

KIC 006312314

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})
006312314-01	OBS	1625.01	1.221196	132.388459	85.4	2.066	21.3	21.4	1.00	5874	1.09	2333.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006312314-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

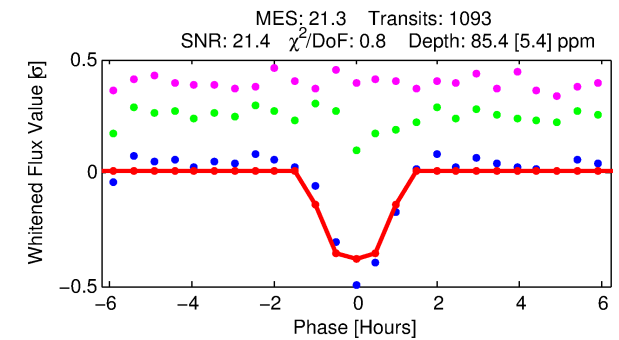
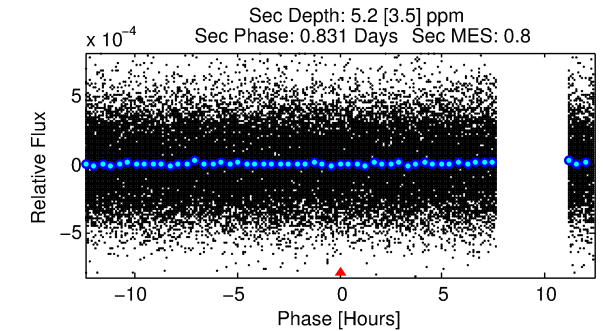
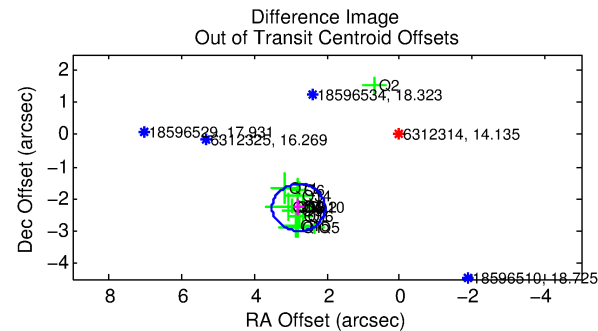
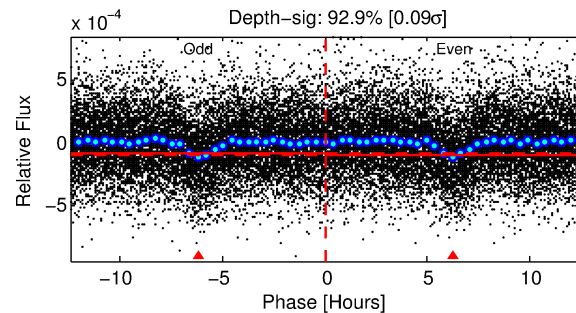
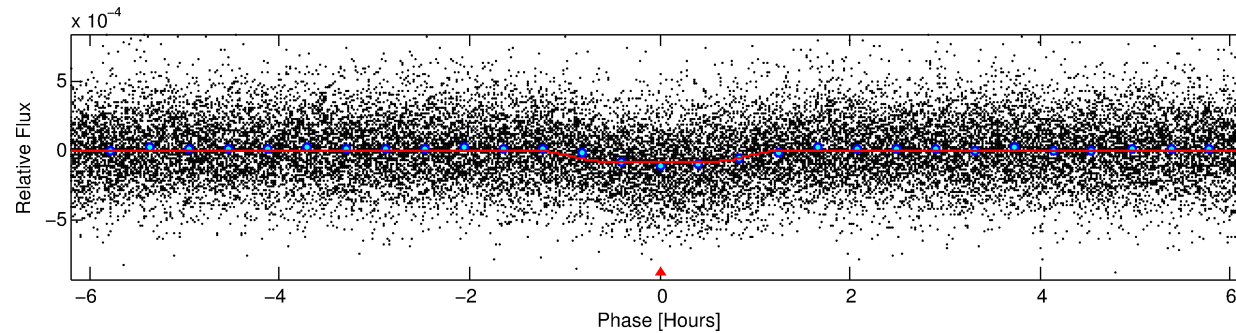
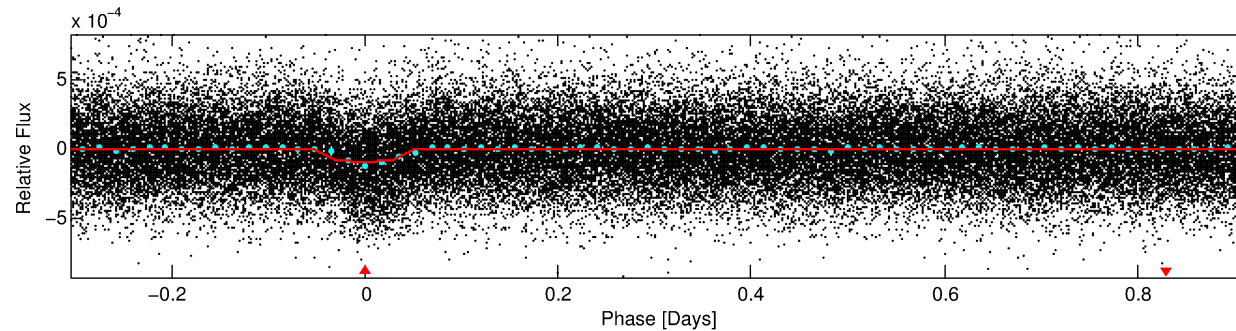
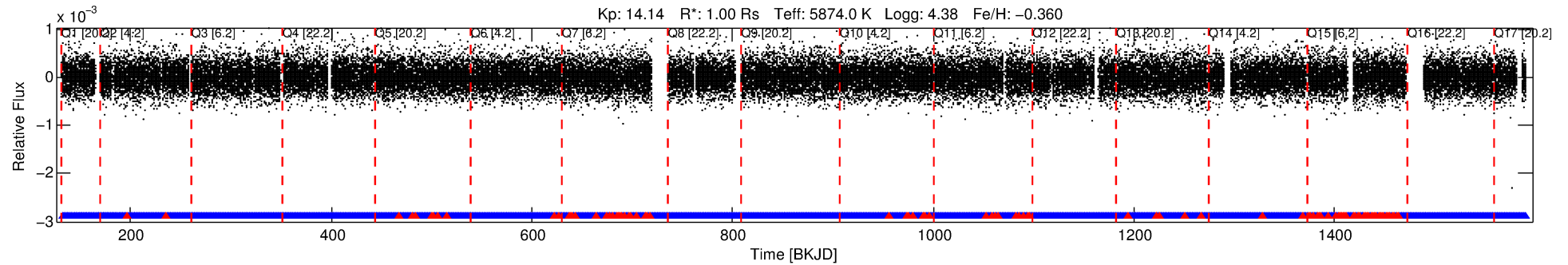
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006312314-01

No Significant Match Found

DV One-Page Summary

KIC: 6312314 Candidate: 1 of 1 Period: 1.221 d
KOI: K01625.01 Corr: 0.920



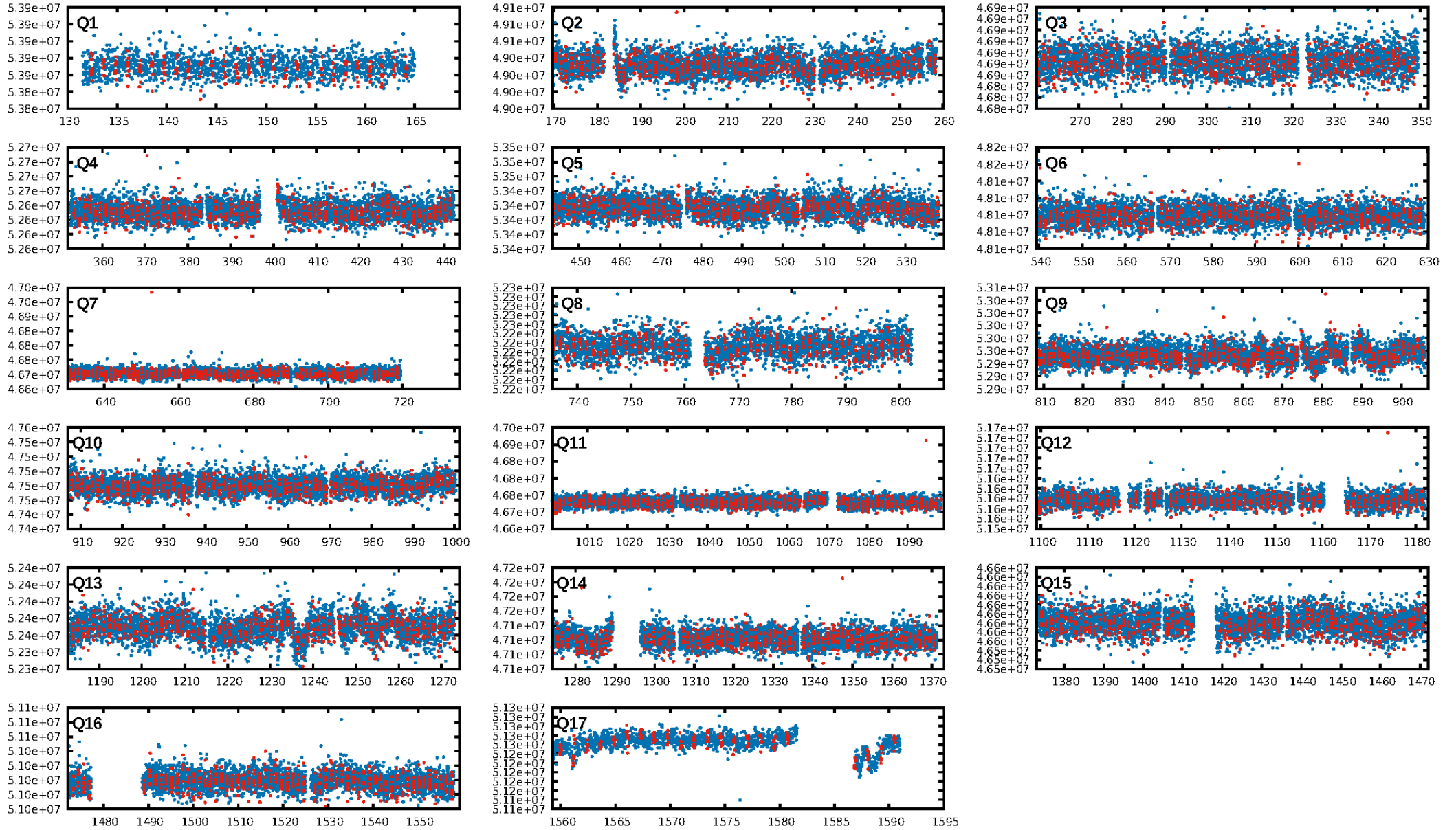
DV Fit Results:

Period = 1.22120 [0.00001] d
Epoch = 132.3885 [0.0014] BKJD
Rp/R* = 0.0100 [0.0036]
a/R* = 2.27 [3.45]
b = 0.90 [0.40]
Seff = 2333.71 [837.48]
Teq = 1772 [159] K
Rp = 1.09 [0.50] Re
a = 0.0213 [0.0050] AU
Ag = 1.11 [1.15] [0.09σ]
Teff = 2811 [696] K [1.45σ]

