

KIC 006675056

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})
006675056-01	OBS	0859.01	10.443329	133.630342	1281.8	3.809	48.8	52.2	0.80	4947	4.99	46.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006675056-01	OBS	FP	0.00	0	1	1	1	DEEP_V_SHAPED—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 006675056-01

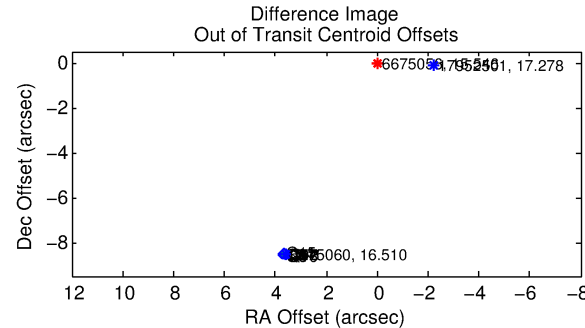
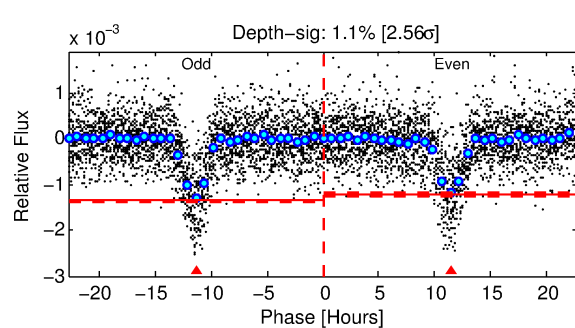
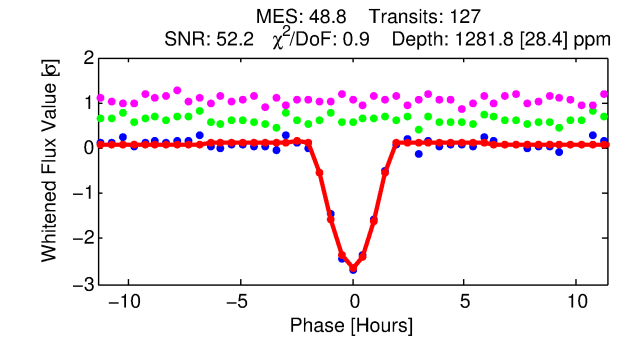
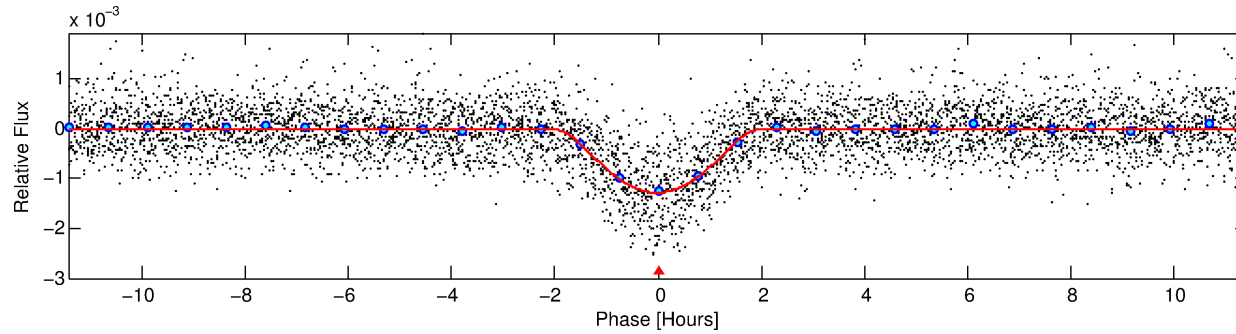
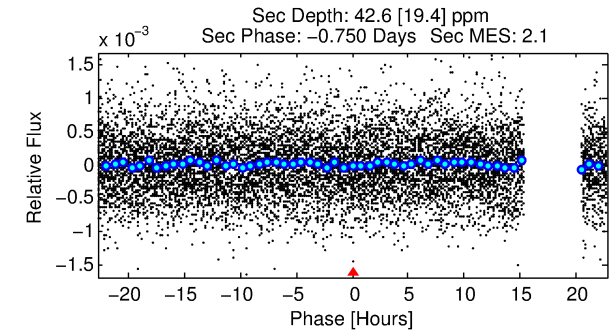
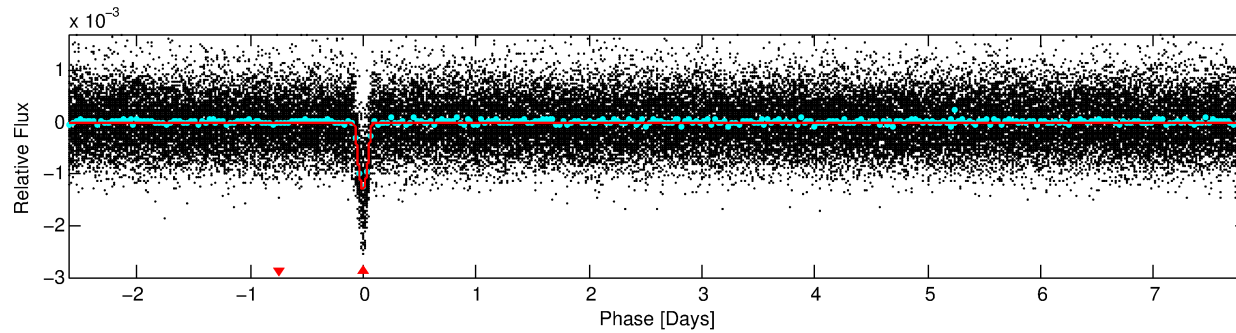
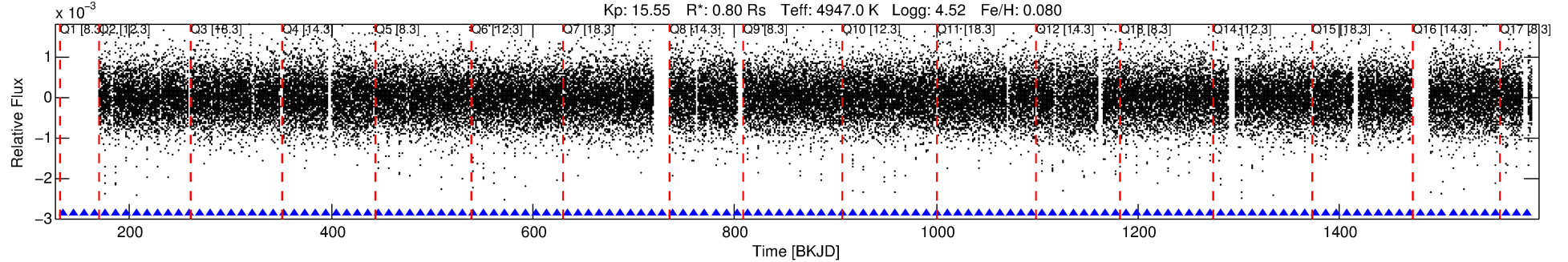
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006675056-01	6675056	3611.01	6675060	1:1	9.3	1	2	16.51	15.55	130.83	Direct-PRF	0	0.04	0.04

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 6675056 Candidate: 1 of 1 Period: 10.443 d
KOI: K00859.01 Corr: 0.991

Kp: 15.55 R*: 0.80 Rs Teff: 4947.0 K Logg: 4.52 Fe/H: 0.080



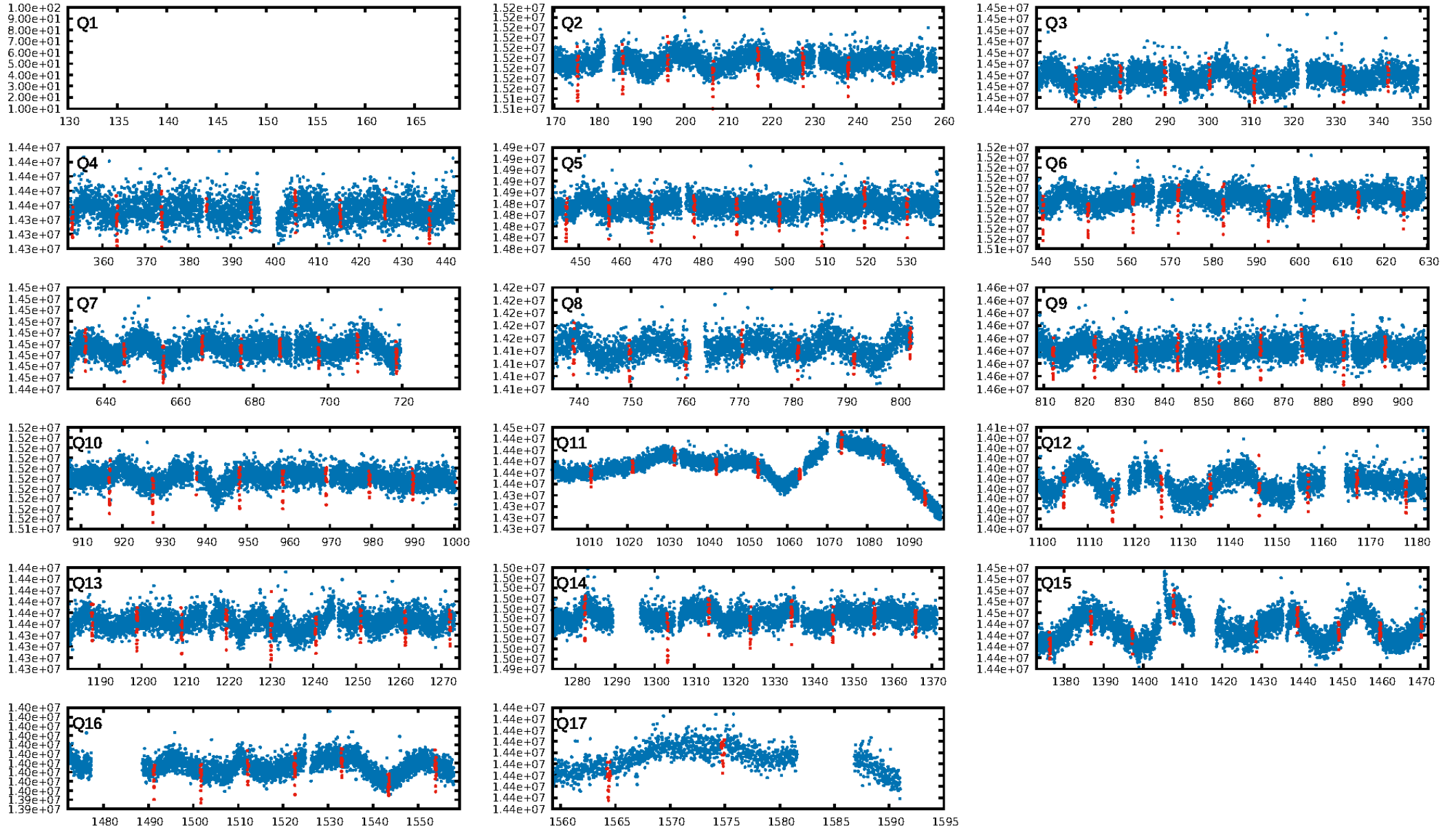
DV Fit Results:

