

KIC 008278073

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})
008278073-01	OBS	4799.01	12.072943	142.432145	100.7	3.963	9.0	8.8	1.71	5436	1.96	208.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008278073-01	OBS	PC	0.99	0	0	0	0	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.

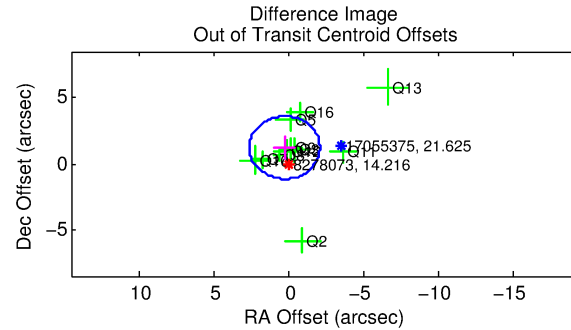
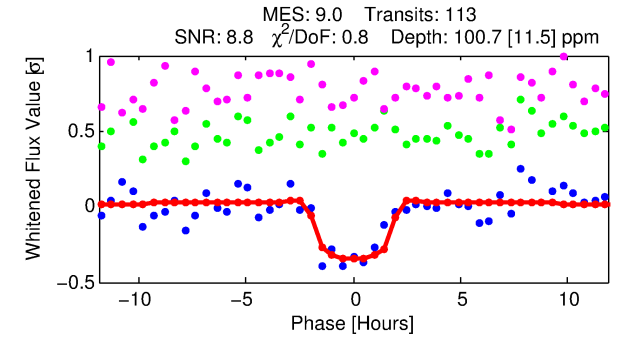
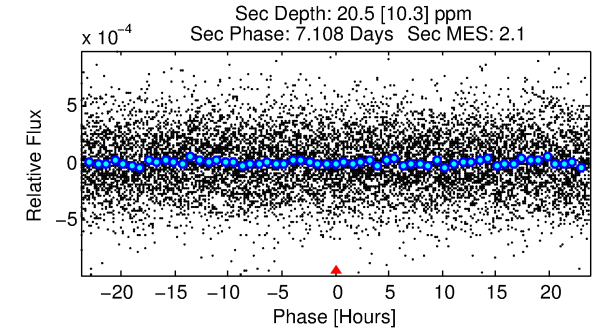
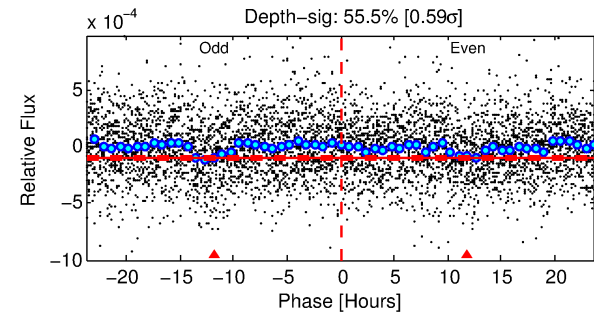
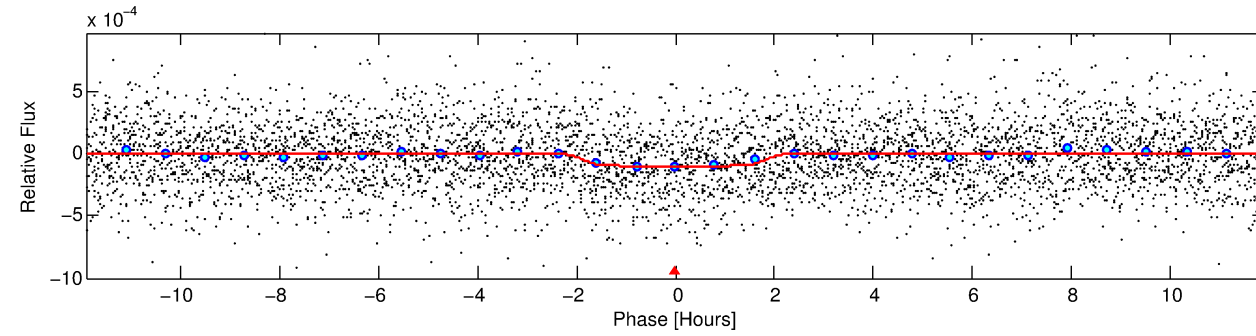
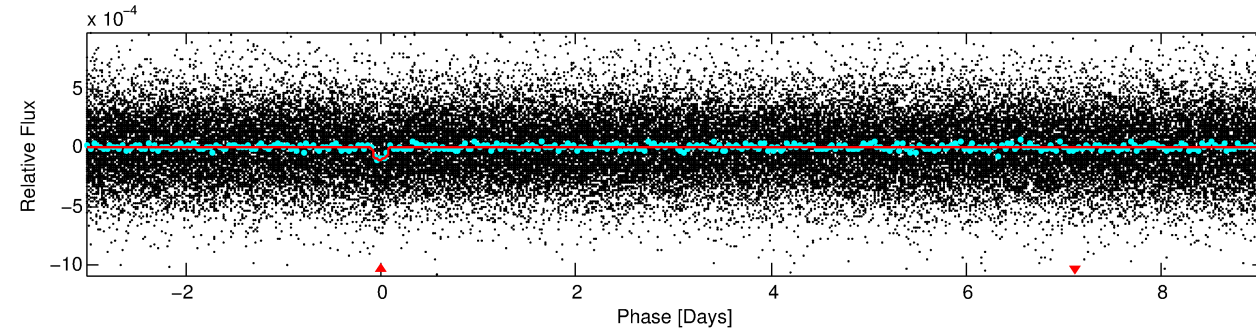
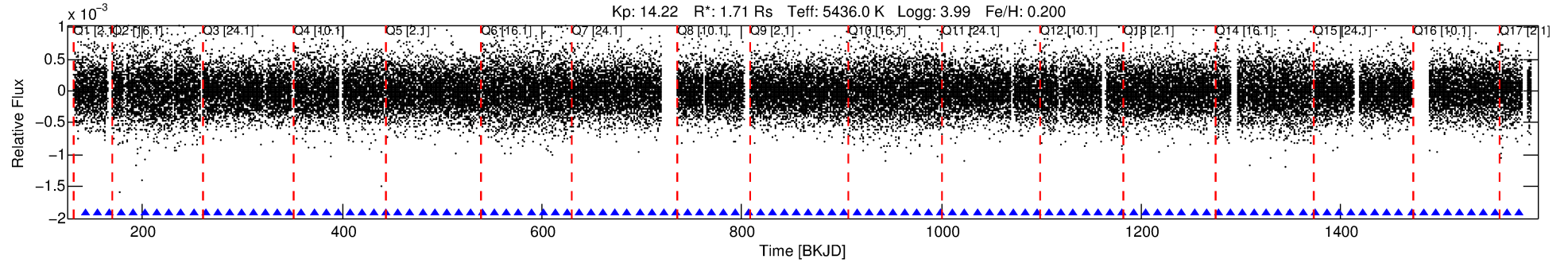
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008278073-01

No Significant Match Found

DV One-Page Summary

KIC: 8278073 Candidate: 1 of 1 Period: 12.073 d
KOI: K04799.01 Corr: 0.943



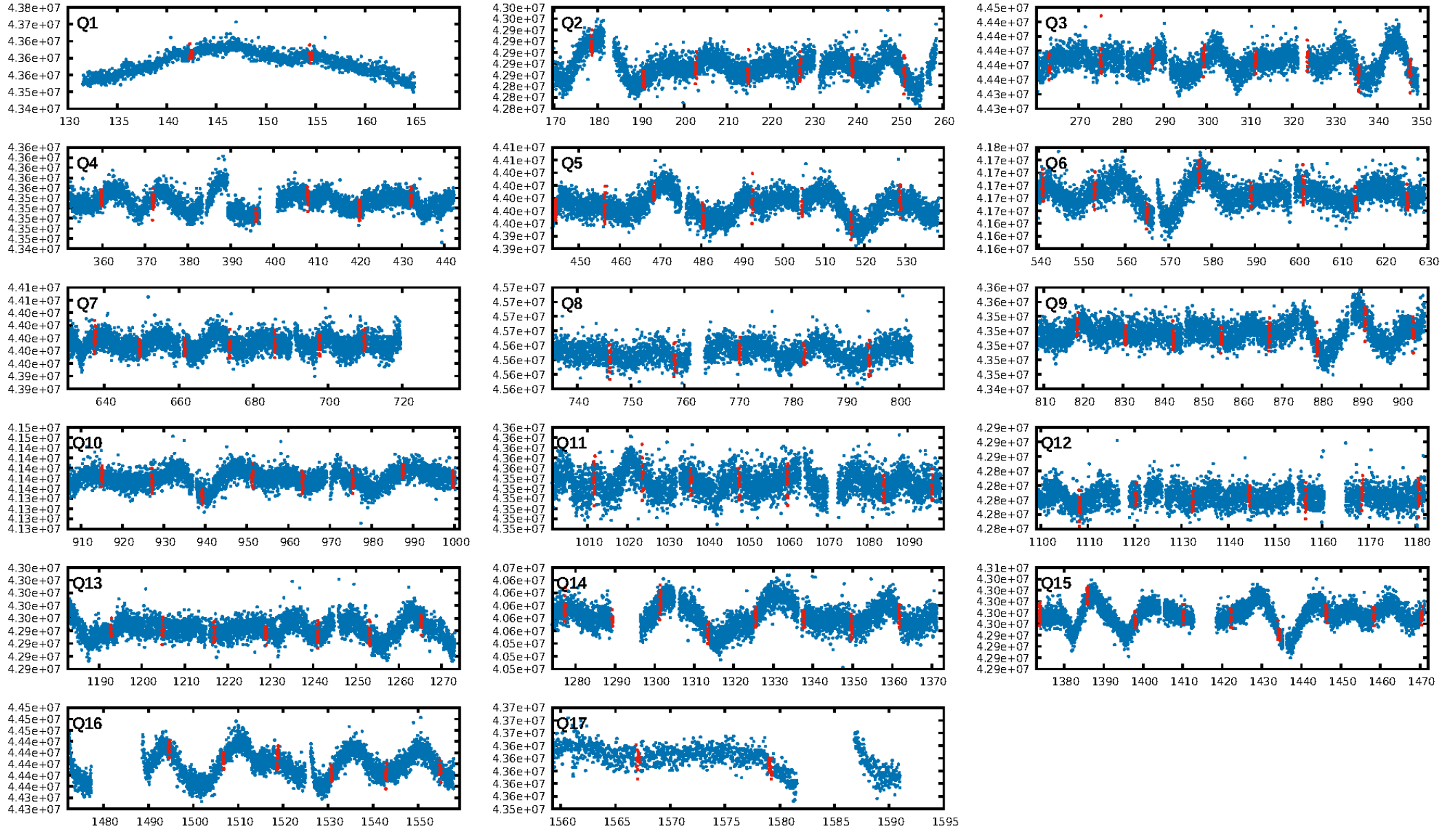
DV Fit Results:

Period = 12.07294 [0.00013] d
Epoch = 142.4321 [0.0090] BKJD
Rp/R* = 0.0105 [0.0088]
a/R* = 13.07 [45.12]
b = 0.84 [1.23]
Seff = 208.49 [78.97]
Teff = 969 [92] K
Rp = 1.96 [1.71] Re
a = 0.1046 [0.0247] AU
Ag = 32.08 [57.28] [0.54 σ]
Teffp = 3565 [1558] K [1.66 σ]

