

KIC 010735988

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})
010735988-01	OBS	6230.01	1.927183	132.569865	137528.6	2.840	4143.9	2162.7	0.77	5193	29.04	523.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010735988-01	OBS	PC	0.64	0	1	0	0	MOD_SEC_DV—PLANET_OCCULT_DV—MOD_SEC_ALT

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.

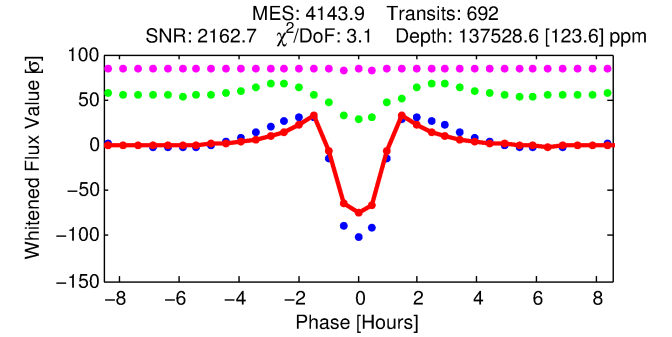
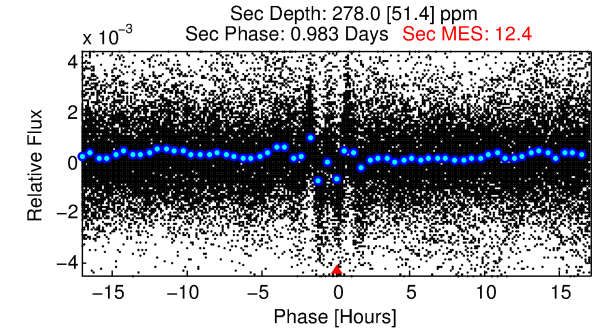
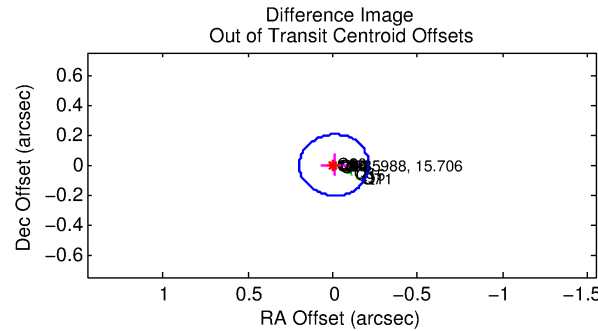
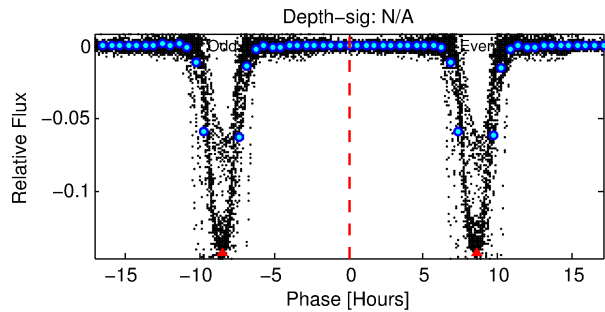
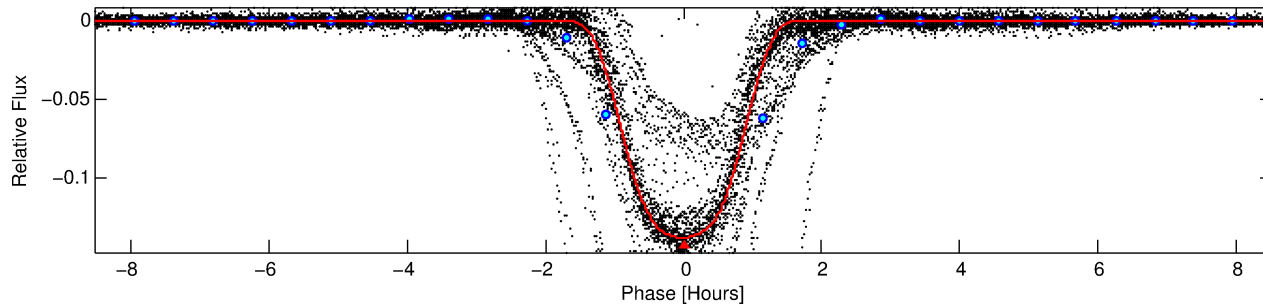
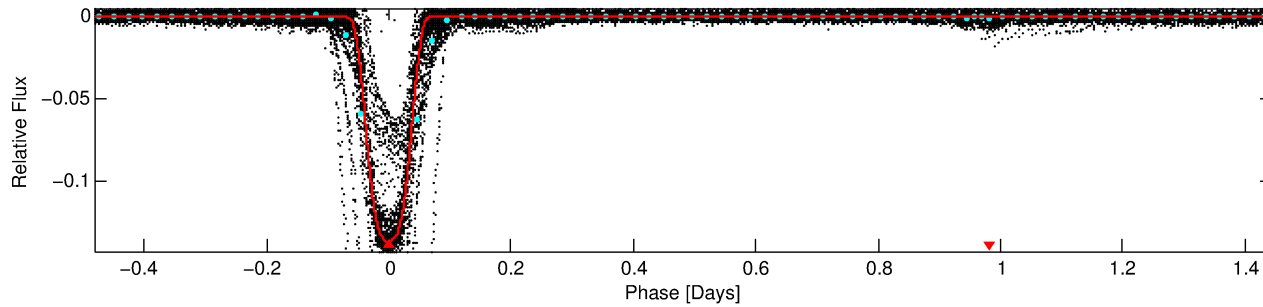
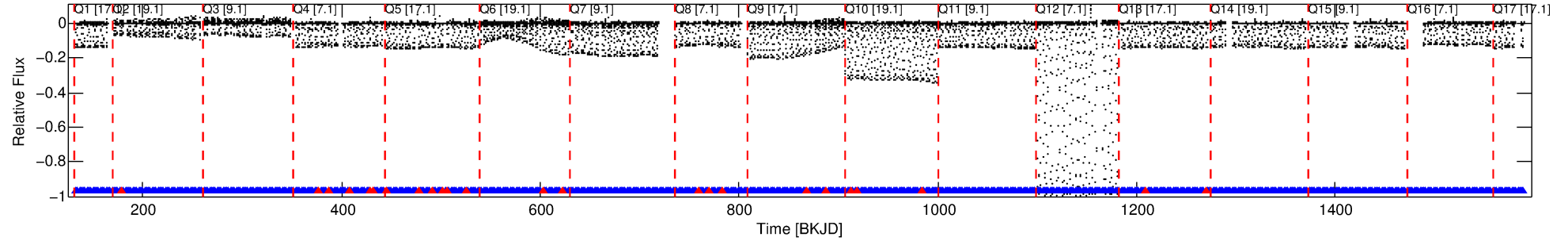
Ephemeris Match Information For 010735988-01

No Significant Match Found

DV One-Page Summary

KIC: 10735988 Candidate: 1 of 1 Period: 1.927 d
KOI: K06230.01 Corr: 0.962

Kp: 15.71 R*: 0.77 Rs Teff: 5193.0 K Logg: 4.53 Fe/H: -0.280



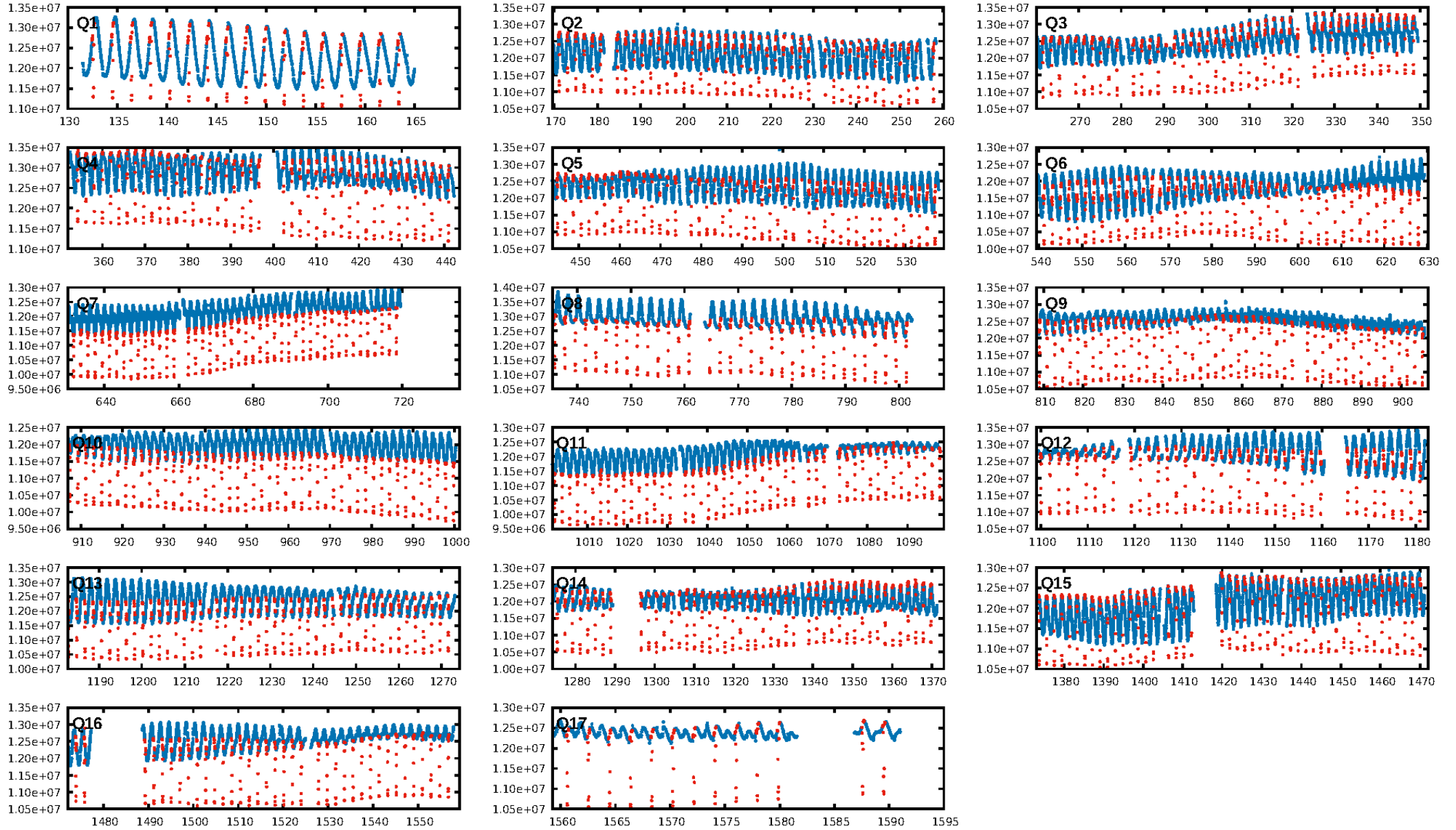
DV Fit Results:

Period = 1.92718 [0.00000] d
Epoch = 132.5699 [0.0000] BKJD
Rp/R* = 0.3439 [0.0002]
a/R* = 6.72 [0.01]
b = 0.39 [0.00]
Seff = 523.00 [101.37]
Teq = 1219 [59] K
Rp = 29.04 [3.30] Re
a = 0.0273 [0.0027] AU
Ag = 0.14 [0.03] [-27.24σ]
Teffp = 1144 [65] K [-0.87σ]