Period = 10.44333 [0.00002] d
Epoch = 133.6303 [0.0018] BKJD
Rp/R* = 0.0570 [0.0281]
a/R* = 8.09 [1.15]
b = 0.99 [0.05]
Seff = 46.98 [8.51]
Teq = 668 [30] K
Rp = 4.99 [2.51] Re
a = 0.0857 [0.0077] AU
Ag = 6.92 [7.57] [0.78σ]
Teff = 1674 [457] K [2.20σ]

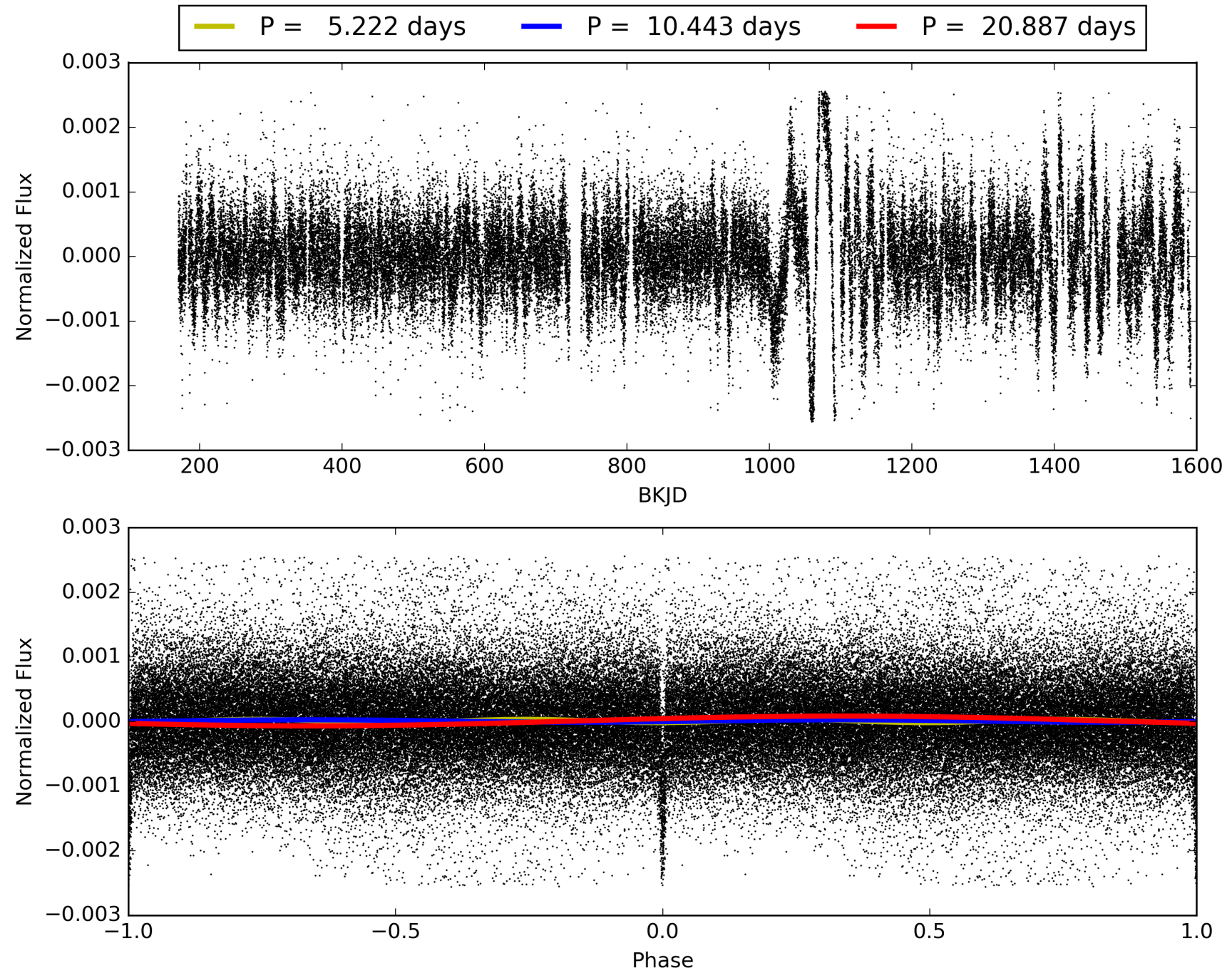
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [125/125]
GhostDiagnostic-chr: -0.5446
Centroid-sig: 0.0%
Centroid-so: 90.286 arcsec [285.49σ]
OotOffset-rm: 9.287 arcsec [136.60σ]
KicOffset-rm: 9.389 arcsec [127.78σ]
OotOffset-st: 0/4/4/4 [12]
KicOffset-st: 0/4/4/4 [12]
DiffImageQuality-fgm: 1.00 [12/12]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 006675056-01, PDC Light Curves