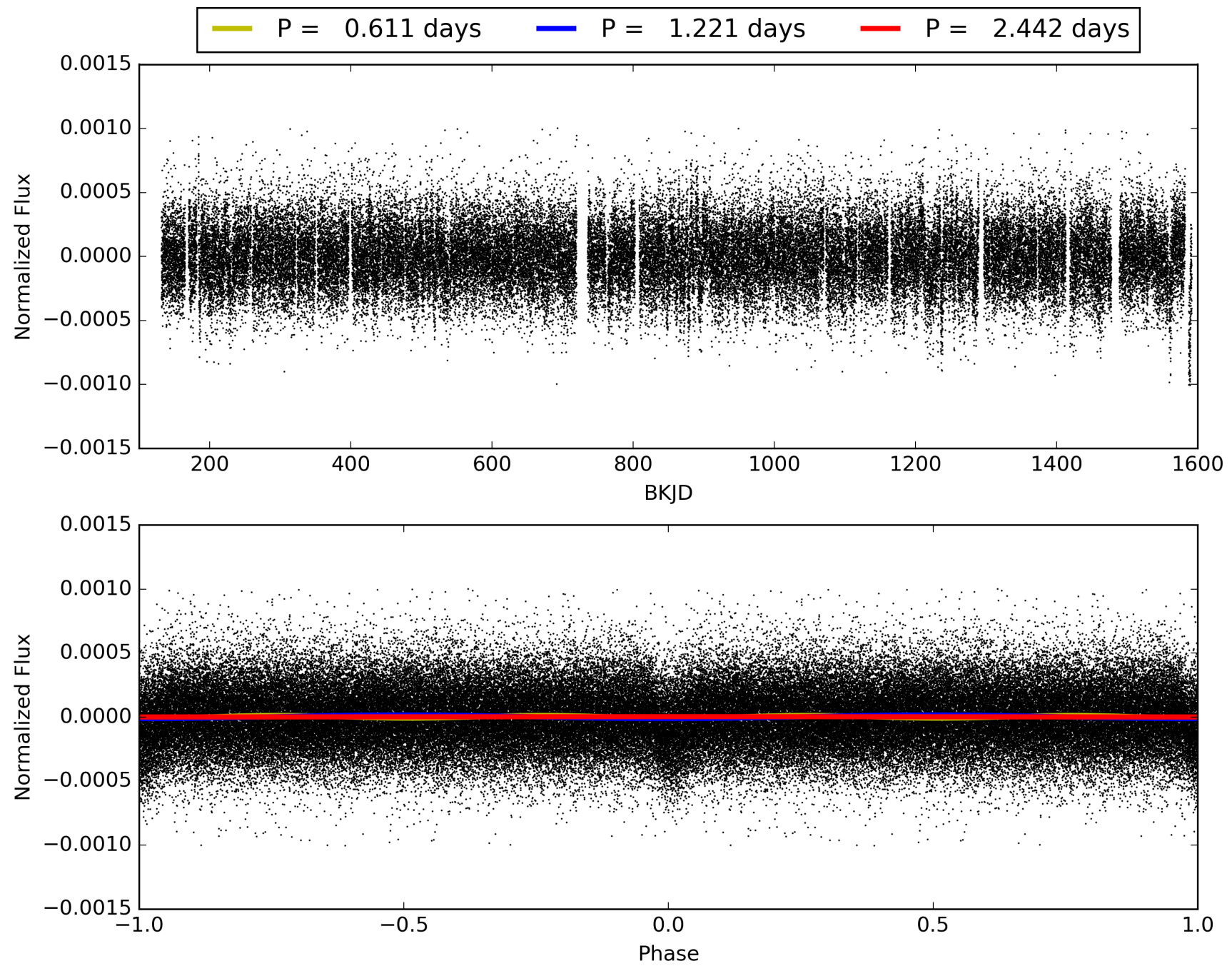
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.40e-98
RollingBand-fgt: 0.91 [948/1044]
GhostDiagnostic-chr: 0.8502
Centroid-sig: 0.0%
Centroid-so: 5.653 arcsec [9.65σ]
OotOffset-rm: 3.590 arcsec [14.76σ]
KicOffset-rm: 3.635 arcsec [16.26σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006312314-01, PDC Light Curves

