

KIC 003230753

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})
003230753-01	OBS	2928.01	17.733553	143.934900	220.6	5.767	14.3	14.7	0.83	5335	1.48	30.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003230753-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 003230753-01

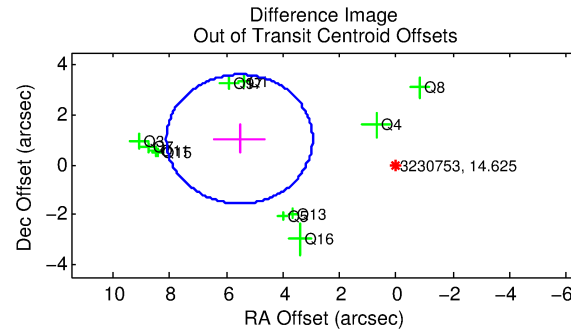
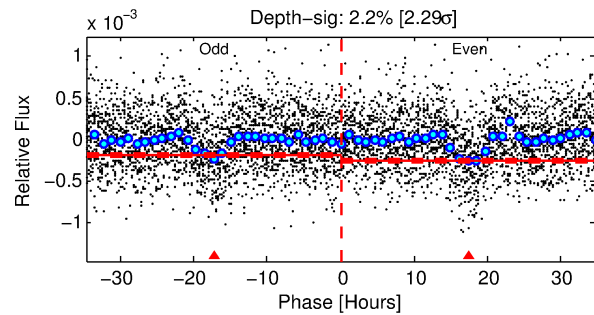
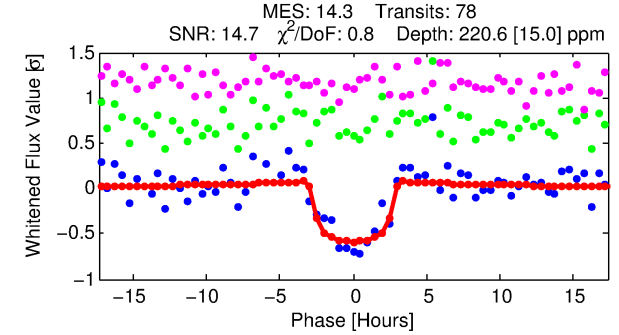
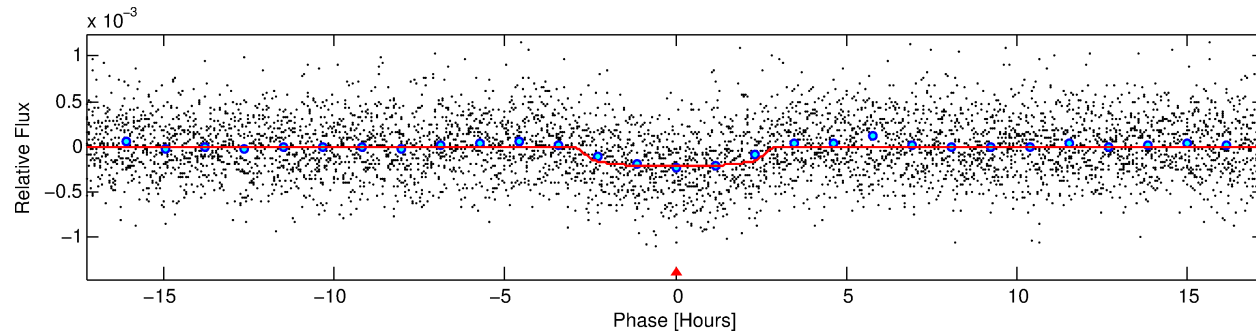
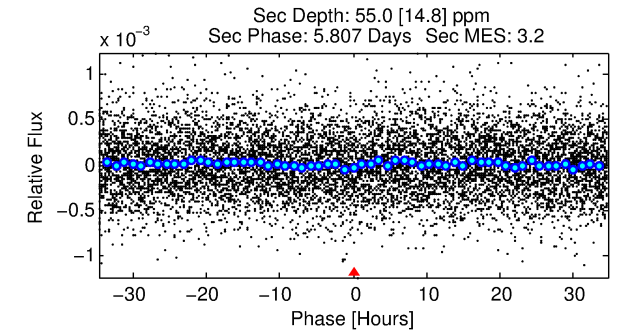
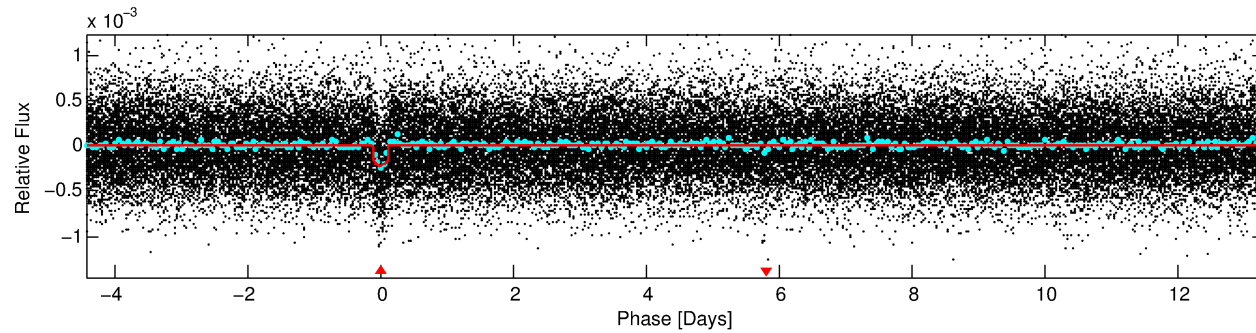
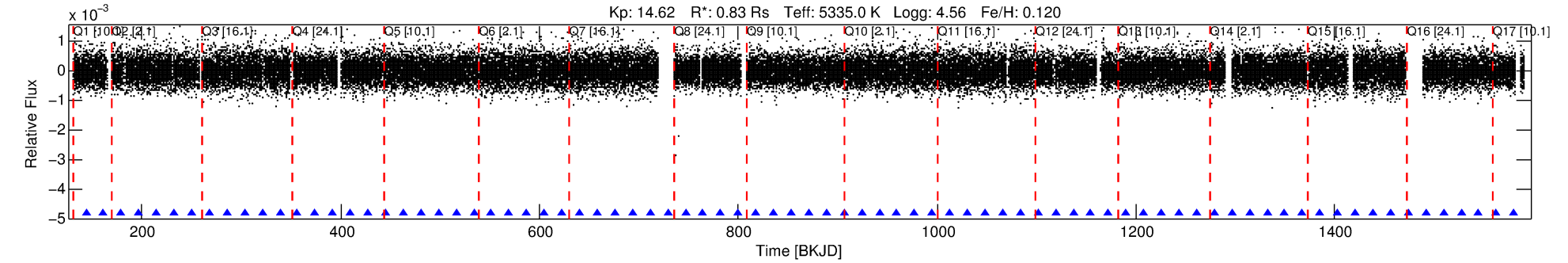
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
003230753-01	3230753	6101.01	3230787	1:1	23.4	-1	-6	12.55	14.62	857.69	Direct-PRF	0	0.82	0.32

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3230753 Candidate: 1 of 1 Period: 17.734 d

KOI: K02928.01 Corr: 0.947



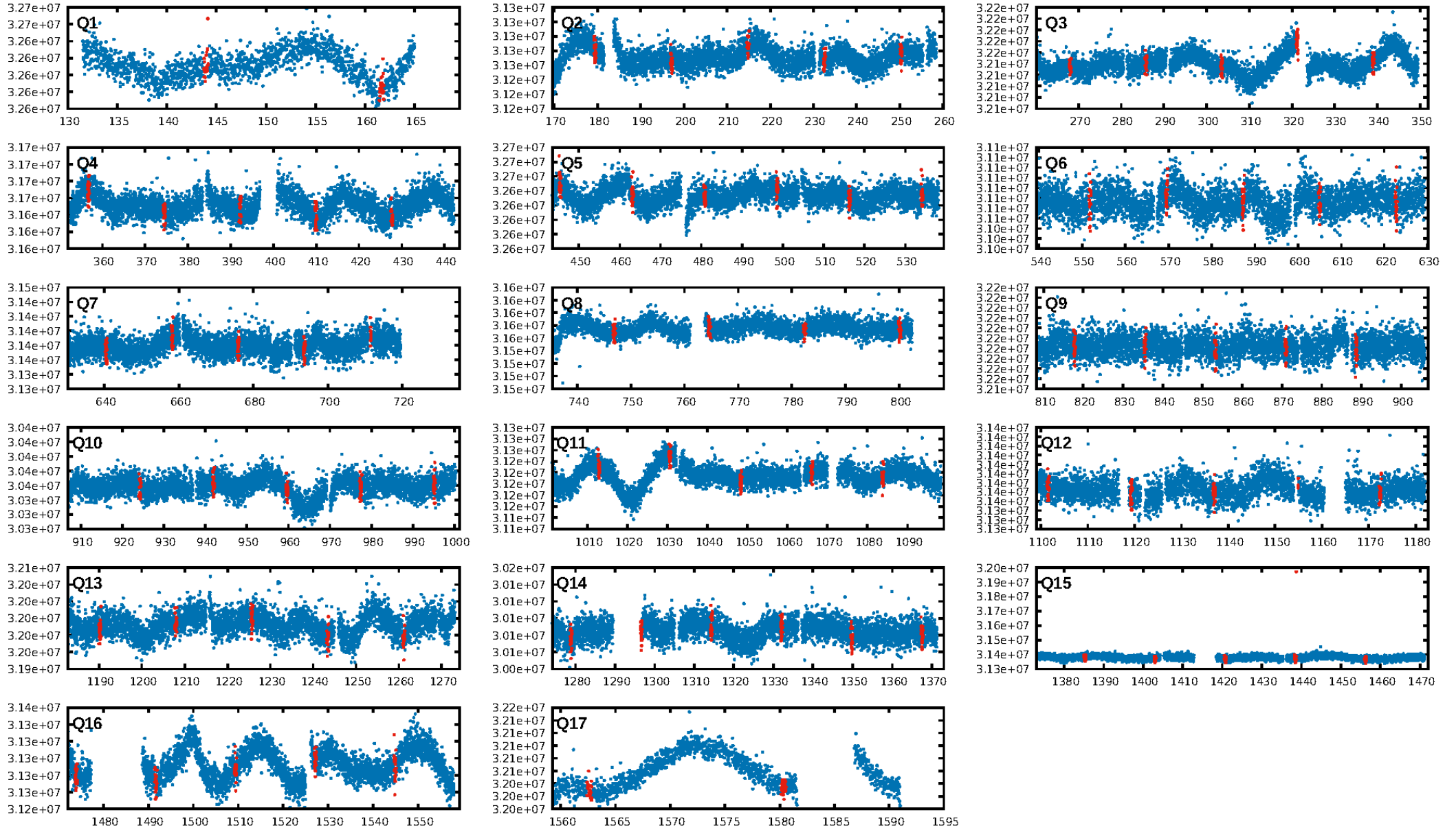
DV Fit Results:

Period = 17.73355 [0.00016] d
Epoch = 143.9349 [0.0072] BKJD
Rp/R* = 0.0163 [0.0037]
a/R* = 11.45 [10.63]
b = 0.89 [0.22]
Seff = 30.02 [7.78]
Teff = 597 [39] K
Rp = 1.48 [0.42] Re
a = 0.1292 [0.0200] AU
Ag = 231.38 [132.31] [1.74 σ]
Teffp = 3599 [483] K [6.19 σ]

