

KIC 005397166

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})
005397166-01	OBS	3856.01	1.811959	132.281623	306.7	3.243	47.8	53.1	3.35	5904	8.29	10386.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005397166-01	OBS	PC	1.00	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.

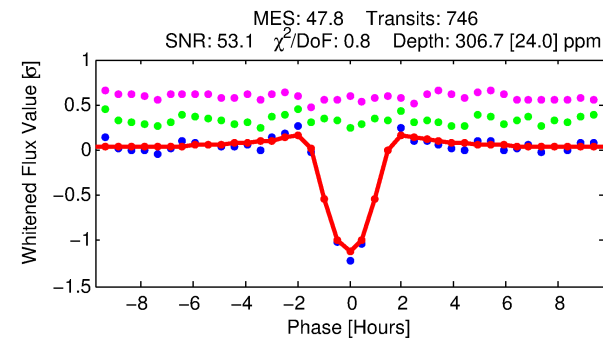
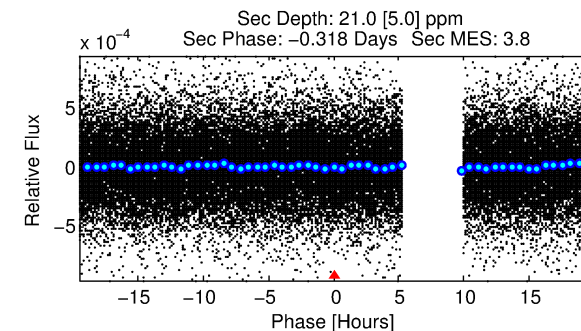
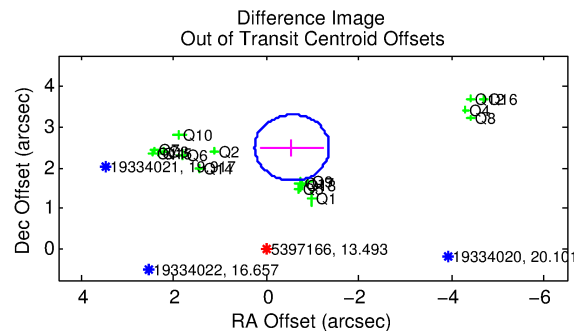
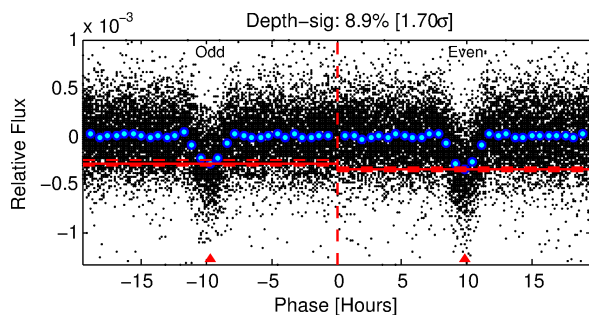
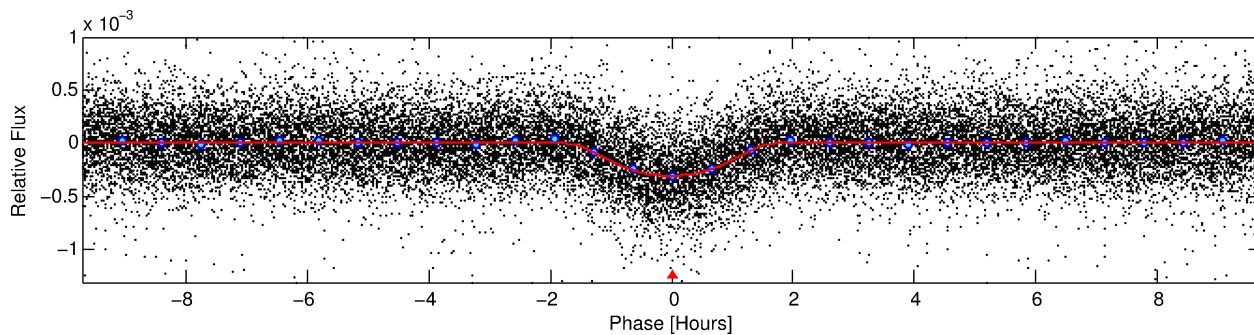
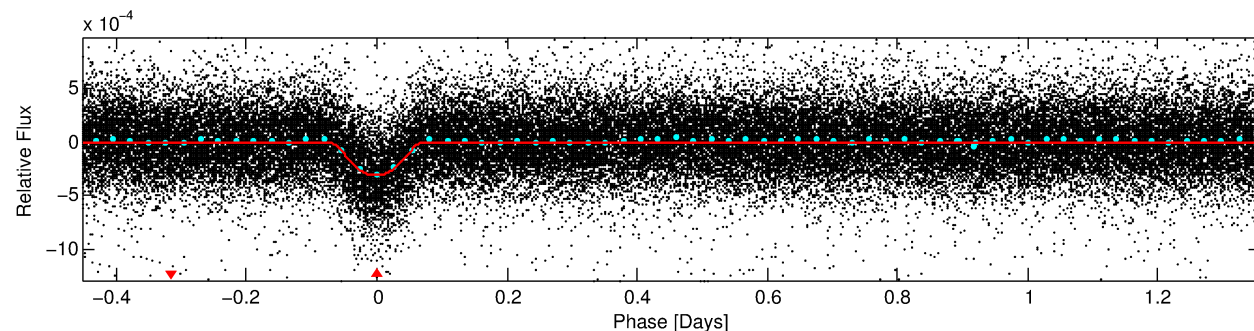
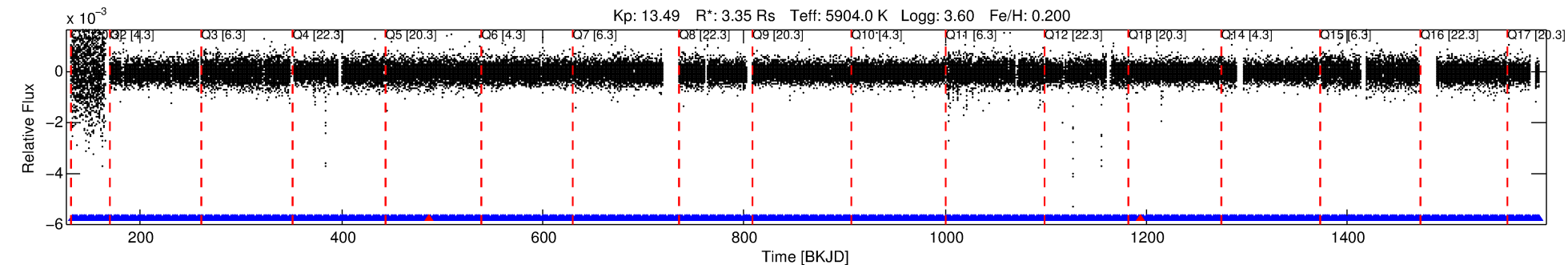
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005397166-01

No Significant Match Found

DV One-Page Summary

KIC: 5397166 Candidate: 1 of 1 Period: 1.812 d
KOI: K03856.01 Corr: 0.935



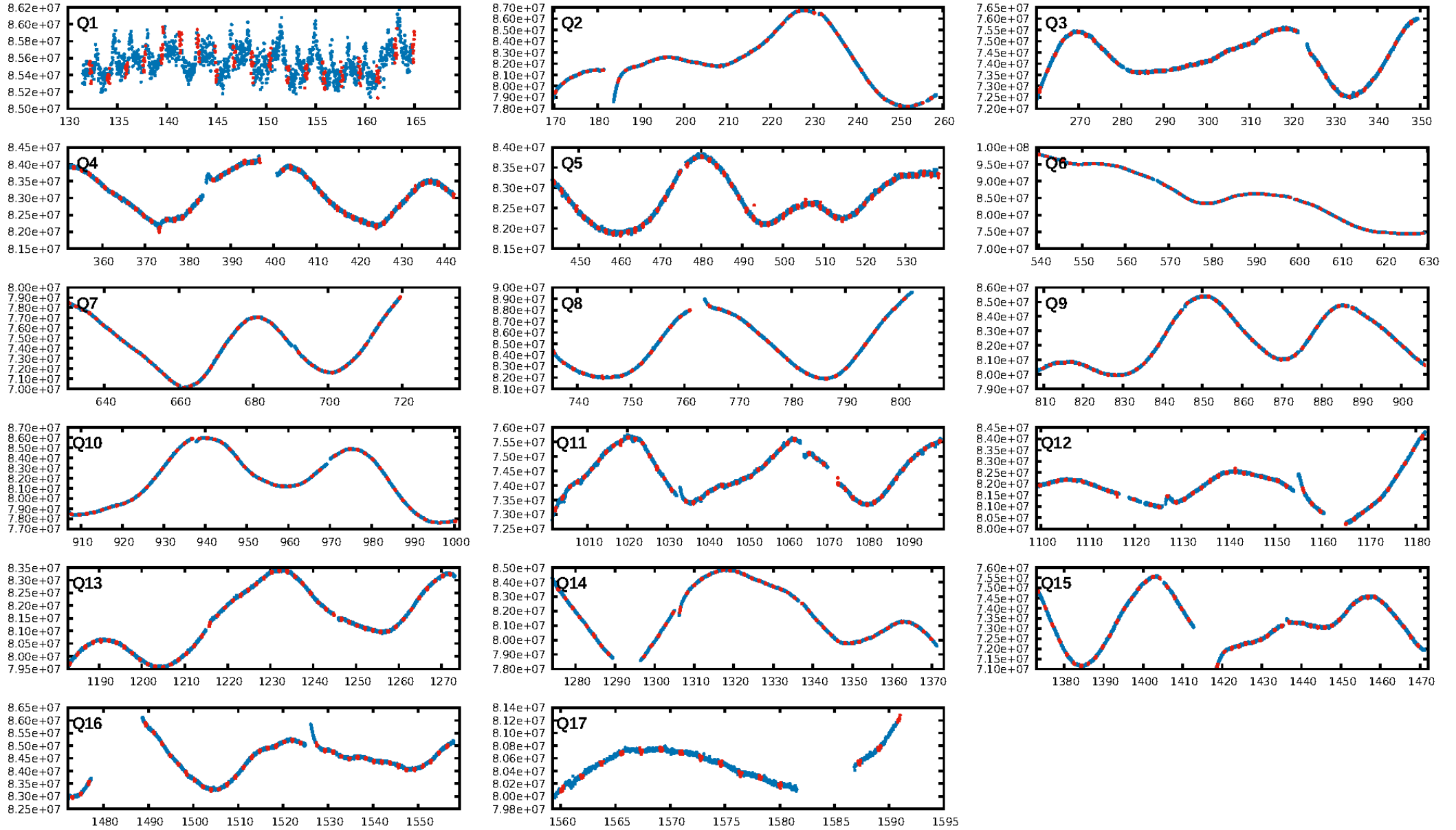
DV Fit Results:

