

KIC 008161707

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})
008161707-01	OBS	No	1.101588	132.401445	22.0	5.947	8.4	9.6	0.81	5953	0.44	1824.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008161707-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS—EPHEM_MATCH

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.

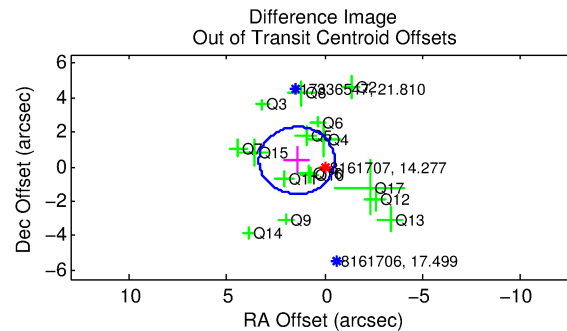
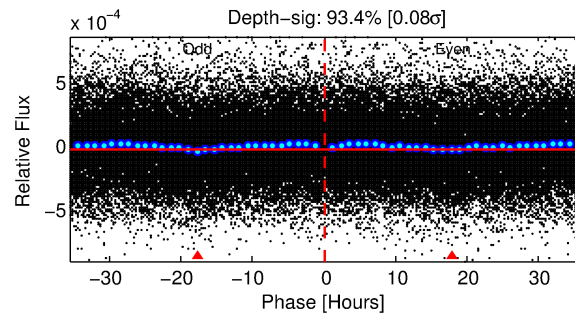
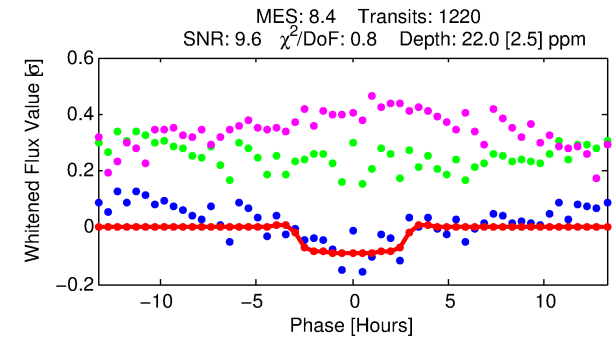
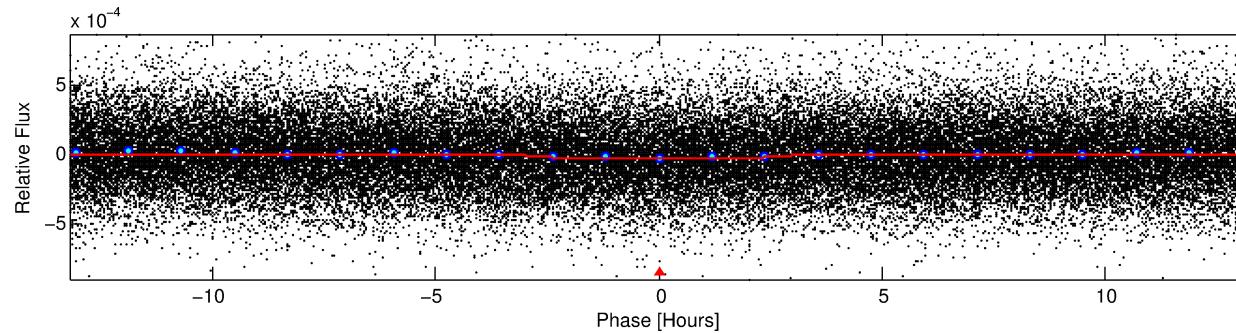
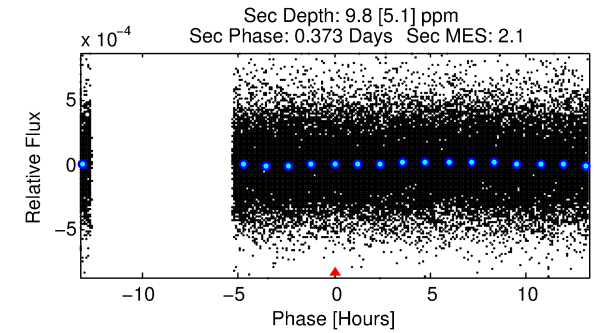
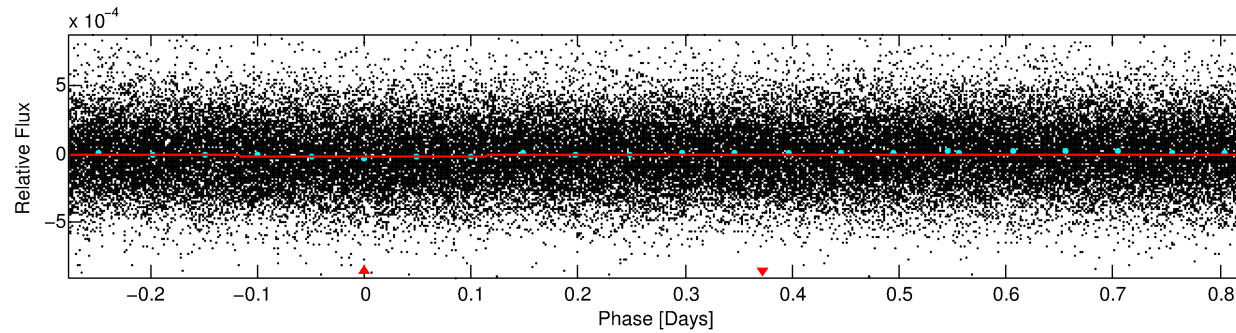
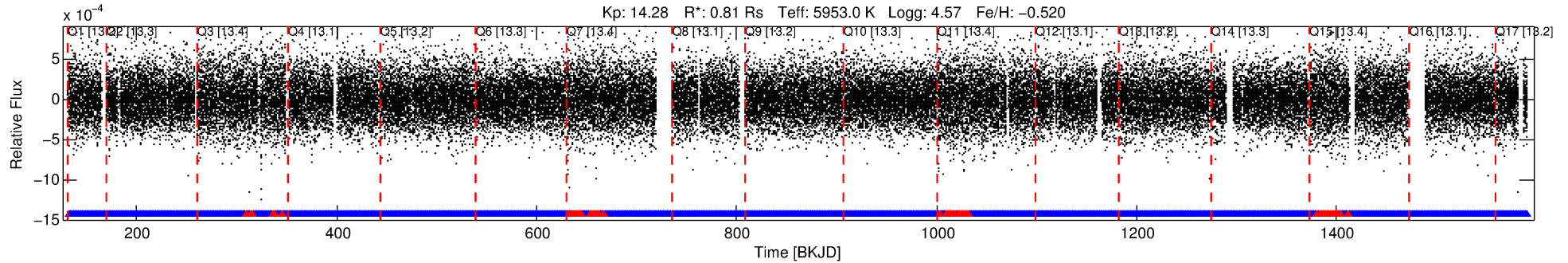
Ephemeris Match Information For 008161707-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
008161707-01	8161707	008161830-01	8161830	1:2	121.8	-23	20	13.31	14.28	0.86	Direct-PRF	1	3.56	4.61

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8161707 Candidate: 1 of 1 Period: 1.102 d



DV Fit Results:

Period = 1.10159 [0.00002] d
Epoch = 132.4014 [0.0067] BKJD
Rp/R* = 0.0050 [0.0029]
a/R* = 1.14 [0.80]
b = 0.90 [0.69]
Seff = 1824.15 [675.43]
Teff = 1666 [154] K
Rp = 0.44 [0.28] Re
a = 0.0200 [0.0047] AU
Ag = 10.99 [14.37] [0.69σ]
Teffp = 4691 [1484] K [2.03σ]

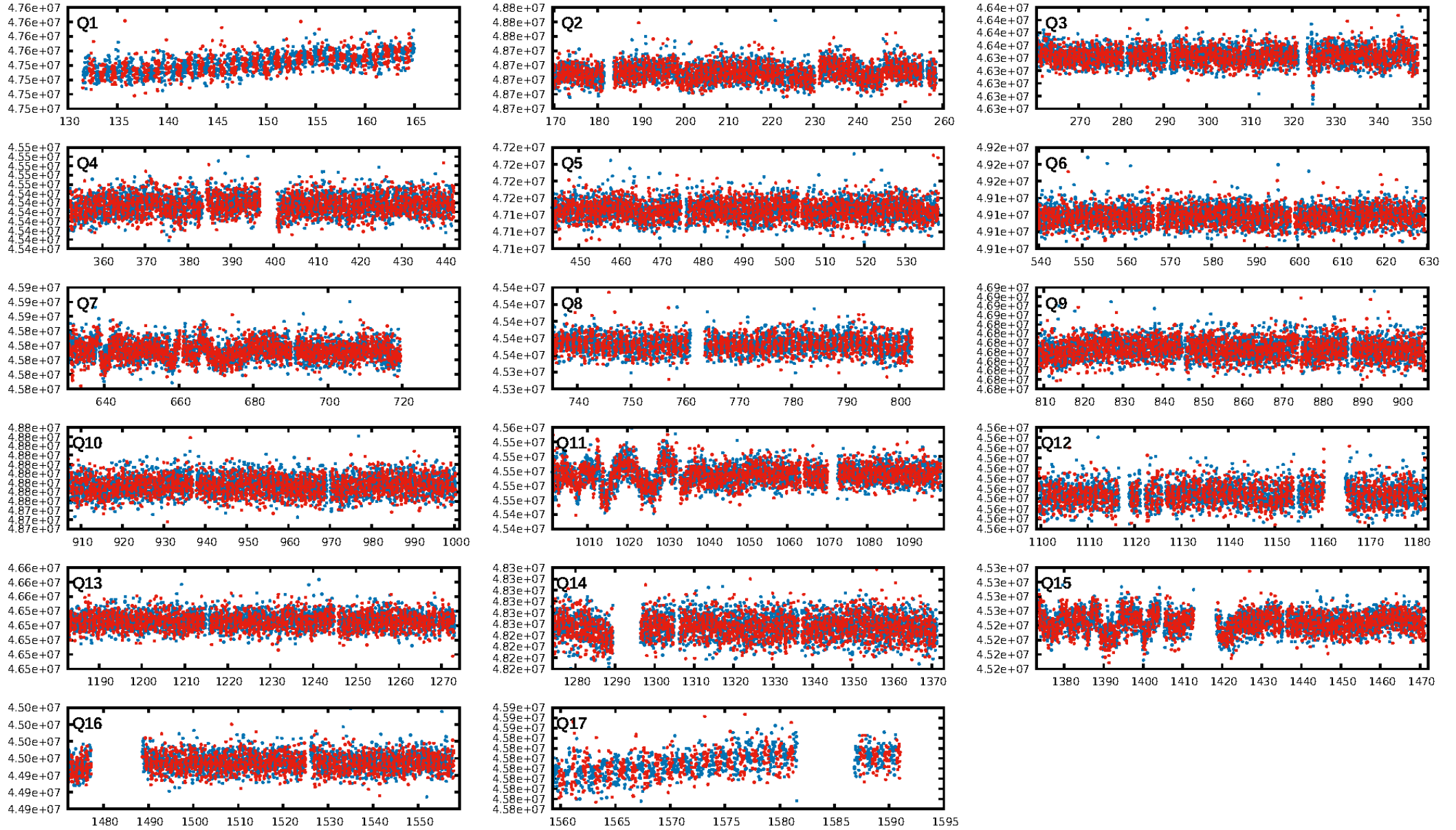
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.58e-14
RollingBand-fgt: 0.94 [1099/1166]
GhostDiagnostic-chr: 0.3328
Centroid-sig: 1.8%
Centroid-so: 3.408 arcsec [2.30σ]
OotOffset-rm: 1.465 arcsec [2.27σ]
KicOffset-rm: 1.804 arcsec [2.79σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.19 [3/16]
DiffImageOverlap-fno: 1.00 [17/17]

