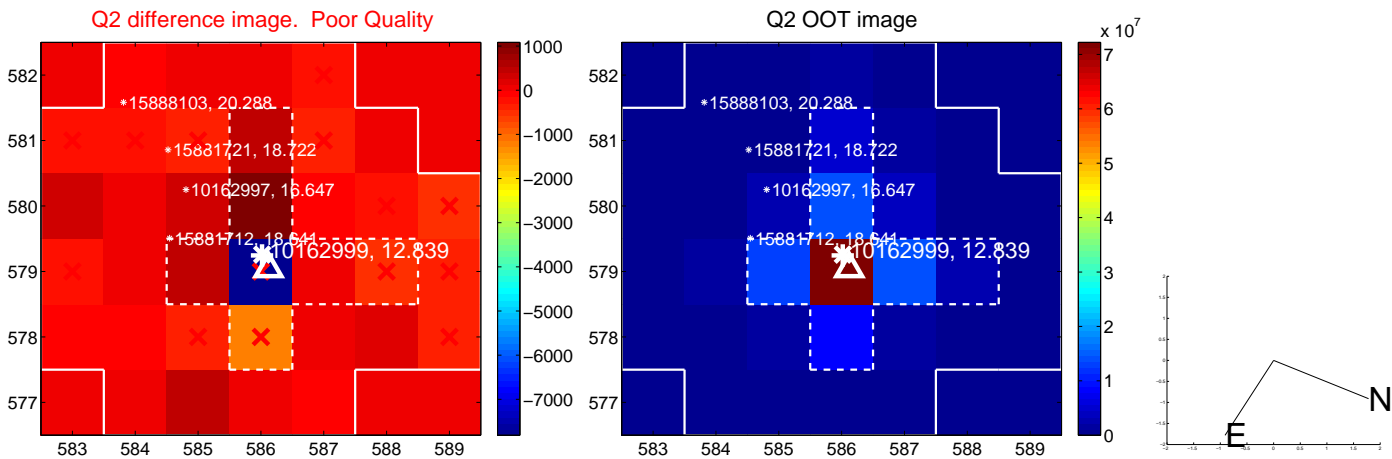
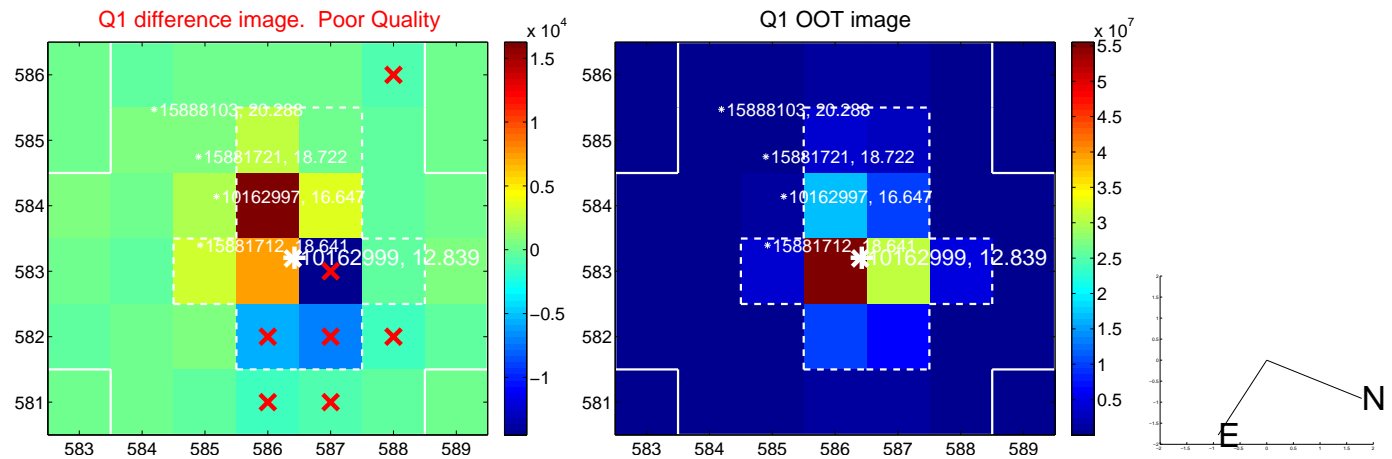
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.136	1.22	0.068 ± 0.114	0.150 ± 0.127
PRF-fit source offset from KIC position	0.196 ± 0.126	1.56	0.103 ± 0.107	0.167 ± 0.123
photometric centroid source offset	1.28 ± 0.48	2.68	0.15 ± 0.54	-1.27 ± 0.48

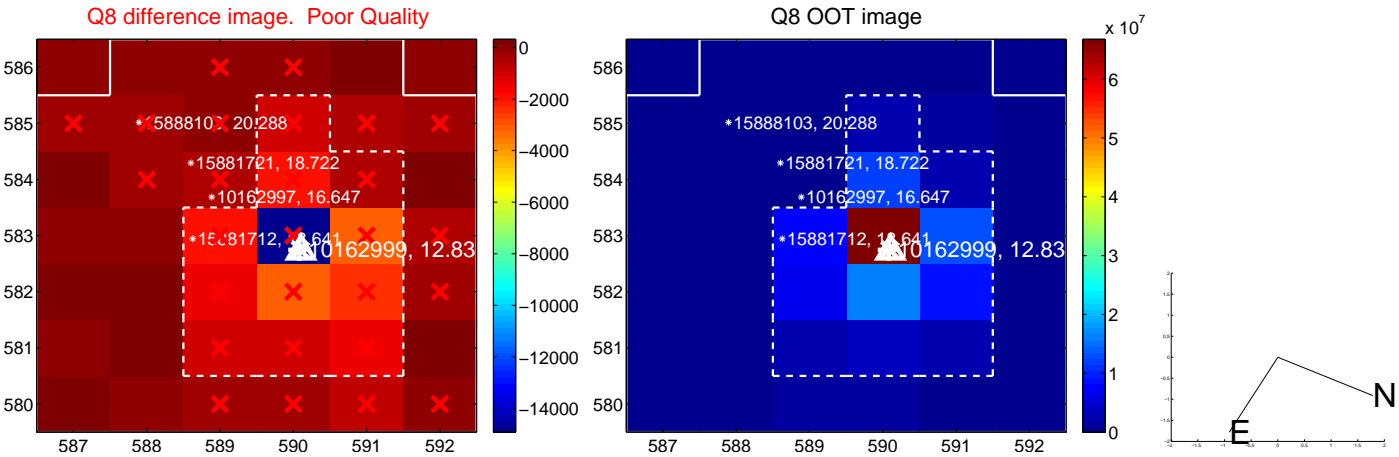
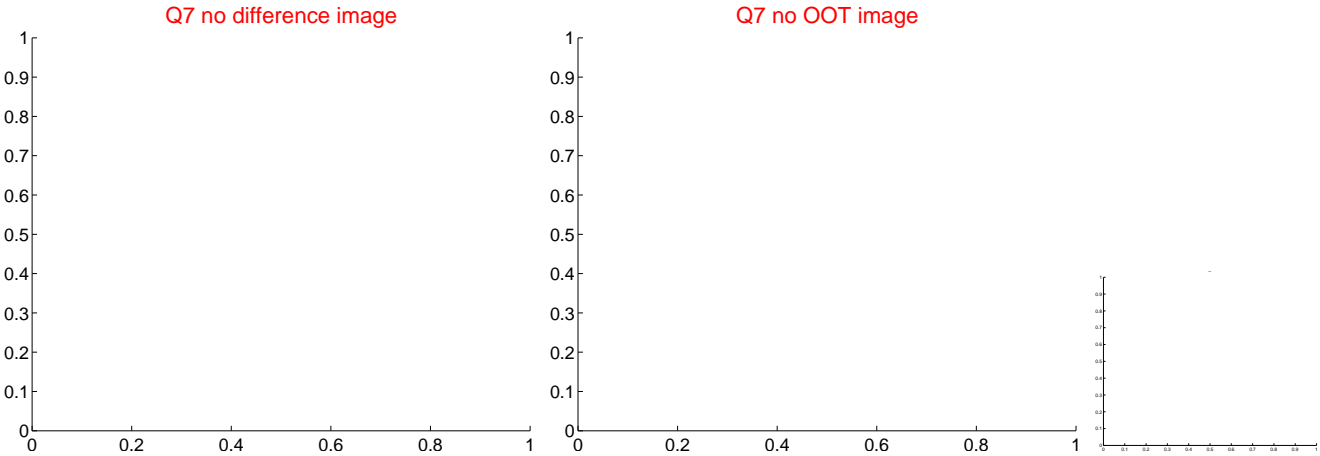
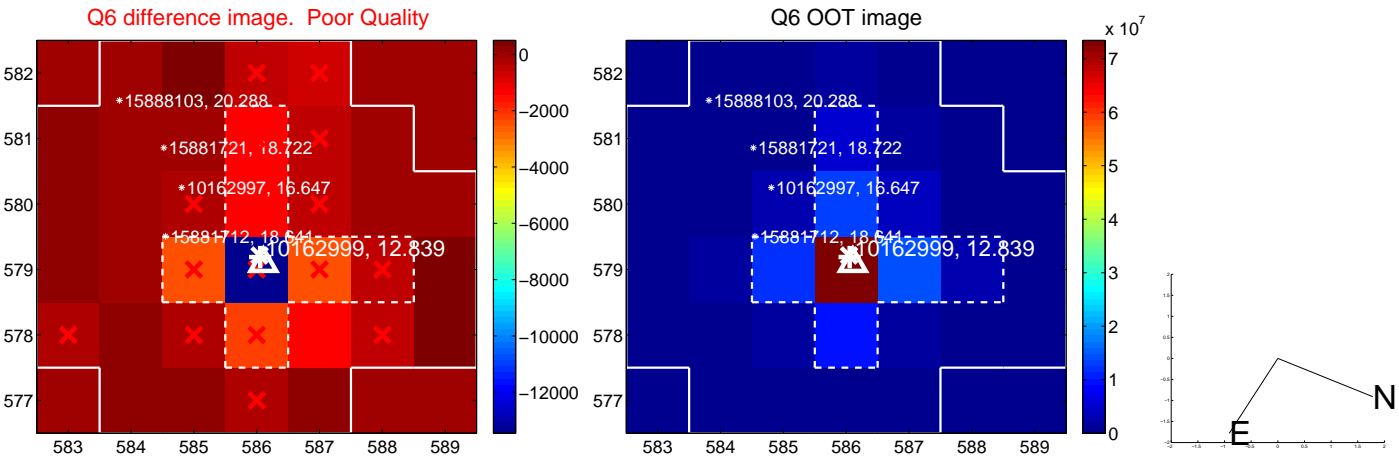
