

KIC 008414716

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})
008414716-01	OBS	0910.01	5.392028	133.982765	1140.0	3.086	66.0	73.6	0.80	5198	3.04	123.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008414716-01	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.

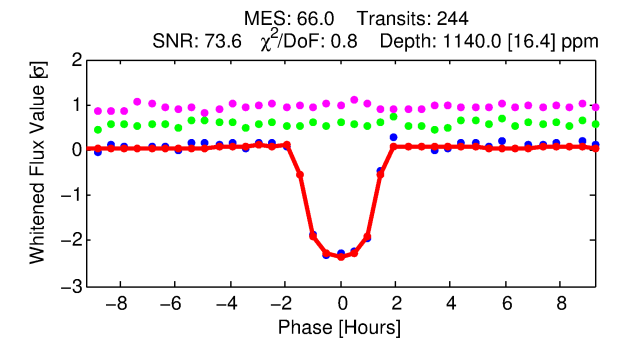
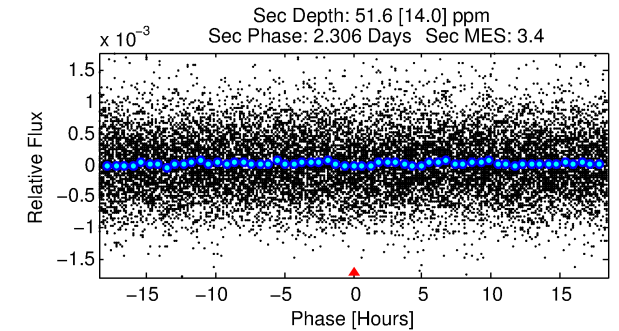
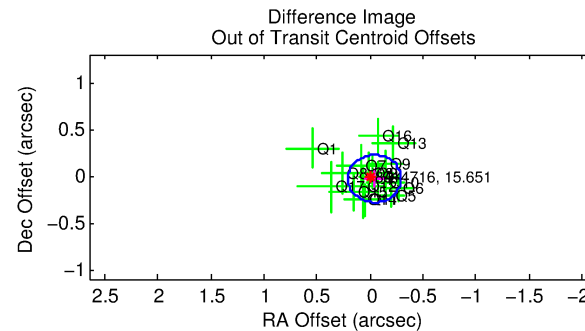
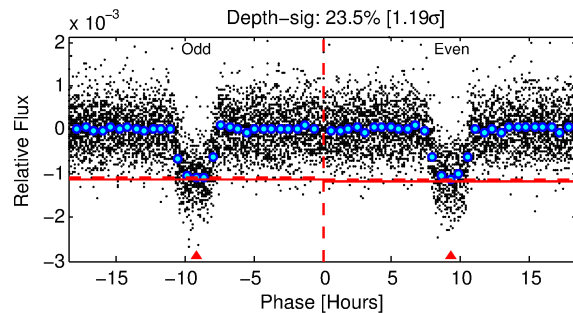
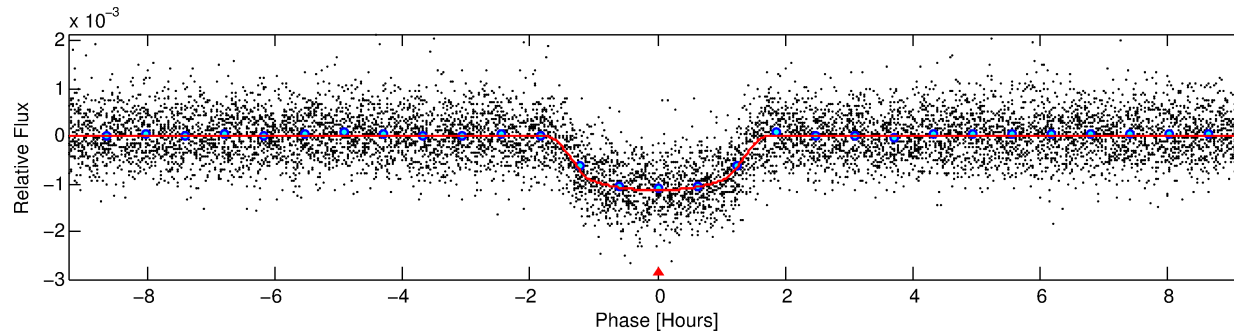
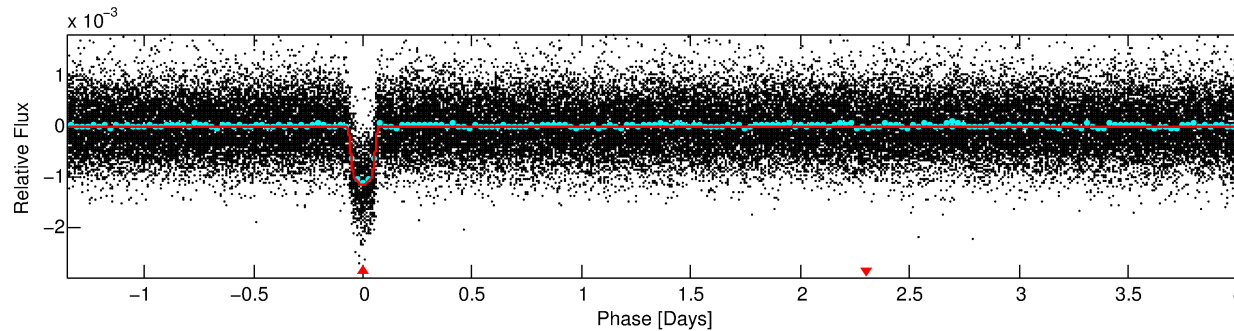
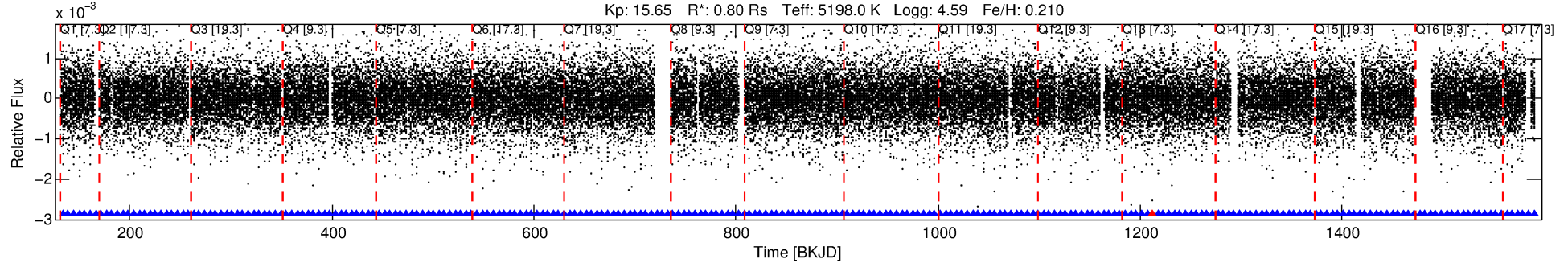
Ephemeris Match Information For 008414716-01

No Significant Match Found

DV One-Page Summary

KIC: 8414716 Candidate: 1 of 1 Period: 5.392 d
KOI: K00910.01 Corr: 0.983

Kp: 15.65 R*: 0.80 Rs Teff: 5198.0 K Logg: 4.59 Fe/H: 0.210



DV Fit Results:

Period = 5.39203 [0.00001] d
Epoch = 133.9828 [0.0008] BKJD
Rp/R* = 0.0347 [0.0035]
a/R* = 8.74 [3.15]
b = 0.80 [0.16]
Seff = 123.50 [26.64]
Teq = 850 [46] K
Rp = 3.04 [0.50] Re
a = 0.0583 [0.0069] AU
Ag = 10.47 [4.00] [2.37σ]
Teffp = 2364 [211] K [7.01σ]

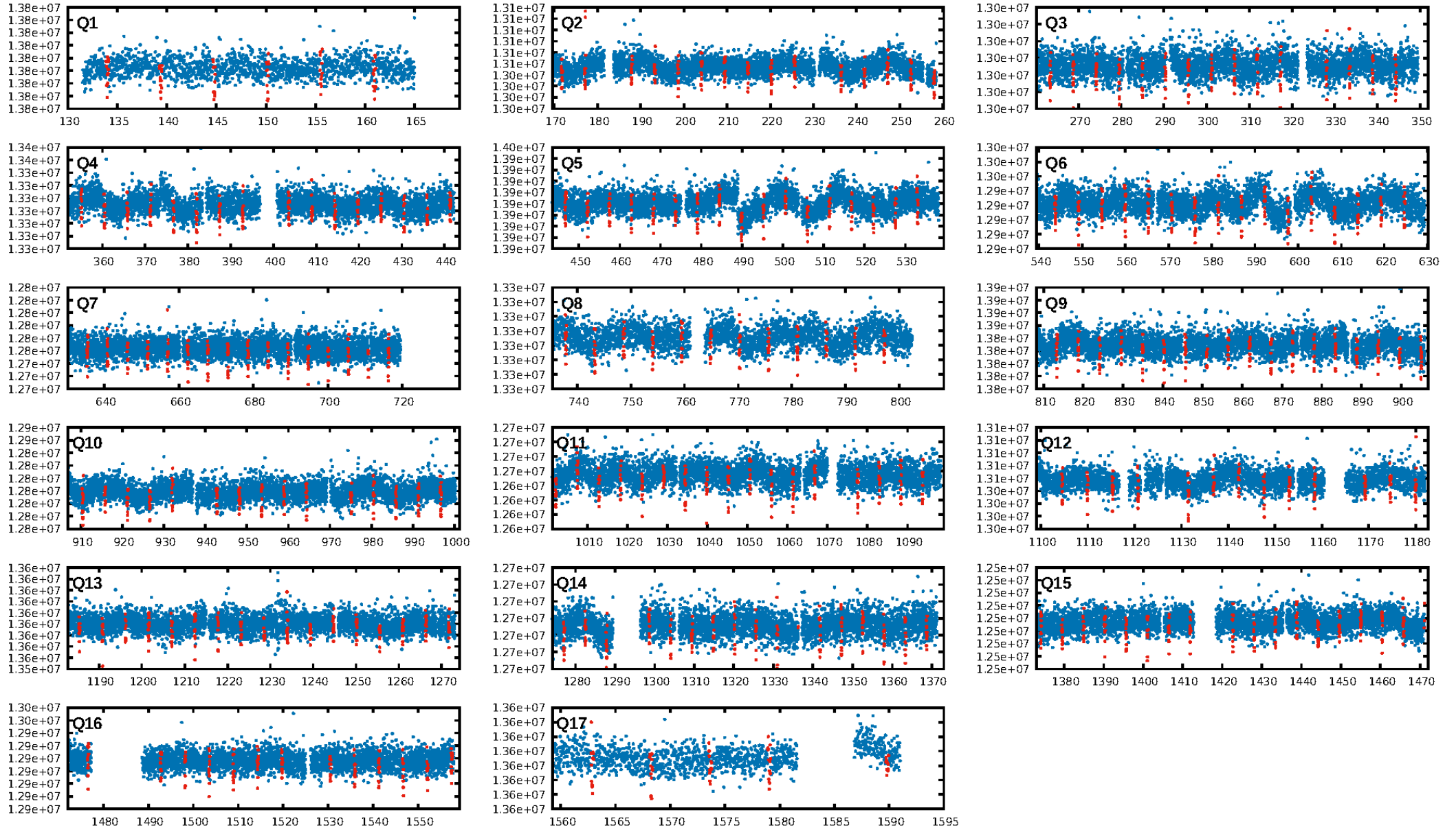
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [232/233]
GhostDiagnostic-chr: 6.843
Centroid-sig: 82.8%
Centroid-so: 0.312 arcsec [1.58σ]
OotOffset-rm: 0.050 arcsec [0.59σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.309 arcsec [3.62σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