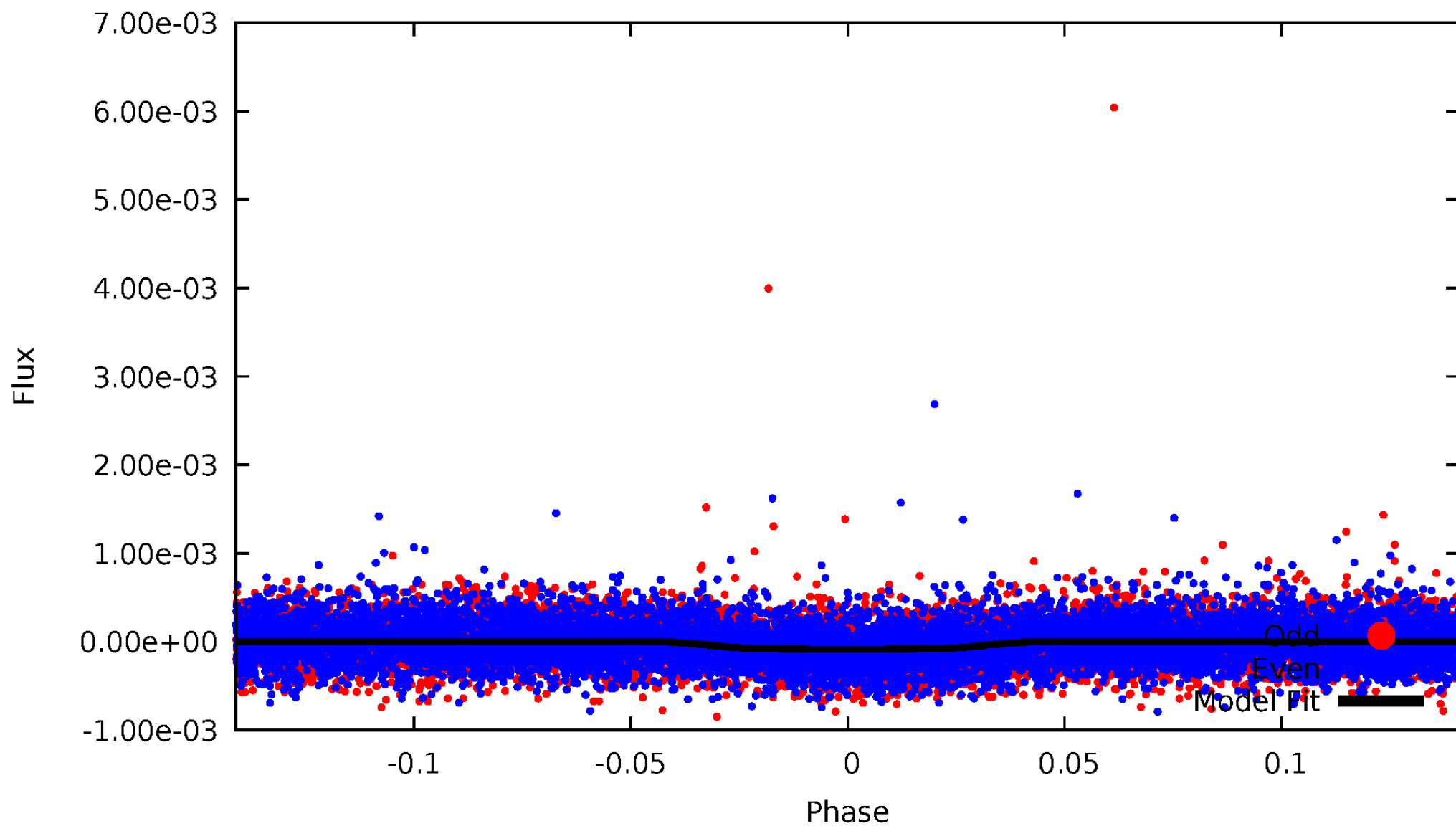


TCE 006312314-01



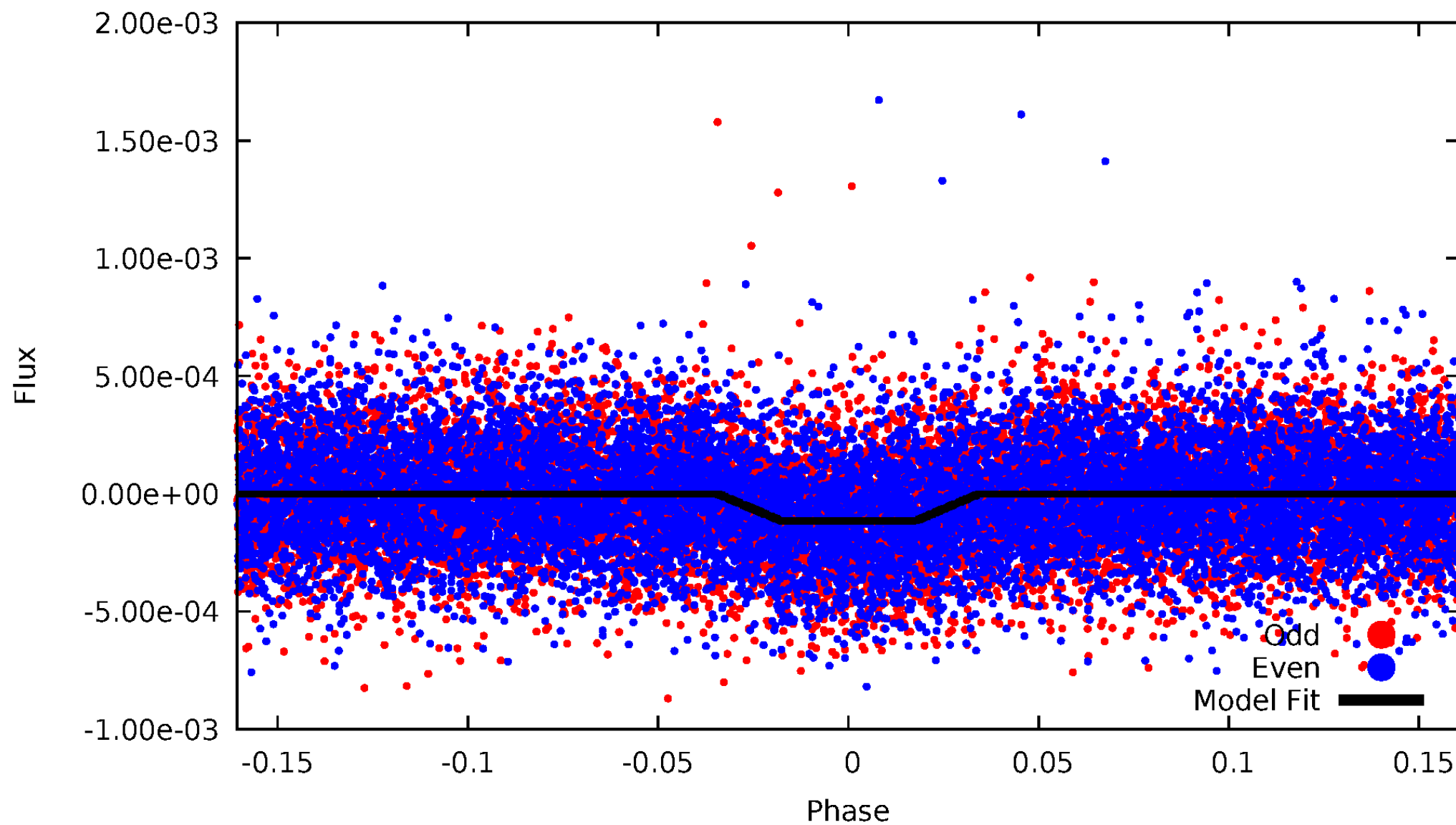
DV Odd/Even

TCE 006312314-01



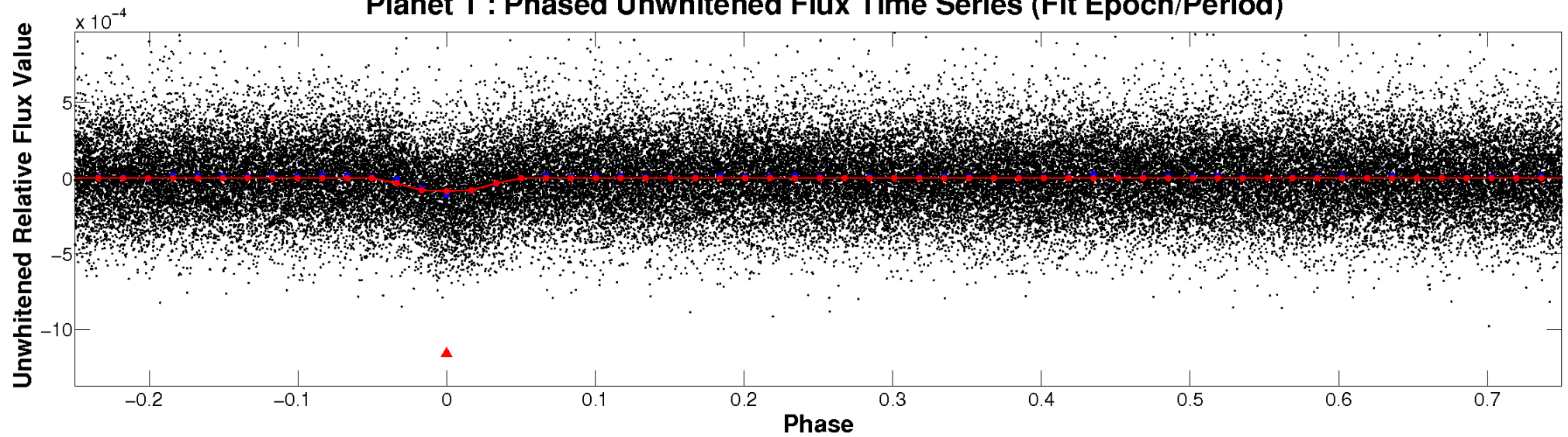
ALT Odd/Even

TCE 006312314-01

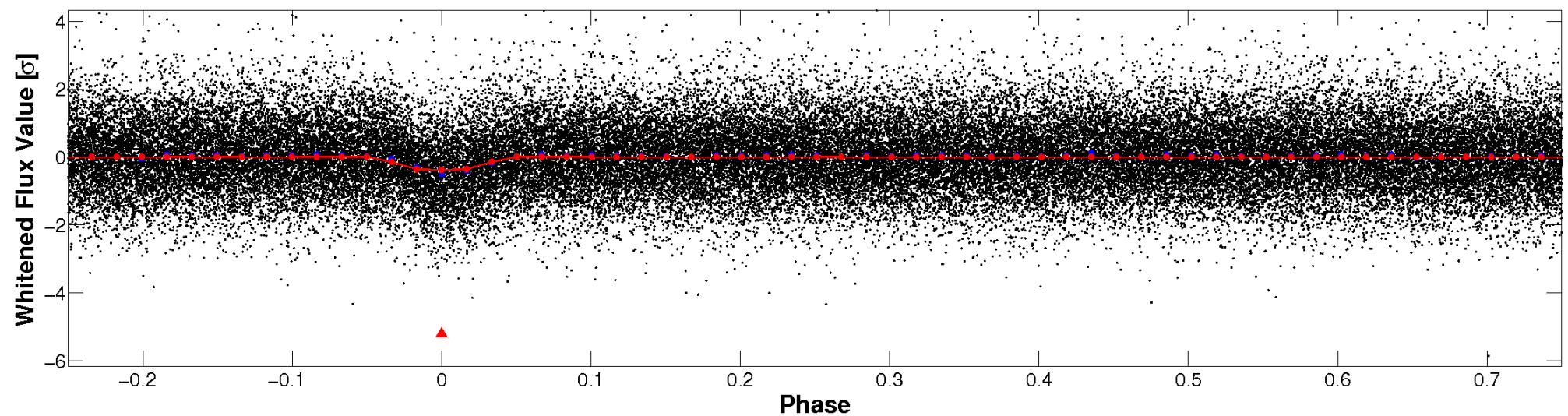


Non-Whitened Vs. Whitened Light Curve

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

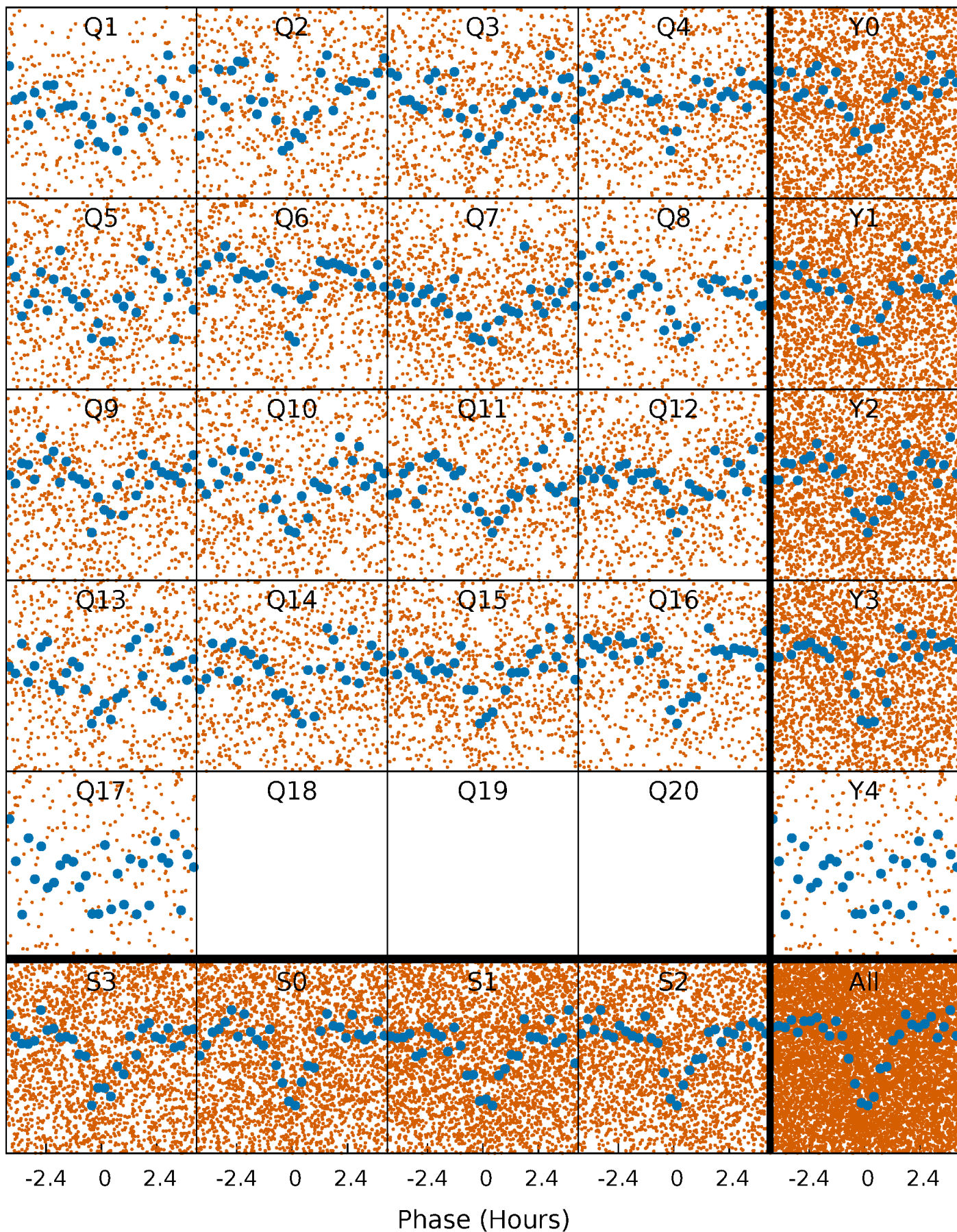


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



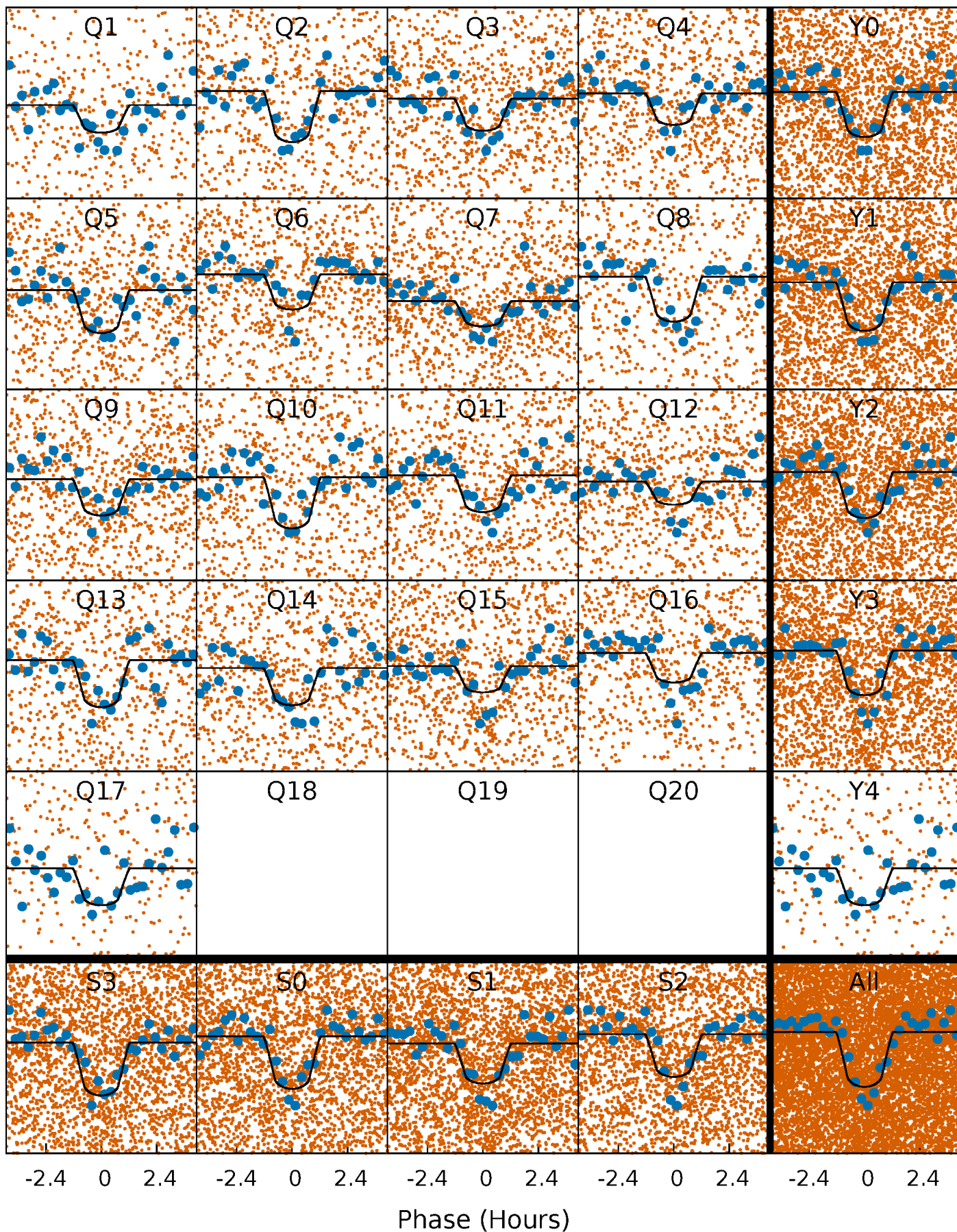
PDC Quarter-Phased Transit Curves

TCE 006312314-01 P= 1.221196 Days $T_0=132.388459$ (BKJD)



