

KIC 010471296

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})
010471296-01	OBS	8020.01	0.933762	132.433798	23.2	2.704	7.3	6.4	0.80	5595	0.46	1731.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010471296-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—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.

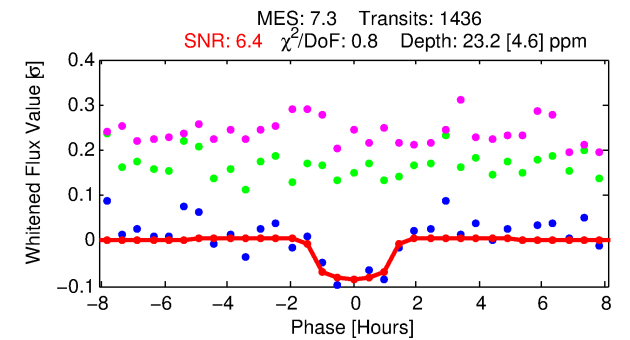
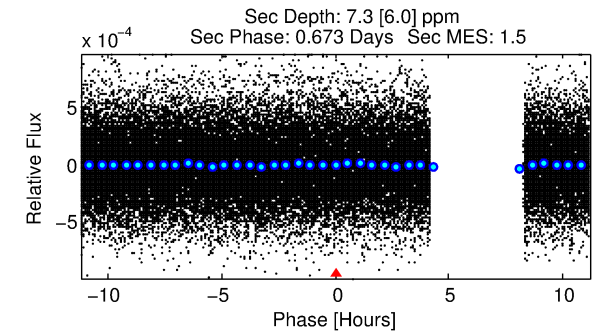
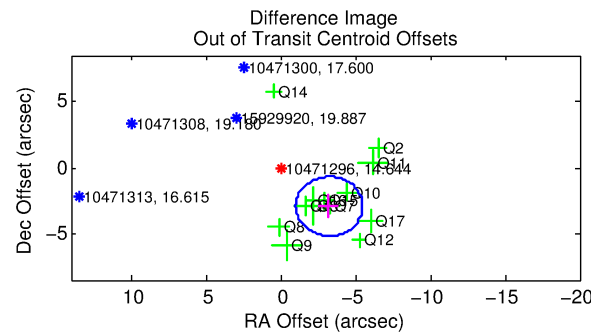
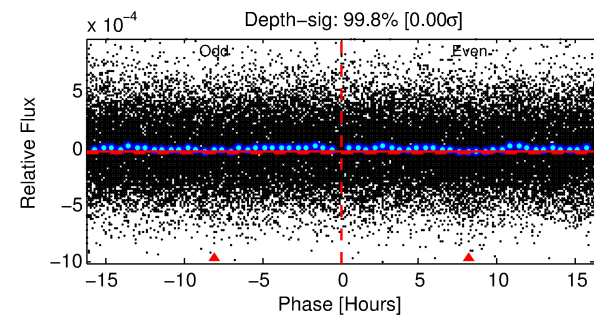
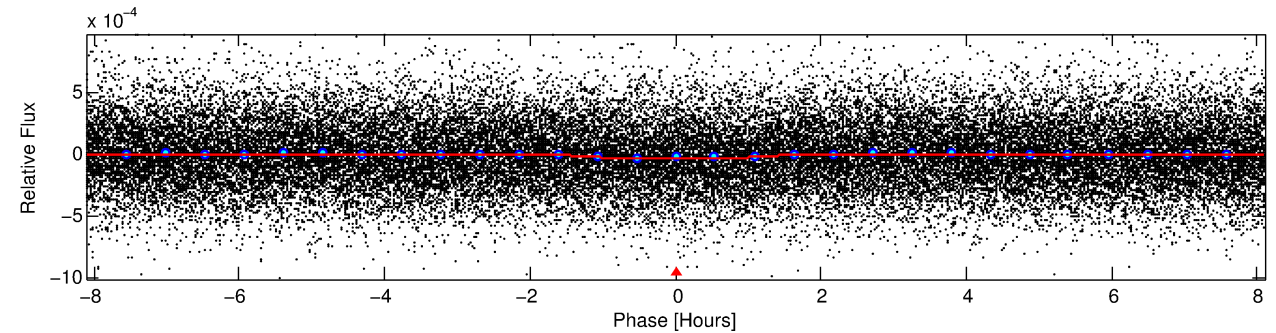
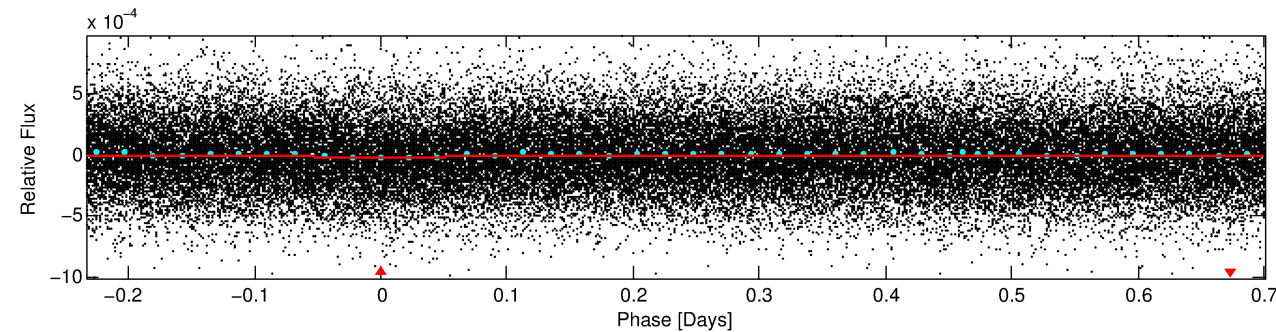
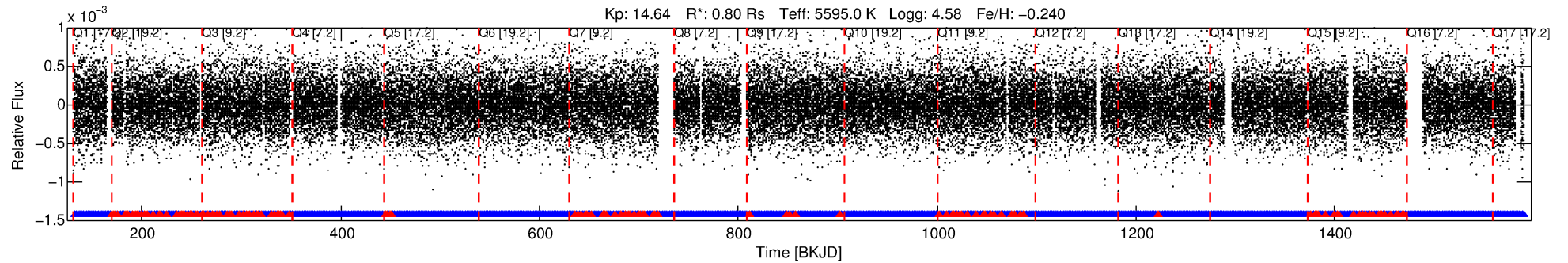
Ephemeris Match Information For 010471296-01

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
010471296-01	10471296	V2083-Cyg-pri	10342012	1:2	1494.6	301	-225	6.90	14.64	8622.70	Direct-PRF	0	2.57	1.47

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: 10471296 Candidate: 1 of 1 Period: 0.934 d



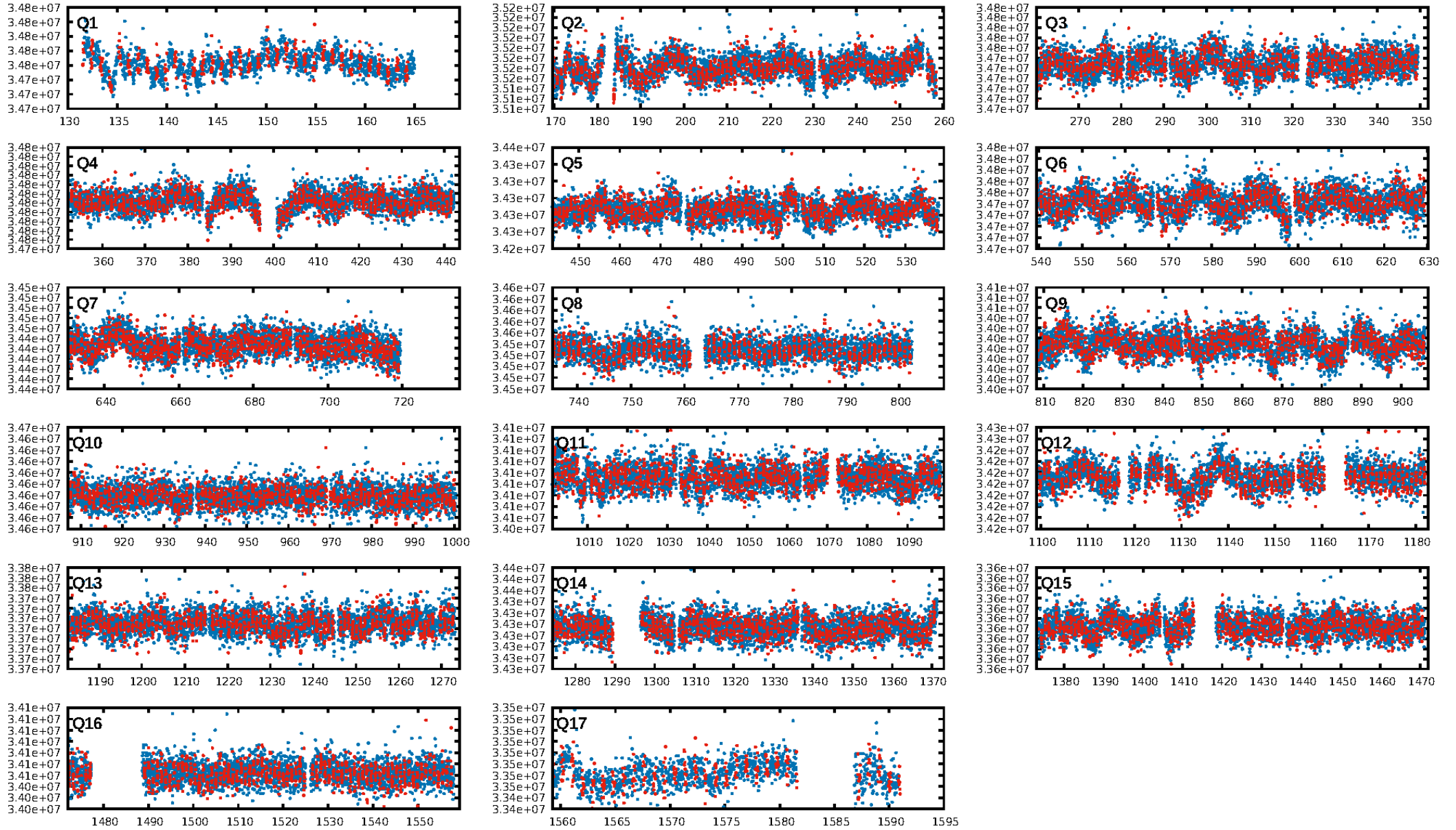
DV Fit Results:

Period = 0.93376 [0.00002] d
Epoch = 132.4338 [0.0054] BKJD
Rp/R* = 0.0052 [0.0039]
a/R* = 1.52 [3.06]
b = 0.90 [0.80]
Seff = 1731.37 [464.72]
Teff = 1645 [110] K
Rp = 0.46 [0.35] Re
a = 0.0179 [0.0030] AU
Ag = 6.23 [10.73] [0.49σ]
Teffp = 4018 [1716] K [1.38σ]