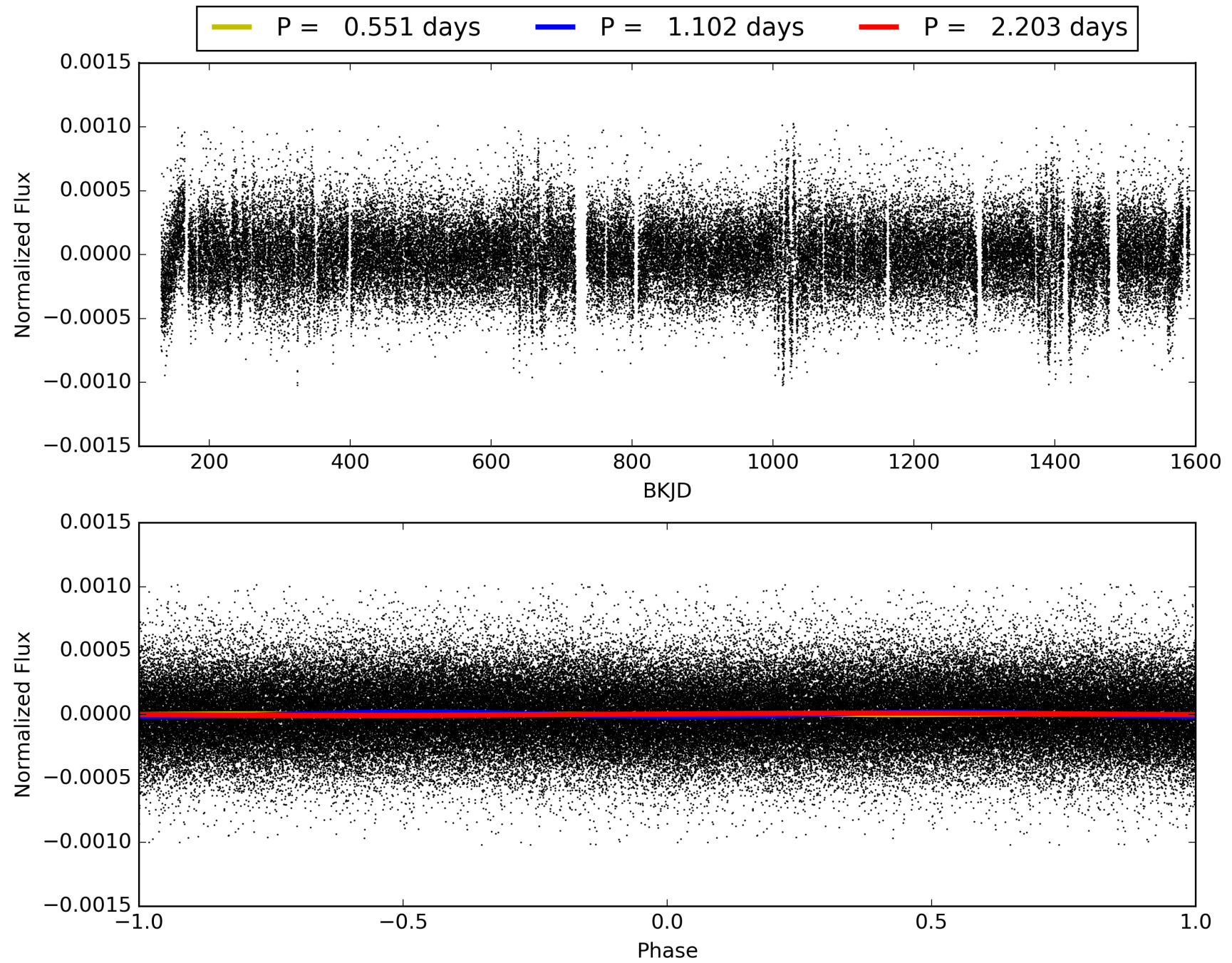
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:42:42 Z

