

KIC 011072016

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})
011072016-01	OBS	4852.01	1.898707	132.101498	70.9	1.257	9.1	8.8	1.05	5942	0.94	1278.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011072016-01	OBS	PC	0.92	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.

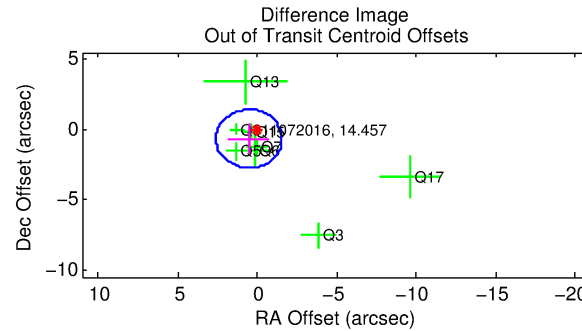
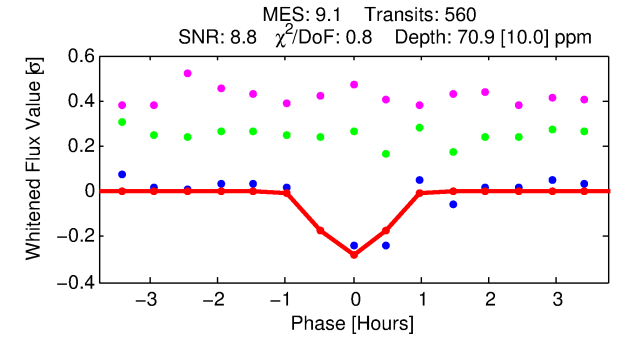
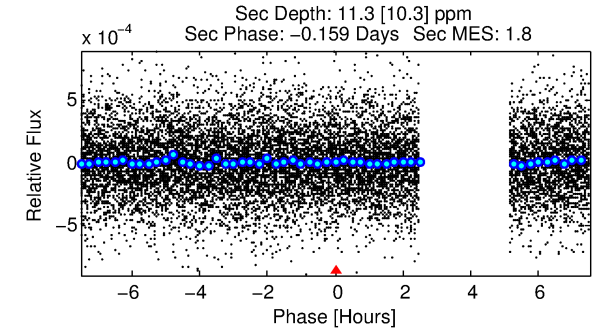
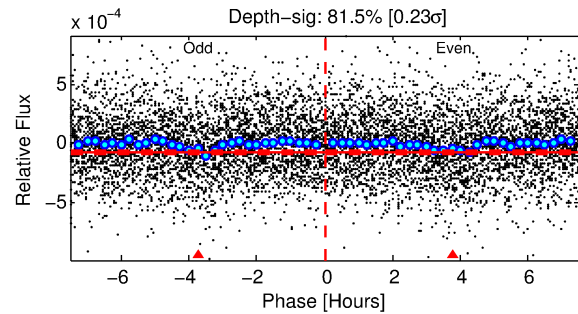
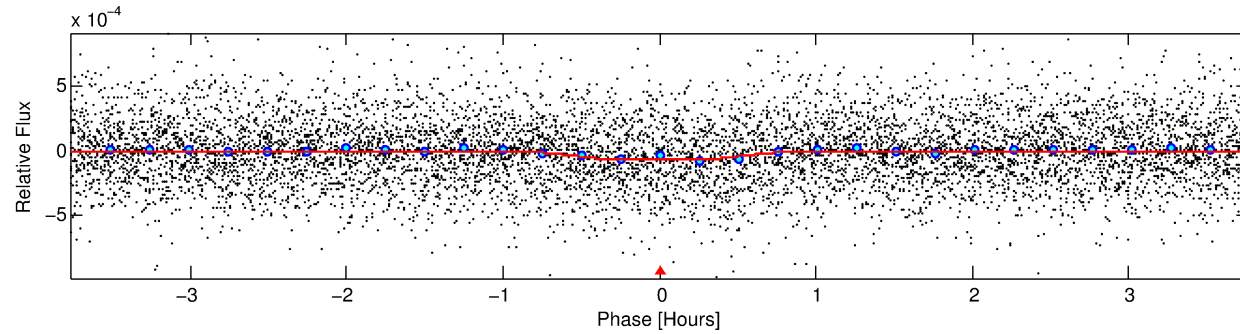
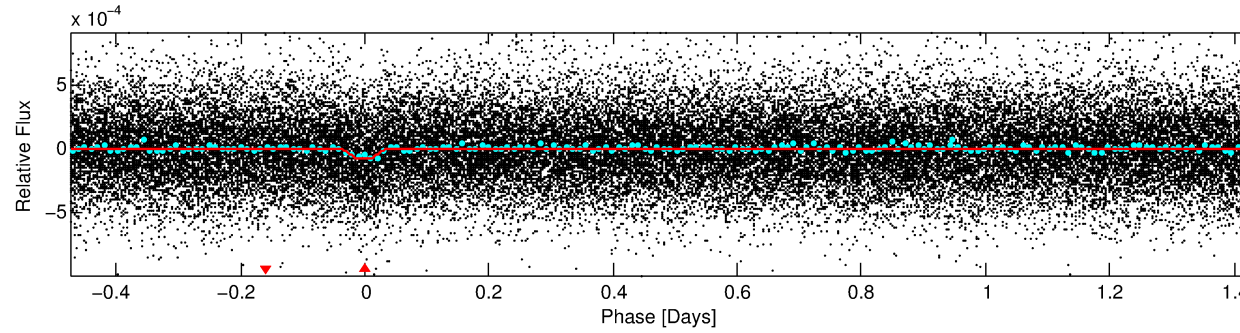
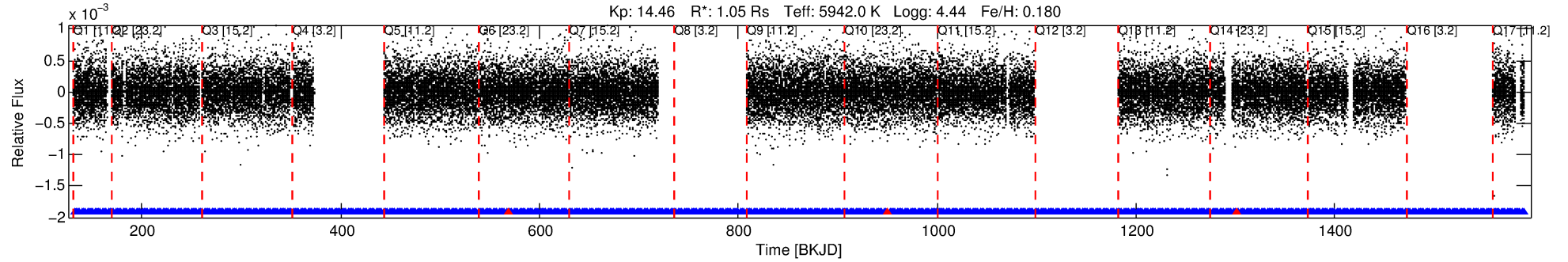
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011072016-01

No Significant Match Found

DV One-Page Summary

KIC: 11072016 Candidate: 1 of 1 Period: 1.899 d
KOI: K04852.01 Corr: 0.919



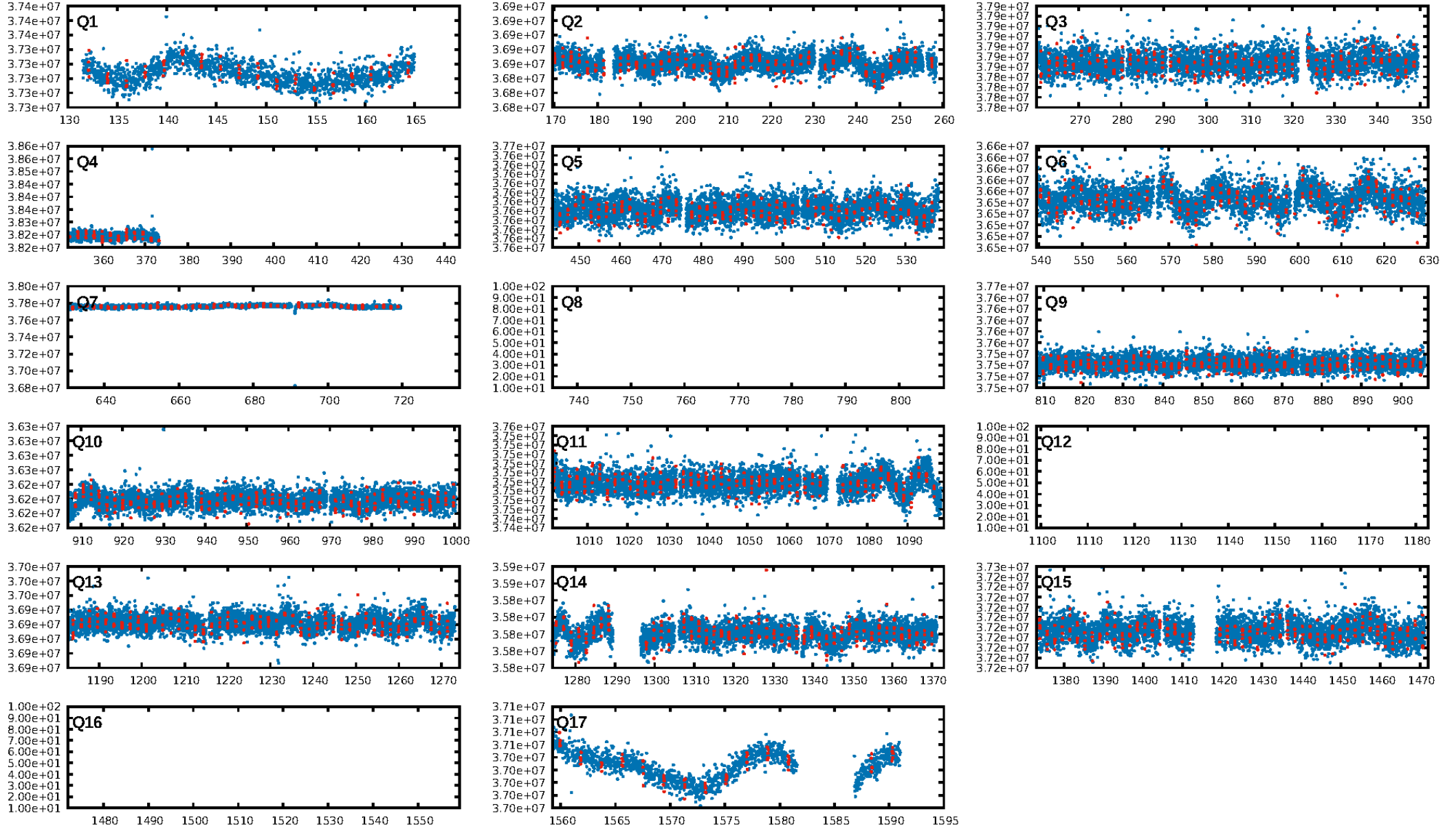
DV Fit Results:

Period = 1.89871 [0.00001] d
Epoch = 132.1015 [0.0025] BKJD
Rp/R* = 0.0082 [0.0039]
a/R* = 8.73 [18.35]
b = 0.67 [1.77]
Seff = 1278.81 [540.15]
Teff = 1525 [161] K
Rp = 0.94 [0.54] Re
a = 0.0310 [0.0083] AU
Ag = 6.73 [9.29] [0.62 σ]
Teffp = 3798 [1264] K [1.78 σ]

