

KIC 002425375

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})
002425375-01	OBS	No	1.048182	131.814618	39.2	1.604	7.6	6.3	12.42	4739	9.56	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002425375-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT

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

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

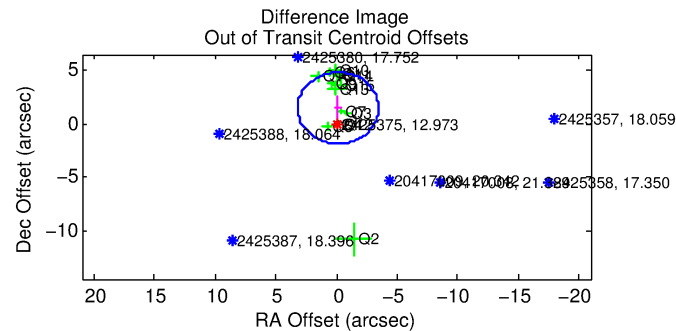
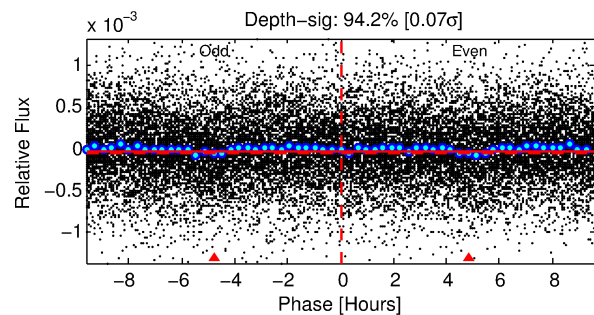
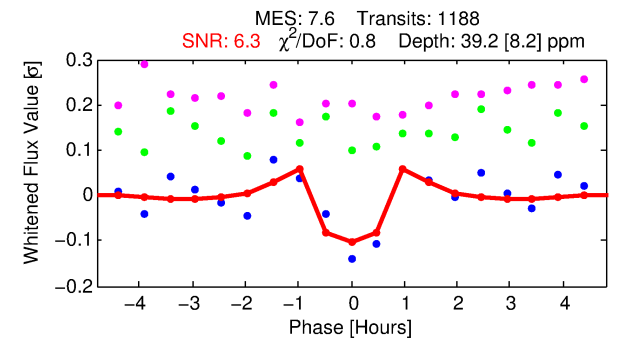
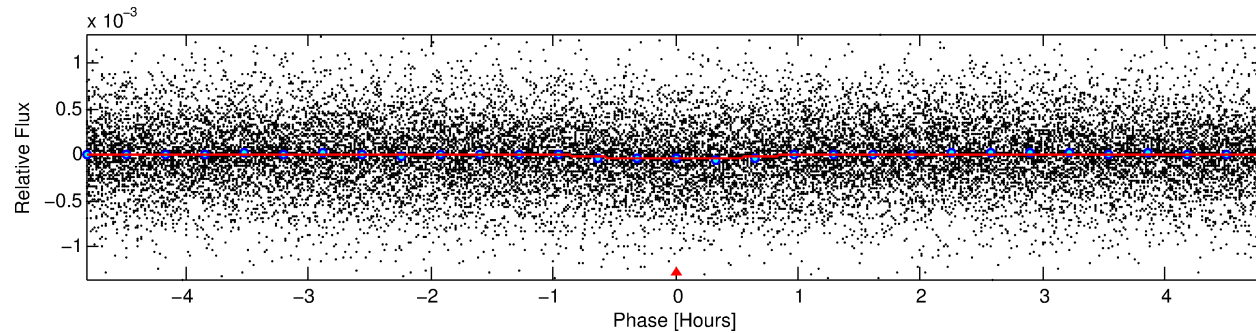
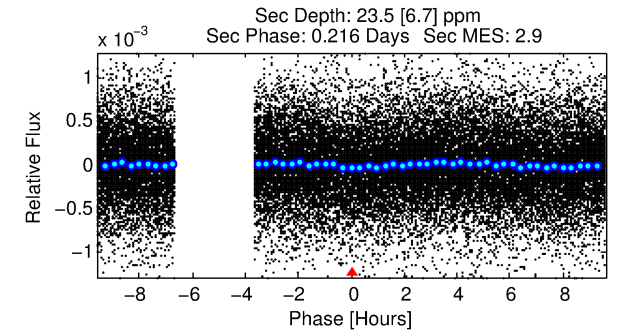
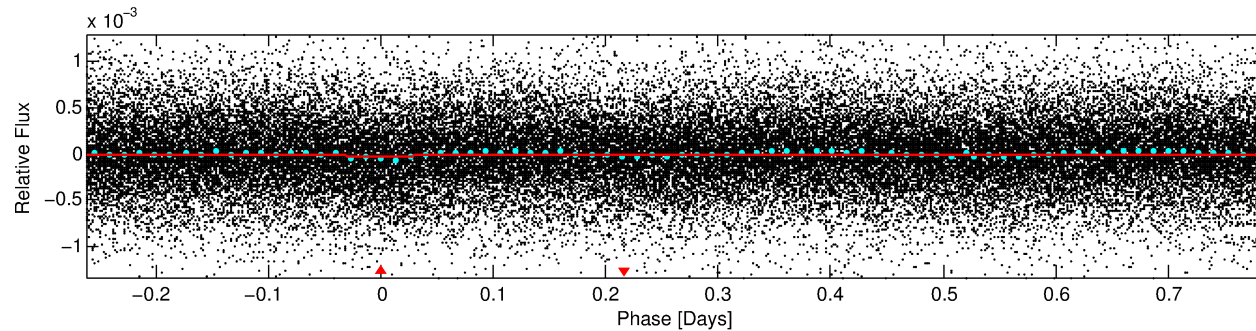
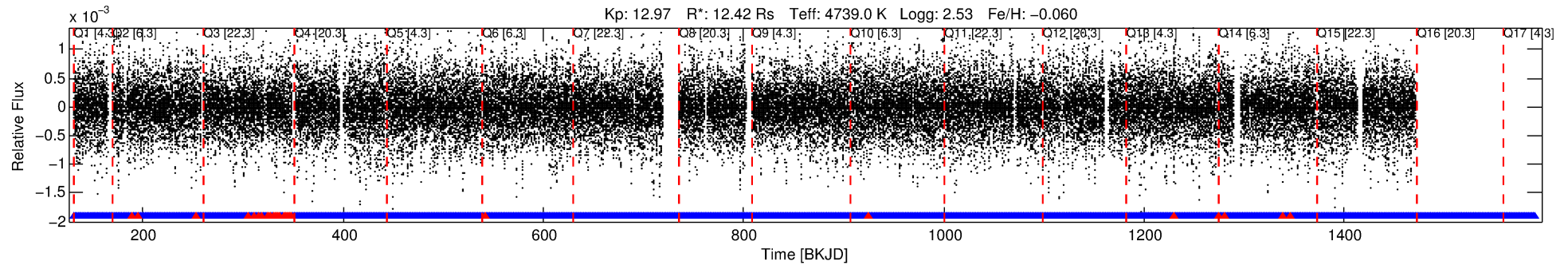
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002425375-01

No Significant Match Found

DV One-Page Summary

KIC: 2425375 Candidate: 1 of 1 Period: 1.048 d



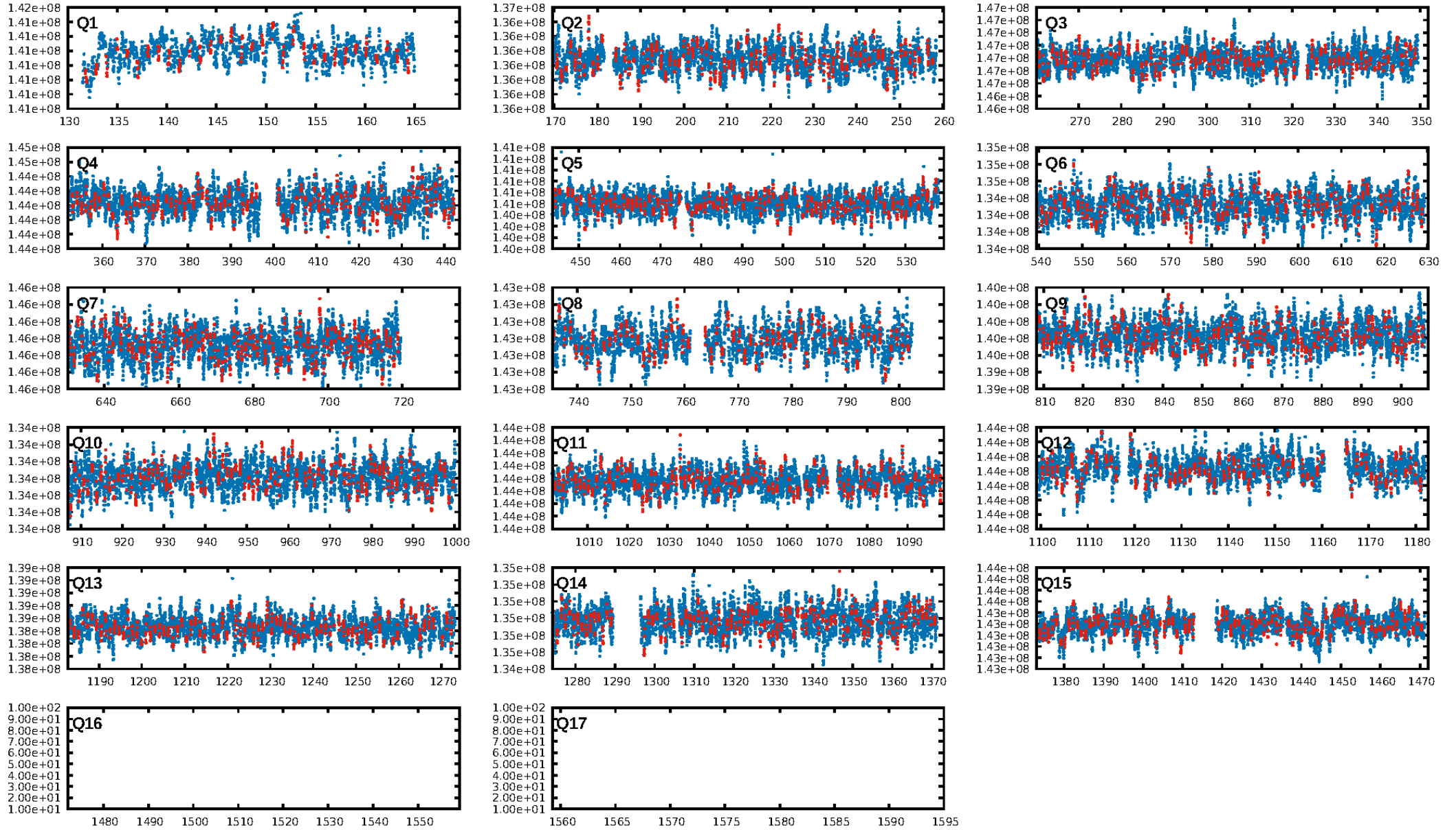
DV Fit Results:

Period = 1.04818 [0.00001] d
Epoch = 131.8146 [0.0021] BKJD
Rp/R* = 0.0071 [0.0039]
a/R* = 2.45 [4.27]
b = 0.90 [0.46]
Seff = N/A
Teq = N/A
Rp = 9.56 [5.70] Re
a = N/A
Ag = N/A
Teffp = N/A

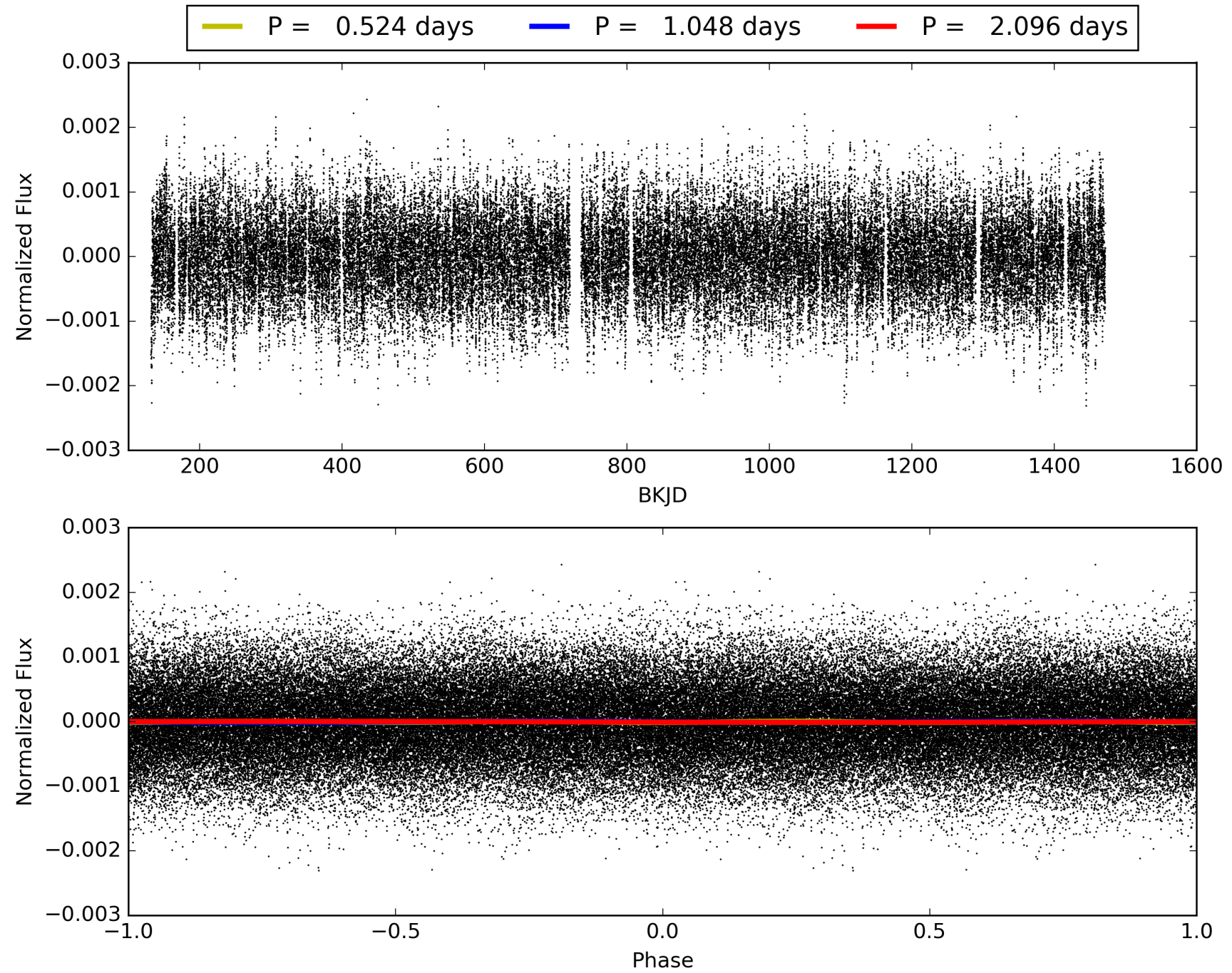
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.41e-27
RollingBand-fgt: 0.97 [1125/1156]
GhostDiagnostic-chr: 2.084
Centroid-sig: 0.0%
Centroid-so: 3.696 arcsec [3.97σ]
OotOffset-rm: 1.487 arcsec [1.34σ]
KicOffset-rm: 1.385 arcsec [1.33σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 002425375-01, PDC Light Curves