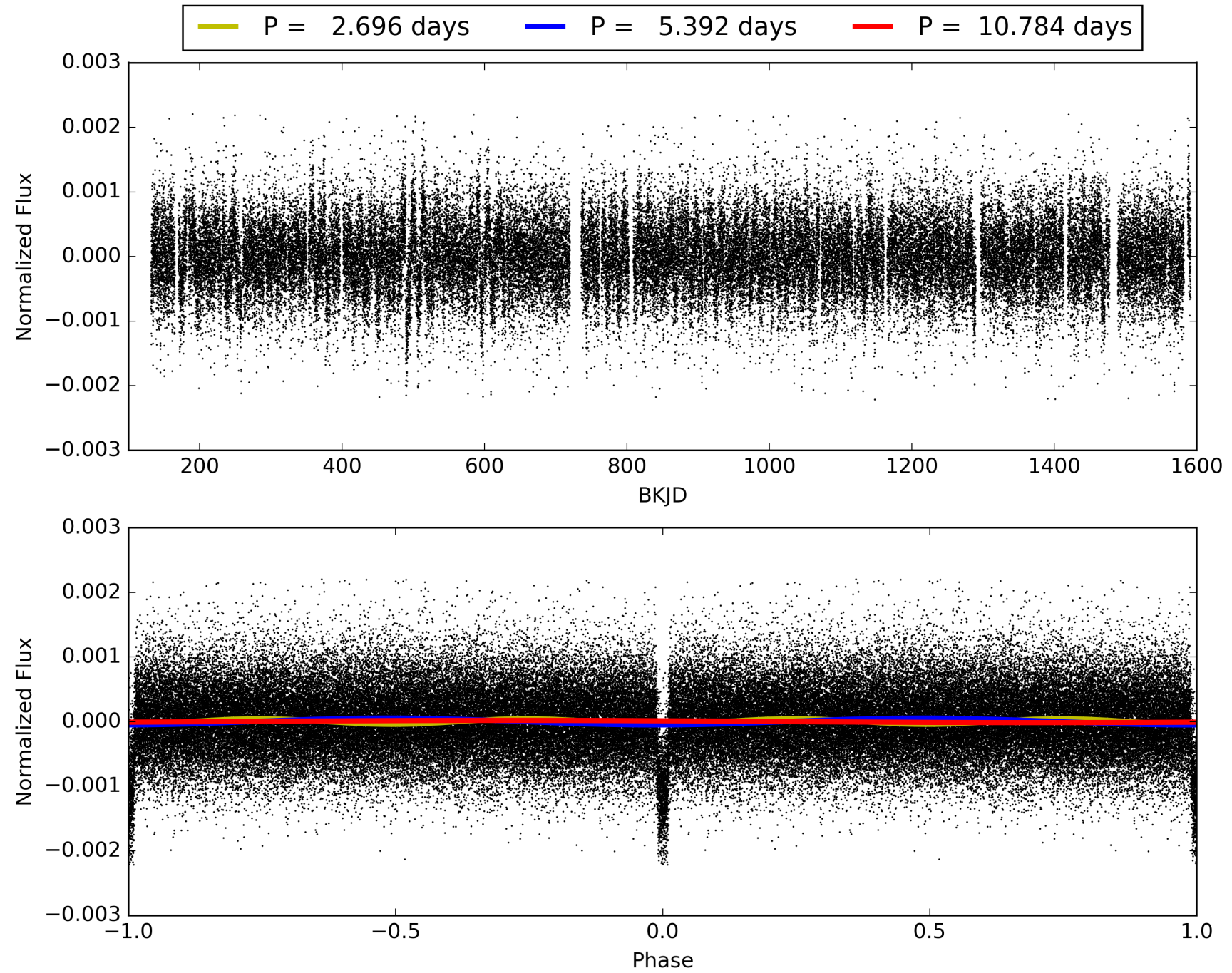
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:31:10 Z