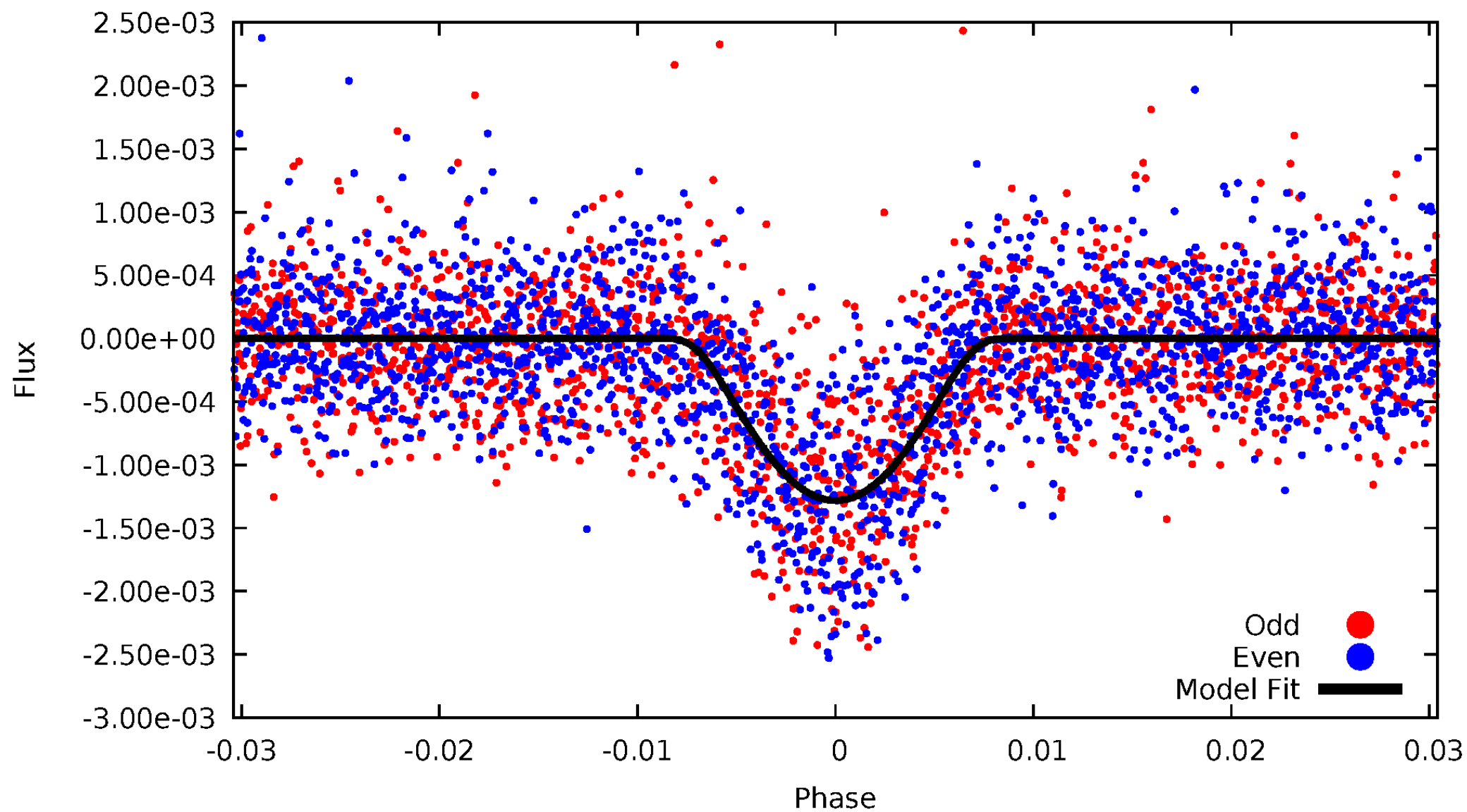


TCE 006675056-01



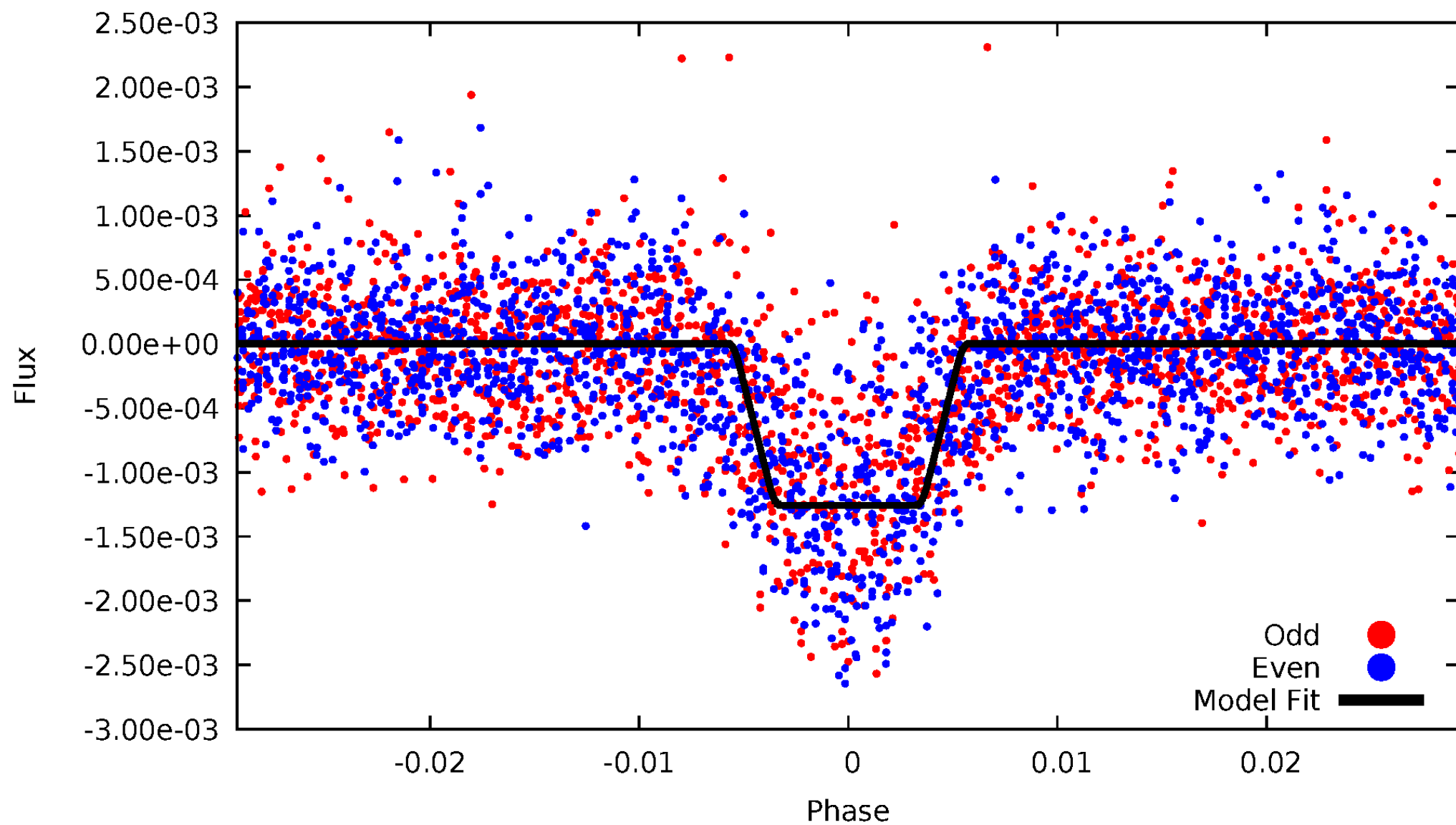
DV Odd/Even

TCE 006675056-01



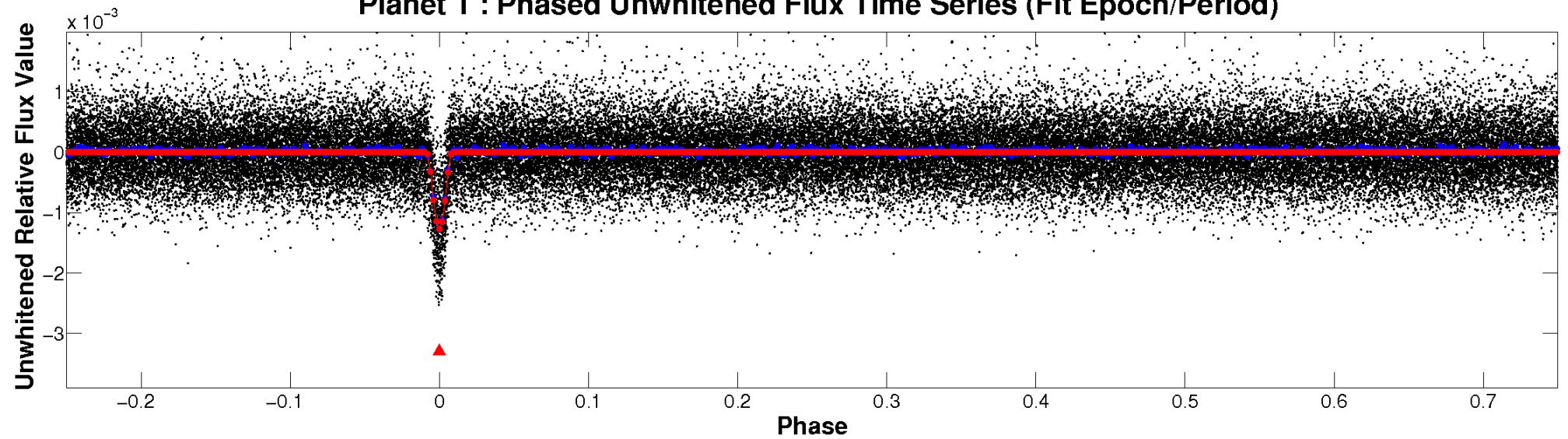
ALT Odd/Even

TCE 006675056-01

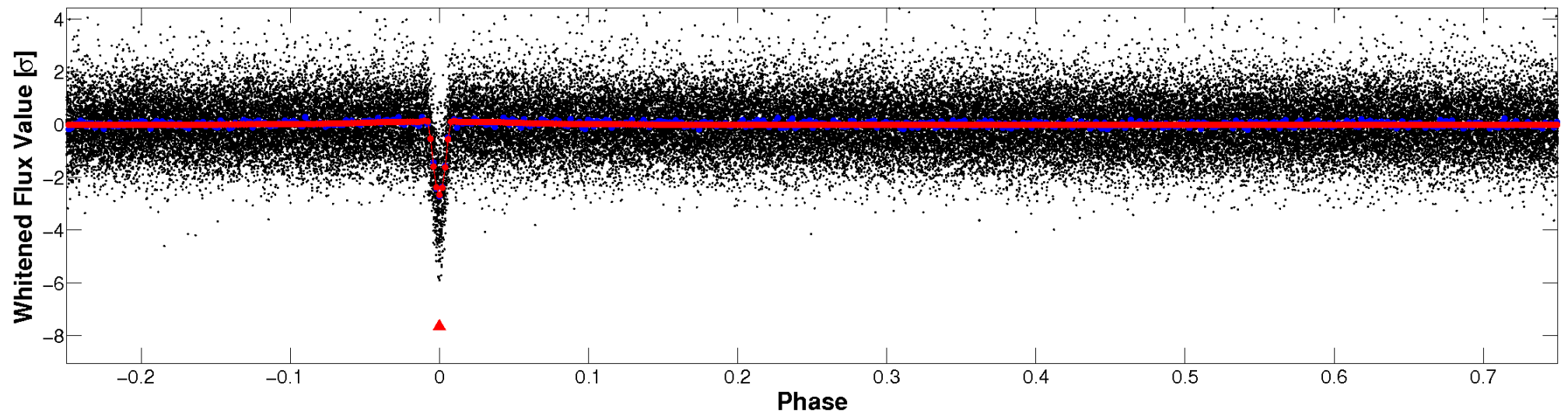


Non-Whitened Vs. Whitened Light Curve

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

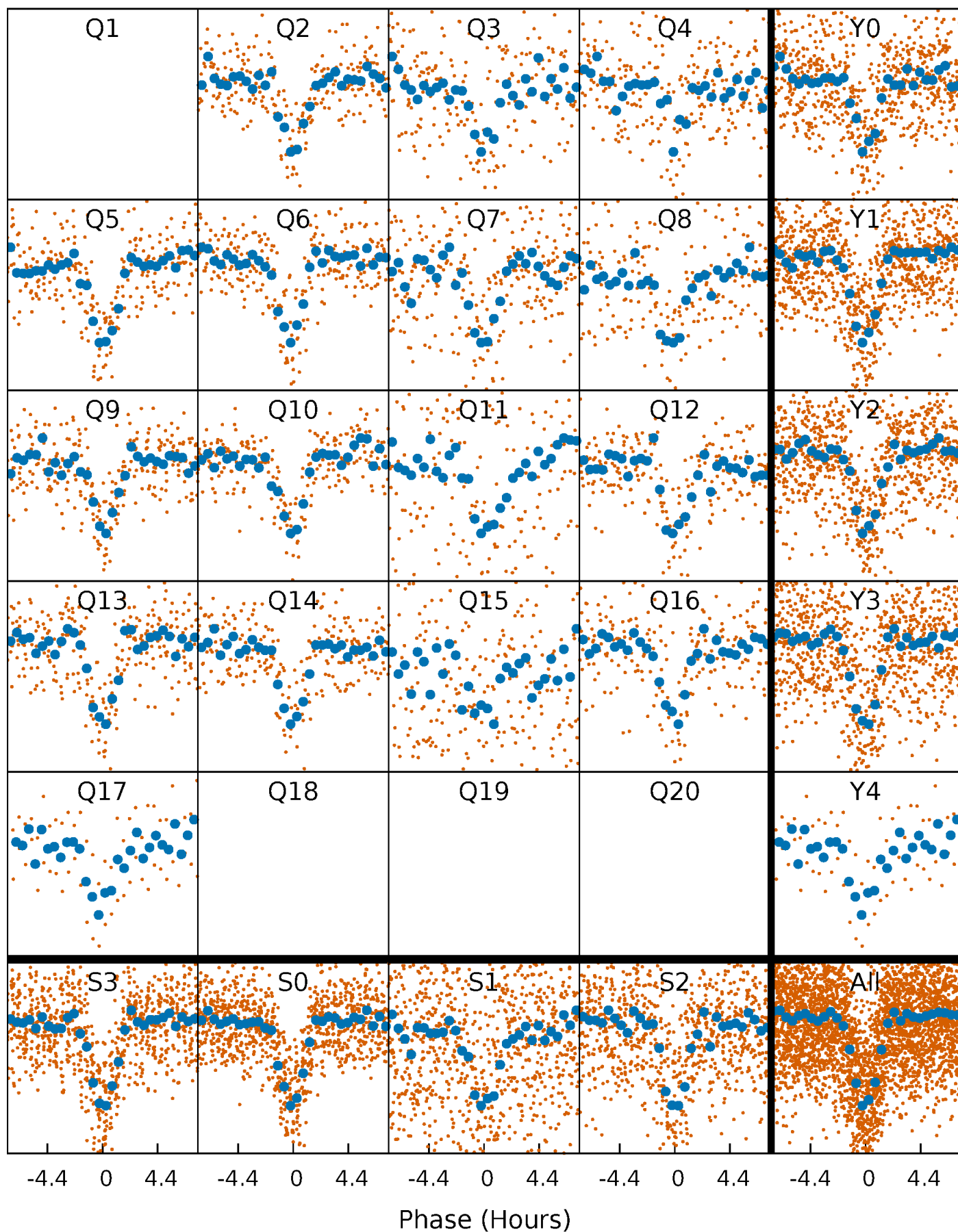


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



