

KIC 006705142

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})
006705142-01	OBS	1758.01	5.597277	131.867054	1464.8	1.927	33.8	40.7	0.86	5610	3.70	176.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006705142-01	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.

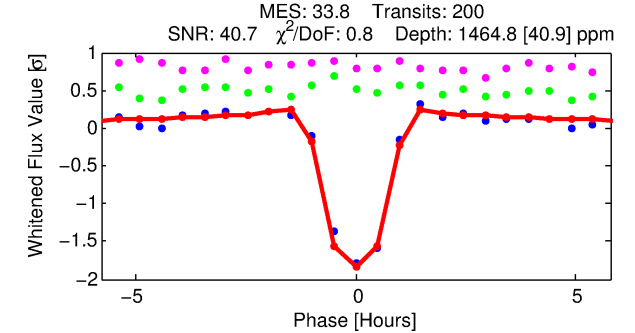
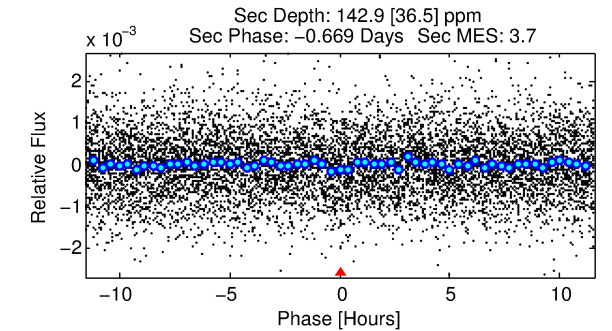
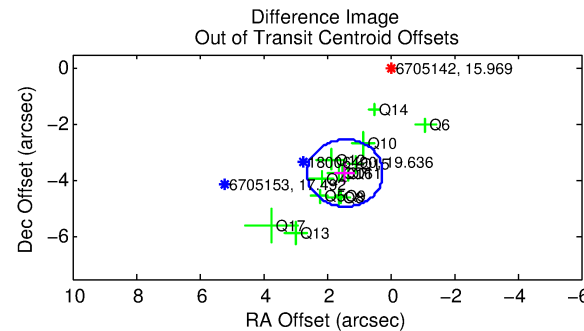
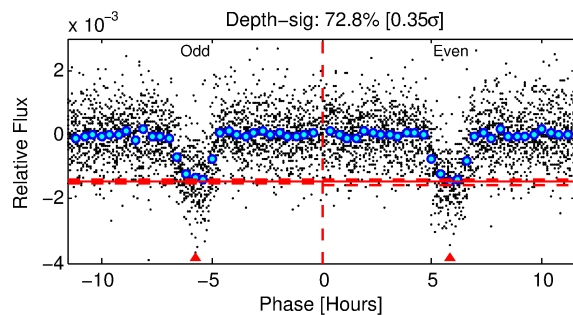
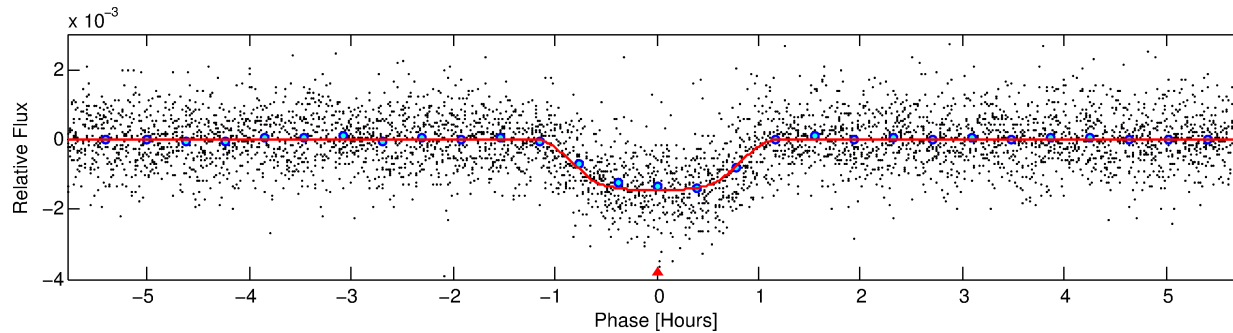
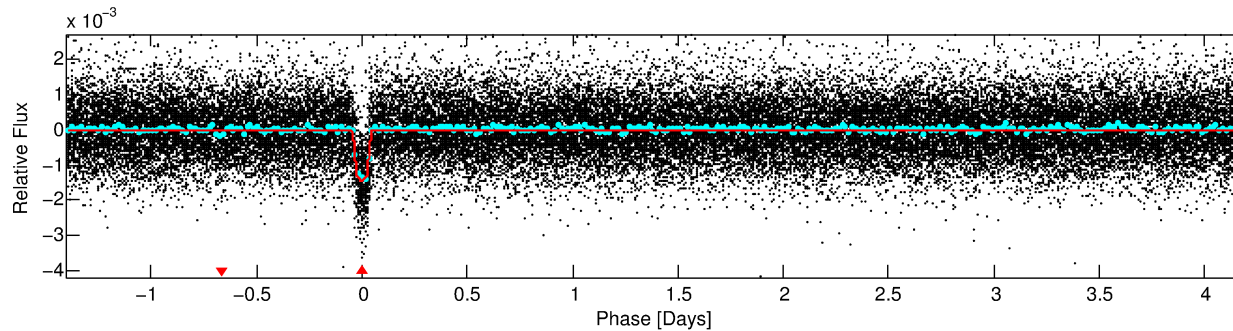
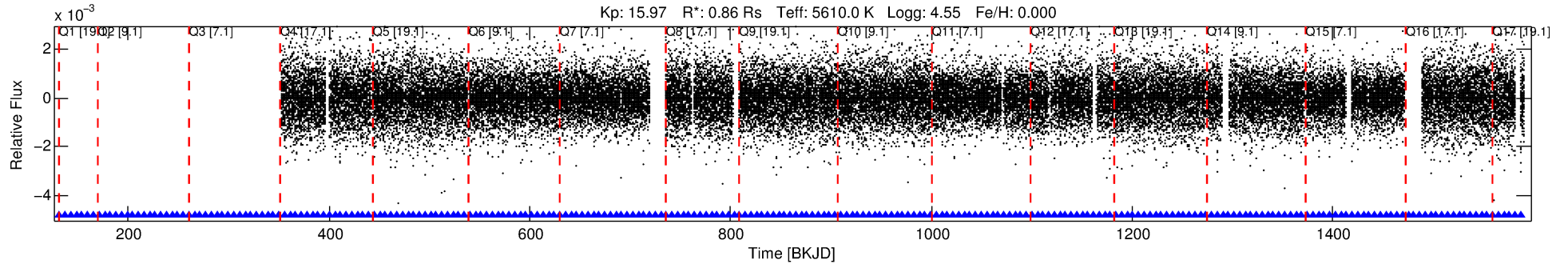
Ephemeris Match Information For 006705142-01

No Significant Match Found

DV One-Page Summary

KIC: 6705142 Candidate: 1 of 1 Period: 5.597 d
KOI: K01758.01 Corr: 0.964

Kp: 15.97 R*: 0.86 Rs Teff: 5610.0 K Logg: 4.55 Fe/H: 0.000



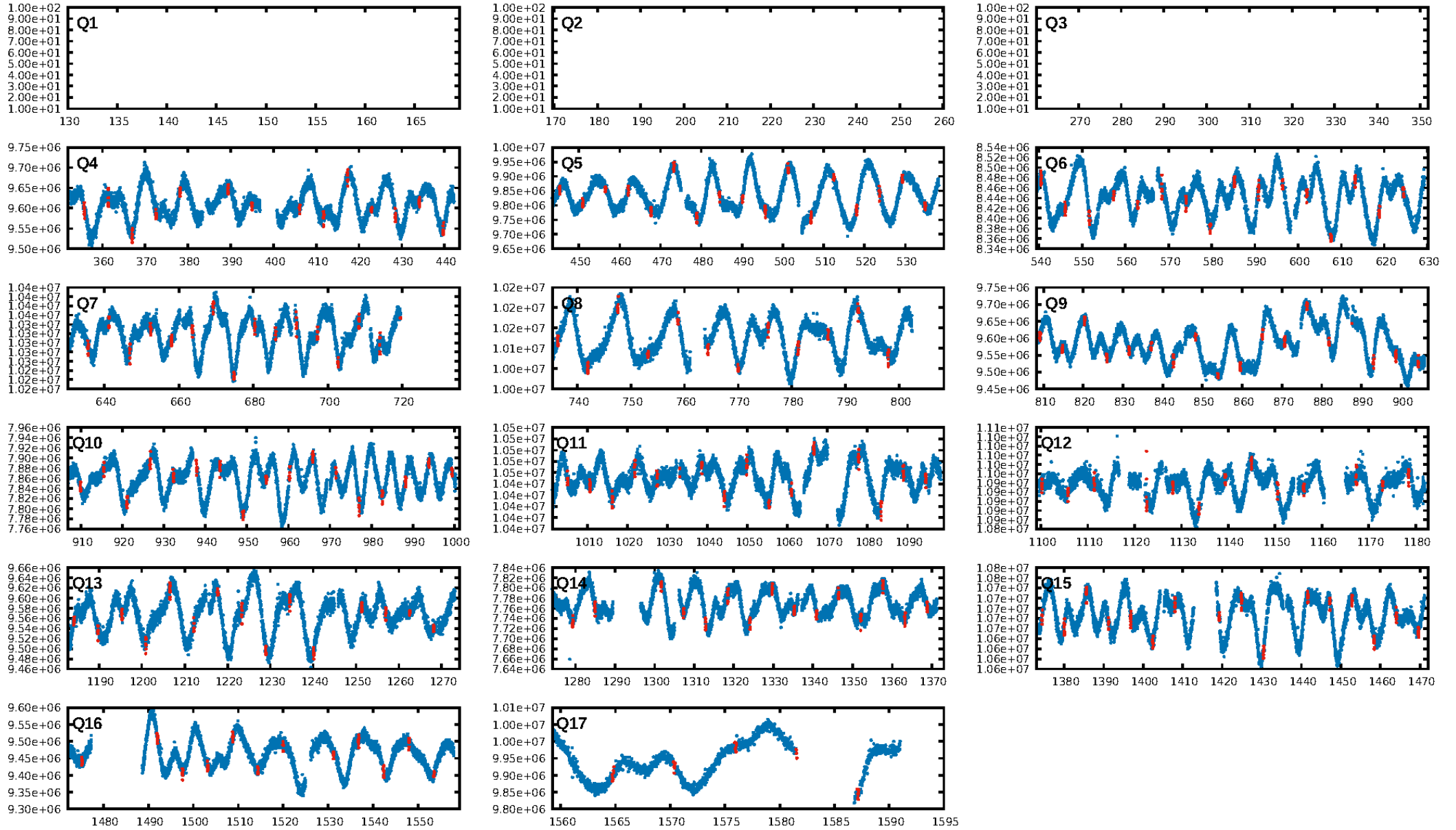
DV Fit Results:

Period = 5.59728 [0.00001] d
Epoch = 131.8671 [0.0010] BKJD
Rp/R* = 0.0395 [0.0061]
a/R* = 14.29 [9.15]
b = 0.82 [0.27]
Seff = 176.92 [52.19]
Teq = 930 [69] K
Rp = 3.70 [0.97] Re
a = 0.0608 [0.0108] AU
Ag = 21.24 [10.15] [1.99σ]
Teff = 3087 [328] K [6.44σ]

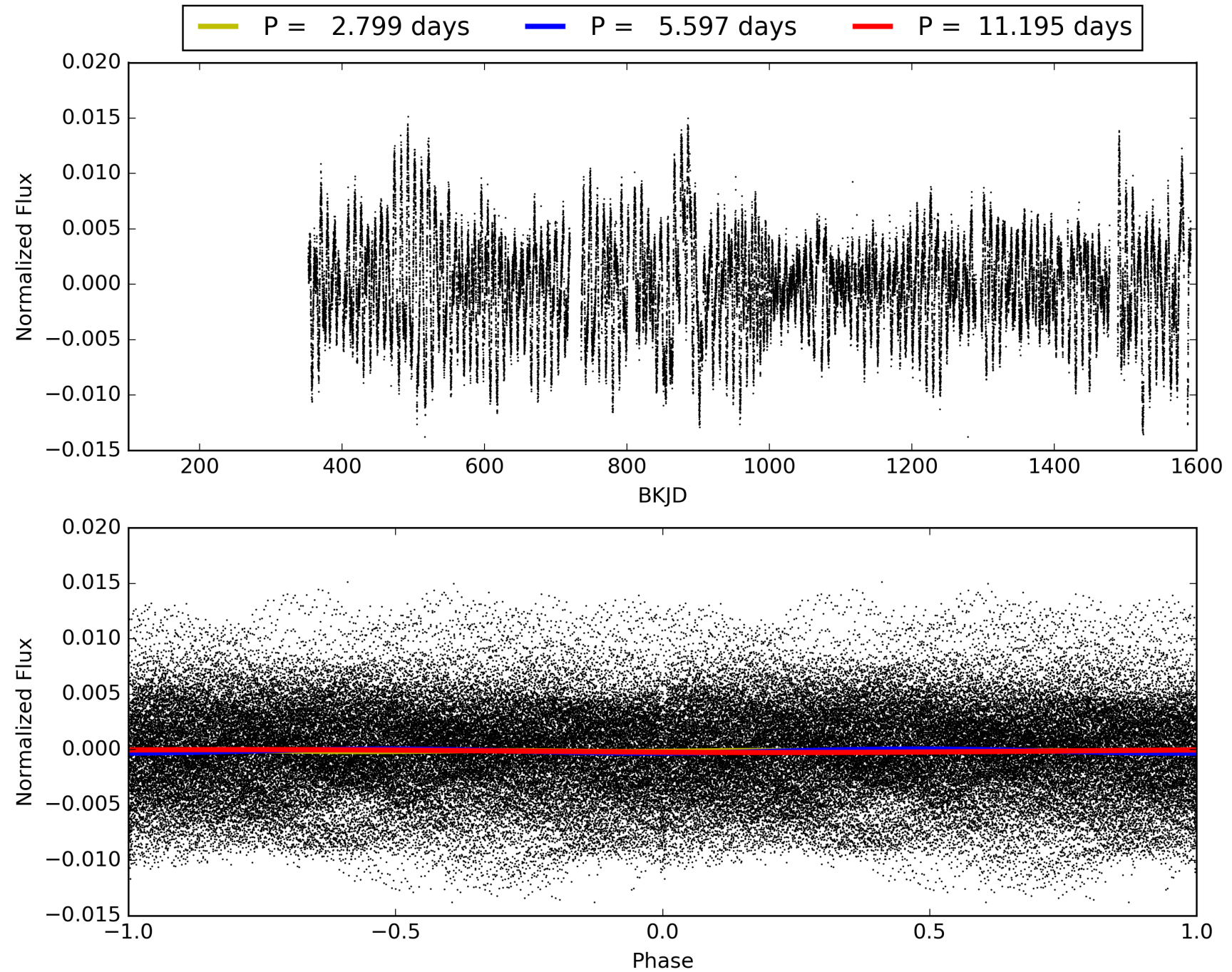
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.50e-242
RollingBand-fgt: 1.00 [195/195]
GhostDiagnostic-chr: 6.108
Centroid-sig: 0.0%
Centroid-so: 1.594 arcsec [15.29σ]
OotOffset-rm: 3.995 arcsec [10.05σ]
KicOffset-rm: 0.143 arcsec [0.51σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 006705142-01, PDC Light Curves