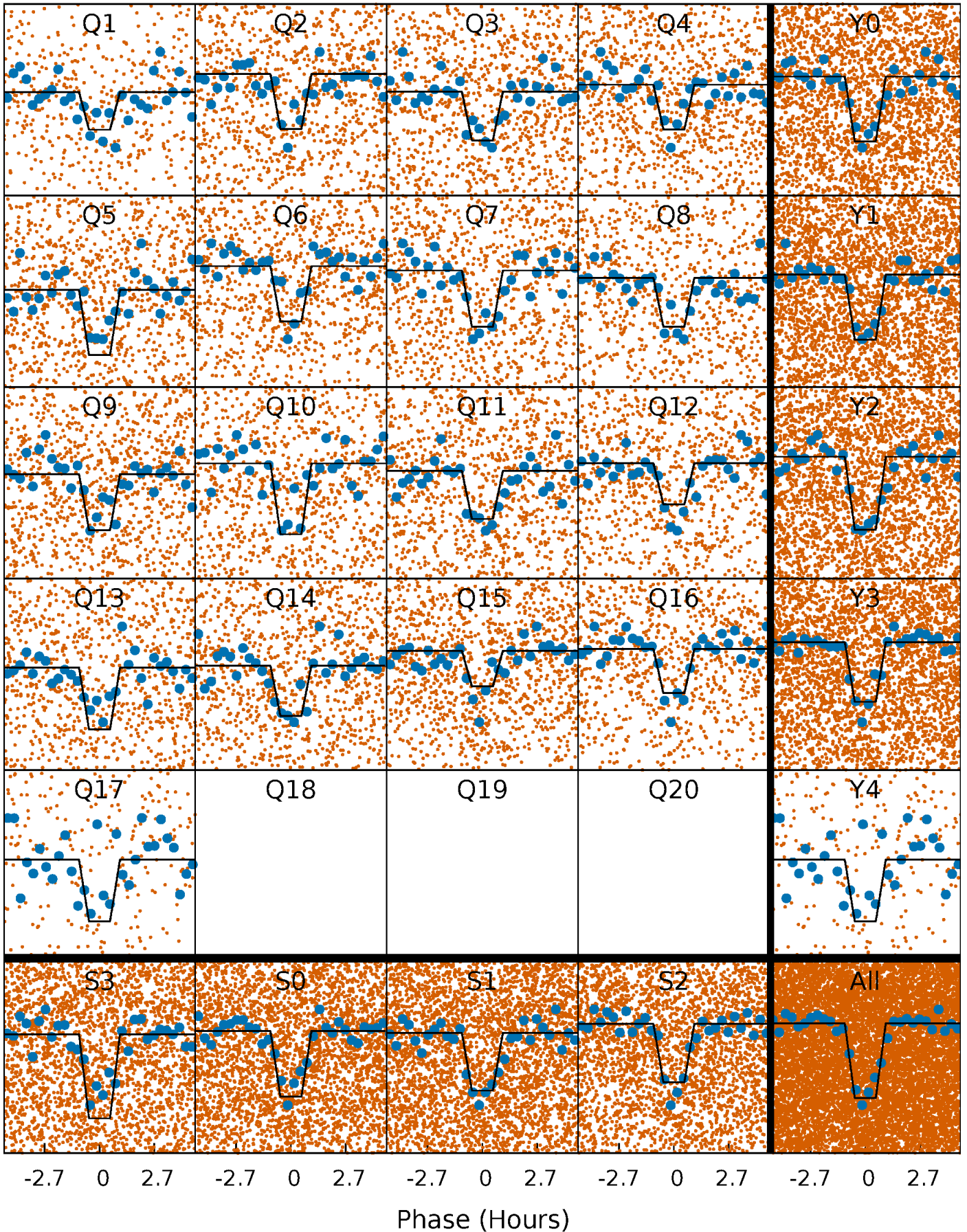
DV Quarter-Phased Transit Curves

TCE 006312314-01 P= 1.221196 Days $T_0=132.388459$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

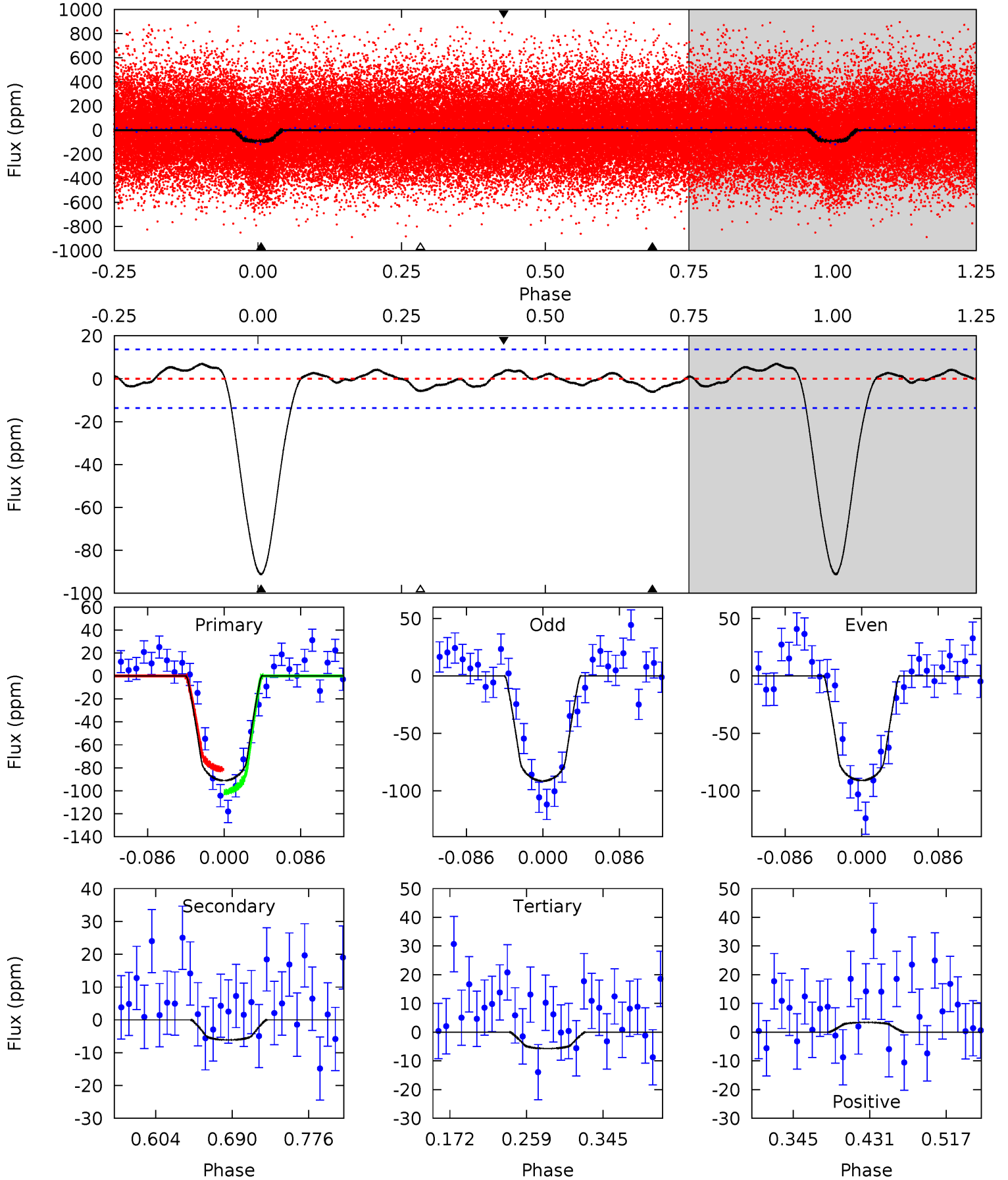
TCE 006312314-01 P= 1.221208 Days $T_0=132.385931$ (BKJD)



DV Model-Shift Uniqueness Test

006312314-01, P = 1.221196 Days, E = 131.167263 Days

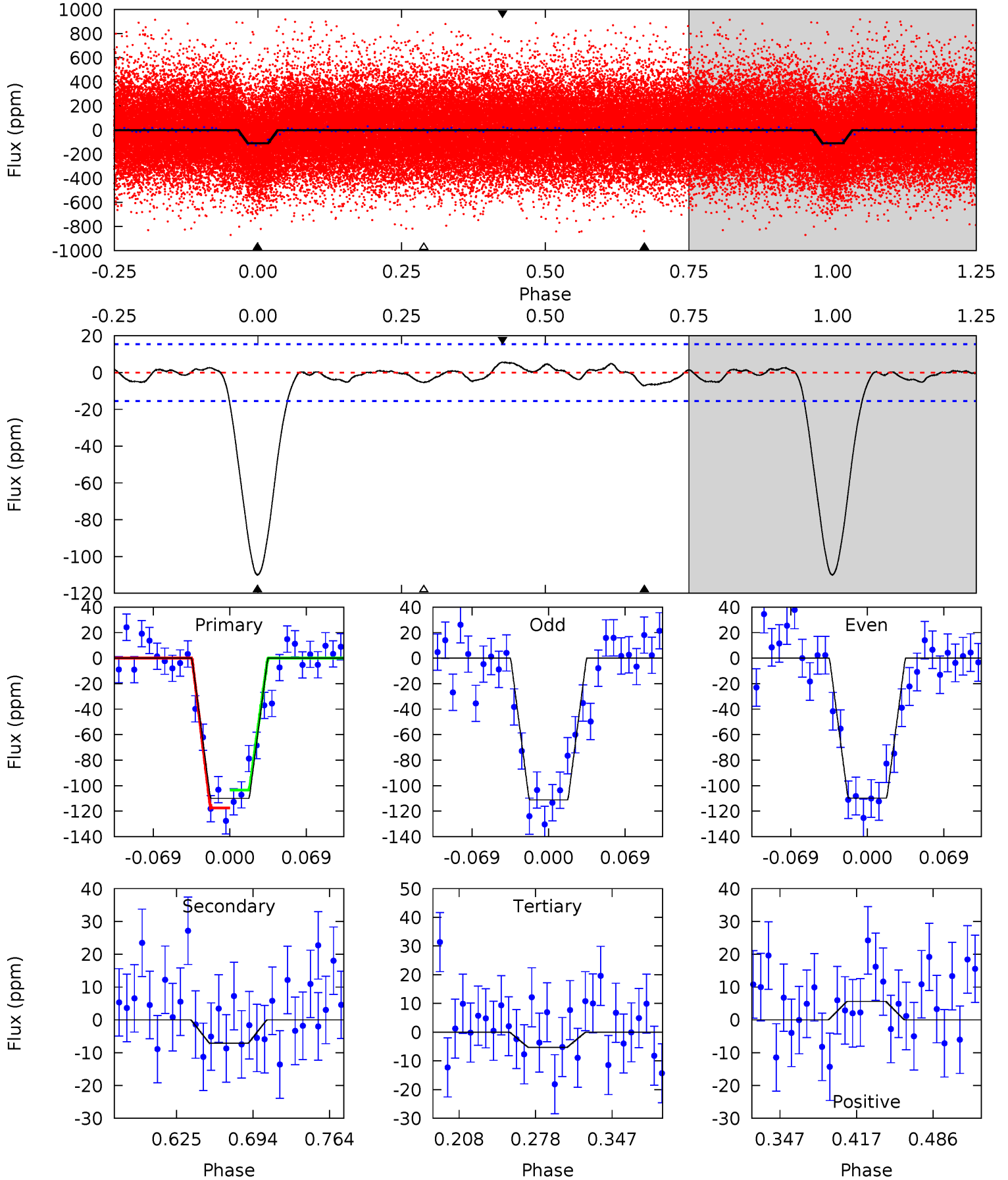
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.7	2.06	1.92	1.14	4.60	1.72	0.99	28.7	29.5	0.13	0.91	0.08	0.96	0.07	3.31



