

KIC 008845221

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})
008845221-01	OBS	7098.01	2.701731	133.745291	160490.4	7.381	21785.2	9846.8	1.98	6350	82.00	3527.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008845221-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_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.

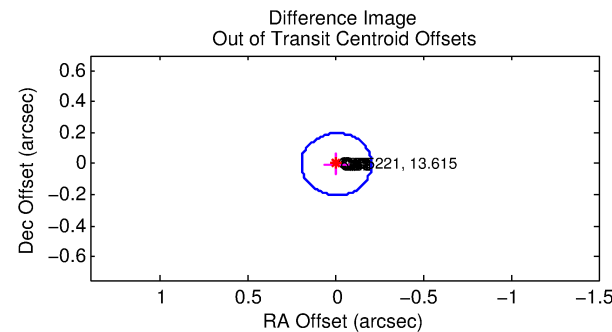
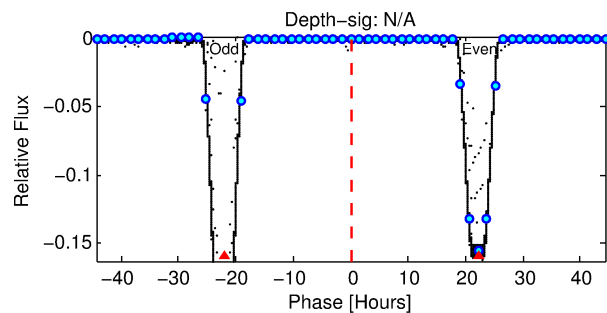
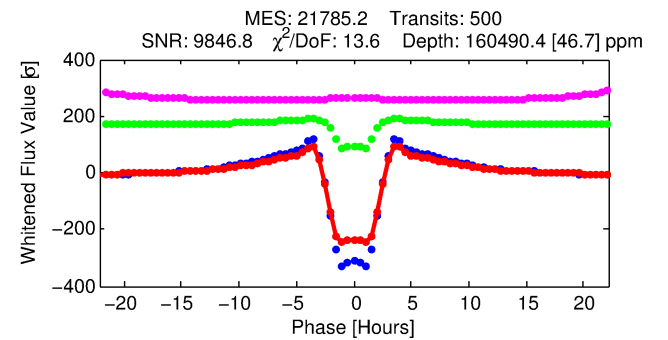
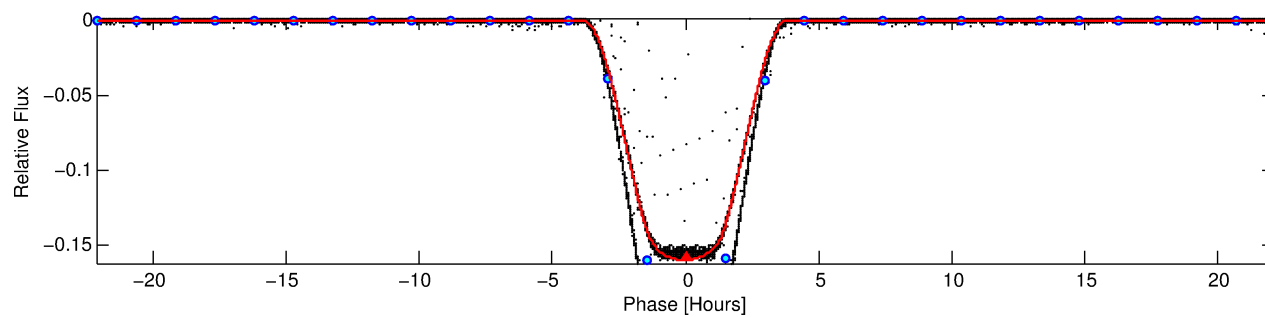
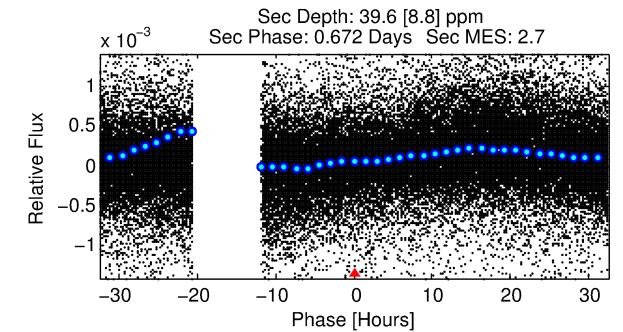
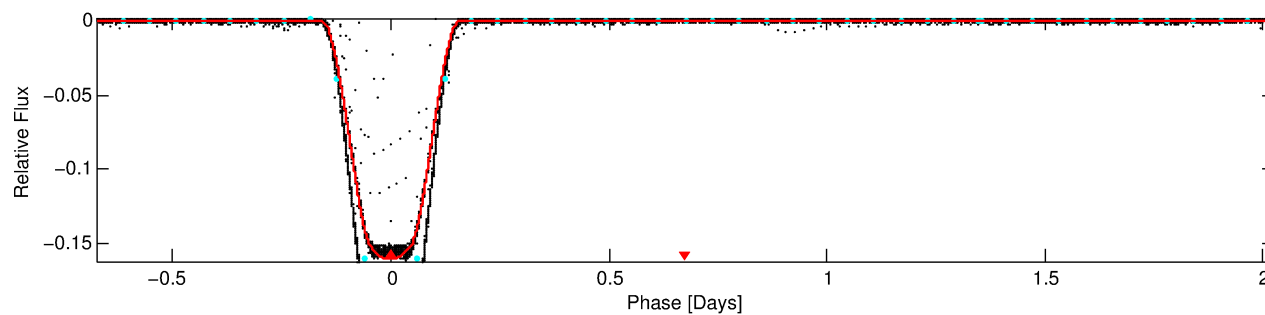
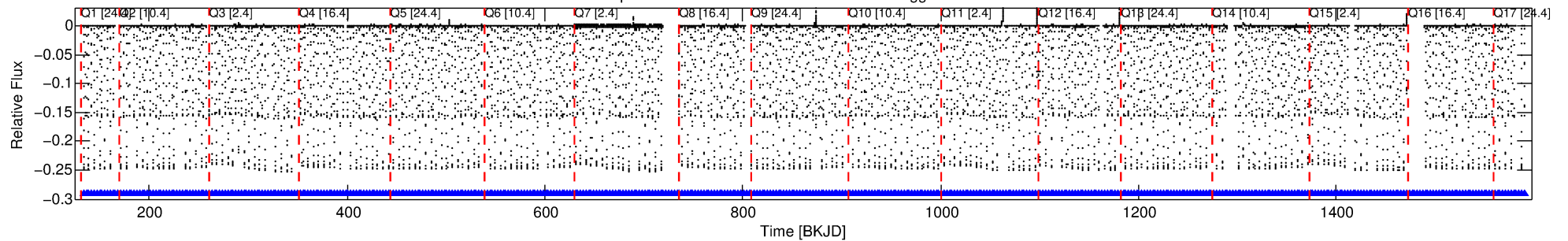
Ephemeris Match Information For 008845221-01

No Significant Match Found

DV One-Page Summary

KIC: 8845221 Candidate: 1 of 1 Period: 2.702 d
KOI: K07098 Corr: No Ephemeris Match

Kp: 13.61 R*: 1.98 Rs Teff: 6350.0 K Logg: 3.92 Fe/H: -0.280



DV Fit Results:

Period = 2.70173 [0.00000] d
Epoch = 133.7453 [0.0000] BKJD
Rp/R* = 0.3788 [0.0001]
a/R* = 3.79 [0.00]
b = 0.41 [0.00]
Seff = 3527.72 [2512.72]
Teq = 1965 [350] K
Rp = 82.00 [36.33] Re
a = 0.0403 [0.0175] AU
Ag = 0.01 [0.00] [-257.20 σ]
Teffp = 819 [53] K [-3.24 σ]

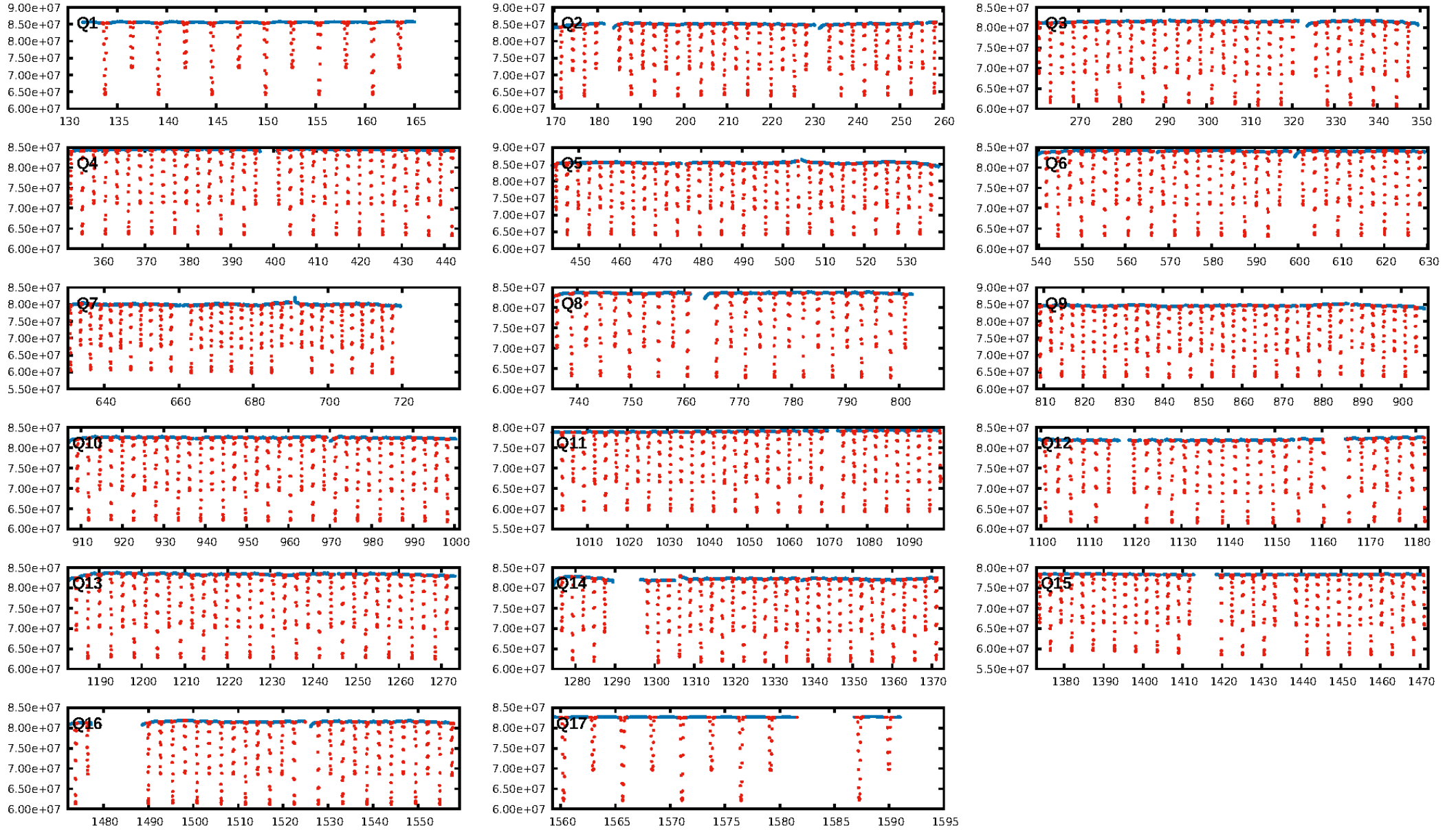
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [478/478]
GhostDiagnostic-chr: 0.6274
Centroid-sig: 0.0%
Centroid-so: 0.403 arcsec [961.13 σ]
OotOffset-rm: 0.006 arcsec [0.09 σ]
KicOffset-rm: 0.079 arcsec [1.15 σ]
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]