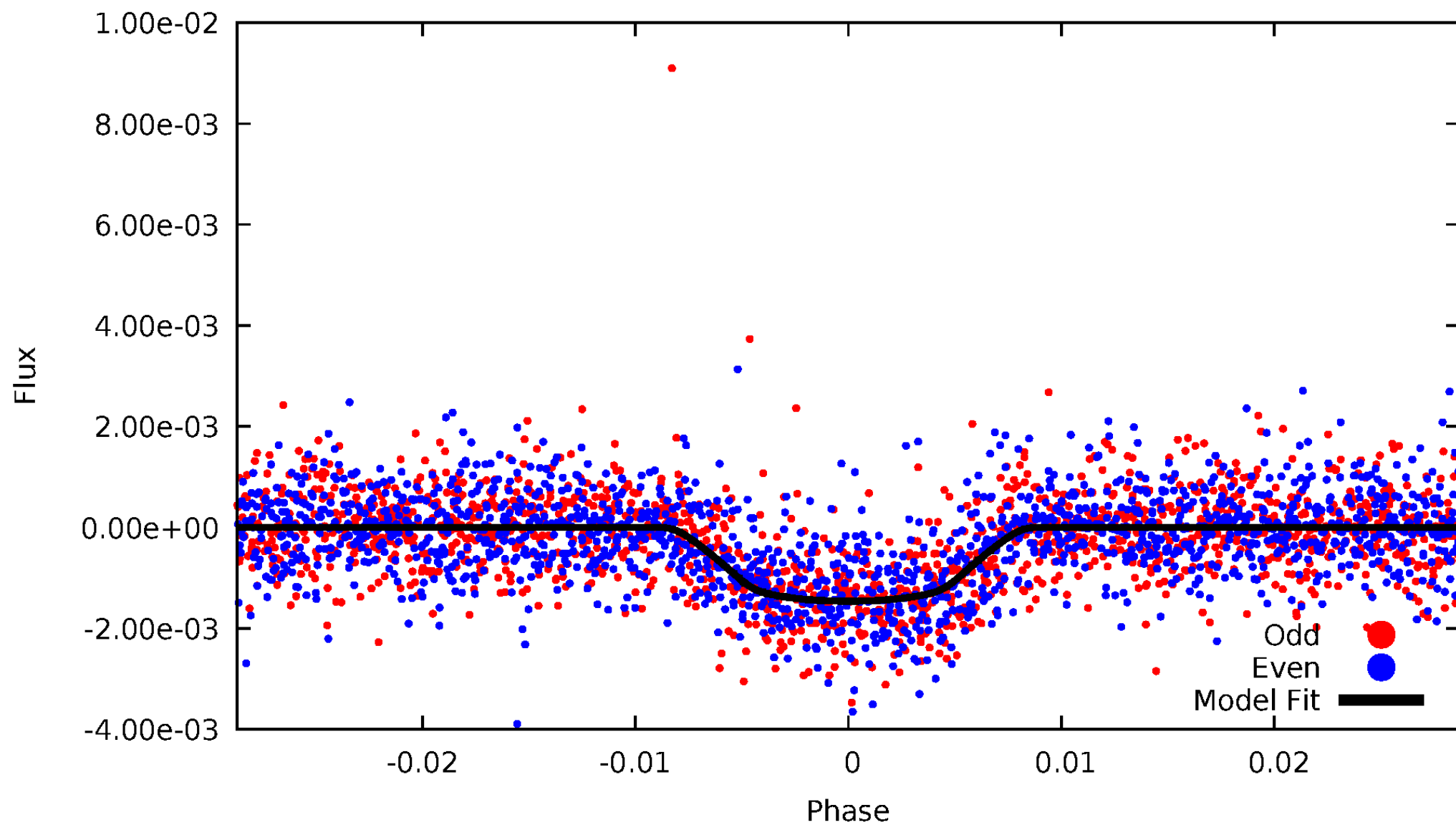


TCE 006705142-01



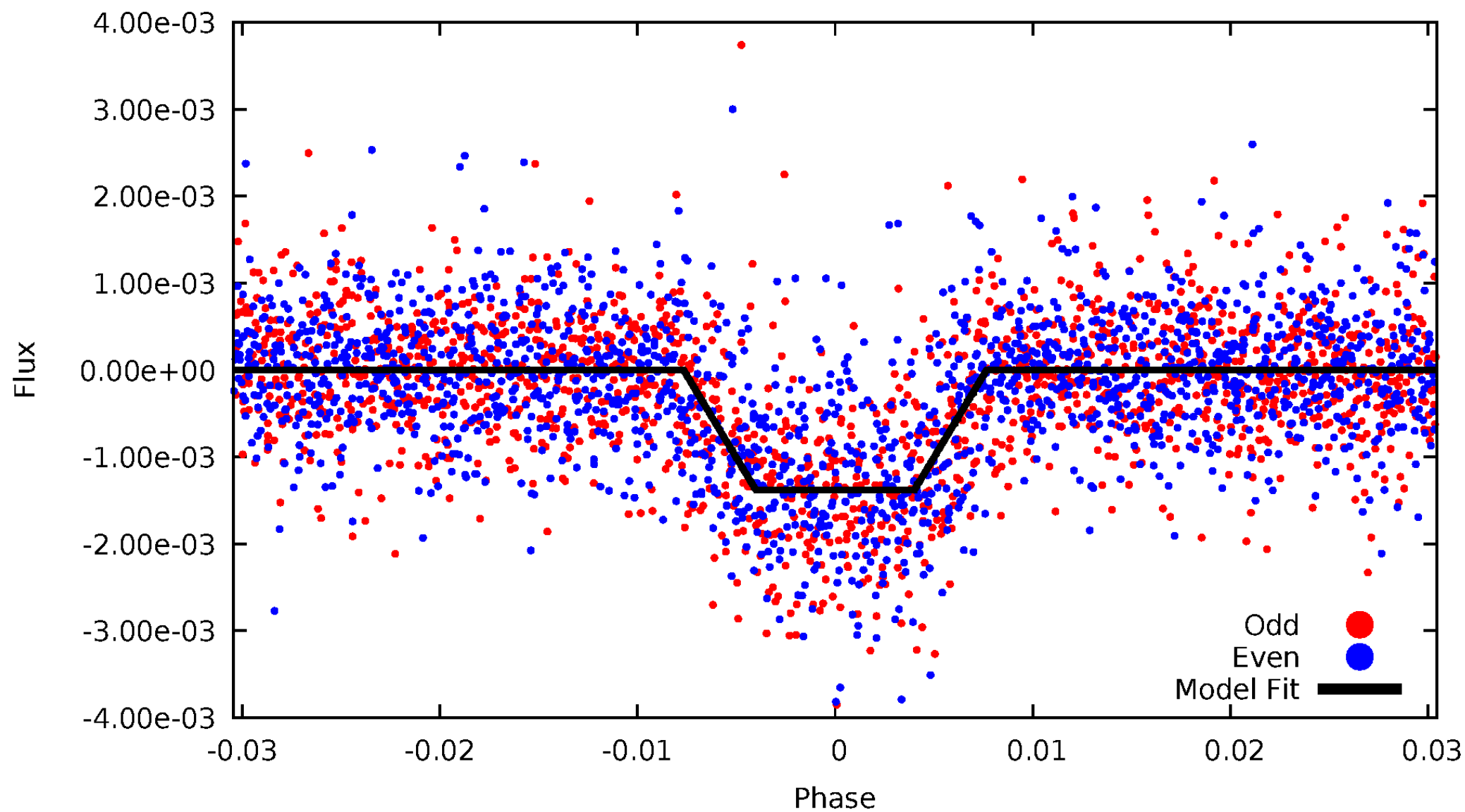
DV Odd/Even

TCE 006705142-01



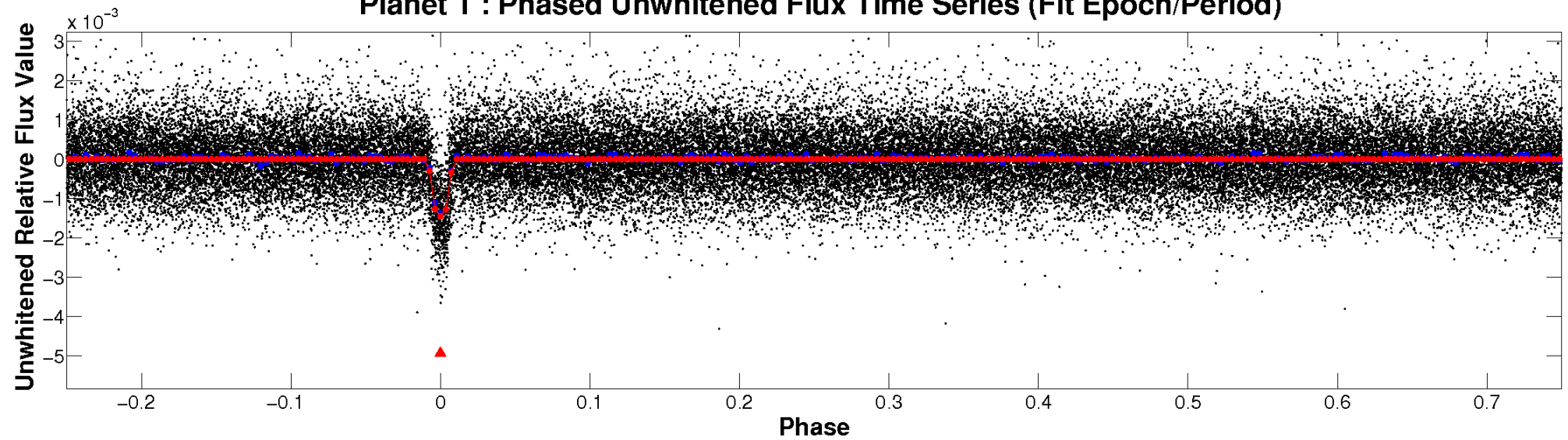
ALT Odd/Even

TCE 006705142-01

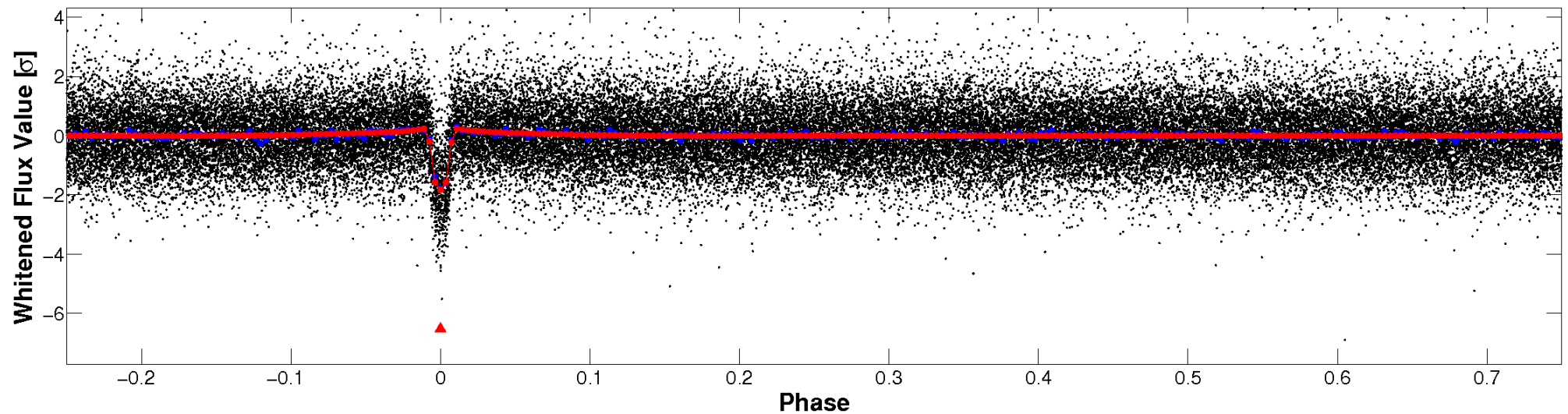


Non-Whitened Vs. Whitened Light Curve

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

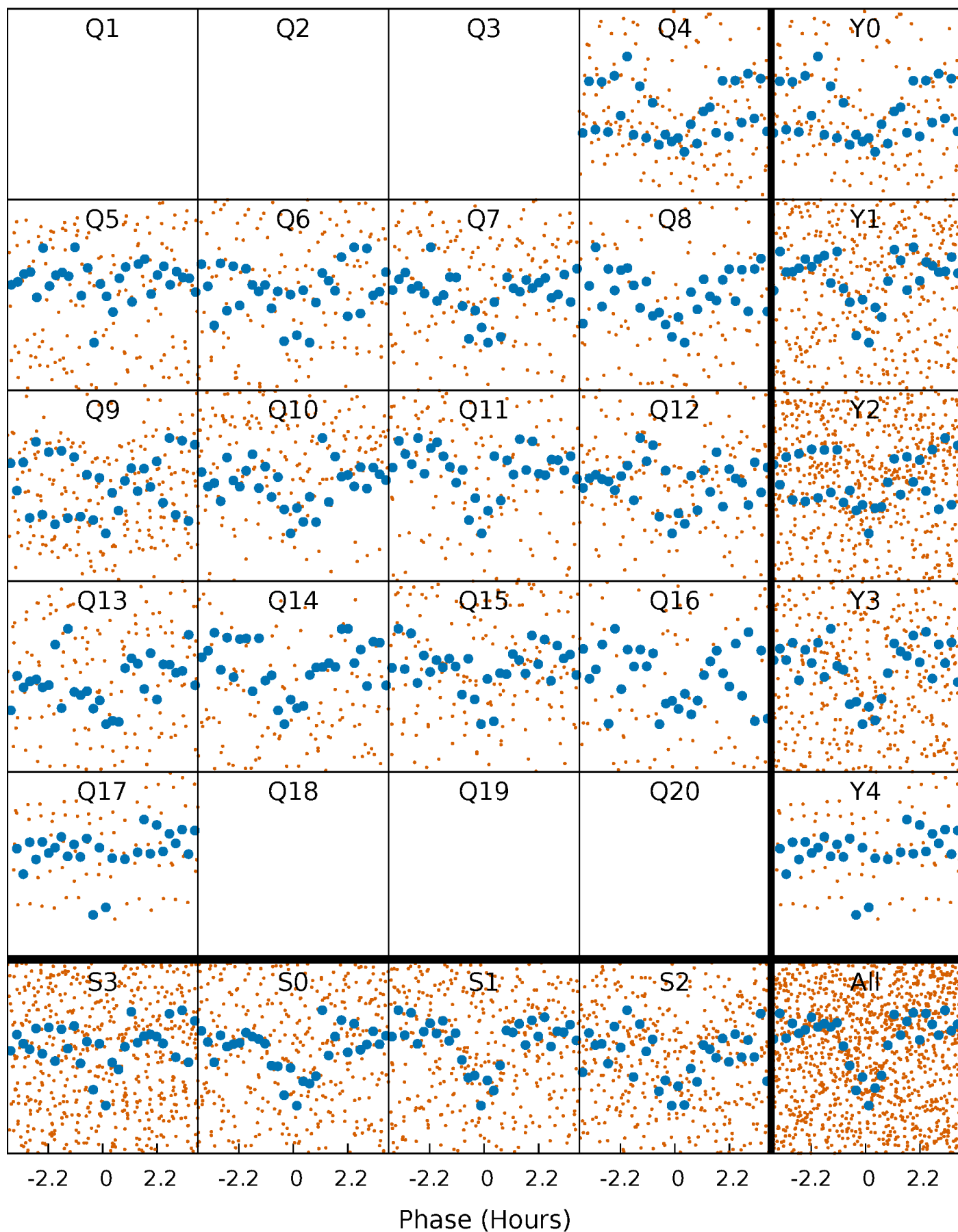