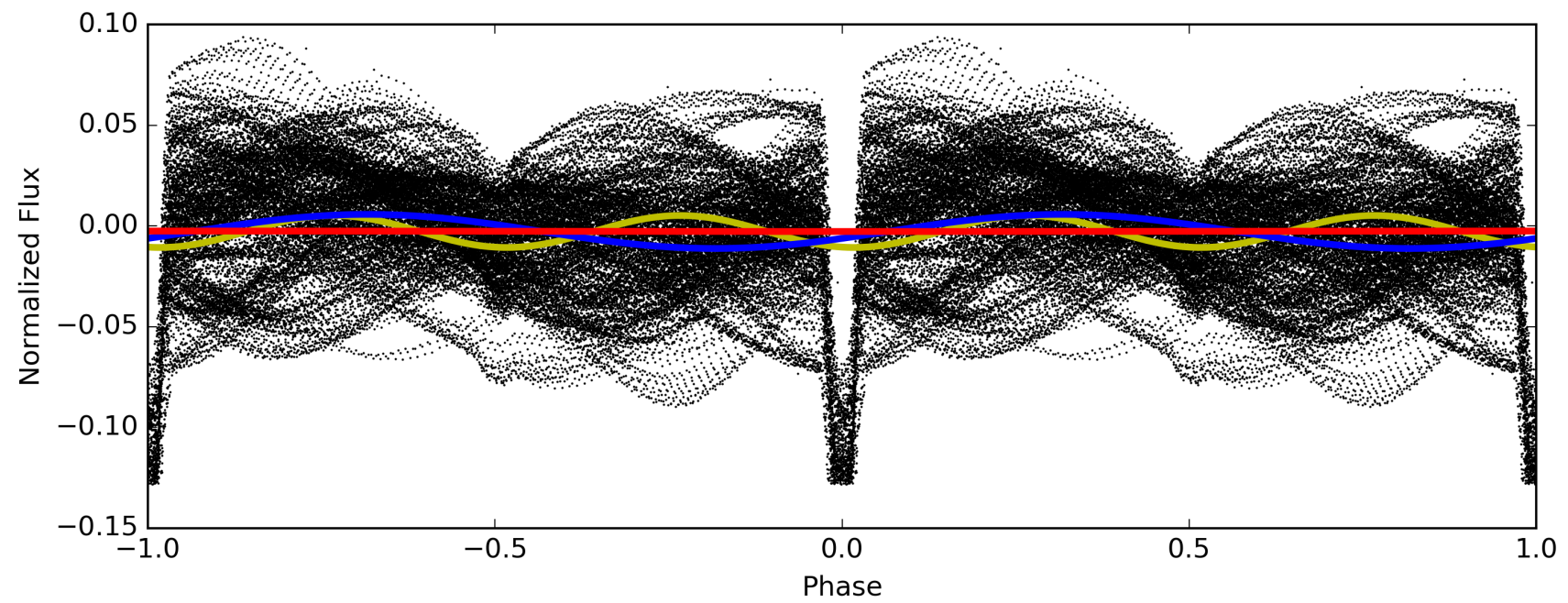
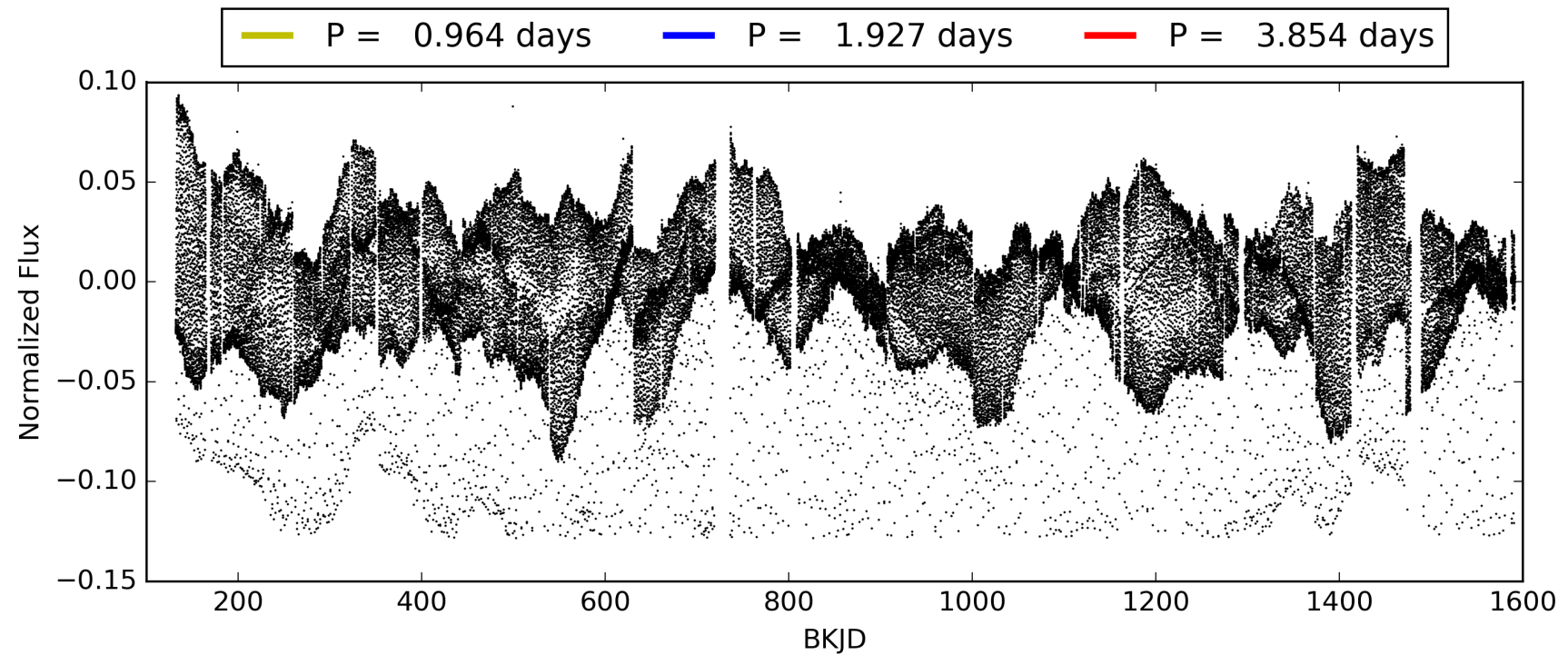
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [638/662]
GhostDiagnostic-chr: 1.214
Centroid-sig: 0.0%
Centroid-so: 0.218 arcsec [159.97σ]
OotOffset-rm: 0.007 arcsec [0.11σ]
KicOffset-rm: 0.154 arcsec [1.87σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010735988-01, PDC Light Curves