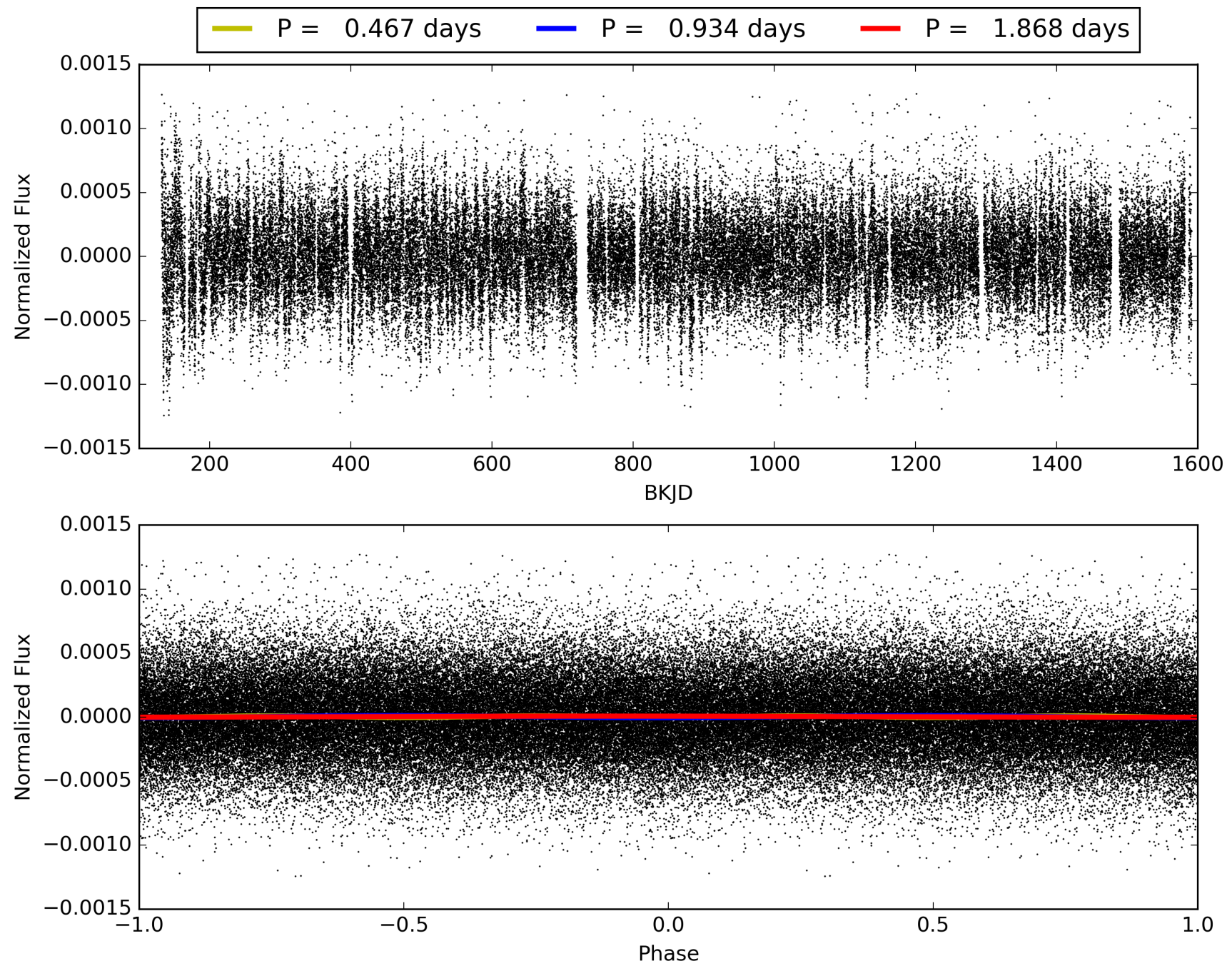
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.65e-14
RollingBand-fgt: 0.90 [1229/1370]
GhostDiagnostic-chr: -0.01809
Centroid-sig: 12.4%
Centroid-so: 2.319 arcsec [1.10σ]
OotOffset-rm: 4.362 arcsec [5.84σ]
KicOffset-rm: 4.480 arcsec [6.33σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010471296-01, PDC Light Curves

