

KIC 008746295

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})
008746295-01	OBS	2475.01	6.855707	136.018108	184.4	2.502	15.1	16.3	0.88	5734	1.48	153.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008746295-01	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.

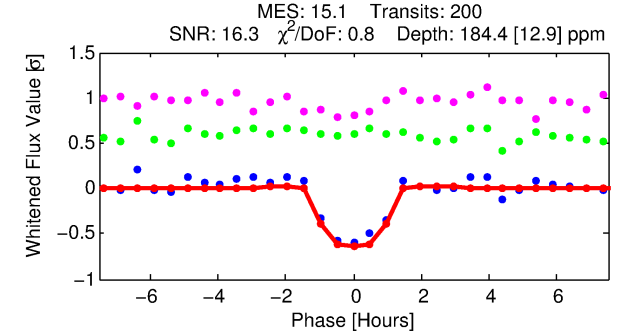
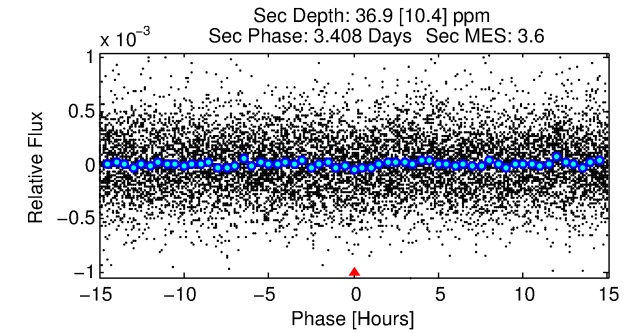
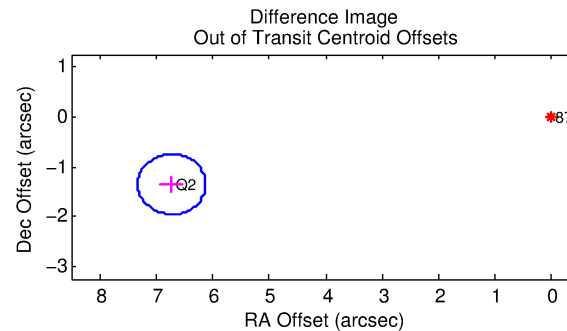
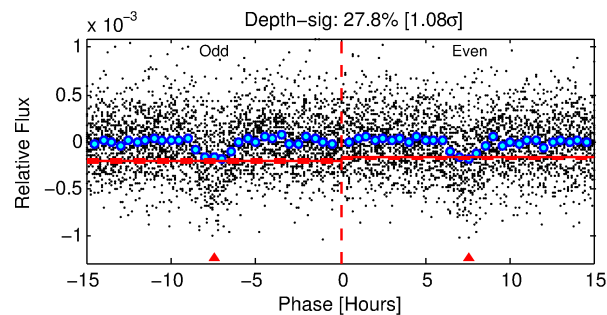
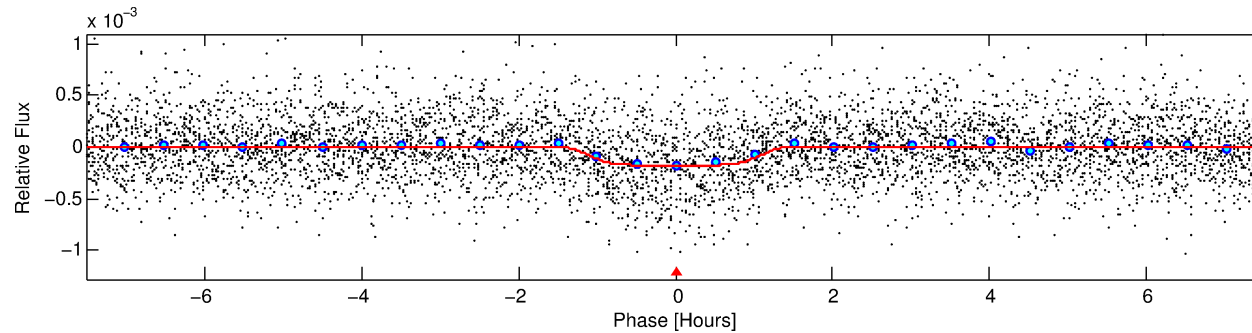
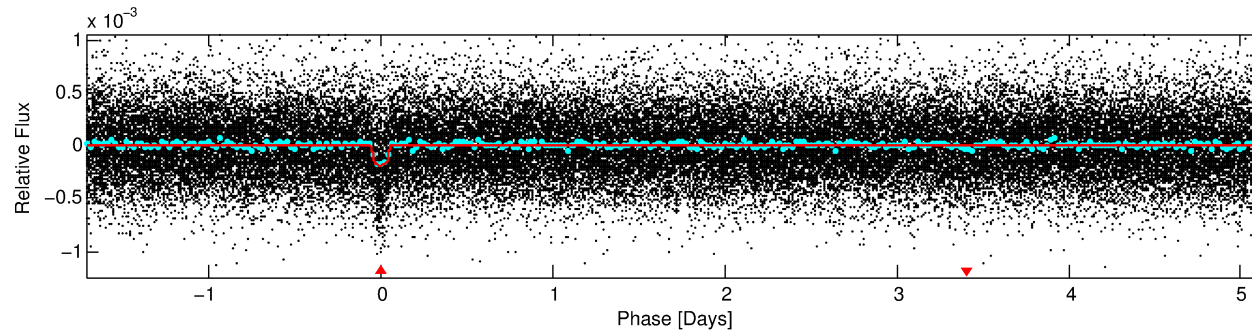
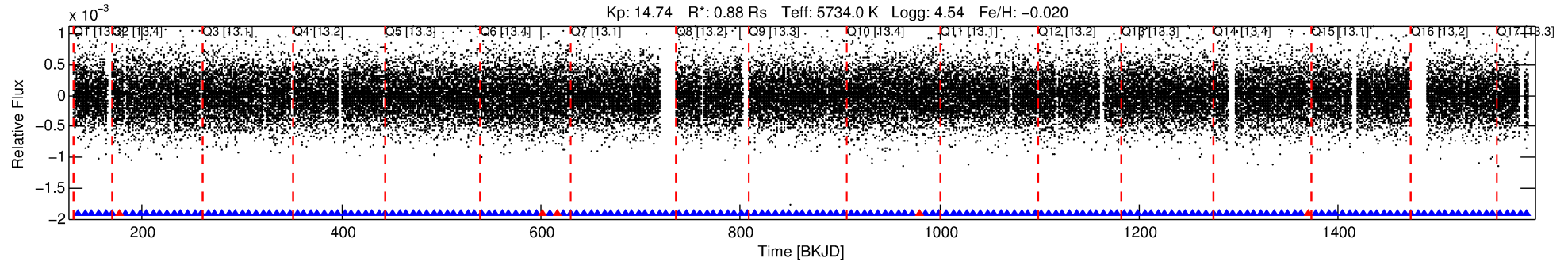
Ephemeris Match Information For 008746295-01

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
008746295-01	8746295	7085.01	8746310	1:1	12.4	-3	-2	14.77	14.74	390.10	Direct-PRF	0	0.54	0.16

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: 8746295 Candidate: 1 of 1 Period: 6.856 d
KOI: K02475.01 Corr: 0.972



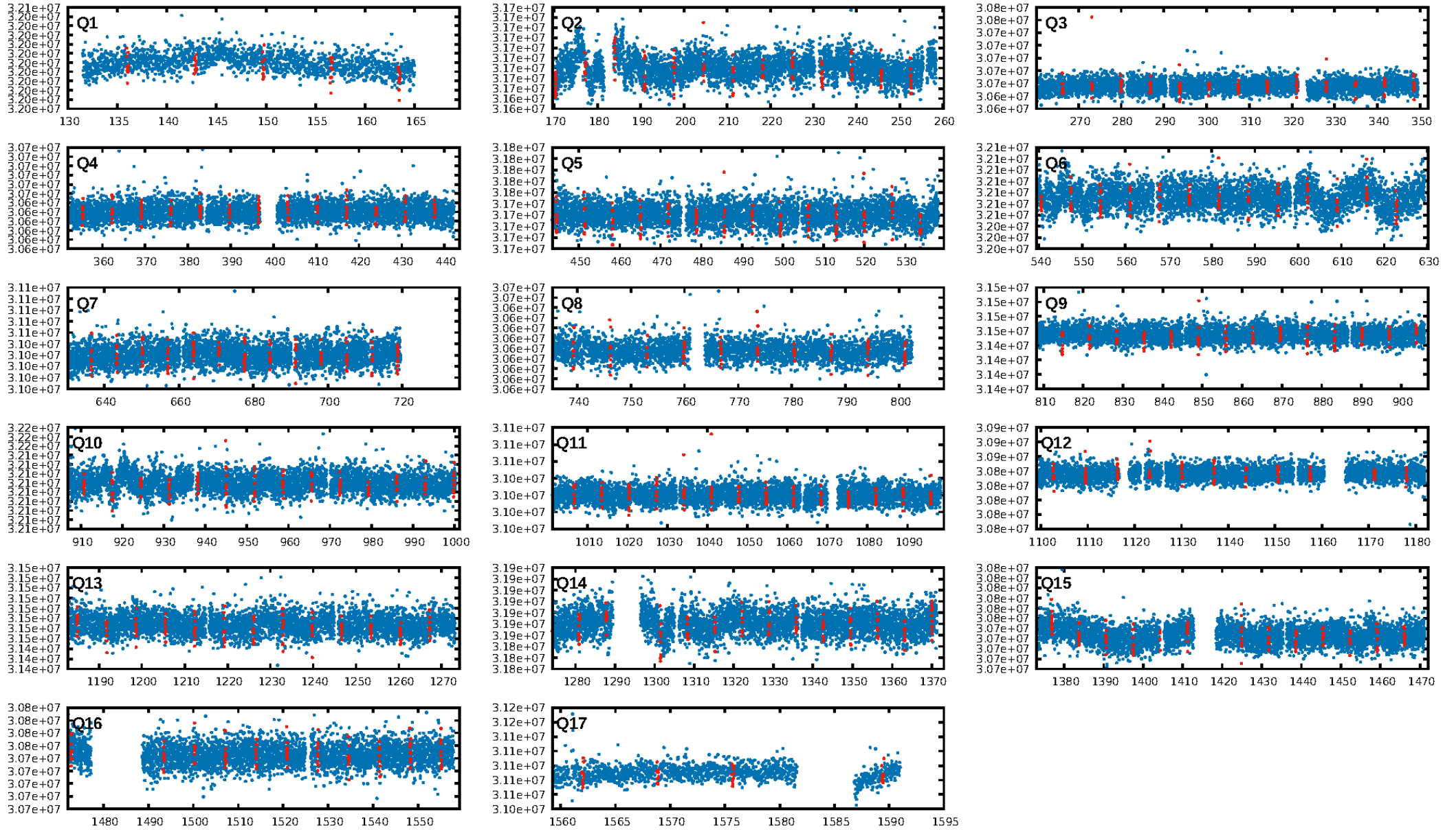
DV Fit Results:

Period = 6.85571 [0.00003] d
Epoch = 136.0181 [0.0033] BKJD
Rp/R* = 0.0154 [0.0039]
a/R* = 8.51 [10.42]
b = 0.93 [0.18]
Seff = 153.21 [62.16]
Teff = 897 [91] K
Rp = 1.48 [0.60] Re
a = 0.0702 [0.0186] AU
Ag = 45.51 [31.86] [1.40 σ]
Teffp = 3603 [536] K [4.97 σ]

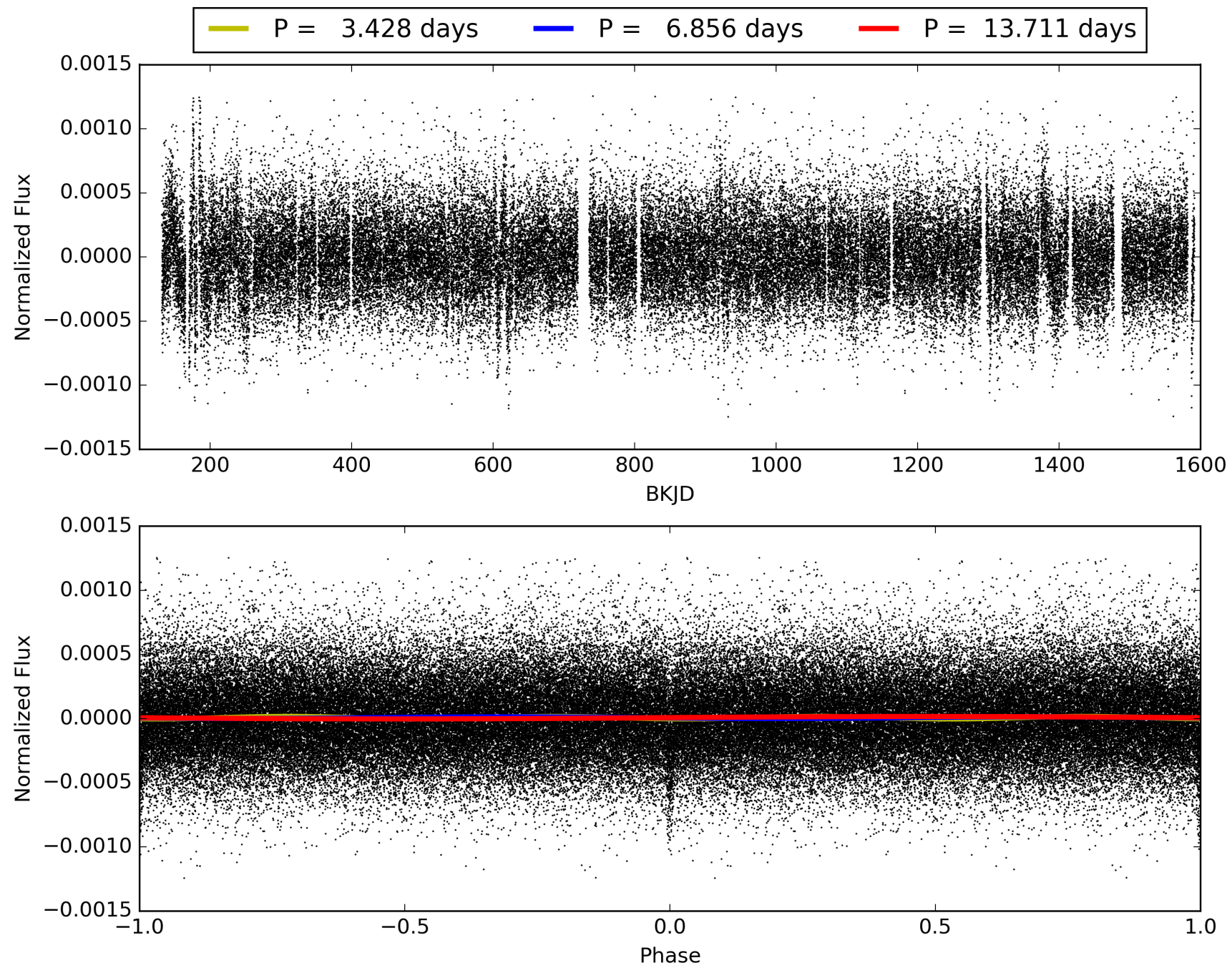
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 65.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.00e-50
RollingBand-fgt: 0.97 [186/191]
GhostDiagnostic-chr: -0.4096
Centroid-sig: 0.0%
Centroid-so: 94.485 arcsec [106.41 σ]
OotOffset-rm: 6.859 arcsec [34.10 σ]
KicOffset-rm: 6.849 arcsec [34.04 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008746295-01, PDC Light Curves