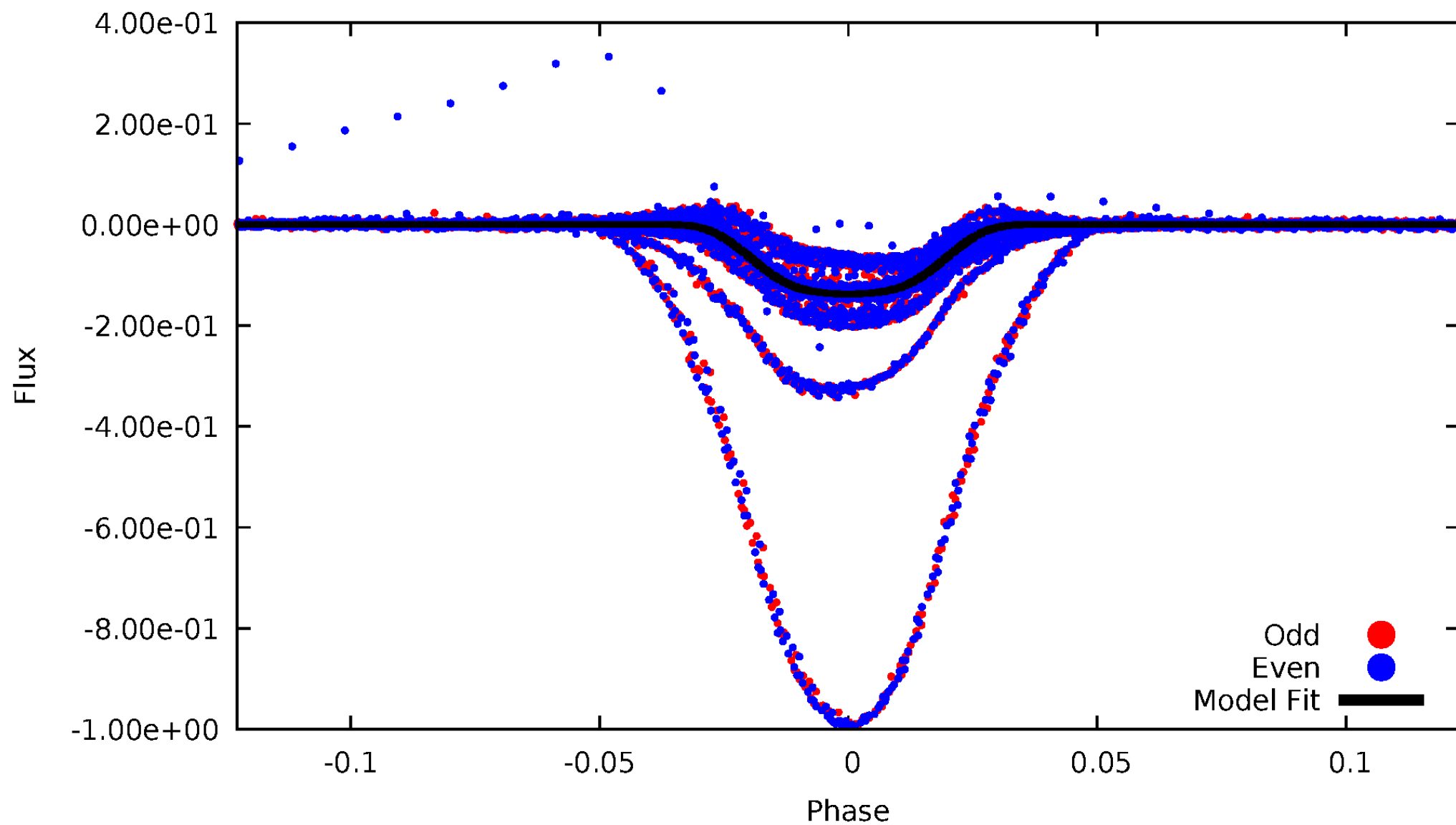


TCE 010735988-01



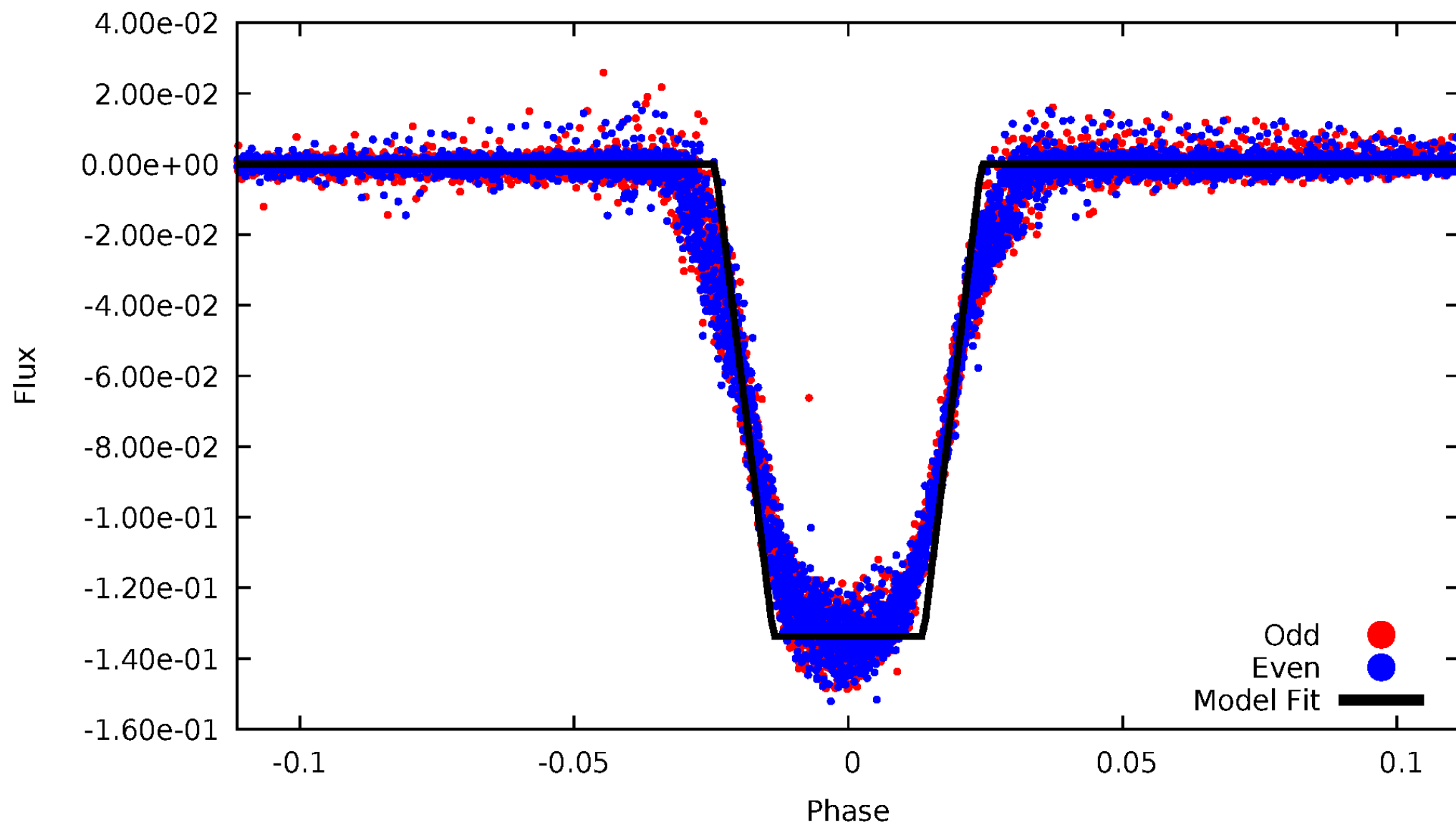
DV Odd/Even

TCE 010735988-01



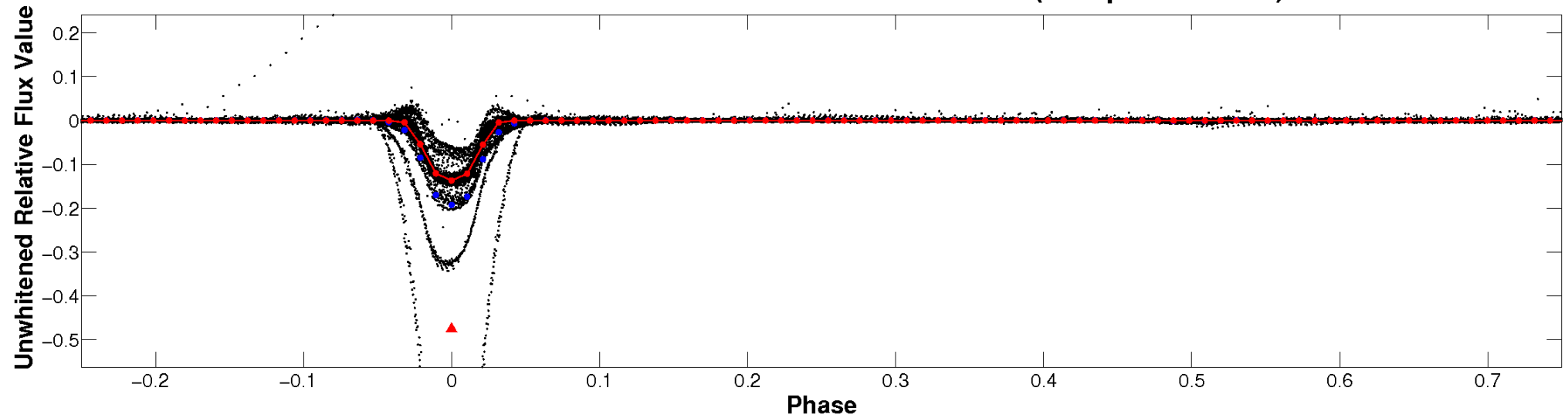
ALT Odd/Even

TCE 010735988-01

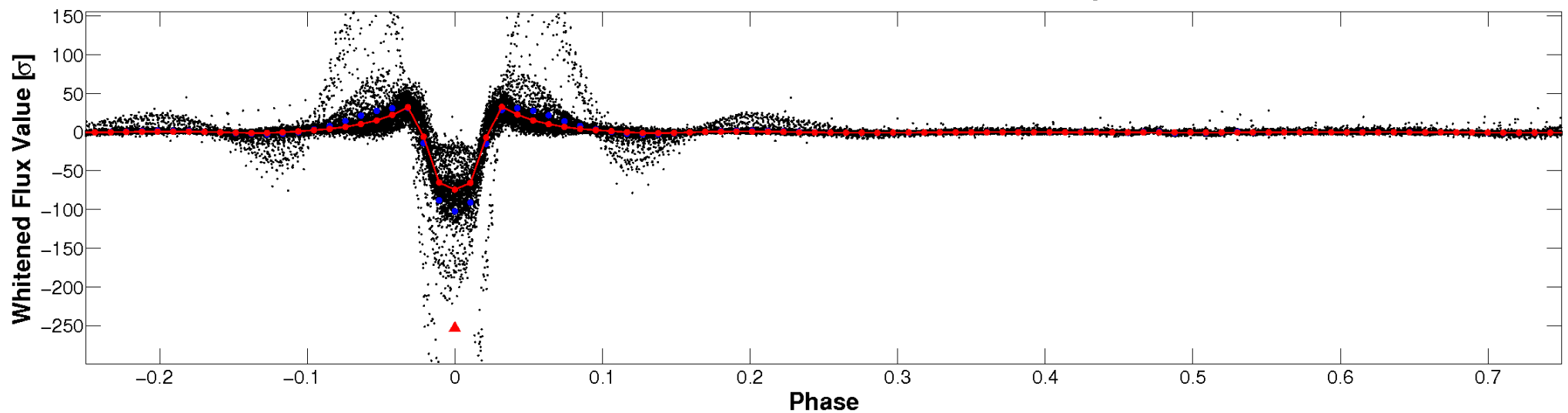


Non-Whitened Vs. Whitened Light Curve

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

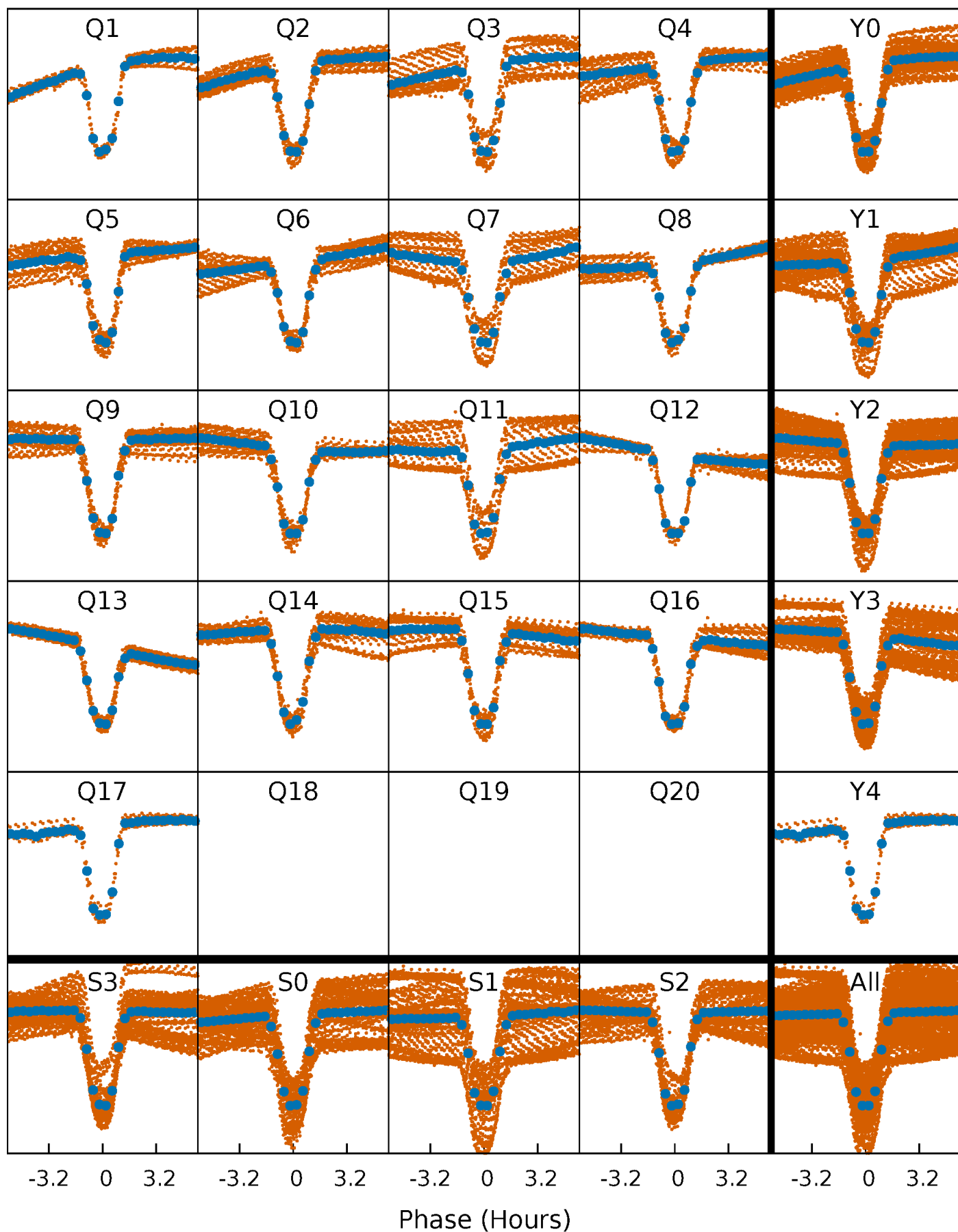


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