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

TCE 008414716-01, PDC Light Curves

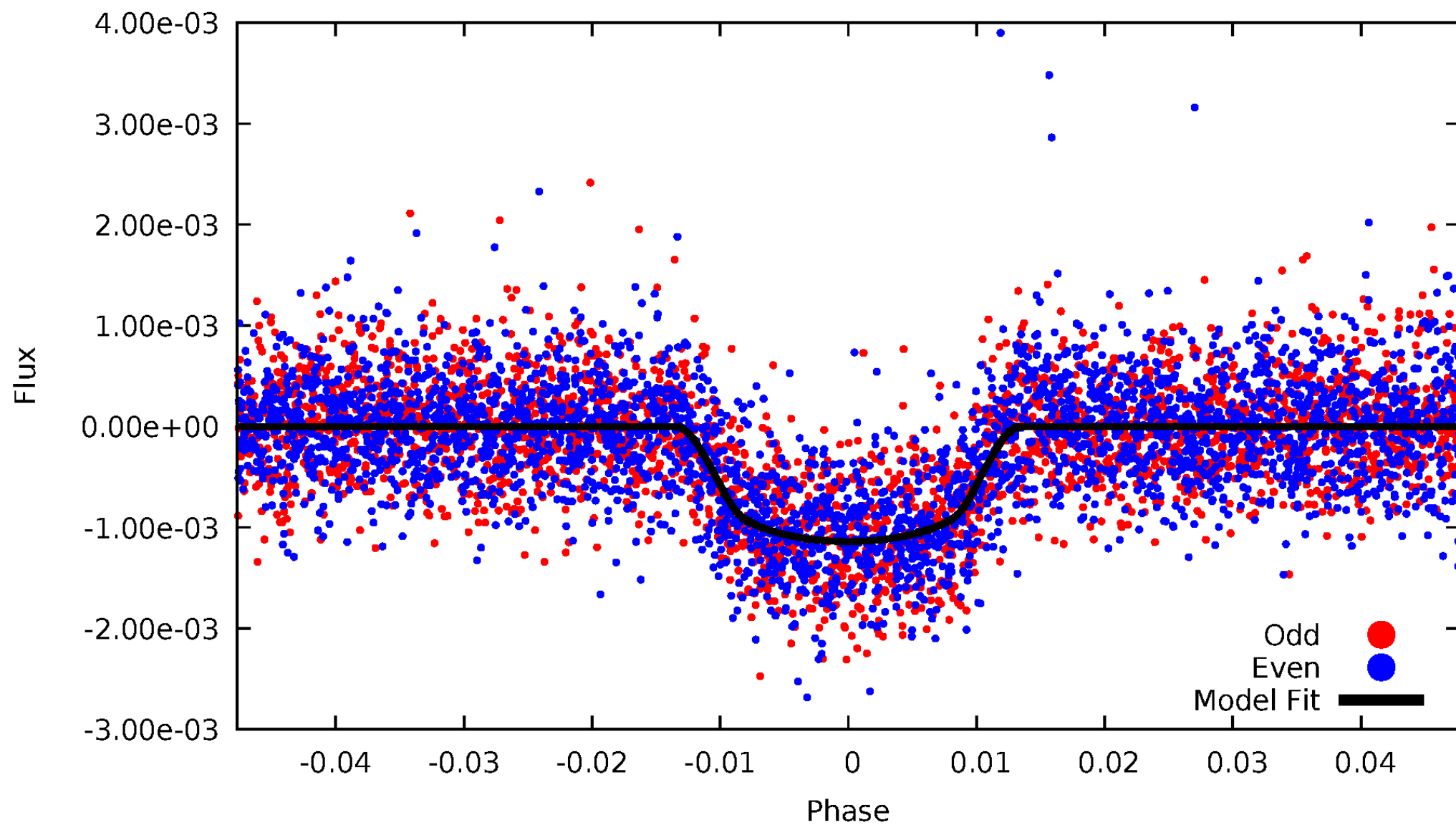


TCE 008414716-01



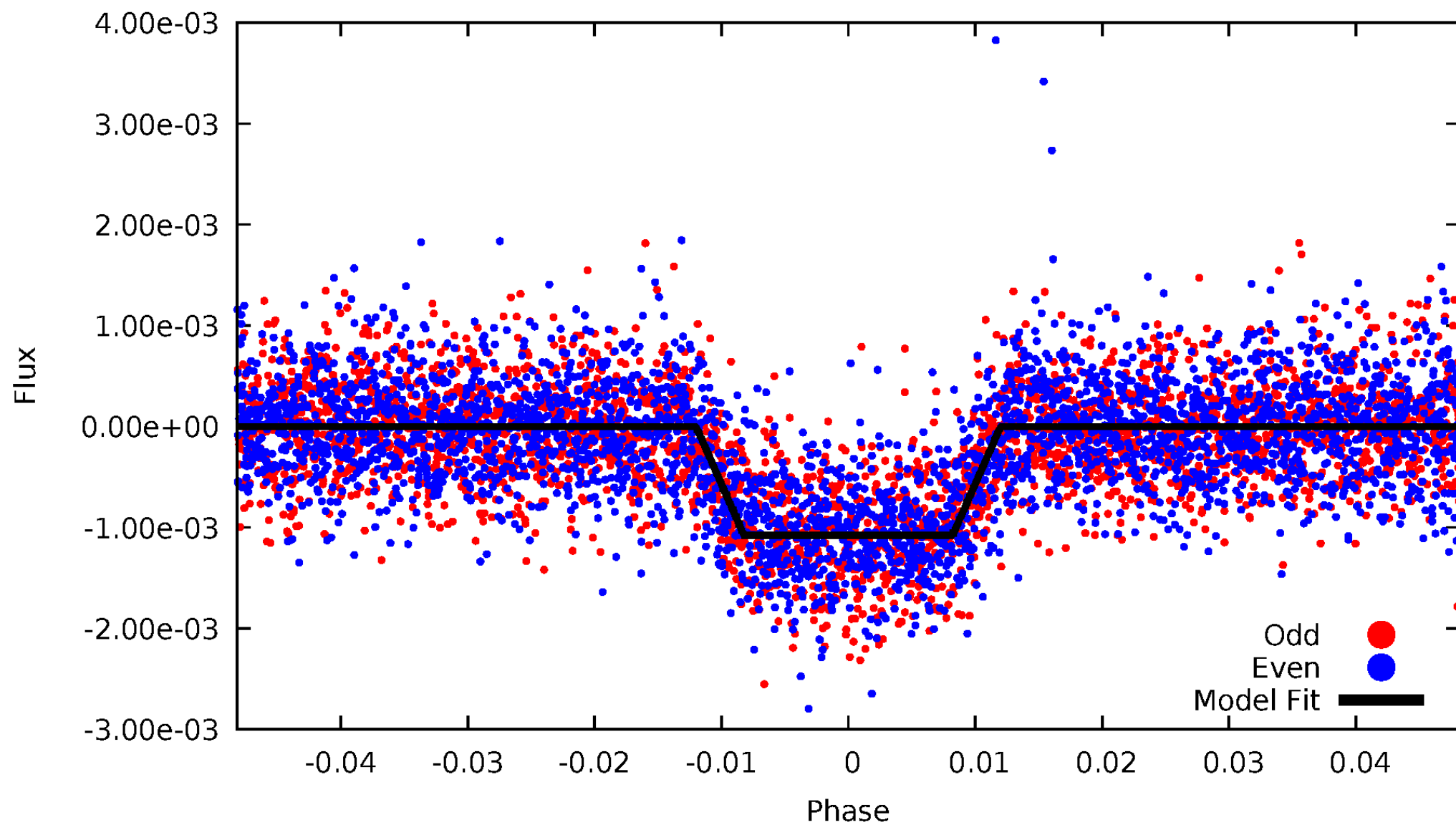
DV Odd/Even

TCE 008414716-01



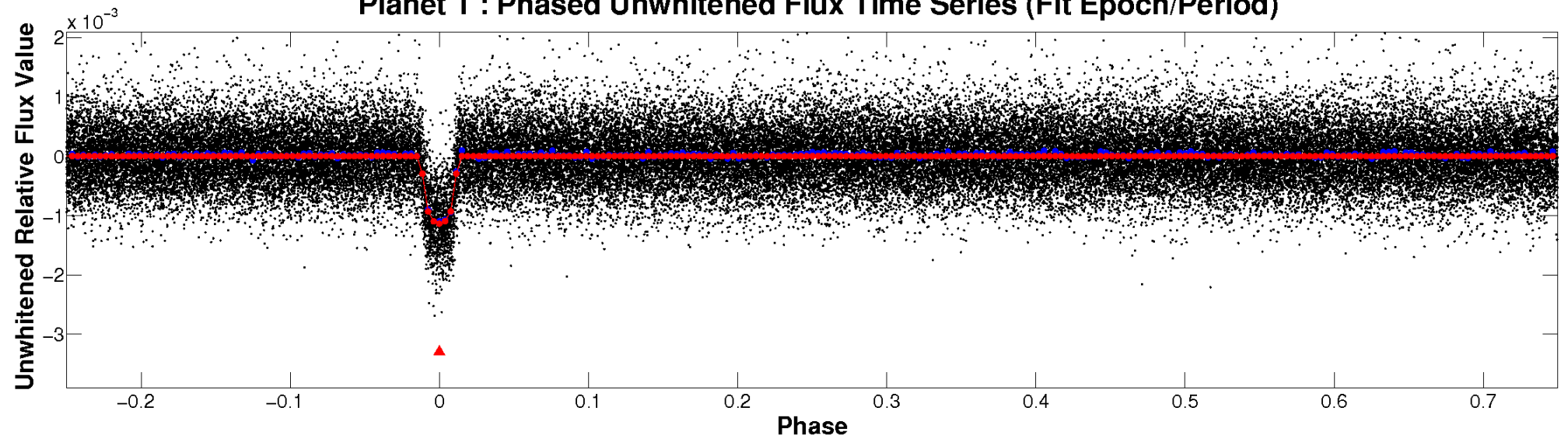
ALT Odd/Even

TCE 008414716-01

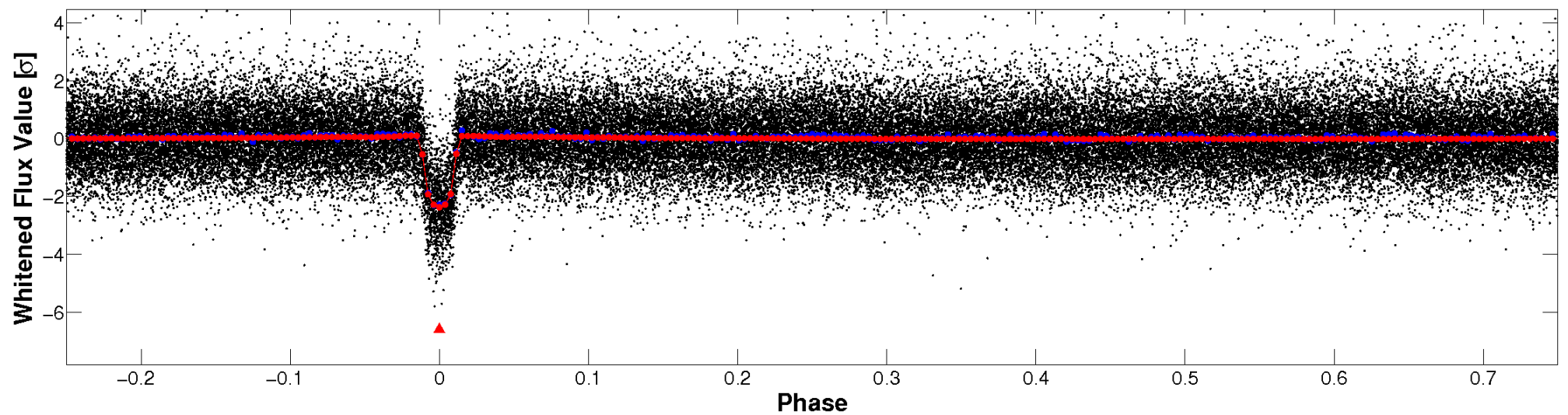


Non-Whitened Vs. Whitened Light Curve

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

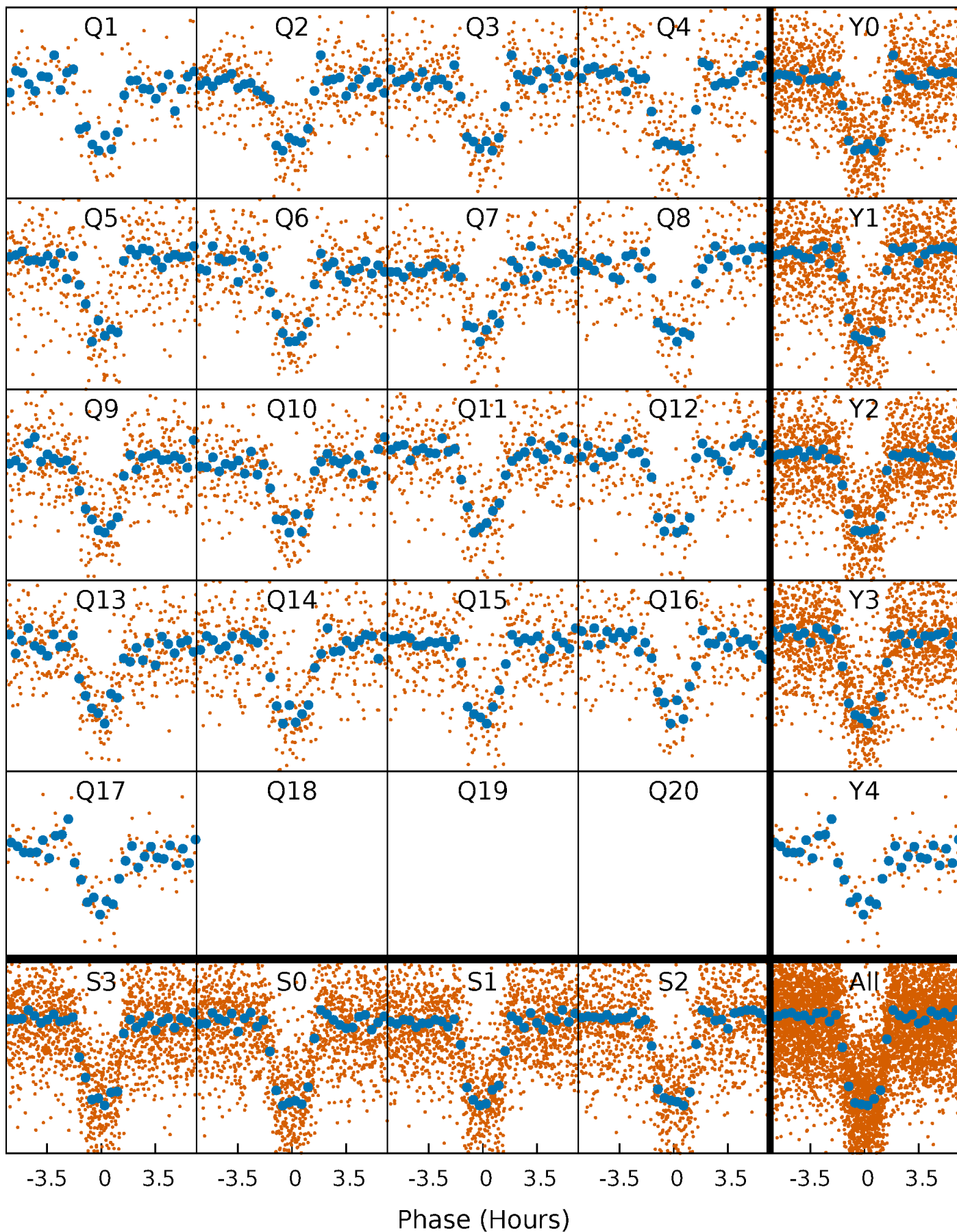


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



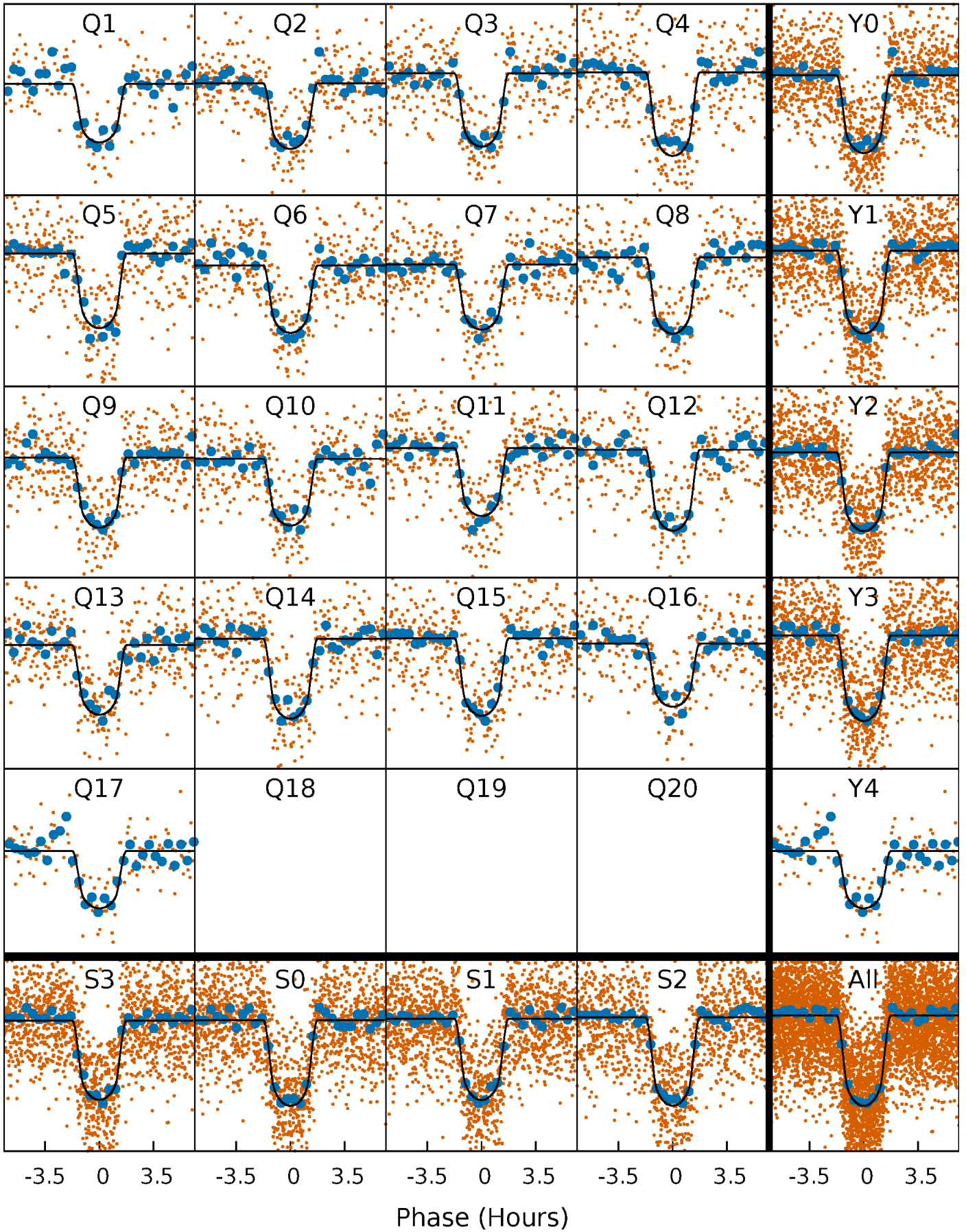
PDC Quarter-Phased Transit Curves

TCE 008414716-01 P= 5.392028 Days $T_0=133.982765$ (BKJD)



