

KIC 008812045

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})
008812045-01	OBS	3481.01	32.706734	136.084525	127.4	12.256	10.6	9.5	3.19	5527	3.95	157.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008812045-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

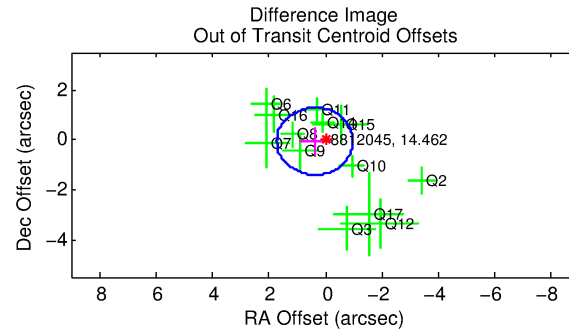
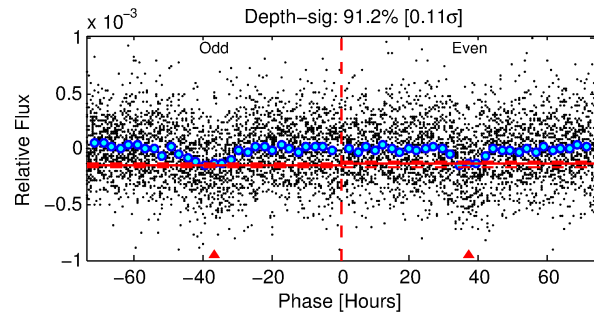
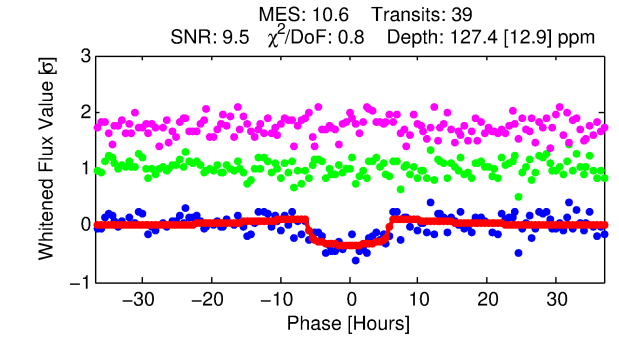
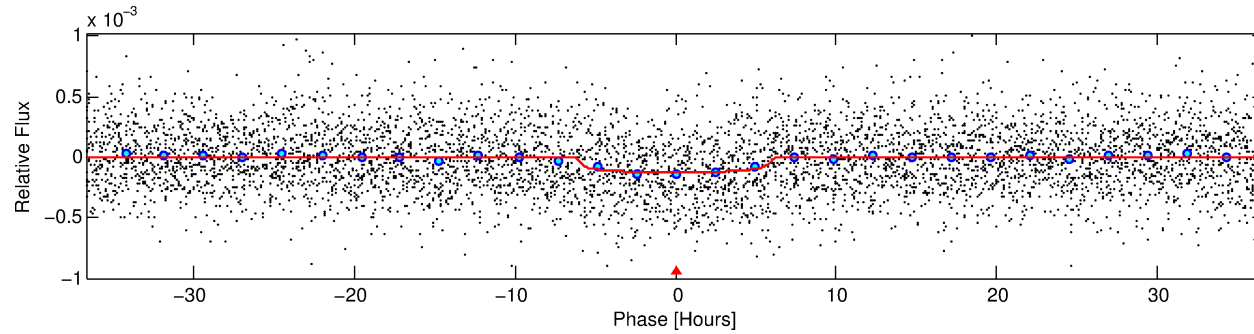
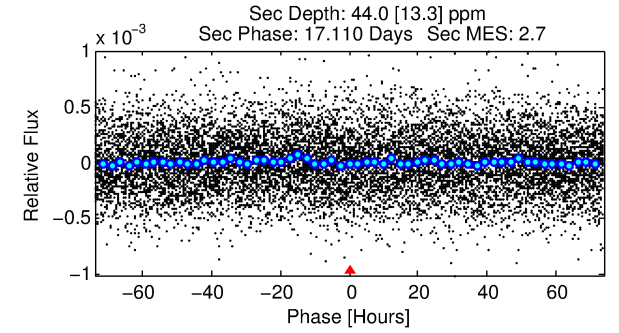
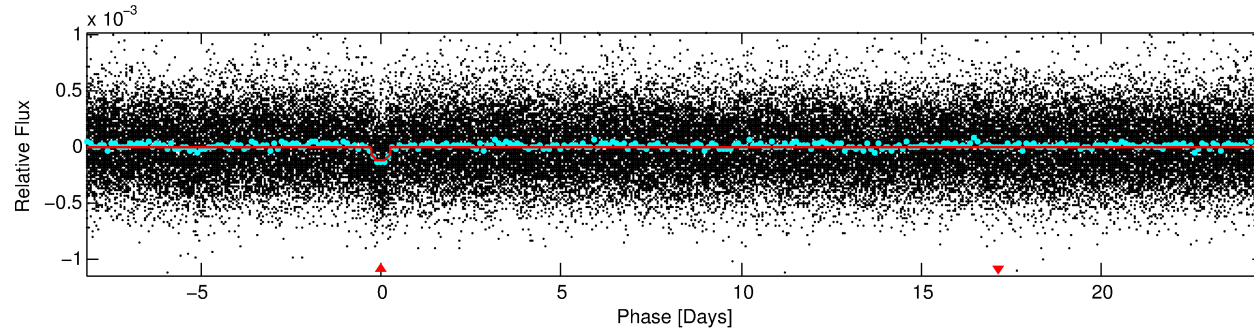
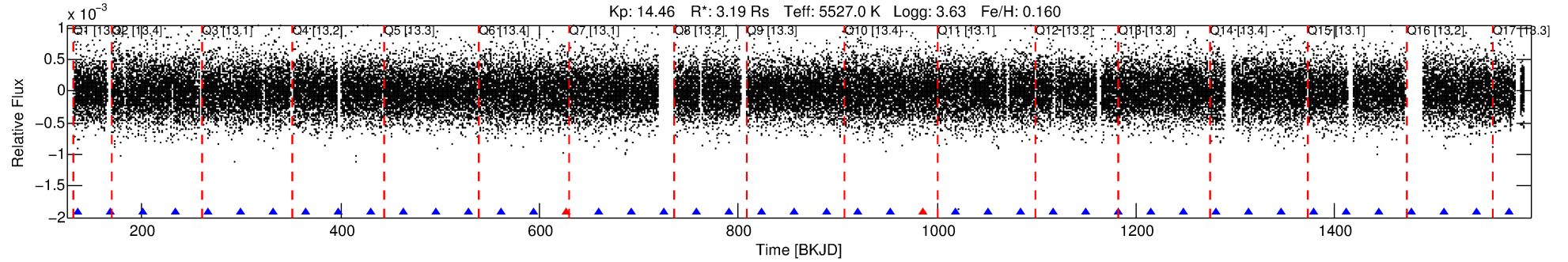
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008812045-01

No Significant Match Found

DV One-Page Summary

KIC: 8812045 Candidate: 1 of 1 Period: 32.707 d
KOI: K03481.01 Corr: 0.756



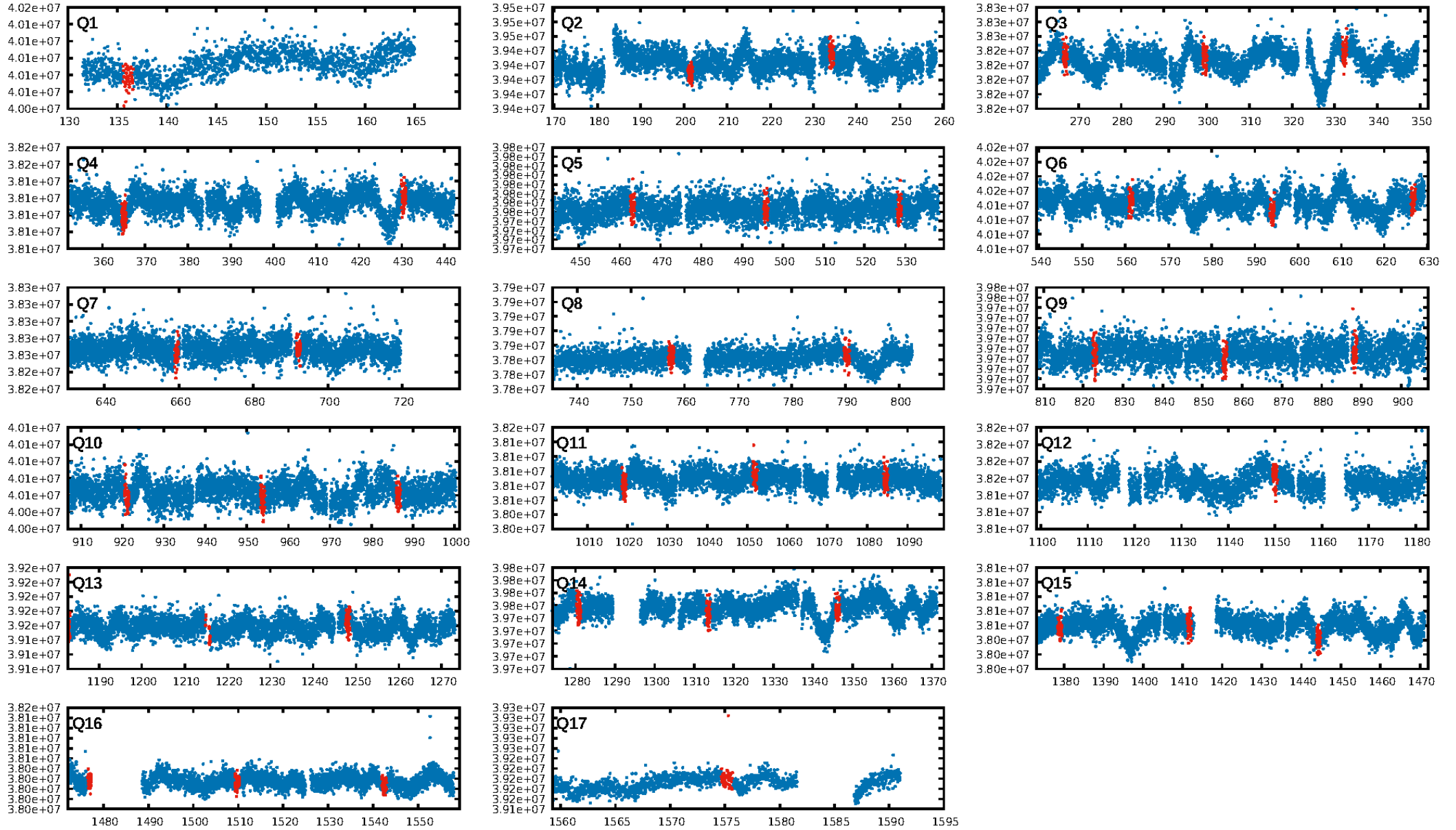
DV Fit Results:

Period = 32.70673 [0.00065] d
Epoch = 136.0845 [0.0164] BKJD
Rp/R* = 0.0113 [0.0046]
a/R* = 13.43 [22.54]
b = 0.77 [0.91]
Seff = 157.05 [74.44]
Teff = 903 [107] K
Rp = 3.95 [2.16] Re
a = 0.2329 [0.0736] AU
Ag = 84.31 [83.22] [1.00σ]
Teffp = 4229 [920] K [3.59σ]

