

KIC 008741470

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})
008741470-01	OBS	4251.01	6.239723	133.714881	139.4	0.660	9.8	11.7	1.14	5751	1.40	299.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008741470-01	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.

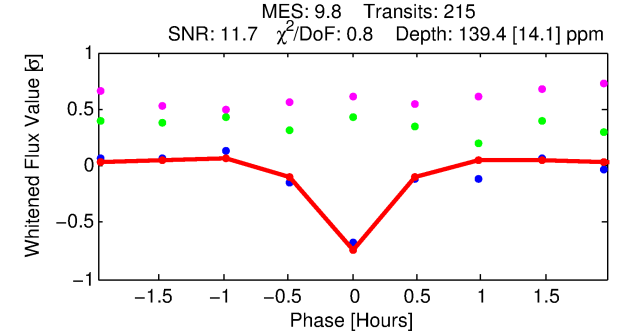
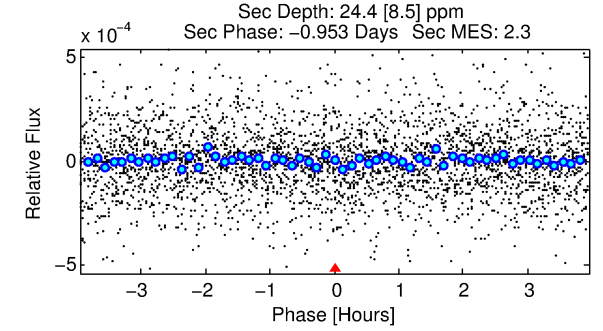
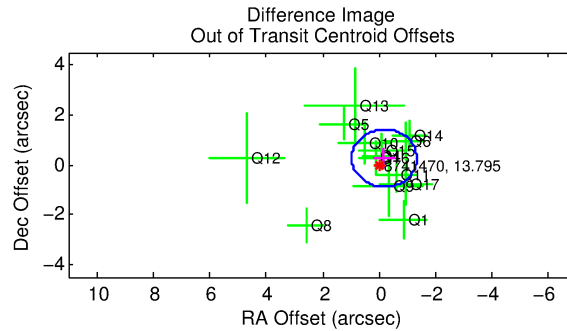
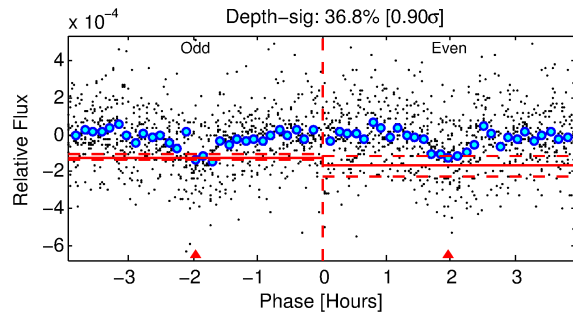
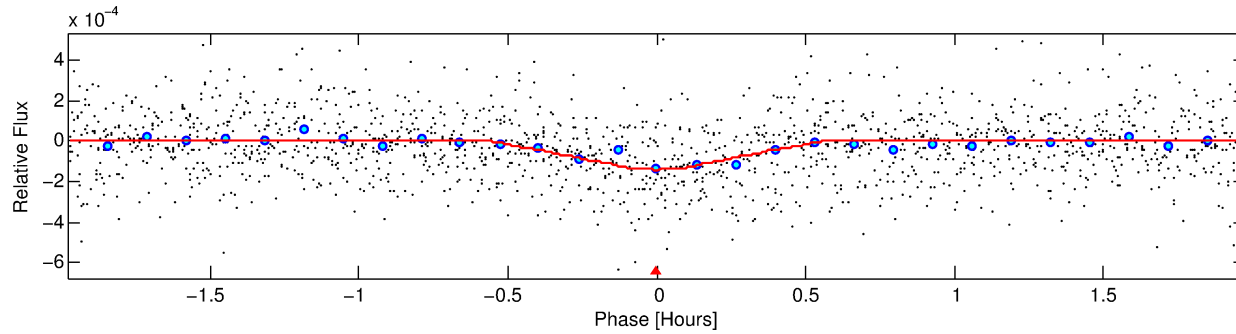
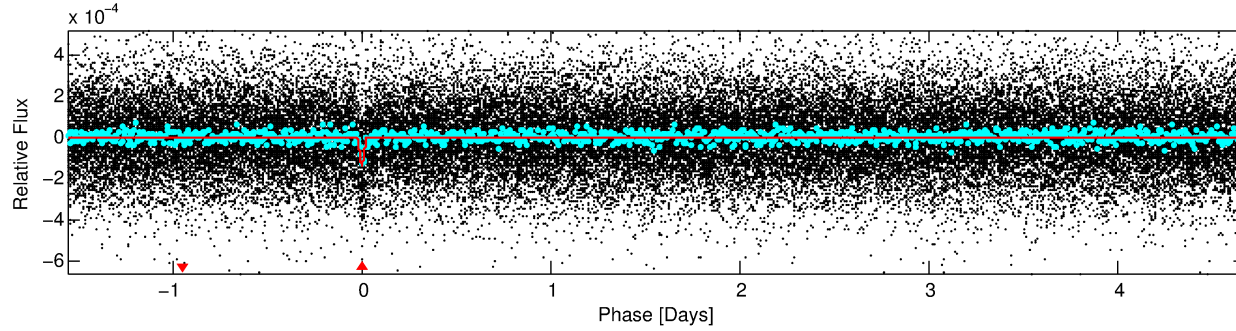
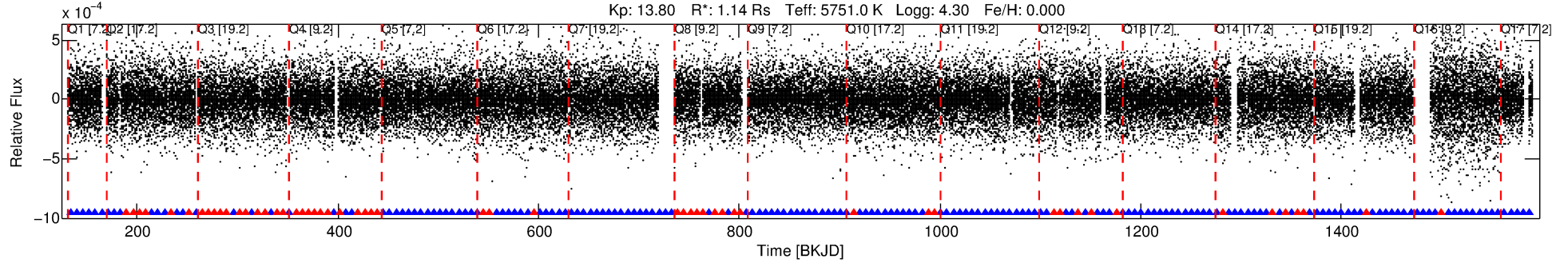
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008741470-01

No Significant Match Found

DV One-Page Summary

KIC: 8741470 Candidate: 1 of 1 Period: 6.240 d
KOI: K04251.01 Corr: 0.798



DV Fit Results:

Period = 6.23972 [0.00001] d
Epoch = 133.7149 [0.0014] BKJD
Rp/R* = 0.0112 [0.0089]
a/R* = 66.34 [230.44]
b = 0.42 [6.74]
Seff = 299.46 [103.64]
Teq = 1061 [92] K
Rp = 1.40 [1.17] Re
a = 0.0654 [0.0147] AU
Ag = 29.27 [48.32] [0.59 σ]
Teffp = 3815 [1546] K [1.78 σ]

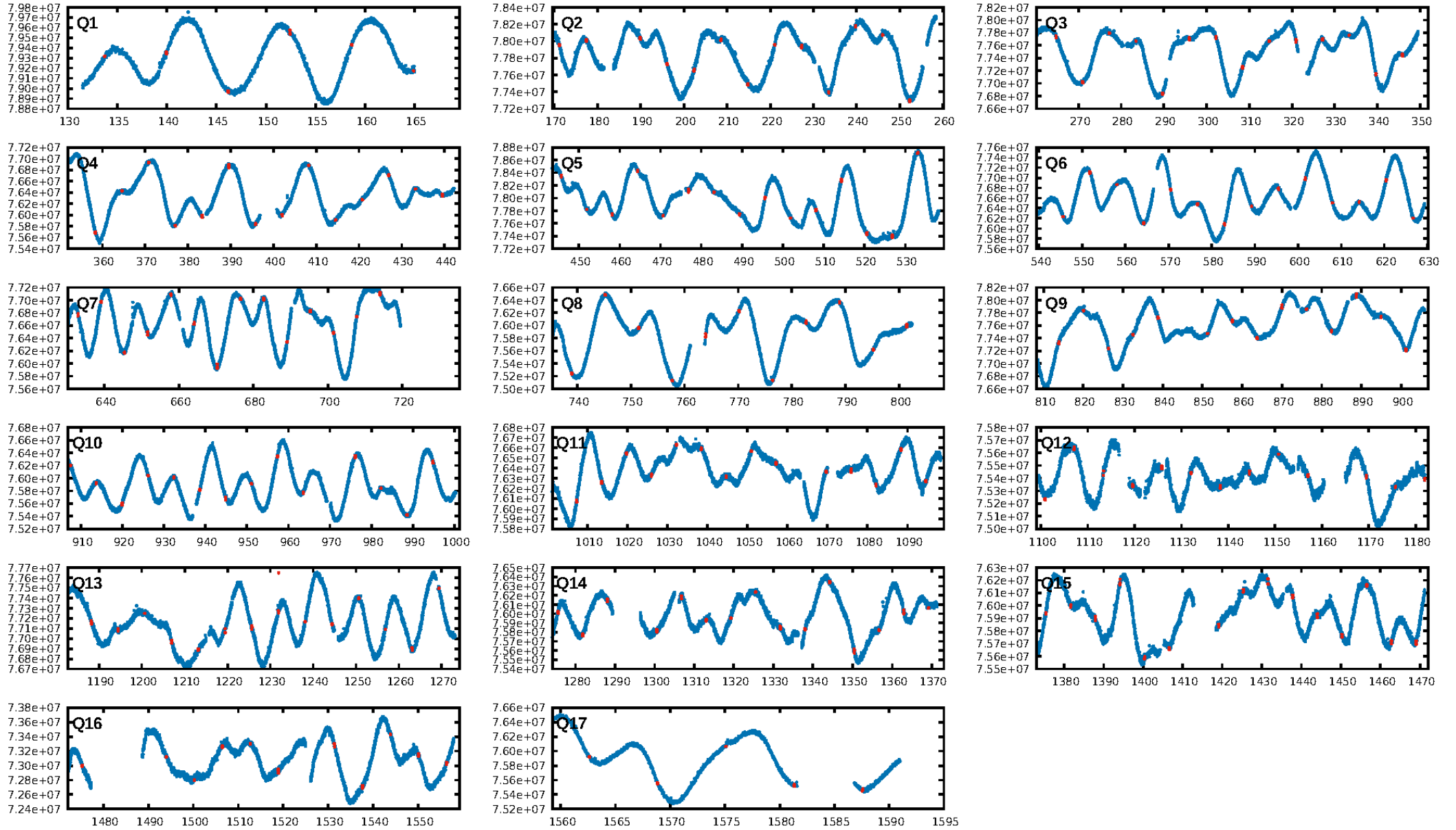
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.34e-21
RollingBand-fgt: 0.73 [149/204]
GhostDiagnostic-chr: 2.735
Centroid-sig: 1.1%
Centroid-so: 1.418 arcsec [1.57 σ]
OotOffset-rm: 0.310 arcsec [0.81 σ]
KicOffset-rm: 0.288 arcsec [0.78 σ]
OotOffset-st: 3/2/4/5 [14]
KicOffset-st: 3/2/4/5 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