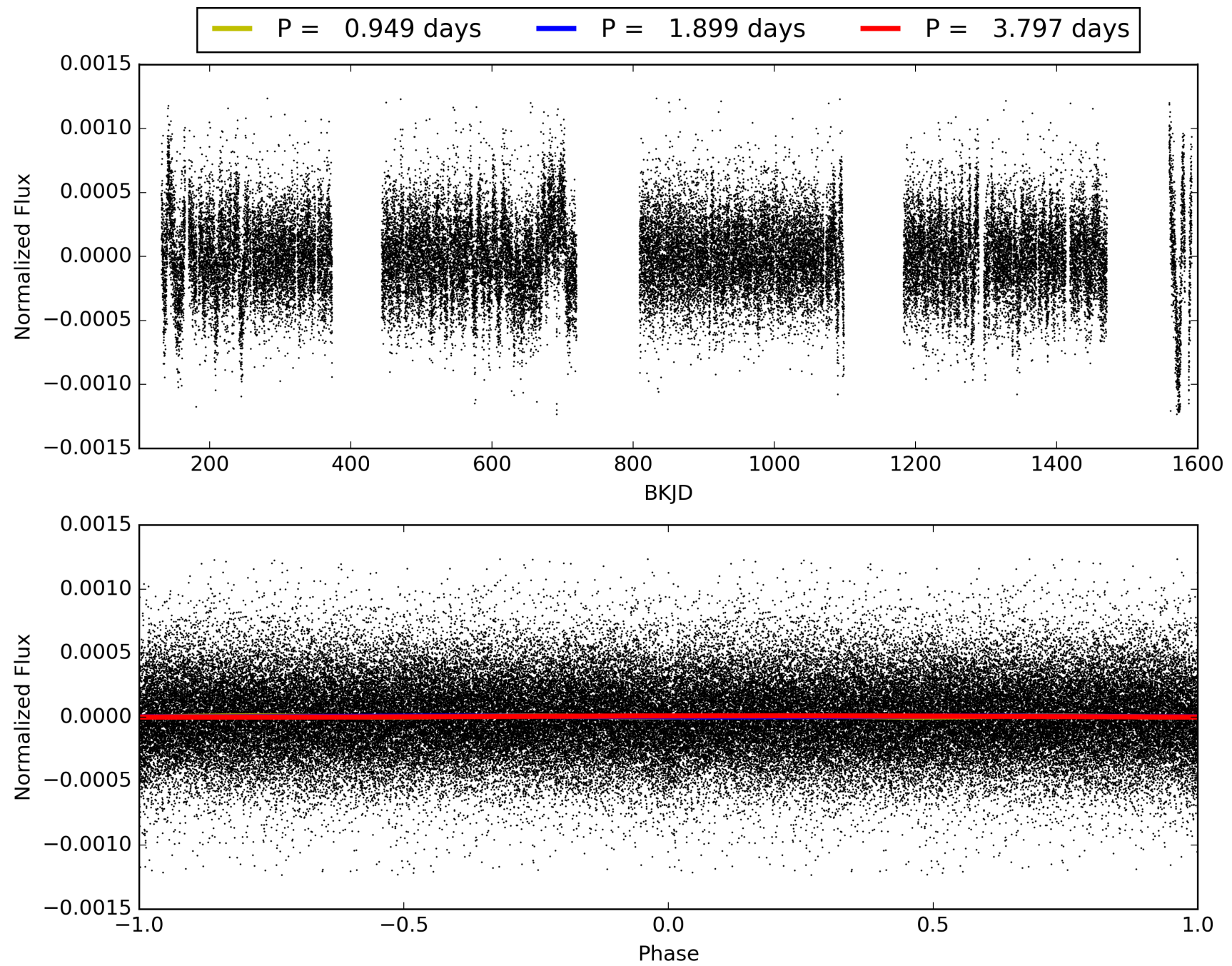
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.39e-19
RollingBand-fgt: 0.99 [514/517]
GhostDiagnostic-chr: 1.185
Centroid-sig: 0.8%
Centroid-so: 3.742 arcsec [2.09 σ]
OotOffset-rm: 0.825 arcsec [1.19 σ]
KicOffset-rm: 0.972 arcsec [1.15 σ]
OotOffset-st: 1/3/0/4 [8]
KicOffset-st: 1/3/0/4 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011072016-01, PDC Light Curves