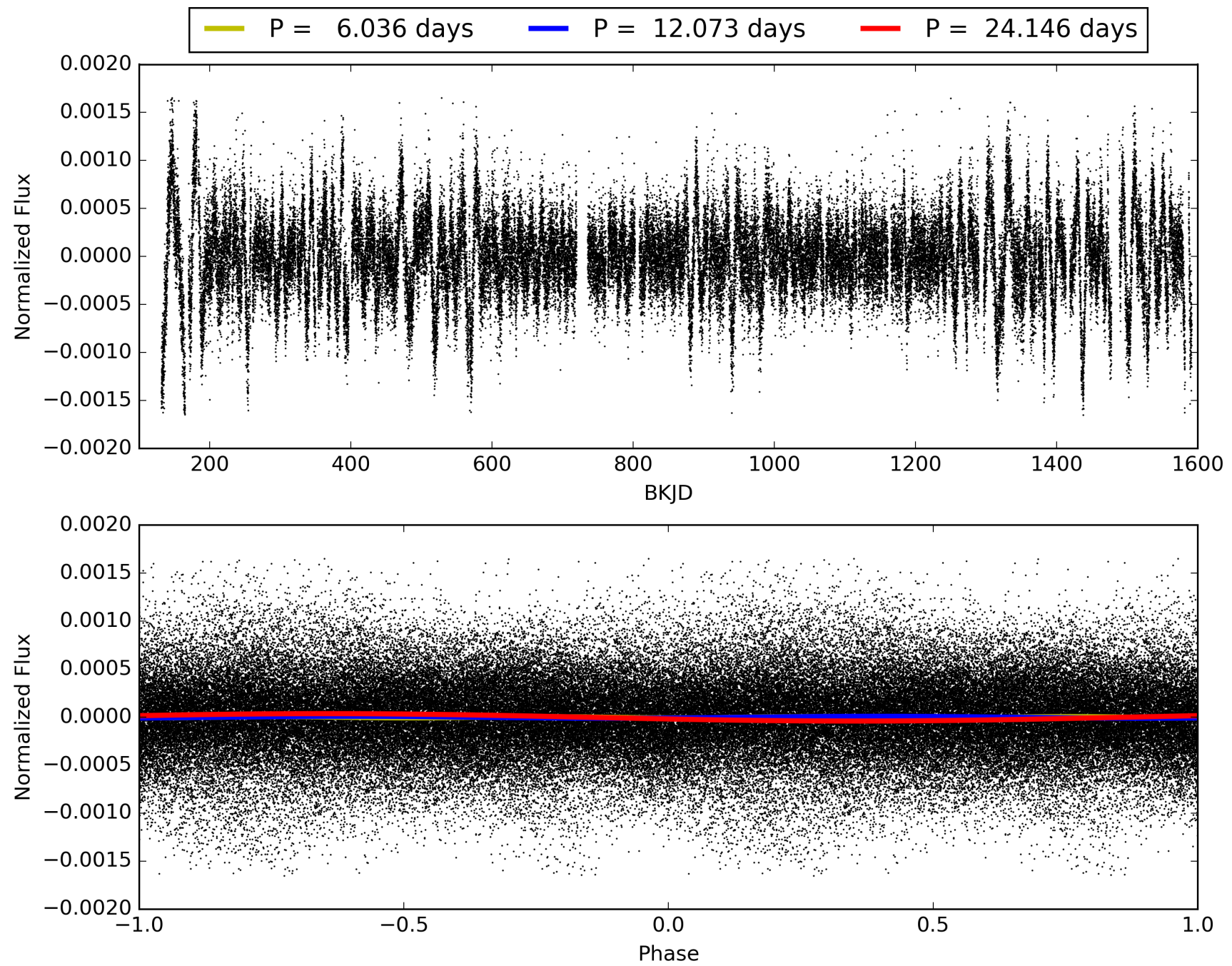
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.73e-19
RollingBand-fgt: 1.00 [109/109]
GhostDiagnostic-chr: -10.74
Centroid-sig: 82.8%
Centroid-so: 1.000 arcsec [0.66 σ]
OotOffset-rm: 1.238 arcsec [1.57 σ]
KicOffset-rm: 1.594 arcsec [2.01 σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008278073-01, PDC Light Curves