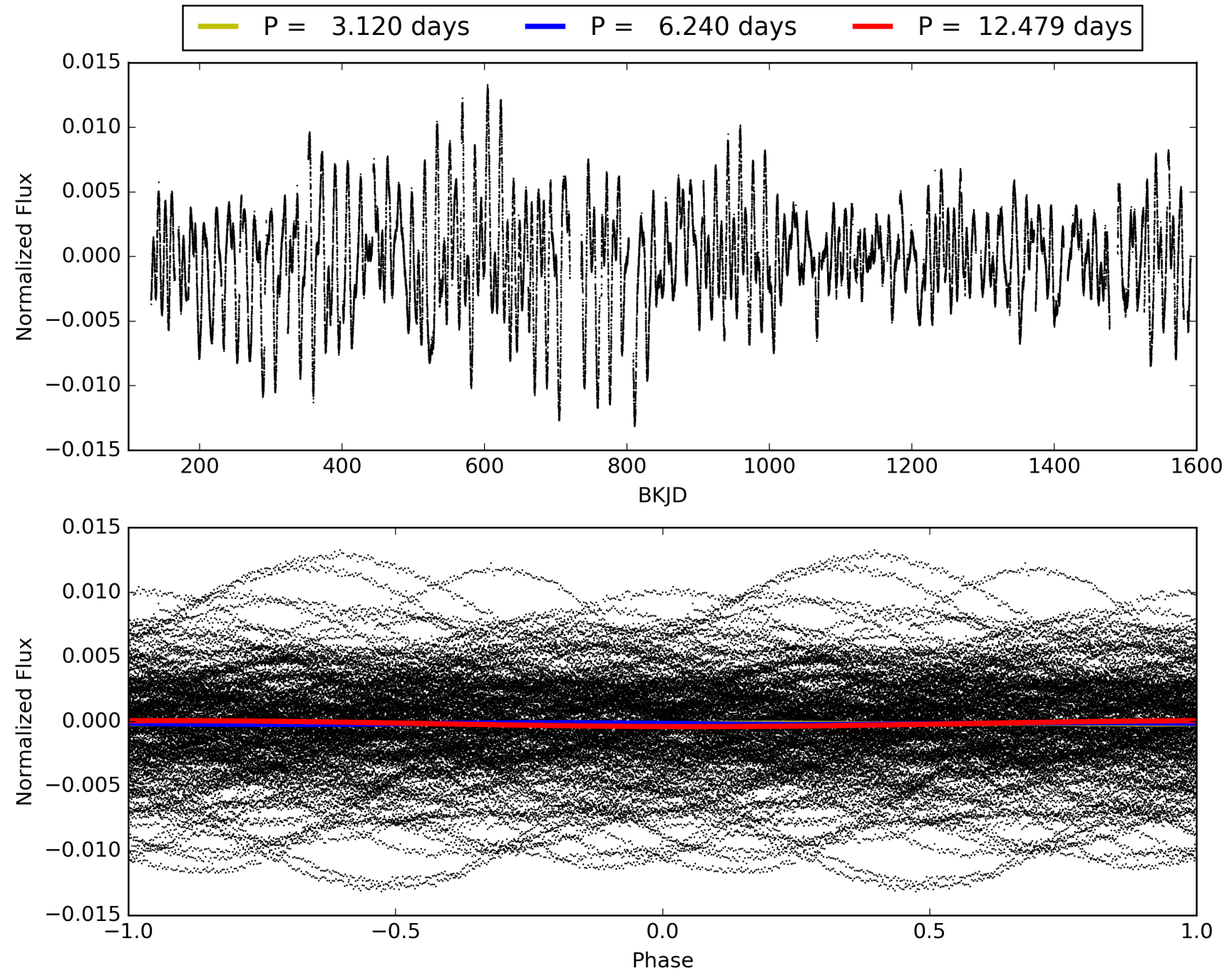
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:09:30 Z