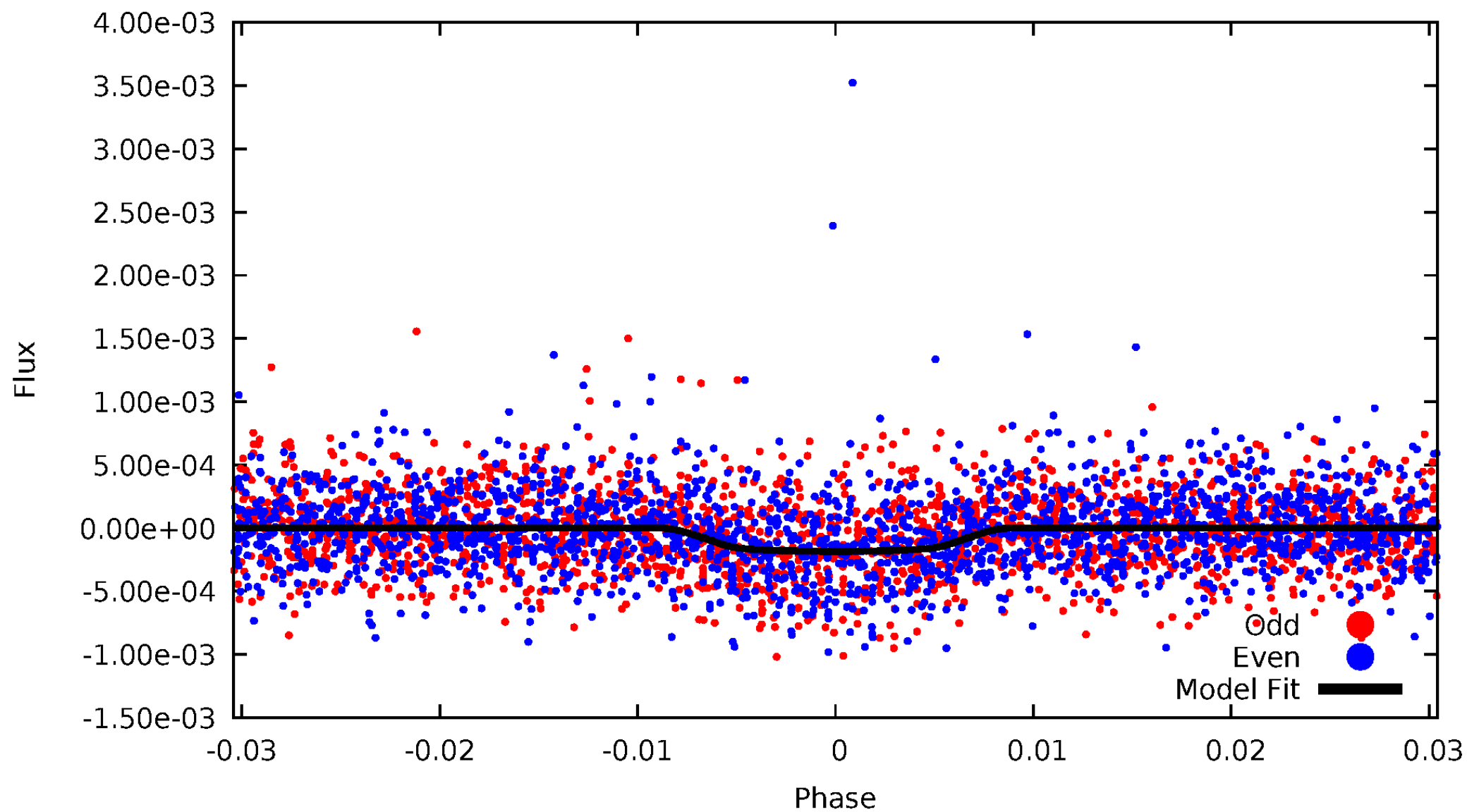


TCE 008746295-01



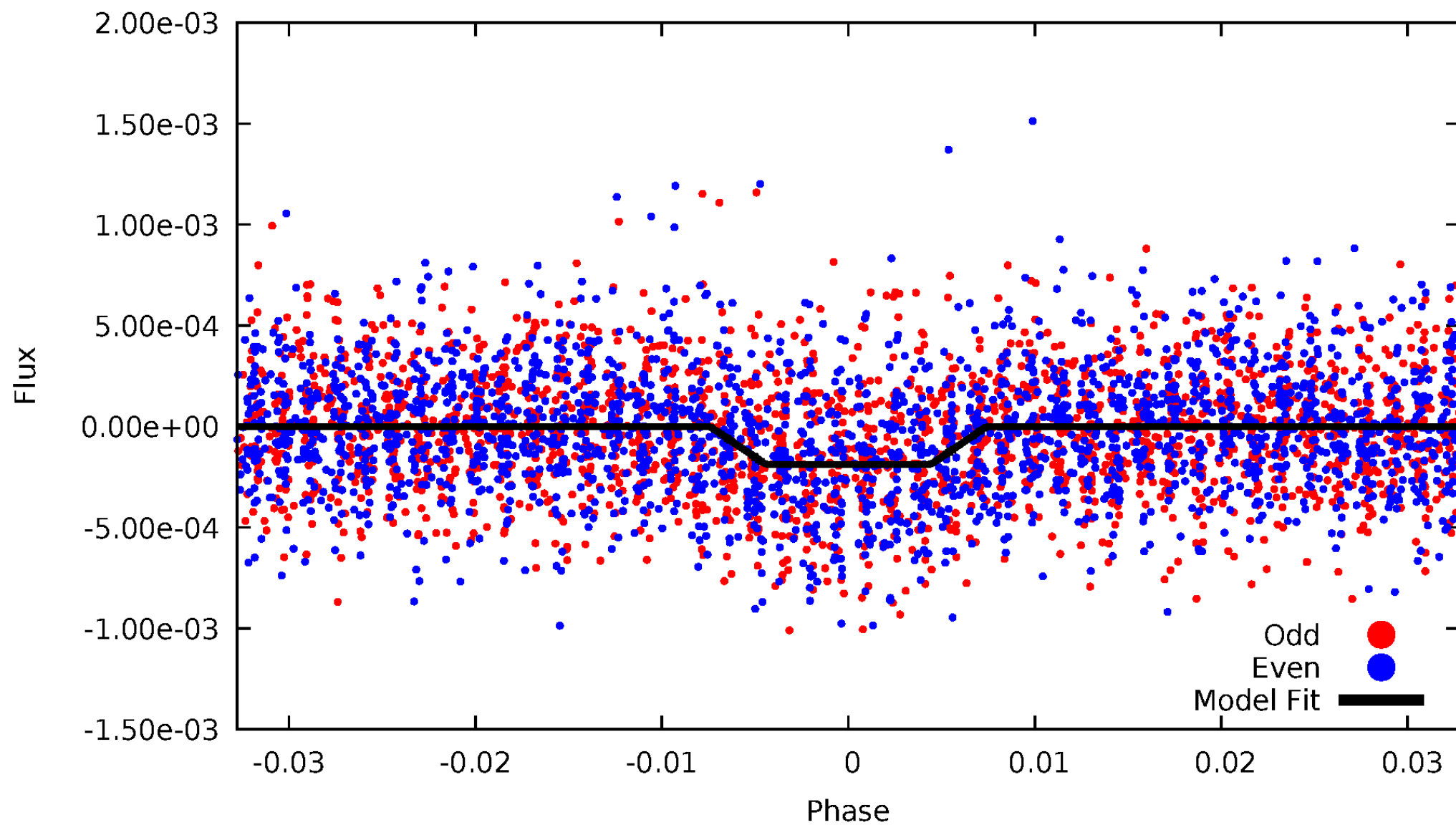
DV Odd/Even

TCE 008746295-01

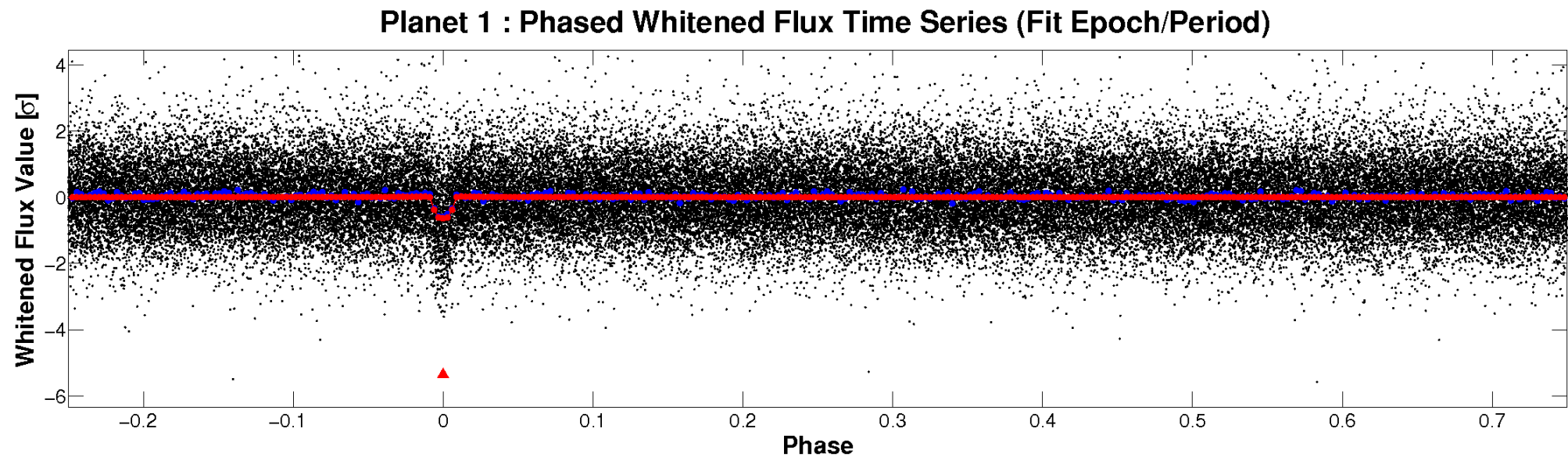
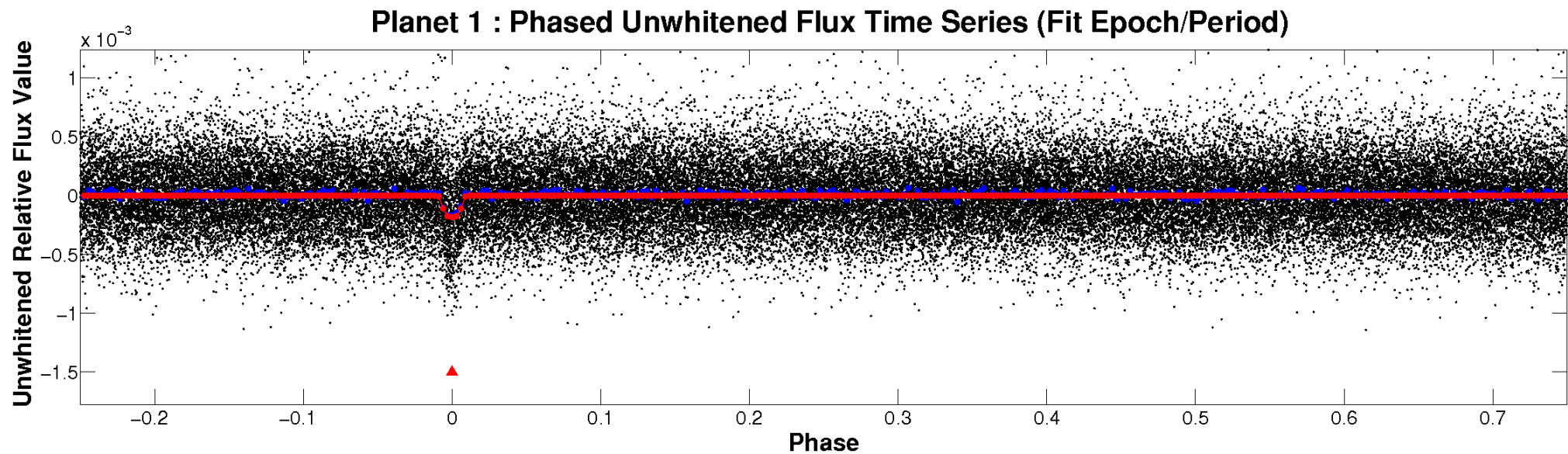