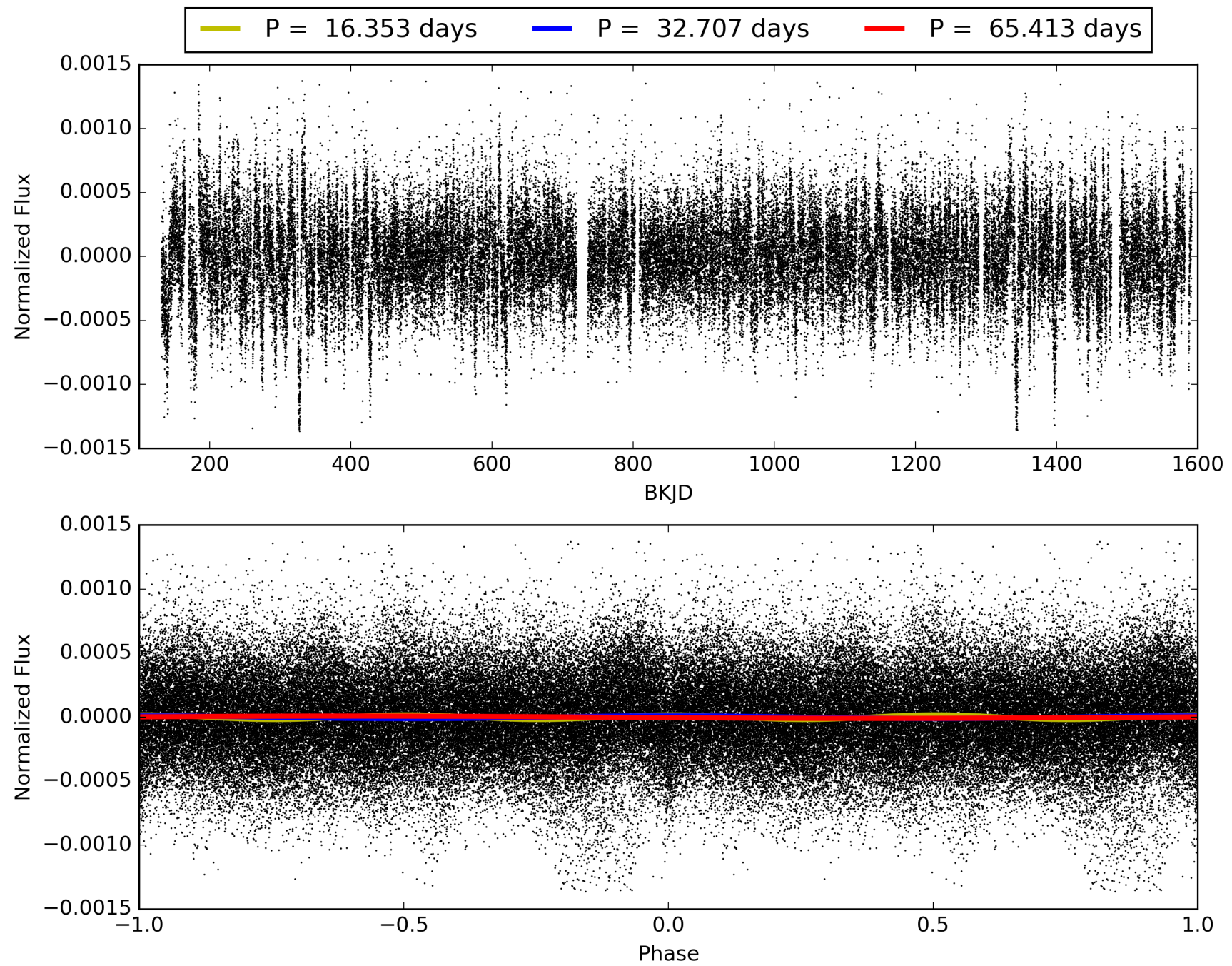
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.03e-26
RollingBand-fgt: 0.95 [35/37]
GhostDiagnostic-chr: 6.502
Centroid-sig: 3.9%
Centroid-so: 1.810 arcsec [1.45σ]
OotOffset-rm: 0.384 arcsec [0.86σ]
KicOffset-rm: 0.384 arcsec [0.86σ]
OotOffset-st: 4/4/3/2 [13]
KicOffset-st: 4/4/3/2 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008812045-01, PDC Light Curves