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

TCE 008741470-01, PDC Light Curves

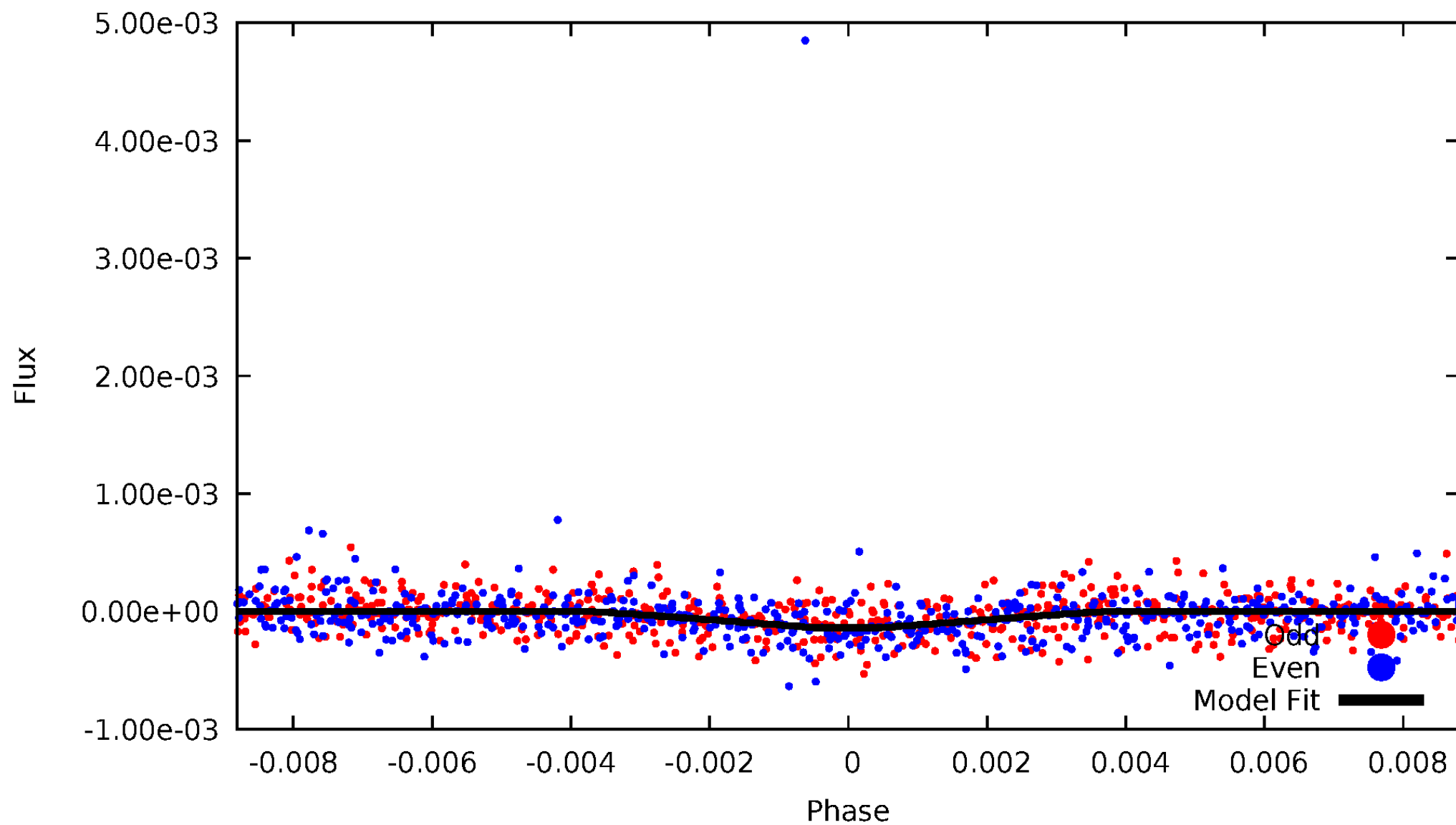


TCE 008741470-01



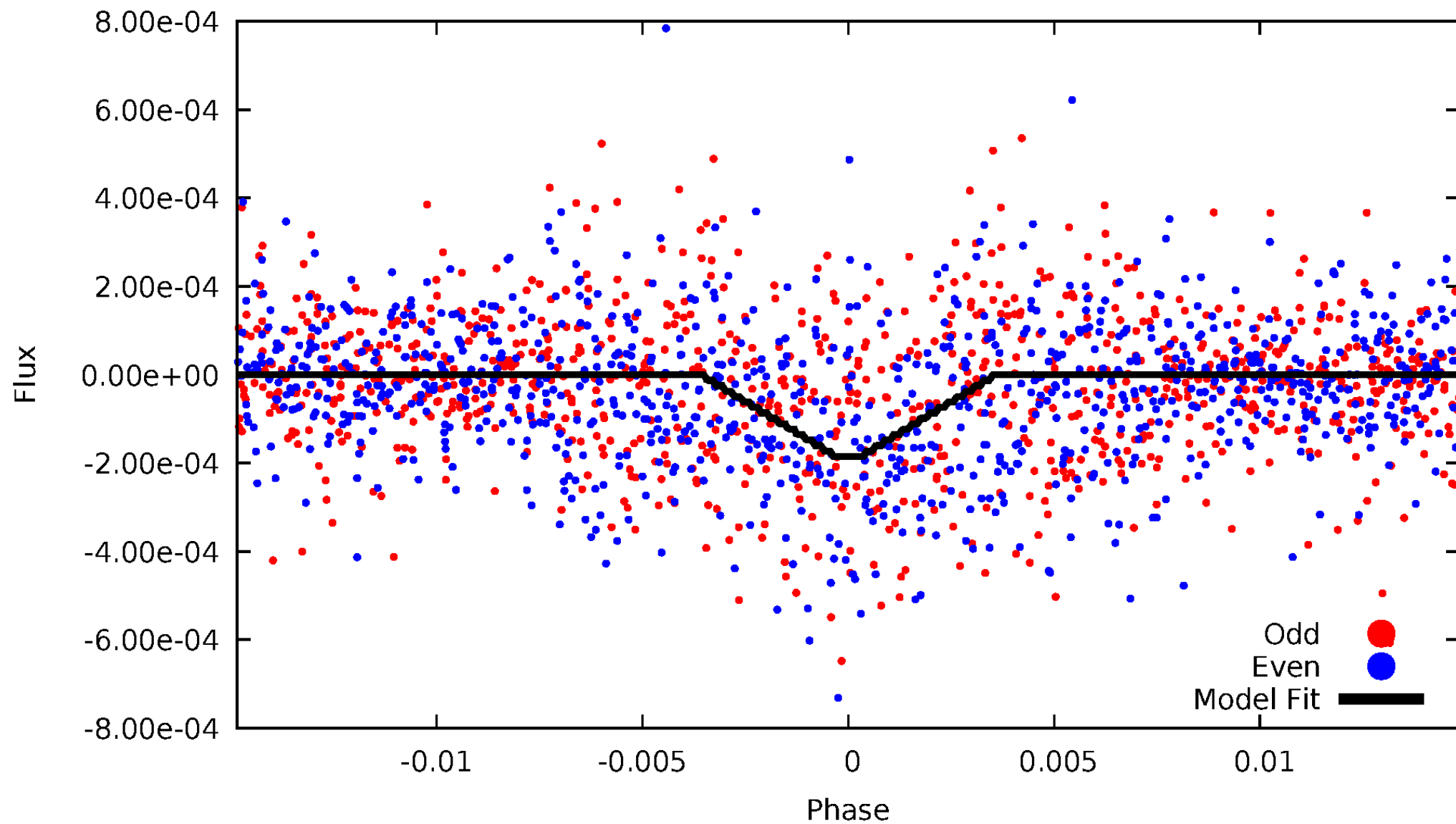
DV Odd/Even

TCE 008741470-01



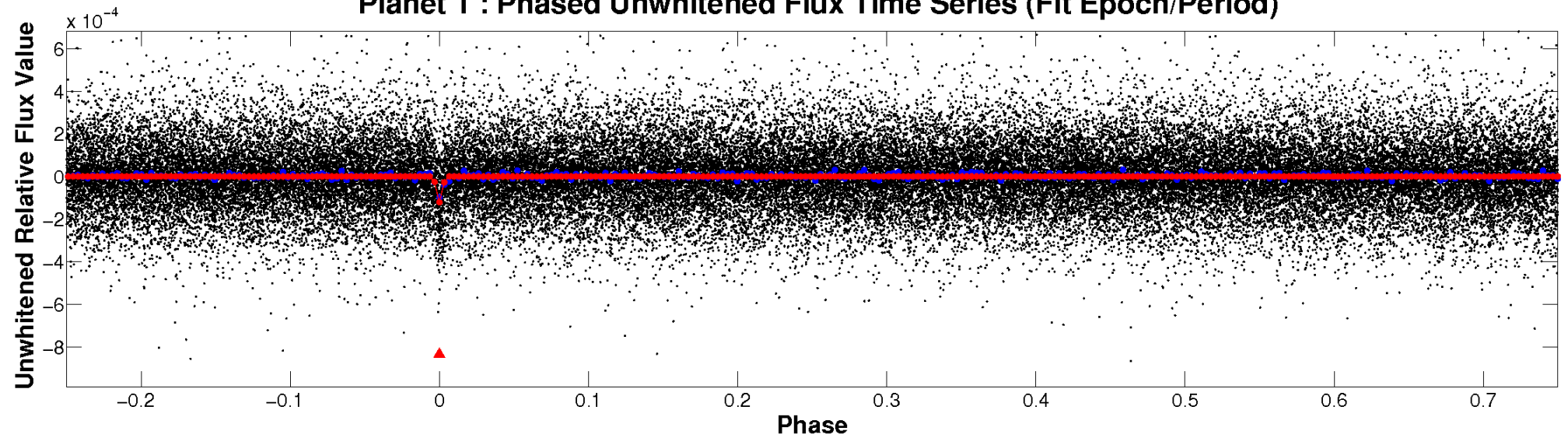
ALT Odd/Even

TCE 008741470-01

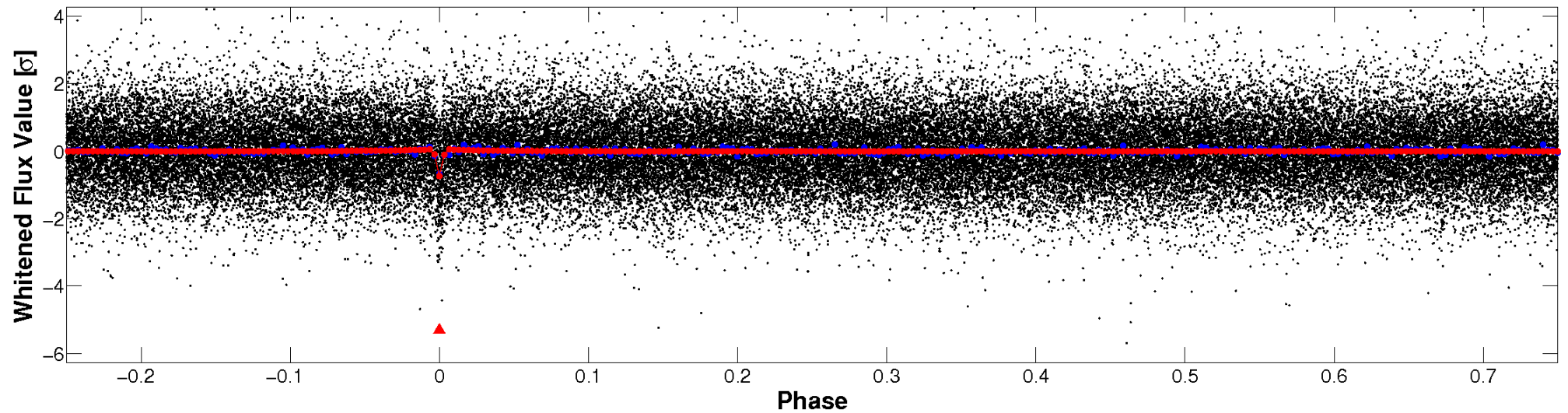


Non-Whitened Vs. Whitened Light Curve

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