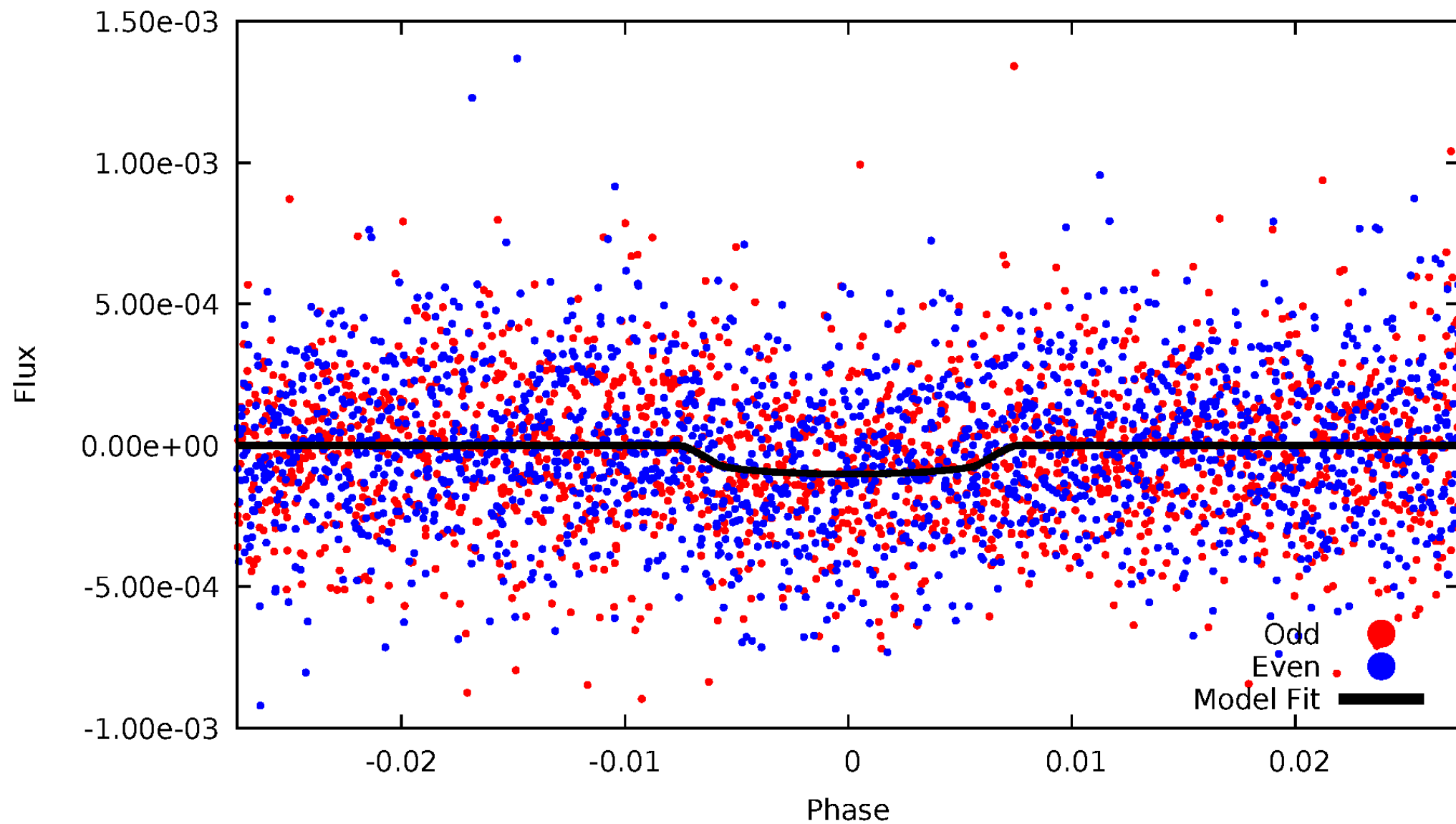


TCE 008278073-01



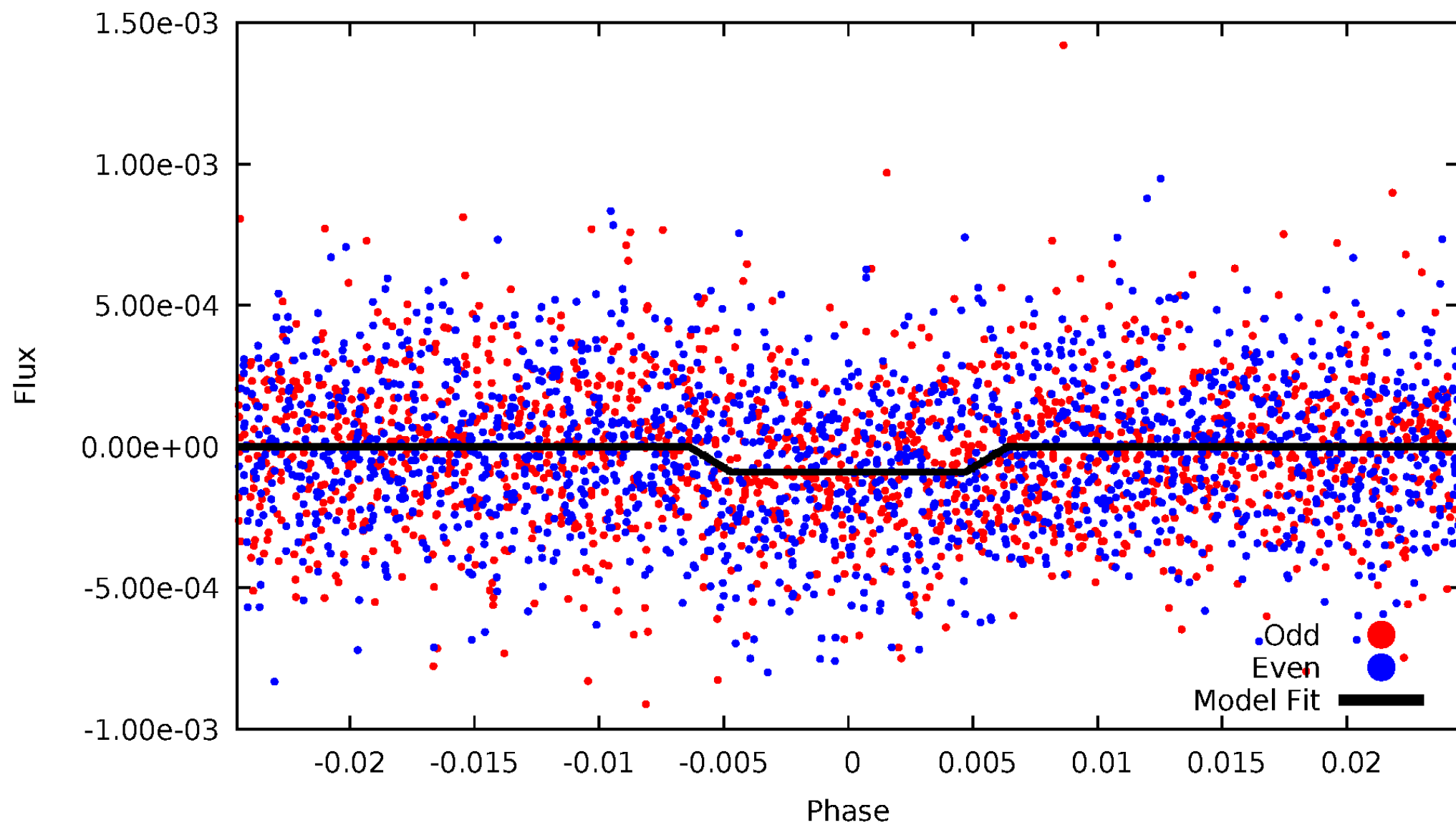
DV Odd/Even

TCE 008278073-01

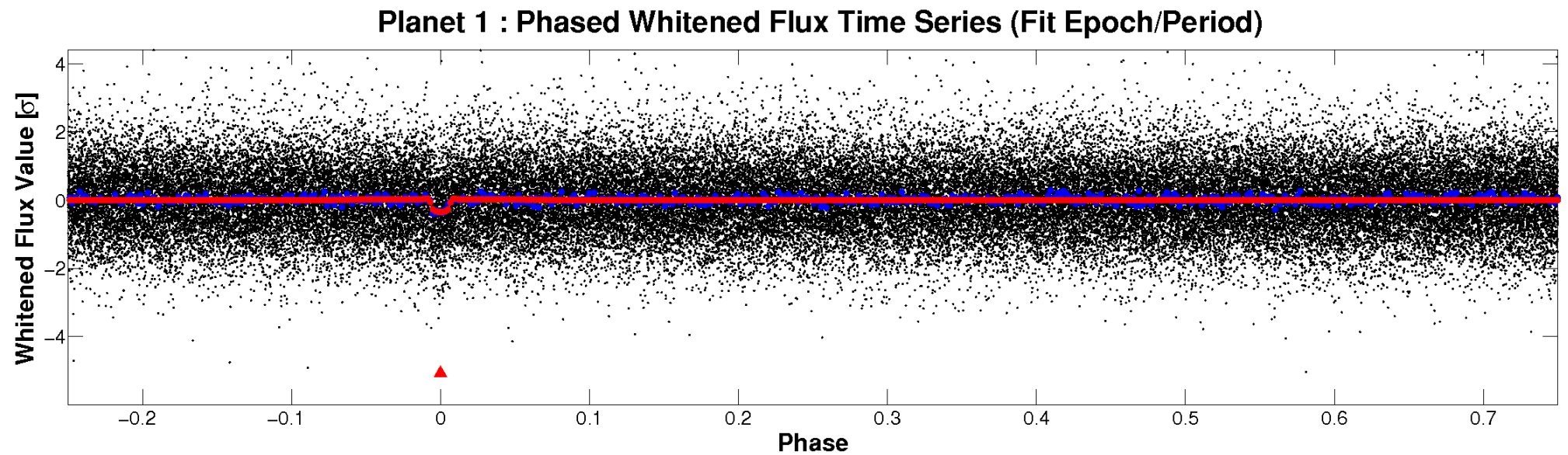
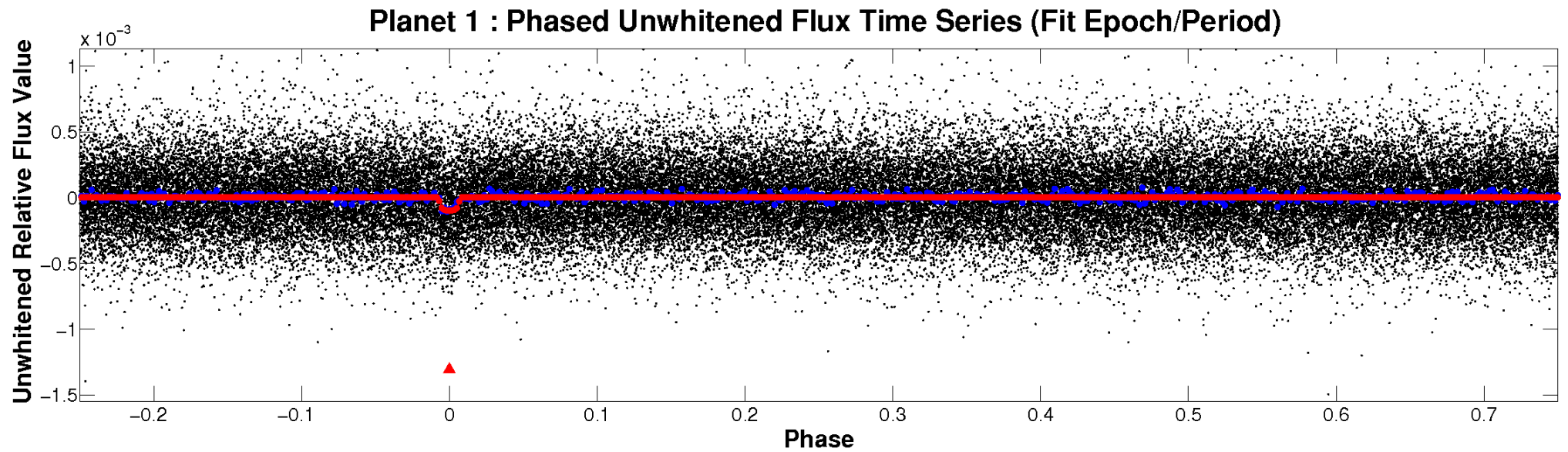


ALT Odd/Even

TCE 008278073-01

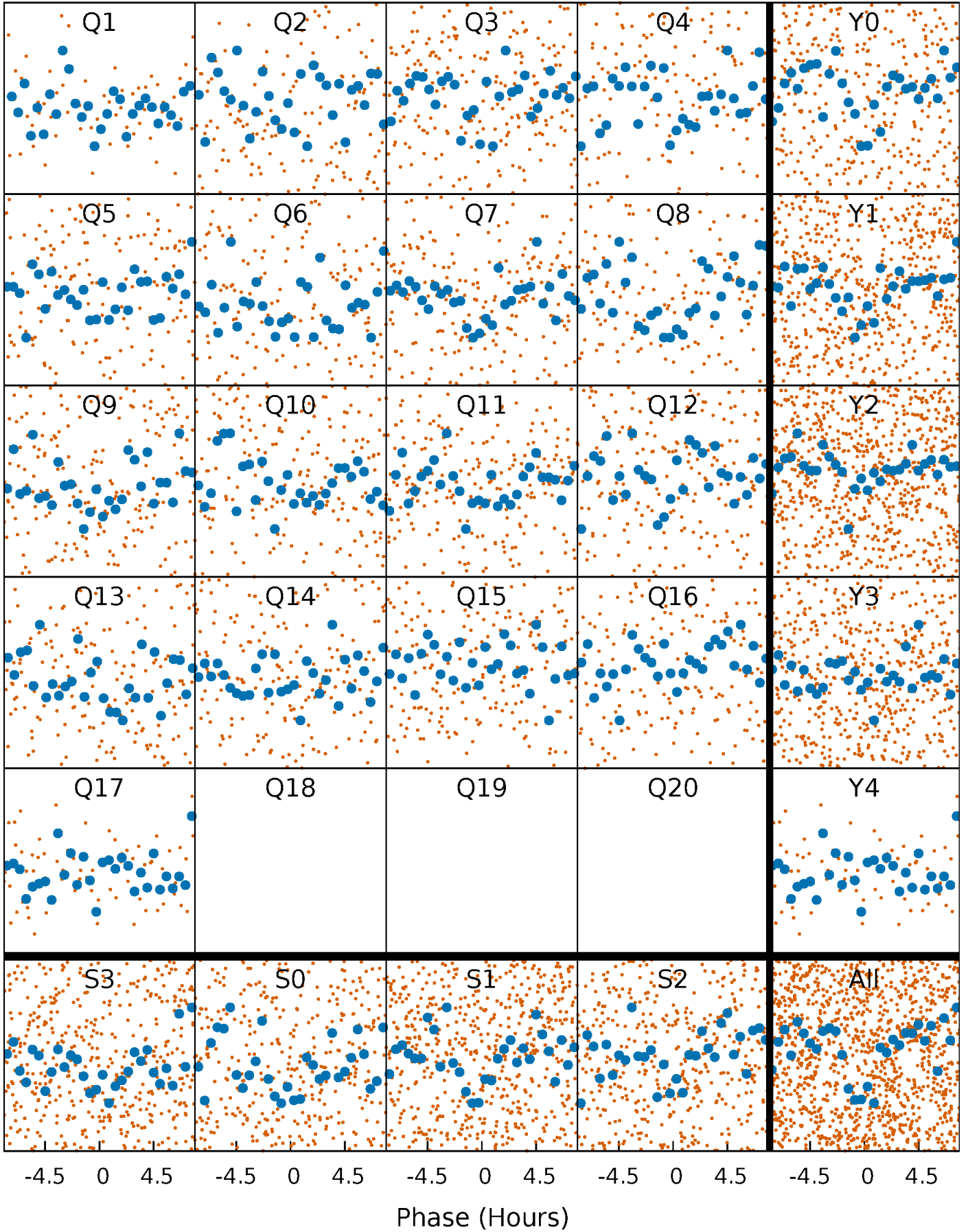


Non-Whitened Vs. Whitened Light Curve



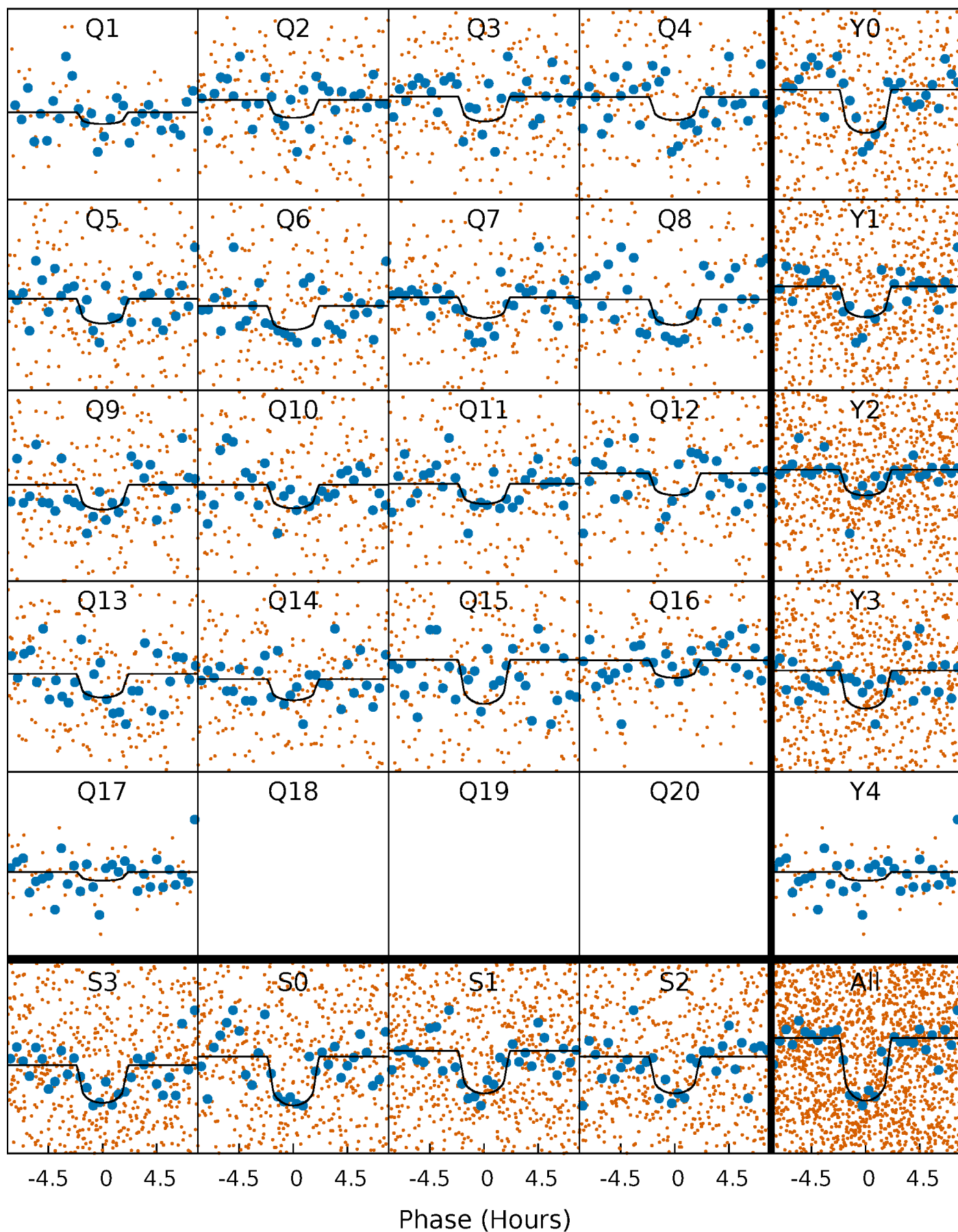
PDC Quarter-Phased Transit Curves

TCE 008278073-01 P= 12.072943 Days $T_0=142.432145$ (BKJD)



