

KIC 010615440

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})
010615440-01	OBS	4765.01	10.811966	137.126053	74.1	2.775	9.2	9.2	1.20	6025	1.22	171.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010615440-01	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.

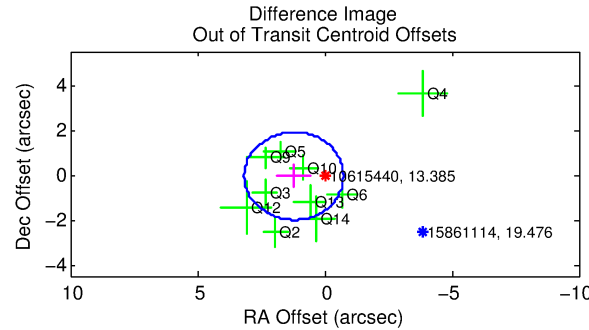
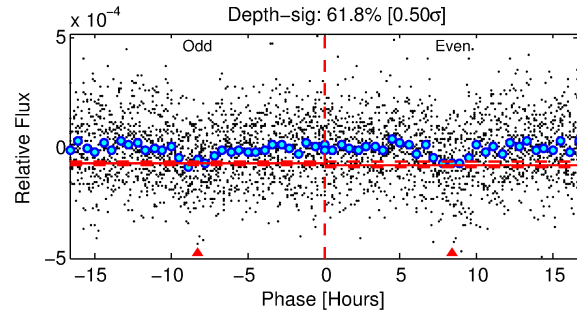
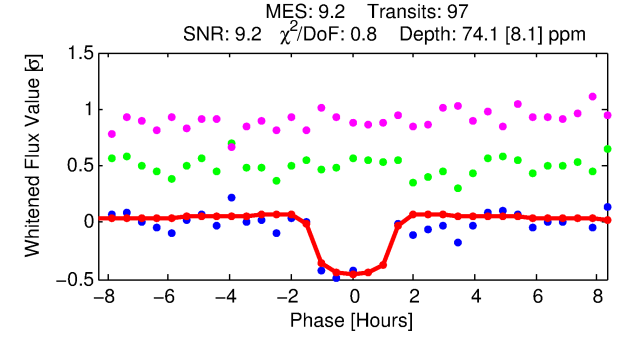
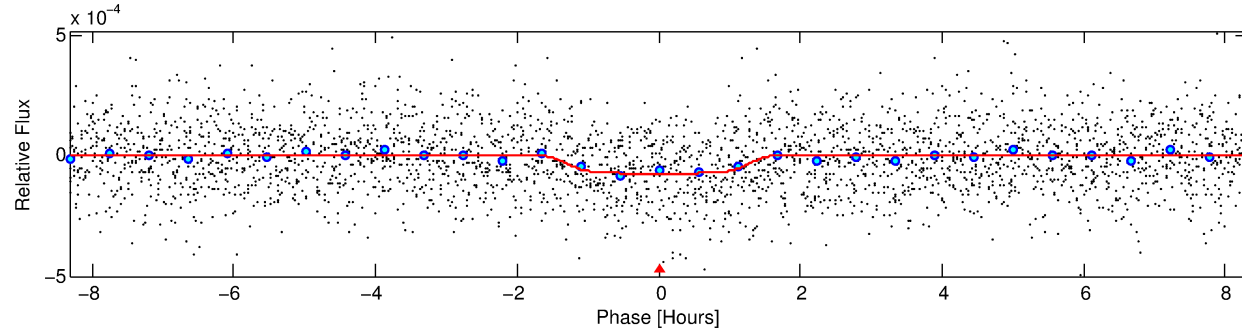
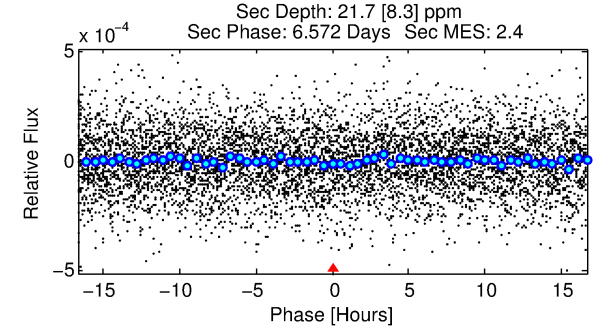
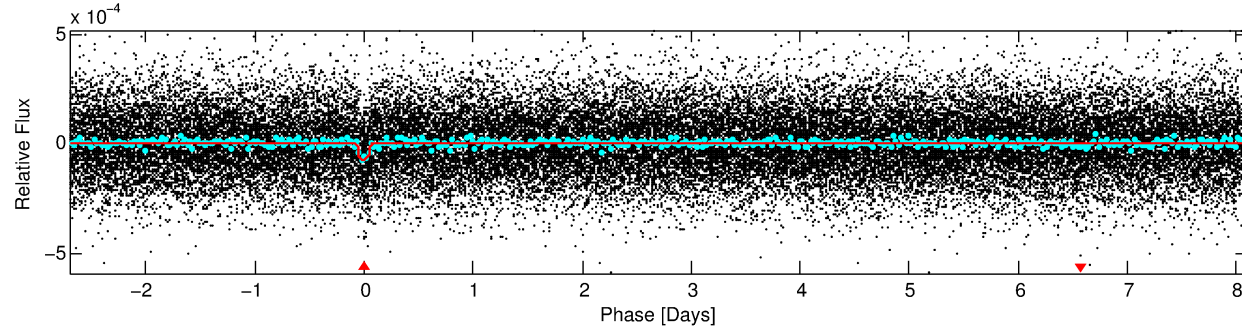
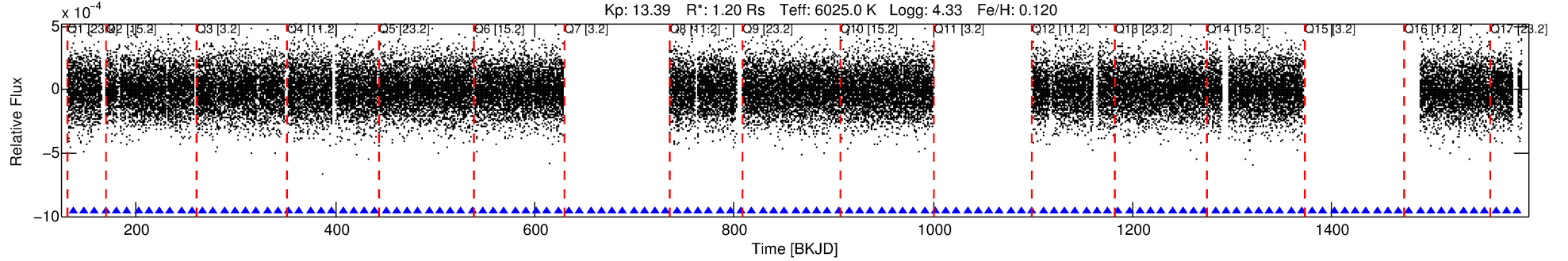
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010615440-01

No Significant Match Found

DV One-Page Summary

KIC: 10615440 Candidate: 1 of 1 Period: 10.812 d
KOI: K04765.01 Corr: 0.964



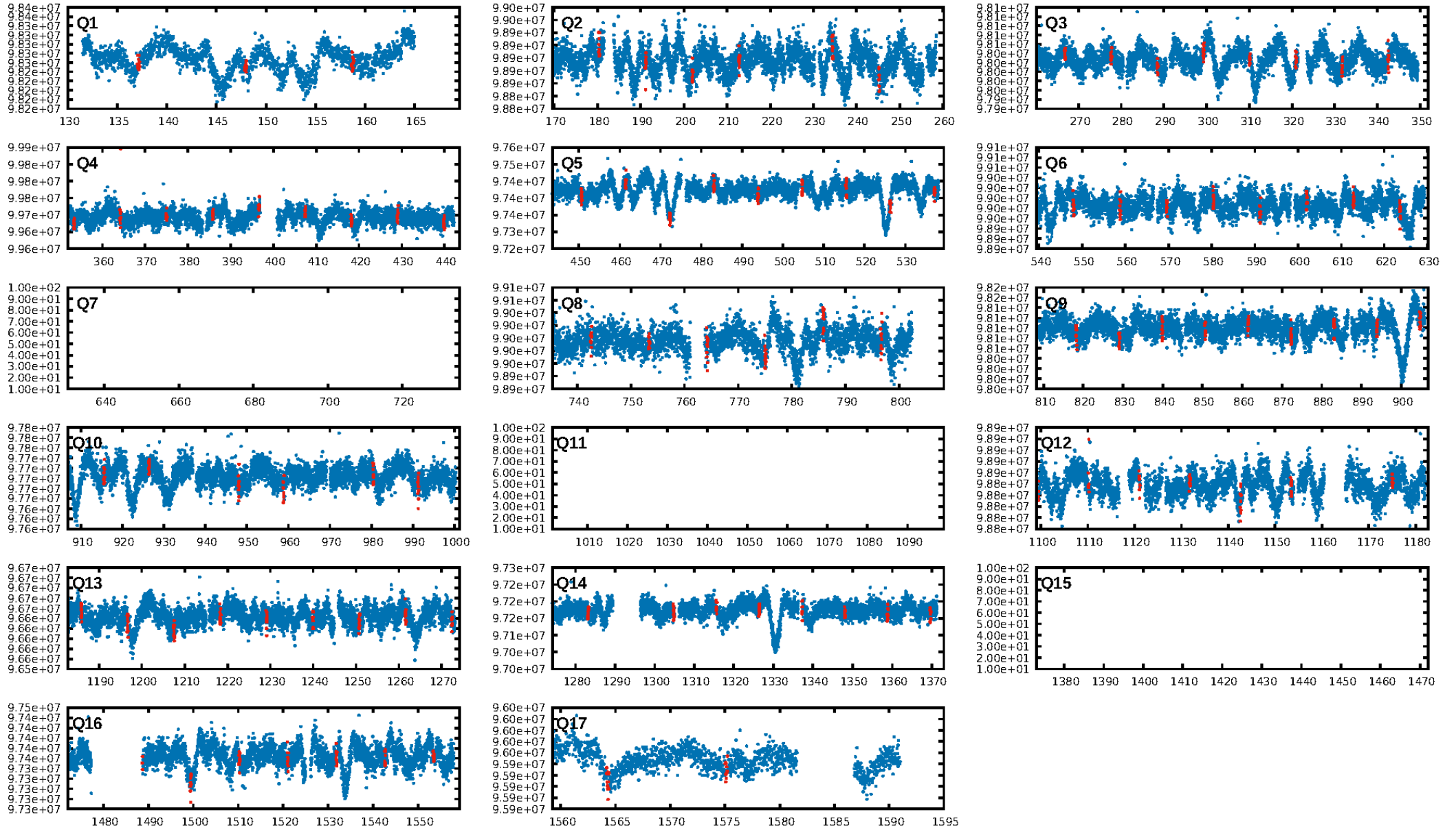
DV Fit Results:

Period = 10.81197 [0.00008] d
Epoch = 137.1261 [0.0058] BKJD
Rp/R* = 0.0093 [0.0053]
a/R* = 13.67 [39.27]
b = 0.90 [0.63]
Seff = 171.13 [39.83]
Teq = 922 [54] K
Rp = 1.22 [0.73] Re
a = 0.0993 [0.0149] AU
Ag = 79.58 [97.70] [0.80σ]
Teffp = 4259 [1287] K [2.59σ]

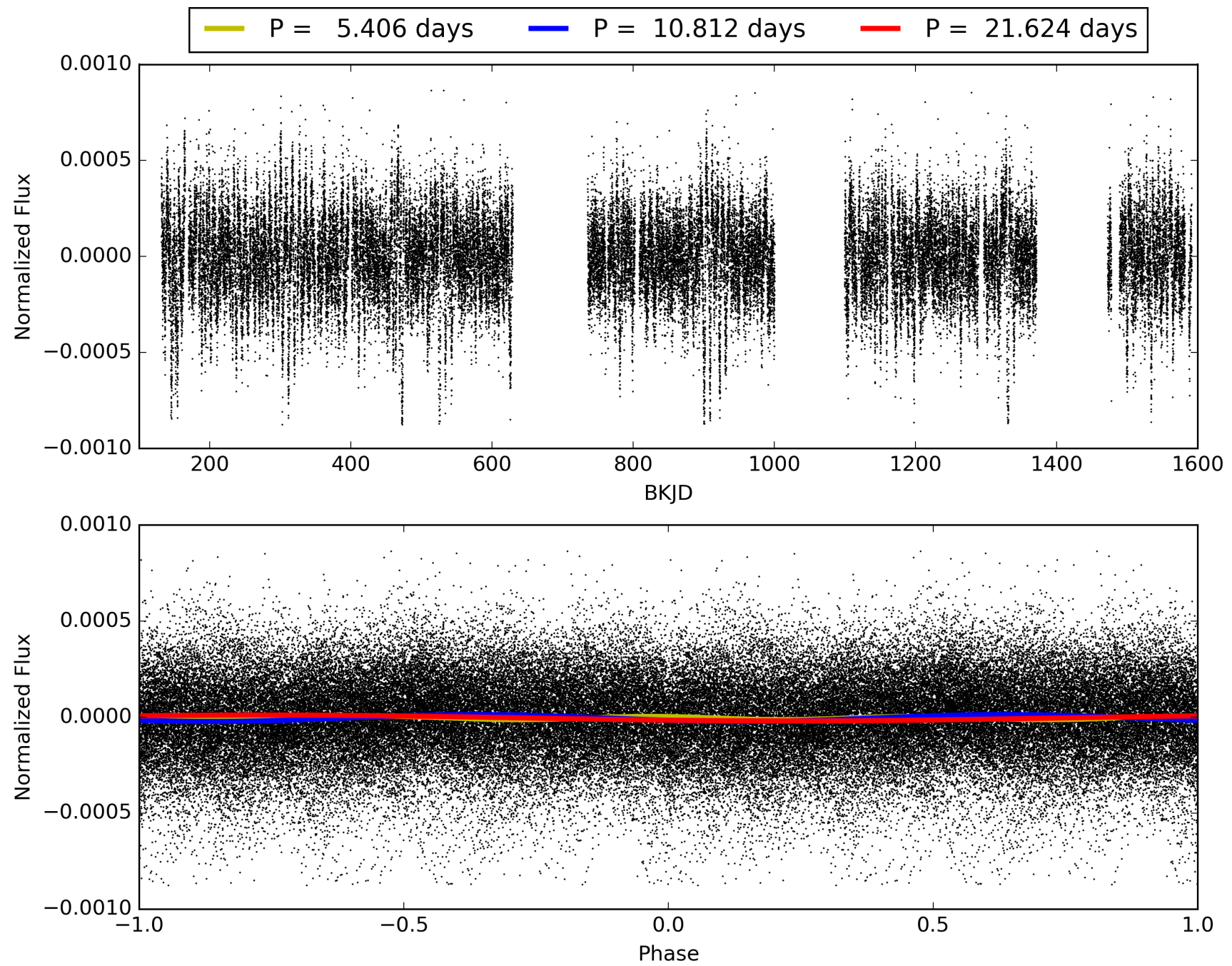
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.76e-20
RollingBand-fgt: 1.00 [92/92]
GhostDiagnostic-chr: 3.093
Centroid-sig: 32.8%
Centroid-so: 1.257 arcsec [1.06σ]
OotOffset-rm: 1.212 arcsec [1.86σ]
OotOffset-st: 4/1/2/3 [10]
KicOffset-rm: 1.036 arcsec [1.63σ]
KicOffset-st: 4/1/2/3 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010615440-01, PDC Light Curves