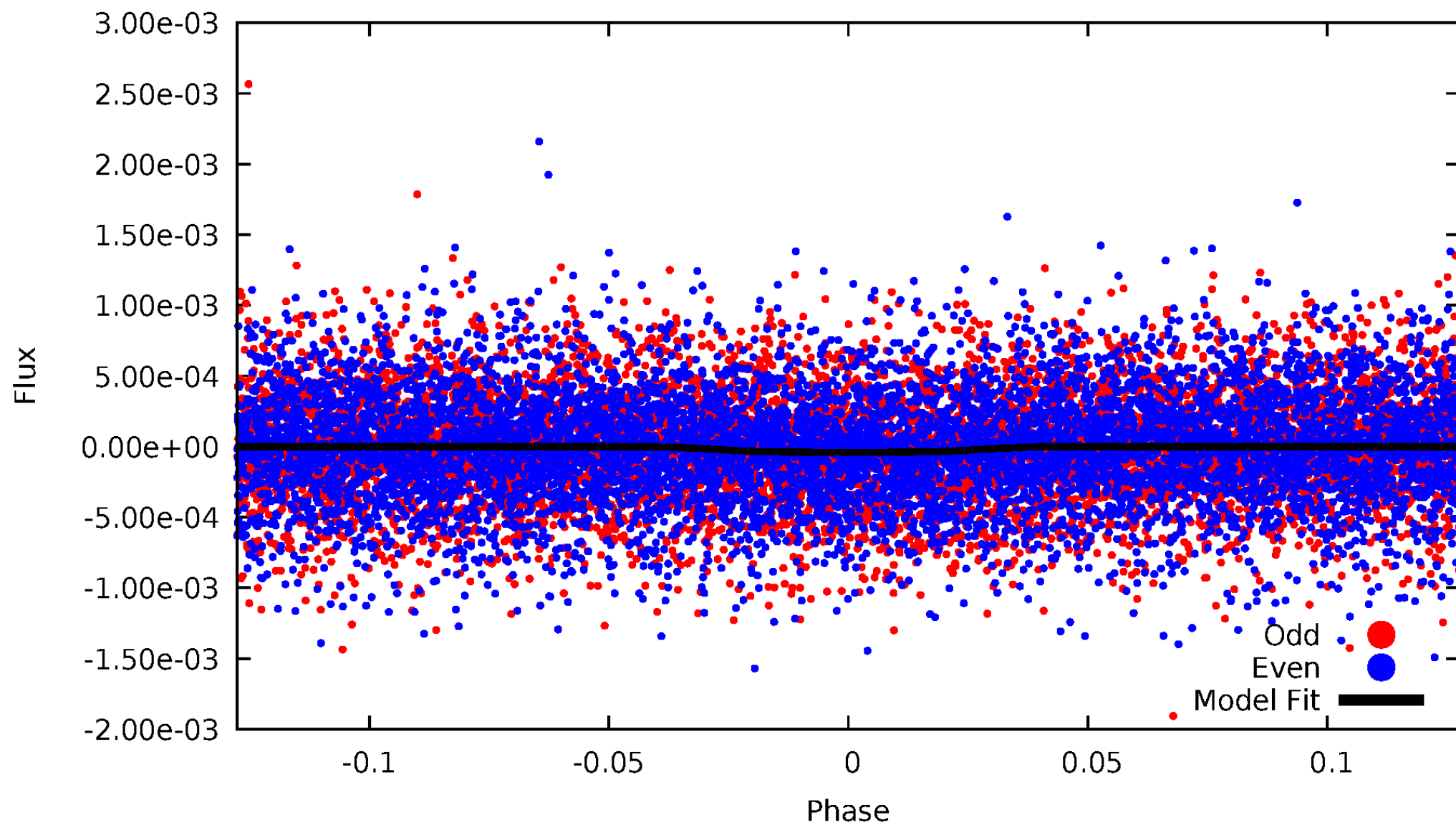


TCE 002425375-01



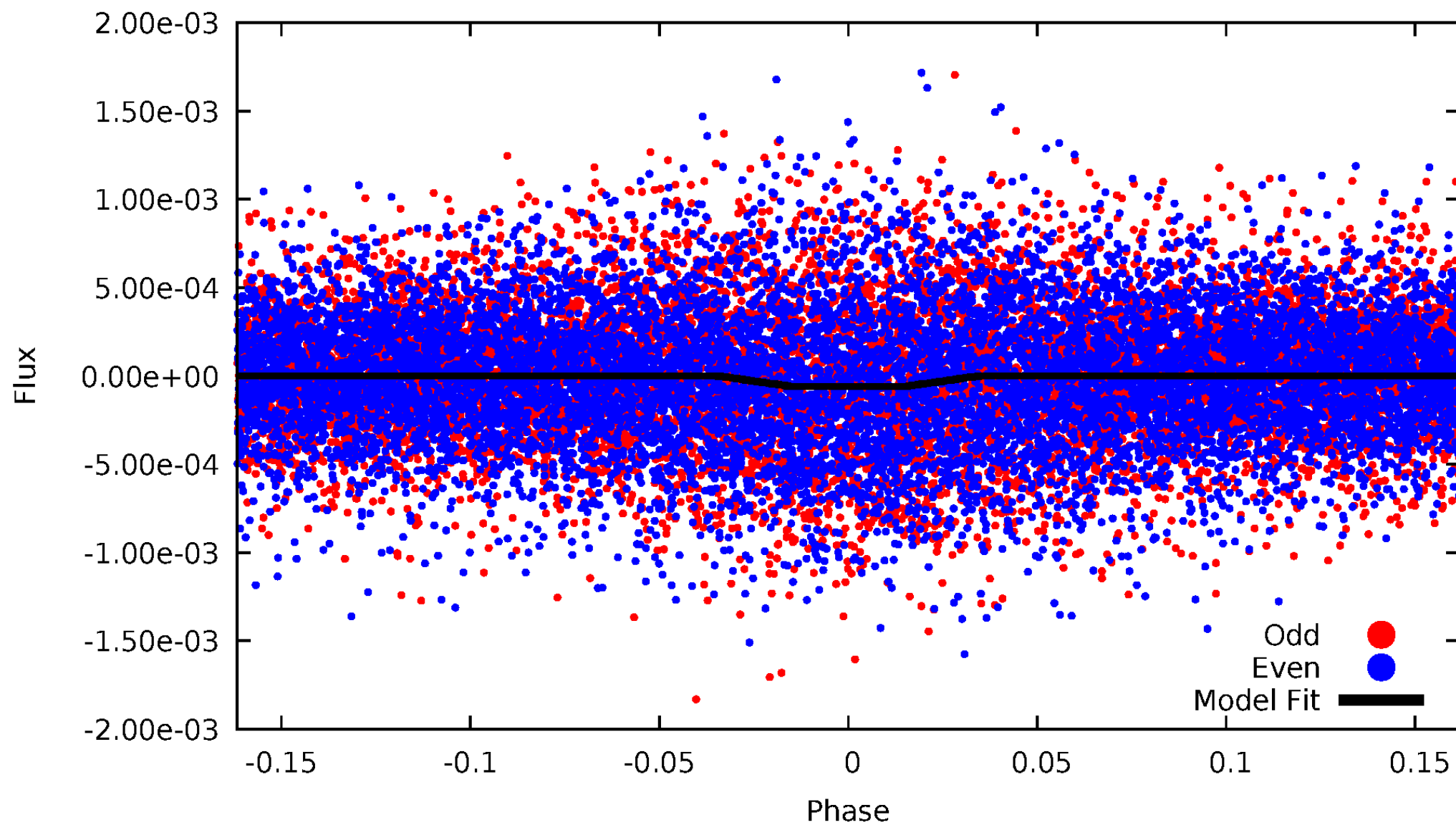
DV Odd/Even

TCE 002425375-01



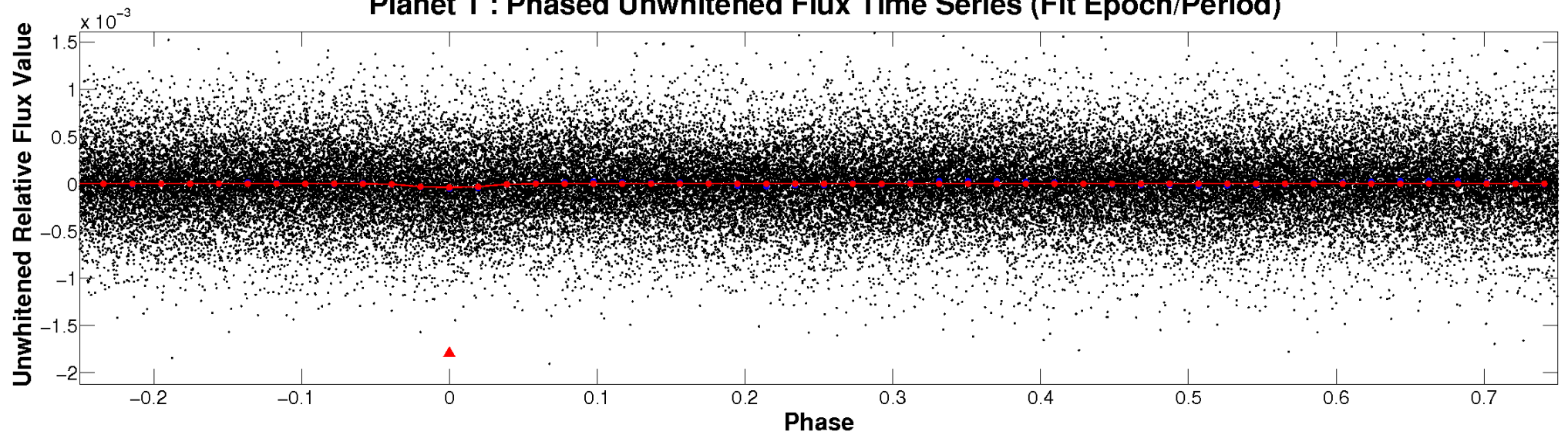
ALT Odd/Even

TCE 002425375-01

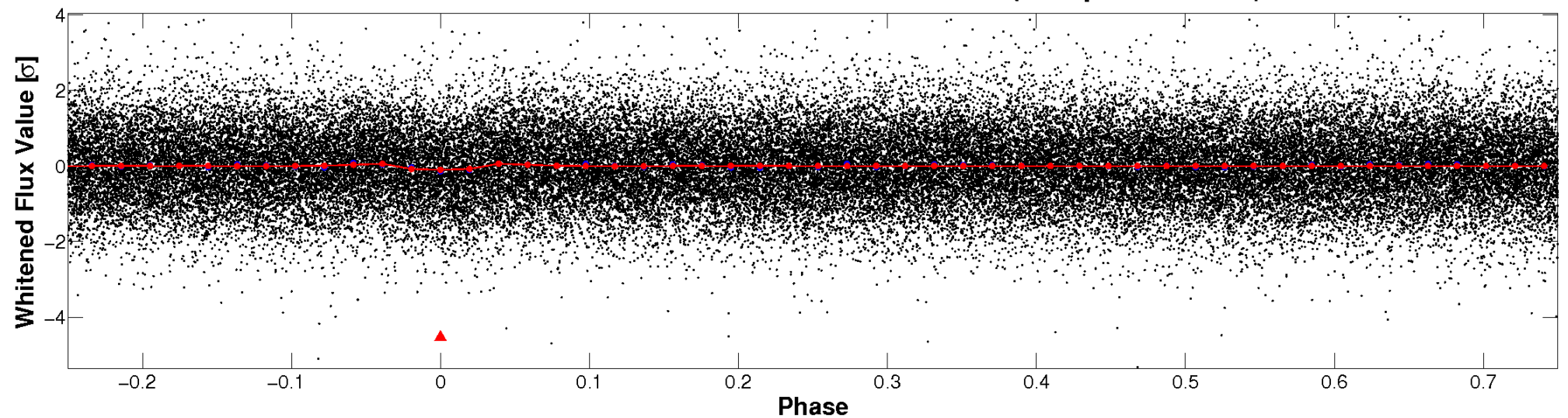


Non-Whitened Vs. Whitened Light Curve

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

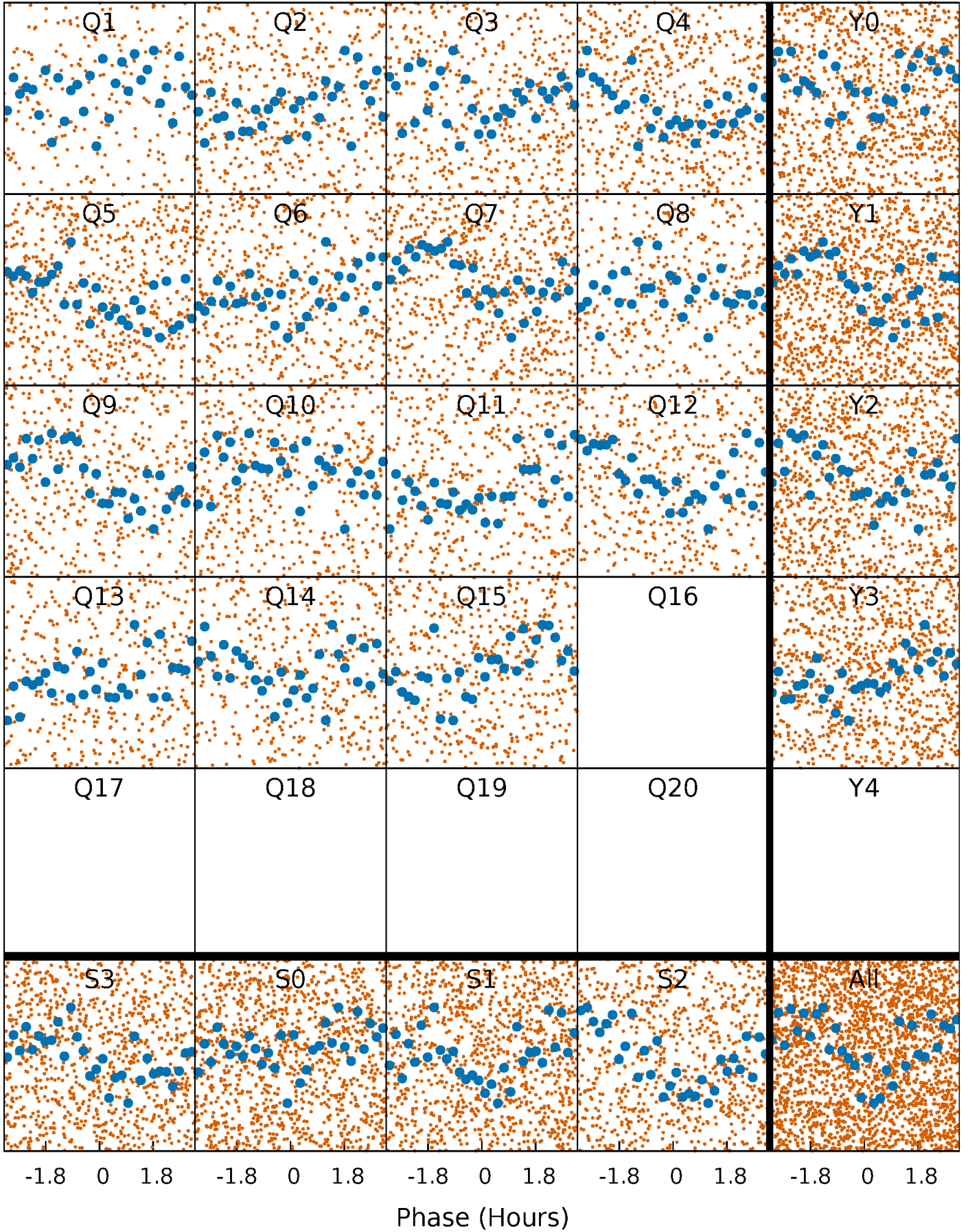


