

KIC 008233504

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})
008233504-01	OBS	No	3.868216	134.540308	81.5	2.671	14.1	13.8	1.59	6344	1.68	1324.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008233504-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

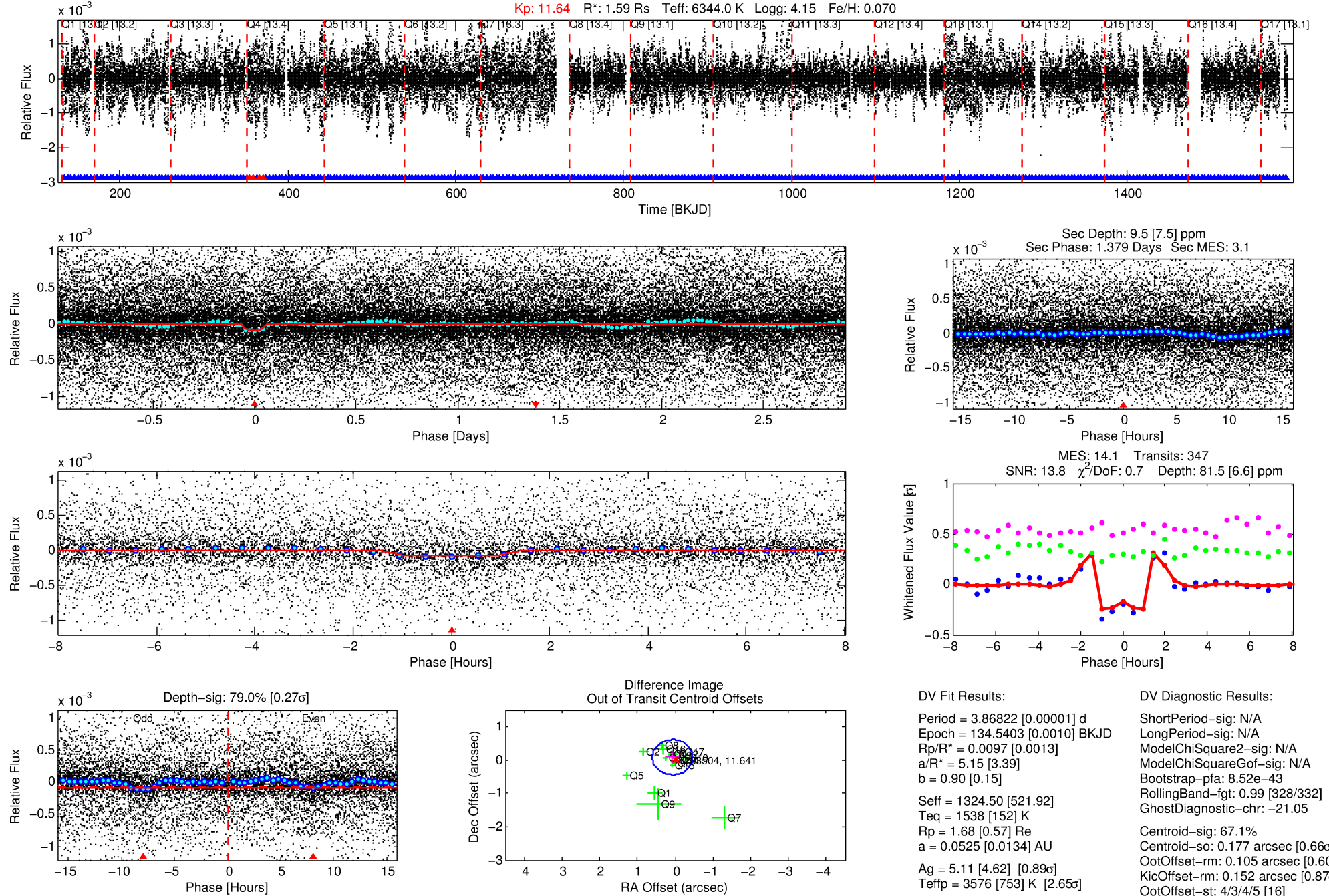
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008233504-01

No Significant Match Found

DV One-Page Summary

KIC: 8233504 Candidate: 1 of 1 Period: 3.868 d



DV Fit Results:

Period = 3.86822 [0.00001] d
Epoch = 134.5403 [0.0010] BKJD
Rp/R* = 0.0097 [0.0013]
a/R* = 5.15 [3.39]
b = 0.90 [0.15]
Seff = 1324.50 [521.92]
Teq = 1538 [152] K
Rp = 1.68 [0.57] Re
a = 0.0525 [0.0134] AU
Ag = 5.11 [4.62] [0.89σ]
Teffp = 3576 [753] K [2.65σ]

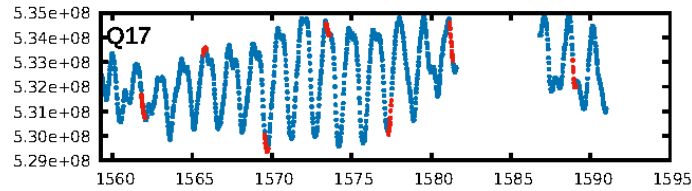
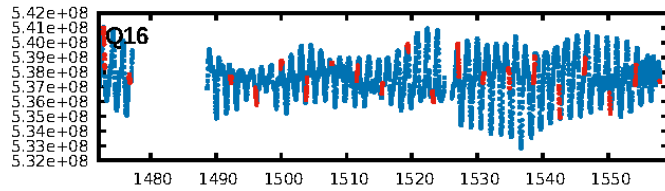
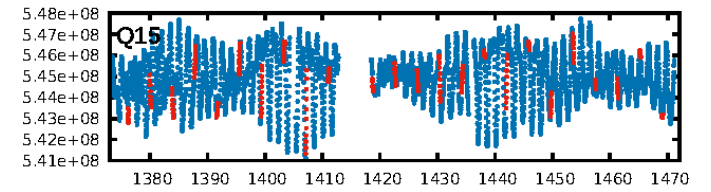
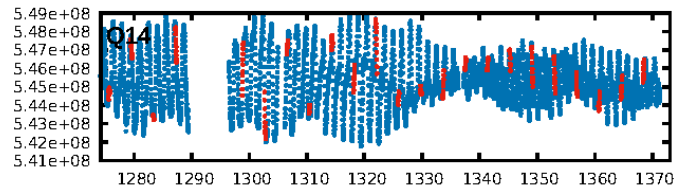
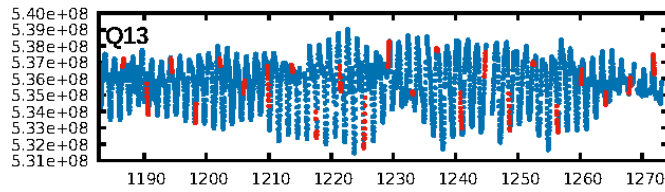
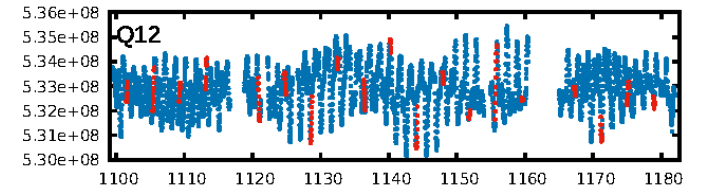
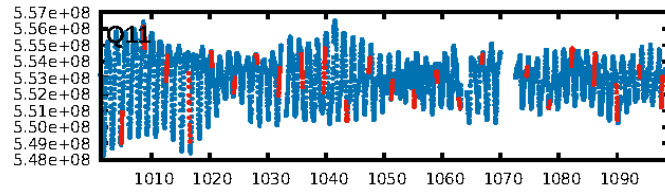
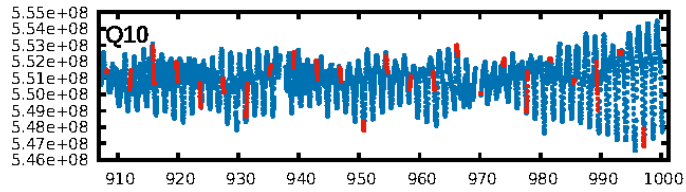
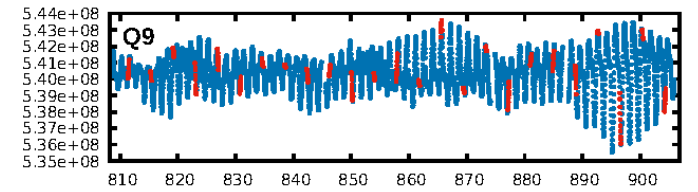
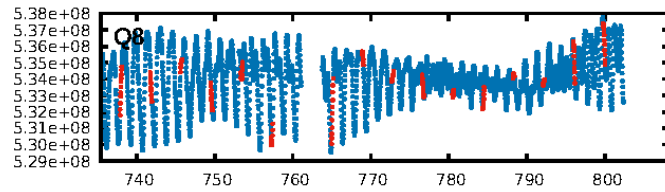
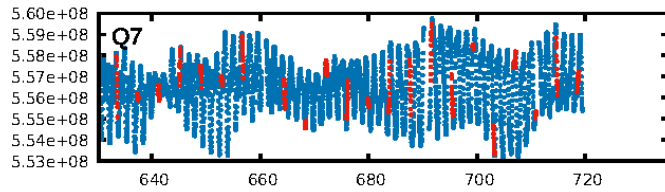
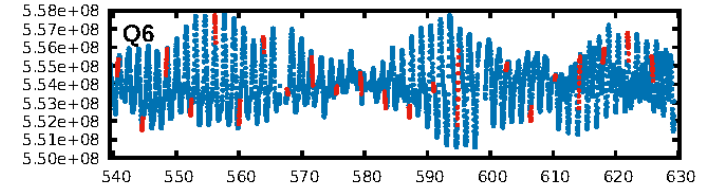
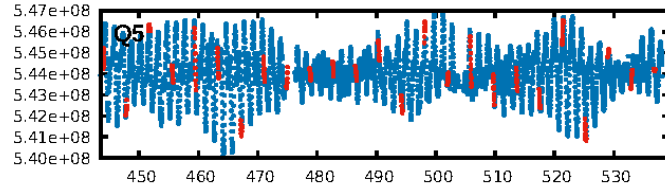
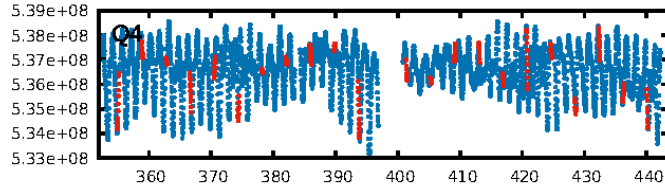
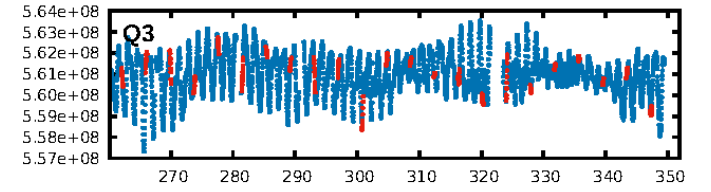
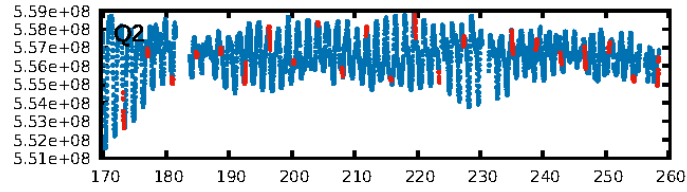
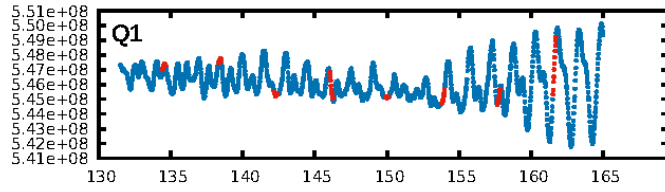
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.52e-43
RollingBand-fgt: 0.99 [328/332]
GhostDiagnostic-chr: -21.05
Centroid-sig: 67.1%
Centroid-so: 0.177 arcsec [0.66σ]
OotOffset-rm: 0.105 arcsec [0.60σ]
KicOffset-rm: 0.152 arcsec [0.87σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.62 [10/16]
DiffImageOverlap-fno: 1.00 [17/17]