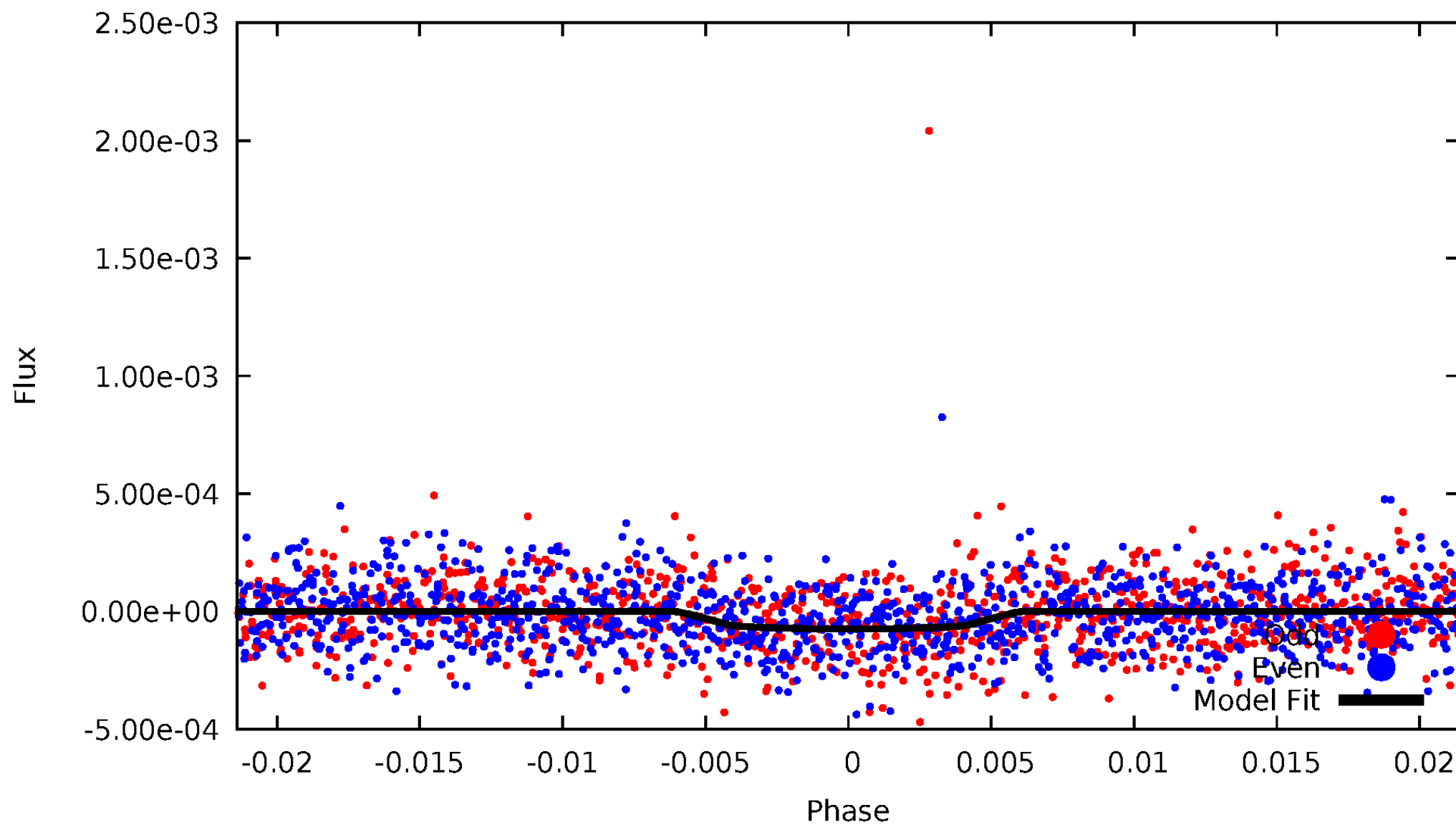


TCE 010615440-01



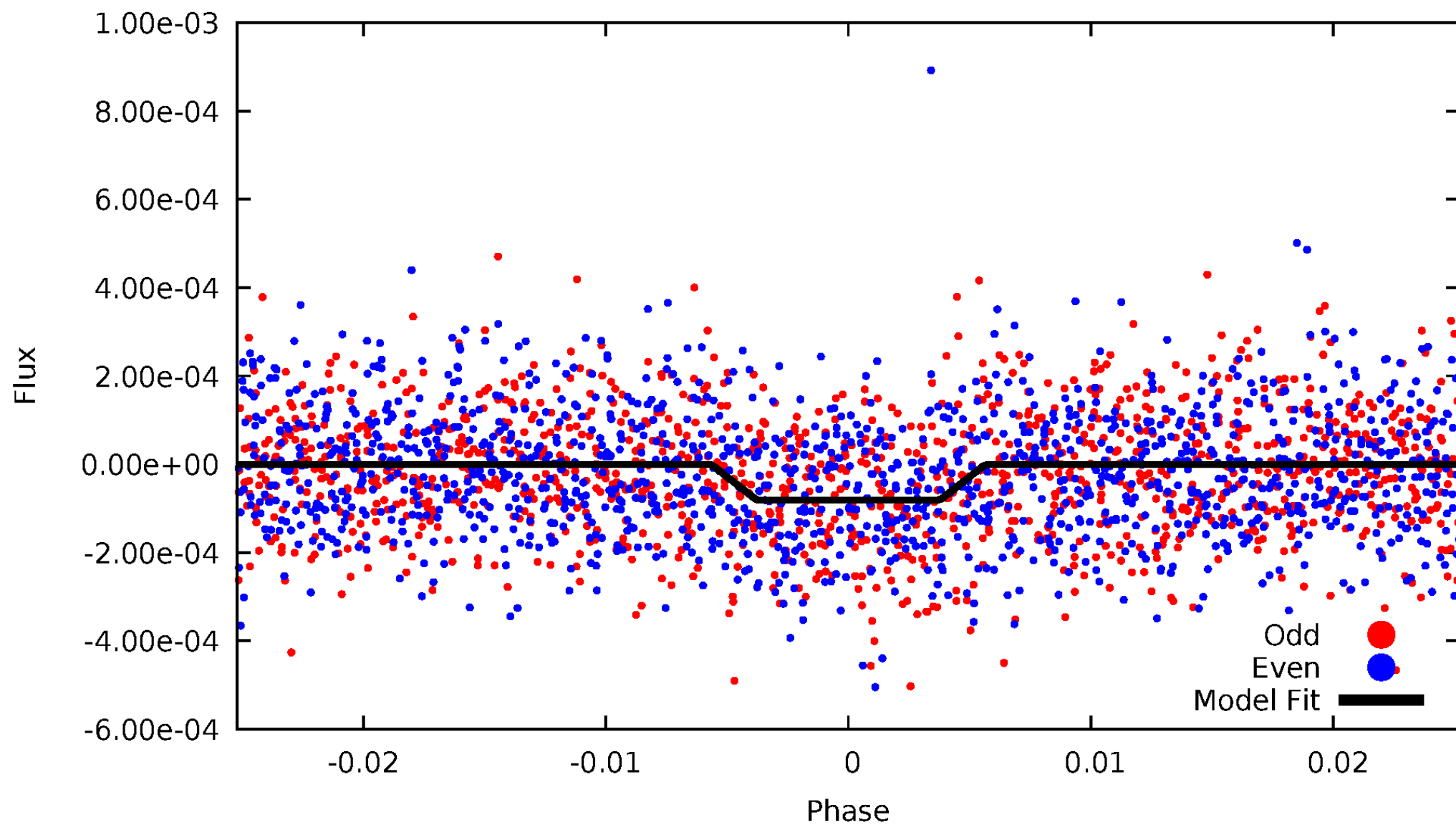
DV Odd/Even

TCE 010615440-01

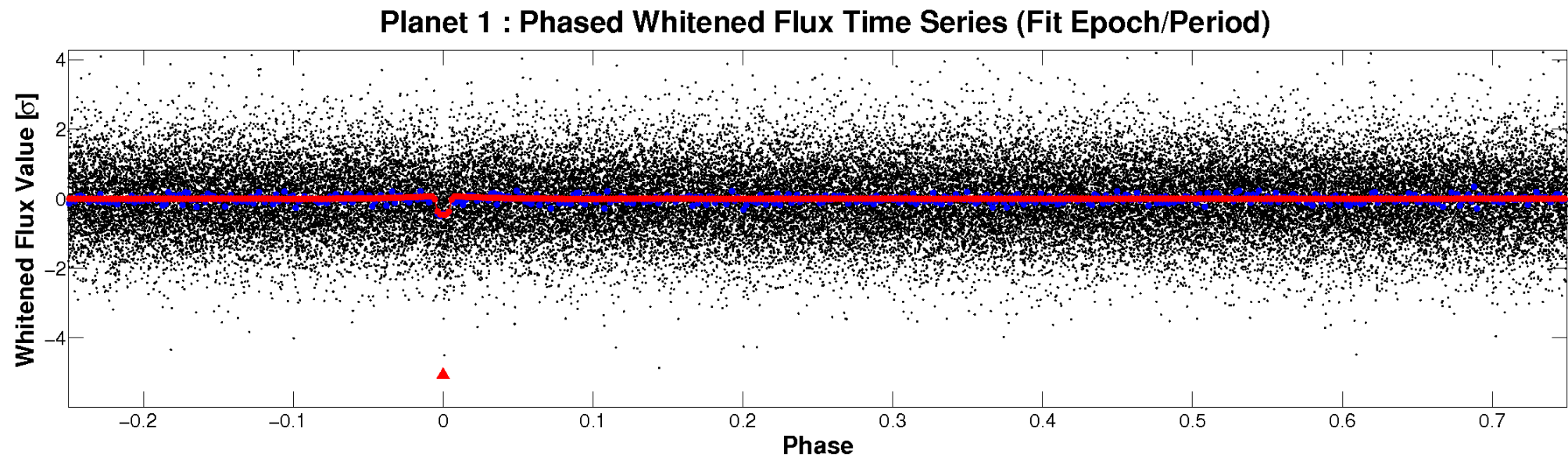
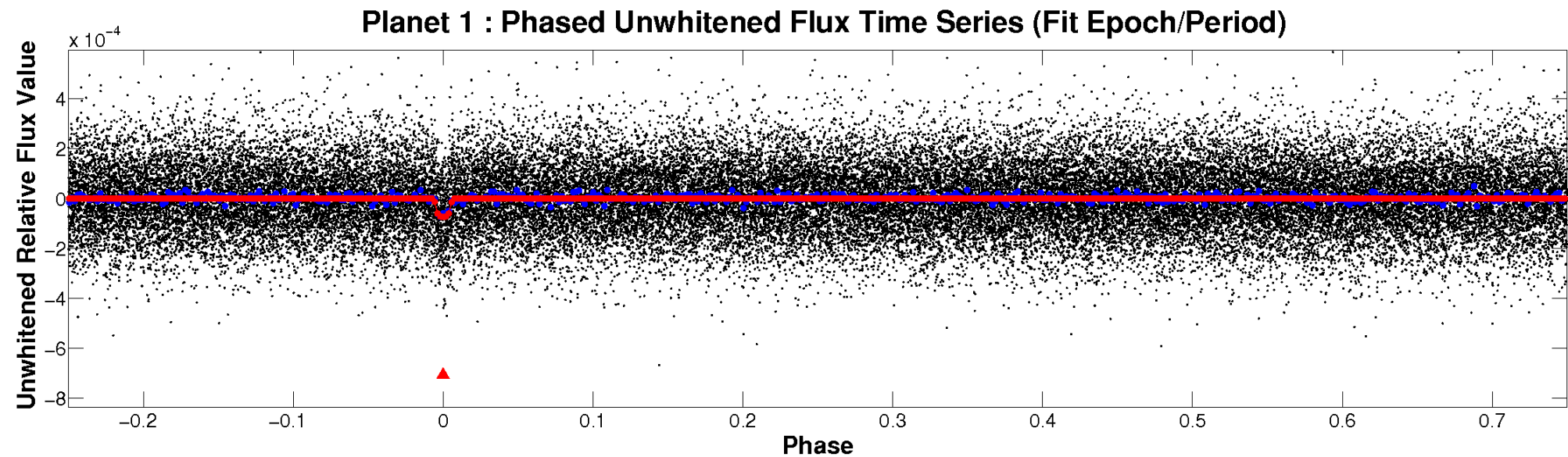