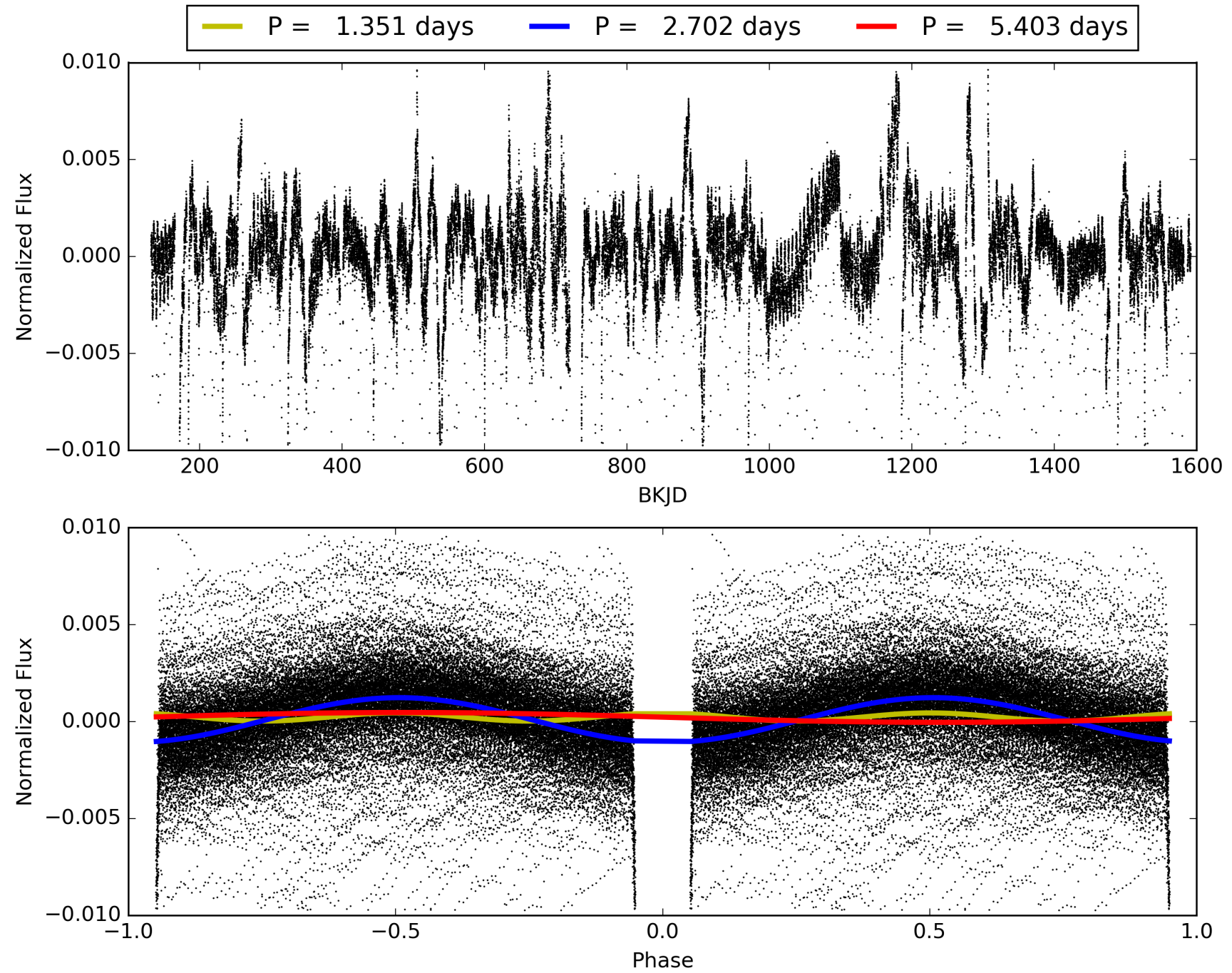
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:08:48 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008845221-01, PDC Light Curves