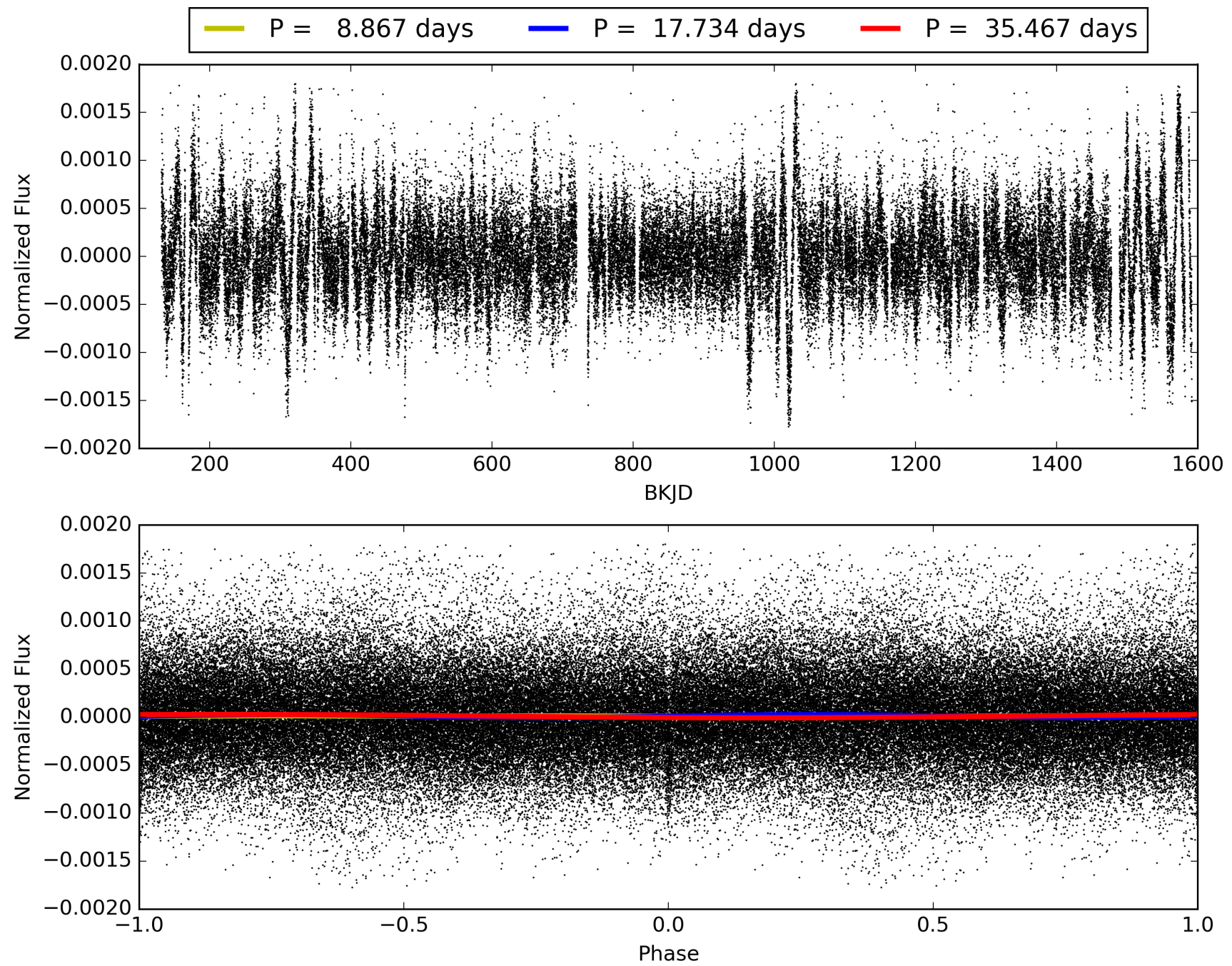
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 42.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.09e-44
RollingBand-fgt: 1.00 [74/74]
GhostDiagnostic-chr: -0.4773
Centroid-sig: 0.0%
Centroid-so: 8.335 arcsec [8.53 σ]
OotOffset-rm: 5.636 arcsec [6.54 σ]
KicOffset-rm: 5.568 arcsec [6.20 σ]
OotOffset-st: 0/4/3/5 [12]
KicOffset-st: 0/4/3/5 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003230753-01, PDC Light Curves