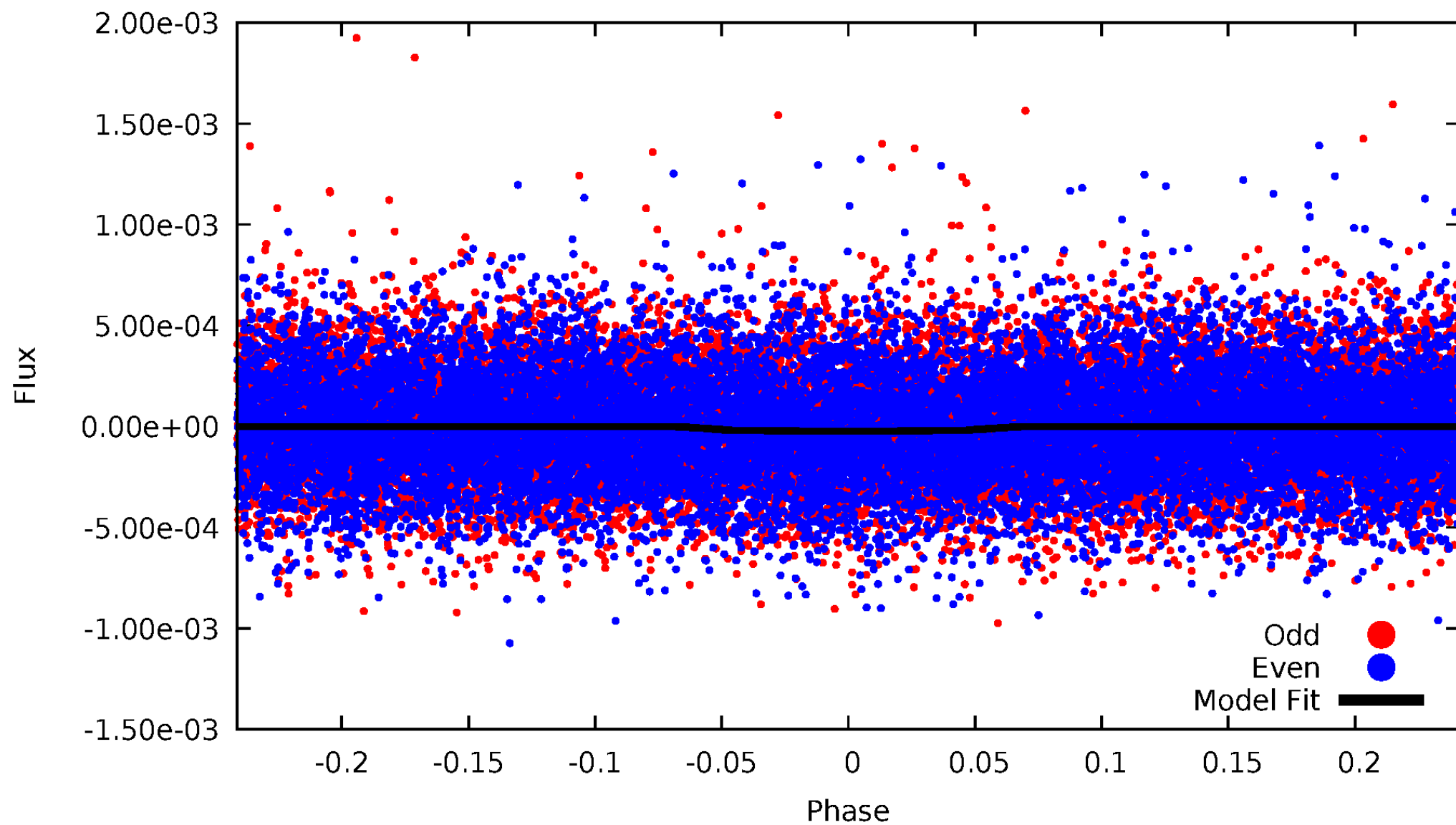


TCE 010471296-01



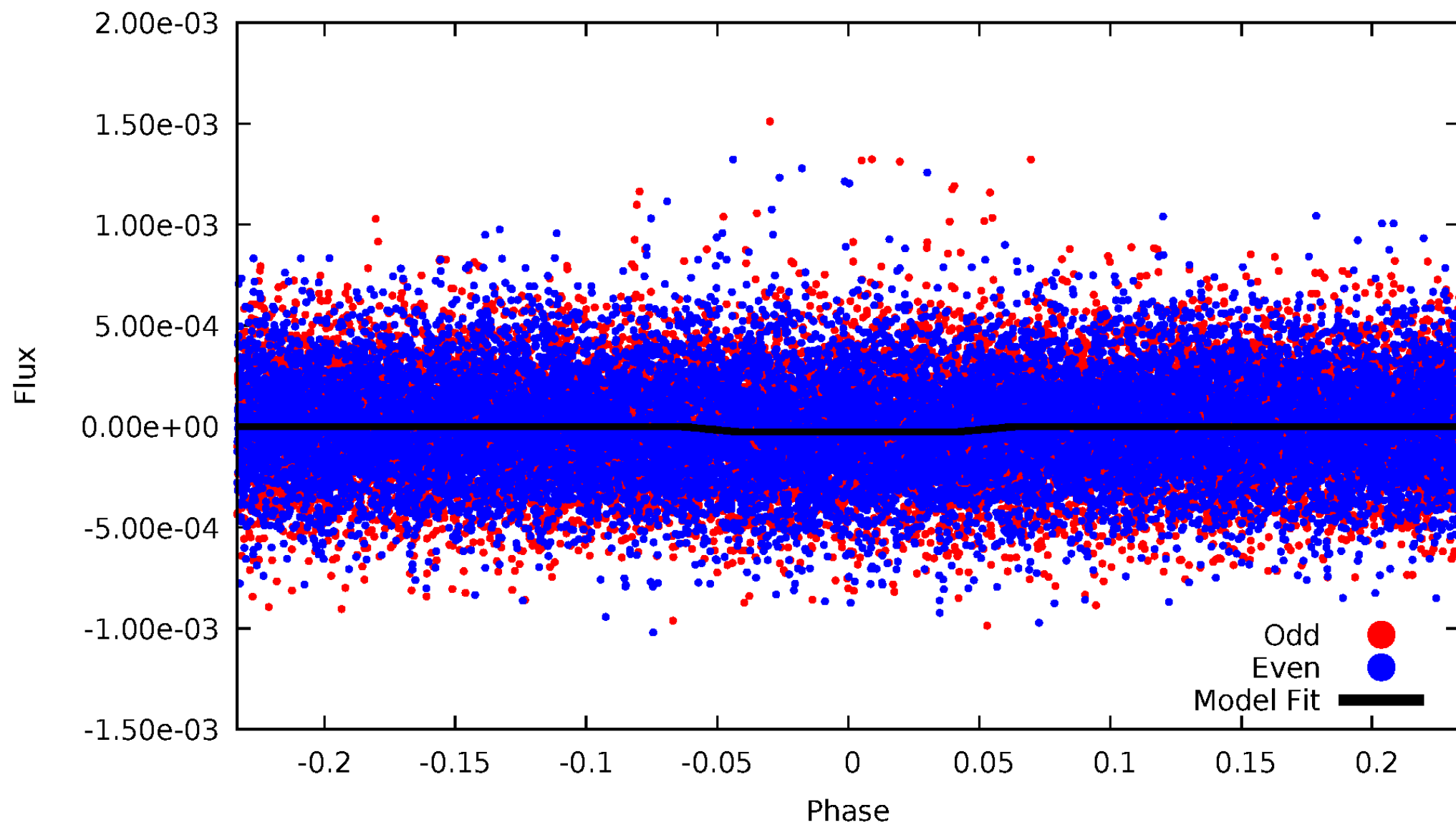
DV Odd/Even

TCE 010471296-01



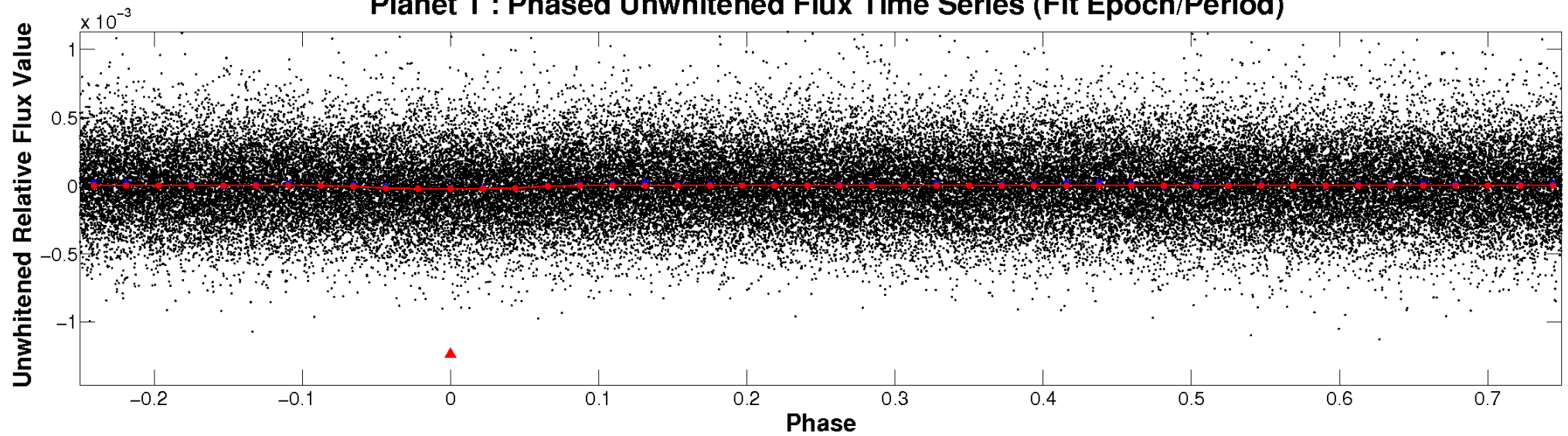
ALT Odd/Even

TCE 010471296-01

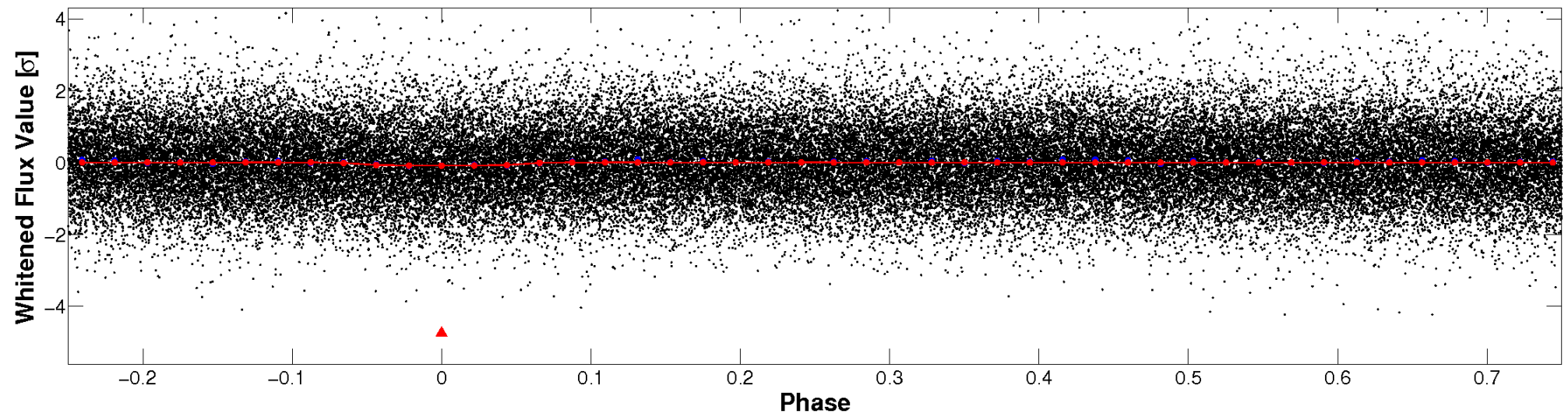


Non-Whitened Vs. Whitened Light Curve

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

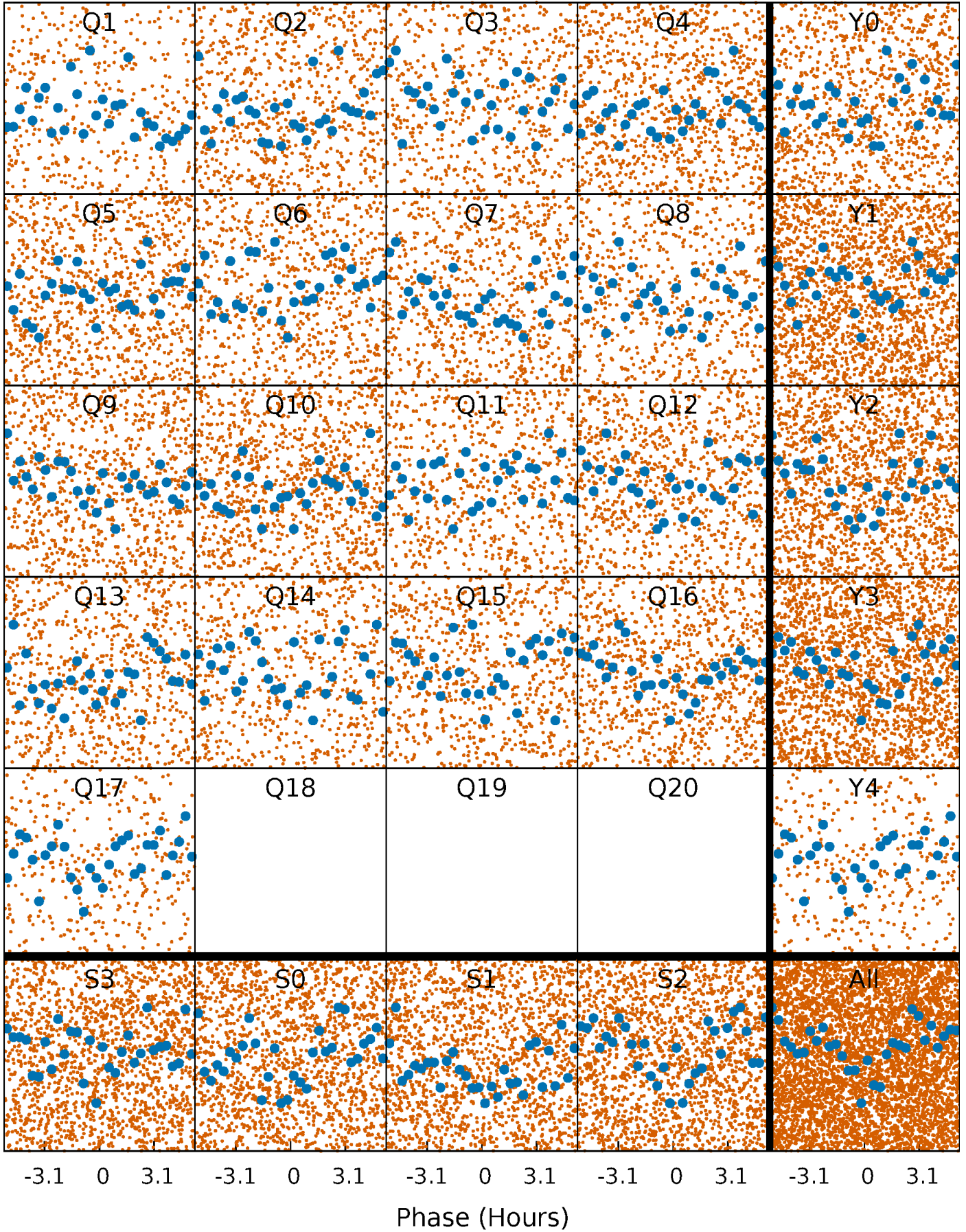


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



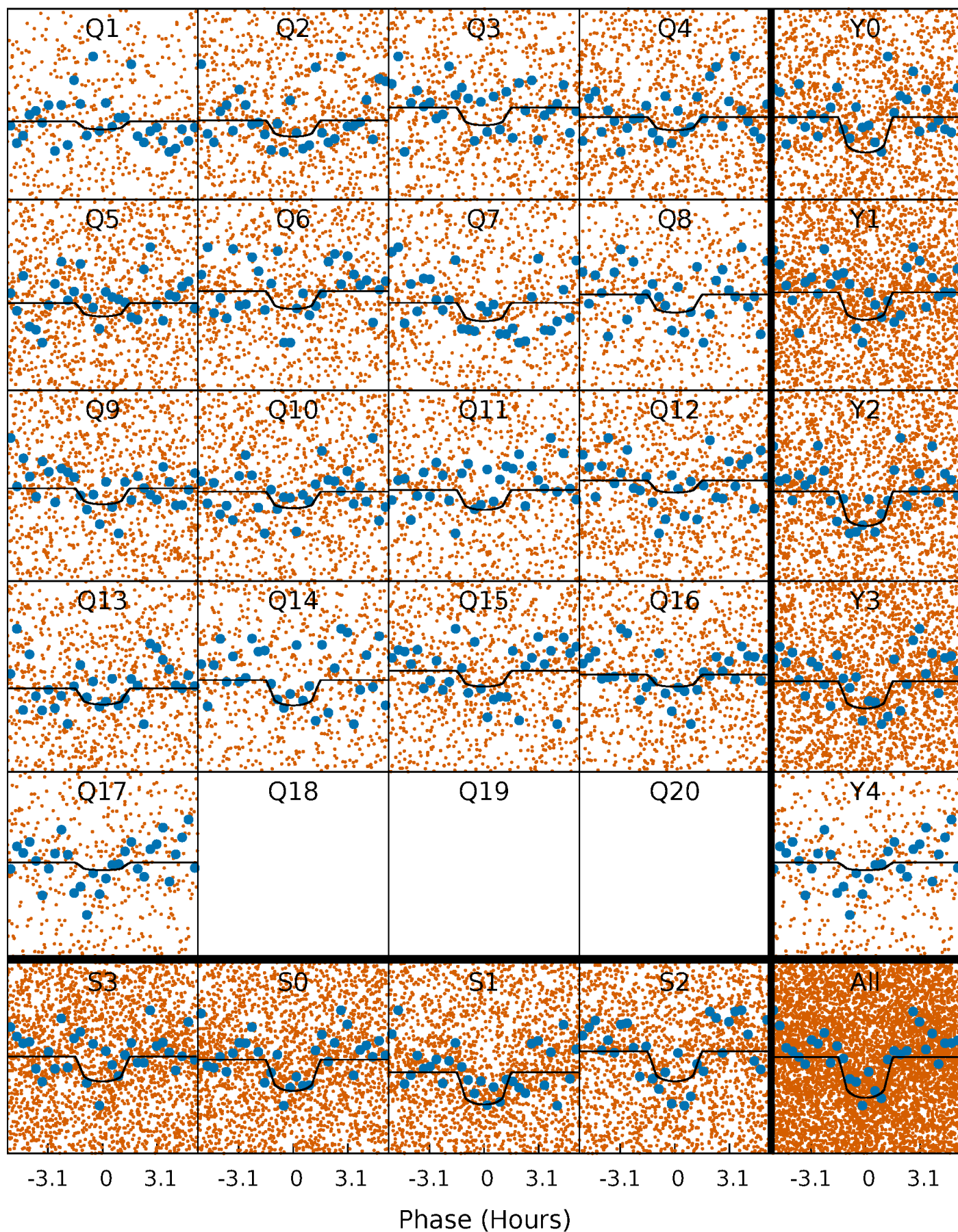
PDC Quarter-Phased Transit Curves

TCE 010471296-01 P= 0.933762 Days $T_0=132.433798$ (BKJD)