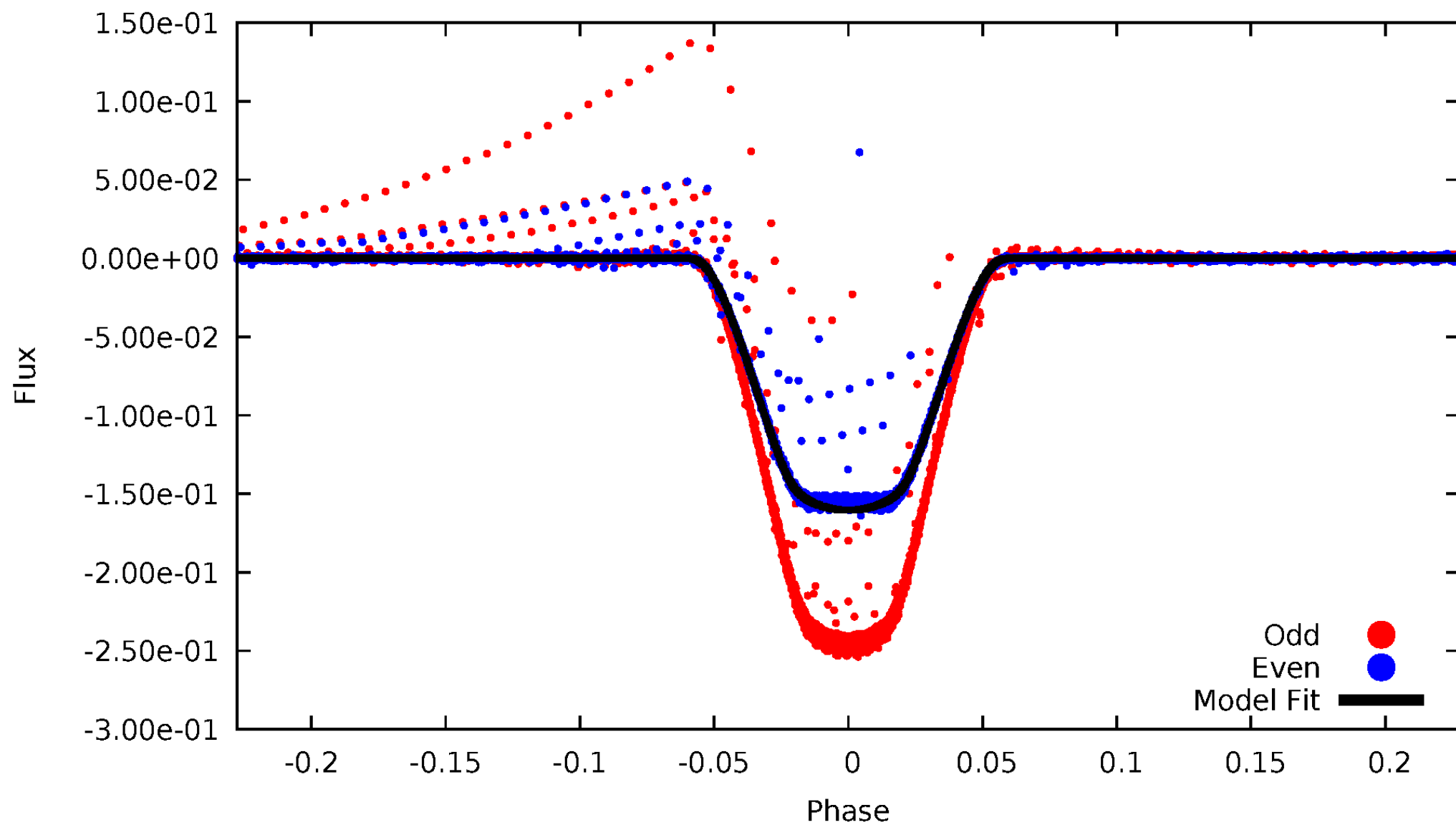


TCE 008845221-01



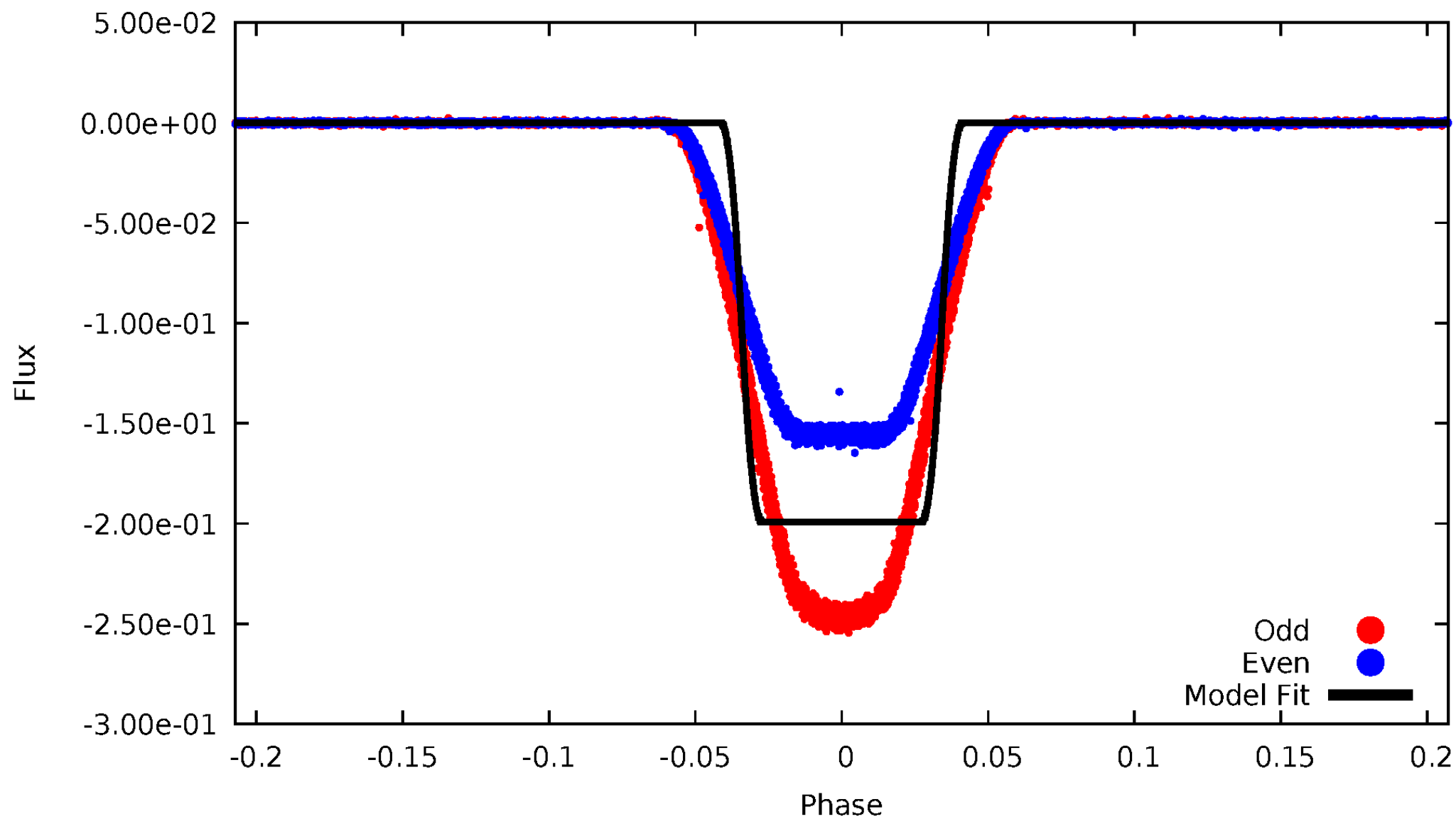
DV Odd/Even

TCE 008845221-01



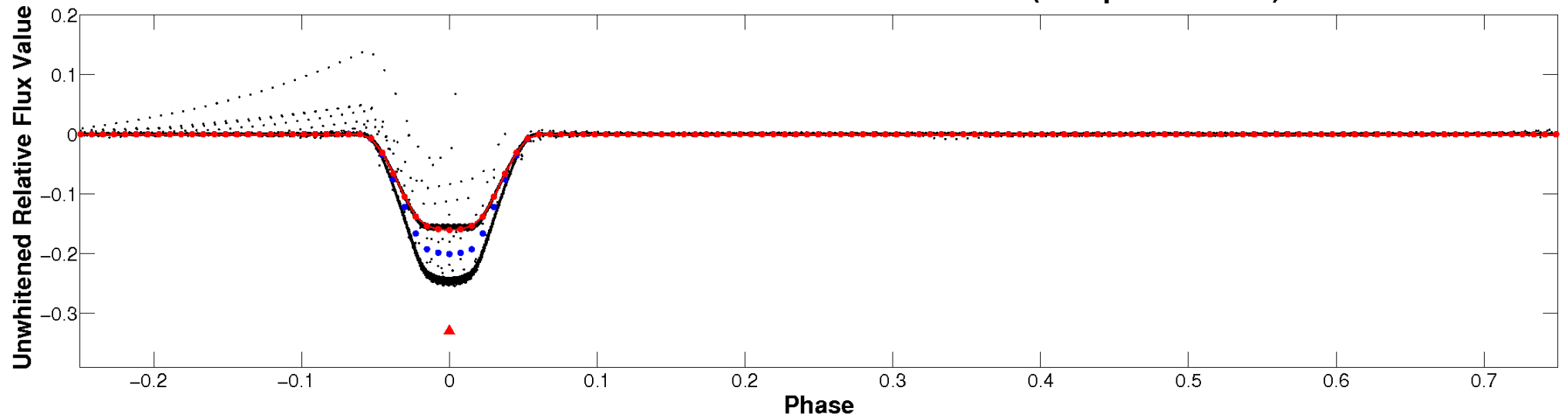
ALT Odd/Even

TCE 008845221-01

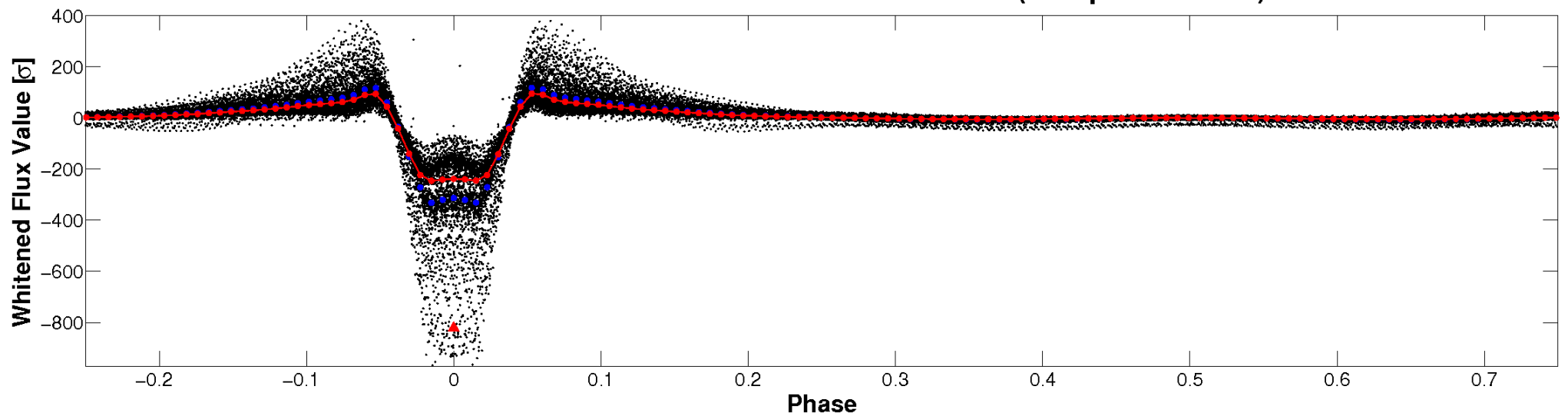


Non-Whitened Vs. Whitened Light Curve

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

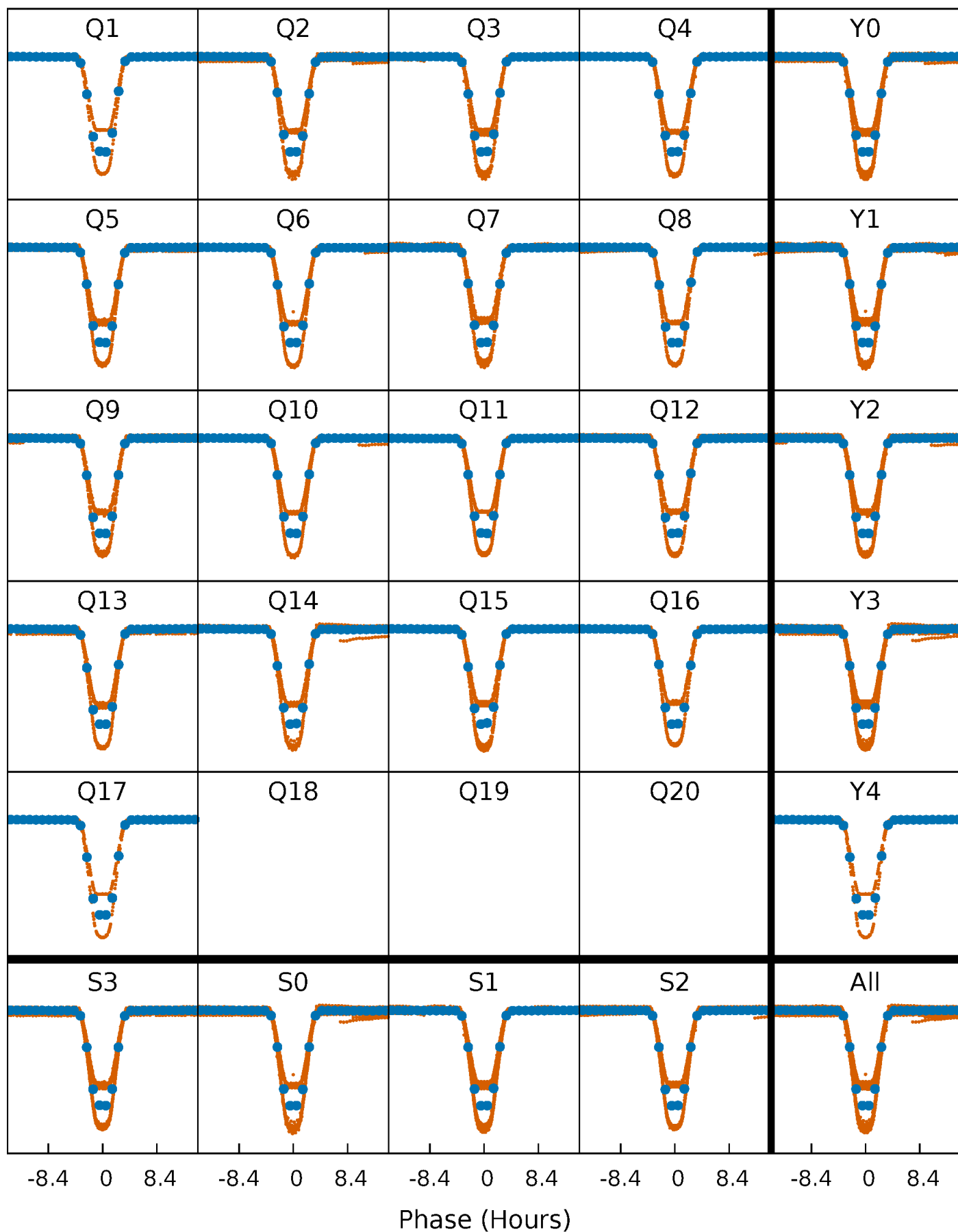


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



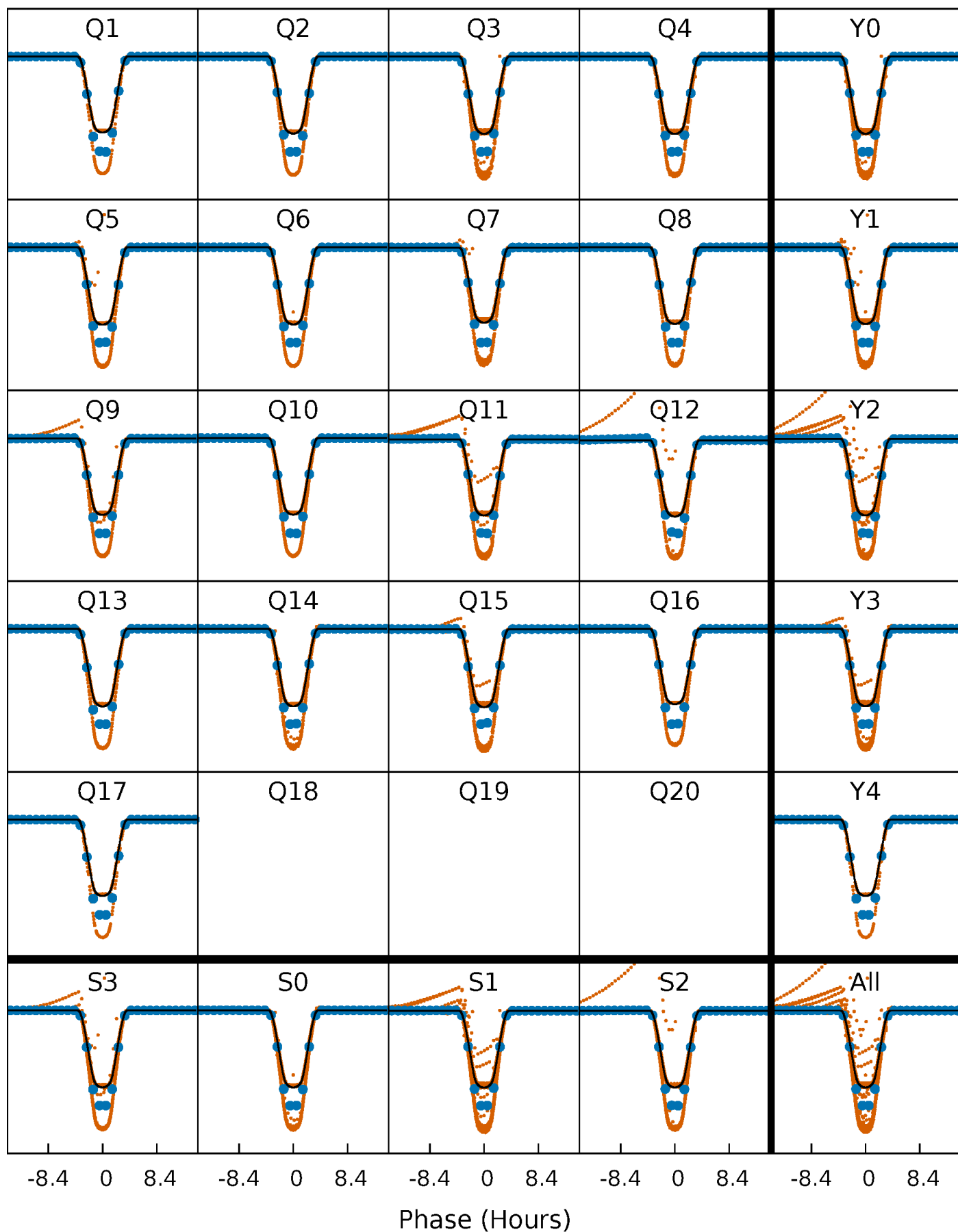
PDC Quarter-Phased Transit Curves

TCE 008845221-01 P= 2.701731 Days $T_0=133.745291$ (BKJD)