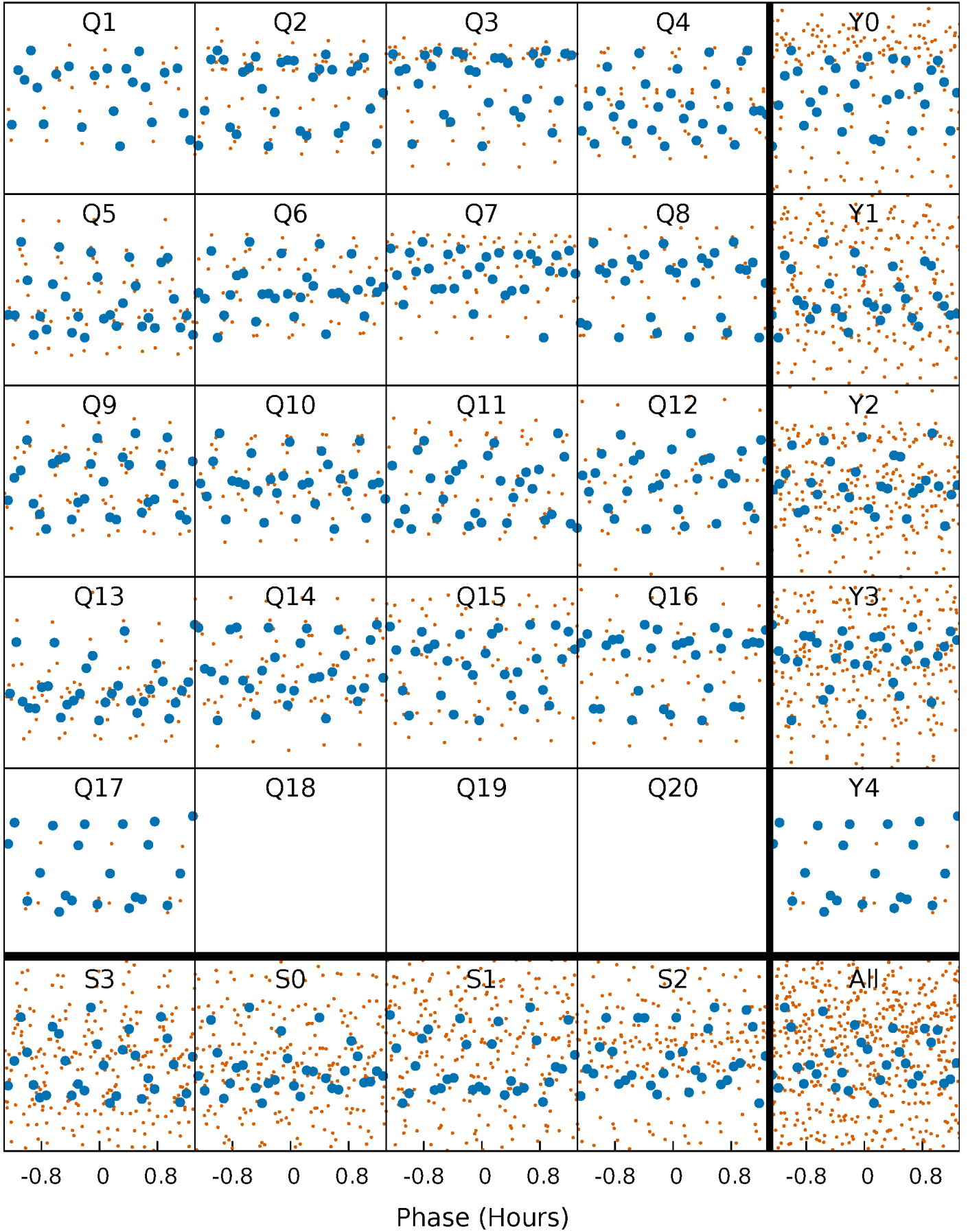


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



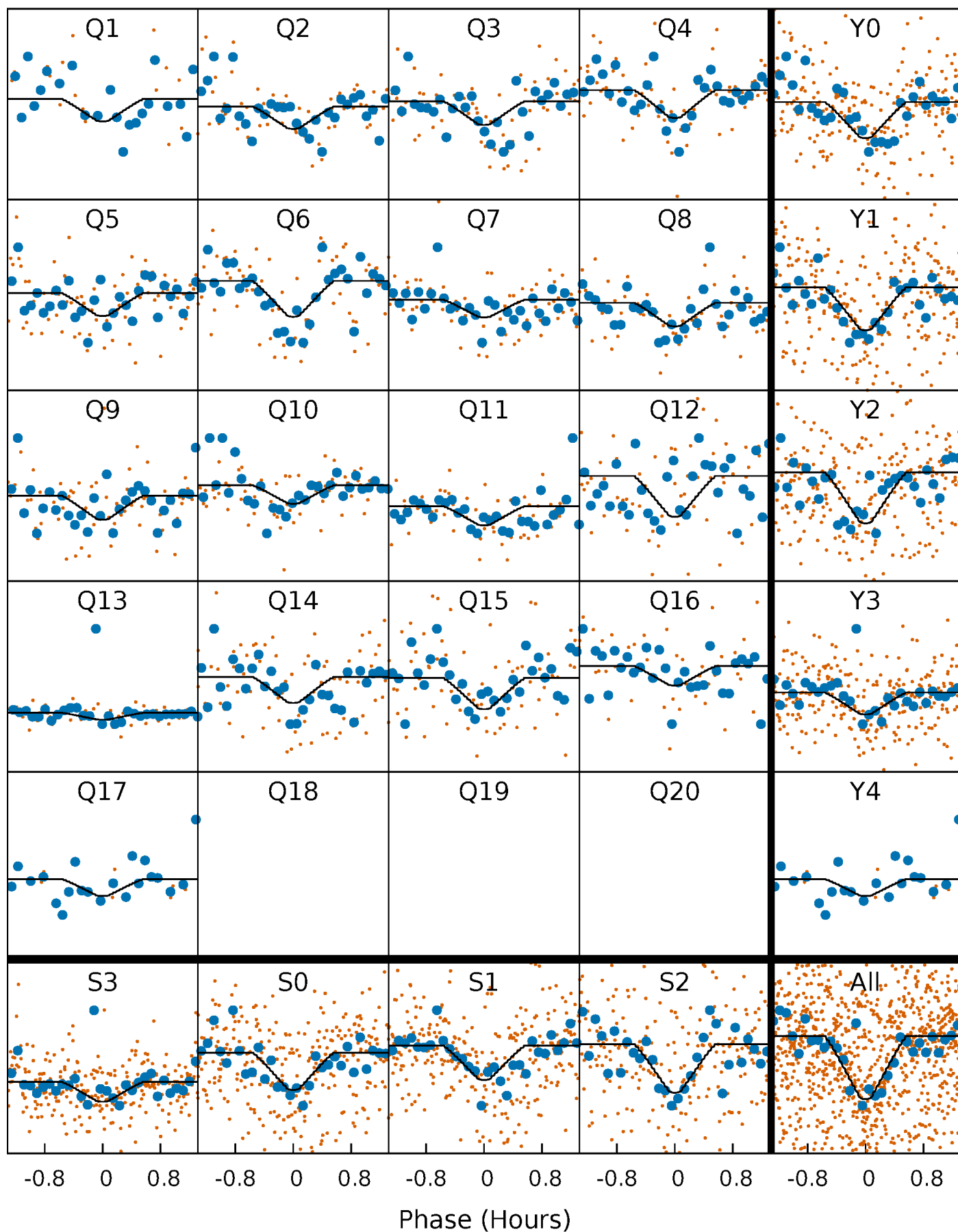
PDC Quarter-Phased Transit Curves

TCE 008741470-01 P= 6.239723 Days $T_0=133.714881$ (BKJD)



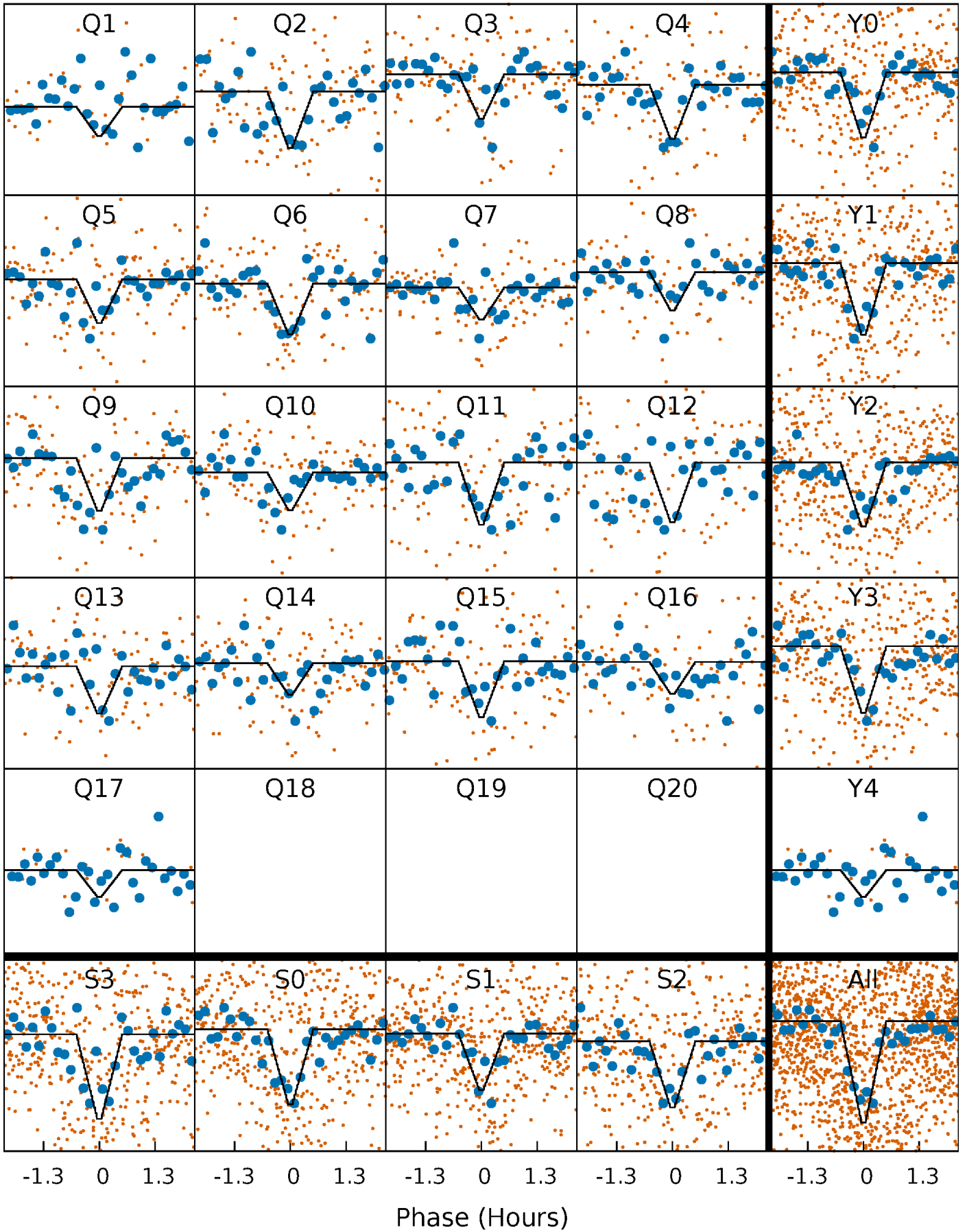
DV Quarter-Phased Transit Curves

TCE 008741470-01 P= 6.239723 Days $T_0=133.714881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

