

KIC 008396230

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})
008396230-01	OBS	No	0.790727	132.238394	18.7	2.748	8.2	1.6	0.67	5499	0.29	1761.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008396230-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

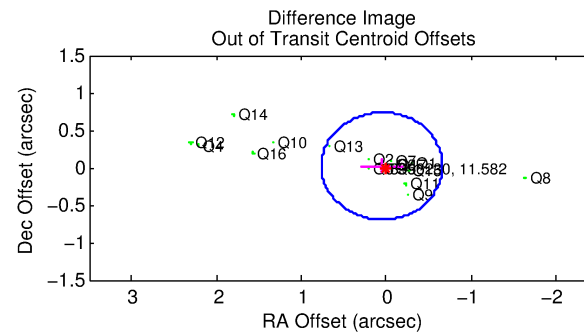
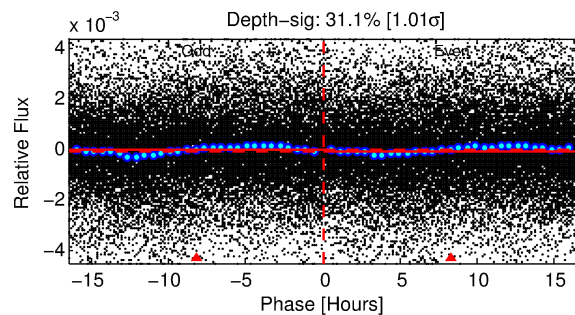
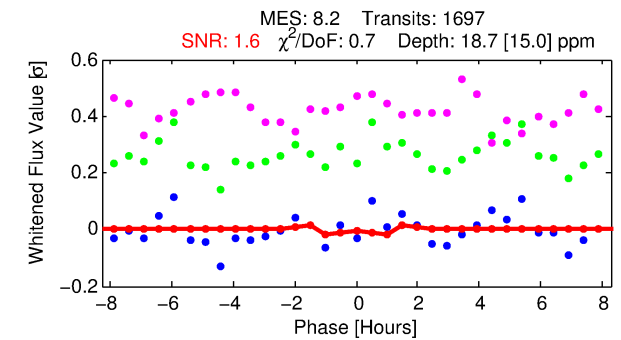
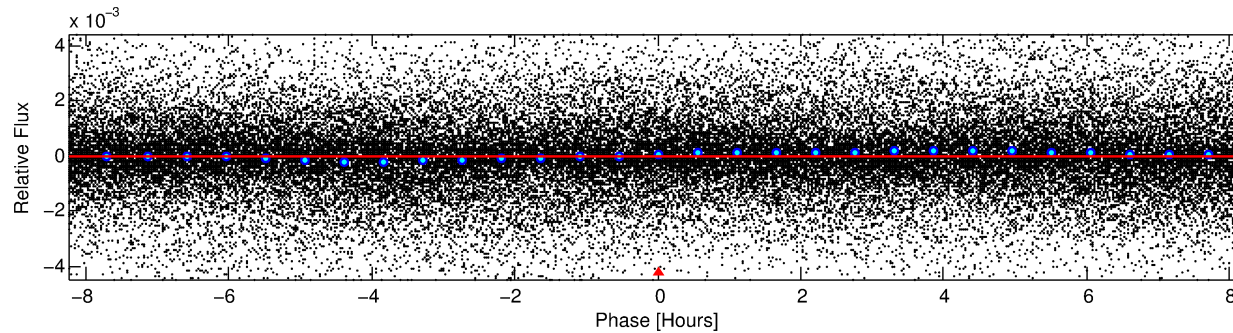
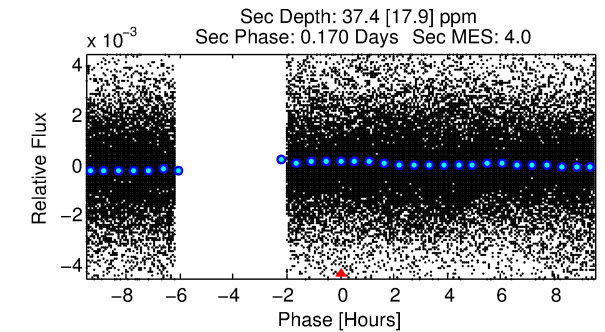
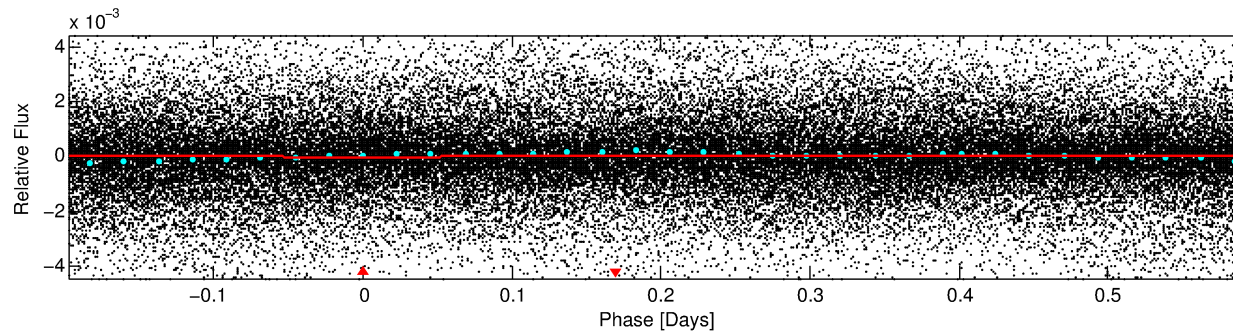
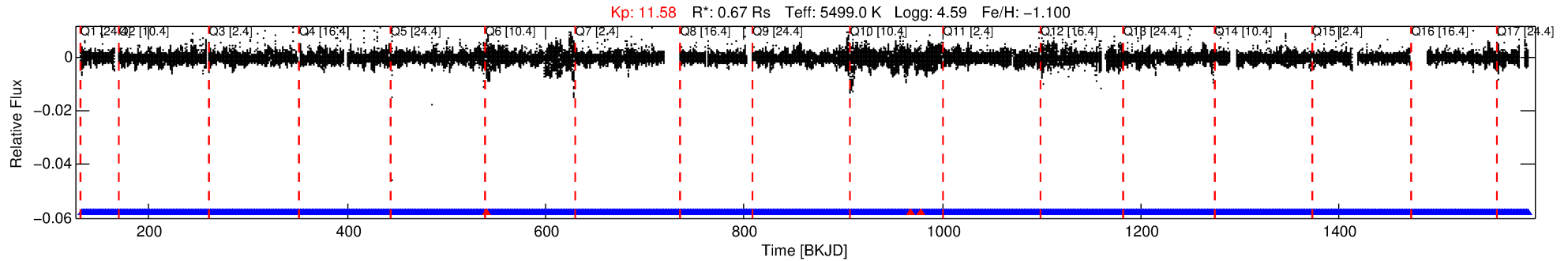
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008396230-01

No Significant Match Found

DV One-Page Summary

KIC: 8396230 Candidate: 1 of 1 Period: 0.791 d



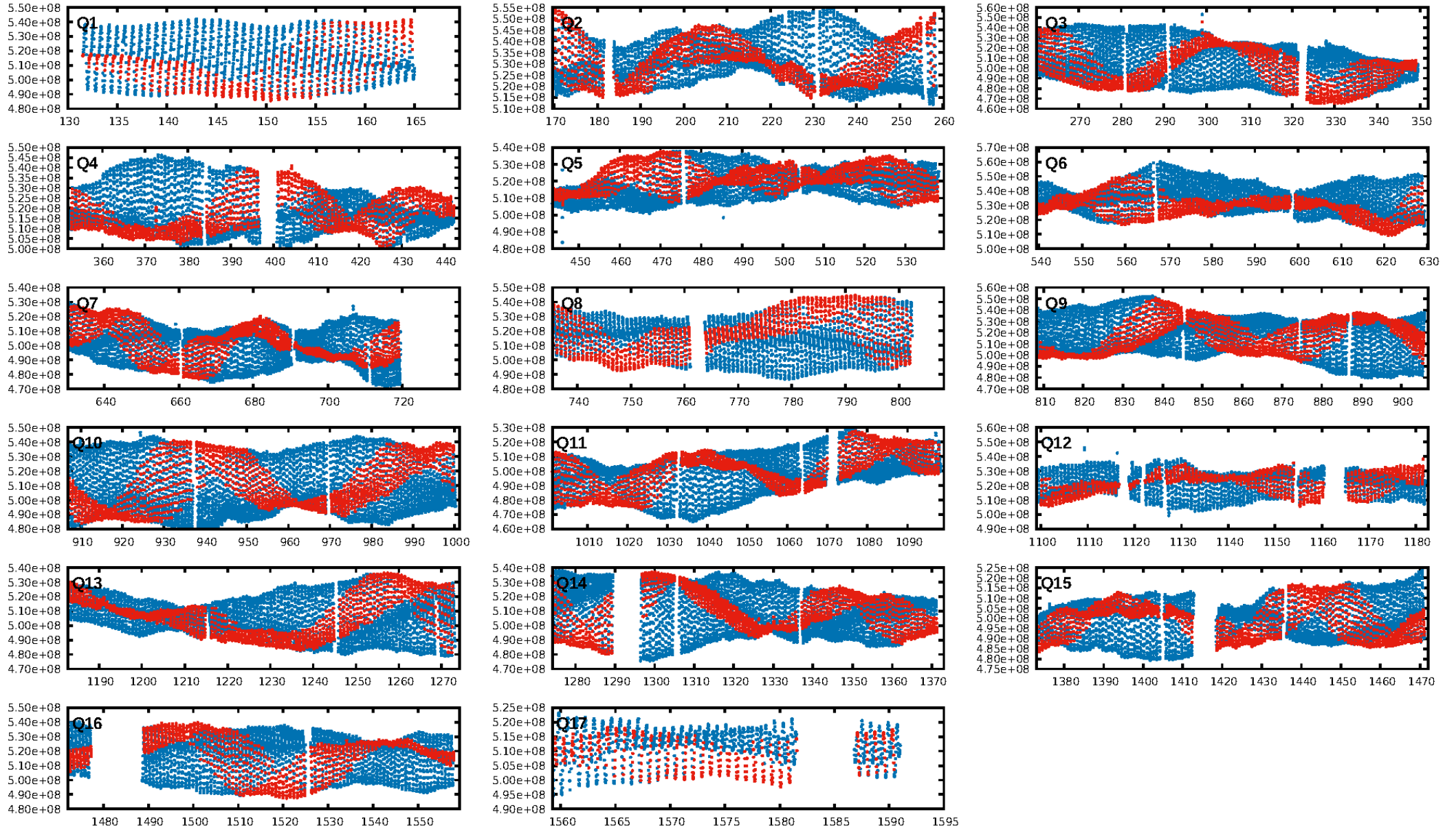
DV Fit Results:

Period = 0.79073 [0.00005] d
Epoch = 132.2384 [0.0061] BKJD
Rp/R* = 0.0040 [0.0090]
a/R* = 2.27 [20.90]
b = 0.15 [76.58]
Seff = 1761.20 [324.23]
Teff = 1652 [76] K
Rp = 0.29 [0.66] Re
a = 0.0145 [0.0012] AU
Ag = 50.89 [233.08] [0.21σ]
Teffp = 6821 [7810] K [0.66σ]

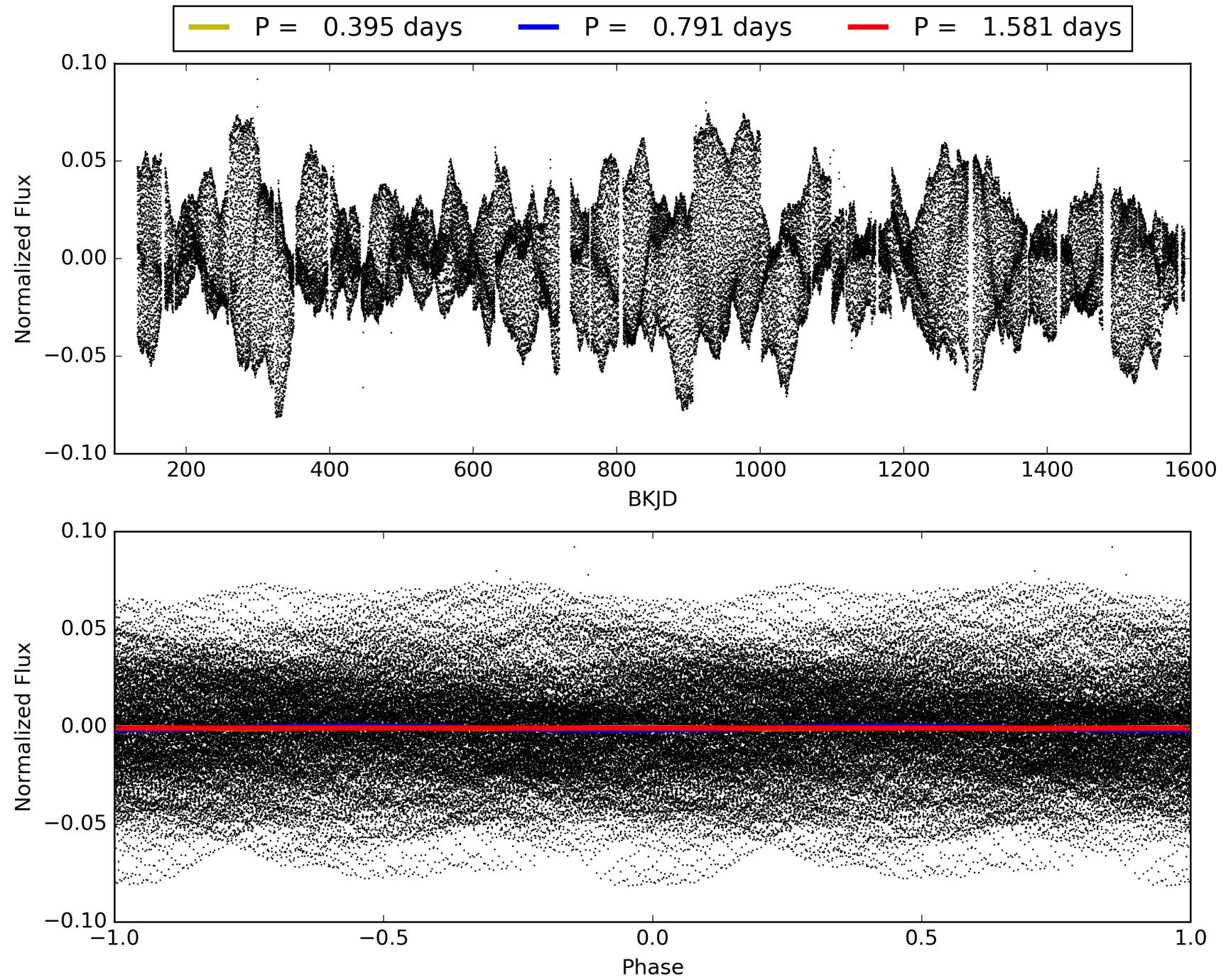
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.38e-22
RollingBand-fgt: 1.00 [1617/1620]
GhostDiagnostic-chr: -1.965
Centroid-sig: 3.8%
Centroid-so: 2.093 arcsec [2.20σ]
OotOffset-rm: 0.052 arcsec [0.22σ]
KicOffset-rm: 0.328 arcsec [4.36σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.35 [6/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008396230-01, PDC Light Curves