Period = 1.81196 [0.00000] d
Epoch = 132.2816 [0.0009] BKJD
Rp/R* = 0.0227 [0.0020]
a/R* = 1.59 [0.06]
b = 0.98 [0.01]
Seff = 10386.57 [11690.05]
Teq = 2574 [724] K
Rp = 8.29 [5.40] Re
a = 0.0343 [0.0230] AU
Ag = 0.20 [0.23] [-3.52 σ]
Teffp = 2652 [218] K [0.10 σ]

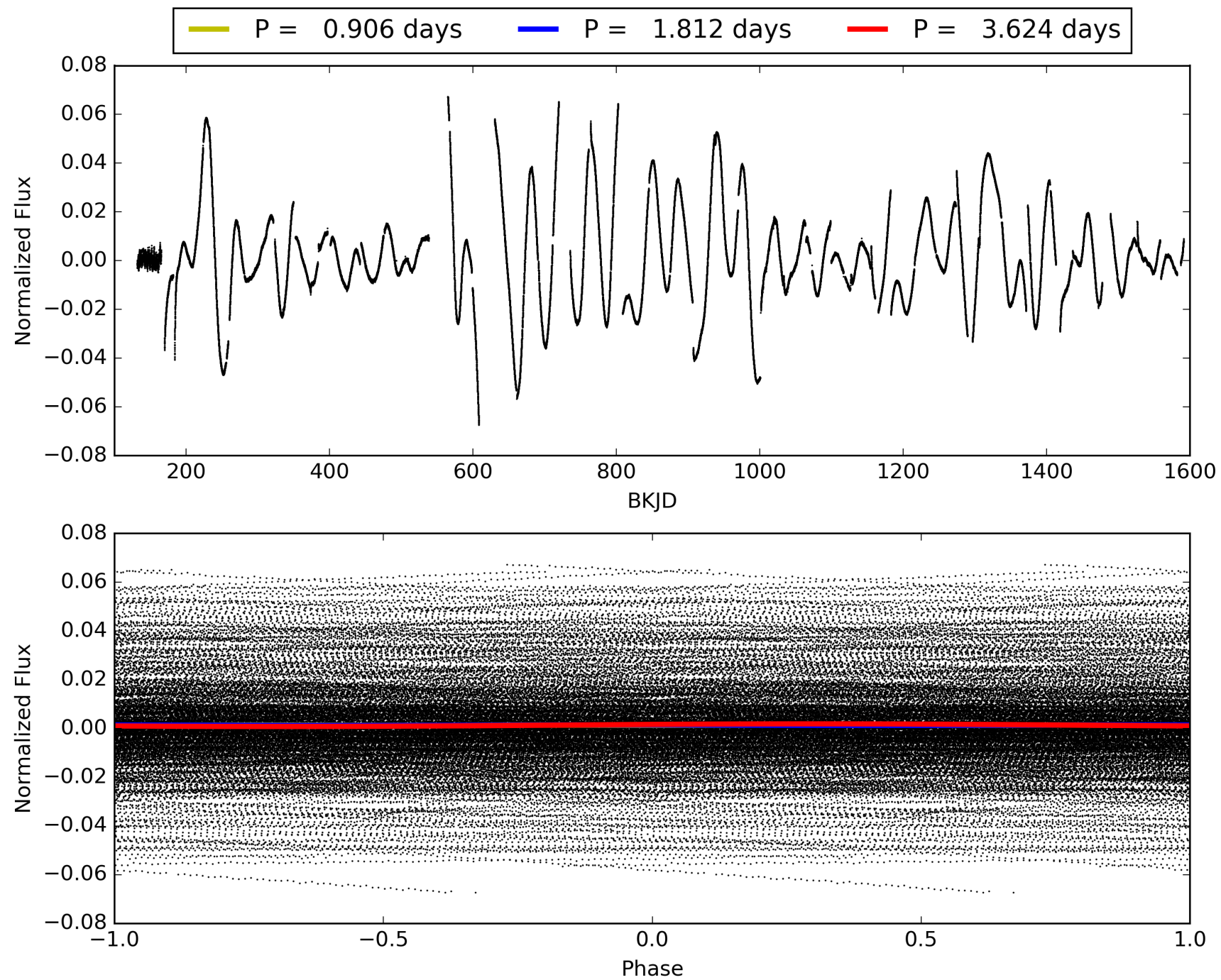
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [710/712]
GhostDiagnostic-chr: 0.9092
Centroid-sig: 0.0%
Centroid-so: 4.690 arcsec [19.52 σ]
OotOffset-rm: 2.549 arcsec [9.46 σ]
KicOffset-rm: 4.093 arcsec [46.56 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005397166-01, PDC Light Curves