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

TCE 008161707-01, PDC Light Curves

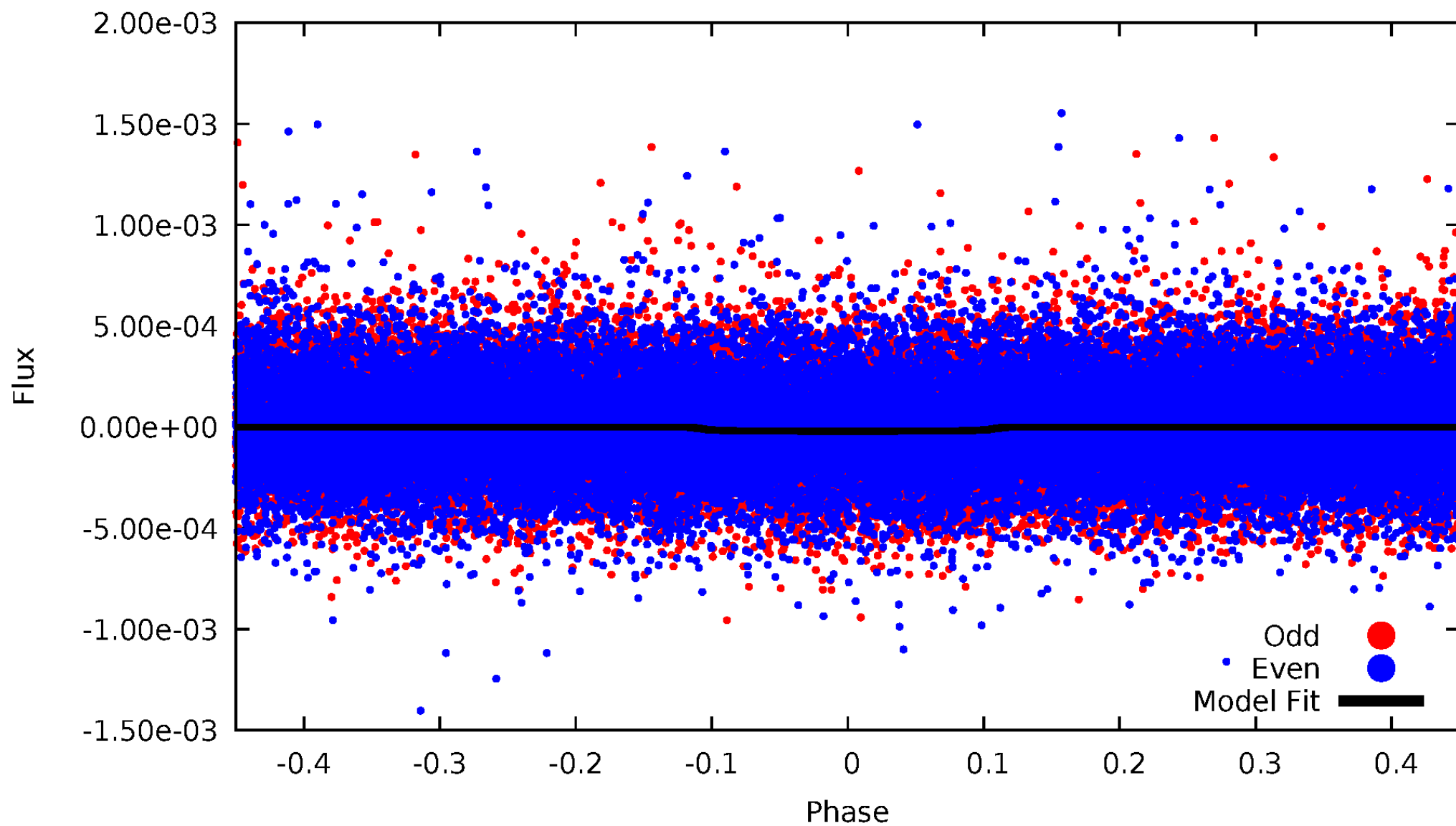


TCE 008161707-01



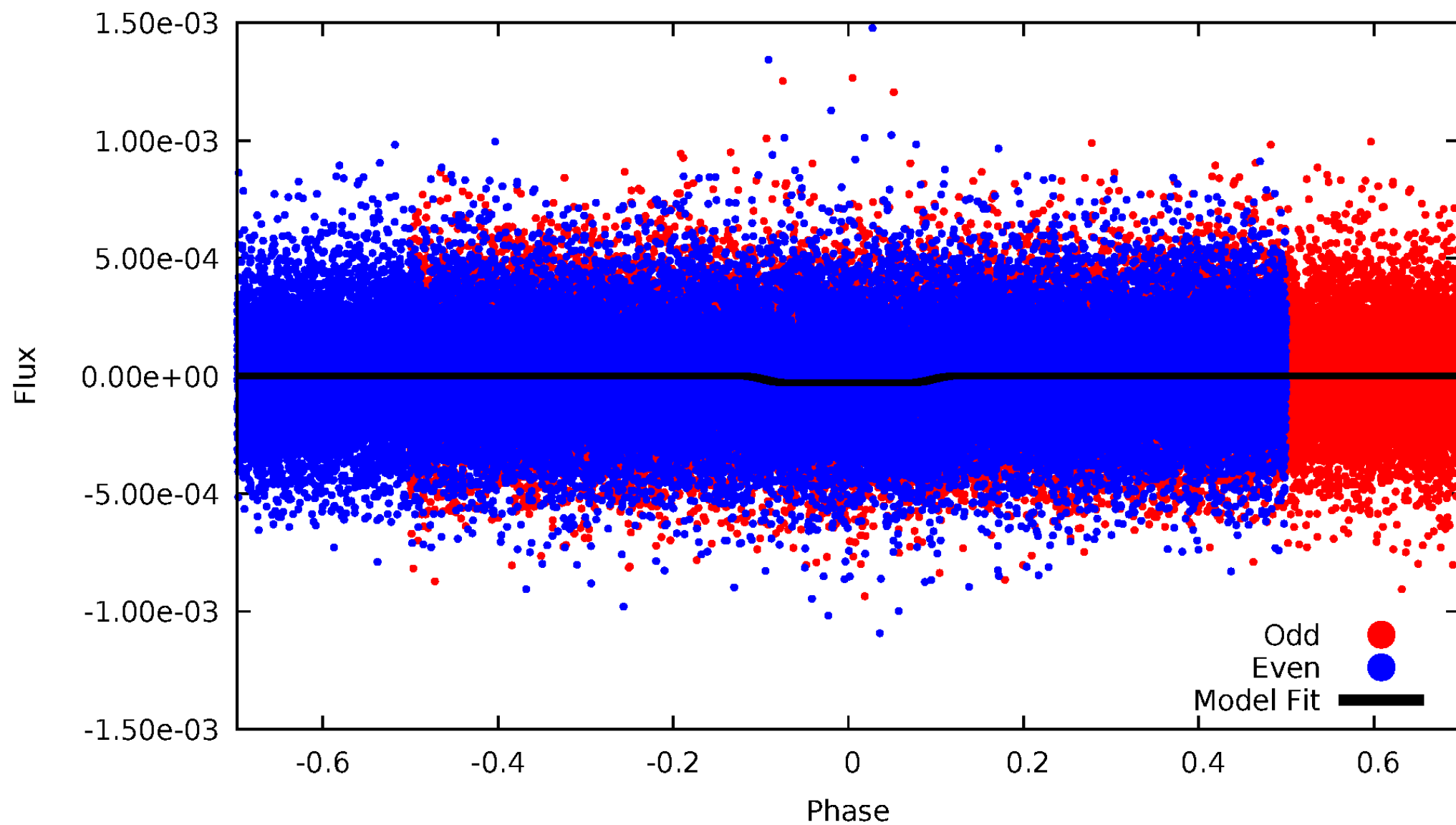
DV Odd/Even

TCE 008161707-01



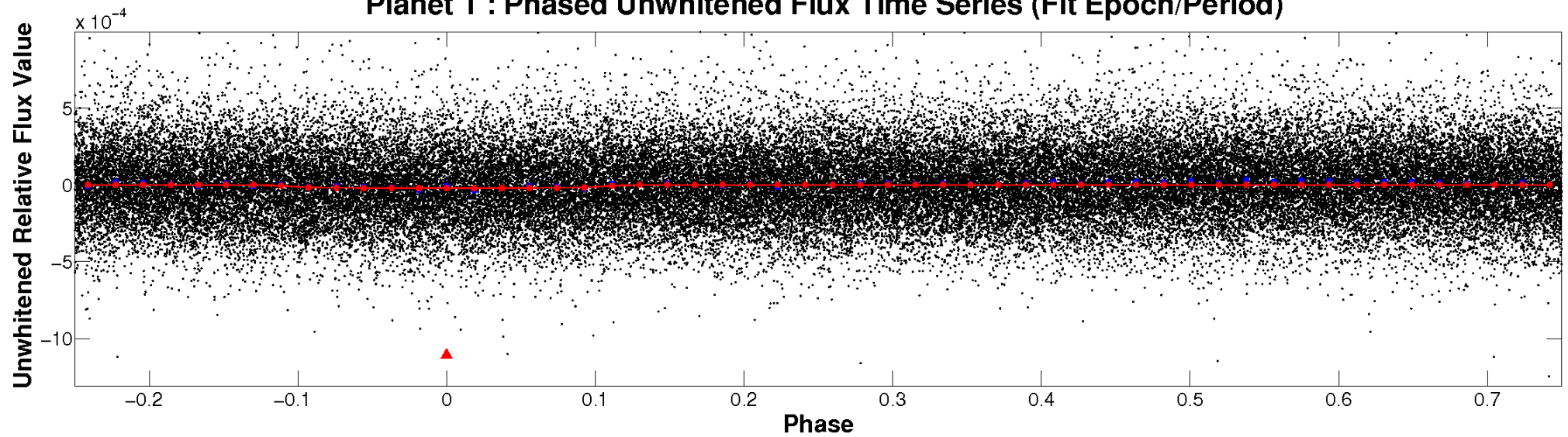
ALT Odd/Even

TCE 008161707-01

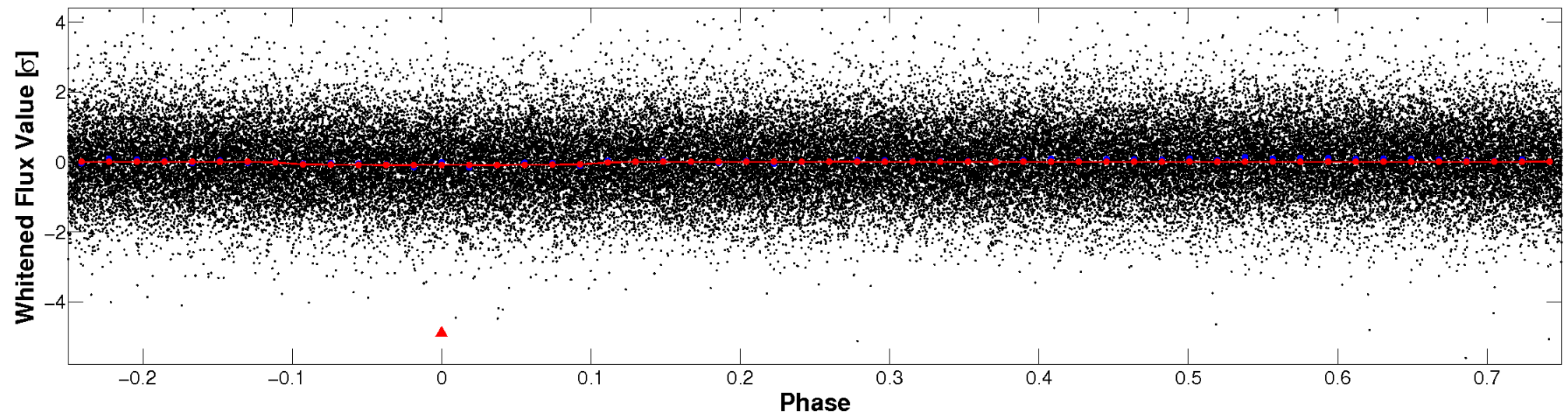


Non-Whitened Vs. Whitened Light Curve

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

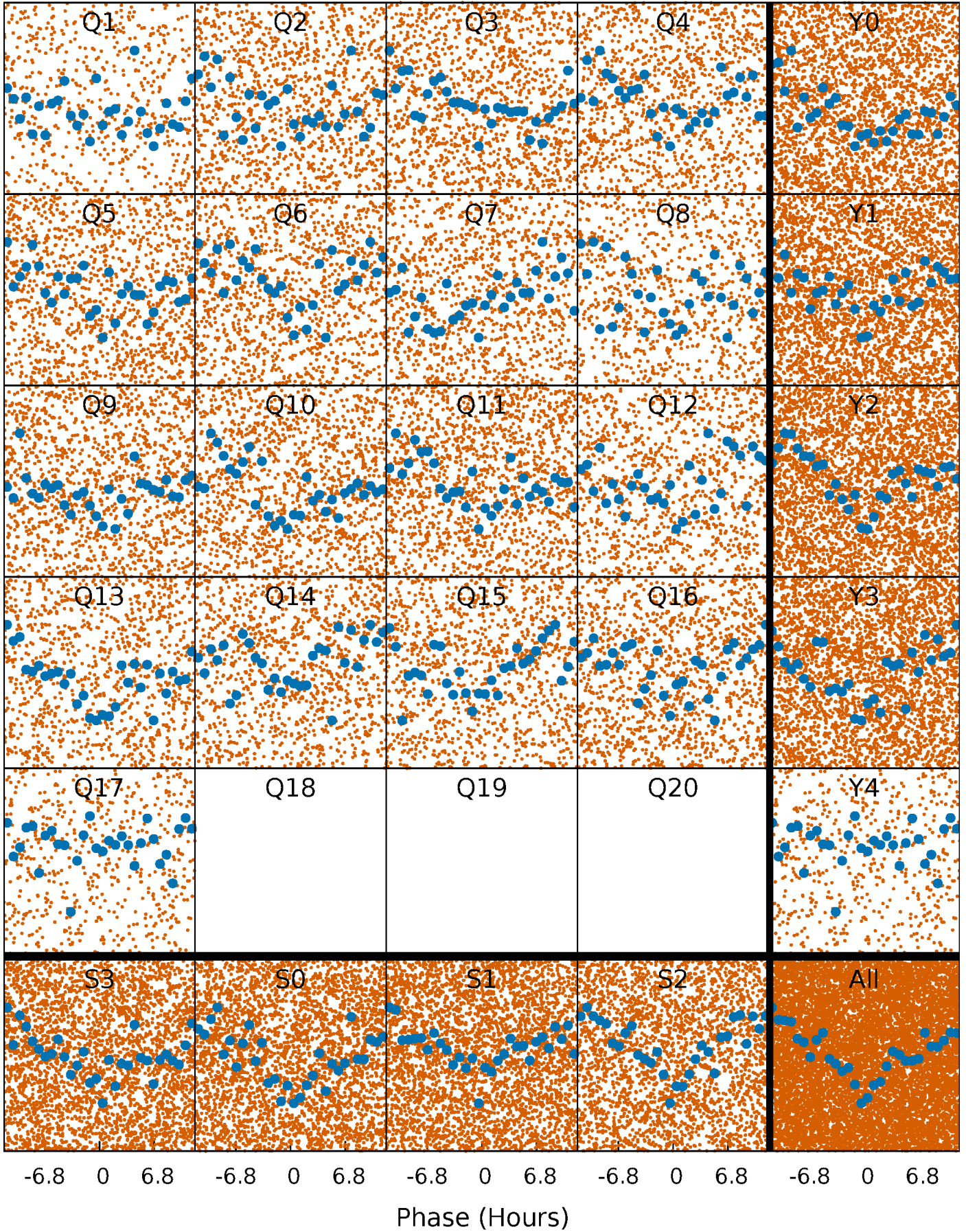


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



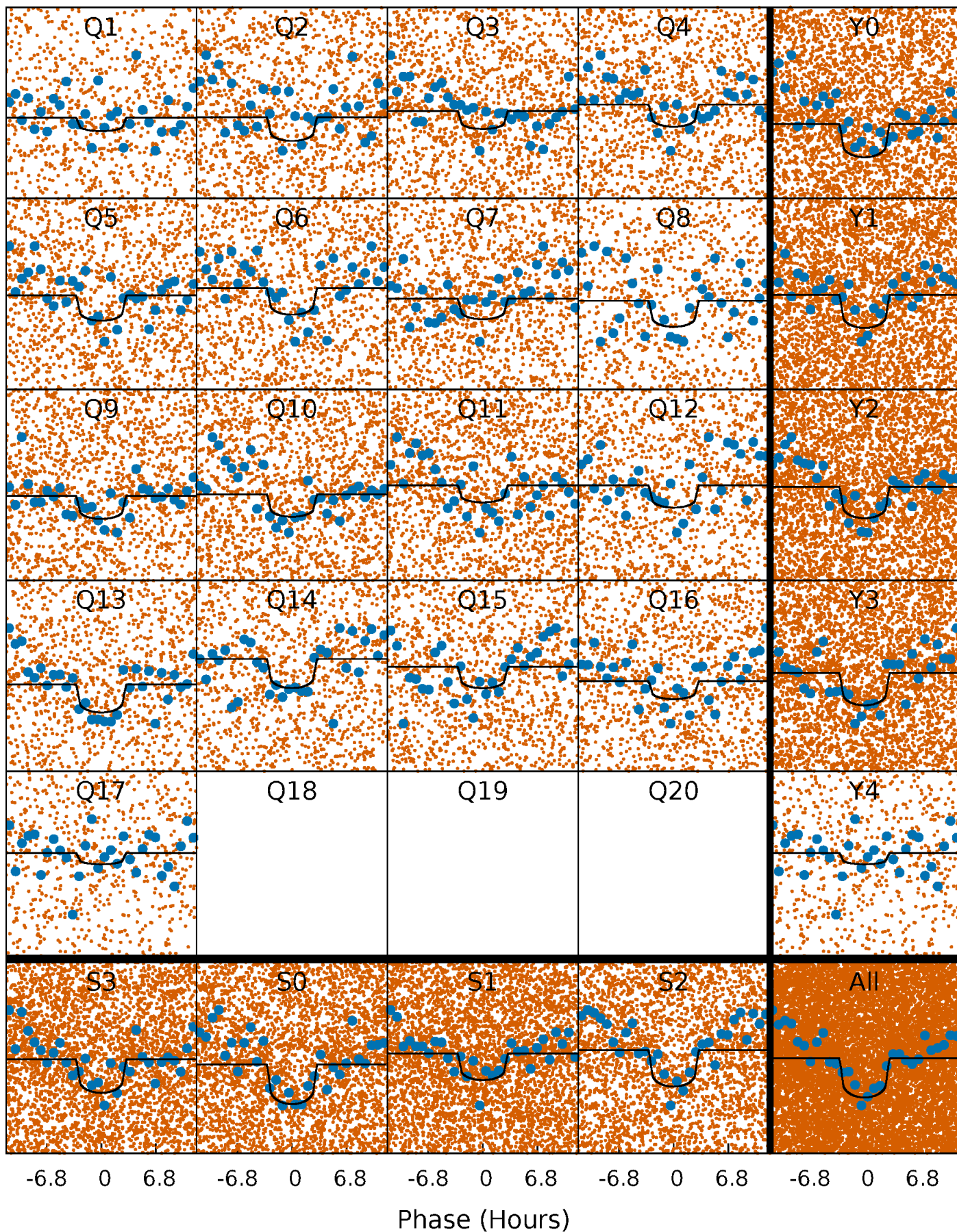
PDC Quarter-Phased Transit Curves

TCE 008161707-01 P= 1.101588 Days $T_0=132.401445$ (BKJD)