ALT Odd/Even

TCE 008746295-01

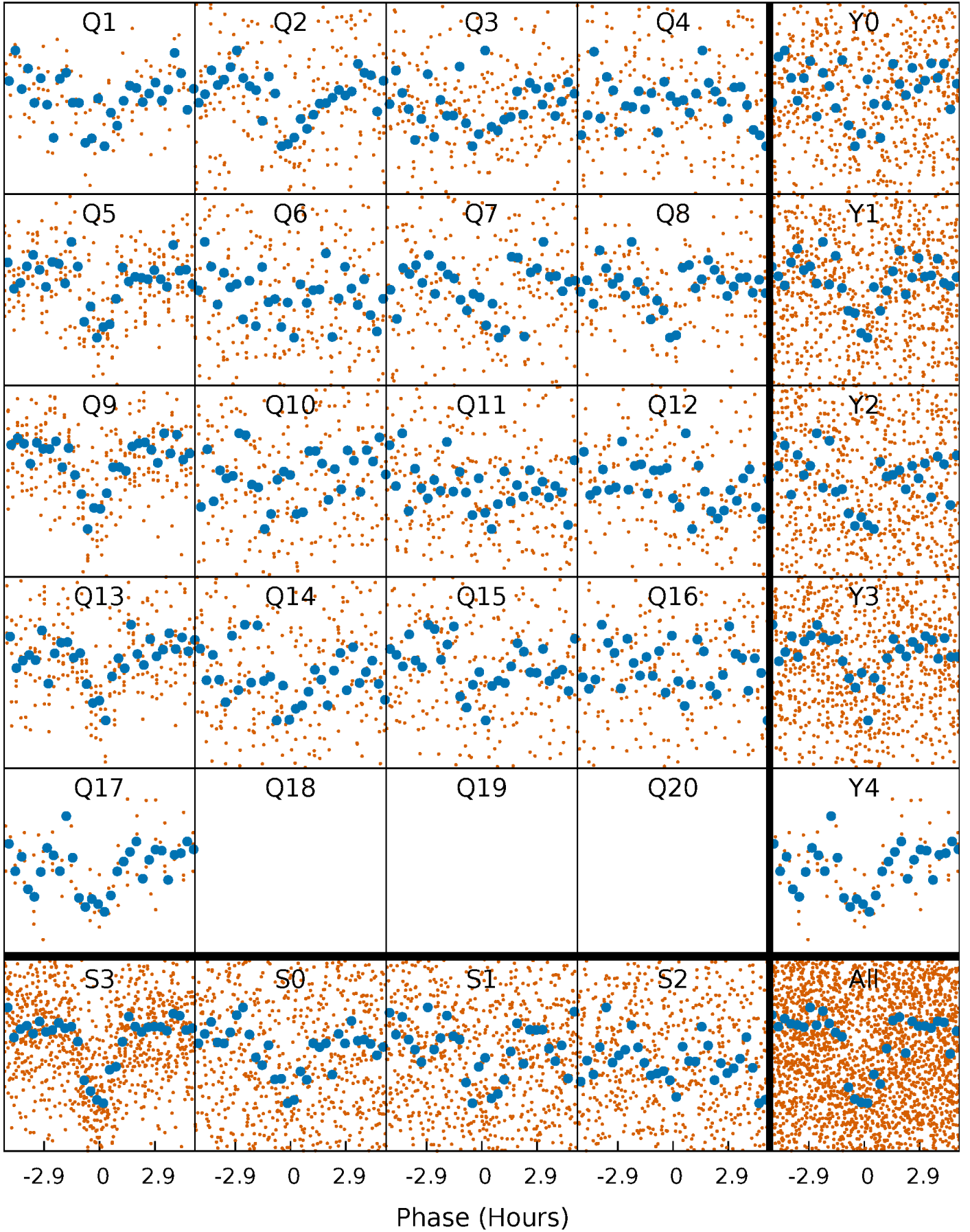


Non-Whitened Vs. Whitened Light Curve



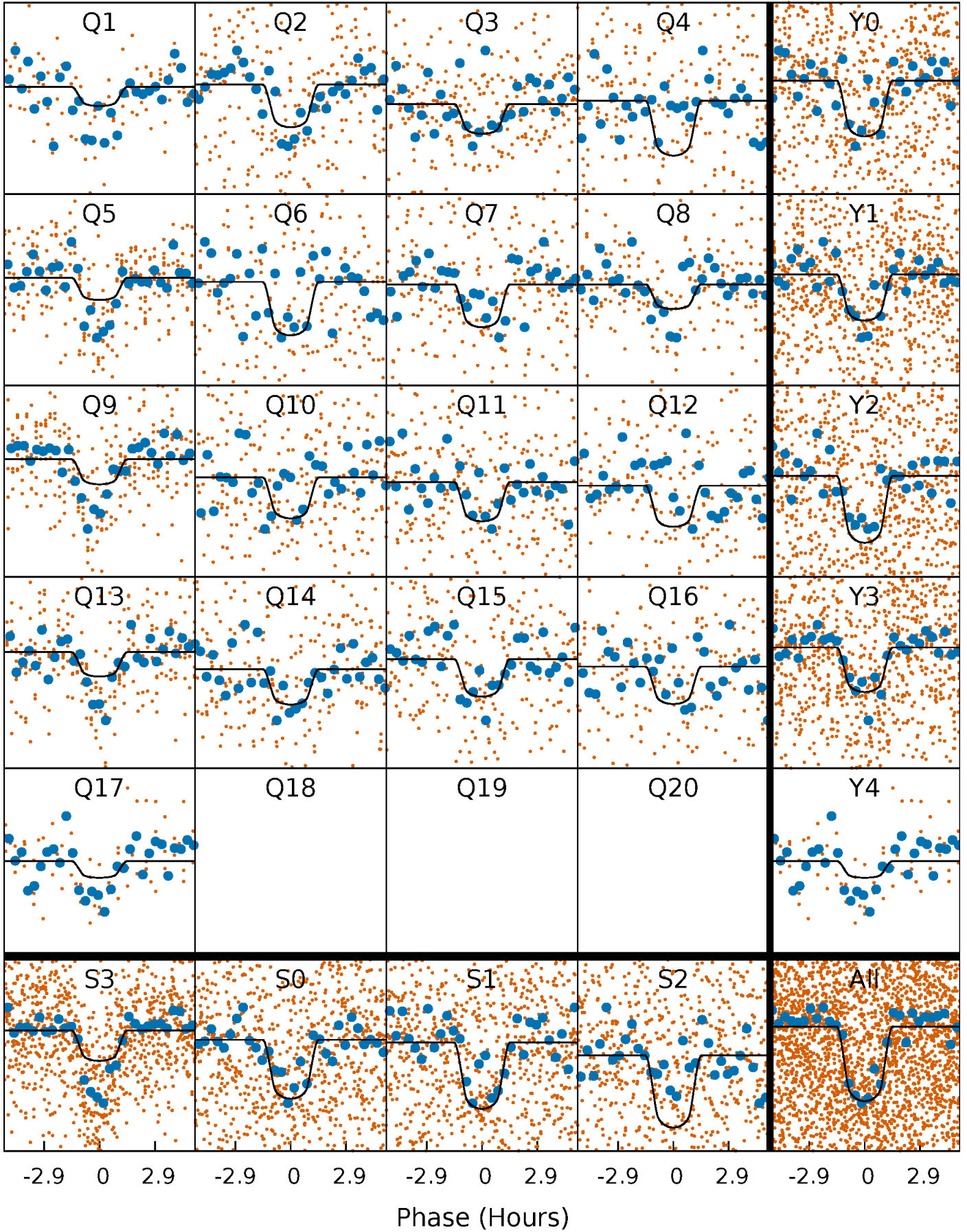
PDC Quarter-Phased Transit Curves

TCE 008746295-01 P= 6.855707 Days $T_0=136.018108$ (BKJD)



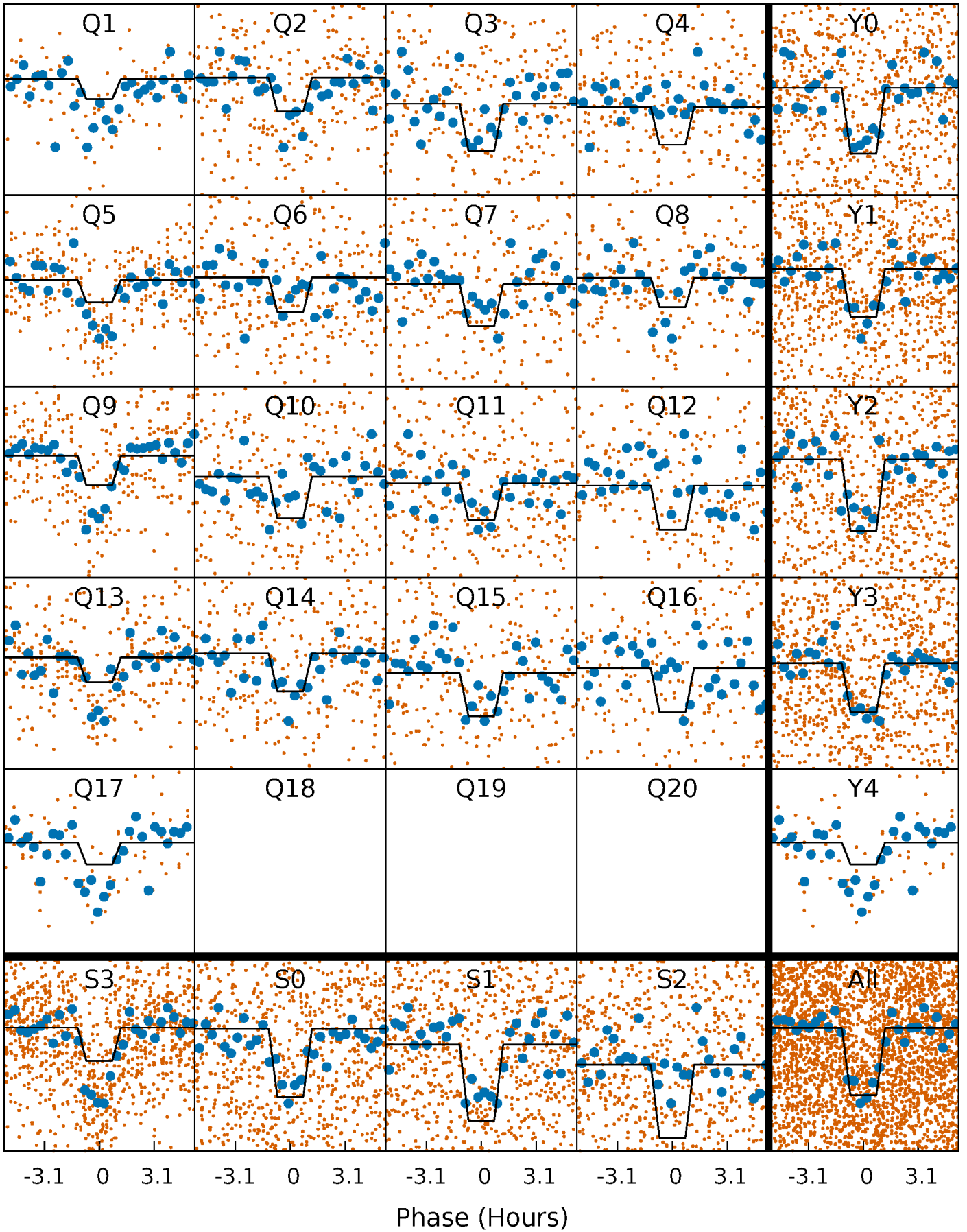
DV Quarter-Phased Transit Curves

TCE 008746295-01 P= 6.855707 Days $T_0=136.018108$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