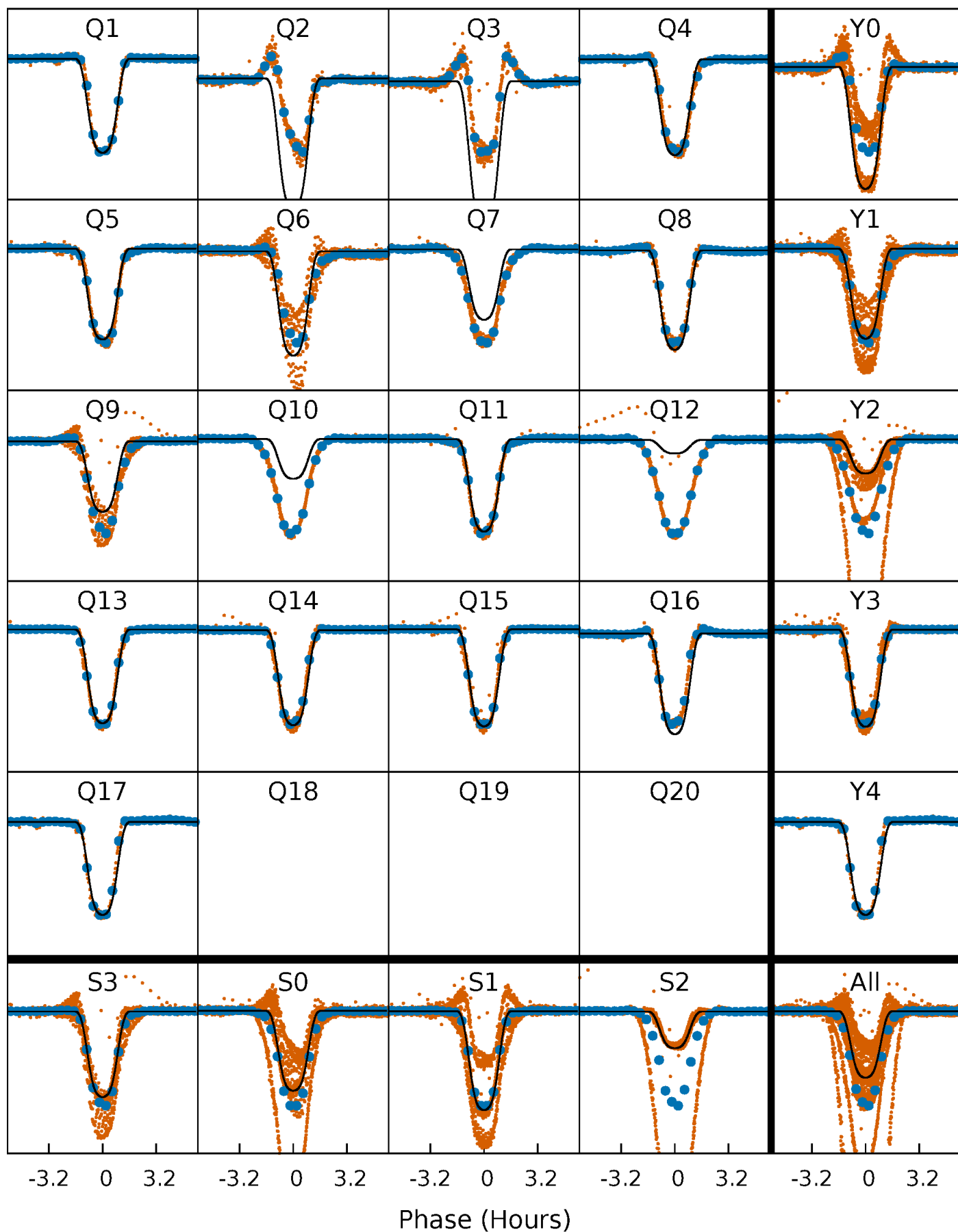
PDC Quarter-Phased Transit Curves

TCE 010735988-01 P= 1.927183 Days $T_0=132.569864$ (BKJD)



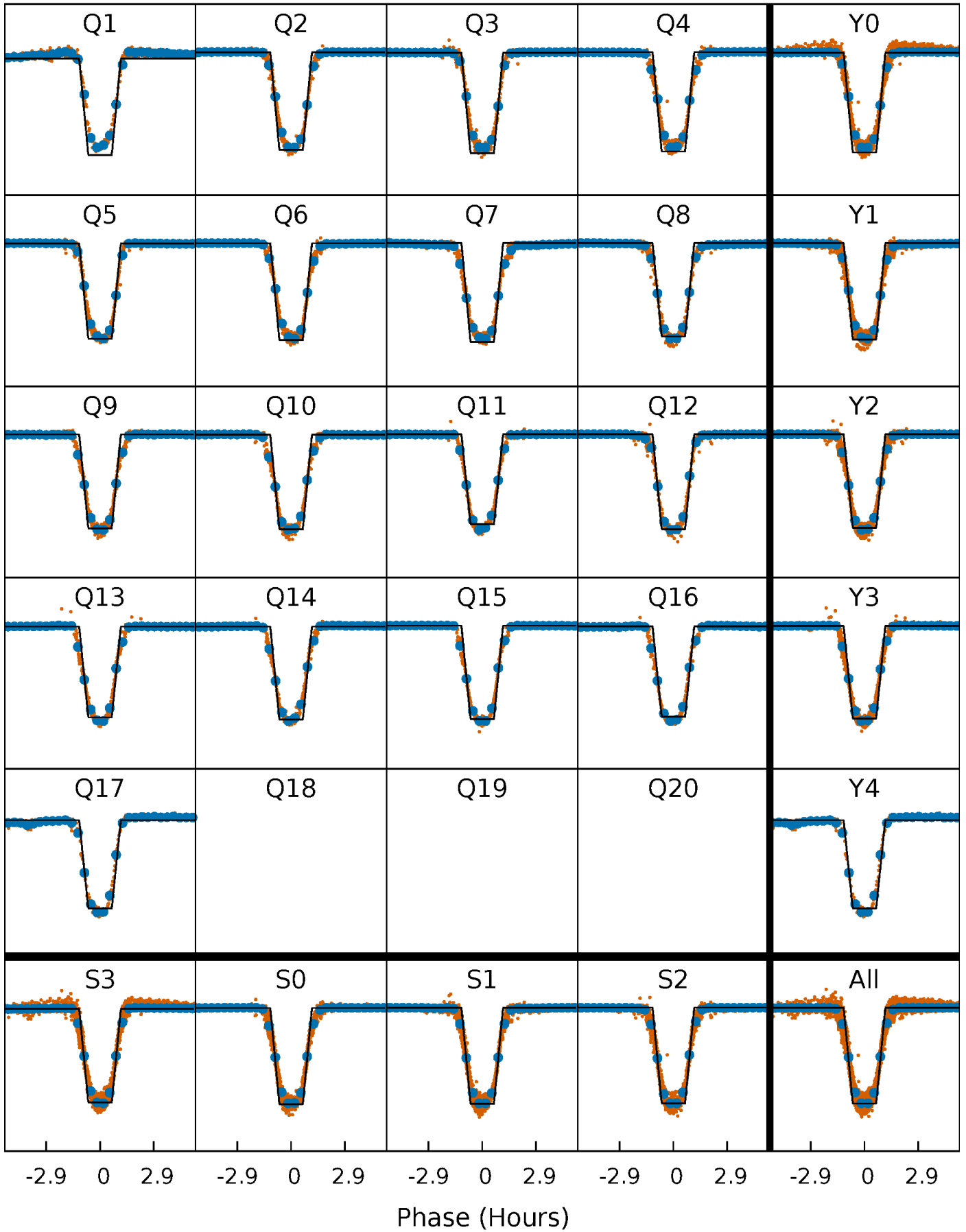
DV Quarter-Phased Transit Curves

TCE 010735988-01 P= 1.927183 Days $T_0=132.569864$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

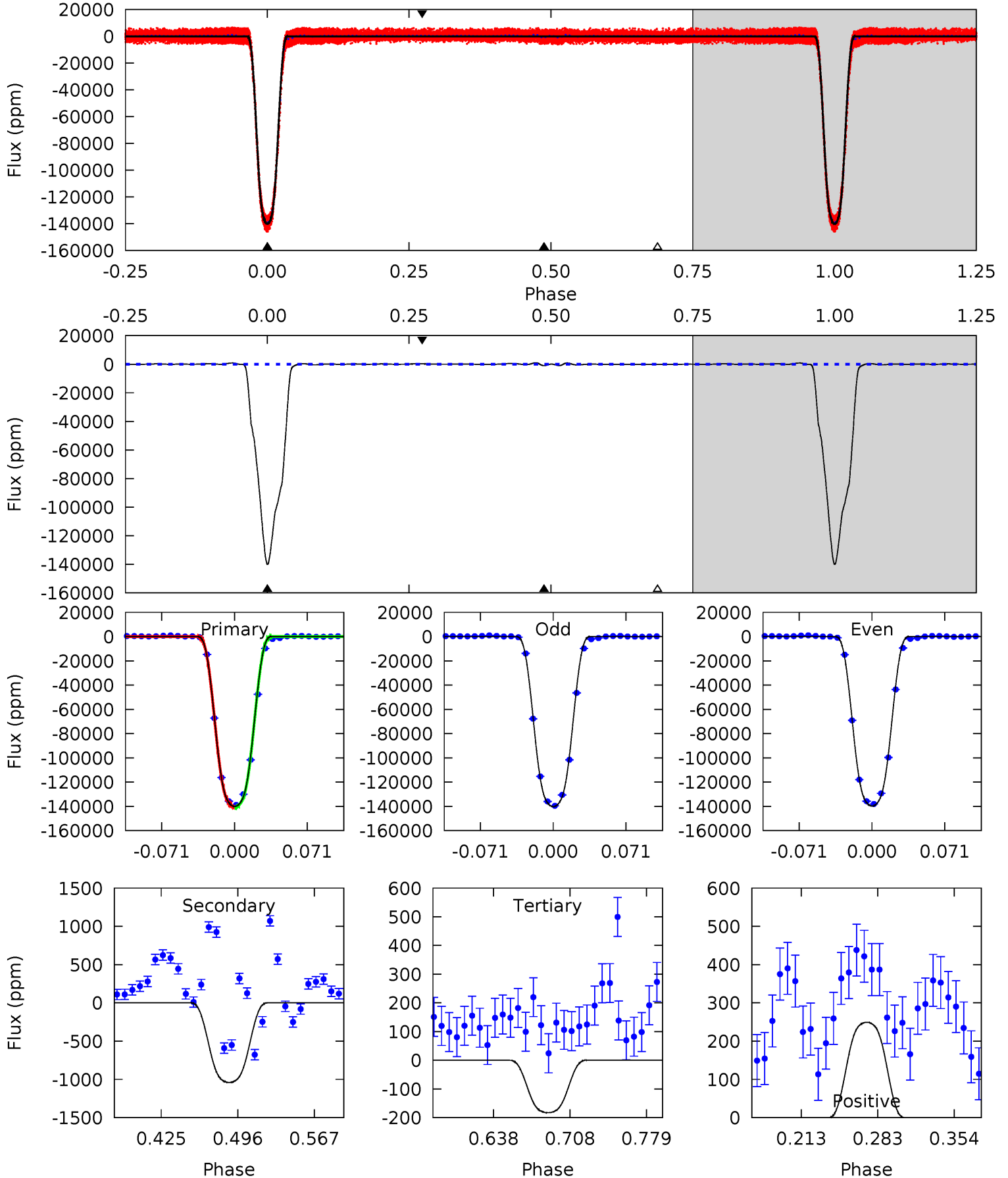
TCE 010735988-01 $P = 1.927180$ Days $T_0 = 132.570854$ (BKJD)



