

KIC 009163180

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})
009163180-01	OBS	No	1.348161	132.072559	5.0	12.278	9.5	4.6	3.00	6934	0.72	23131.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009163180-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_SATURATED

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

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

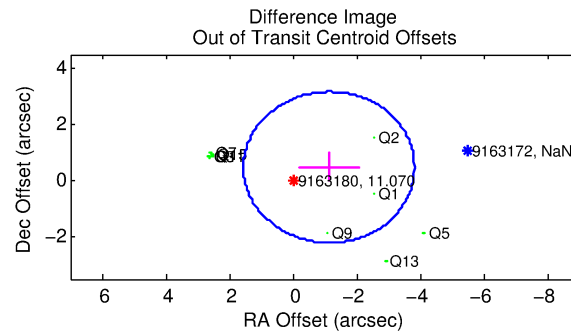
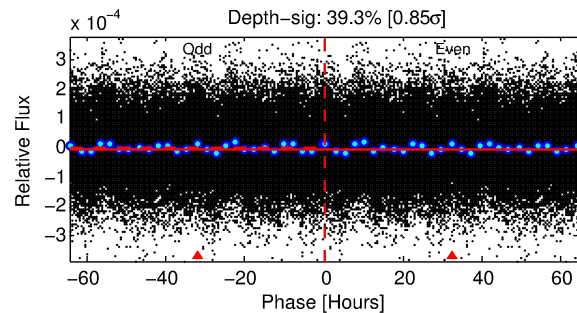
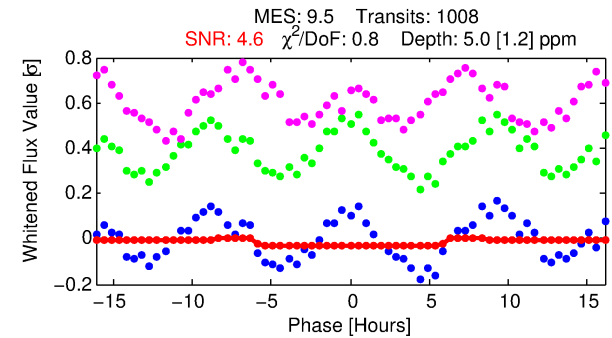
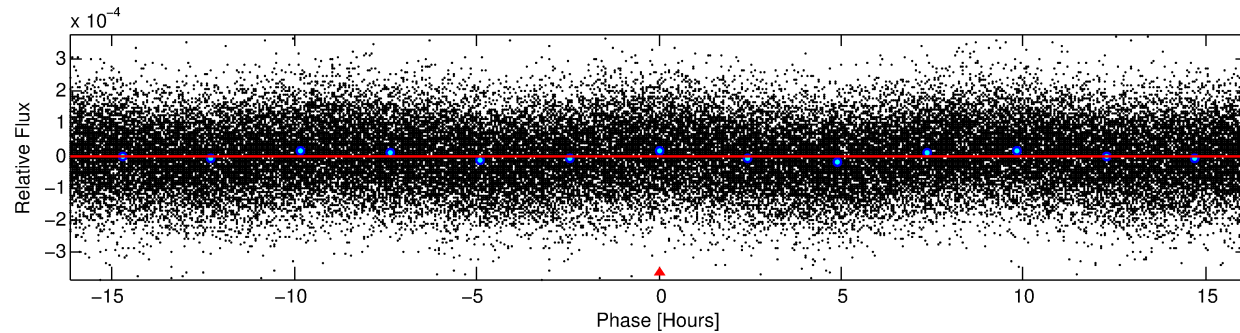
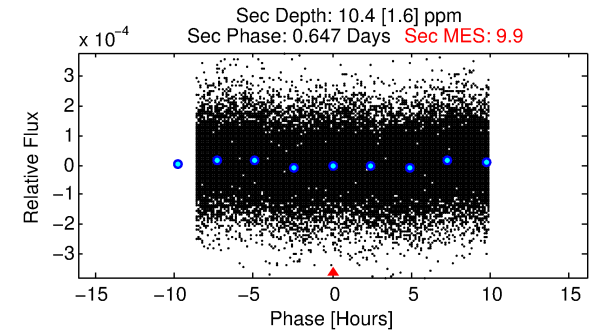
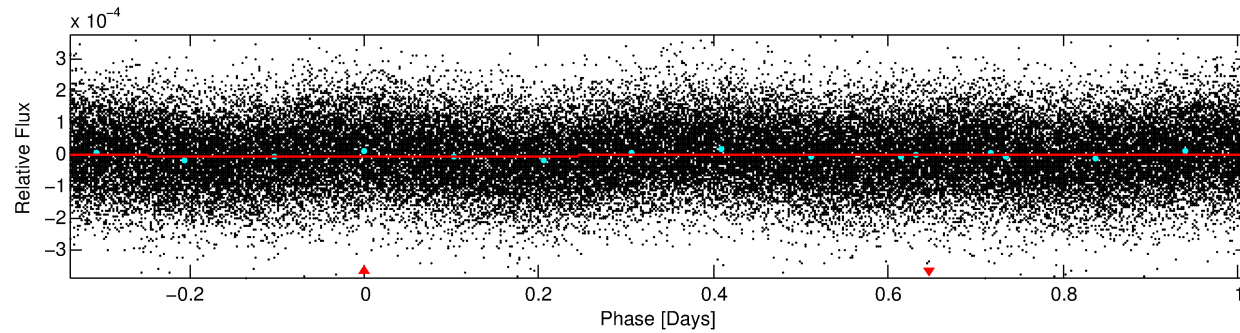
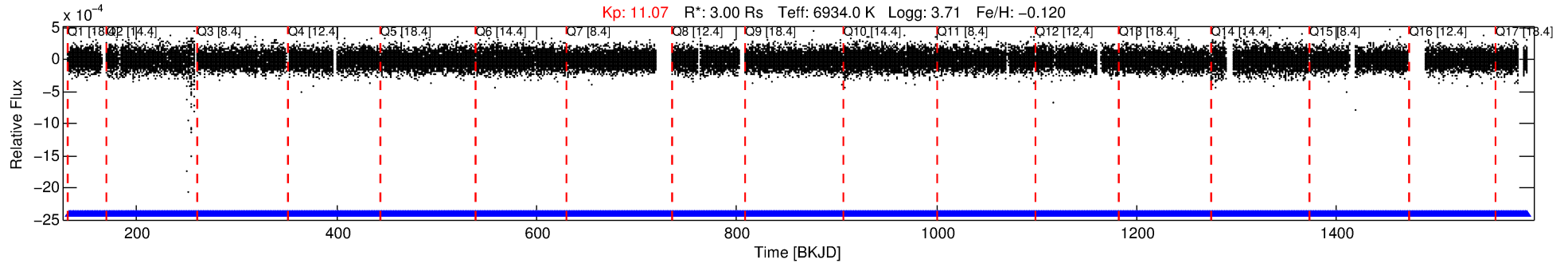
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009163180-01