ALT Odd/Even

TCE 010615440-01

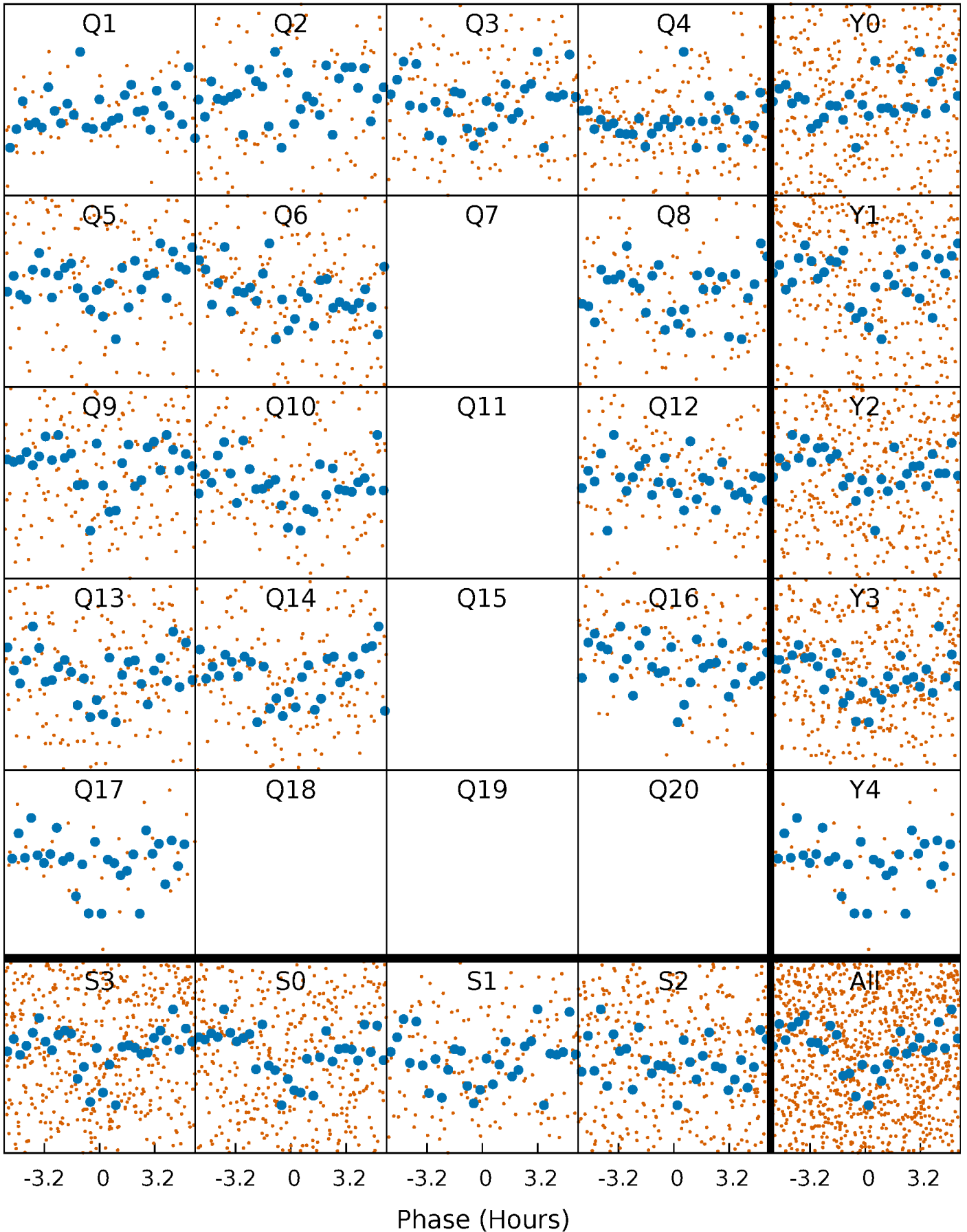


Non-Whitened Vs. Whitened Light Curve



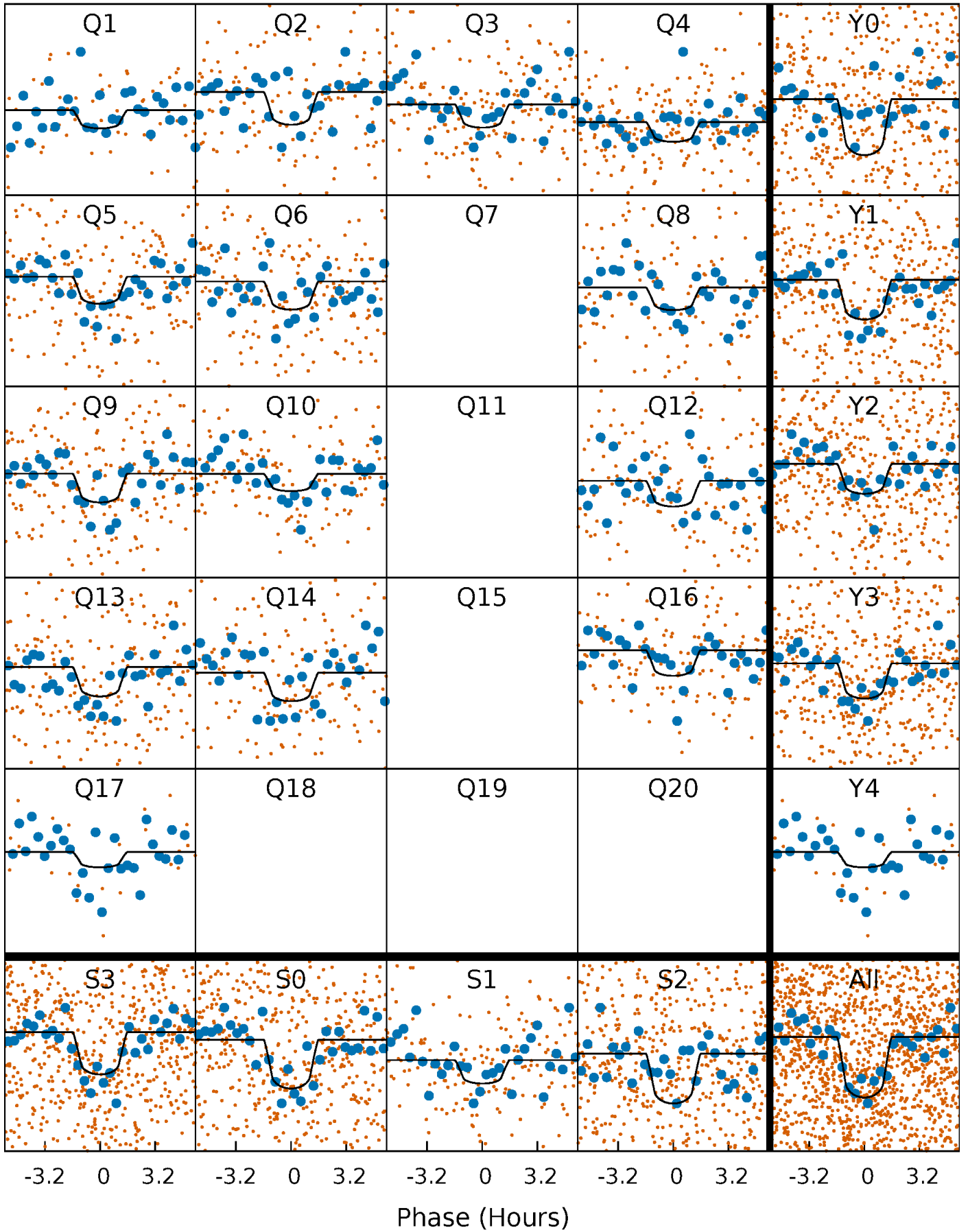
PDC Quarter-Phased Transit Curves

TCE 010615440-01 P= 10.811966 Days $T_0=137.126053$ (BKJD)



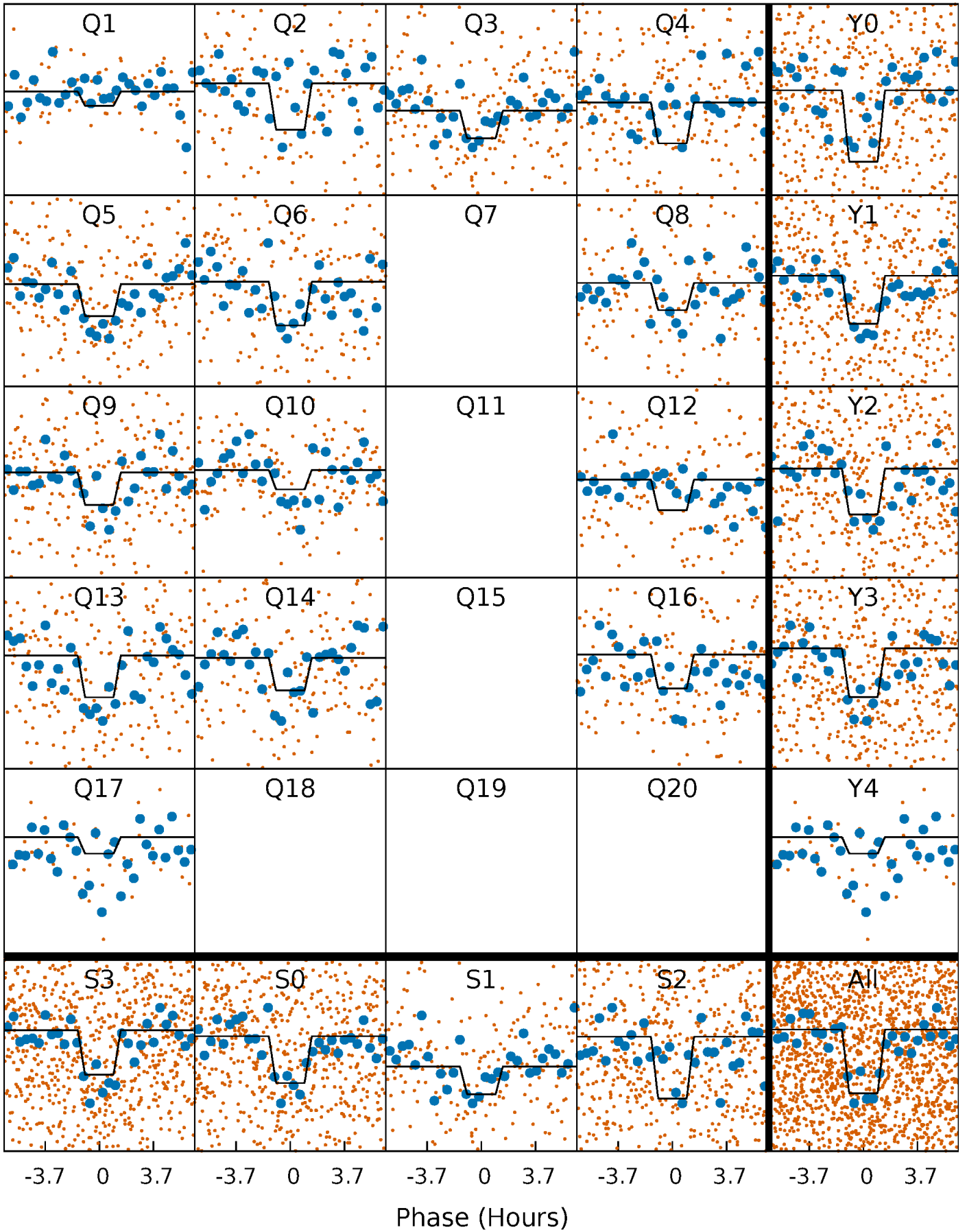
DV Quarter-Phased Transit Curves

TCE 010615440-01 P= 10.811966 Days $T_0=137.126053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

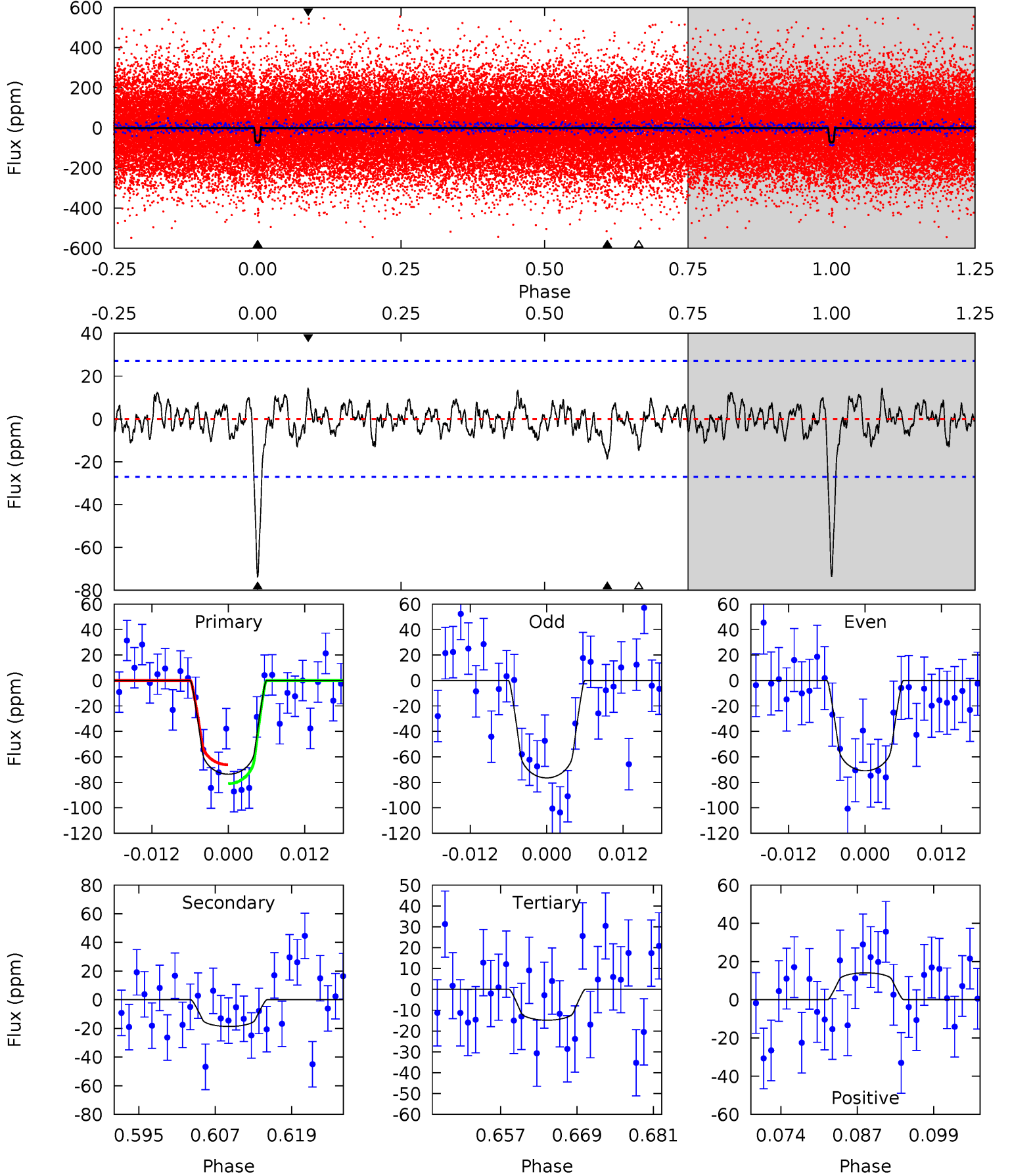
TCE 010615440-01 P= 10.811907 Days $T_0=137.130128$ (BKJD)