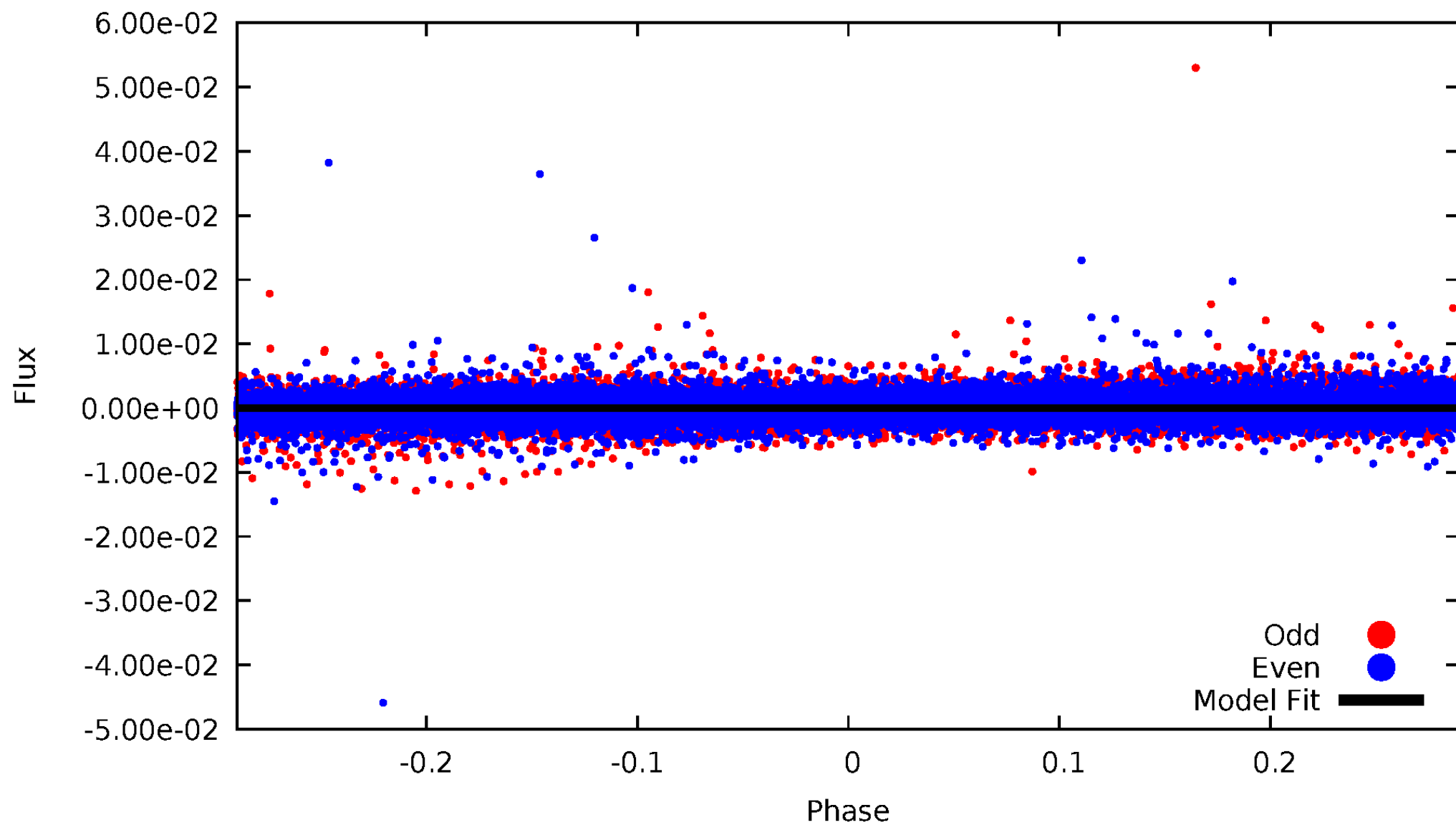


TCE 008396230-01



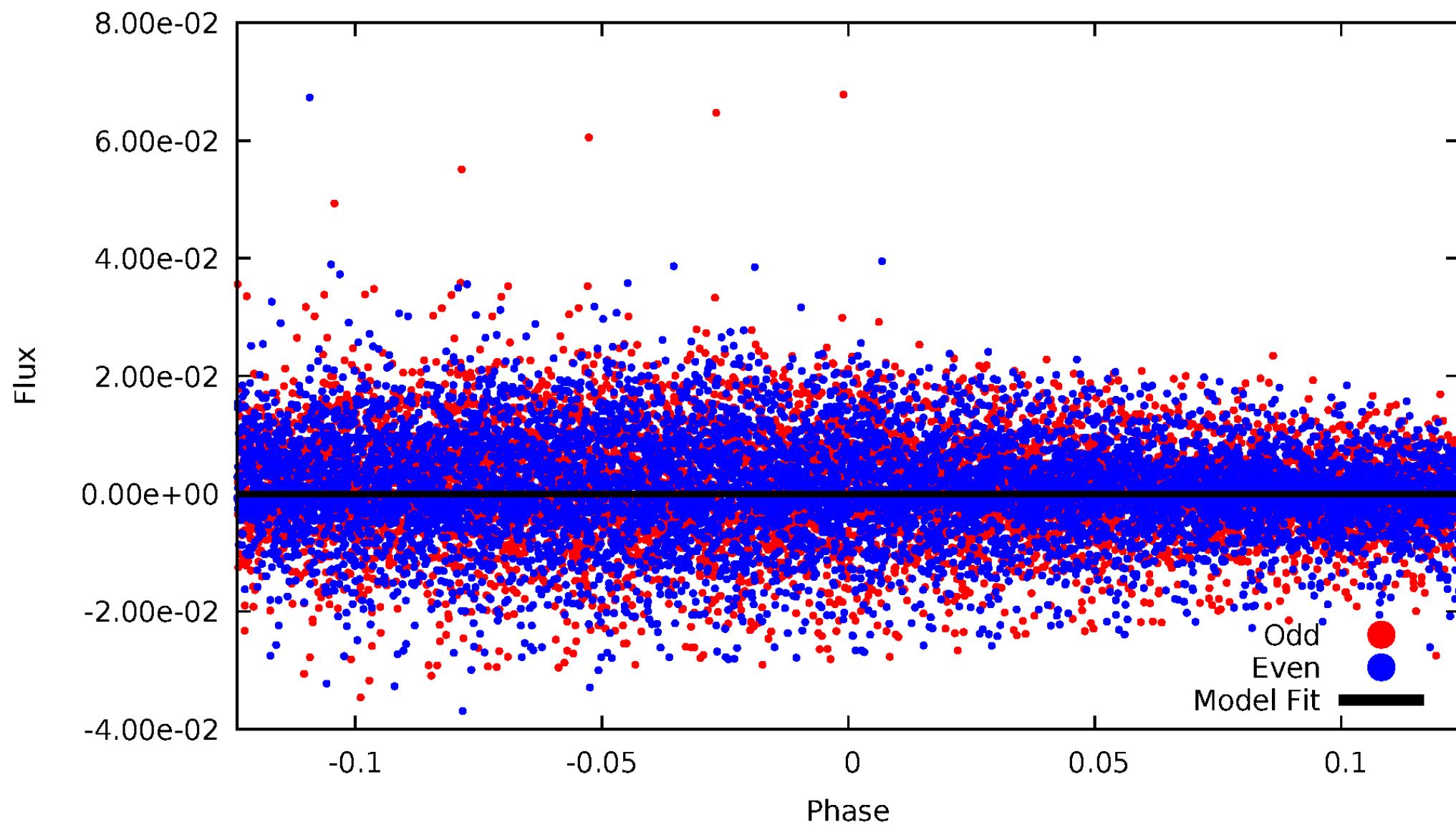
DV Odd/Even

TCE 008396230-01



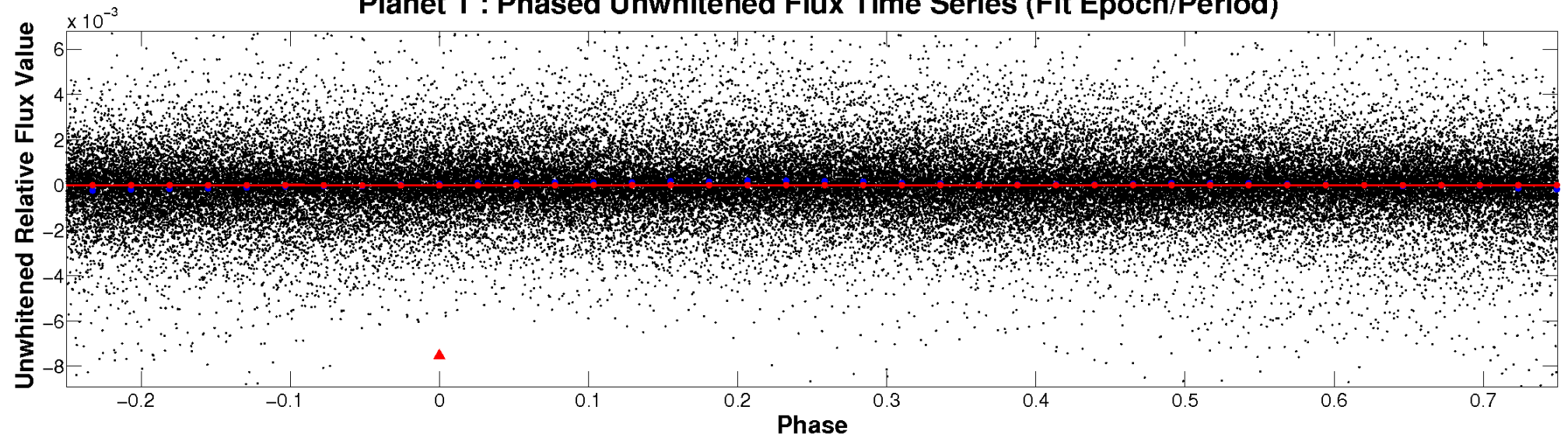
ALT Odd/Even

TCE 008396230-01

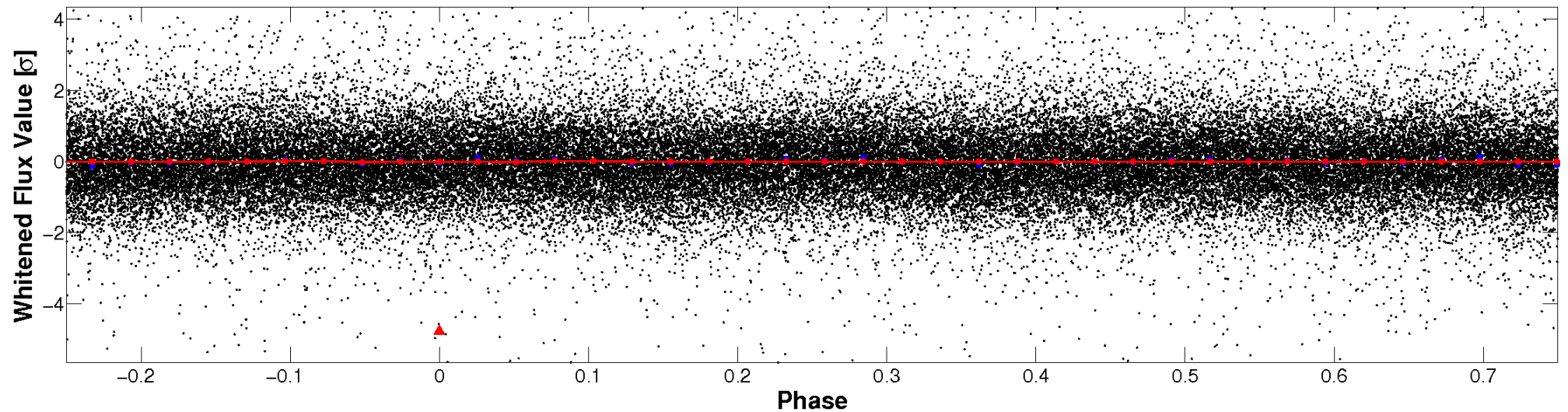


Non-Whitened Vs. Whitened Light Curve

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

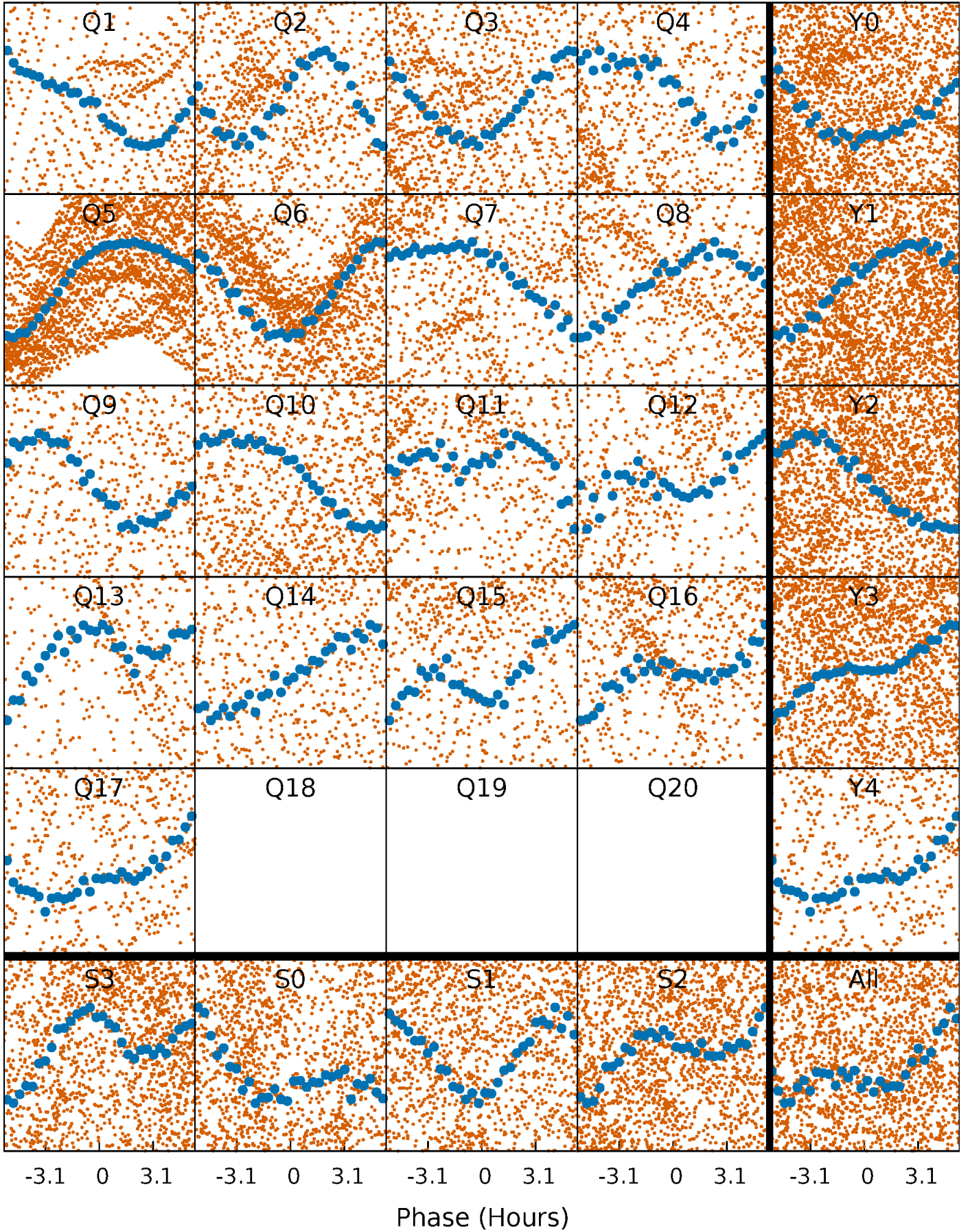