No Significant Match Found

DV One-Page Summary

KIC: 9163180 Candidate: 1 of 1 Period: 1.348 d



DV Fit Results:

Period = 1.34816 [0.00006] d
Epoch = 132.0726 [0.0148] BKJD
 $R_p/R^* = 0.0022$ [0.0036]
 $a/R^* = 1.04$ [0.77]
 $b = 0.73$ [6.59]
 $S_{\text{eff}} = 23131.87$ [12443.28]
 $T_{\text{eq}} = 3145$ [423] K
 $R_p = 0.72$ [1.22] R_{e}
 $a = 0.0284$ [0.0094] AU
 $A_g = 8.80$ [29.49] [0.26σ]
 $T_{\text{eff}} = 8374$ [6936] K [0.75σ]

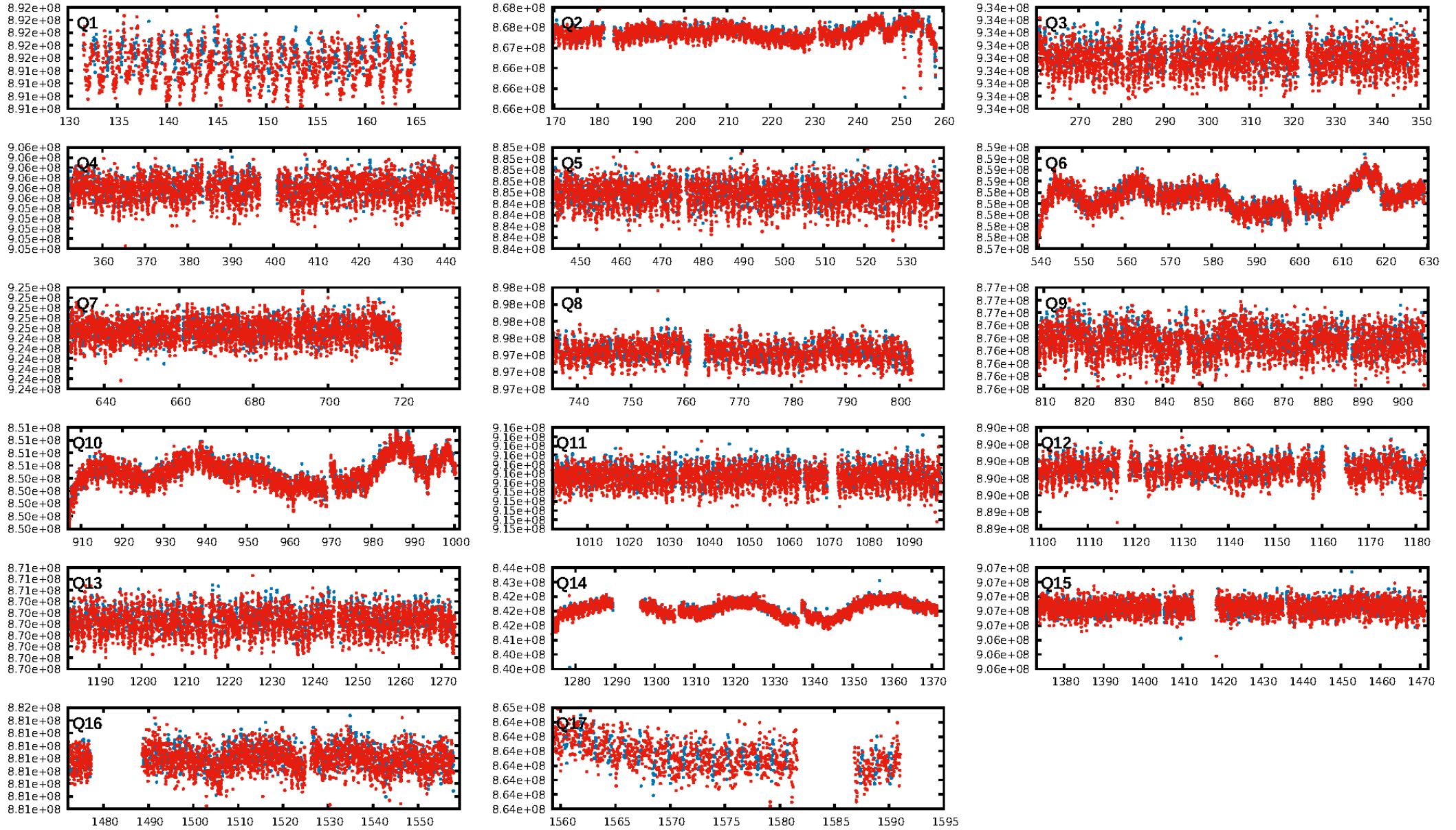
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [962/962]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.234 arcsec [1.38σ]
KicOffset-rm: 1.239 arcsec [1.44σ]
OotOffset-st: 1/4/0/4 [9]
KicOffset-st: 1/4/0/4 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [17/17]