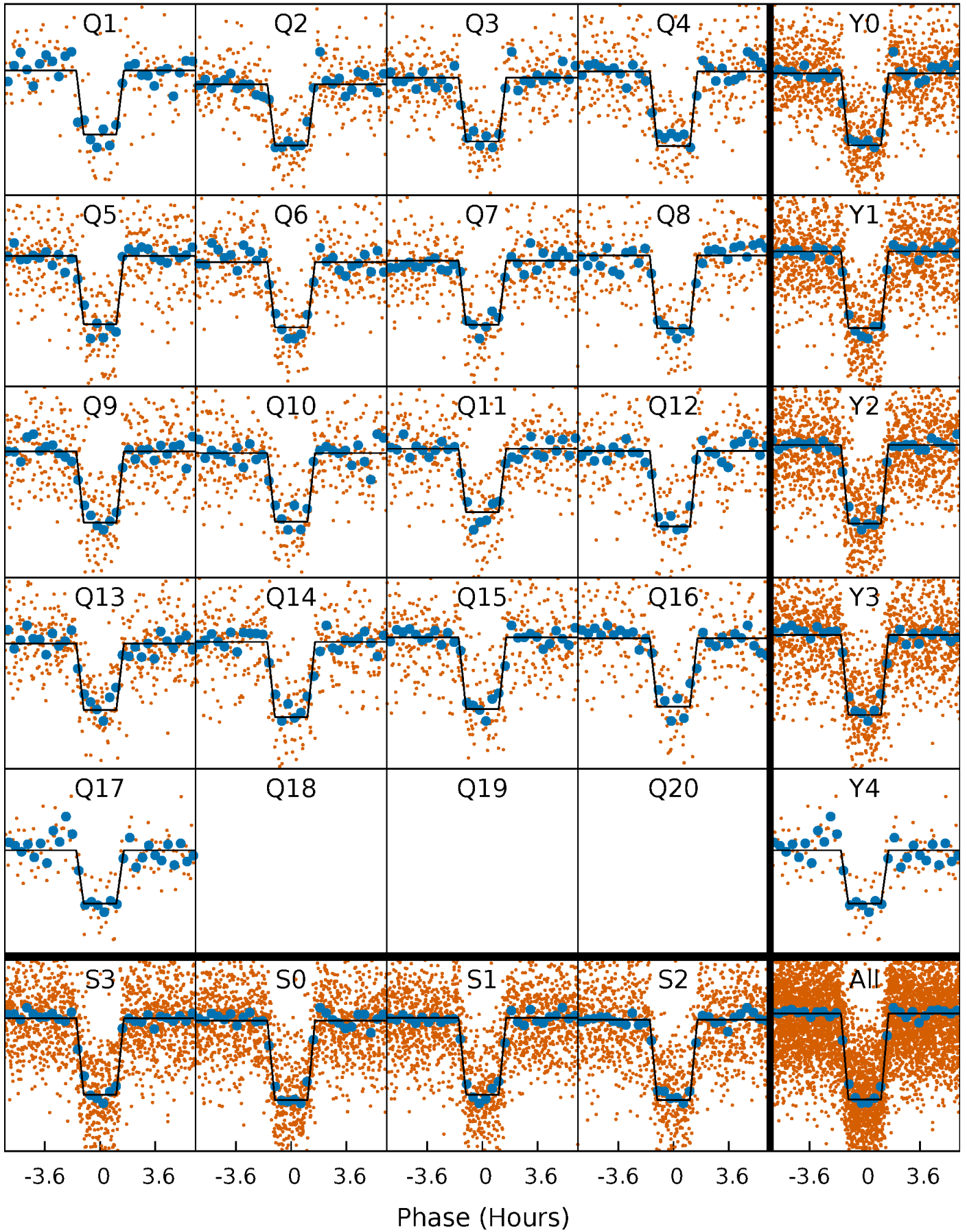
DV Quarter-Phased Transit Curves

TCE 008414716-01 P= 5.392028 Days $T_0=133.982765$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

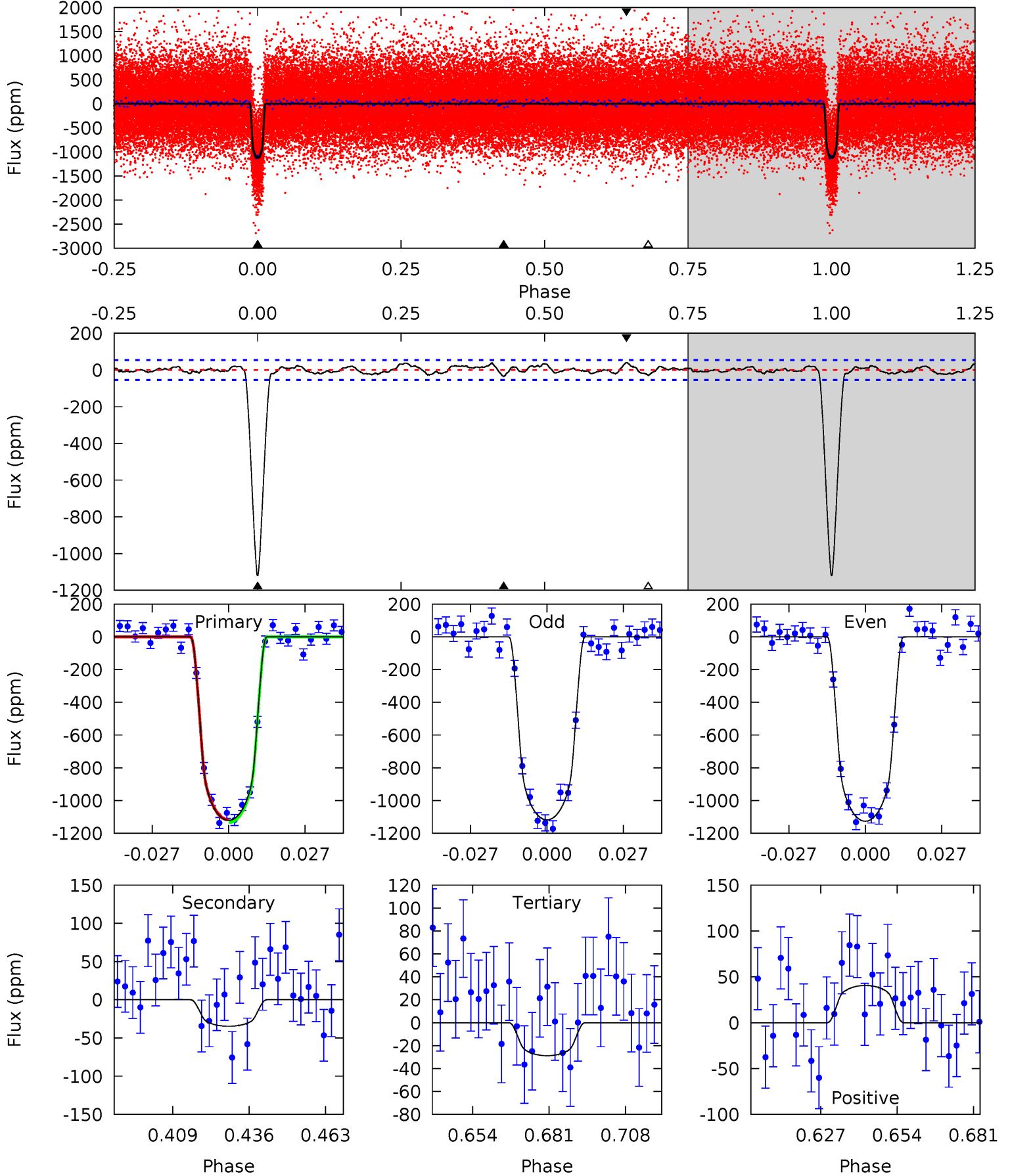
TCE 008414716-01 P= 5.392015 Days $T_0=133.984294$ (BKJD)



DV Model-Shift Uniqueness Test

008414716-01, P = 5.392028 Days, E = 128.590737 Days

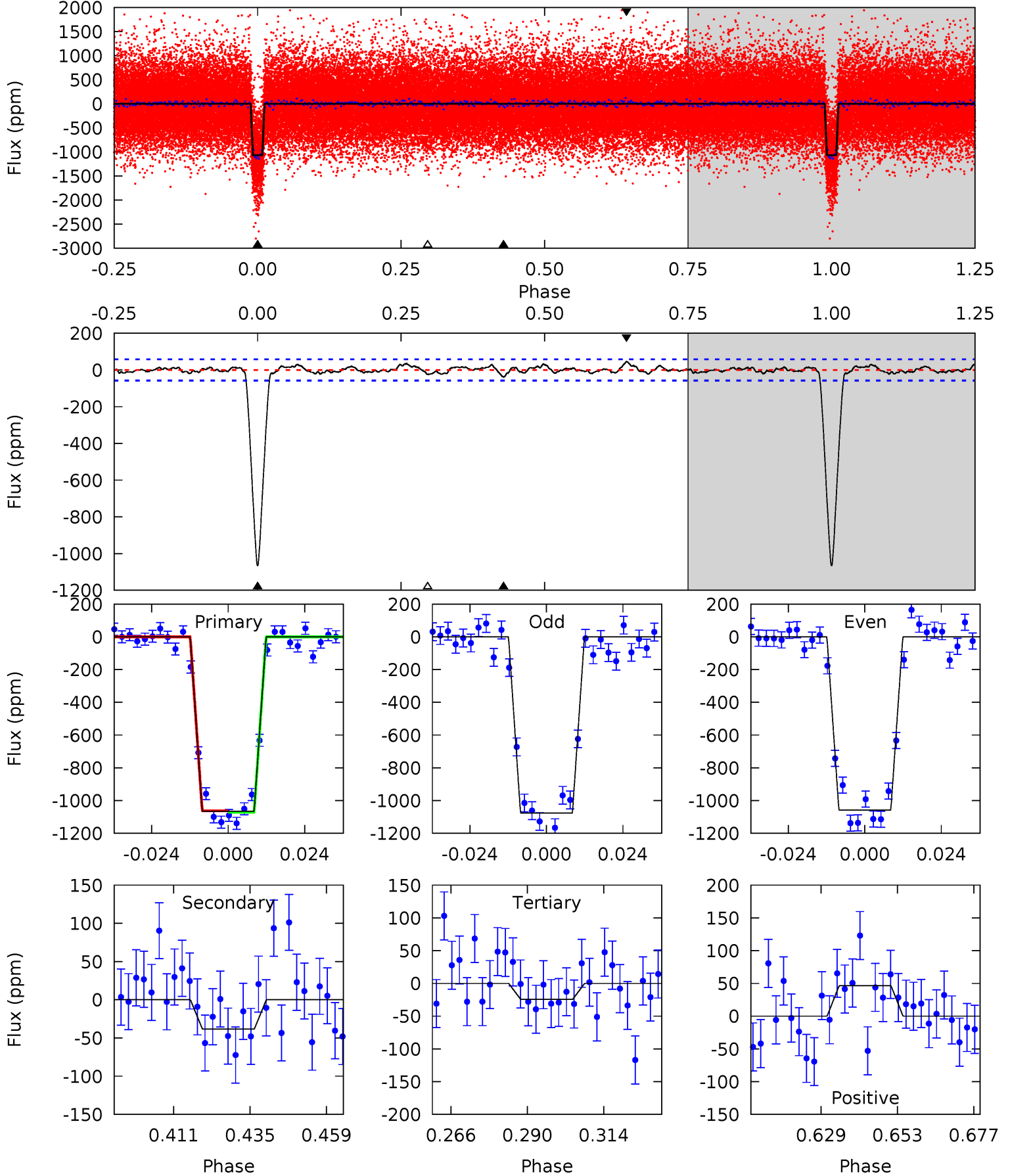
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
99.3	3.08	2.55	3.60	4.83	2.21	1.31	96.8	95.7	0.52	-0.52	0.38	0.98	0.03	0.71