Alt Model-Shift Uniqueness Test

006312314-01, P = 1.221208 Days, E = 131.164723 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	2.15	1.59	1.69	4.64	1.82	0.79	31.4	31.3	0.55	0.46	0.21	1.01	0.05	2.08



Stellar Parameters For KIC 006312314

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5874^{+158}_{-158}	$4.378^{+0.153}_{-0.187}$	$-0.360^{+0.300}_{-0.300}$	$0.997^{+0.279}_{-0.172}$	$0.867^{+0.119}_{-0.079}$	$1.231^{+0.890}_{-0.601}$
	+3%/-3%	+3%/-4%	+83%/-83%	+28%/-17%	+14%/-9%	+72%/-49%
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 006312314-01 / KOI 1625.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 3	$1.10^{+0.43}_{-0.43}$	2477^{+179}_{-146}	3272^{+670}_{-654}	$1.181^{+2.190}_{-0.716}$
Alt.	-7 ± 3	$1.17^{+0.46}_{-0.41}$	2485^{+155}_{-149}	3303^{+622}_{-693}	$1.321^{+1.899}_{-0.862}$

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

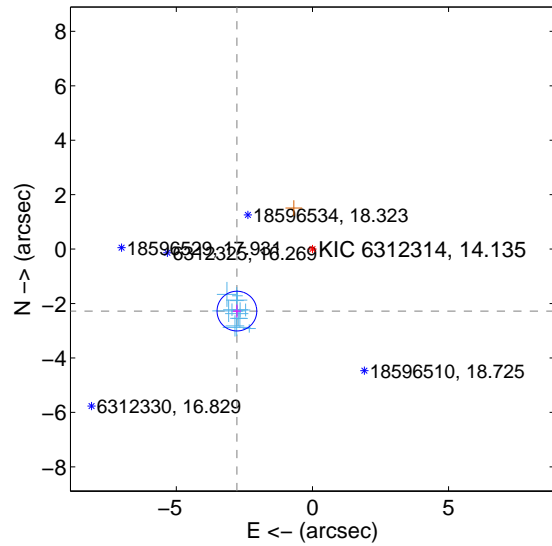
Supplemental centroid analysis for 006312314-01. Kepler magnitude: 14.13. Transit SNR 21.38

There are 16 quarters with good PRF difference image offsets

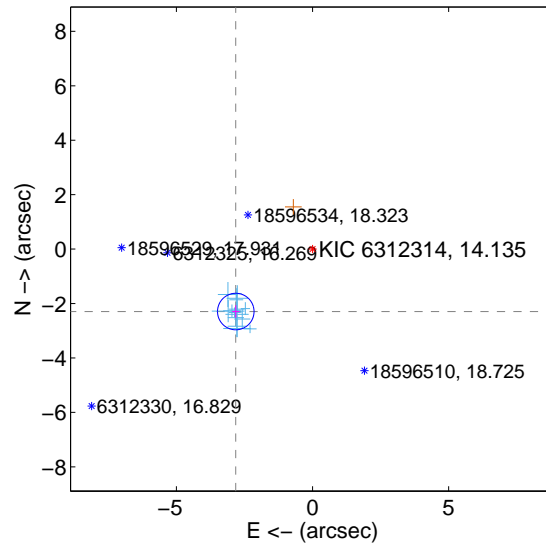
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.590 \pm 0.243	14.76	2.775 \pm 0.146	-2.278 \pm 0.238
PRF-fit source offset from KIC position	3.635 \pm 0.224	16.26	2.820 \pm 0.134	-2.294 \pm 0.229
photometric centroid source offset	5.65 \pm 0.59	9.65	4.16 \pm 0.55	-3.83 \pm 0.62

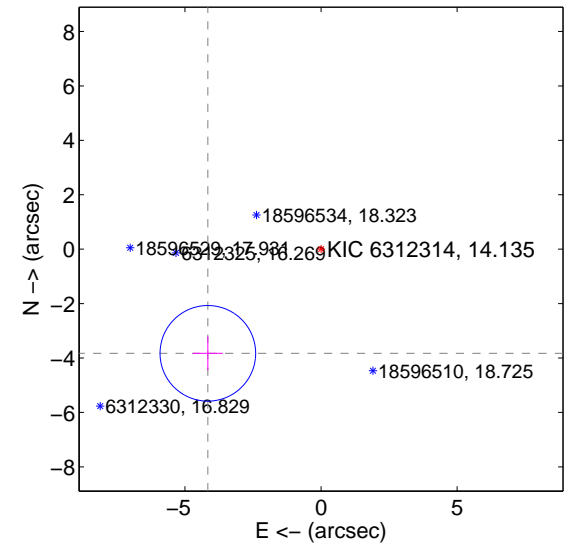
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

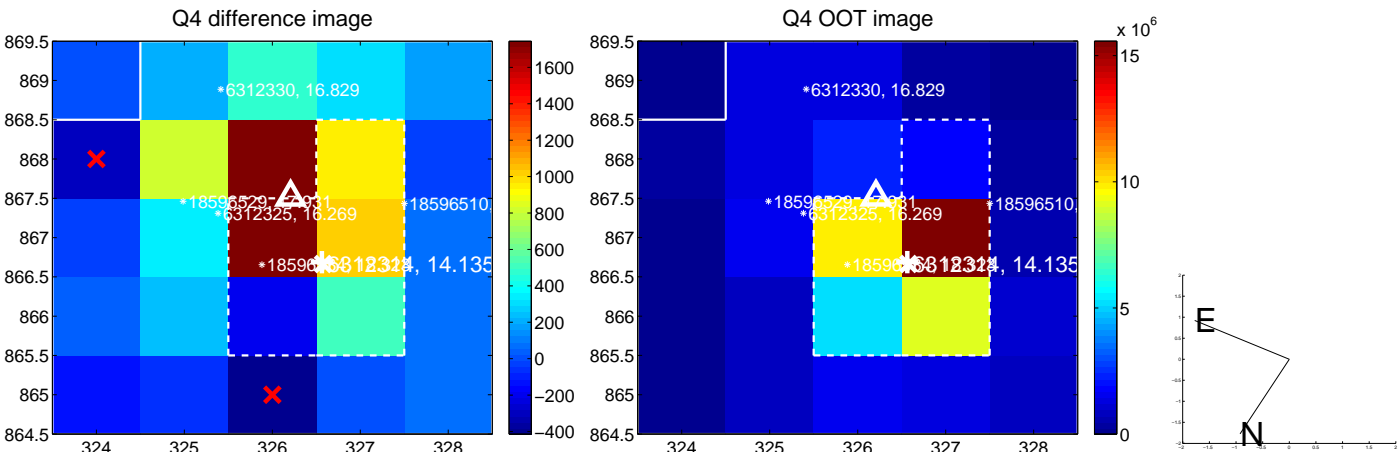
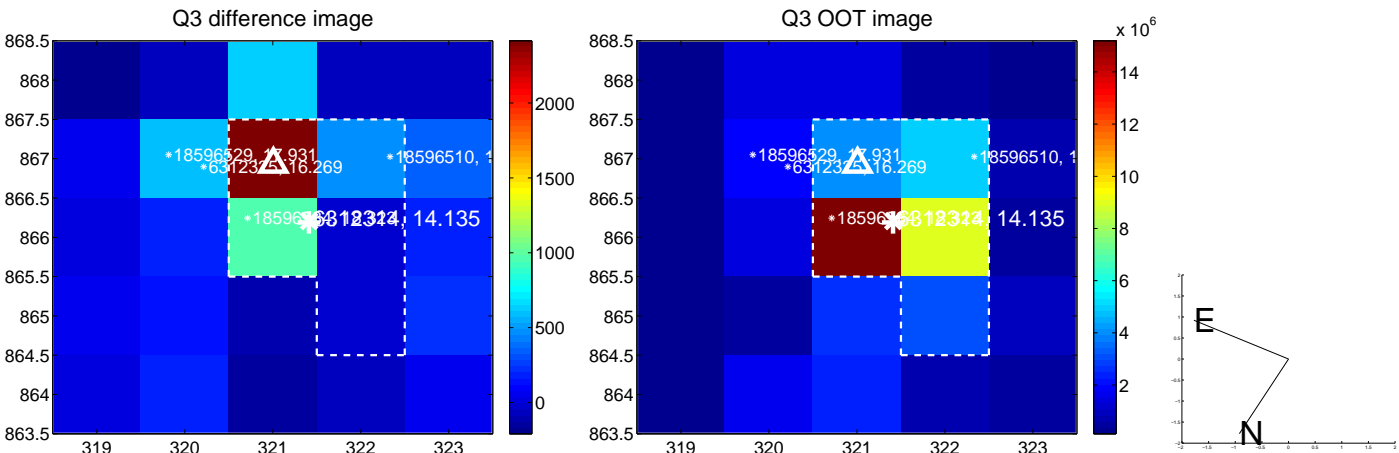
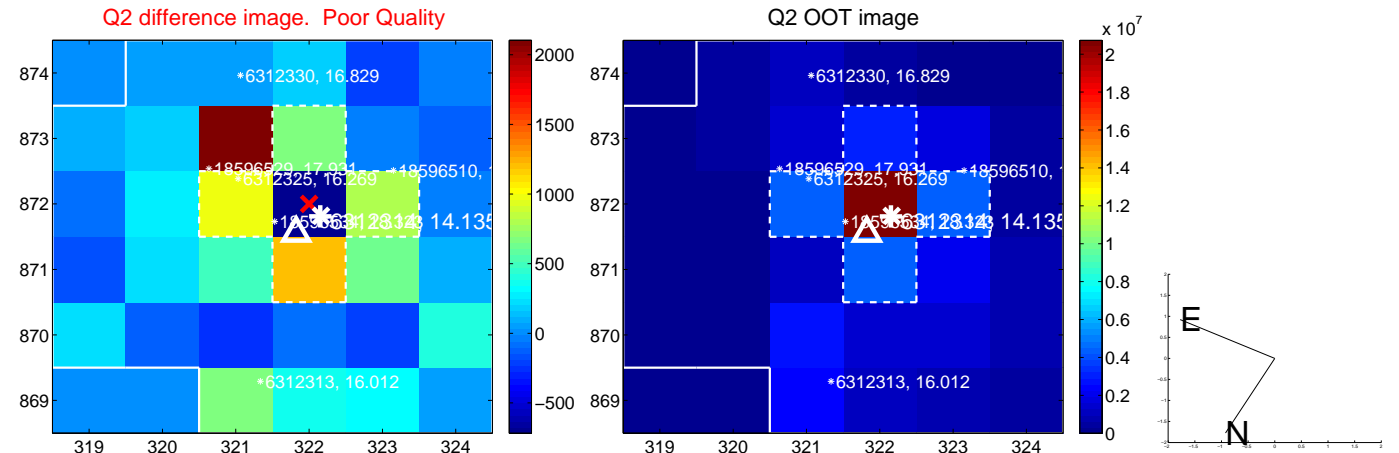
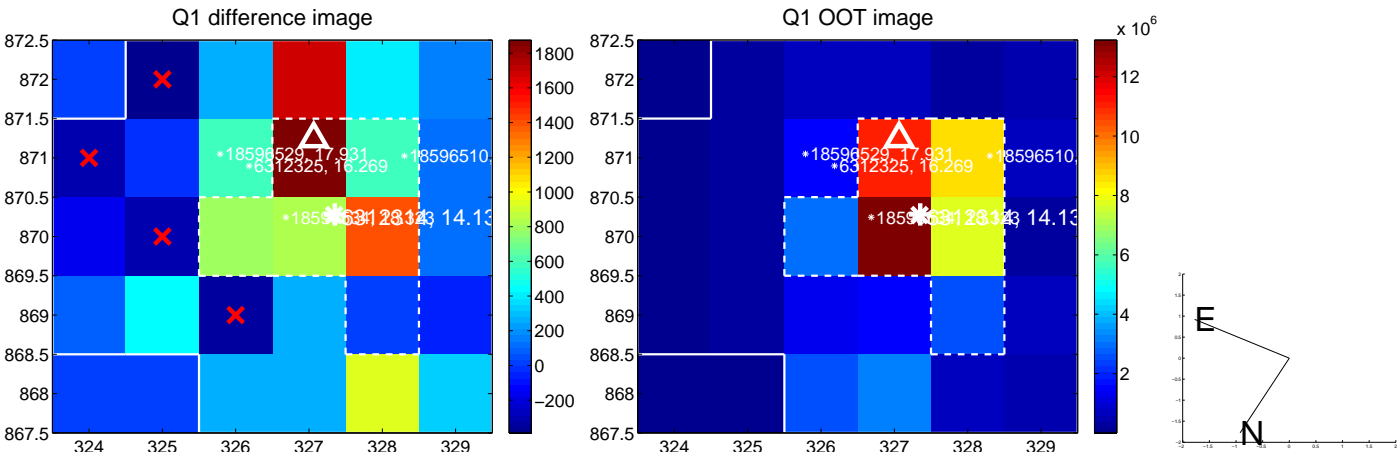