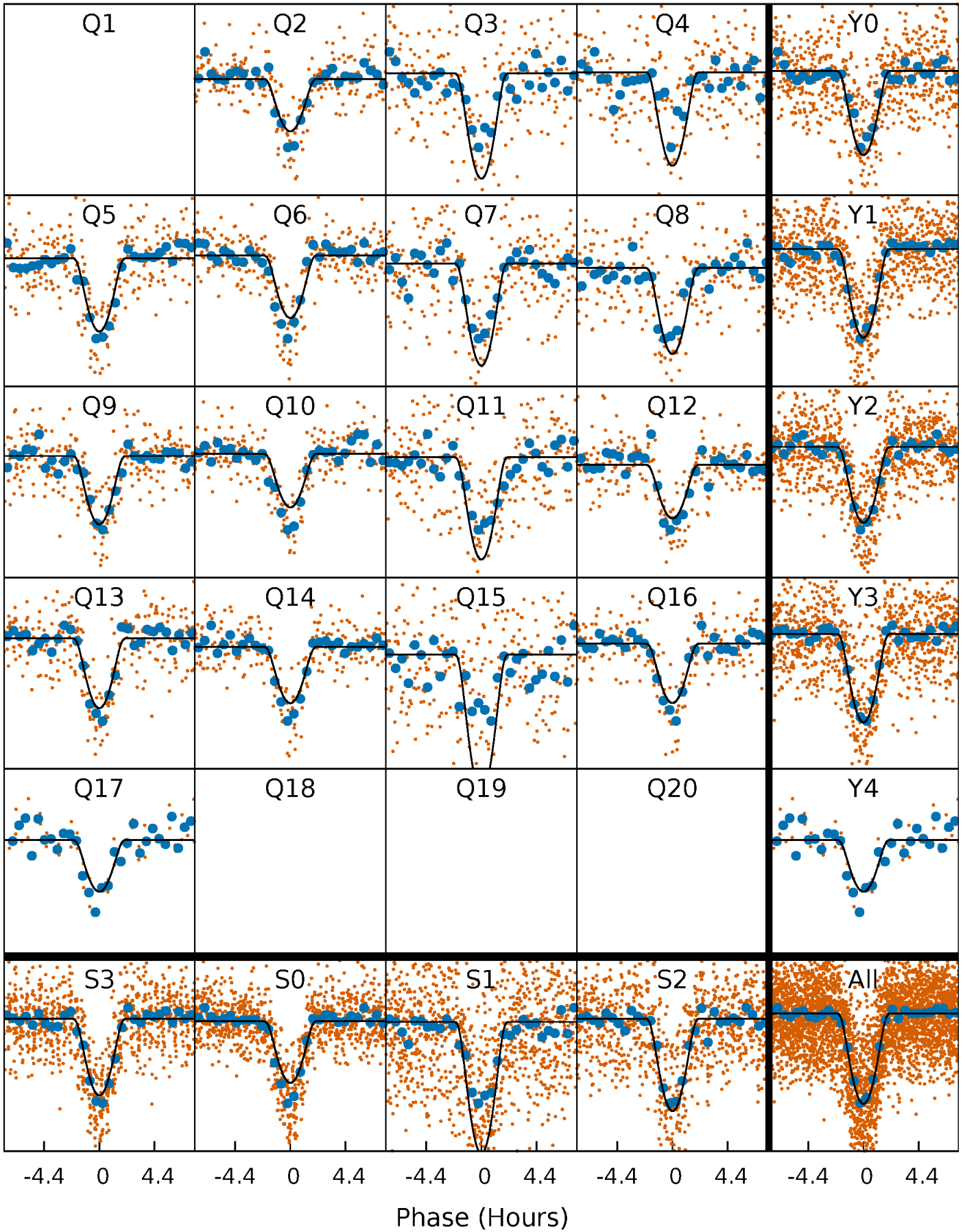
PDC Quarter-Phased Transit Curves

TCE 006675056-01 P= 10.443329 Days $T_0=133.630342$ (BKJD)



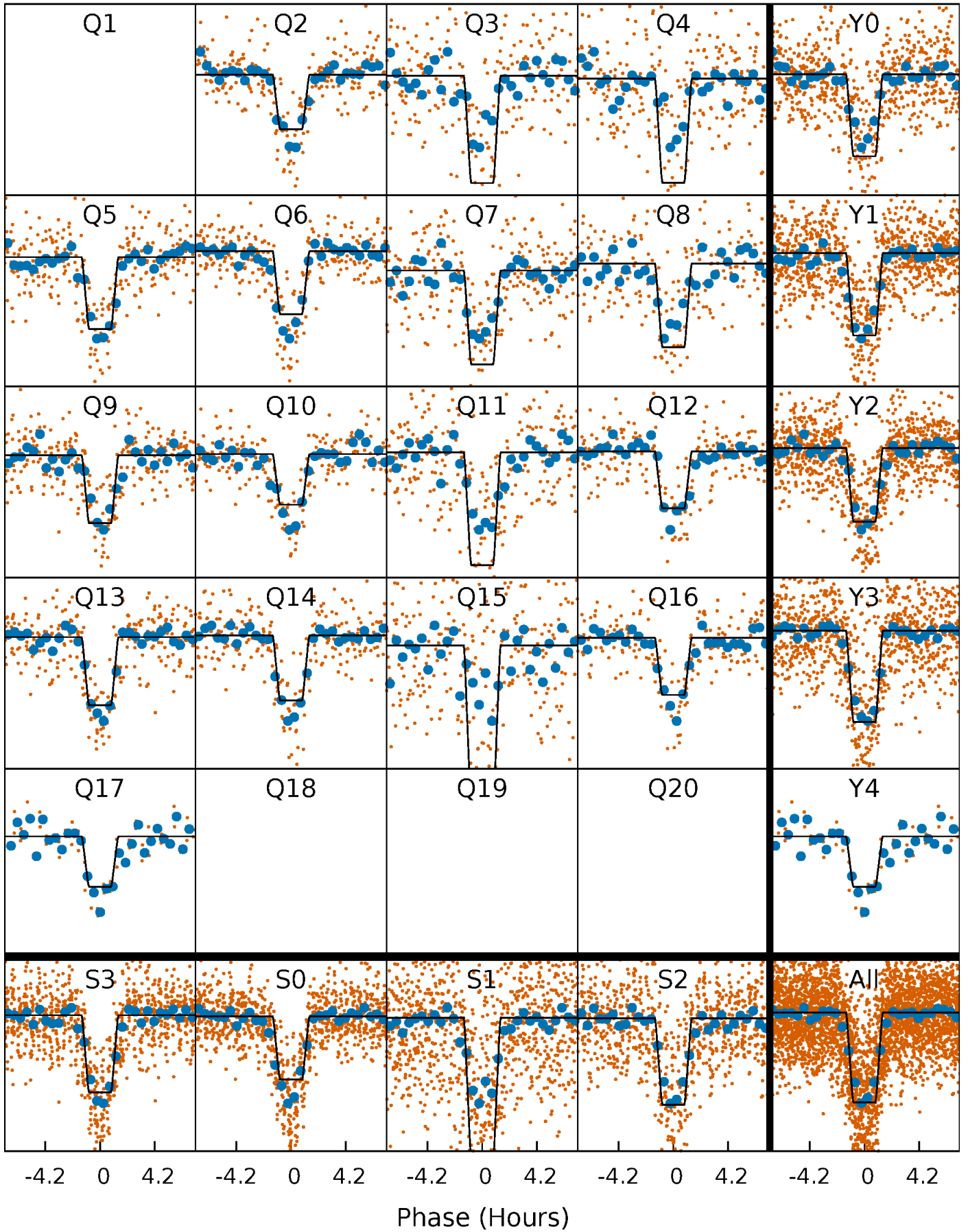
DV Quarter-Phased Transit Curves

TCE 006675056-01 P= 10.443329 Days $T_0=133.630342$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

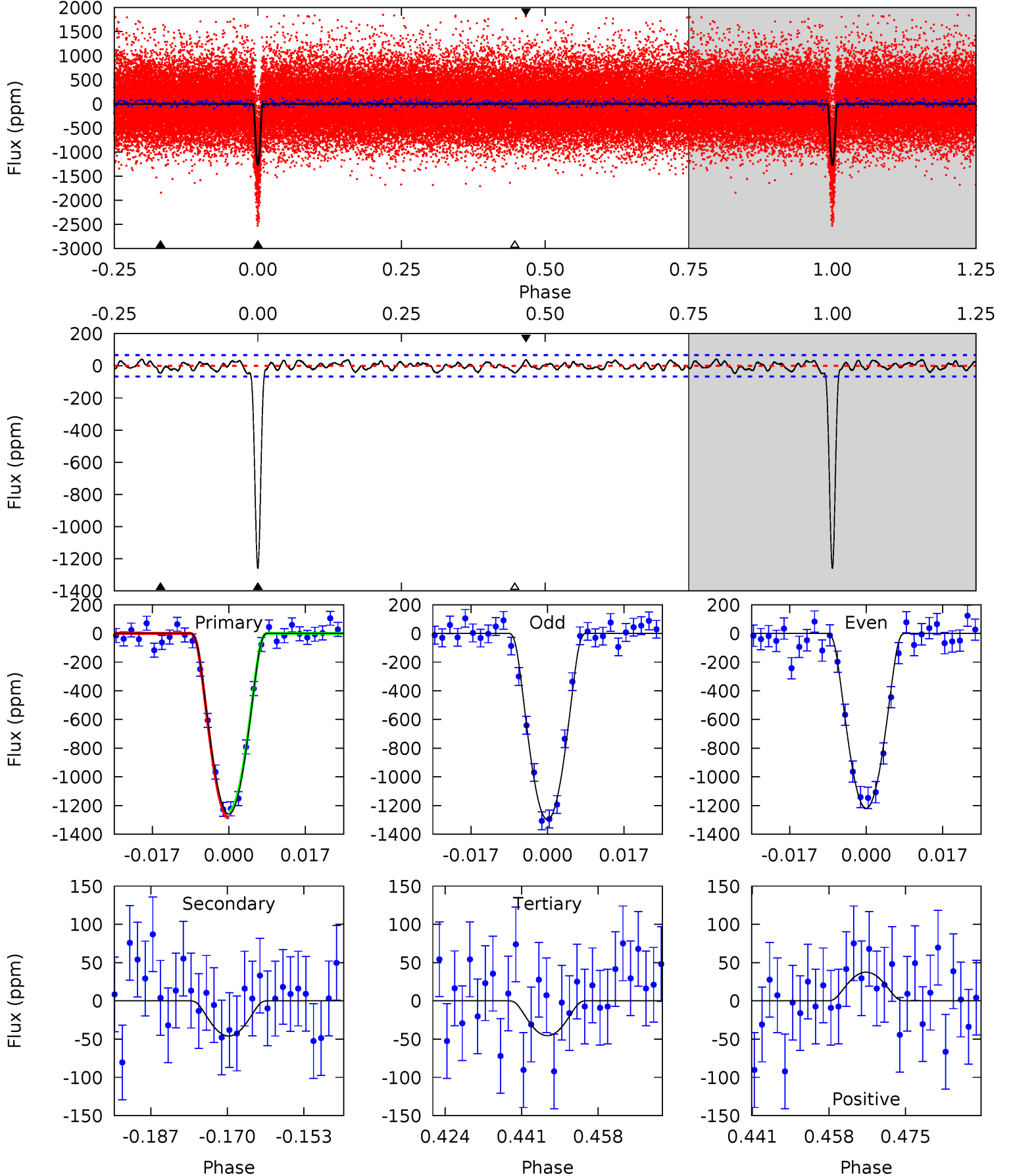
TCE 006675056-01 P= 10.443274 Days $T_0=133.633904$ (BKJD)