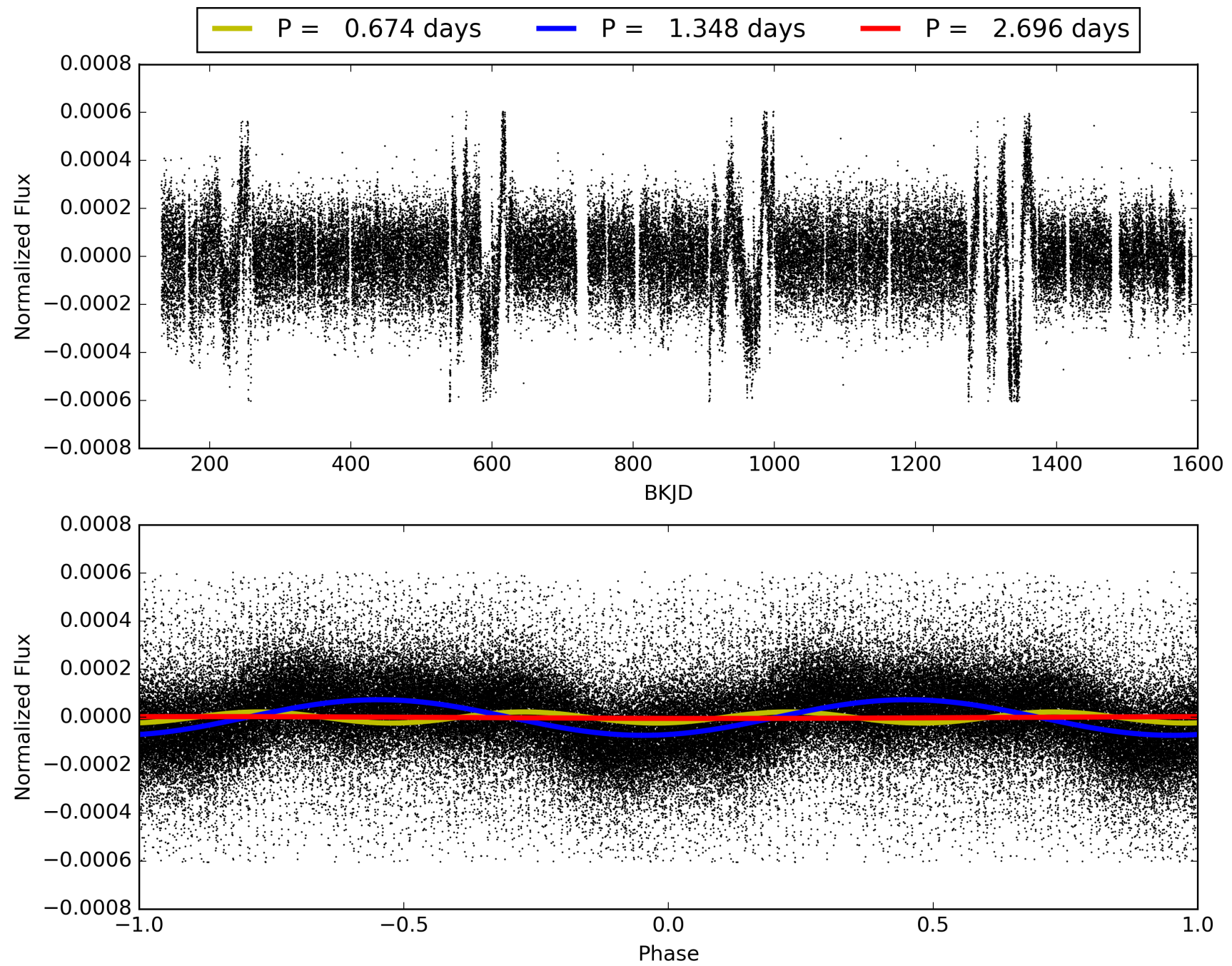
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:41:16 Z