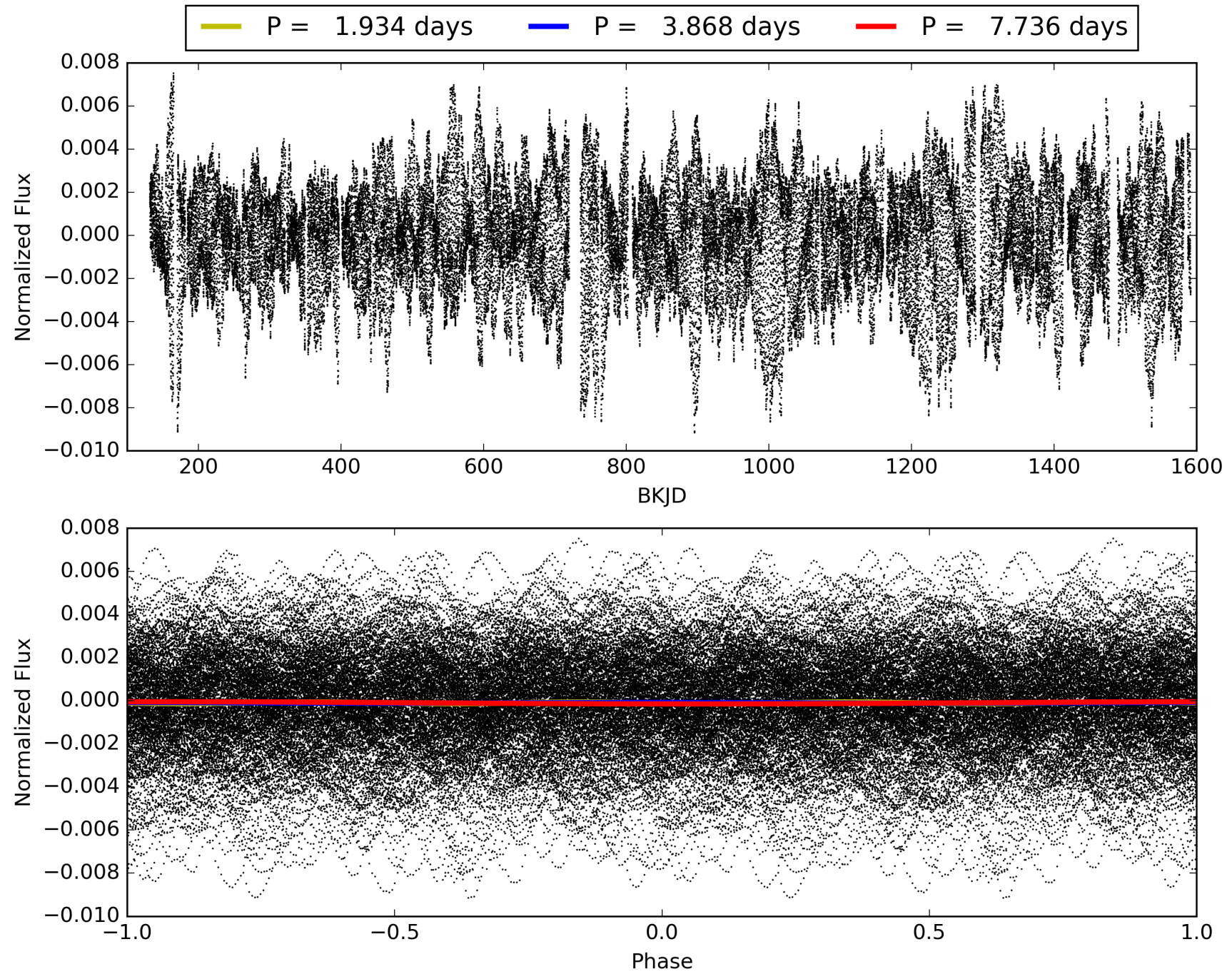
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:12:18 Z