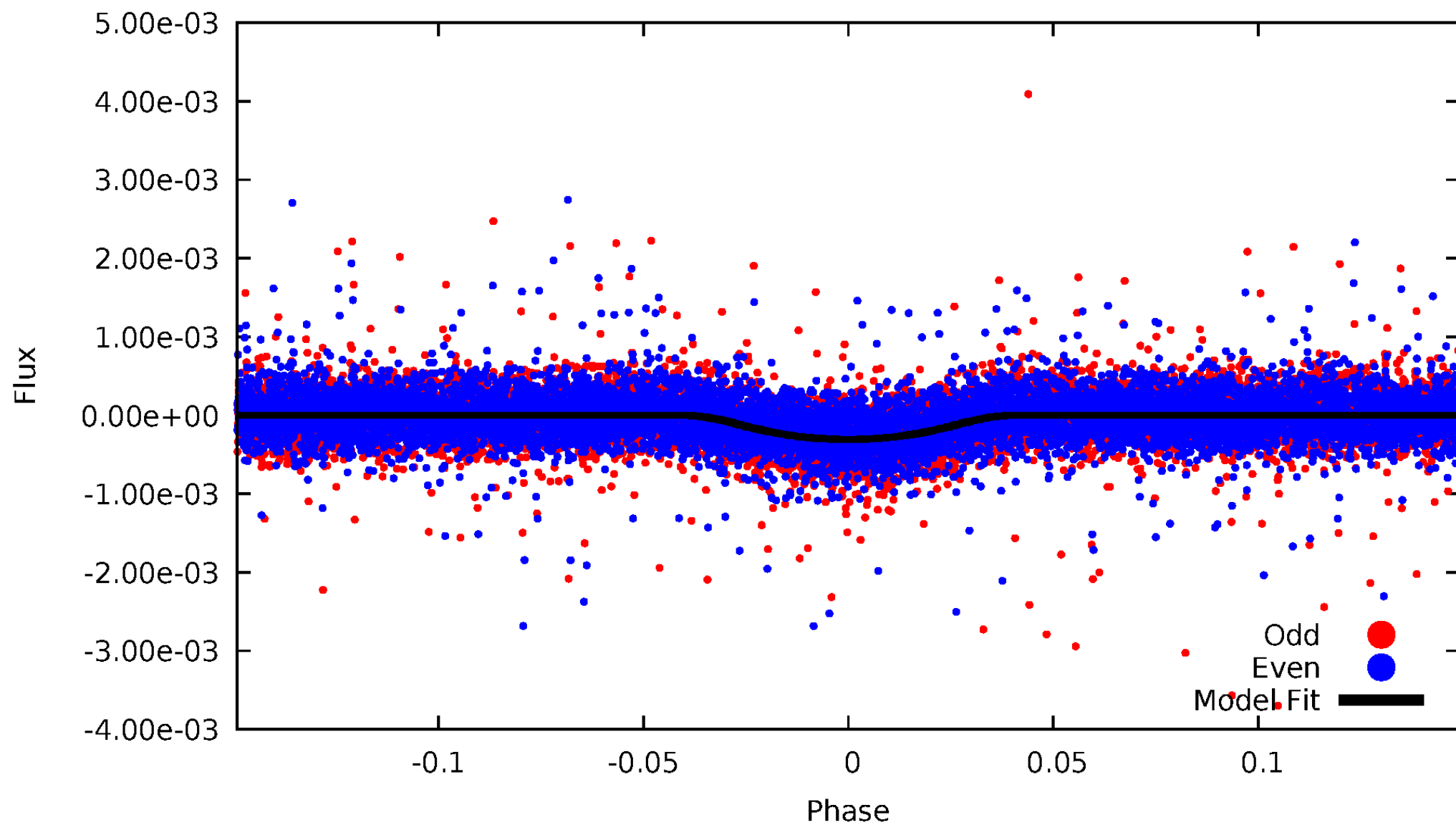


TCE 005397166-01



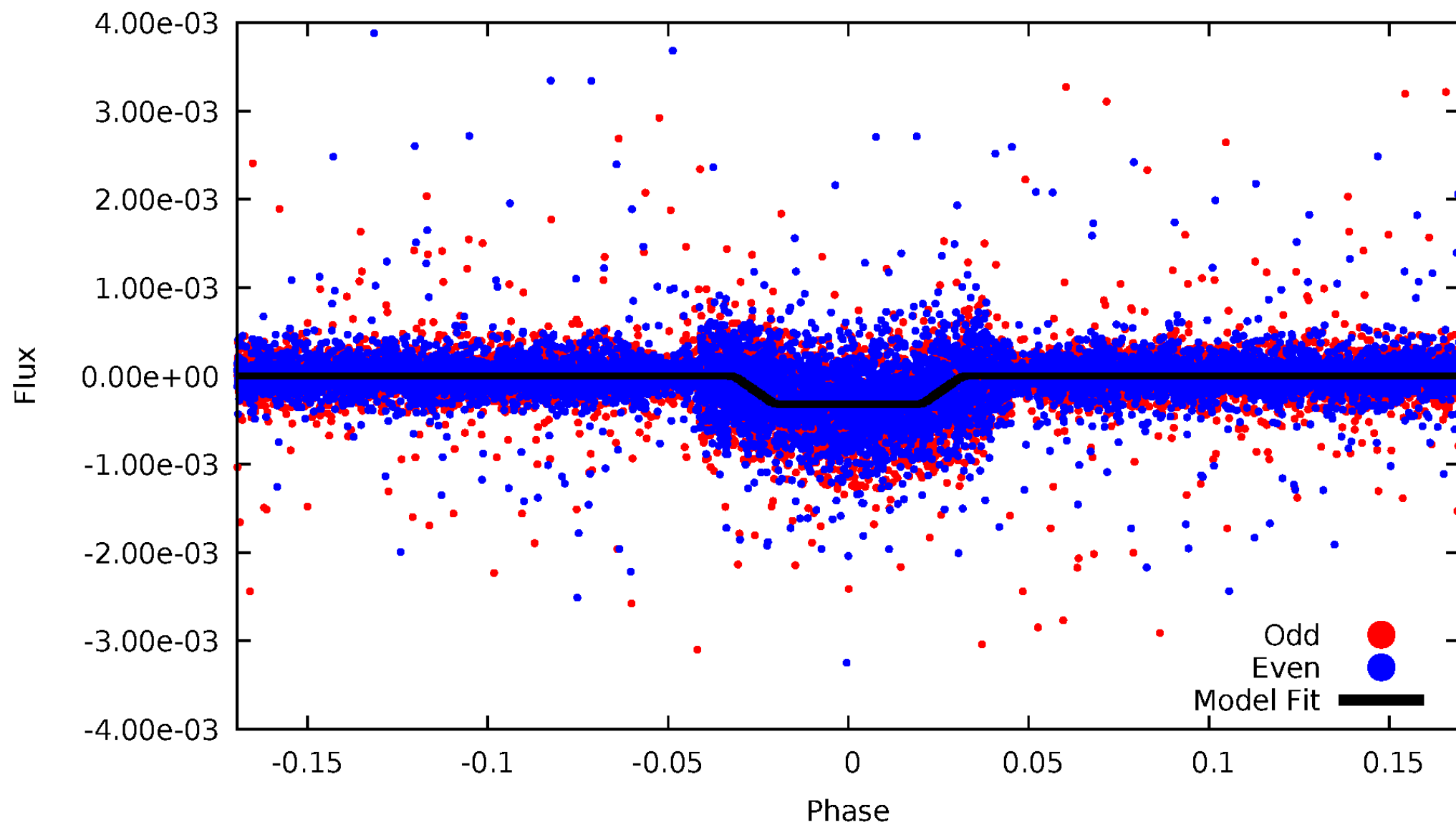
DV Odd/Even

TCE 005397166-01



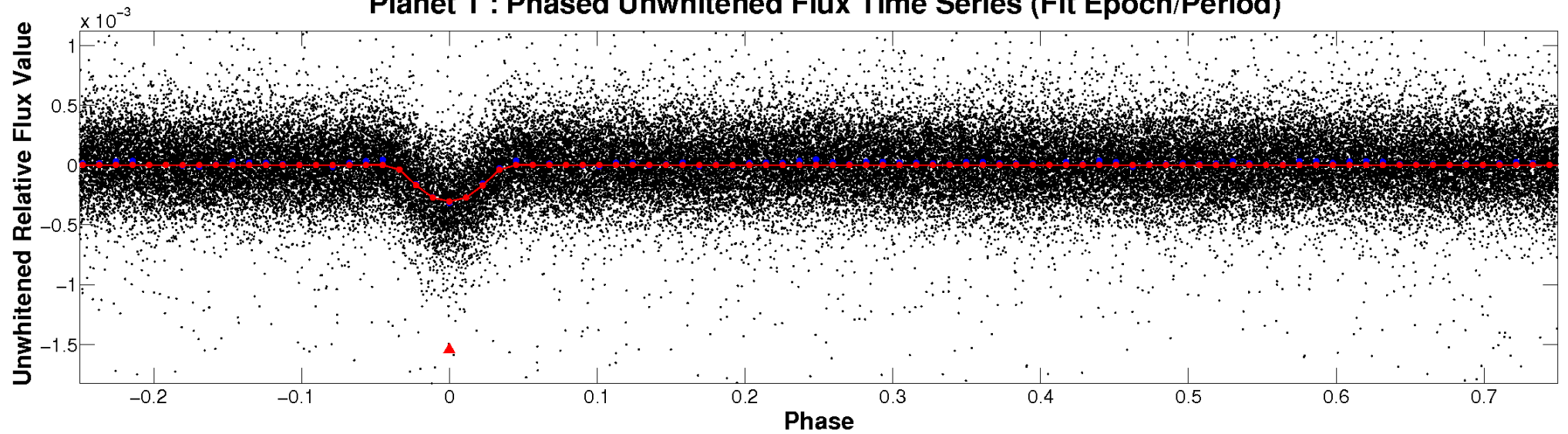
ALT Odd/Even

TCE 005397166-01

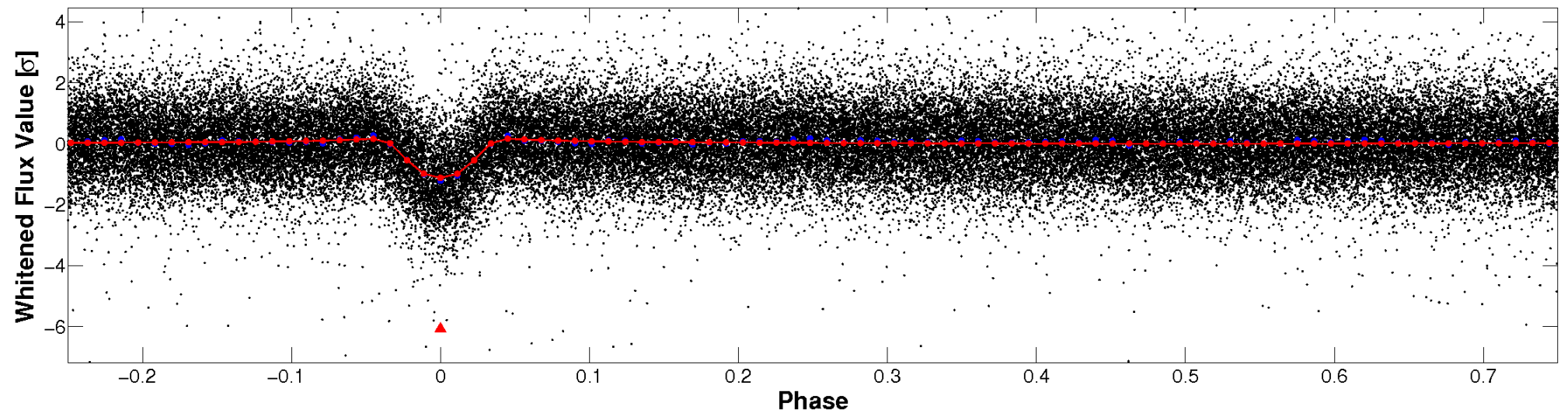


Non-Whitened Vs. Whitened Light Curve

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

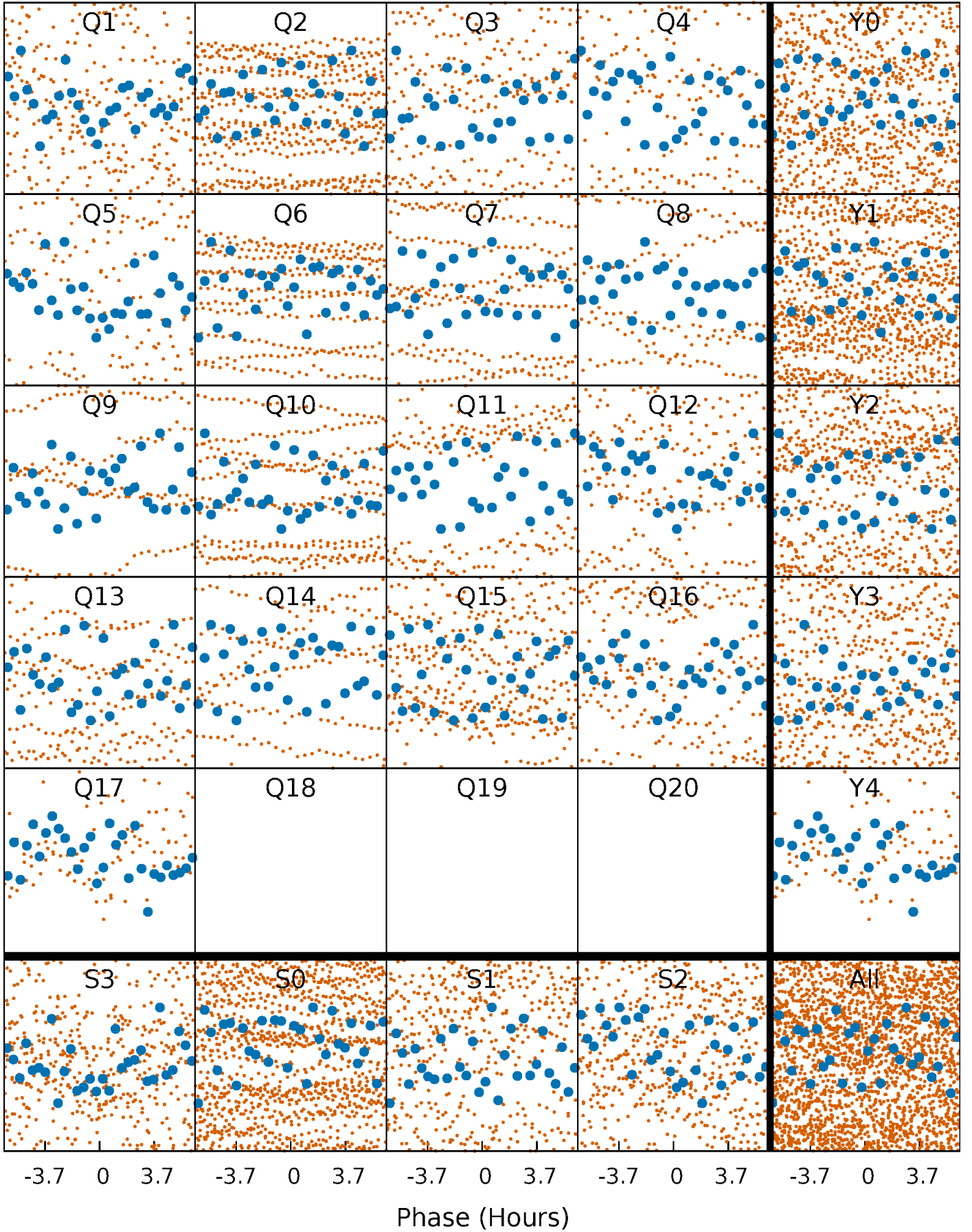


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