DV Model-Shift Uniqueness Test

010615440-01, $P = 10.811966$ Days, $E = 126.314087$ Days

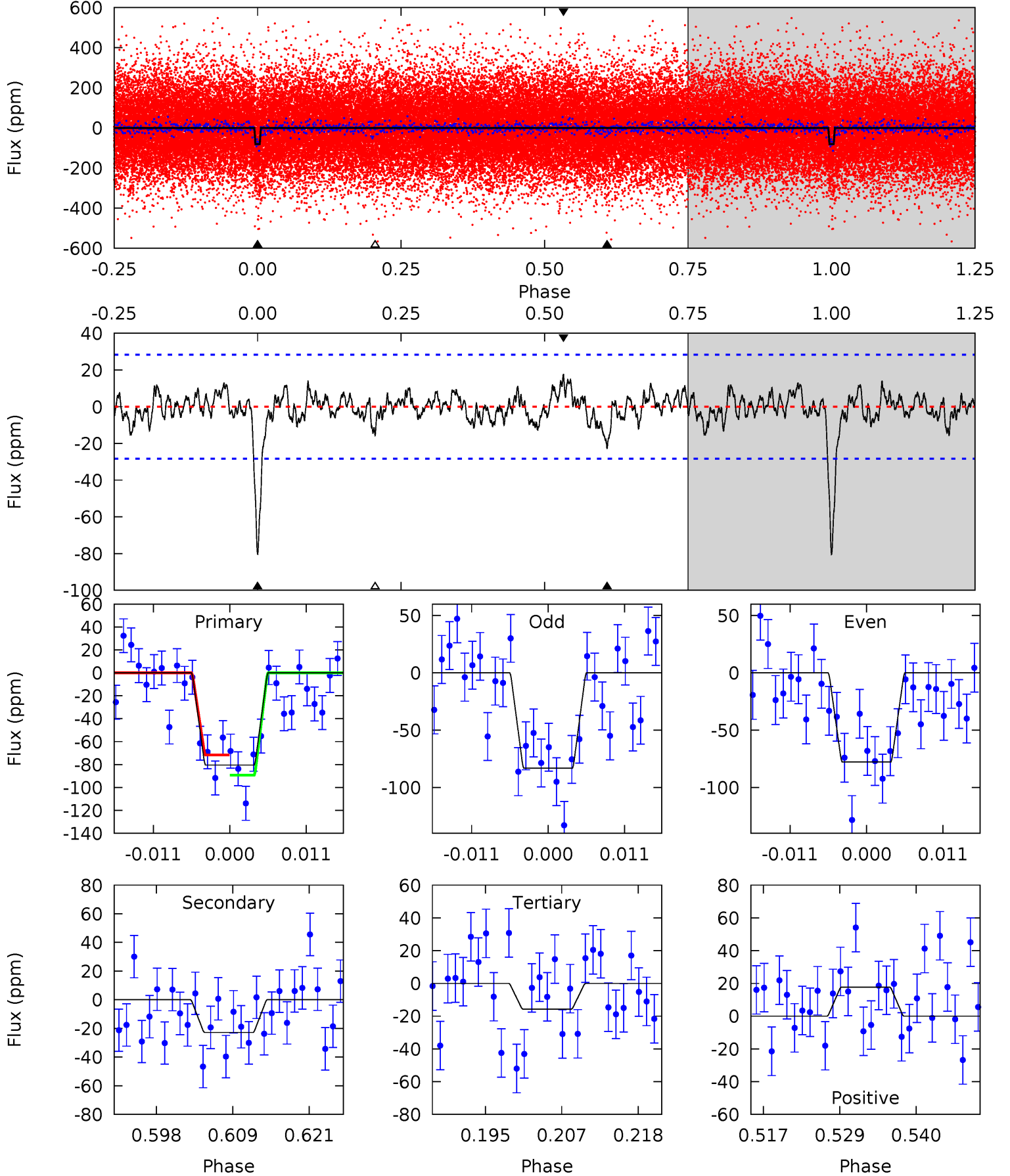
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	3.44	2.73	2.60	4.99	2.50	0.94	10.8	11.0	0.71	0.84	0.52	1.04	0.16	1.37



Alt Model-Shift Uniqueness Test

010615440-01, P = 10.811907 Days, E = 126.318221 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	4.02	2.77	3.12	5.00	2.53	1.05	11.4	11.1	1.25	0.90	0.47	0.99	0.18	1.55



Stellar Parameters For KIC 010615440

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6025^{+78}_{-90}	$4.331^{+0.084}_{-0.126}$	$0.120^{+0.150}_{-0.150}$	$1.196^{+0.206}_{-0.120}$	$1.119^{+0.078}_{-0.078}$	$0.922^{+0.318}_{-0.331}$
	+1%/-1%	+2%/-3%	+125%/-125%	+17%/-10%	+7%/-7%	+34%/-36%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010615440-01 / KOI 4765.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 5	$1.30^{+0.69}_{-0.69}$	1292^{+56}_{-44}	4241^{+1448}_{-610}	61^{+185}_{-37}
Alt.	-23 ± 6	$1.23^{+0.70}_{-0.63}$	1292^{+58}_{-43}	4481^{+1697}_{-684}	82^{+257}_{-50}

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

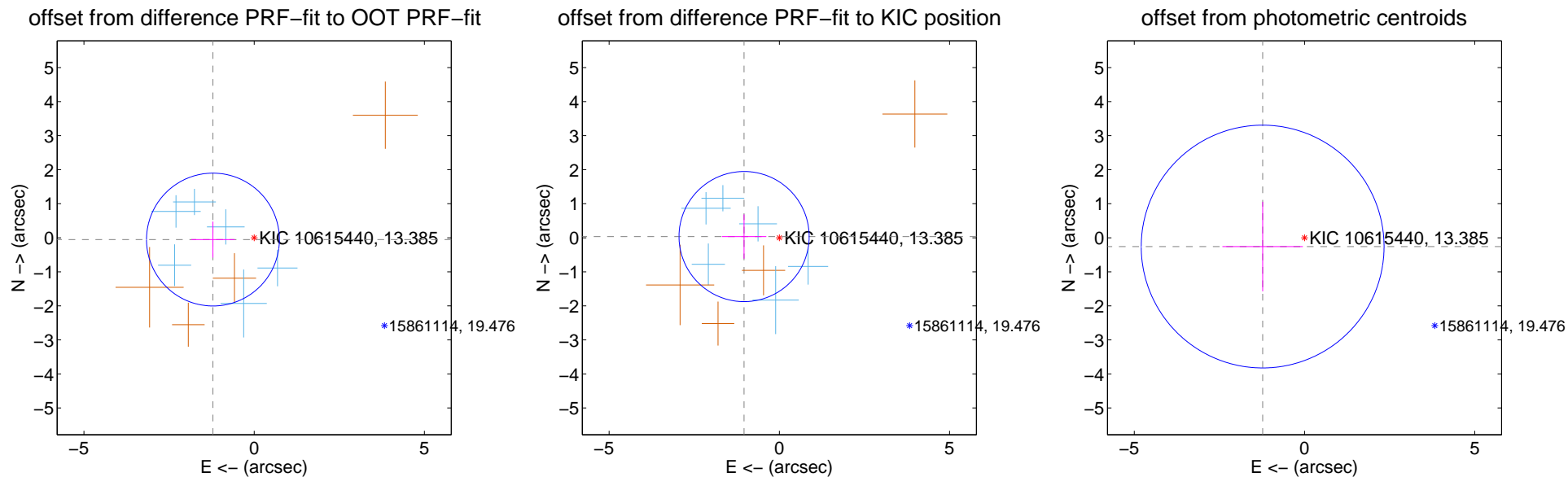
DV Centroid Data

Supplemental centroid analysis for 010615440-01. Kepler magnitude: 13.38. Transit SNR 9.21