DV Model-Shift Uniqueness Test

006675056-01, P = 10.443329 Days, E = 133.630342 Days

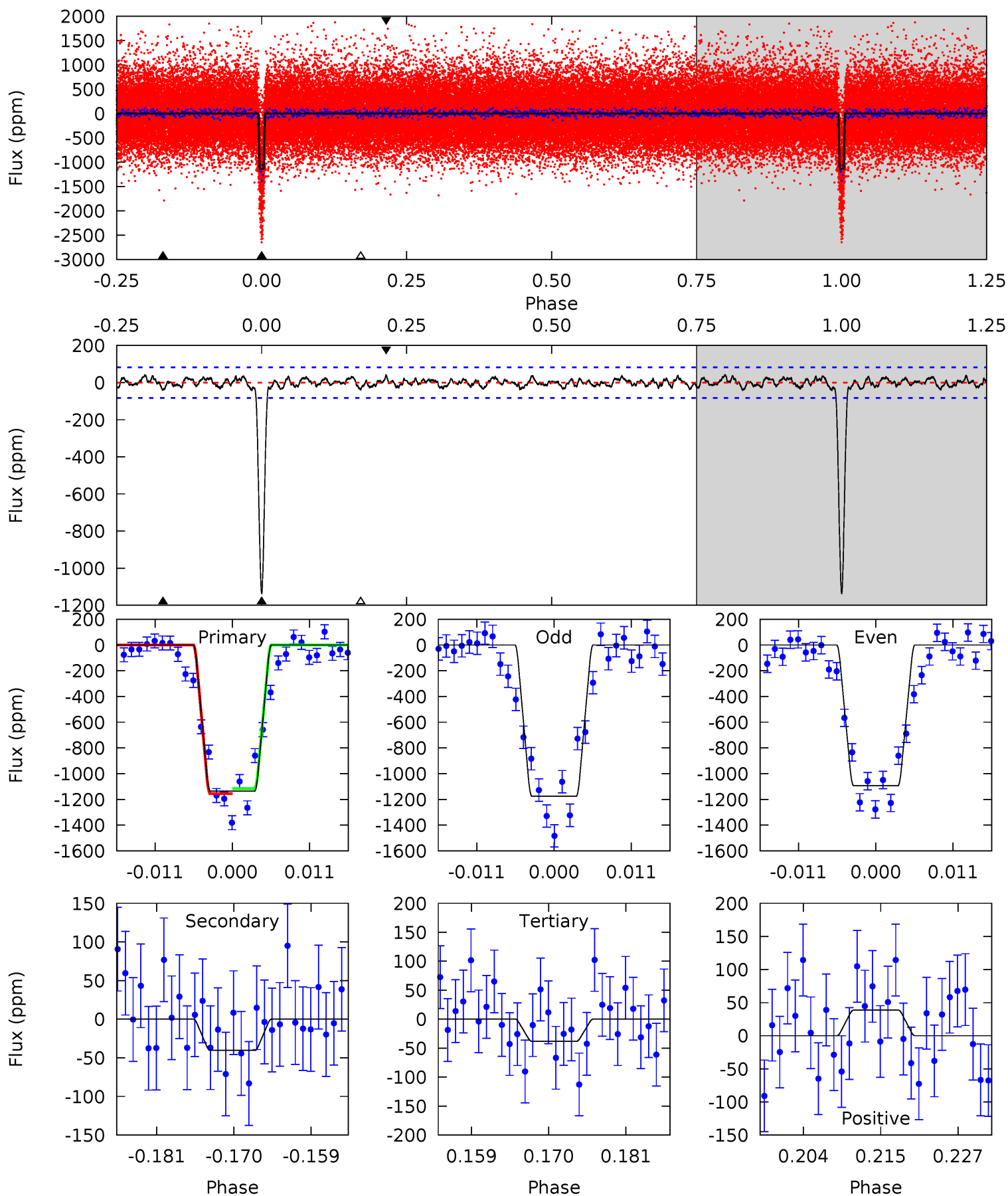
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.5	3.38	3.34	2.76	4.92	2.39	1.35	89.2	89.8	0.04	0.62	2.93	1.00	0.03	1.76



Alt Model-Shift Uniqueness Test

006675056-01, $P = 10.443274$ Days, $E = 133.633904$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.0	2.46	2.32	2.35	5.00	2.53	1.00	66.7	66.7	0.14	0.11	2.49	0.99	0.03	1.21



Stellar Parameters For KIC 006675056

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4947^{+148}_{-133}	$4.516^{+0.077}_{-0.056}$	$0.080^{+0.250}_{-0.300}$	$0.802^{+0.059}_{-0.081}$	$0.769^{+0.083}_{-0.056}$	$2.099^{+0.705}_{-0.368}$
	+3%/-3%	+2%/-1%	+312%/-375%	+7%/-10%	+11%/-7%	+34%/-18%
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 006675056-01 / KOI 0859.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-46 ± 14	$5.05^{+2.58}_{-2.20}$	932^{+37}_{-38}	2490^{+426}_{-260}	$6.912^{+15.049}_{-3.953}$
Alt.	-40 ± 16	$3.40^{+2.32}_{-2.02}$	932^{+33}_{-36}	2714^{+766}_{-390}	13^{+67}_{-9}

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

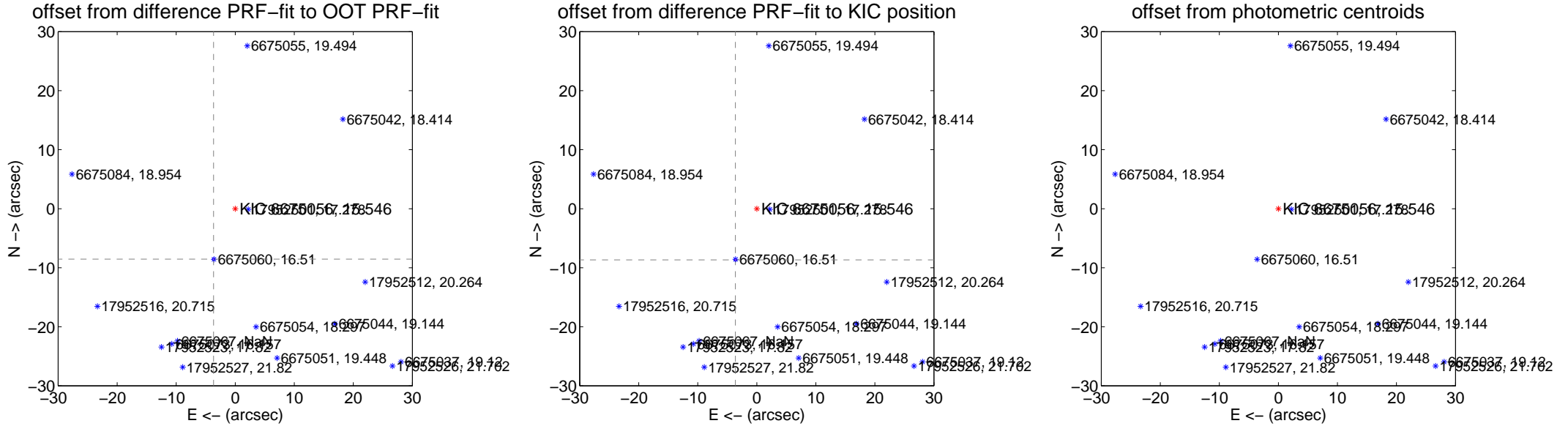
DV Centroid Data

Supplemental centroid analysis for 006675056-01. Kepler magnitude: 15.55. Transit SNR 52.16

There are 12 quarters with good PRF difference image offsets

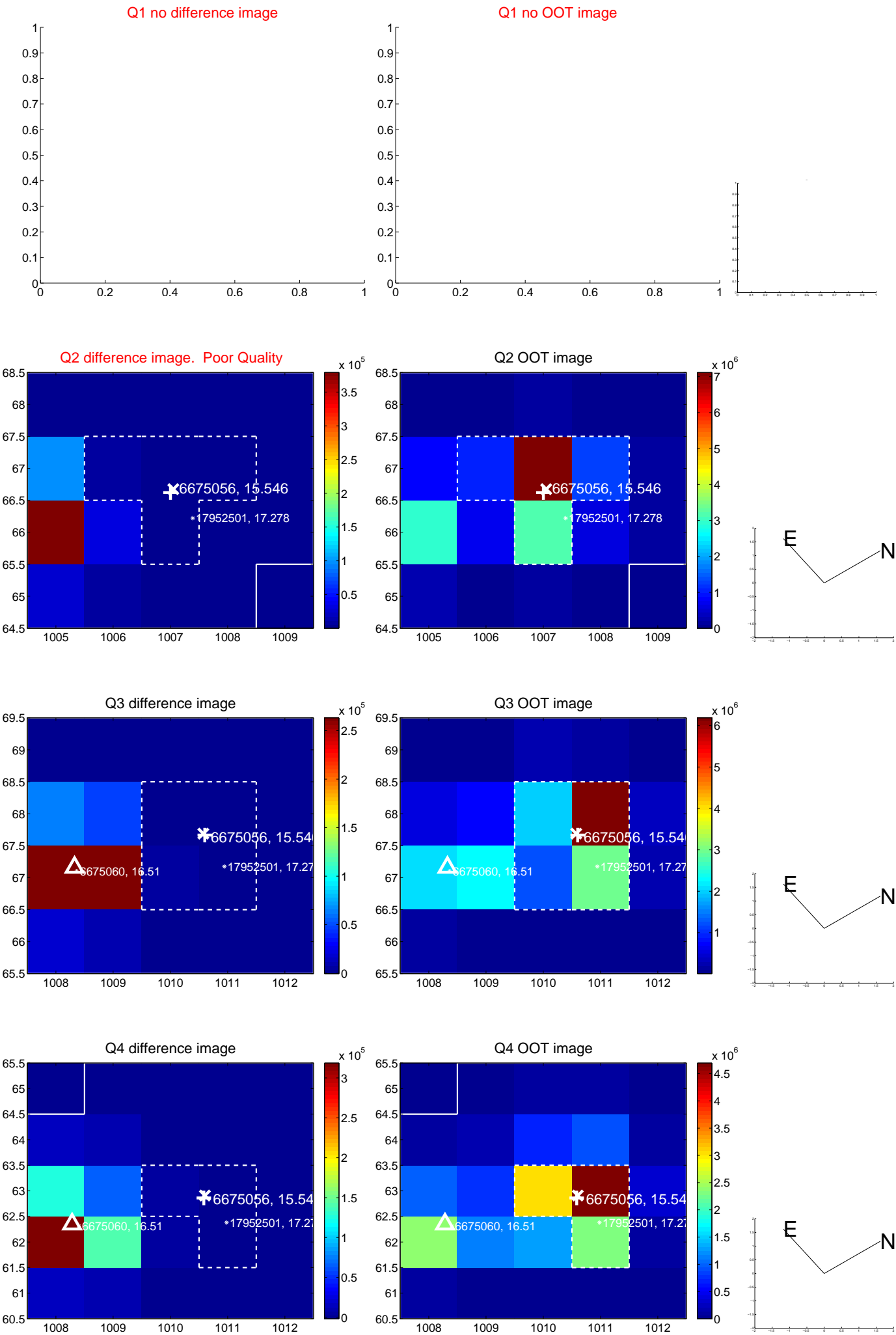
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.287 \pm 0.068	136.60	3.665 \pm 0.068	-8.533 \pm 0.068
PRF-fit source offset from KIC position	9.389 \pm 0.073	127.78	3.623 \pm 0.072	-8.662 \pm 0.073
photometric centroid source offset	90.29 \pm 0.32	285.49	30.20 \pm 0.27	-85.09 \pm 0.32