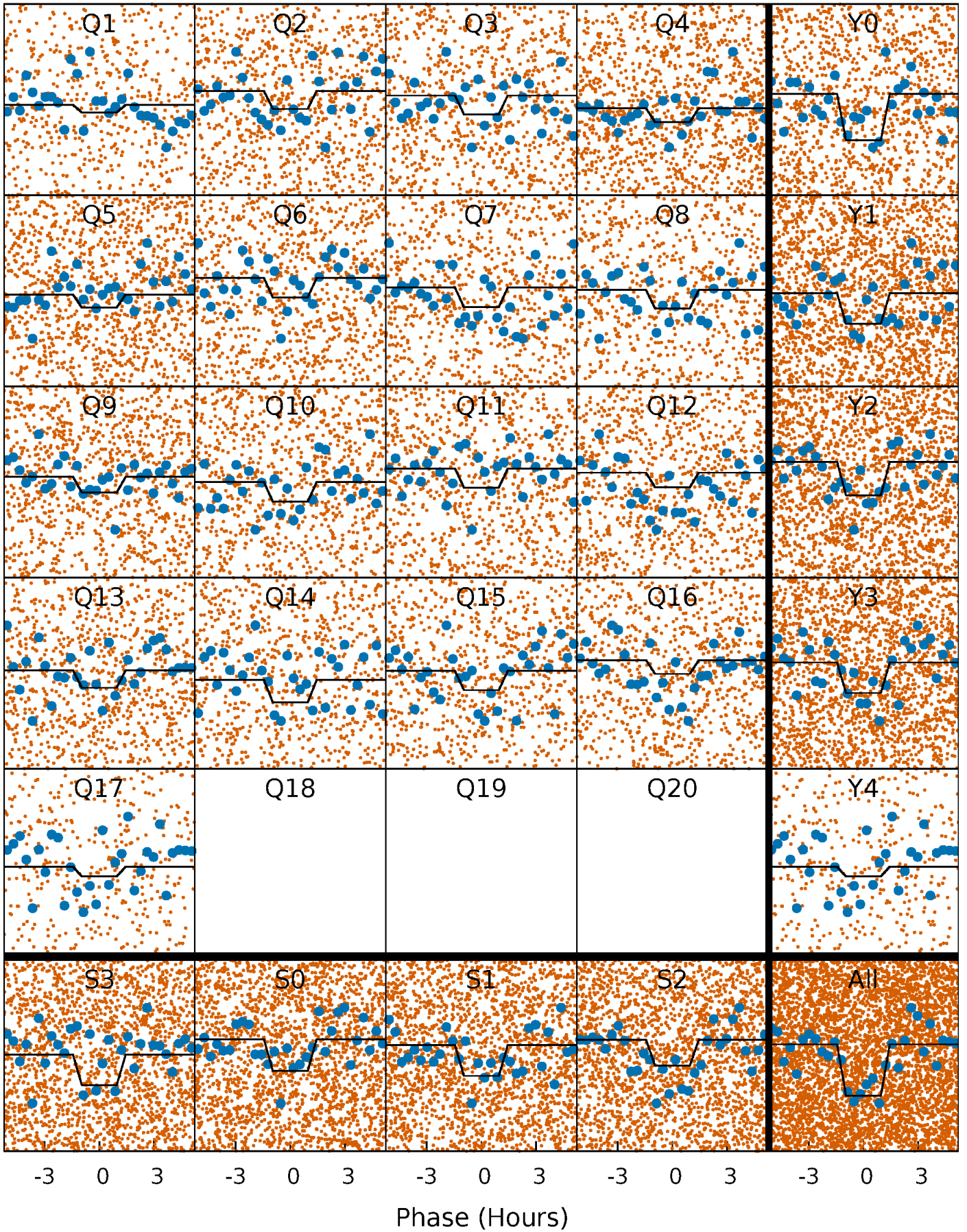
DV Quarter-Phased Transit Curves

TCE 010471296-01 P= 0.933762 Days $T_0=132.433798$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

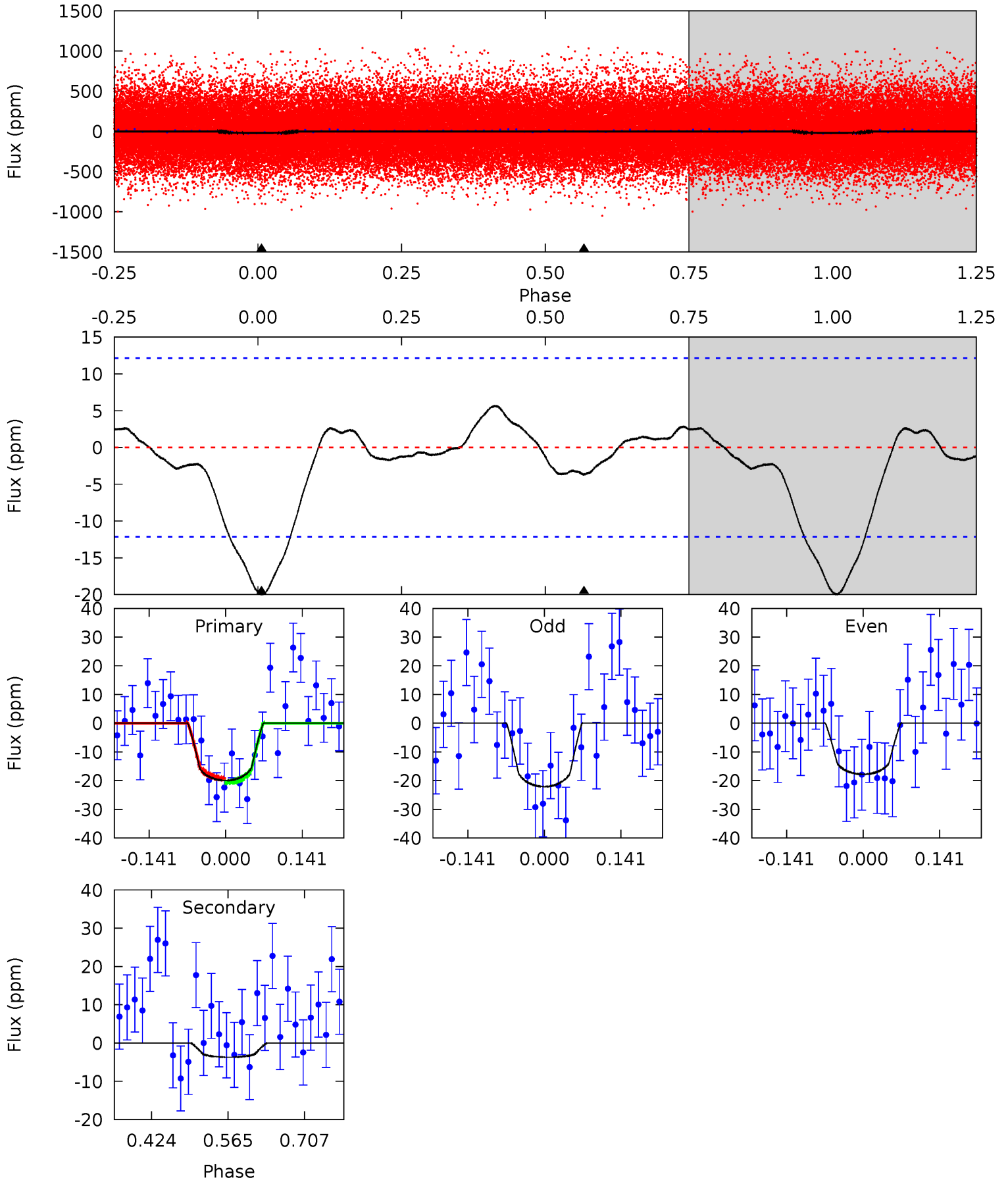
TCE 010471296-01 P= 0.933767 Days $T_0=132.433871$ (BKJD)



DV Model-Shift Uniqueness Test

010471296-01, P = 0.933762 Days, E = 131.500036 Days

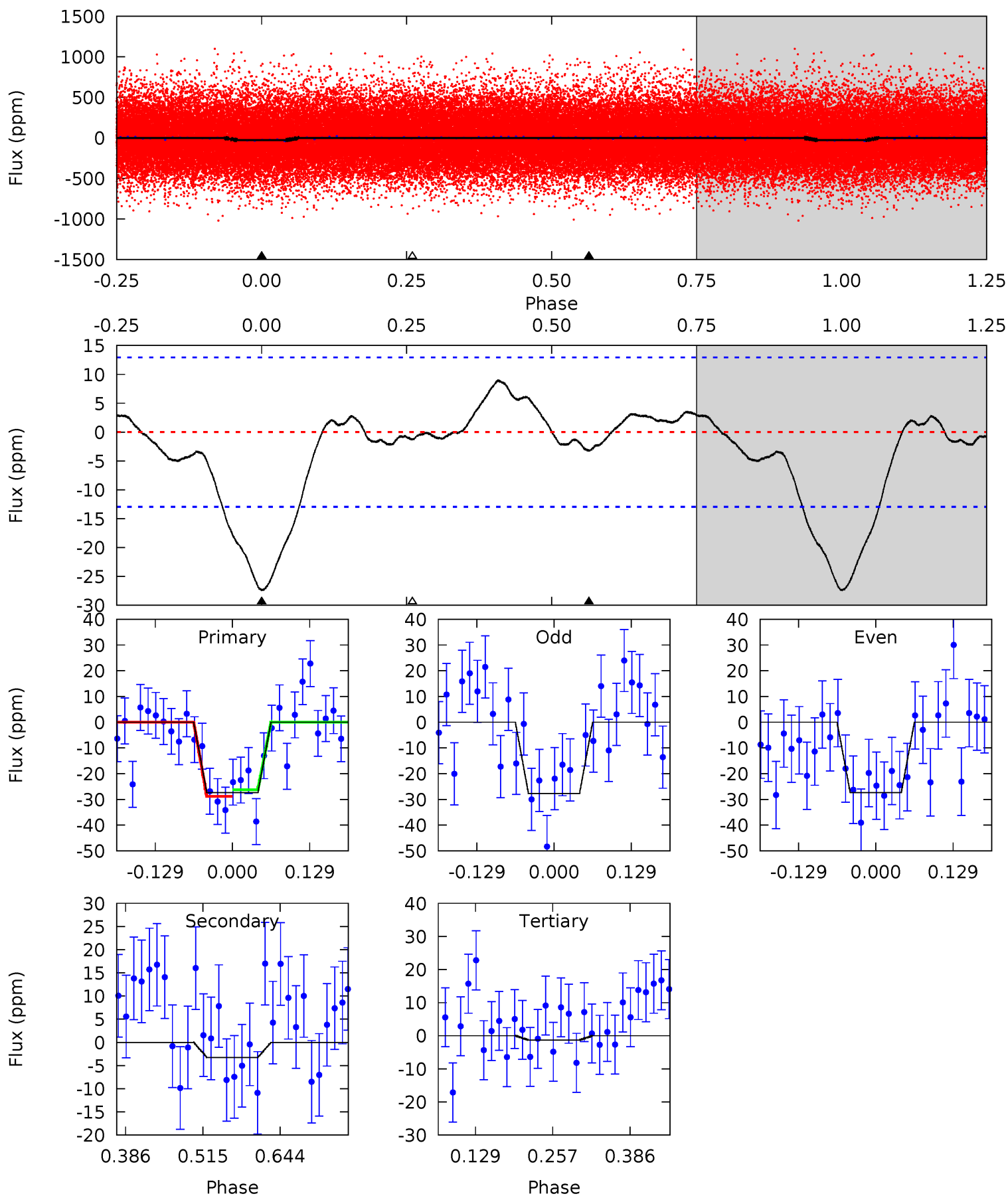
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.39	1.37	0	0	4.49	1.47	0.79	7.39	7.39	1.37	1.37	0.80	0.72	0.22	0.23