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

TCE 008233504-01, PDC Light Curves

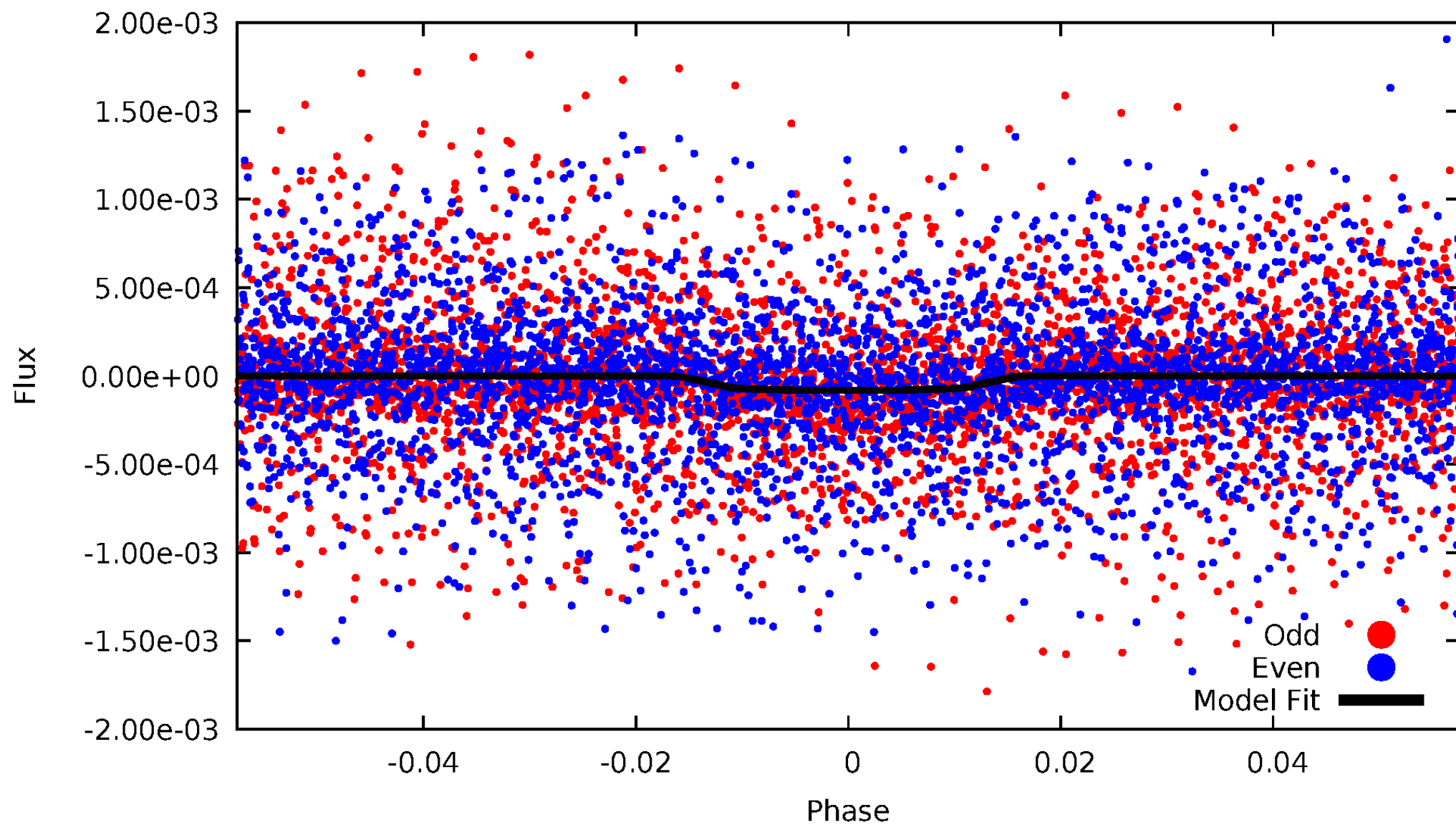


TCE 008233504-01



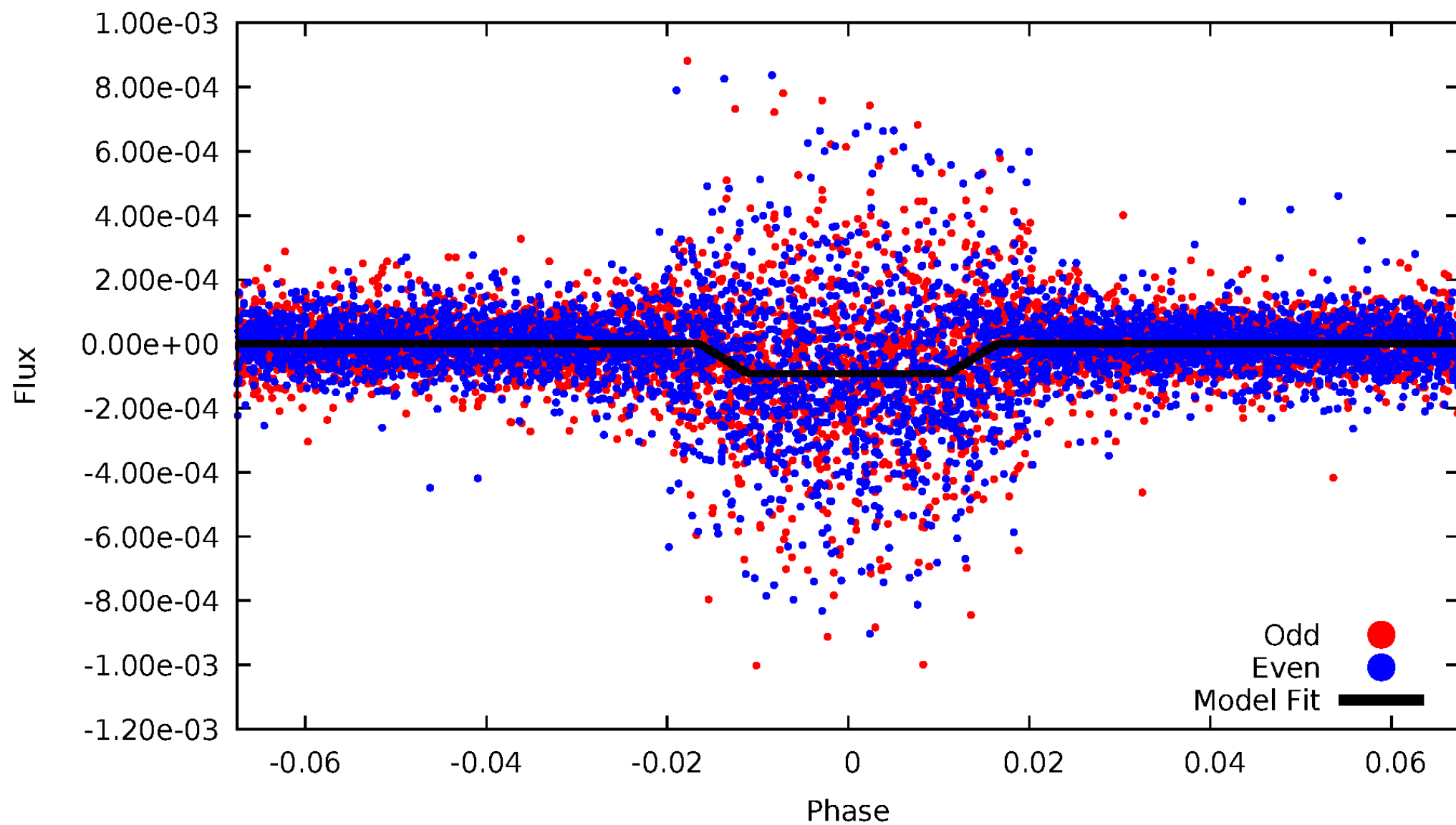
DV Odd/Even

TCE 008233504-01



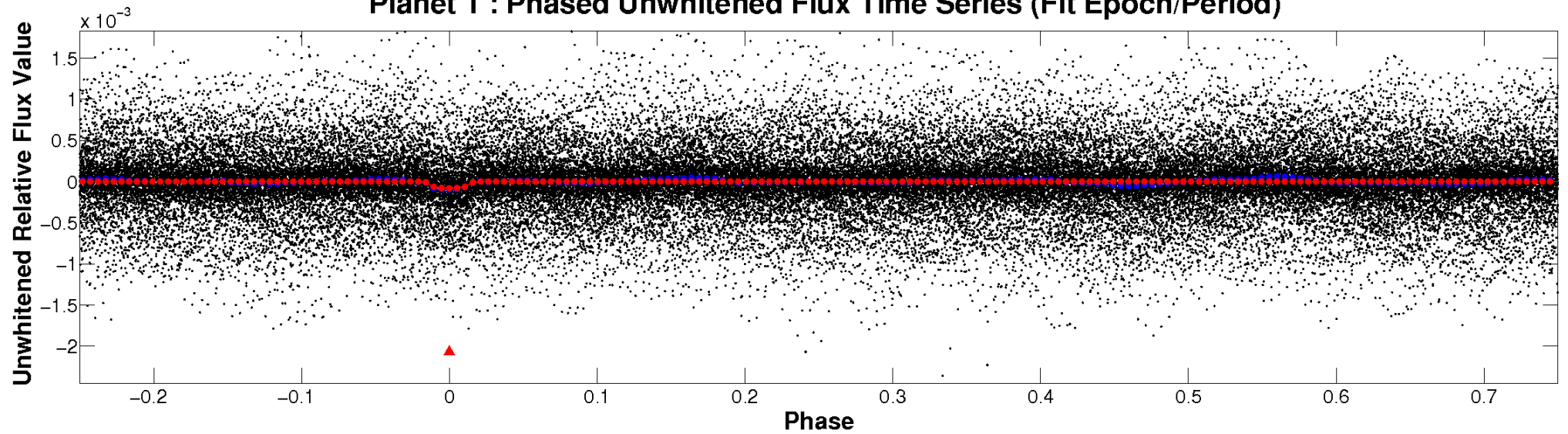
ALT Odd/Even

TCE 008233504-01

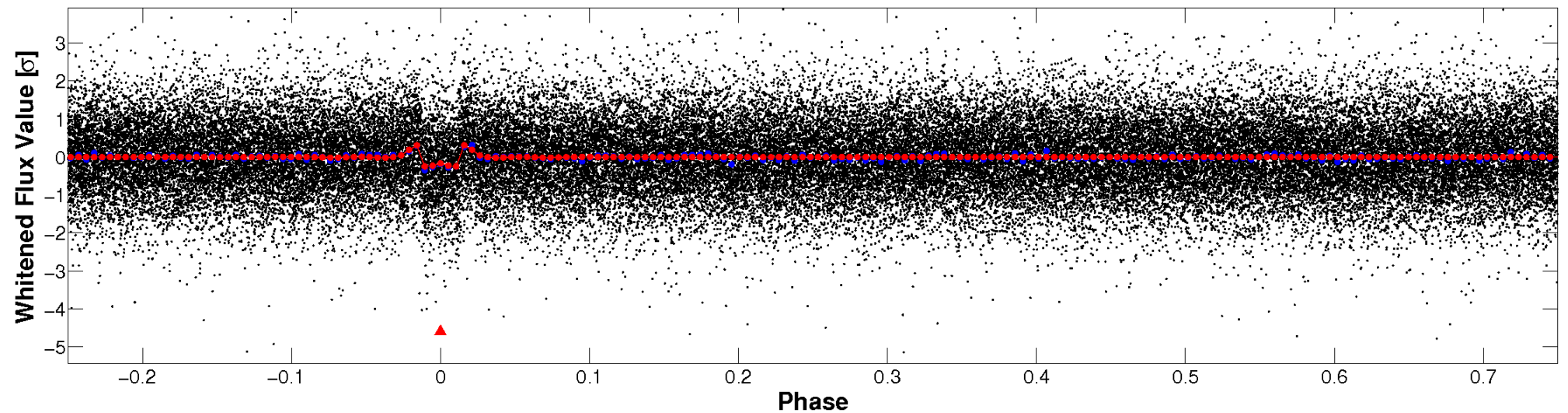


Non-Whitened Vs. Whitened Light Curve

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

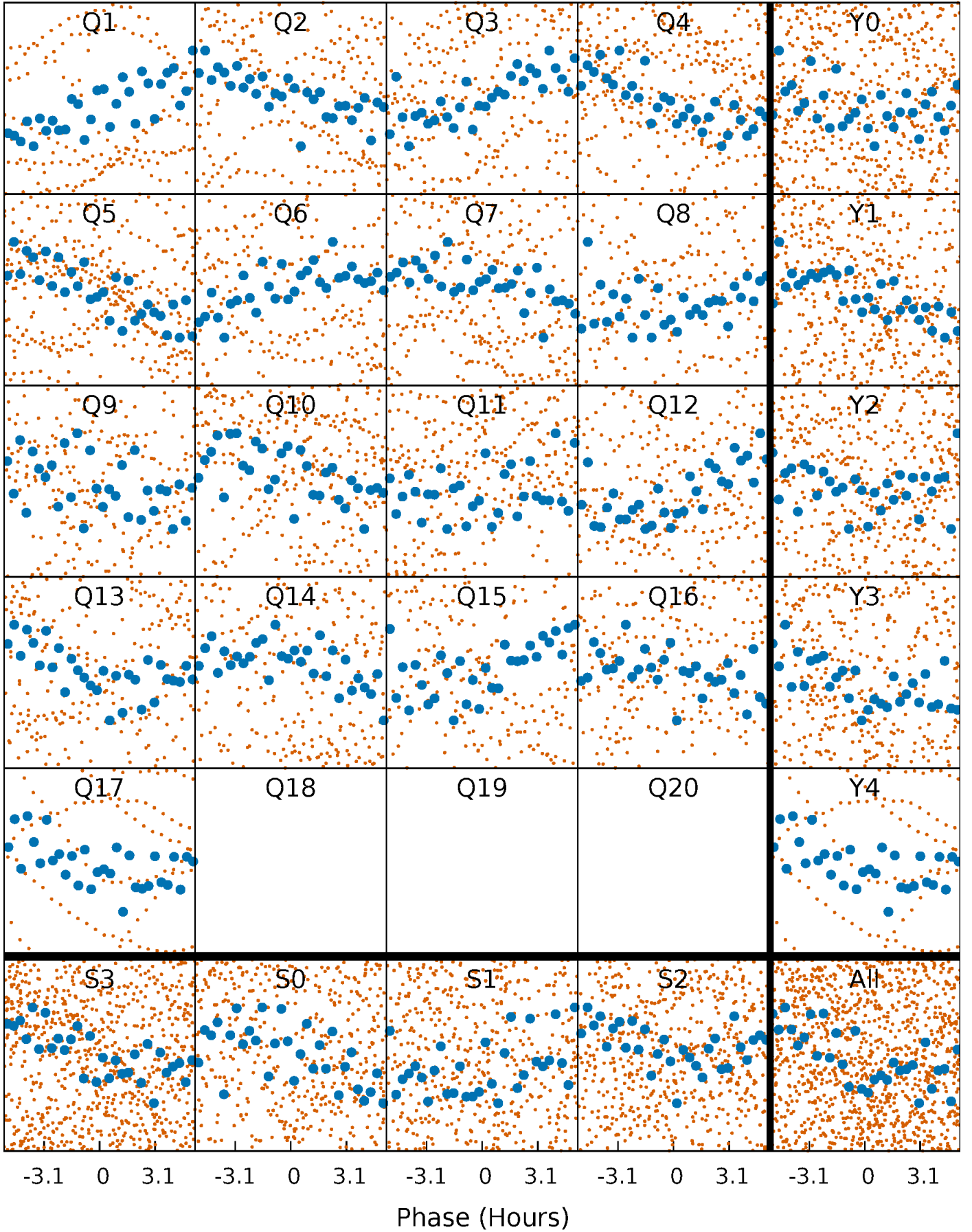


