

KIC 005470739

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})
005470739-01	OBS	1585.01	19.178957	139.745675	752.5	5.351	28.7	30.1	0.88	5767	2.71	39.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005470739-01	OBS	PC	1.00	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.

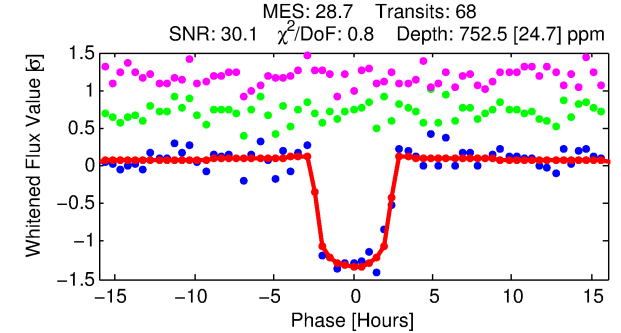
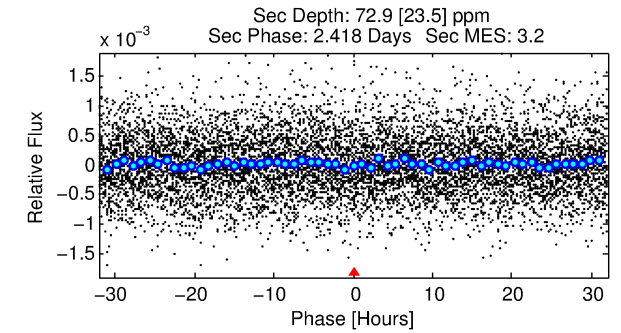
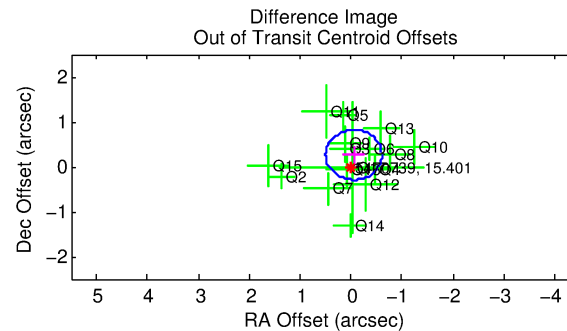
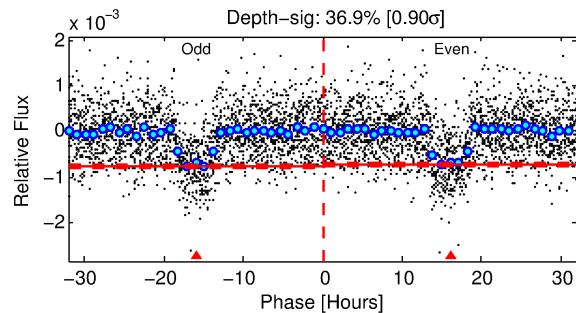
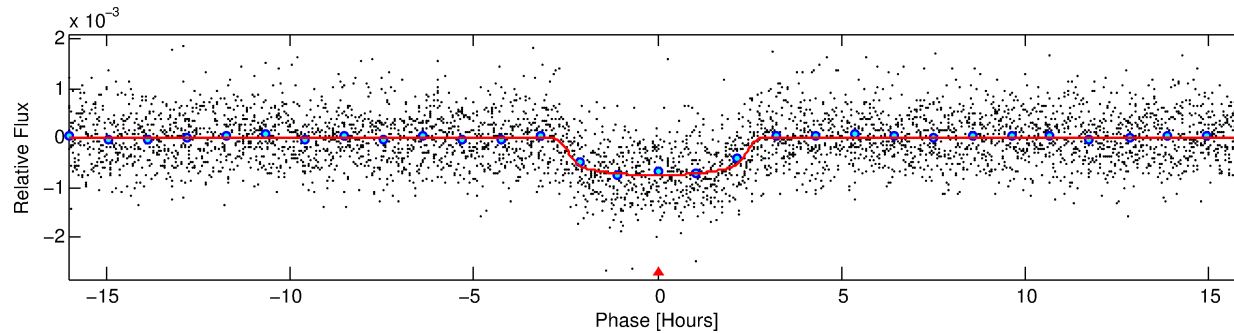
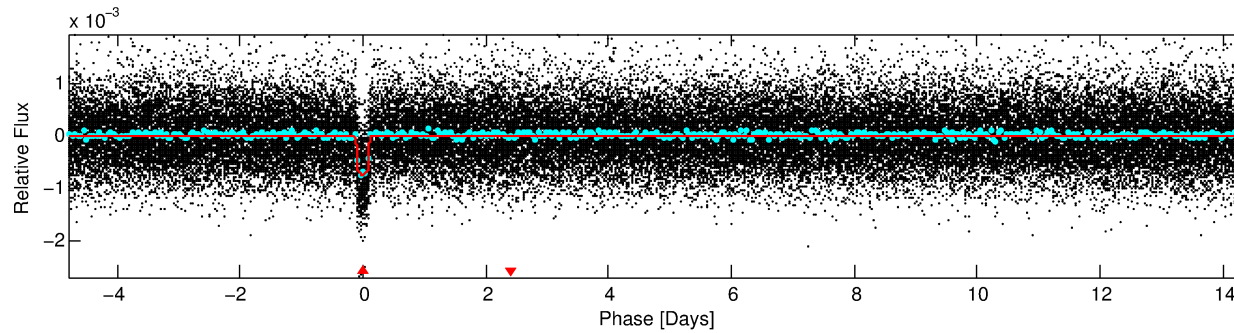
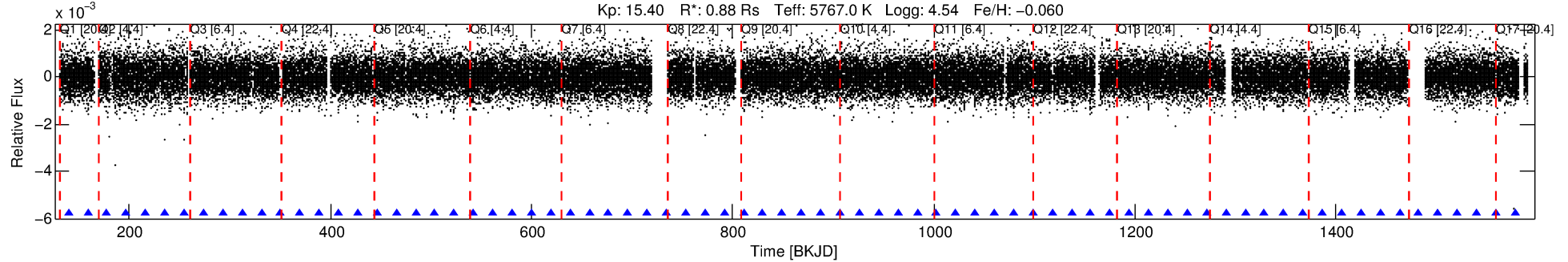
Ephemeris Match Information For 005470739-01

No Significant Match Found

DV One-Page Summary

KIC: 5470739 Candidate: 1 of 1 Period: 19.179 d
KOI: K01585.01 Corr: 0.986

Kp: 15.40 R*: 0.88 Rs Teff: 5767.0 K Logg: 4.54 Fe/H: -0.060



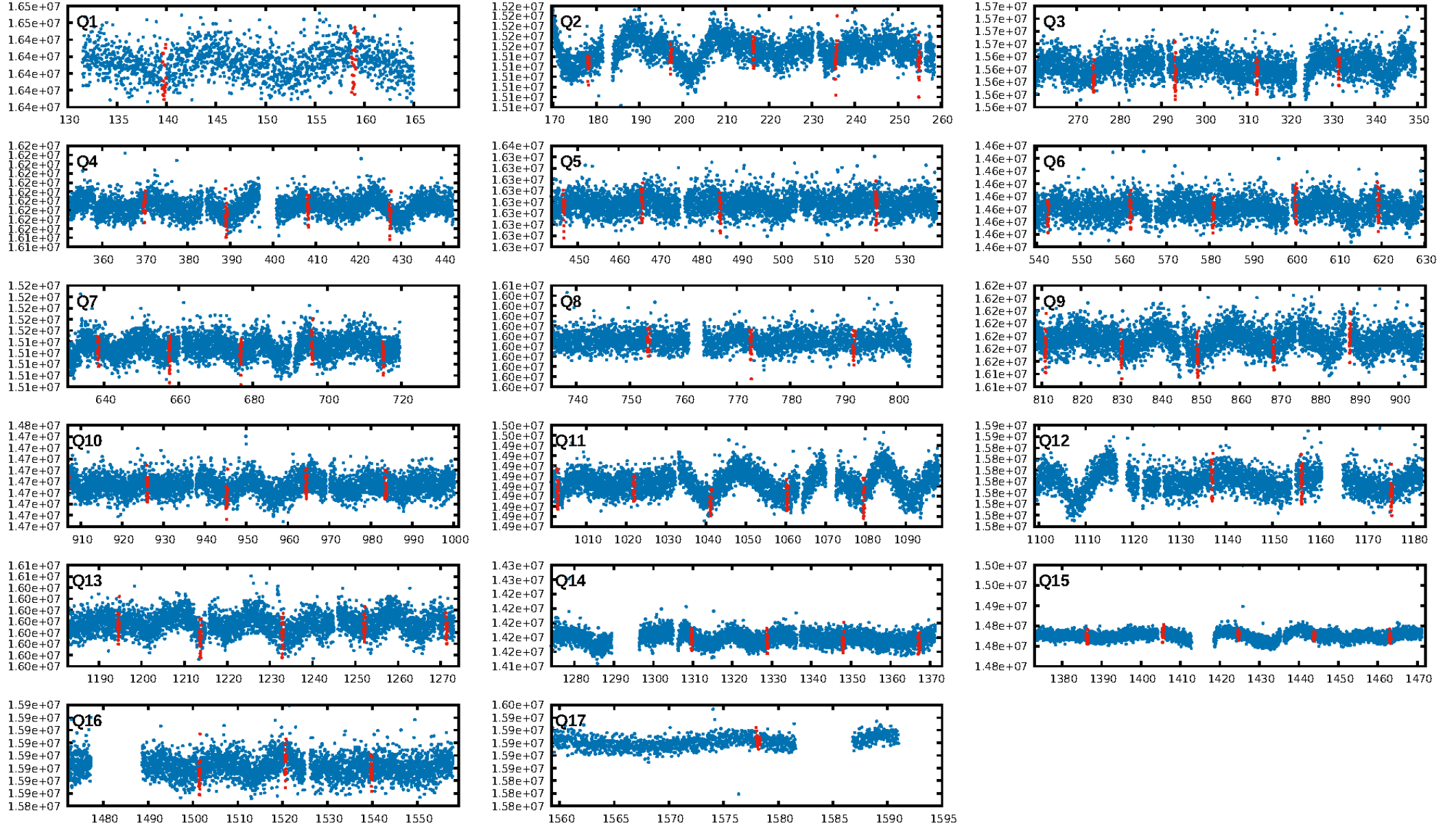
DV Fit Results:

Period = 19.17896 [0.00008] d
Epoch = 139.7457 [0.0034] BKJD
Rp/R* = 0.0282 [0.0033]
a/R* = 17.08 [8.82]
b = 0.82 [0.21]
Seff = 39.71 [15.05]
Teq = 640 [61] K
Rp = 2.71 [0.86] Re
a = 0.1392 [0.0345] AU
Ag = 105.90 [56.81] [1.85σ]
Teffp = 3175 [330] K [7.55σ]

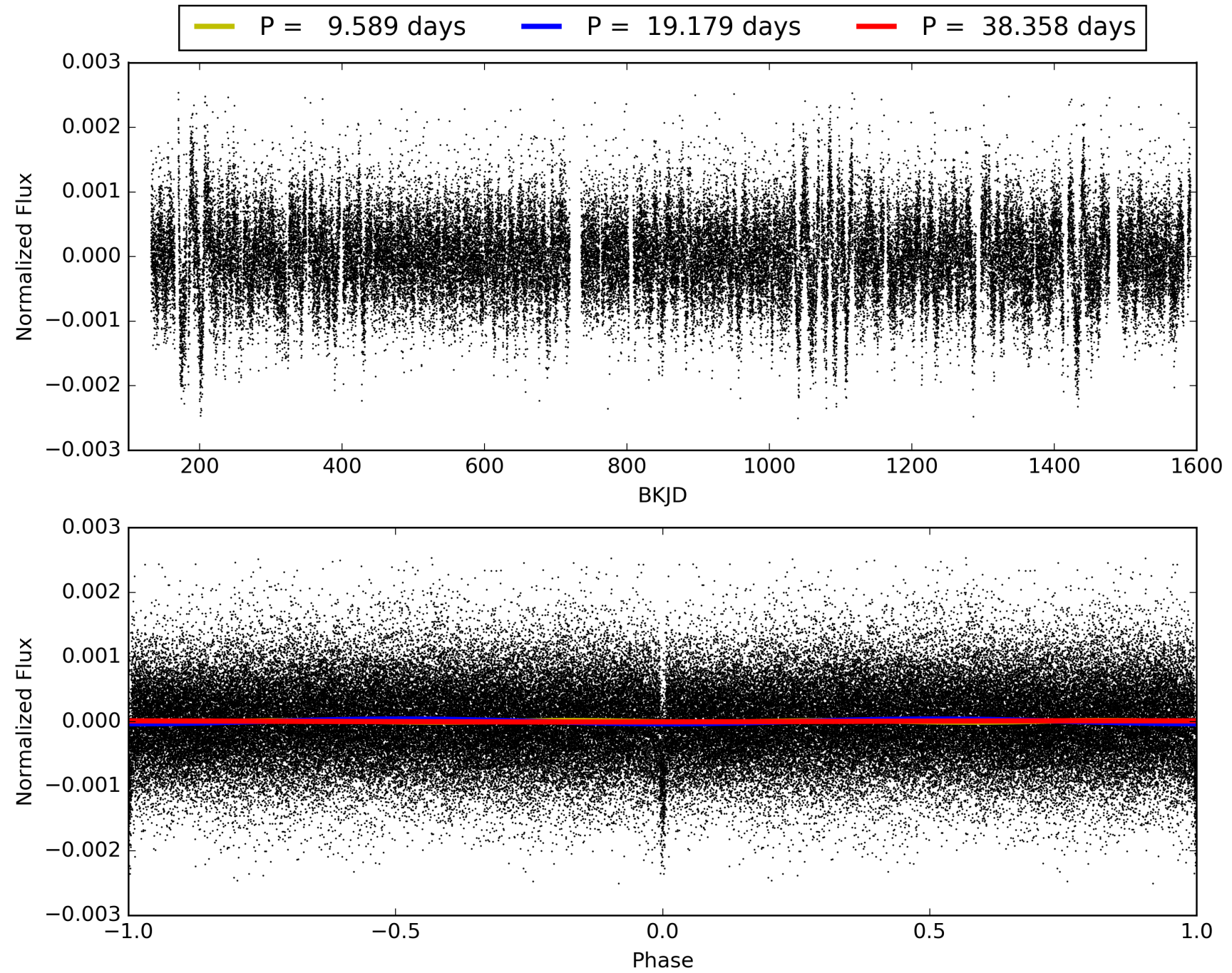
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.05e-169
RollingBand-fgt: 1.00 [65/65]
GhostDiagnostic-chr: 3.939
Centroid-sig: 70.7%
Centroid-so: 0.753 arcsec [1.98σ]
OotOffset-rm: 0.265 arcsec [1.43σ]
KicOffset-rm: 0.212 arcsec [1.26σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005470739-01, PDC Light Curves