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



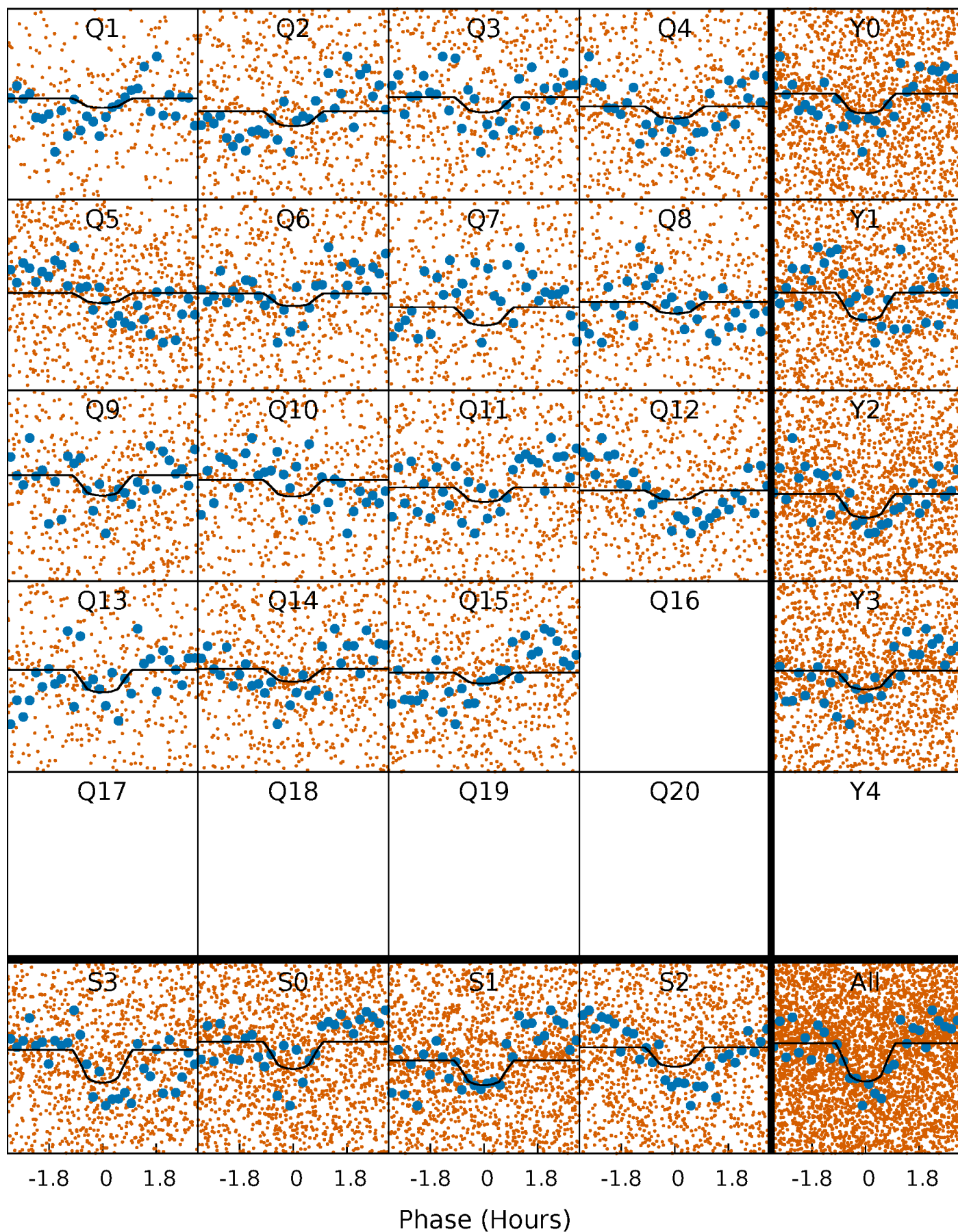
PDC Quarter-Phased Transit Curves

TCE 002425375-01 P= 1.048182 Days $T_0=131.814618$ (BKJD)



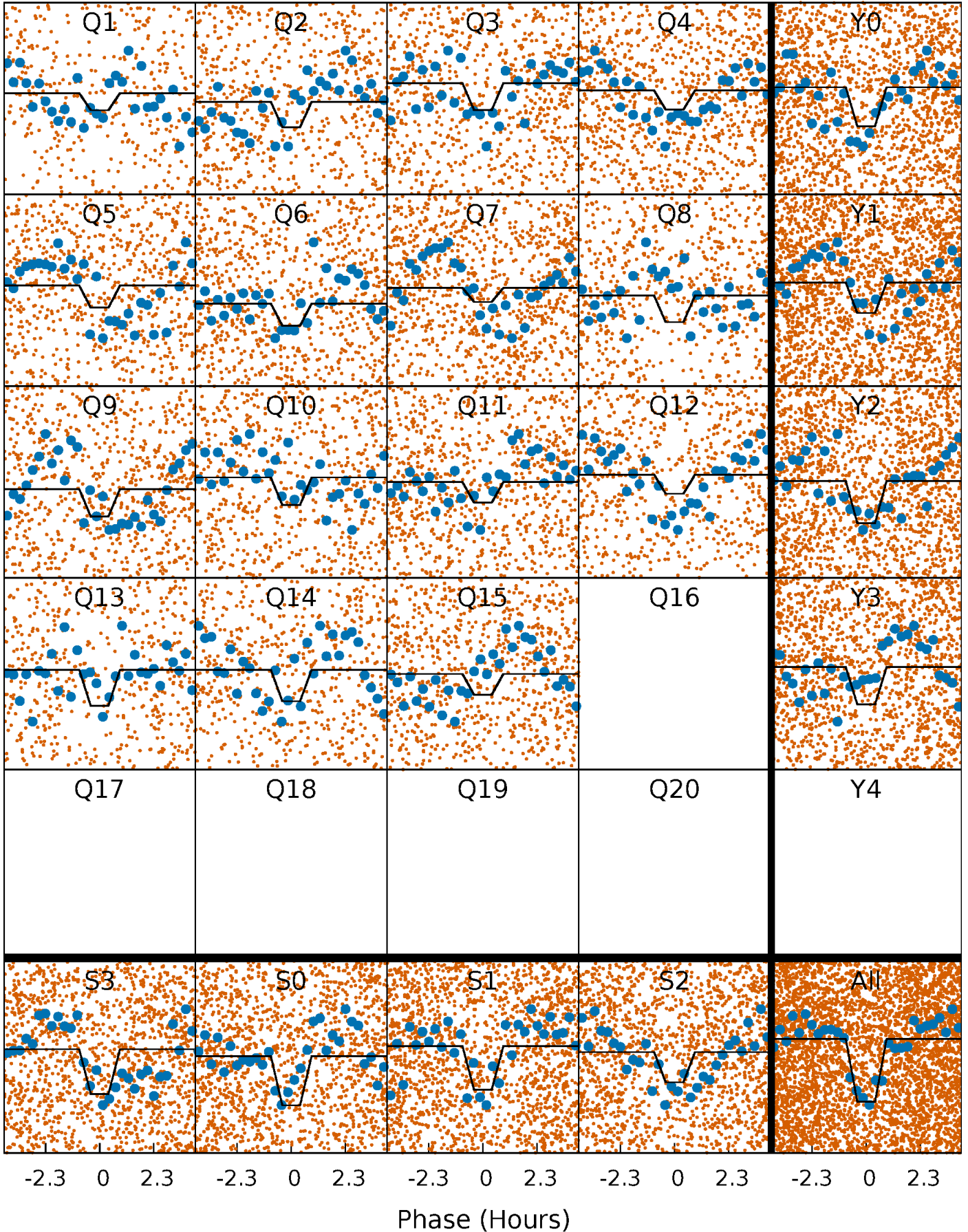
DV Quarter-Phased Transit Curves

TCE 002425375-01 P= 1.048182 Days $T_0=131.814618$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