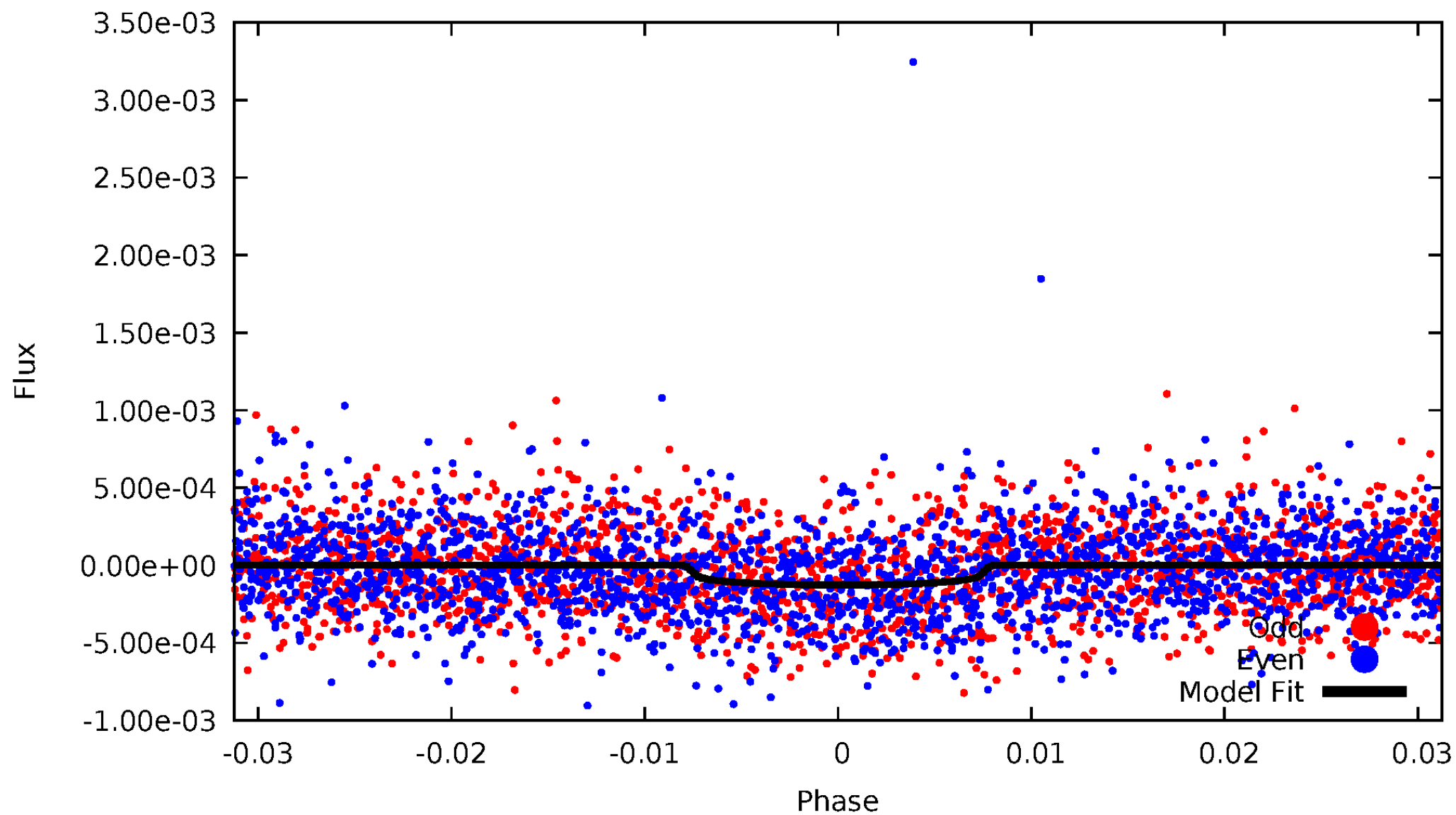


TCE 008812045-01



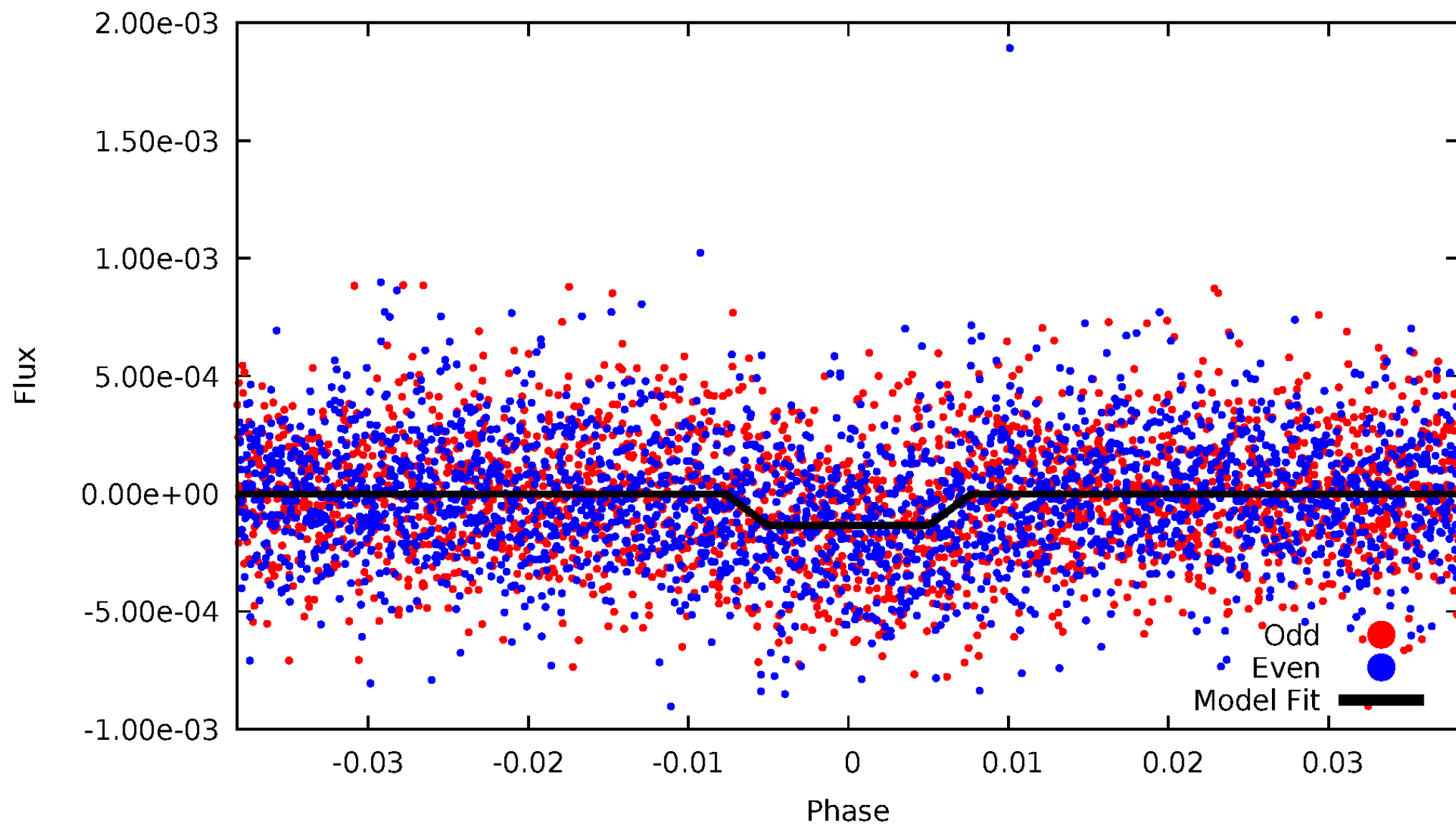
DV Odd/Even

TCE 008812045-01



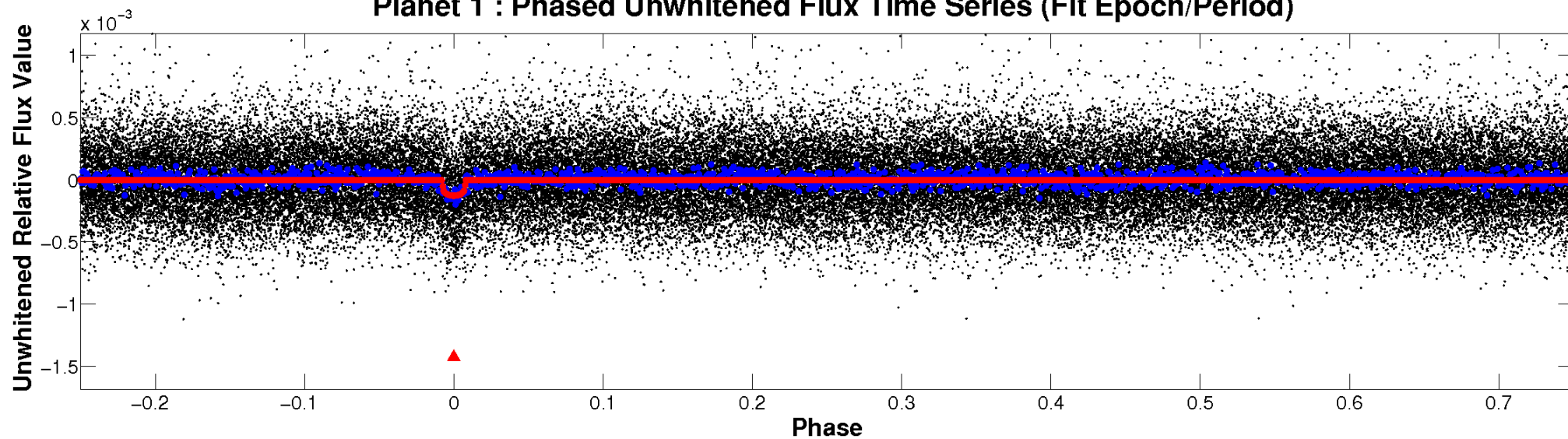
ALT Odd/Even

TCE 008812045-01

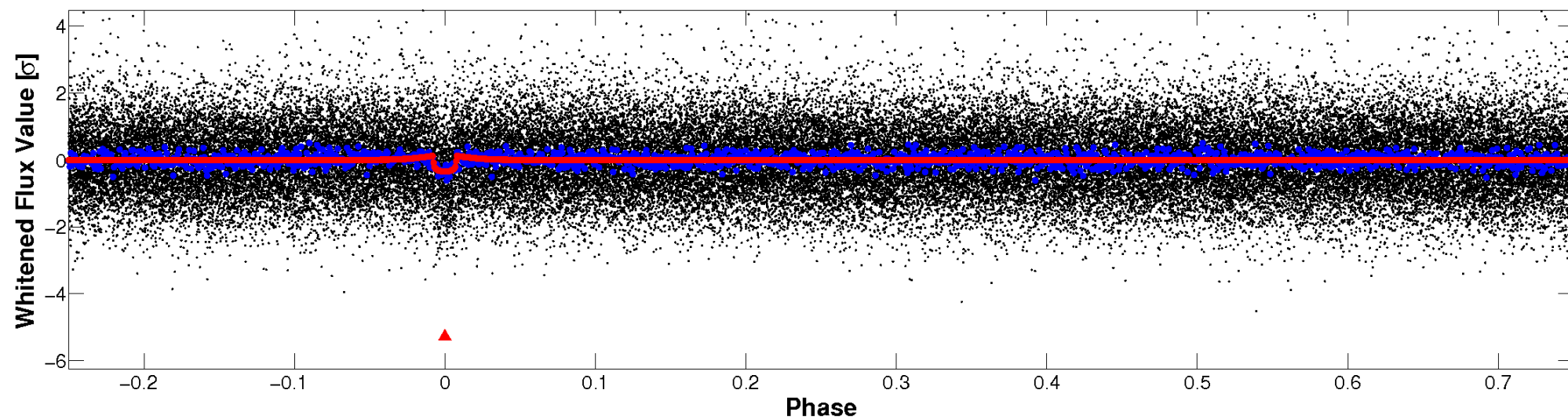


Non-Whitened Vs. Whitened Light Curve

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

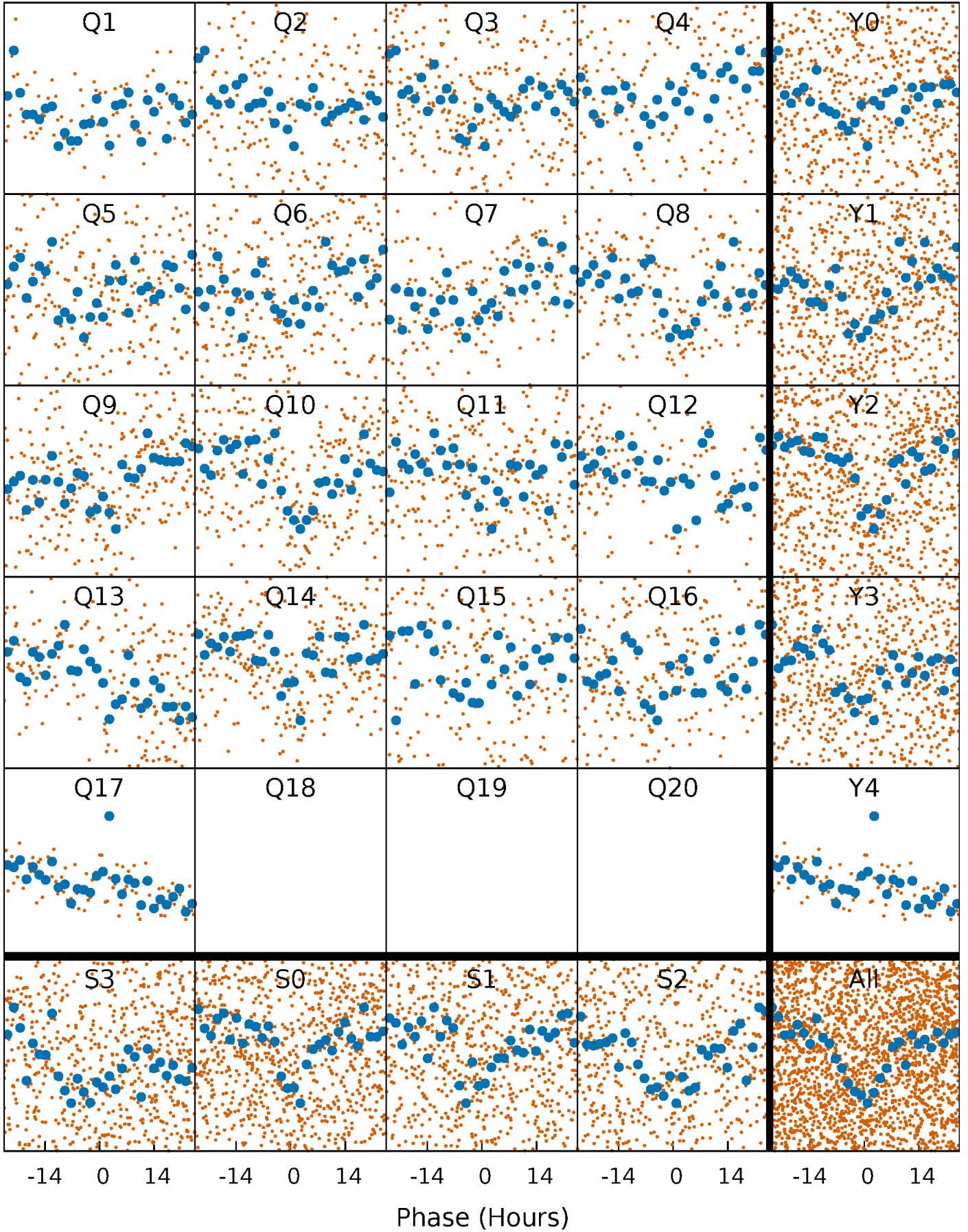


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



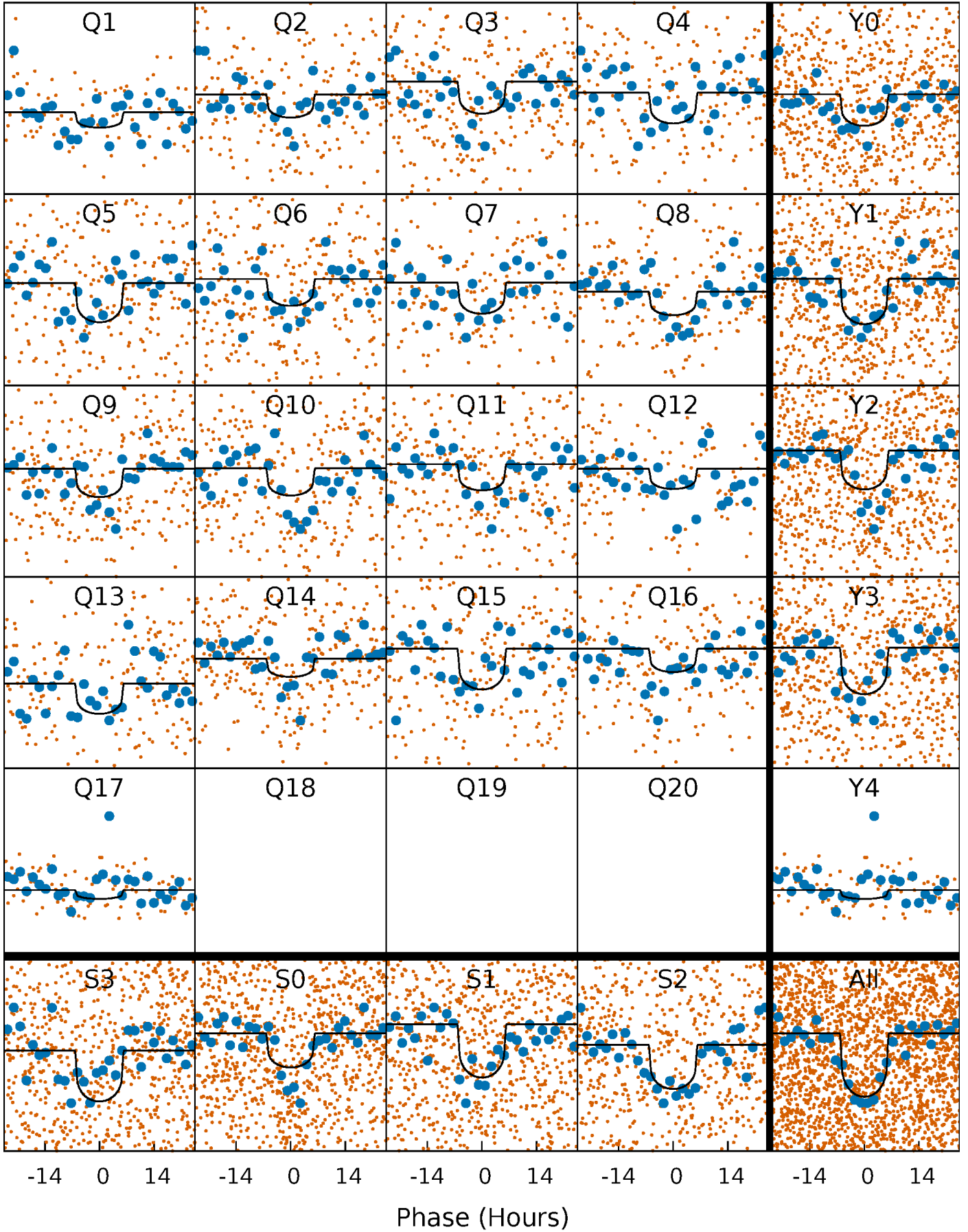
PDC Quarter-Phased Transit Curves

TCE 008812045-01 P= 32.706734 Days $T_0=136.084525$ (BKJD)