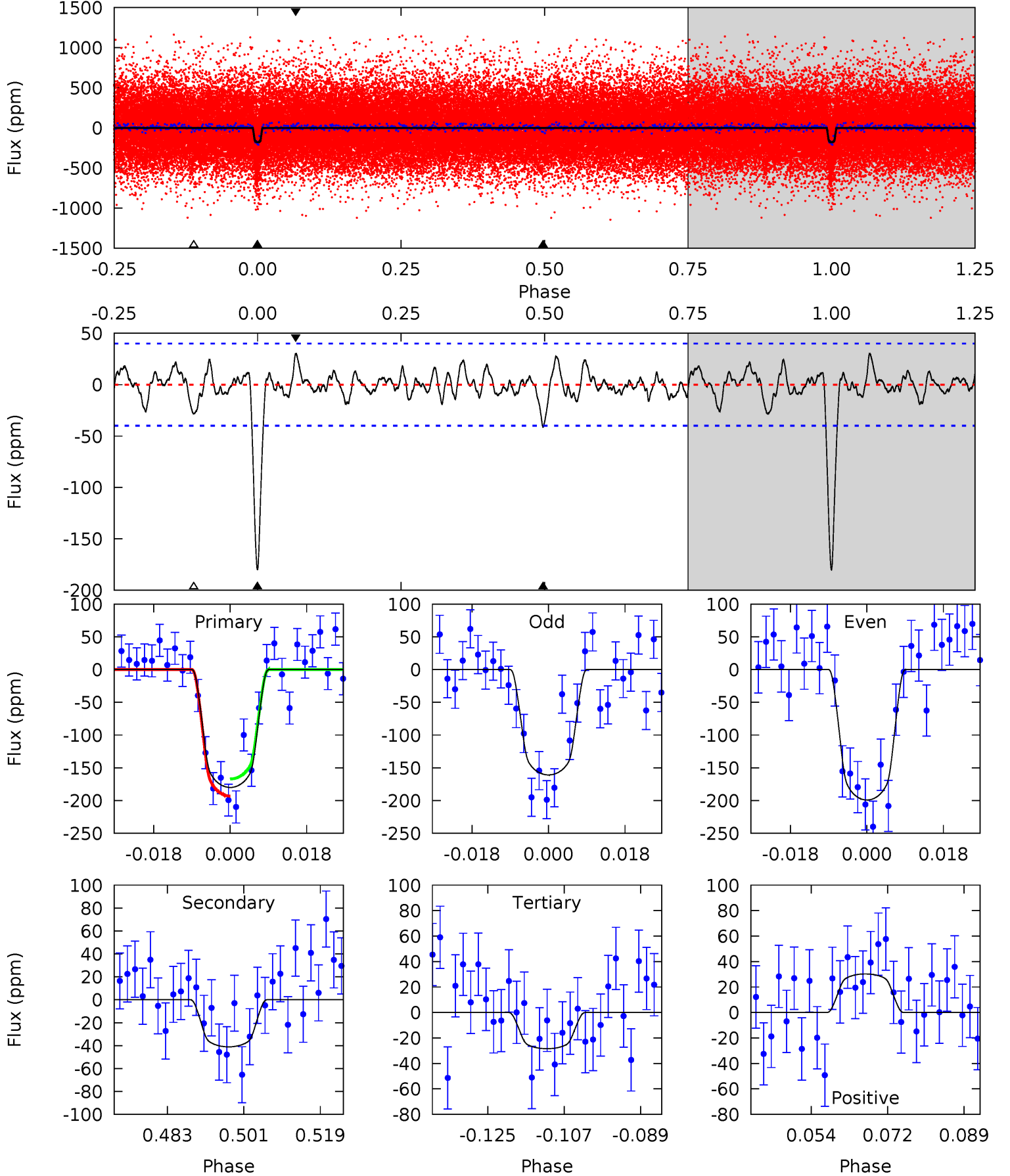
TCE 008746295-01 P= 6.855683 Days $T_0=136.019457$ (BKJD)



DV Model-Shift Uniqueness Test

008746295-01, P = 6.855707 Days, E = 129.162401 Days

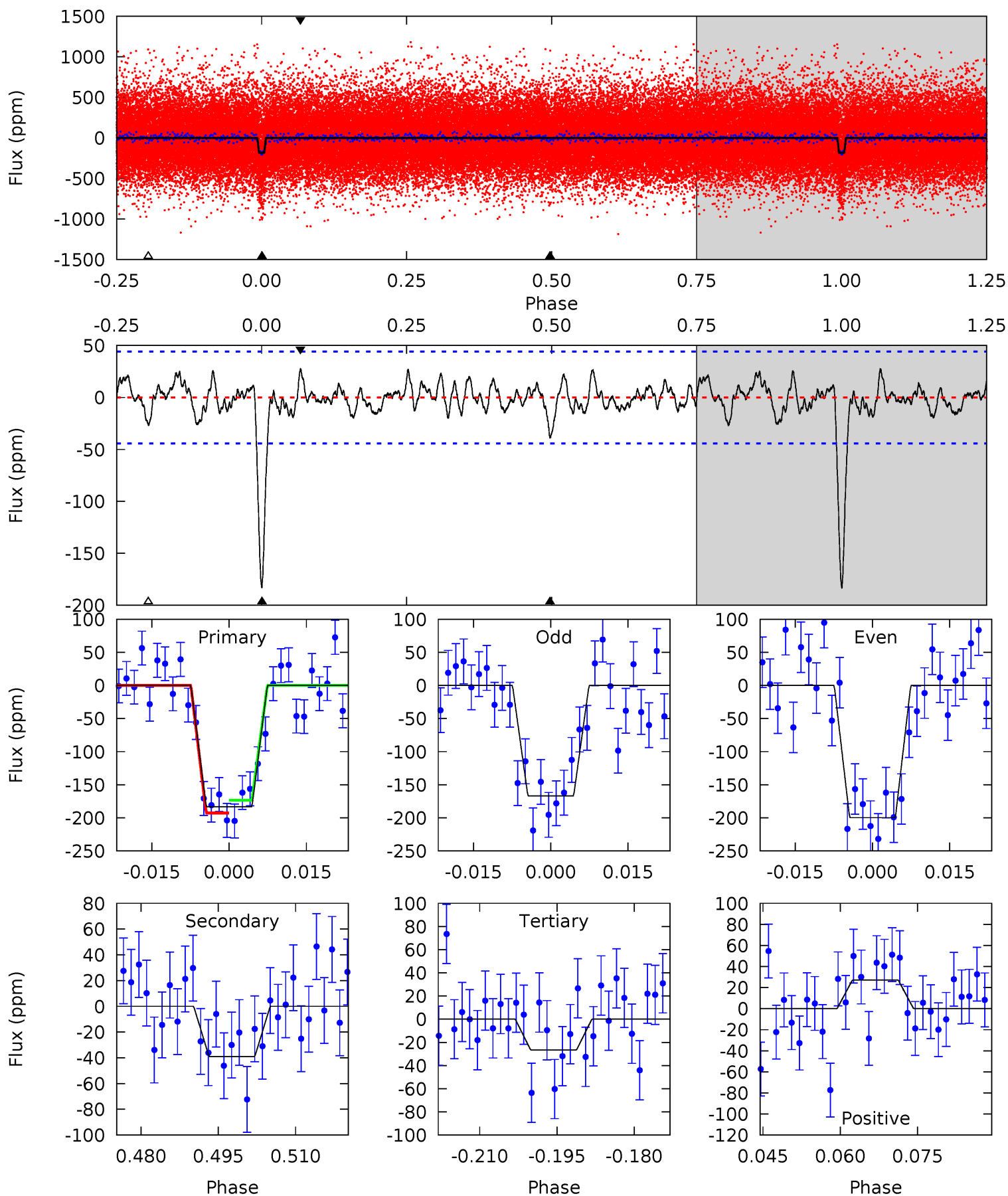
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	5.05	3.49	3.72	4.91	2.37	1.21	18.6	18.4	1.56	1.33	2.36	1.02	0.14	1.61



Alt Model-Shift Uniqueness Test

008746295-01, P = 6.855683 Days, E = 129.163774 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	4.37	2.98	3.05	4.95	2.43	1.16	17.5	17.4	1.38	1.32	1.84	1.07	0.13	1.07



Stellar Parameters For KIC 008746295

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5734^{+156}_{-173}	$4.538^{+0.037}_{-0.213}$	$-0.020^{+0.250}_{-0.300}$	$0.883^{+0.275}_{-0.069}$	$0.982^{+0.102}_{-0.114}$	$2.009^{+0.398}_{-1.027}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+31%/-8%	+10%/-12%	+20%/-51%
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 008746295-01 / KOI 2475.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-41 ± 8	$1.56^{+0.42}_{-0.44}$	1287^{+83}_{-57}	4020^{+526}_{-344}	45^{+43}_{-18}
Alt.	-39 ± 9	$1.39^{+0.50}_{-0.41}$	1286^{+95}_{-56}	4162^{+589}_{-443}	54^{+57}_{-26}

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 $A_{obs} \gg 1.0$

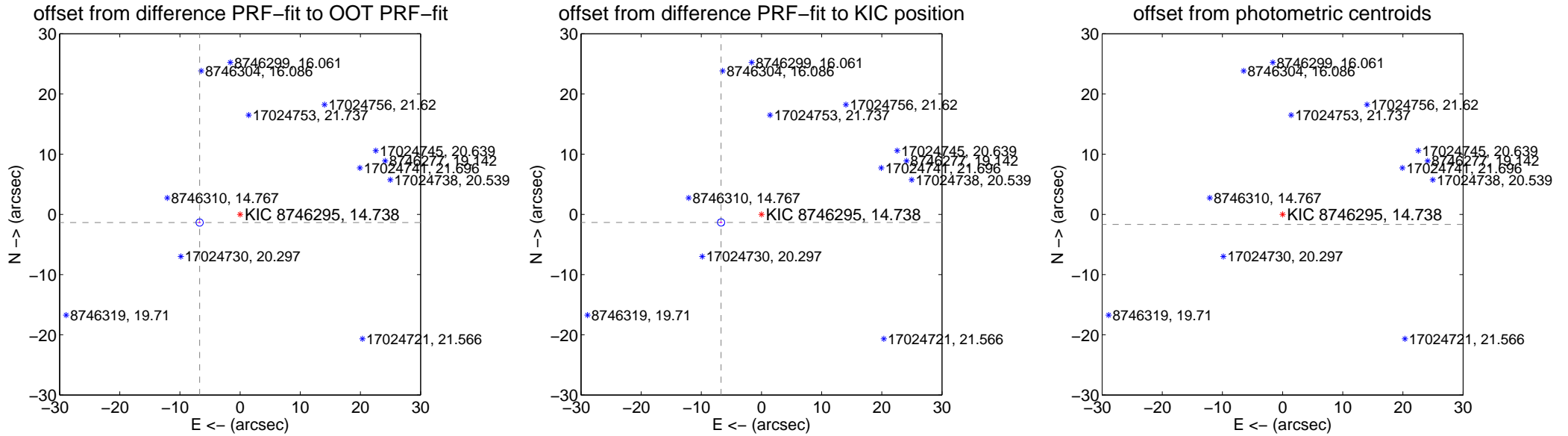
DV Centroid Data

Supplemental centroid analysis for 008746295-01. Kepler magnitude: 14.74. Transit SNR 16.33