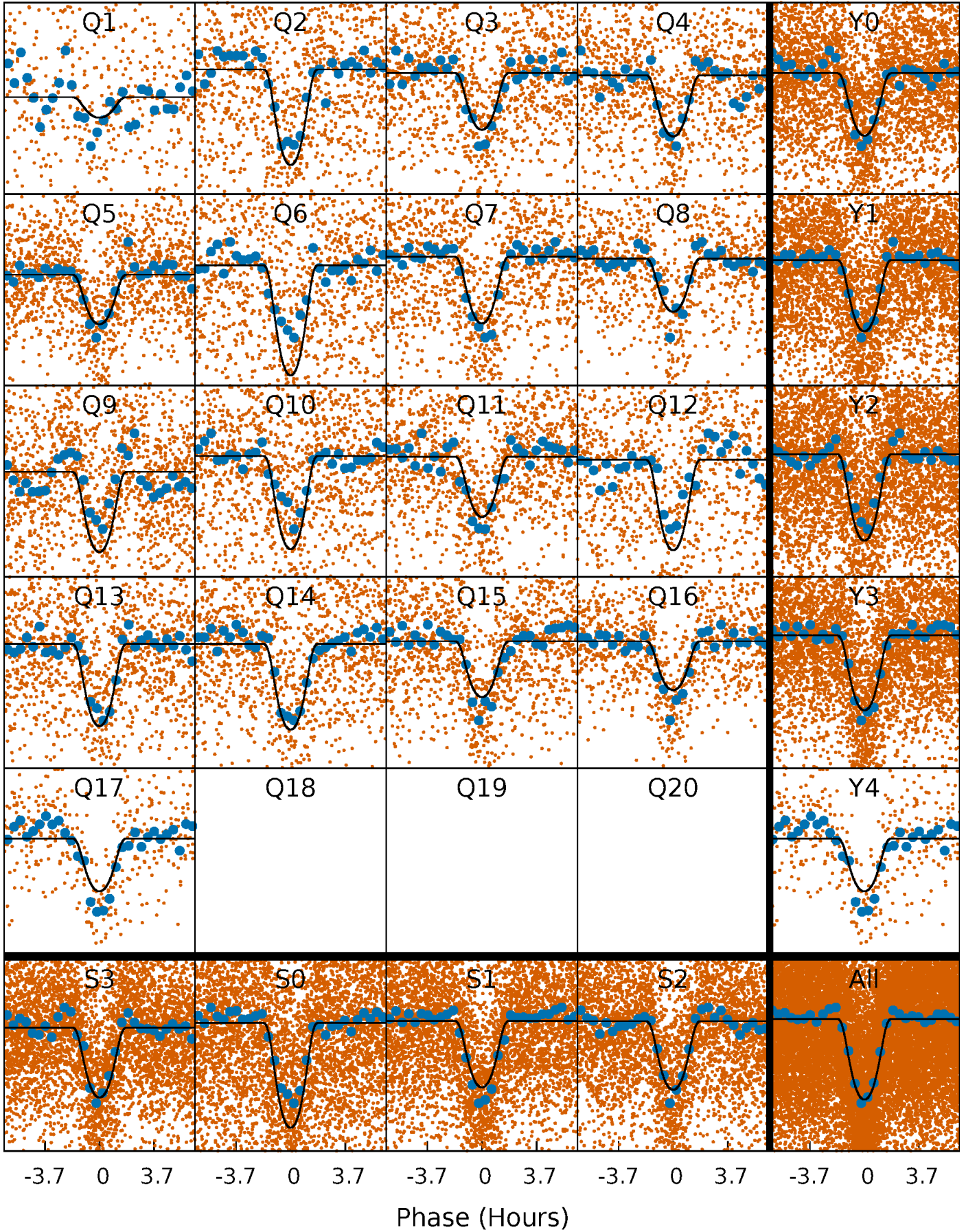
PDC Quarter-Phased Transit Curves

TCE 005397166-01 P= 1.811959 Days $T_0=132.281623$ (BKJD)



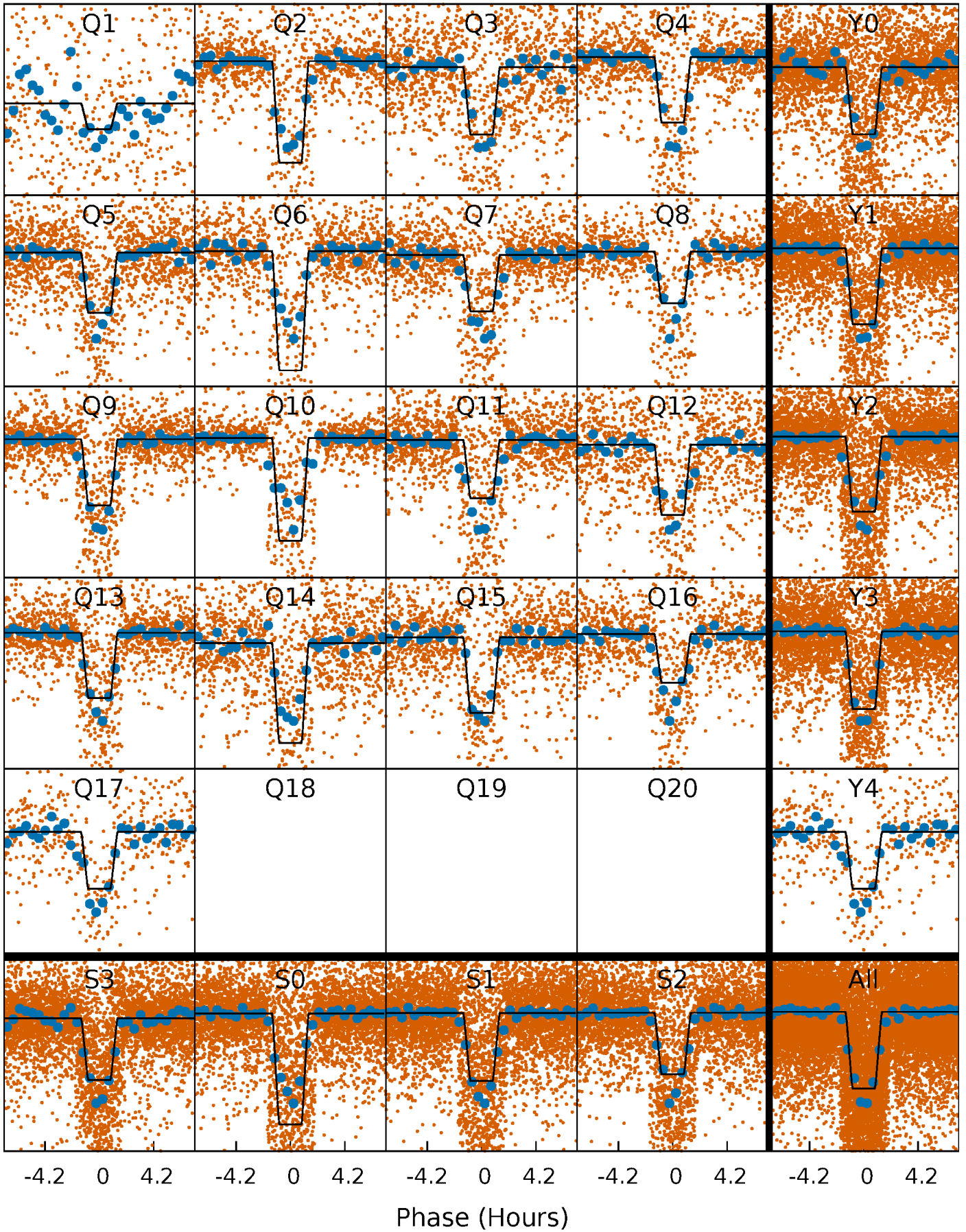
DV Quarter-Phased Transit Curves

TCE 005397166-01 P= 1.811959 Days $T_0=132.281623$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

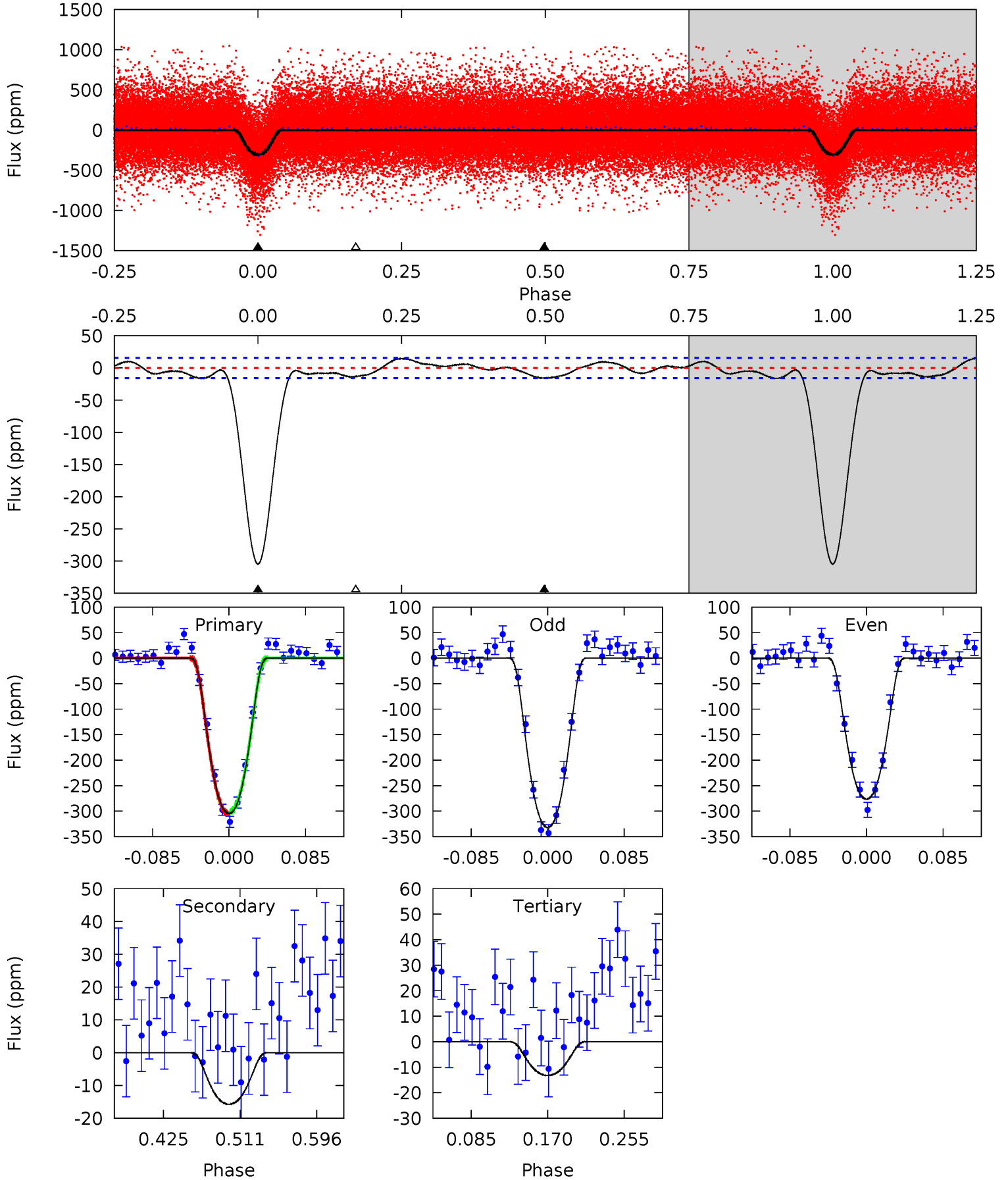
TCE 005397166-01 P= 1.811975 Days $T_0=132.273878$ (BKJD)