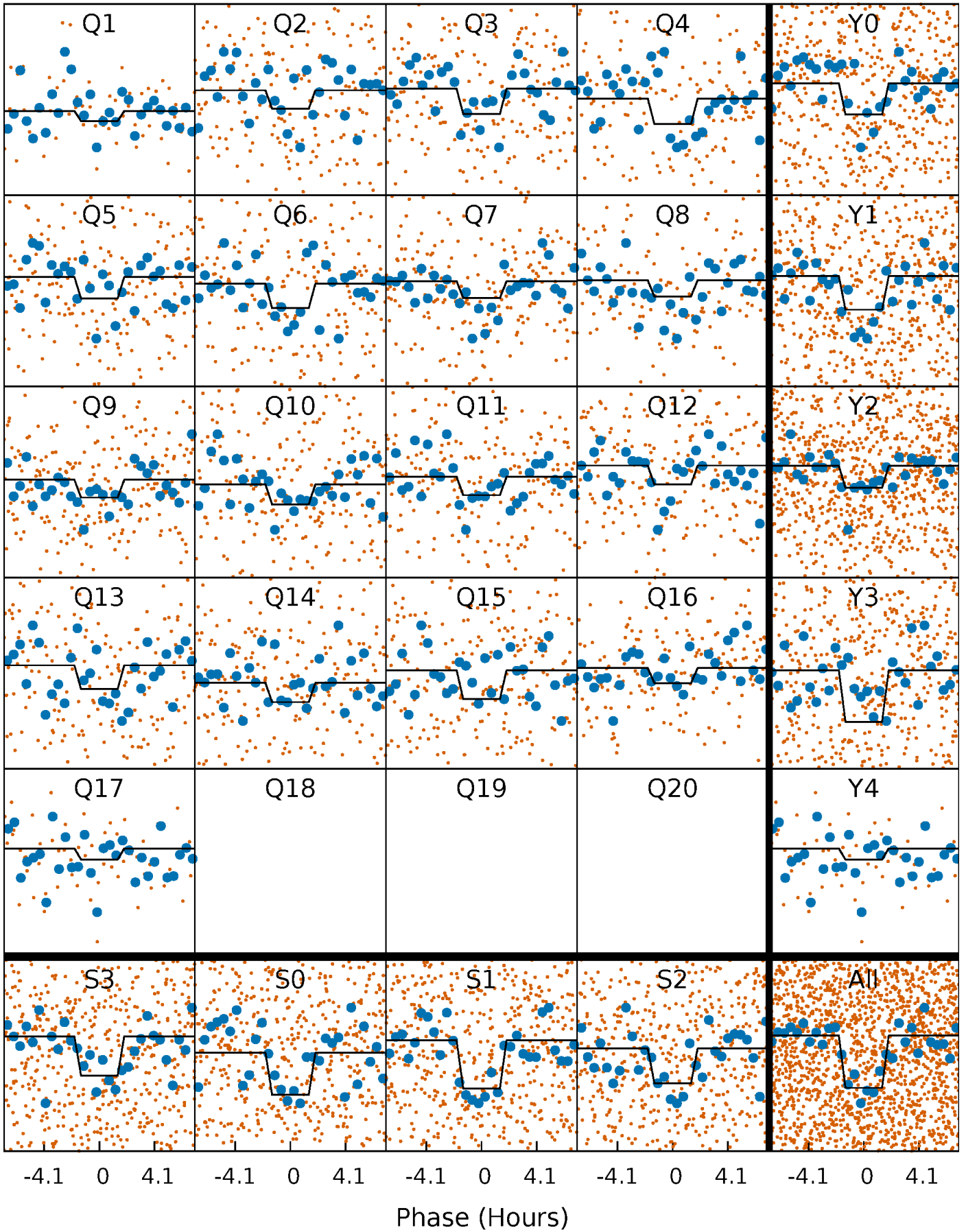
DV Quarter-Phased Transit Curves

TCE 008278073-01 P= 12.072943 Days $T_0=142.432145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

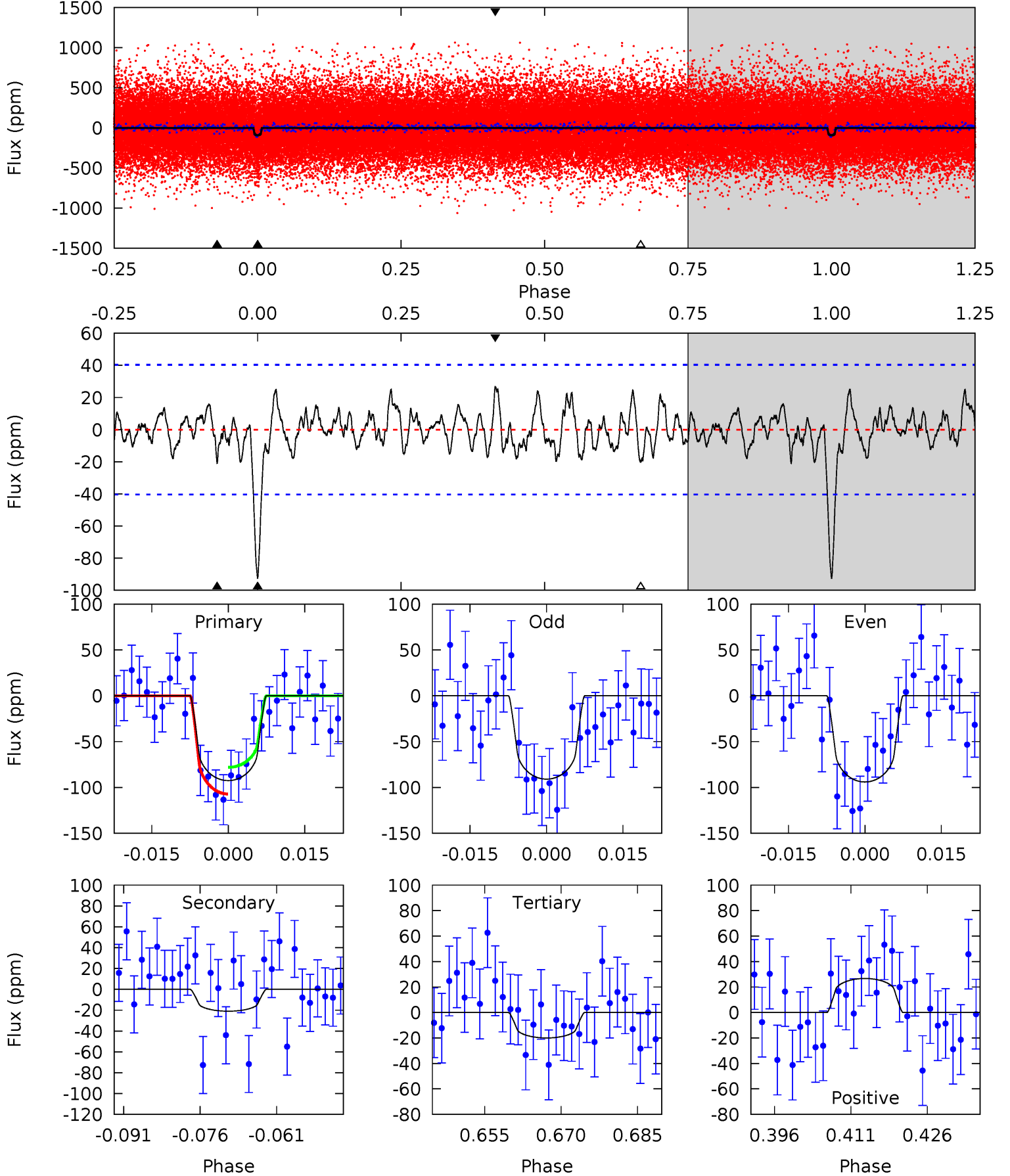
TCE 008278073-01 P= 12.073077 Days $T_0=142.416002$ (BKJD)