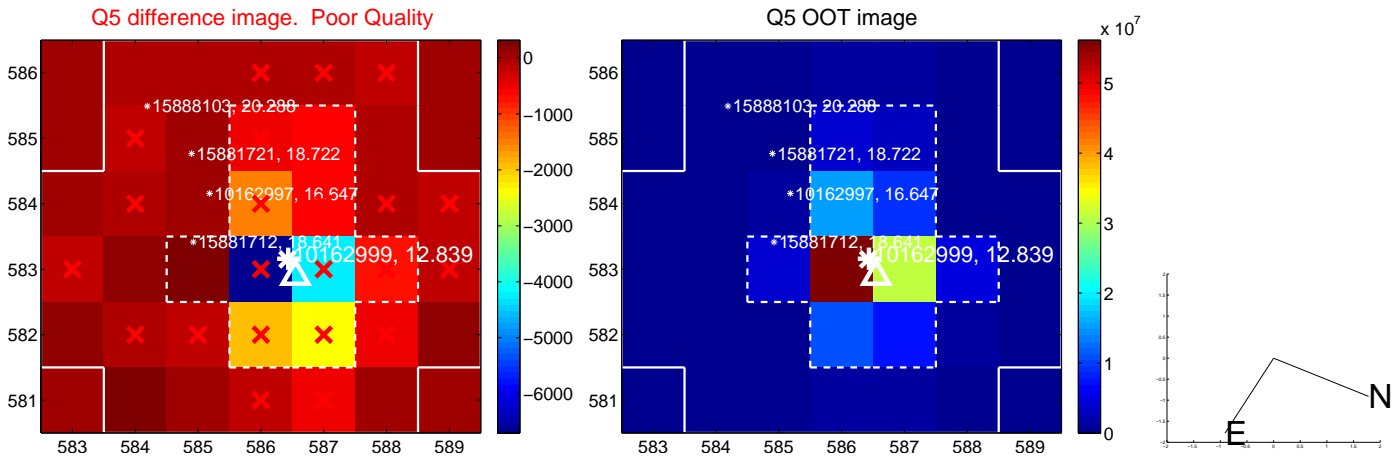


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

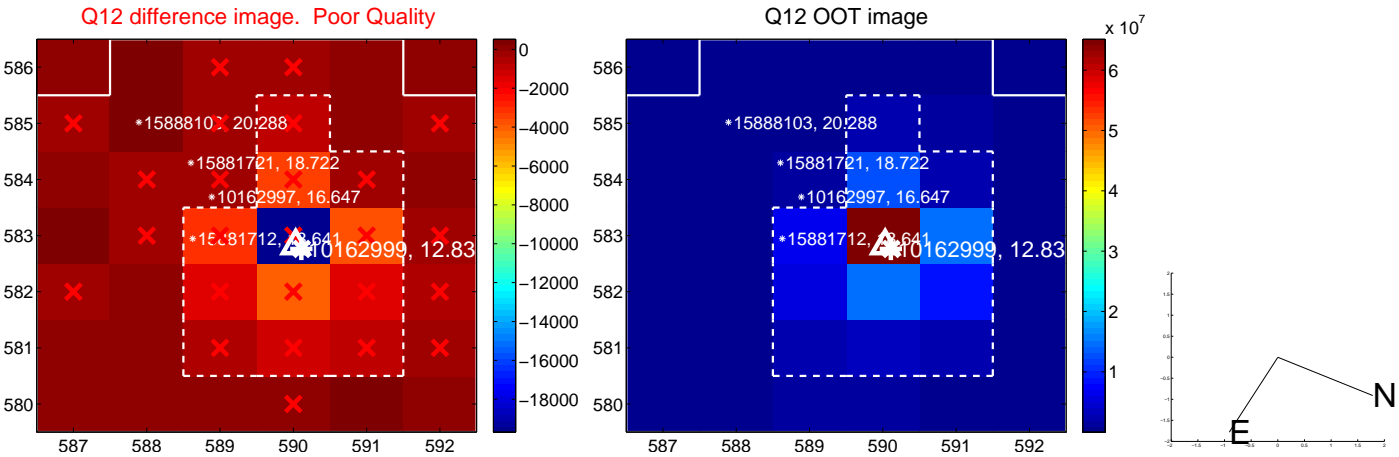