offset from photometric centroids

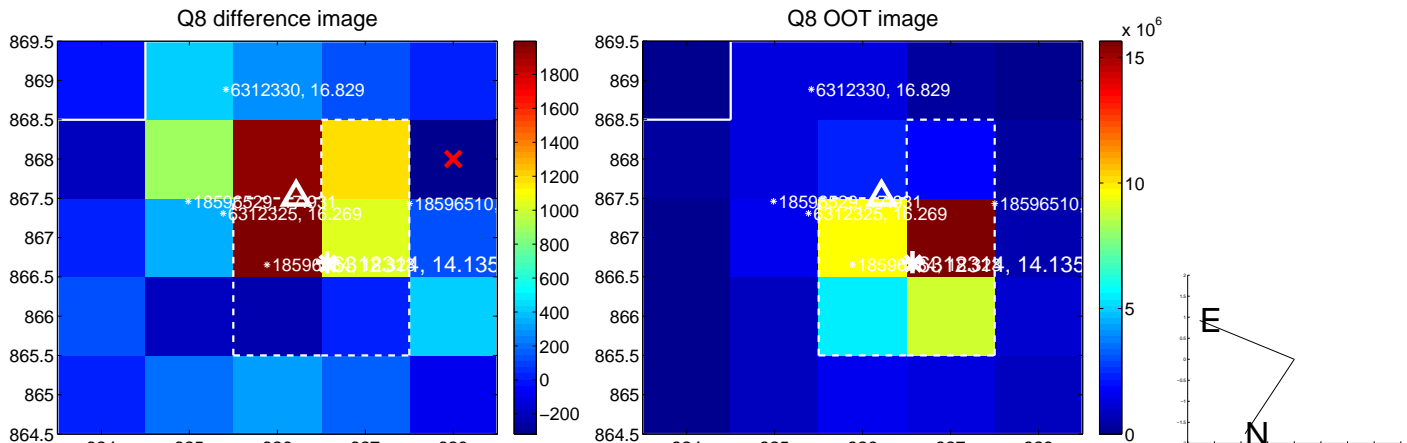
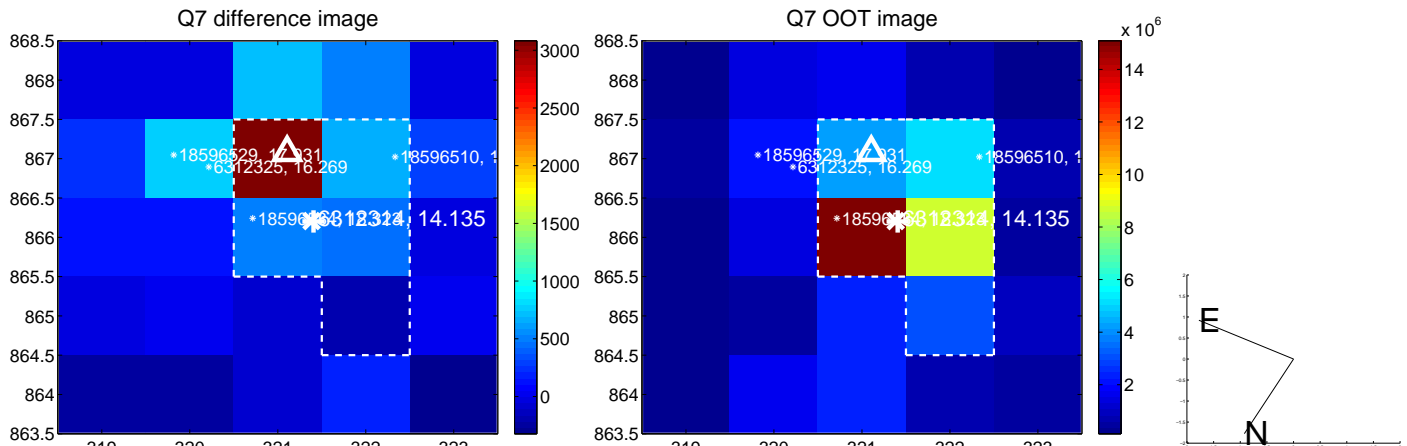
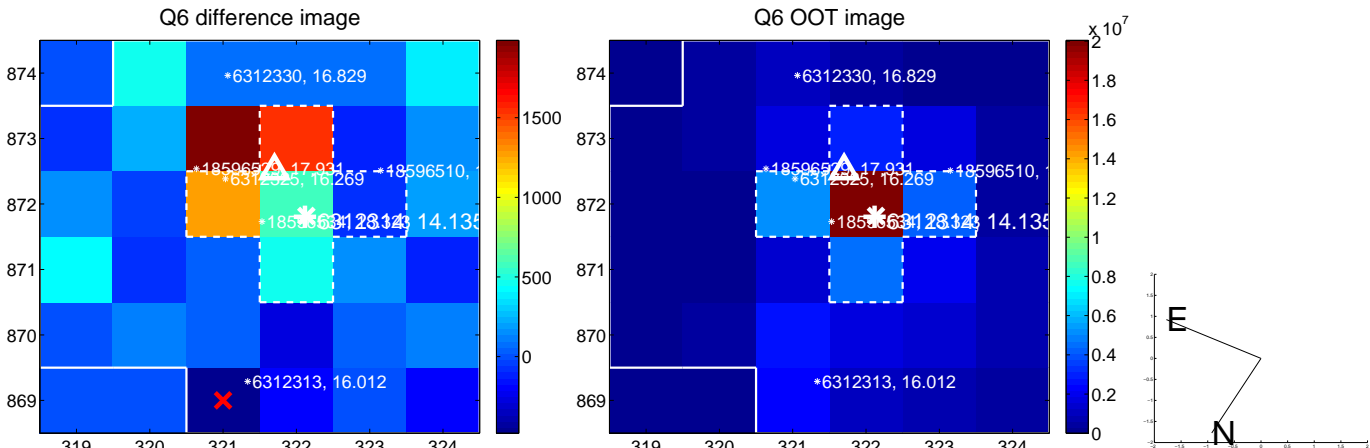
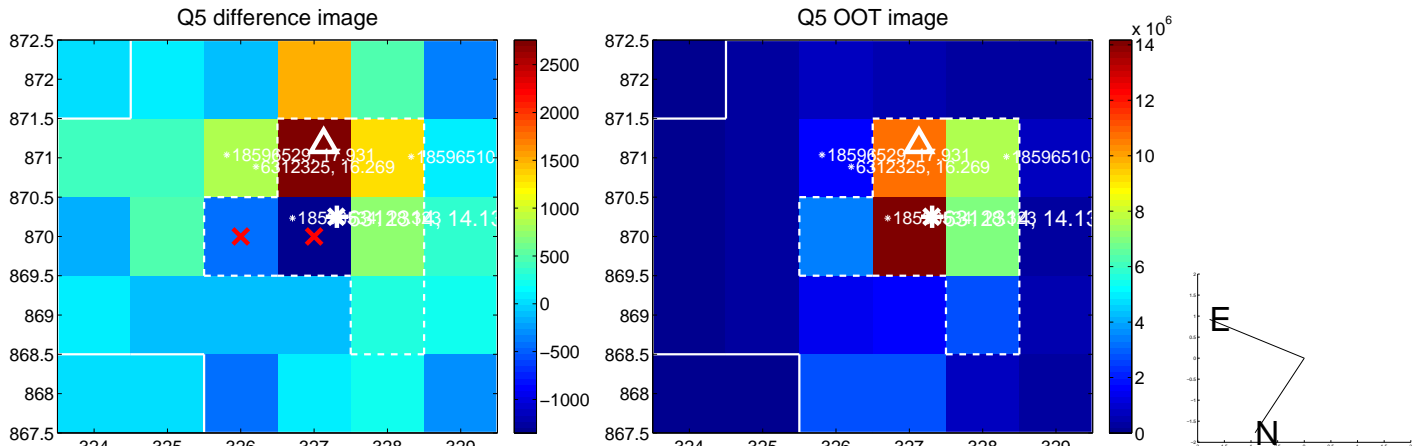