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

TCE 009163180-01, PDC Light Curves

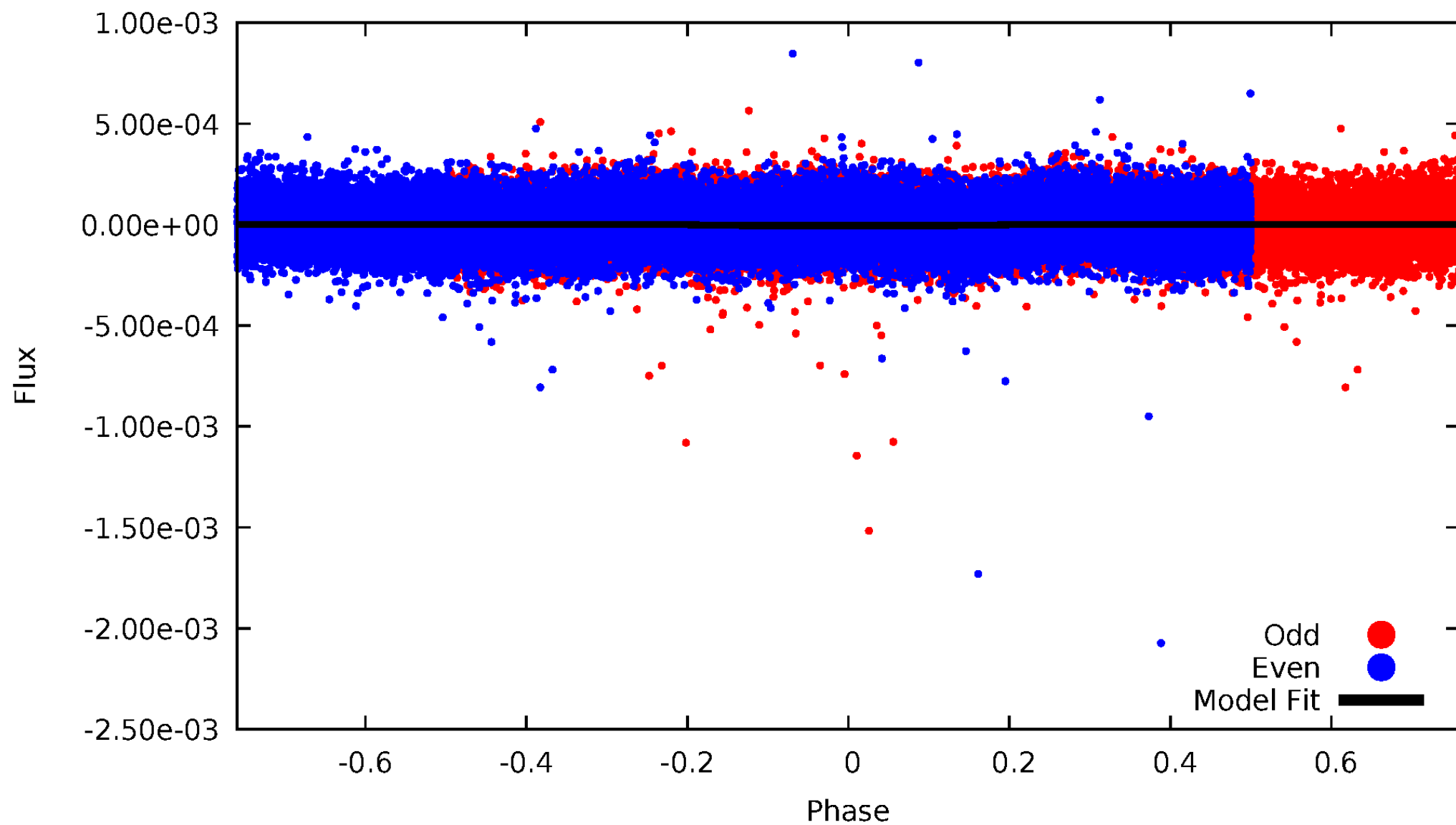


TCE 009163180-01