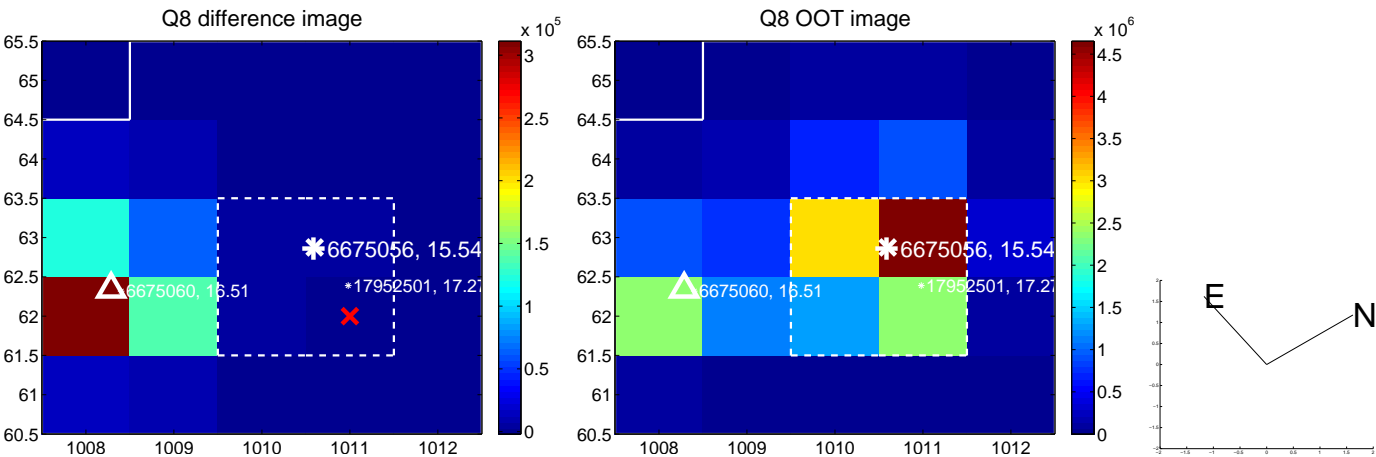
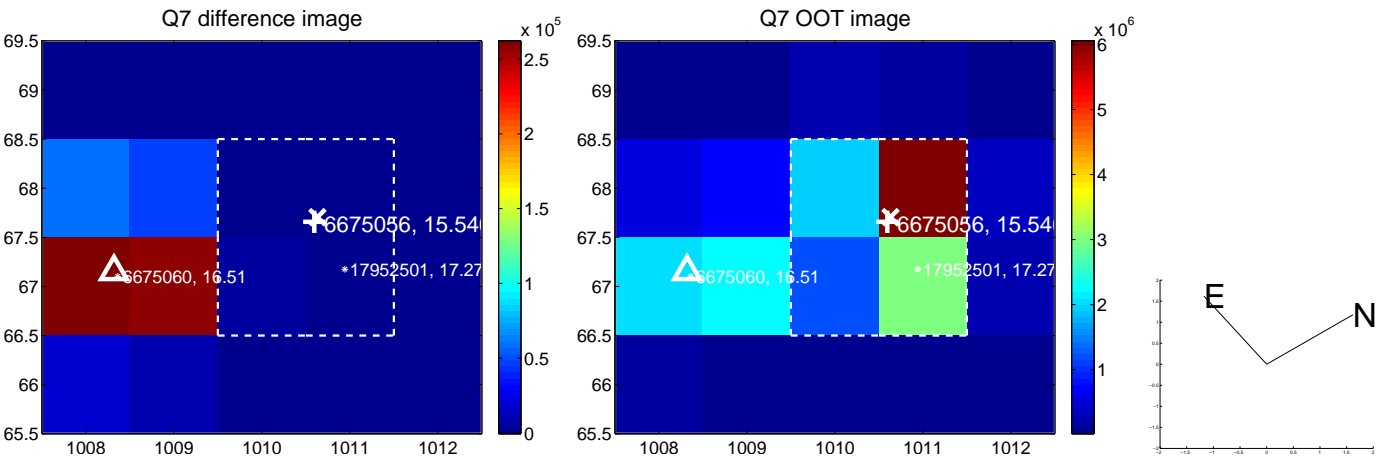
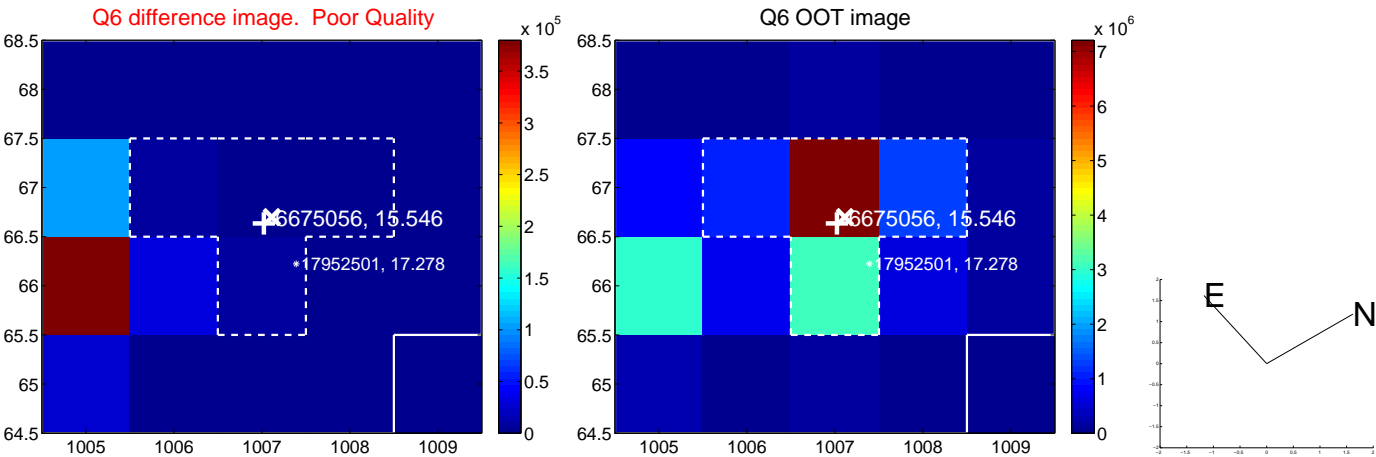
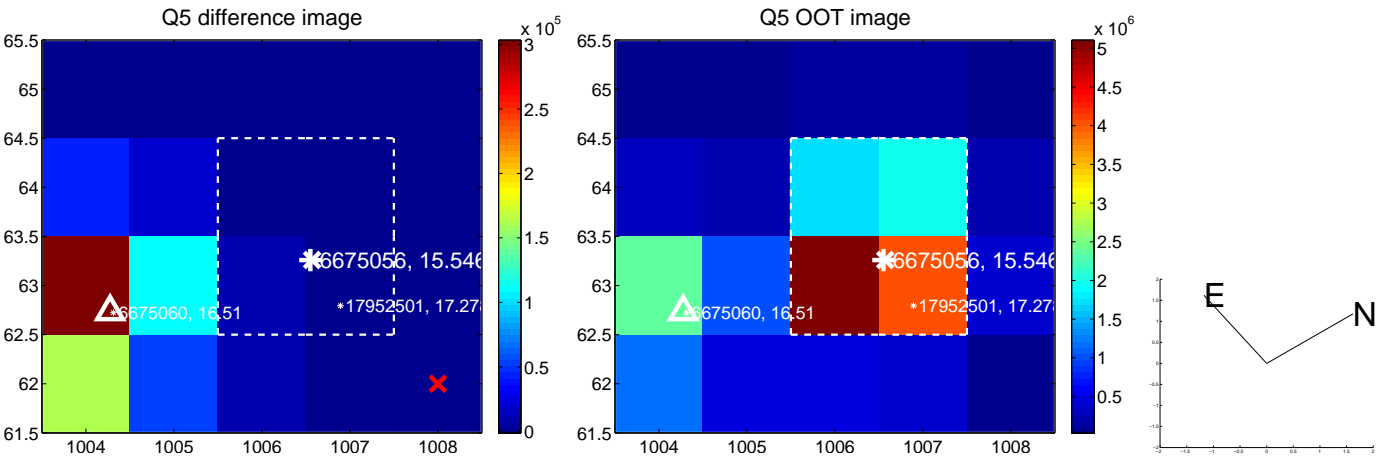