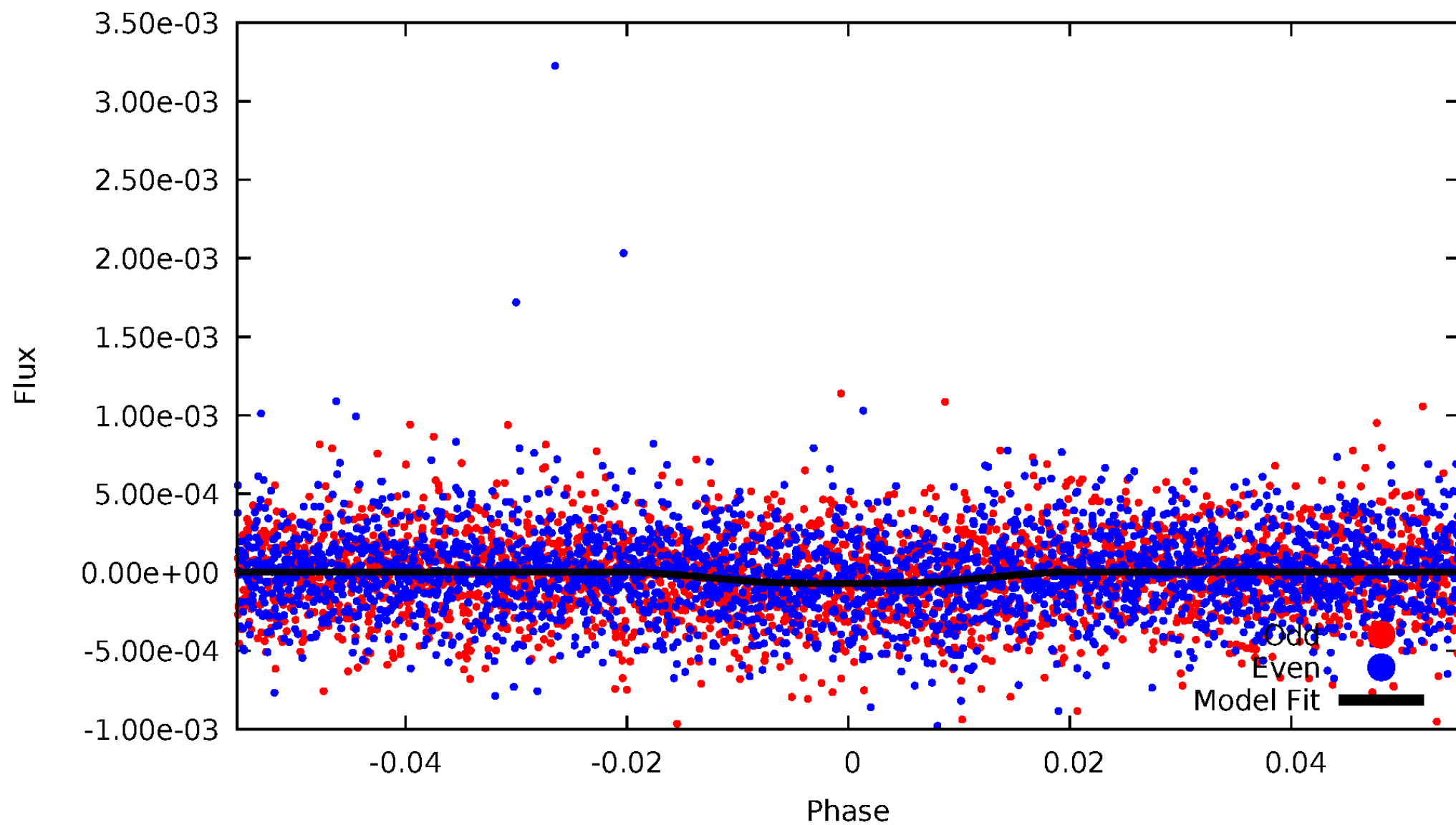


TCE 011072016-01



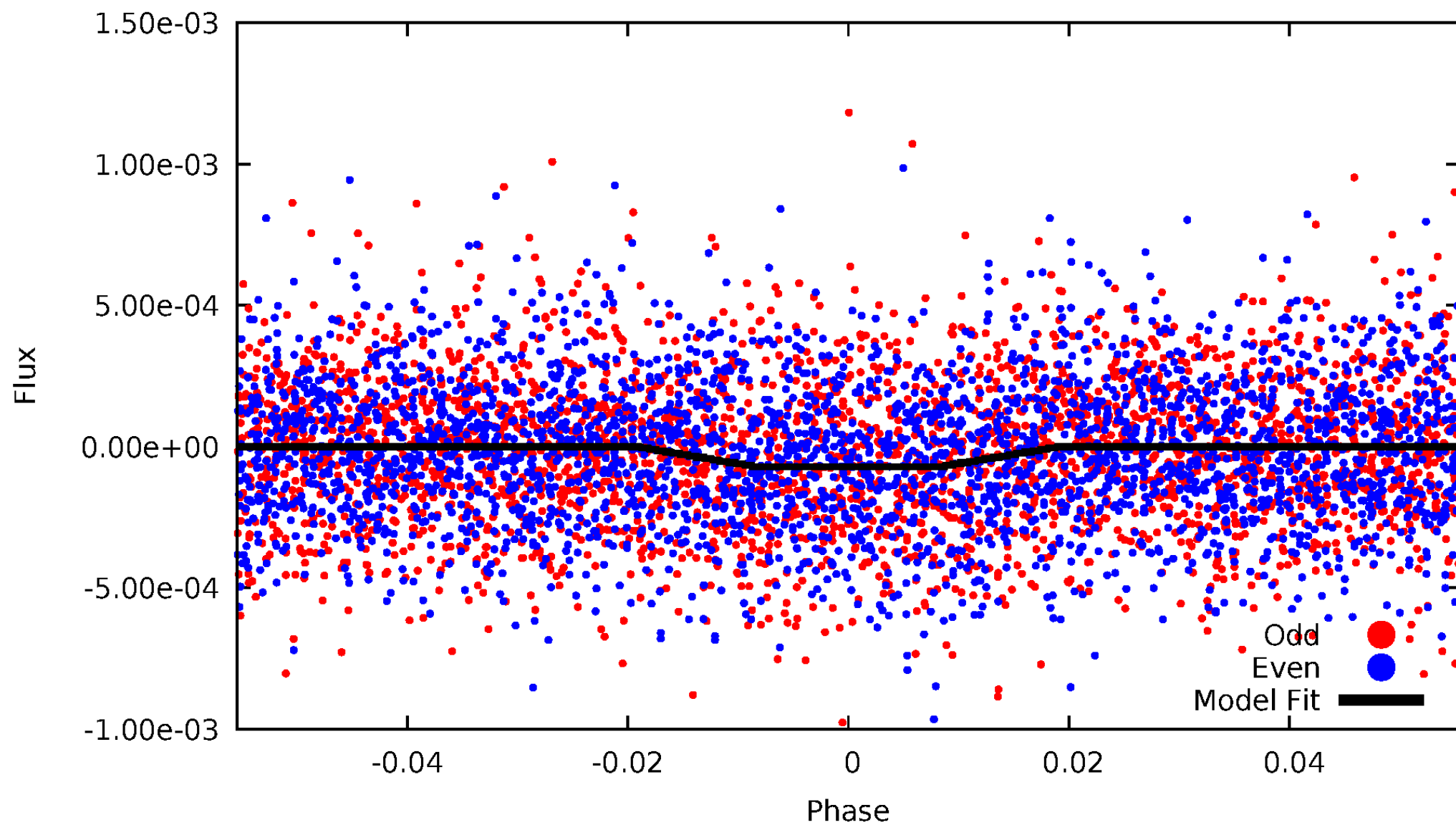
DV Odd/Even

TCE 011072016-01



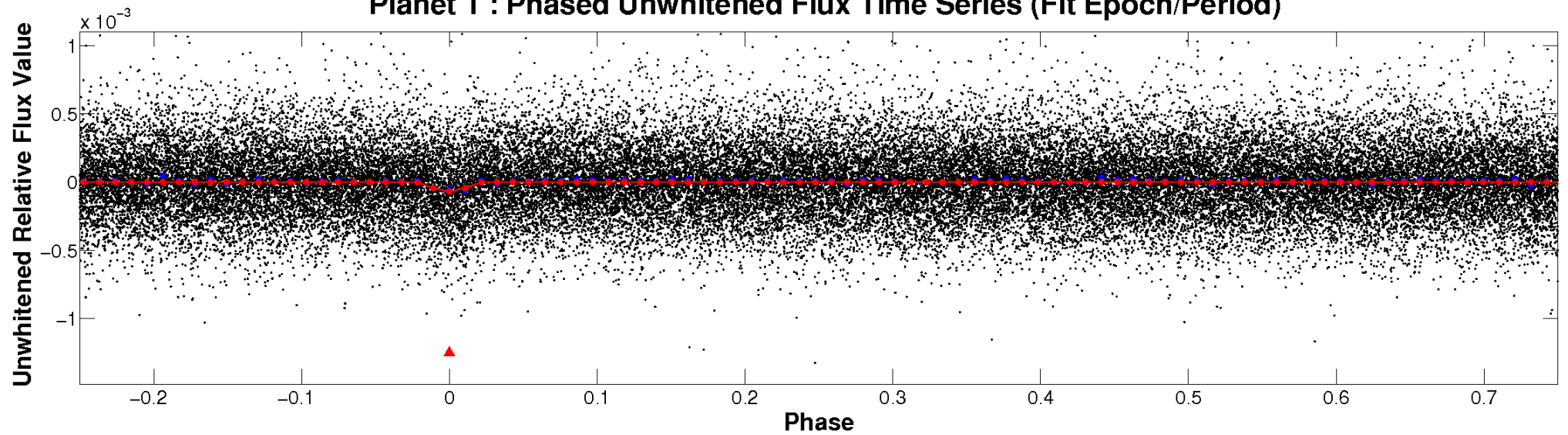
ALT Odd/Even

TCE 011072016-01

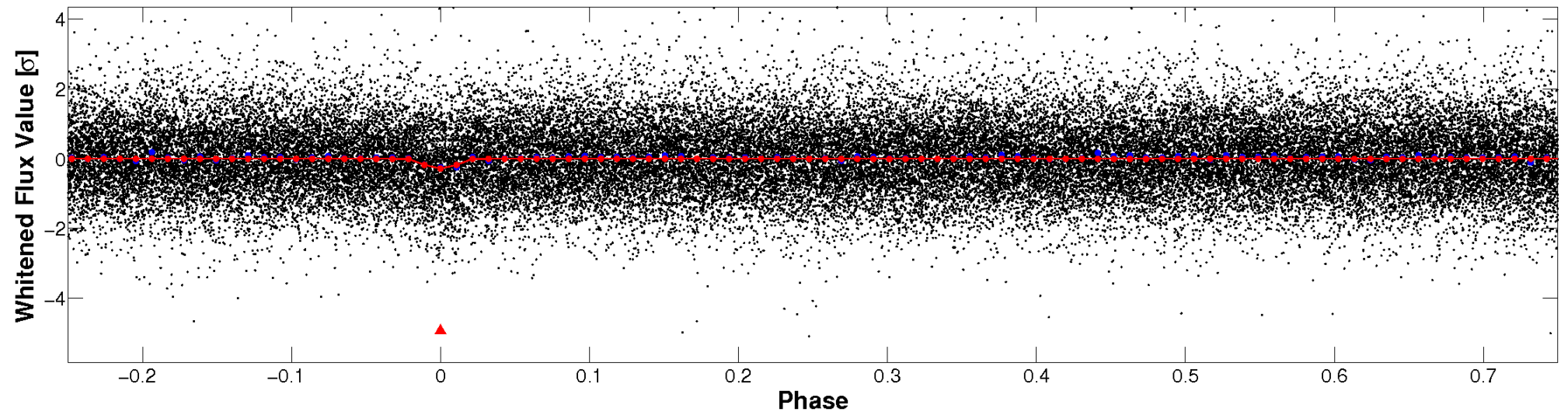


Non-Whitened Vs. Whitened Light Curve

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

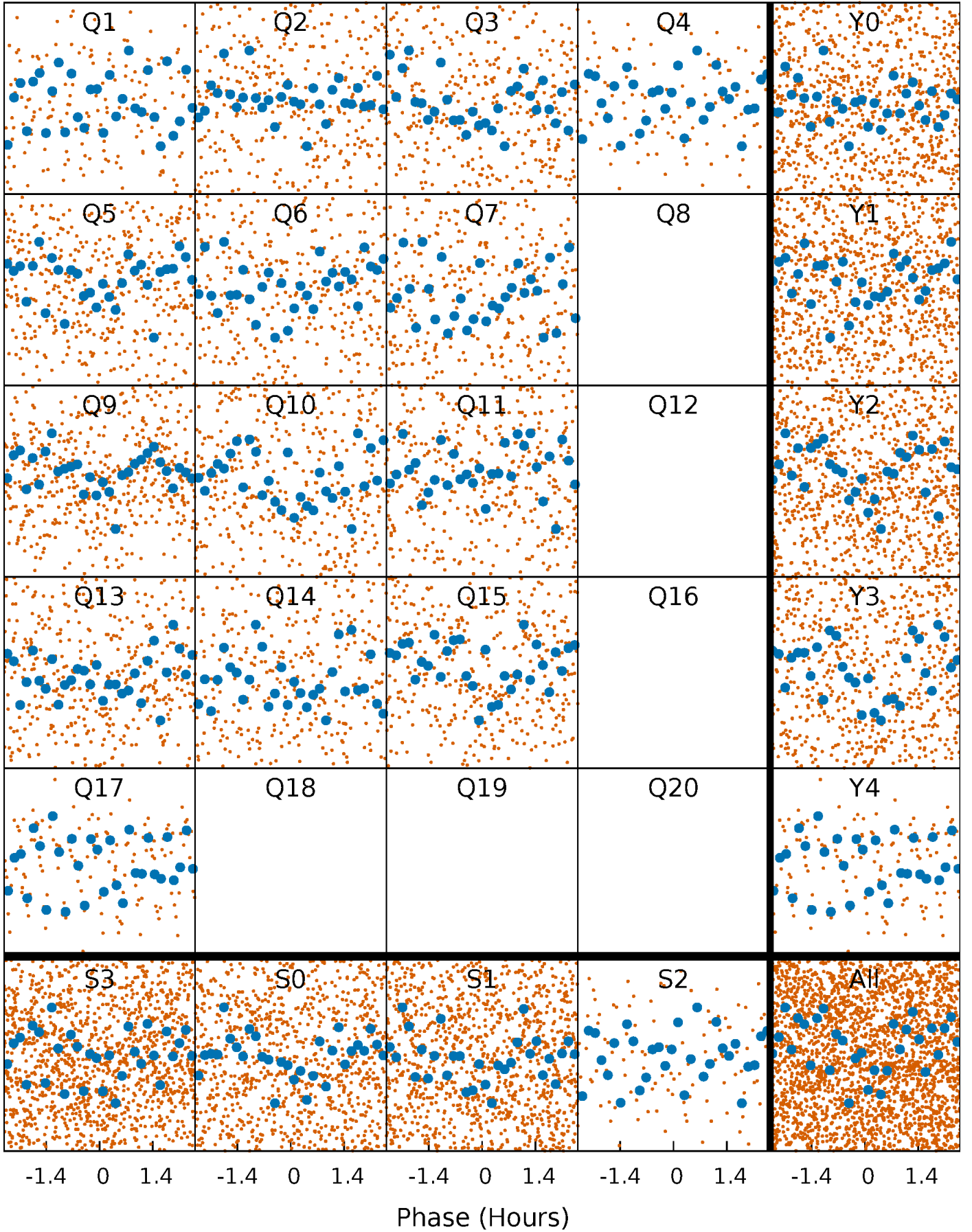


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