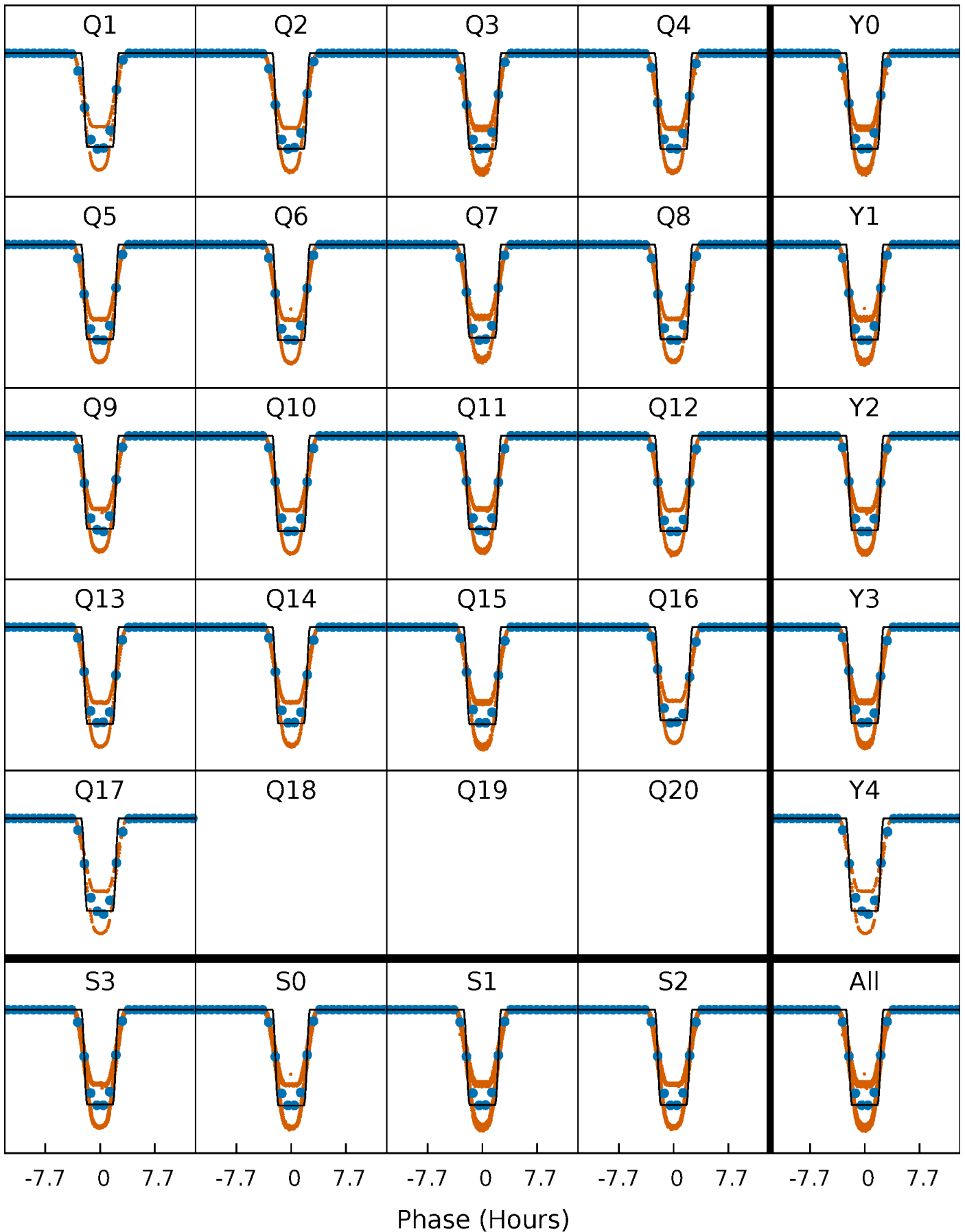
DV Quarter-Phased Transit Curves

TCE 008845221-01 P= 2.701731 Days $T_0=133.745291$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

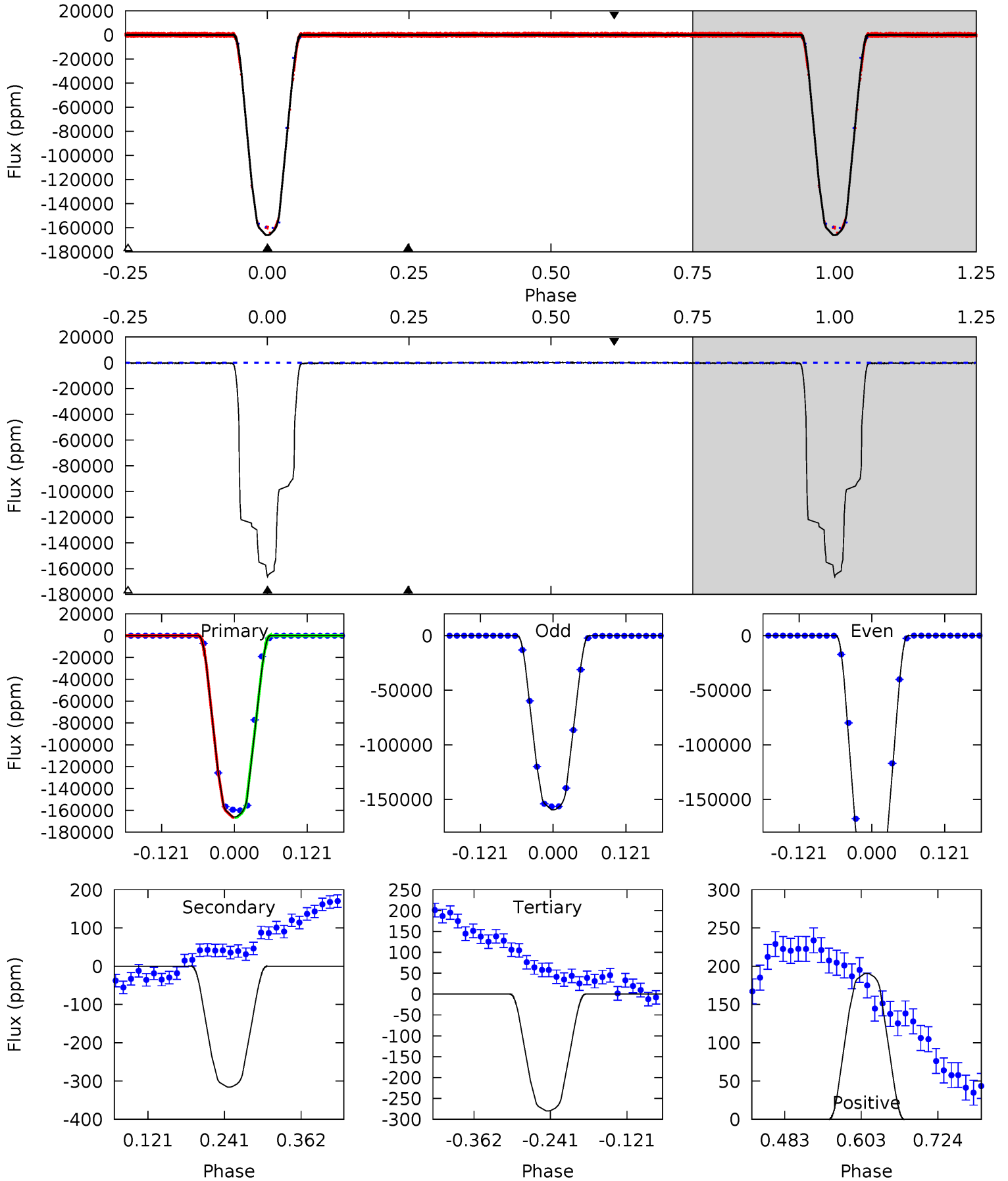
TCE 008845221-01 P= 2.701716 Days $T_0=133.749819$ (BKJD)