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

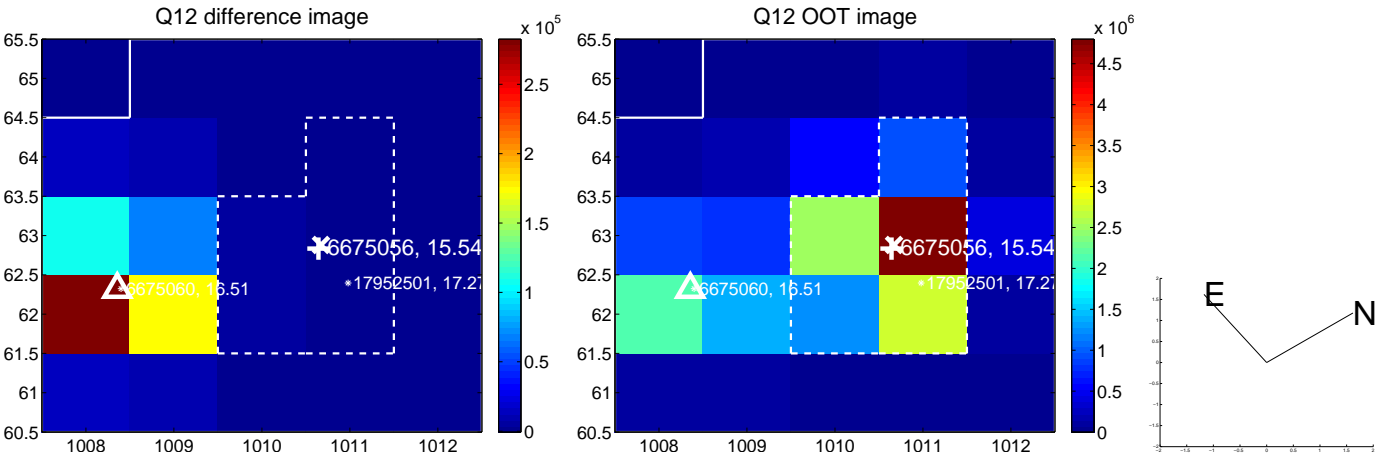
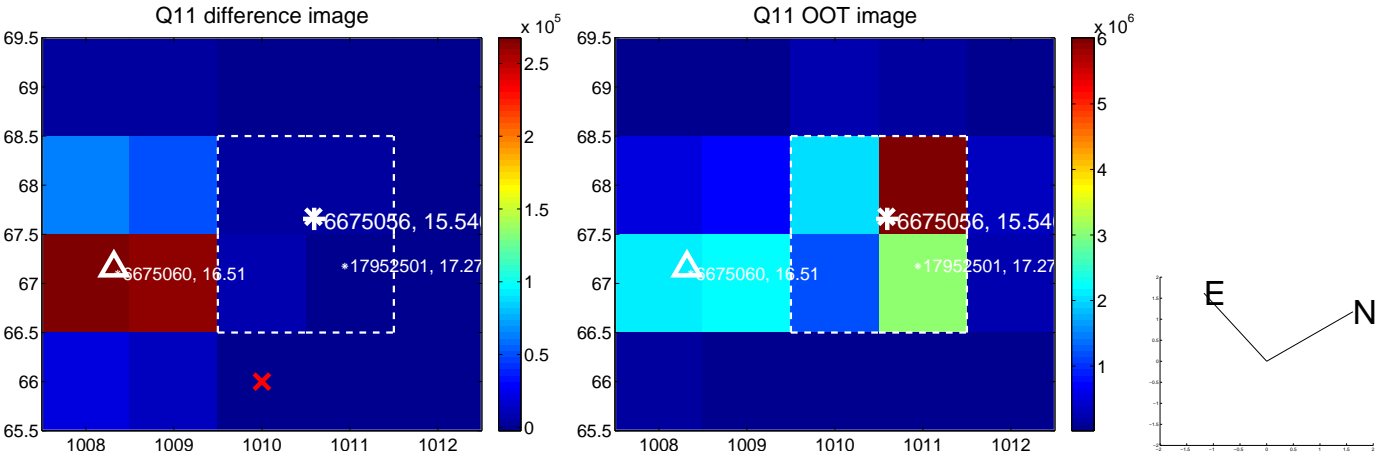
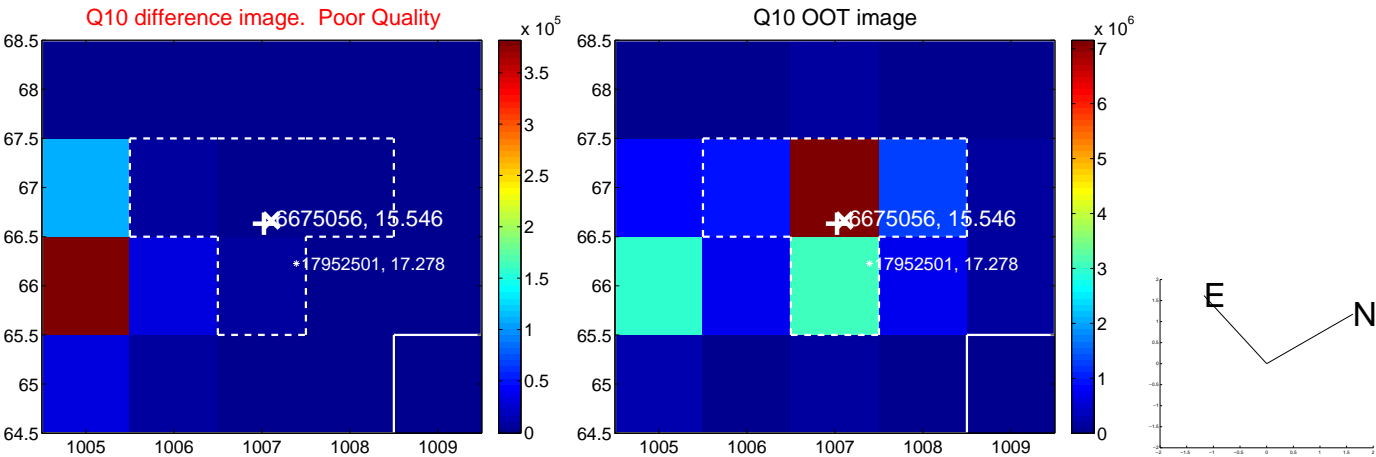
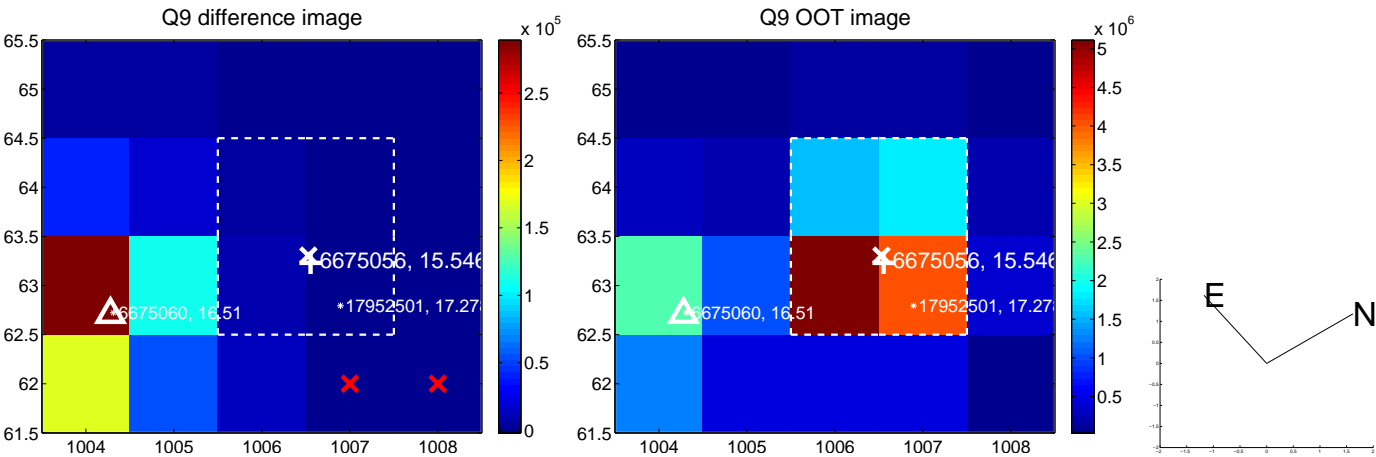
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