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

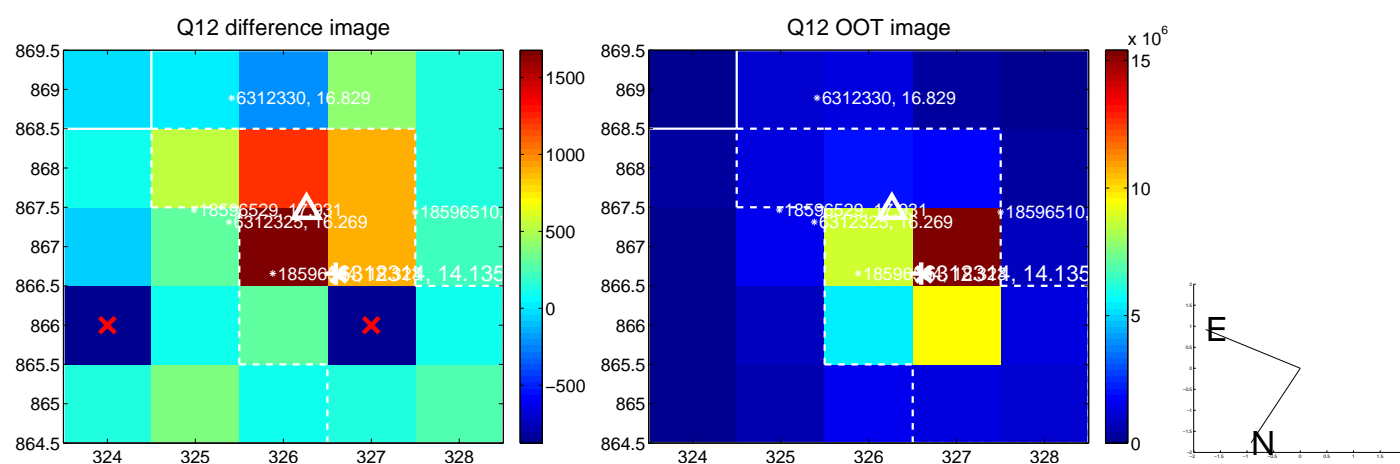
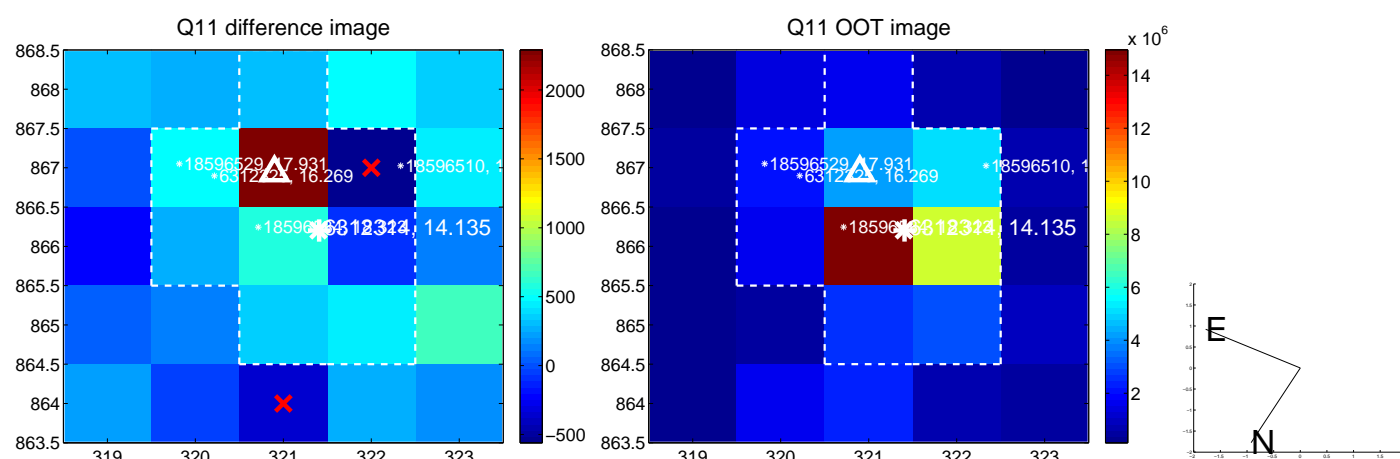
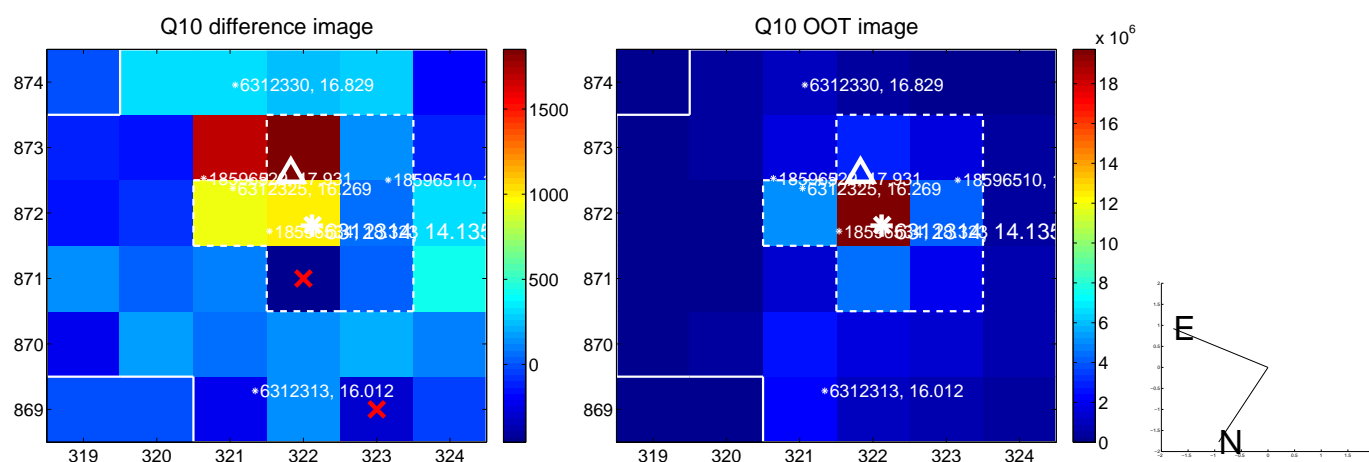
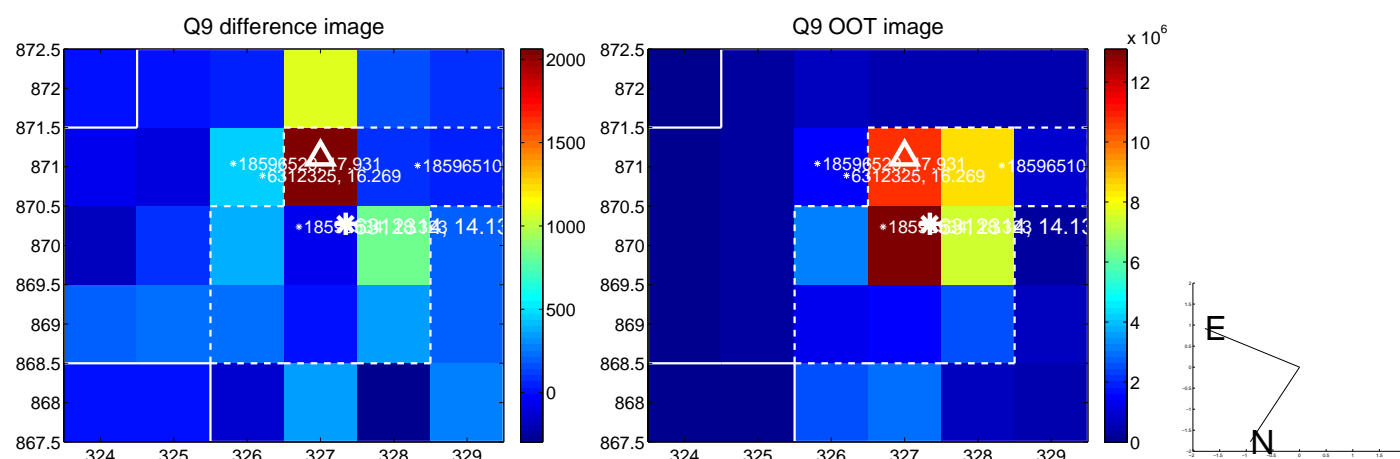
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