DV Model-Shift Uniqueness Test

008845221-01, P = 2.701731 Days, E = 131.043560 Days

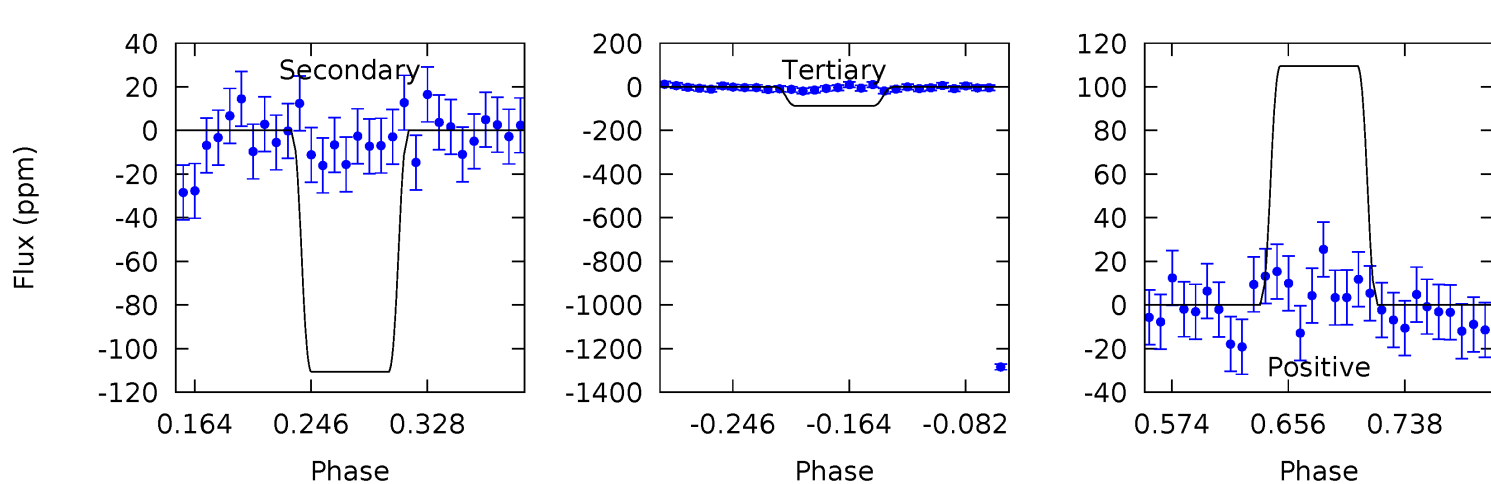
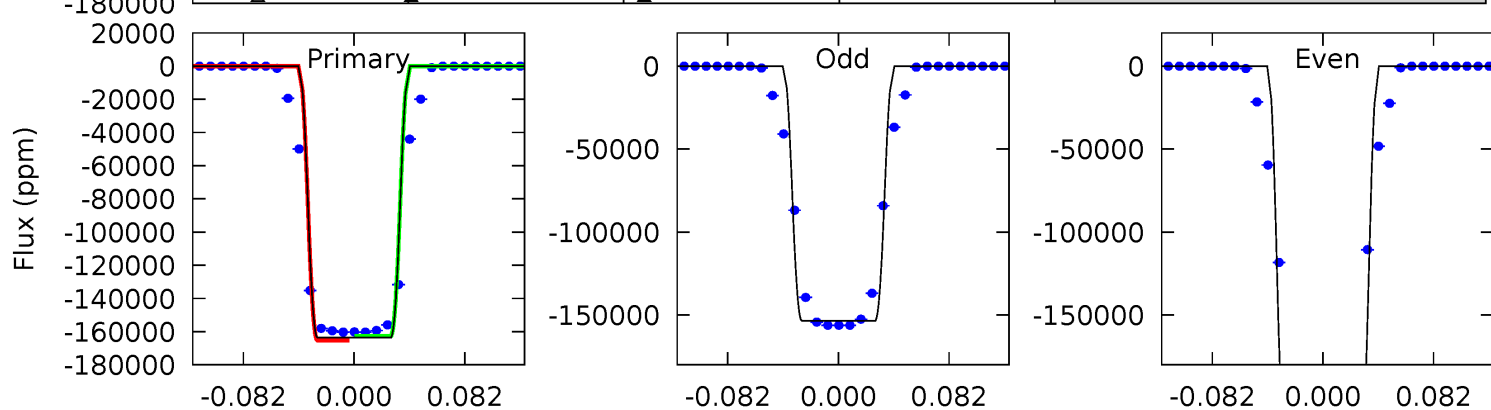
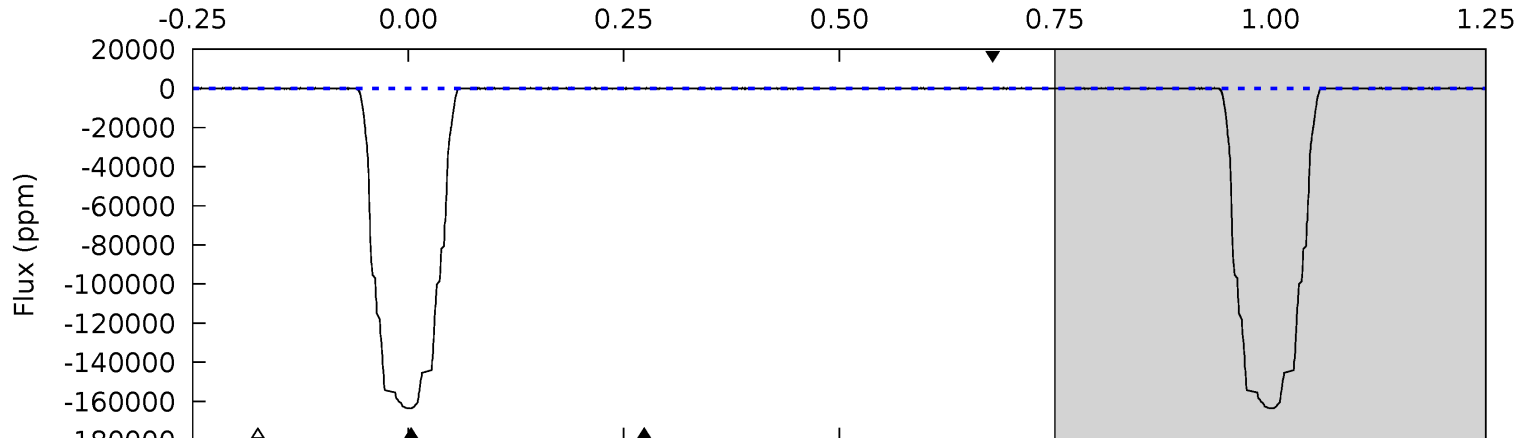
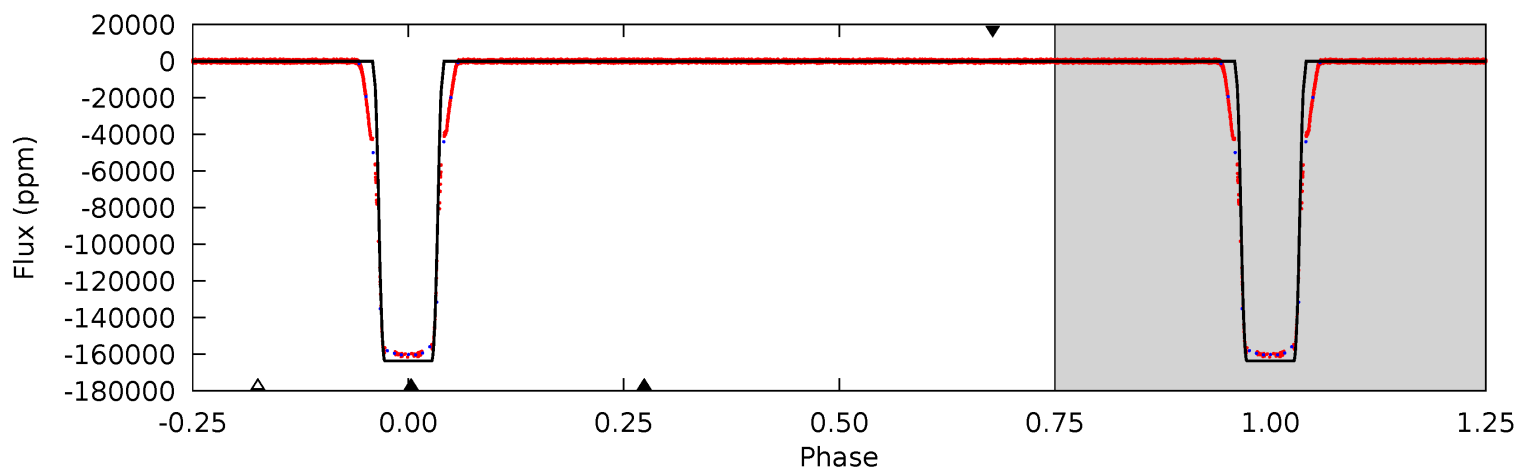
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13280	25.3	22.4	15.2	4.53	1.55	11.1	13257	13264	2.87	10.0	6715	1.21	0.00	0



Alt Model-Shift Uniqueness Test

008845221-01, P = 2.701716 Days, E = 131.048103 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6026	4.08	3.22	4.04	4.61	1.74	1.12	6023	6022	0.85	0.04	5236	1.21	0.00	0



Stellar Parameters For KIC 008845221

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6350^{+194}_{-214}	$3.921^{+0.413}_{-0.138}$	$-0.280^{+0.250}_{-0.300}$	$1.984^{+0.474}_{-0.879}$	$1.195^{+0.201}_{-0.221}$	$0.215^{+0.753}_{-0.084}$
	+3%/-3%	+11%/-4%	+89%/-107%	+24%/-44%	+17%/-18%	+349%/-39%
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 008845221-01 / KOI 7098.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-316 ± 13	$80.39^{+12.57}_{-17.74}$	2686^{+209}_{-292}	-2844^{+203}_{-137}	$0.045^{+0.026}_{-0.011}$
Alt.	-111 ± 27	$94.29^{+14.44}_{-22.44}$	2688^{+211}_{-327}	-2893^{+199}_{-124}	$0.011^{+0.009}_{-0.004}$

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

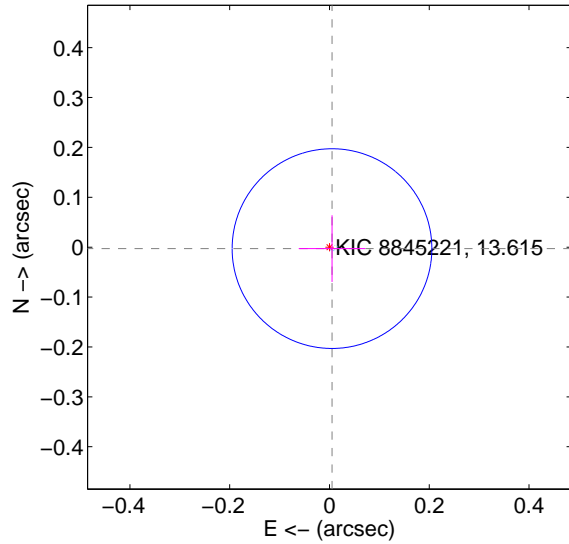
Supplemental centroid analysis for 008845221-01. Kepler magnitude: 13.62. Transit SNR 9846.78

There are 17 quarters with good PRF difference image offsets

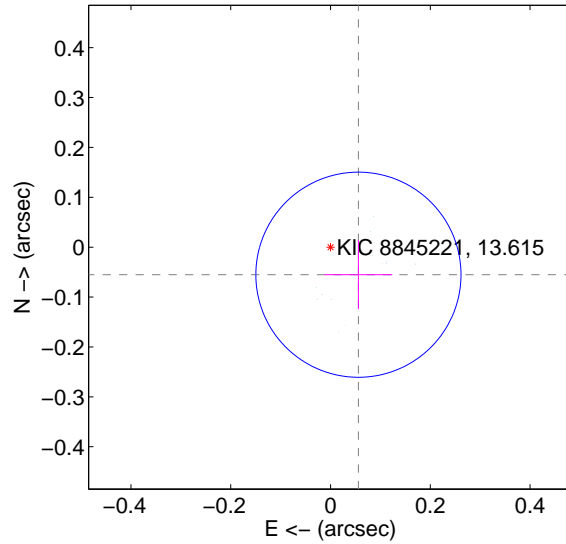
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.006 ± 0.067	0.09	-0.005 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.079 ± 0.069	1.15	-0.056 ± 0.068	-0.055 ± 0.069
photometric centroid source offset	0.40 ± 0.00	961.13	0.40 ± 0.00	0.03 ± 0.00

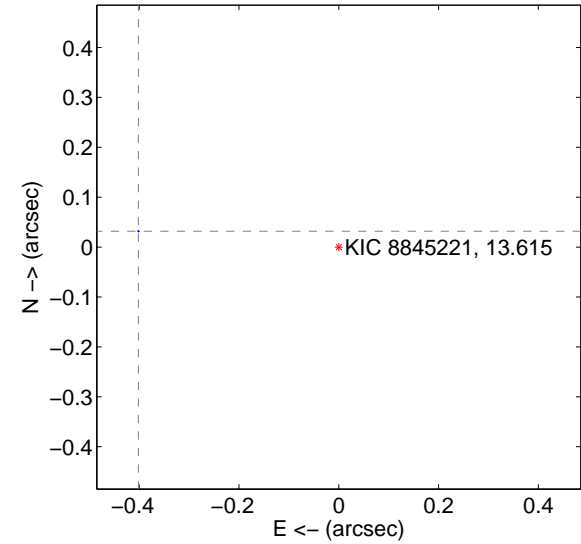
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