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



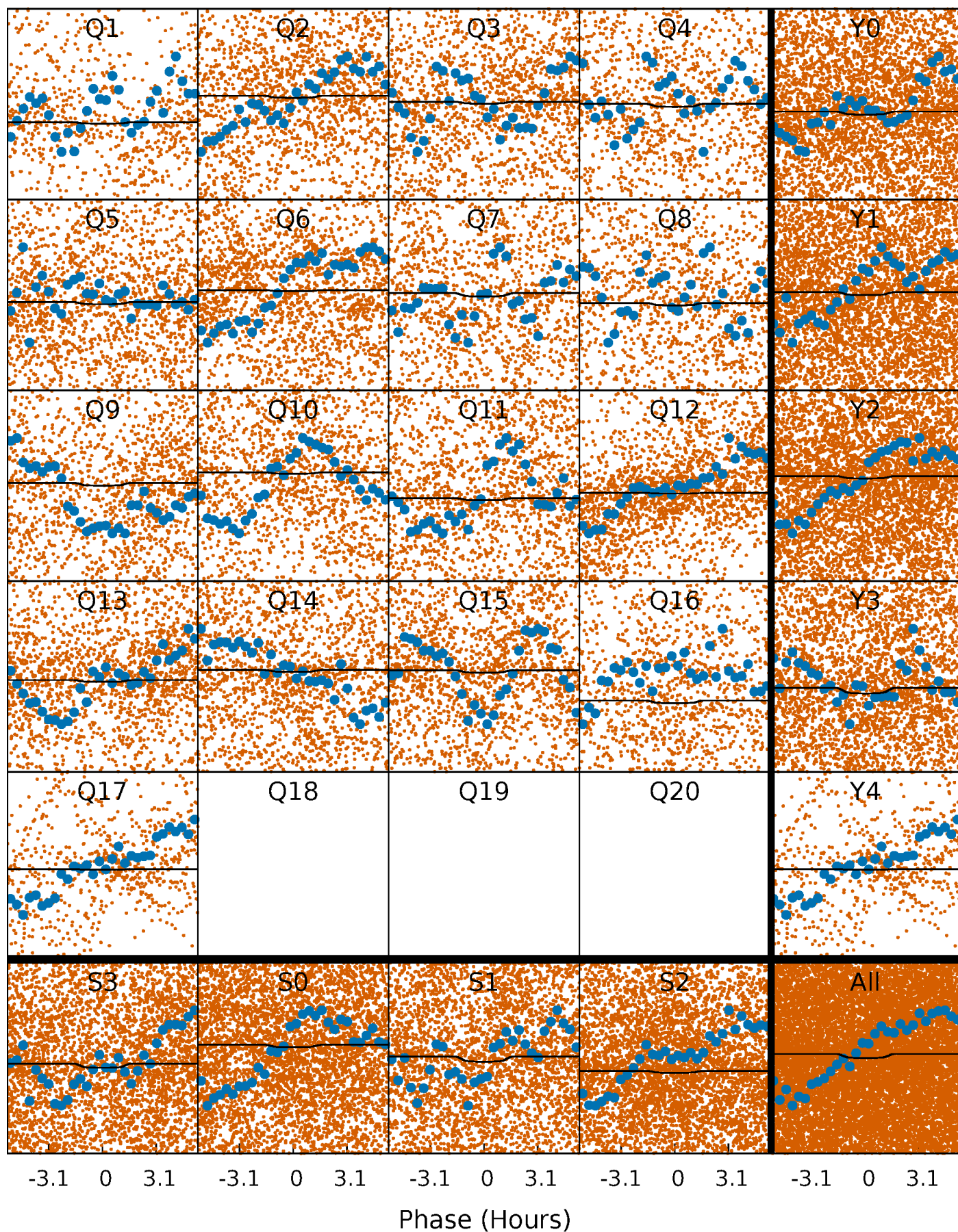
PDC Quarter-Phased Transit Curves

TCE 008396230-01 P= 0.790727 Days $T_0=132.238394$ (BKJD)



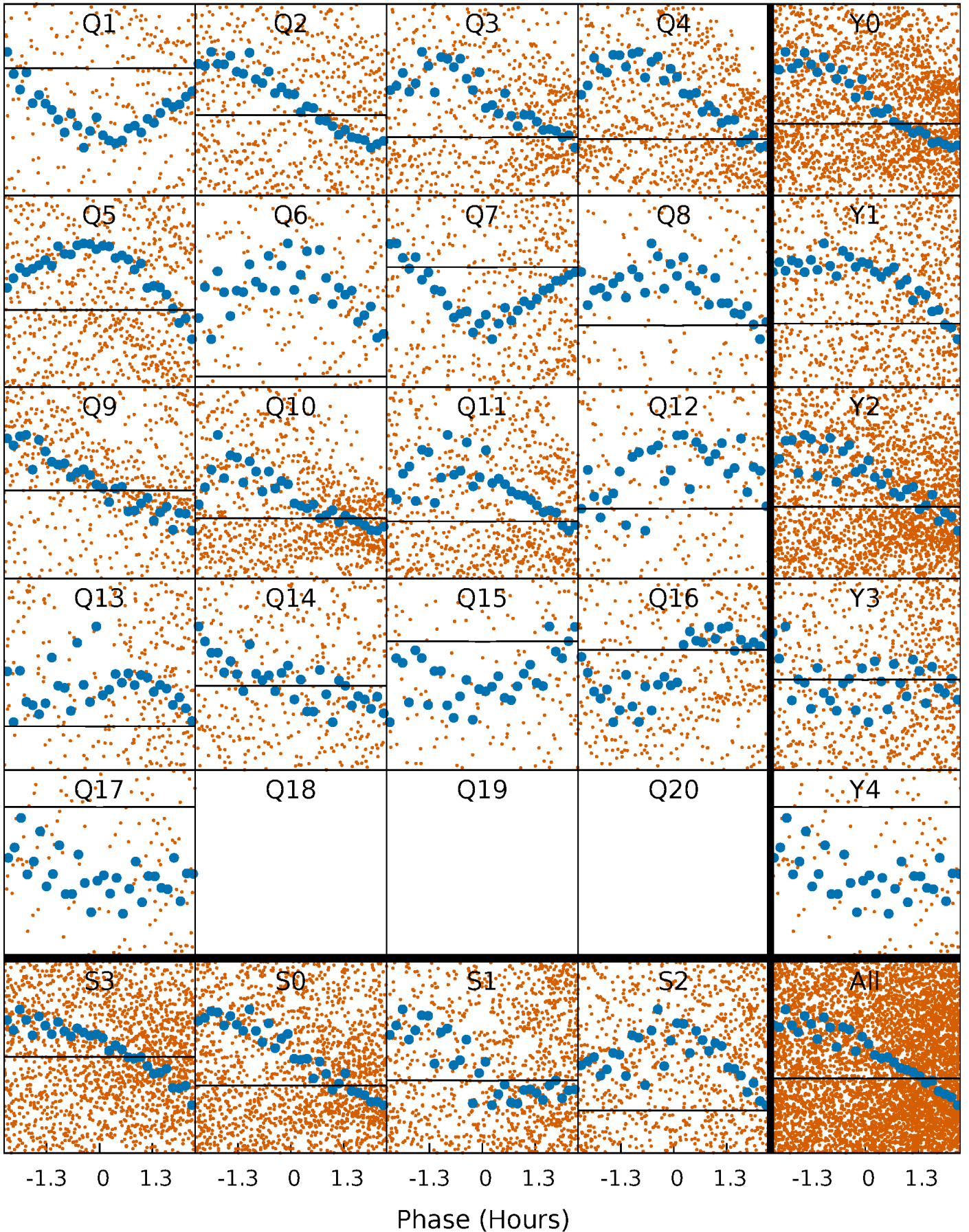
DV Quarter-Phased Transit Curves

TCE 008396230-01 P= 0.790727 Days $T_0=132.238394$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