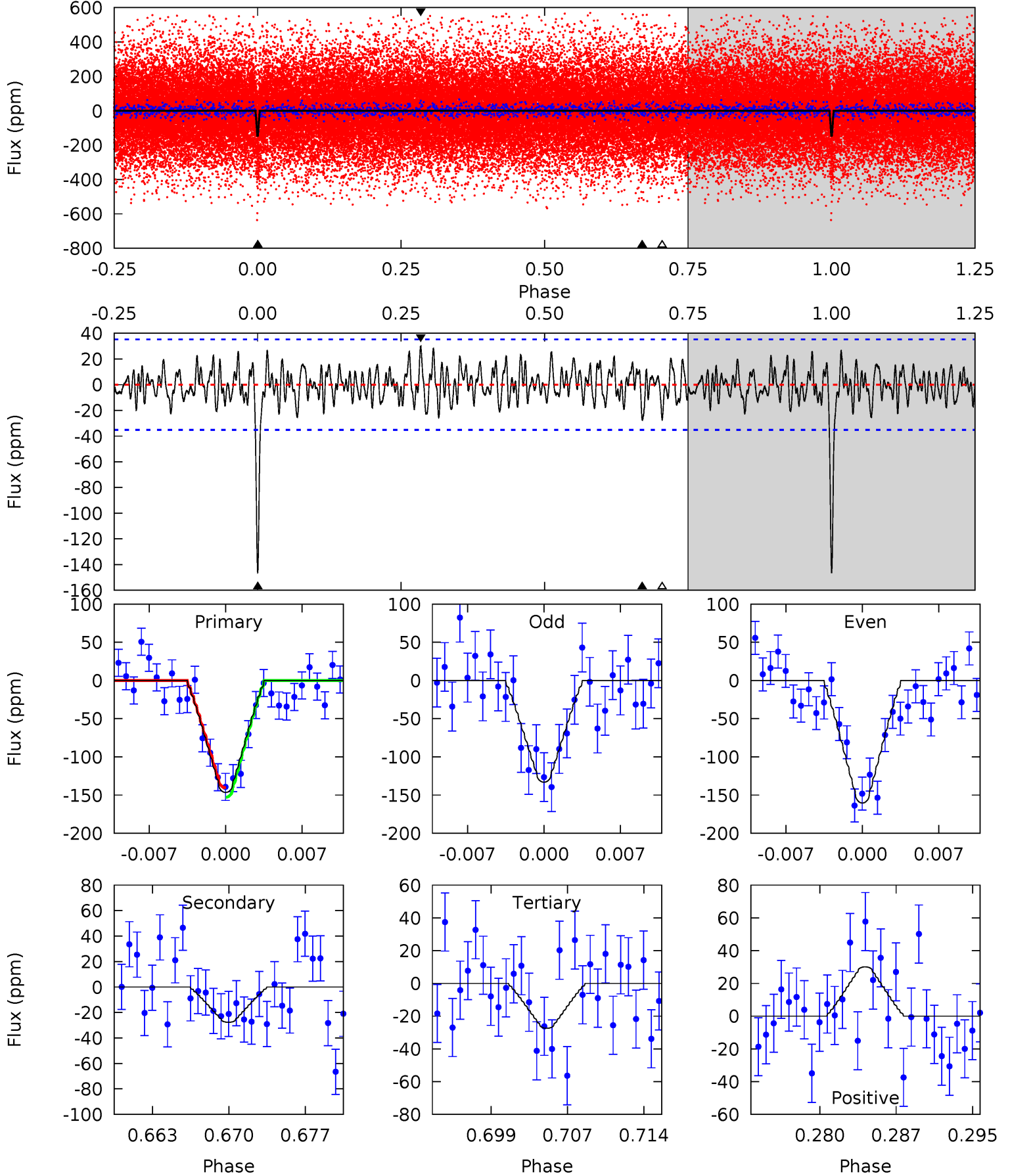
TCE 008741470-01 P= 6.239702 Days $T_0=133.718184$ (BKJD)



DV Model-Shift Uniqueness Test

008741470-01, P = 6.239723 Days, E = 127.475158 Days

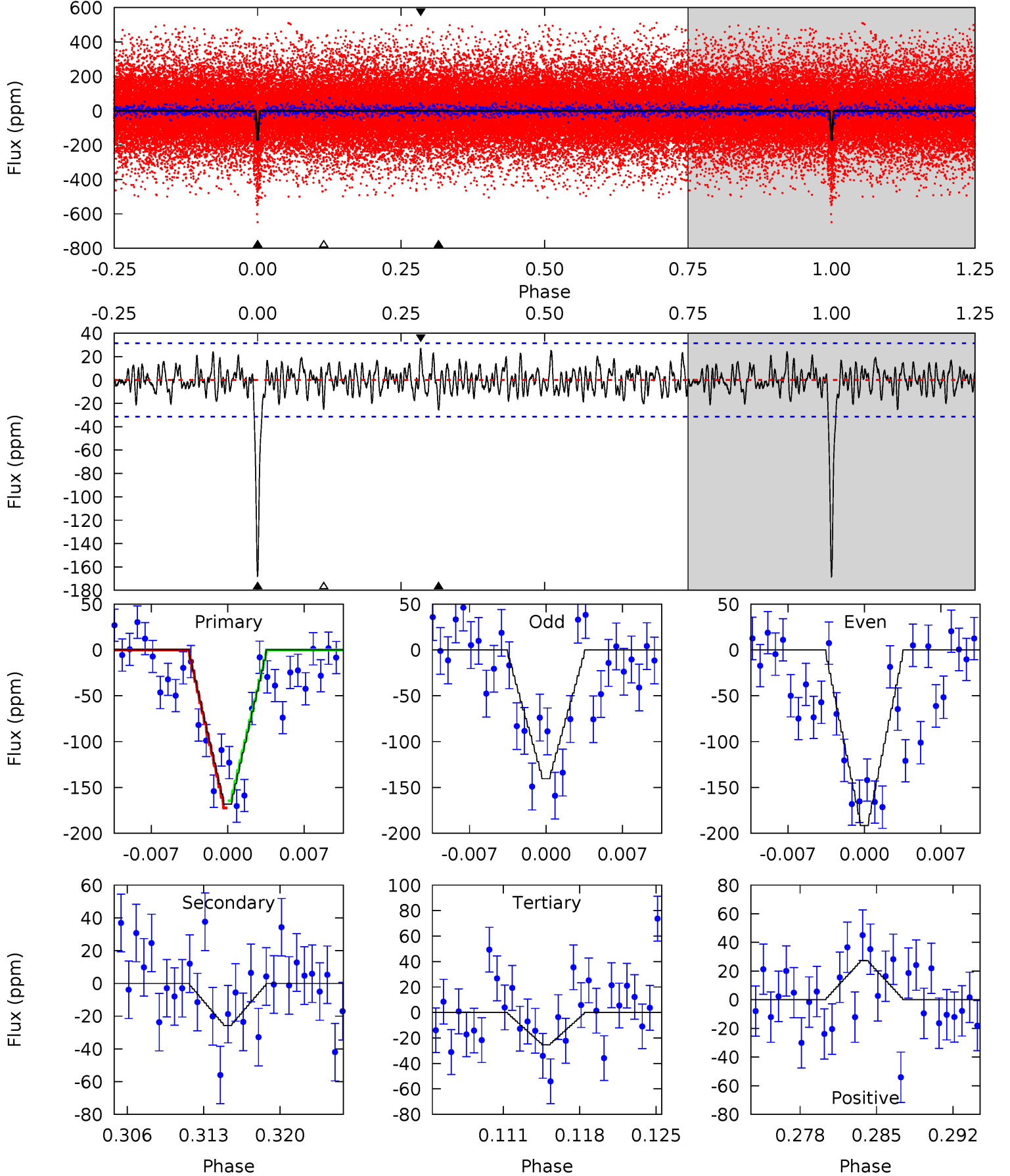
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	4.00	3.96	4.35	5.08	2.68	1.49	17.2	16.8	0.04	-0.34	1.97	0.81	0.17	0.91



Alt Model-Shift Uniqueness Test

008741470-01, P = 6.239702 Days, E = 127.478482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.3	4.16	4.11	4.40	5.10	2.70	1.42	23.2	22.9	0.05	-0.24	4.15	1.03	0.14	0.65



Stellar Parameters For KIC 008741470

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5751^{+156}_{-156}	$4.303^{+0.180}_{-0.180}$	$0.000^{+0.250}_{-0.300}$	$1.143^{+0.305}_{-0.222}$	$0.956^{+0.125}_{-0.091}$	$0.902^{+0.806}_{-0.423}$
	+3%/-3%	+4%/-4%	+inf%/-inf%	+27%/-19%	+13%/-10%	+89%/-47%
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 008741470-01 / KOI 4251.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-28 ± 7	$1.63^{+0.93}_{-1.00}$	1482^{+104}_{-96}	3997^{+1828}_{-619}	25^{+154}_{-15}
Alt.	-26 ± 6	$1.74^{+1.18}_{-0.92}$	1490^{+107}_{-97}	3819^{+1238}_{-577}	20^{+66}_{-13}