Alt Model-Shift Uniqueness Test

008414716-01, P = 5.392015 Days, E = 128.592279 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.0	3.20	2.05	3.87	4.85	2.25	1.09	87.0	85.1	1.15	-0.68	0.76	1.00	0.04	0.43



Stellar Parameters For KIC 008414716

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5198^{+155}_{-155}	$4.589^{+0.024}_{-0.102}$	$0.210^{+0.200}_{-0.350}$	$0.801^{+0.106}_{-0.057}$	$0.915^{+0.044}_{-0.102}$	$2.507^{+0.323}_{-0.763}$
	+3%/-3%	+1%/-2%	+95%/-167%	+13%/-7%	+5%/-11%	+13%/-30%
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 008414716-01 / KOI 0910.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-35 ± 11	$3.12^{+0.38}_{-0.35}$	1210^{+48}_{-49}	2841^{+143}_{-177}	$6.697^{+2.969}_{-2.457}$
Alt.	-38 ± 12	$2.92^{+0.36}_{-0.34}$	1203^{+49}_{-46}	2909^{+175}_{-173}	$8.209^{+3.849}_{-2.893}$

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

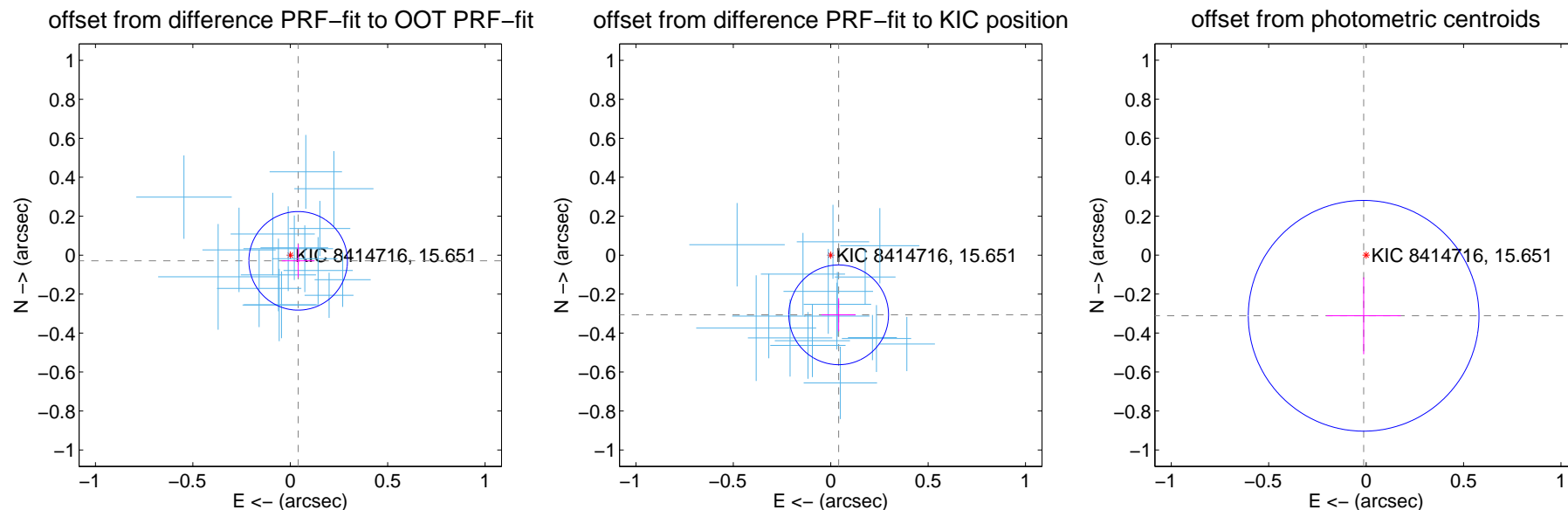
DV Centroid Data

Supplemental centroid analysis for 008414716-01. Kepler magnitude: 15.65. Transit SNR 73.59

There are 17 quarters with good PRF difference image offsets

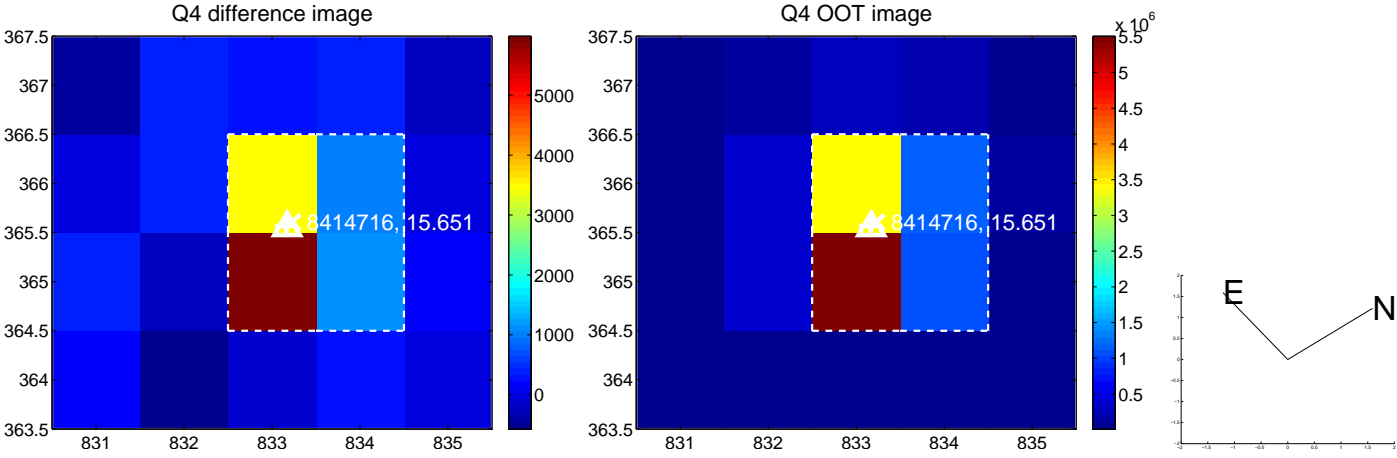
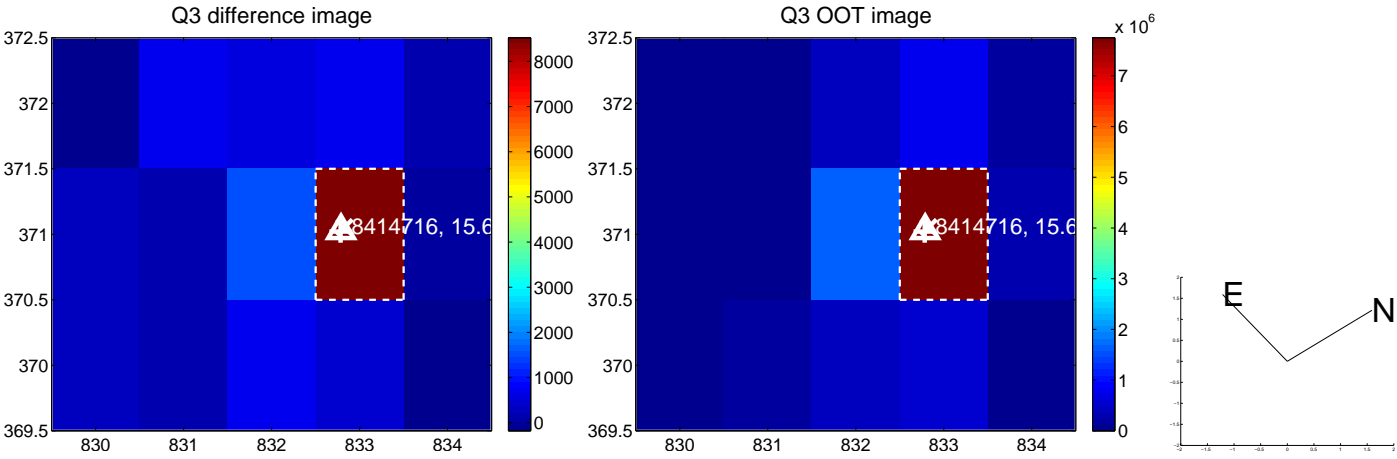
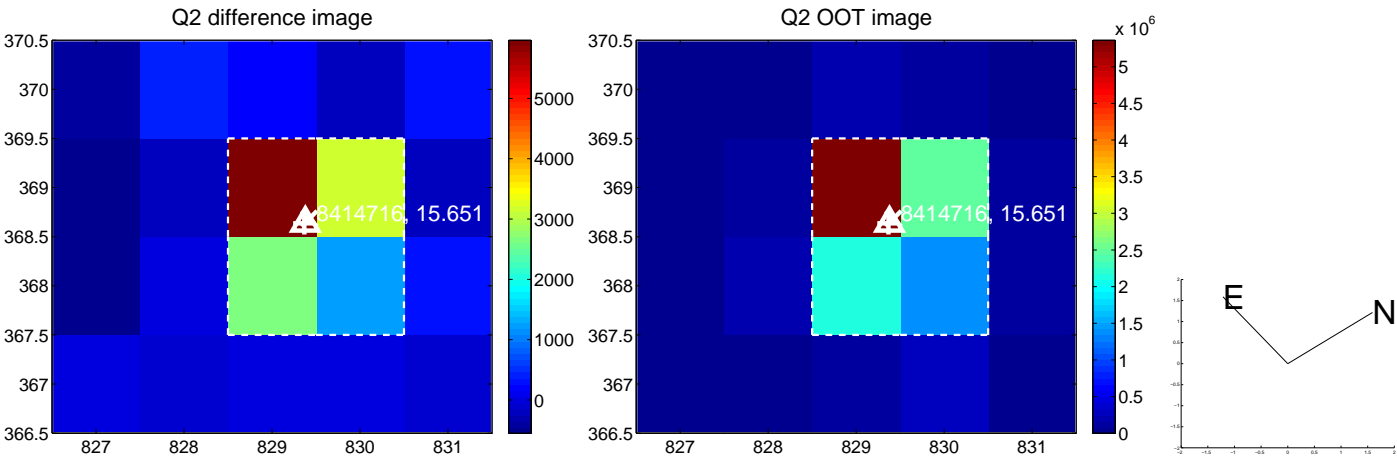
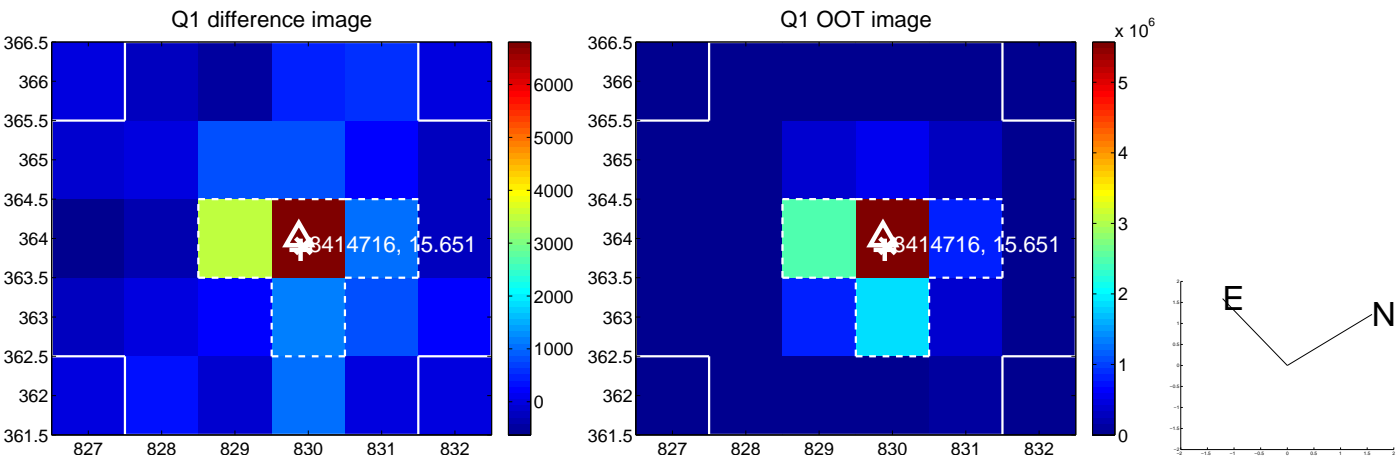
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.050 ± 0.084	0.59	-0.041 ± 0.084	-0.029 ± 0.085
PRF-fit source offset from KIC position	0.309 ± 0.085	3.62	-0.041 ± 0.087	-0.306 ± 0.085
photometric centroid source offset	0.31 ± 0.20	1.58	0.01 ± 0.19	-0.31 ± 0.20