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



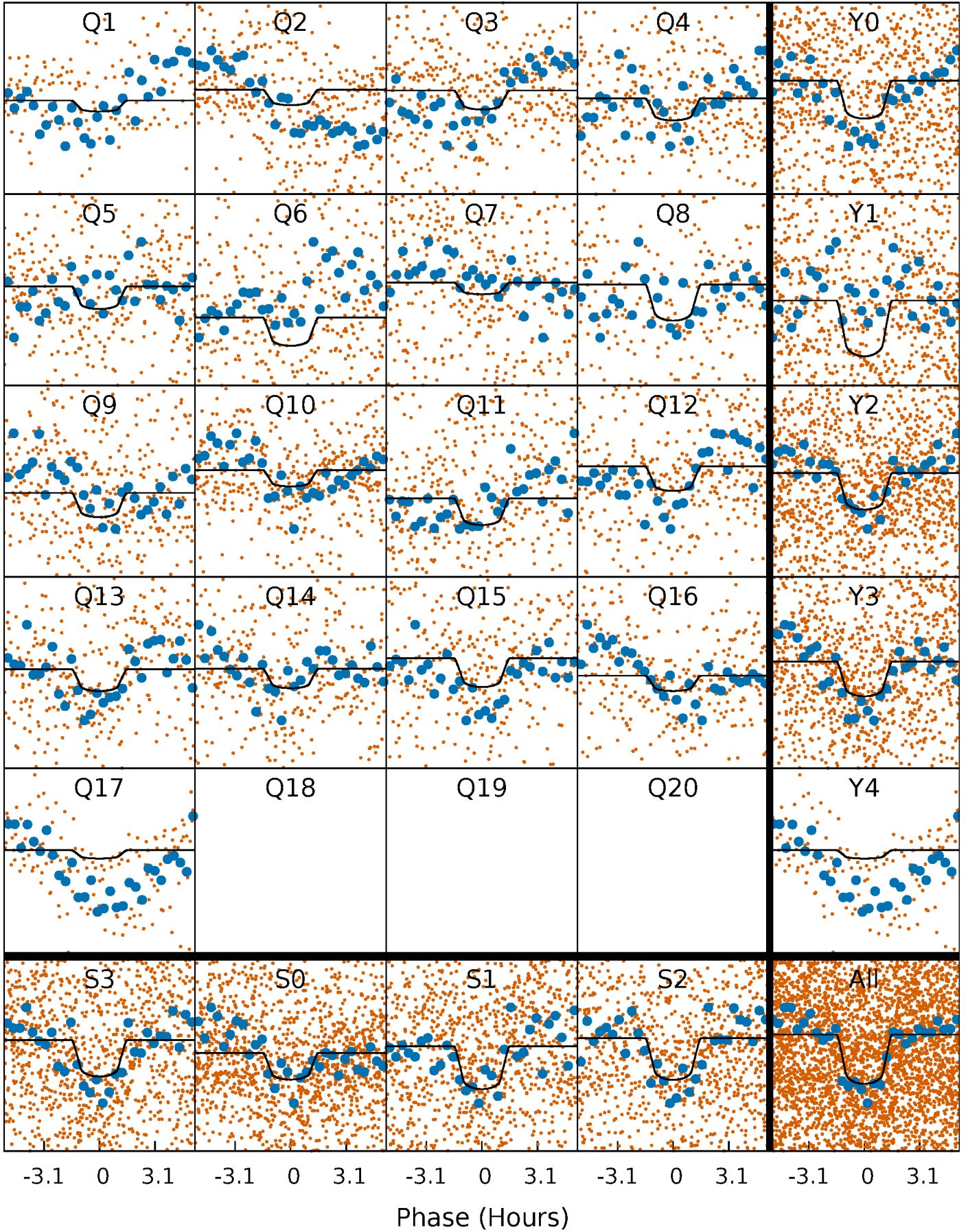
PDC Quarter-Phased Transit Curves

TCE 008233504-01 $P = 3.868216$ Days $T_0 = 134.540308$ (BKJD)



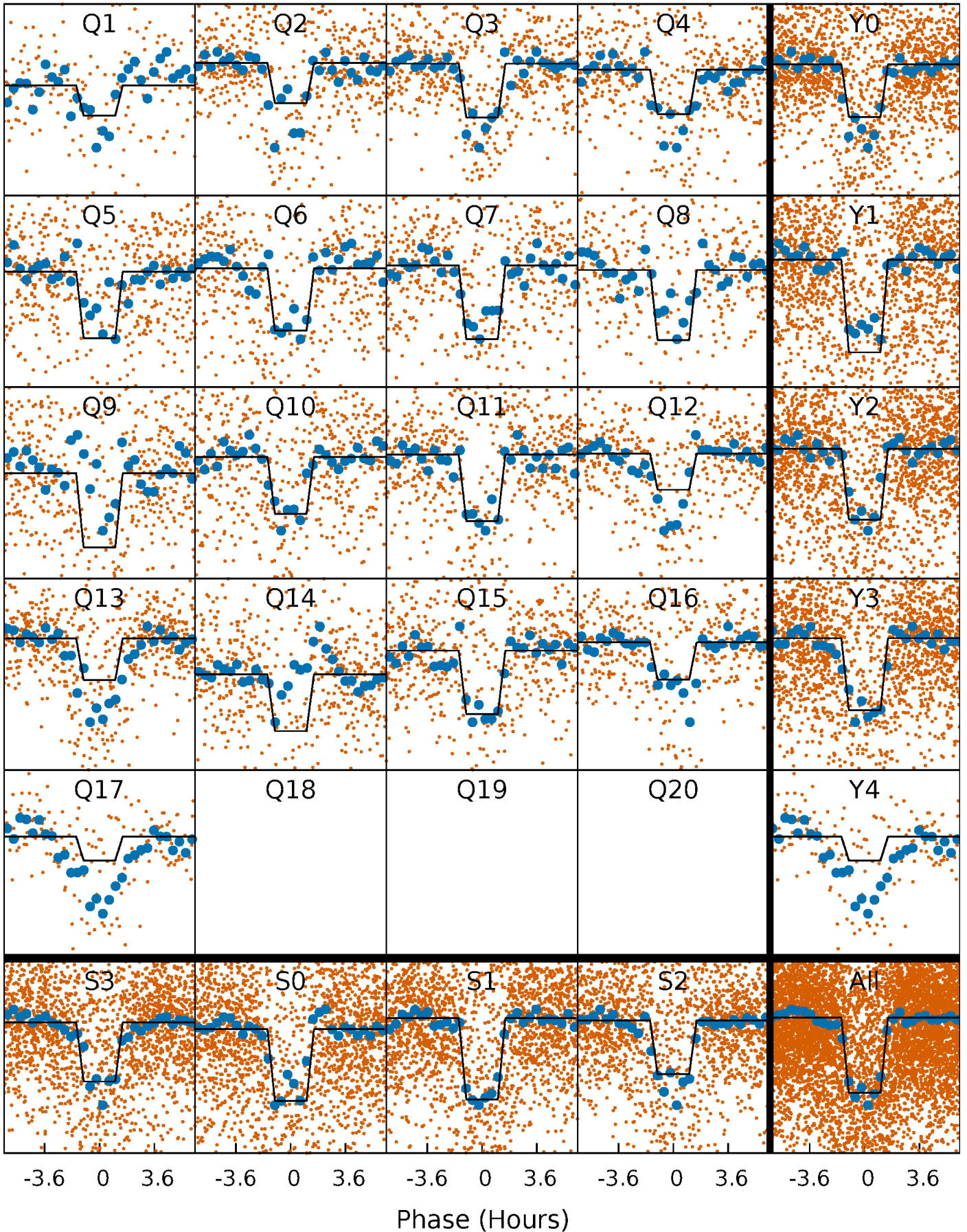
DV Quarter-Phased Transit Curves

TCE 008233504-01 P= 3.868216 Days $T_0=134.540308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

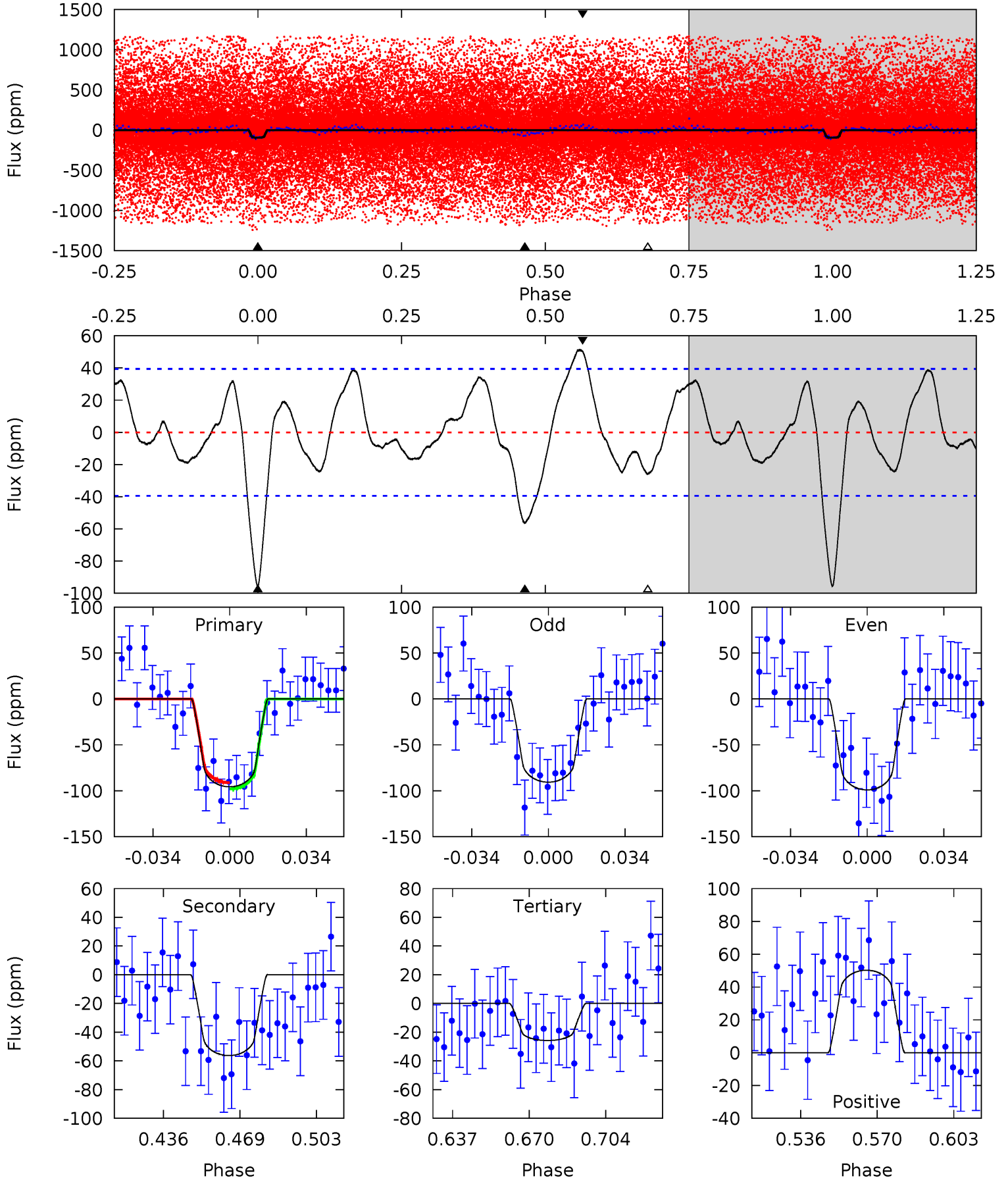
TCE 008233504-01 P= 3.868229 Days $T_0=134.535555$ (BKJD)