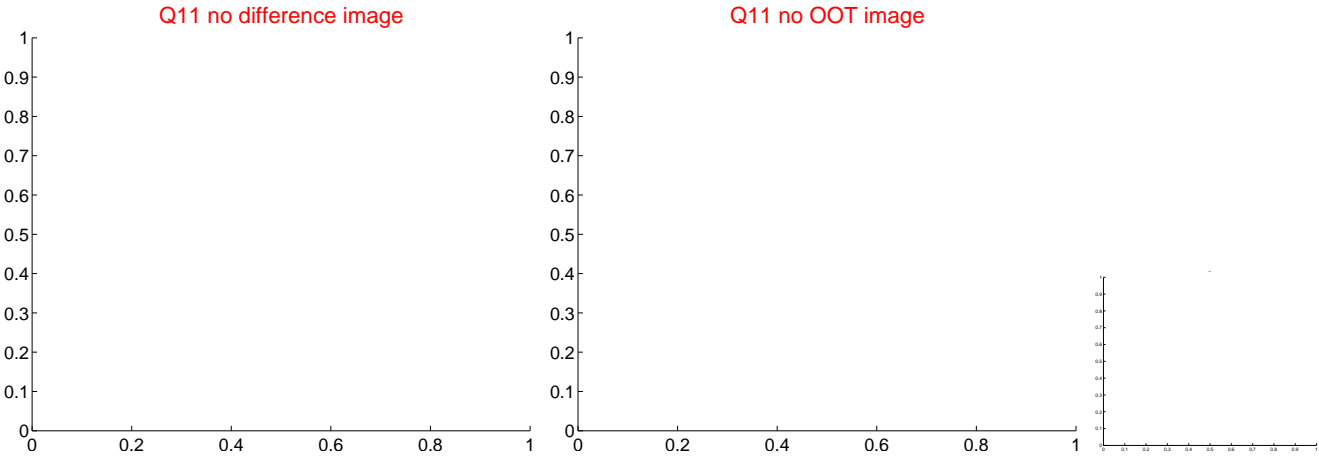
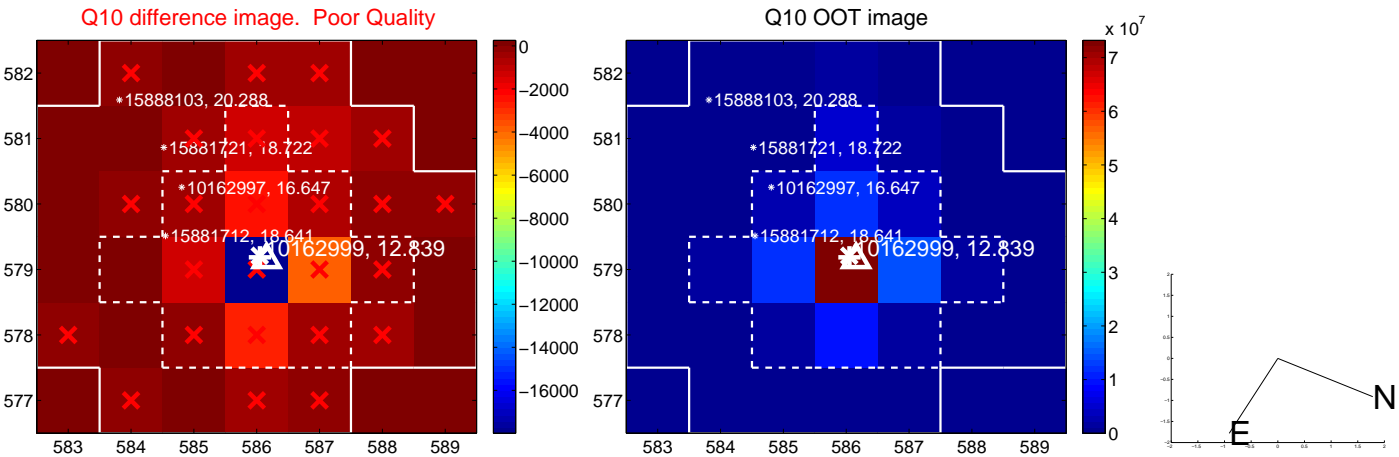
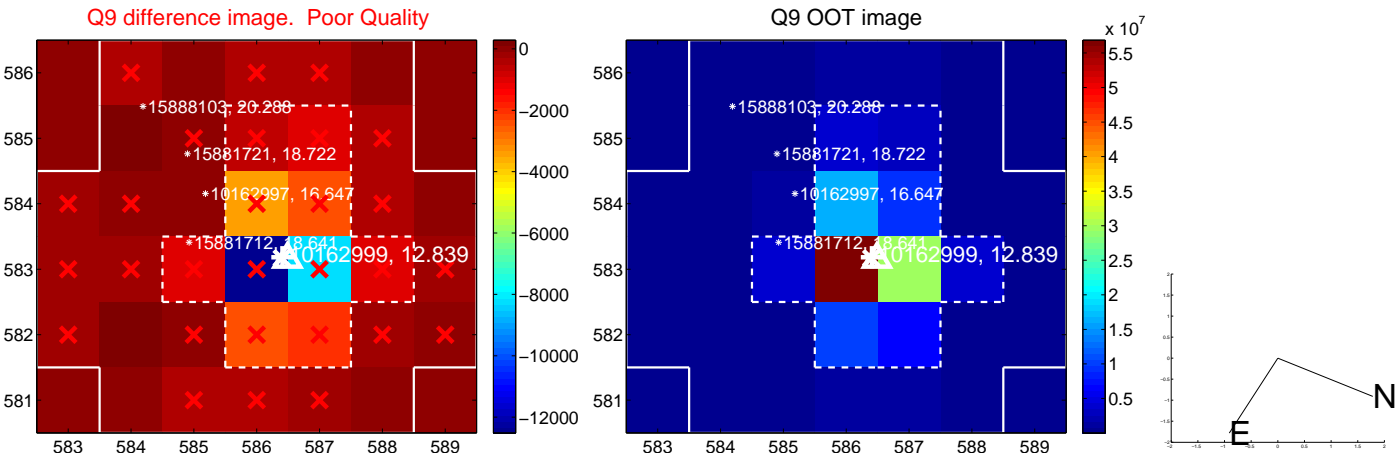