DV Model-Shift Uniqueness Test

010735988-01, P = 1.927183 Days, E = 130.642681 Days

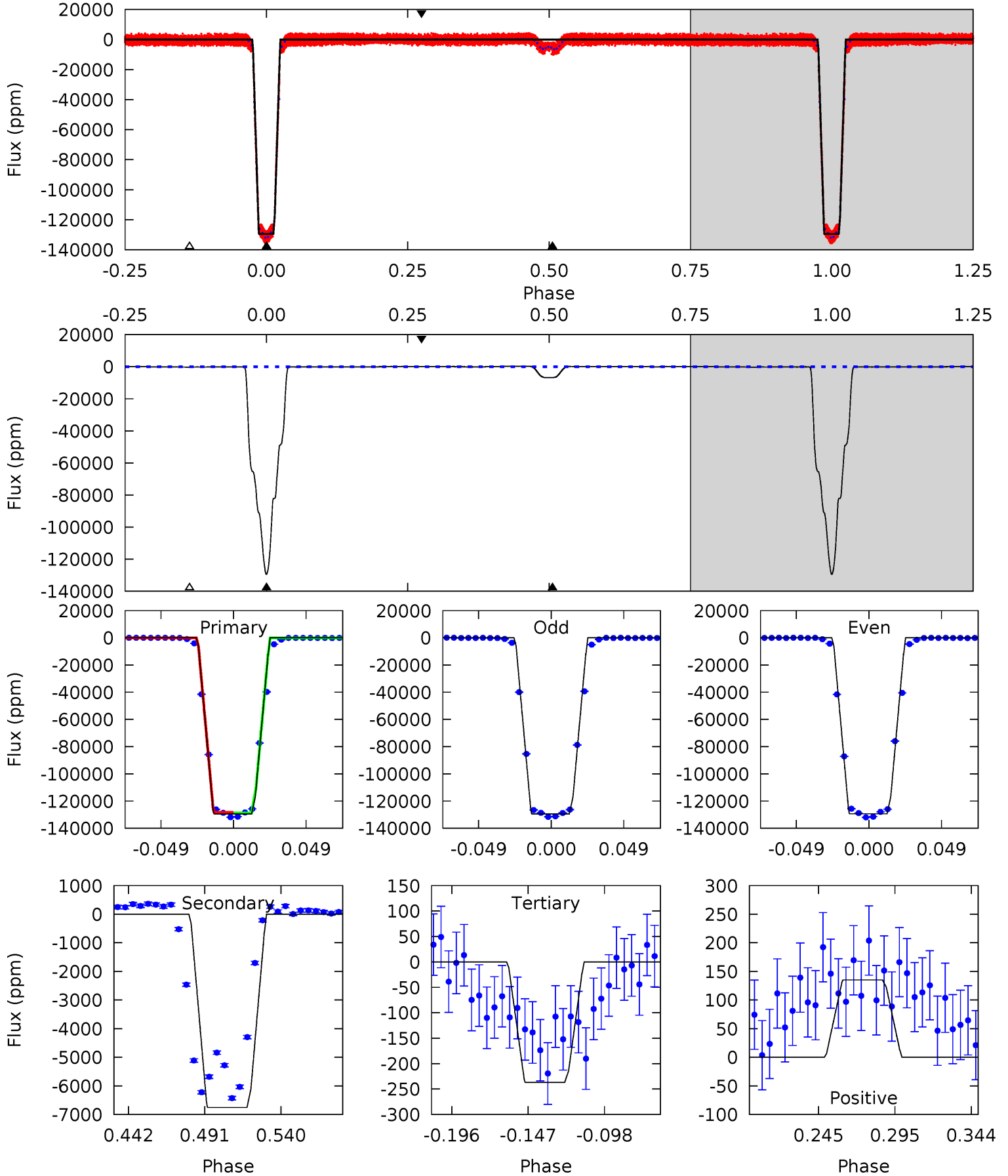
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3385	25.2	4.41	6.03	4.64	1.81	3.18	3381	3379	20.7	19.1	6.32	1.43	0.01	5.40



Alt Model-Shift Uniqueness Test

010735988-01, P = 1.927180 Days, E = 130.643674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3982	207.8	7.29	4.15	4.71	1.97	3.14	3975	3978	200.5	203.6	2.27	1.00	0.00	0



Stellar Parameters For KIC 010735988

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5193^{+168}_{-138}	$4.525^{+0.080}_{-0.064}$	$-0.280^{+0.300}_{-0.300}$	$0.774^{+0.088}_{-0.088}$	$0.732^{+0.106}_{-0.057}$	$2.227^{+0.835}_{-0.512}$
	+3%/-3%	+2%/-1%	+107%/-107%	+11%/-11%	+14%/-8%	+38%/-23%
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 010735988-01 / KOI 6230.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1041 ± 41	$29.12^{+2.00}_{-1.95}$	1701^{+72}_{-66}	2212^{+49}_{-63}	$0.511^{+0.064}_{-0.059}$
Alt.	-6756 ± 33	$30.96^{+2.22}_{-2.11}$	1701^{+66}_{-72}	3030^{+64}_{-53}	$2.934^{+0.384}_{-0.299}$

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 $A_{obs} \gg 1.0$

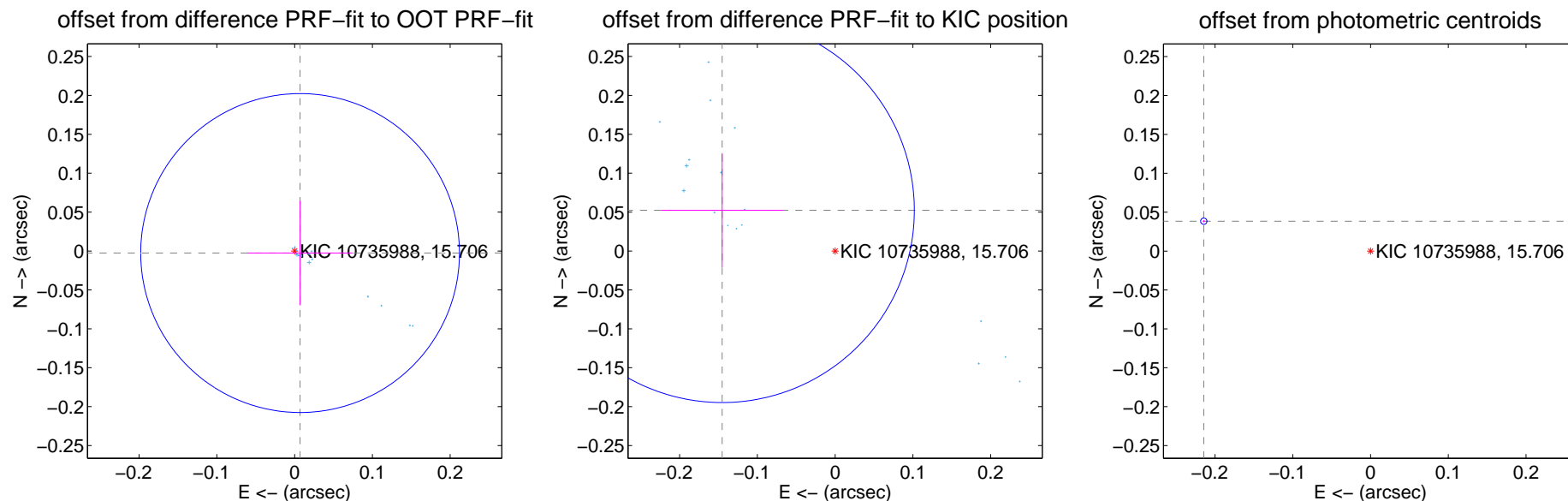
DV Centroid Data

Supplemental centroid analysis for 010735988-01. Kepler magnitude: 15.71. Transit SNR 2162.71

There are 17 quarters with good PRF difference image offsets

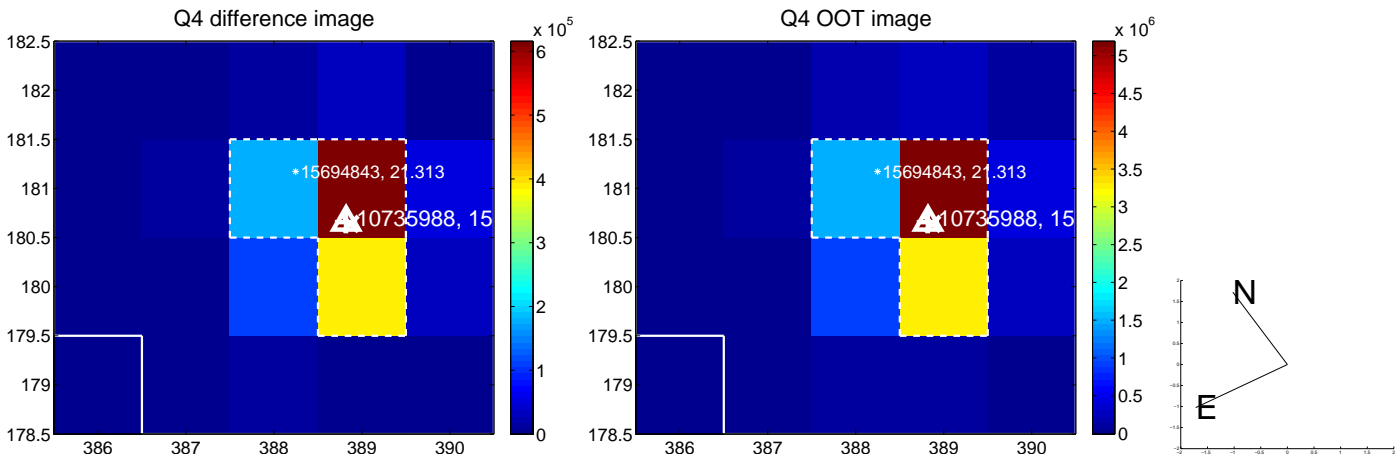
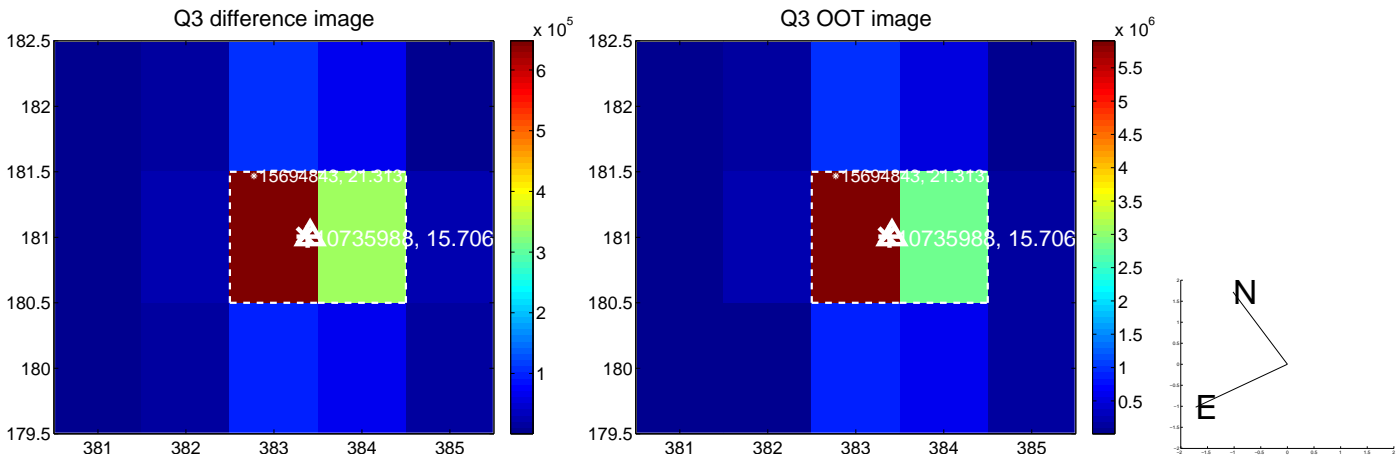
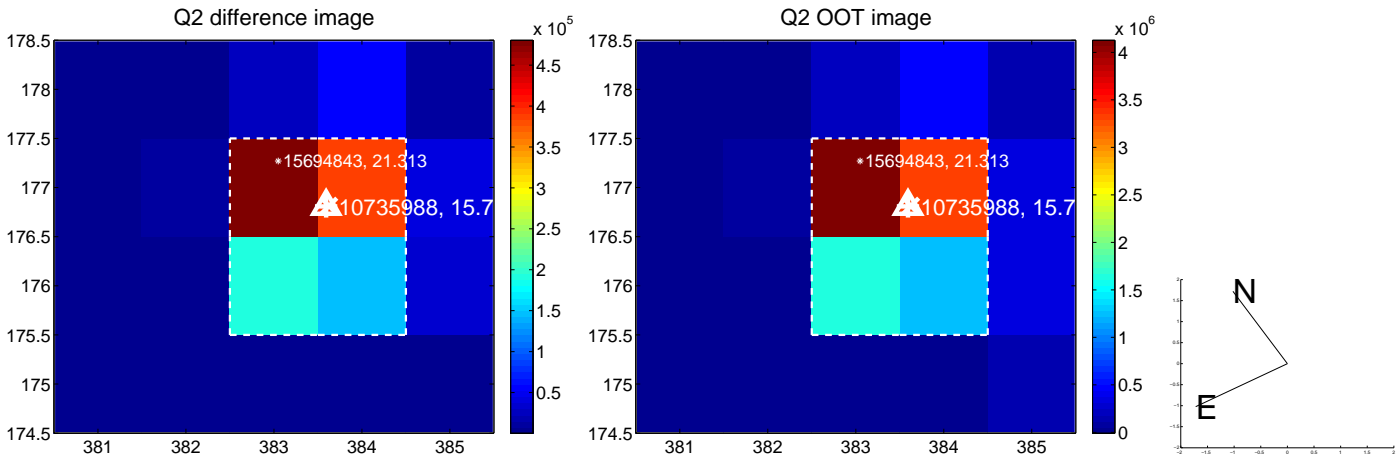
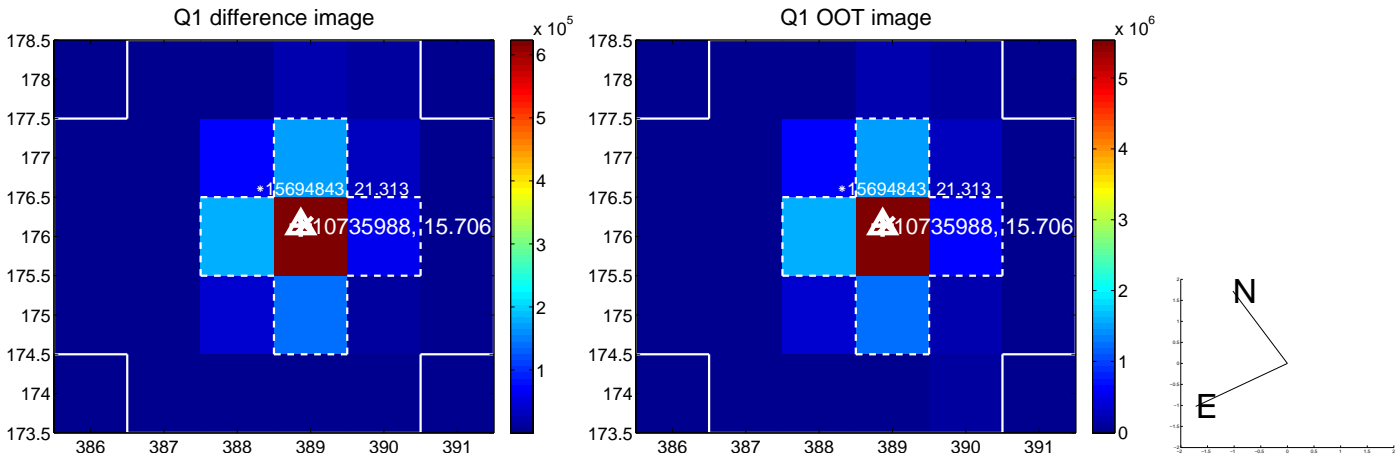
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.007 ± 0.068	0.11	-0.007 ± 0.068	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.154 ± 0.082	1.87	0.145 ± 0.078	0.052 ± 0.073
photometric centroid source offset	0.22 ± 0.00	159.97	0.21 ± 0.00	0.04 ± 0.00