DV Model-Shift Uniqueness Test

008278073-01, P = 12.072943 Days, E = 130.359202 Days

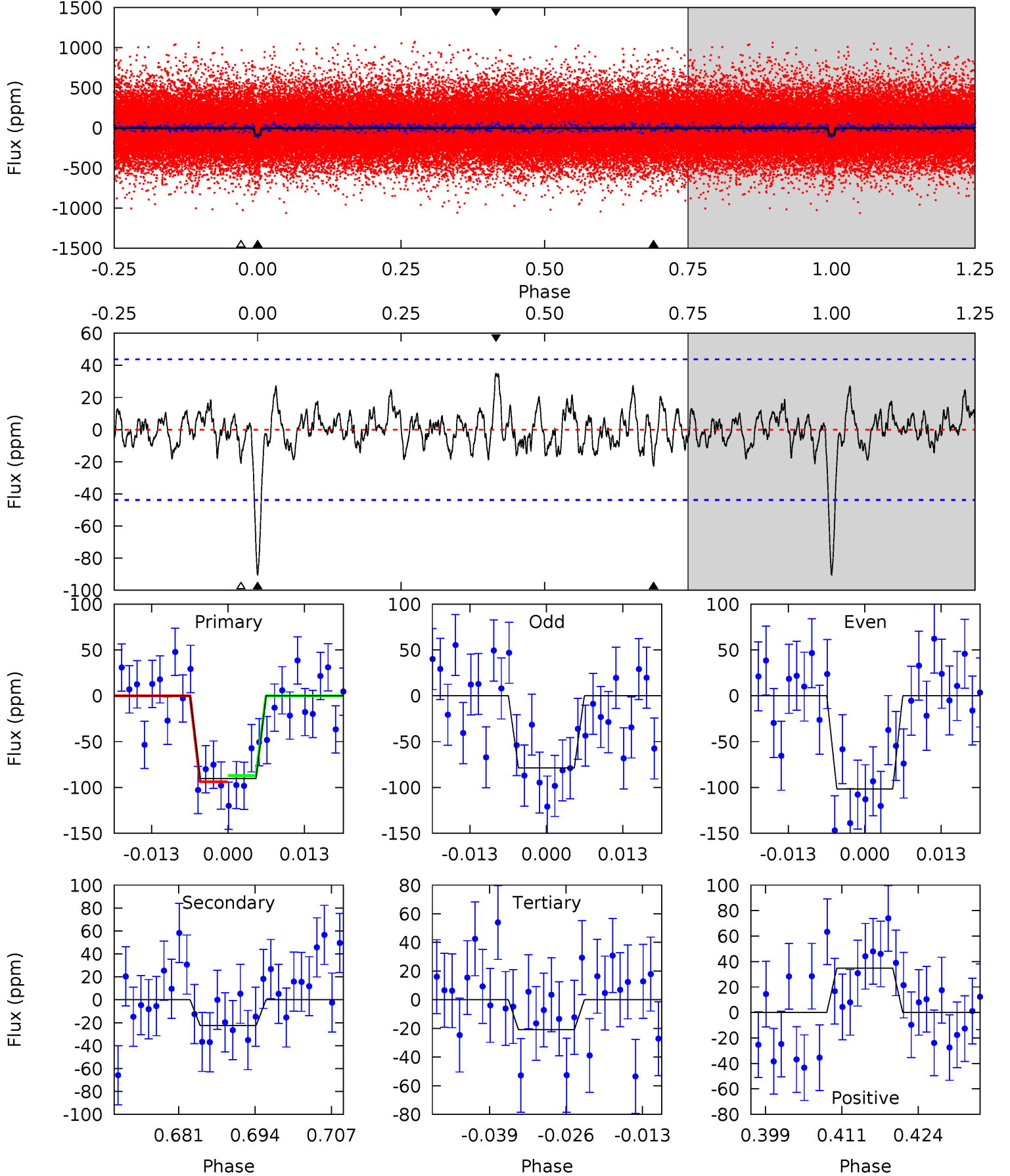
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	2.57	2.45	3.27	4.94	2.43	1.18	8.89	8.07	0.12	-0.70	0.19	0.99	0.22	1.79



Alt Model-Shift Uniqueness Test

008278073-01, P = 12.073077 Days, E = 130.342925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	2.56	2.38	3.96	4.98	2.49	1.08	7.89	6.31	0.18	-1.40	1.31	0.94	0.28	0.38



Stellar Parameters For KIC 008278073

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5436^{+89}_{-65}	$3.993^{+0.217}_{-0.093}$	$0.200^{+0.150}_{-0.100}$	$1.707^{+0.287}_{-0.430}$	$1.046^{+0.094}_{-0.104}$	$0.296^{+0.365}_{-0.087}$
	+2%/-1%	+5%/-2%	+75%/-50%	+17%/-25%	+9%/-10%	+123%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008278073-01 / KOI 4799.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 8	$2.12^{+1.56}_{-1.26}$	1341^{+54}_{-88}	3715^{+1728}_{-649}	27^{+158}_{-19}
Alt.	-23 ± 9	$2.03^{+1.47}_{-1.17}$	1344^{+63}_{-84}	3828^{+1639}_{-646}	30^{+154}_{-21}

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

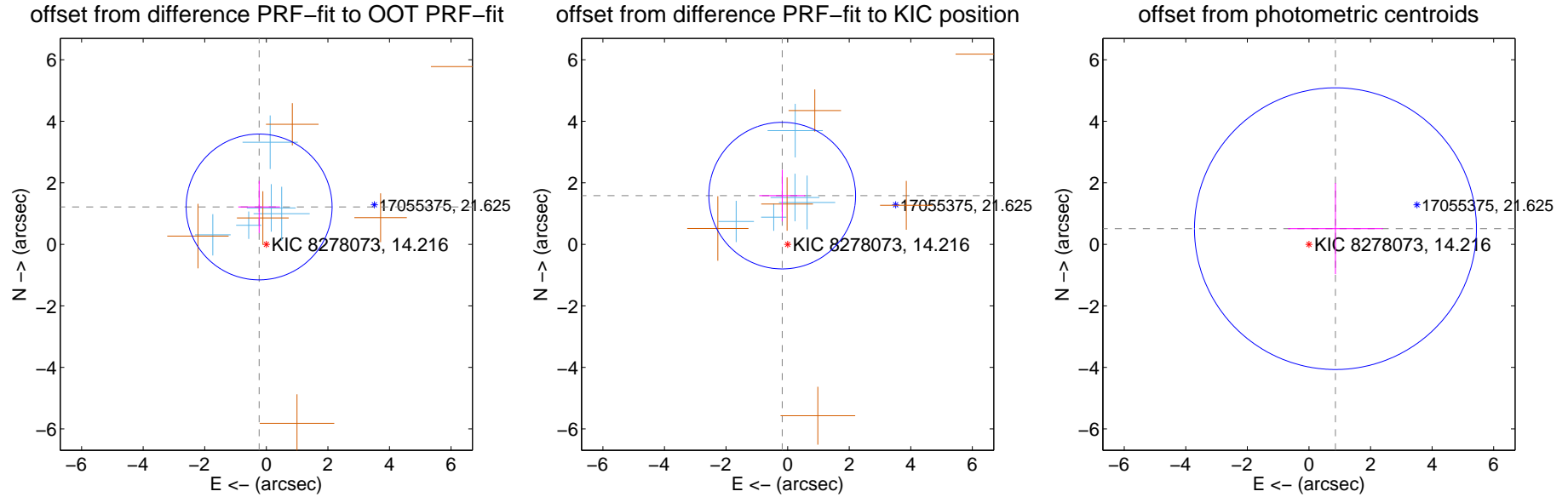
DV Centroid Data

Supplemental centroid analysis for 008278073-01. Kepler magnitude: 14.22. Transit SNR 8.78

There are 5 quarters with good PRF difference image offsets

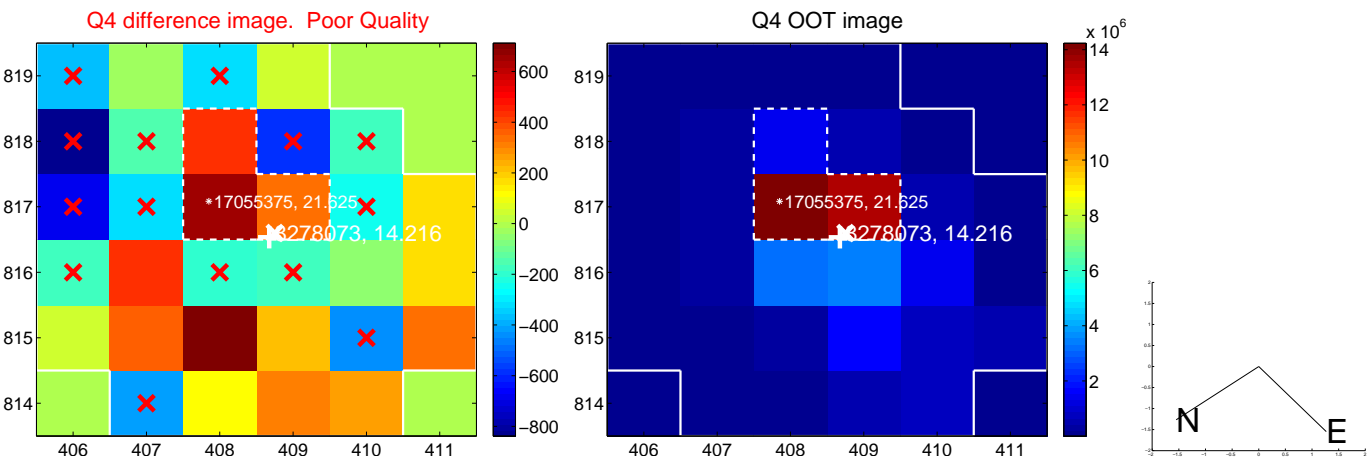
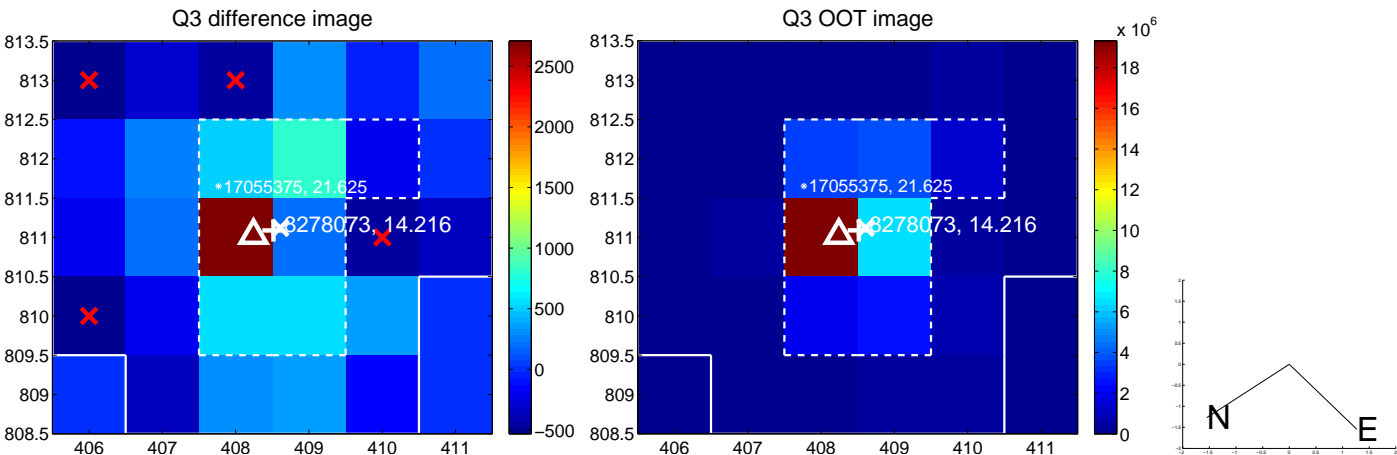
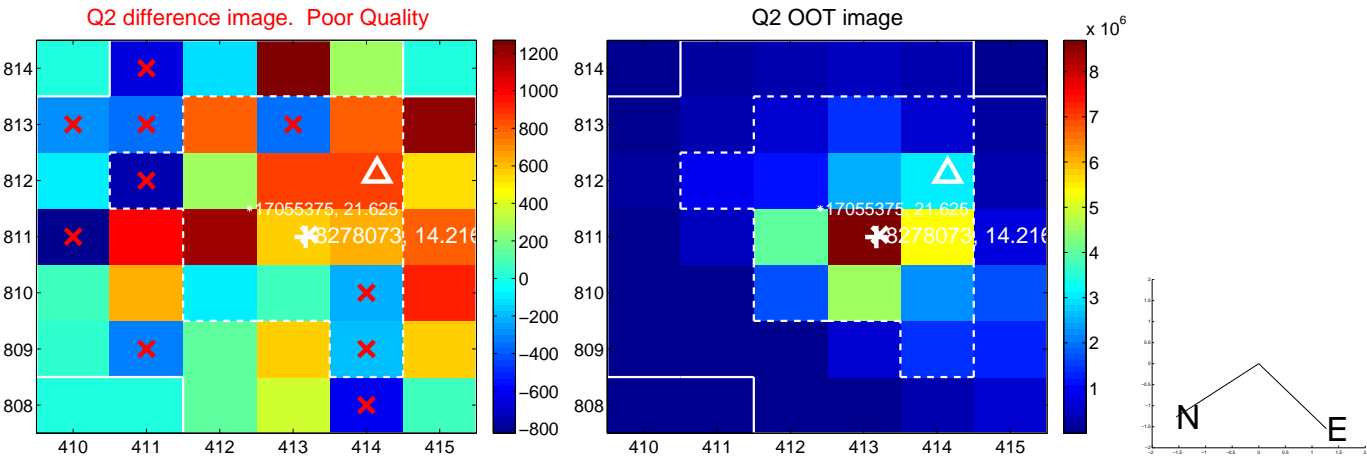
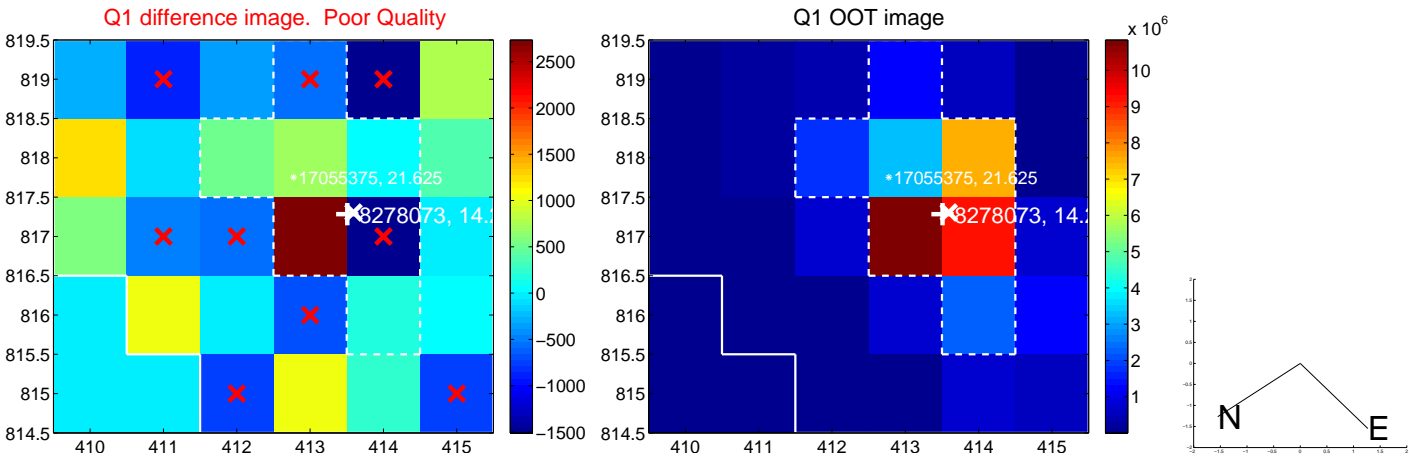
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.238 ± 0.790	1.57	0.234 ± 0.677	1.215 ± 0.846
PRF-fit source offset from KIC position	1.594 ± 0.794	2.01	0.176 ± 0.748	1.584 ± 0.838
photometric centroid source offset	1.00 ± 1.53	0.66	-0.86 ± 1.54	0.51 ± 1.48