There are 1 quarters with good PRF difference image offsets

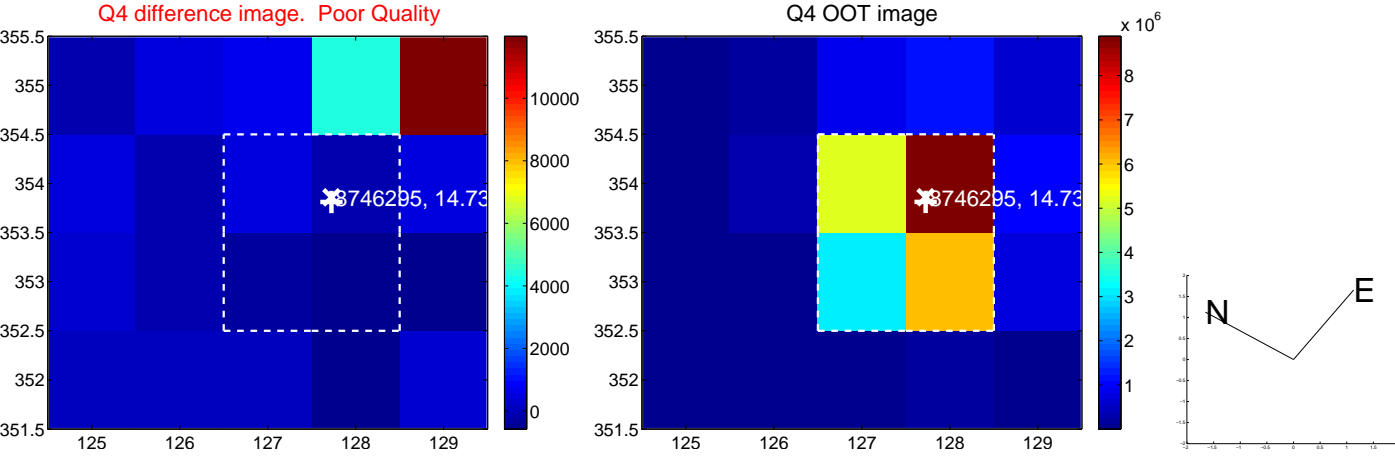
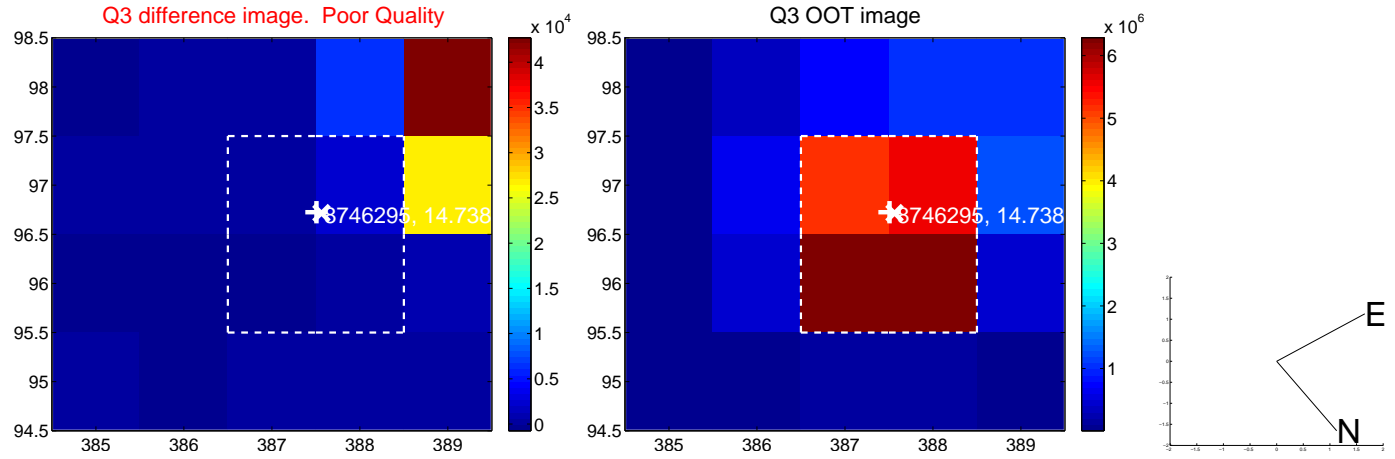
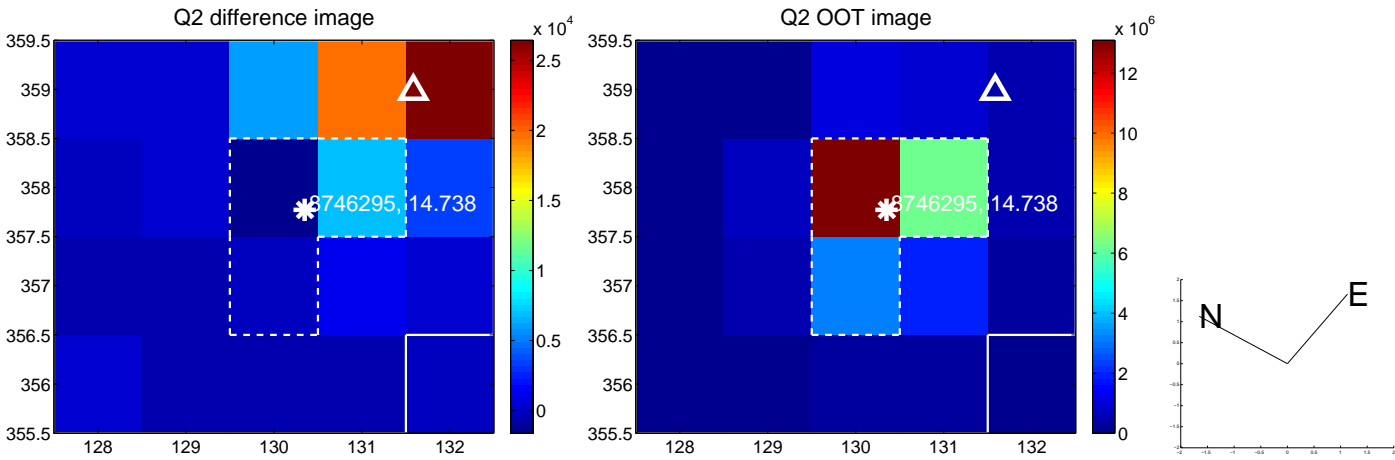
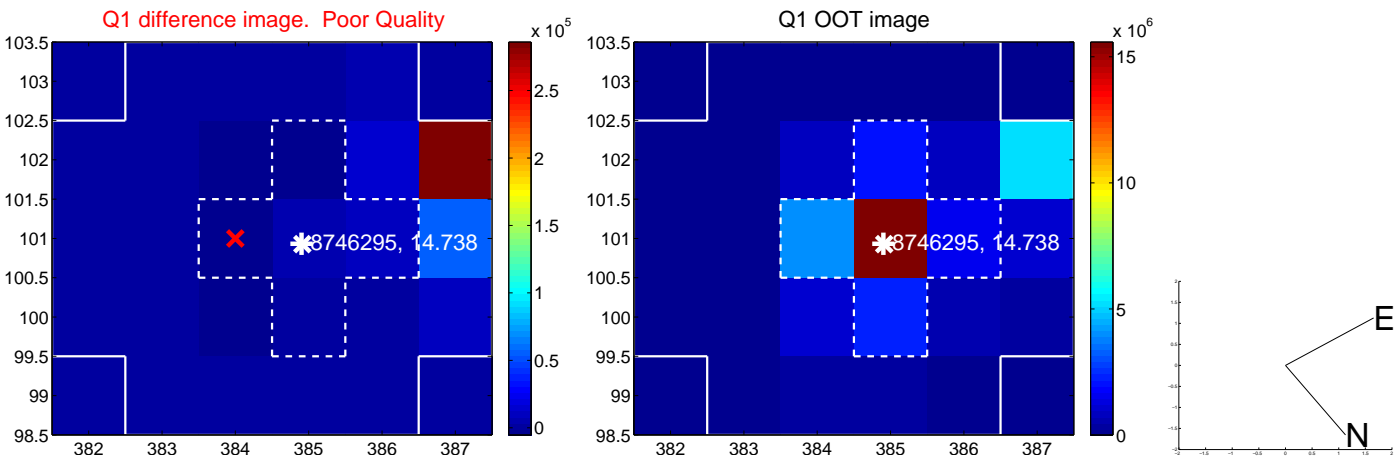
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.859 \pm 0.201	34.10	6.724 \pm 0.203	-1.353 \pm 0.138
PRF-fit source offset from KIC position	6.849 \pm 0.201	34.04	6.717 \pm 0.203	-1.337 \pm 0.138
photometric centroid source offset	94.49 \pm 0.89	106.41	94.47 \pm 0.89	-1.67 \pm 0.82