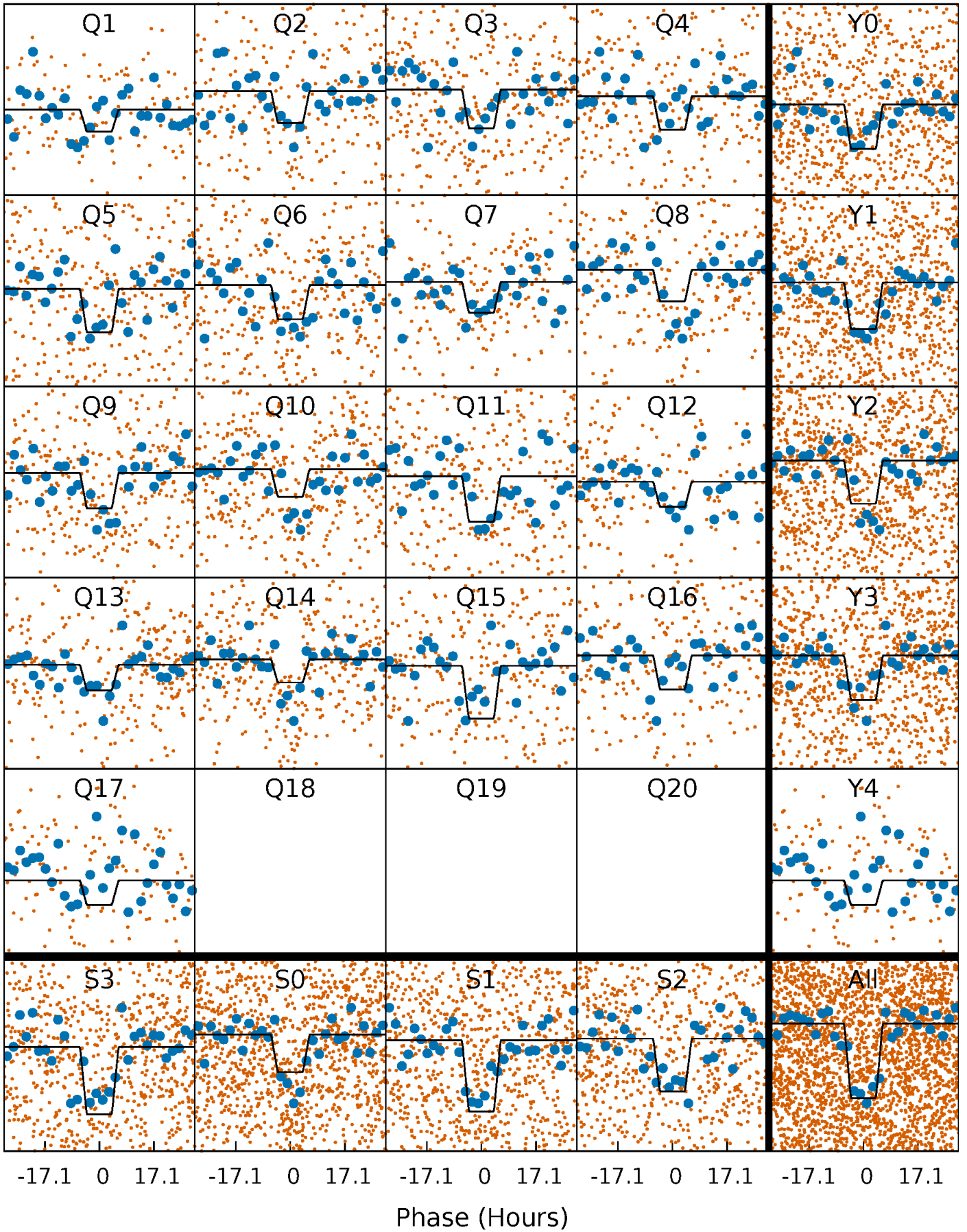
DV Quarter-Phased Transit Curves

TCE 008812045-01 P= 32.706734 Days $T_0=136.084525$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

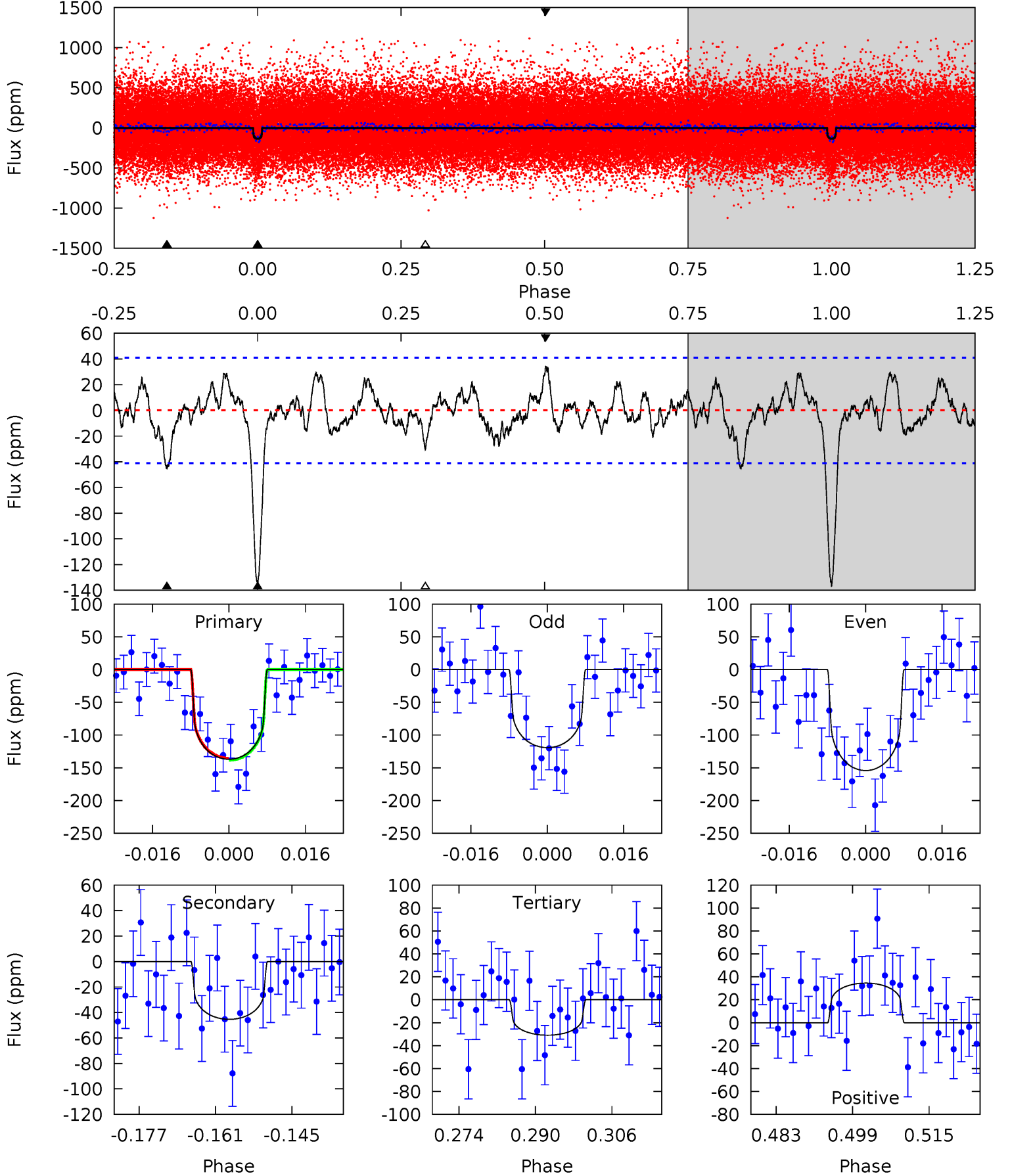
TCE 008812045-01 P= 32.709074 Days $T_0=136.023115$ (BKJD)



DV Model-Shift Uniqueness Test

008812045-01, $P = 32.706734$ Days, $E = 103.377791$ Days

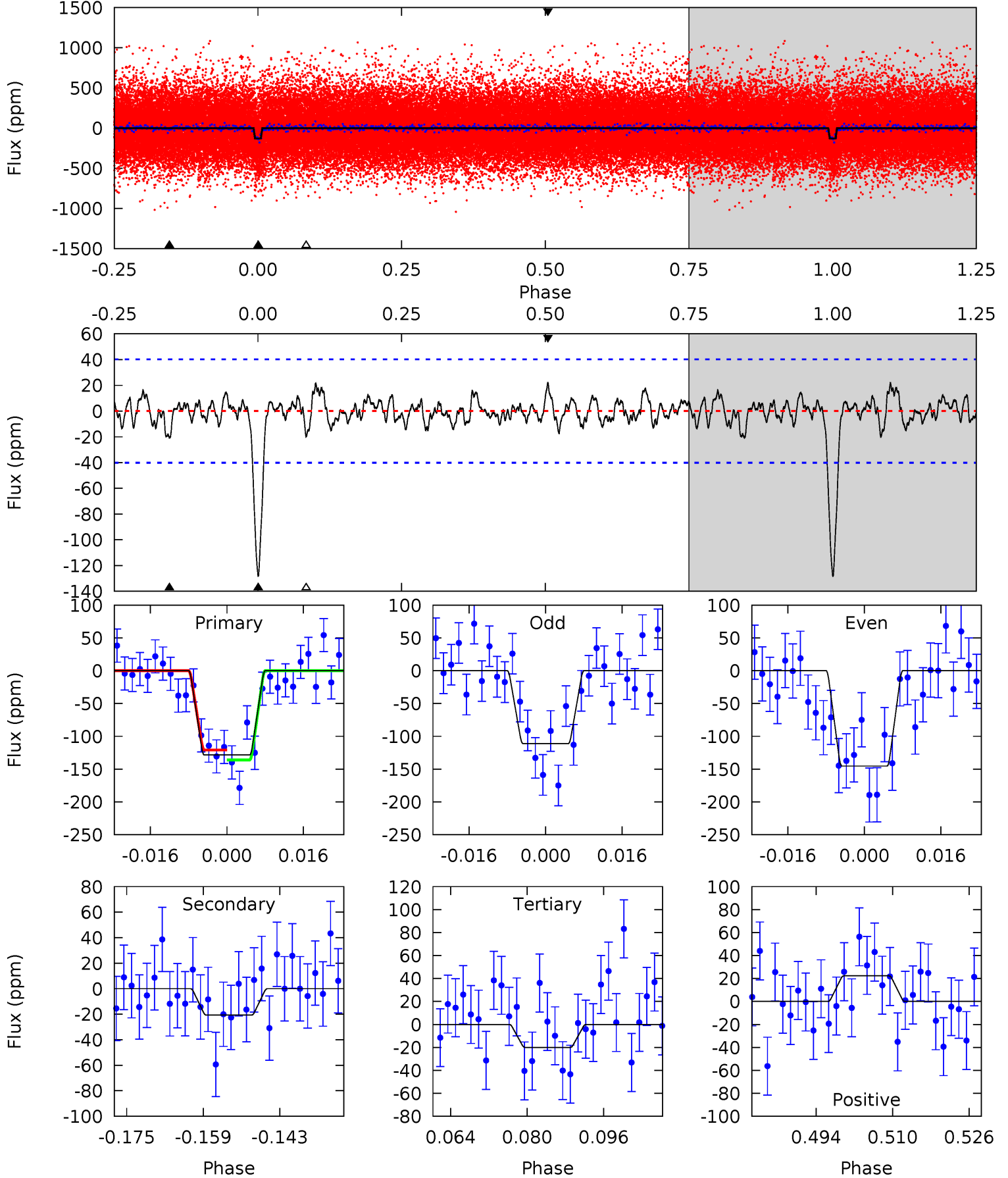
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	5.46	3.72	4.15	4.93	2.41	1.39	12.8	12.3	1.74	1.31	2.11	0.92	0.20	0.17