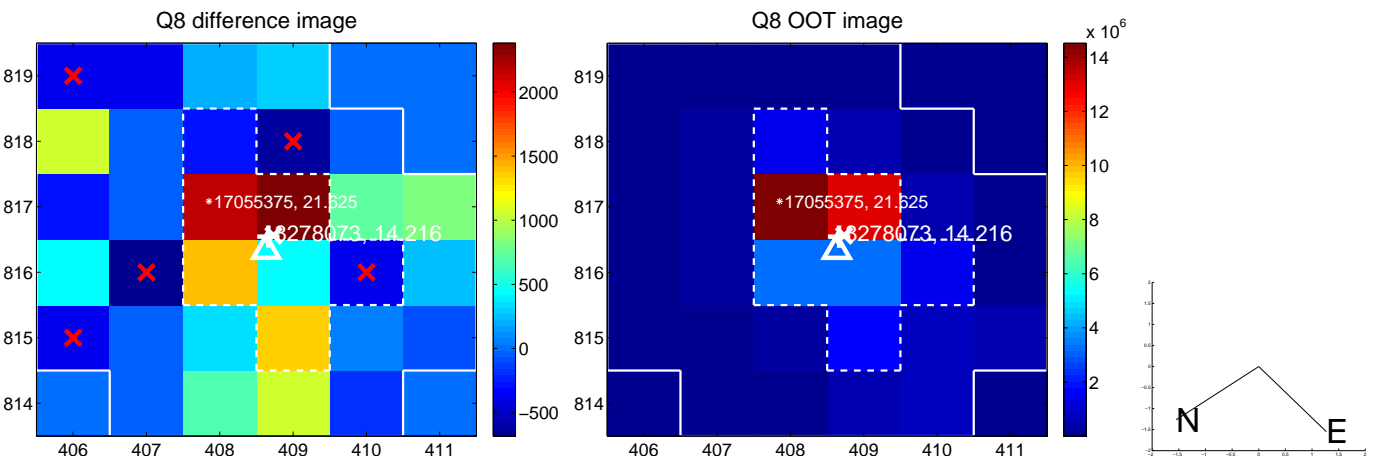
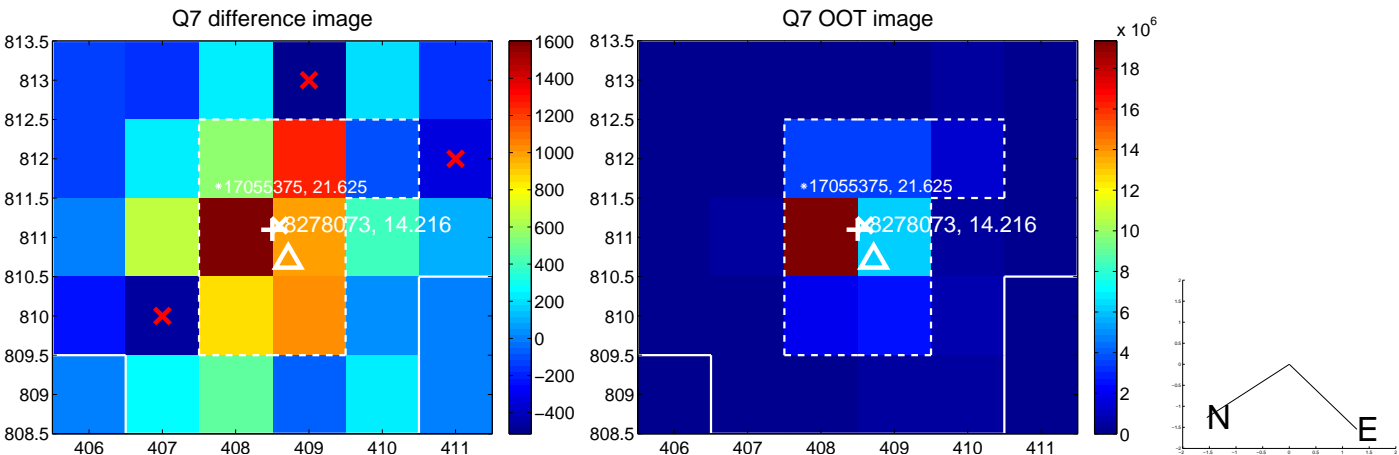
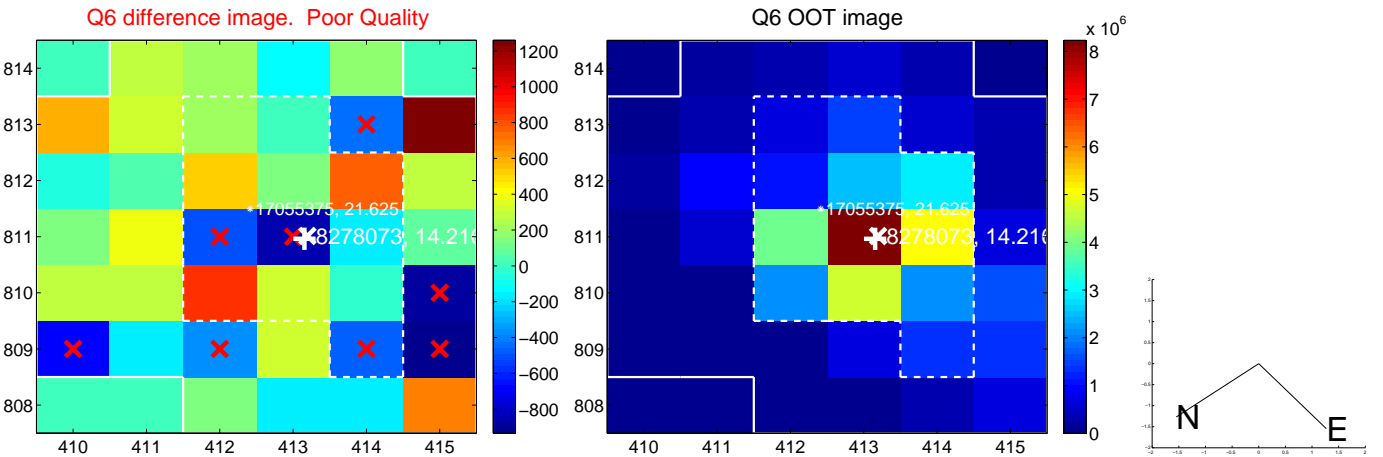
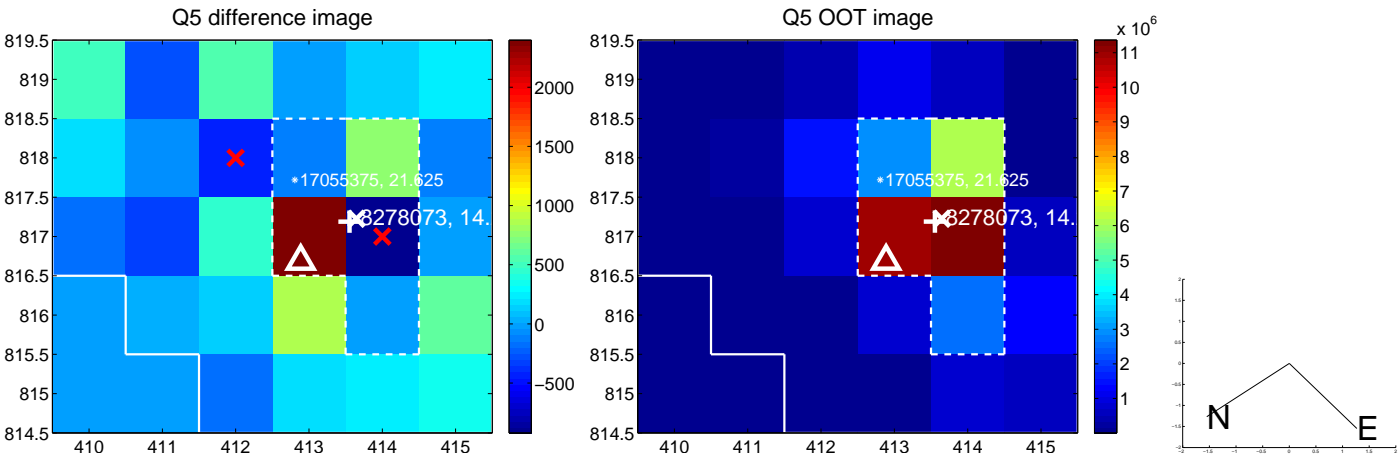