DV Model-Shift Uniqueness Test

008233504-01, P = 3.868216 Days, E = 130.672092 Days

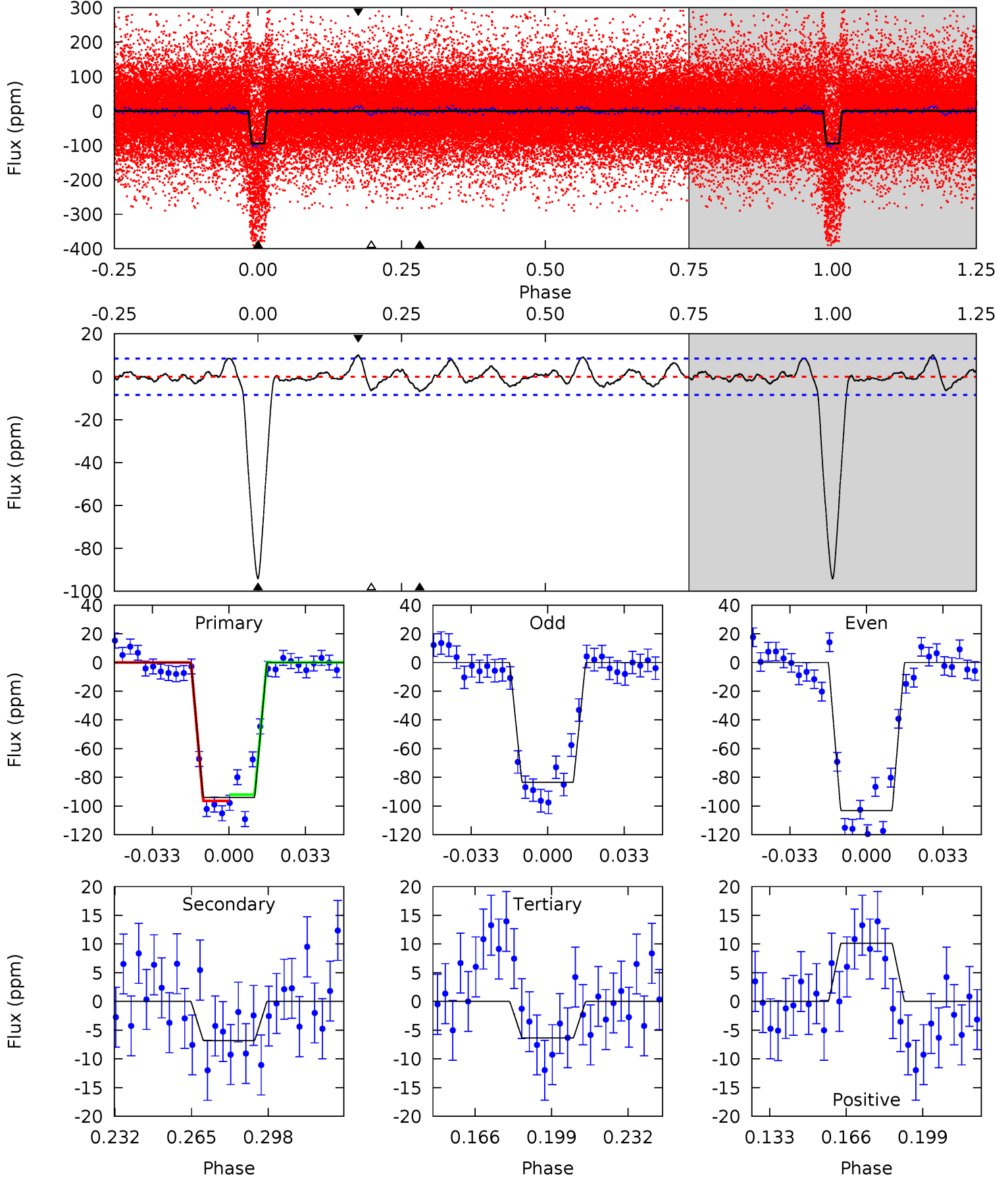
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	6.84	3.14	6.11	4.79	2.13	2.33	8.49	5.52	3.71	0.74	0.52	0.94	0.35	0.42



Alt Model-Shift Uniqueness Test

008233504-01, P = 3.868229 Days, E = 130.667326 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.1	3.84	3.59	5.72	4.79	2.13	1.78	49.5	47.4	0.25	-1.88	5.48	1.05	0.10	0



Stellar Parameters For KIC 008233504

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6344^{+177}_{-243}	$4.148^{+0.195}_{-0.195}$	$0.070^{+0.250}_{-0.300}$	$1.587^{+0.489}_{-0.444}$	$1.292^{+0.182}_{-0.222}$	$0.455^{+0.551}_{-0.214}$
	+3%/-4%	+5%/-5%	+357%/-429%	+31%/-28%	+14%/-17%	+121%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008233504-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56 ± 8	$1.68^{+0.40}_{-0.30}$	2140^{+189}_{-153}	5511^{+486}_{-393}	29^{+16}_{-10}
Alt.	-7 ± 2	$1.67^{+0.35}_{-0.33}$	2154^{+183}_{-175}	3639^{+274}_{-258}	$3.532^{+2.181}_{-1.323}$

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

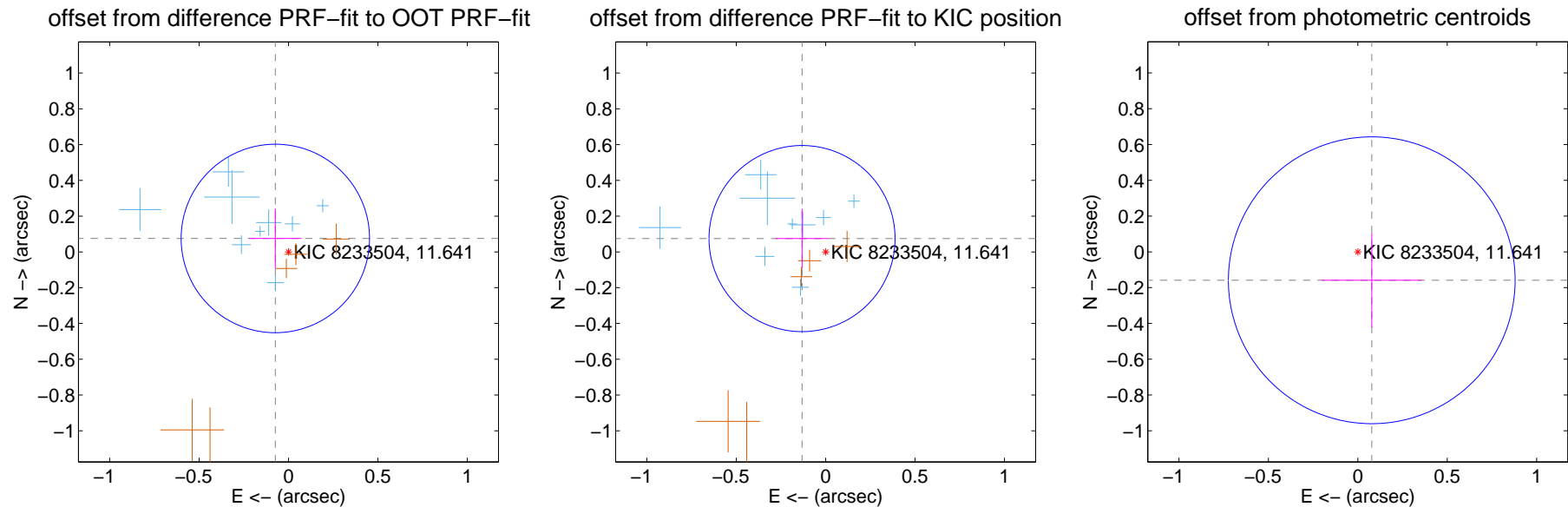
DV Centroid Data

Supplemental centroid analysis for 008233504-01. **Kepler magnitude: 11.64.** Transit SNR 13.78

There are 10 quarters with good PRF difference image offsets

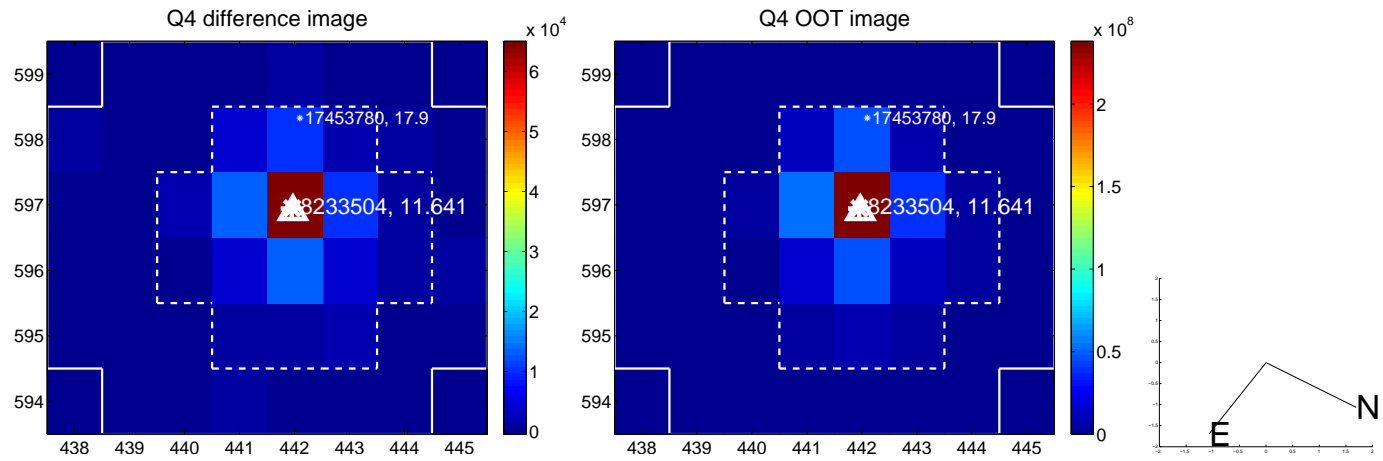
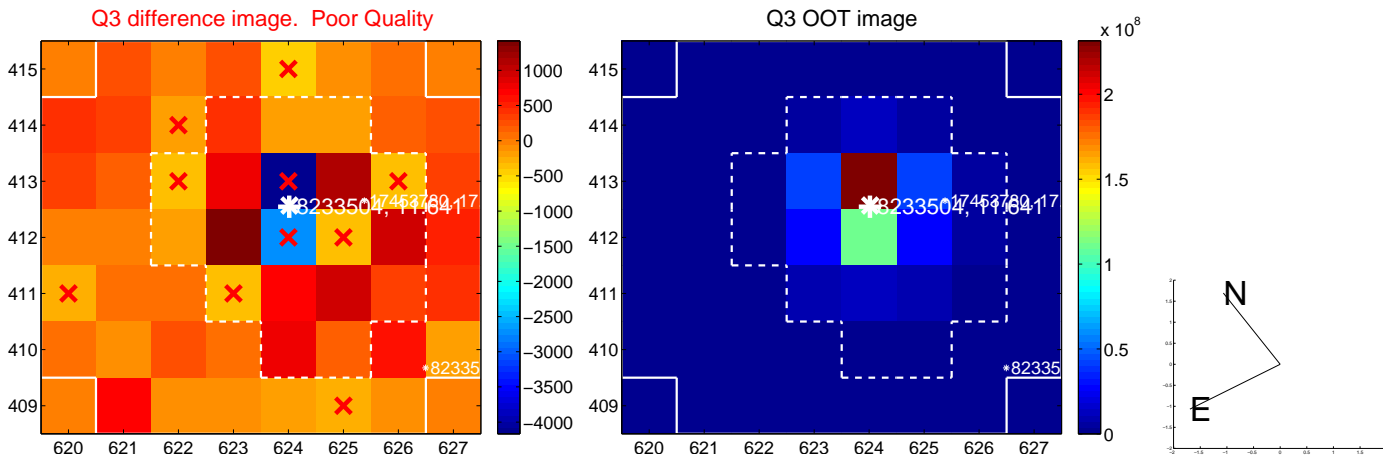
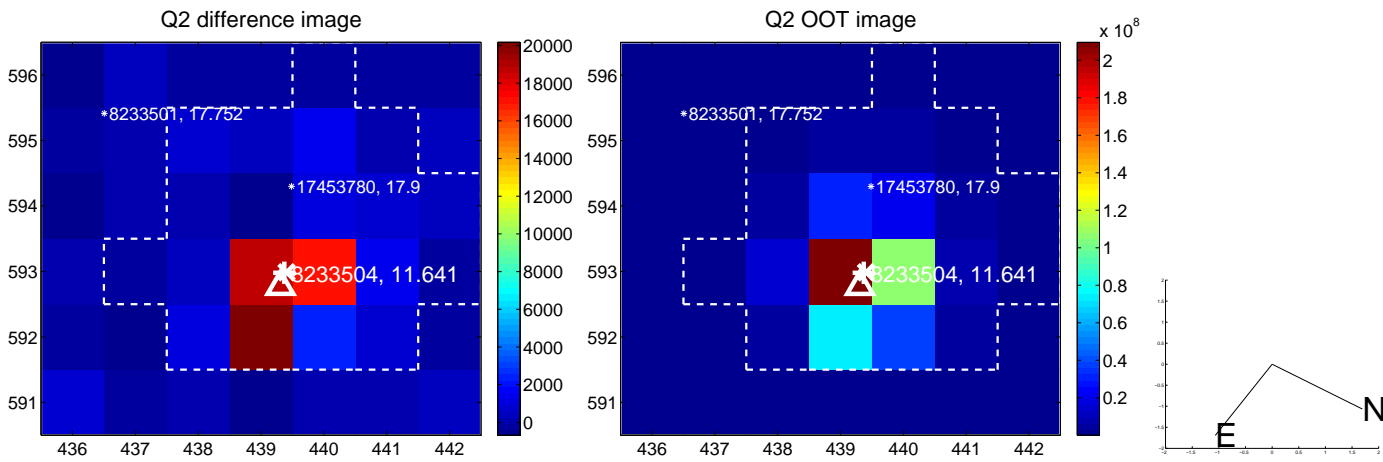
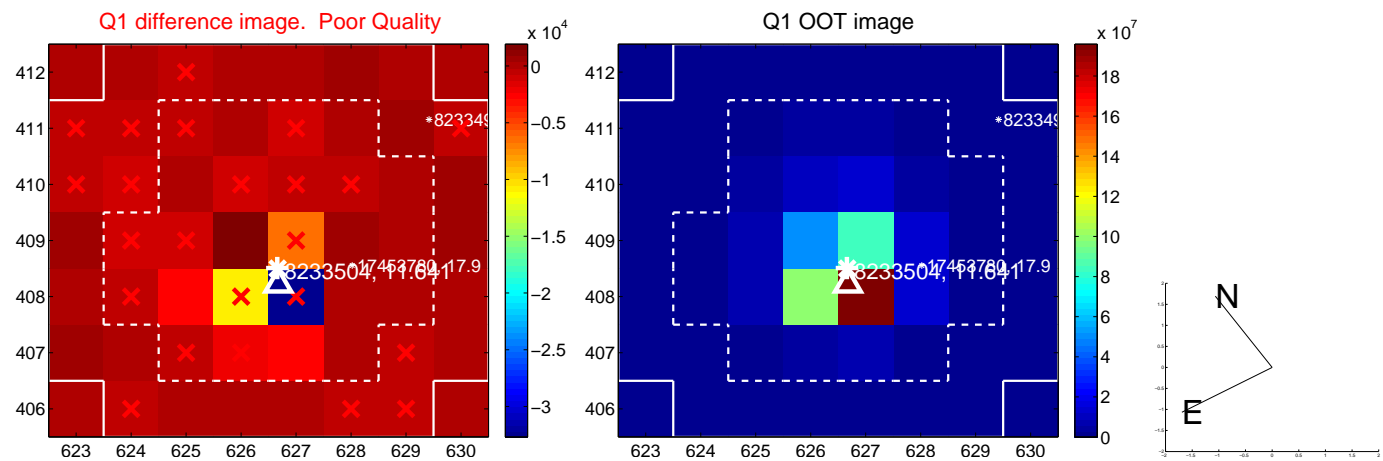
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.176	0.60	0.074 ± 0.147	0.075 ± 0.167
PRF-fit source offset from KIC position	0.152 ± 0.173	0.87	0.132 ± 0.149	0.075 ± 0.167
photometric centroid source offset	0.18 ± 0.27	0.66	-0.08 ± 0.28	-0.16 ± 0.26