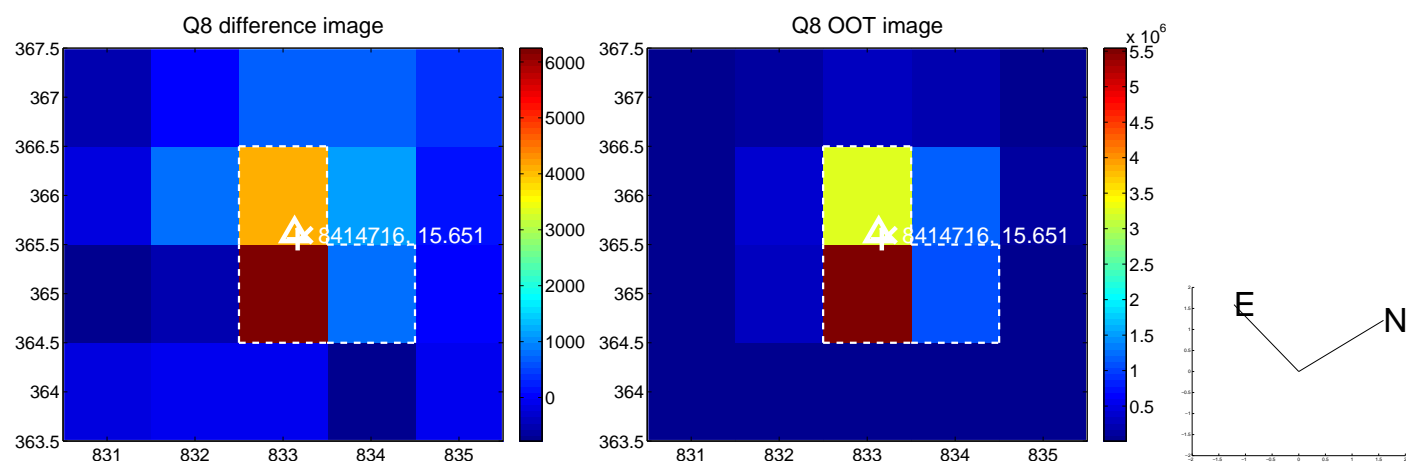
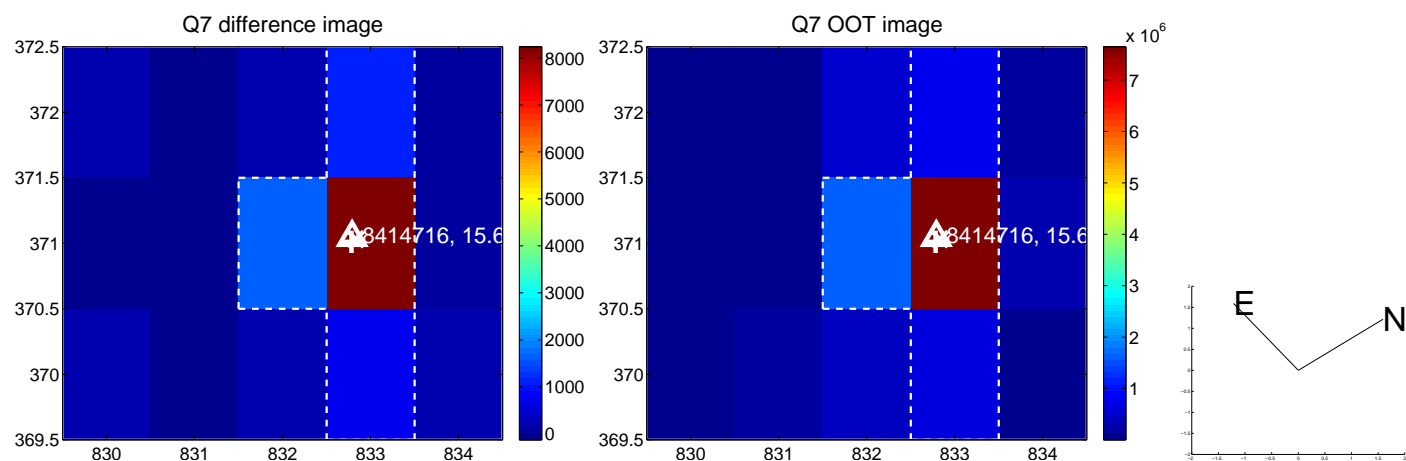
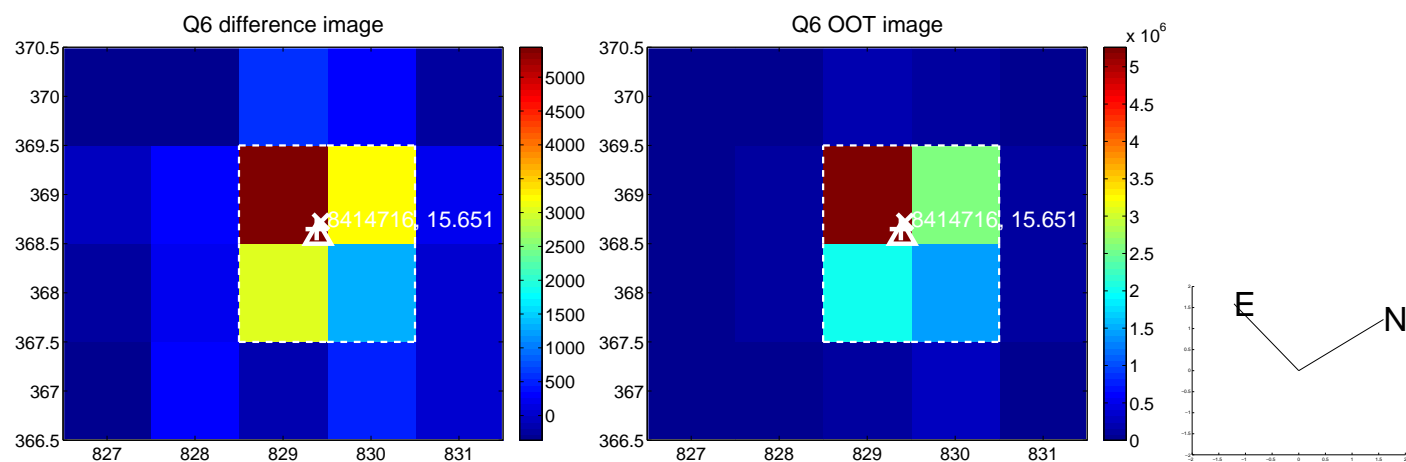
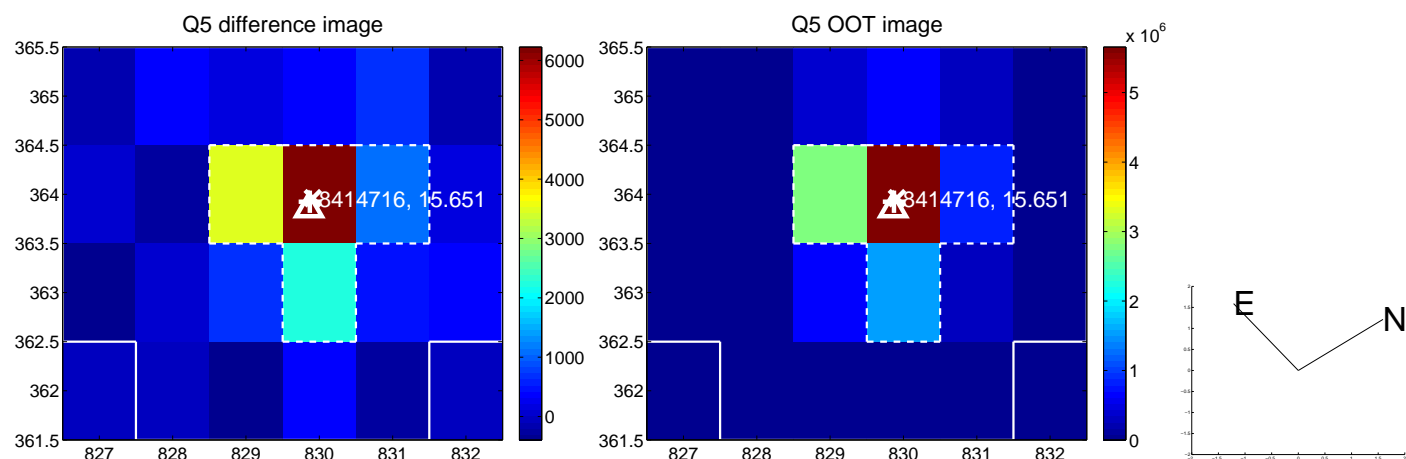