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

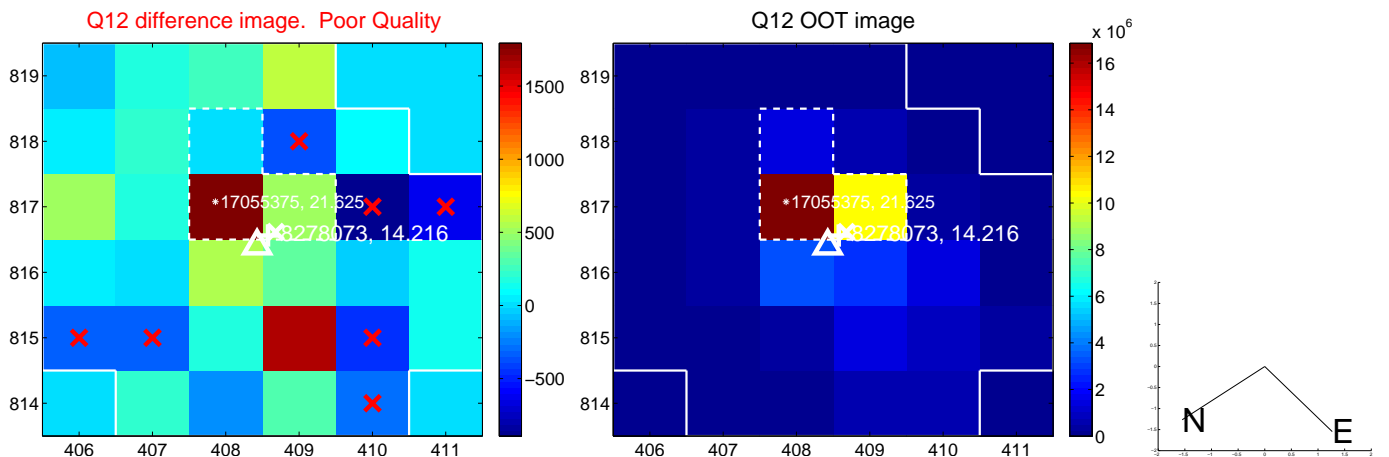
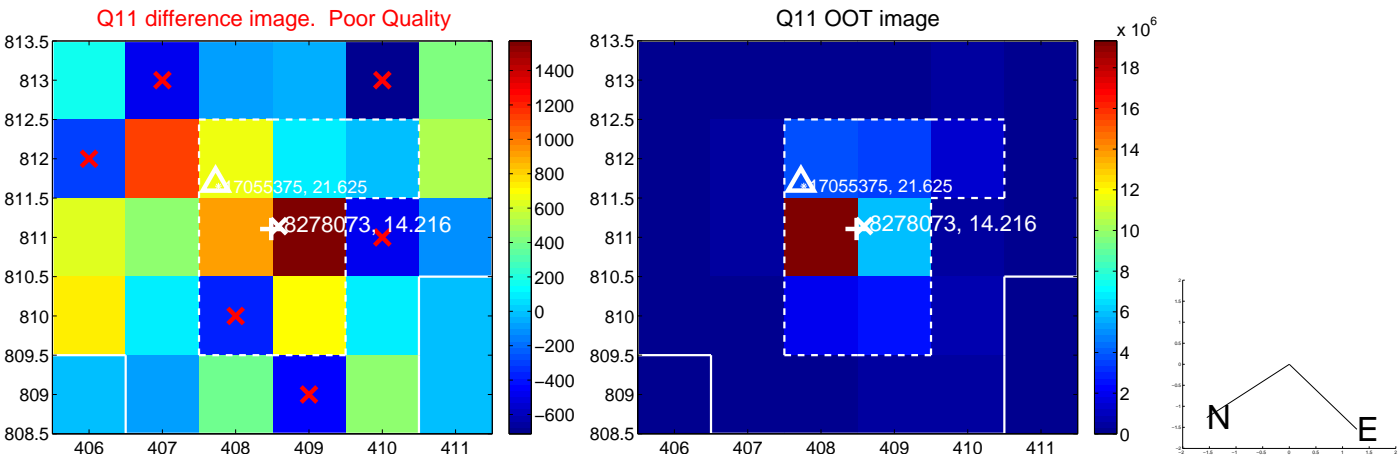
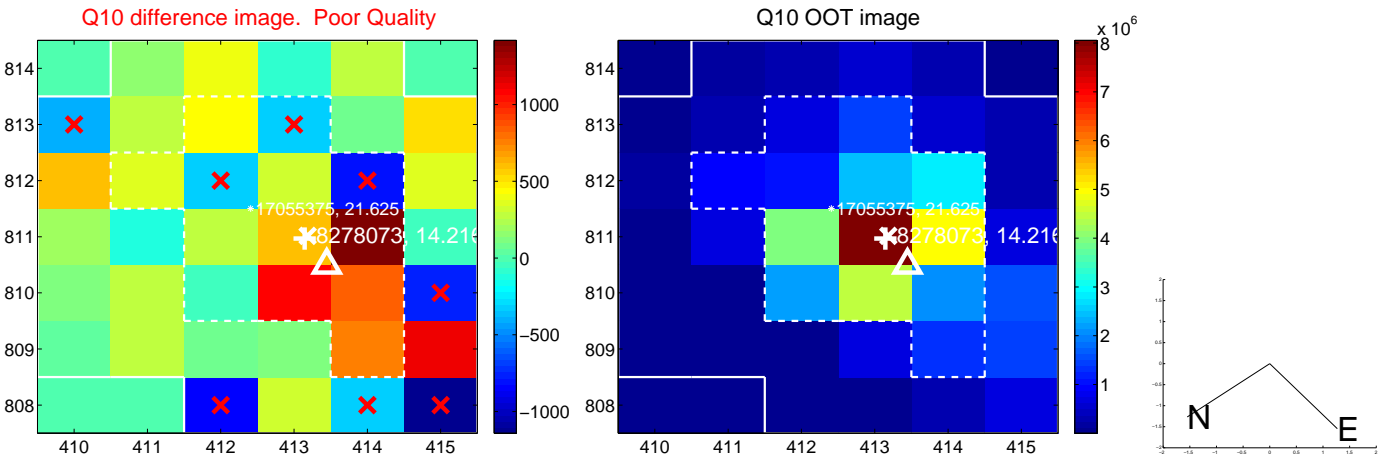
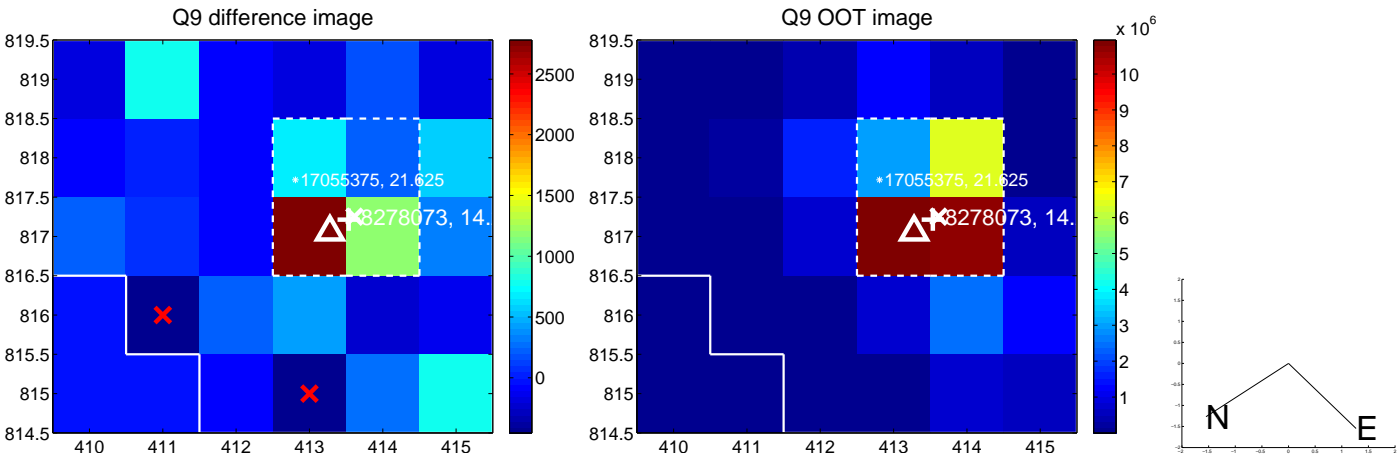
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