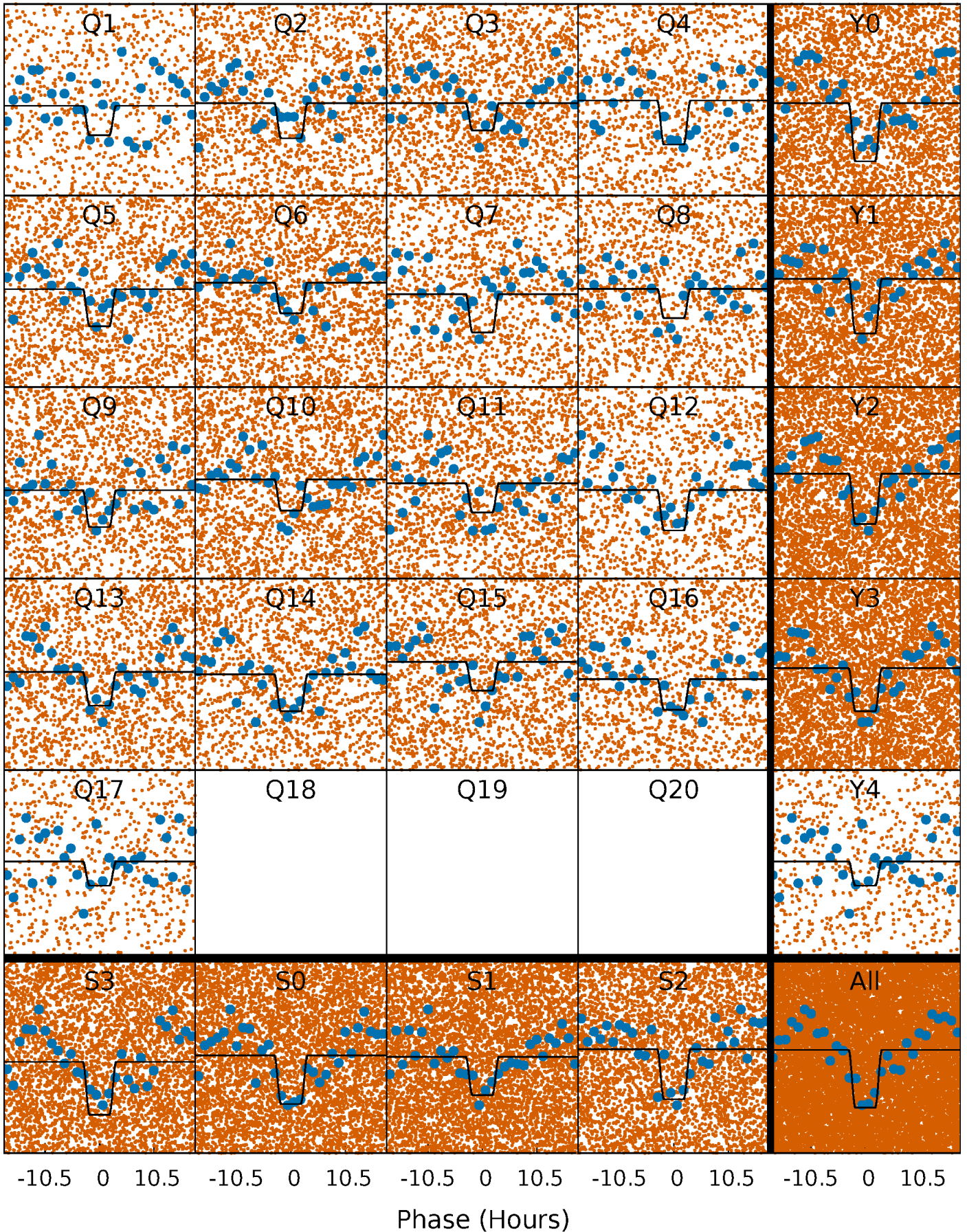
DV Quarter-Phased Transit Curves

TCE 008161707-01 P= 1.101588 Days $T_0=132.401445$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

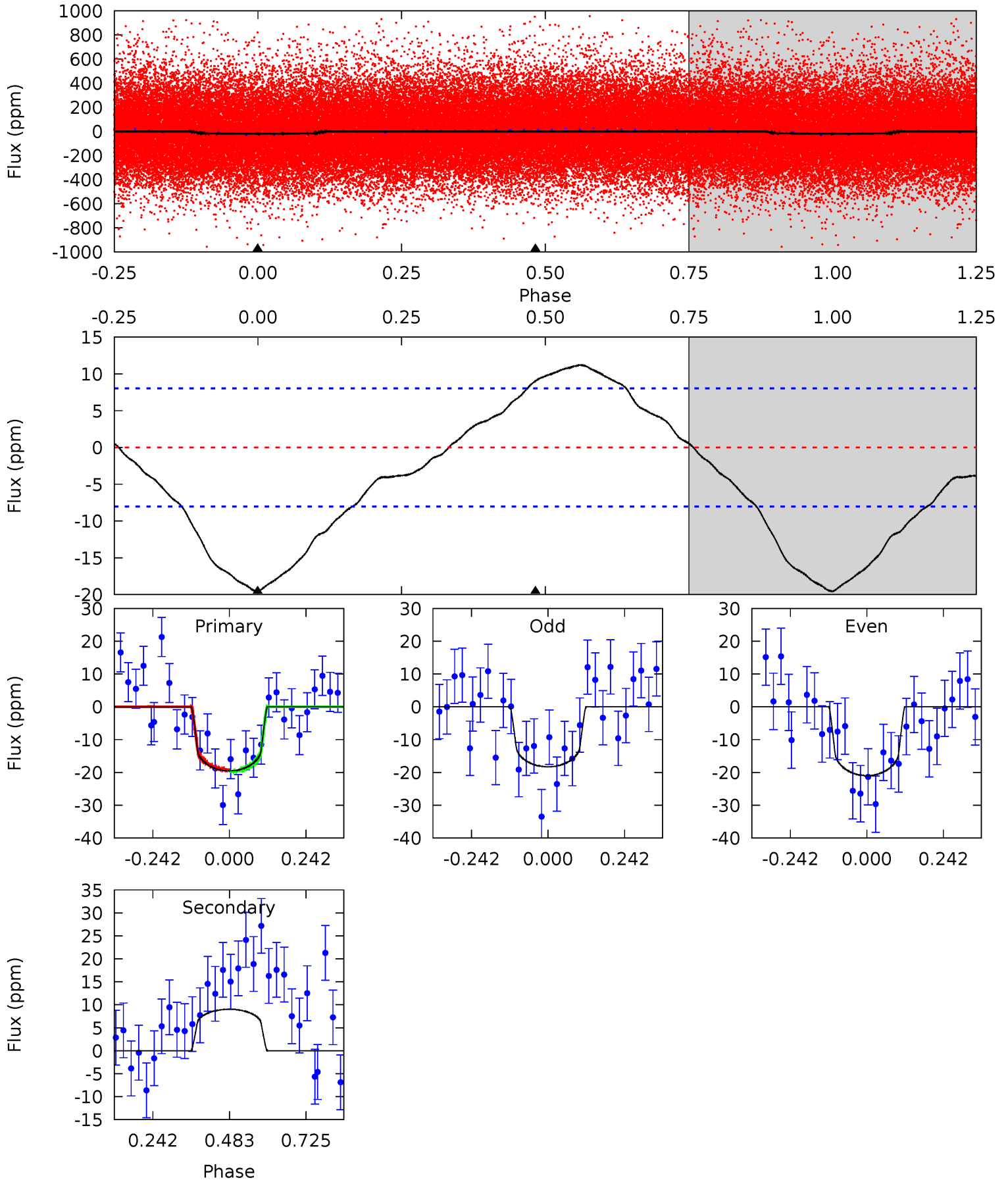
TCE 008161707-01 P= 1.101542 Days $T_0=132.427827$ (BKJD)



DV Model-Shift Uniqueness Test

008161707-01, P = 1.101588 Days, E = 131.299857 Days

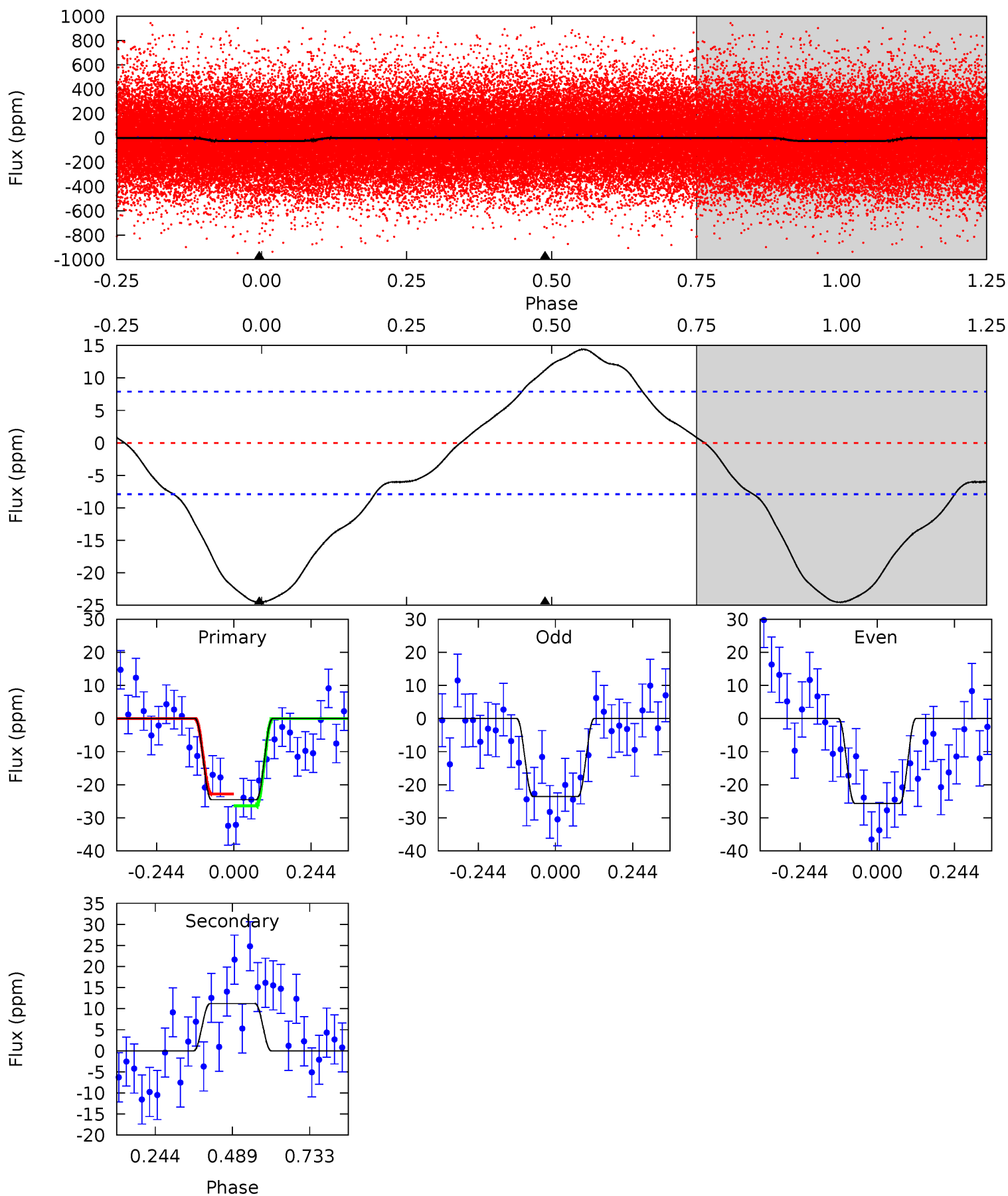
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	-4.91	0	0	4.38	1.17	1.43	10.6	10.6	-4.91	-4.91	0.73	0.93	0.36	0.14