DV Model-Shift Uniqueness Test

005397166-01, P = 1.811959 Days, E = 130.469664 Days

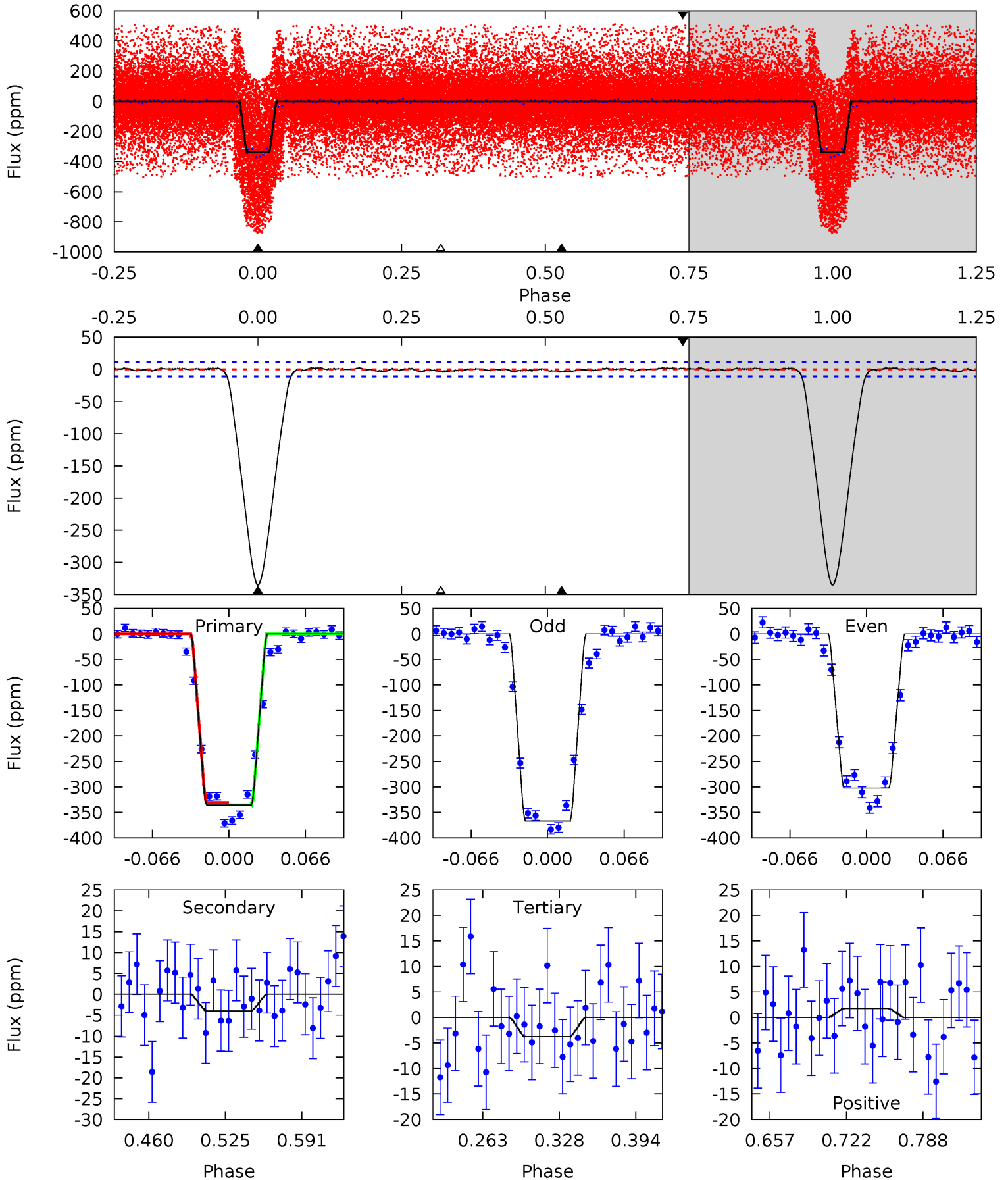
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.3	4.61	3.87	0	4.60	1.72	2.33	85.4	89.3	0.74	4.61	8.15	1.03	0.05	0.55



Alt Model-Shift Uniqueness Test

005397166-01, P = 1.811975 Days, E = 130.461903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
140.8	1.66	1.57	0.73	4.65	1.84	0.57	139.2	140.1	0.09	0.93	13.6	1.05	0.01	1.02



Stellar Parameters For KIC 005397166

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5904^{+212}_{-212}	$3.602^{+0.671}_{-0.158}$	$0.200^{+0.200}_{-0.300}$	$3.348^{+0.675}_{-2.161}$	$1.635^{+0.143}_{-0.572}$	$0.061^{+0.731}_{-0.023}$
	+4%/-4%	+19%/-4%	+100%/-150%	+20%/-65%	+9%/-35%	+1191%/-37%
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 005397166-01 / KOI 3856.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-16 ± 3	$7.84^{+1.64}_{-2.46}$	3523^{+325}_{-563}	-3024^{+5316}_{-305}	$0.164^{+0.167}_{-0.058}$
Alt.	-4 ± 2	$6.16^{+1.48}_{-1.83}$	3563^{+287}_{-579}	-3296^{+467}_{-215}	$0.063^{+0.078}_{-0.039}$

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

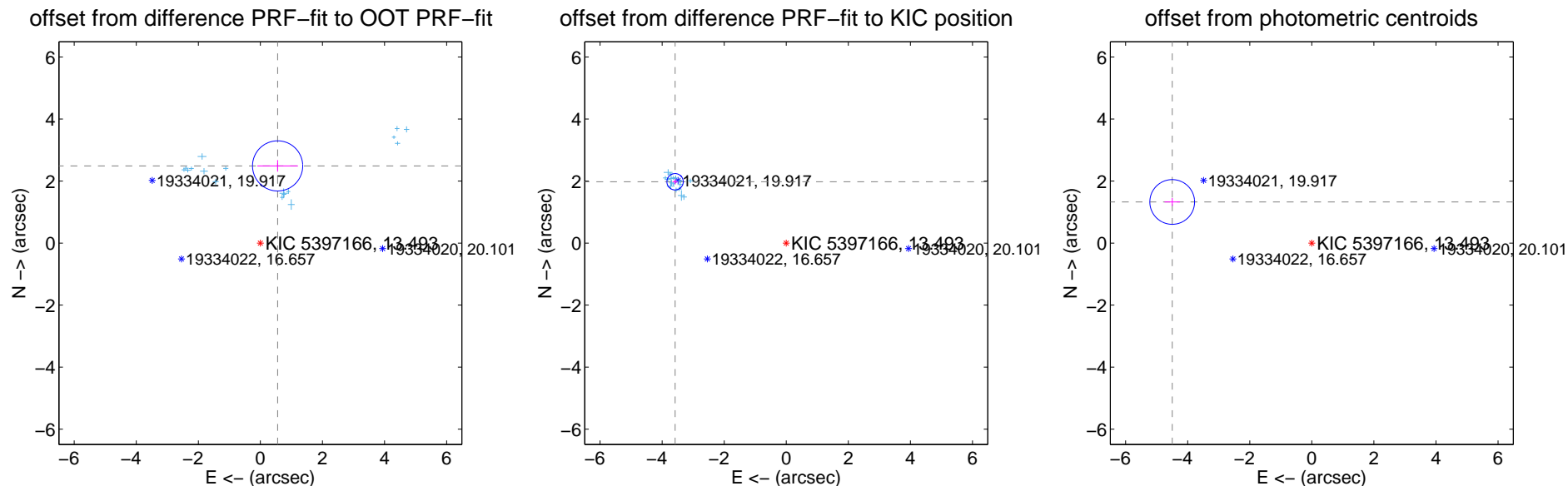
DV Centroid Data

Supplemental centroid analysis for 005397166-01. Kepler magnitude: 13.49. Transit SNR 53.14