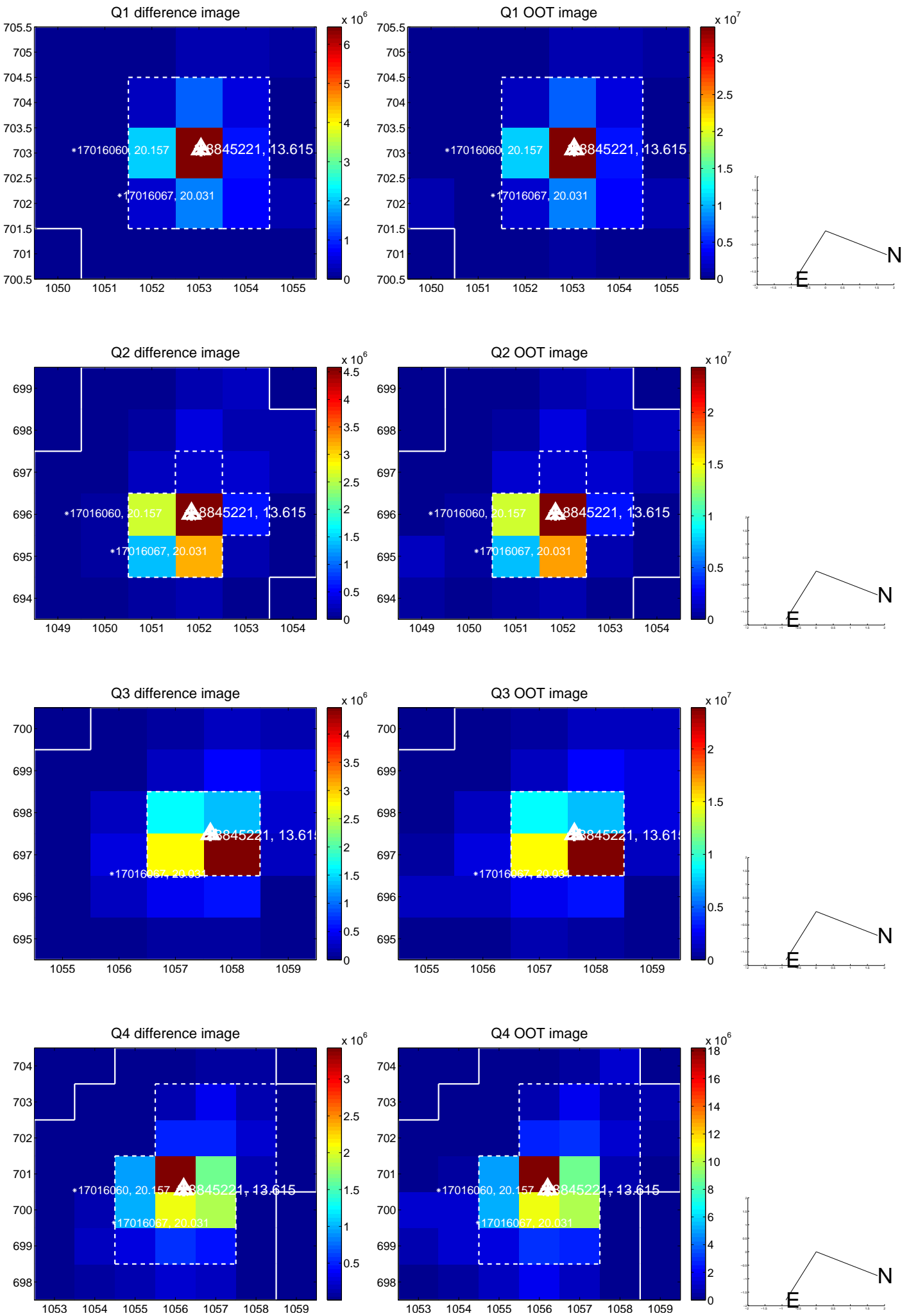


offset from photometric centroids

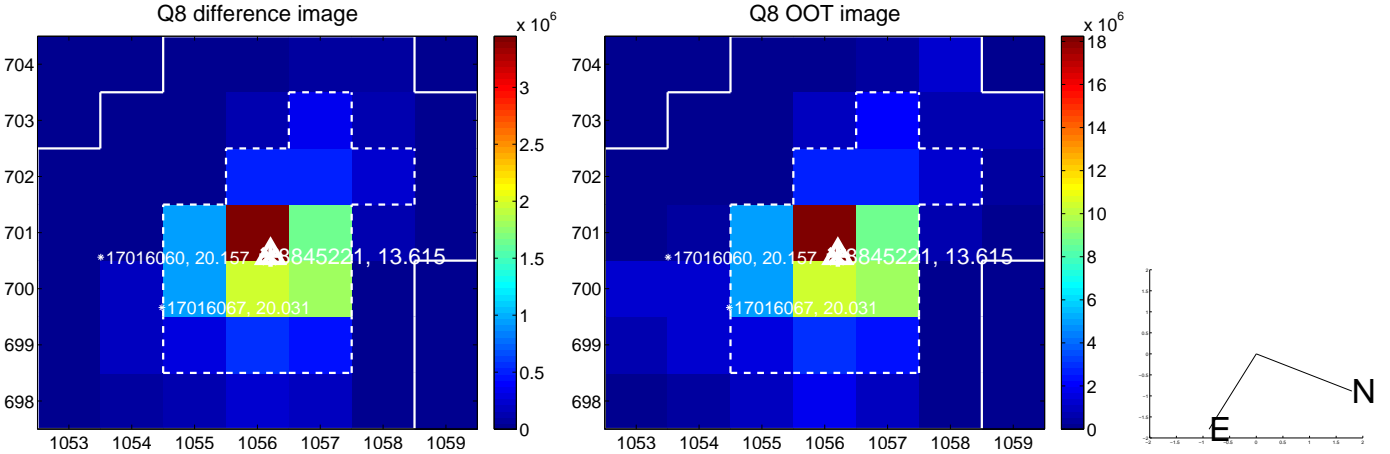
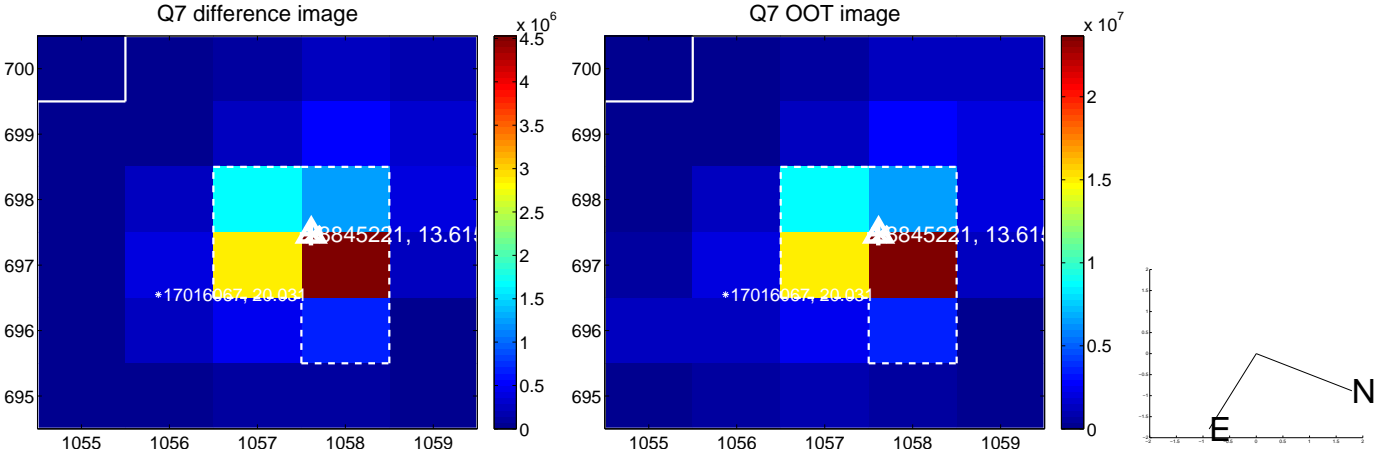
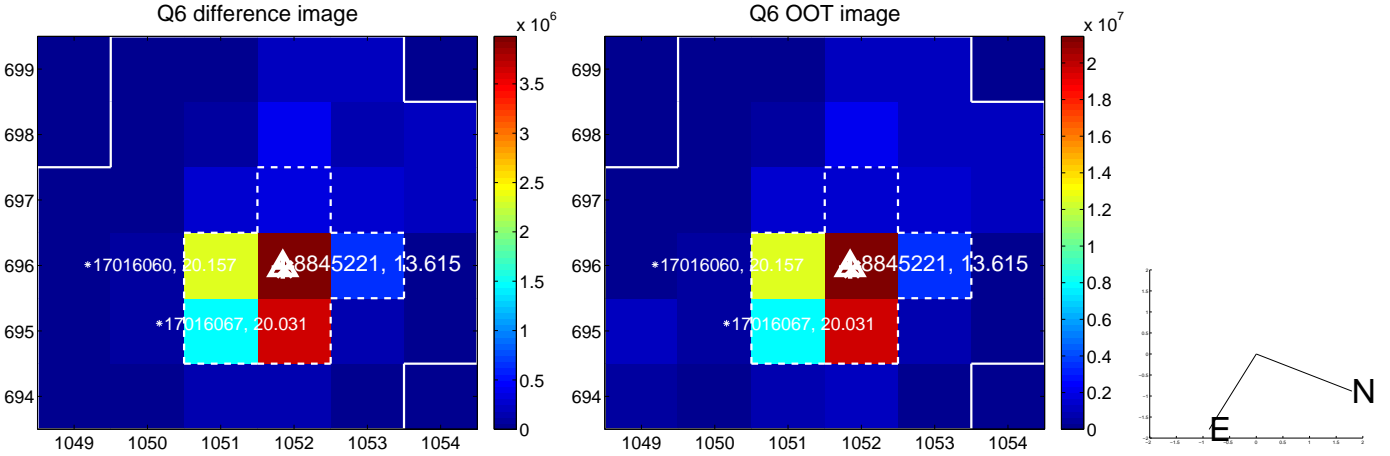
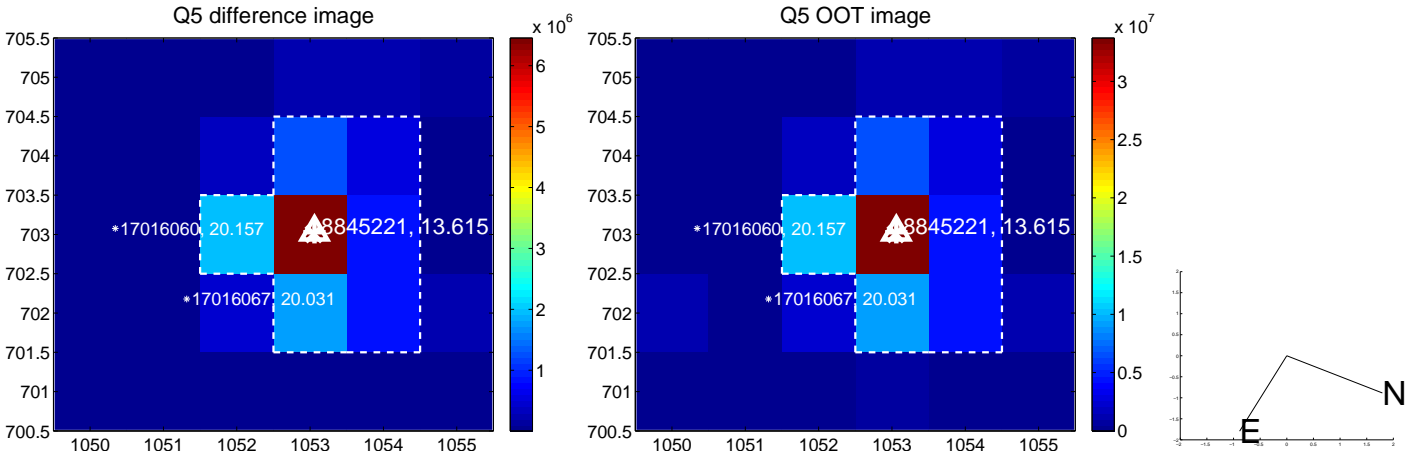