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



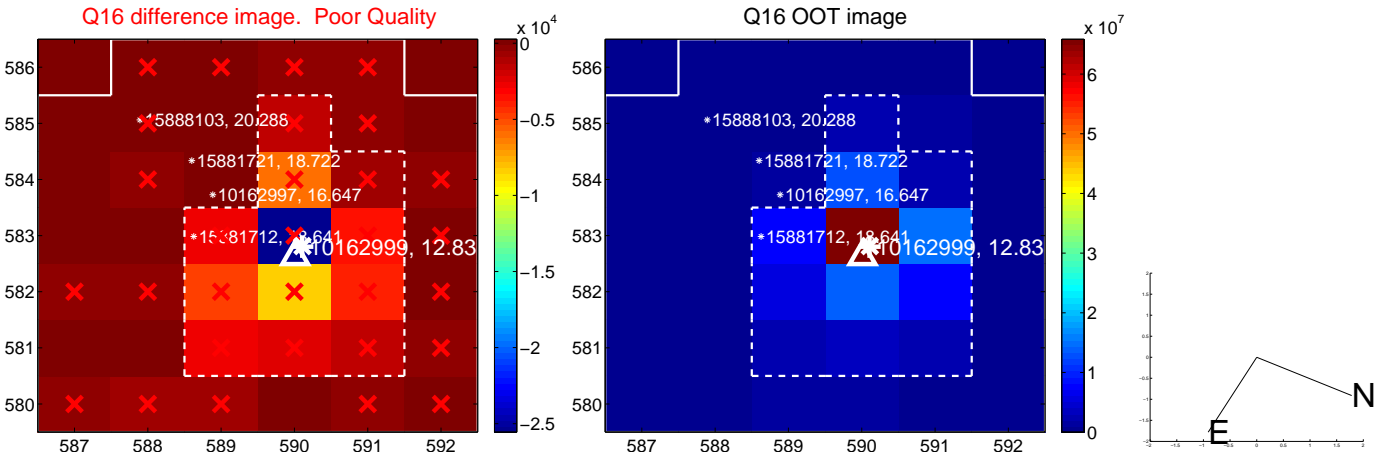
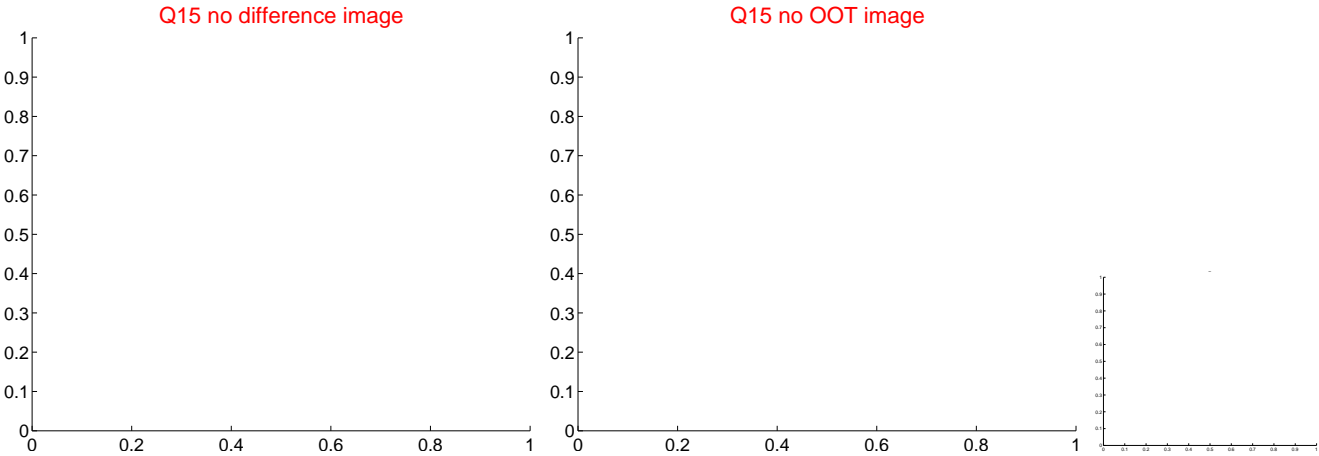
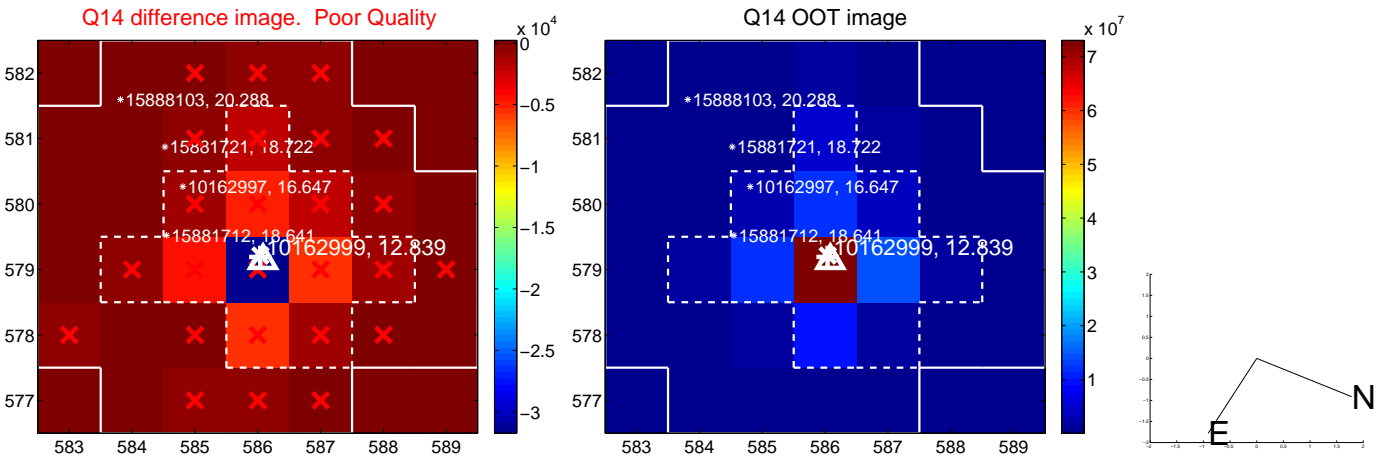