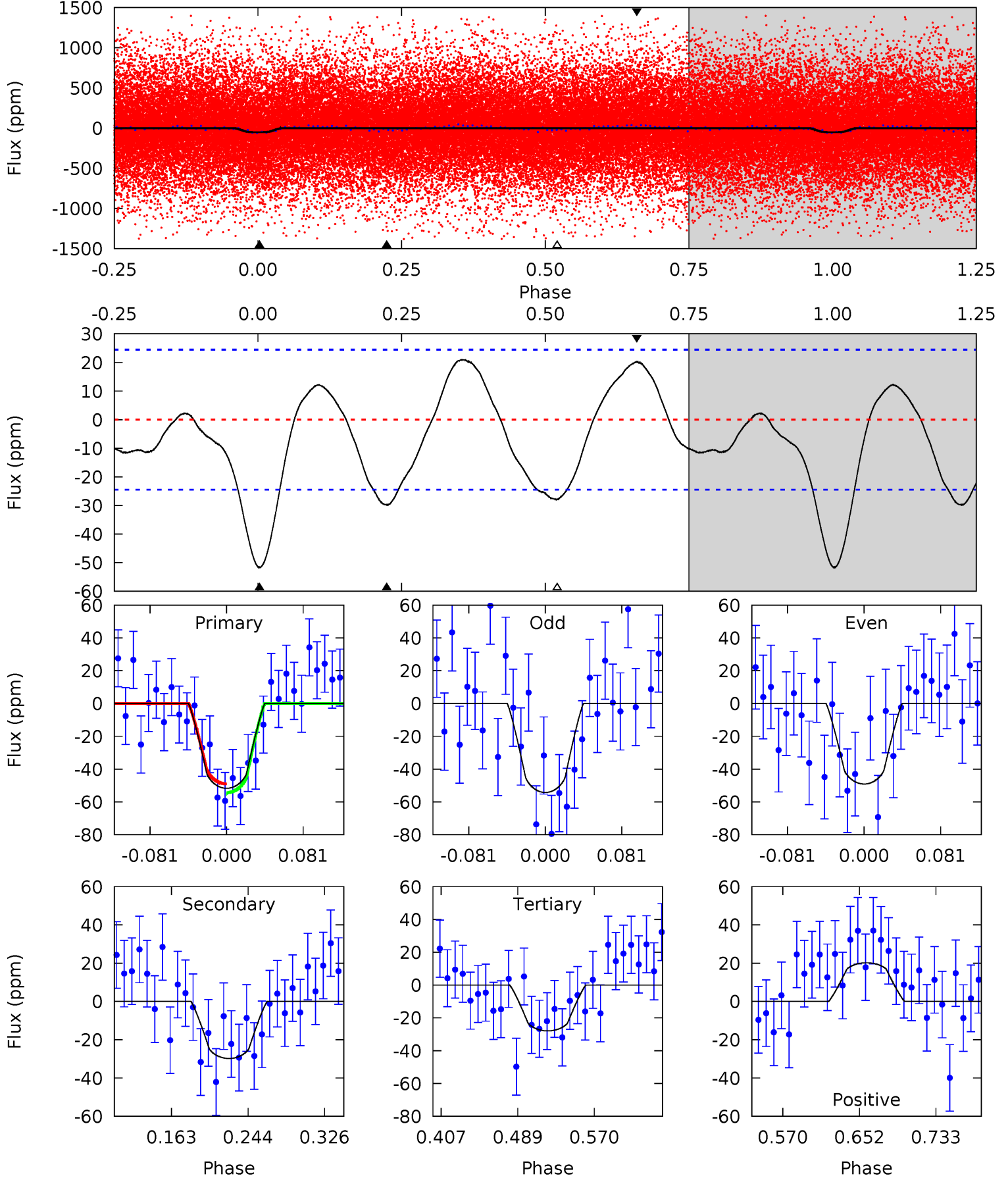
TCE 002425375-01 P= 1.048191 Days $T_0=131.817814$ (BKJD)



DV Model-Shift Uniqueness Test

002425375-01, P = 1.048182 Days, E = 130.766436 Days

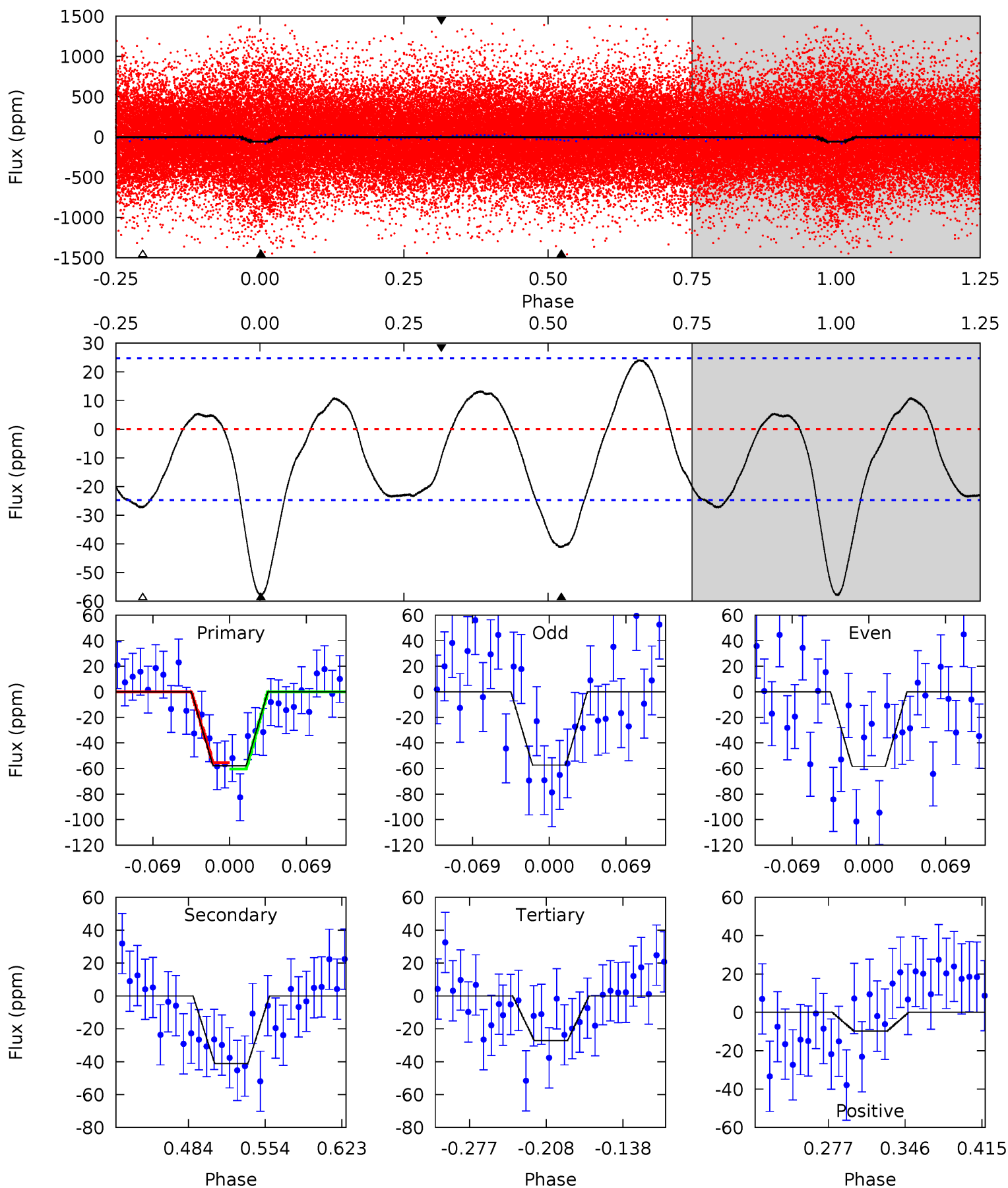
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.73	5.61	5.26	3.80	4.61	1.74	2.62	4.47	5.93	0.35	1.80	0.49	1.05	0.29	0.51



Alt Model-Shift Uniqueness Test

002425375-01, P = 1.048191 Days, E = 130.769623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	7.71	5.10	-1.83	4.64	1.82	2.73	5.73	12.7	2.61	9.54	0.11	1.01	0.29	0.46



Stellar Parameters For KIC 002425375

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4739^{+81}_{-128}	$2.533^{+0.030}_{-0.027}$	$-0.060^{+0.200}_{-0.200}$	$12.420^{+2.917}_{-2.917}$	$1.921^{+1.023}_{-0.744}$	$0.001^{+0.001}_{-0.000}$
	+2%/-3%	+1%/-1%	+333%/-333%	+23%/-23%	+53%/-39%	+36%/-12%
Source	PHO1	AST9	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 002425375-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-30 ± 5	$9.94^{+5.94}_{-4.92}$	6503^{+242}_{-258}	-4708^{+8795}_{-382}	$0.107^{+0.275}_{-0.065}$
Alt.	-41 ± 5	$10.69^{+5.83}_{-5.63}$	6486^{+223}_{-240}	-4591^{+9462}_{-425}	$0.129^{+0.402}_{-0.076}$

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

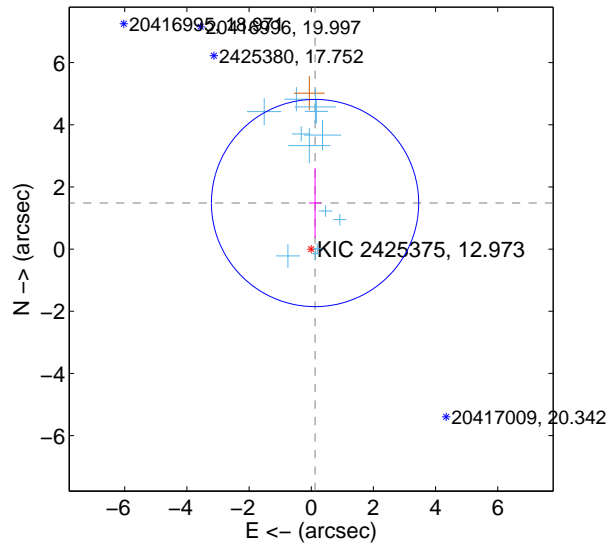
Supplemental centroid analysis for 002425375-01. Kepler magnitude: 12.97. Transit SNR 6.34