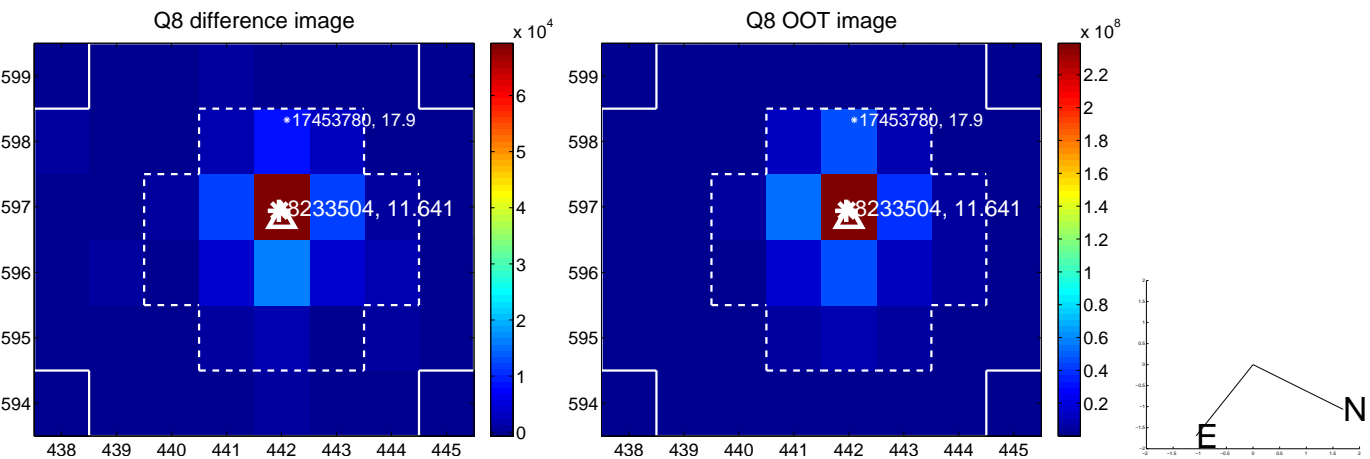
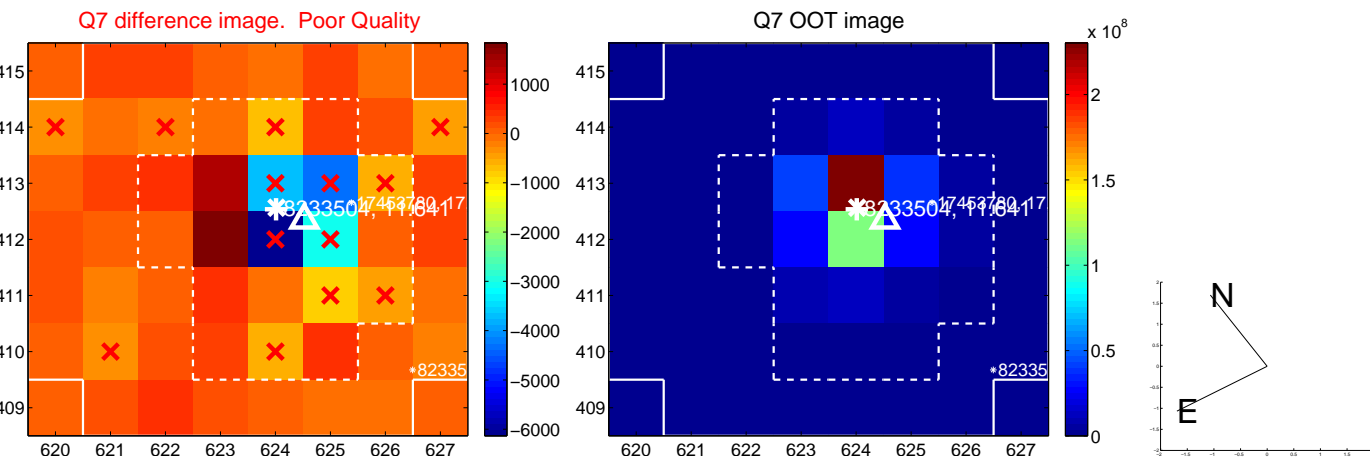
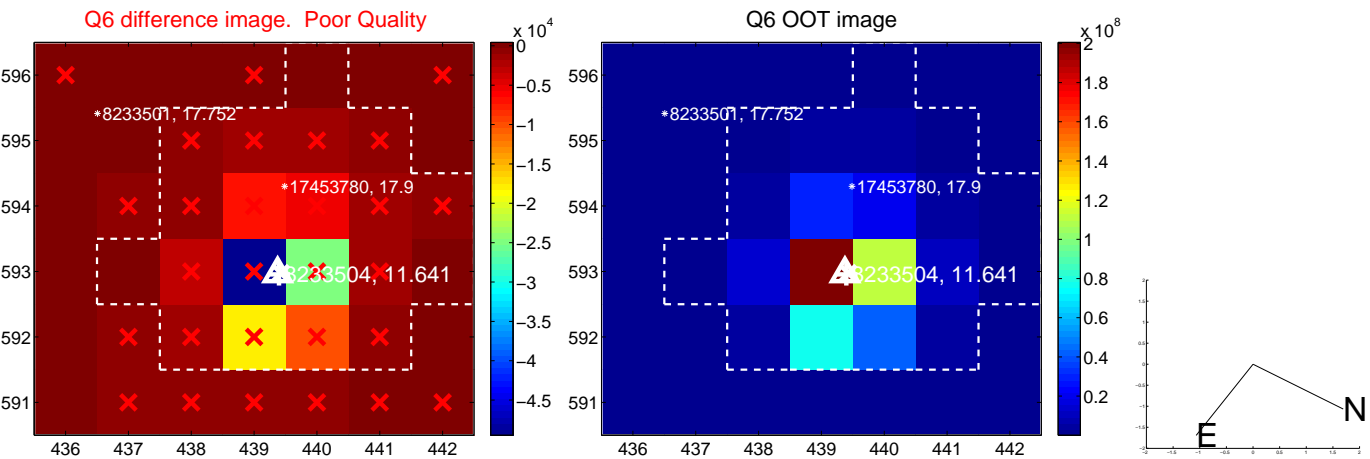
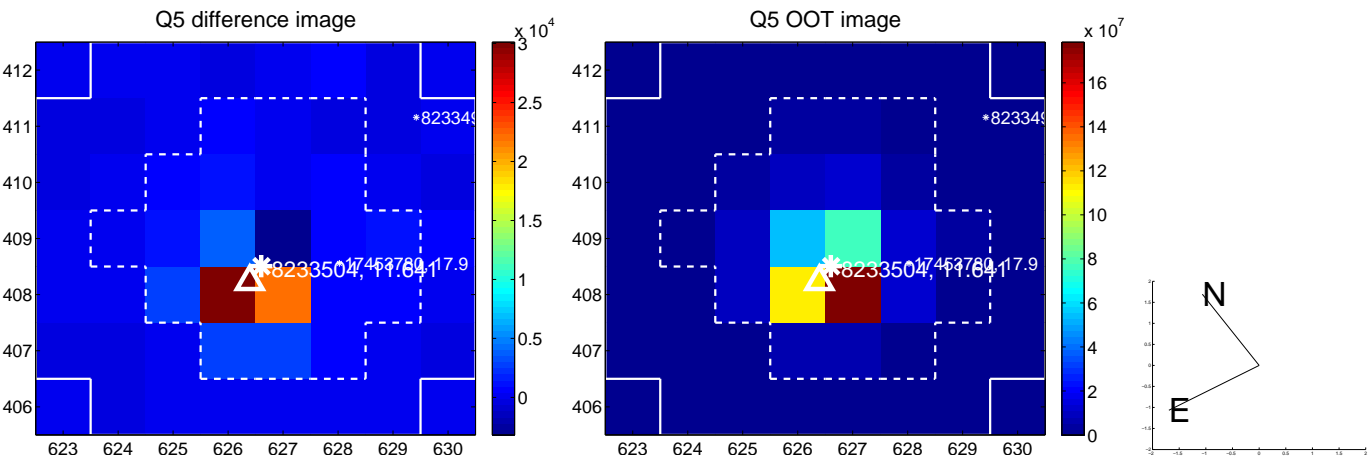