There are 17 quarters with good PRF difference image offsets

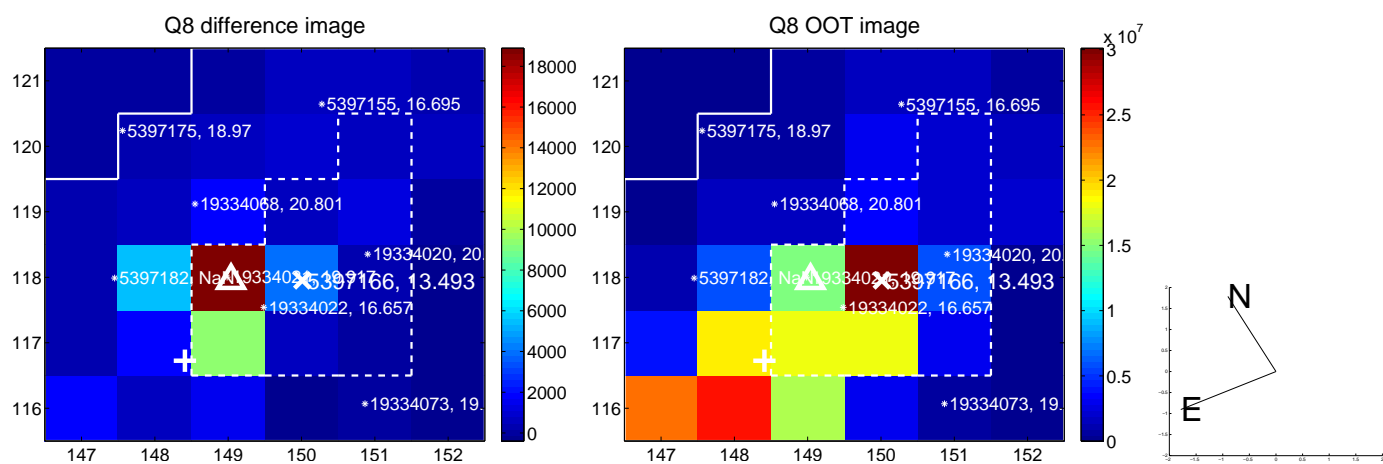
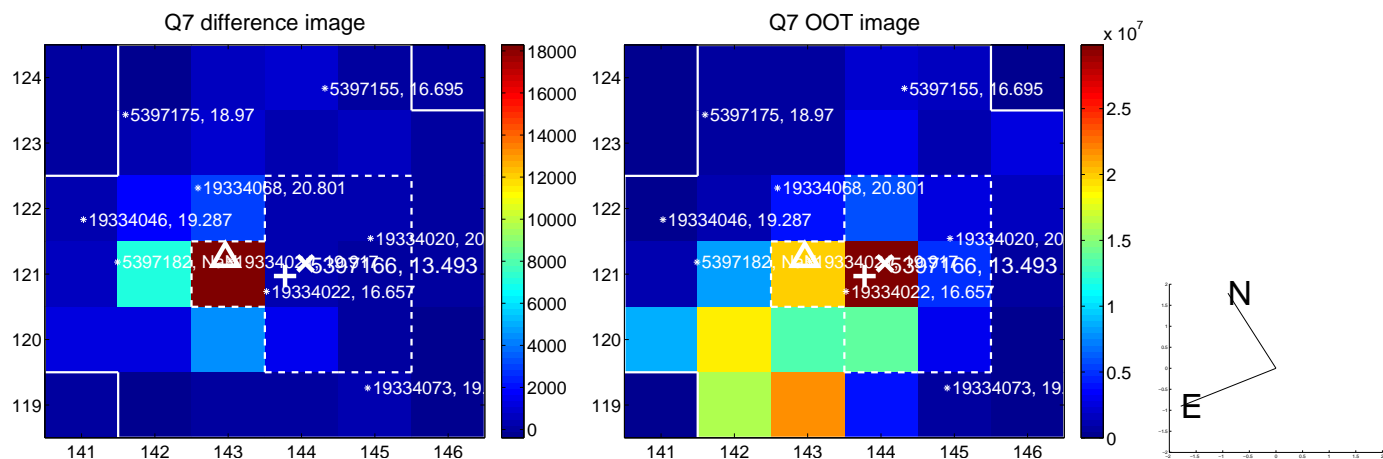
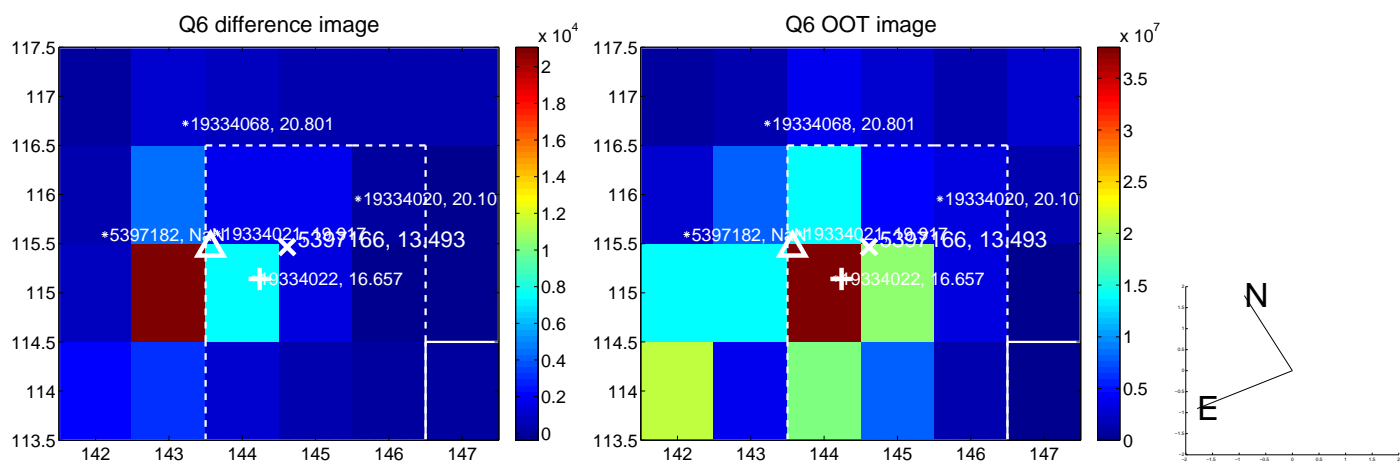
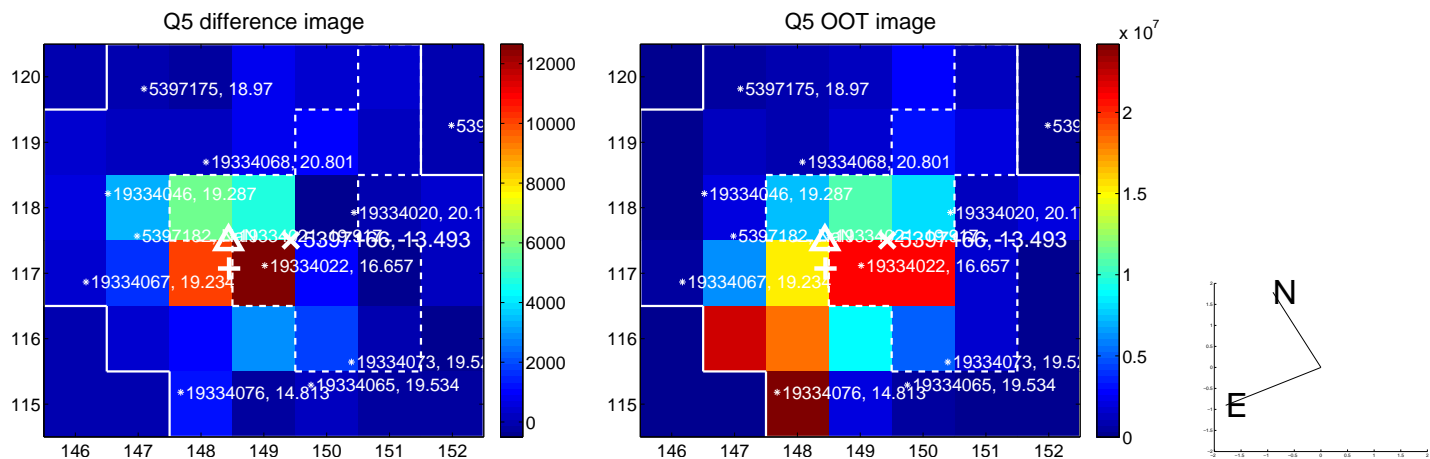
The OOT PRF centroid is offset from the target star catalog position by about 4.49 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.549 ± 0.270	9.46	-0.554 ± 0.654	2.489 ± 0.185
PRF-fit source offset from KIC position	4.093 ± 0.088	46.56	3.583 ± 0.081	1.978 ± 0.084
photometric centroid source offset	4.69 ± 0.24	19.52	4.50 ± 0.25	1.33 ± 0.13