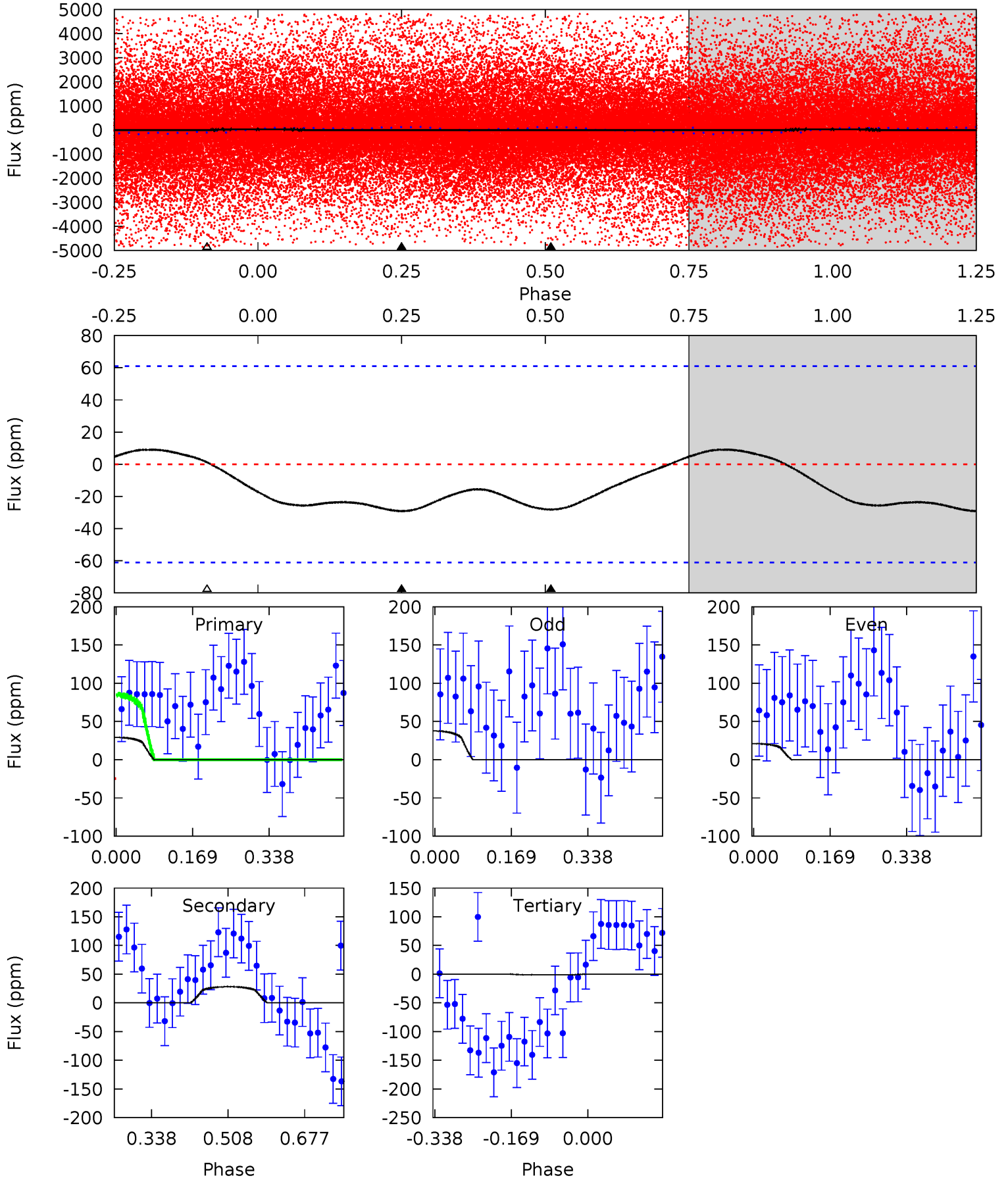
TCE 008396230-01 P= 0.791476 Days $T_0=132.328259$ (BKJD)



DV Model-Shift Uniqueness Test

008396230-01, P = 0.790727 Days, E = 131.447667 Days

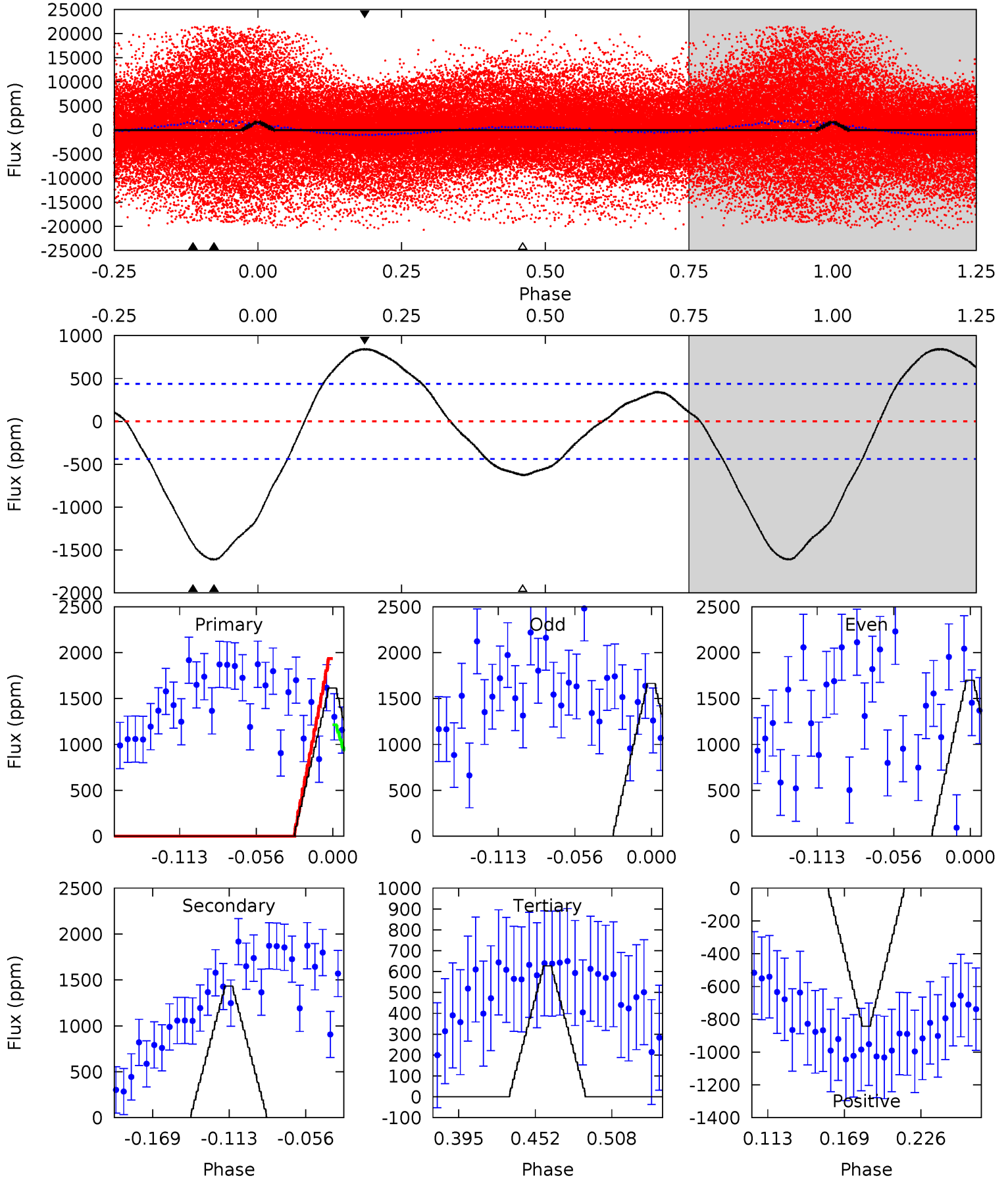
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.13	2.06	-0.09	0	4.45	1.37	0.85	2.21	2.13	2.14	2.06	0.61	2.66	0.24	2.29



Alt Model-Shift Uniqueness Test

008396230-01, P = 0.791476 Days, E = 130.745307 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	15.3	6.70	9.01	4.68	1.91	5.41	10.5	8.23	8.59	6.28	0.18	1.44	0.34	3.91



Stellar Parameters For KIC 008396230

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5499^{+163}_{-163}	$4.595^{+0.084}_{-0.052}$	$-1.100^{+0.300}_{-0.300}$	$0.671^{+0.057}_{-0.057}$	$0.648^{+0.061}_{-0.024}$	$3.015^{+0.929}_{-0.536}$
	+3%/-3%	+2%/-1%	+27%/-27%	+8%/-8%	+9%/-4%	+31%/-18%
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 008396230-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 14	$0.54^{+0.57}_{-0.37}$	2299^{+84}_{-85}	4688^{+3950}_{-1201}	11^{+100}_{-8}
Alt.	-1432 ± 94	$0.52^{+0.48}_{-0.34}$	2299^{+85}_{-95}	17496^{+53766}_{-7641}	618^{+4323}_{-449}