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



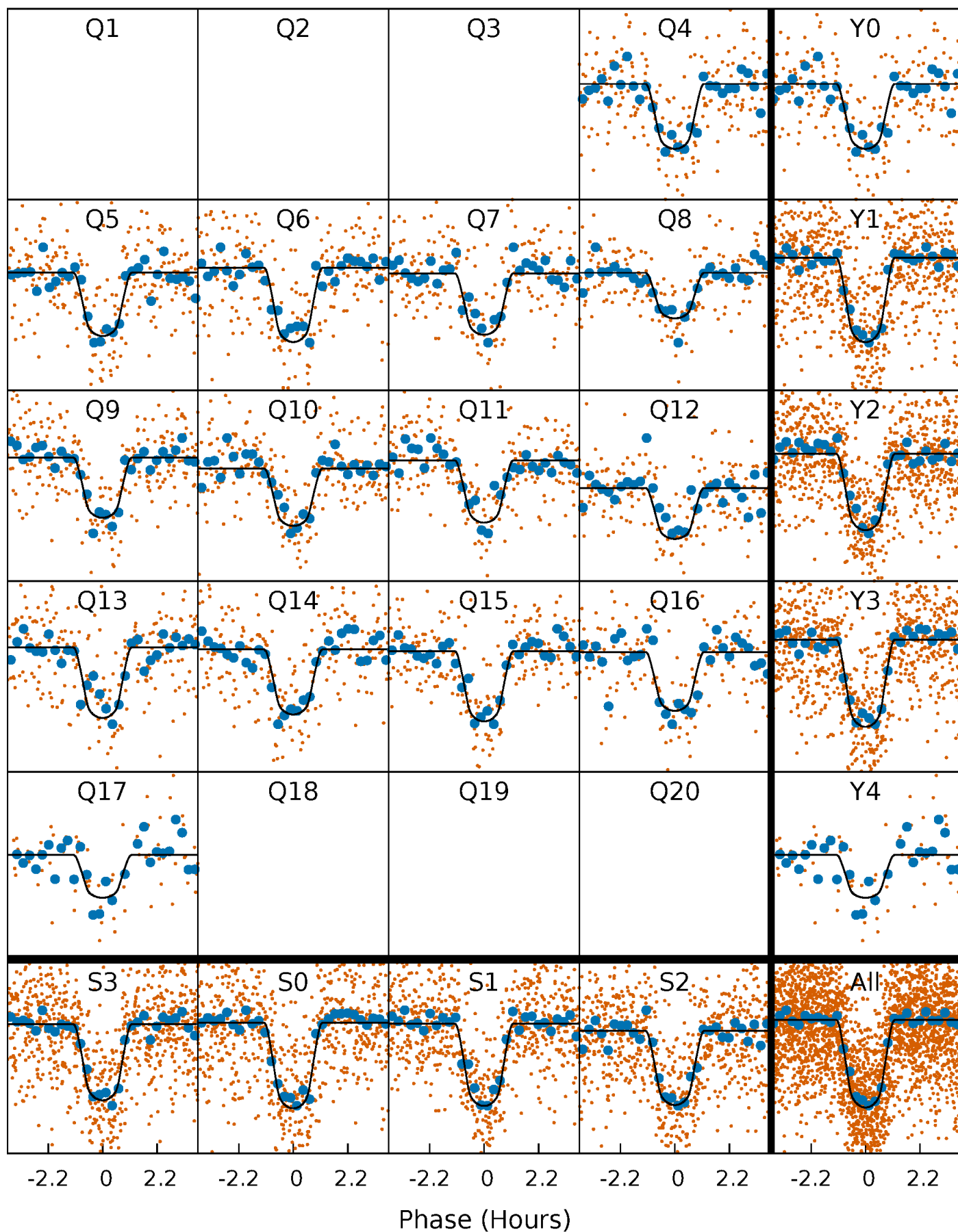
PDC Quarter-Phased Transit Curves

TCE 006705142-01 P= 5.597277 Days $T_0=131.867054$ (BKJD)



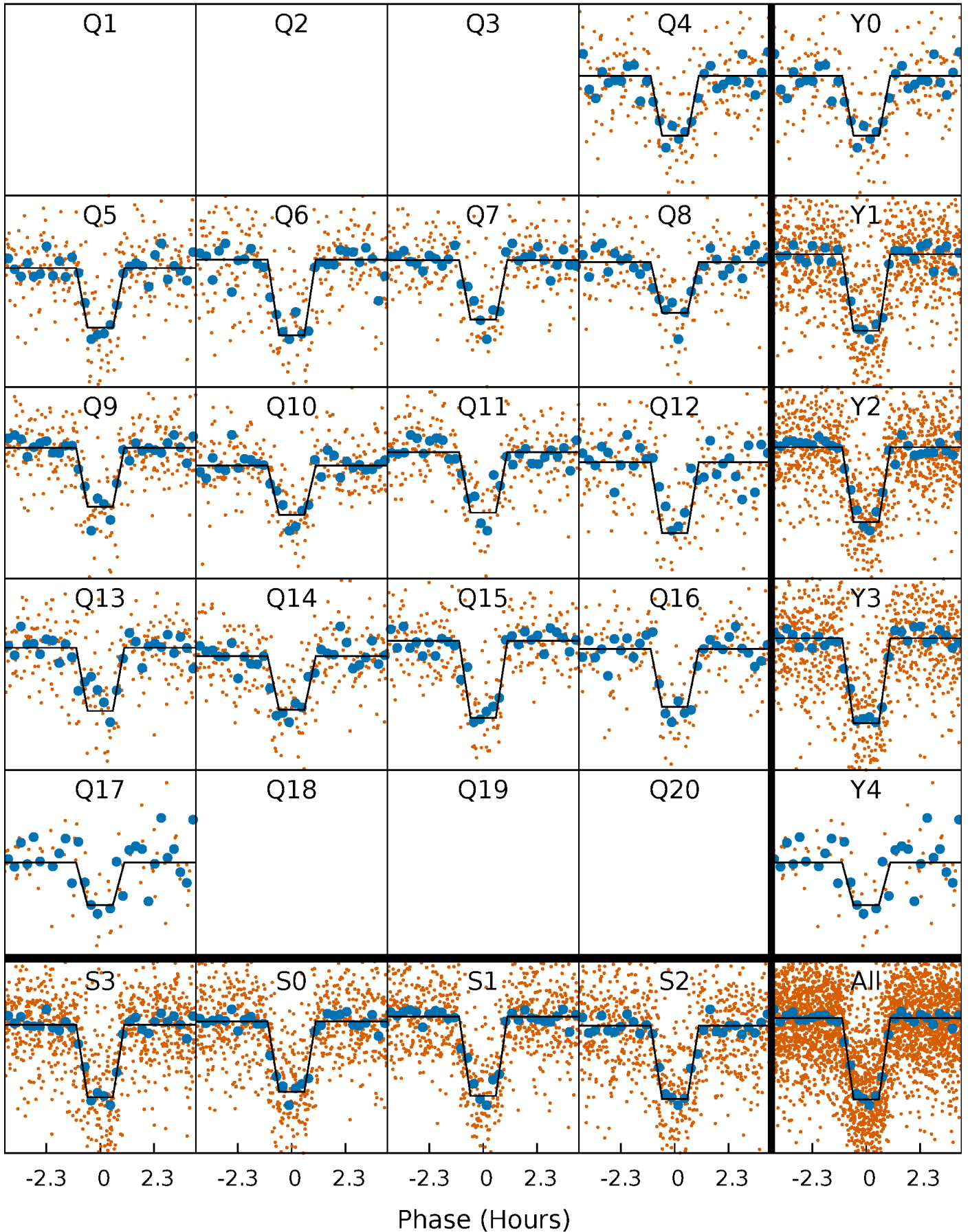
DV Quarter-Phased Transit Curves

TCE 006705142-01 P= 5.597277 Days $T_0=131.867054$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