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

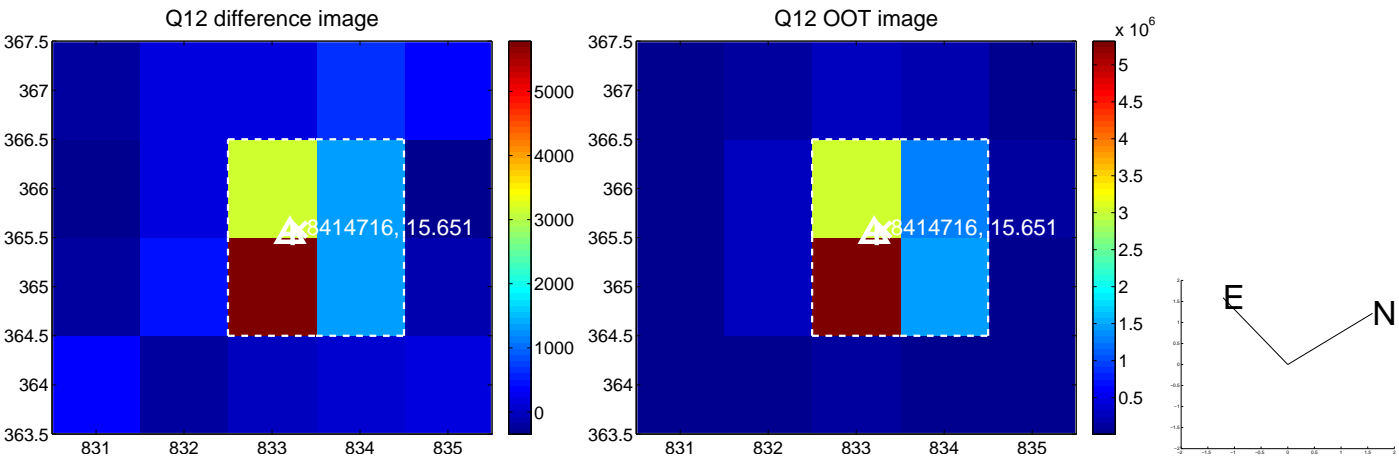
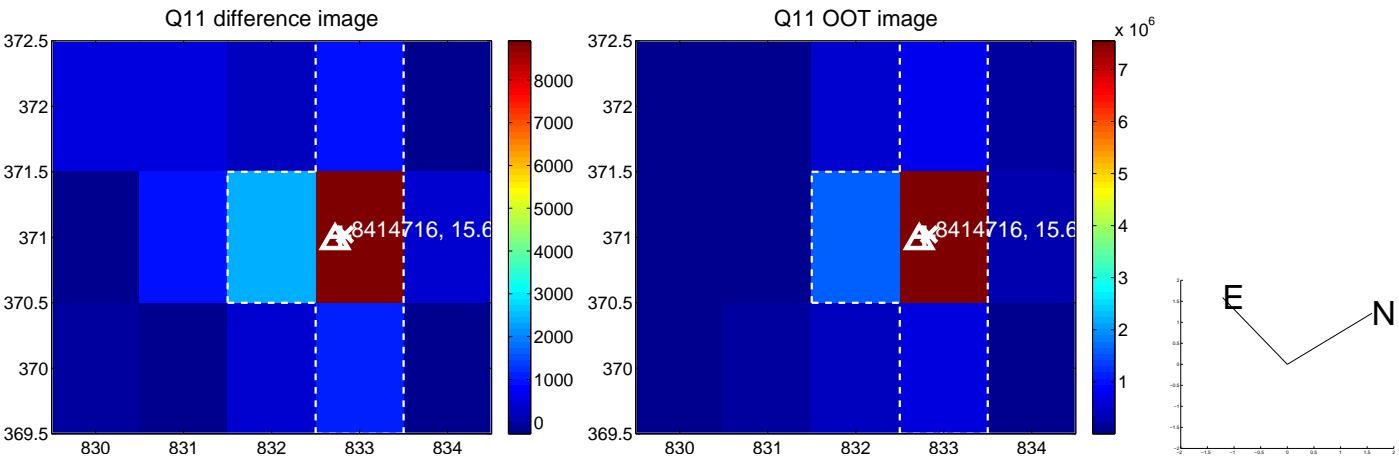
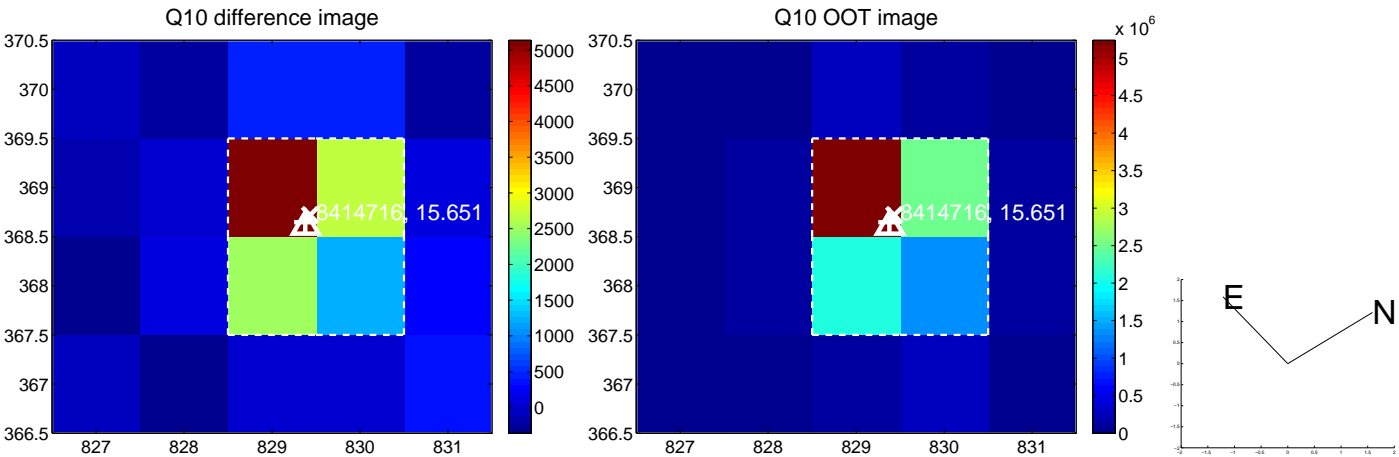
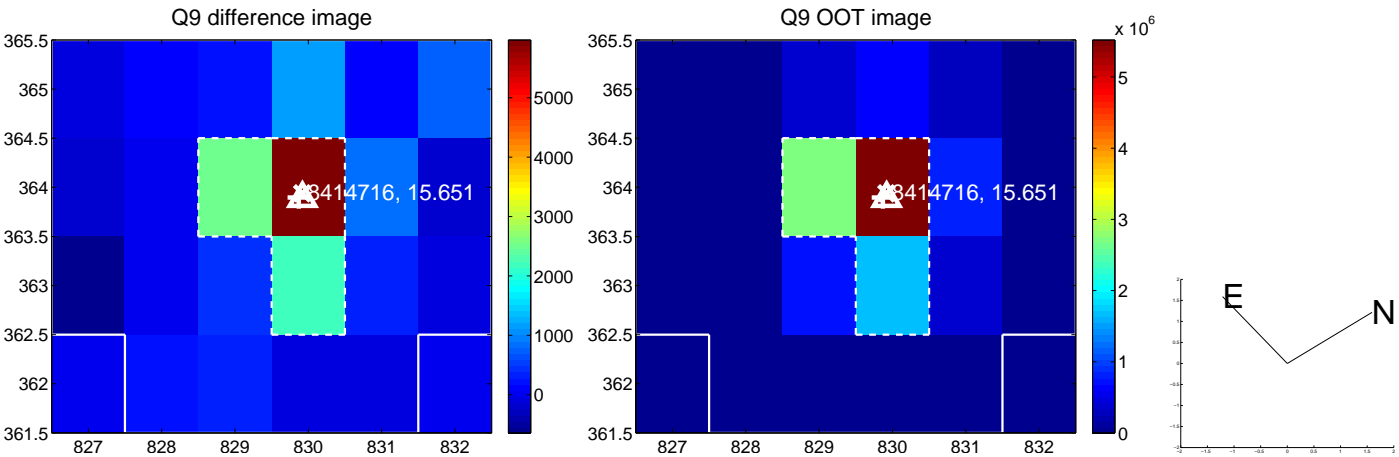
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