Alt Model-Shift Uniqueness Test

008812045-01, $P = 32.709074$ Days, $E = 103.314041$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	2.54	2.46	2.74	4.94	2.41	0.89	13.3	13.0	0.09	-0.19	2.10	1.04	0.15	0.94



Stellar Parameters For KIC 008812045

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5527^{+83}_{-75}	$3.627^{+0.262}_{-0.087}$	$0.160^{+0.150}_{-0.150}$	$3.192^{+0.628}_{-1.166}$	$1.574^{+0.169}_{-0.395}$	$0.068^{+0.125}_{-0.020}$
	+2%/-1%	+7%/-2%	+94%/-94%	+20%/-37%	+11%/-25%	+183%/-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 008812045-01 / KOI 3481.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-45 ± 8	$3.65^{+1.63}_{-1.47}$	1241^{+63}_{-101}	4438^{+1019}_{-541}	100^{+182}_{-53}
Alt.	-21 ± 8	$3.78^{+1.69}_{-1.52}$	1246^{+65}_{-105}	3775^{+808}_{-458}	40^{+86}_{-23}

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 $A_{obs} \gg 1.0$

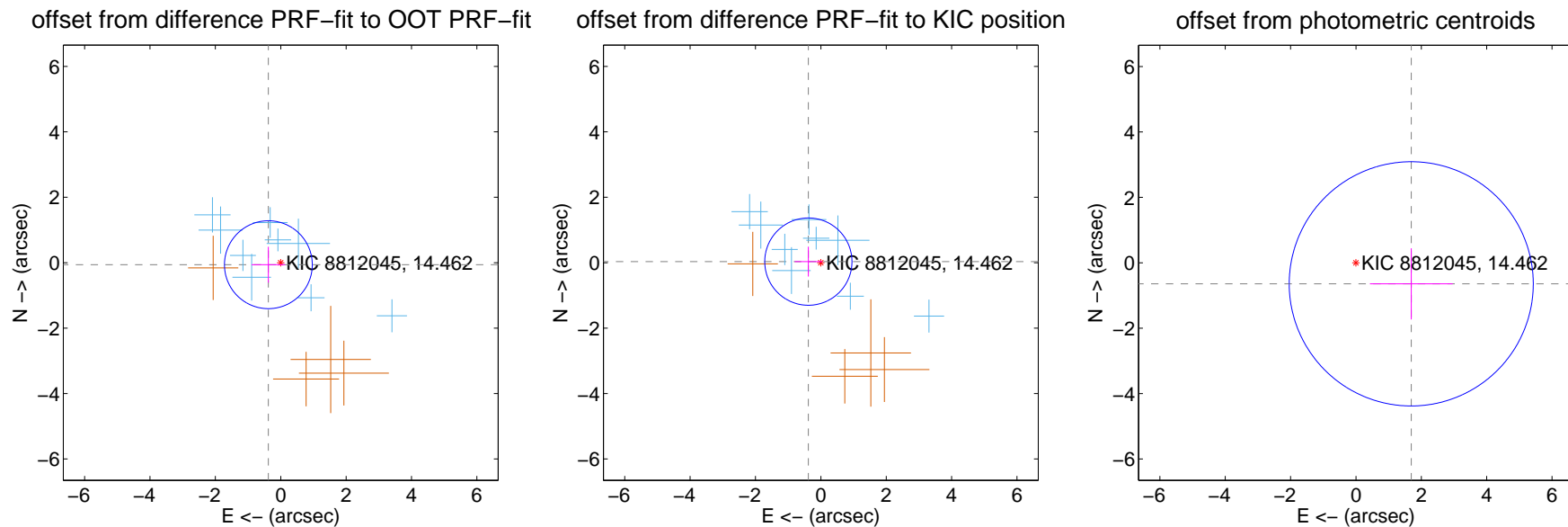
DV Centroid Data

Supplemental centroid analysis for 008812045-01. Kepler magnitude: 14.46. Transit SNR 9.51

There are 9 quarters with good PRF difference image offsets

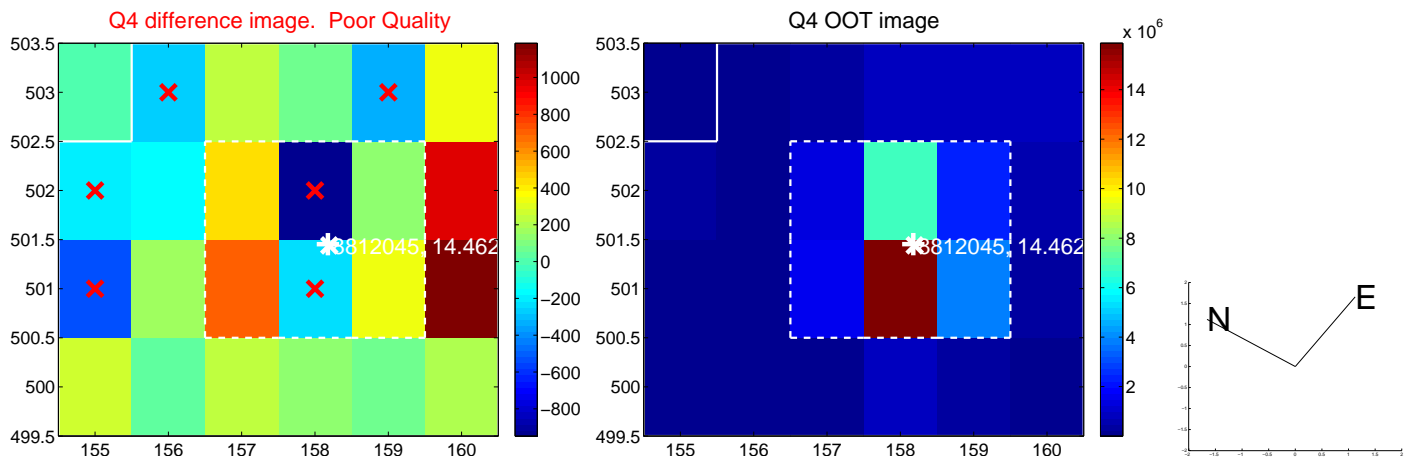
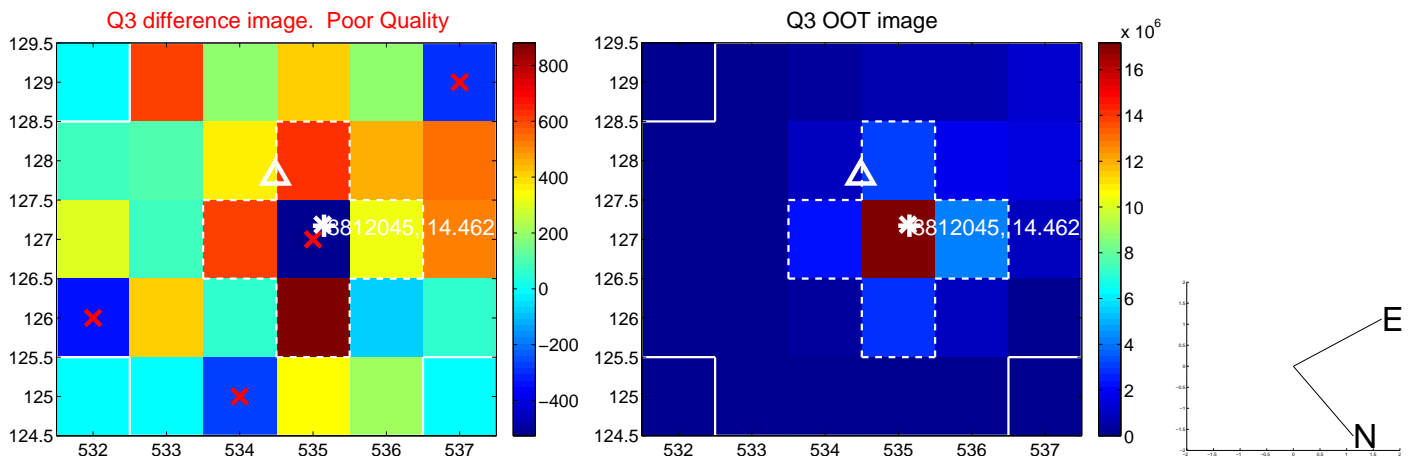
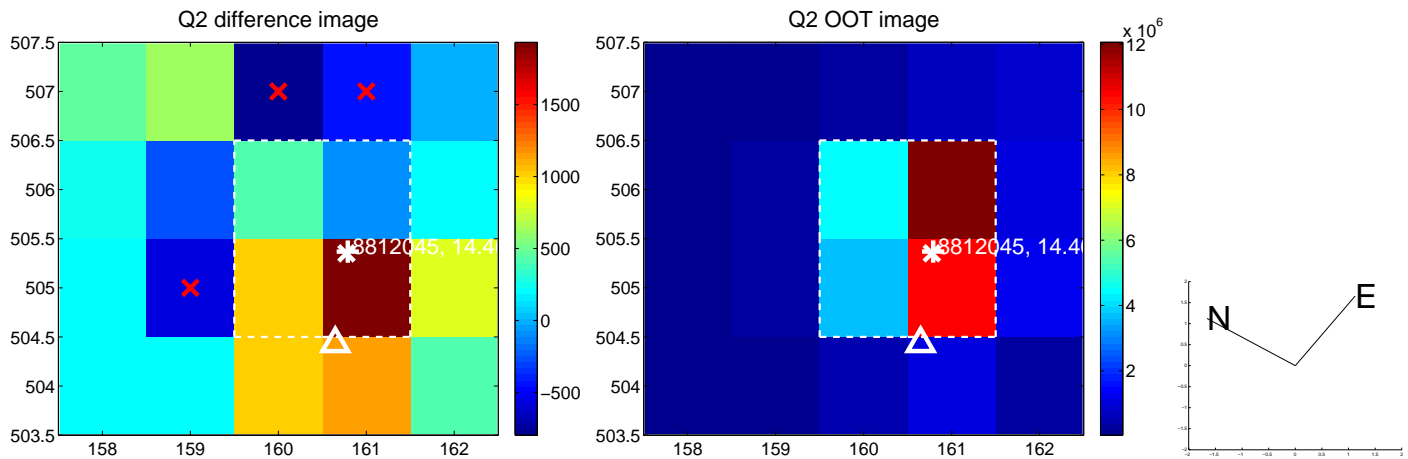
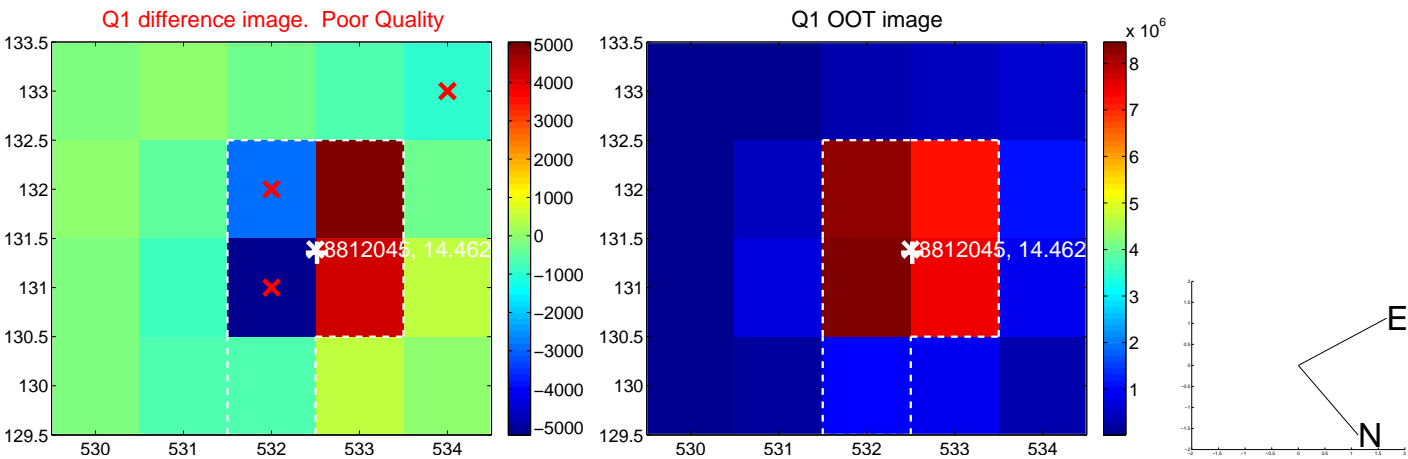
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.384 ± 0.448	0.86	0.379 ± 0.515	-0.062 ± 0.548
PRF-fit source offset from KIC position	0.384 ± 0.445	0.86	0.383 ± 0.419	0.033 ± 0.456
photometric centroid source offset	1.81 ± 1.24	1.45	-1.69 ± 1.27	-0.64 ± 1.09