There are 6 quarters with good PRF difference image offsets

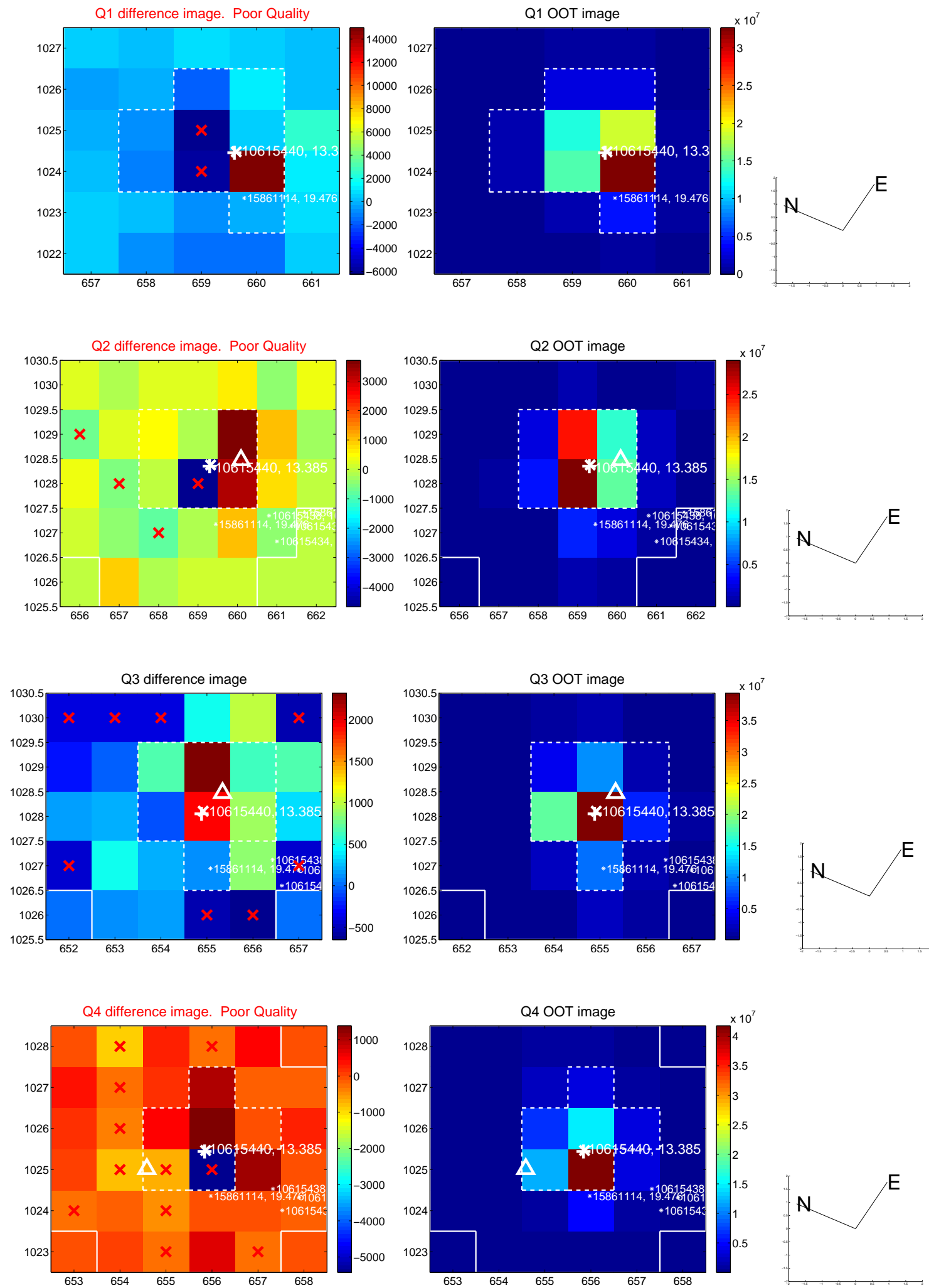
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.212 ± 0.651	1.86	1.211 ± 0.636	-0.053 ± 0.528
PRF-fit source offset from KIC position	1.036 ± 0.637	1.63	1.036 ± 0.654	0.036 ± 0.650
photometric centroid source offset	1.26 ± 1.19	1.06	1.23 ± 1.18	-0.26 ± 1.31

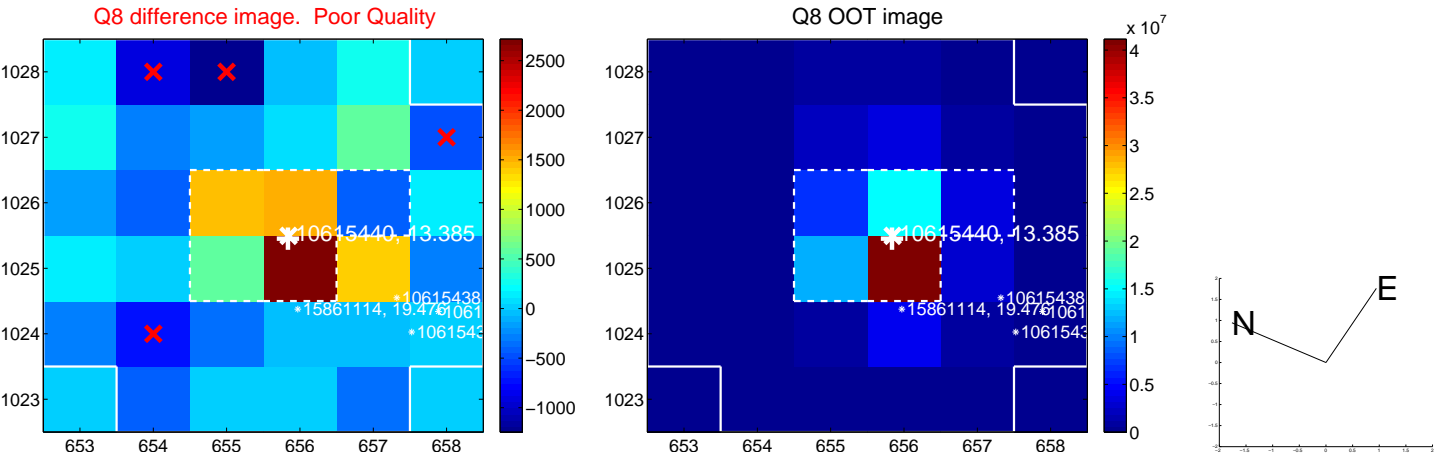
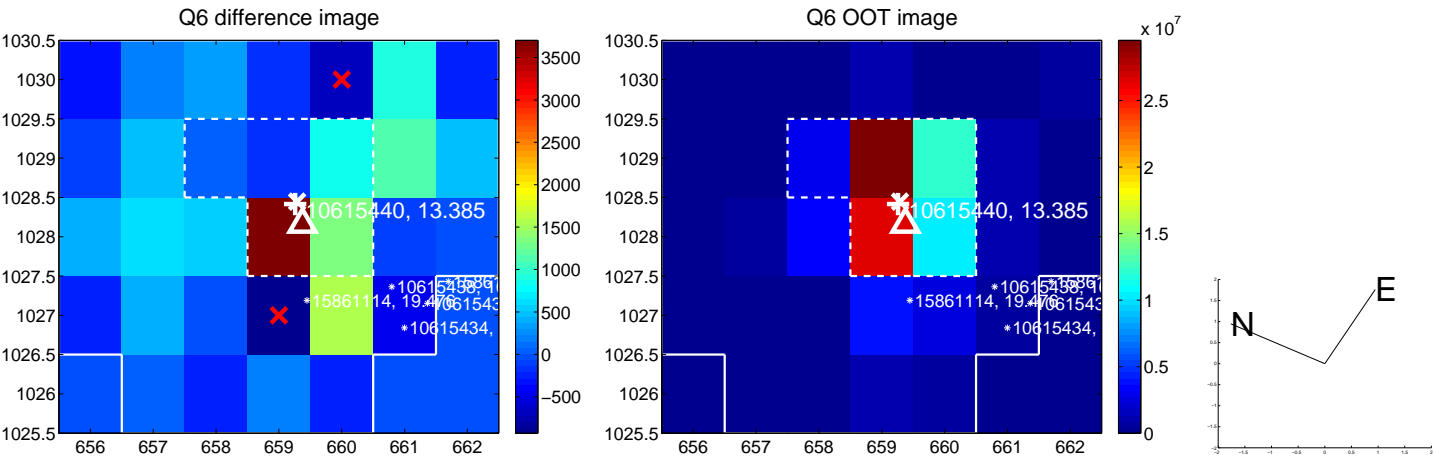
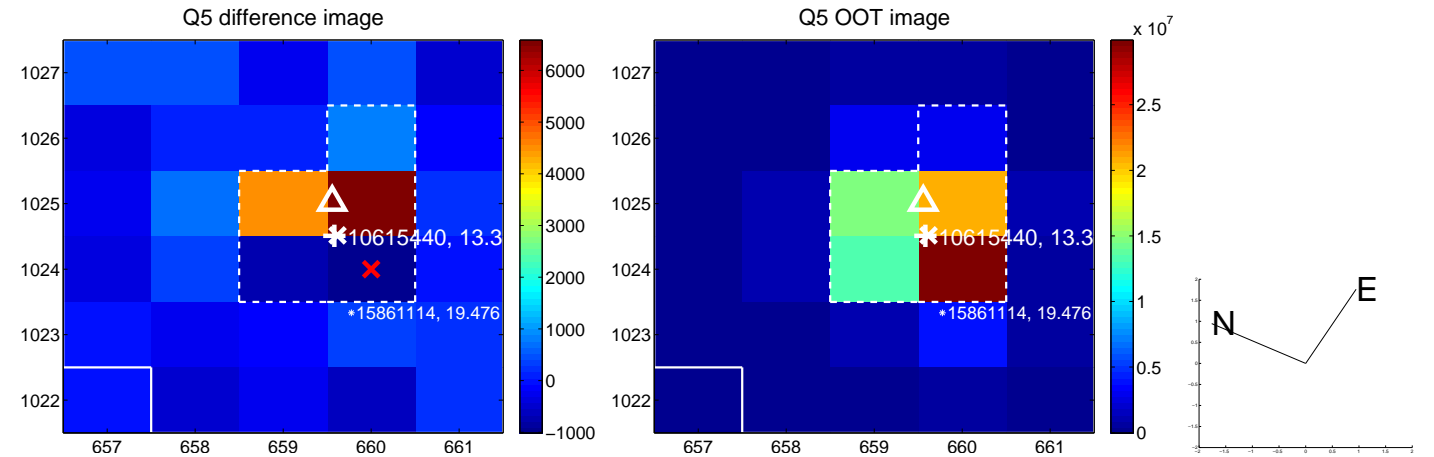