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

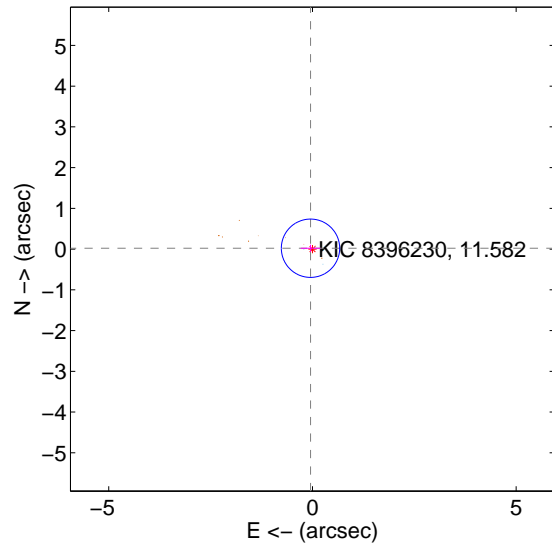
Supplemental centroid analysis for 008396230-01. **Kepler magnitude: 11.58.** Transit SNR 1.60

There are 6 quarters with good PRF difference image offsets

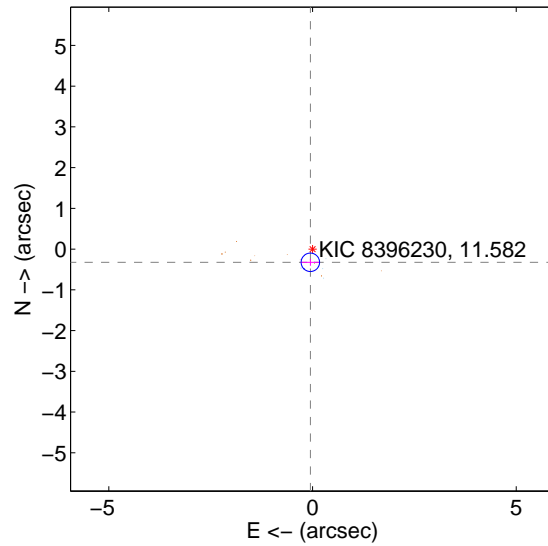
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.239	0.22	0.048 ± 0.241	0.021 ± 0.087
PRF-fit source offset from KIC position	0.328 ± 0.075	4.36	0.053 ± 0.239	-0.324 ± 0.085
photometric centroid source offset	2.09 ± 0.95	2.20	-1.94 ± 0.98	-0.80 ± 0.75

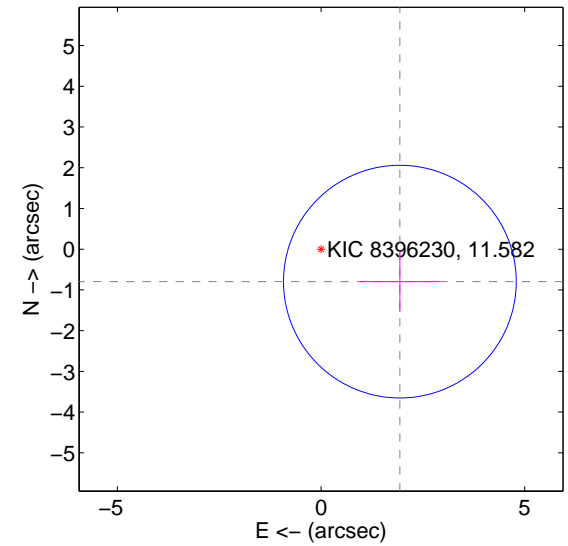
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

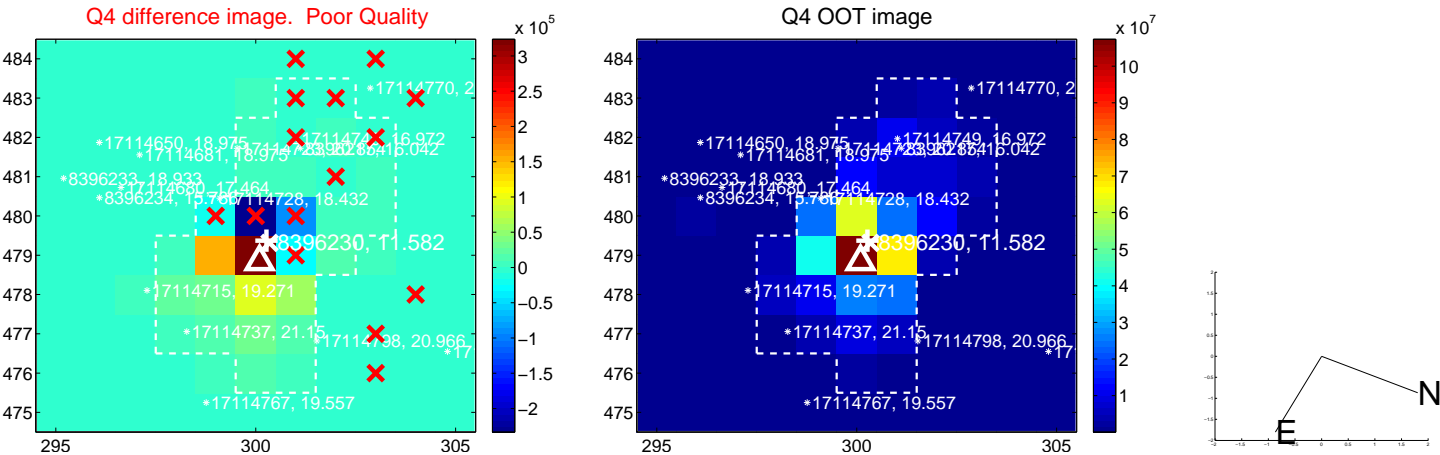
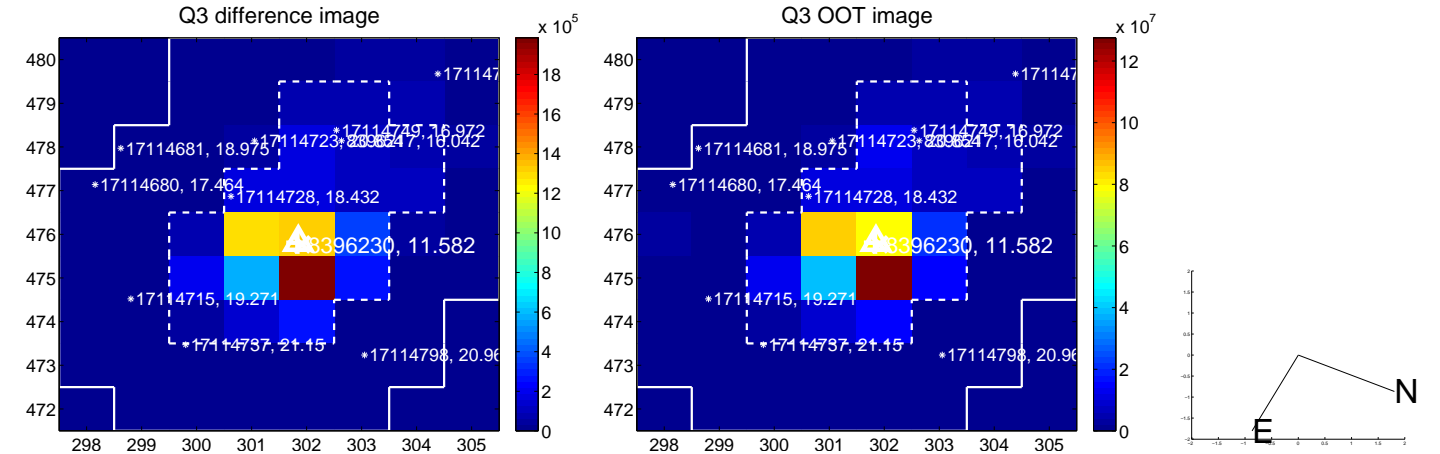
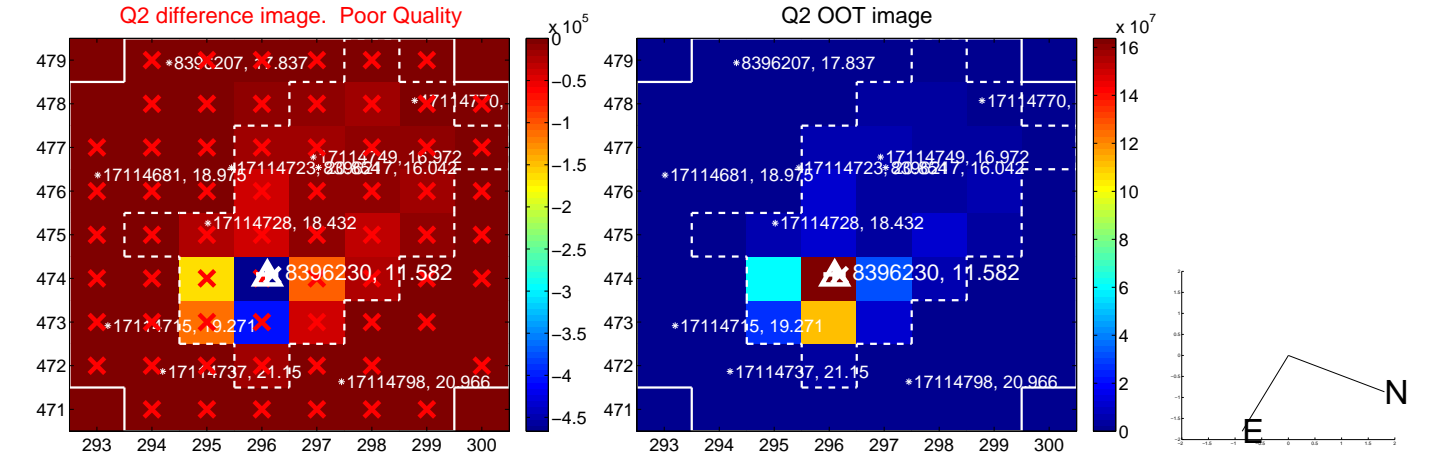
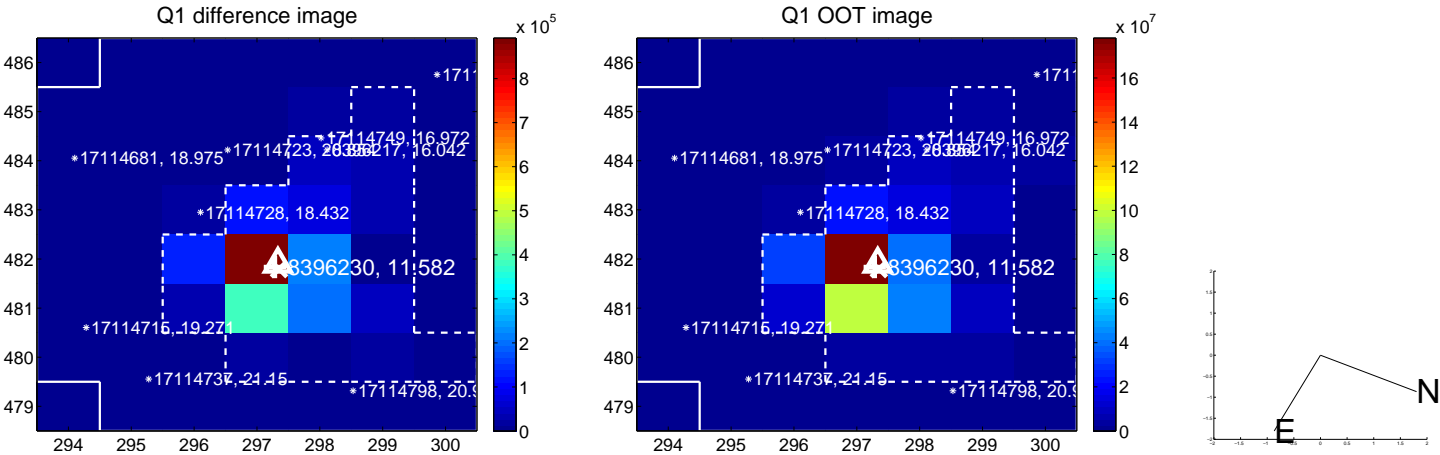