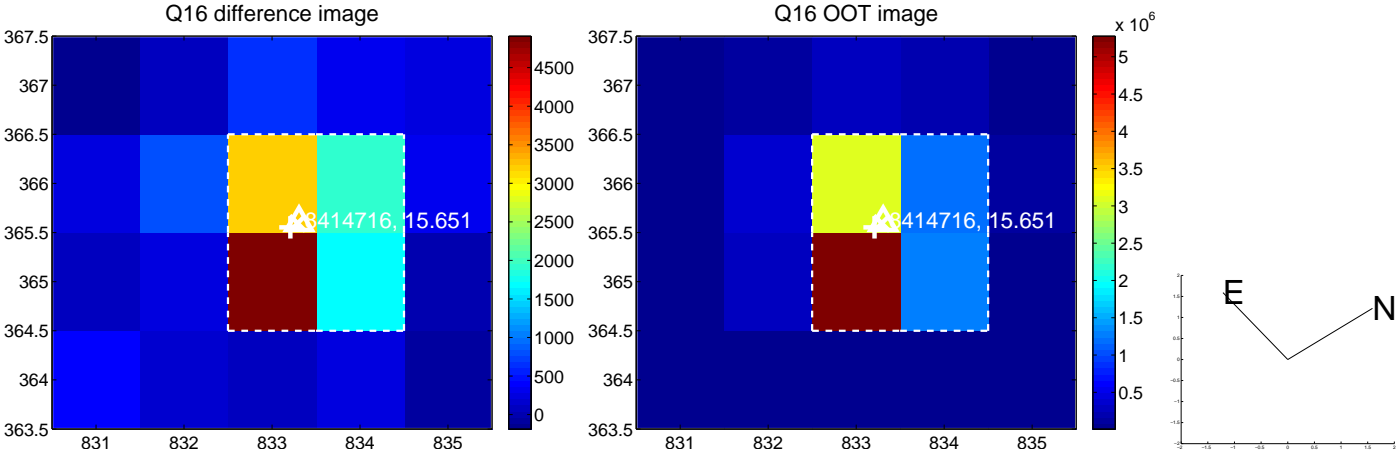
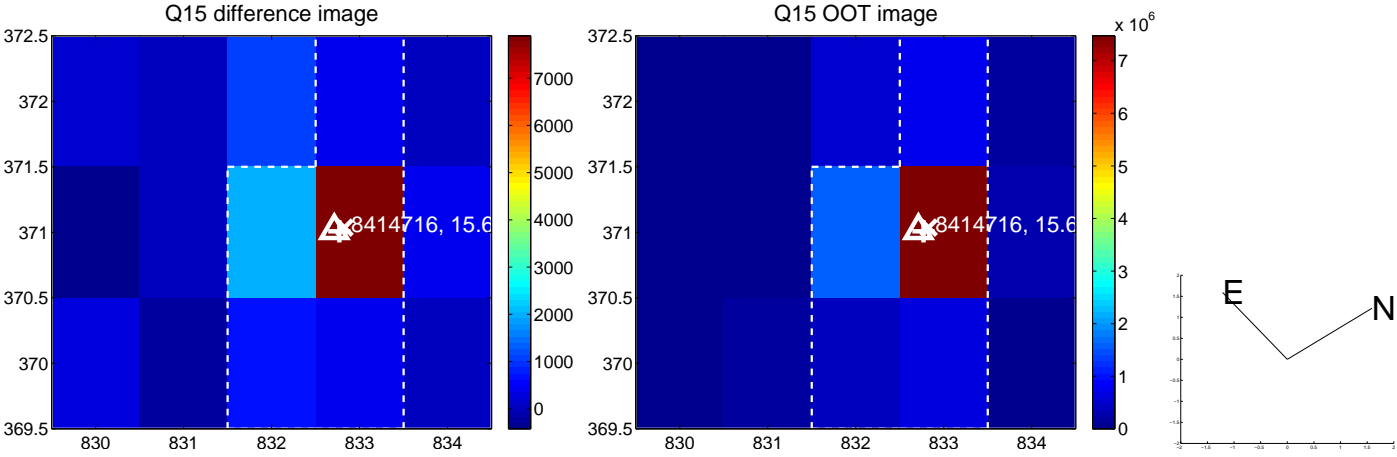
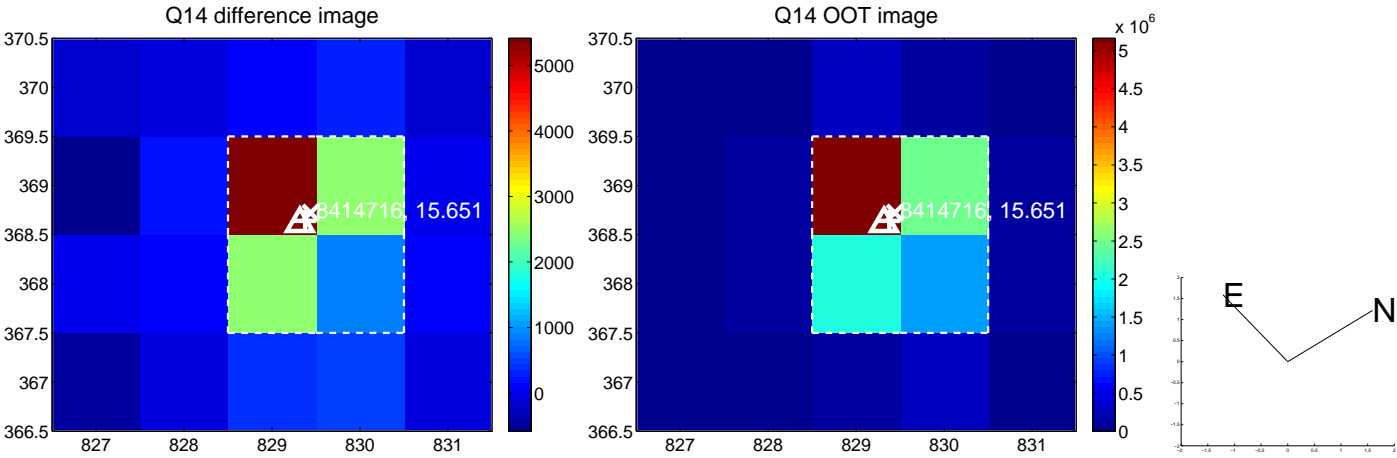
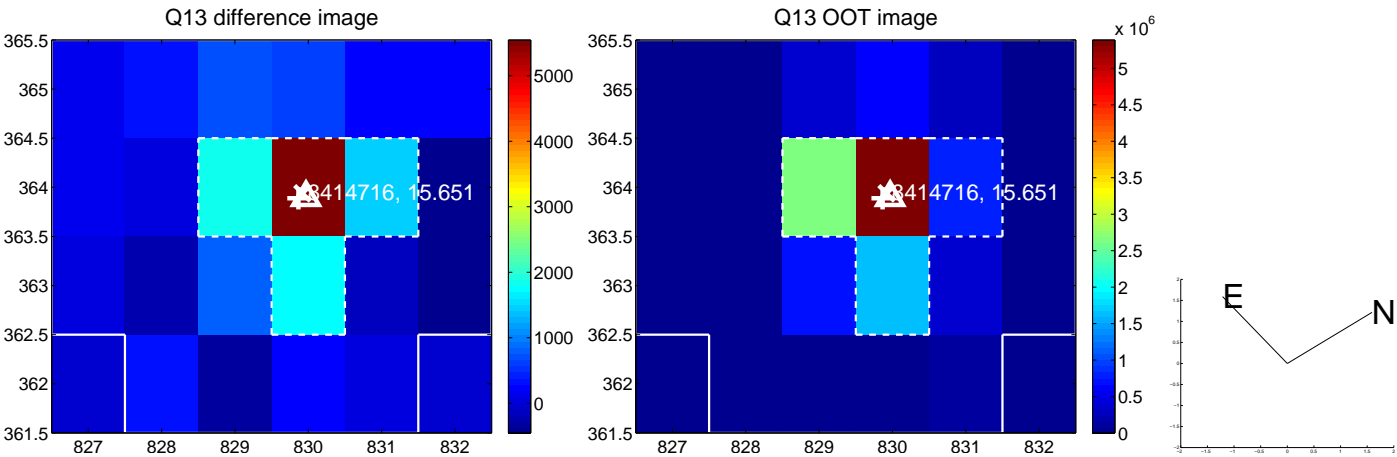
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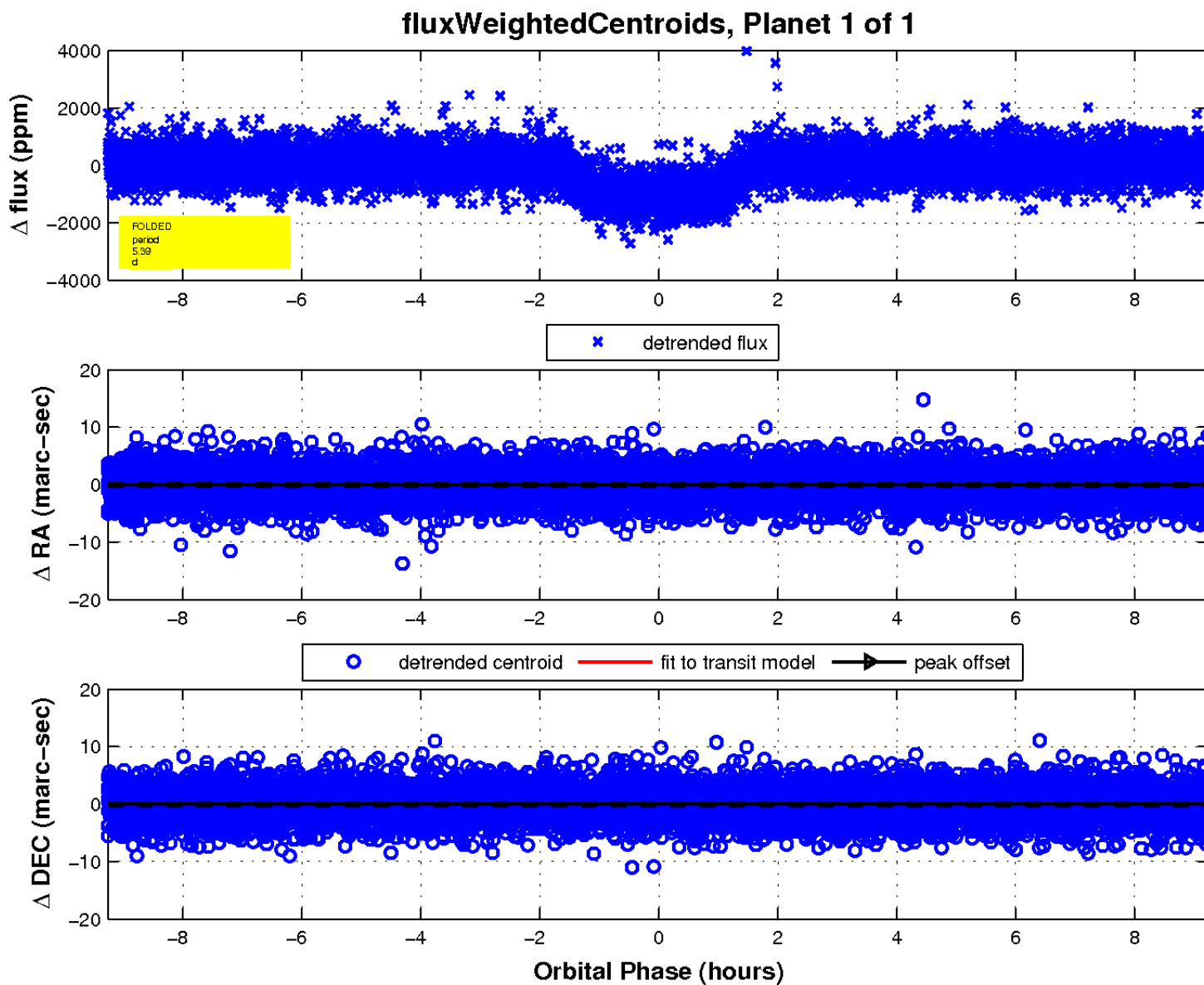
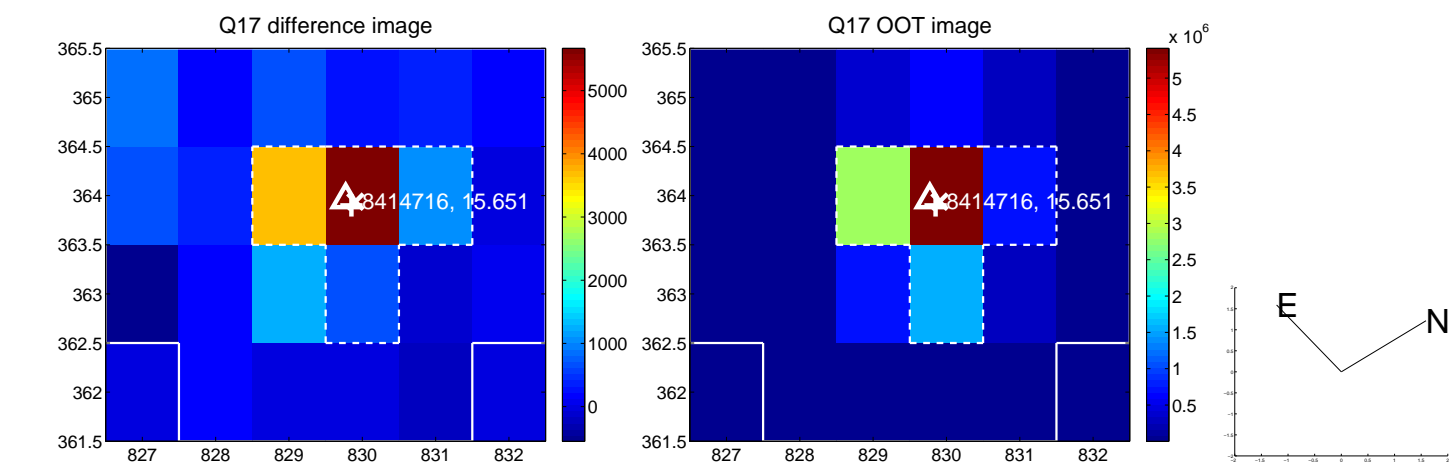
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UKIRT Image

Declination