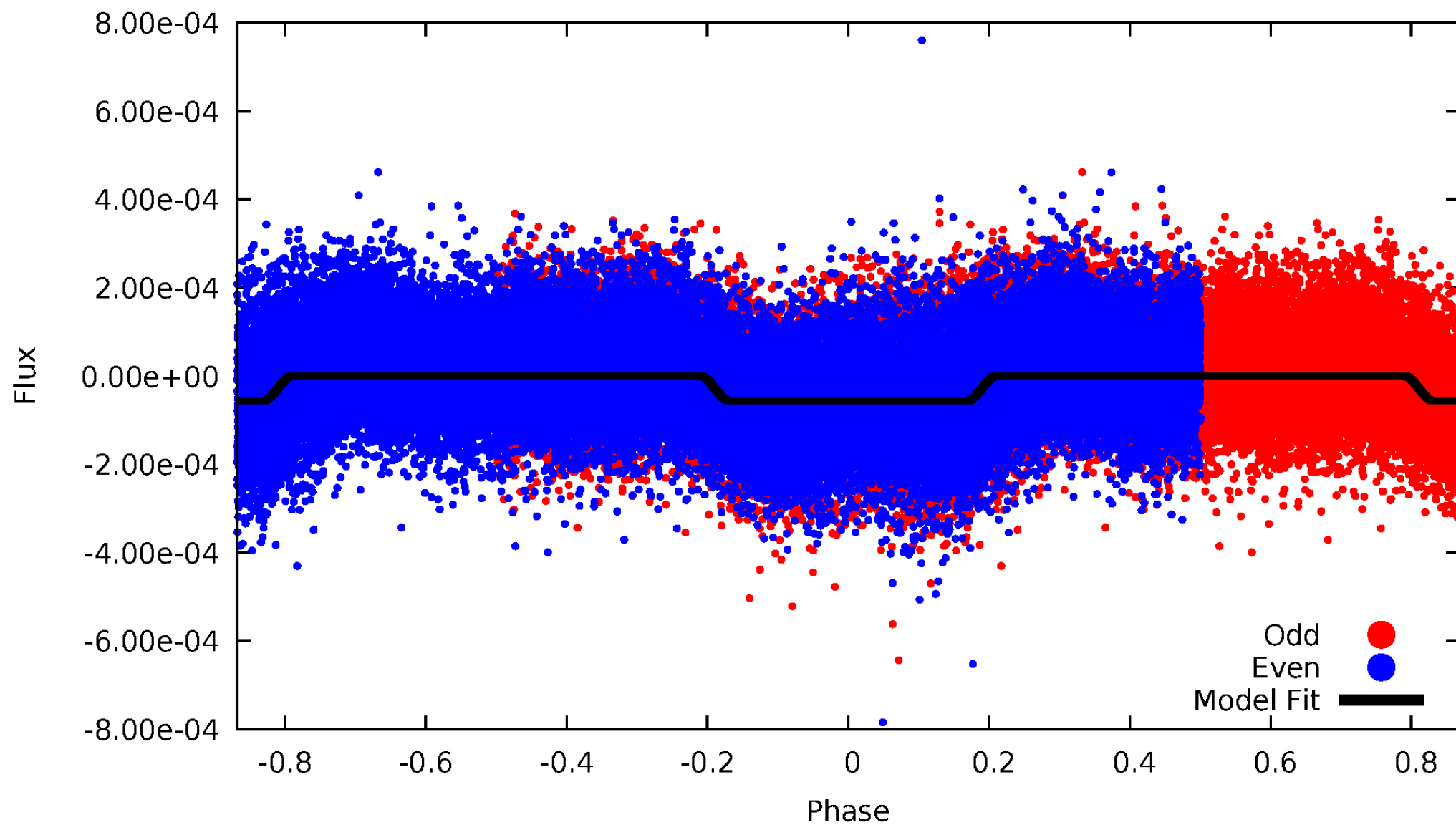
DV Odd/Even

TCE 009163180-01



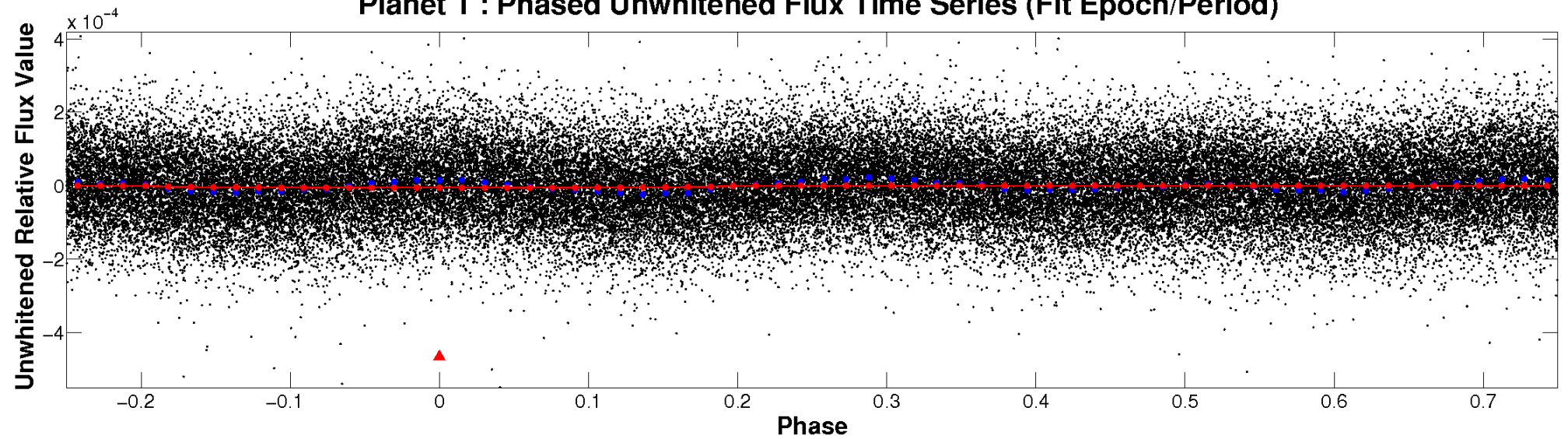
ALT Odd/Even

TCE 009163180-01

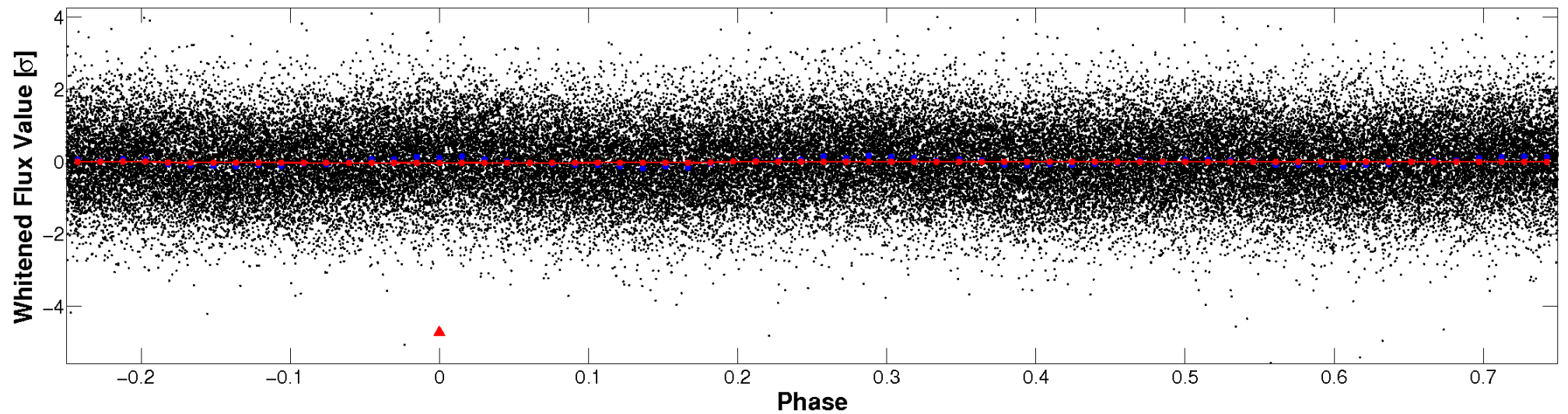