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

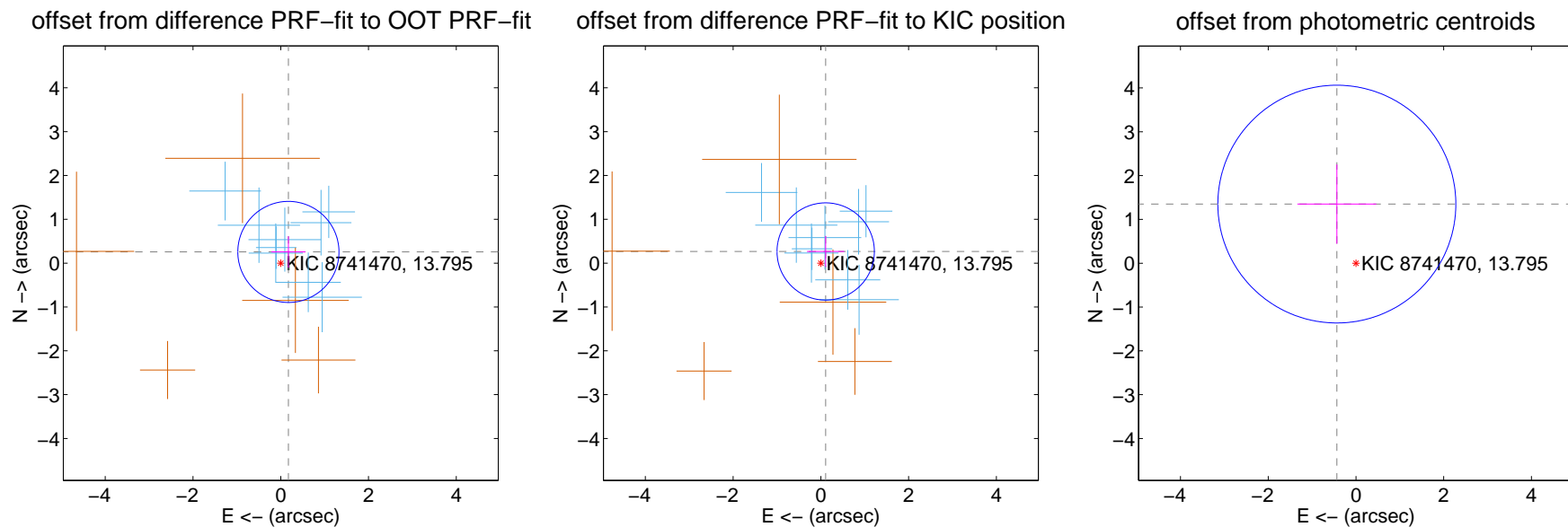
DV Centroid Data

Supplemental centroid analysis for 008741470-01. Kepler magnitude: 13.79. Transit SNR 11.65

There are 9 quarters with good PRF difference image offsets

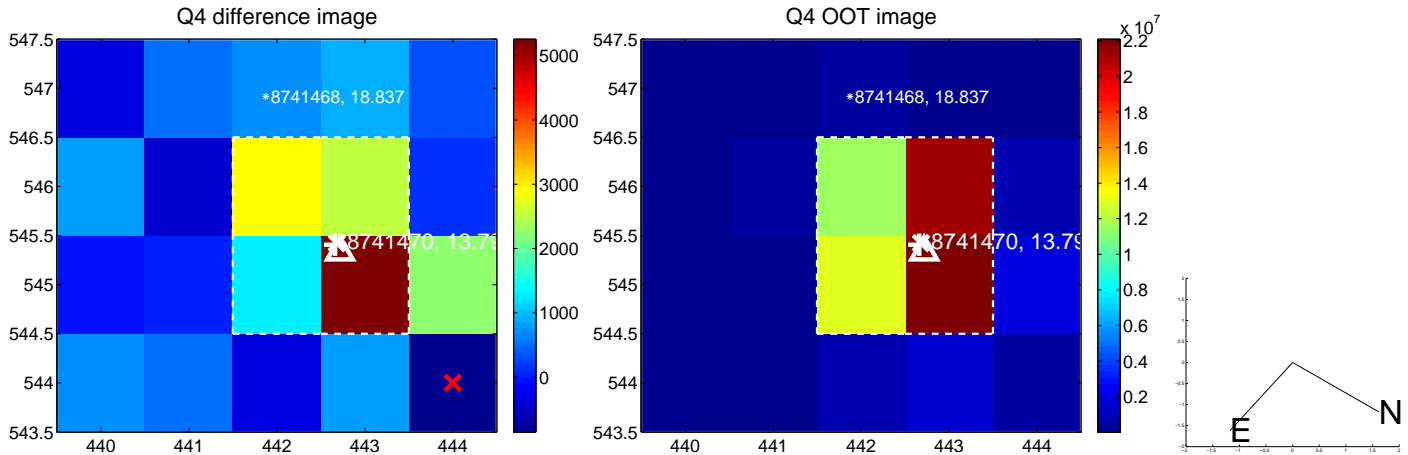
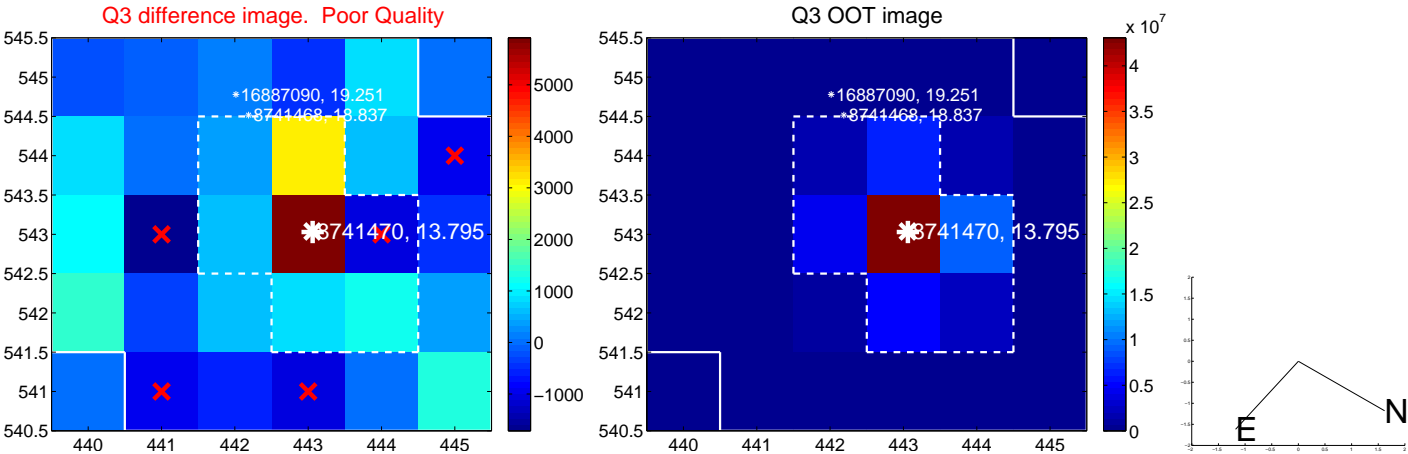
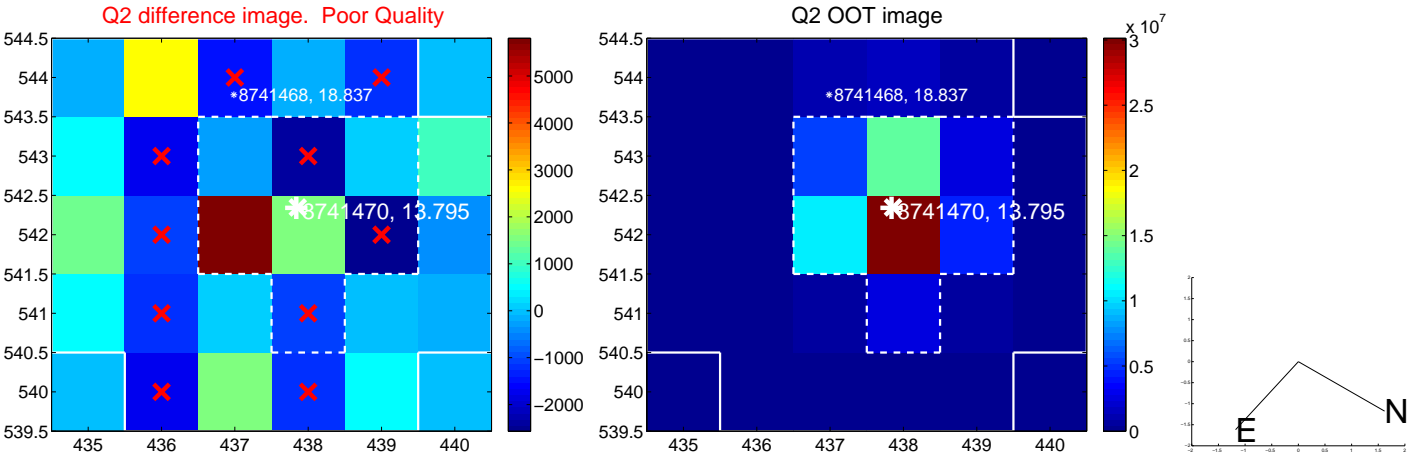
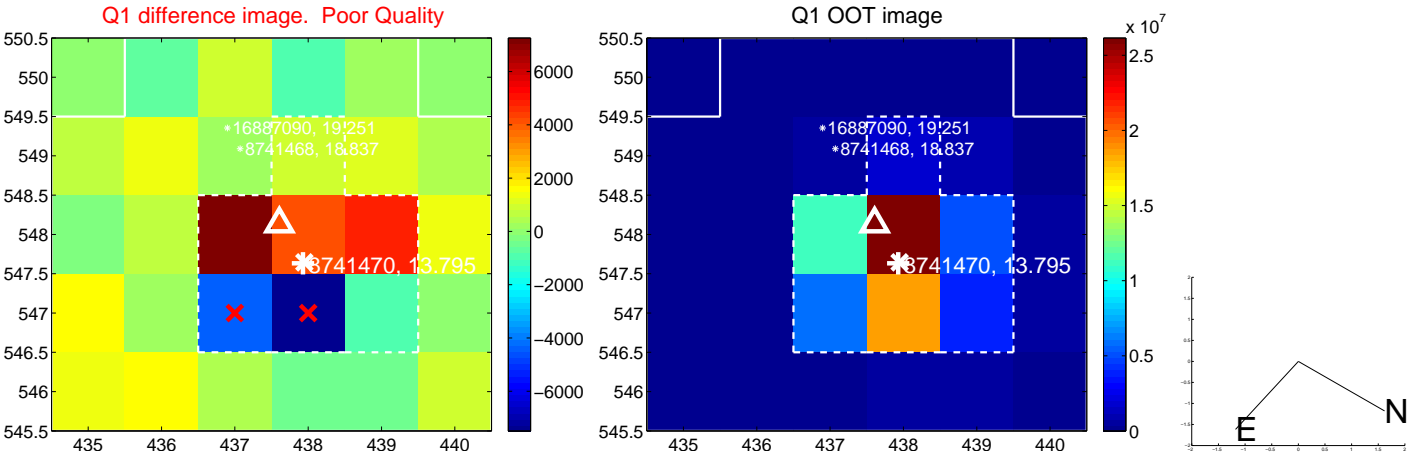
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.310 ± 0.384	0.81	-0.174 ± 0.387	0.256 ± 0.357
PRF-fit source offset from KIC position	0.288 ± 0.370	0.78	-0.110 ± 0.425	0.266 ± 0.354
photometric centroid source offset	1.42 ± 0.90	1.57	0.44 ± 0.90	1.35 ± 0.90