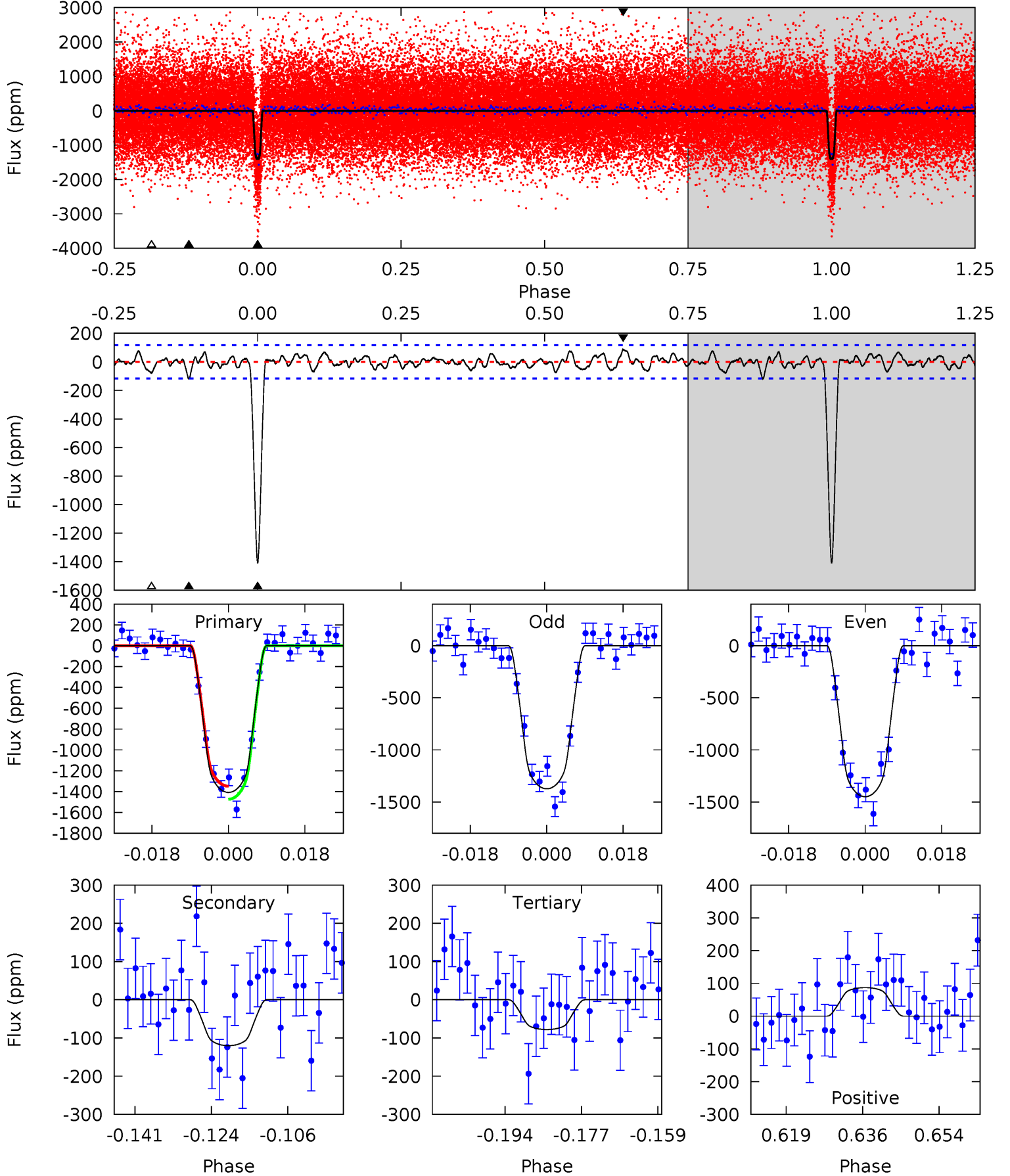
TCE 006705142-01 P= 5.597284 Days $T_0=131.866428$ (BKJD)



DV Model-Shift Uniqueness Test

006705142-01, P = 5.597277 Days, E = 131.867054 Days

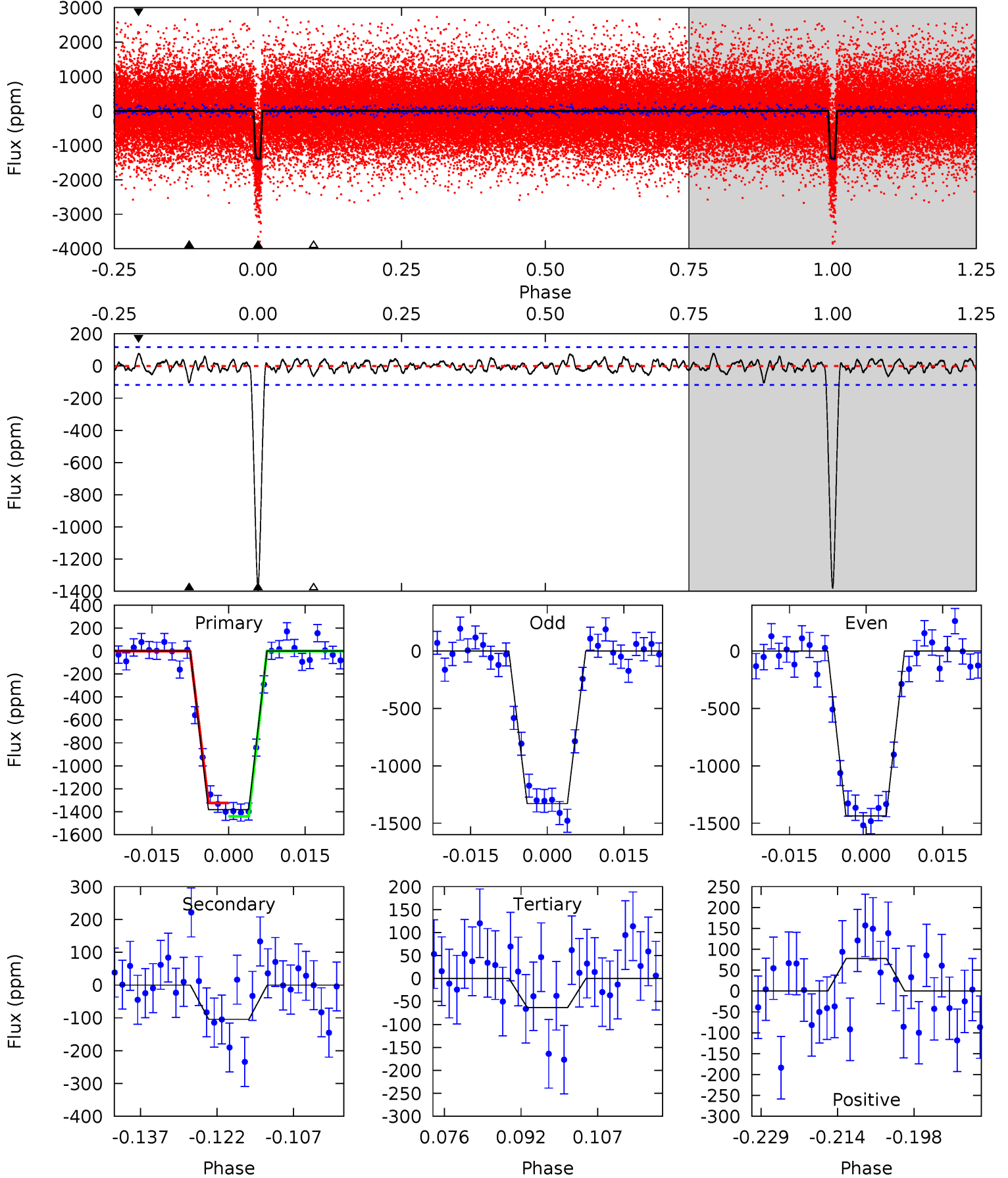
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.3	5.07	3.29	3.67	4.92	2.37	1.35	56.1	55.7	1.78	1.40	1.60	0.96	0.06	2.65



Alt Model-Shift Uniqueness Test

006705142-01, P = 5.597284 Days, E = 131.866428 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.2	4.40	2.67	3.27	4.94	2.43	1.08	55.5	54.9	1.72	1.13	2.27	0.99	0.05	2.47



Stellar Parameters For KIC 006705142

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5610^{+177}_{-197}	$4.551^{+0.038}_{-0.142}$	$0.000^{+0.250}_{-0.300}$	$0.858^{+0.181}_{-0.078}$	$0.953^{+0.083}_{-0.115}$	$2.130^{+0.409}_{-0.823}$
	+3%/-4%	+1%/-3%	+inf%/-inf%	+21%/-9%	+9%/-12%	+19%/-39%
Source	KIC0	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 006705142-01 / KOI 1758.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-120 ± 24	$3.81^{+0.66}_{-0.67}$	1320^{+71}_{-58}	3445^{+240}_{-201}	17^{+8}_{-5}
Alt.	-104 ± 24	$3.64^{+0.68}_{-0.63}$	1323^{+69}_{-58}	3413^{+235}_{-224}	16^{+8}_{-5}

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

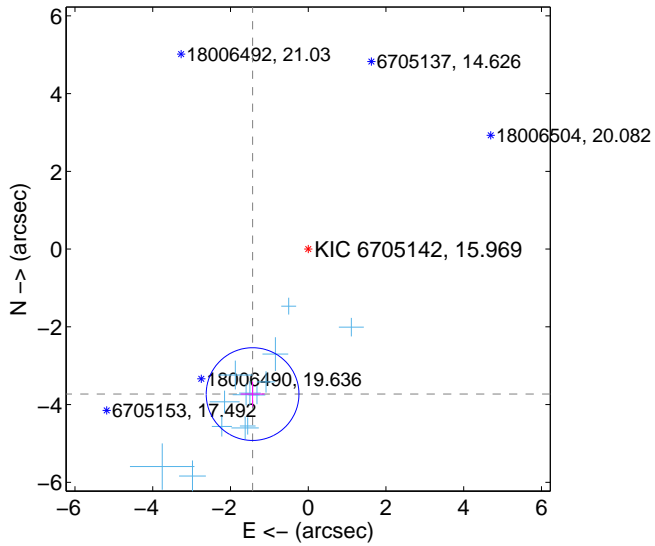
Supplemental centroid analysis for 006705142-01. Kepler magnitude: 15.97. Transit SNR 40.66