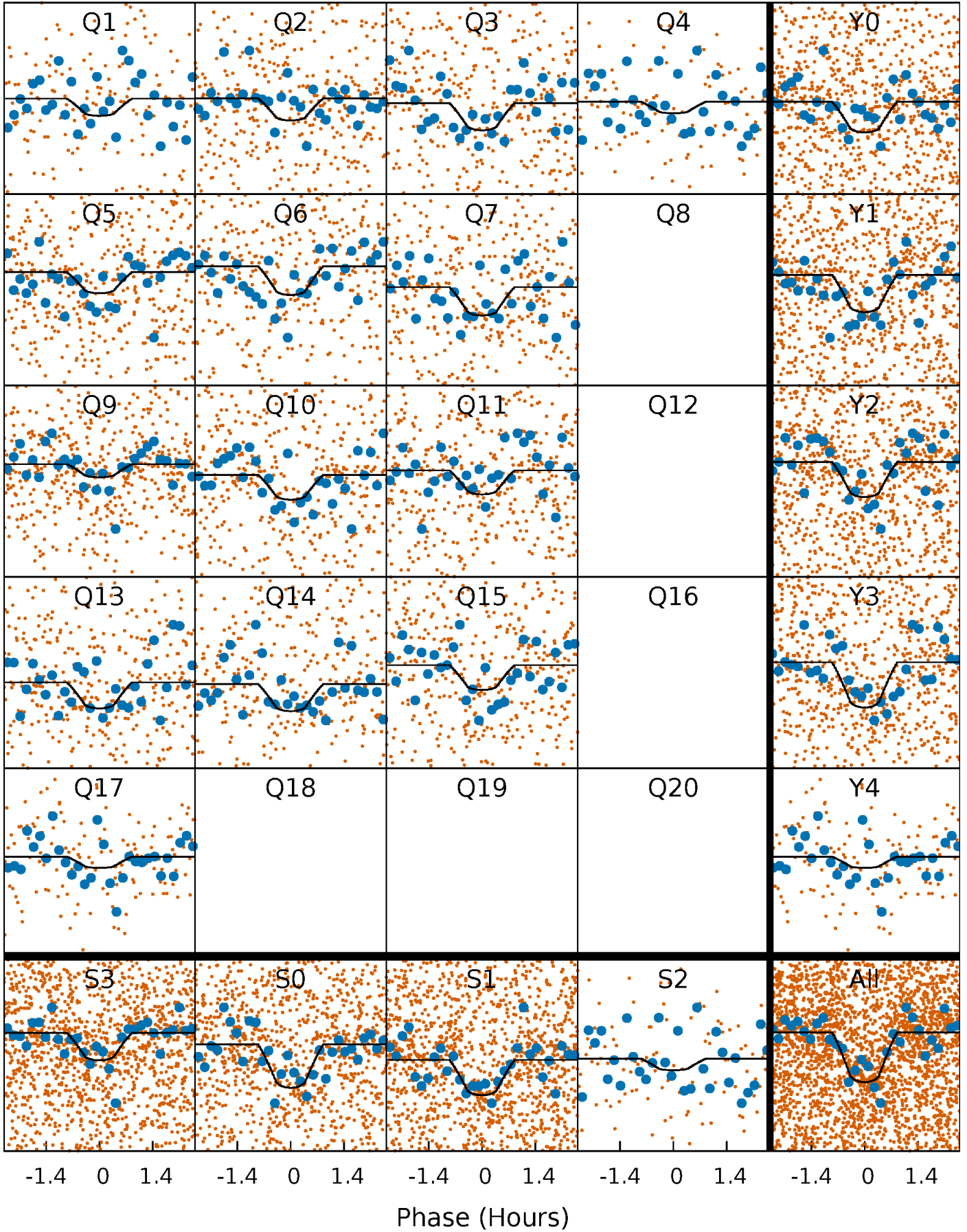
PDC Quarter-Phased Transit Curves

TCE 011072016-01 P= 1.898707 Days $T_0=132.101498$ (BKJD)



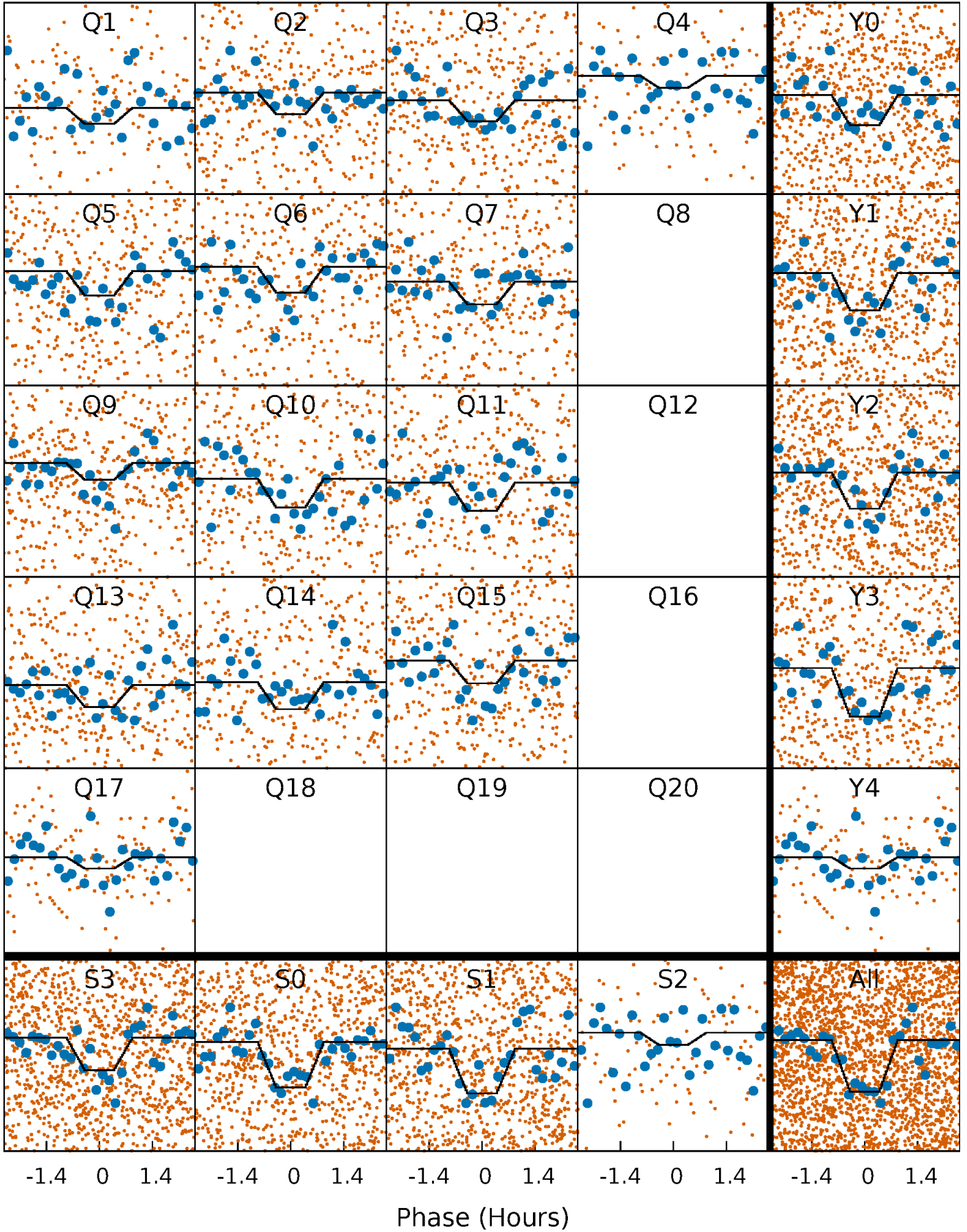
DV Quarter-Phased Transit Curves

TCE 011072016-01 P= 1.898707 Days $T_0=132.101498$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

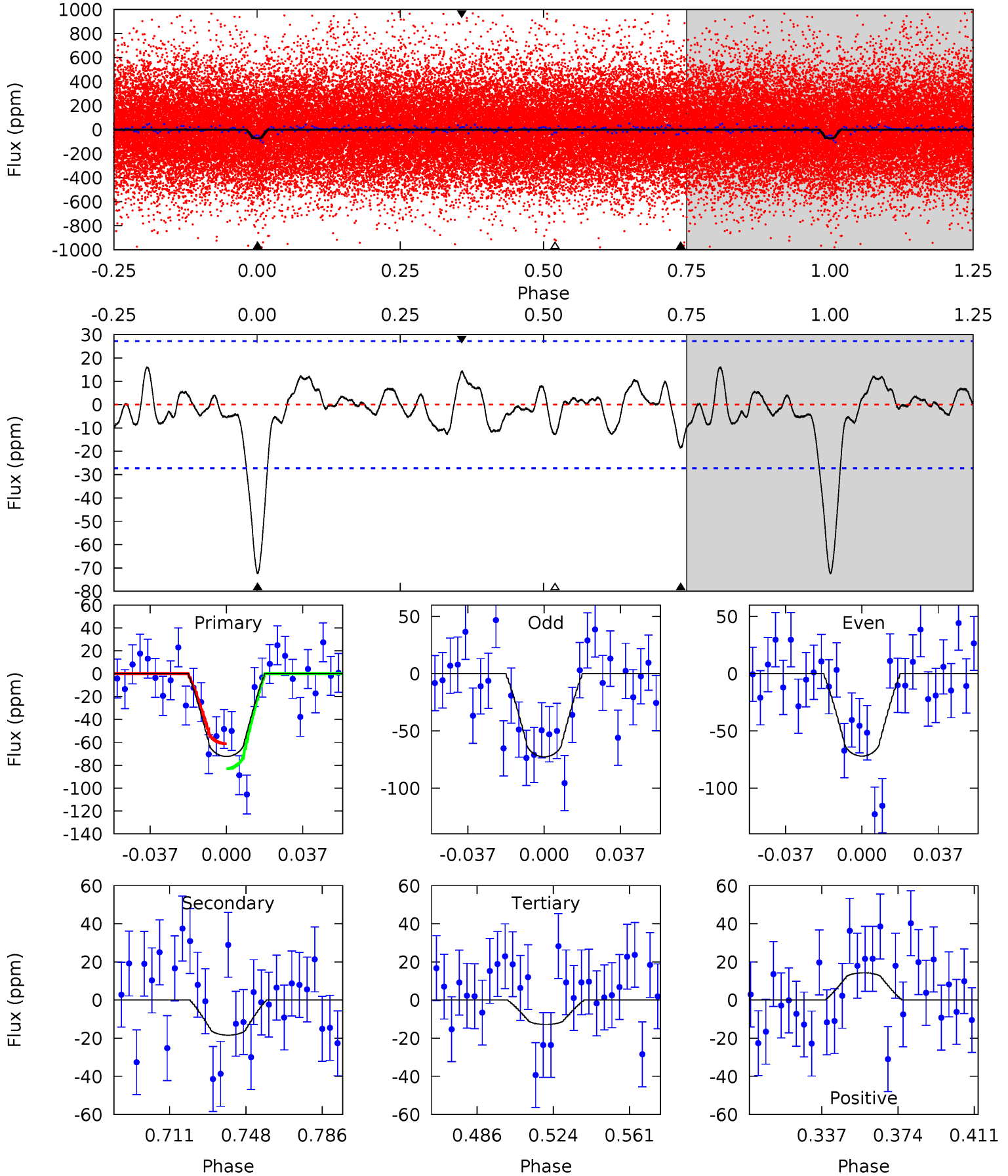
TCE 011072016-01 P= 1.898729 Days $T_0=132.094115$ (BKJD)