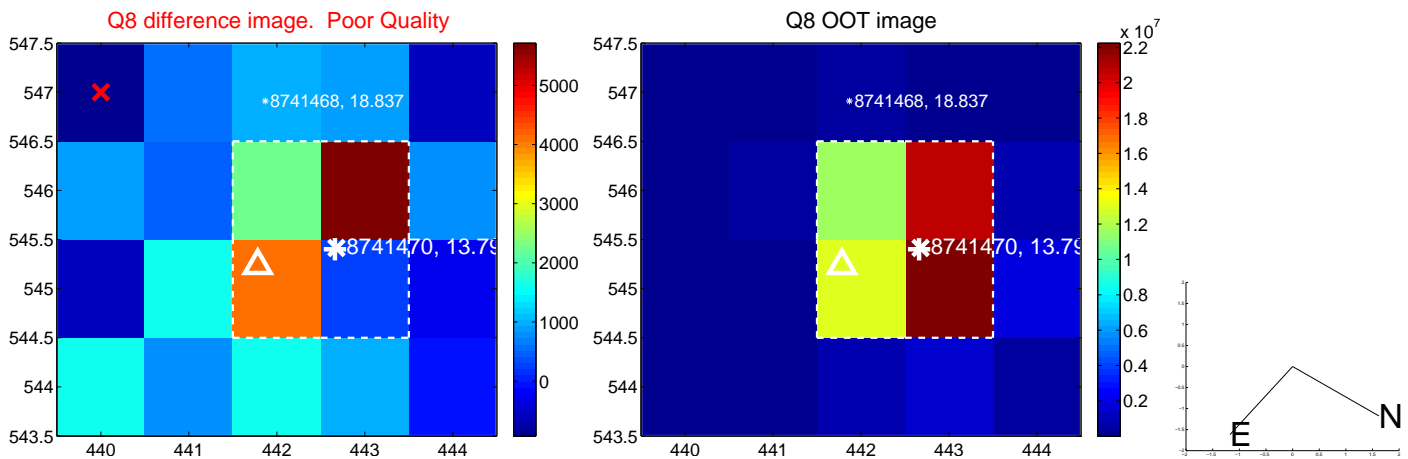
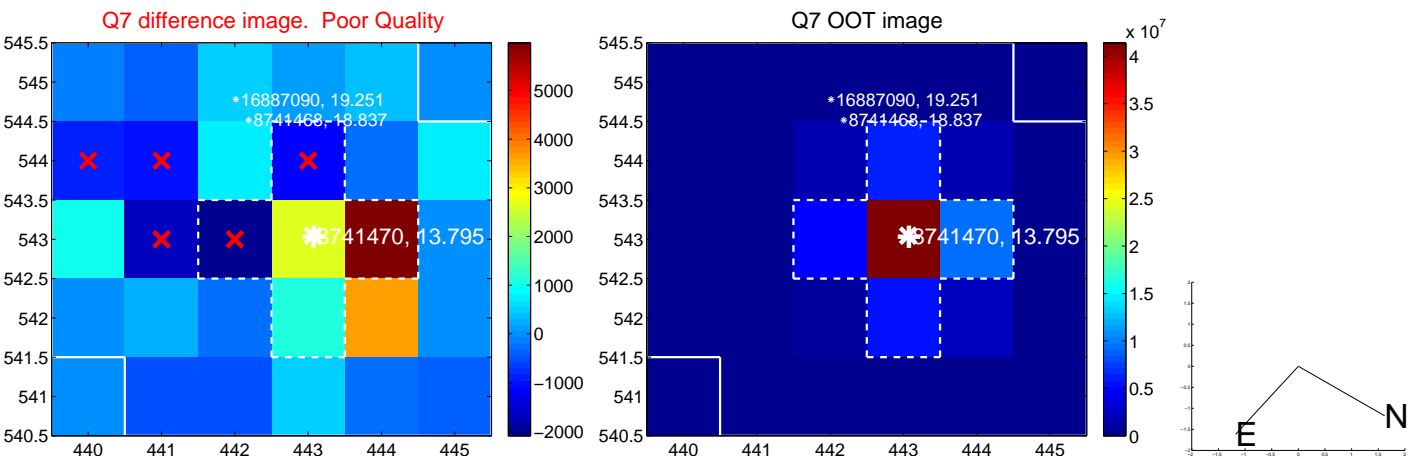
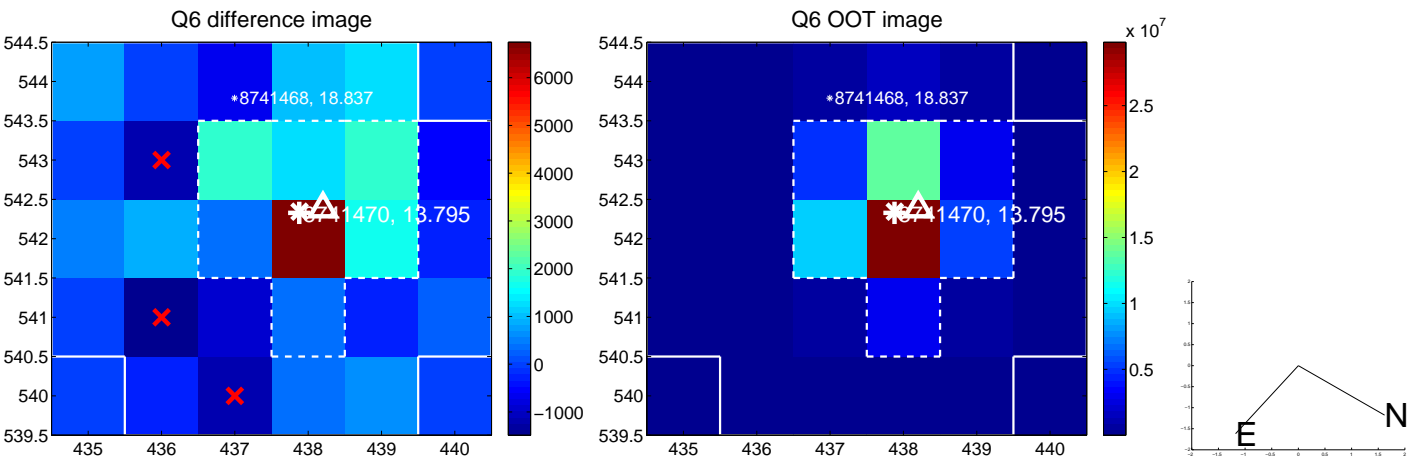
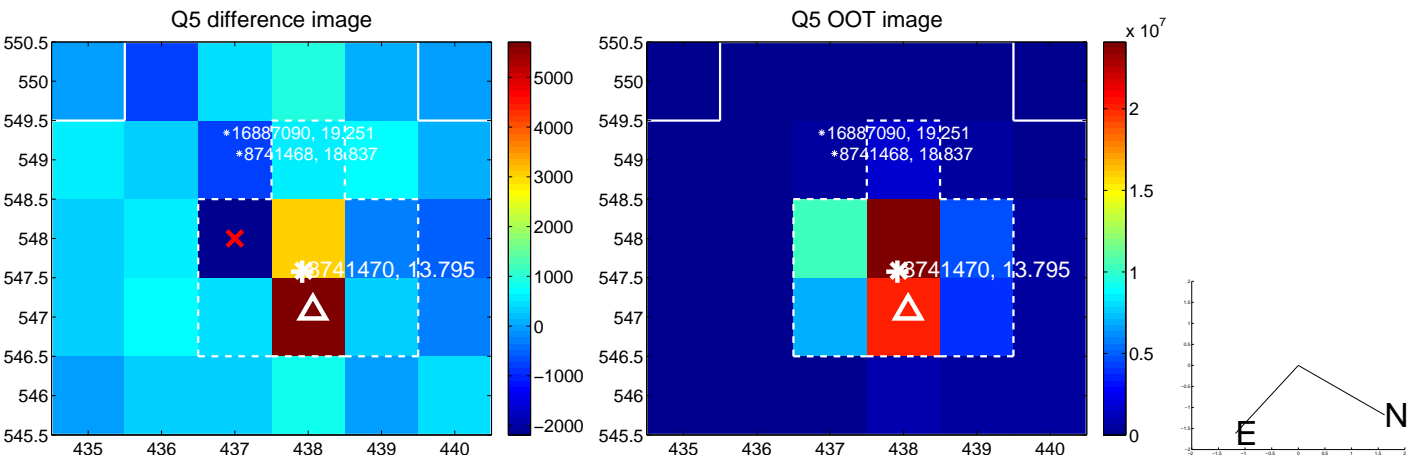