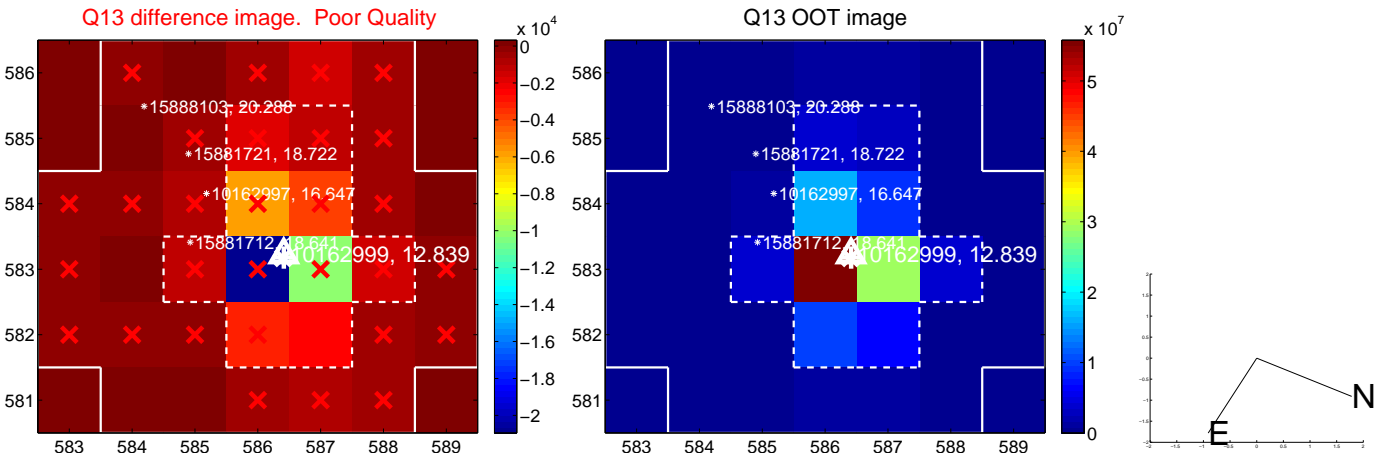
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



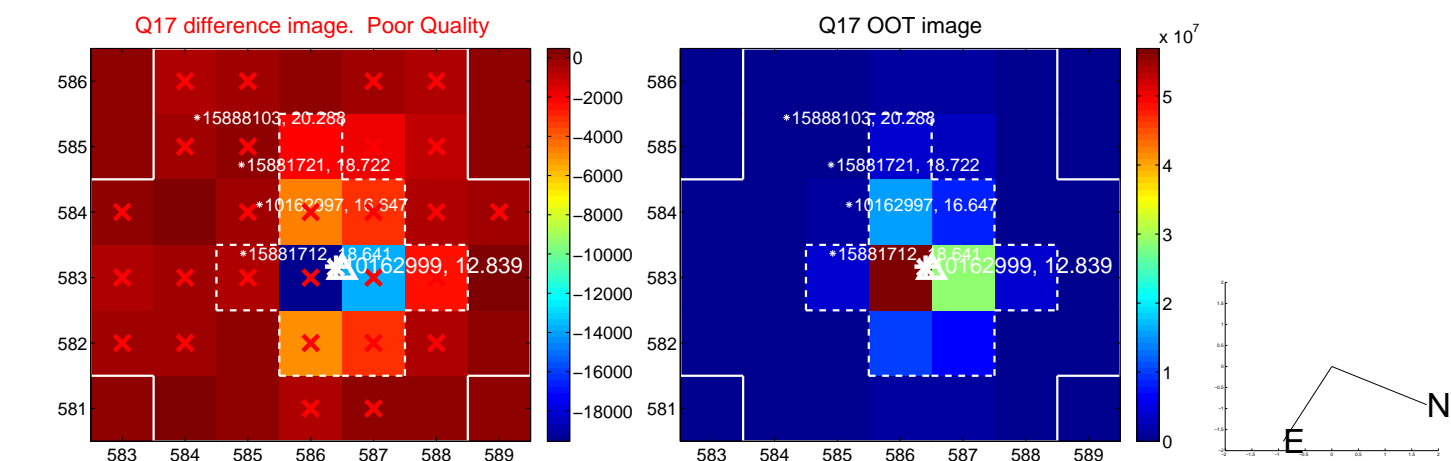