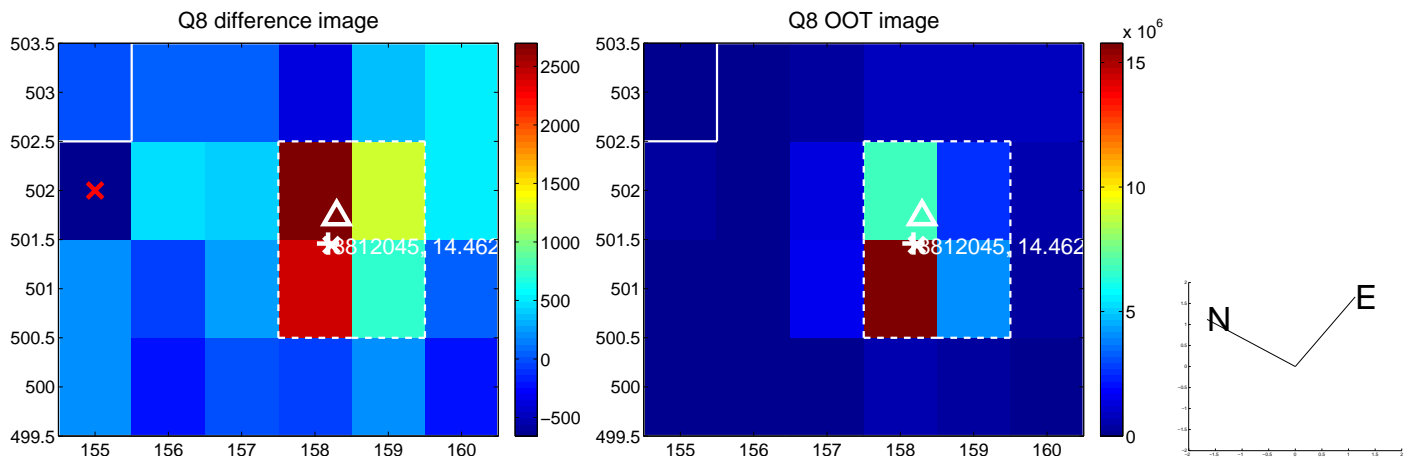
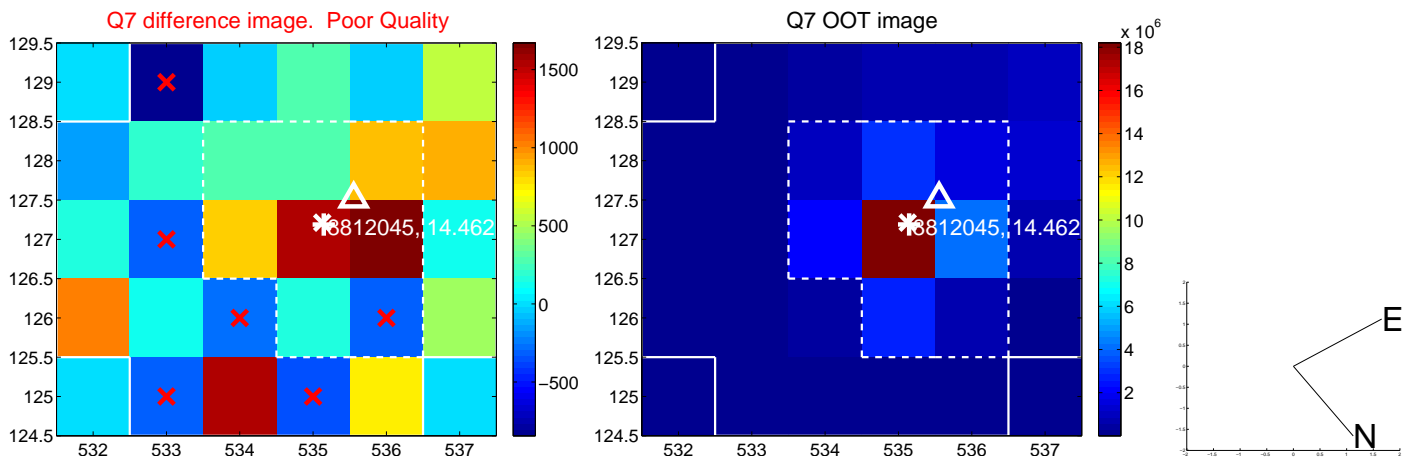
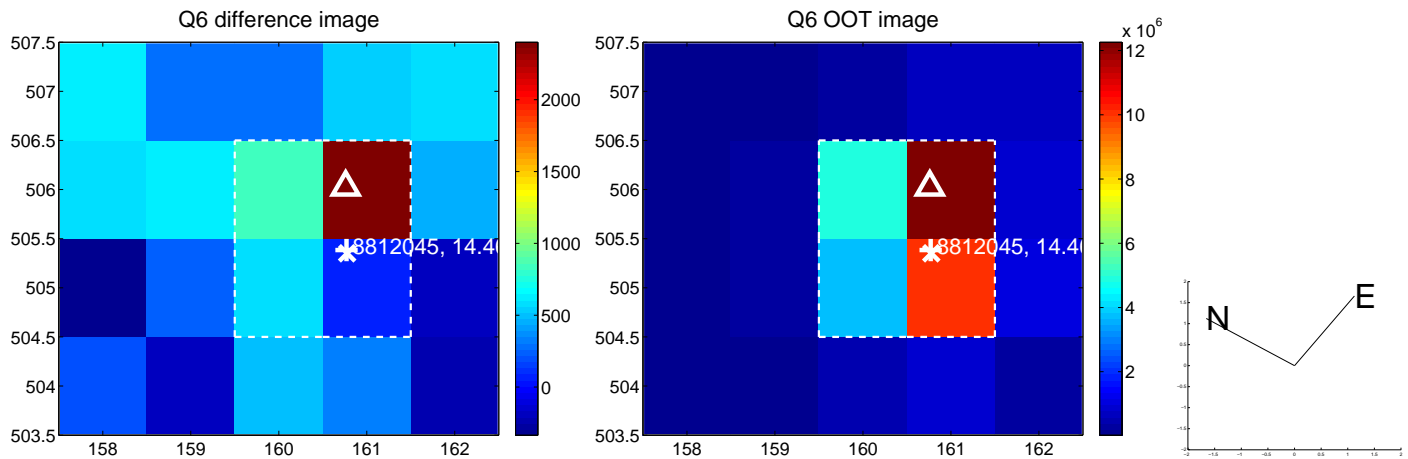
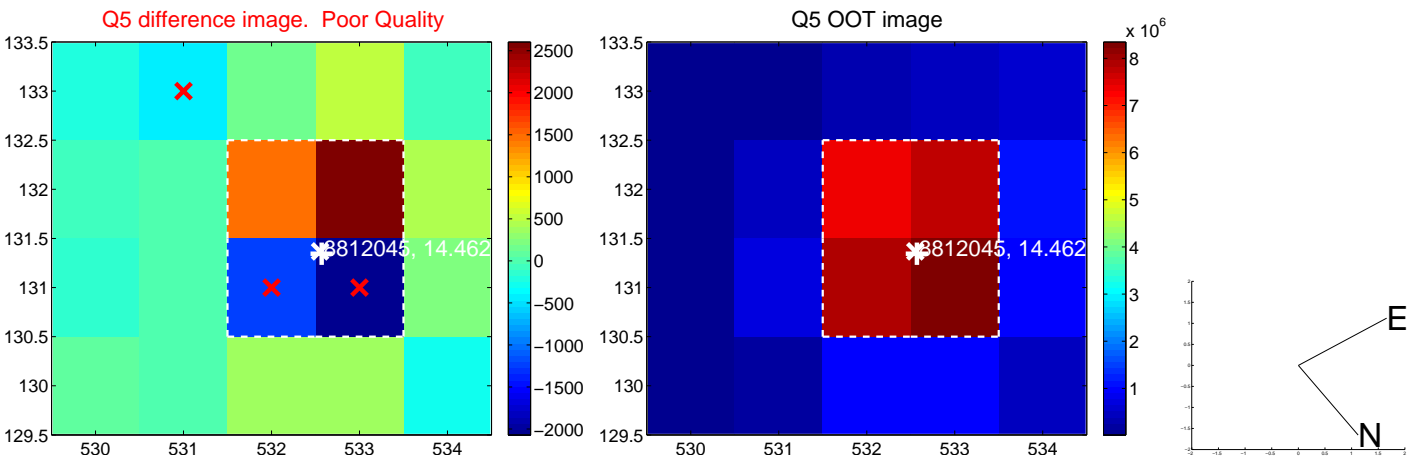