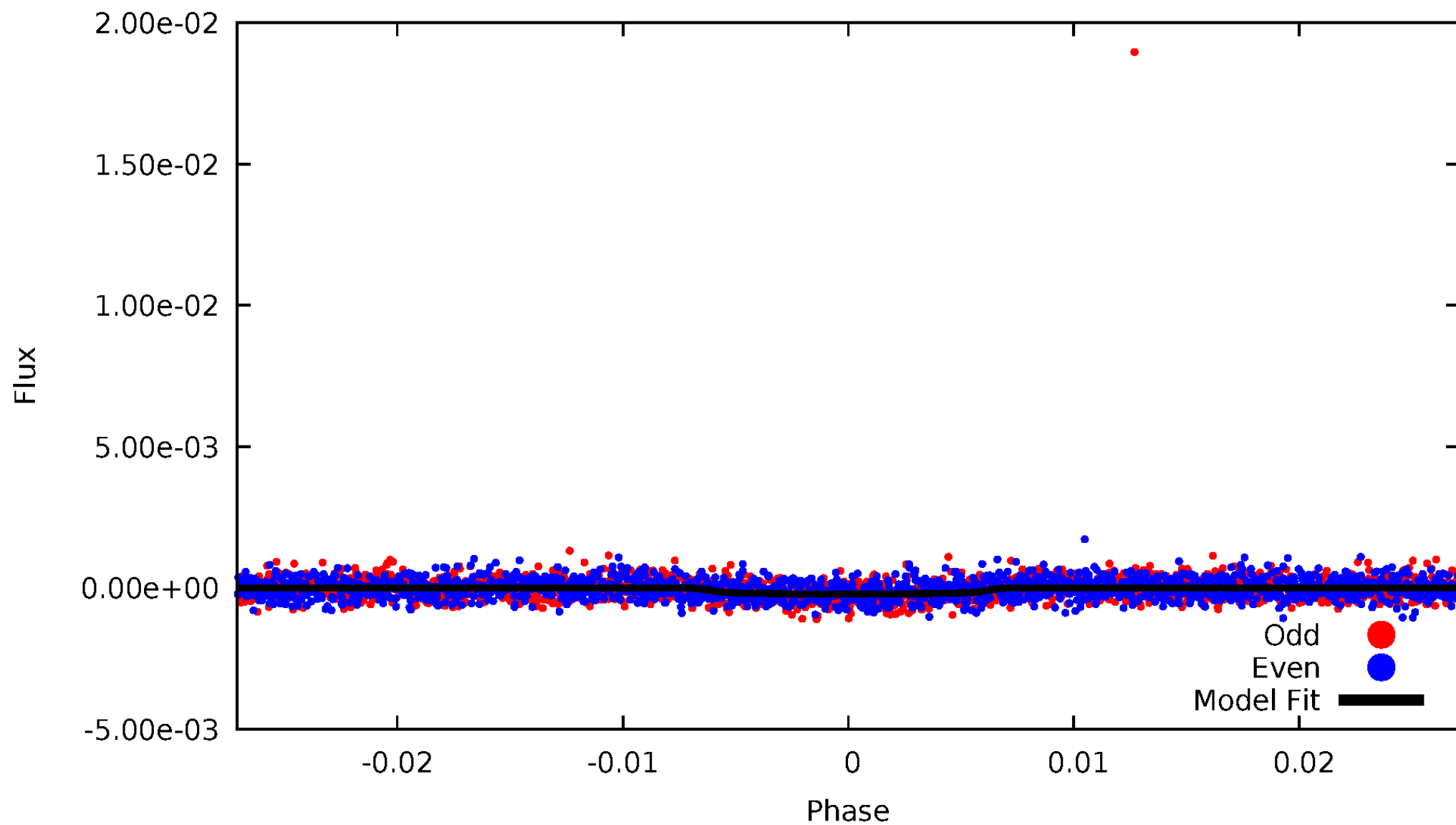


TCE 003230753-01



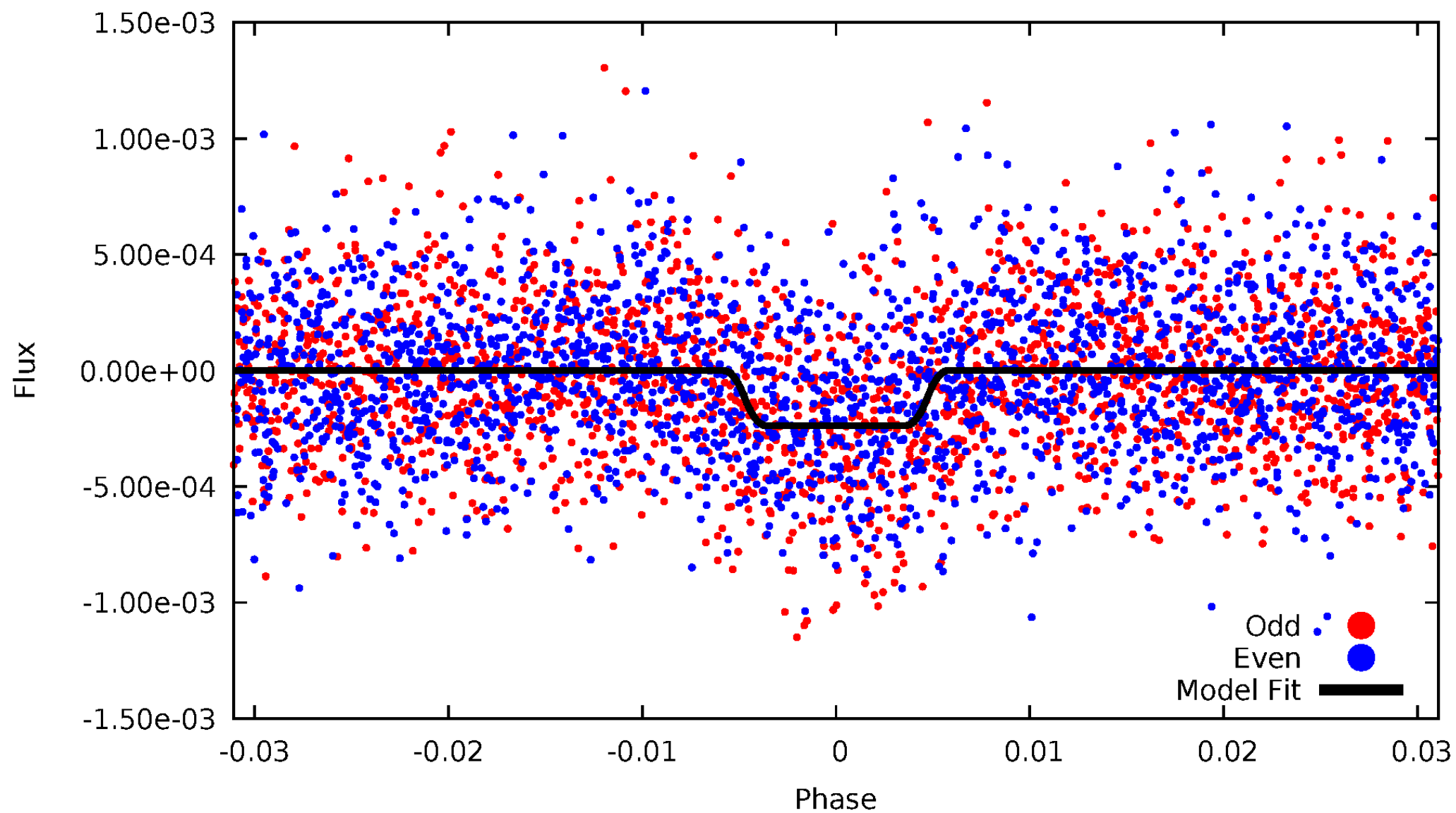
DV Odd/Even

TCE 003230753-01



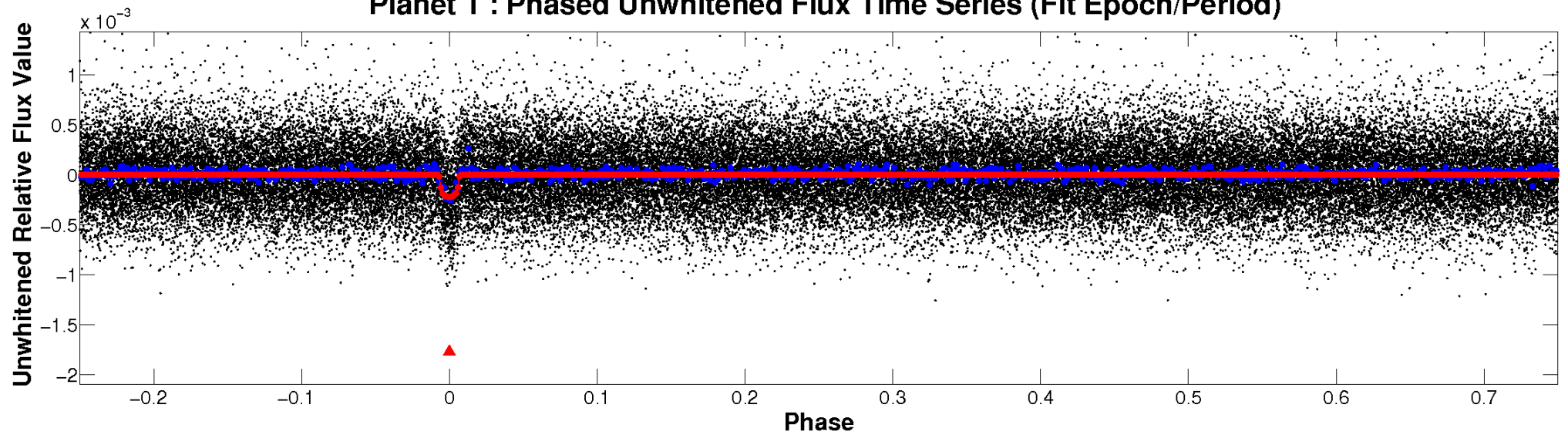
ALT Odd/Even

TCE 003230753-01

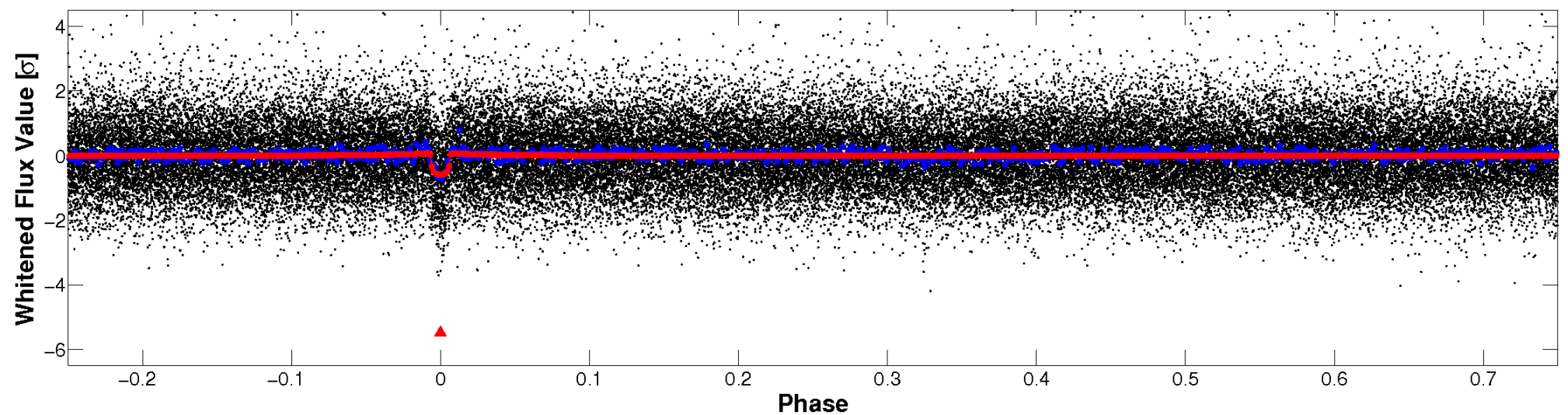


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

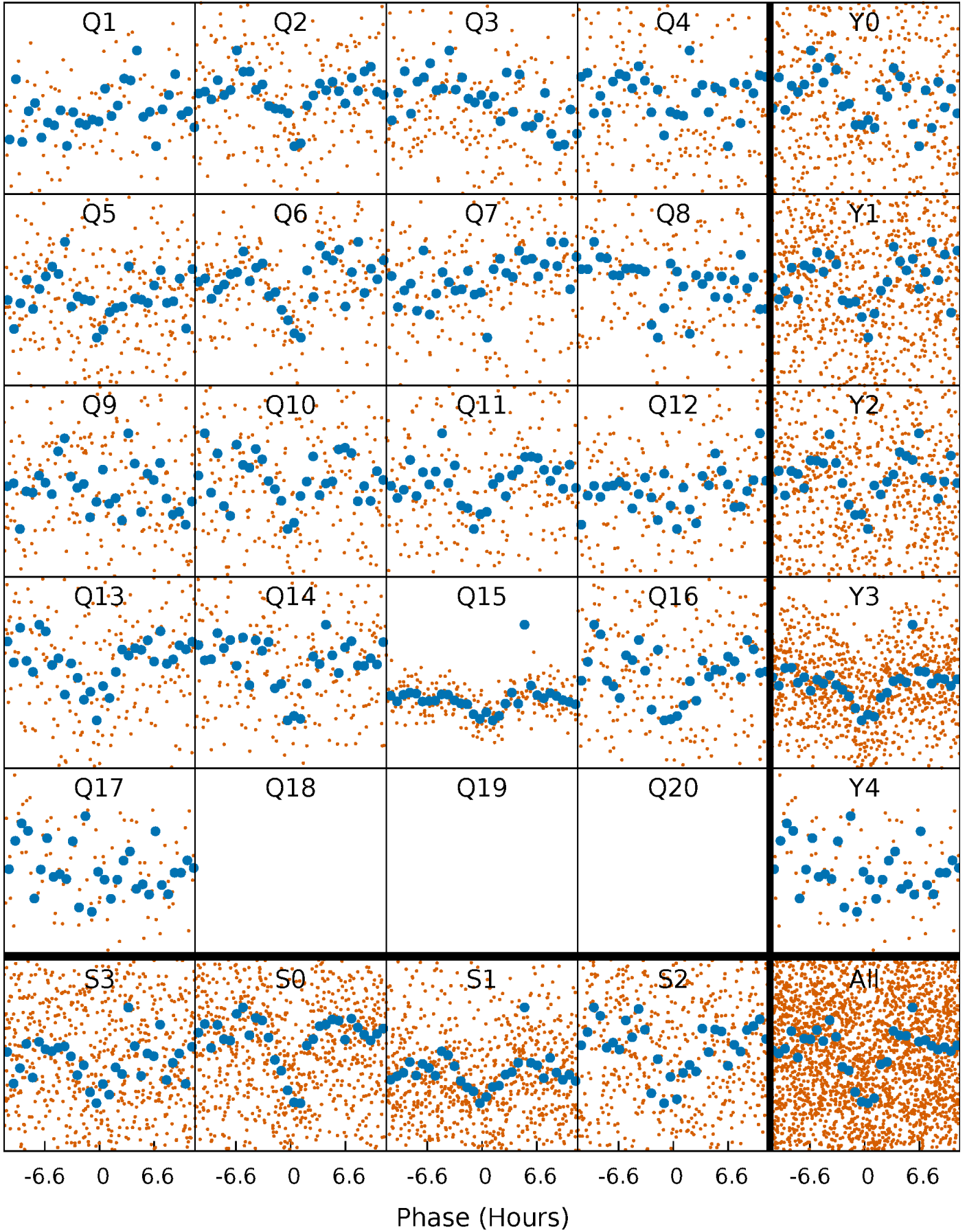


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



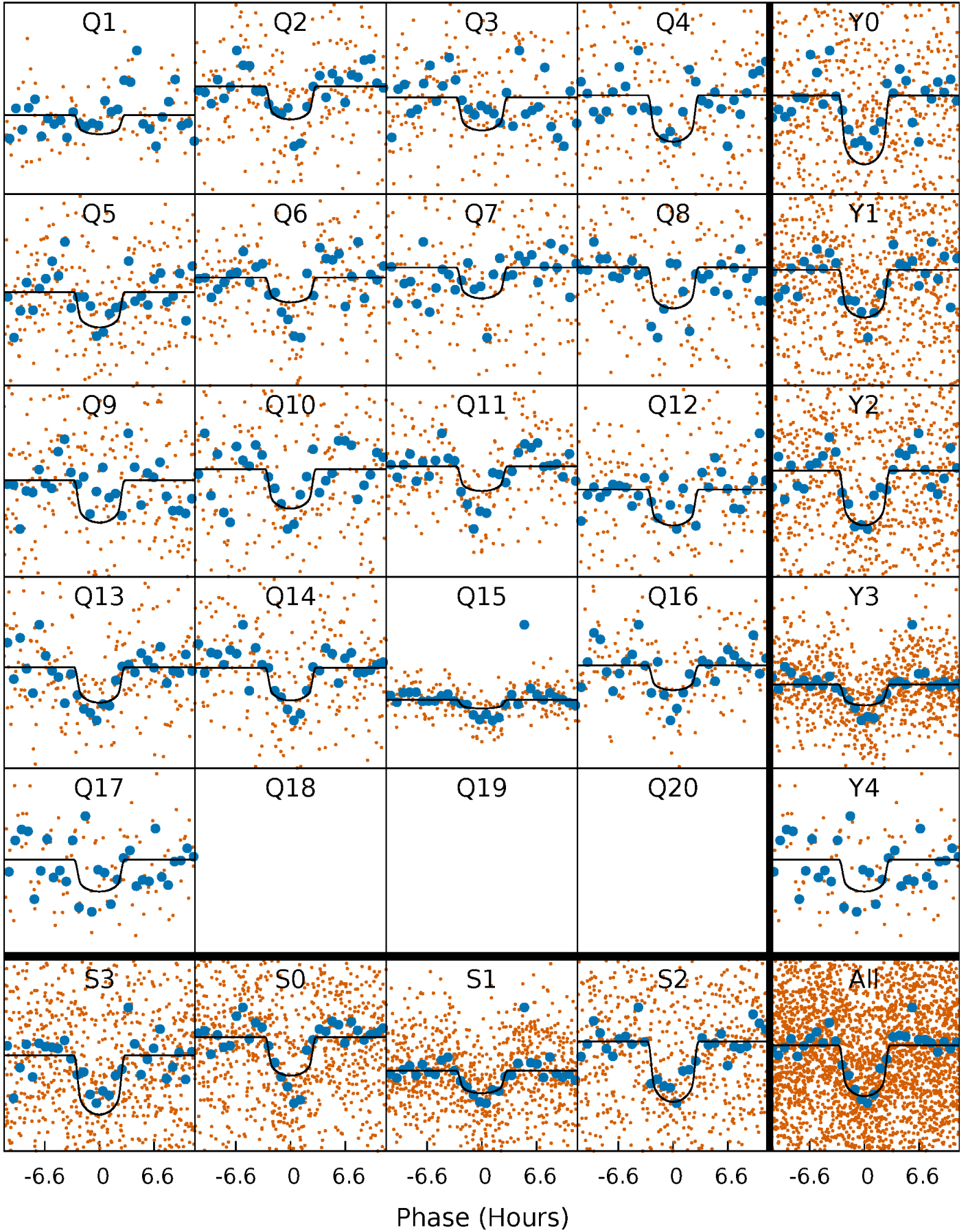
PDC Quarter-Phased Transit Curves

TCE 003230753-01 P= 17.733553 Days $T_0=143.934900$ (BKJD)