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

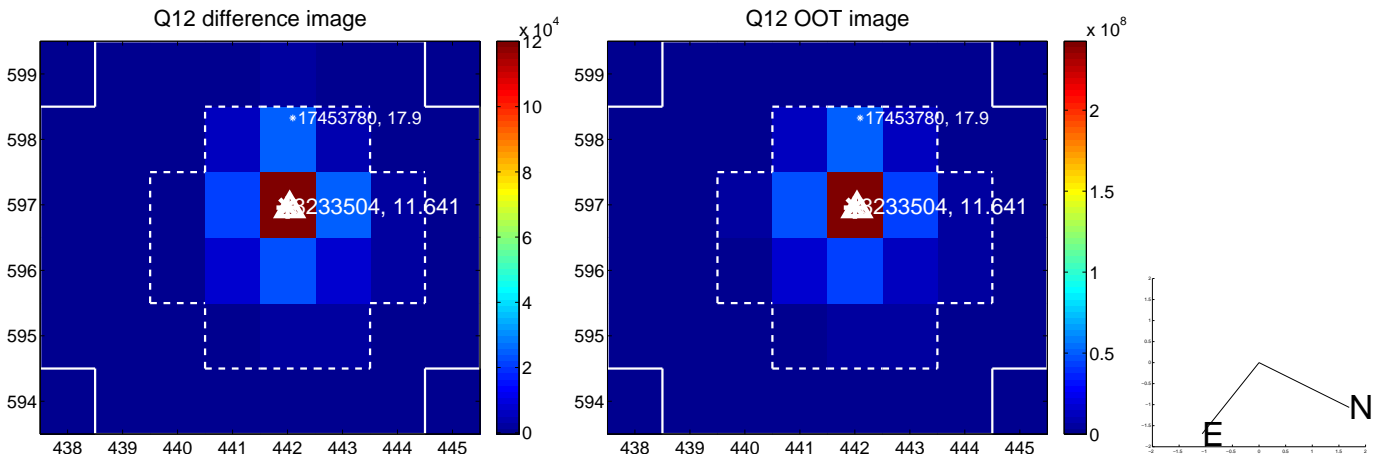
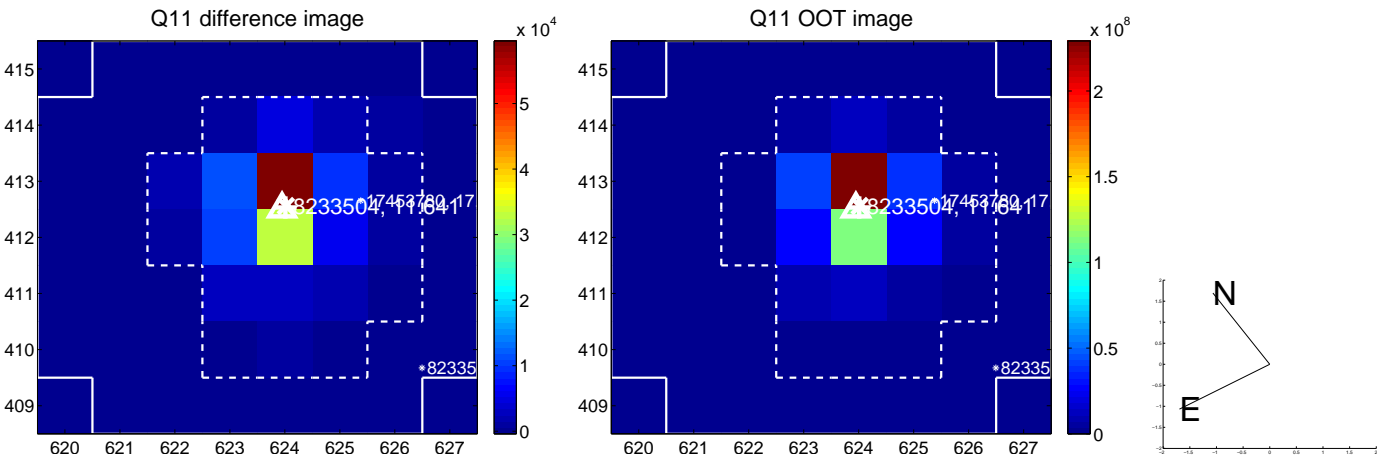
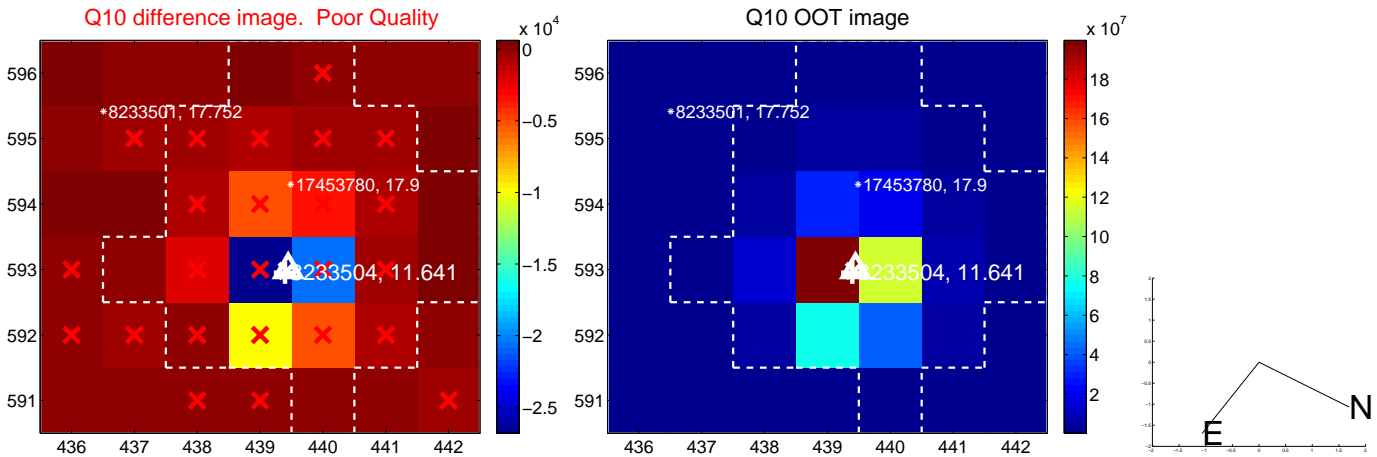
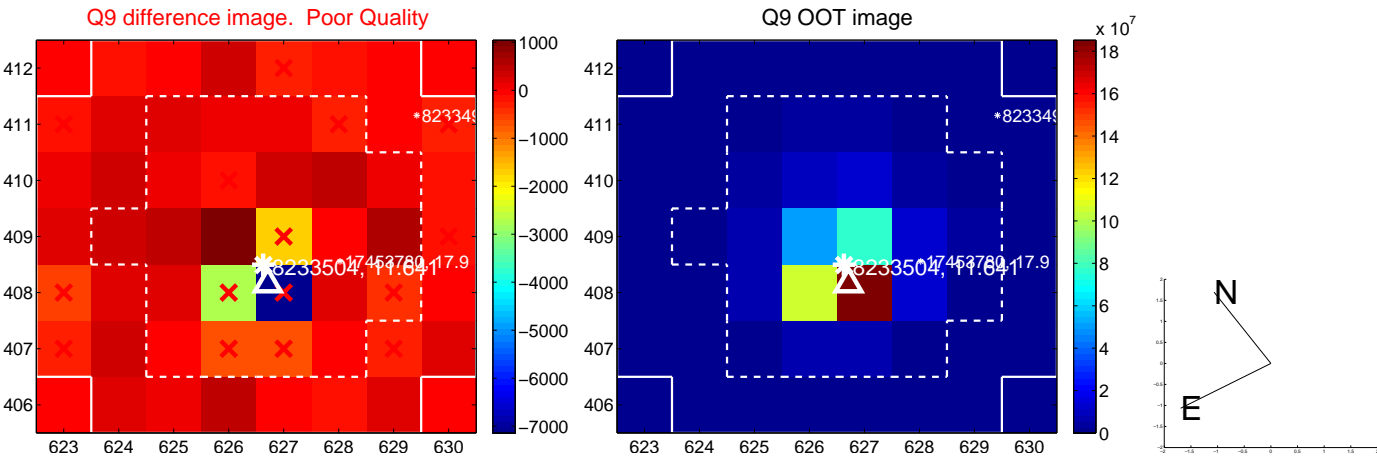
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