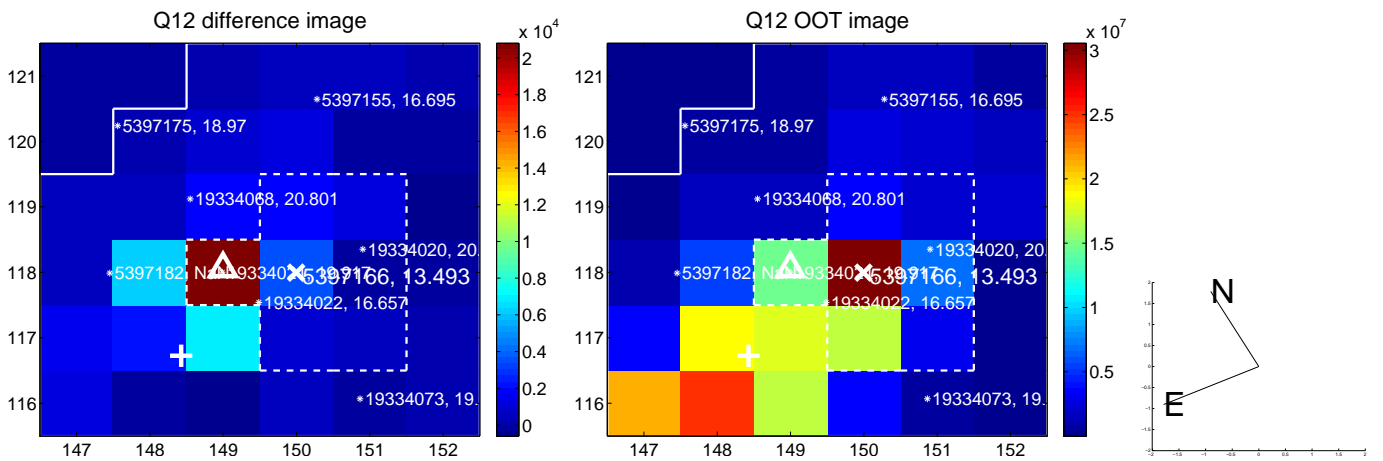
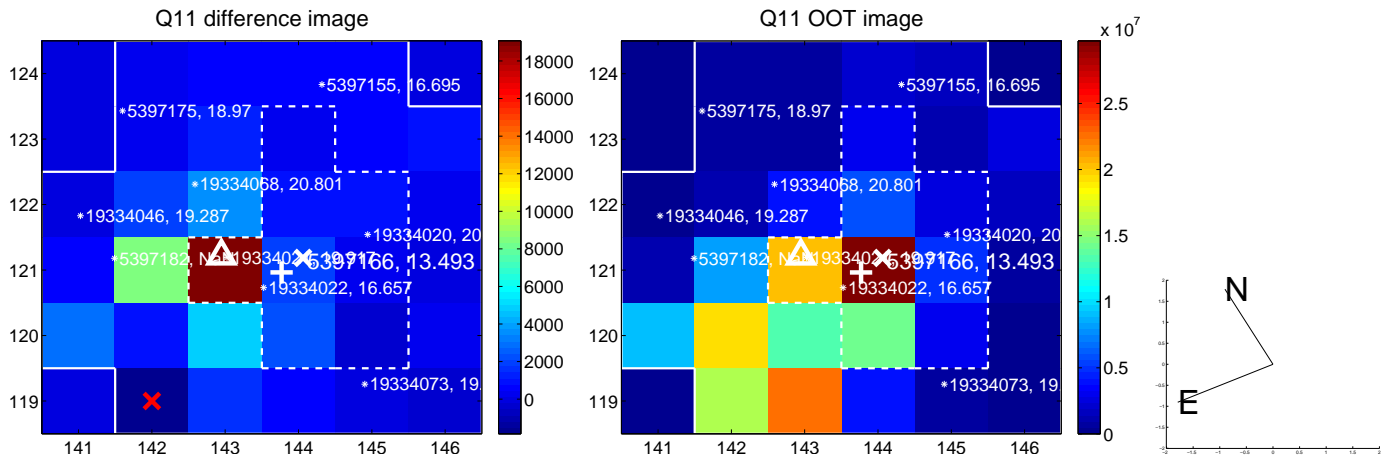
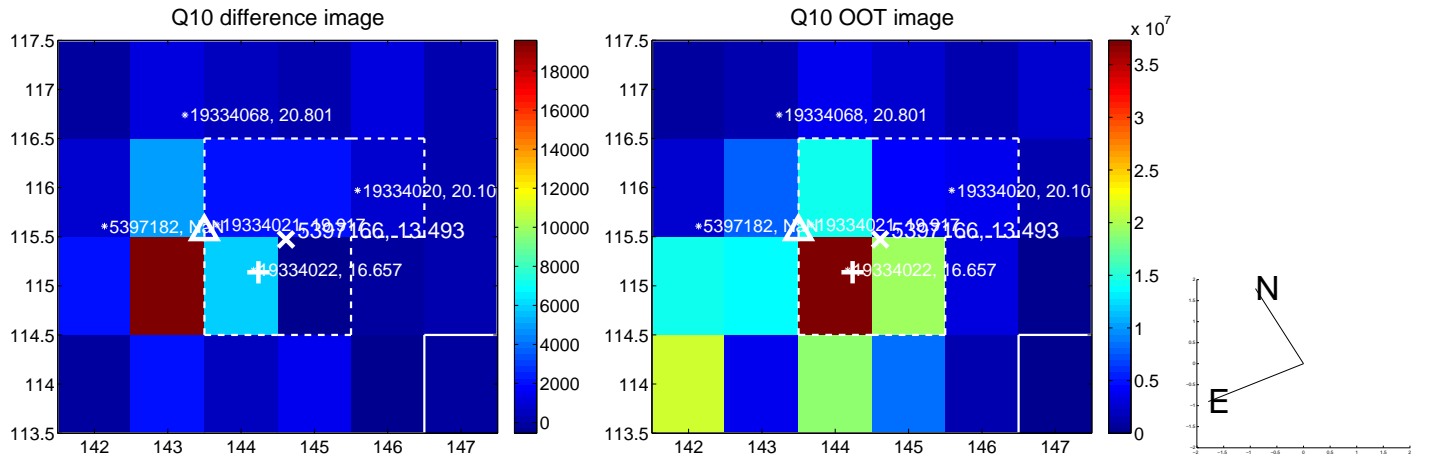
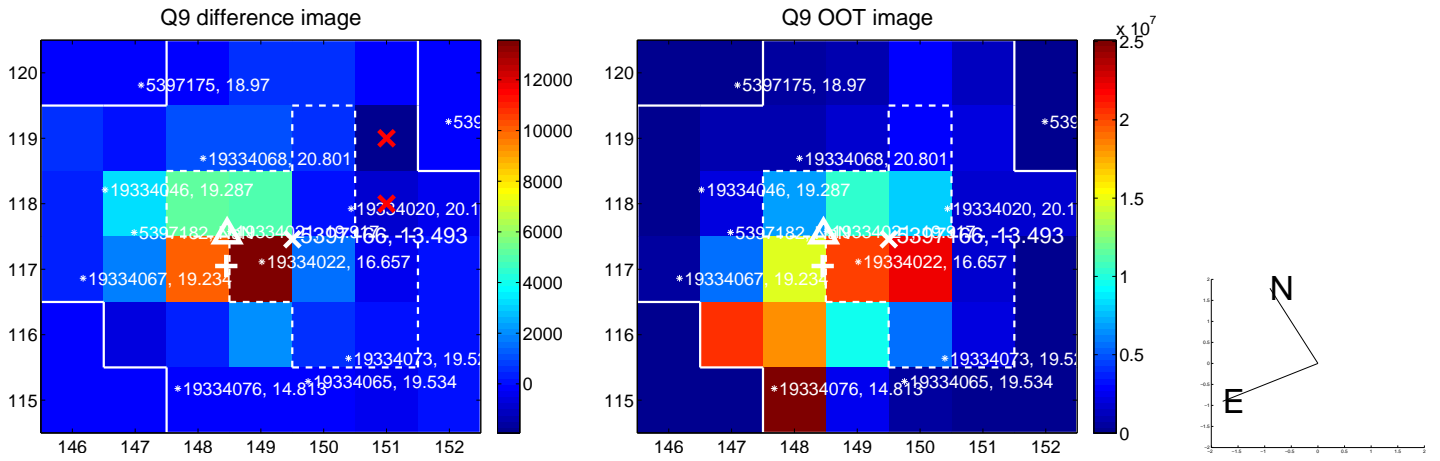