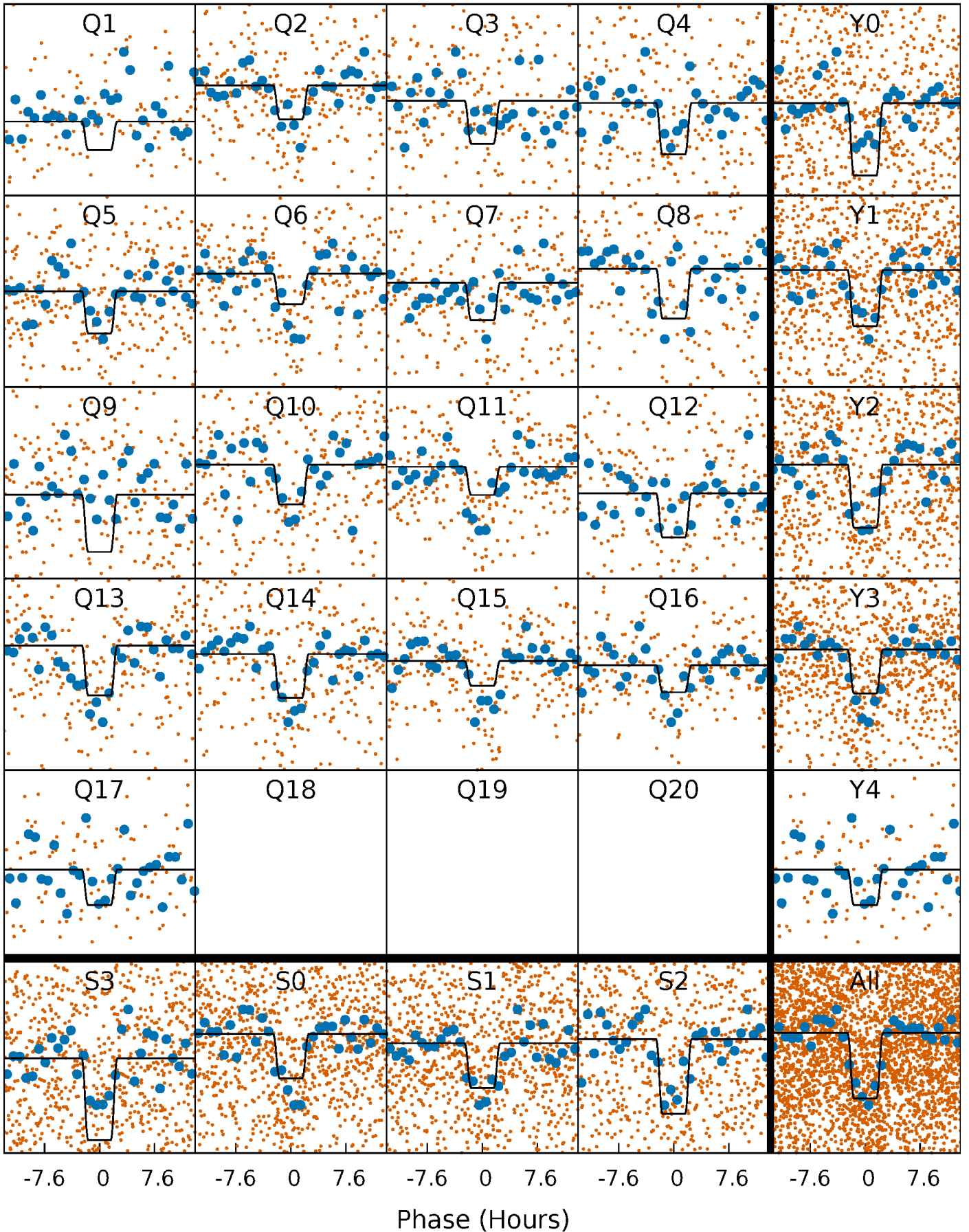
DV Quarter-Phased Transit Curves

TCE 003230753-01 P= 17.733553 Days $T_0=143.934900$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

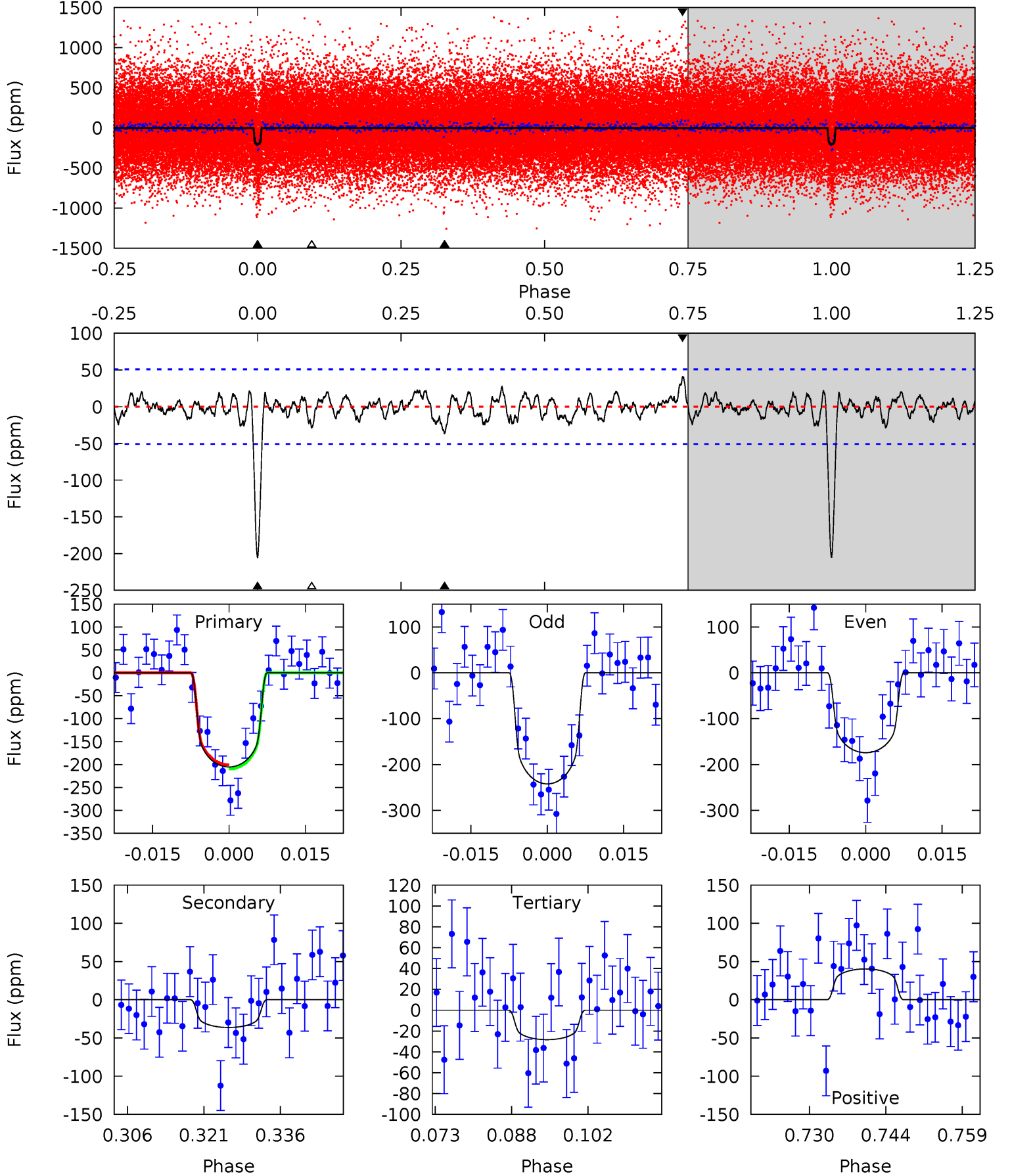
TCE 003230753-01 P= 17.733731 Days $T_0=143.924776$ (BKJD)



DV Model-Shift Uniqueness Test

003230753-01, P = 17.733553 Days, E = 126.201347 Days

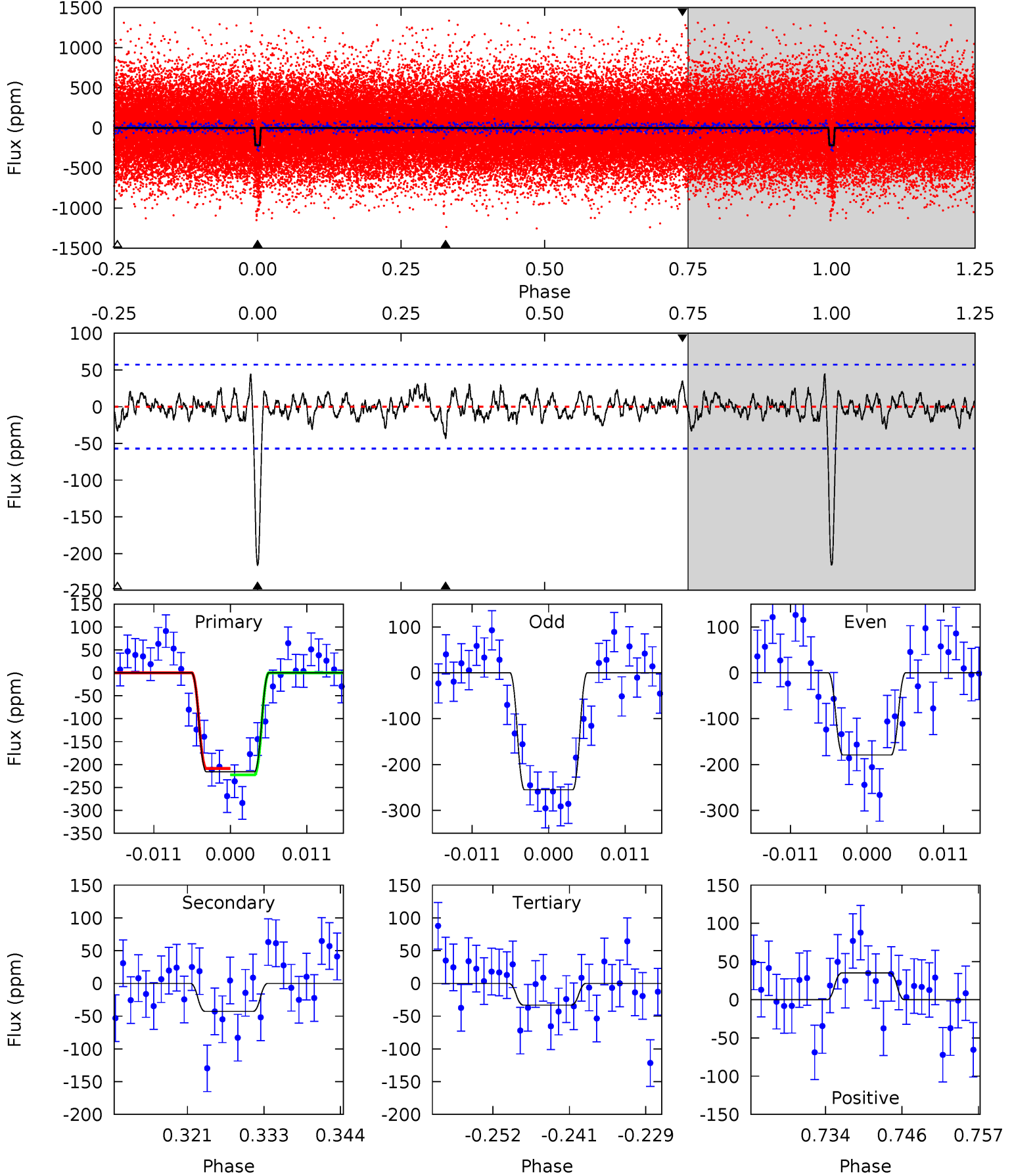
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	3.54	2.76	3.93	4.95	2.44	1.13	17.2	16.1	0.78	-0.39	3.31	1.06	0.16	0.44