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

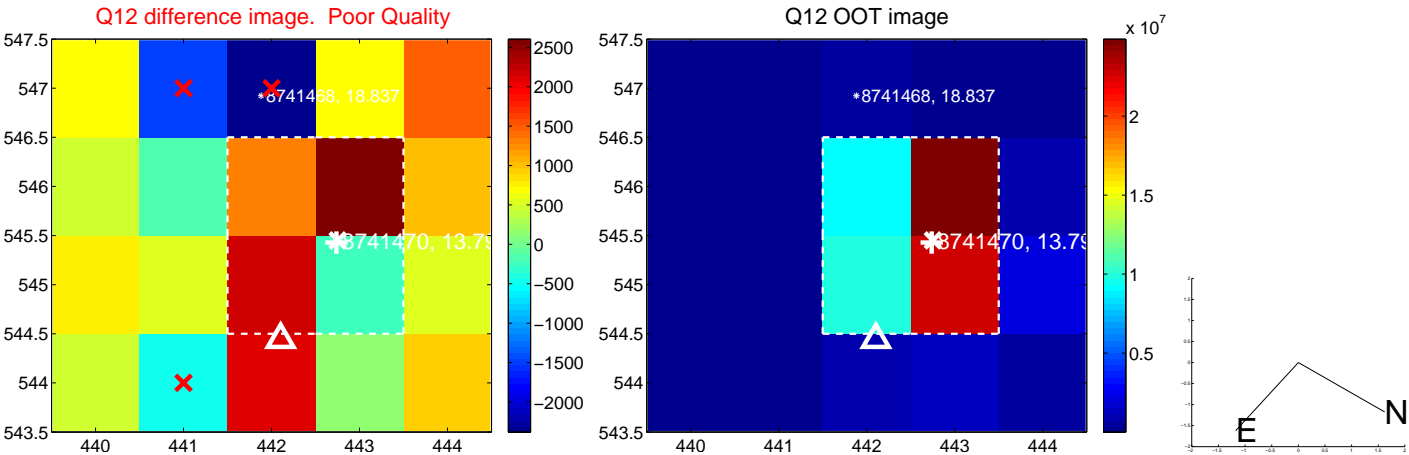
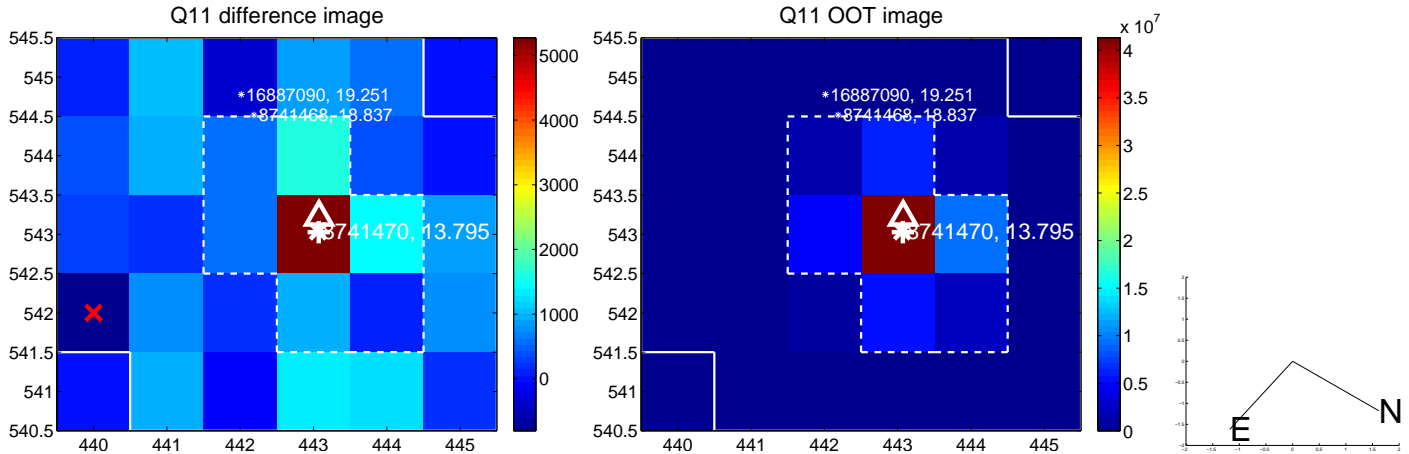
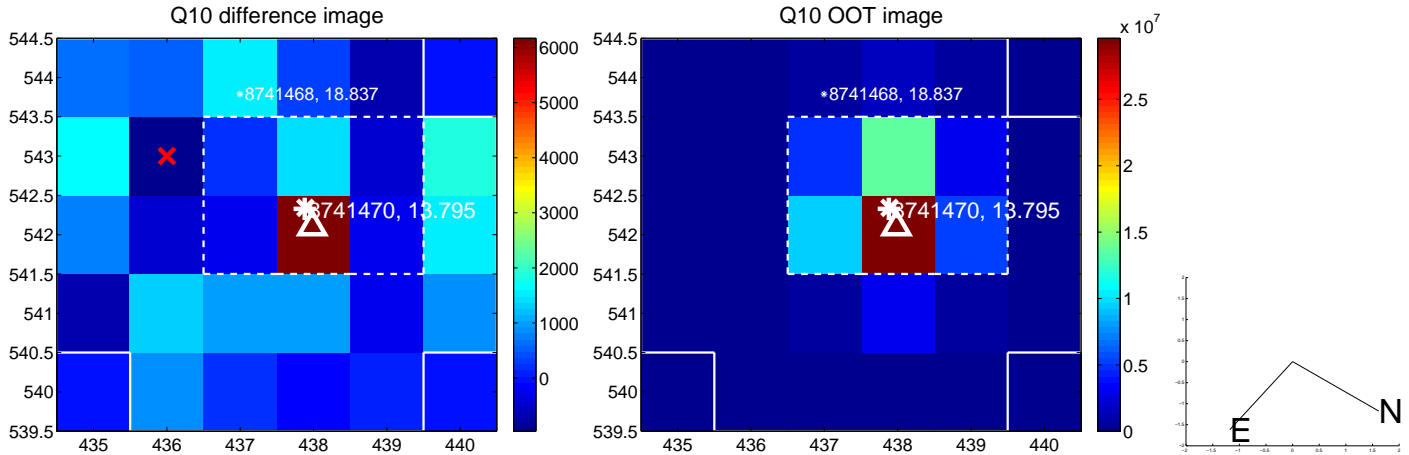
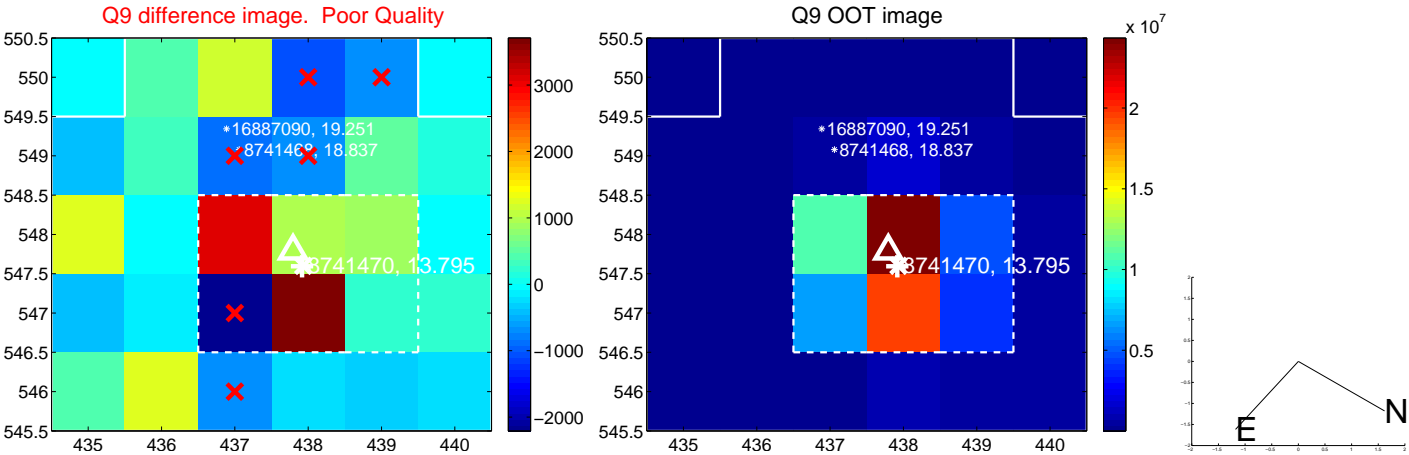
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