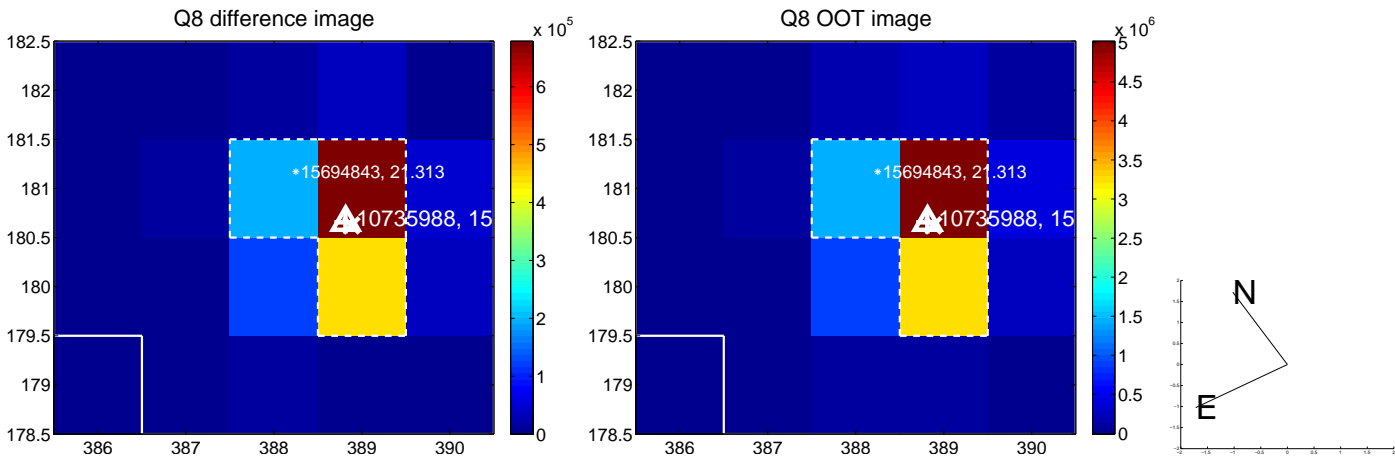
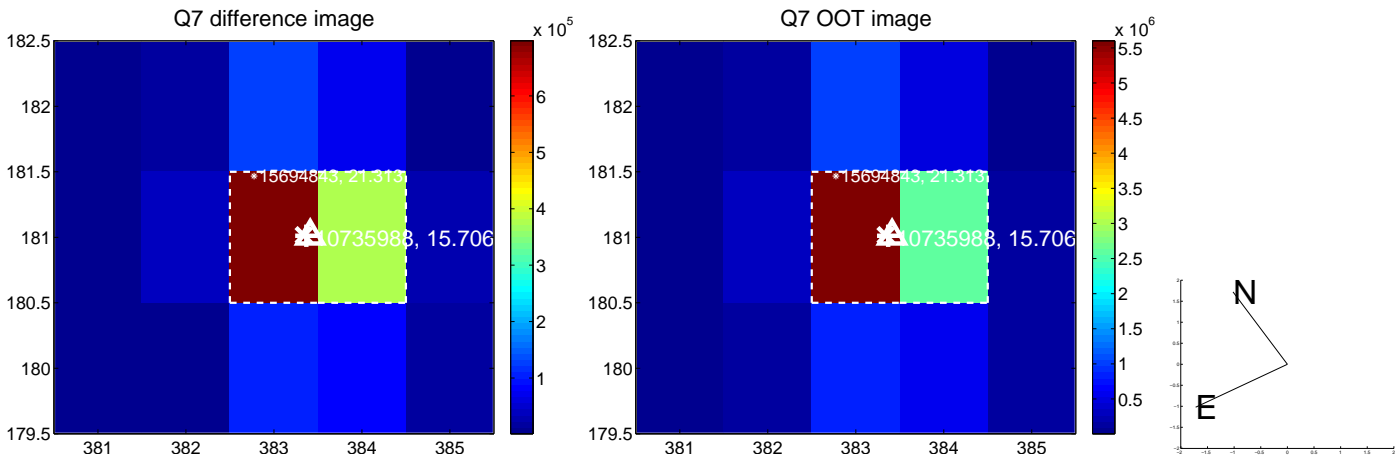
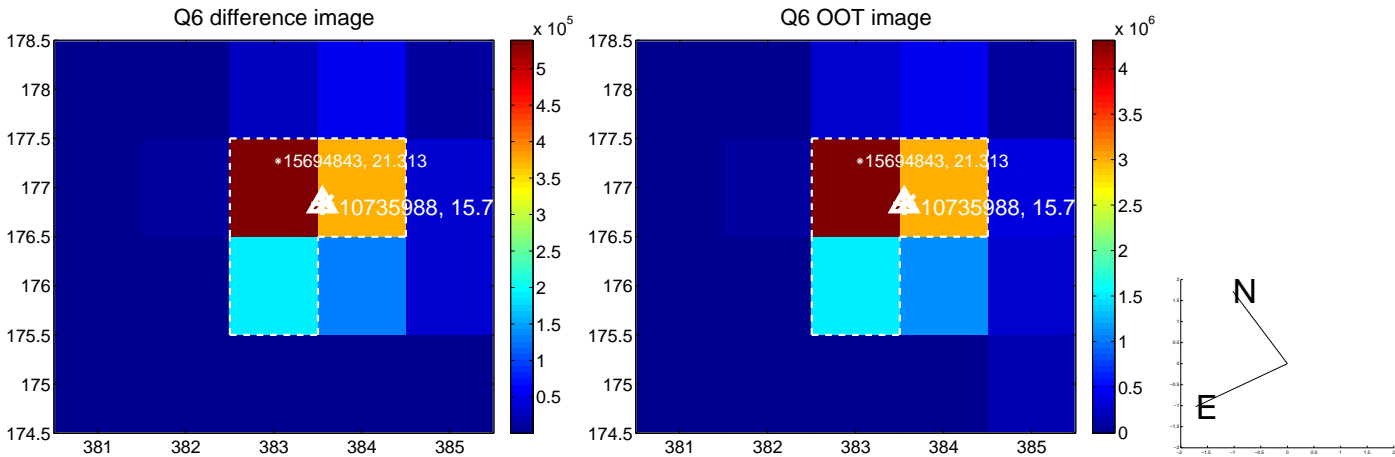
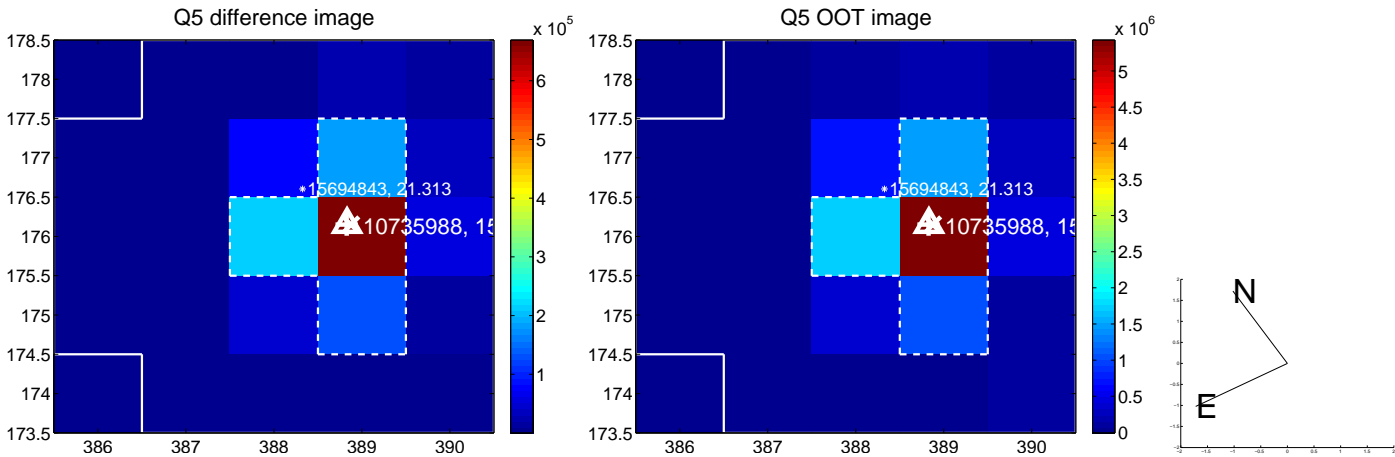