offset from photometric centroids

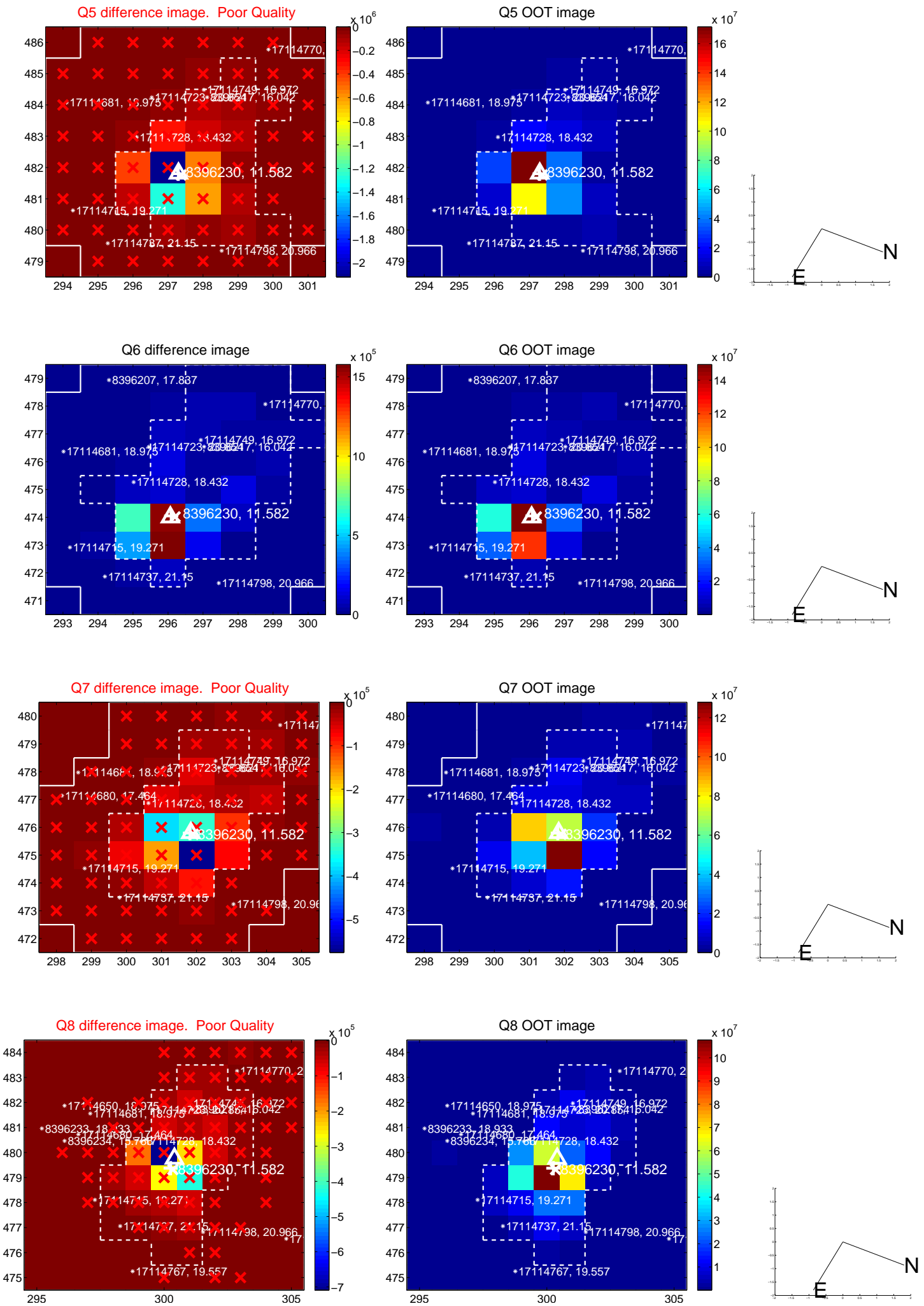


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

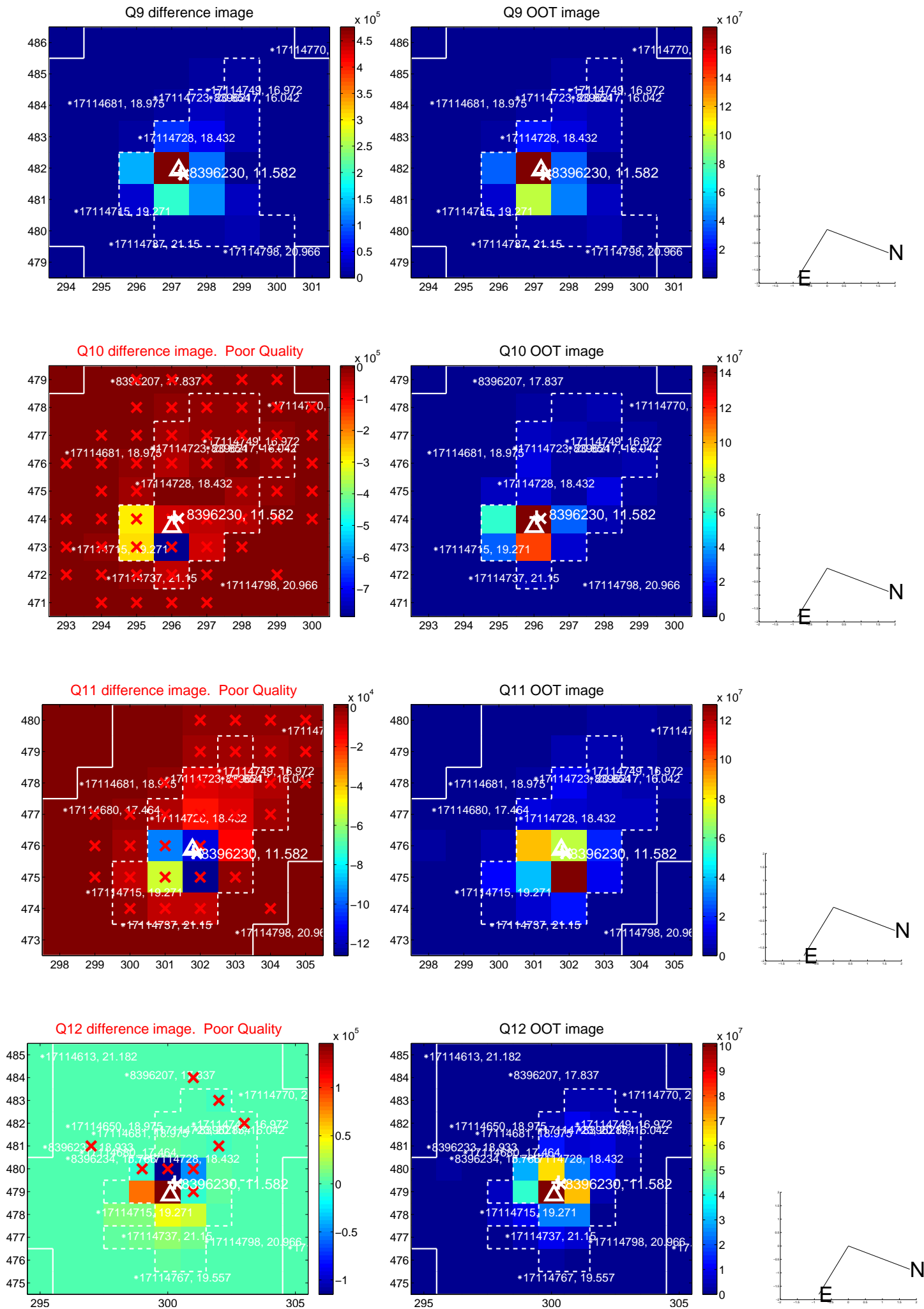
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