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

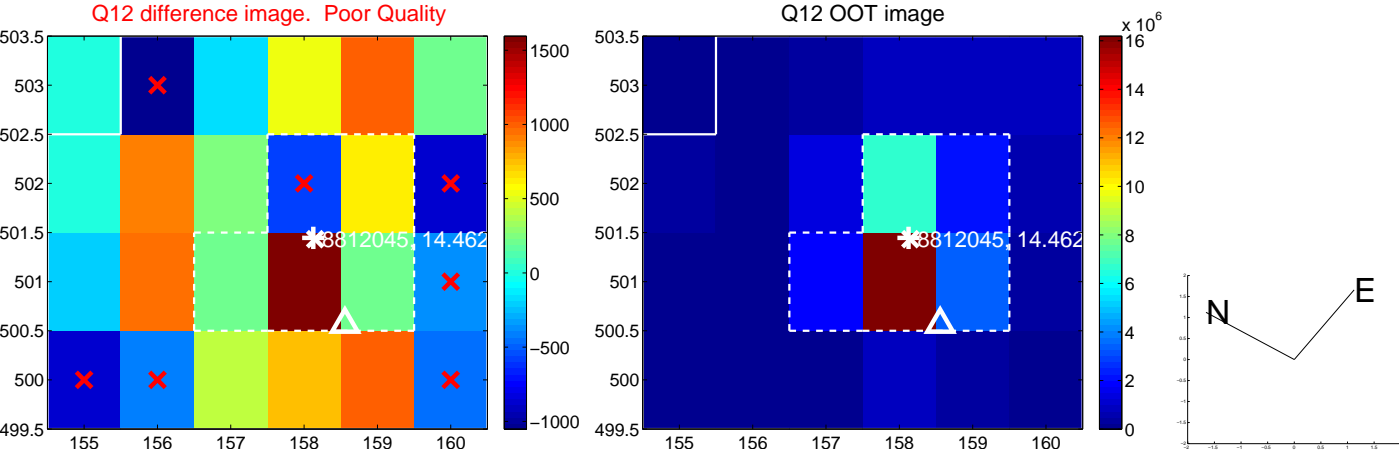
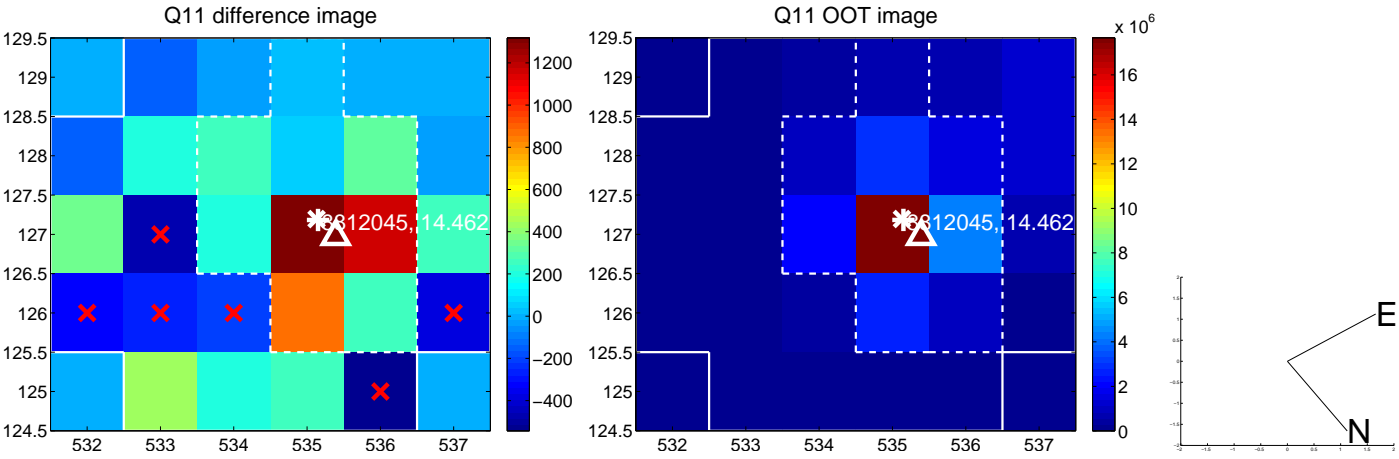
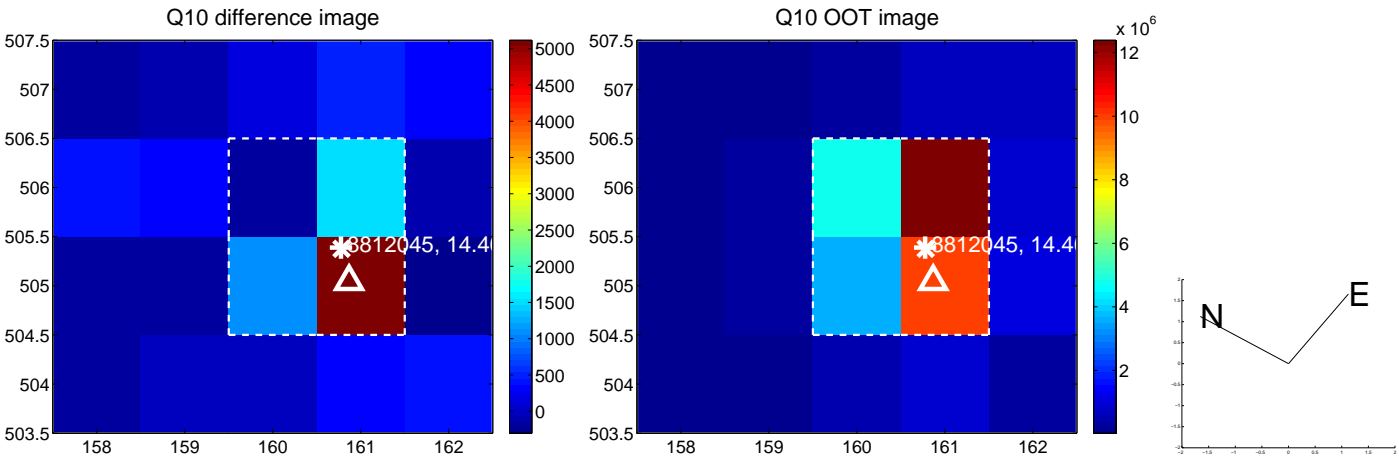
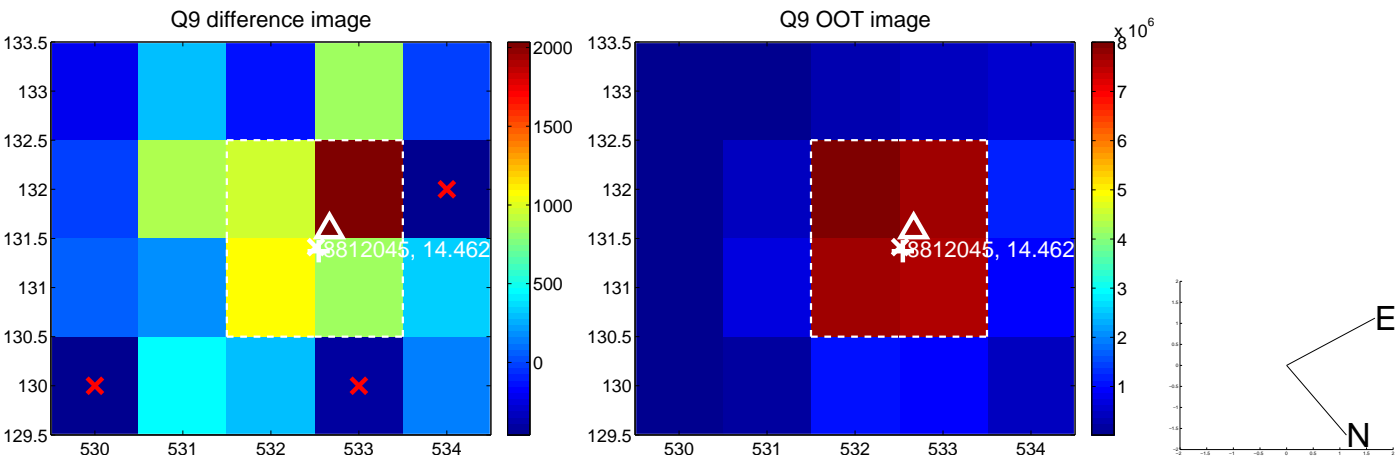
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