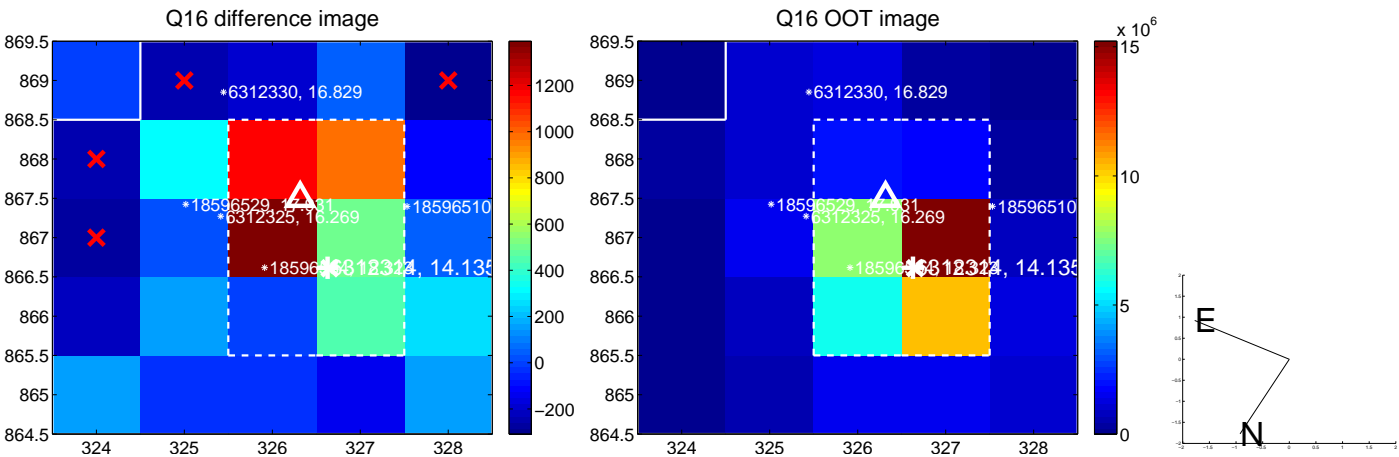
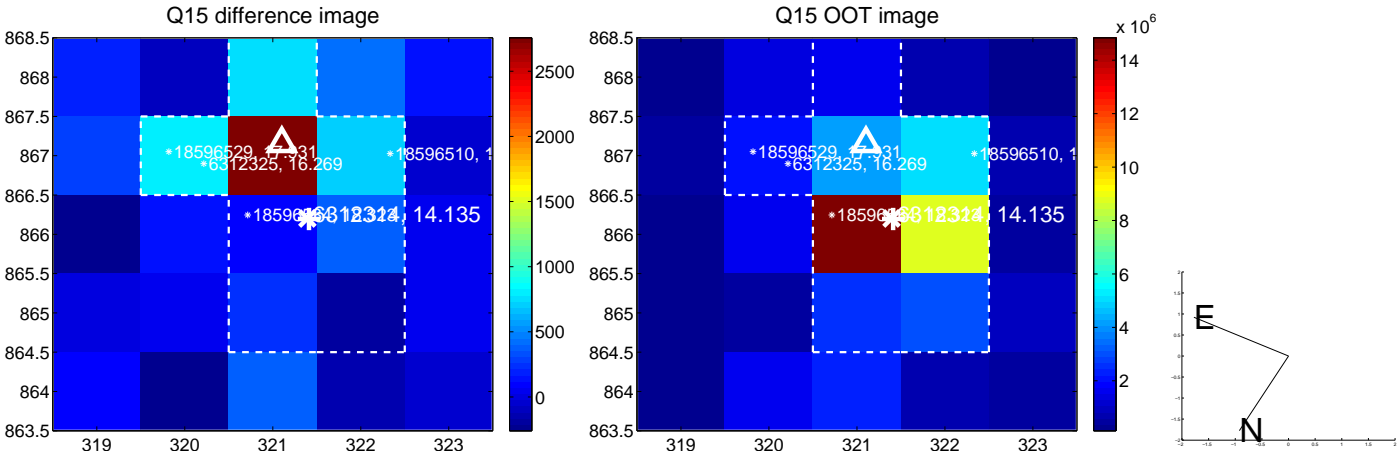
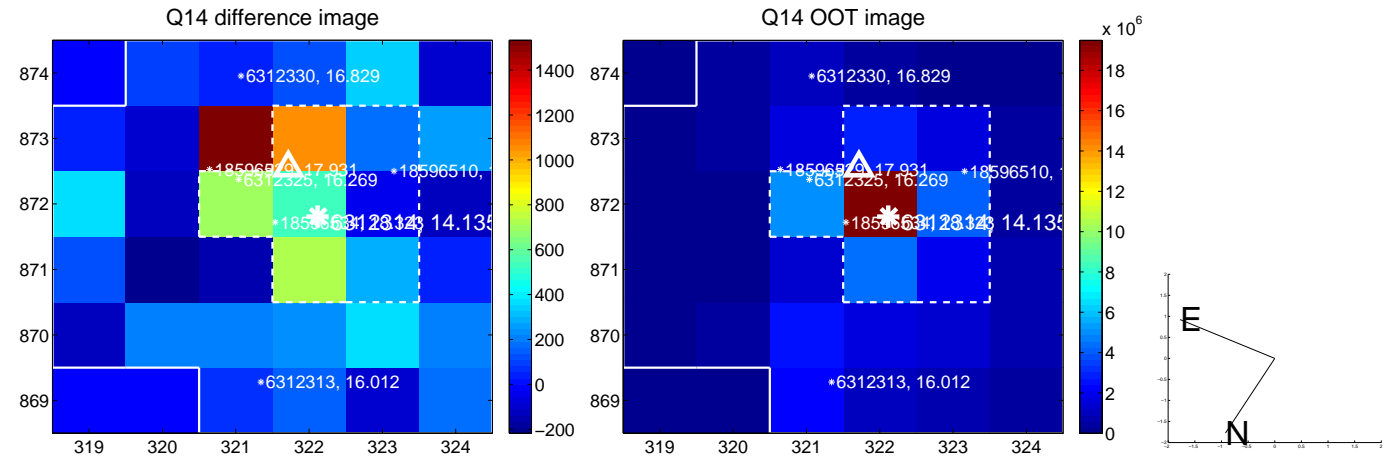
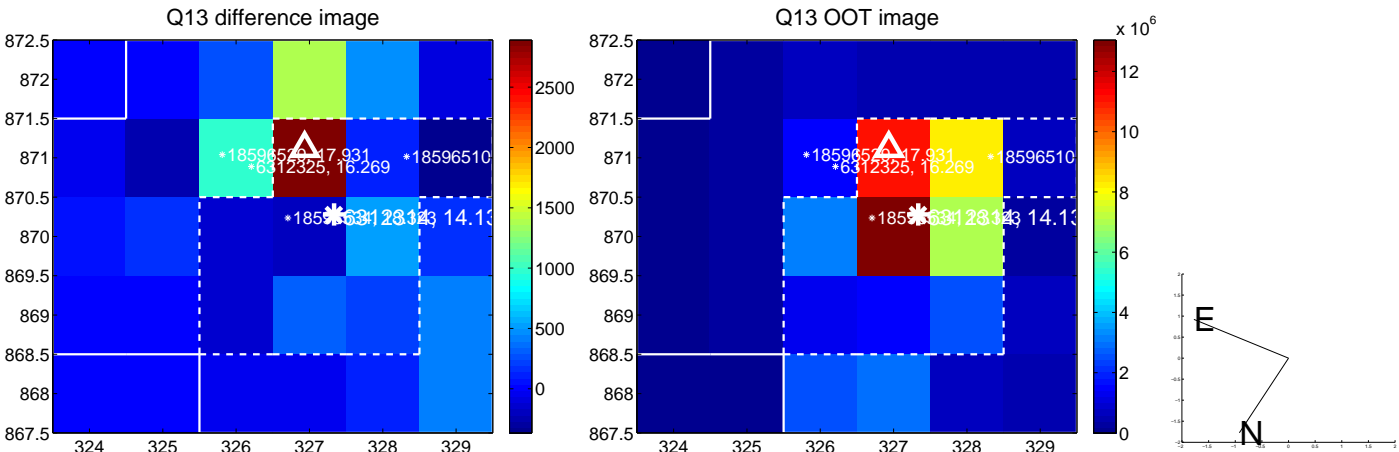
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



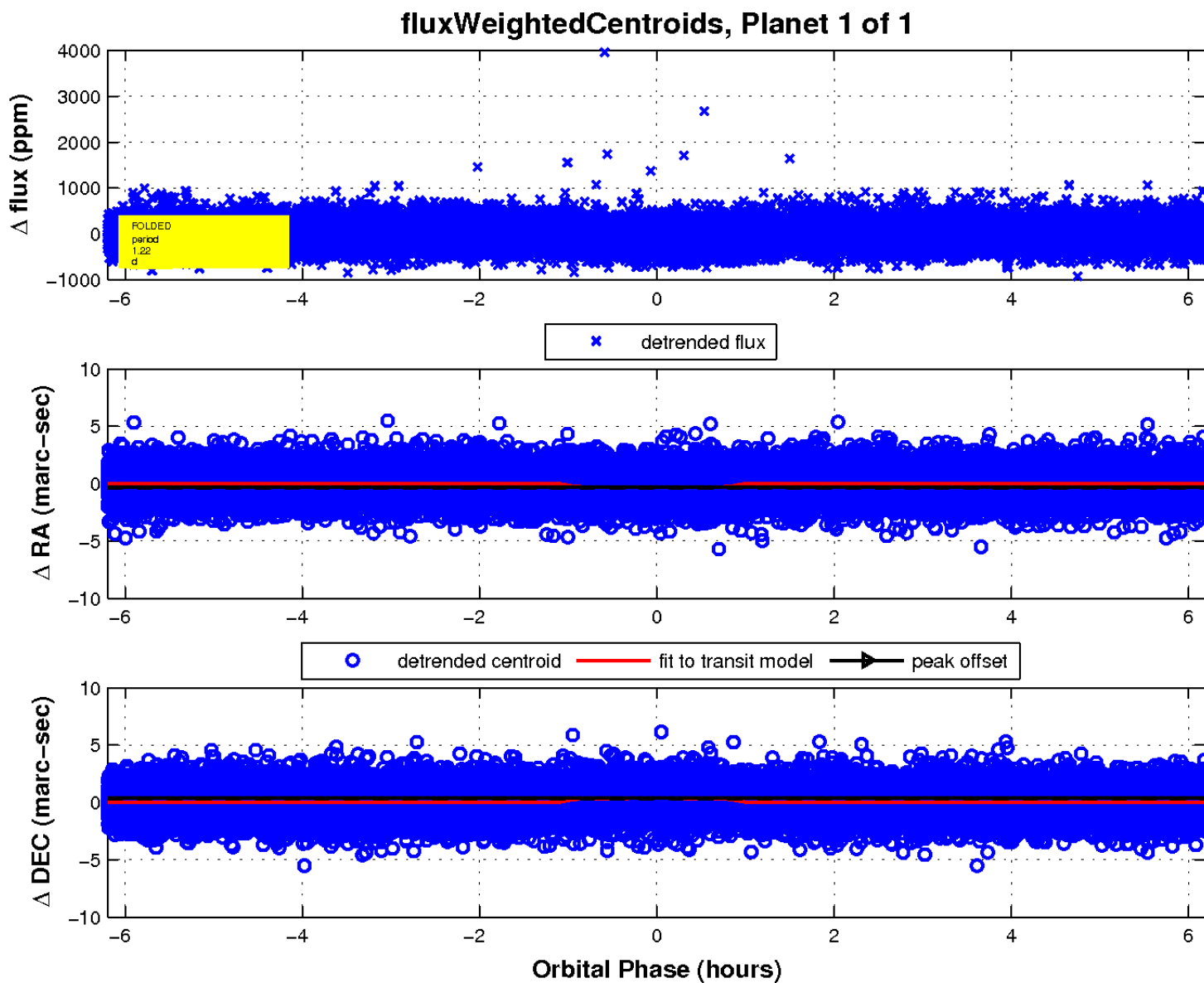
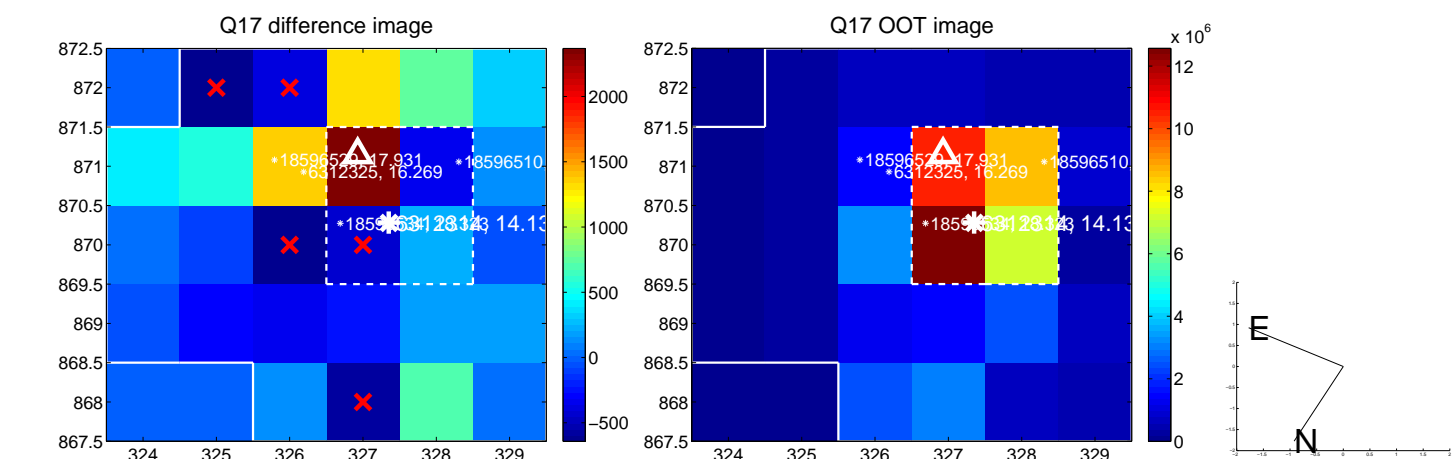
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UKIRT Image

Declination