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

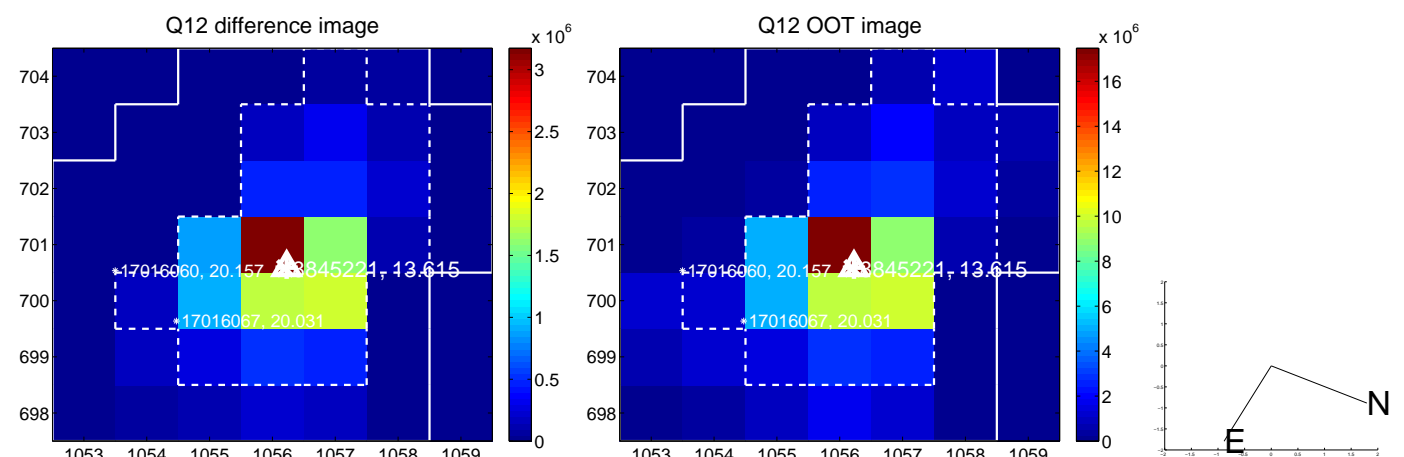
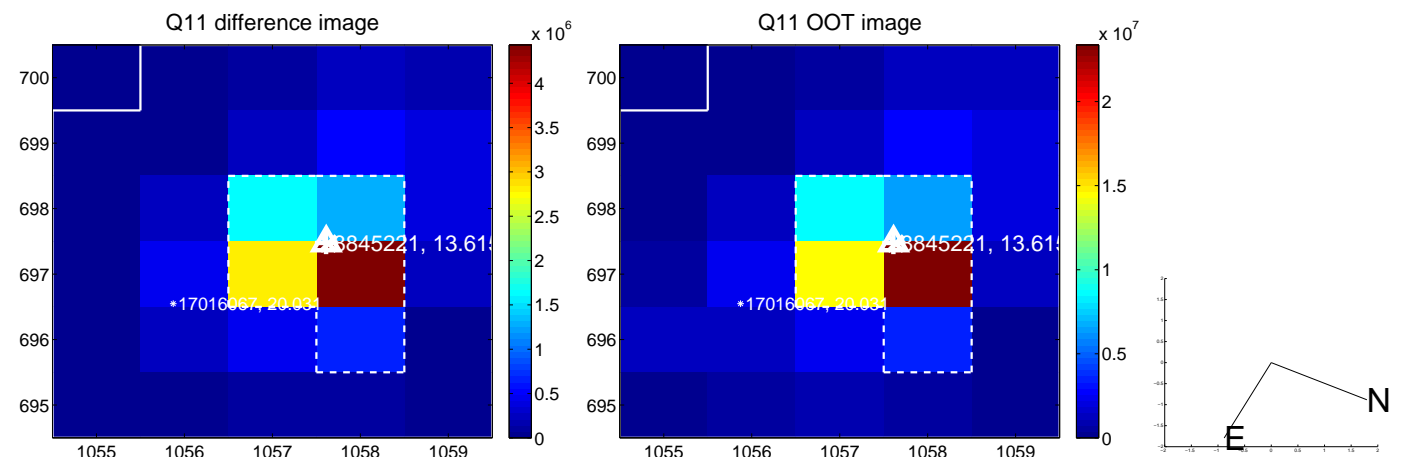
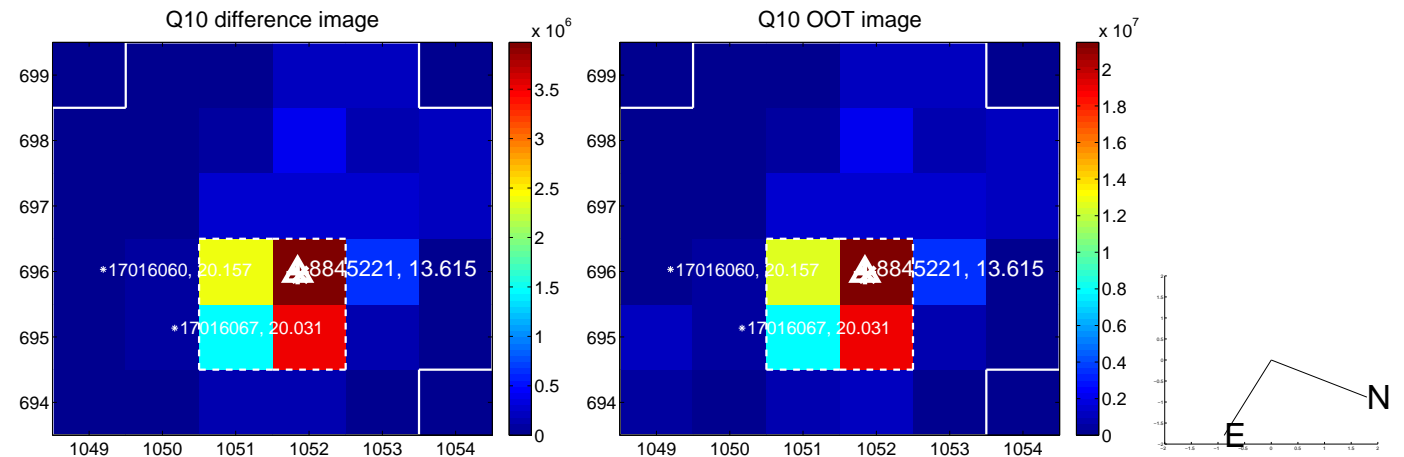
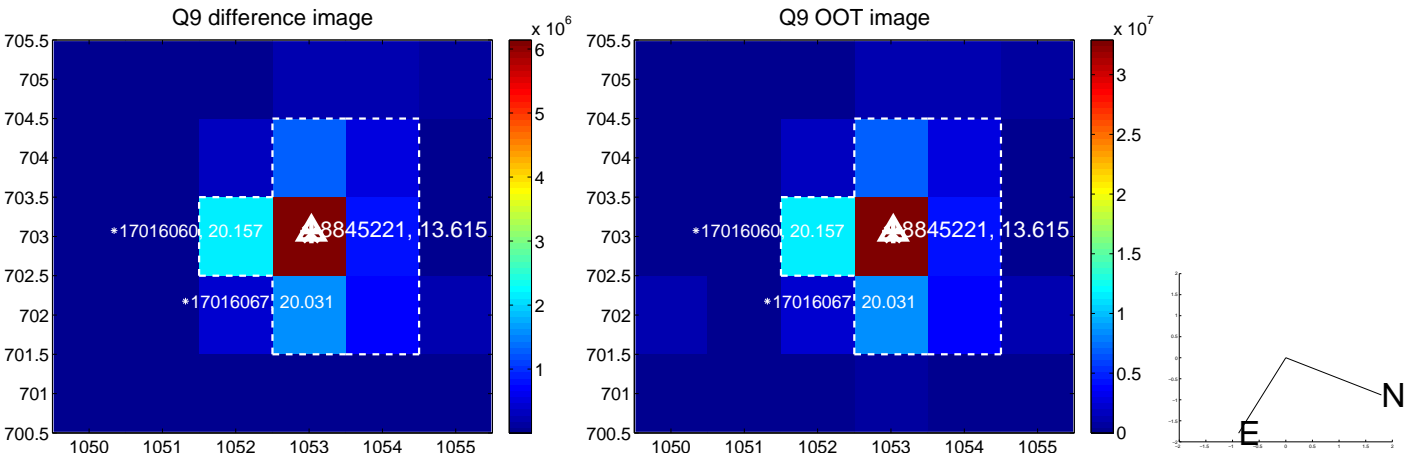
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