There are 14 quarters with good PRF difference image offsets

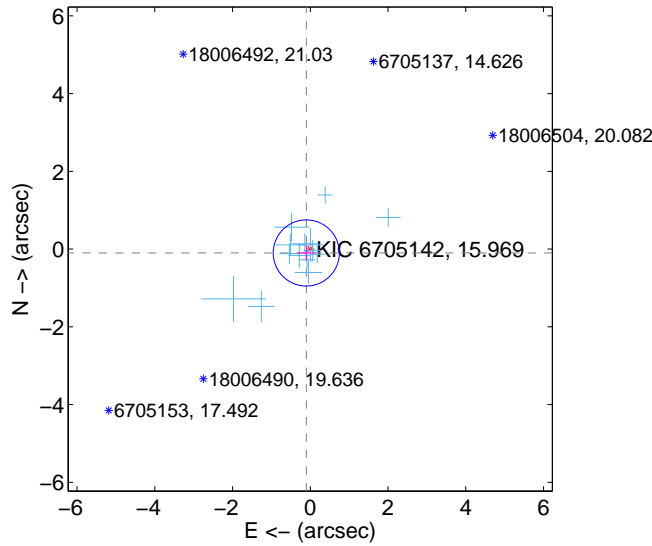
The OOT PRF centroid is offset from the target star catalog position by about 4.67 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.995 ± 0.398	10.05	1.431 ± 0.308	-3.730 ± 0.324
PRF-fit source offset from KIC position	0.143 ± 0.283	0.51	0.103 ± 0.236	-0.100 ± 0.204
photometric centroid source offset	1.59 ± 0.10	15.29	-0.68 ± 0.09	1.44 ± 0.11

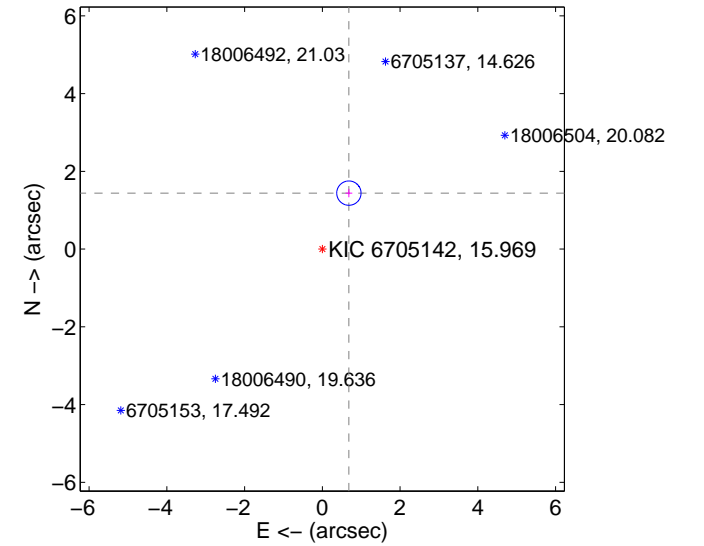
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