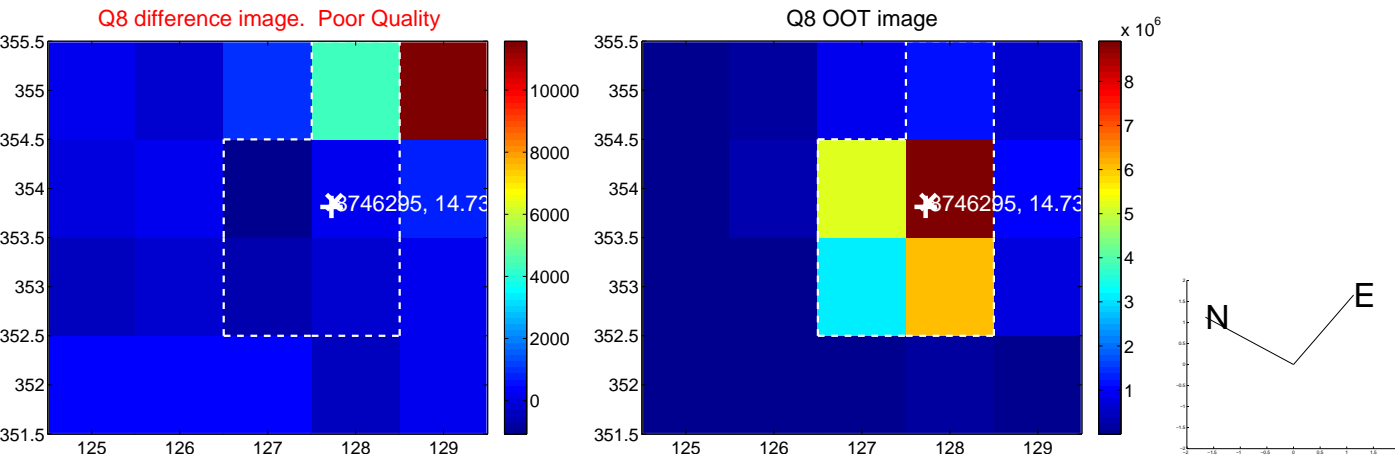
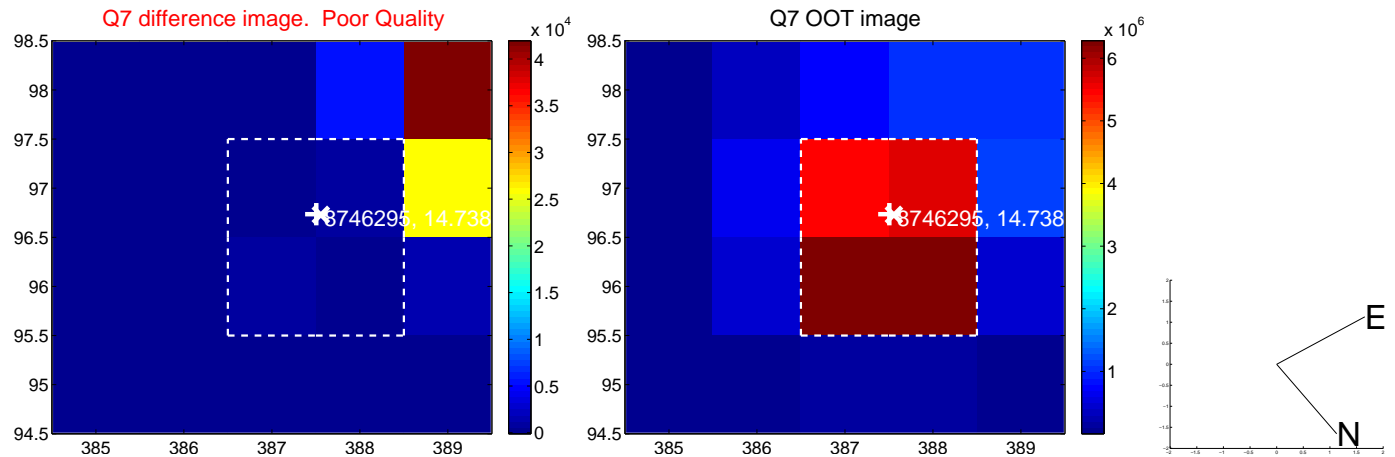
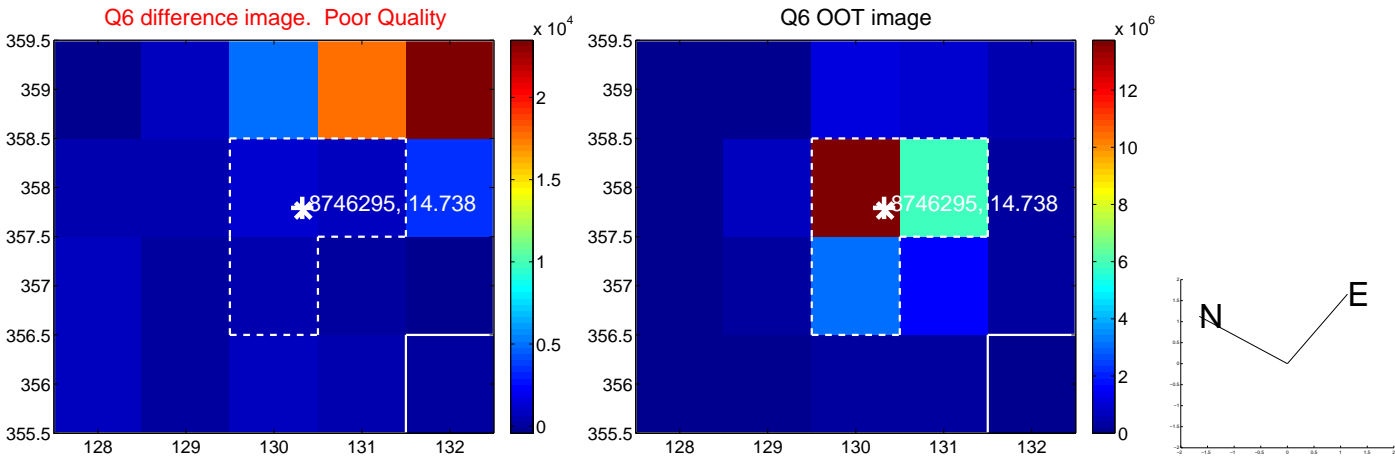
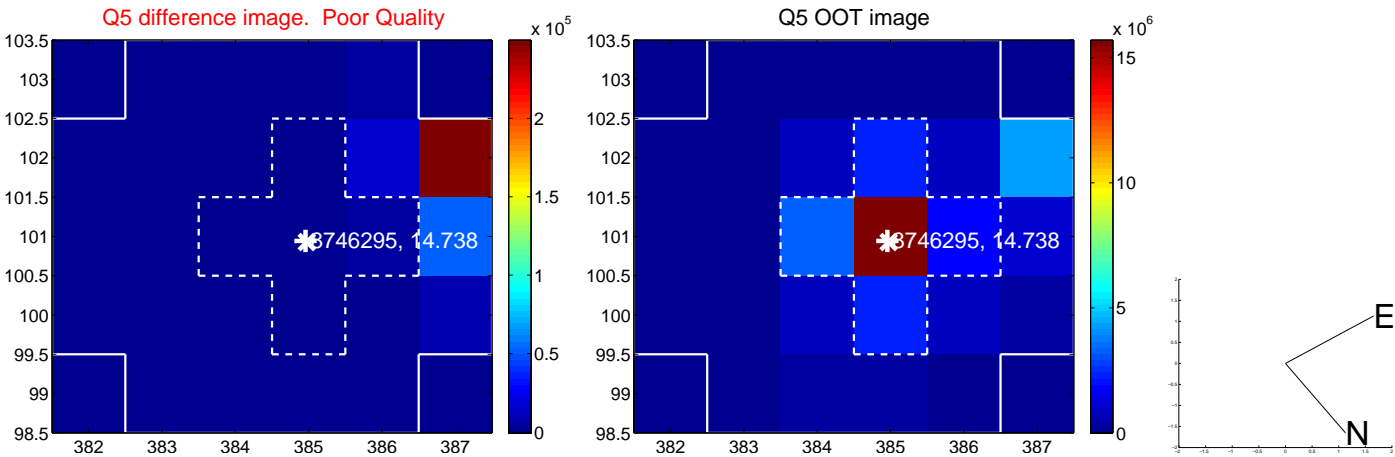