Alt Model-Shift Uniqueness Test

008161707-01, P = 1.101542 Days, E = 131.326285 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	-6.20	0	0	4.37	1.16	2.04	13.6	13.6	-6.20	-6.20	0.57	0.81	0.37	0.99



Stellar Parameters For KIC 008161707

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5953^{+159}_{-177}	$4.571^{+0.035}_{-0.196}$	$-0.520^{+0.300}_{-0.300}$	$0.807^{+0.218}_{-0.073}$	$0.885^{+0.087}_{-0.096}$	$2.367^{+0.421}_{-1.133}$
	+3%/-3%	+1%/-4%	+58%/-58%	+27%/-9%	+10%/-11%	+18%/-48%
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 008161707-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	9 ± 2	$0.47^{+0.27}_{-0.23}$	2381^{+160}_{-96}	-4730^{+746}_{-1692}	$-8.621^{+5.198}_{-24.508}$
Alt.	11 ± 2	$0.49^{+0.26}_{-0.24}$	2383^{+158}_{-99}	-4862^{+712}_{-1780}	$-9.734^{+5.650}_{-28.252}$

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

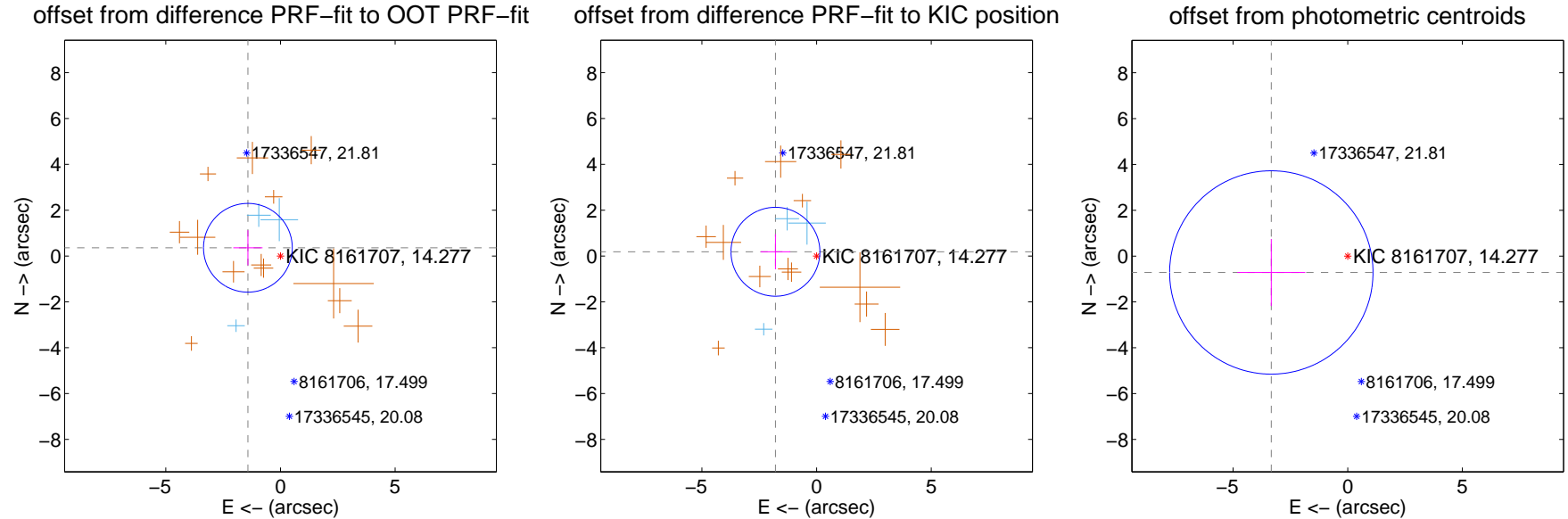
DV Centroid Data

Supplemental centroid analysis for 008161707-01. Kepler magnitude: 14.28. Transit SNR 9.64

There are 3 quarters with good PRF difference image offsets

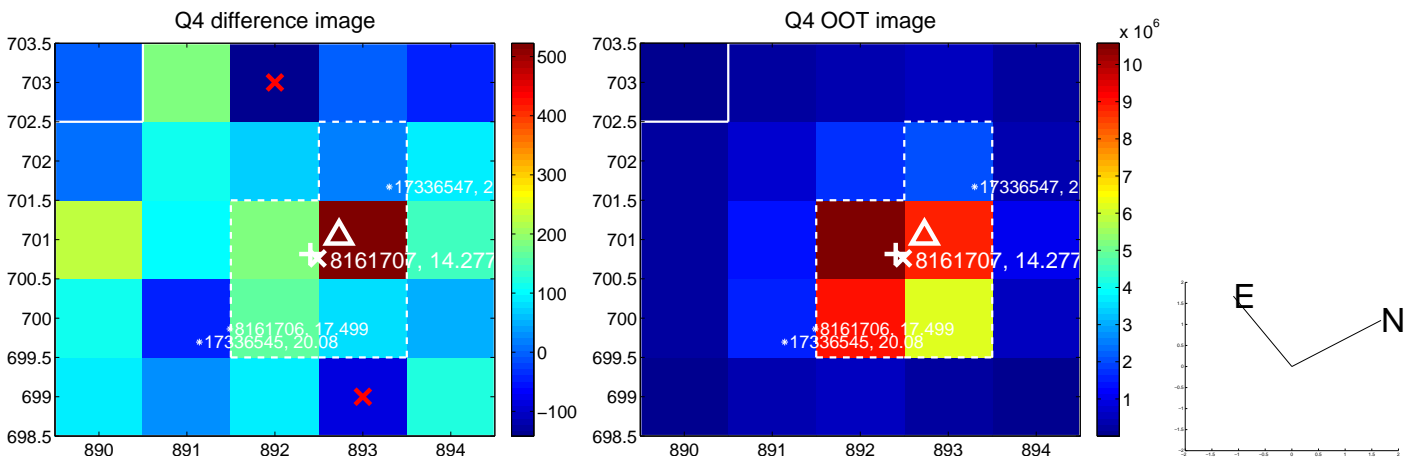
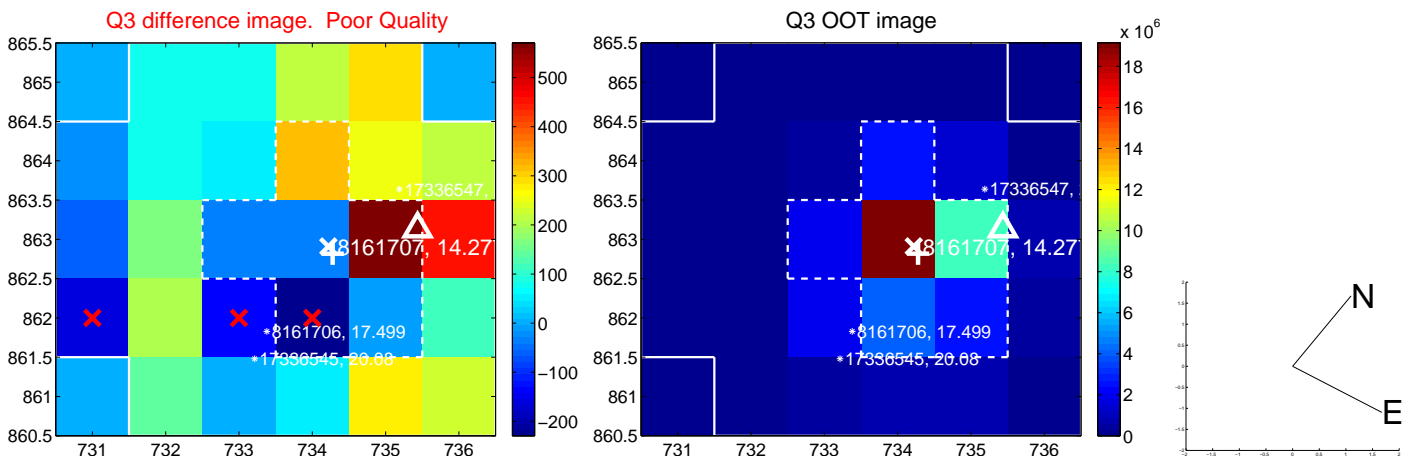
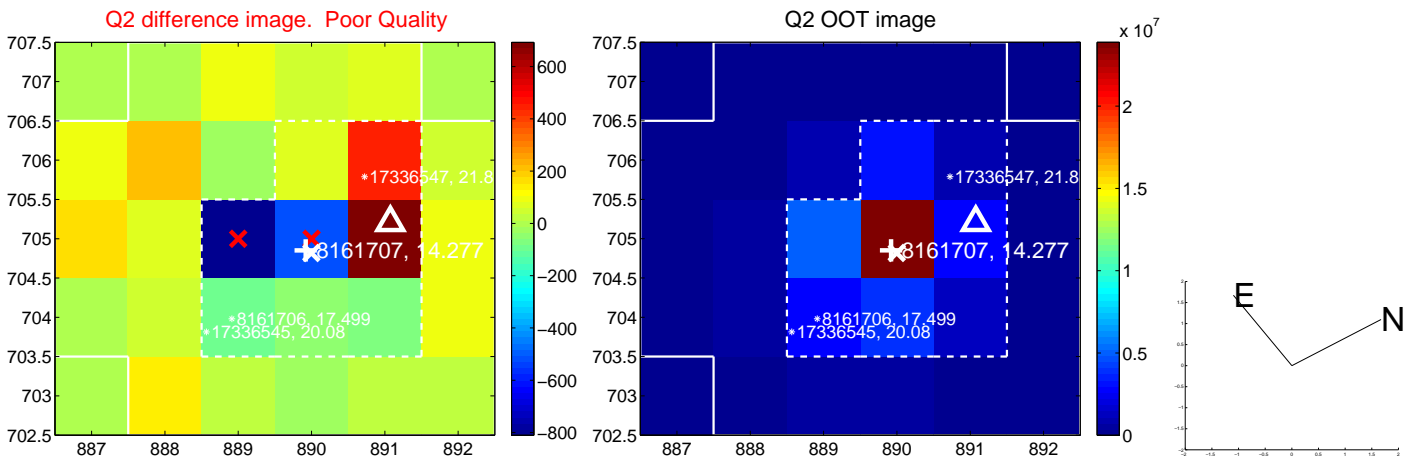
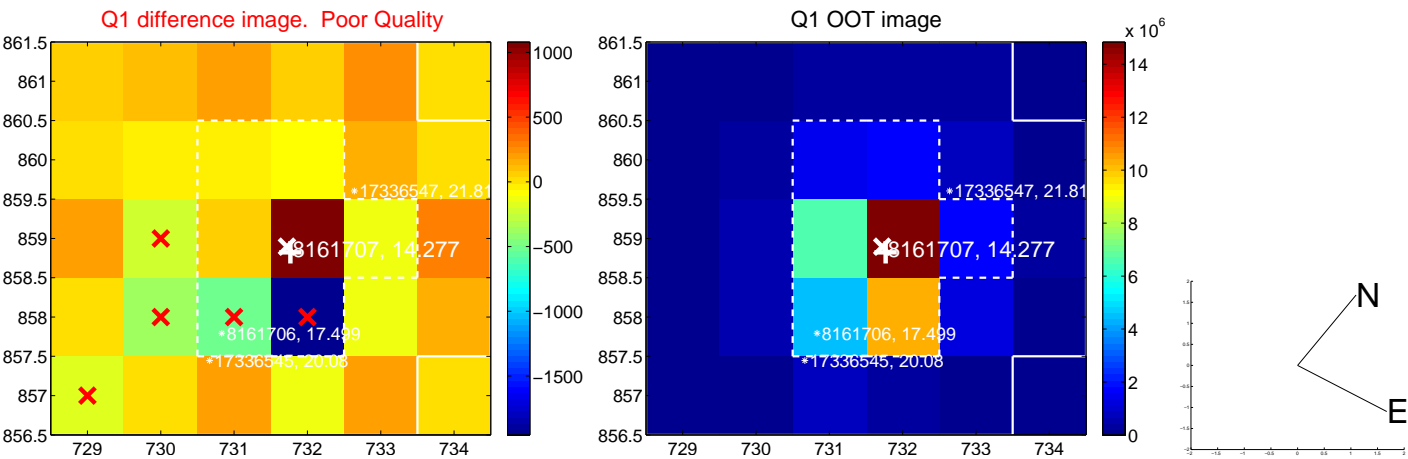
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.465 ± 0.645	2.27	1.420 ± 0.637	0.360 ± 0.766
PRF-fit source offset from KIC position	1.804 ± 0.646	2.79	1.794 ± 0.645	0.186 ± 0.766
photometric centroid source offset	3.41 ± 1.48	2.30	3.33 ± 1.48	-0.71 ± 1.46