Alt Model-Shift Uniqueness Test

003230753-01, P = 17.733731 Days, E = 126.191045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	3.74	2.91	3.07	5.00	2.53	1.05	16.0	15.8	0.84	0.67	3.32	0.98	0.17	0.61



Stellar Parameters For KIC 003230753

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5335^{+159}_{-143}	$4.560^{+0.032}_{-0.128}$	$0.120^{+0.250}_{-0.300}$	$0.831^{+0.149}_{-0.064}$	$0.914^{+0.066}_{-0.088}$	$2.248^{+0.378}_{-0.837}$
	+3%/-3%	+1%/-3%	+208%/-250%	+18%/-8%	+7%/-10%	+17%/-37%
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 003230753-01 / KOI 2928.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 10	$1.52^{+0.35}_{-0.33}$	846^{+43}_{-31}	3649^{+355}_{-301}	140^{+107}_{-57}
Alt.	-43 ± 11	$1.43^{+0.37}_{-0.38}$	849^{+37}_{-36}	3820^{+477}_{-338}	184^{+173}_{-80}

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 $A_{\text{obs}} \gg 1.0$

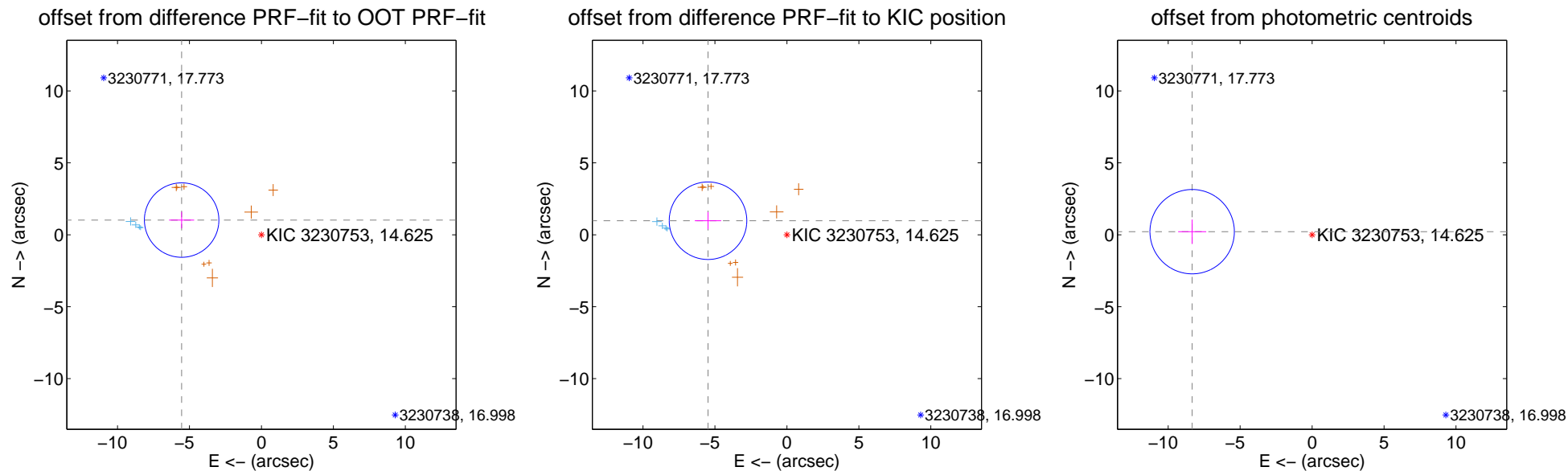
DV Centroid Data

Supplemental centroid analysis for 003230753-01. Kepler magnitude: 14.62. Transit SNR 14.68

There are 4 quarters with good PRF difference image offsets

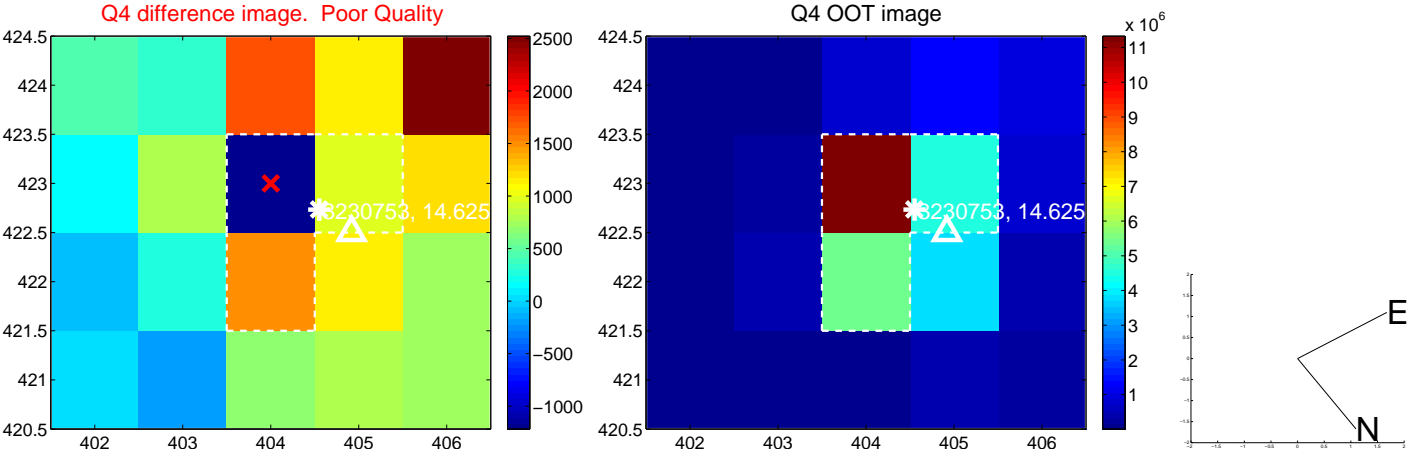
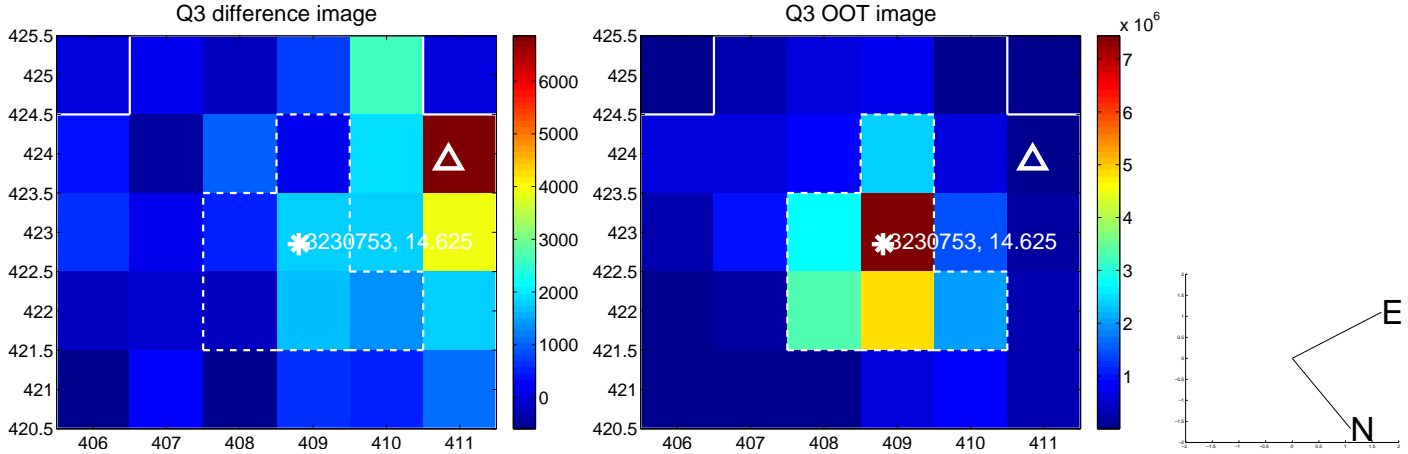
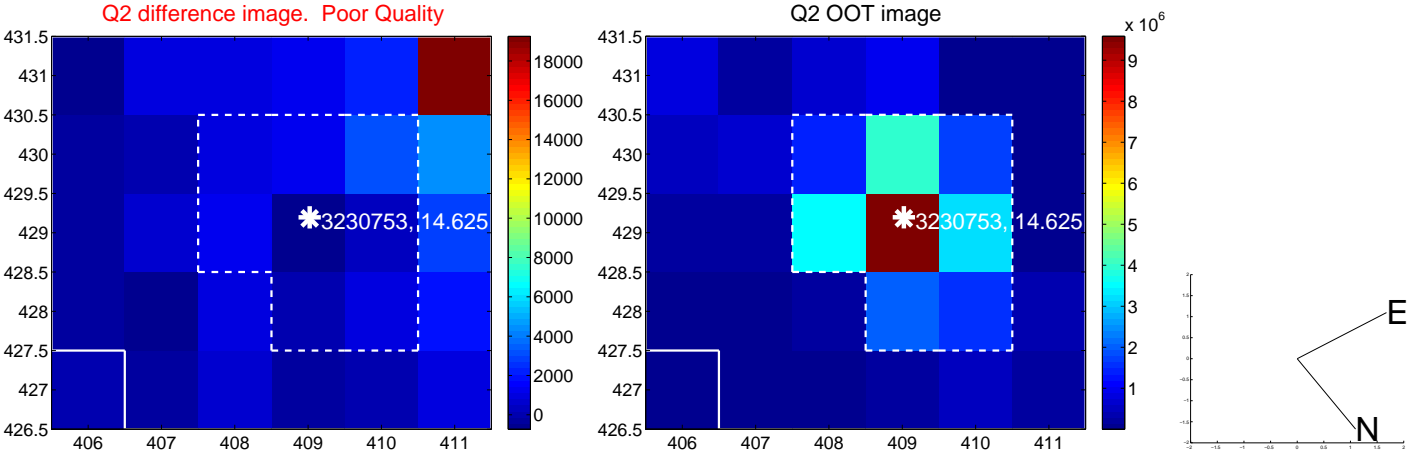
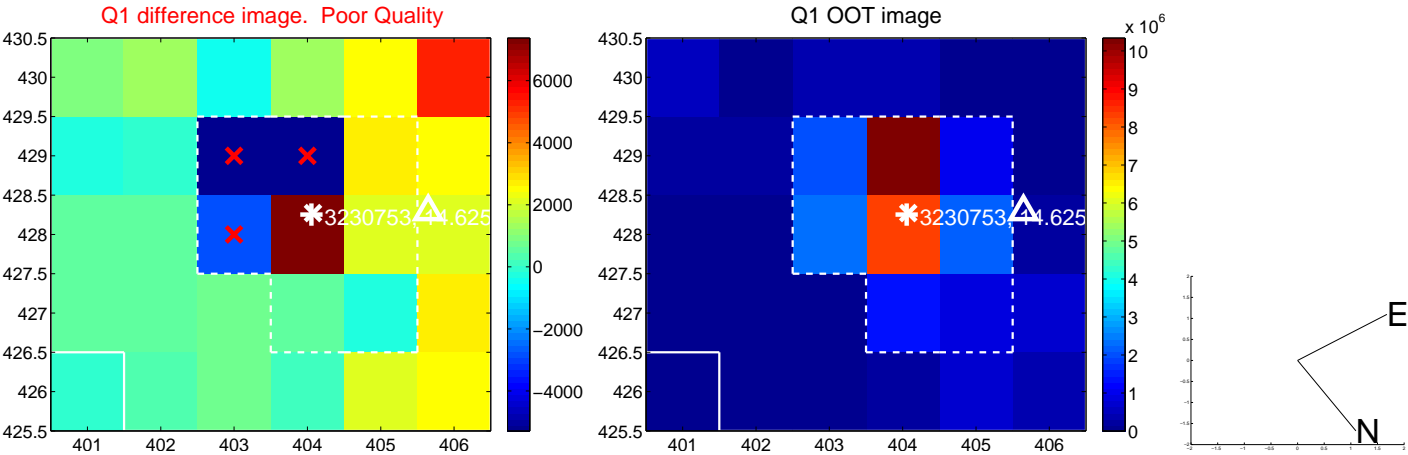
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.636 ± 0.862	6.54	5.543 ± 0.869	1.022 ± 0.571
PRF-fit source offset from KIC position	5.568 ± 0.898	6.20	5.481 ± 0.917	0.978 ± 0.600
photometric centroid source offset	8.33 ± 0.98	8.53	8.33 ± 0.98	0.22 ± 0.84