There are 12 quarters with good PRF difference image offsets

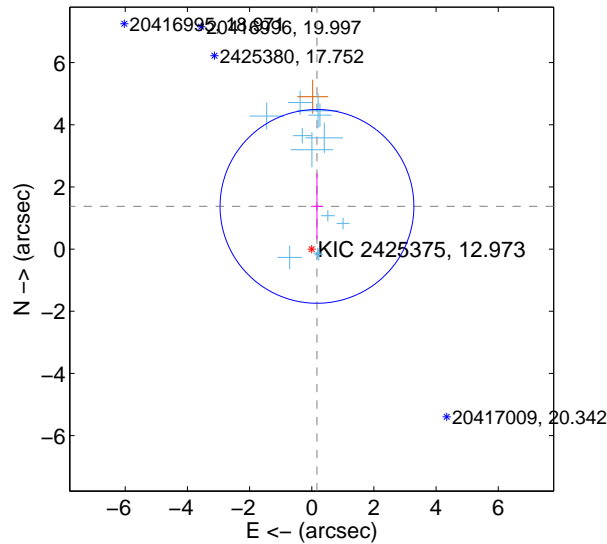
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.487 ± 1.111	1.34	-0.123 ± 0.197	1.482 ± 1.125
PRF-fit source offset from KIC position	1.385 ± 1.039	1.33	-0.168 ± 0.189	1.374 ± 1.059
photometric centroid source offset	3.70 ± 0.93	3.97	0.17 ± 0.85	3.69 ± 0.93

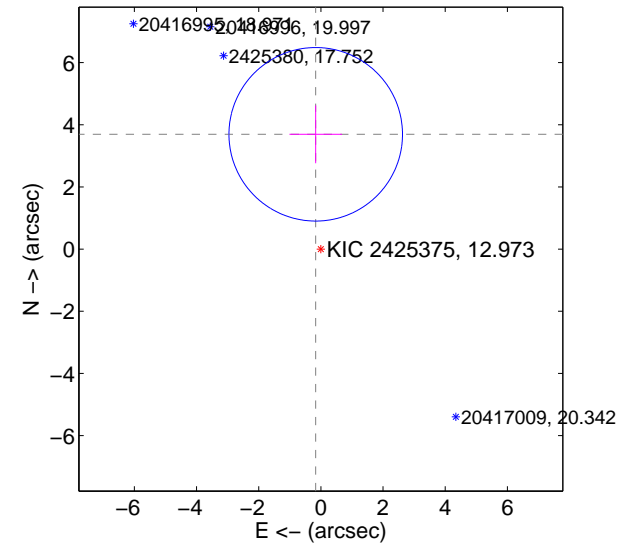
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

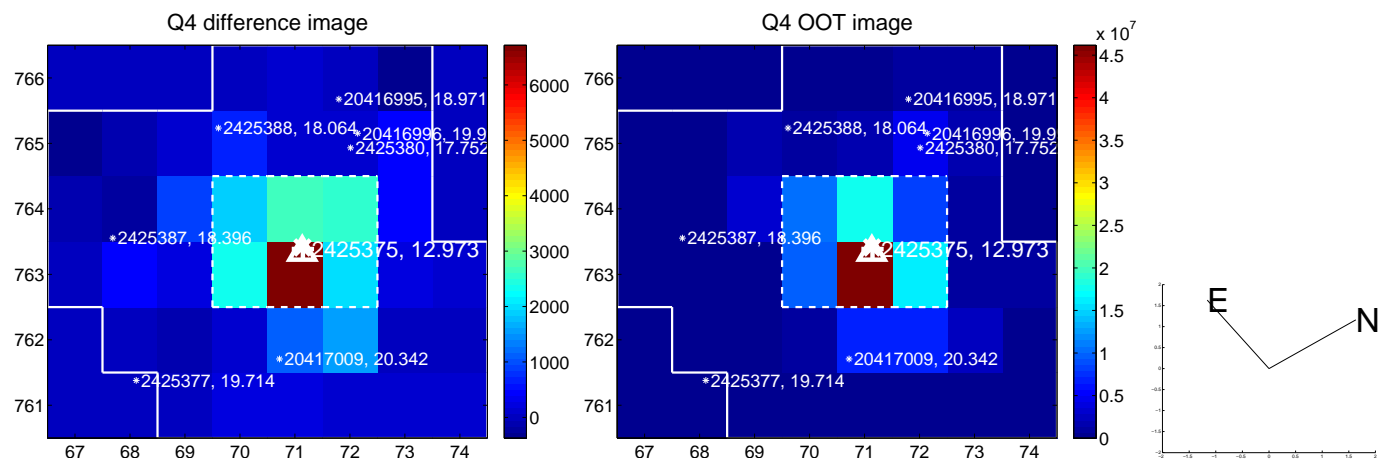
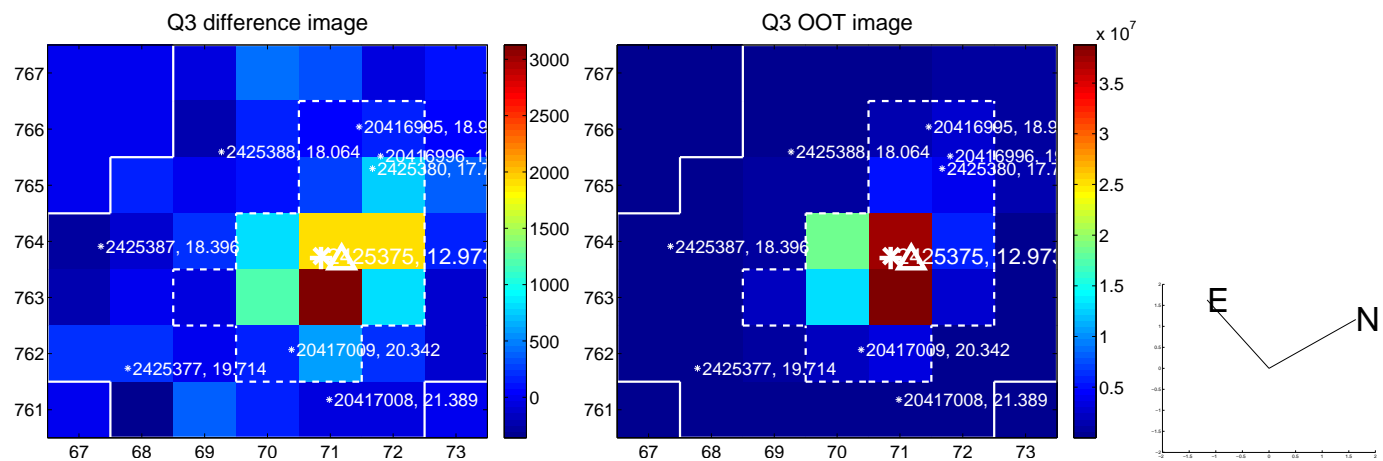
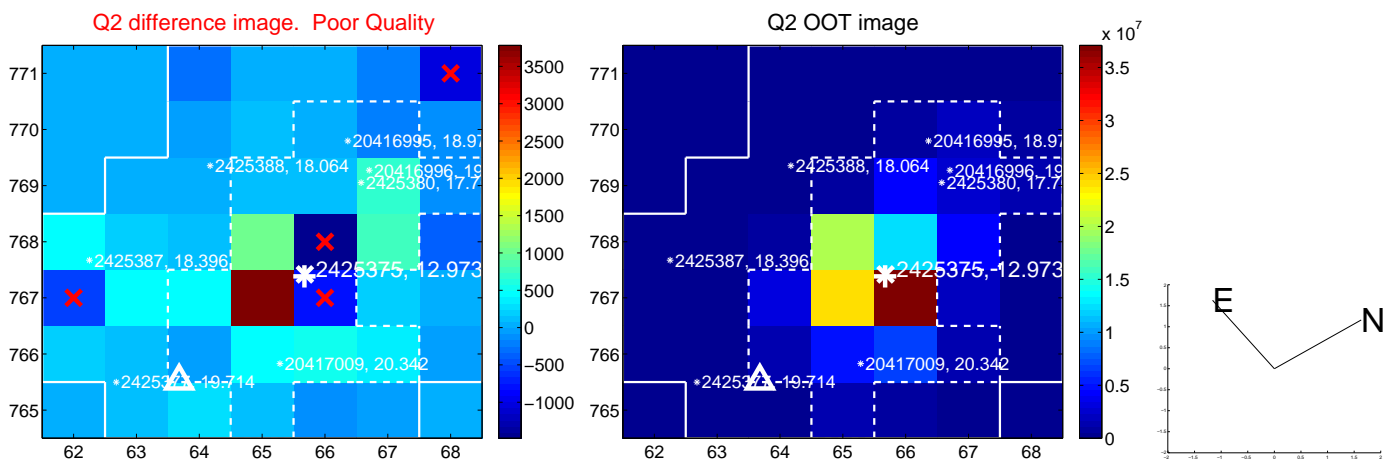
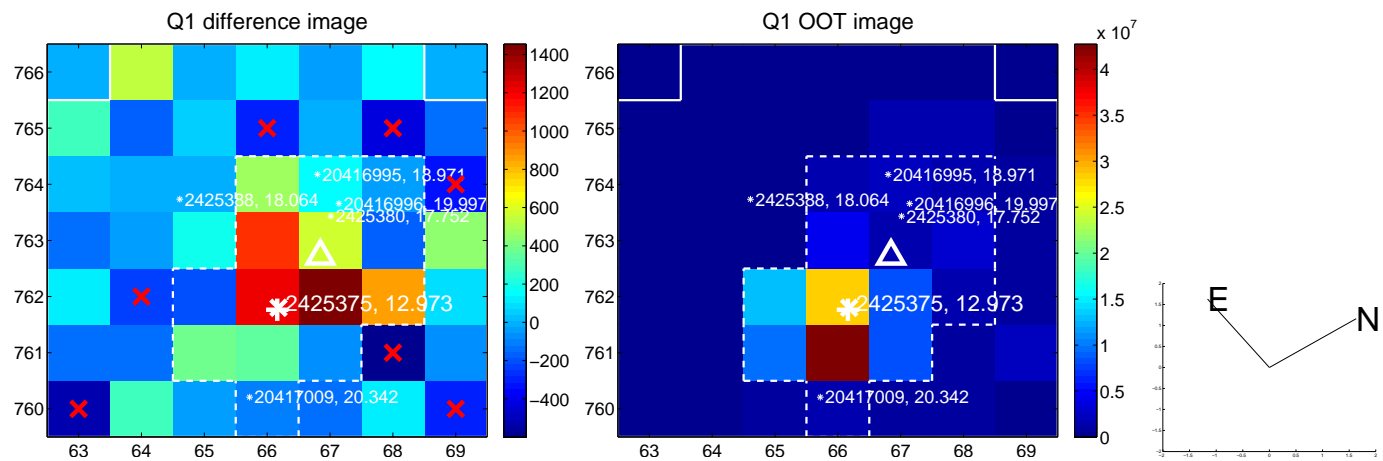