Alt Model-Shift Uniqueness Test

010471296-01, P = 0.933767 Days, E = 131.500104 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.55	1.13	0.46	0	4.51	1.52	1.13	9.10	9.55	0.67	1.13	0.07	0.83	0.25	0.44



Stellar Parameters For KIC 010471296

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5595^{+152}_{-152}	$4.581^{+0.036}_{-0.135}$	$-0.240^{+0.300}_{-0.300}$	$0.796^{+0.157}_{-0.073}$	$0.890^{+0.078}_{-0.107}$	$2.487^{+0.447}_{-0.970}$
	+3%/-3%	+1%/-3%	+125%/-125%	+20%/-9%	+9%/-12%	+18%/-39%
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 010471296-01 / KOI 8020.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 3	$0.52^{+0.32}_{-0.30}$	2341^{+117}_{-94}	3510^{+1283}_{-1344}	$2.154^{+9.088}_{-1.808}$
Alt.	-3 ± 3	$0.49^{+0.34}_{-0.29}$	2347^{+108}_{-96}	3487^{+1432}_{-5993}	$1.967^{+10.360}_{-1.828}$

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

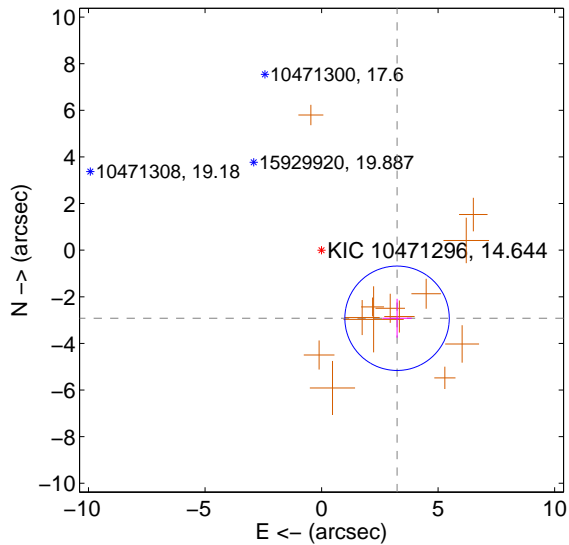
Supplemental centroid analysis for 010471296-01. Kepler magnitude: 14.64. Transit SNR 6.39

There are 0 quarters with good PRF difference image offsets

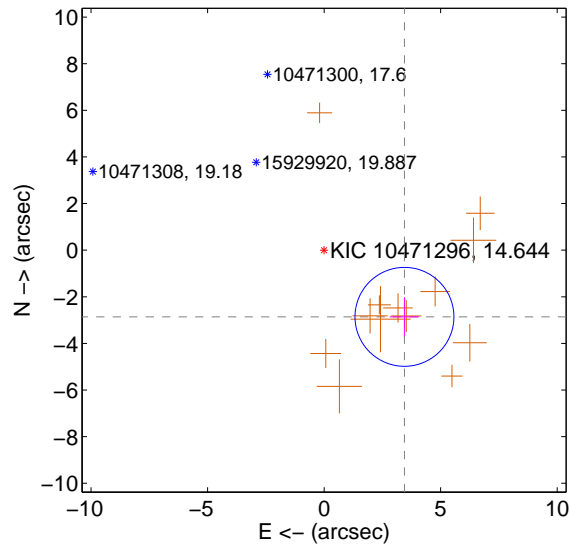
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.362 ± 0.747	5.84	-3.239 ± 0.630	-2.922 ± 0.835
PRF-fit source offset from KIC position	4.480 ± 0.707	6.33	-3.447 ± 0.628	-2.861 ± 0.845
photometric centroid source offset	2.32 ± 2.11	1.10	1.15 ± 2.23	-2.01 ± 2.07

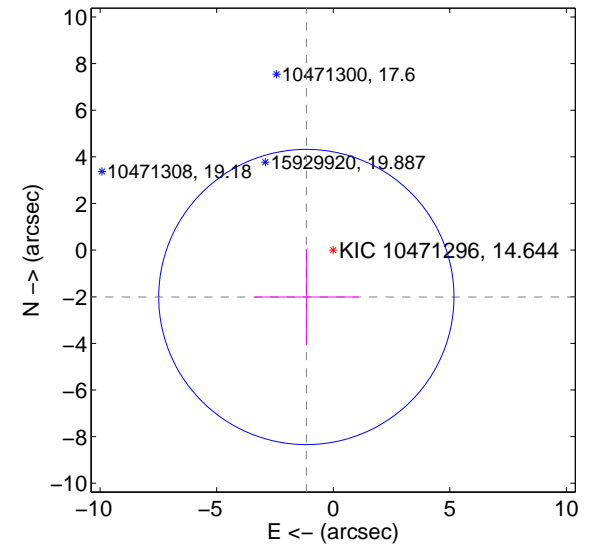
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

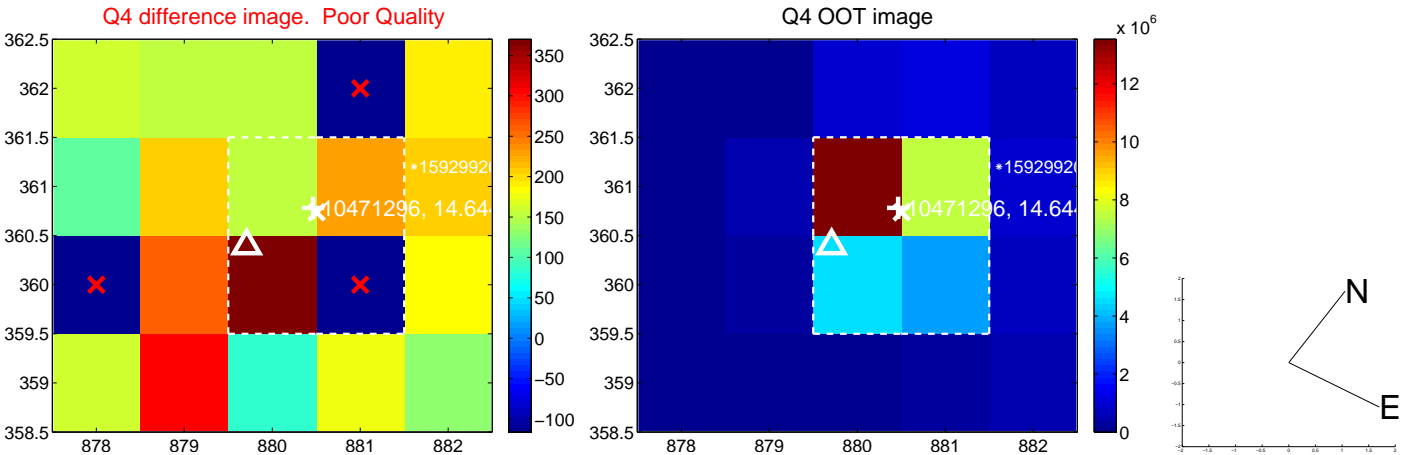
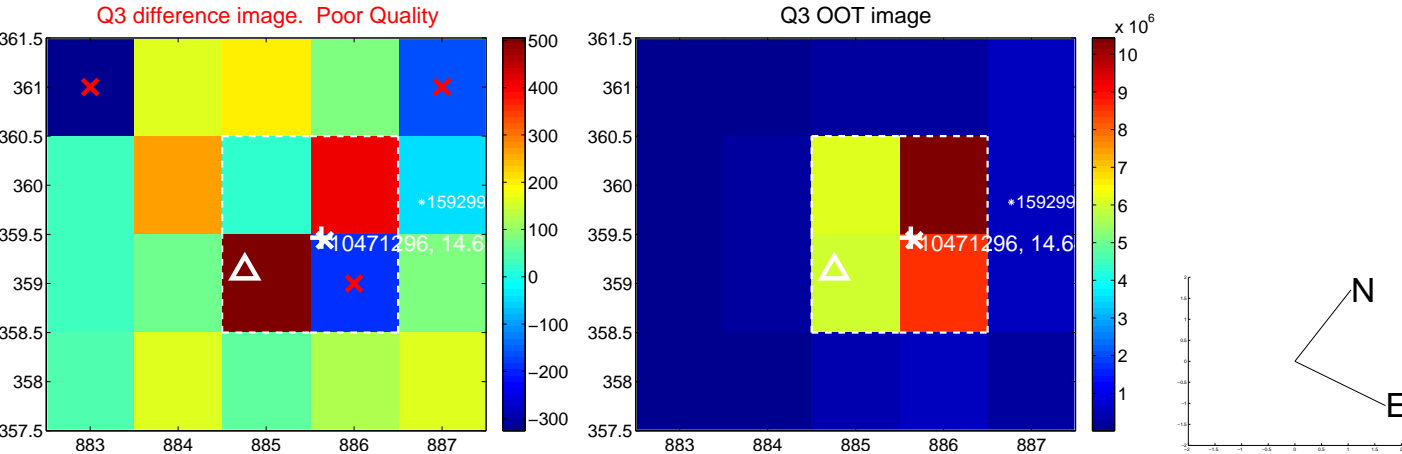
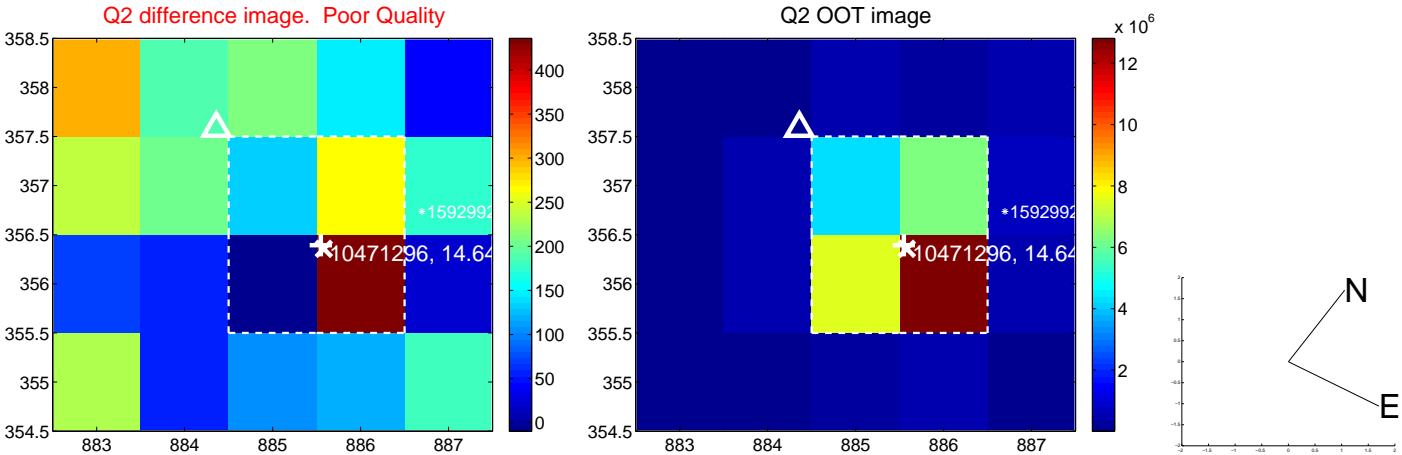
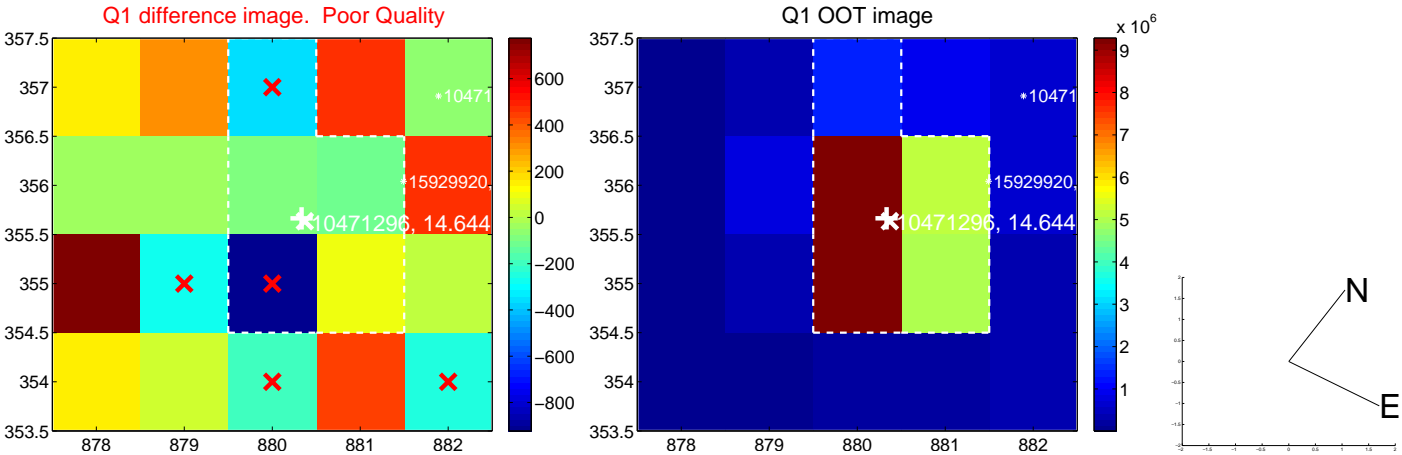