DV Model-Shift Uniqueness Test

011072016-01, P = 1.898707 Days, E = 130.202791 Days

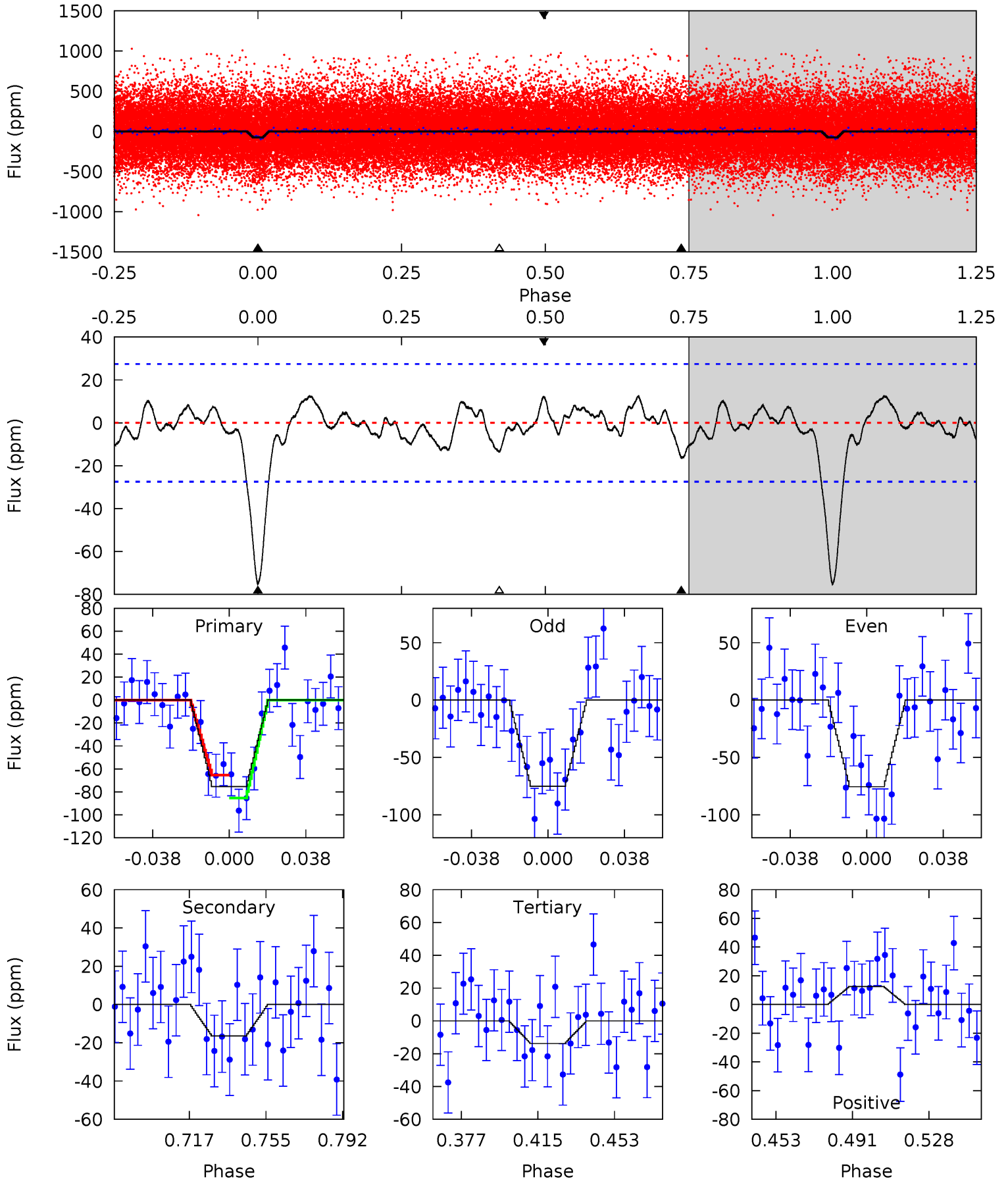
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	3.22	2.24	2.50	4.77	2.08	1.09	10.4	10.2	0.98	0.72	0.06	1.01	0.18	1.93



Alt Model-Shift Uniqueness Test

011072016-01, P = 1.898729 Days, E = 130.195386 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	2.86	2.40	2.16	4.77	2.08	1.02	10.7	10.9	0.46	0.70	0.03	1.14	0.14	1.75



Stellar Parameters For KIC 011072016

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5942^{+187}_{-229}	$4.439^{+0.067}_{-0.216}$	$0.180^{+0.200}_{-0.300}$	$1.050^{+0.333}_{-0.111}$	$1.104^{+0.136}_{-0.149}$	$1.345^{+0.381}_{-0.703}$
	+3%/-4%	+2%/-5%	+111%/-167%	+32%/-11%	+12%/-13%	+28%/-52%
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 011072016-01 / KOI 4852.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-18 ± 6	$1.00^{+0.47}_{-0.44}$	2166^{+170}_{-111}	4354^{+1342}_{-626}	$9.379^{+23.834}_{-5.584}$
Alt.	-16 ± 6	$1.01^{+0.50}_{-0.47}$	2171^{+164}_{-118}	4242^{+1308}_{-636}	$7.709^{+19.733}_{-4.479}$

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

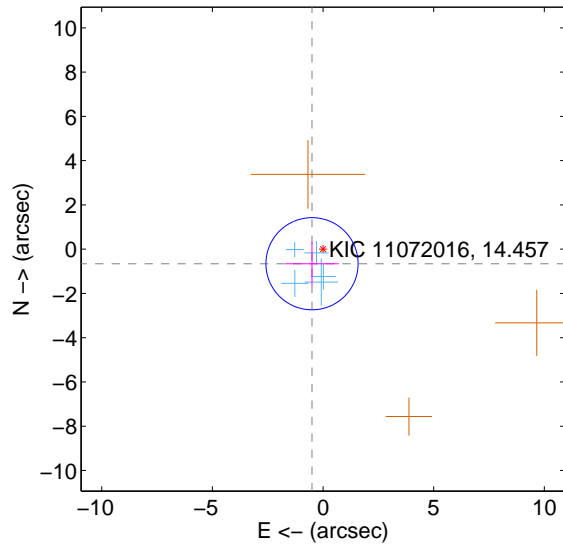
Supplemental centroid analysis for 011072016-01. Kepler magnitude: 14.46. Transit SNR 8.80

There are 5 quarters with good PRF difference image offsets

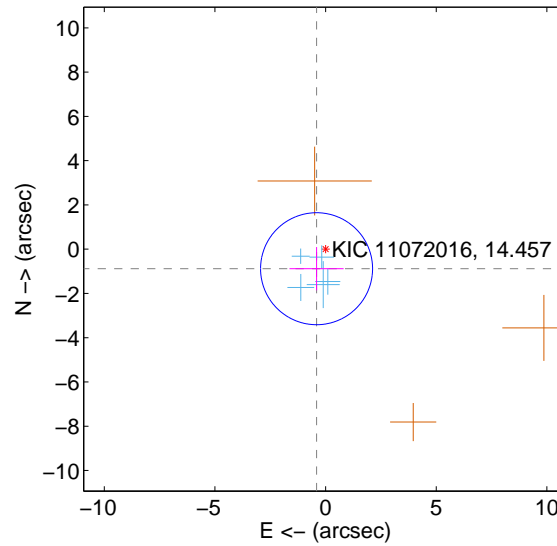
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.825 ± 0.694	1.19	0.498 ± 1.211	-0.657 ± 0.978
PRF-fit source offset from KIC position	0.972 ± 0.843	1.15	0.407 ± 1.224	-0.883 ± 0.977
photometric centroid source offset	3.74 ± 1.79	2.09	-3.23 ± 1.76	1.88 ± 1.86

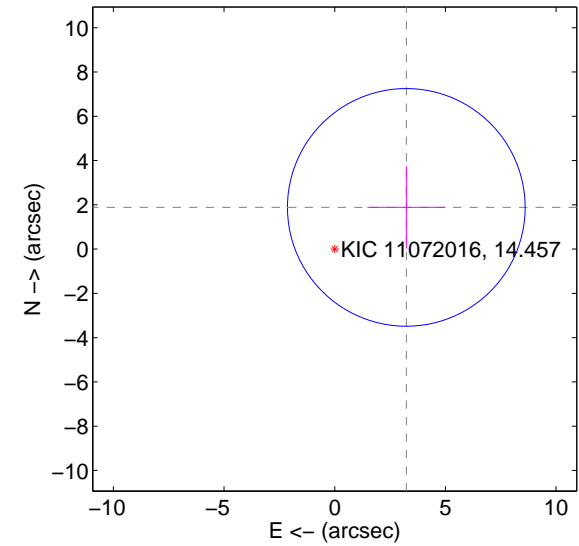
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