offset from photometric centroids

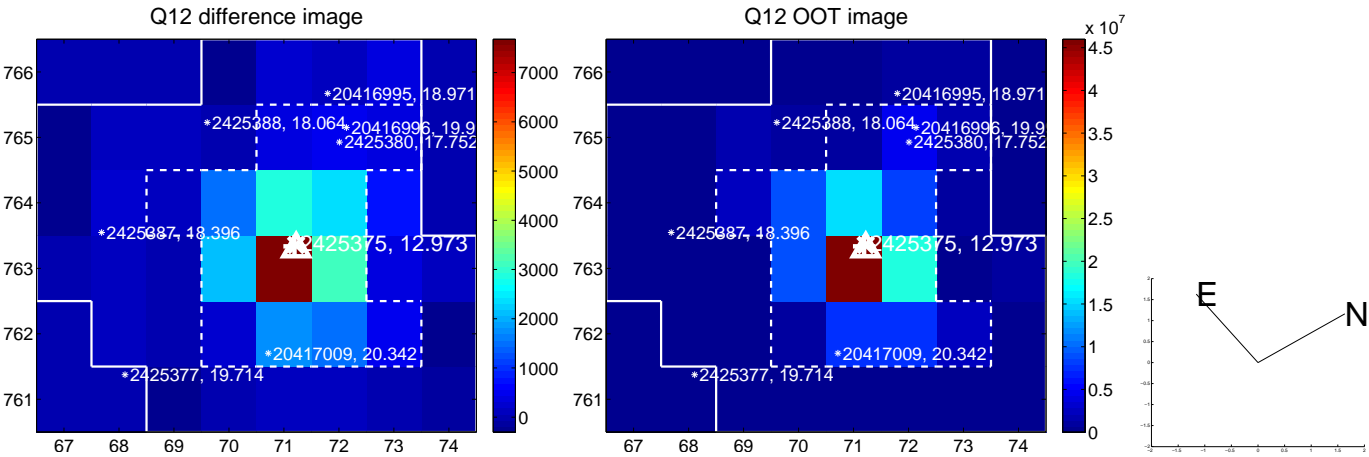
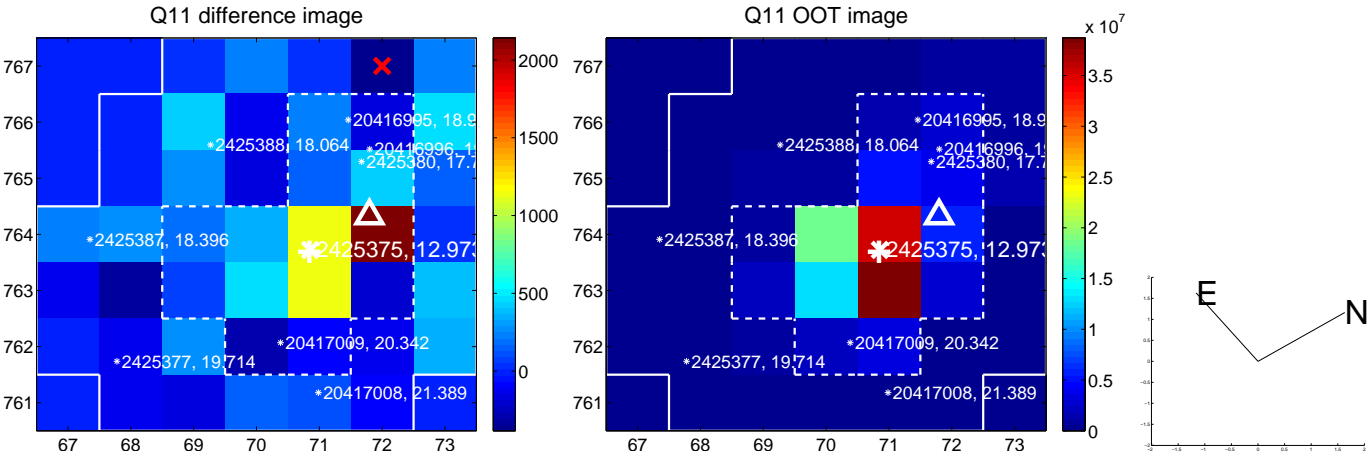
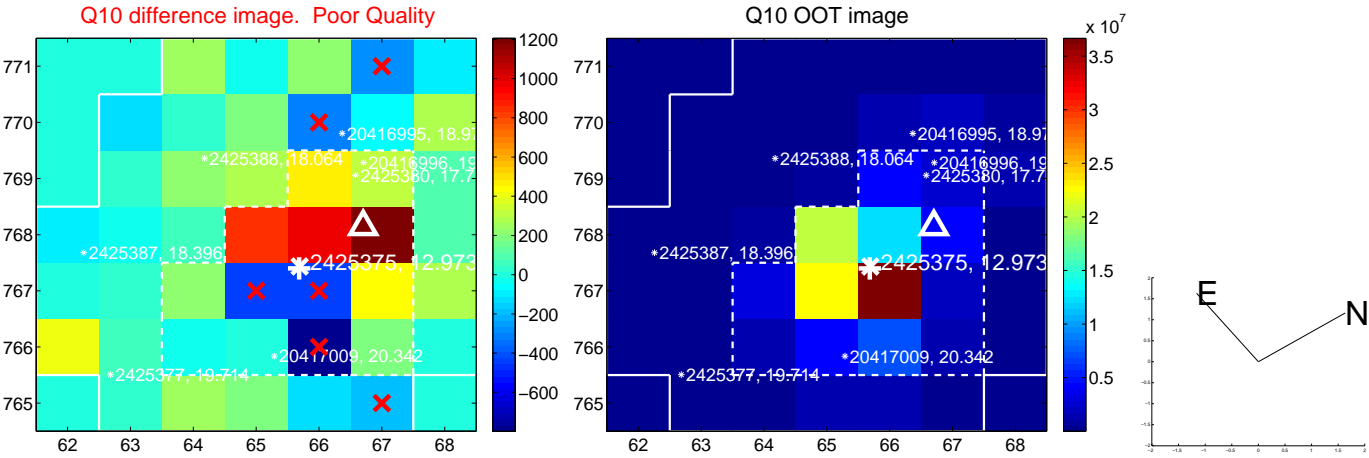
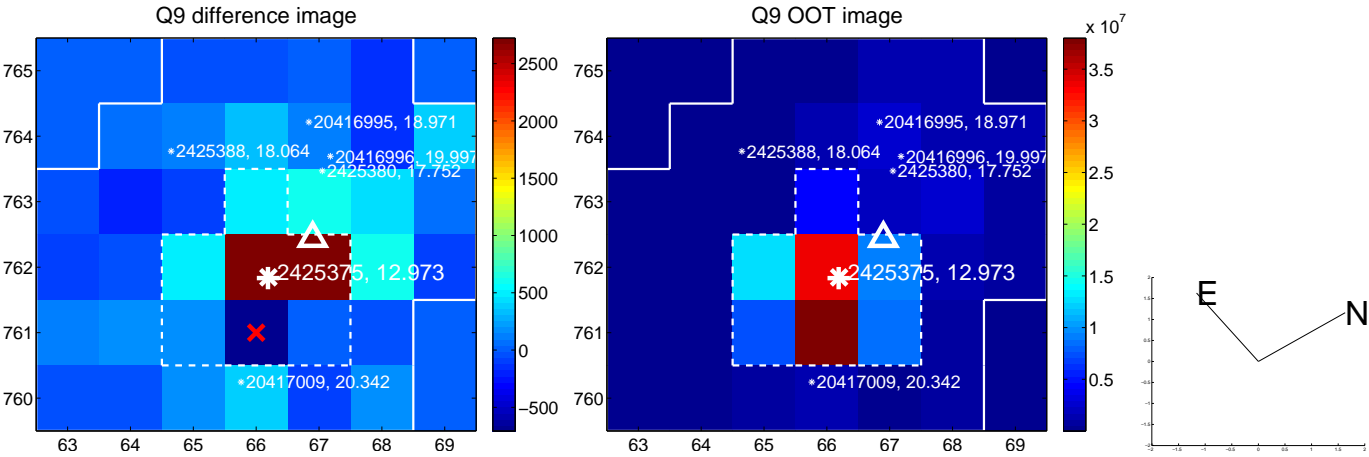