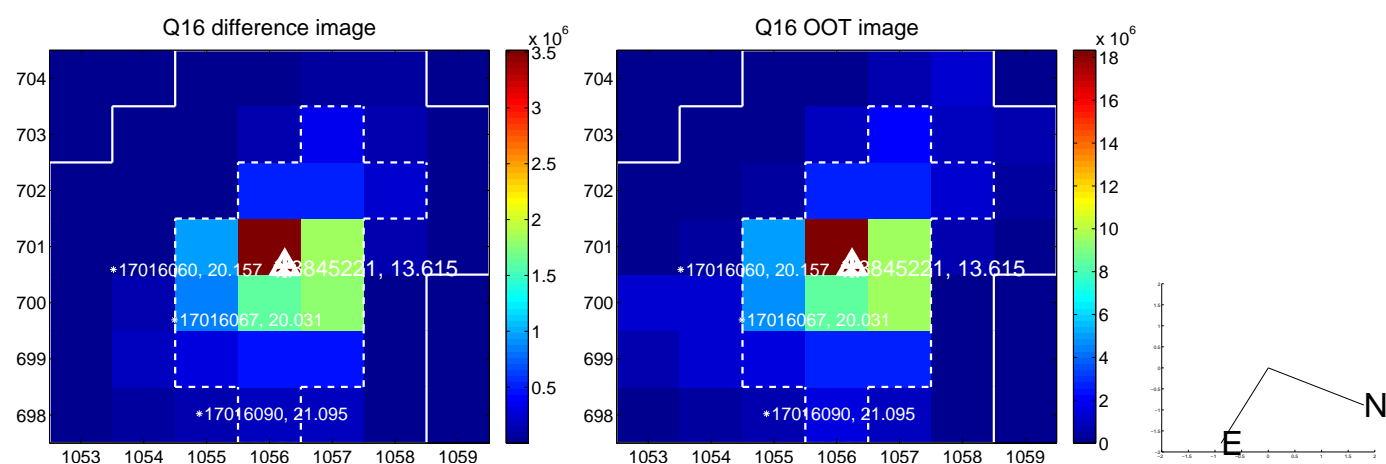
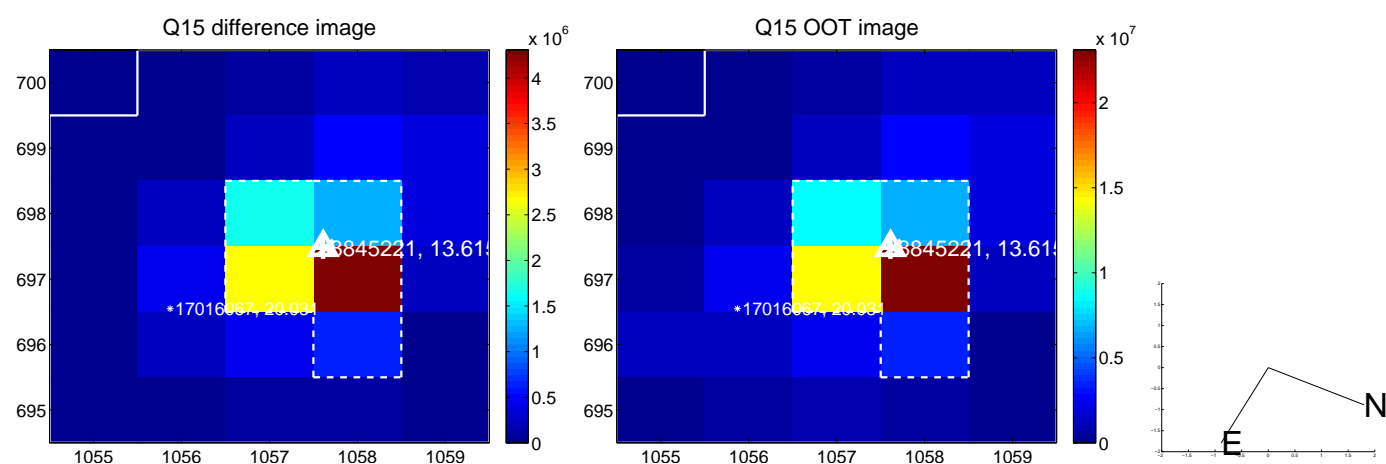
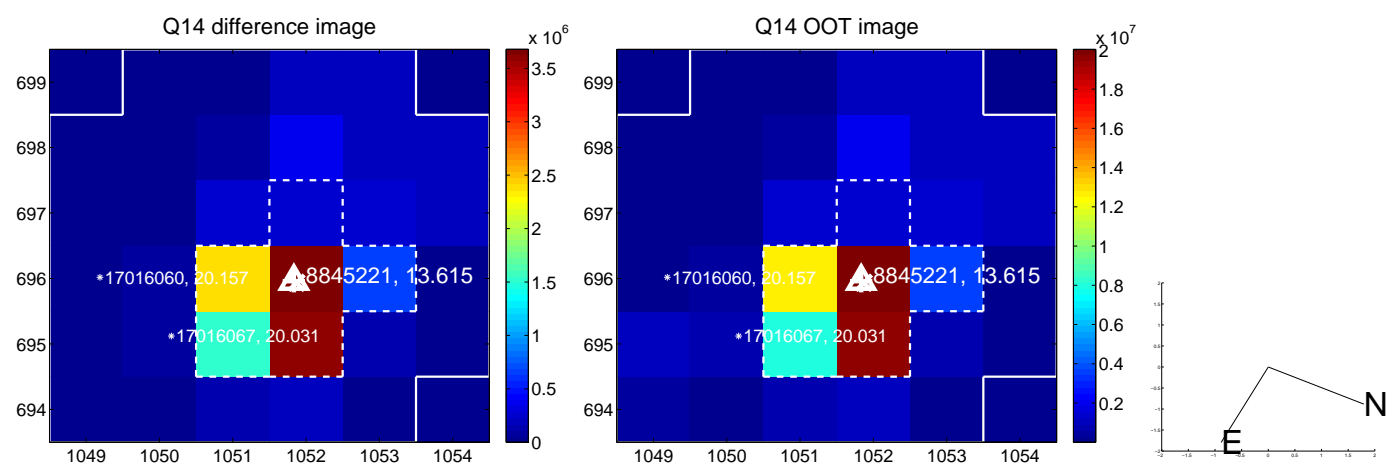
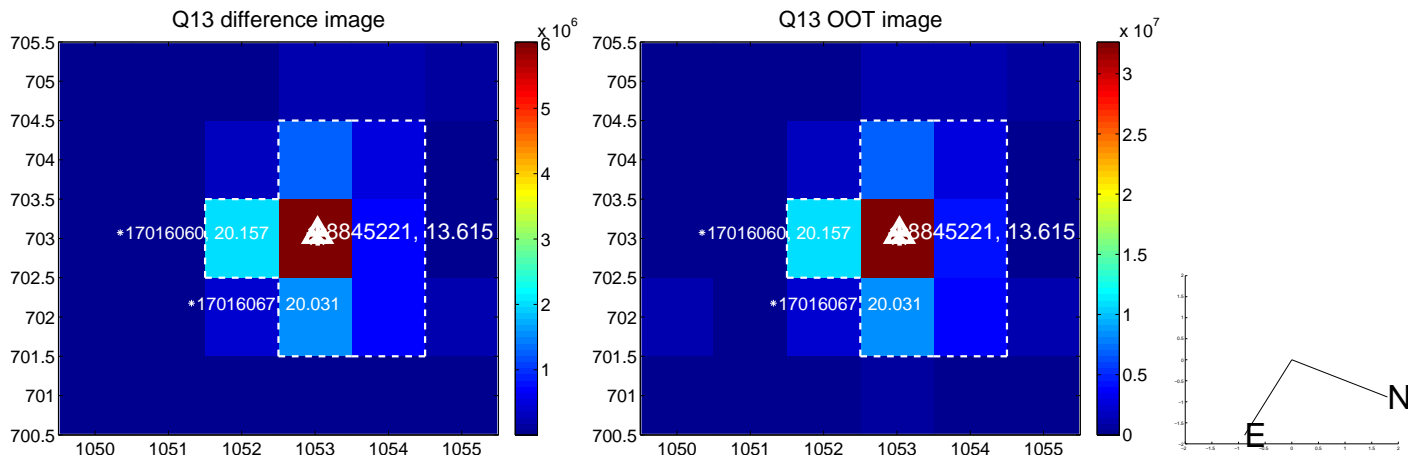
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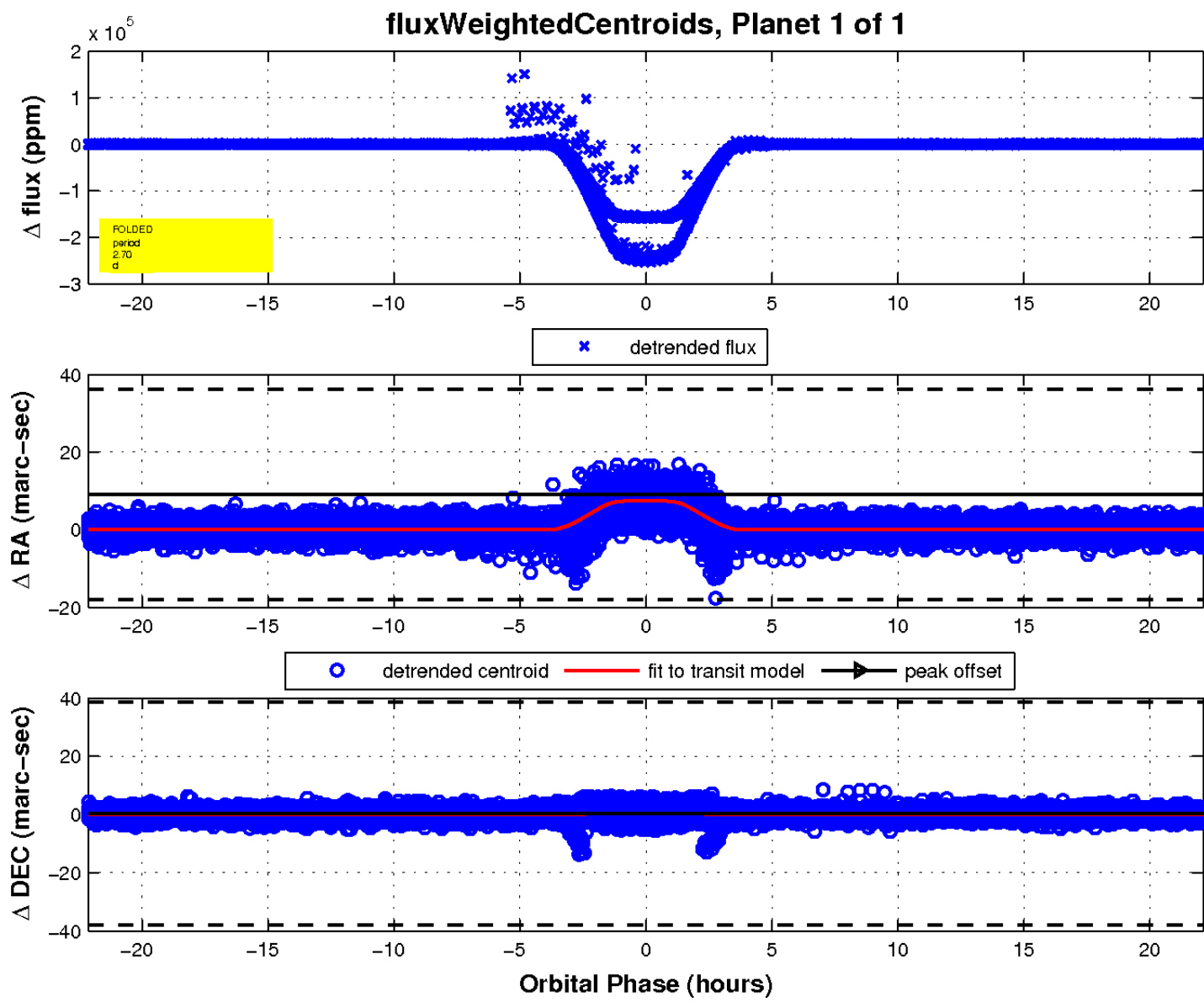
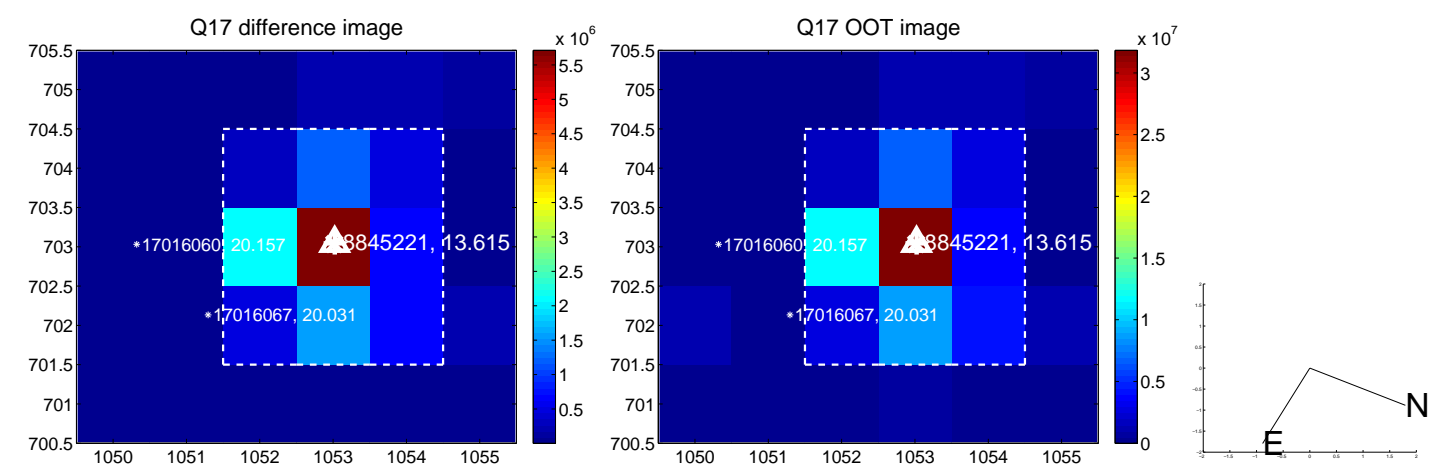
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UKIRT Image

Declination