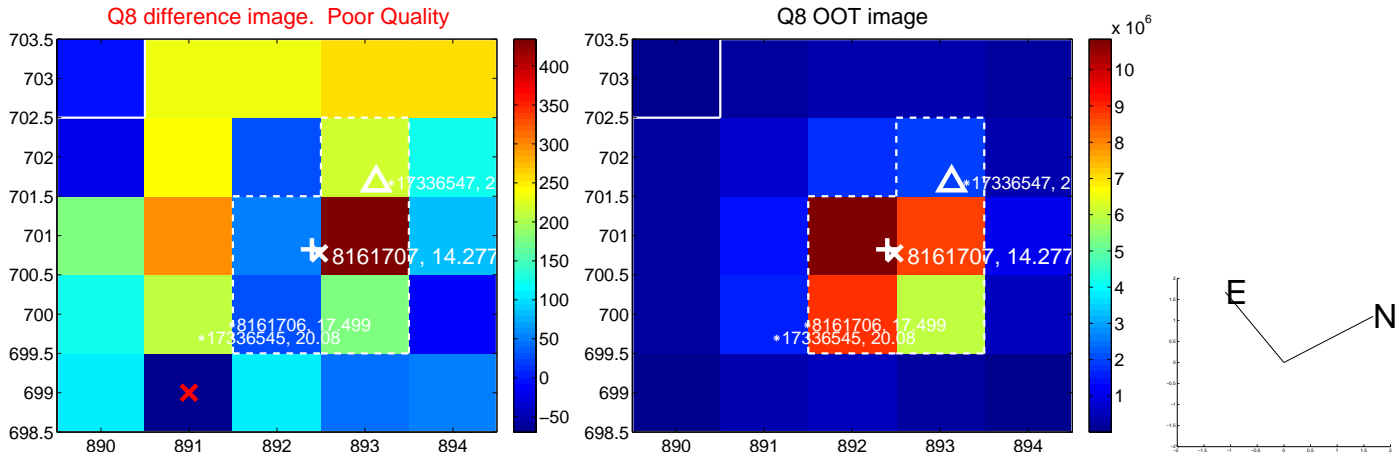
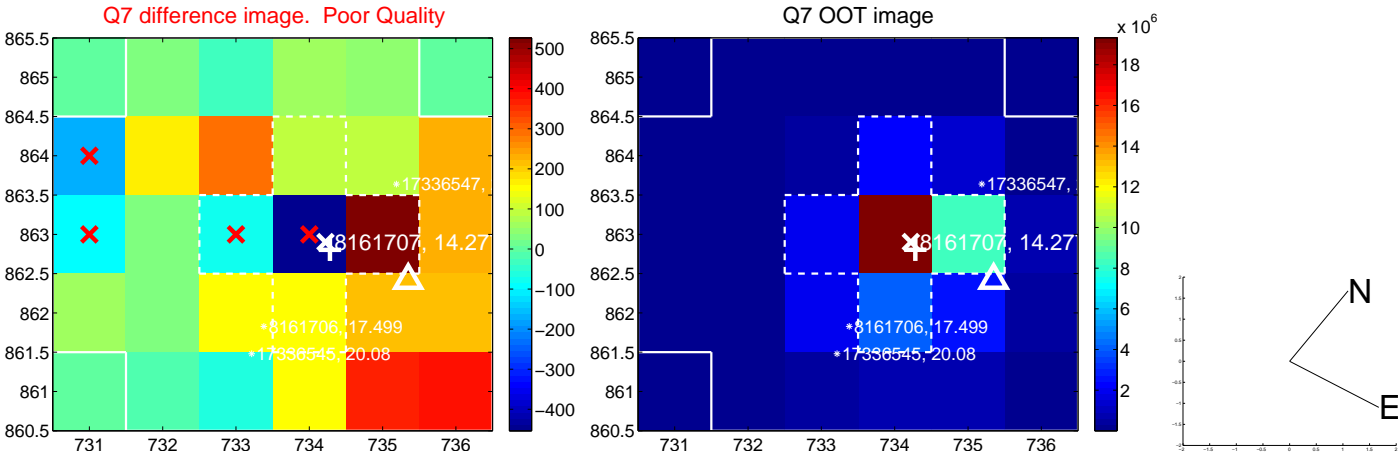
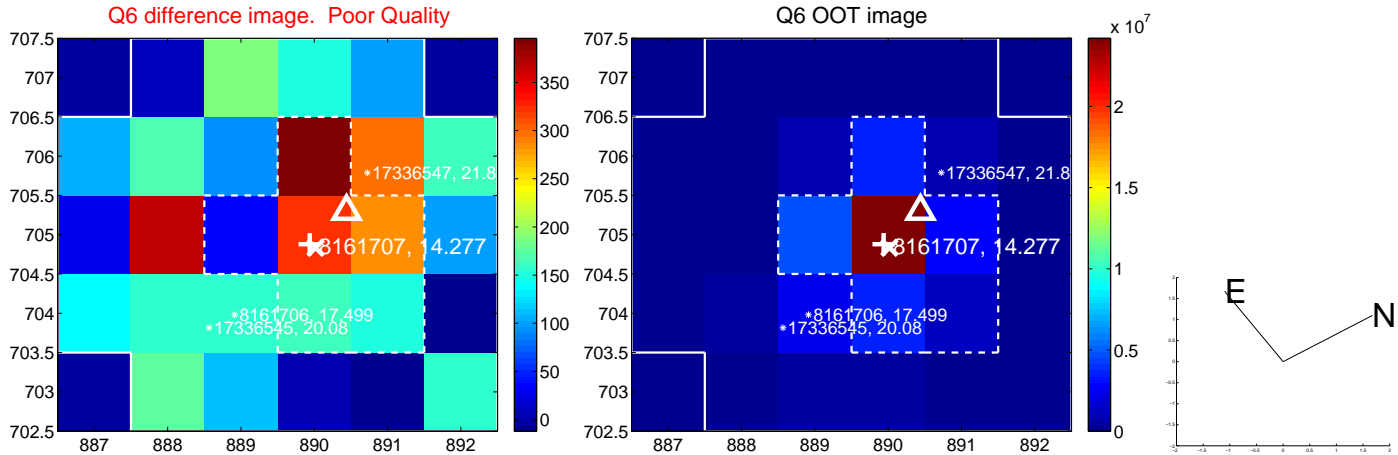
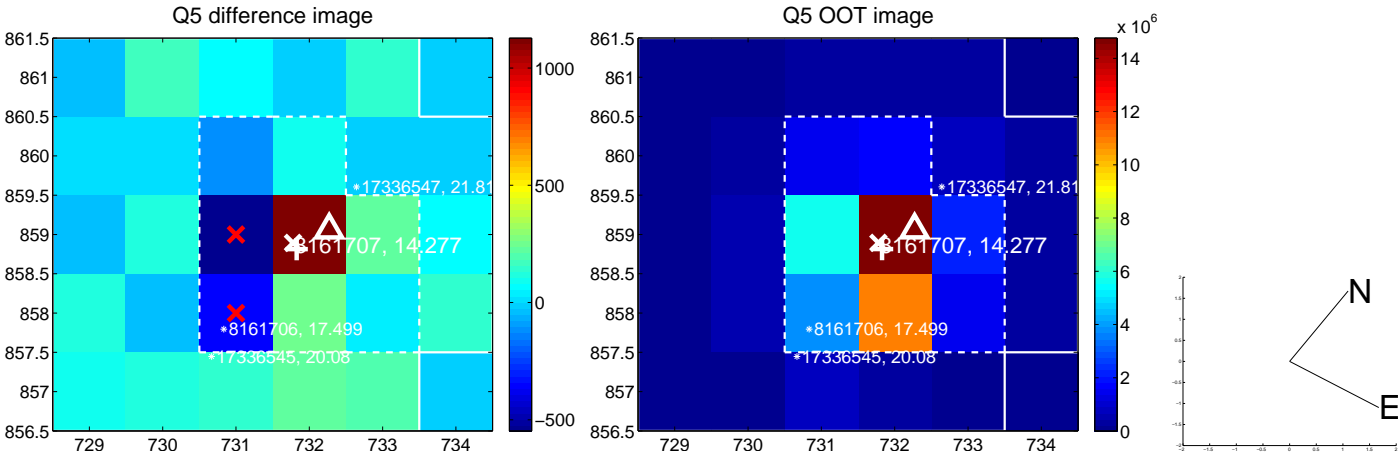