offset from photometric centroids

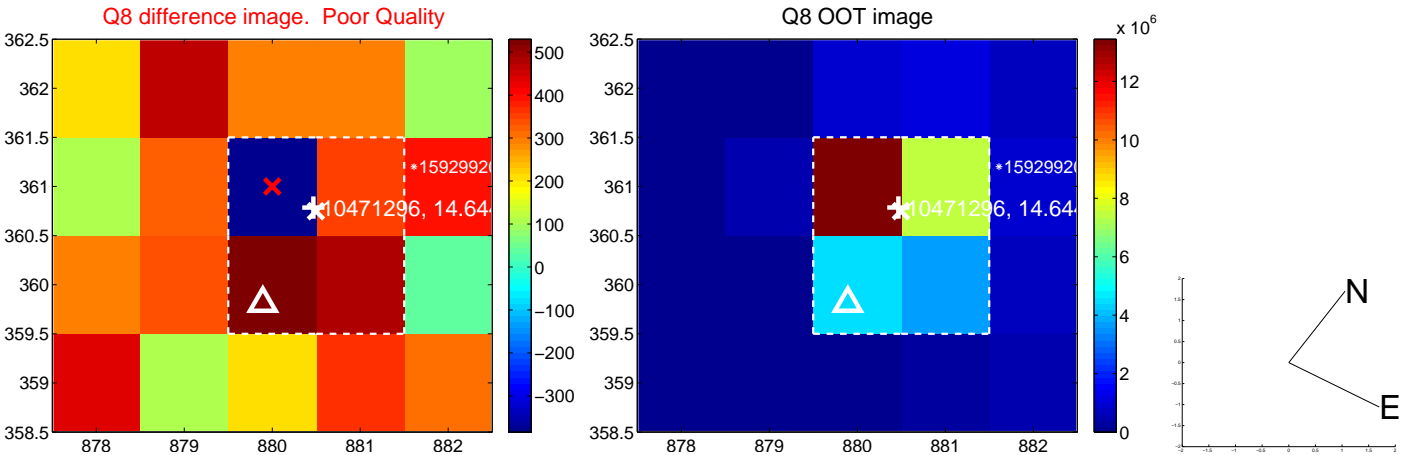
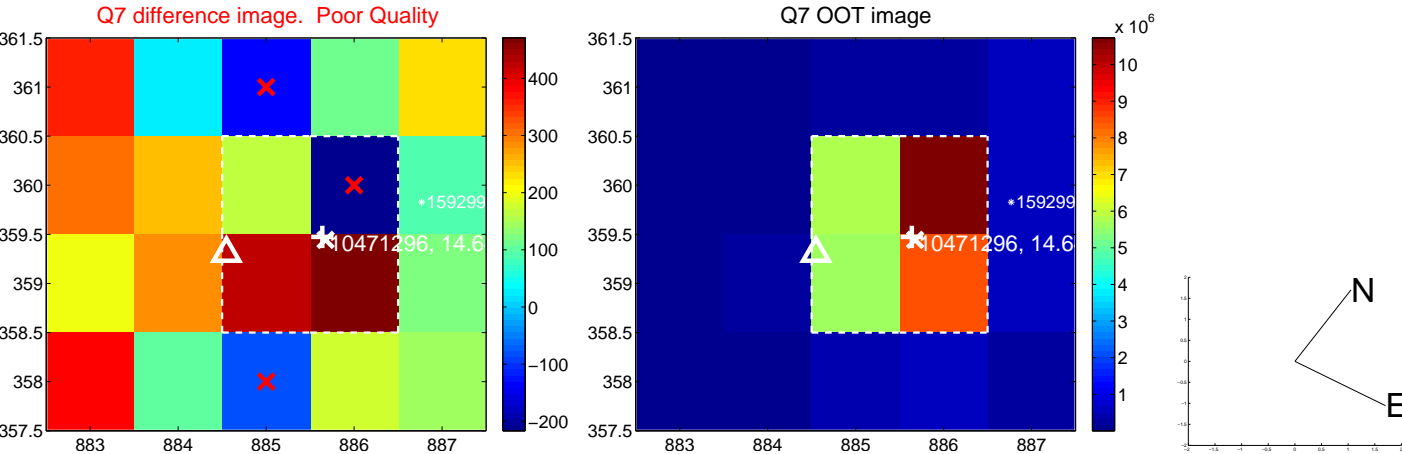
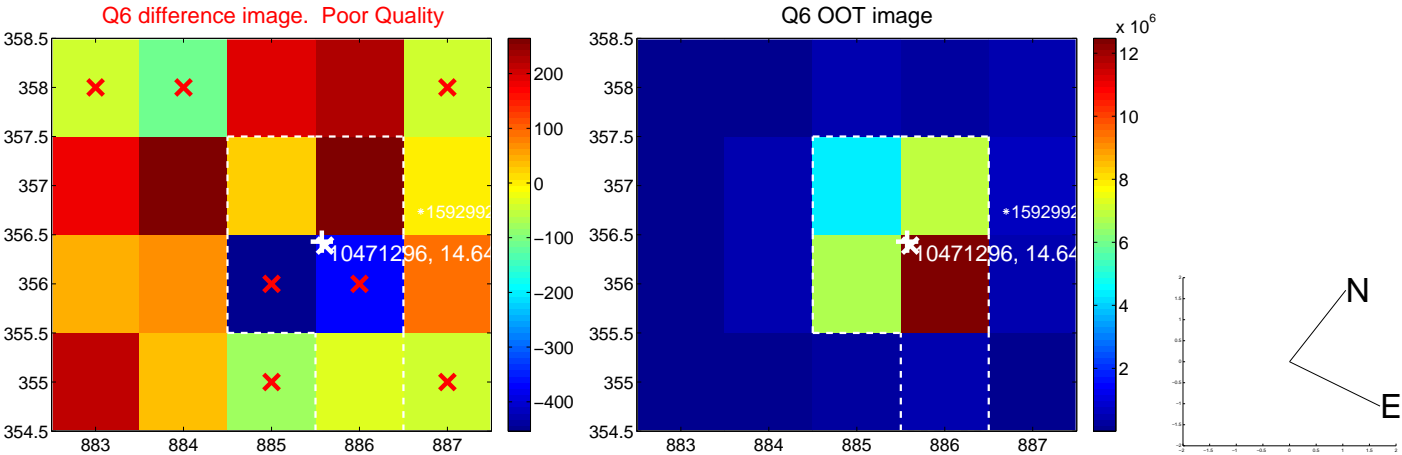
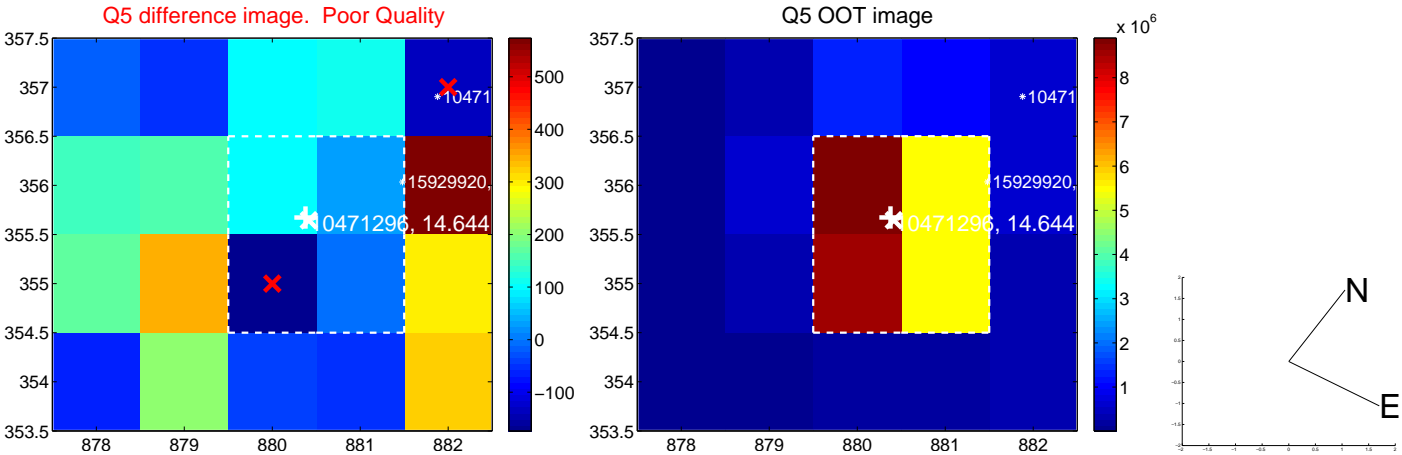