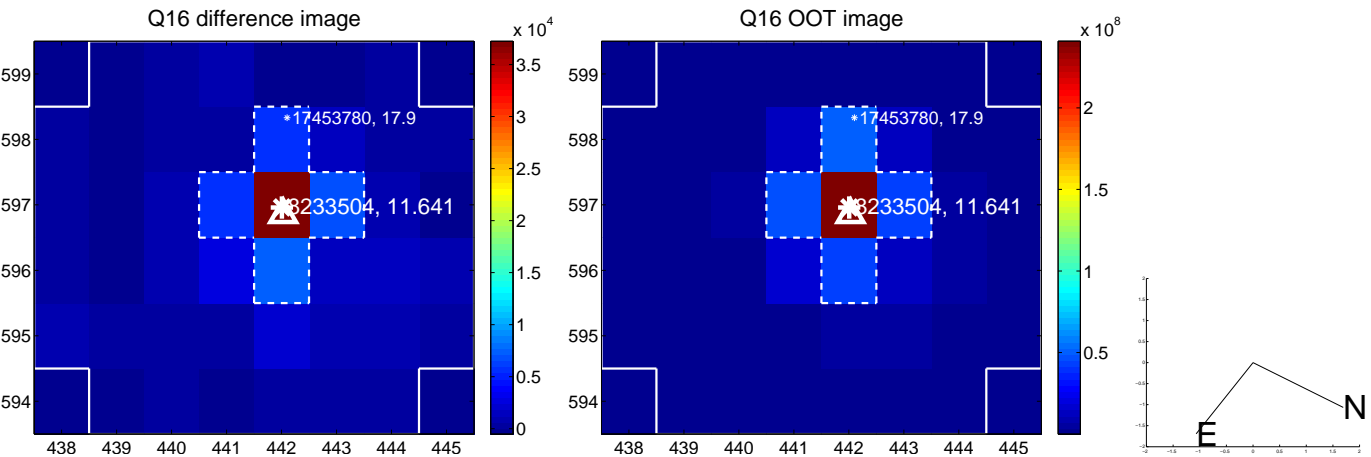
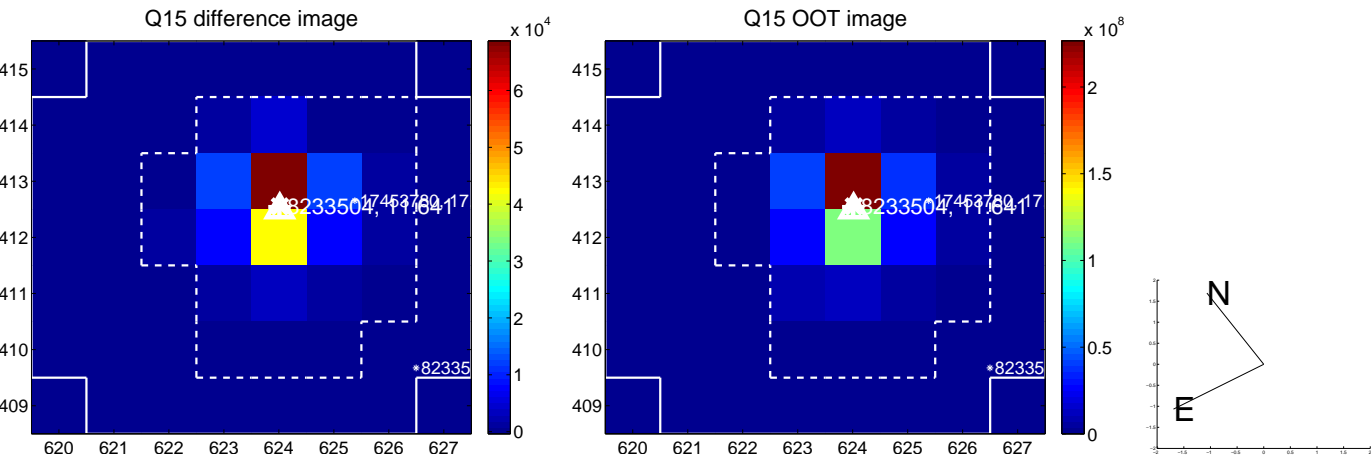
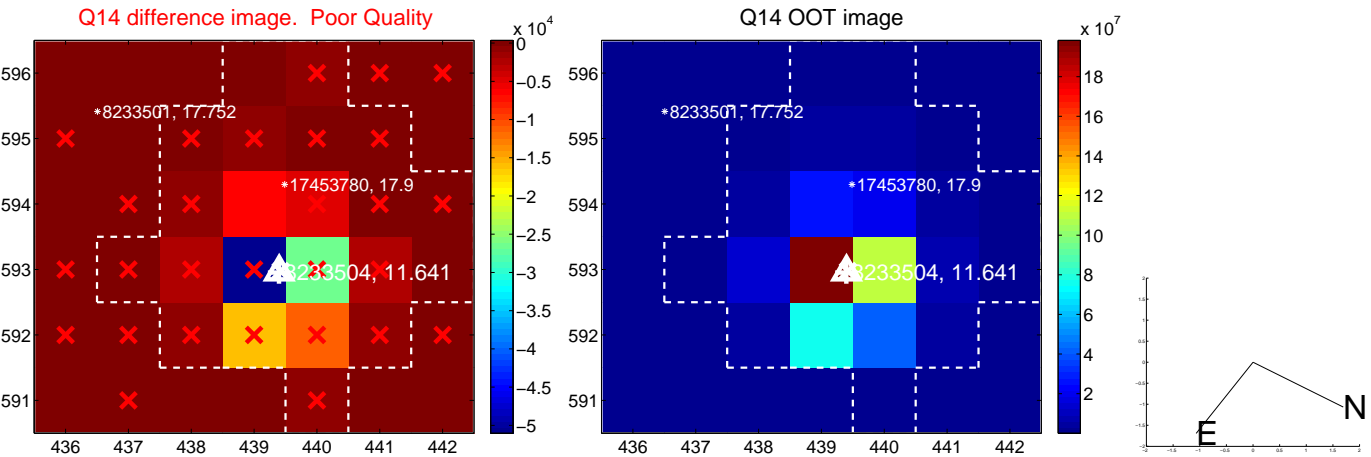
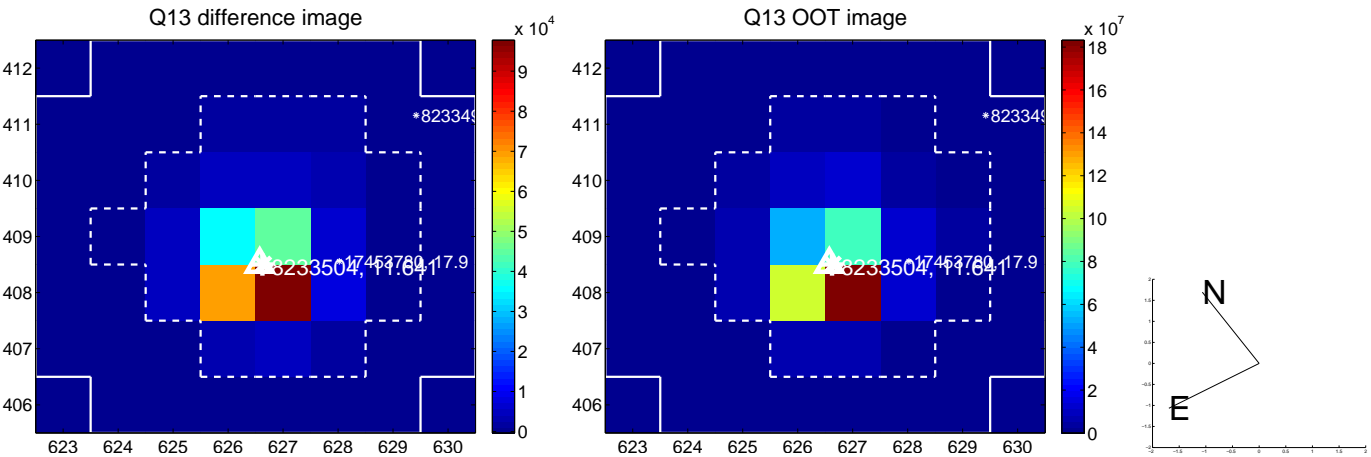
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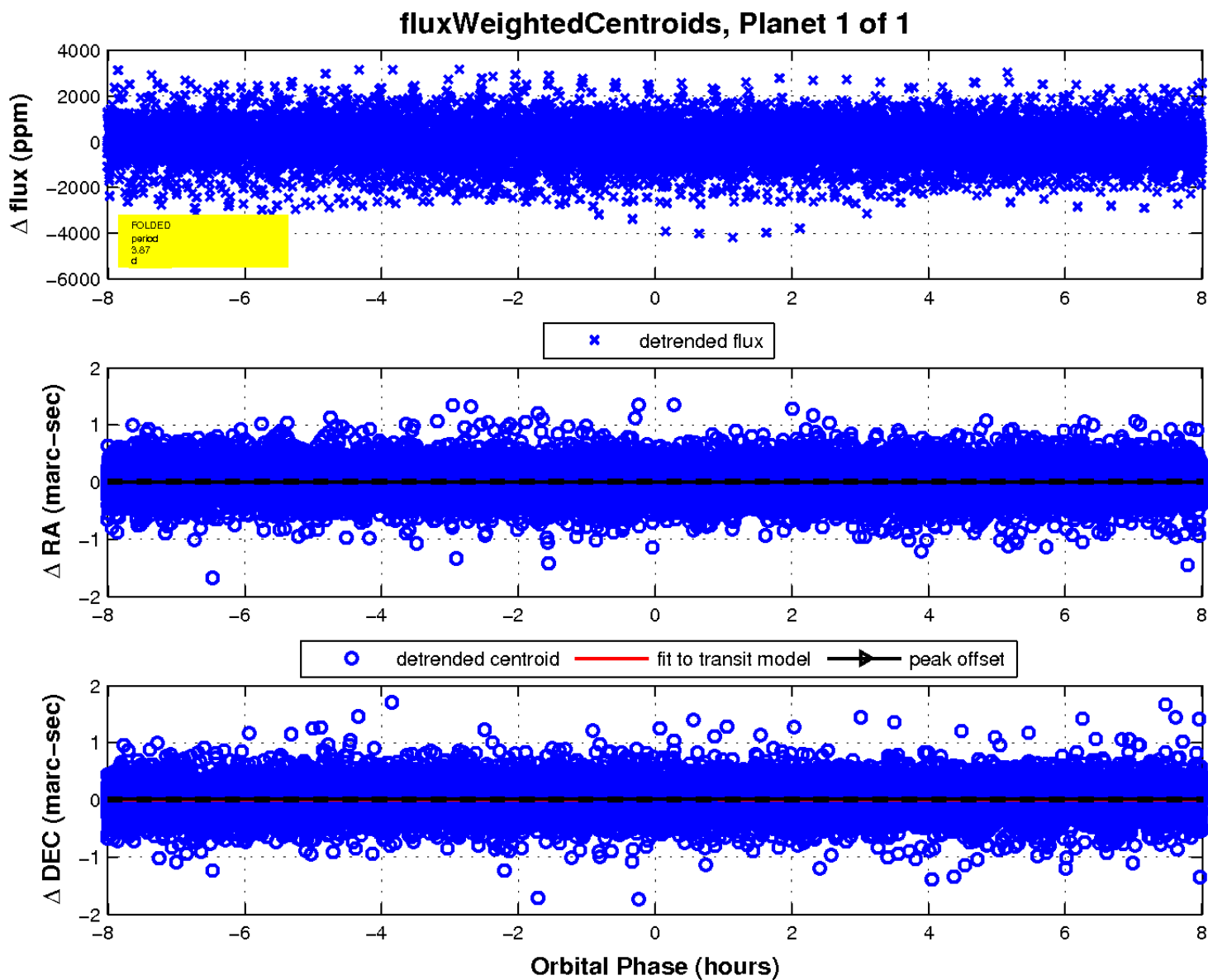
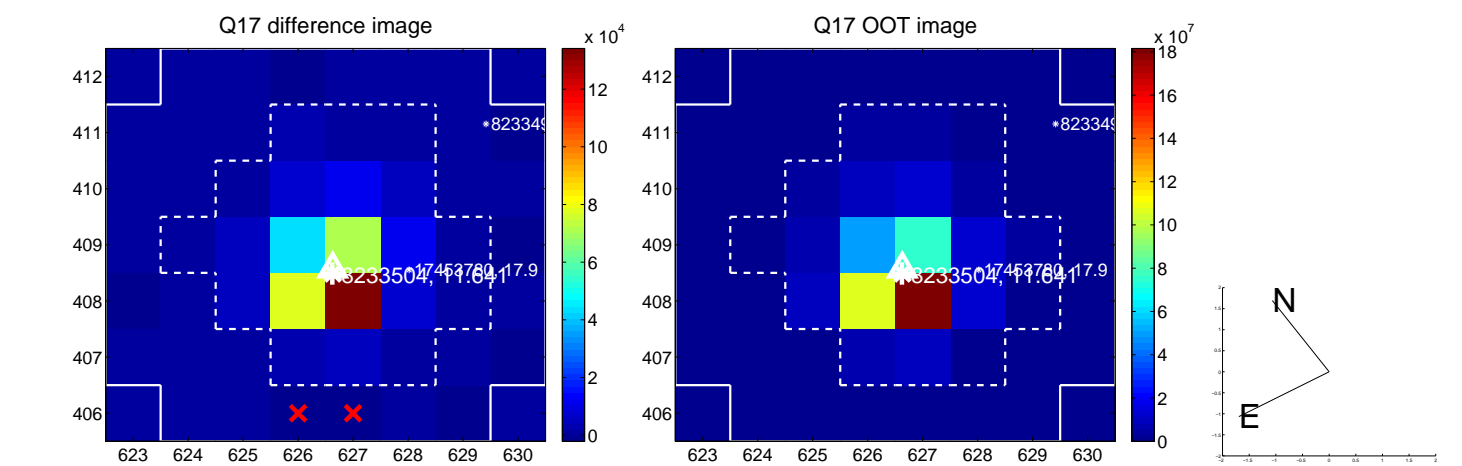
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UKIRT Image

Declination