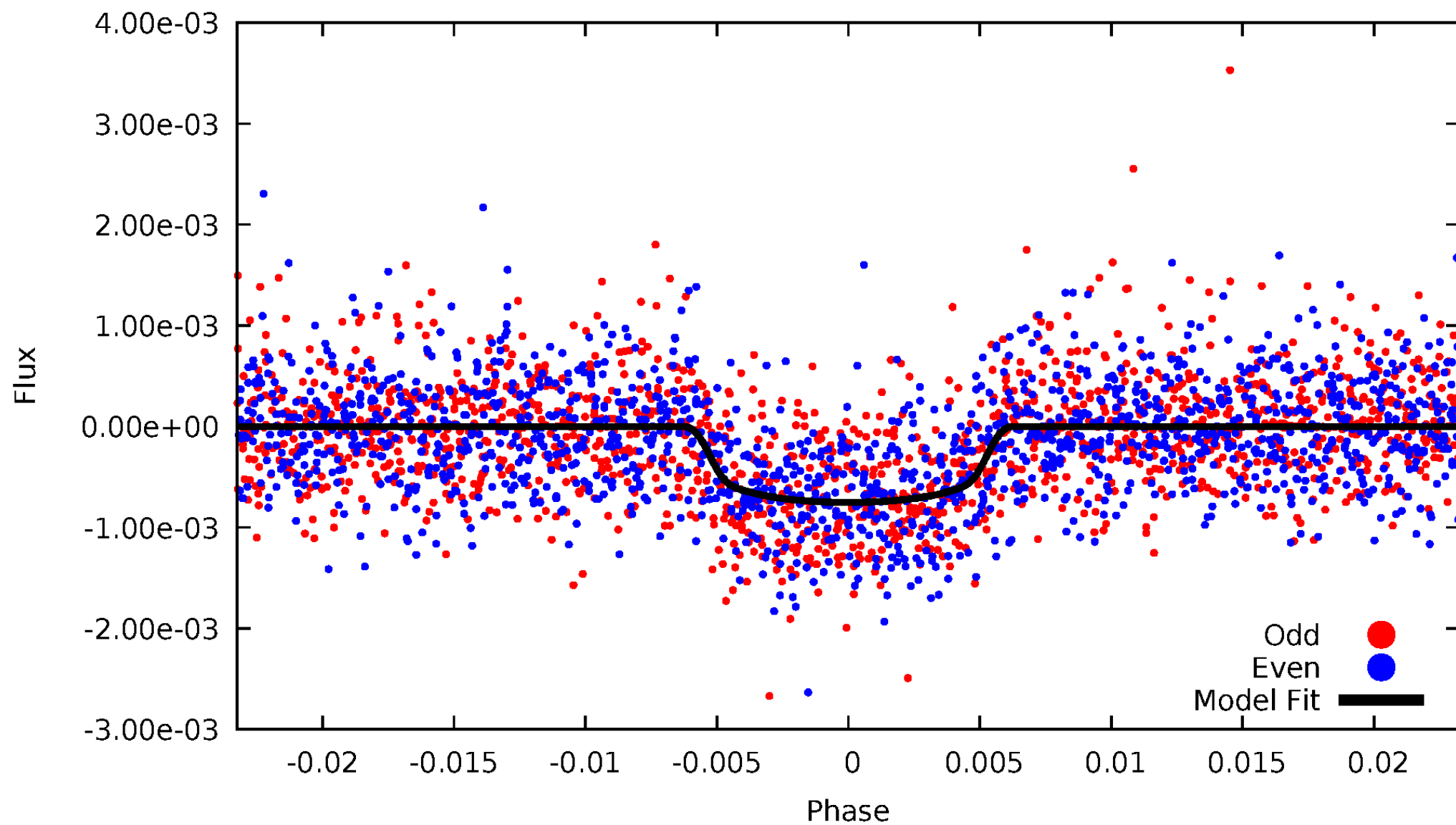


TCE 005470739-01



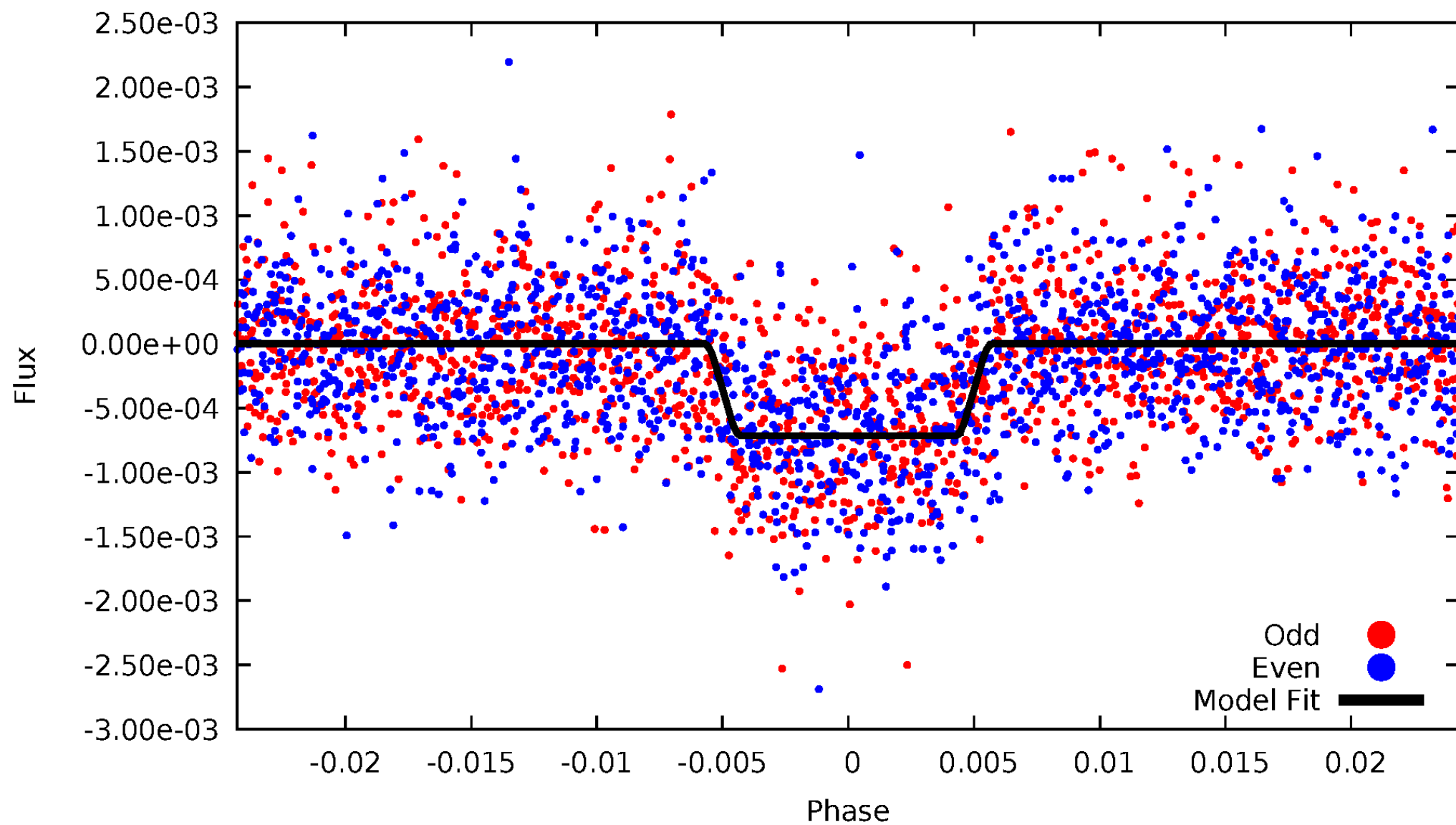
DV Odd/Even

TCE 005470739-01



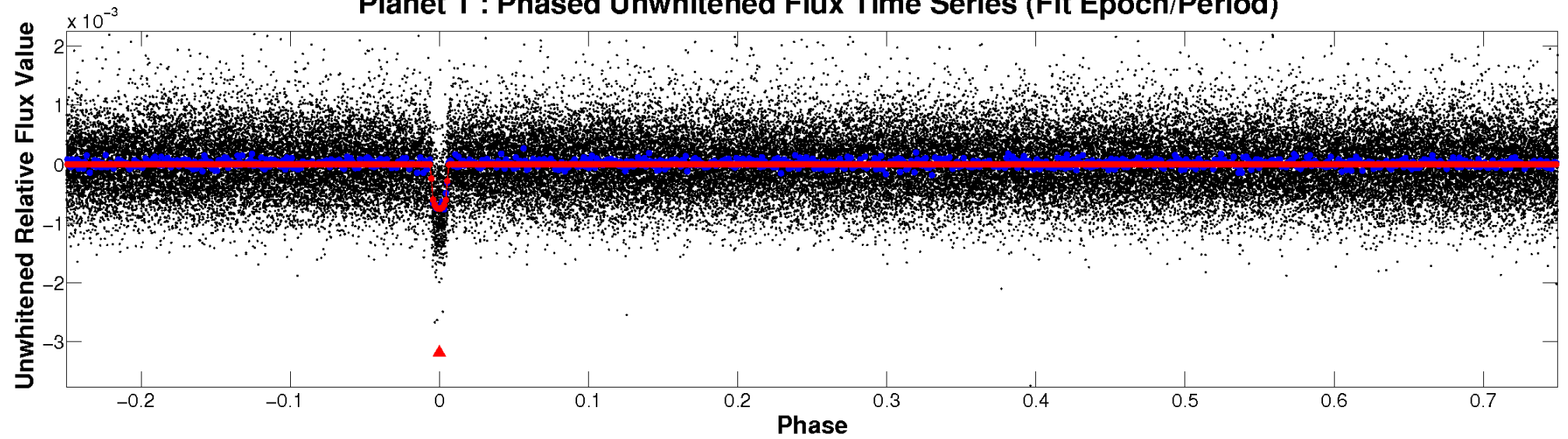
ALT Odd/Even

TCE 005470739-01

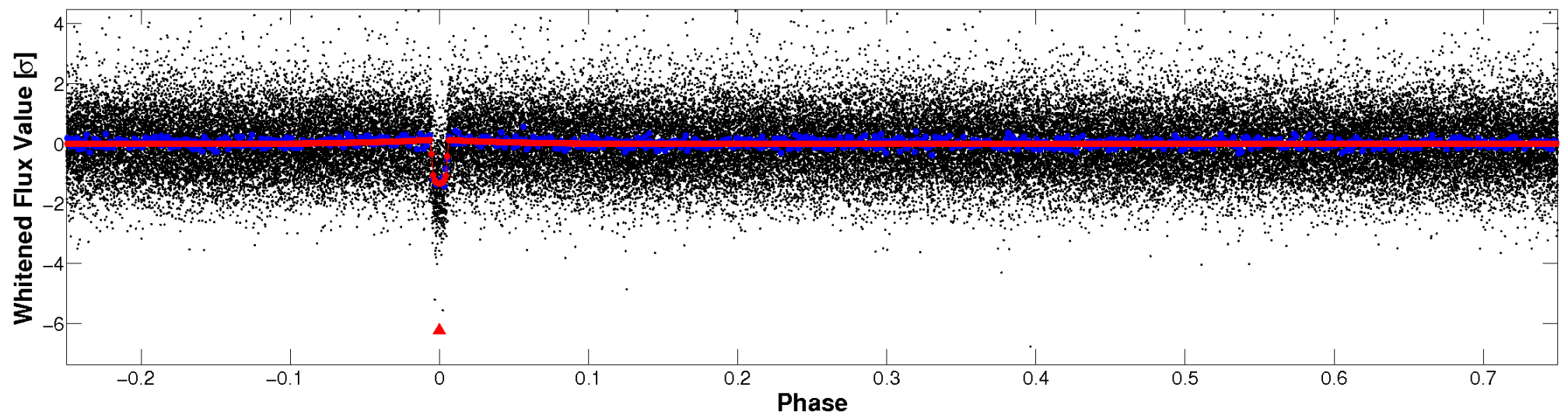


Non-Whitened Vs. Whitened Light Curve

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

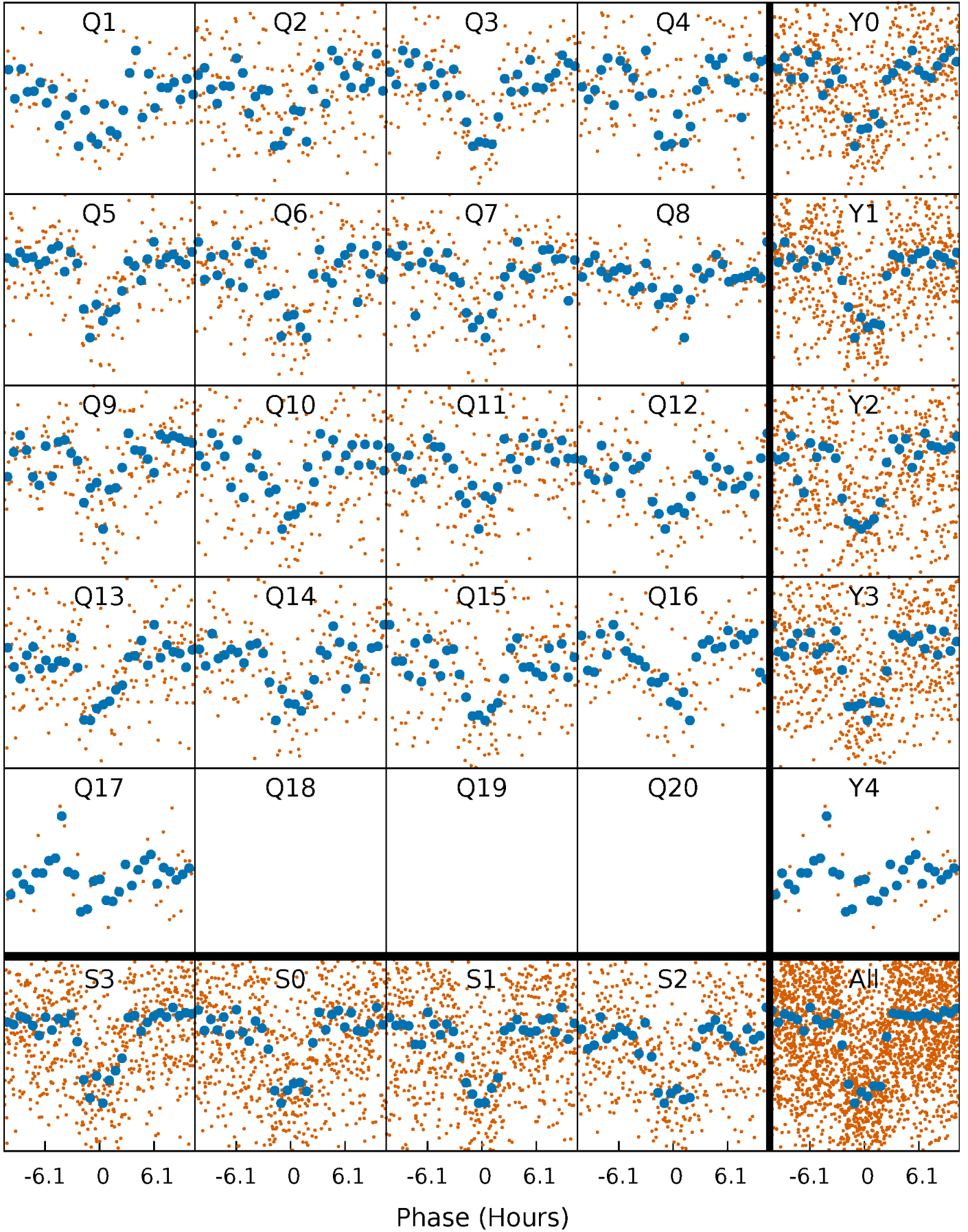


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