Non-Whitened Vs. Whitened Light Curve

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

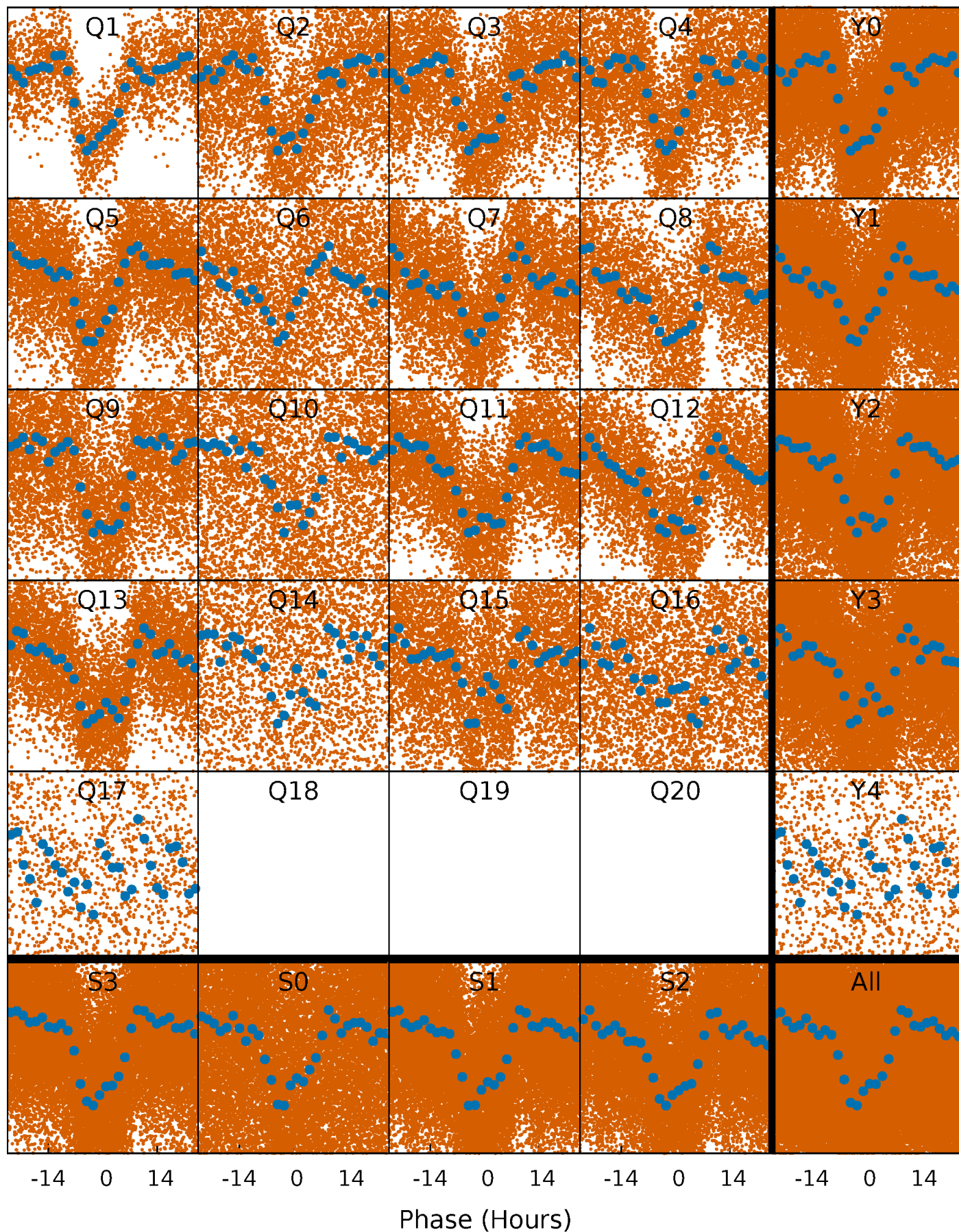