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

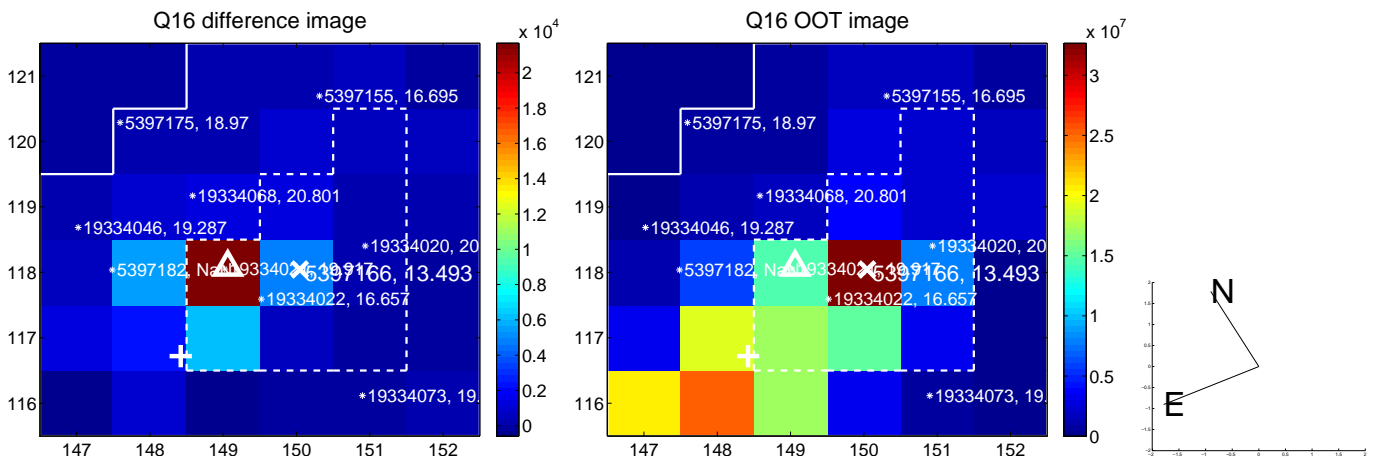
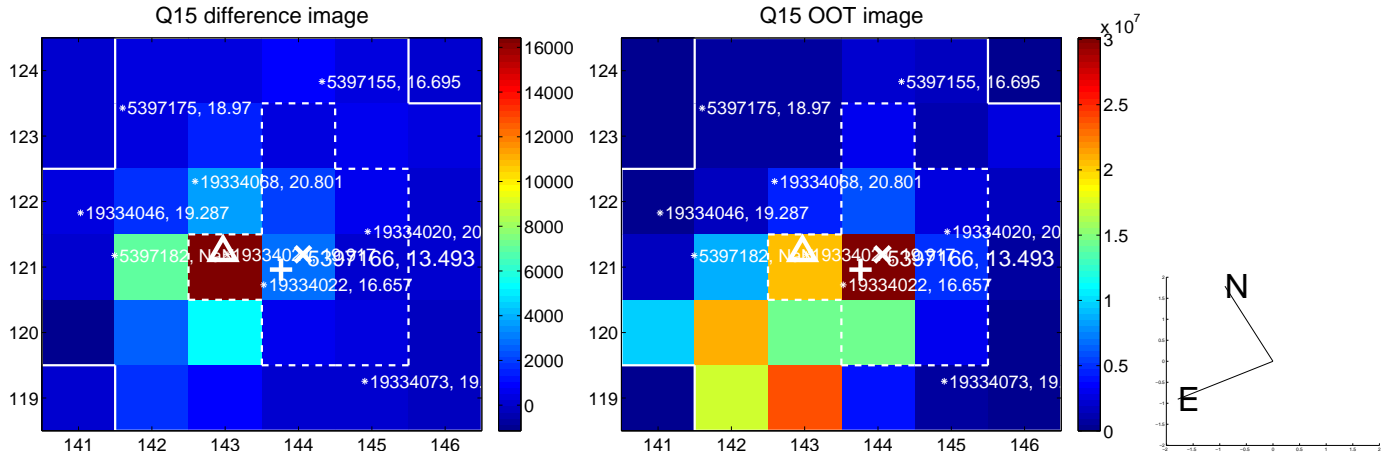
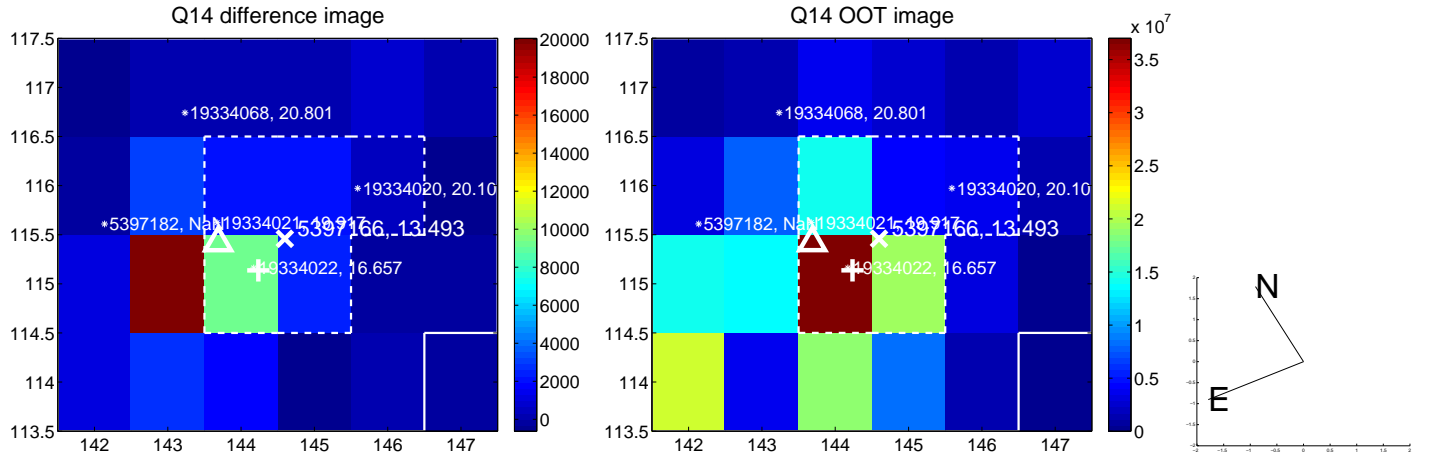
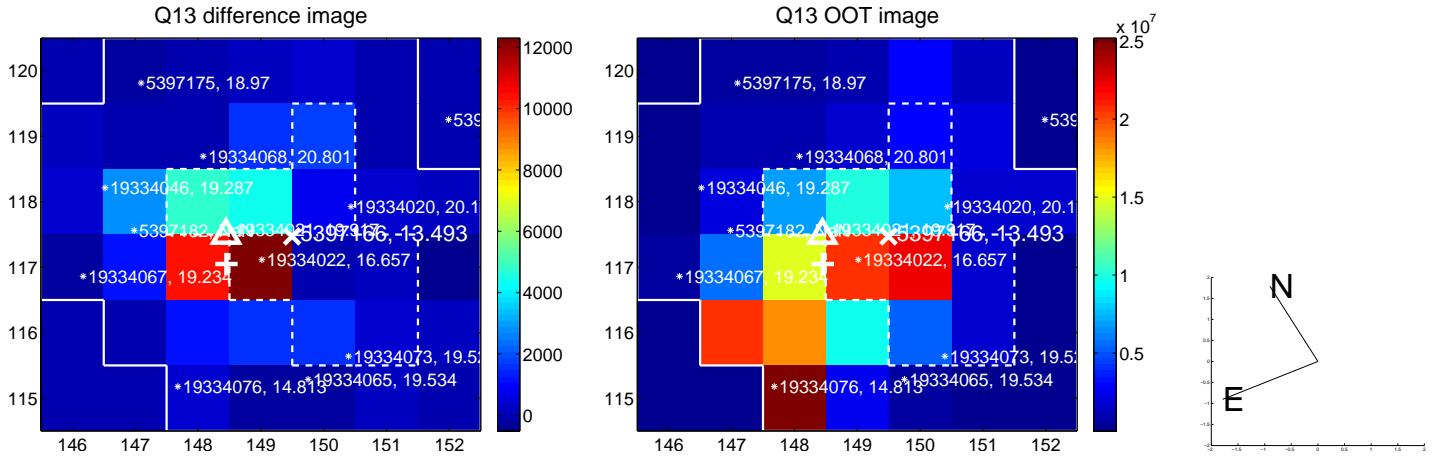
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



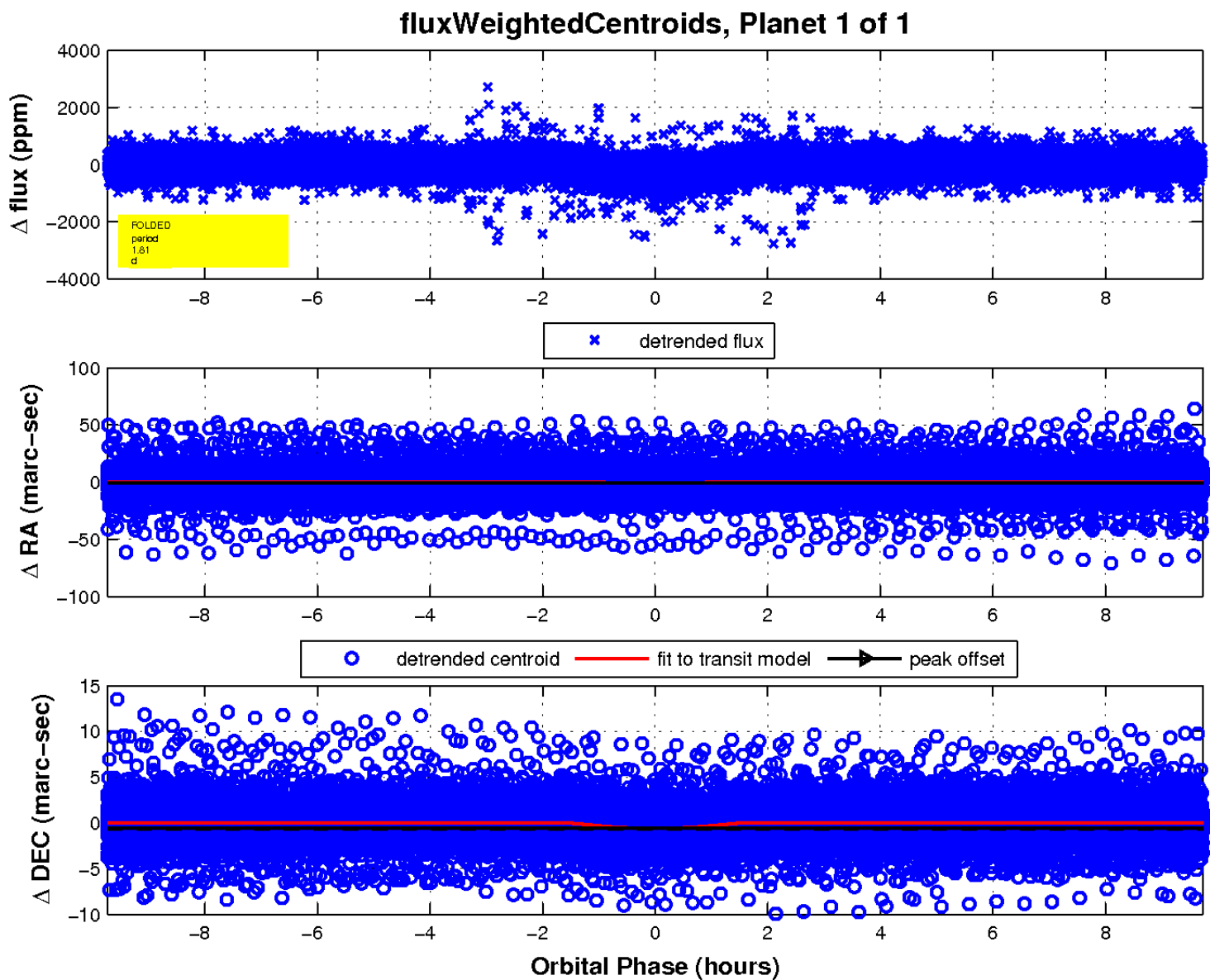
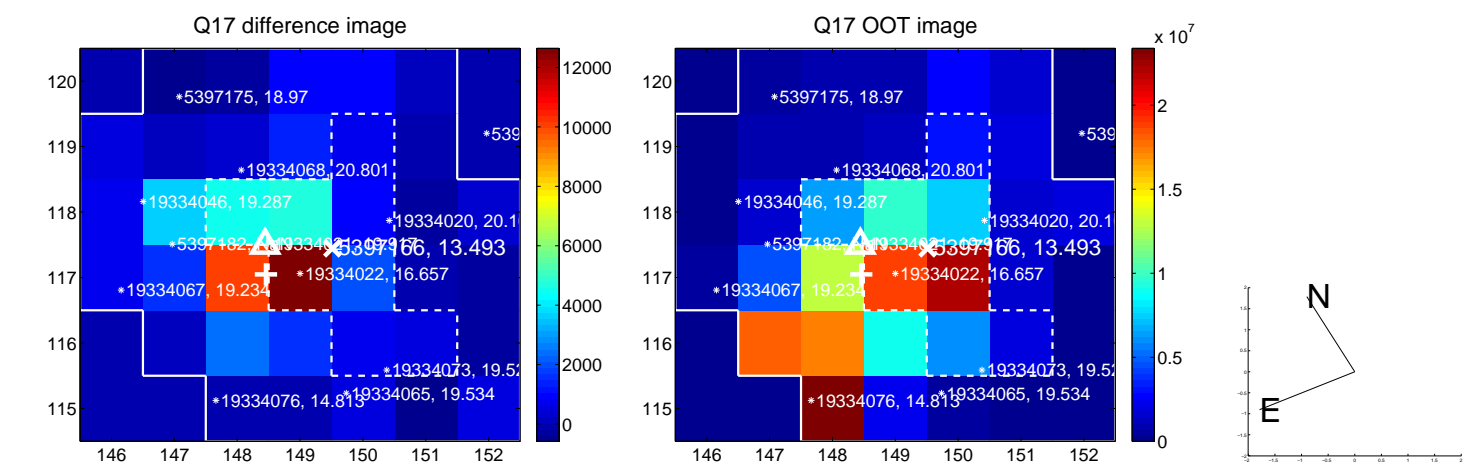
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