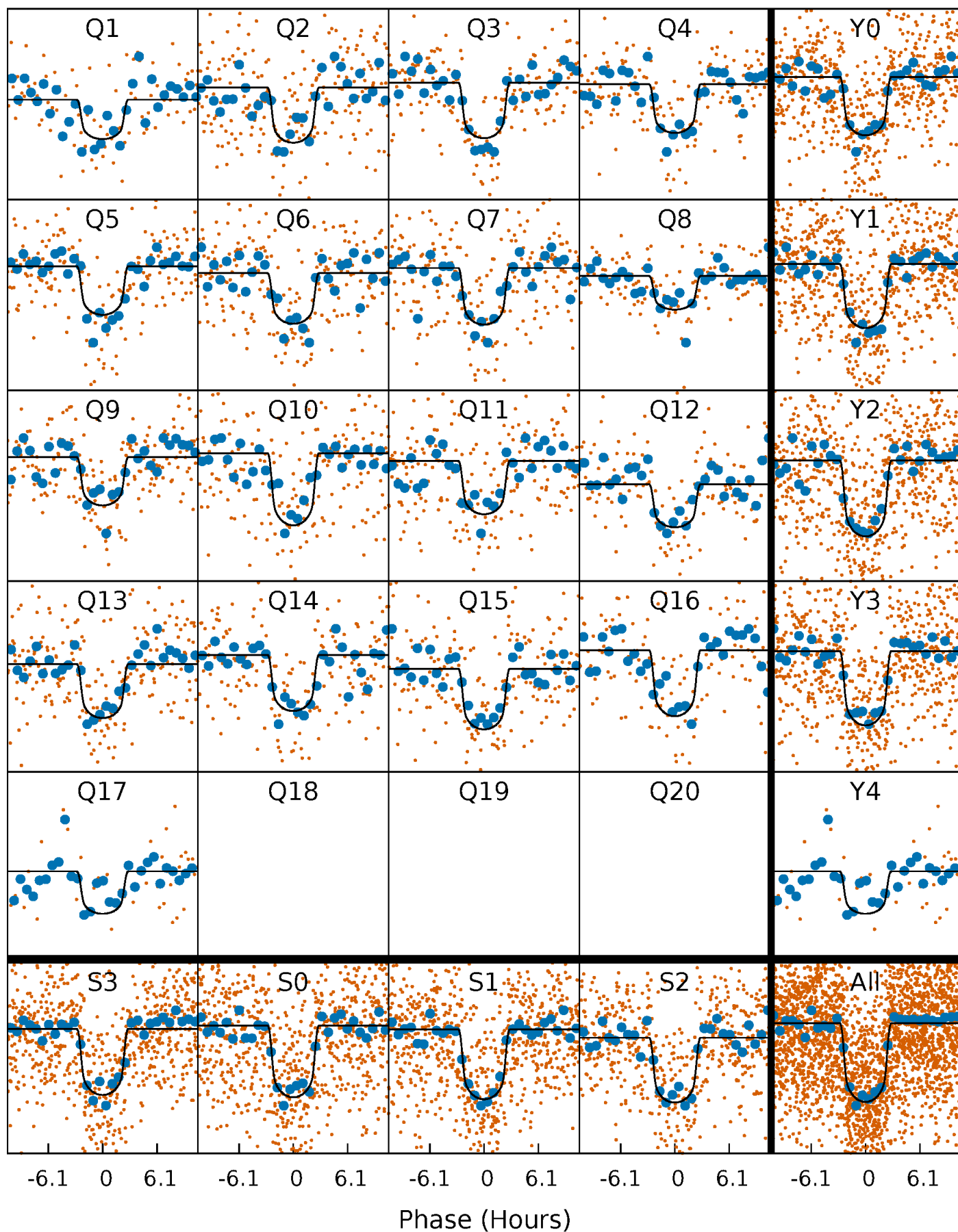
PDC Quarter-Phased Transit Curves

TCE 005470739-01 P= 19.178957 Days $T_0=139.745675$ (BKJD)



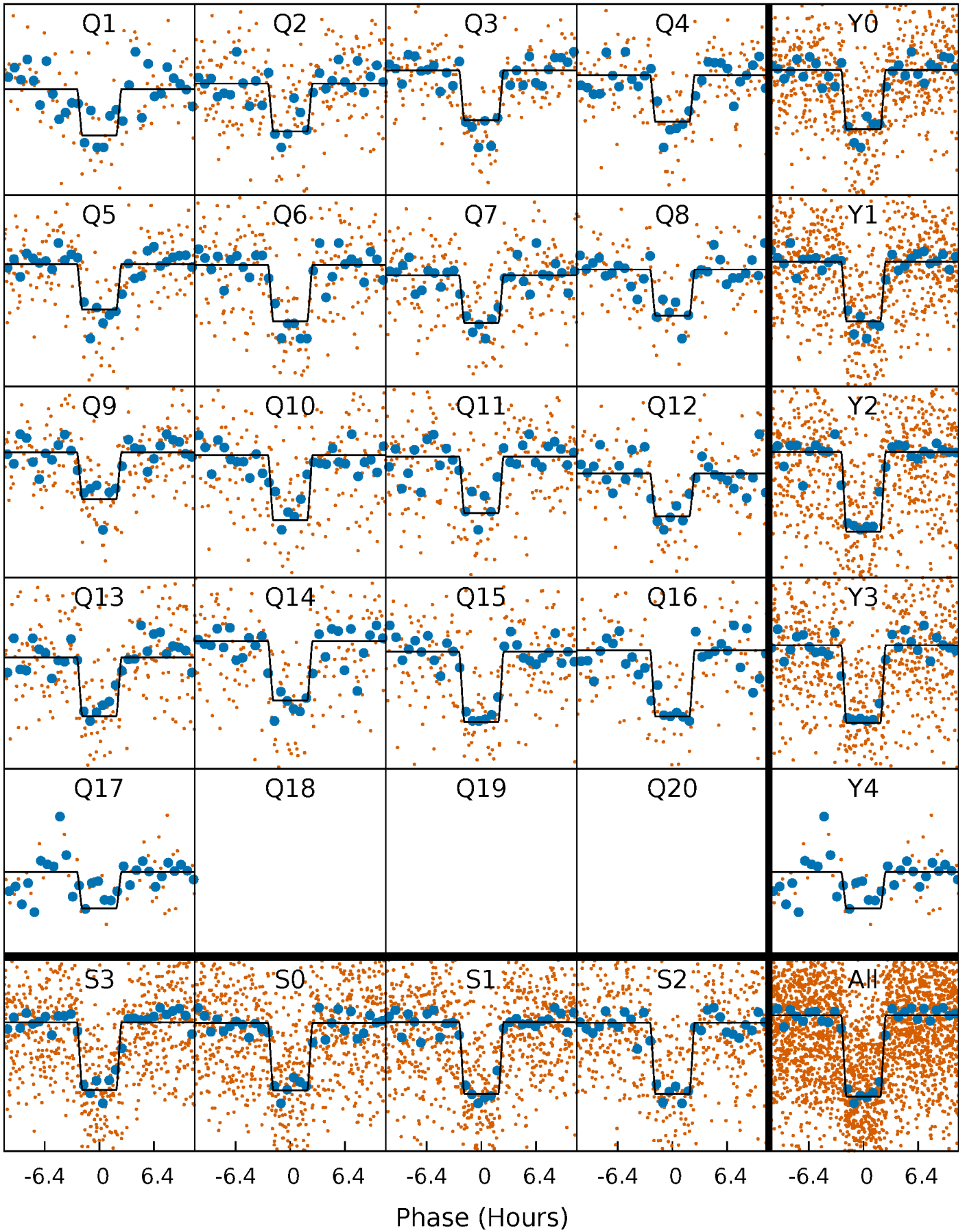
DV Quarter-Phased Transit Curves

TCE 005470739-01 P= 19.178957 Days $T_0=139.745675$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

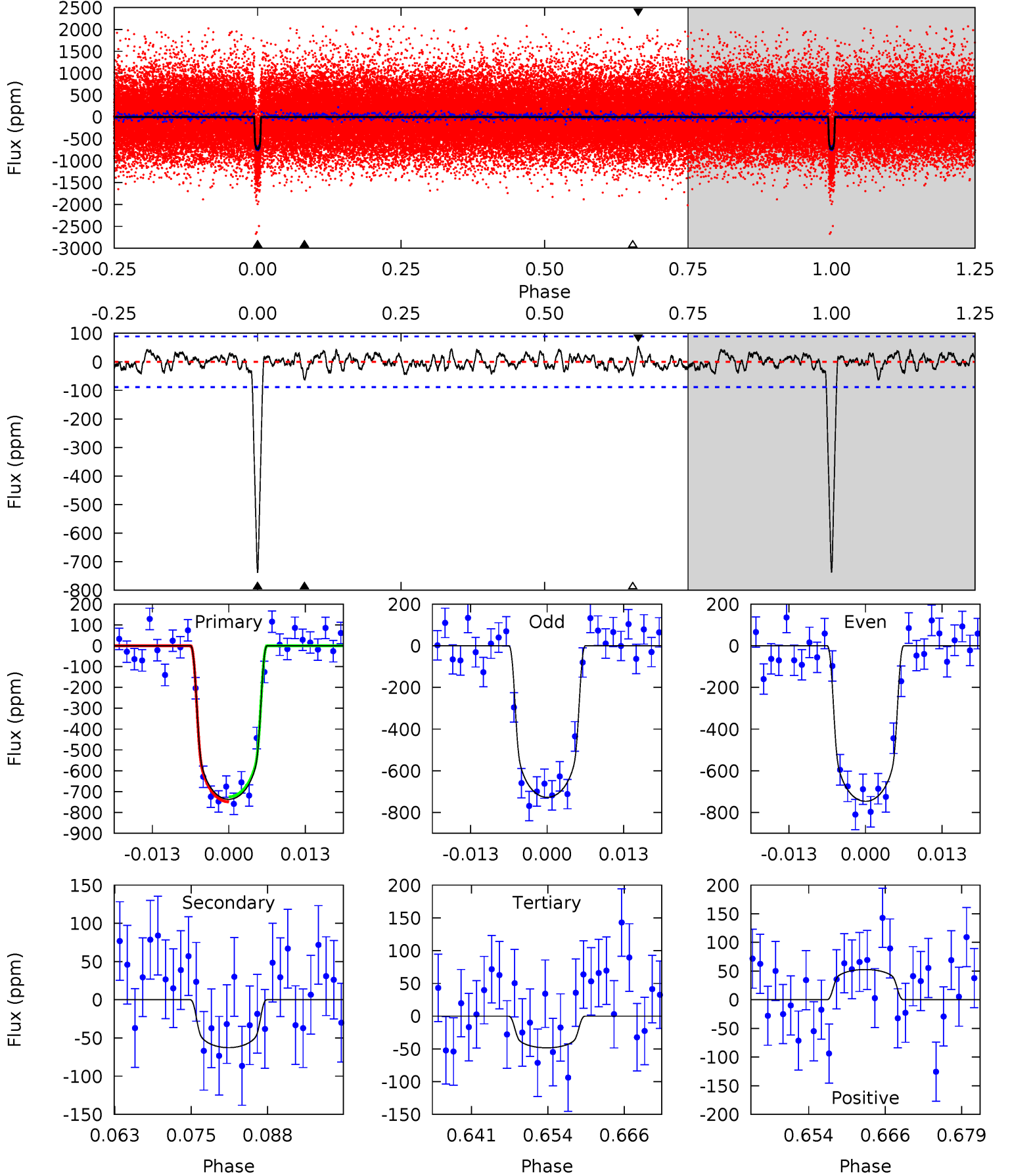
TCE 005470739-01 P= 19.179160 Days $T_0=139.737598$ (BKJD)