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

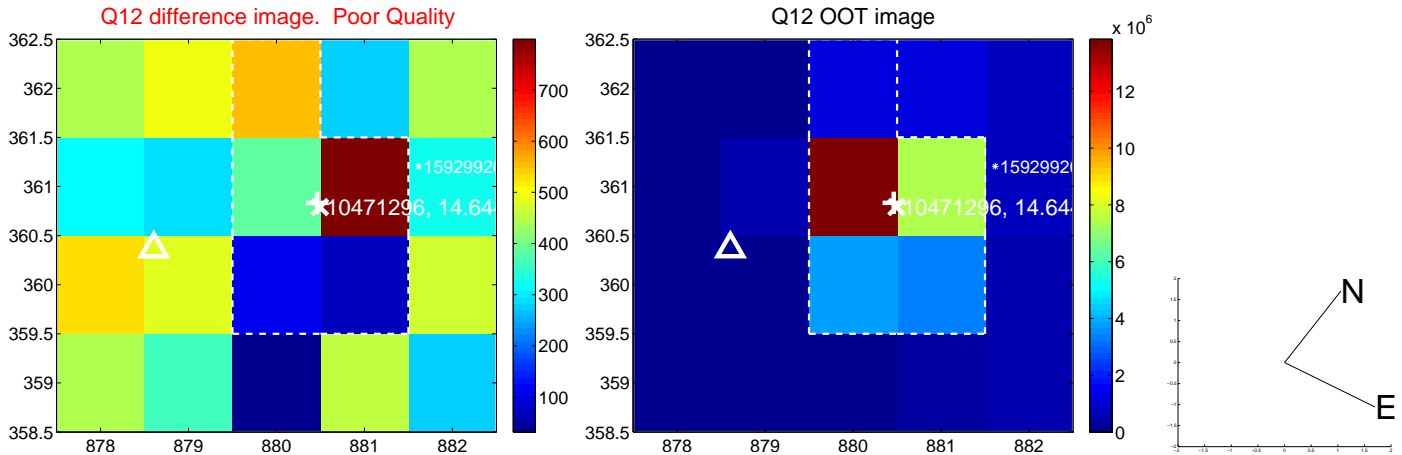
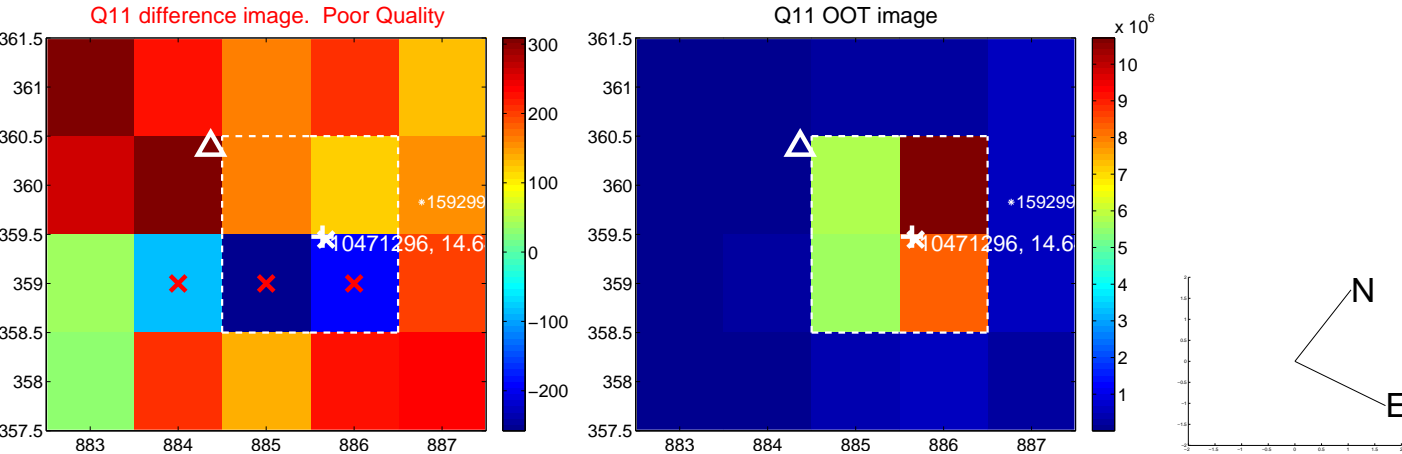
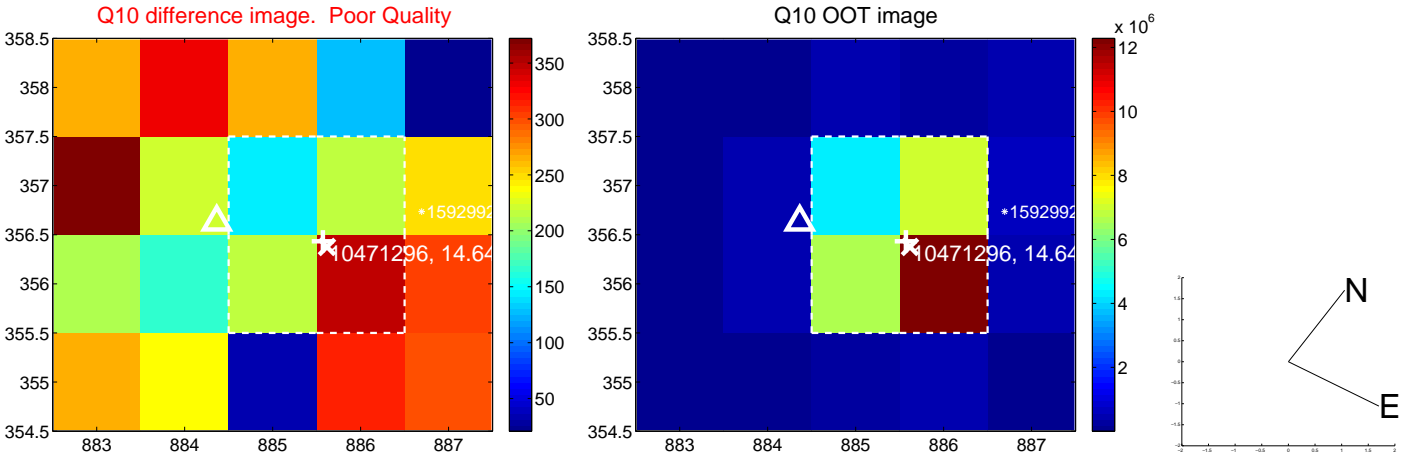
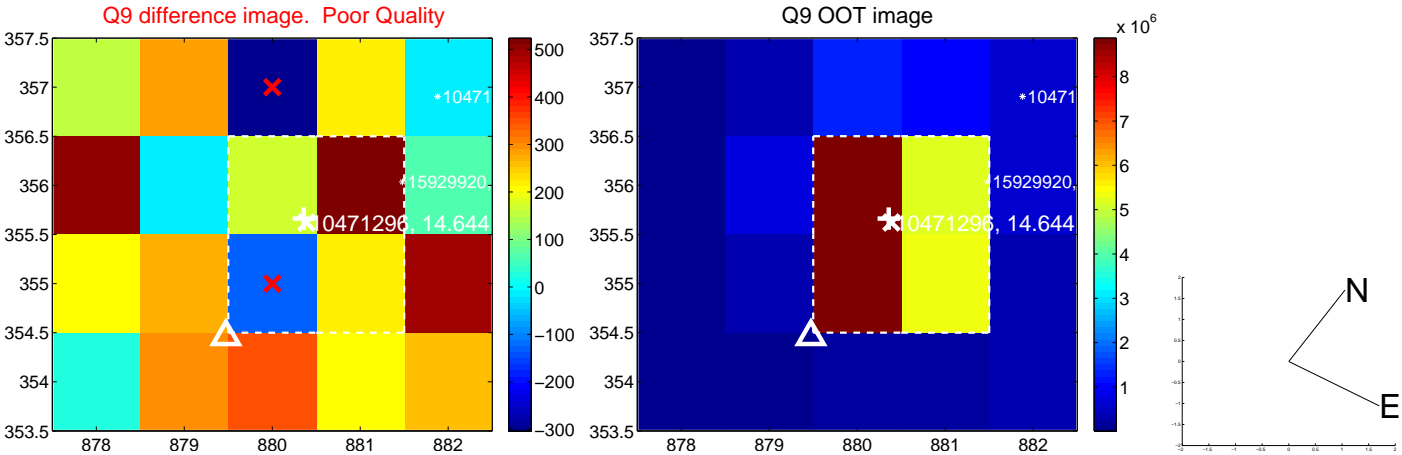
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