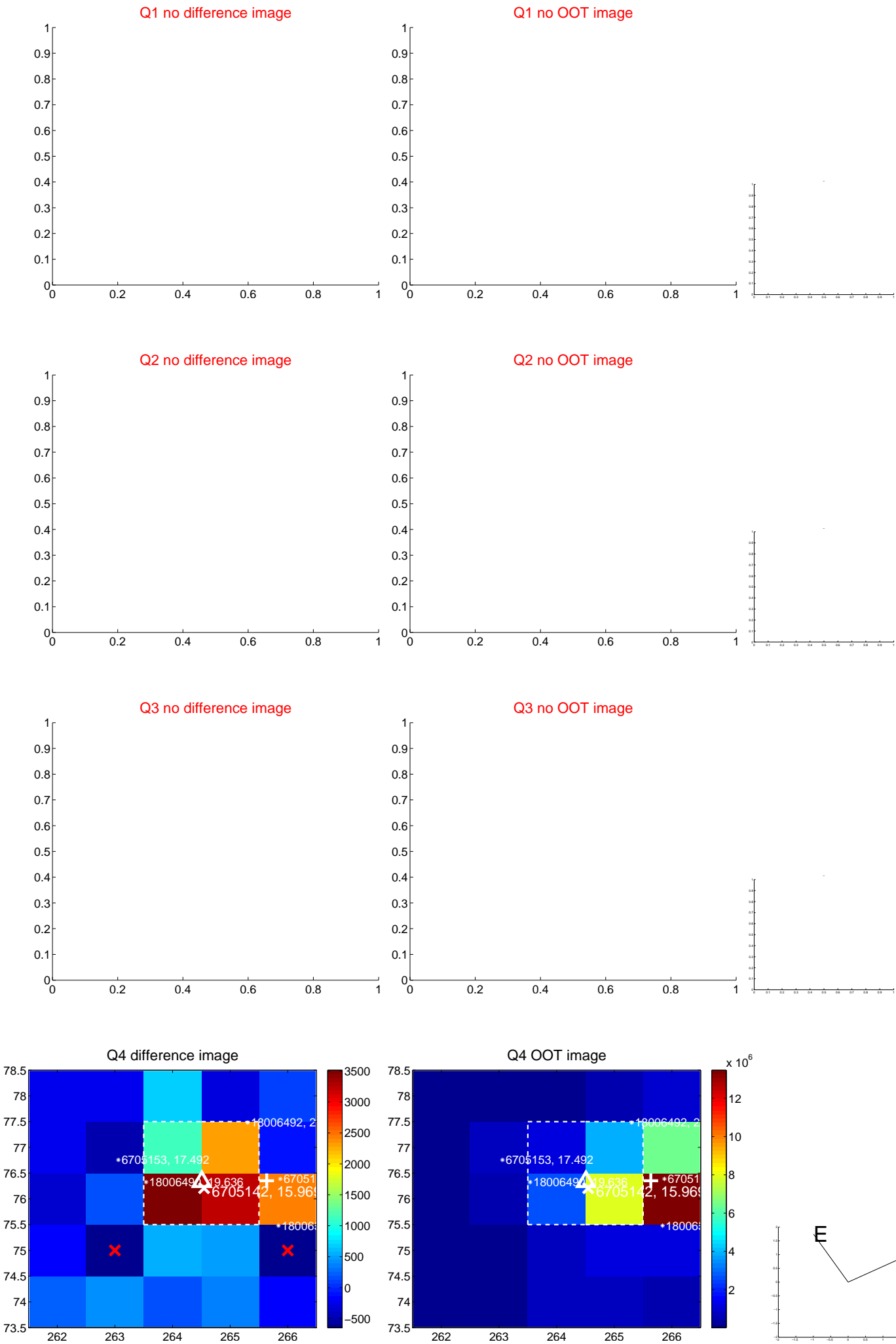


offset from photometric centroids

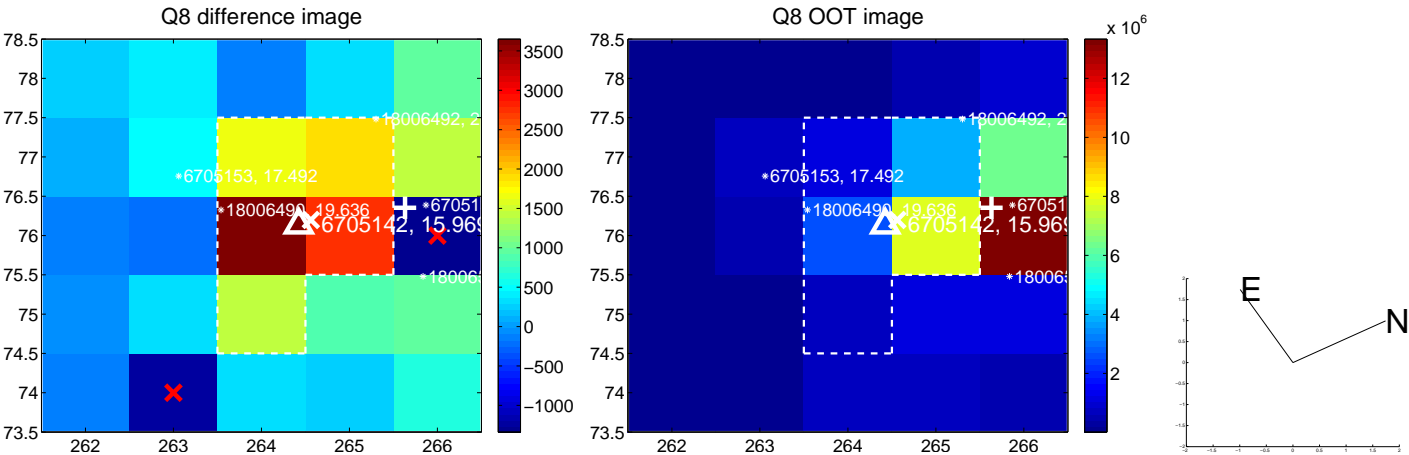
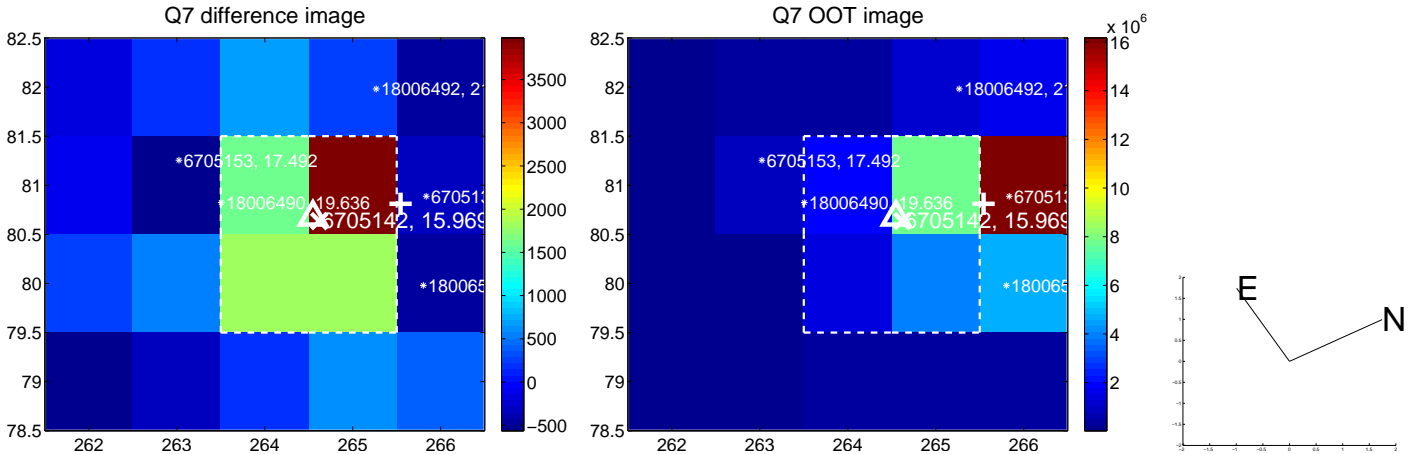
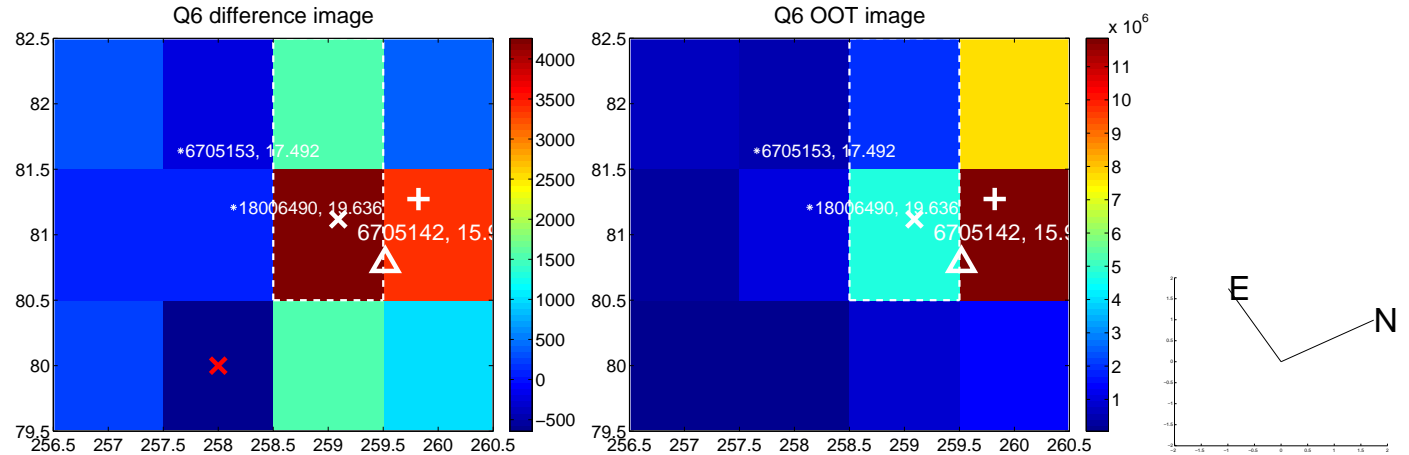
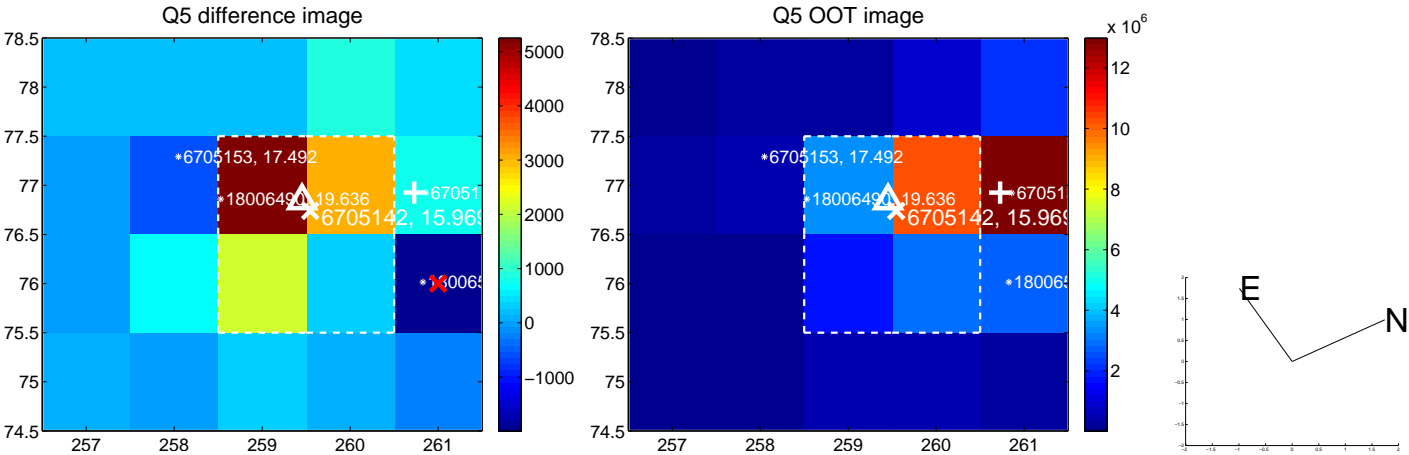


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

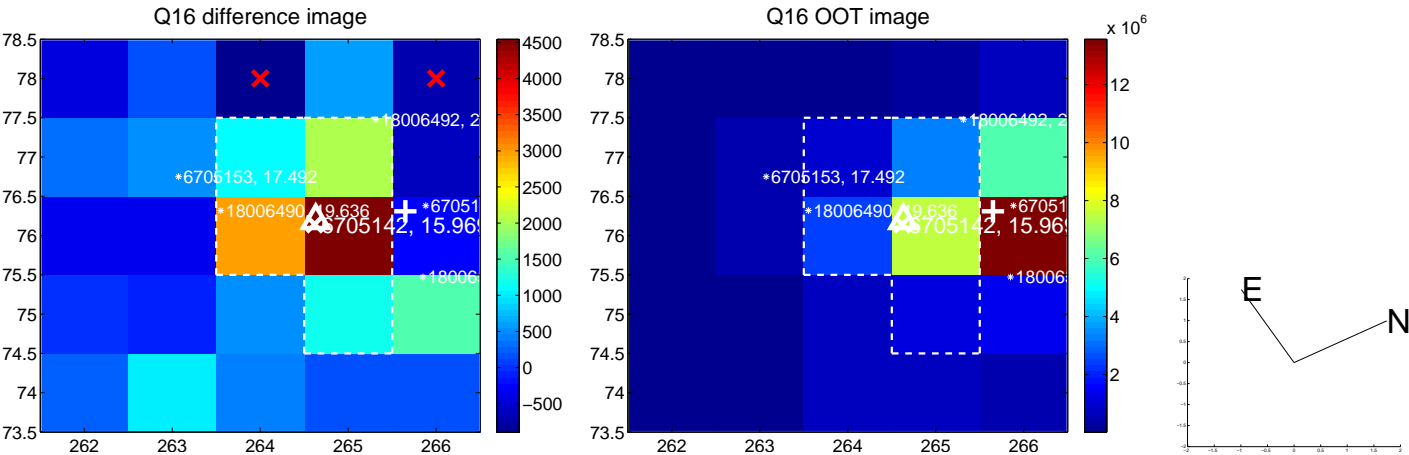
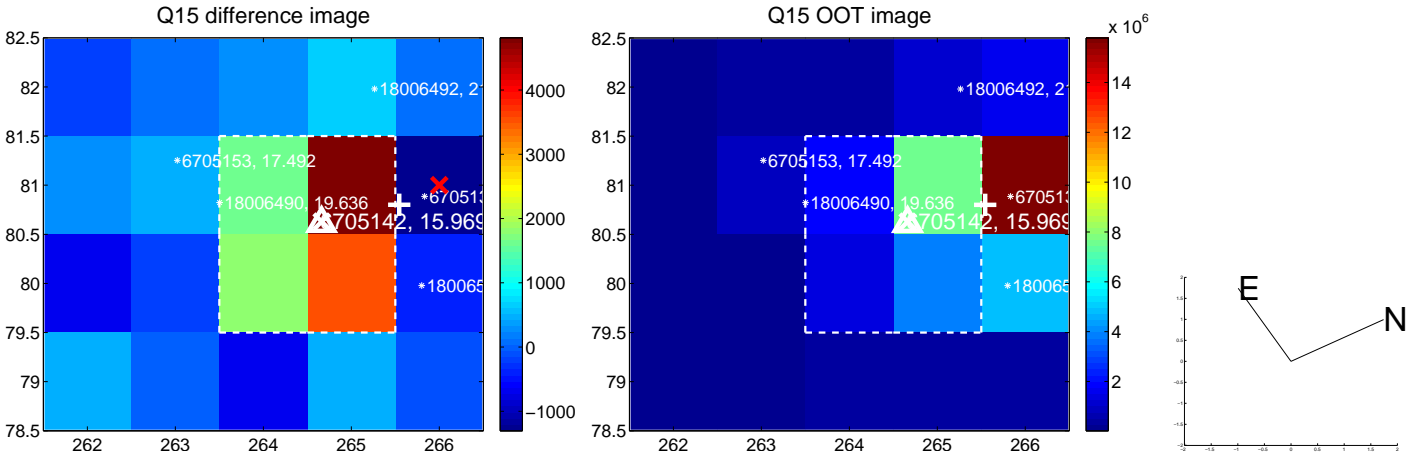
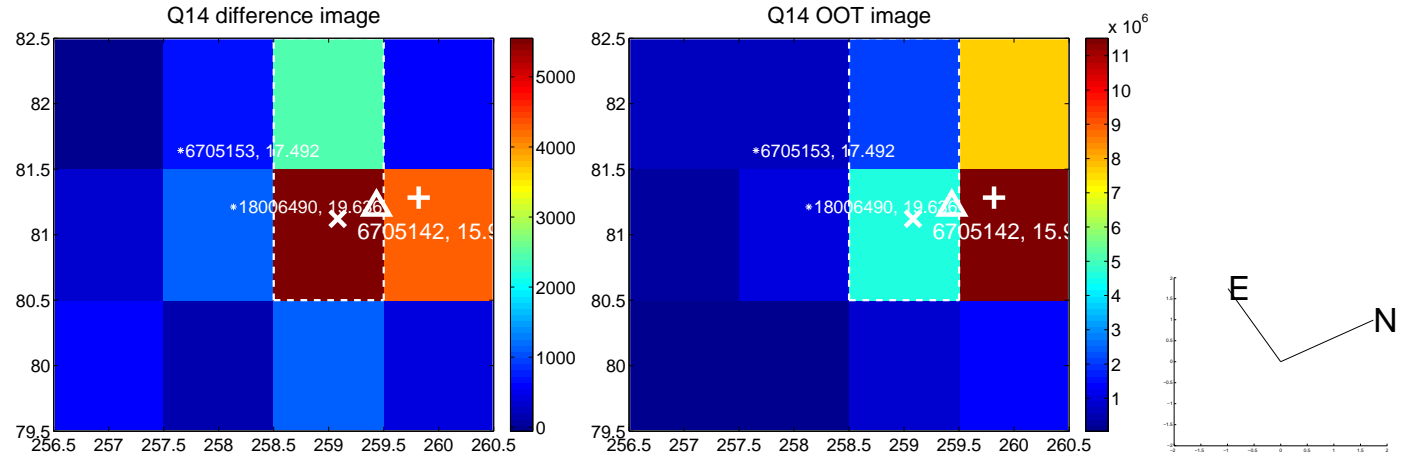
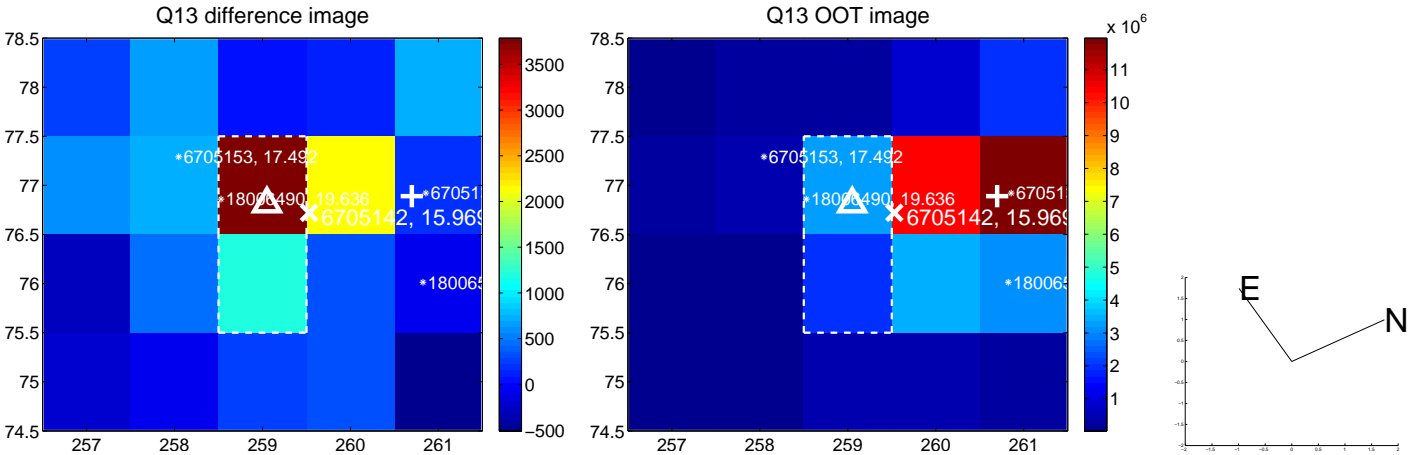
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