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

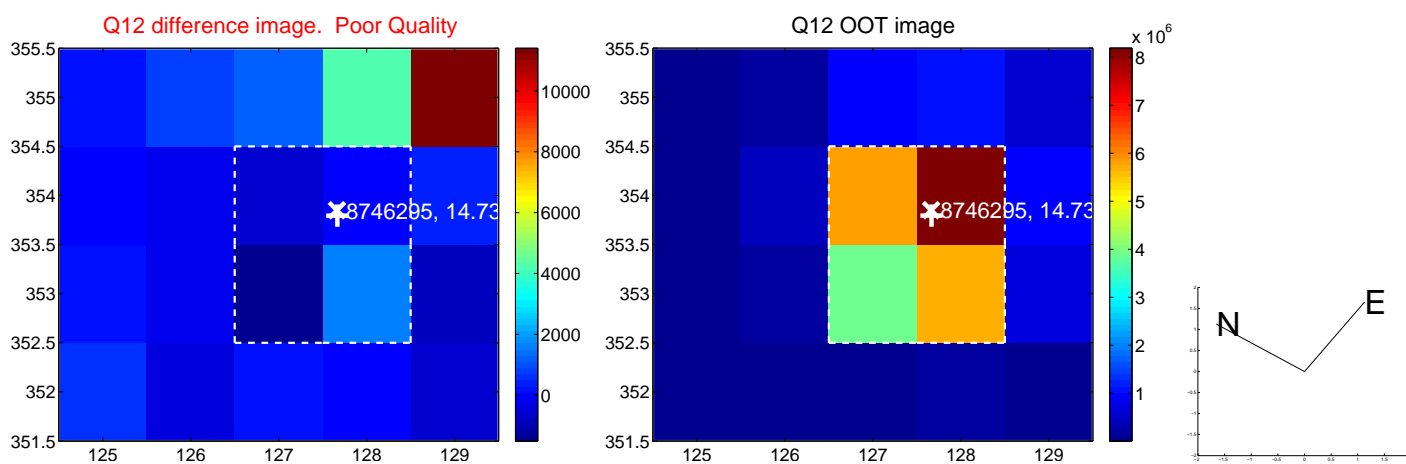
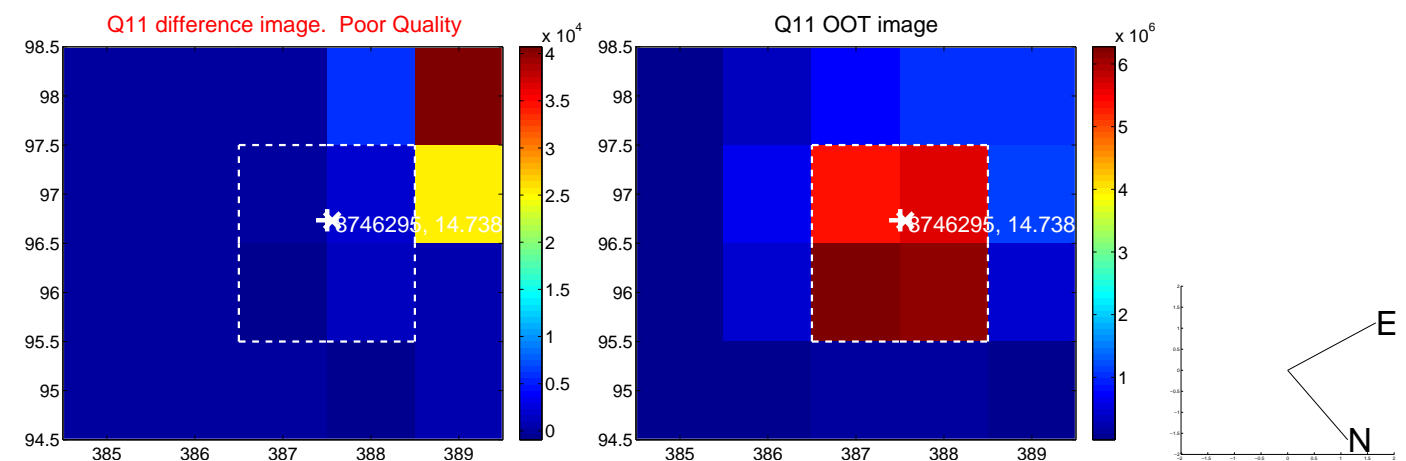
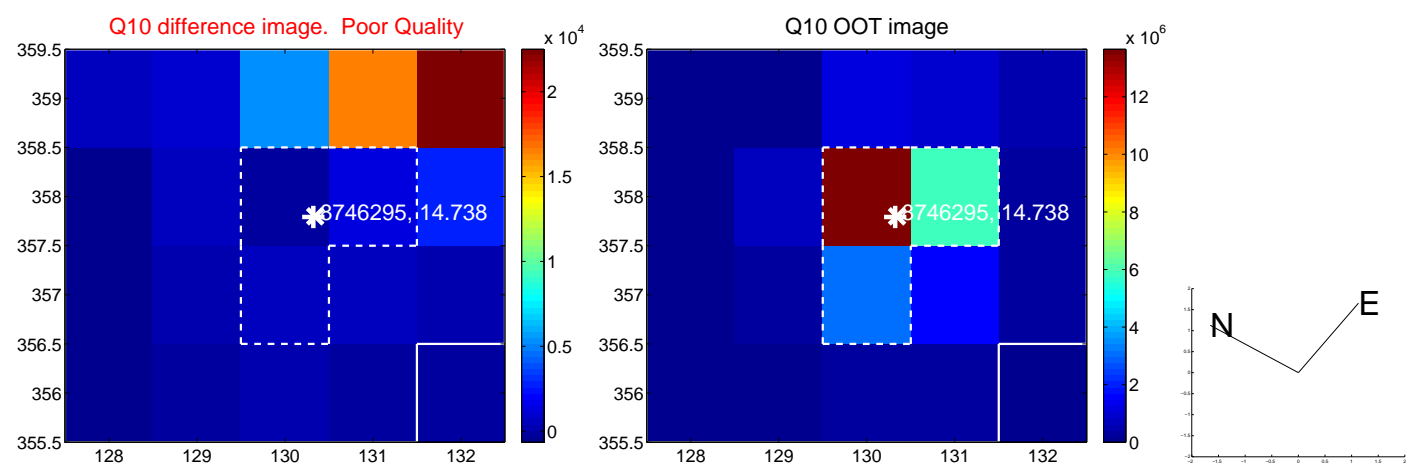
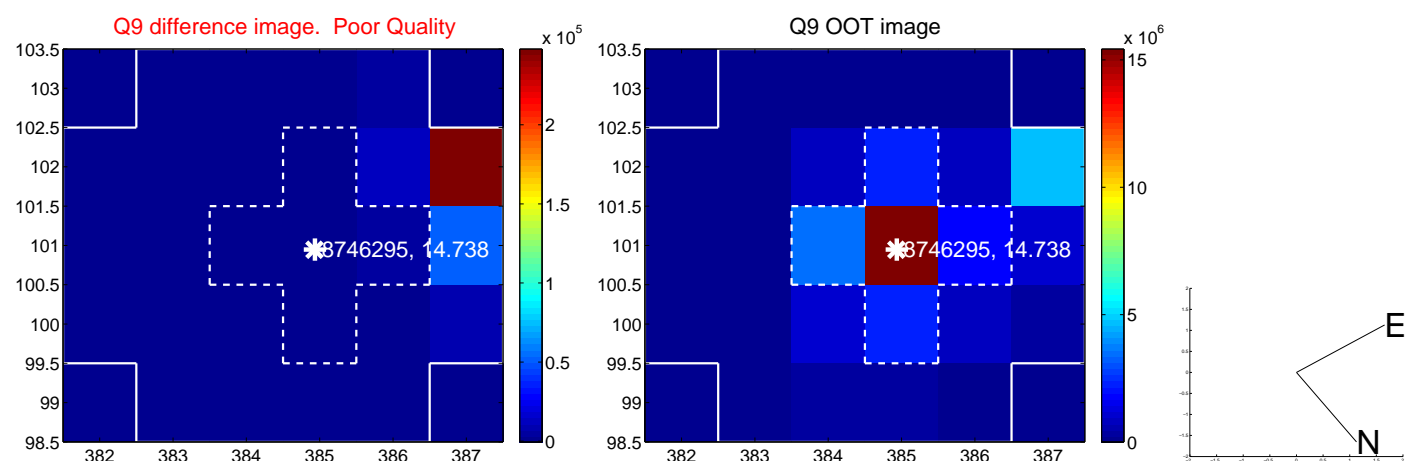
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



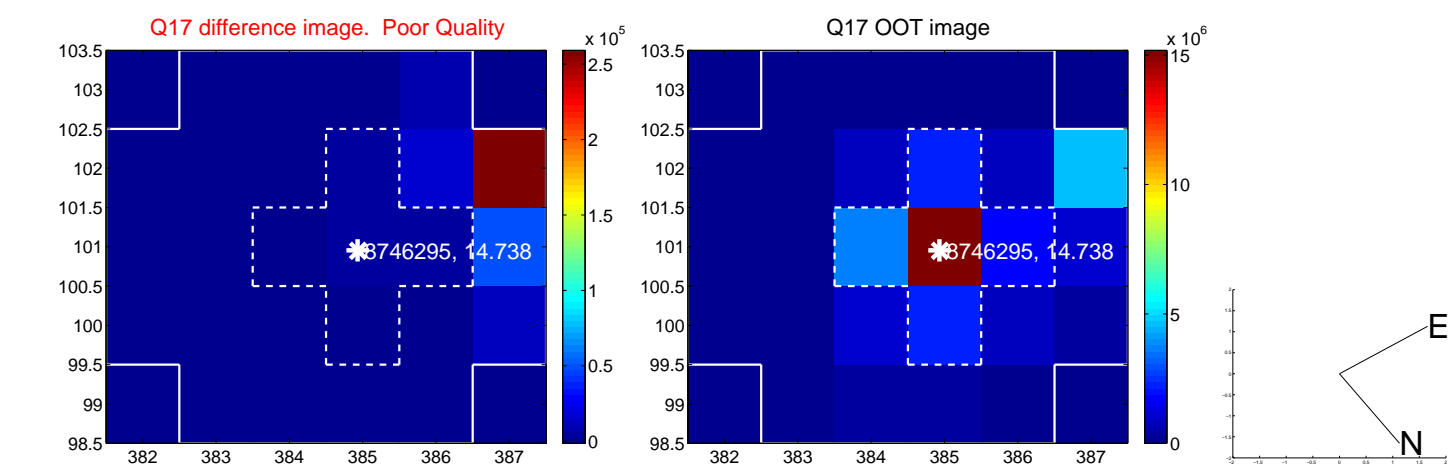
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



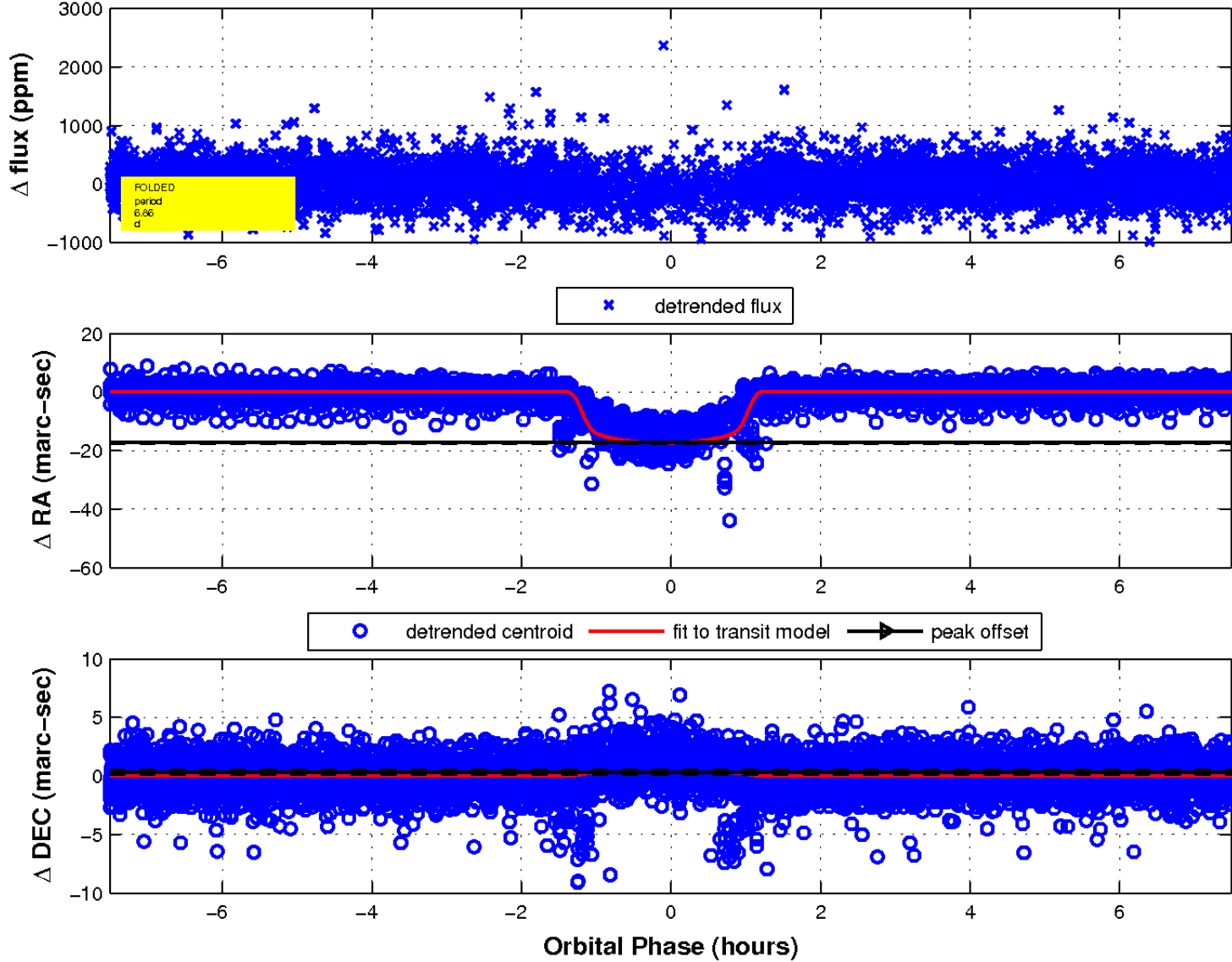
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