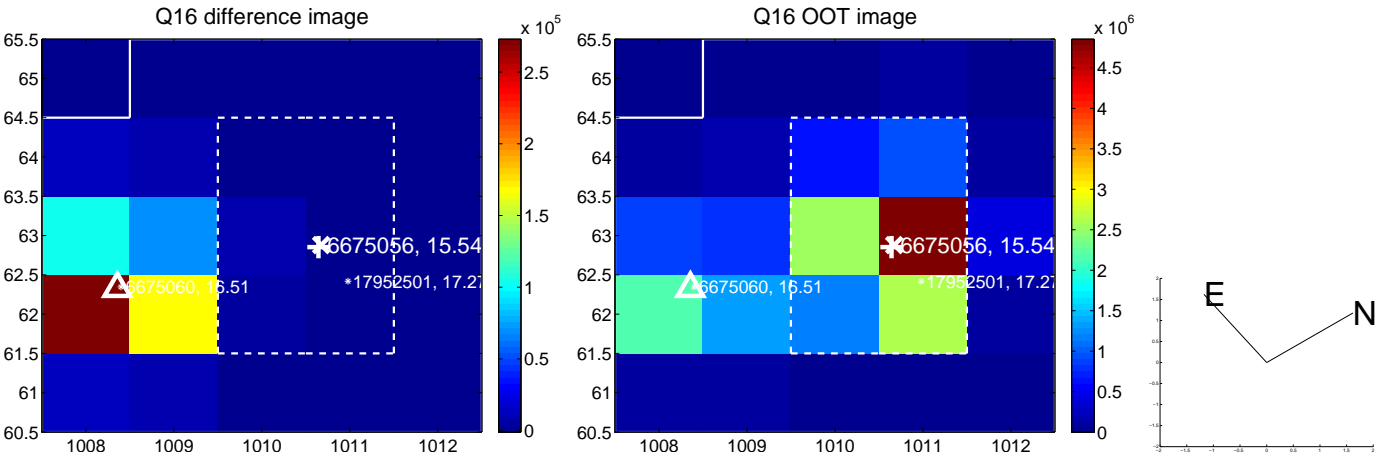
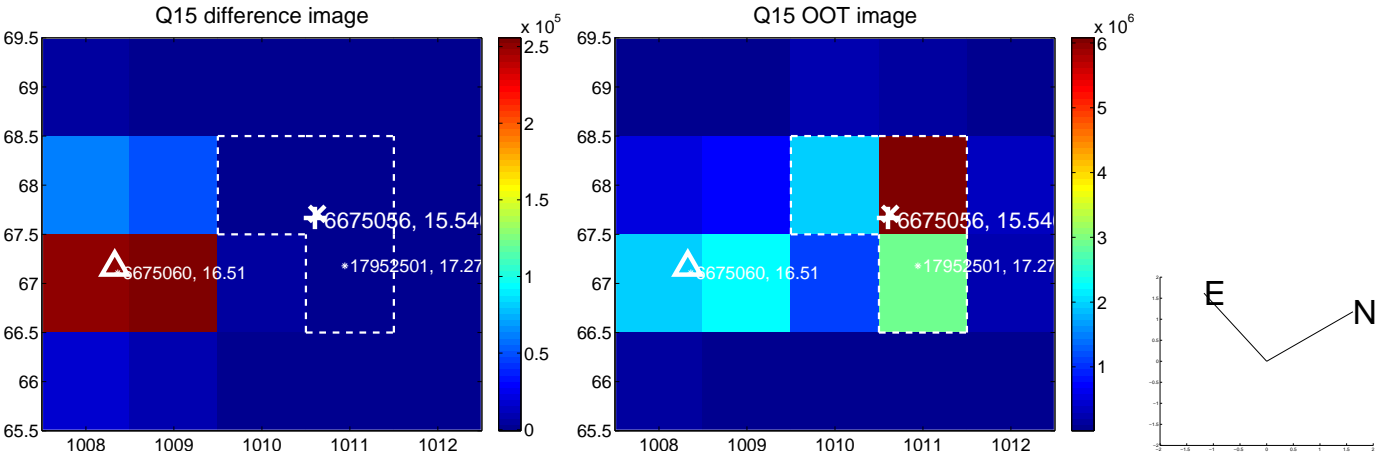
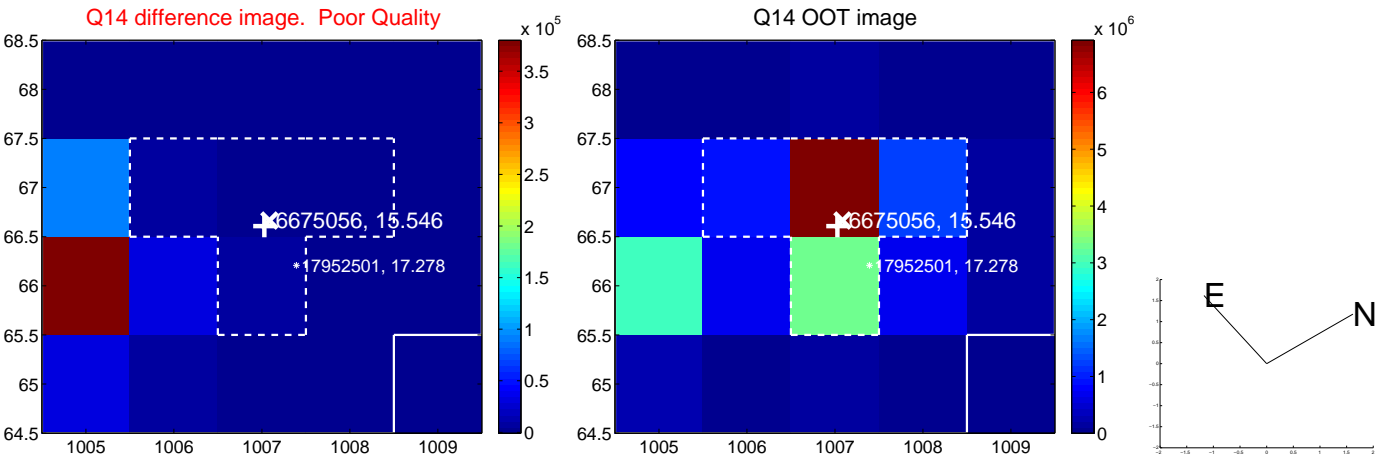
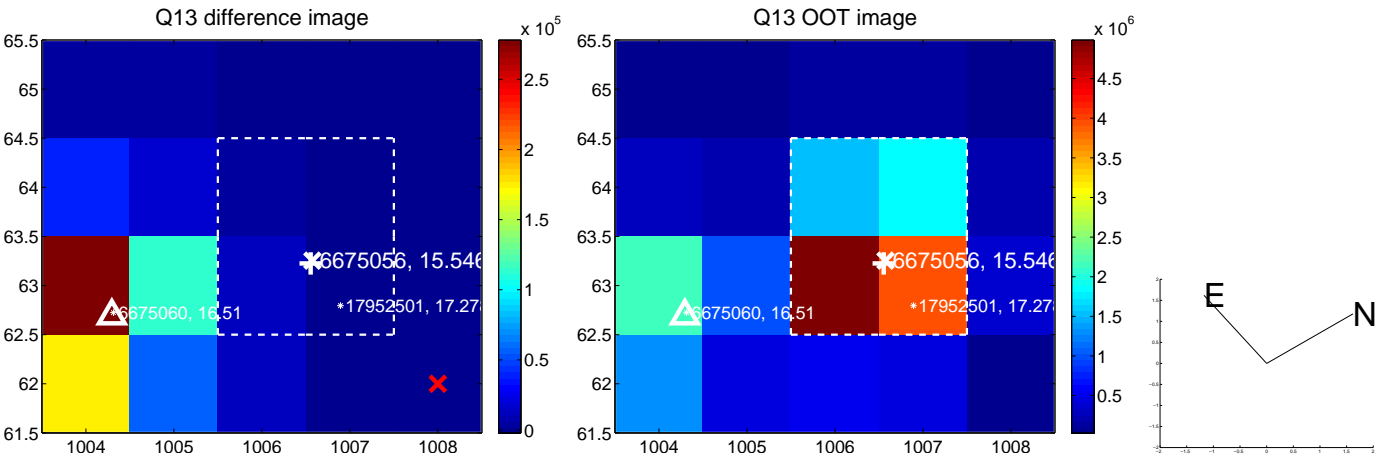
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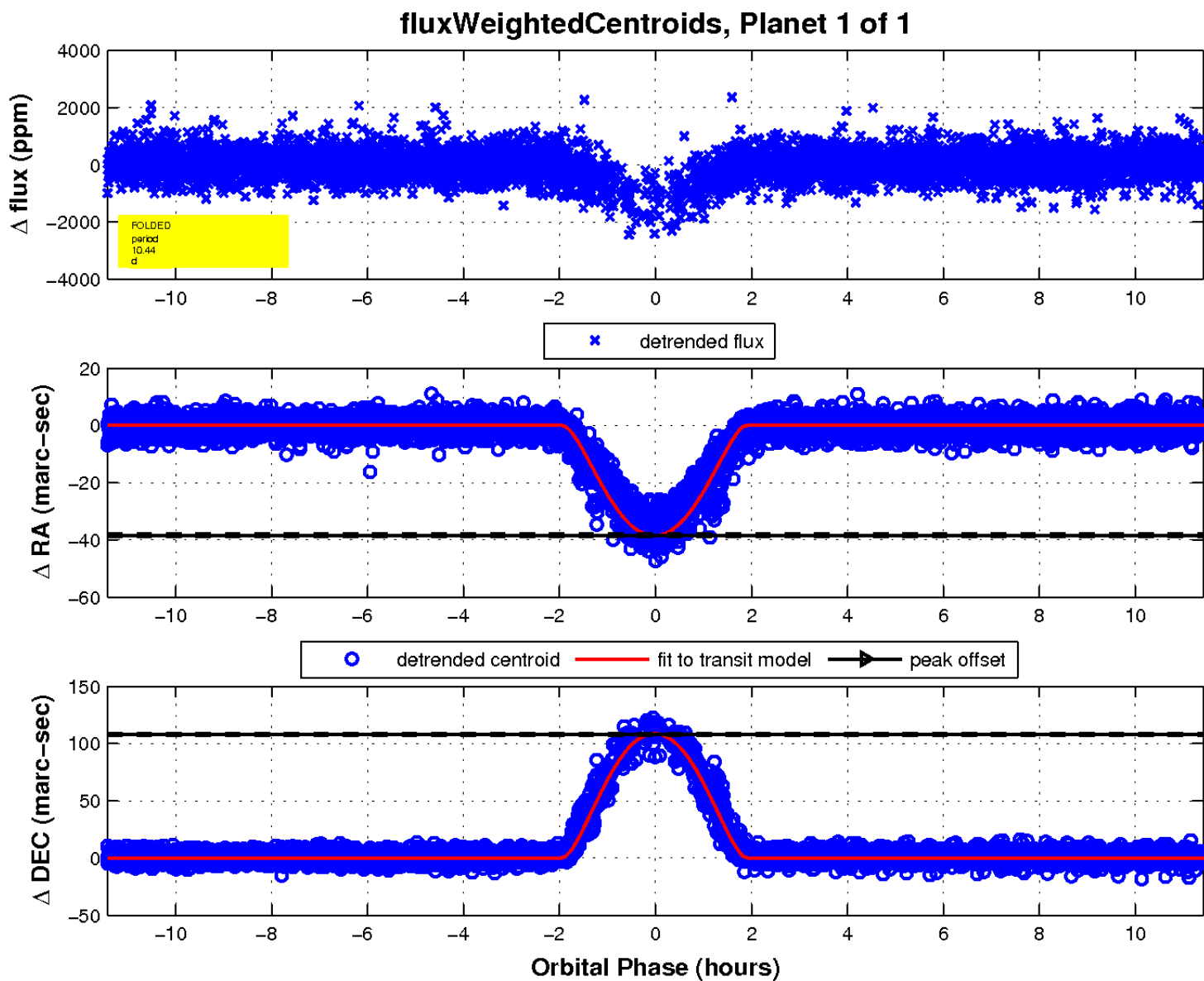
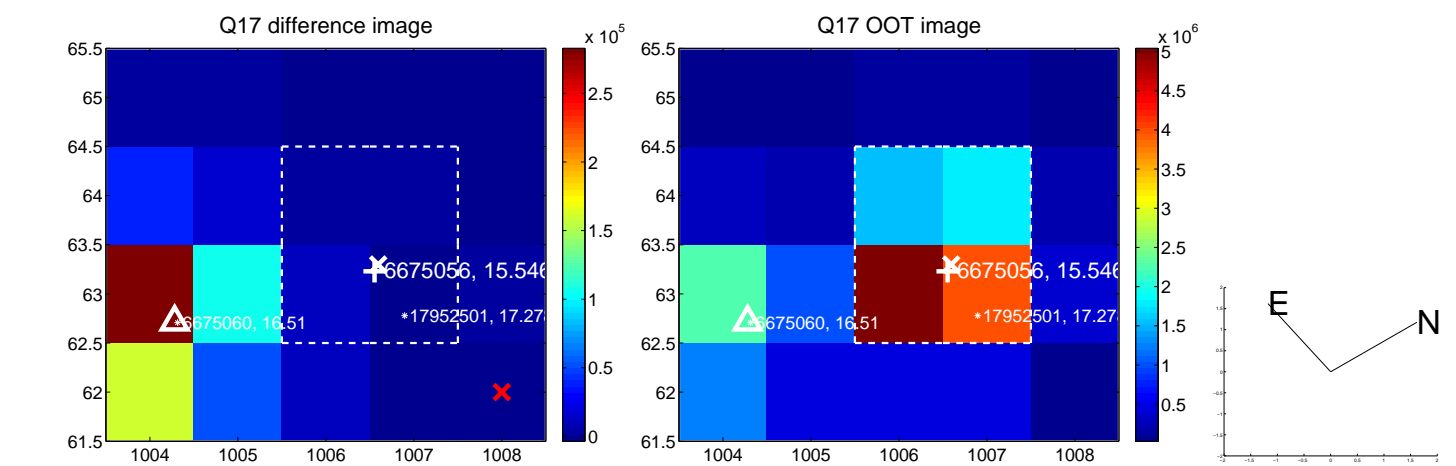
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UKIRT Image

Declination