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

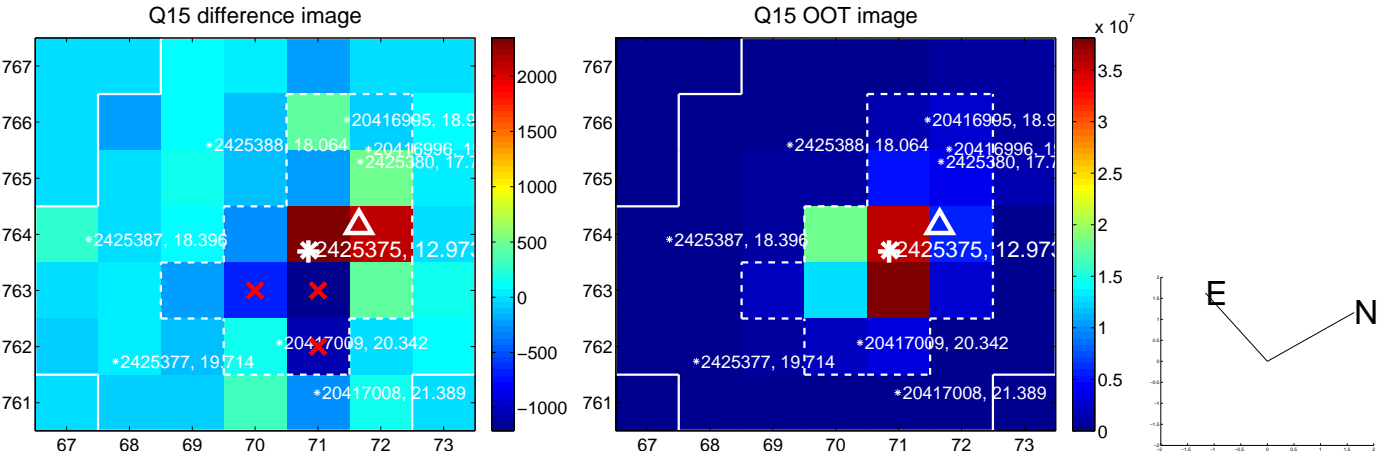
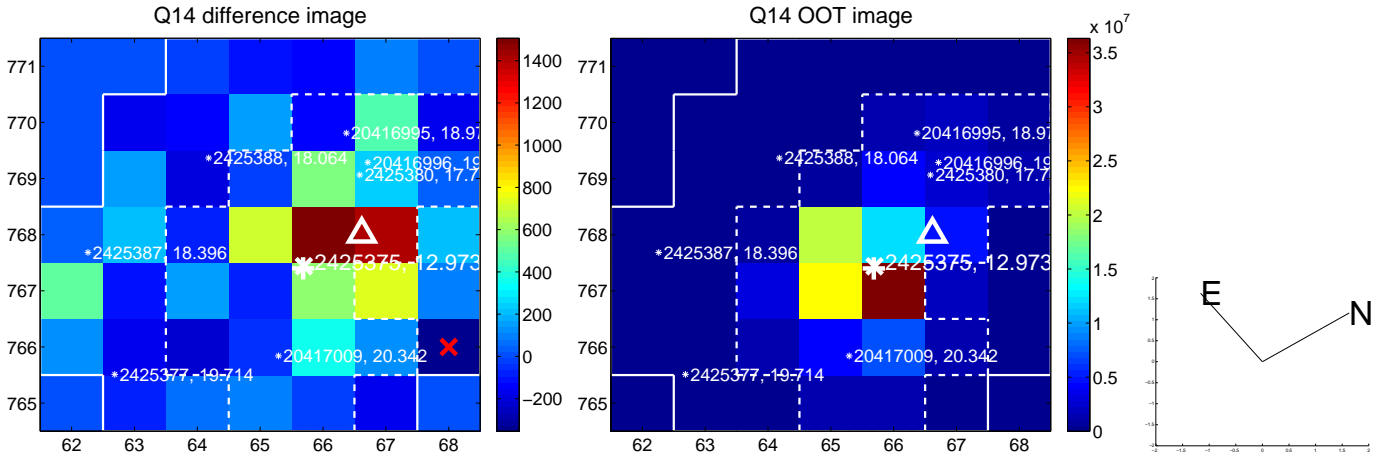
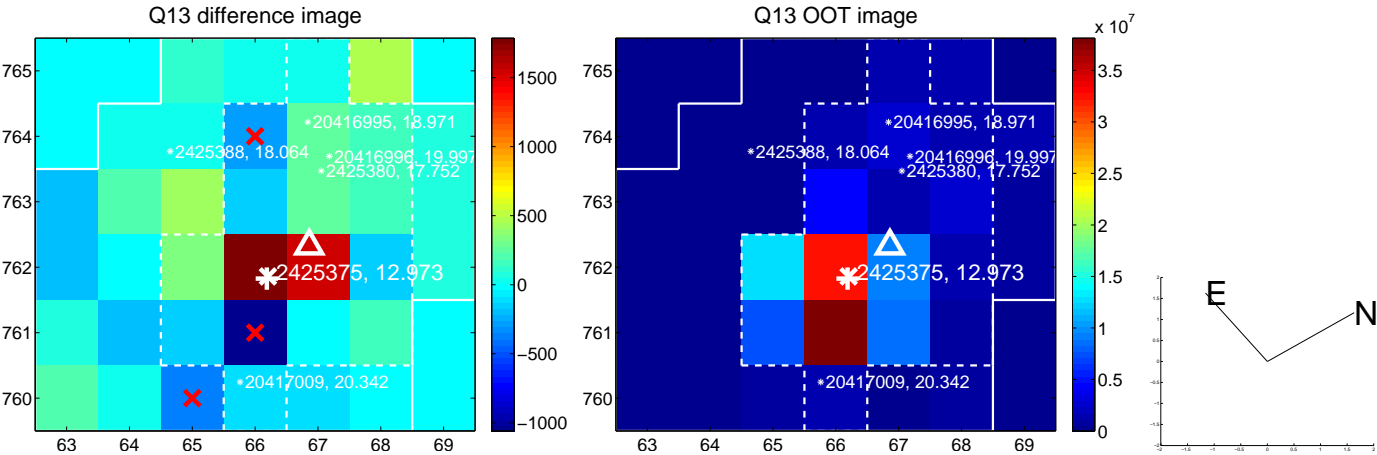
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



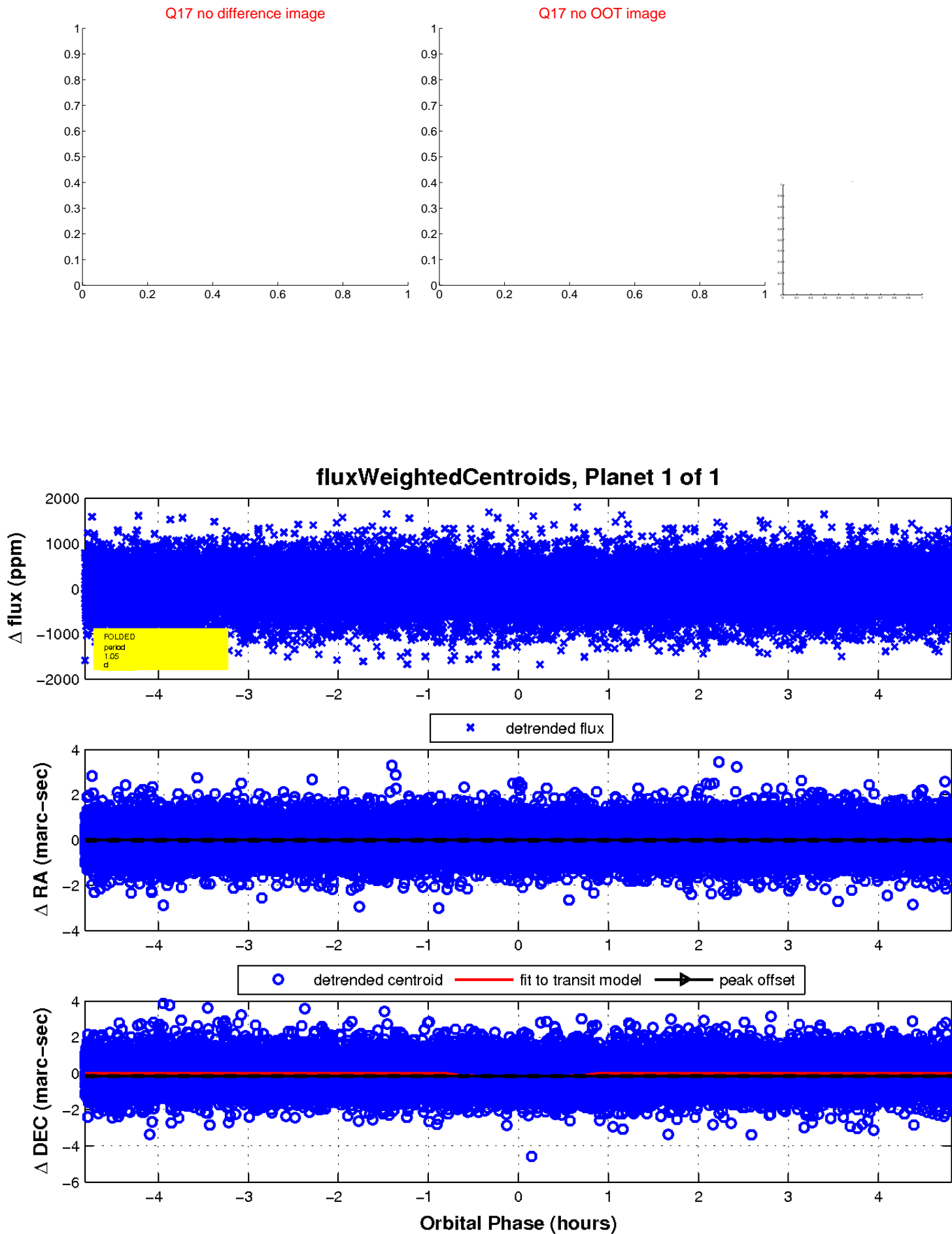
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