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

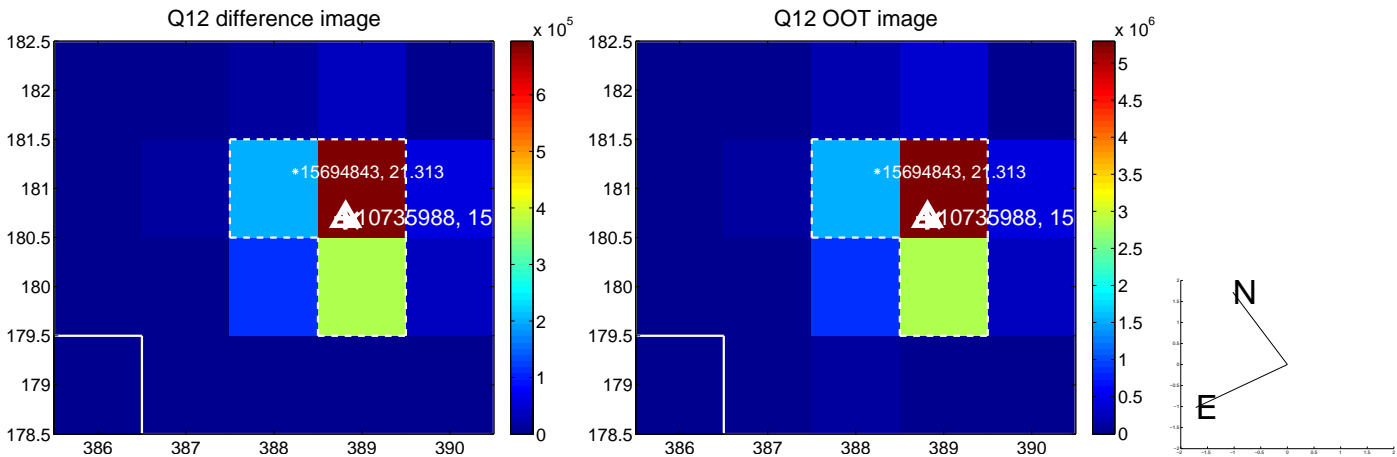
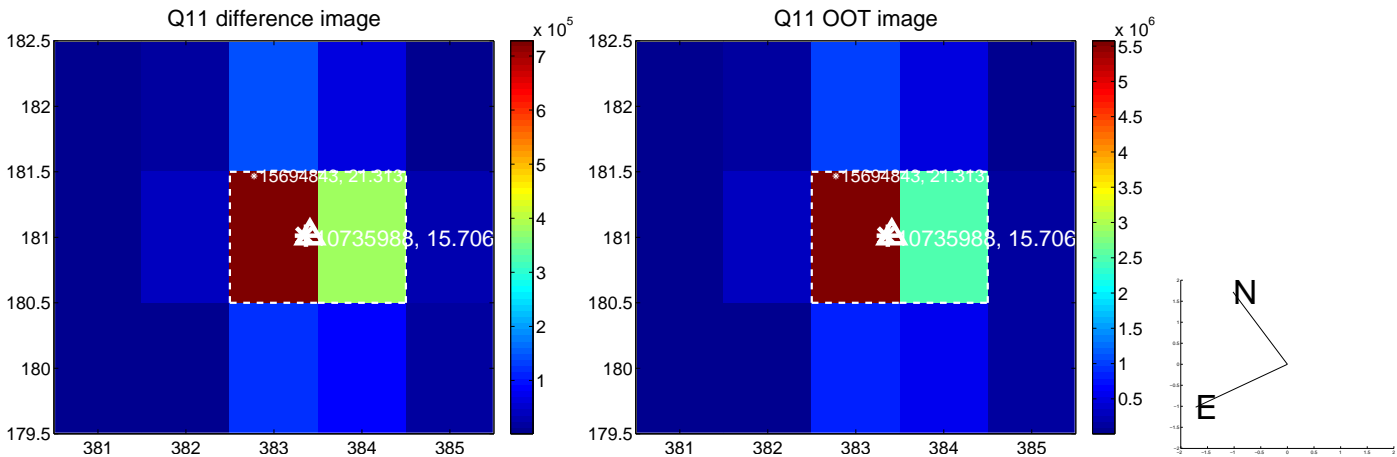
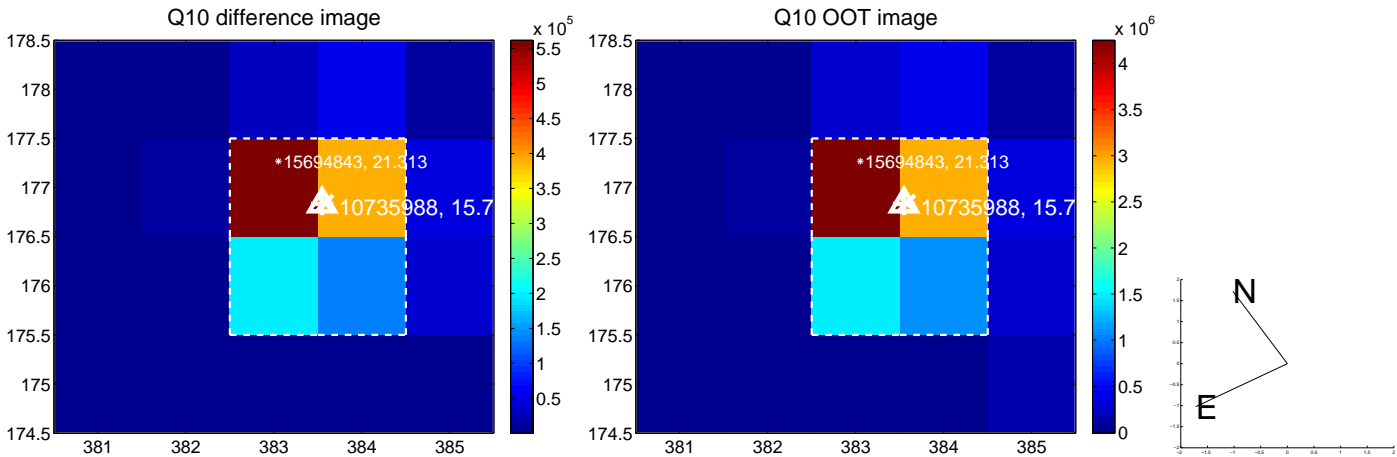
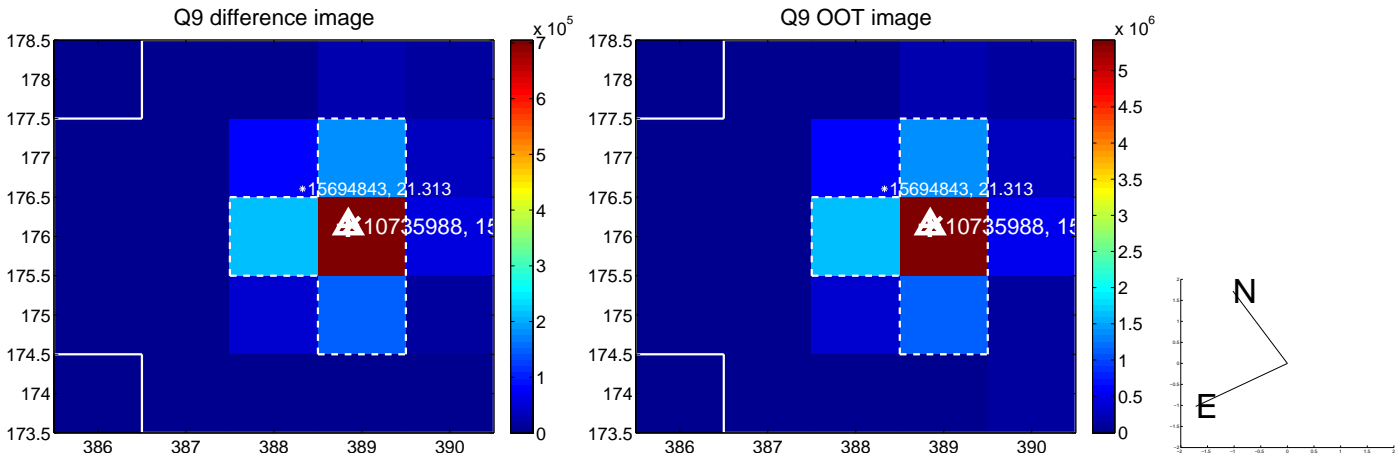
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