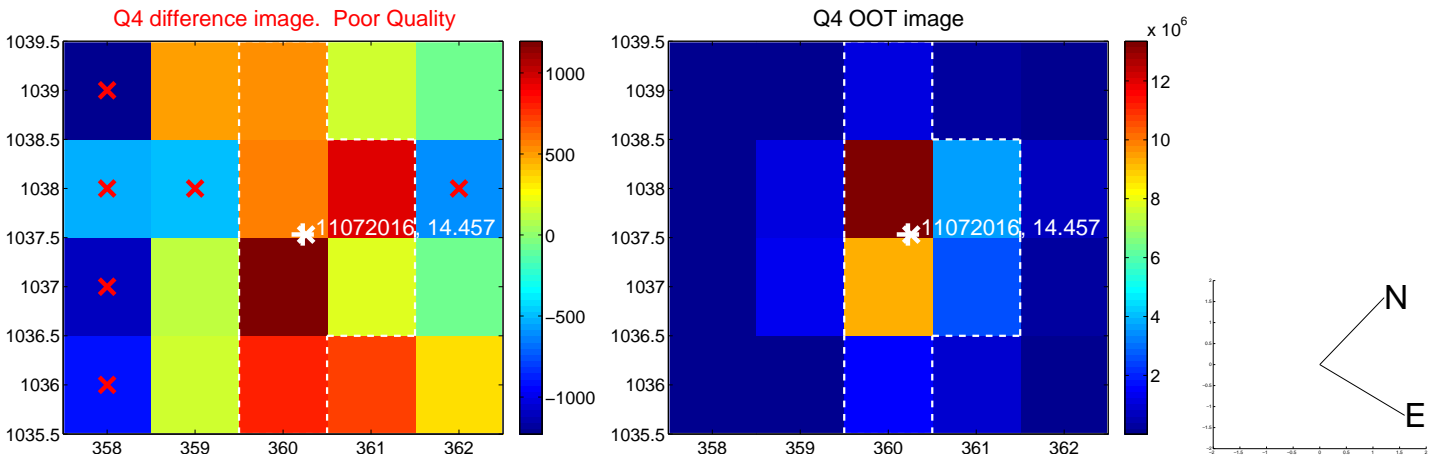
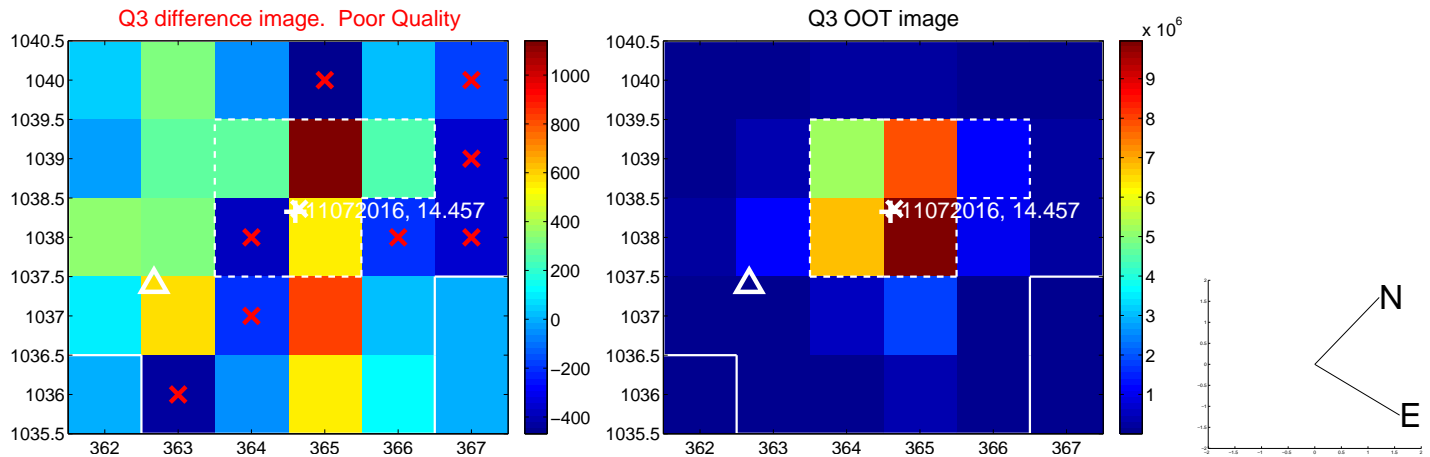
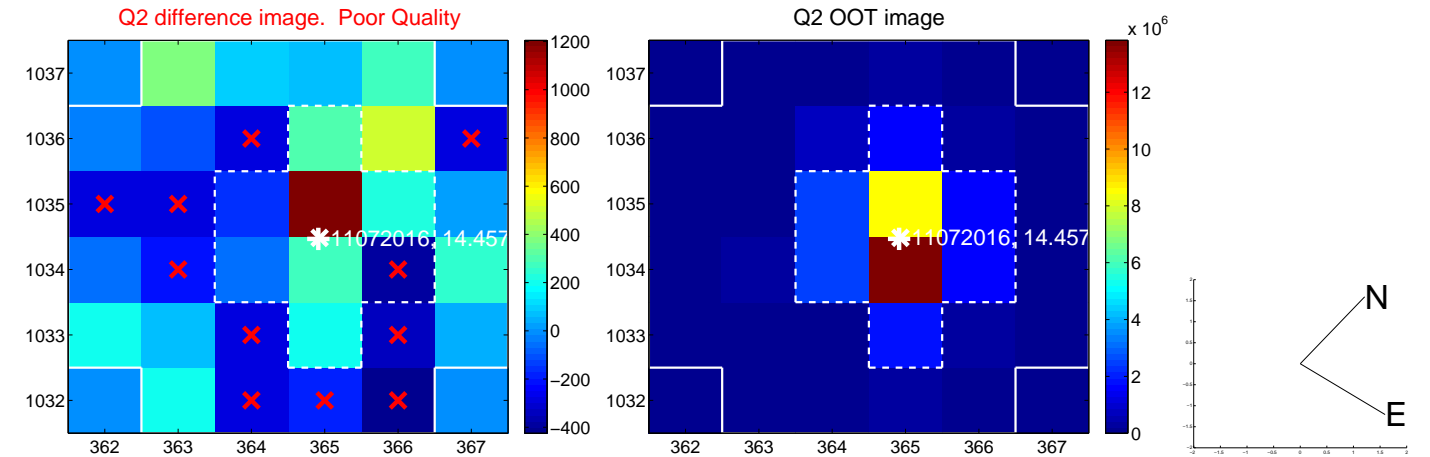
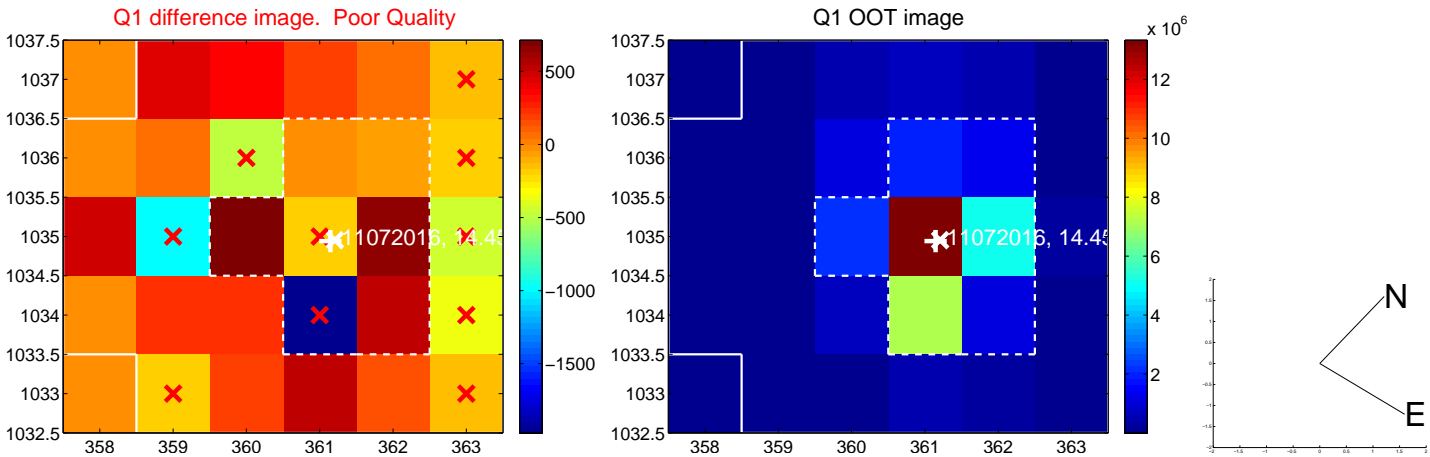


offset from photometric centroids

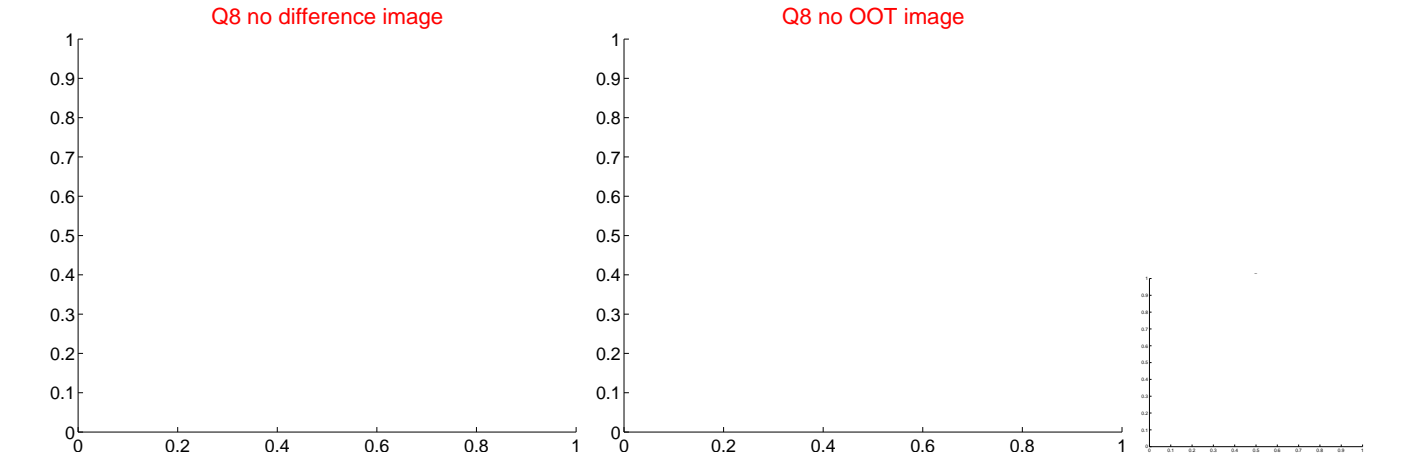
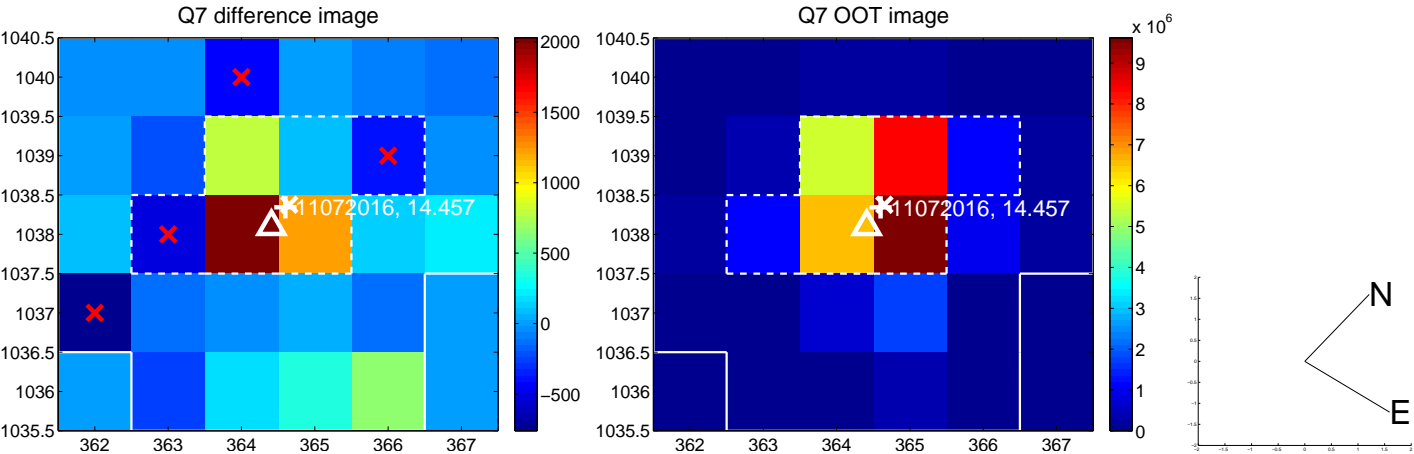
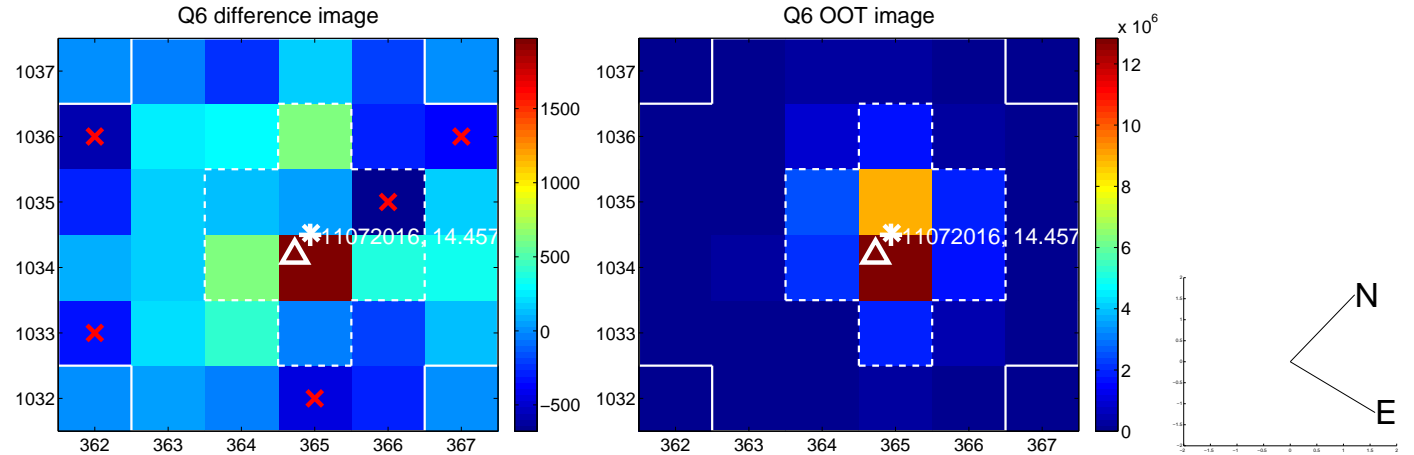
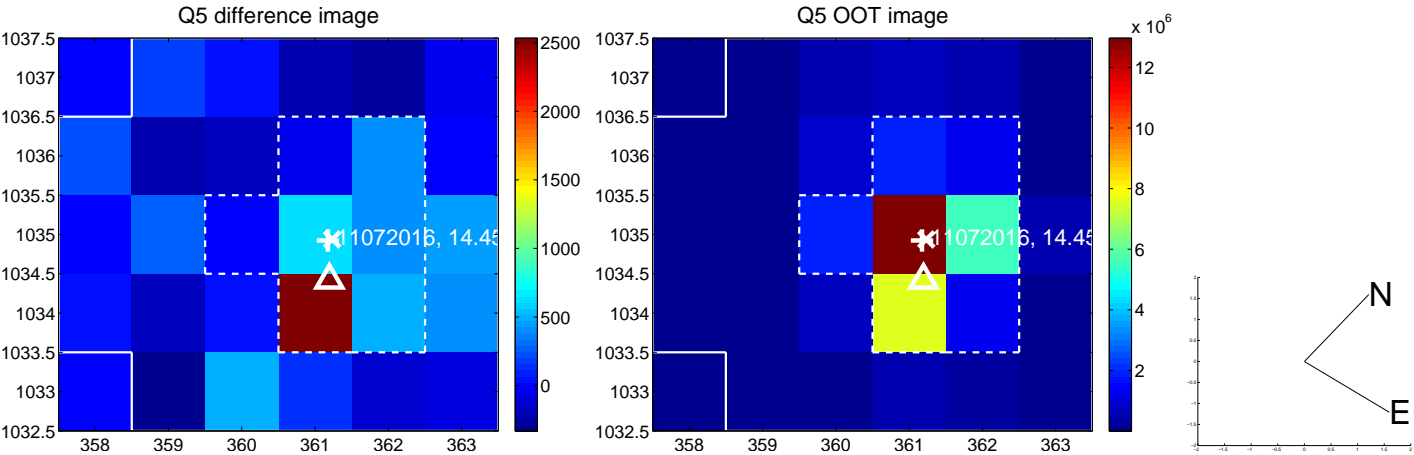