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

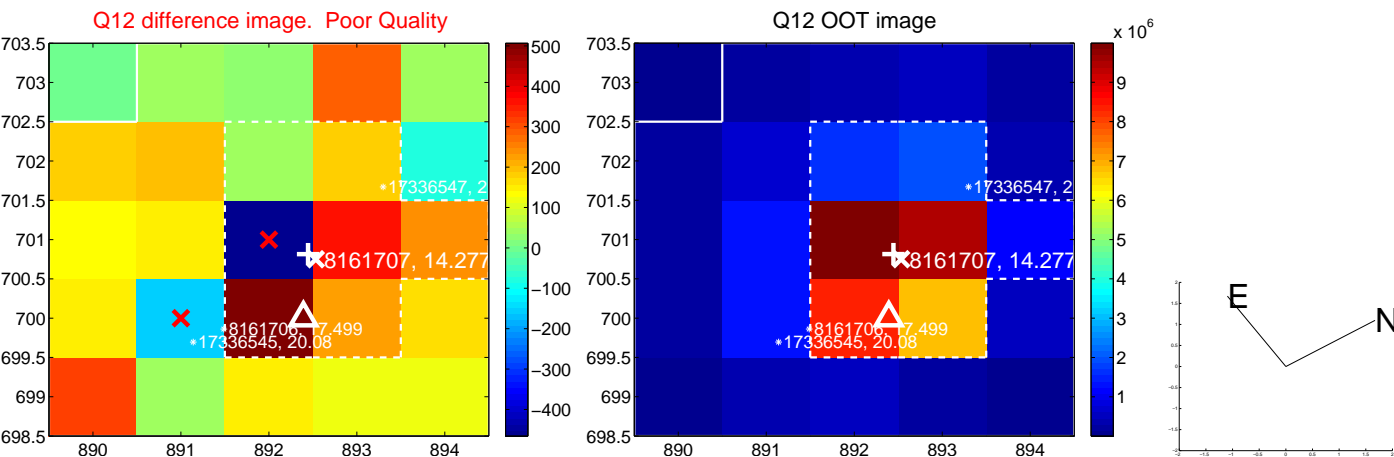
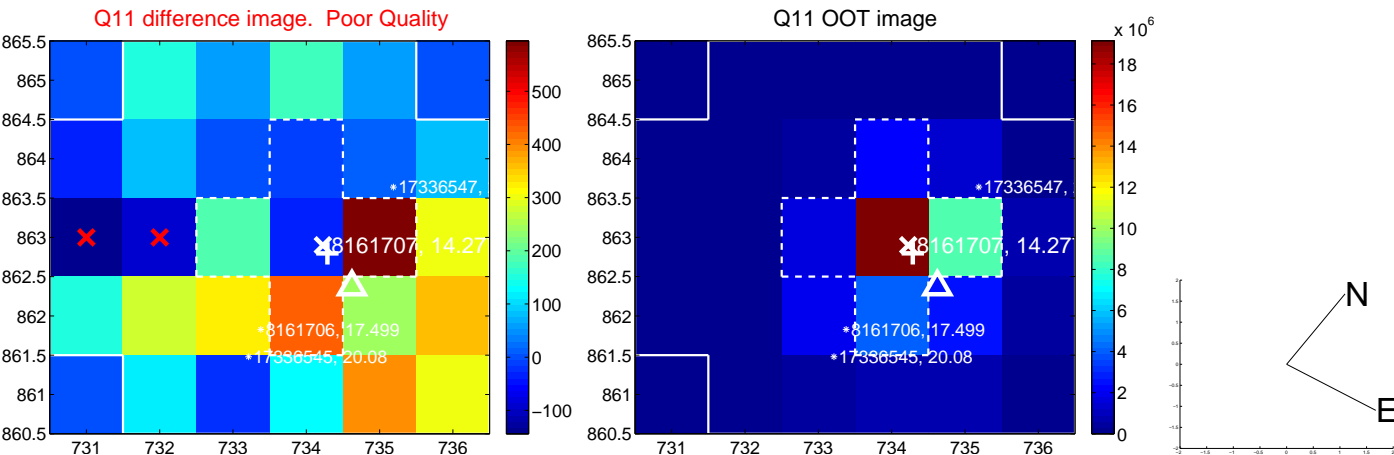
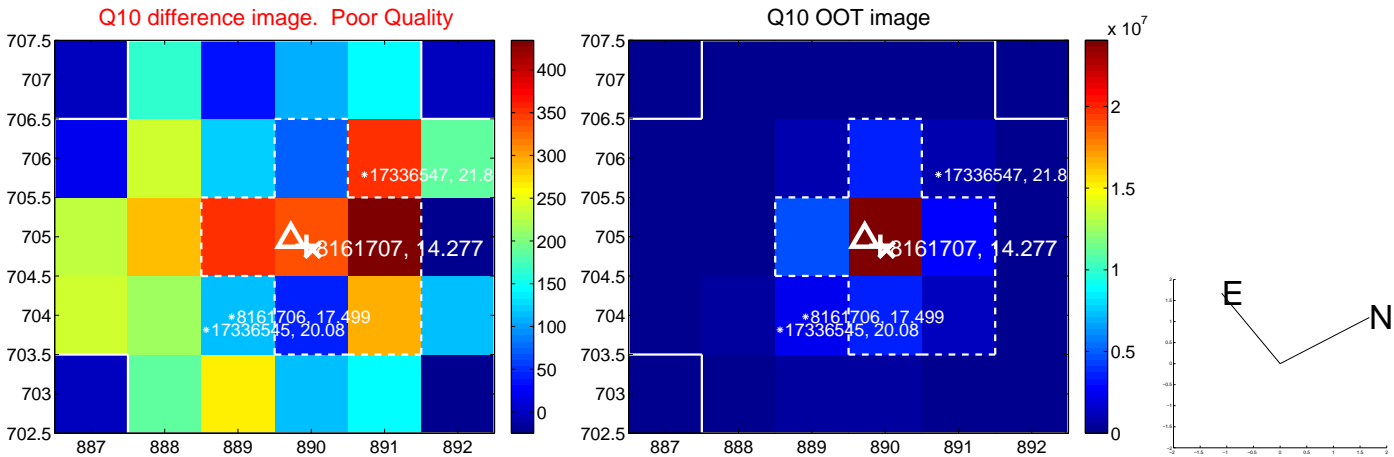
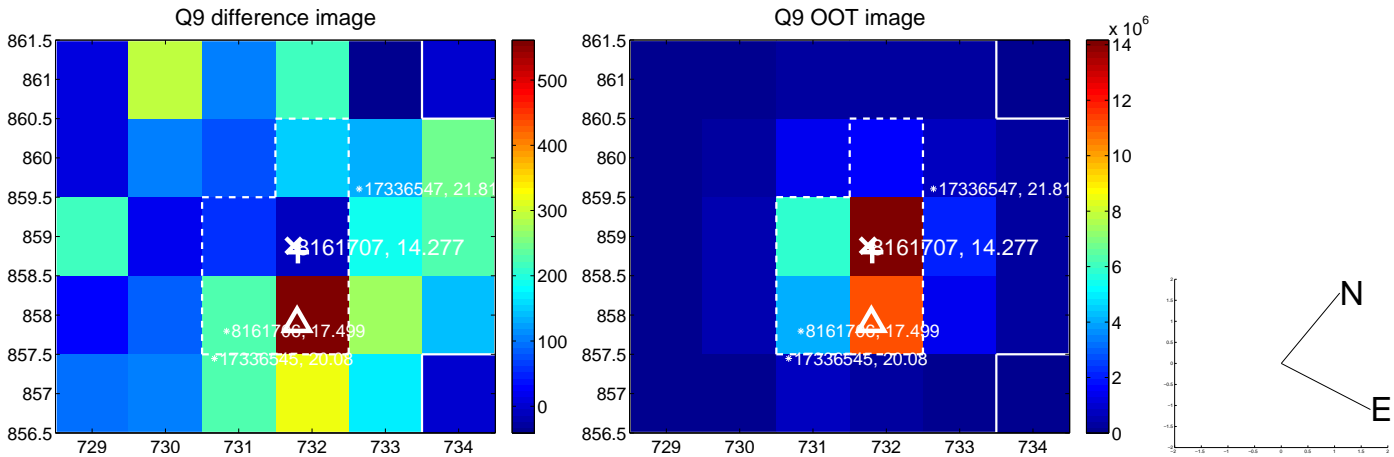
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