DV Model-Shift Uniqueness Test

005470739-01, $P = 19.178957$ Days, $E = 120.566718$ Days

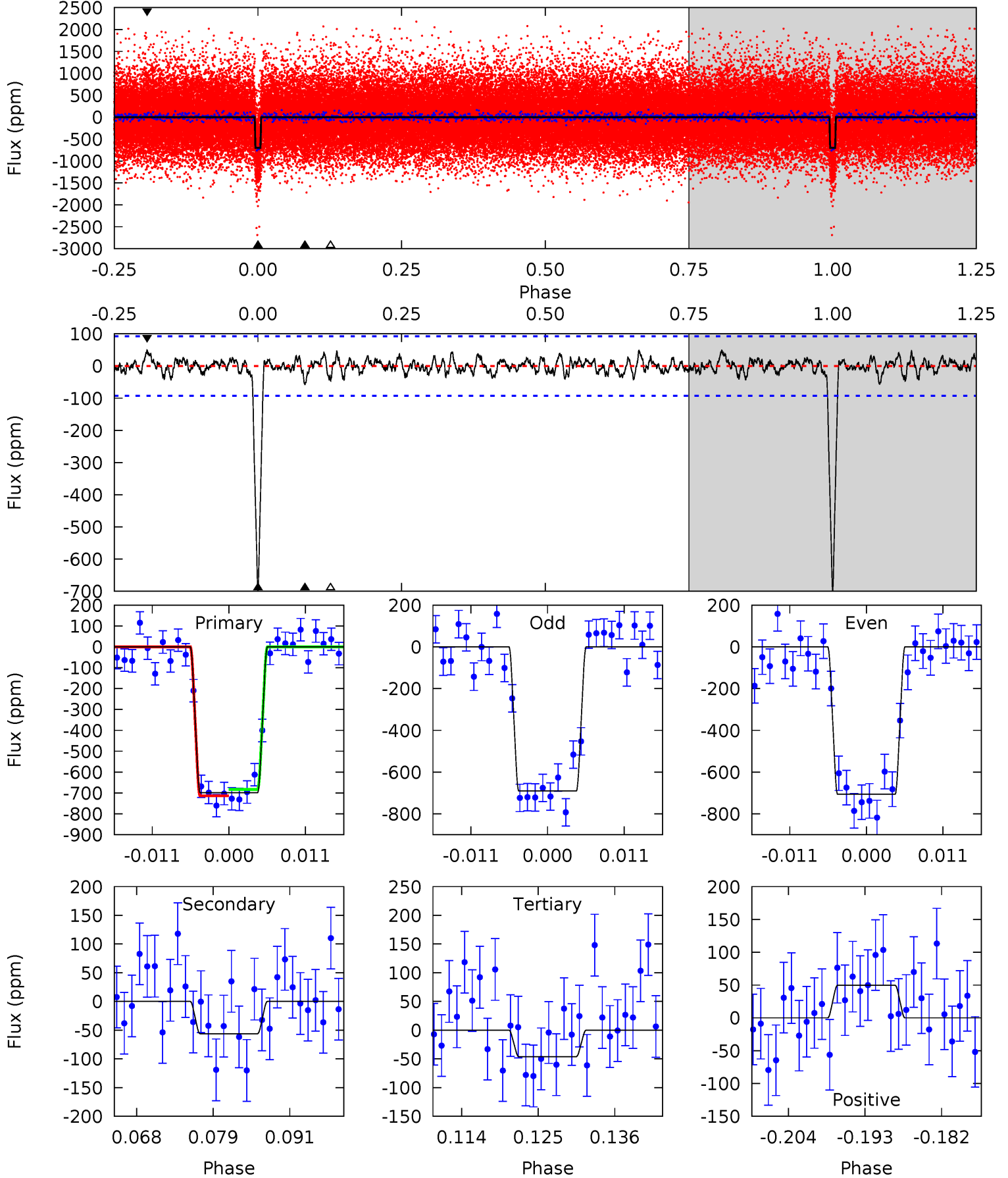
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.4	3.52	2.71	2.96	4.98	2.50	1.07	38.7	38.4	0.80	0.55	0.54	0.99	0.07	0.67



Alt Model-Shift Uniqueness Test

005470739-01, P = 19.179160 Days, E = 120.558438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.7	3.03	2.49	2.68	5.00	2.53	0.92	35.2	35.0	0.55	0.35	0.43	0.96	0.07	0.84



Stellar Parameters For KIC 005470739

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5767^{+173}_{-173}	$4.538^{+0.035}_{-0.196}$	$-0.060^{+0.250}_{-0.300}$	$0.881^{+0.260}_{-0.081}$	$0.979^{+0.102}_{-0.125}$	$2.017^{+0.391}_{-1.029}$
	+3%/-3%	+1%/-4%	+417%/-500%	+30%/-9%	+10%/-13%	+19%/-51%
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 005470739-01 / KOI 1585.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-63 ± 18	$2.85^{+0.49}_{-0.42}$	917^{+61}_{-41}	3514^{+235}_{-241}	78^{+40}_{-30}
Alt.	-56 ± 19	$2.69^{+0.47}_{-0.40}$	919^{+57}_{-43}	3511^{+258}_{-230}	79^{+43}_{-31}

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 $A_{obs} \gg 1.0$

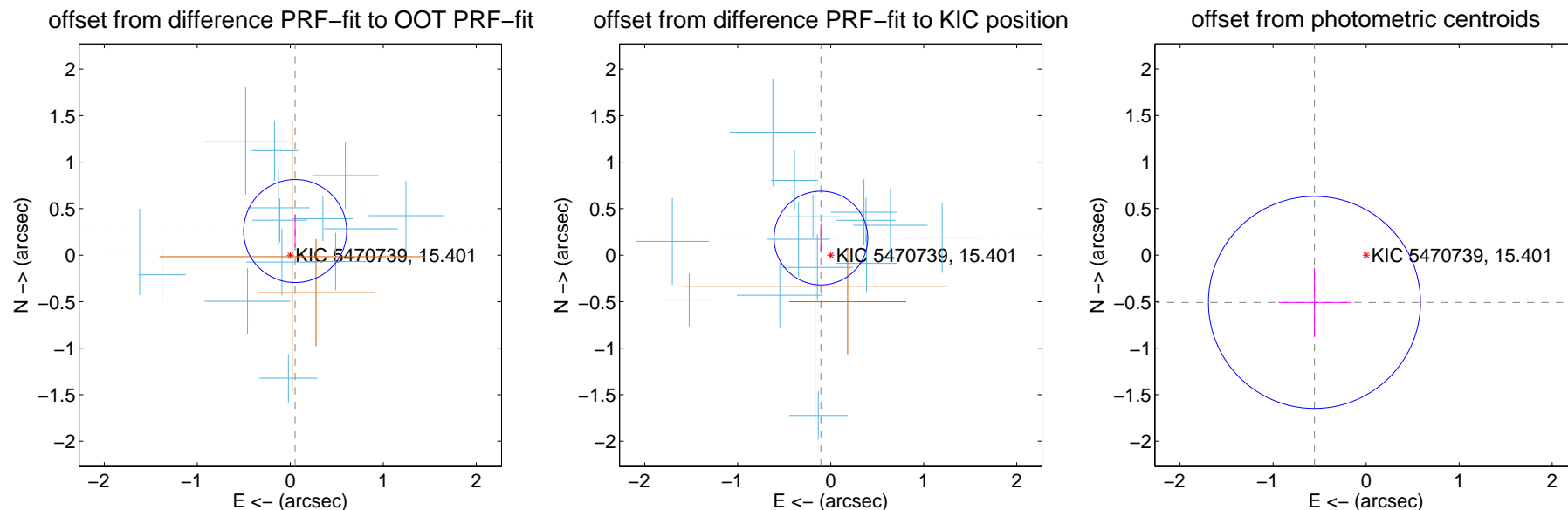
DV Centroid Data

Supplemental centroid analysis for 005470739-01. Kepler magnitude: 15.40. Transit SNR 30.08