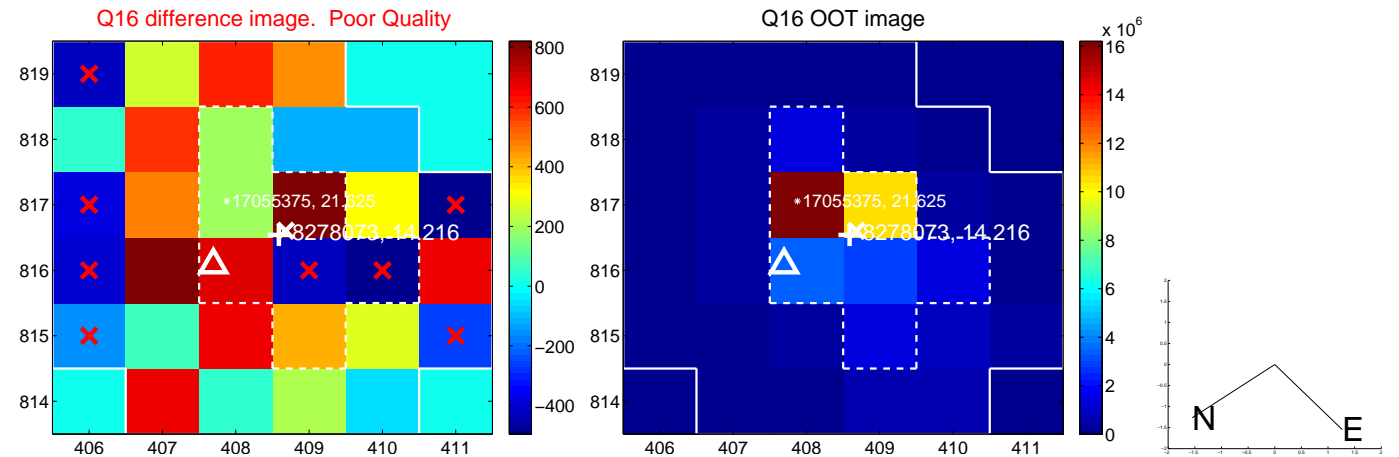
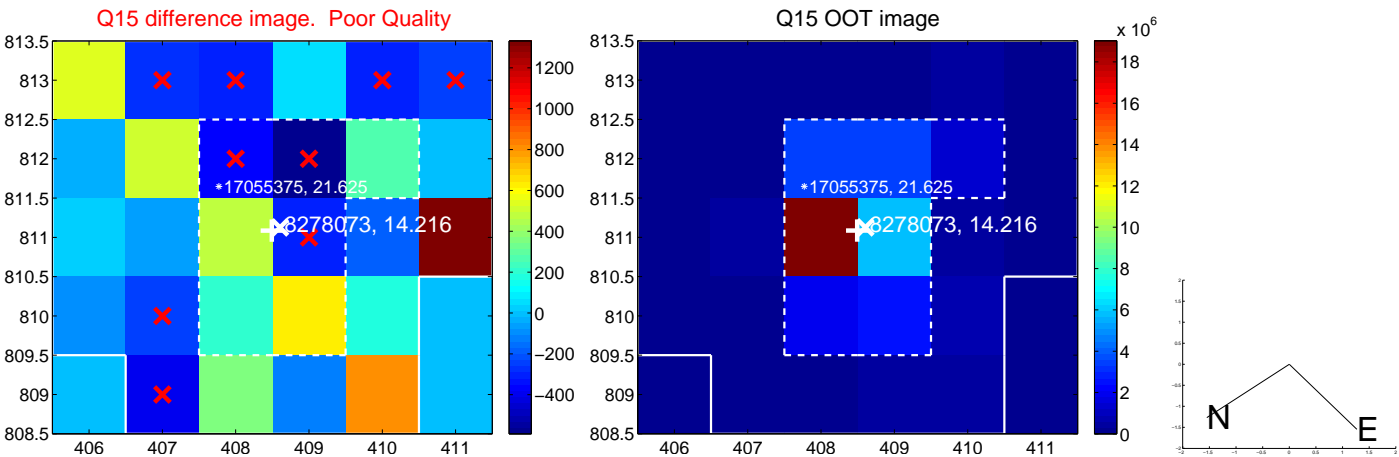
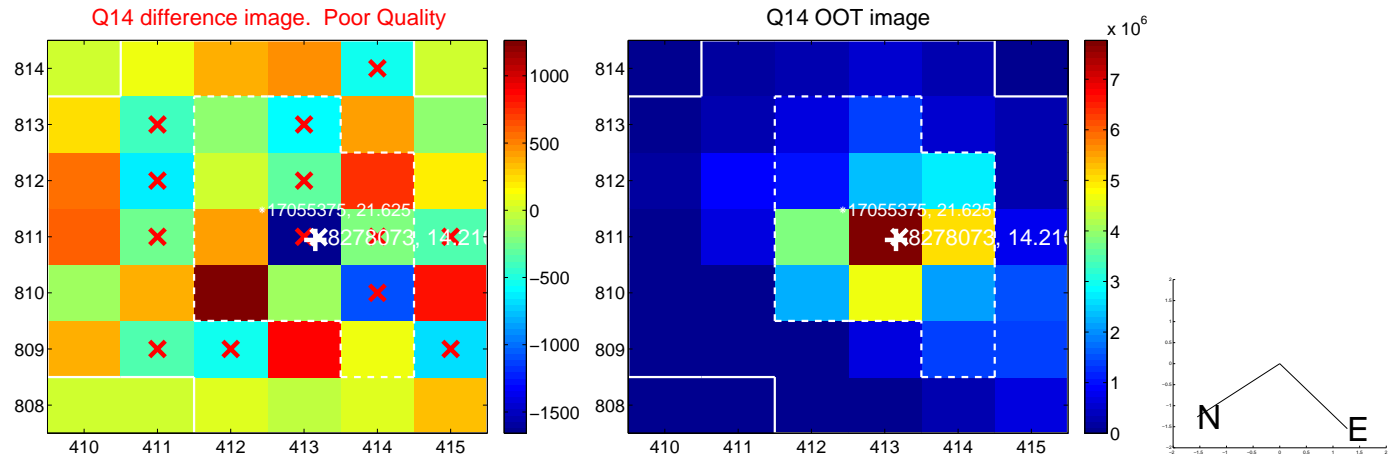
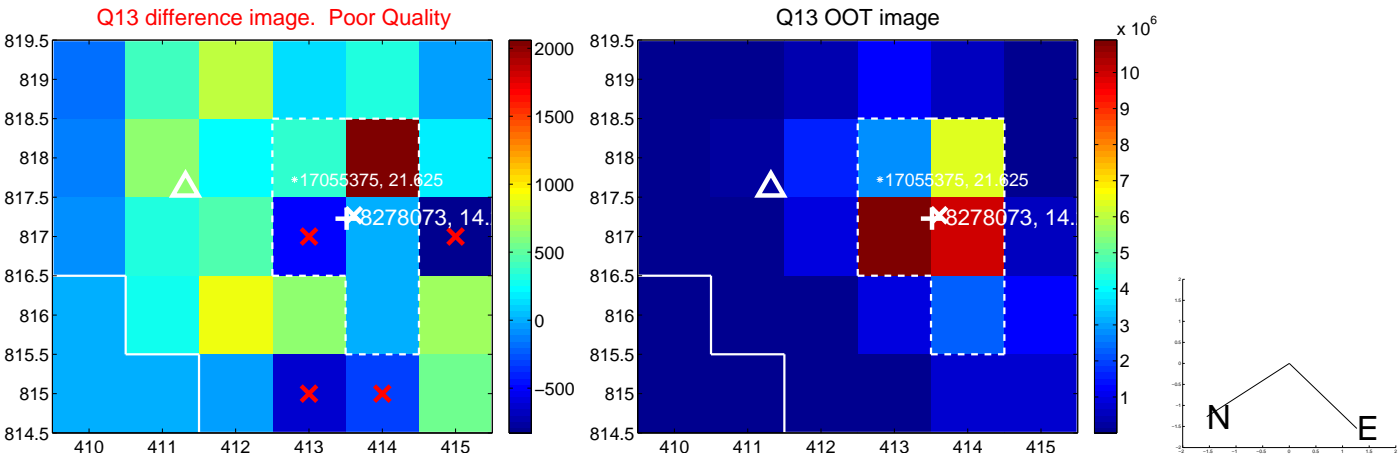
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



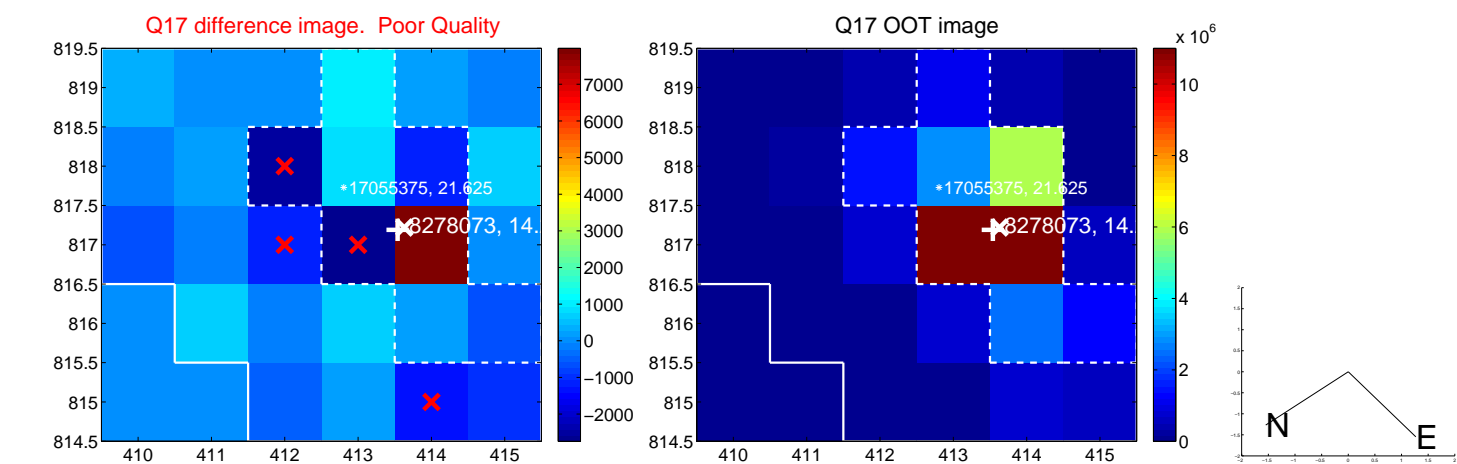
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



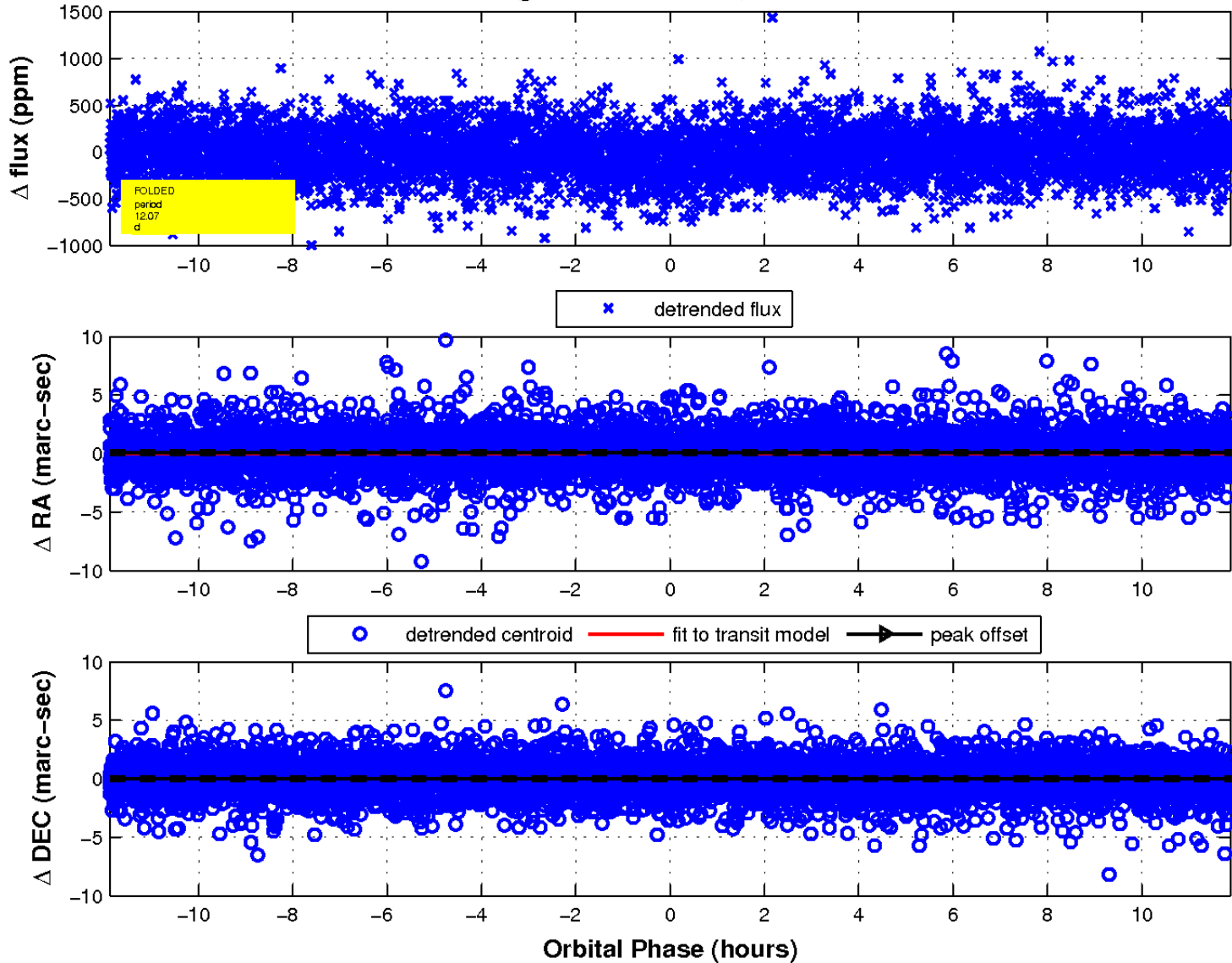
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