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



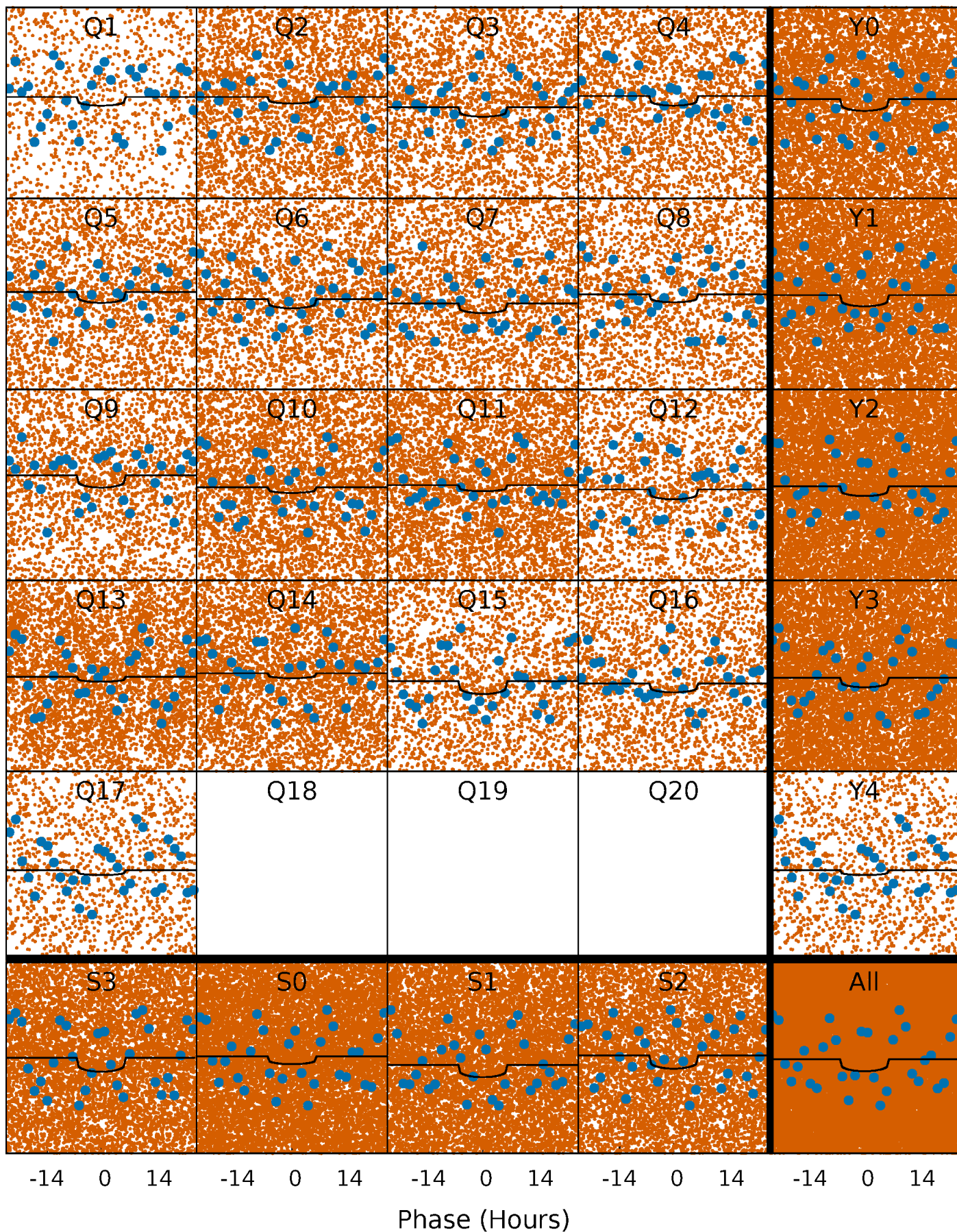
PDC Quarter-Phased Transit Curves

TCE 009163180-01 P= 1.348161 Days $T_0=132.072560$ (BKJD)