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



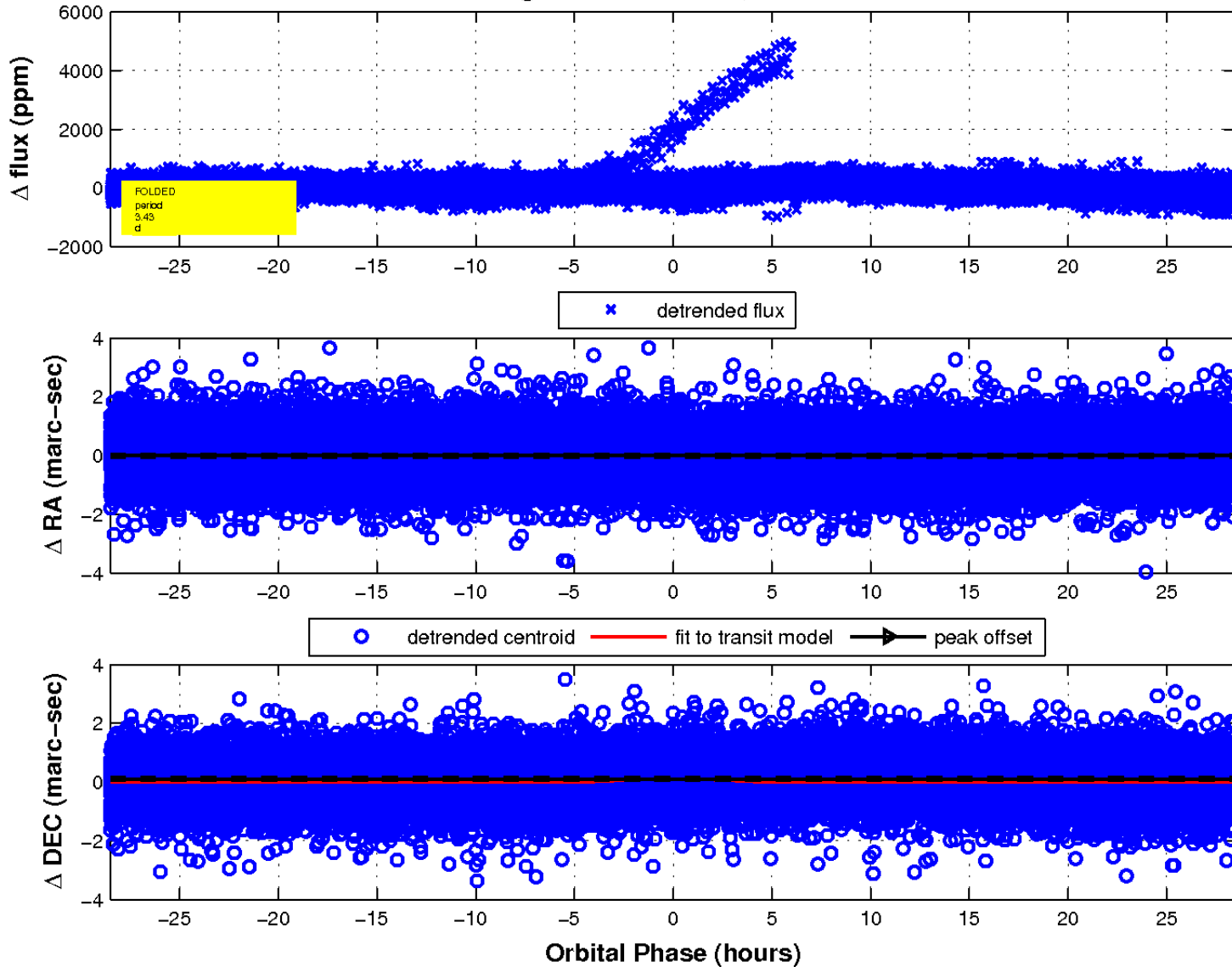
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