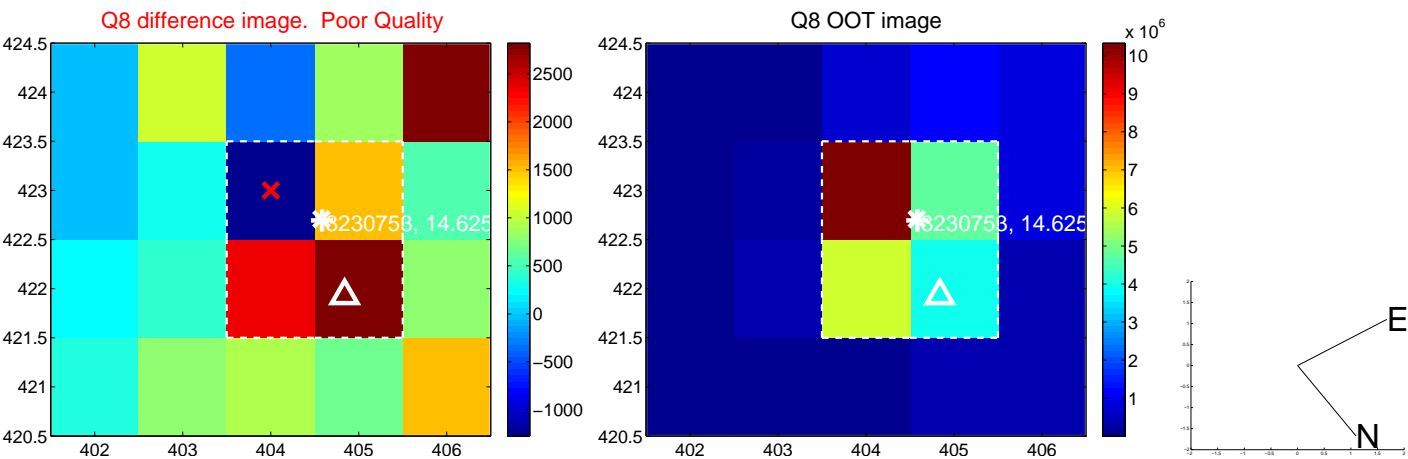
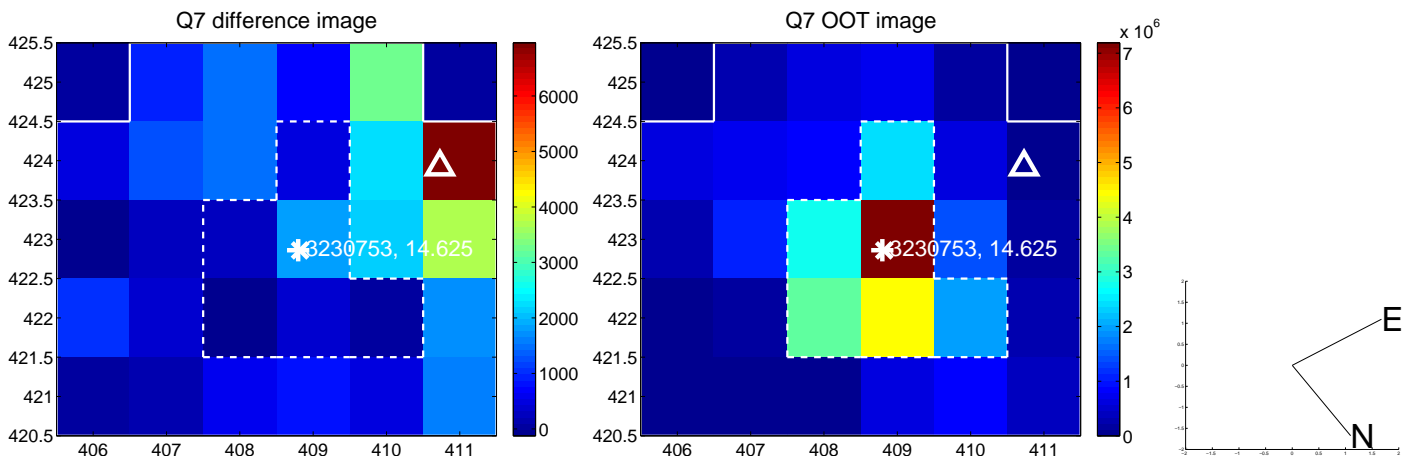
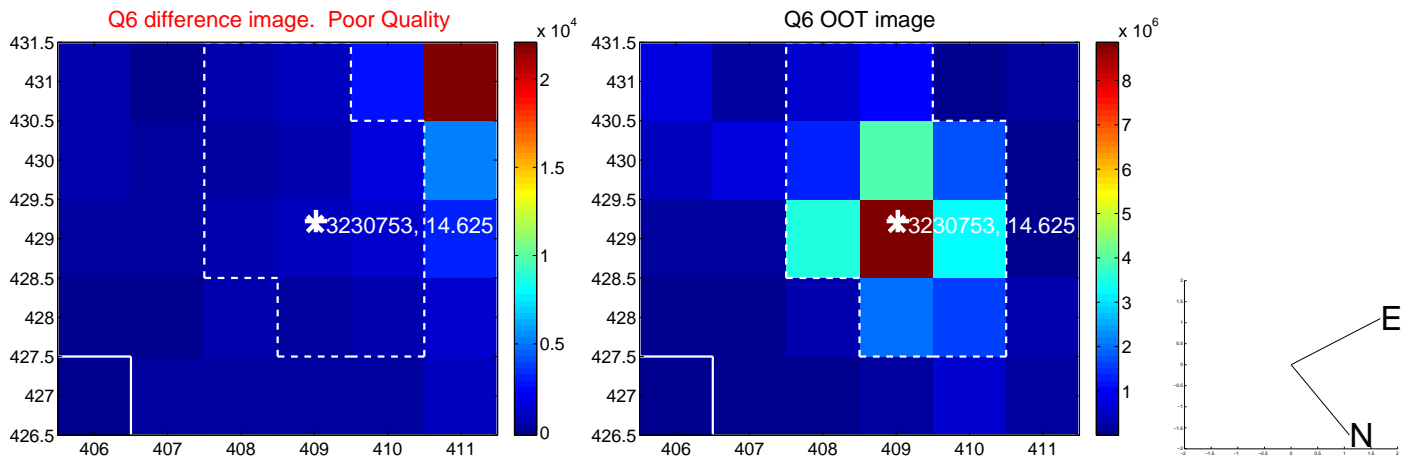
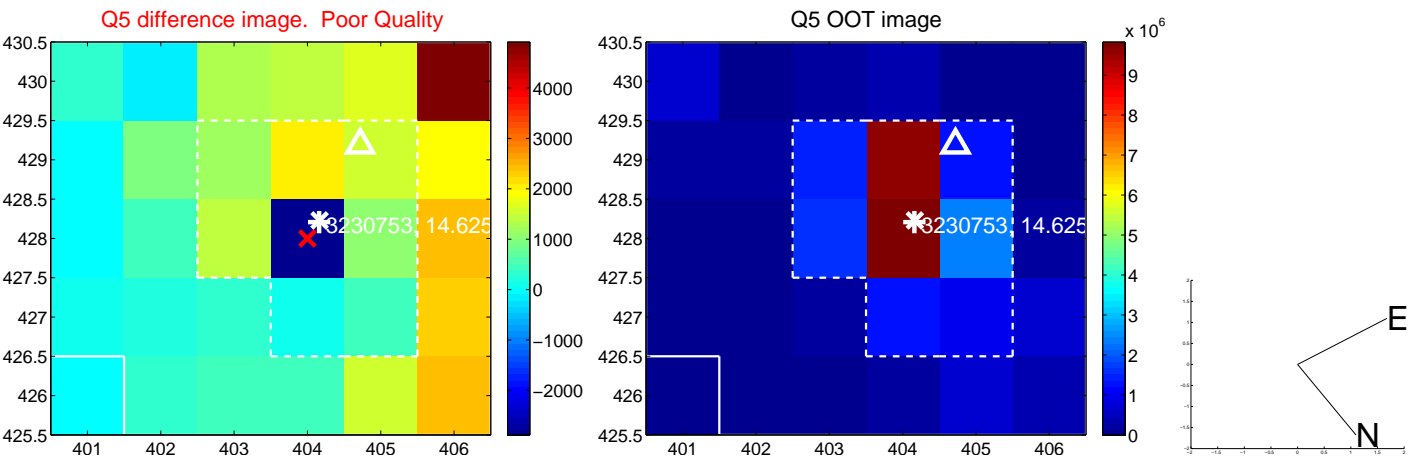