There are 14 quarters with good PRF difference image offsets

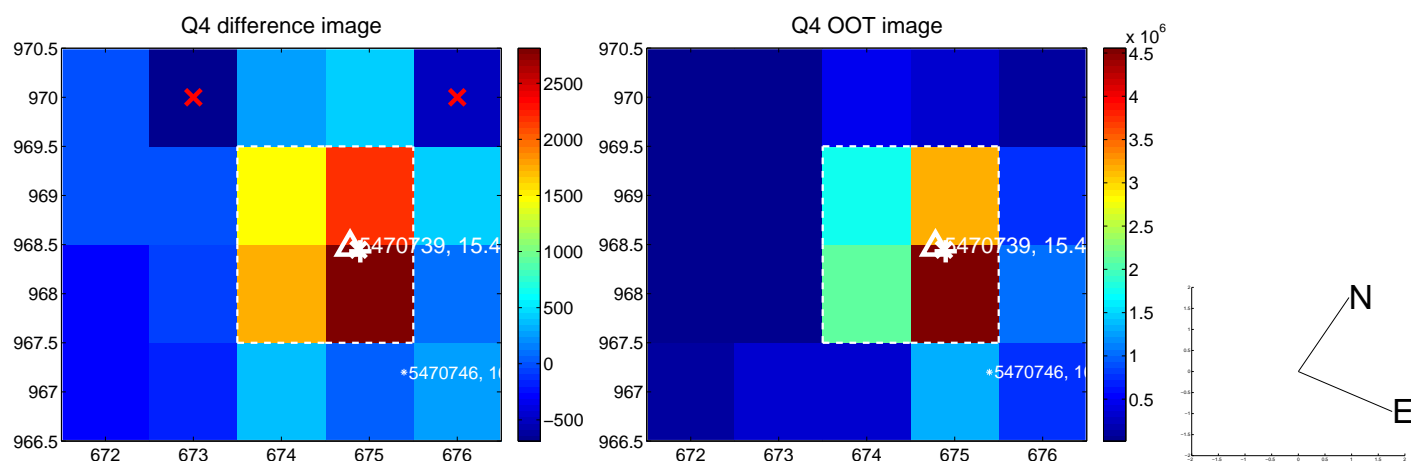
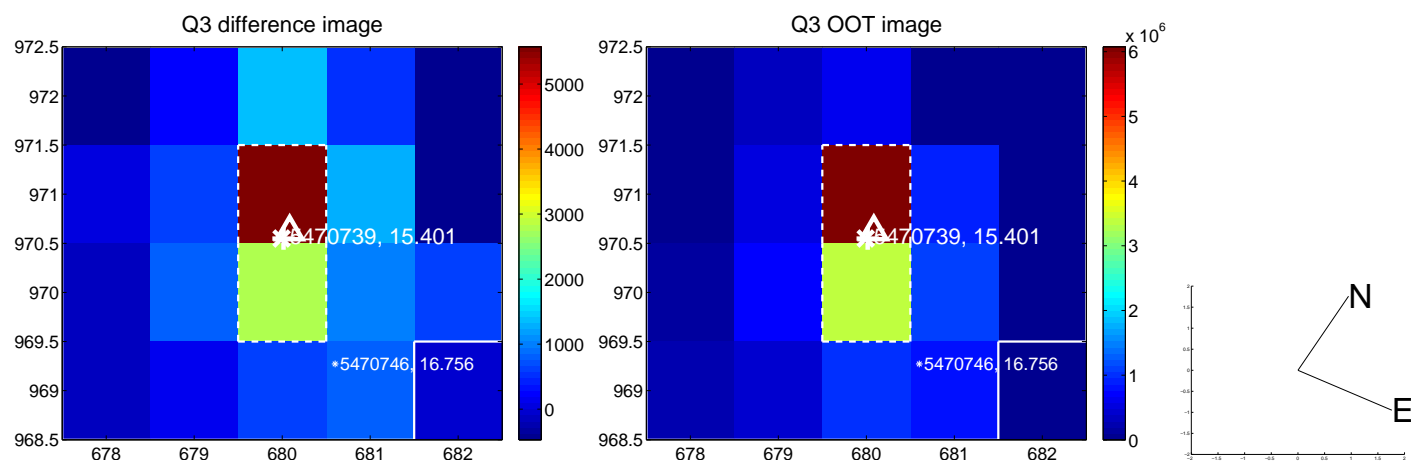
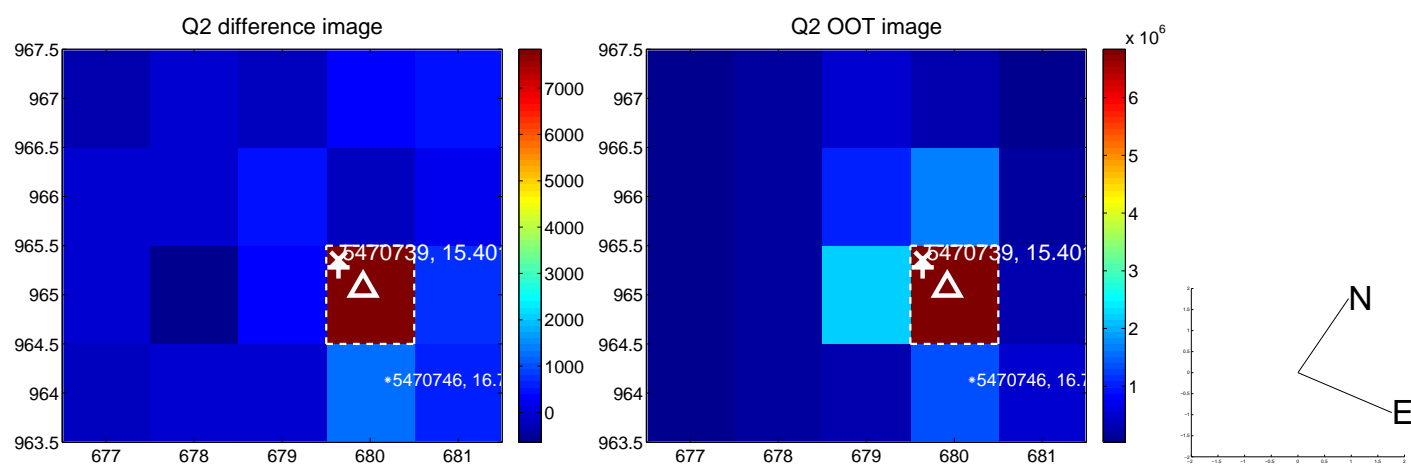
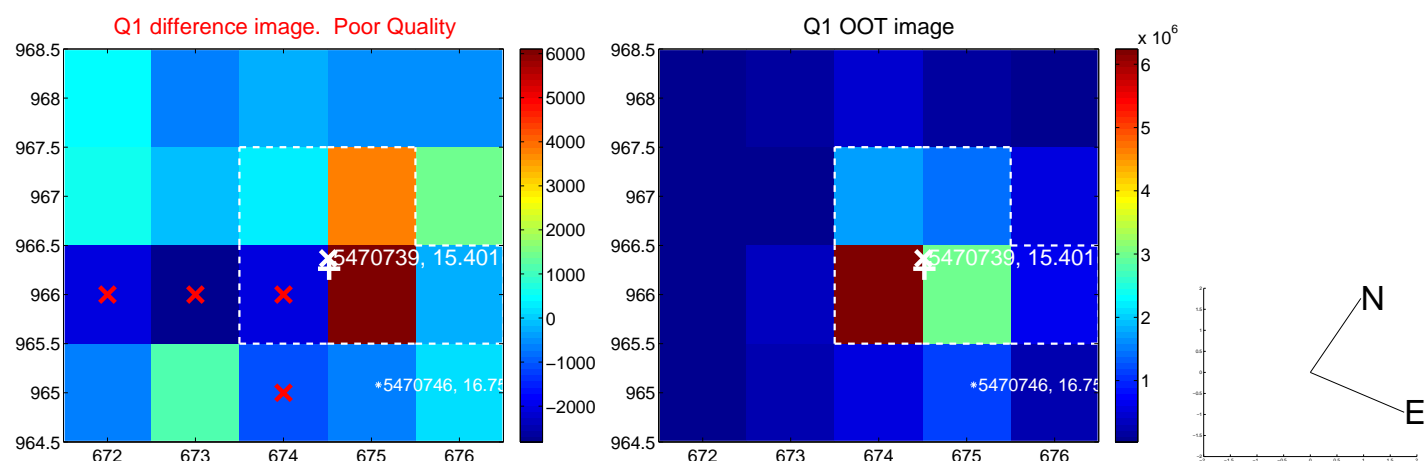
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.265 ± 0.185	1.43	-0.053 ± 0.189	0.260 ± 0.178
PRF-fit source offset from KIC position	0.212 ± 0.168	1.26	0.105 ± 0.192	0.184 ± 0.160
photometric centroid source offset	0.75 ± 0.38	1.98	0.56 ± 0.39	-0.51 ± 0.37