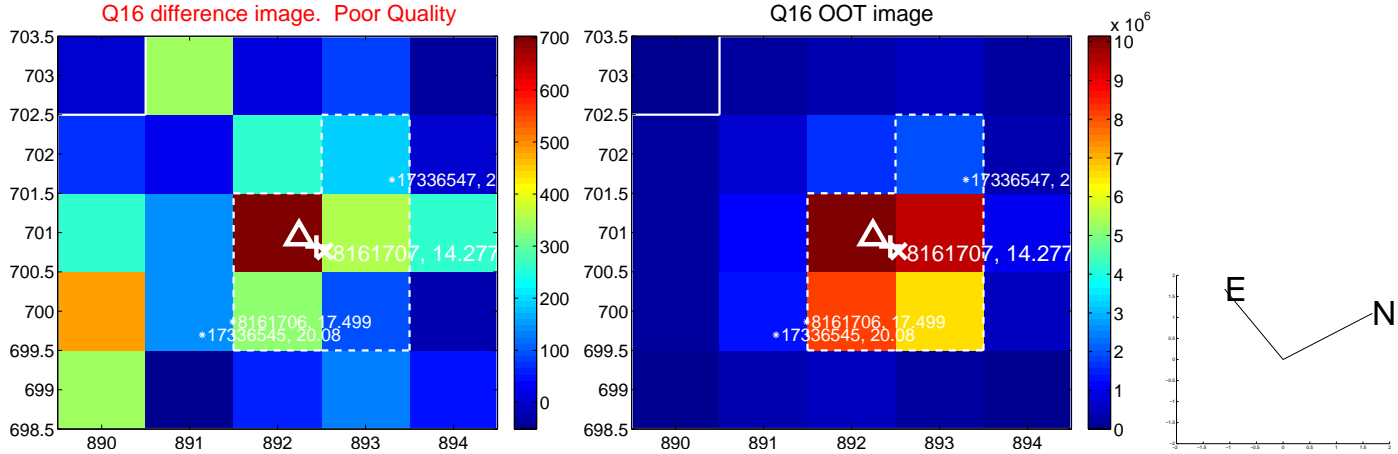
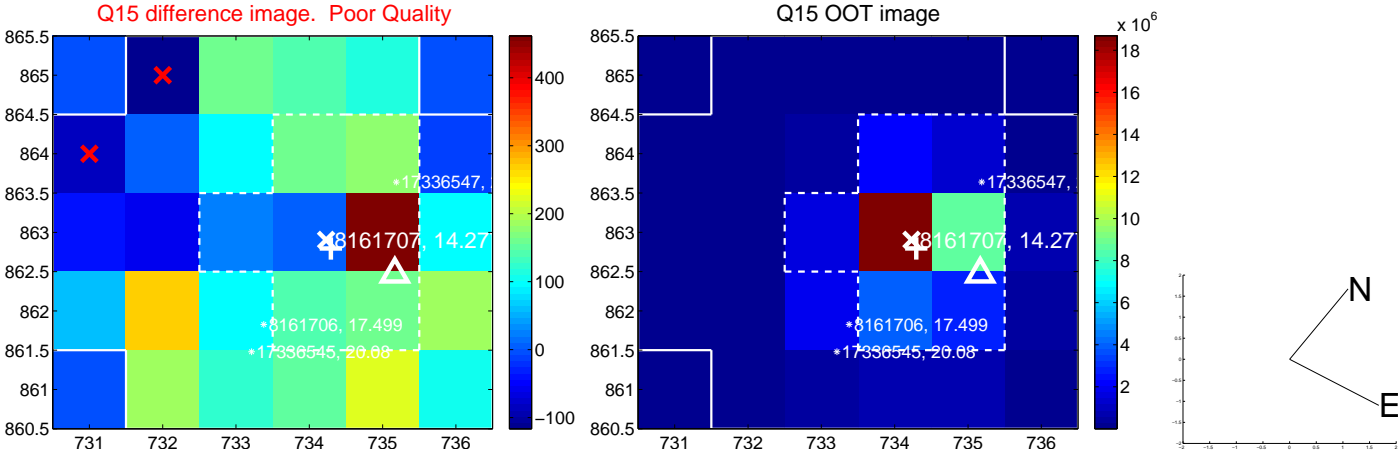
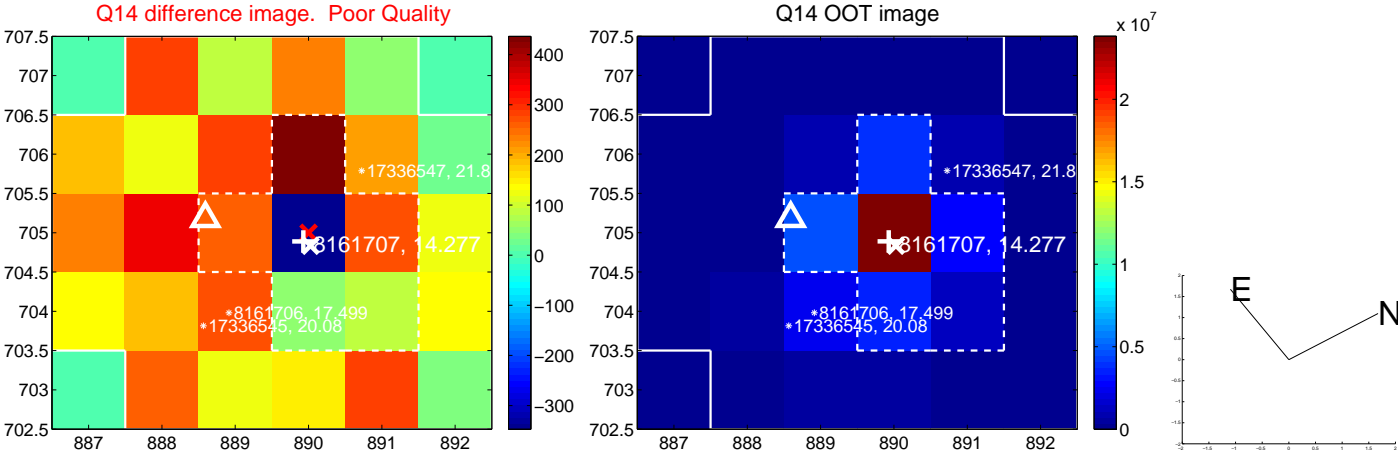
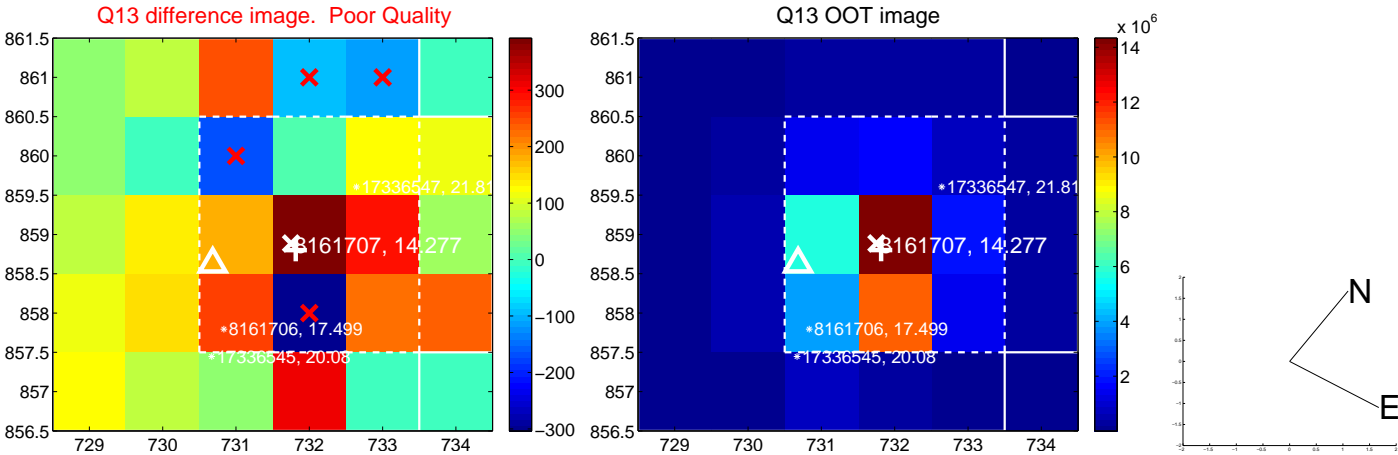
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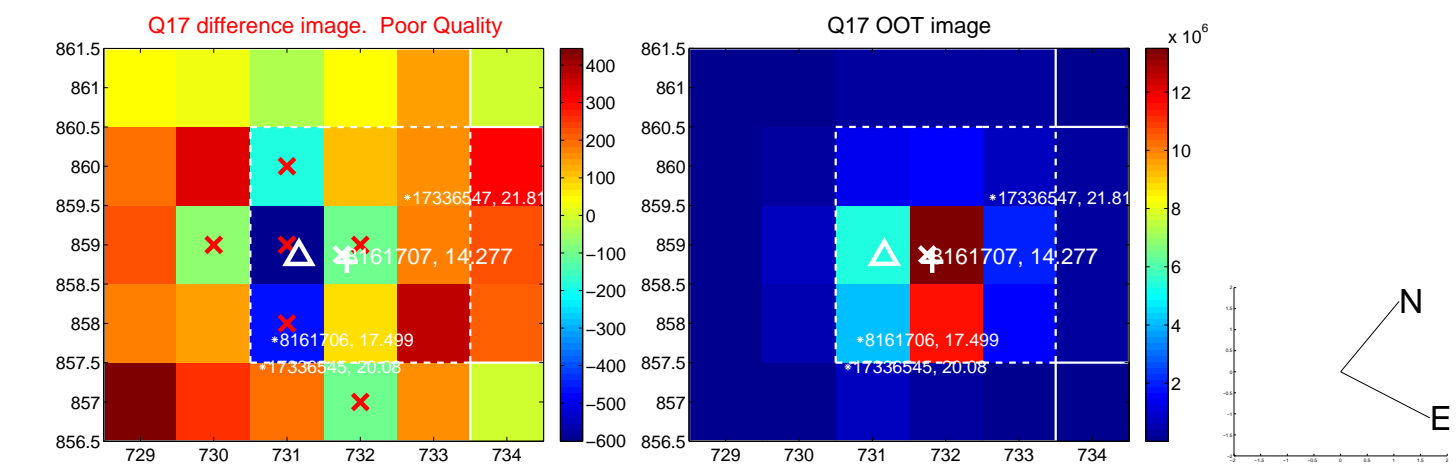
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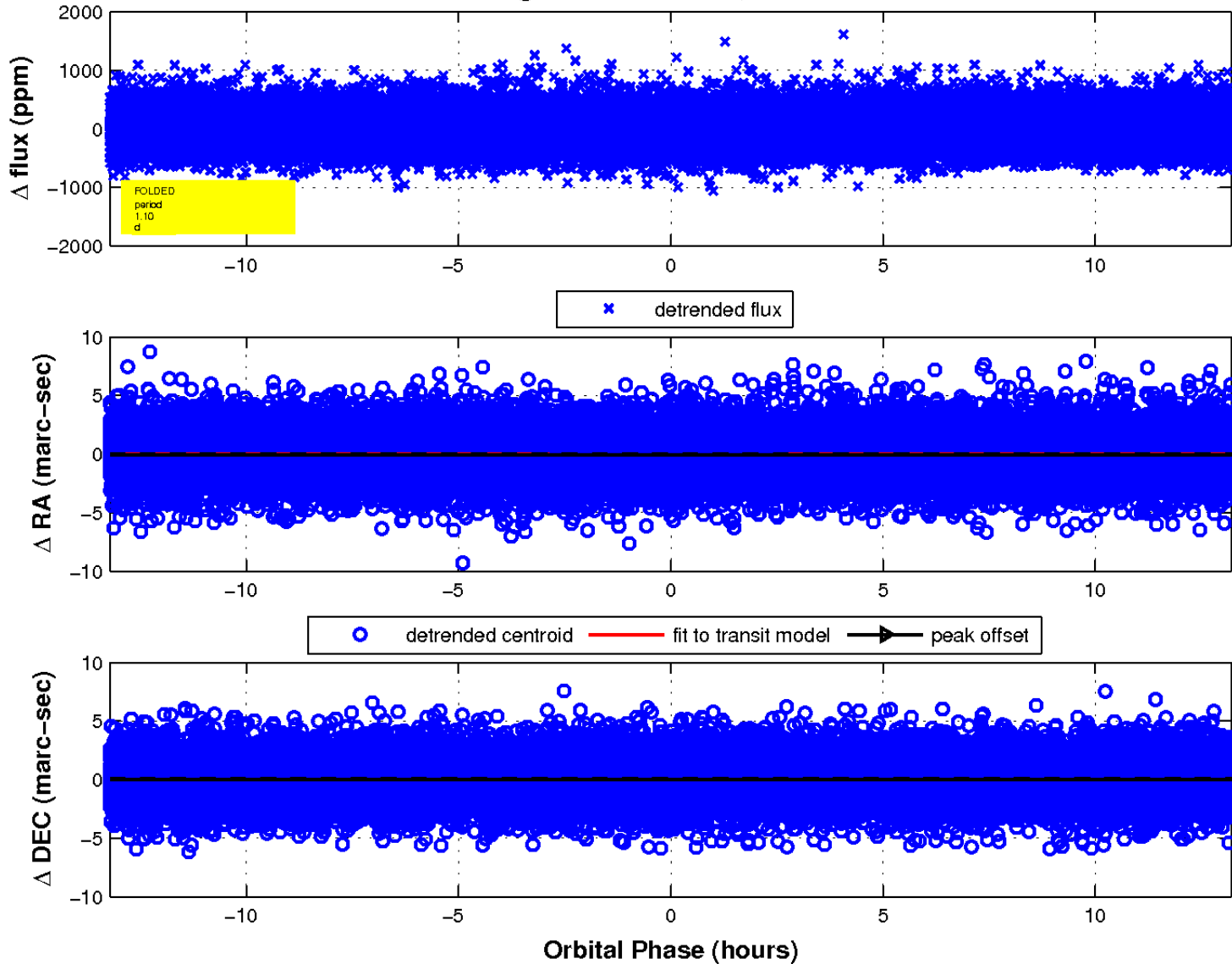
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