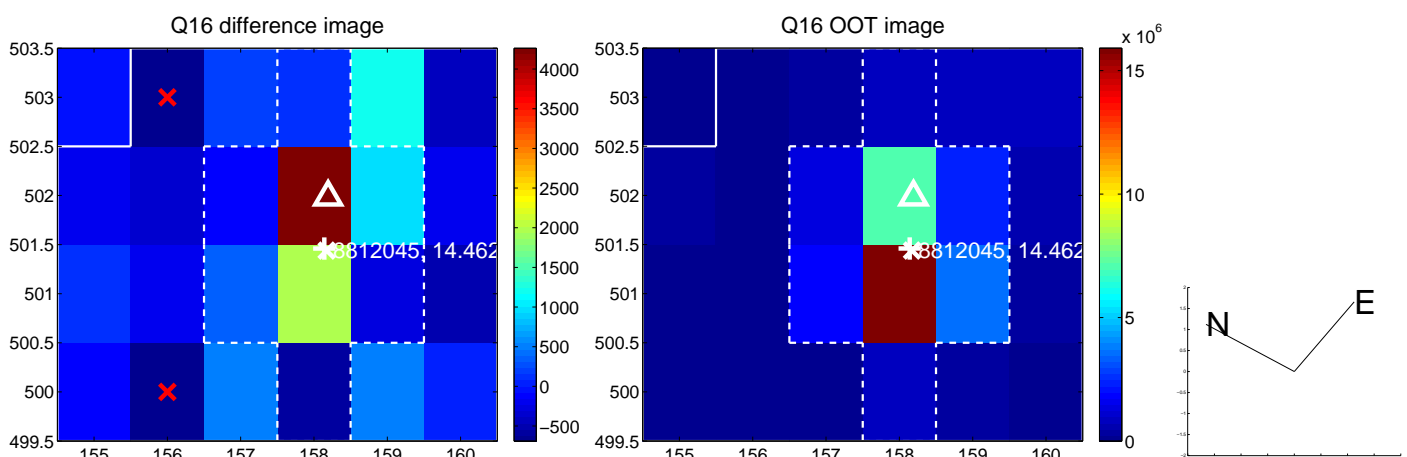
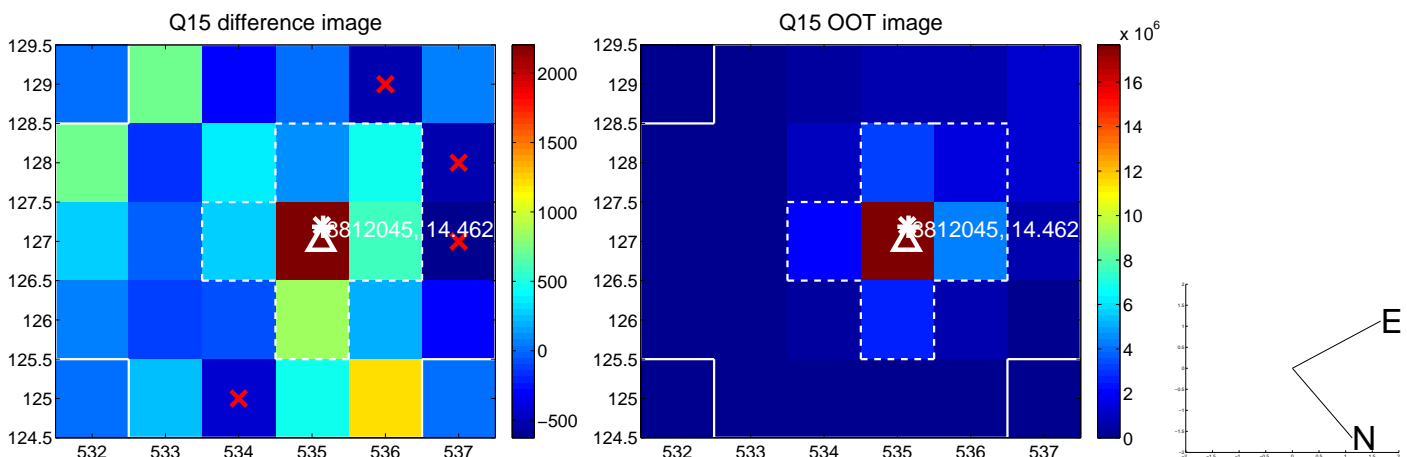
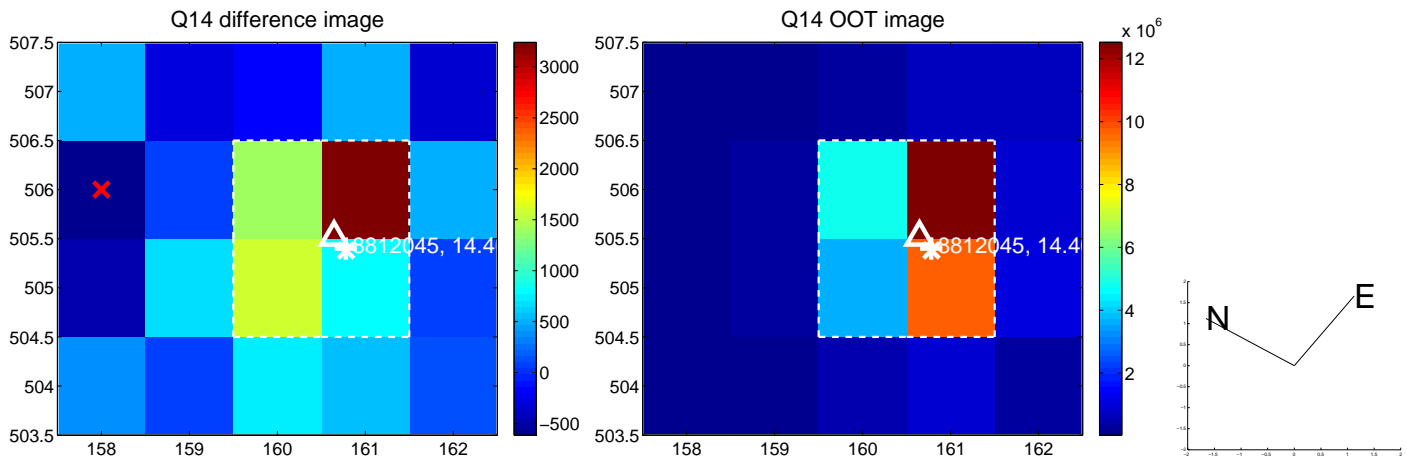
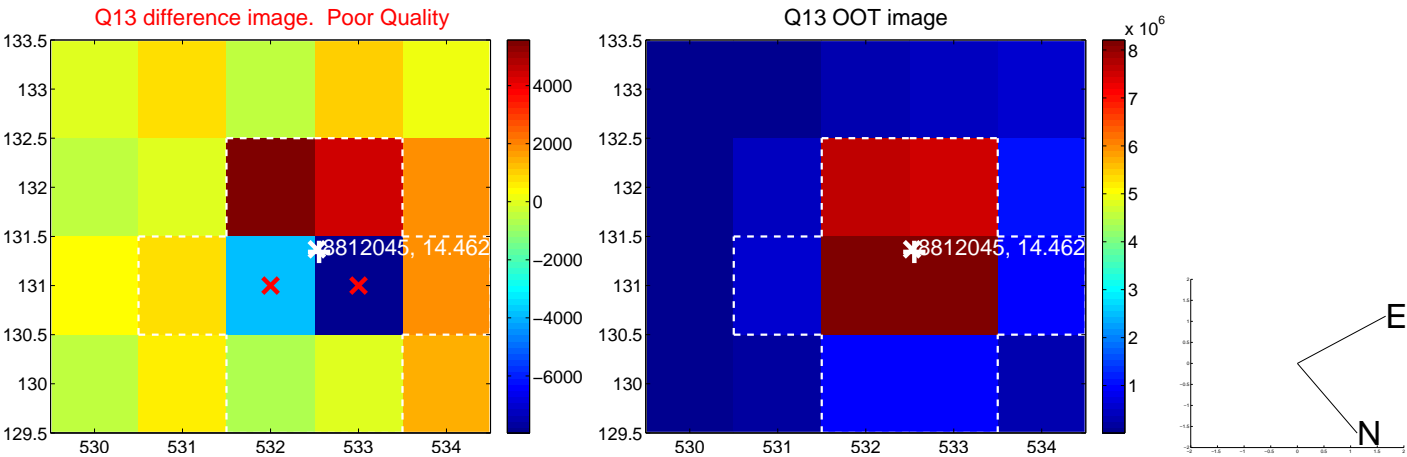
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



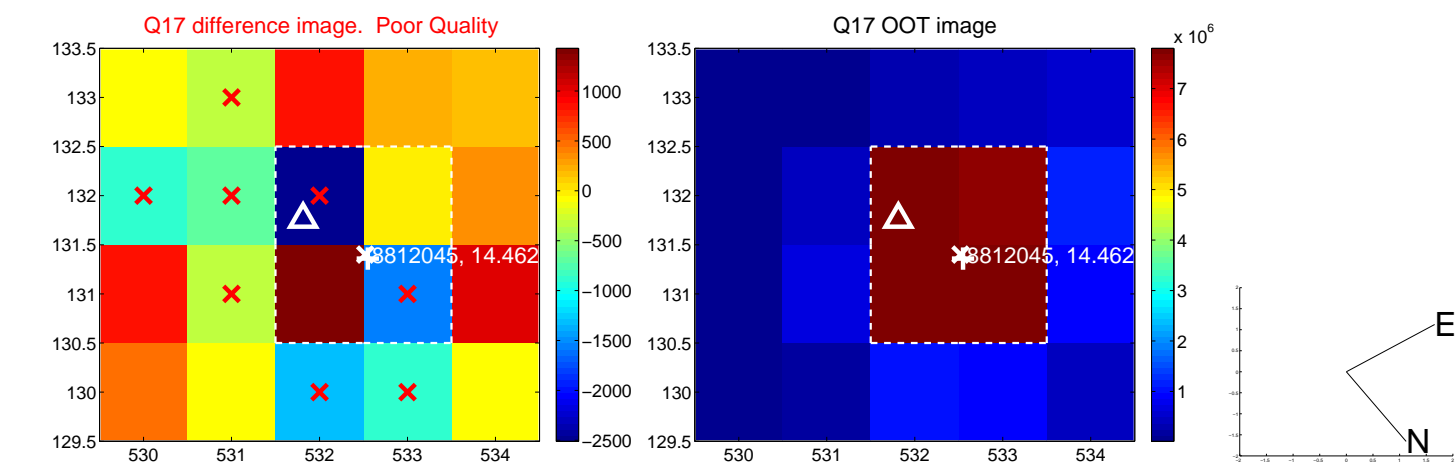
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



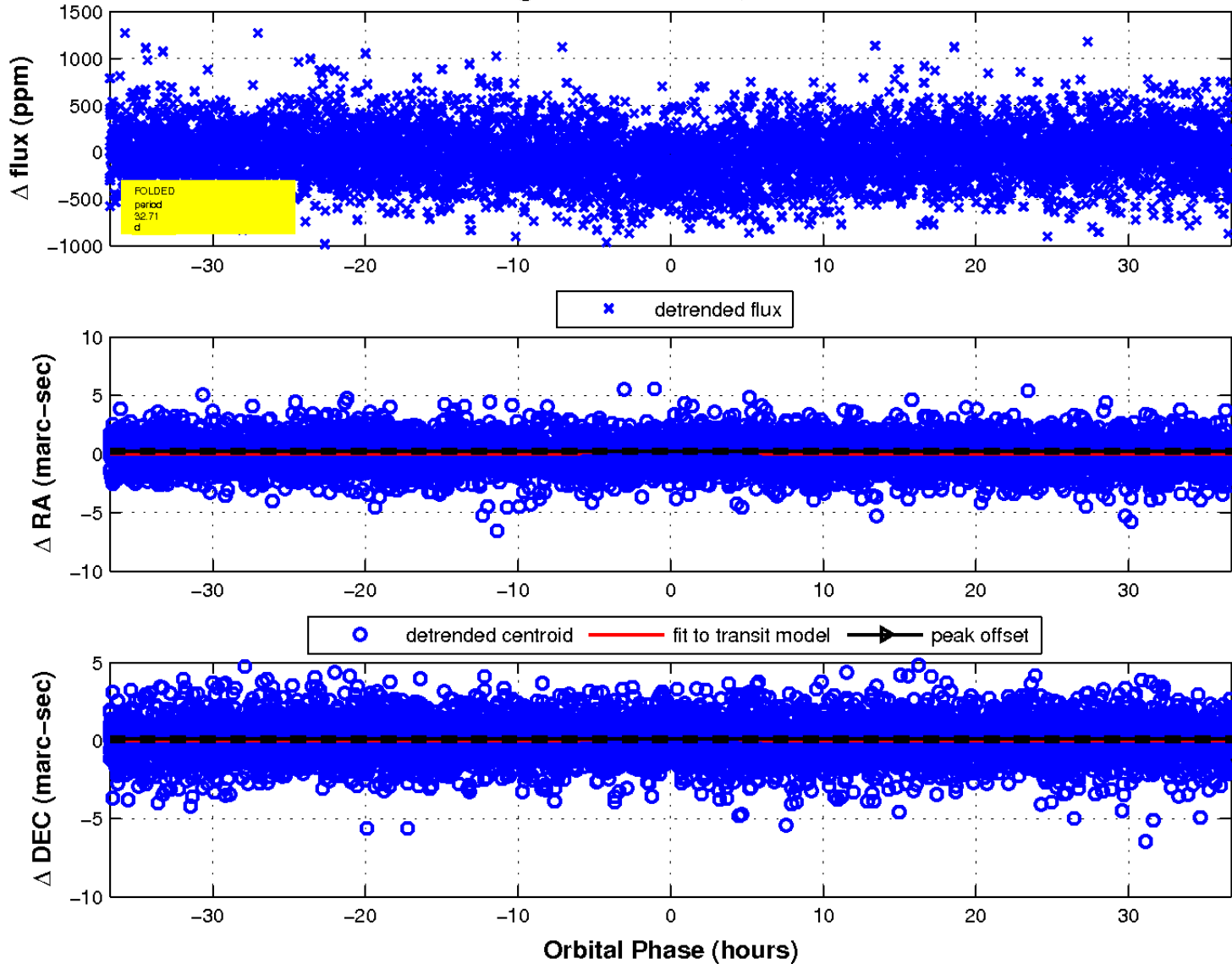
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