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

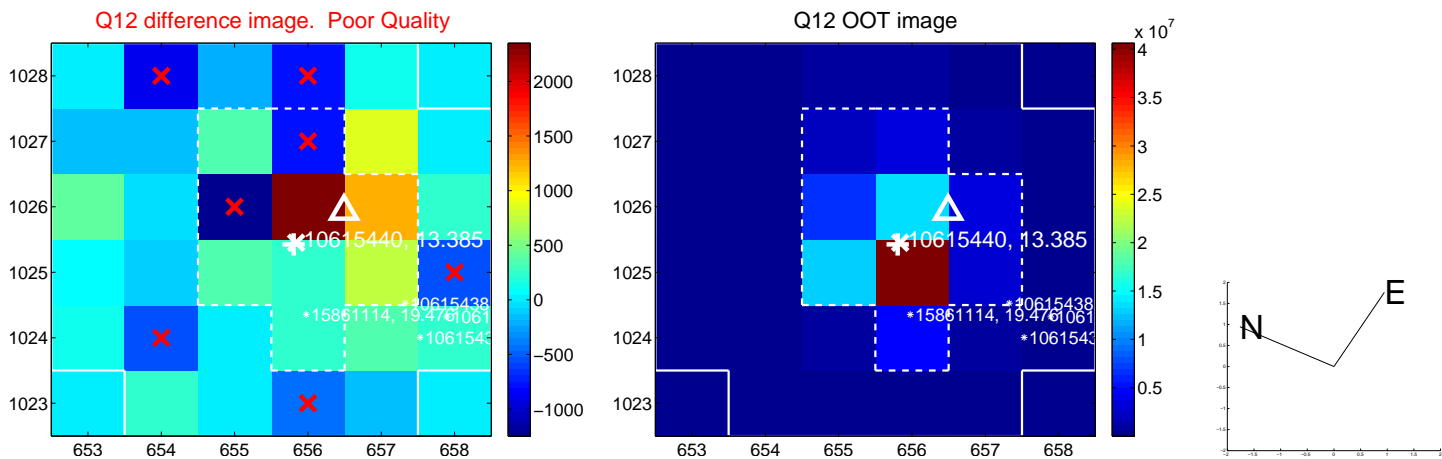
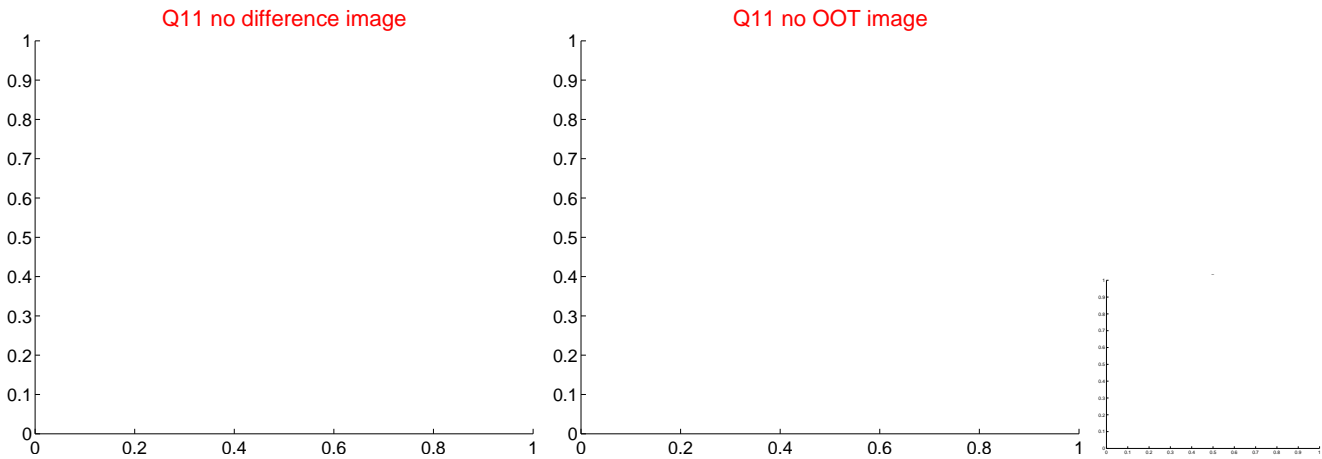
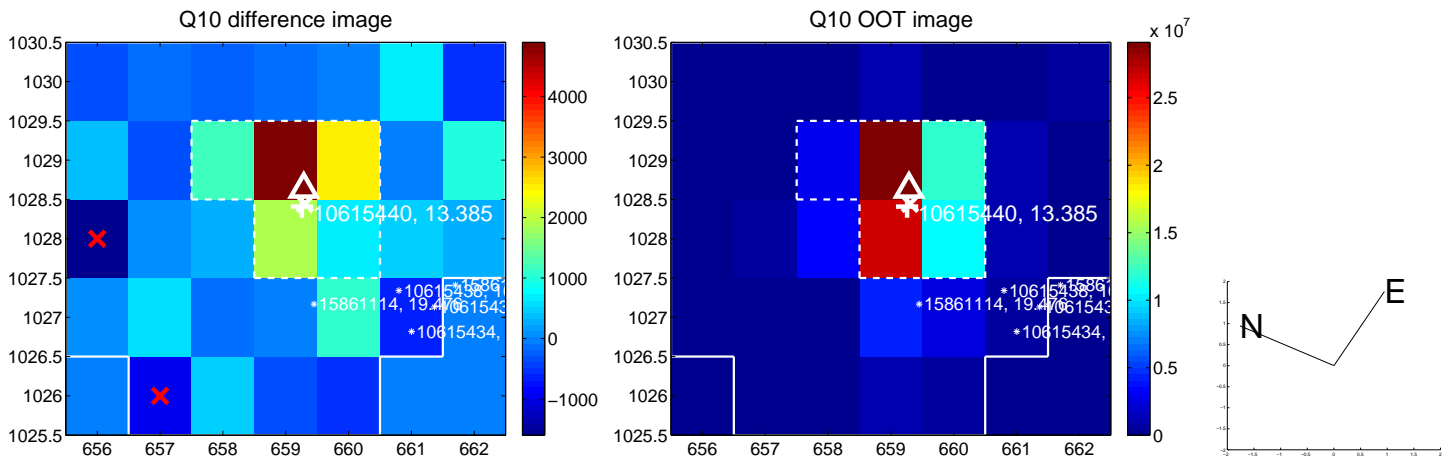
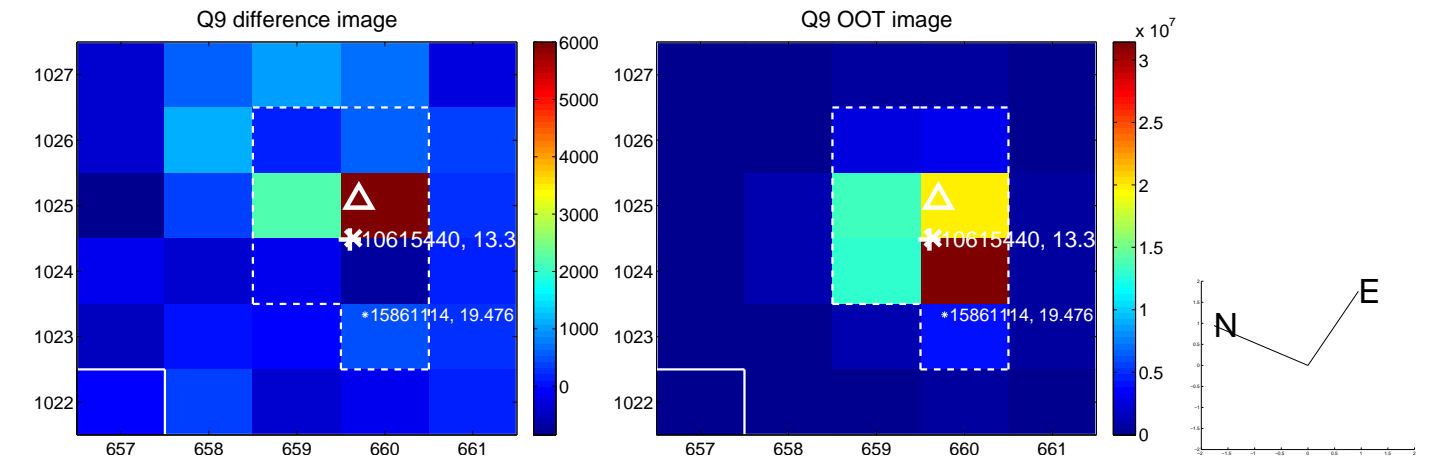
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