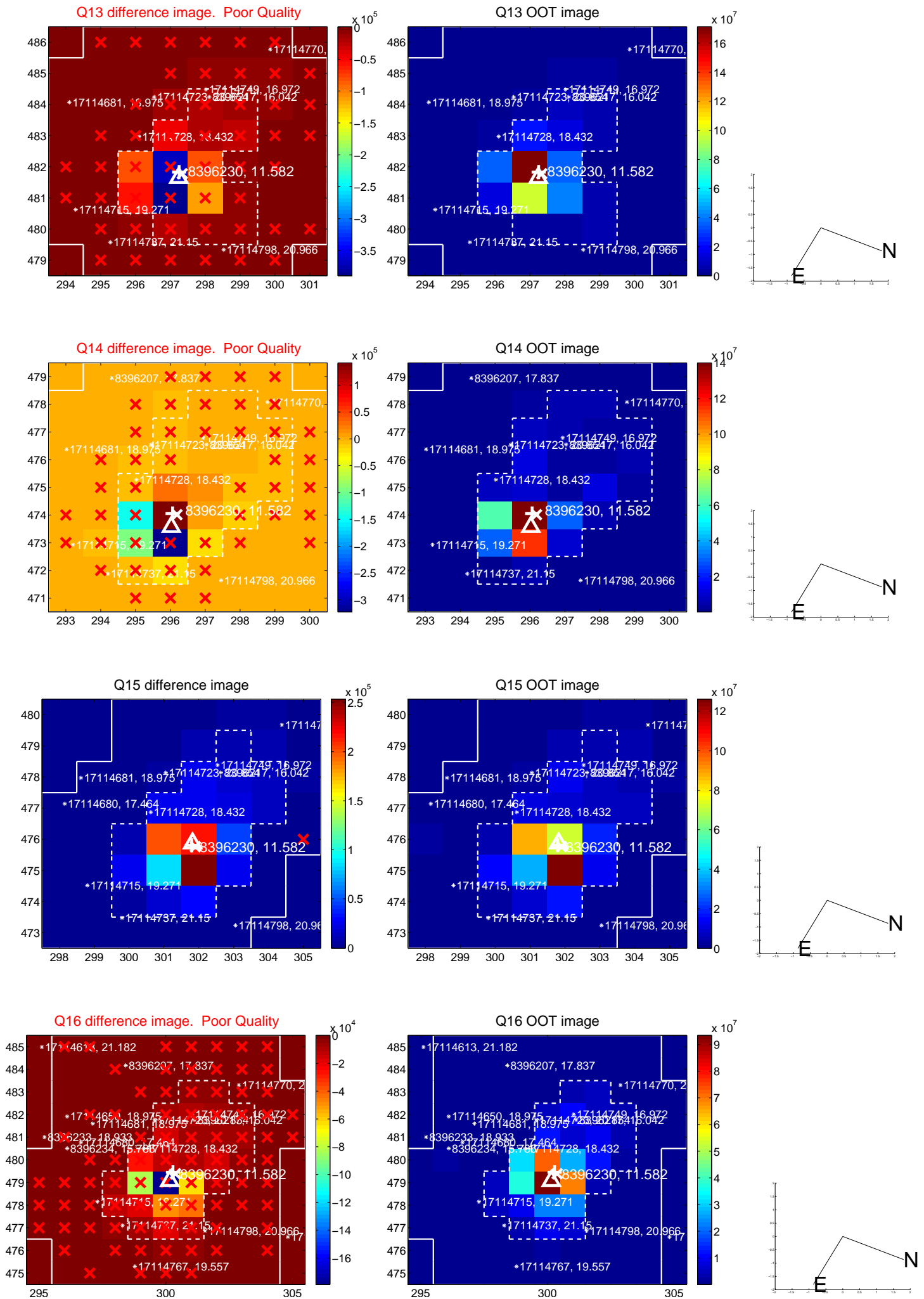
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



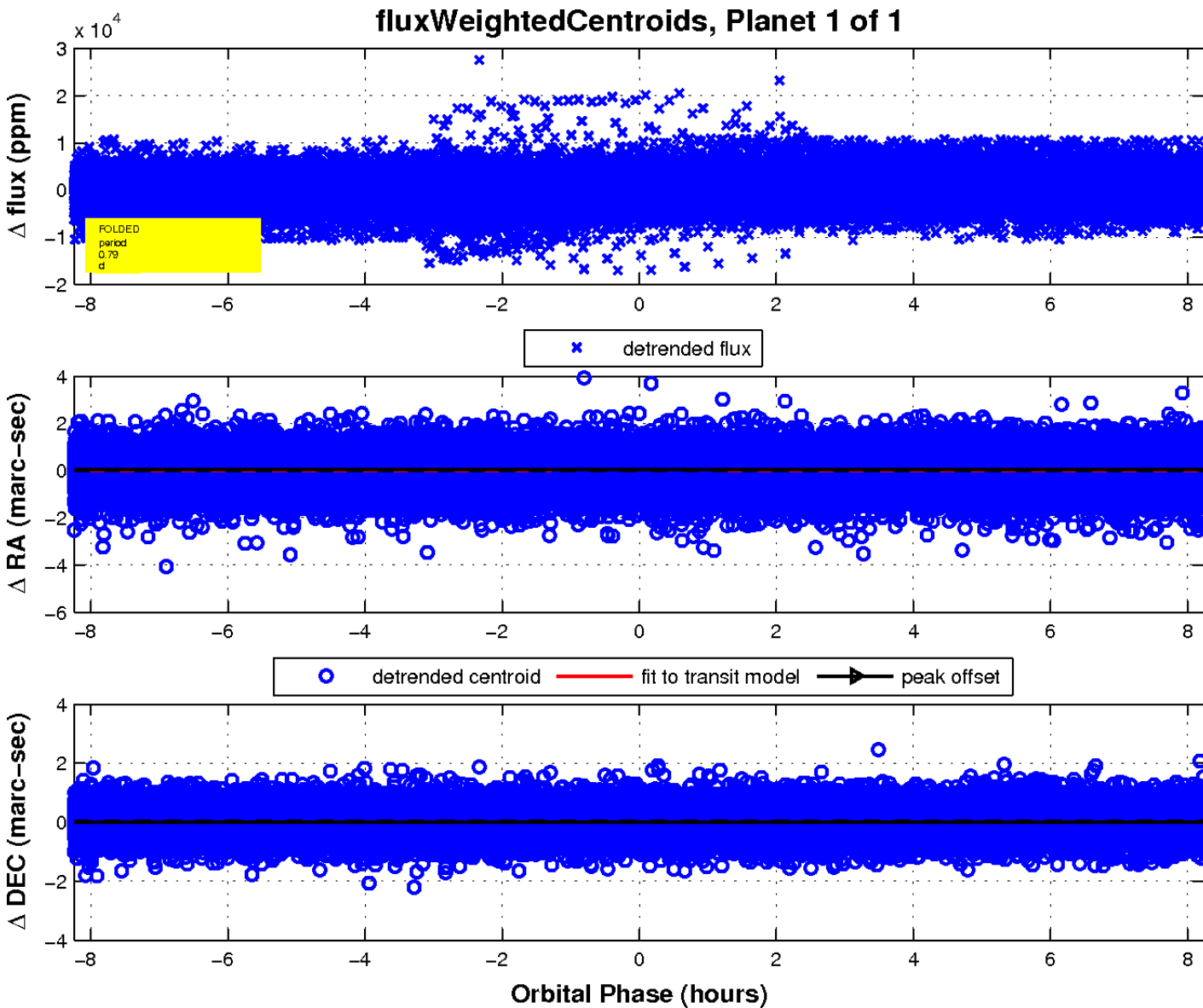
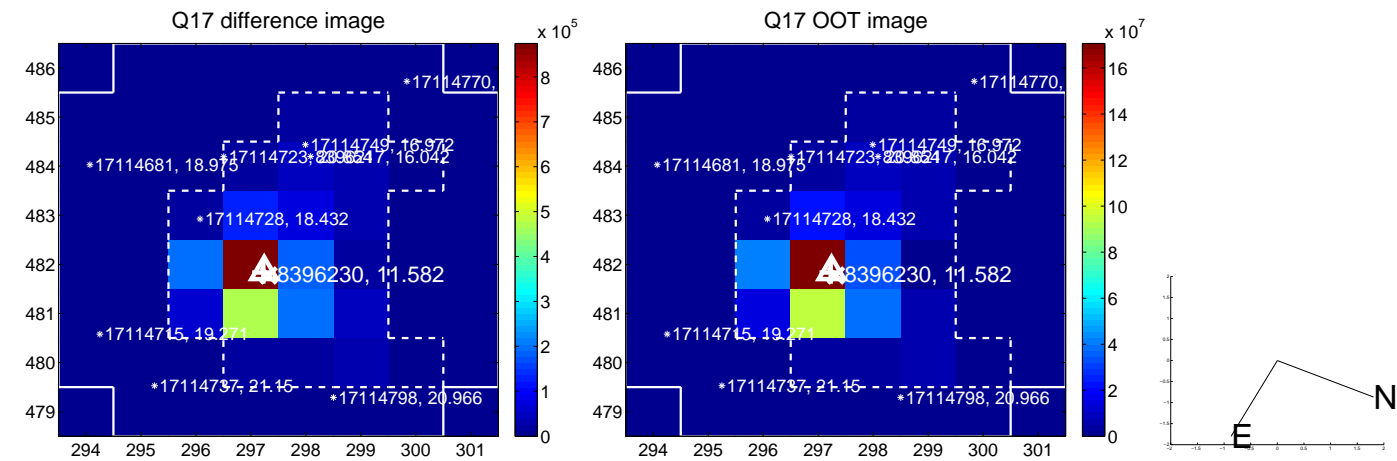
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