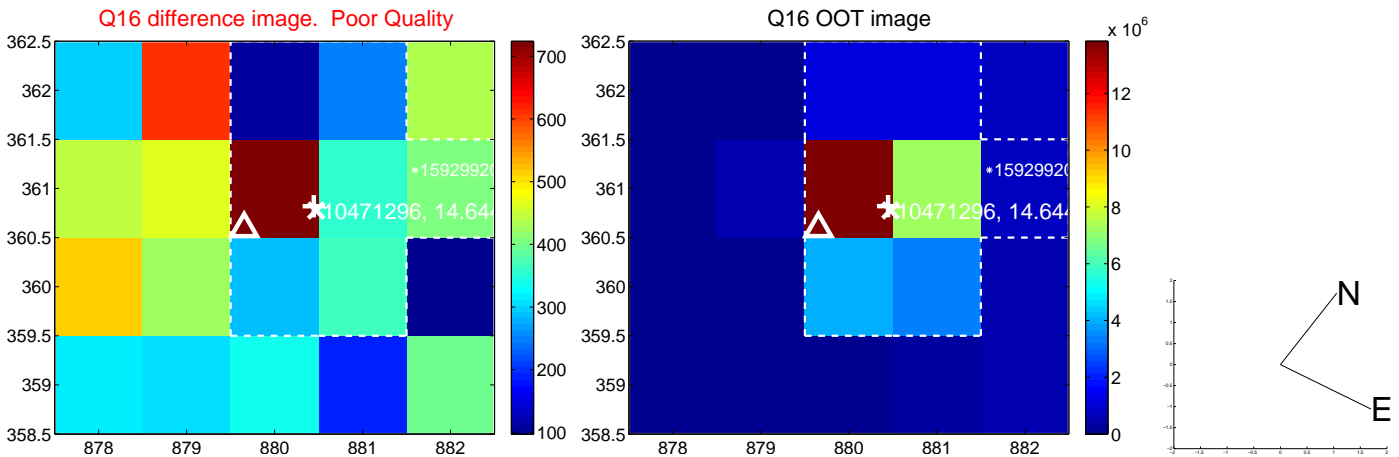
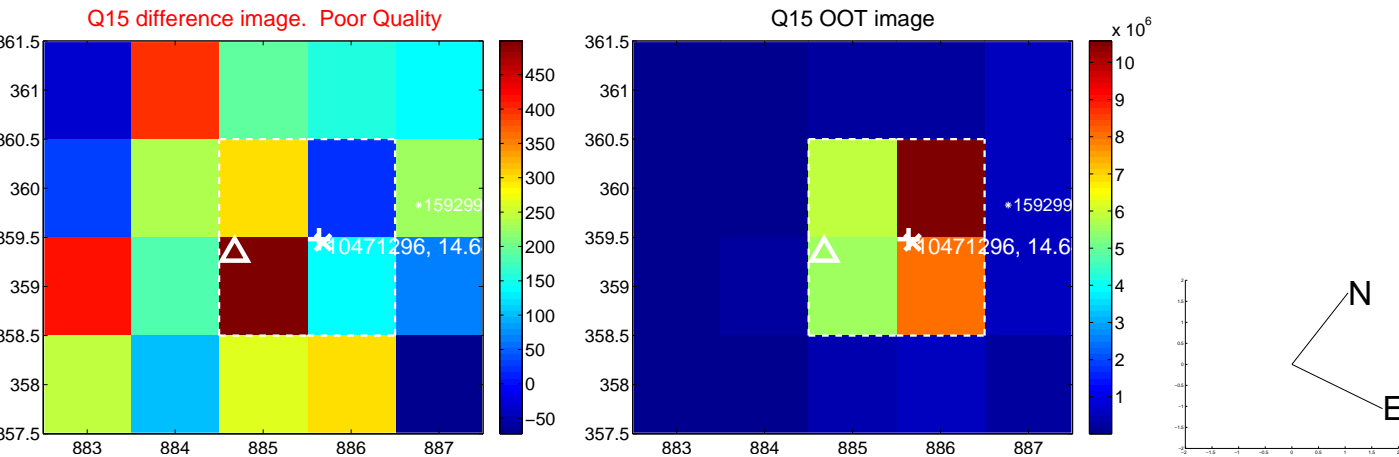
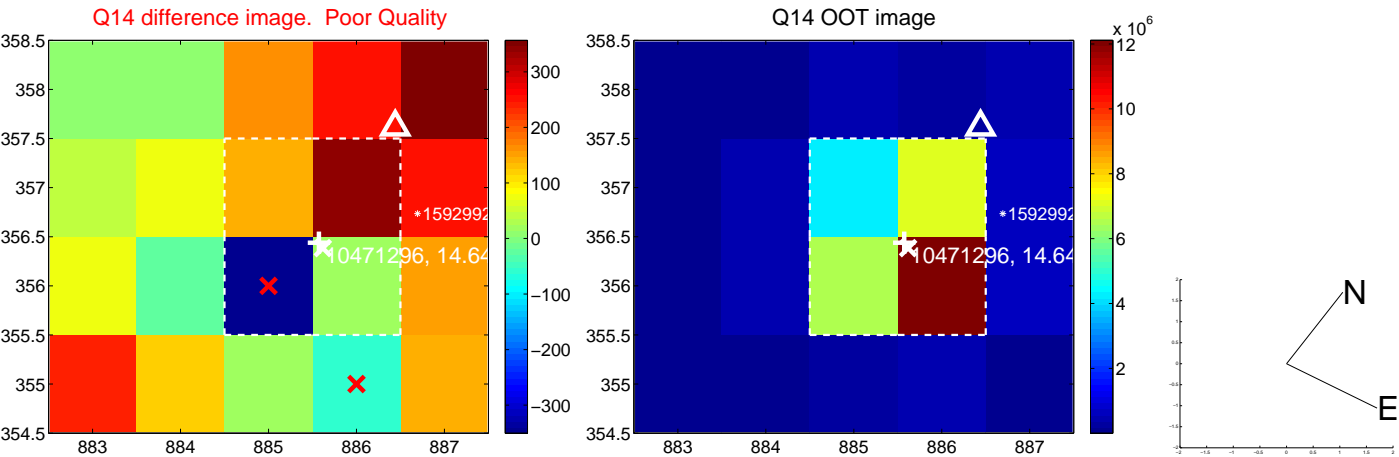
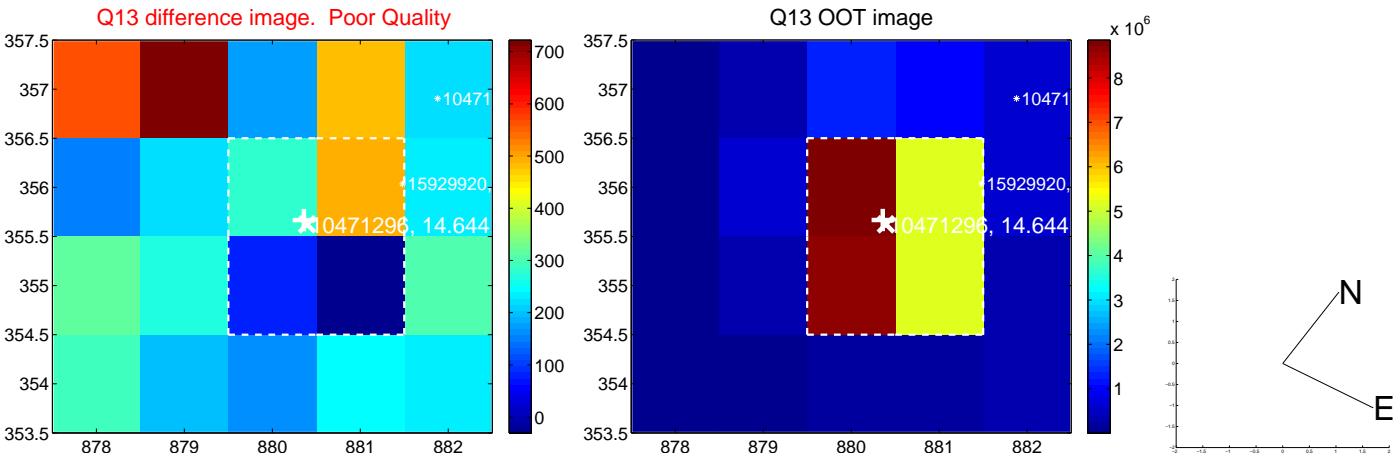
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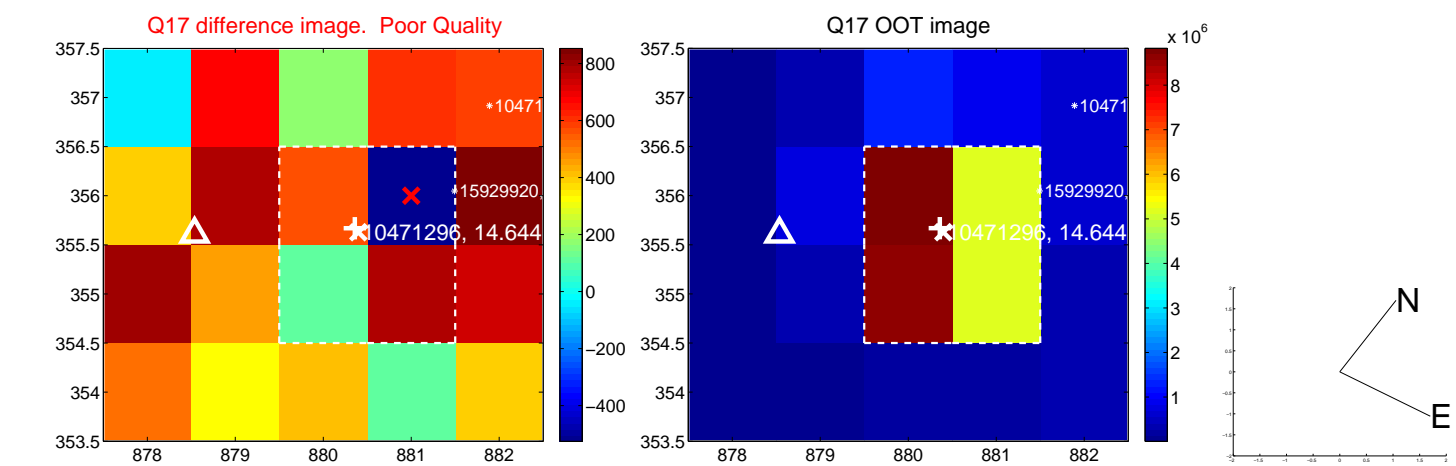
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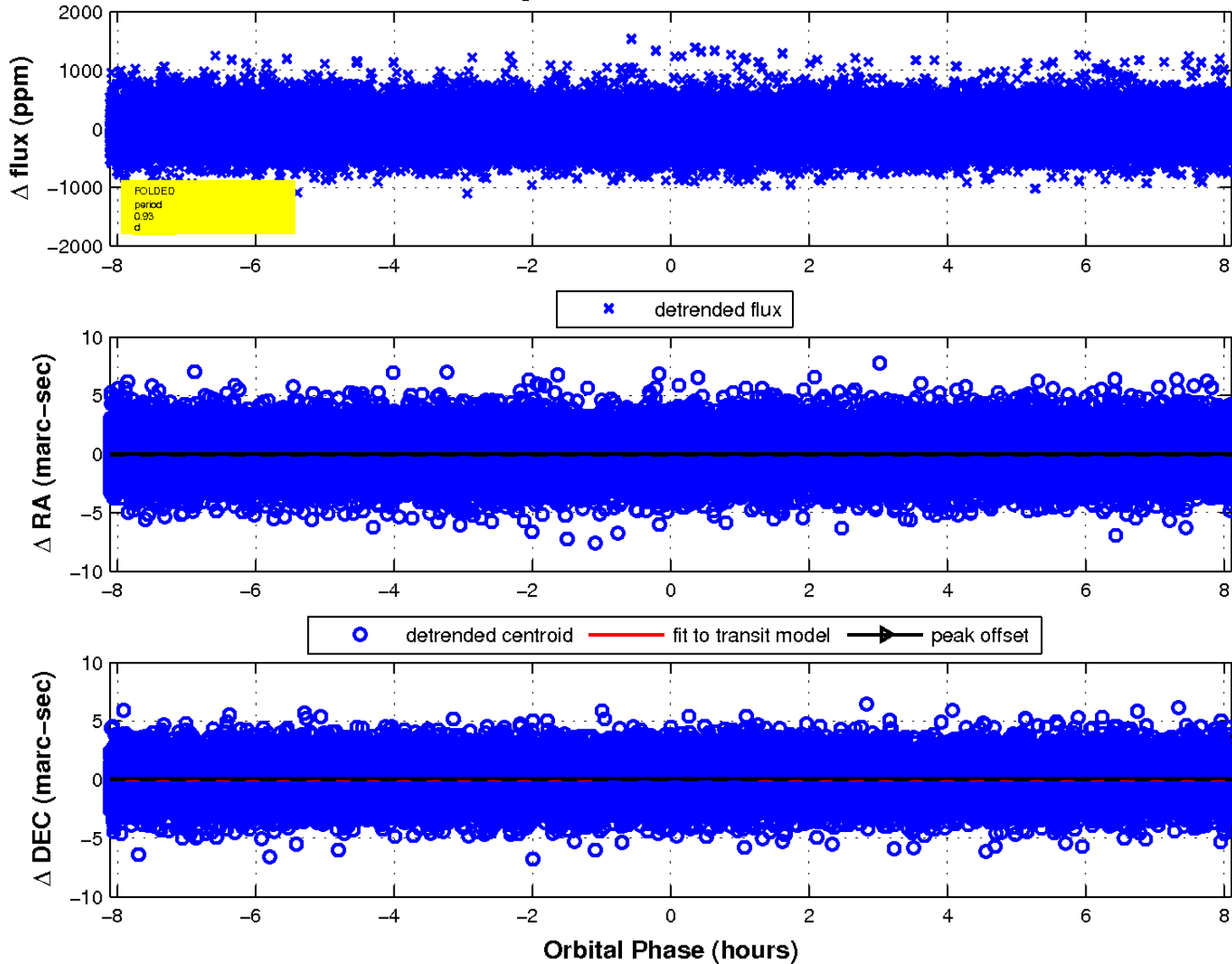
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