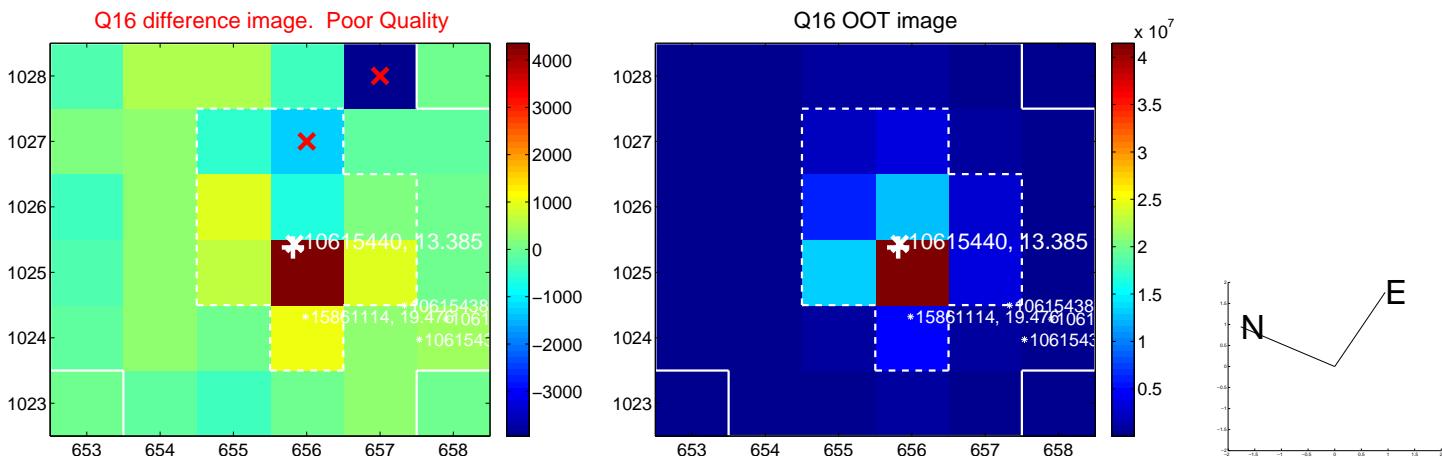
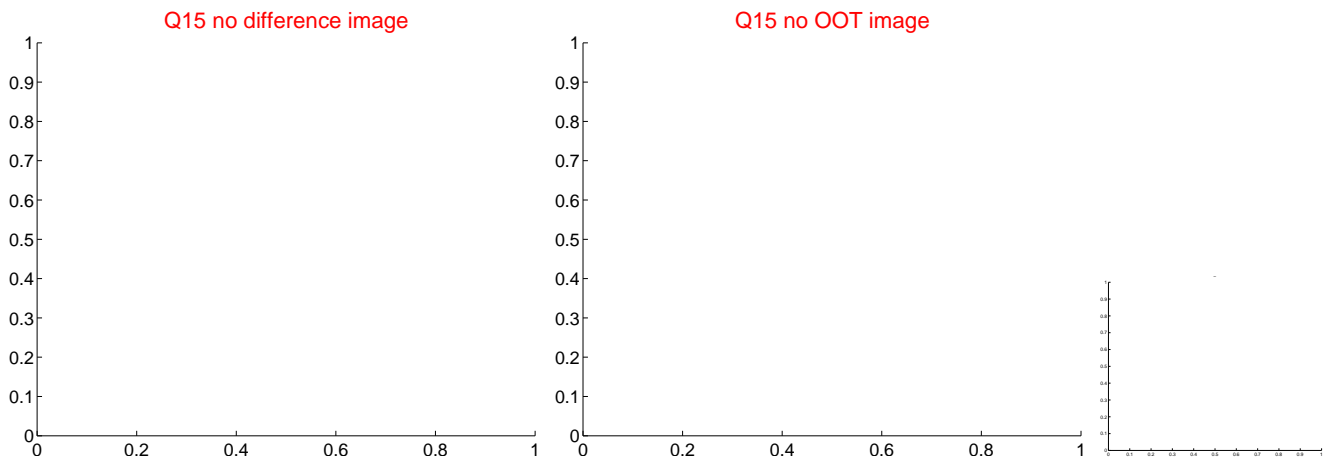
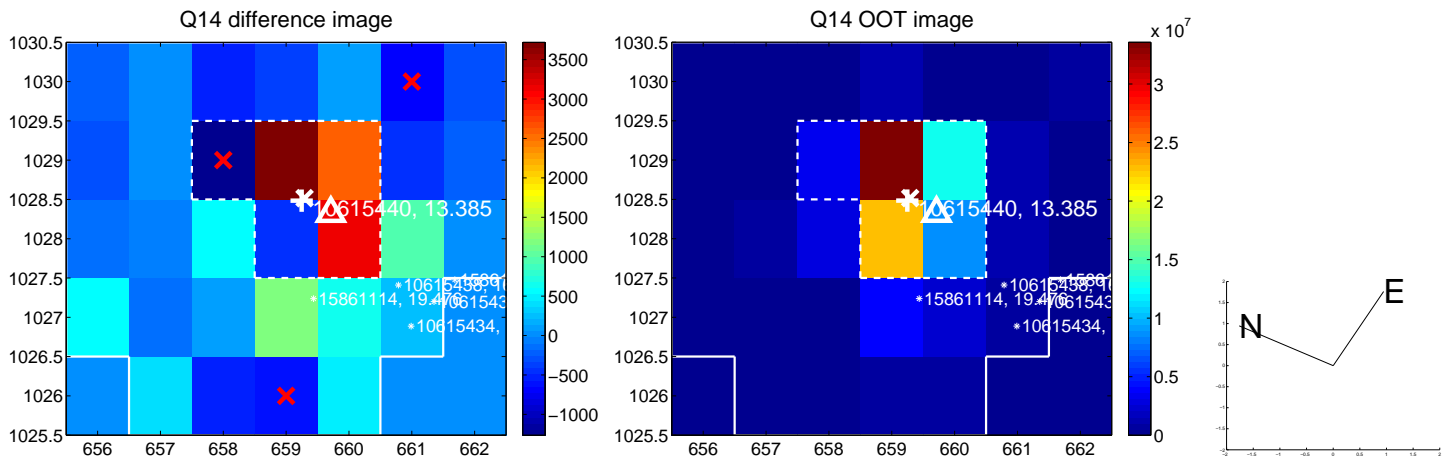
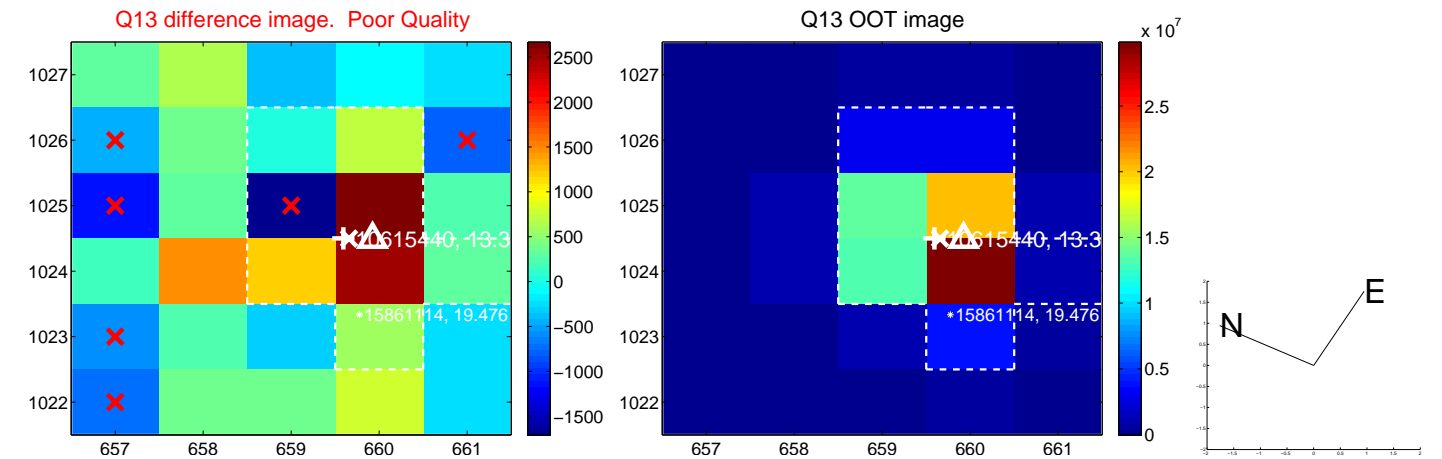
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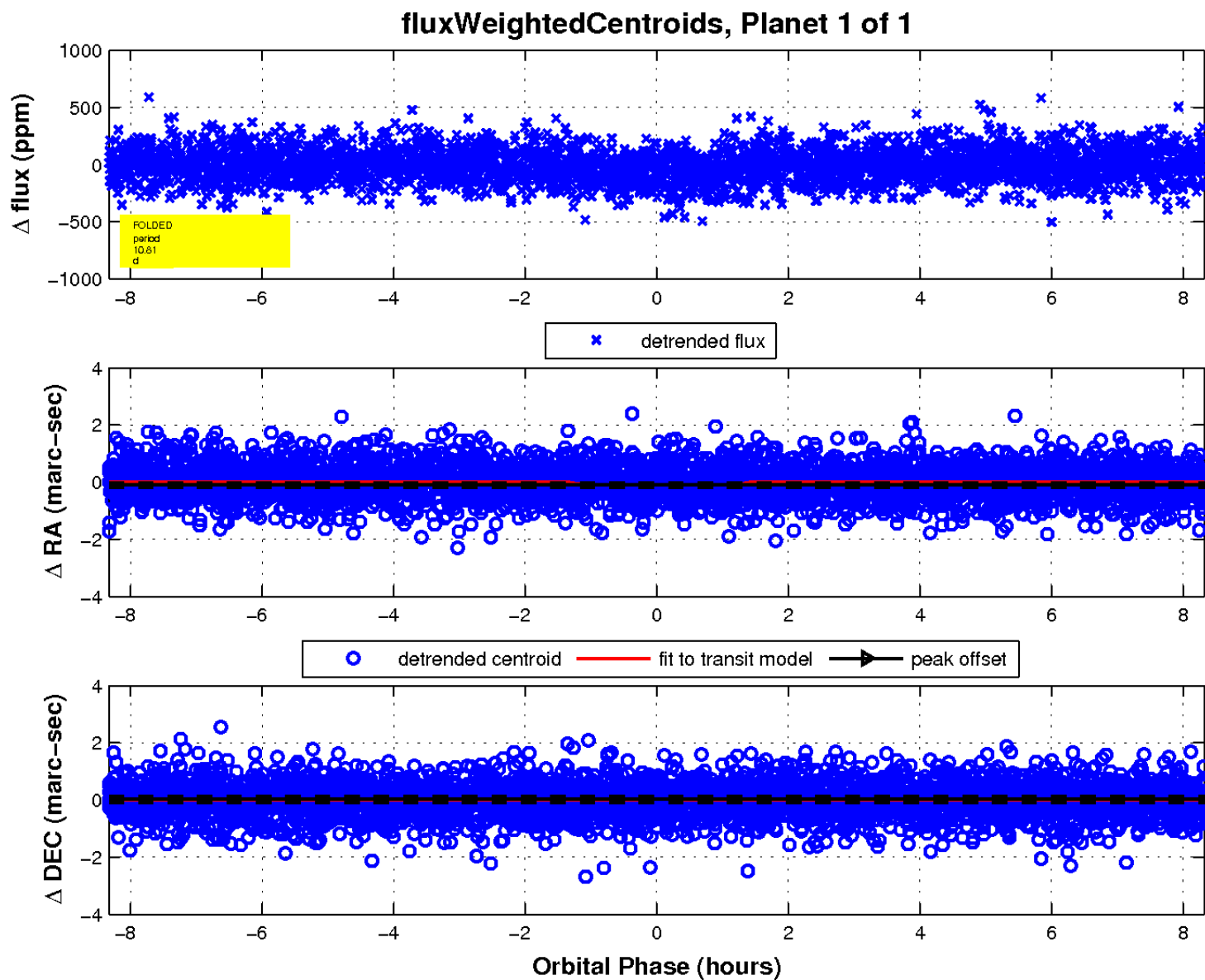
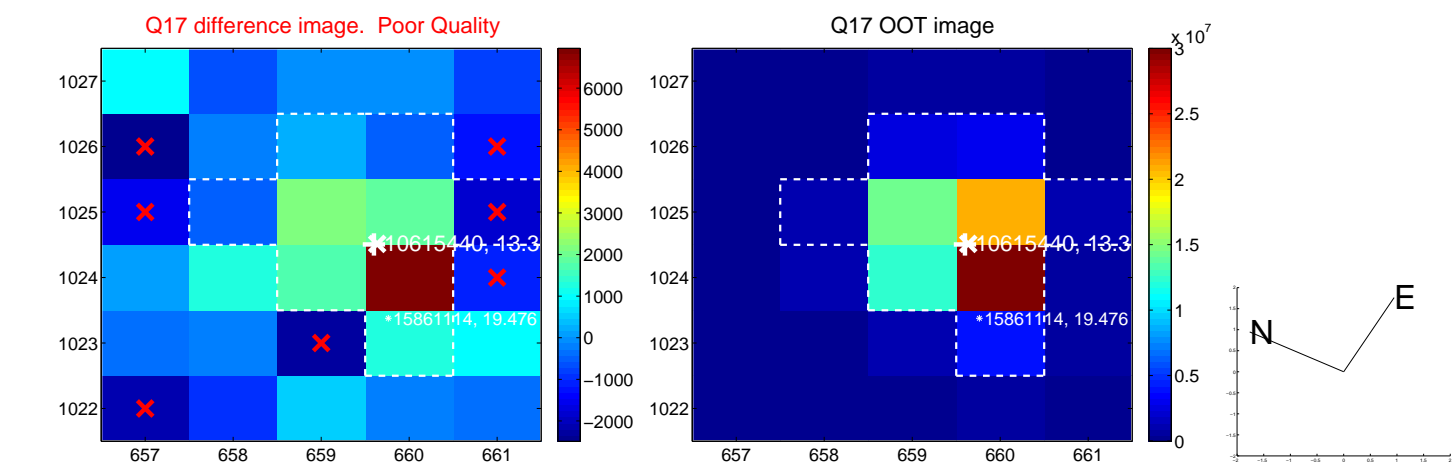
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UKIRT Image

Declination