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

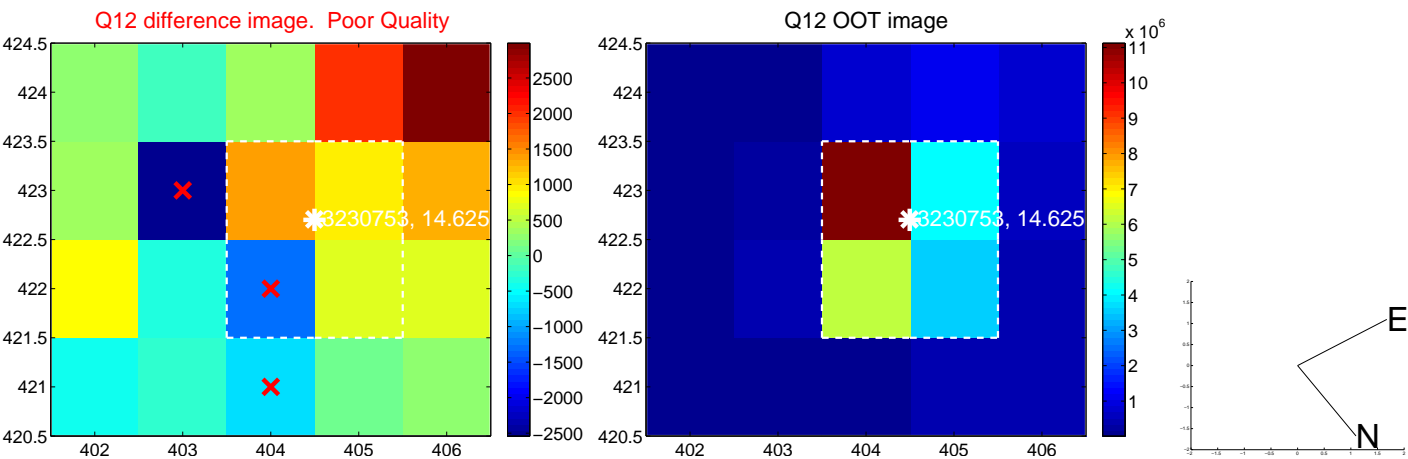
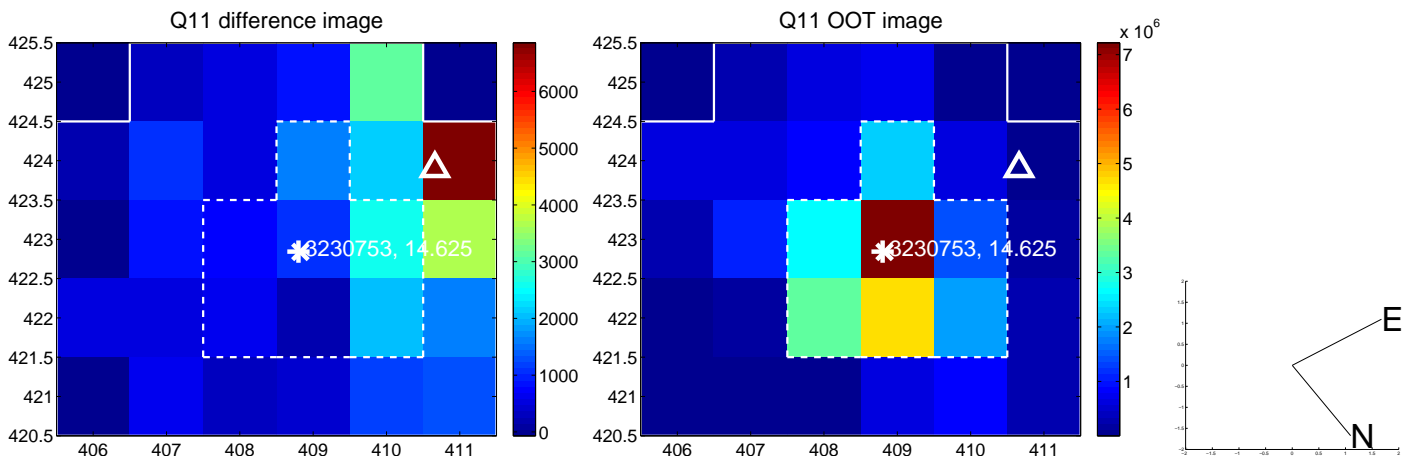
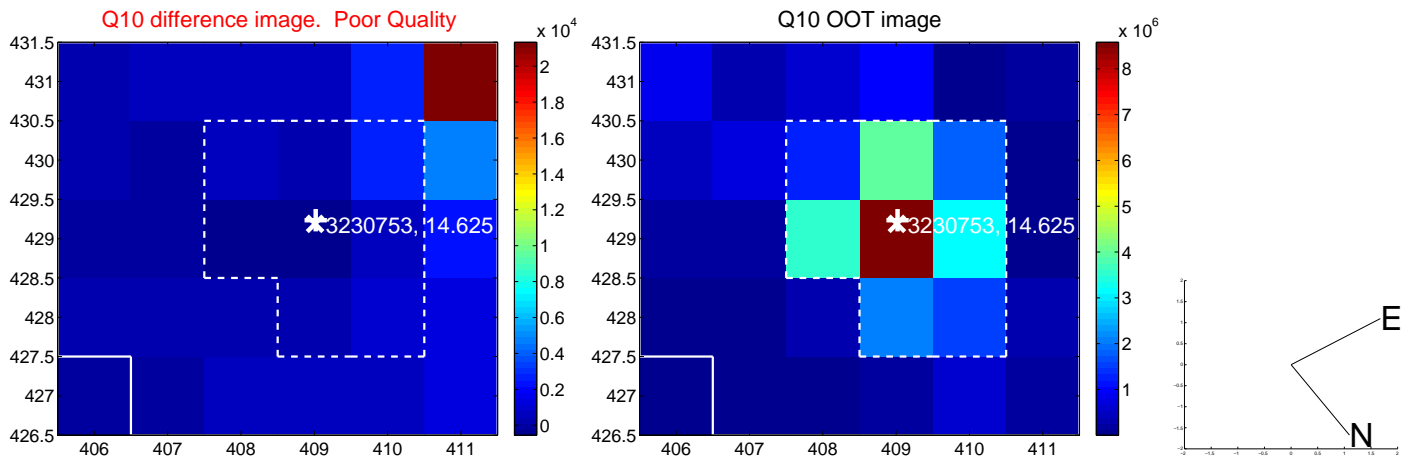
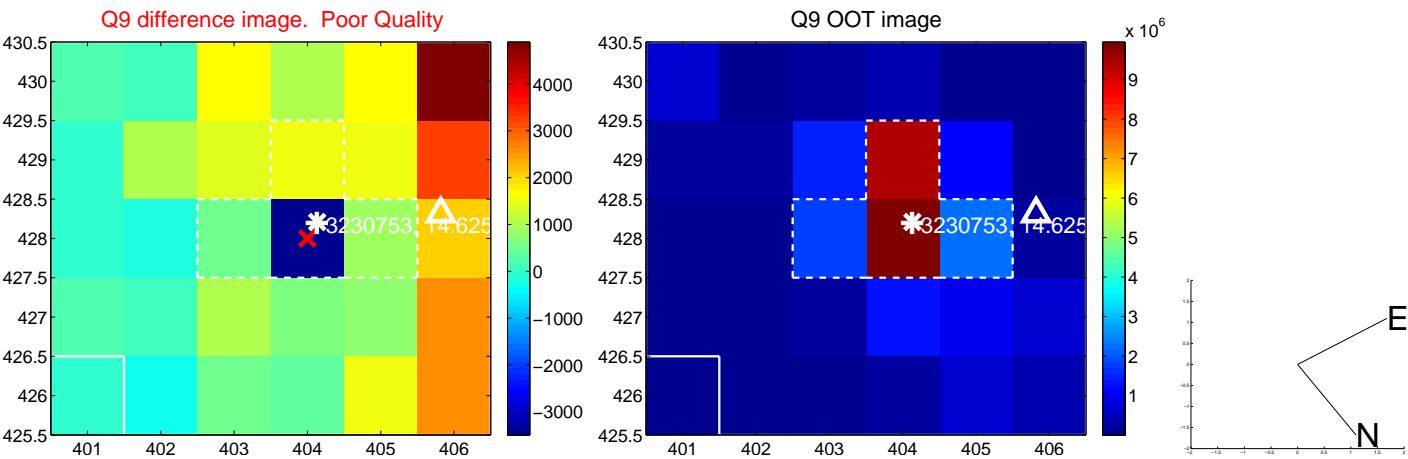
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