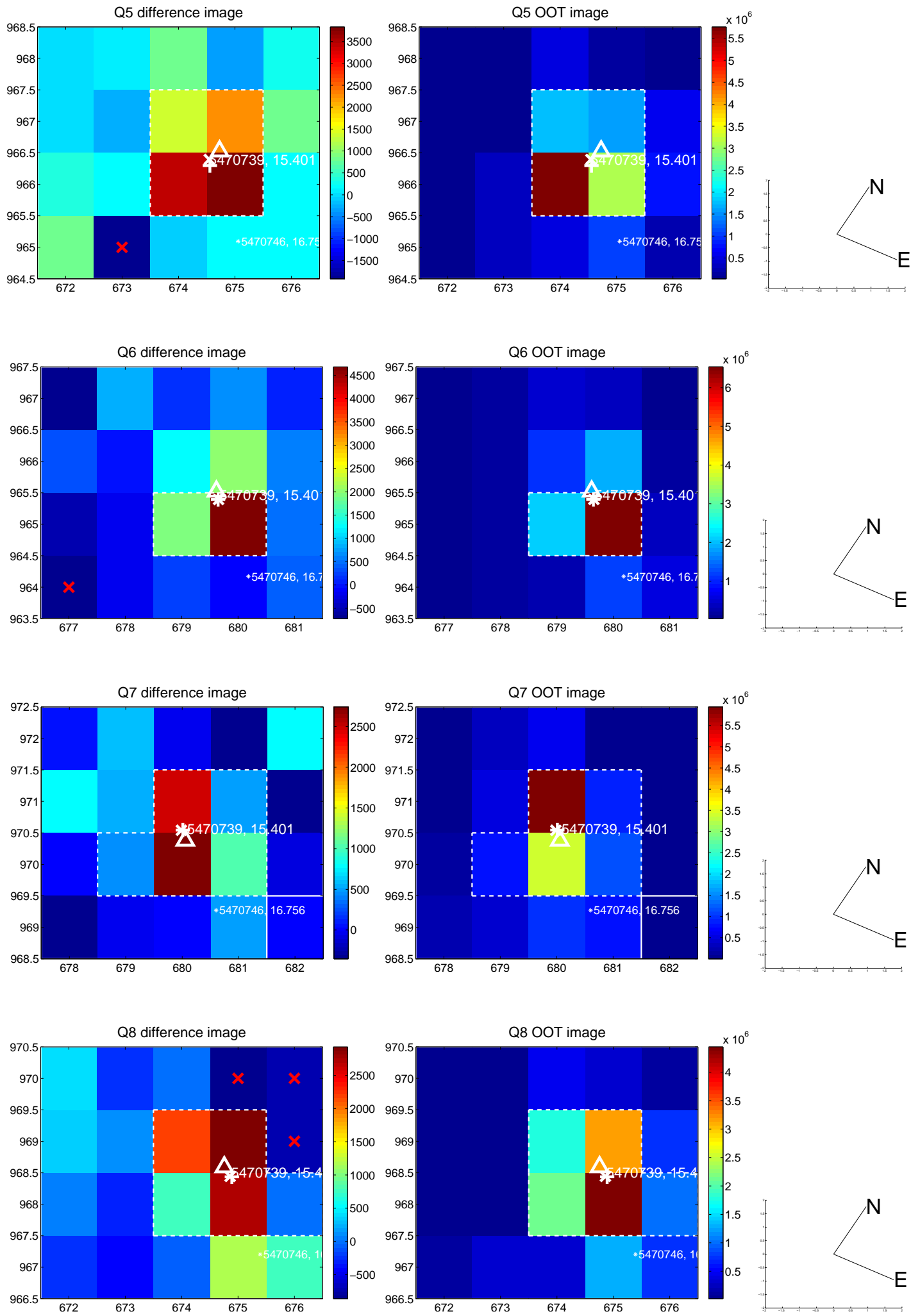


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

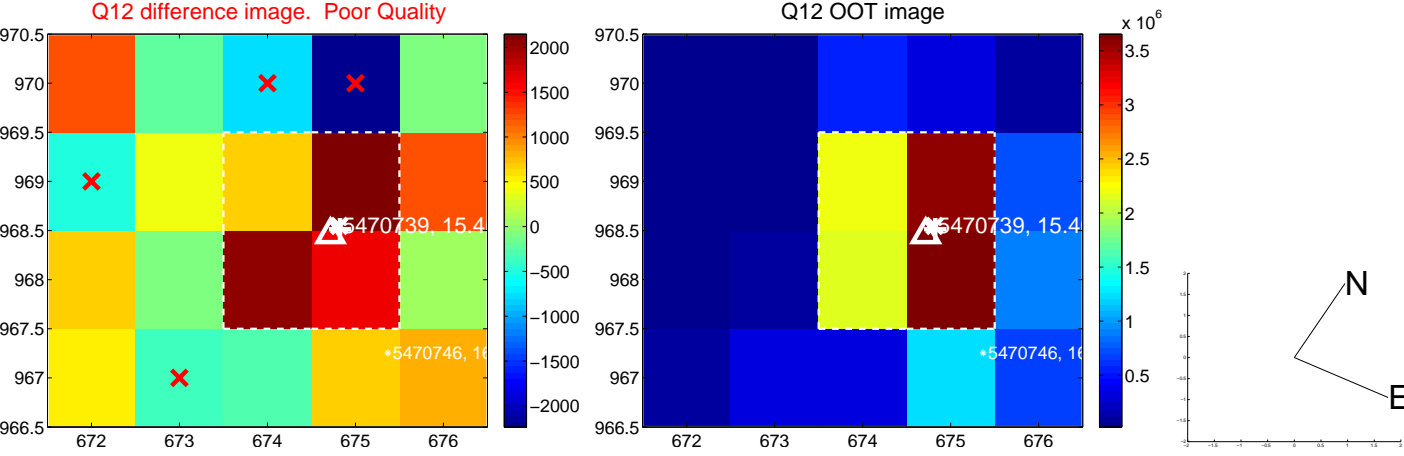
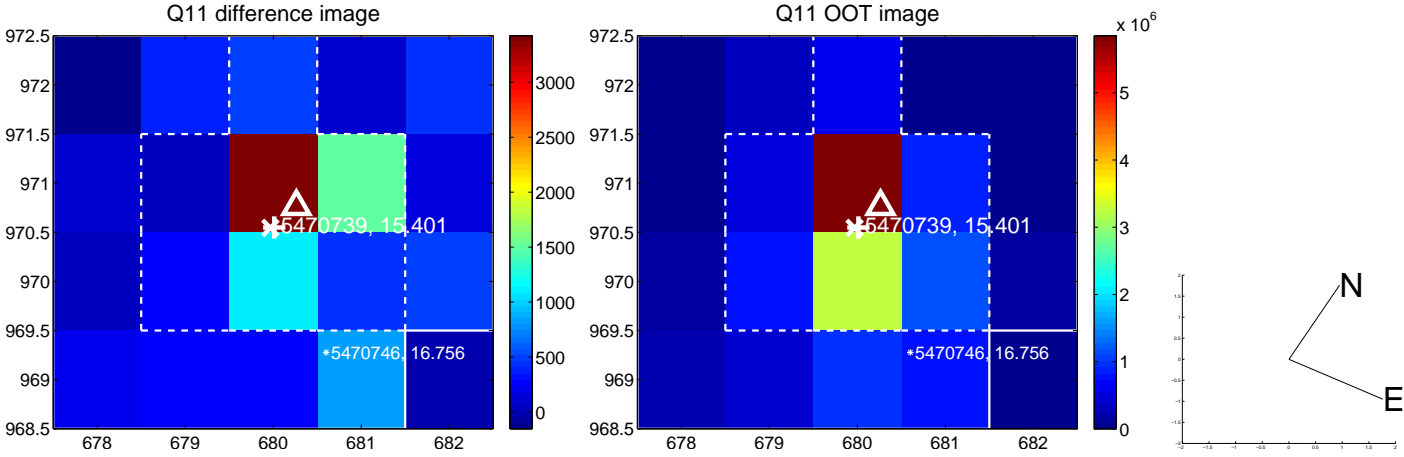
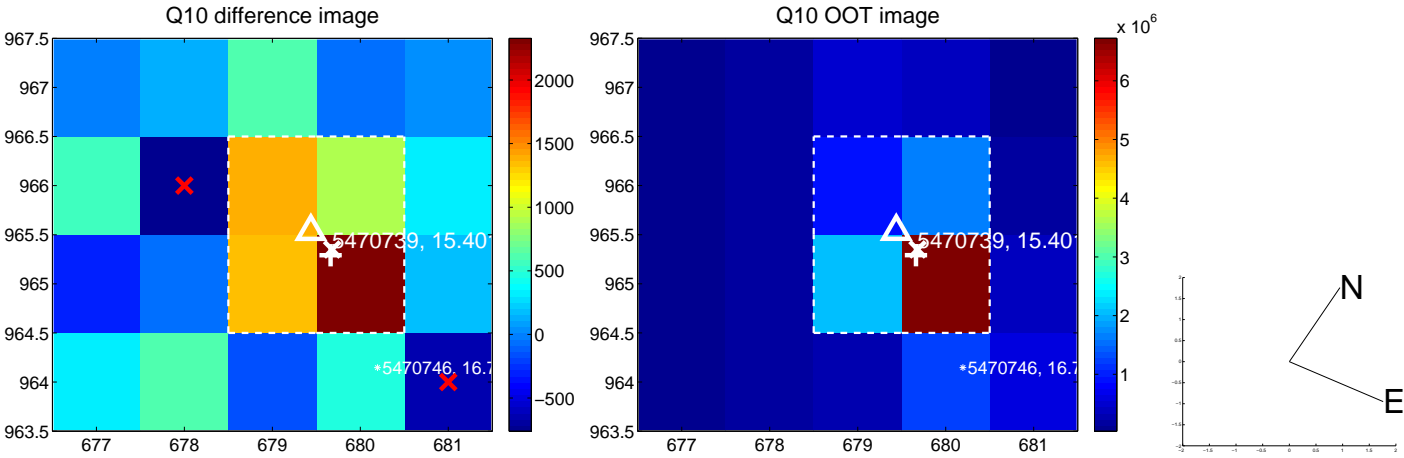
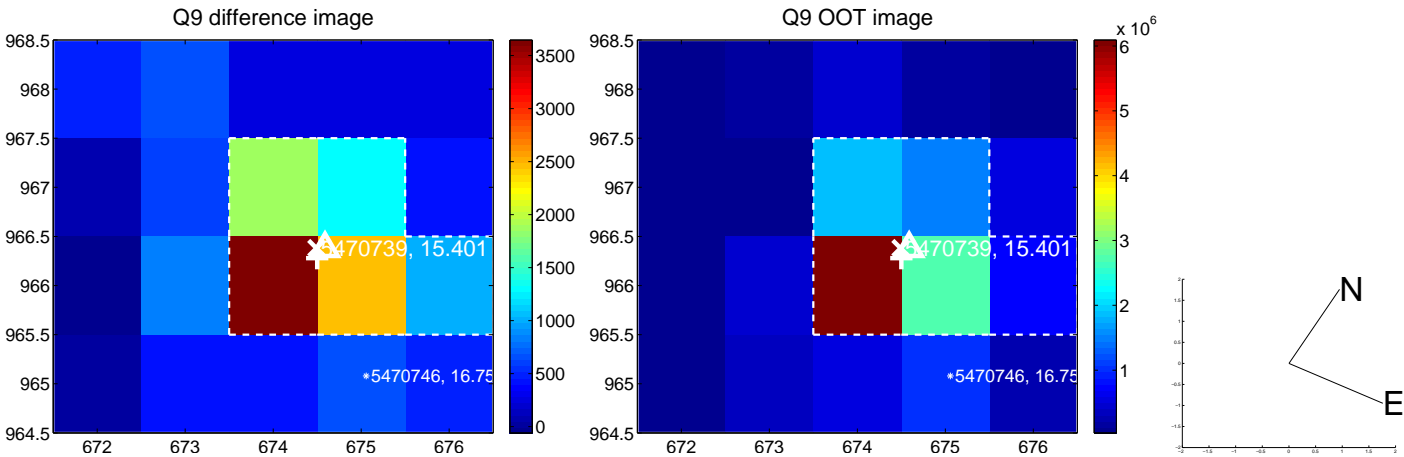
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