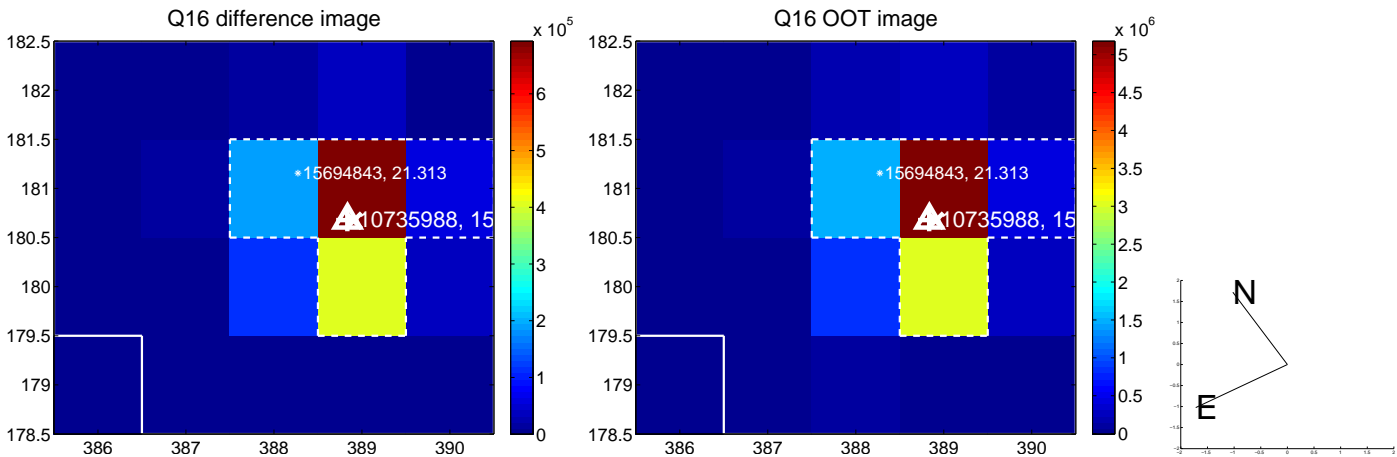
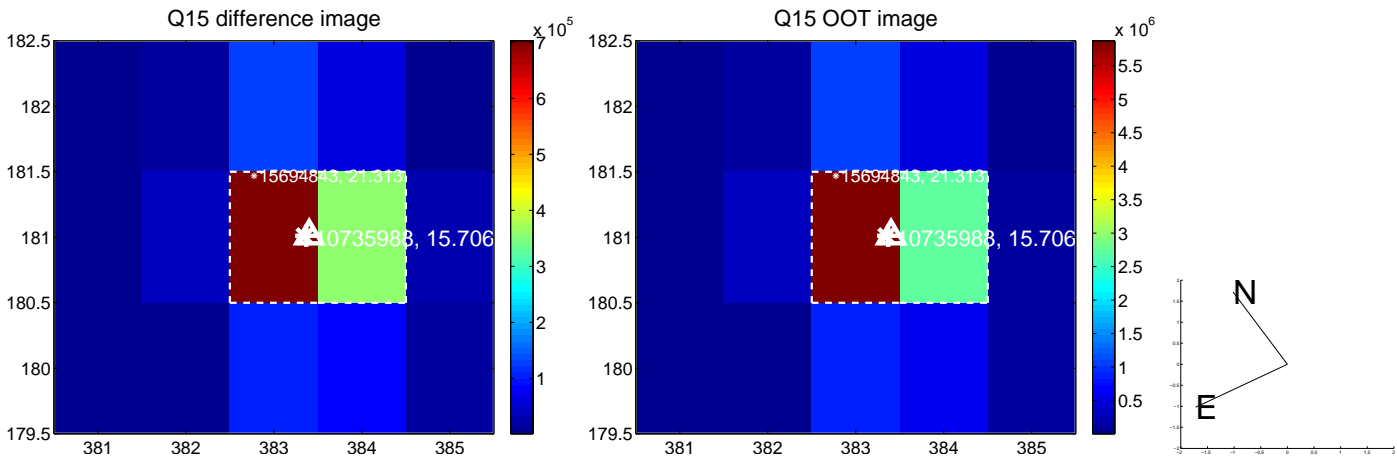
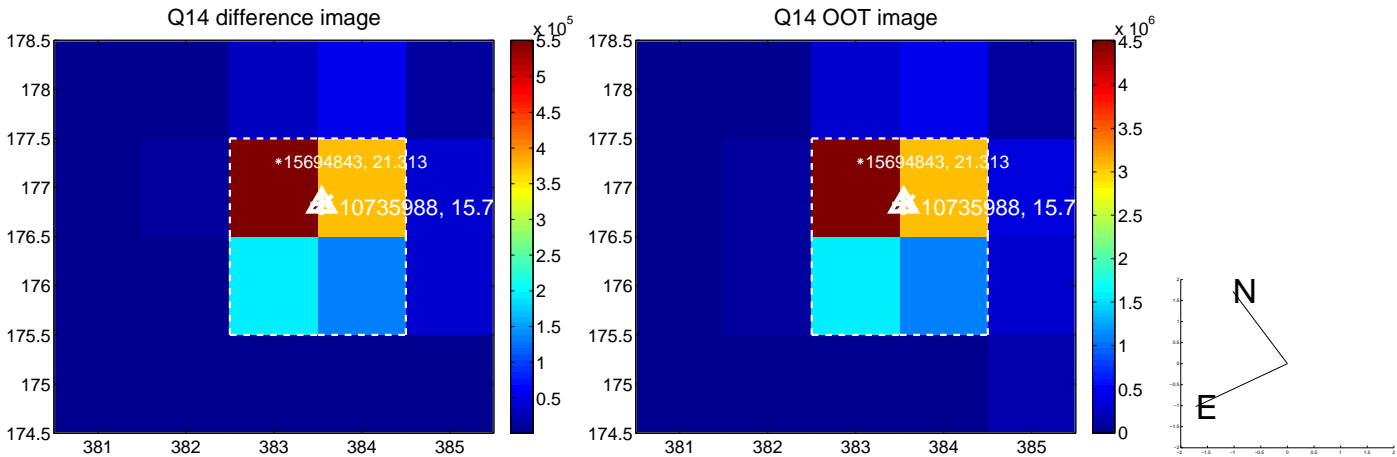
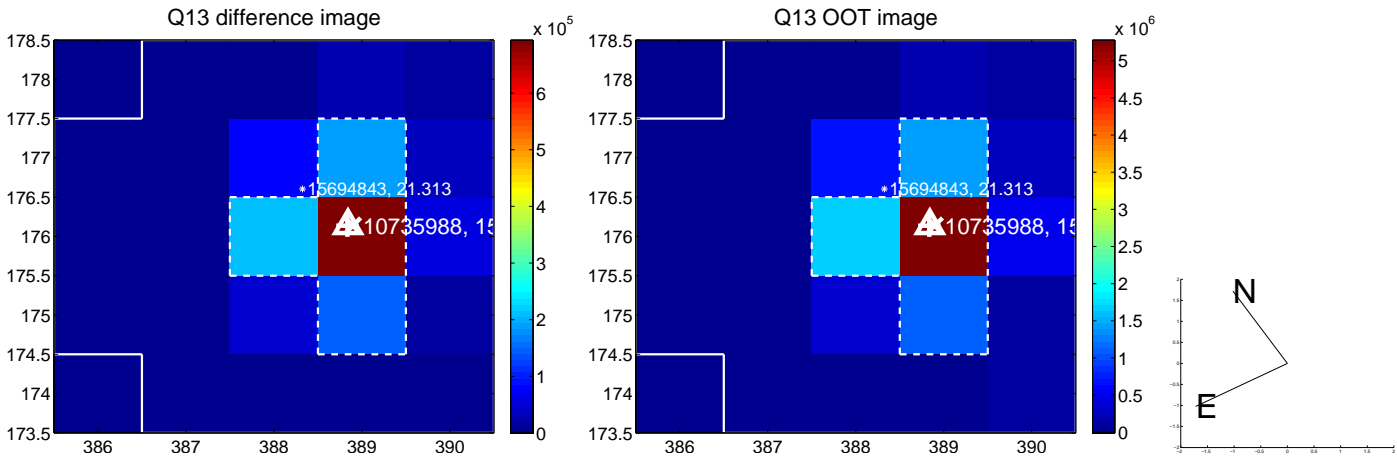
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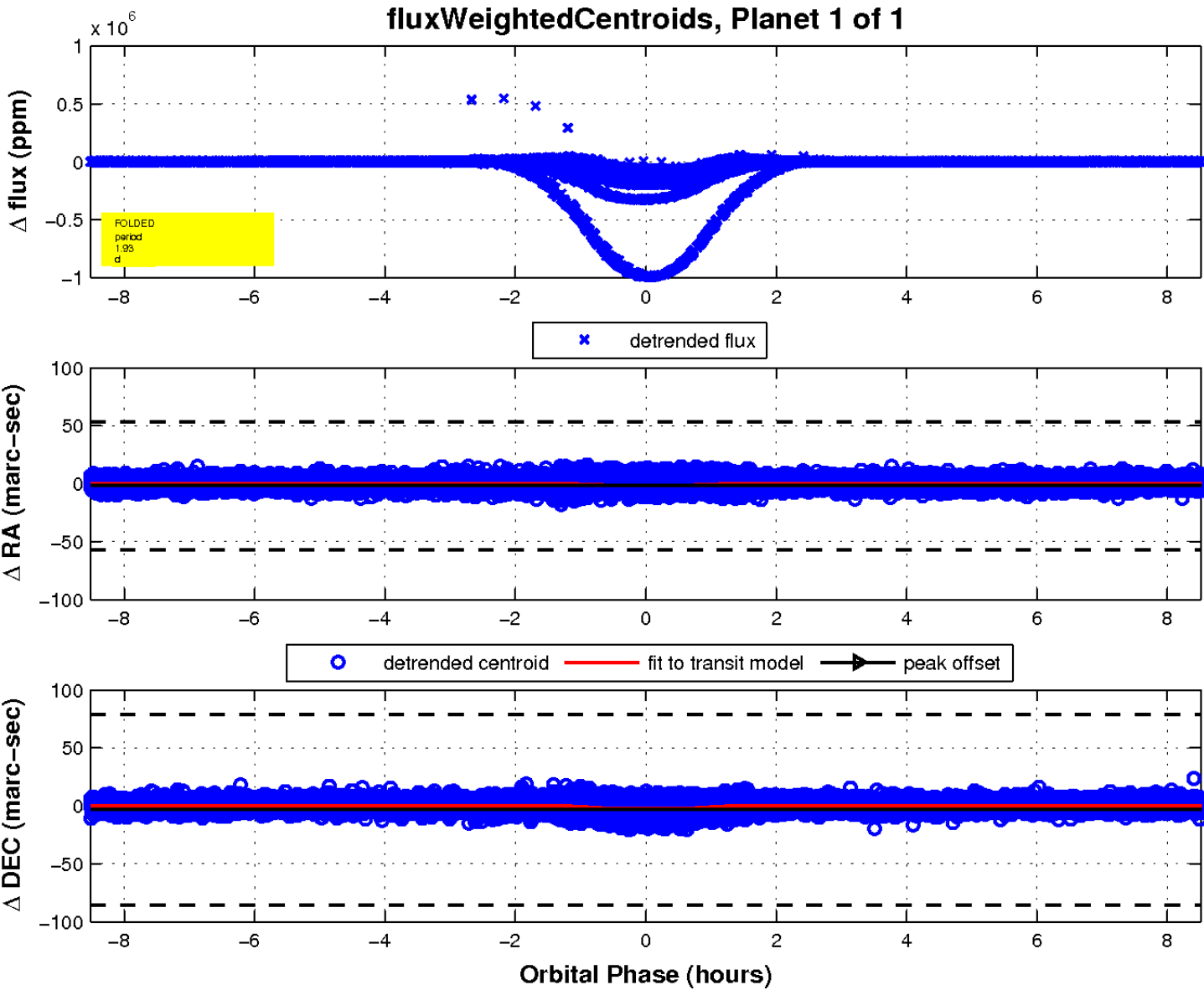
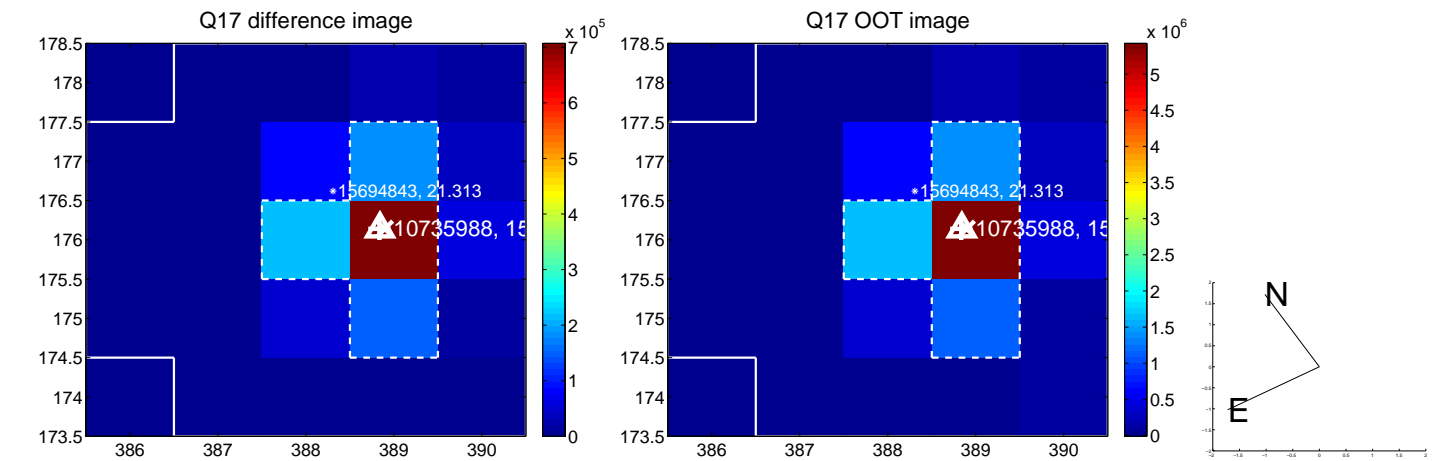
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UKIRT Image

Declination