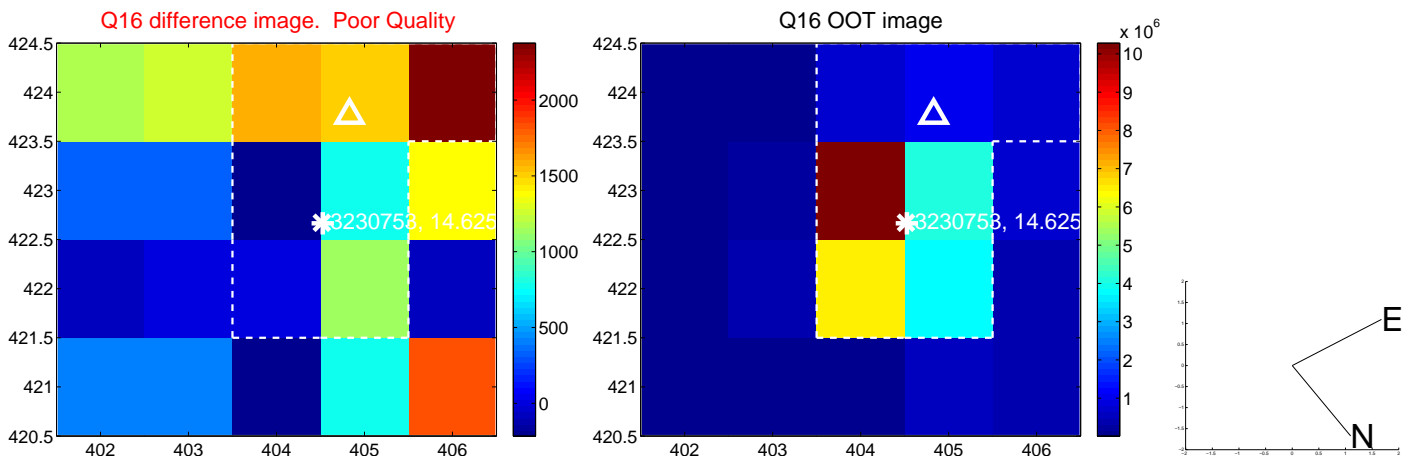
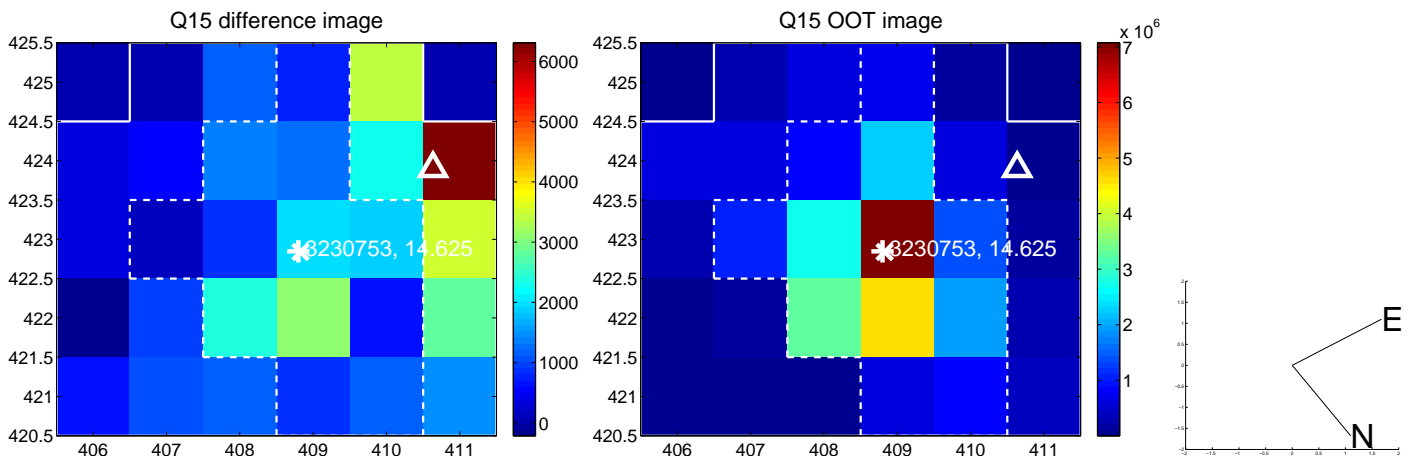
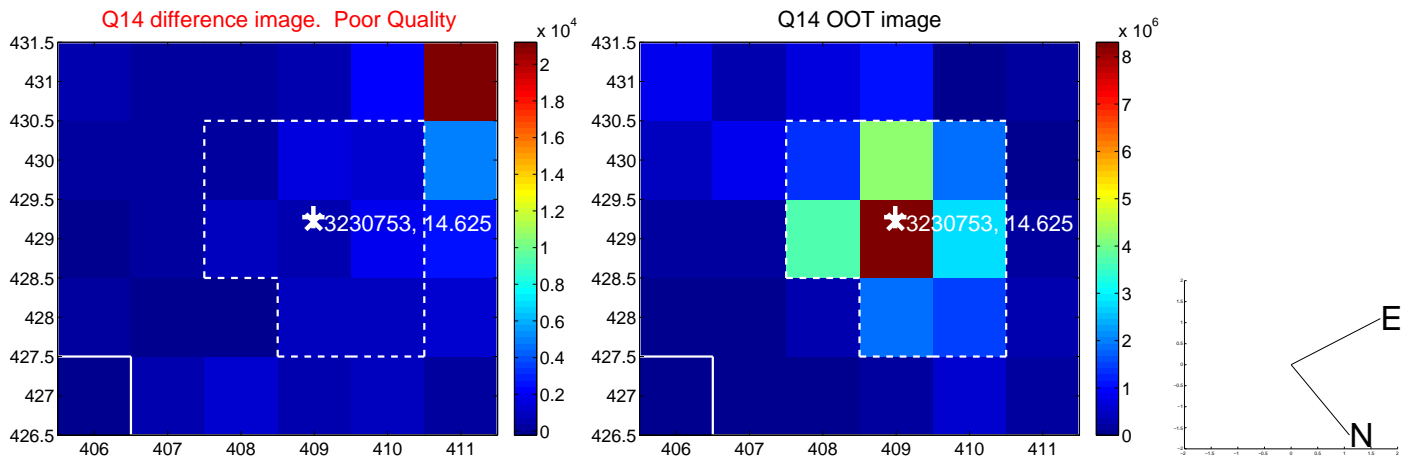
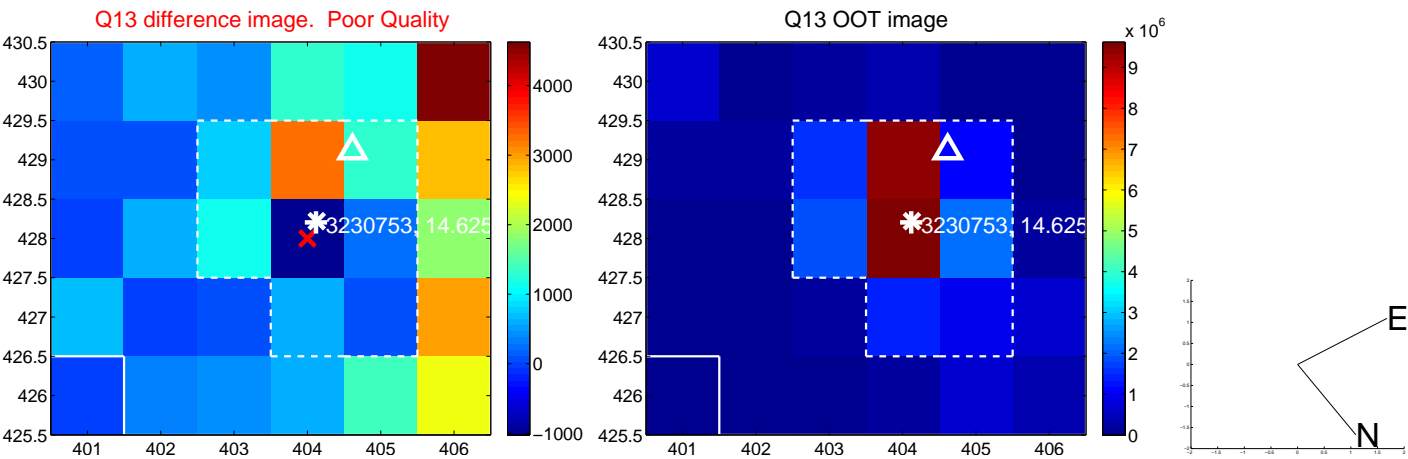
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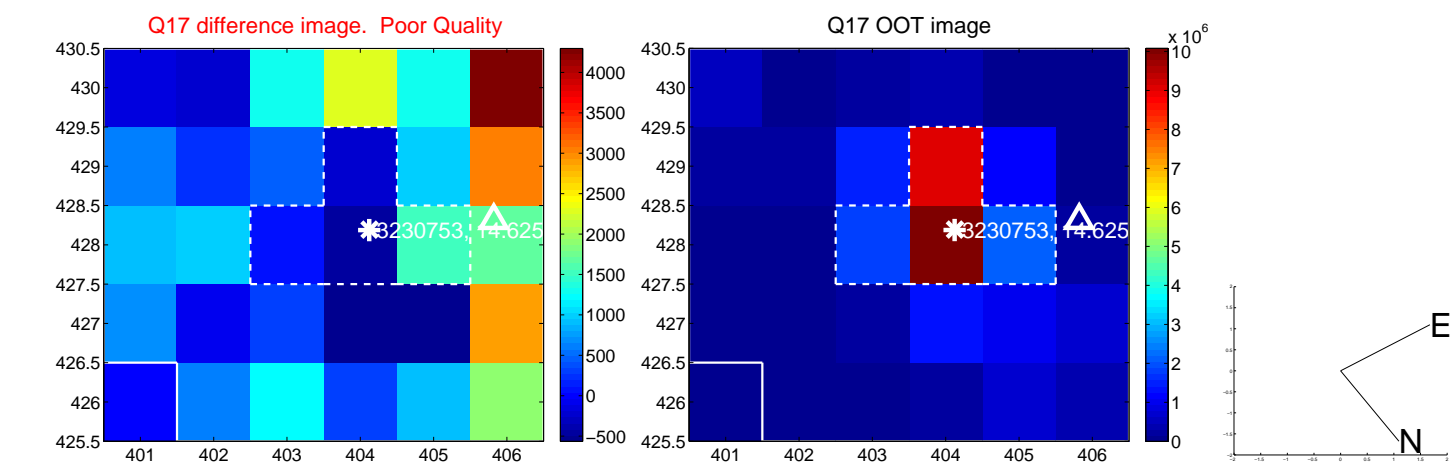
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



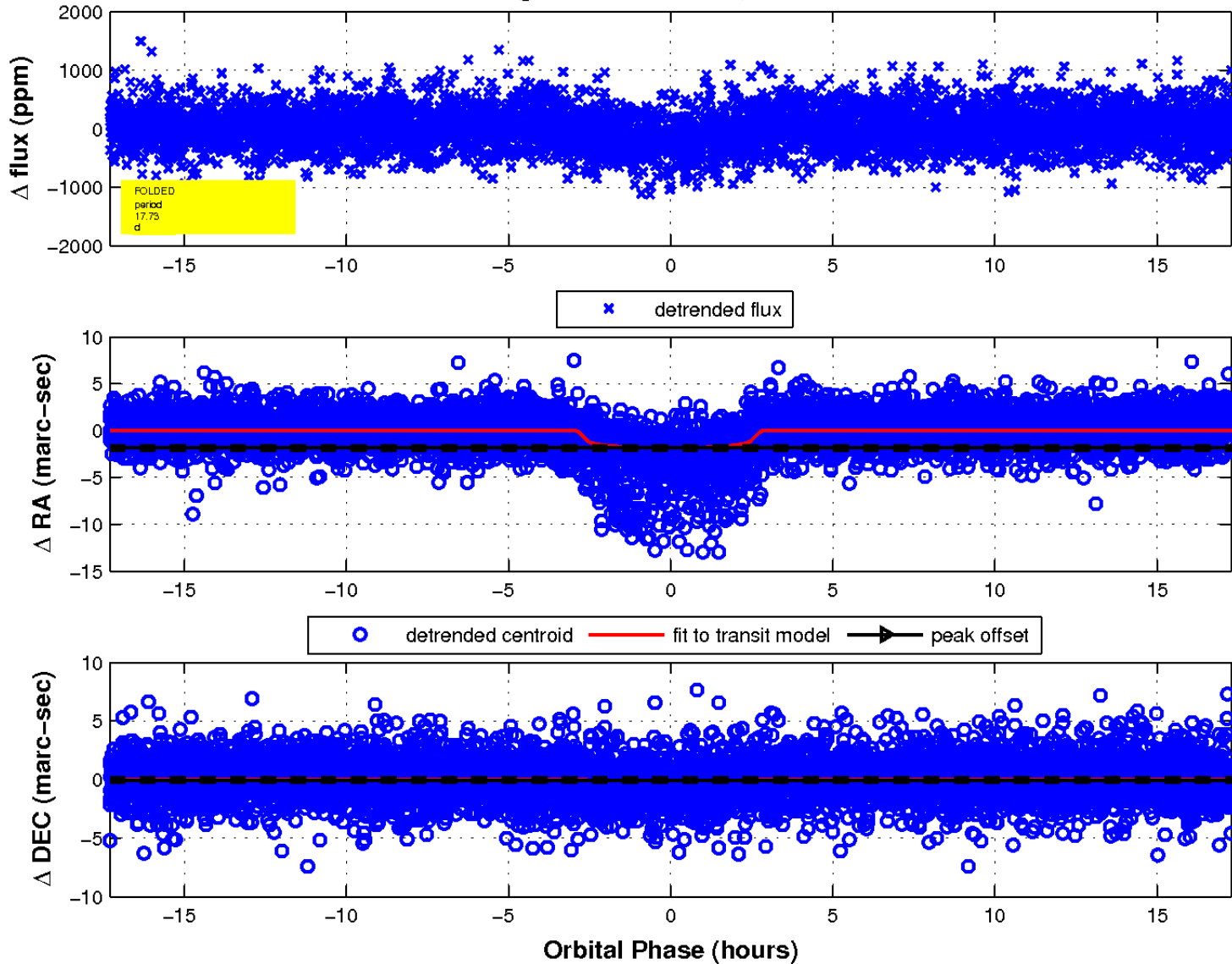
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