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

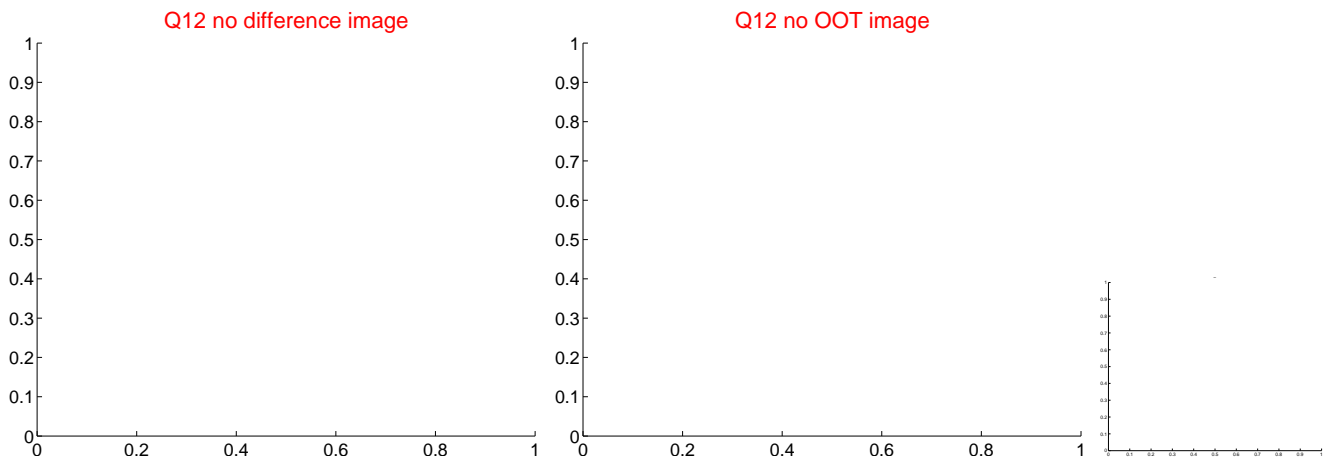
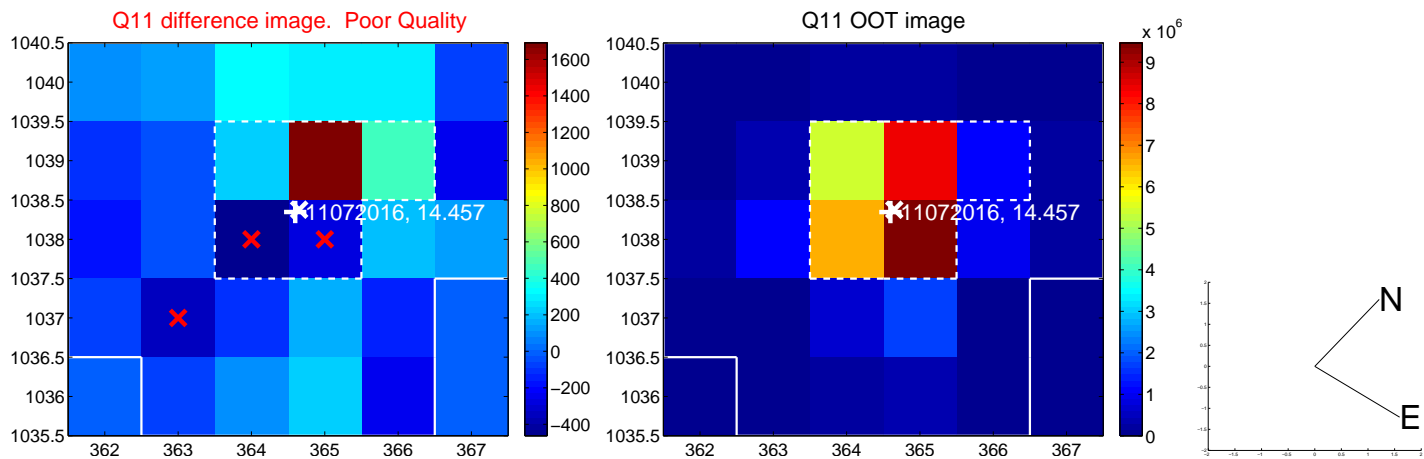
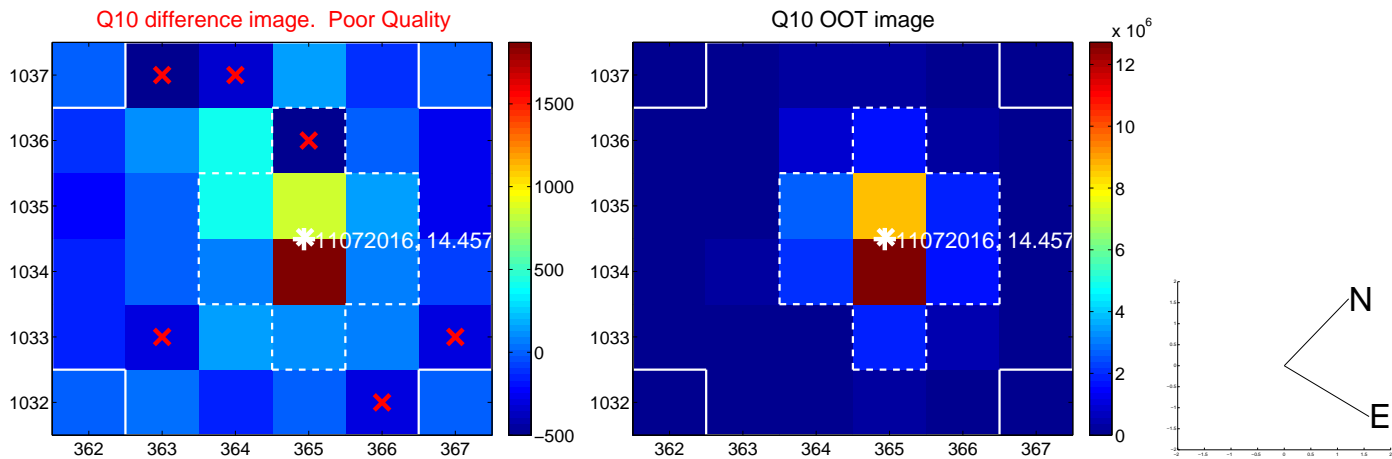
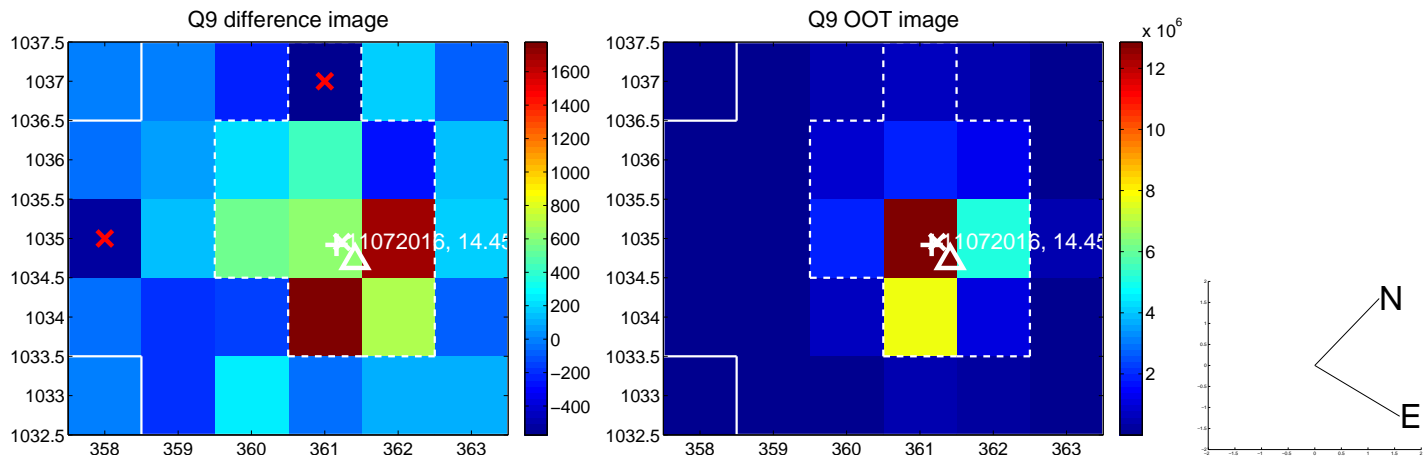
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