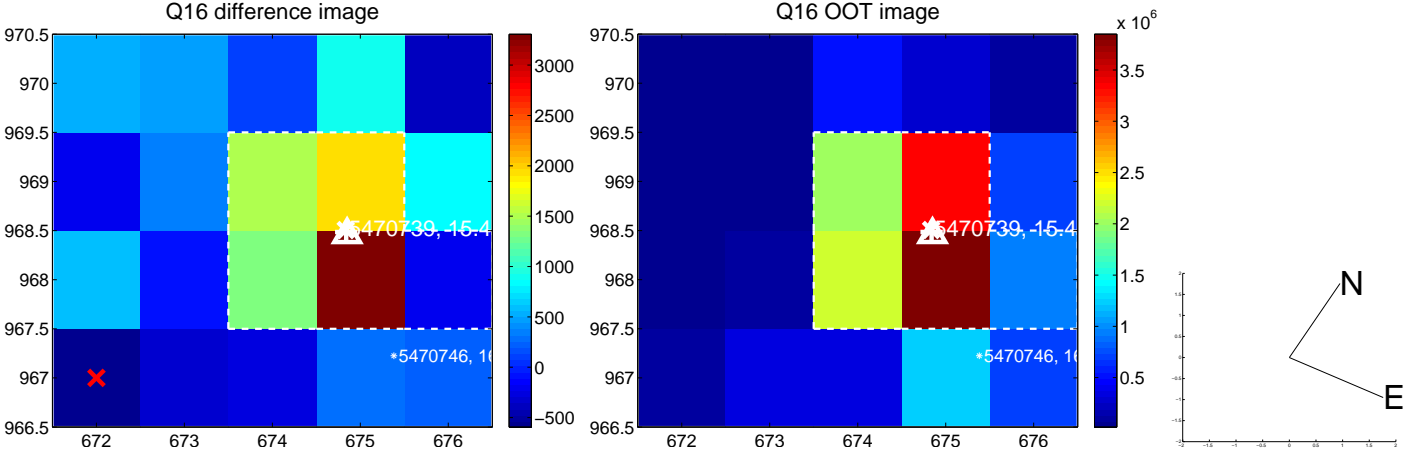
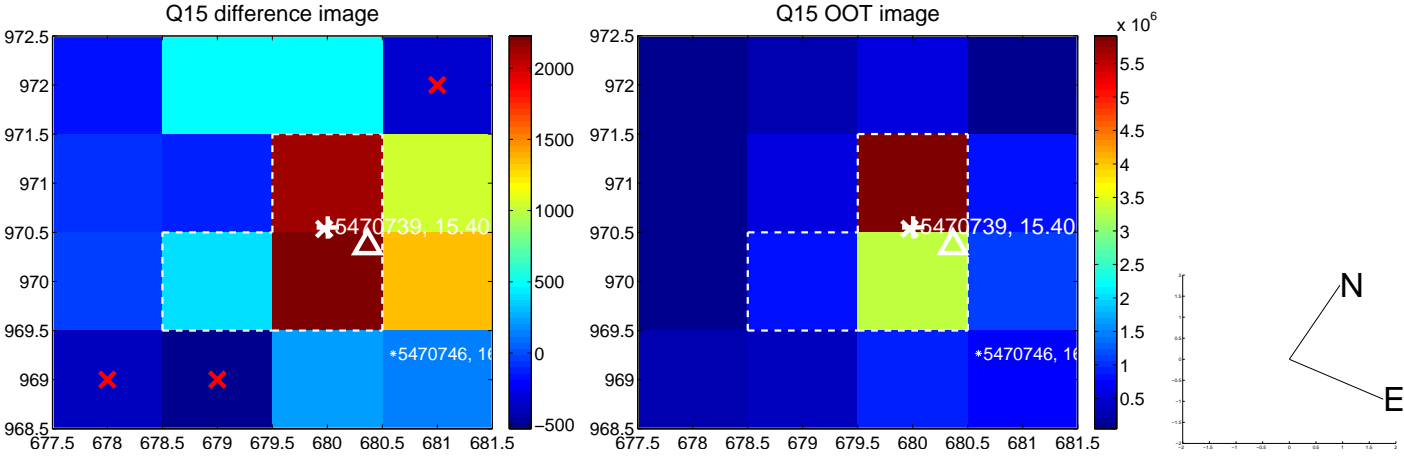
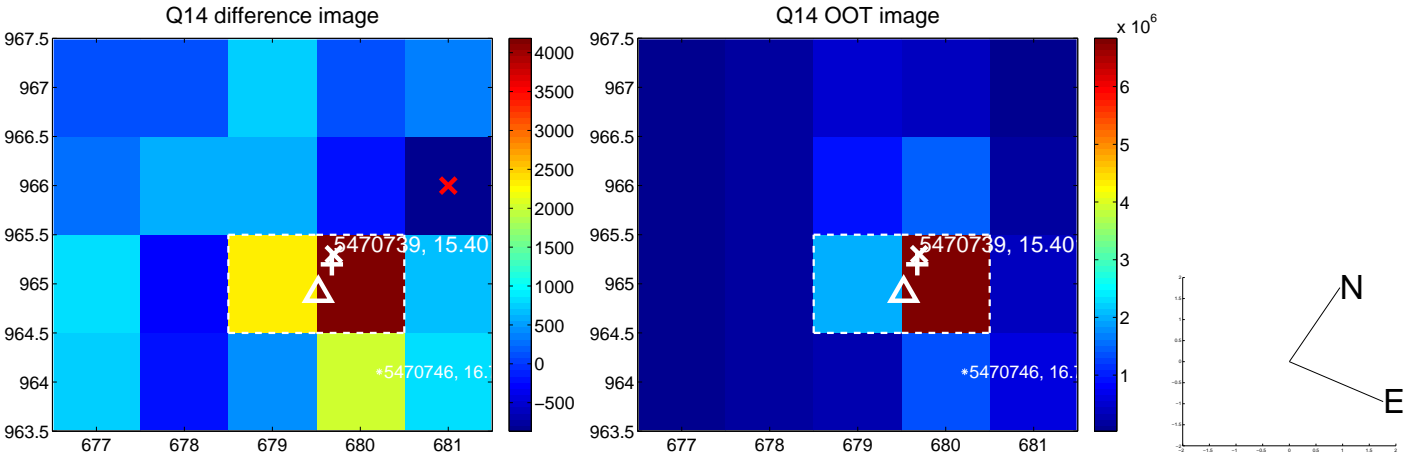
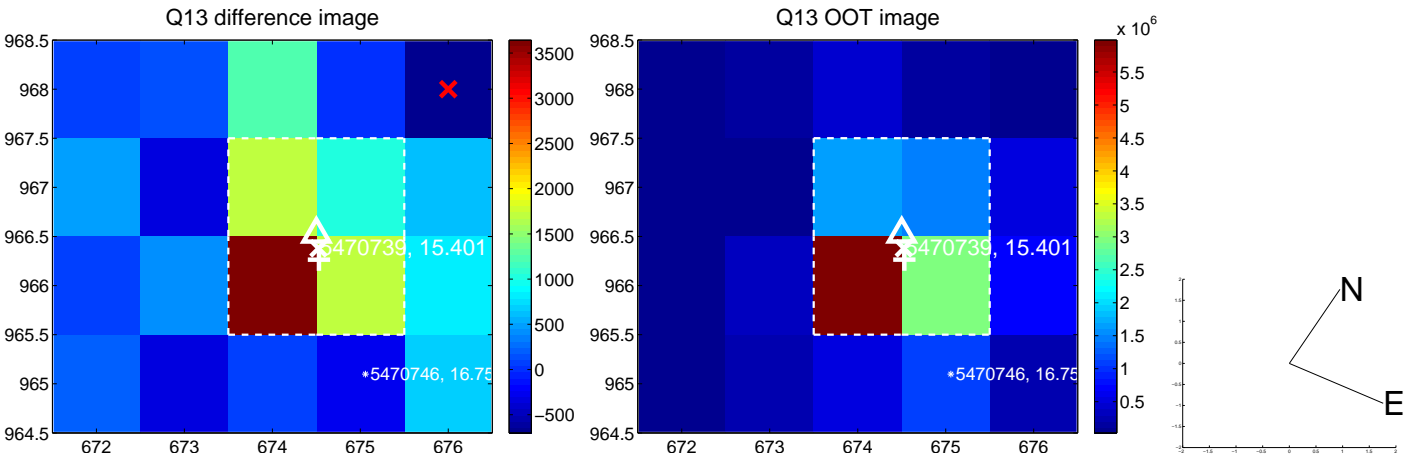
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



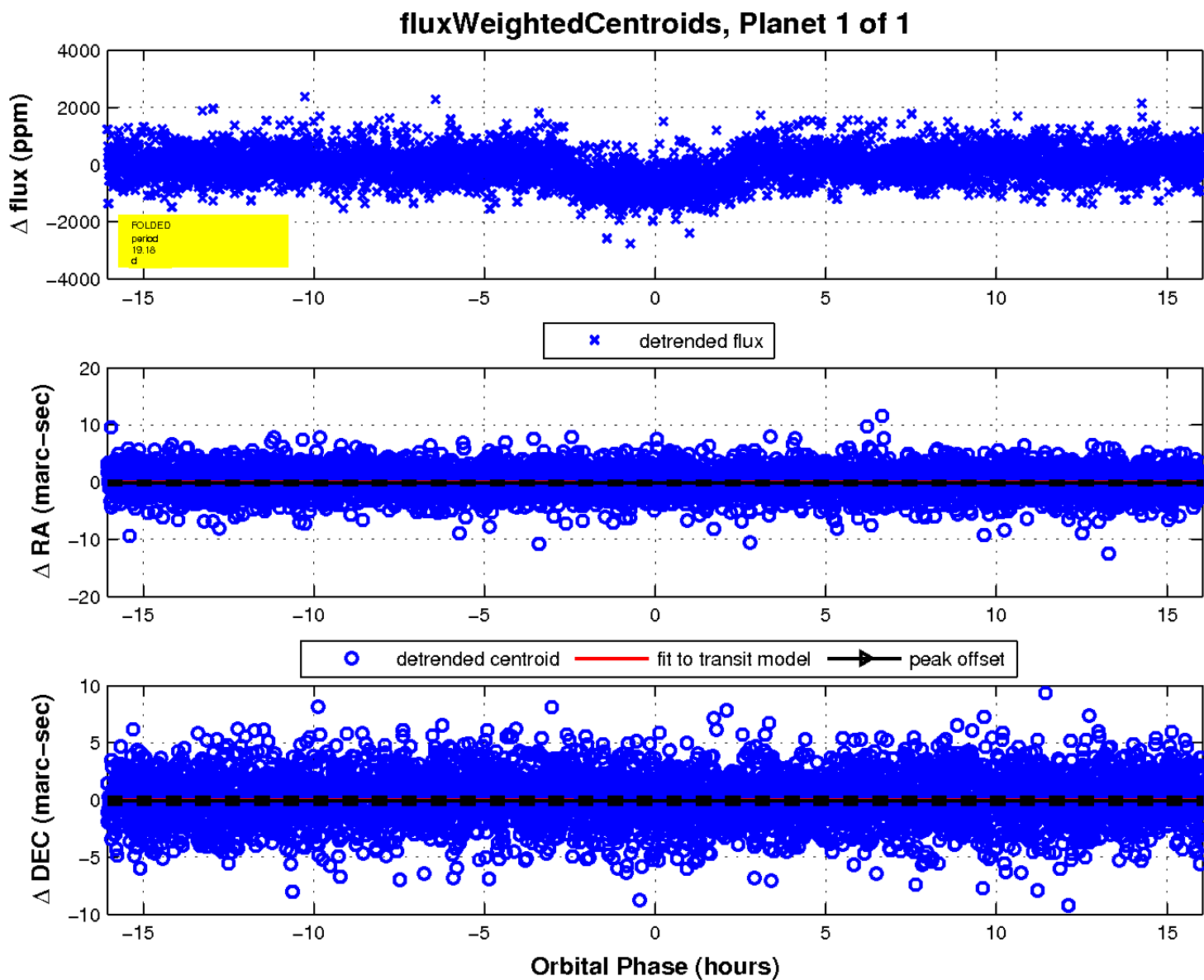
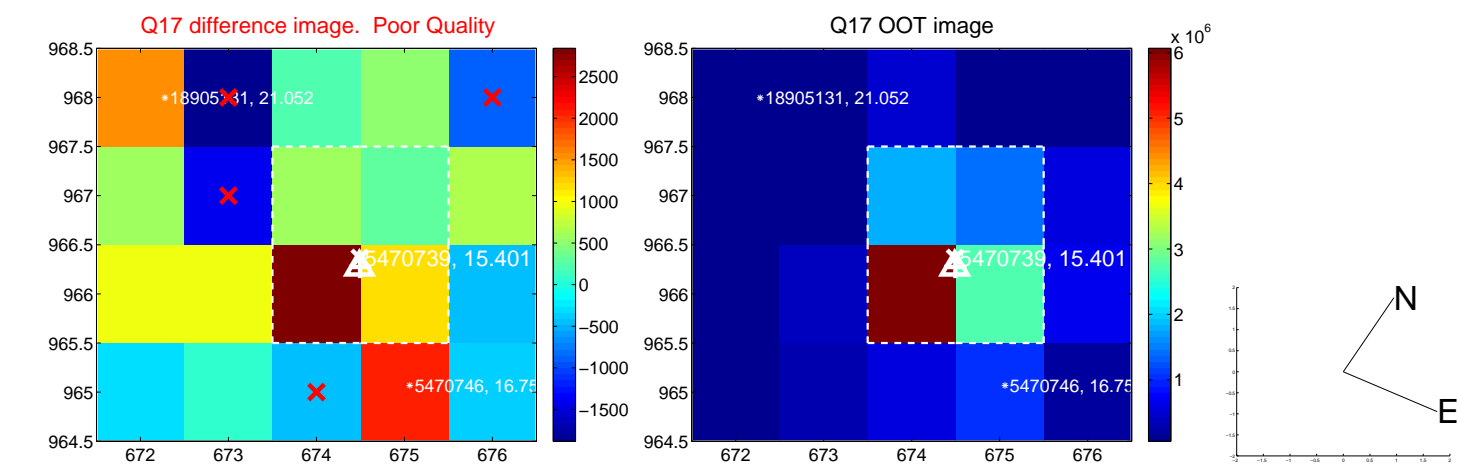
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UKIRT Image

Declination