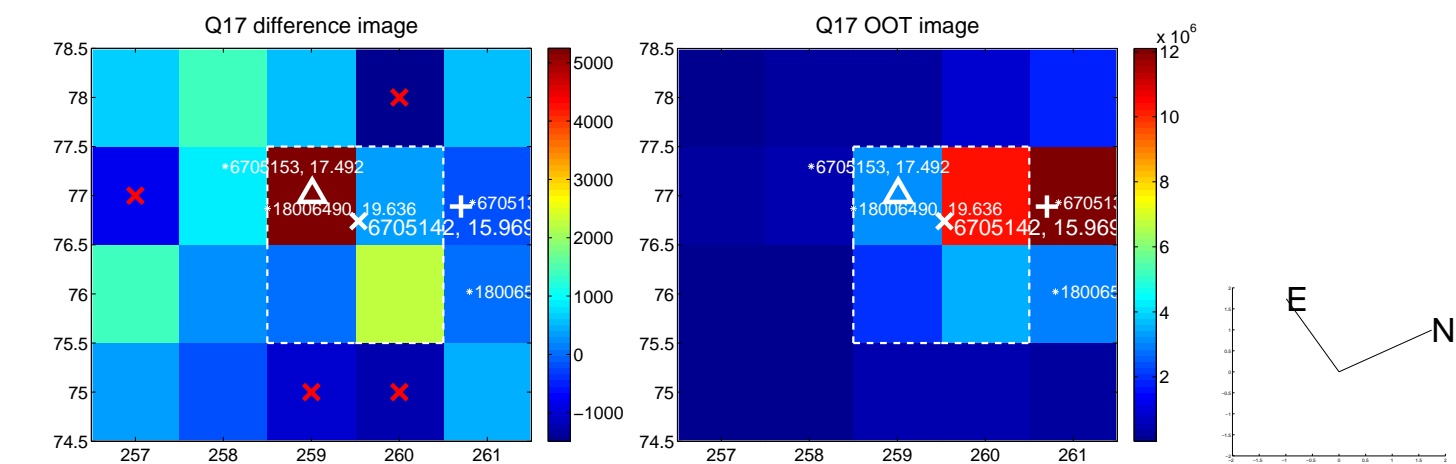
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



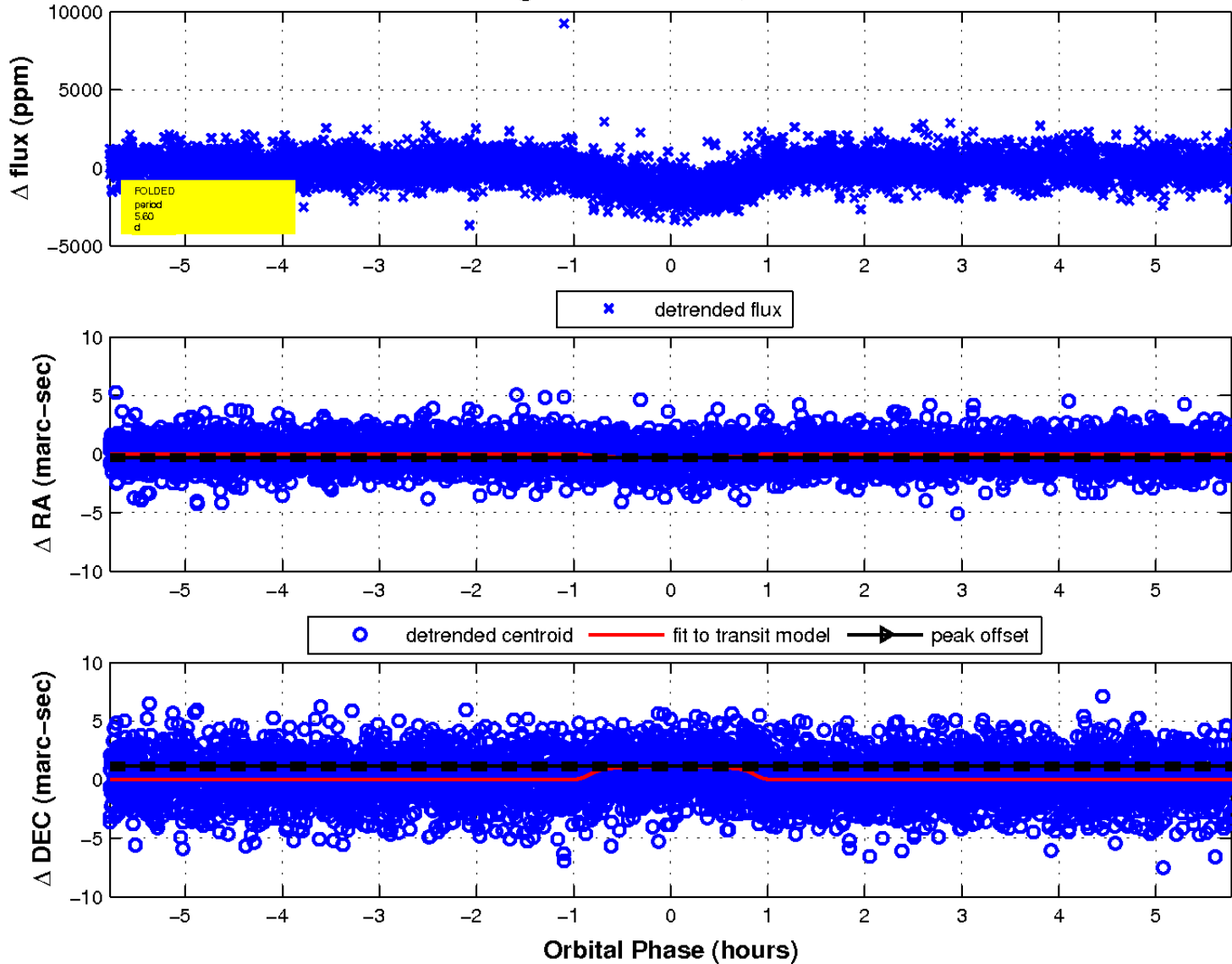
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