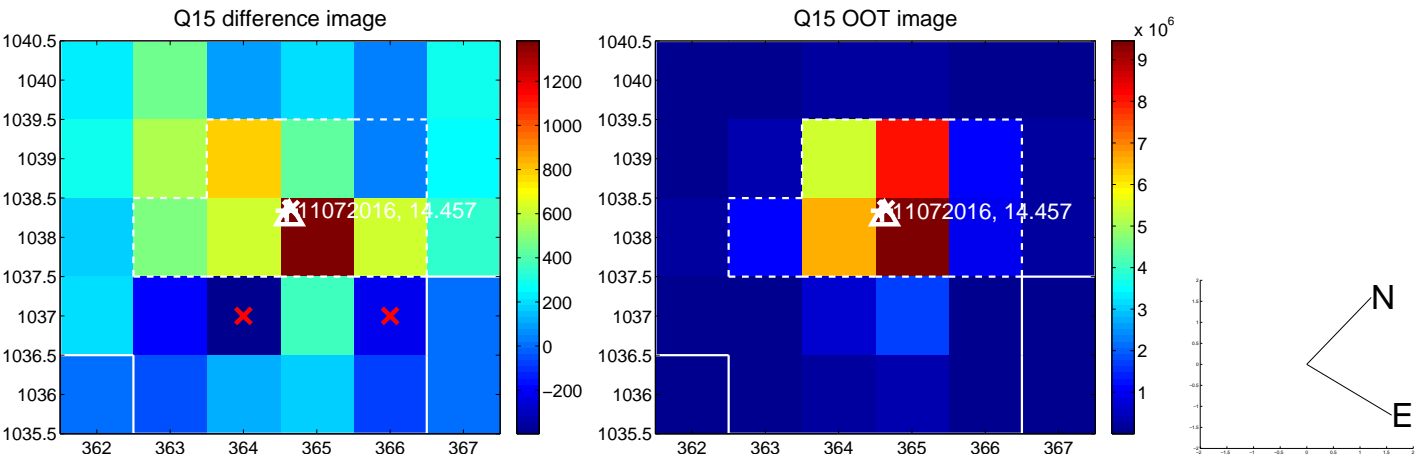
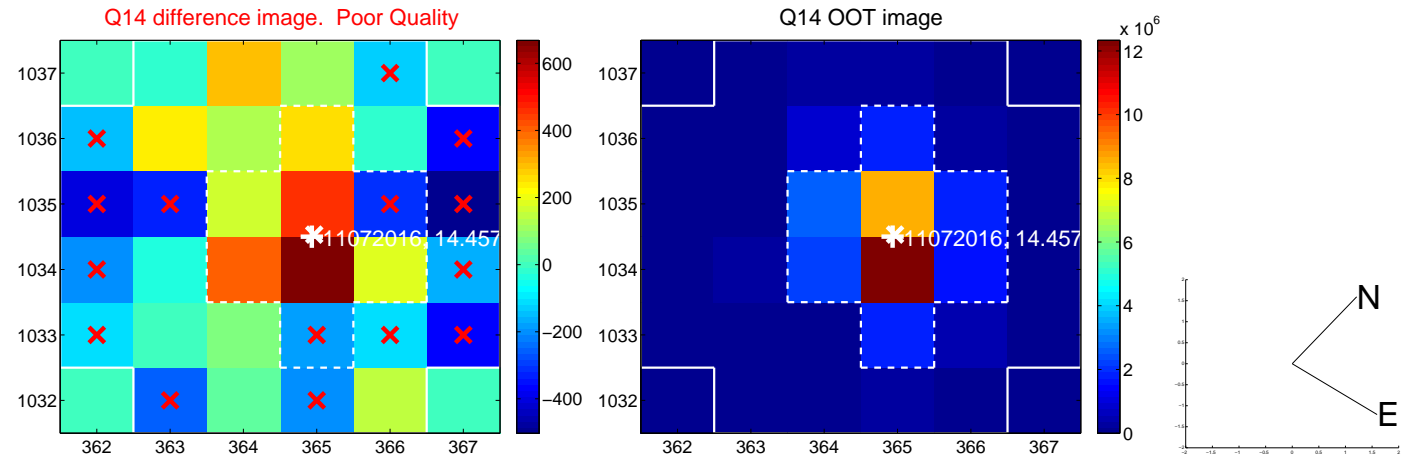
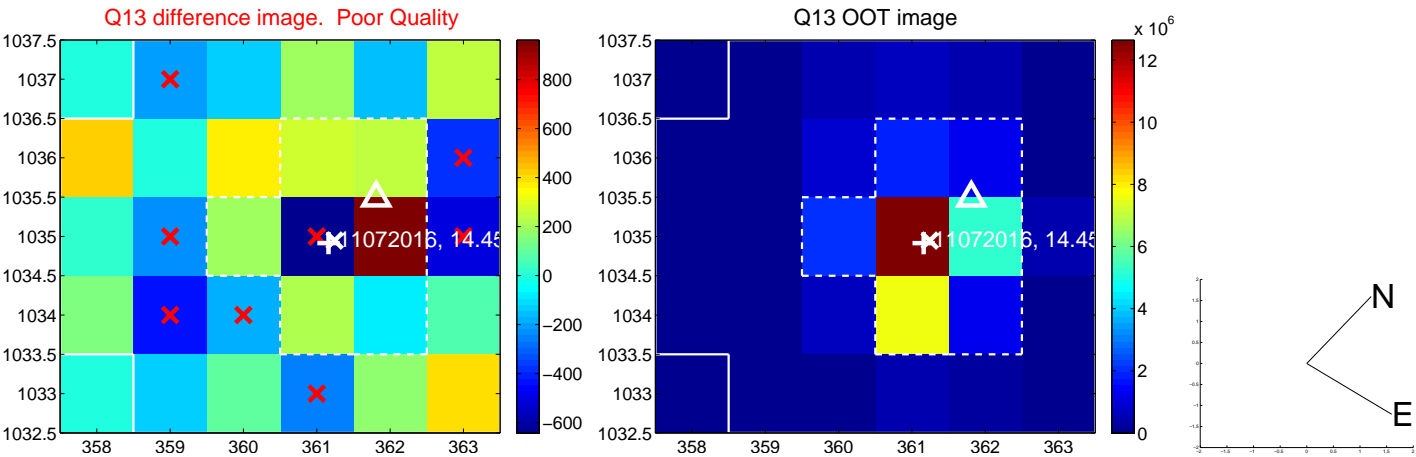
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



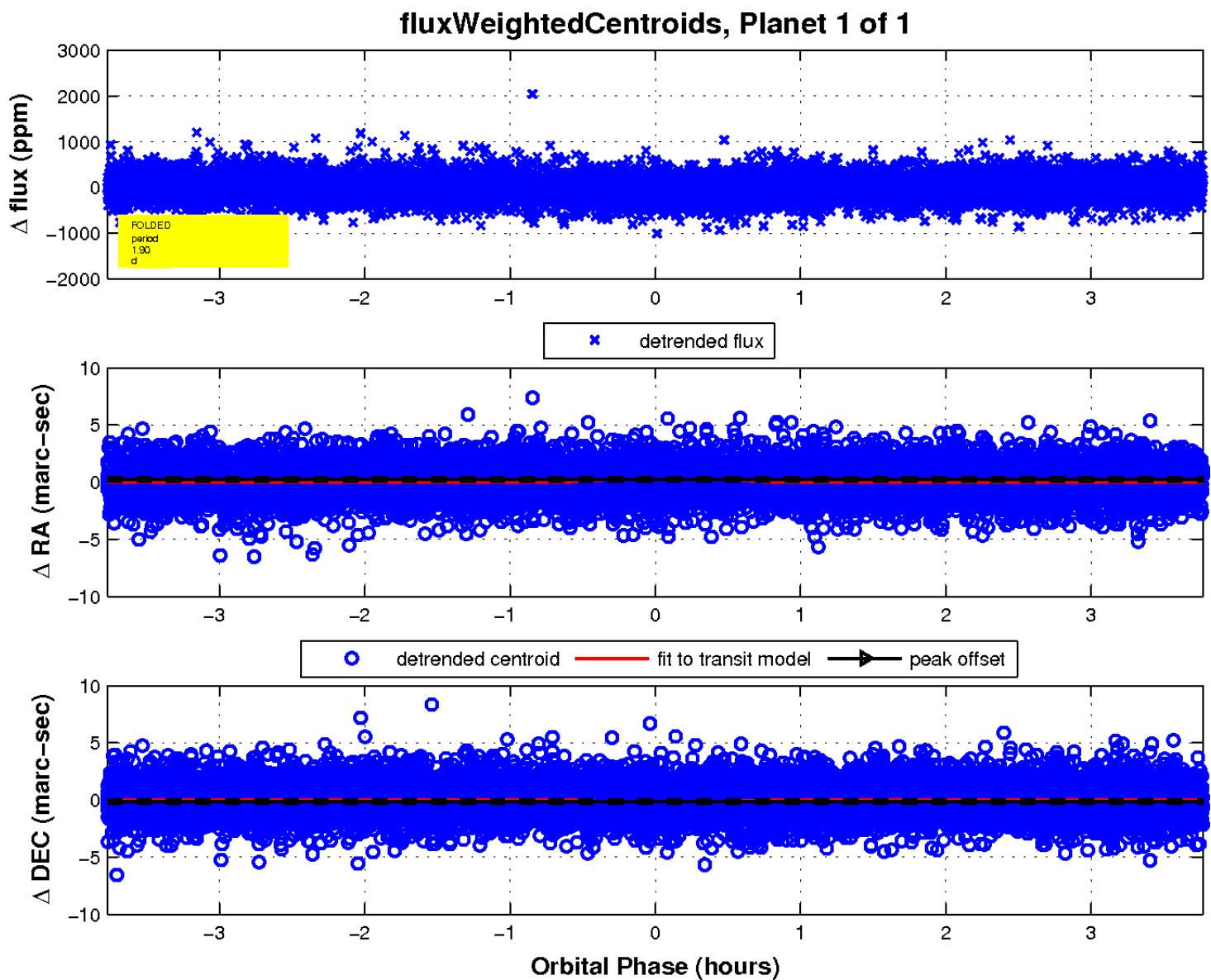
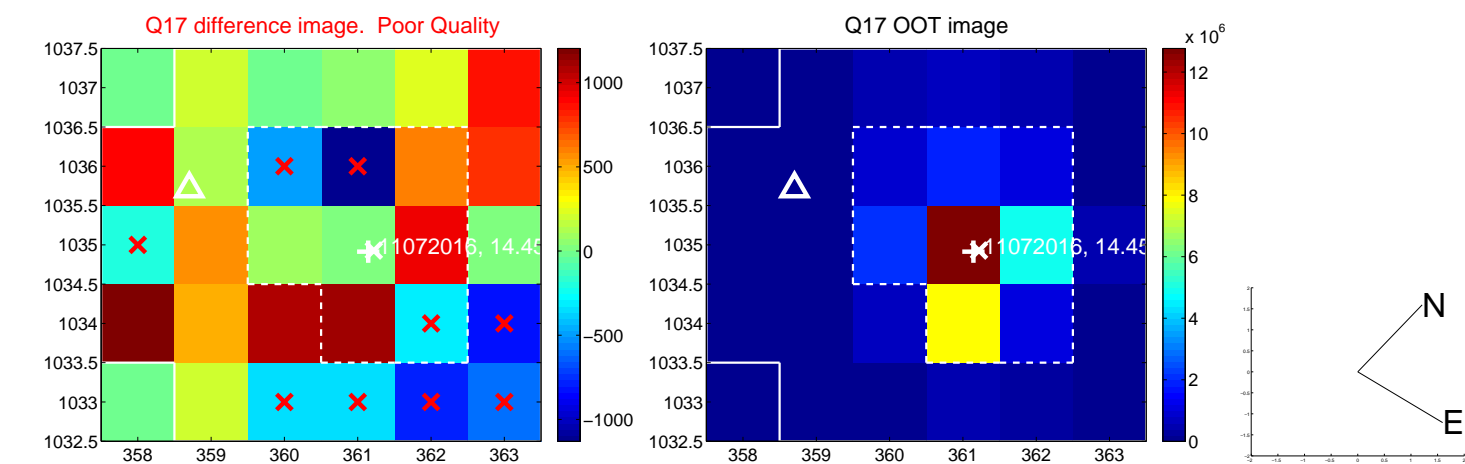
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UKIRT Image

Declination