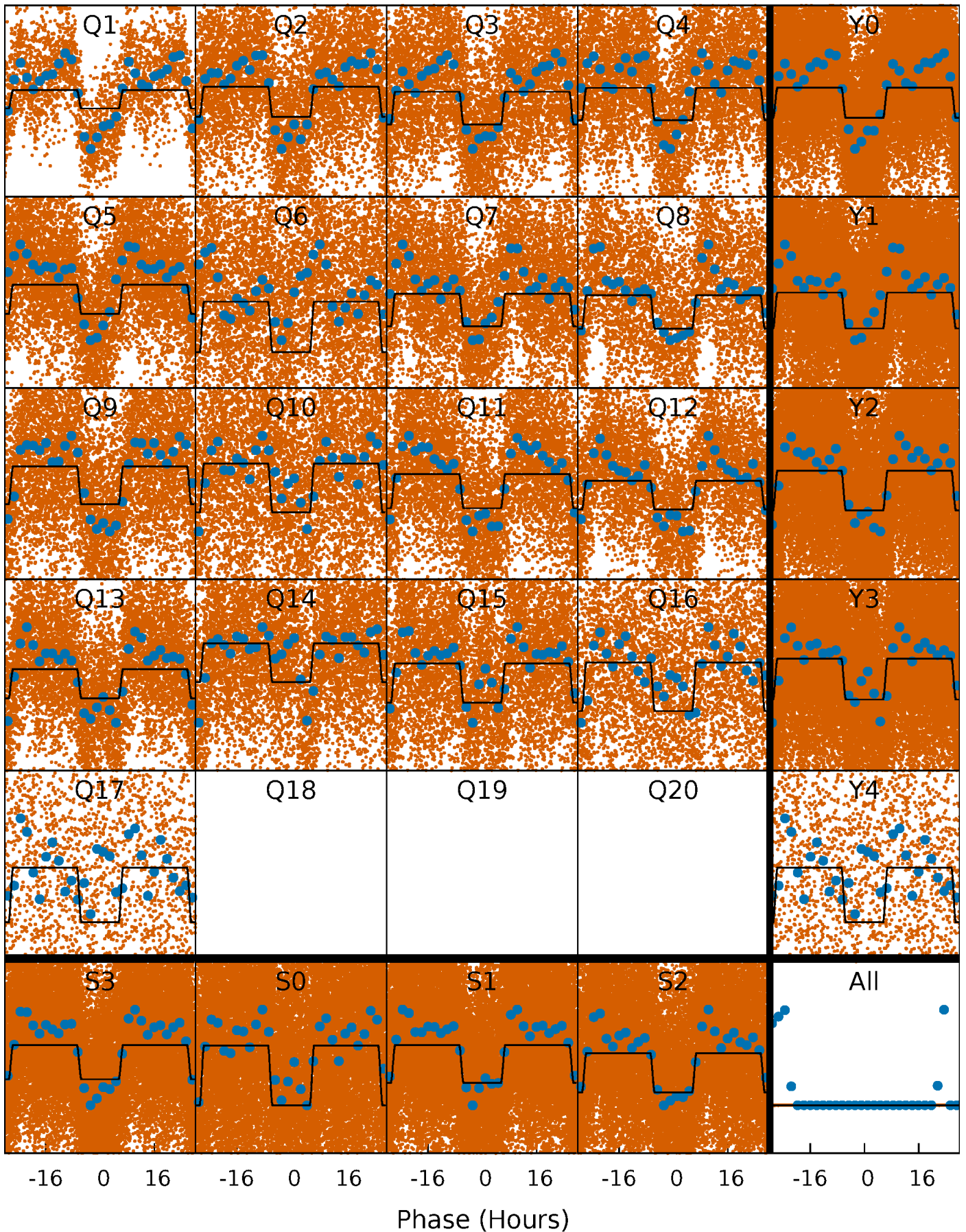
DV Quarter-Phased Transit Curves

TCE 009163180-01 P= 1.348161 Days $T_0=132.072560$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

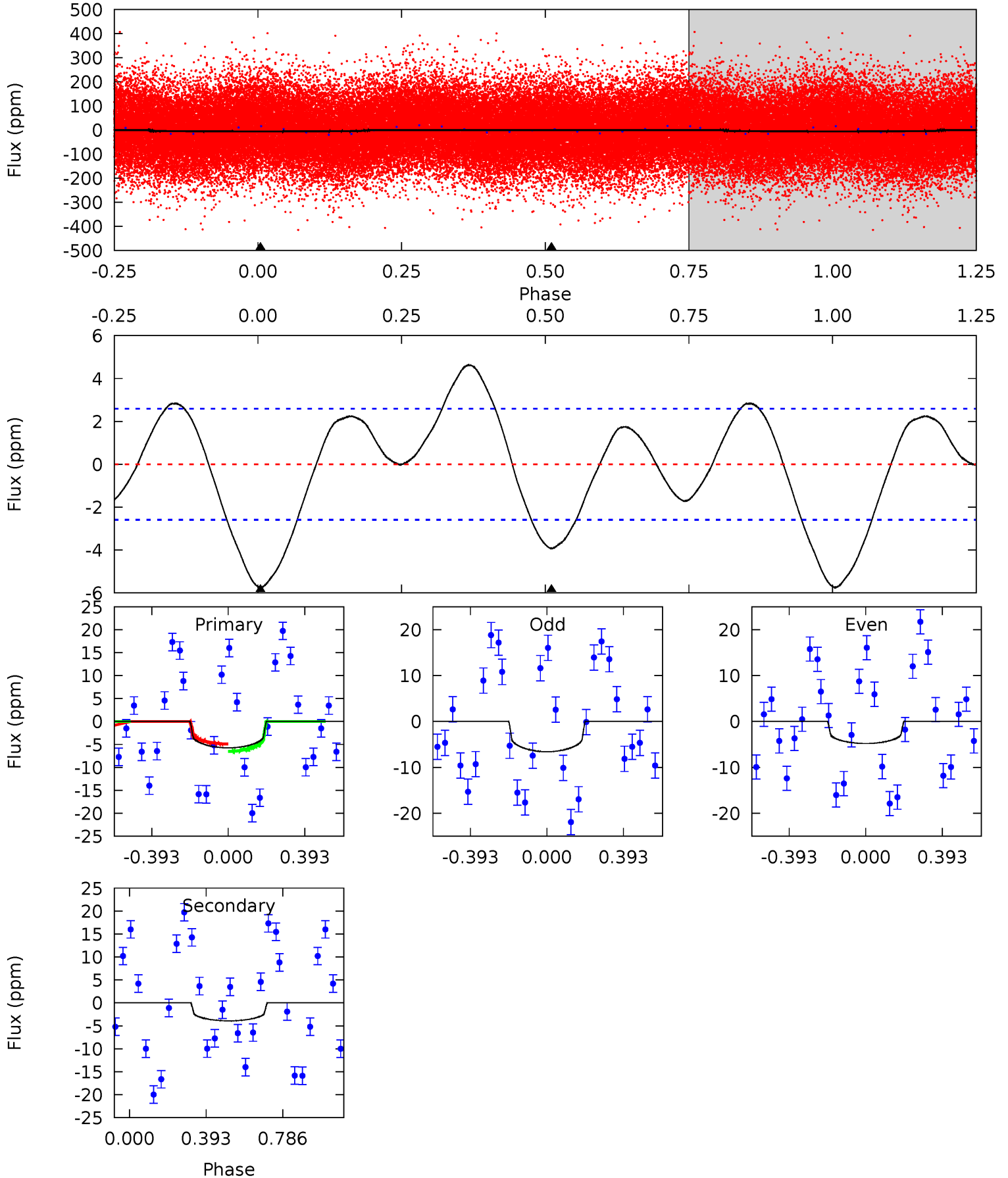
TCE 009163180-01 P= 1.348211 Days $T_0=132.026343$ (BKJD)



DV Model-Shift Uniqueness Test

009163180-01, P = 1.348161 Days, E = 130.724399 Days

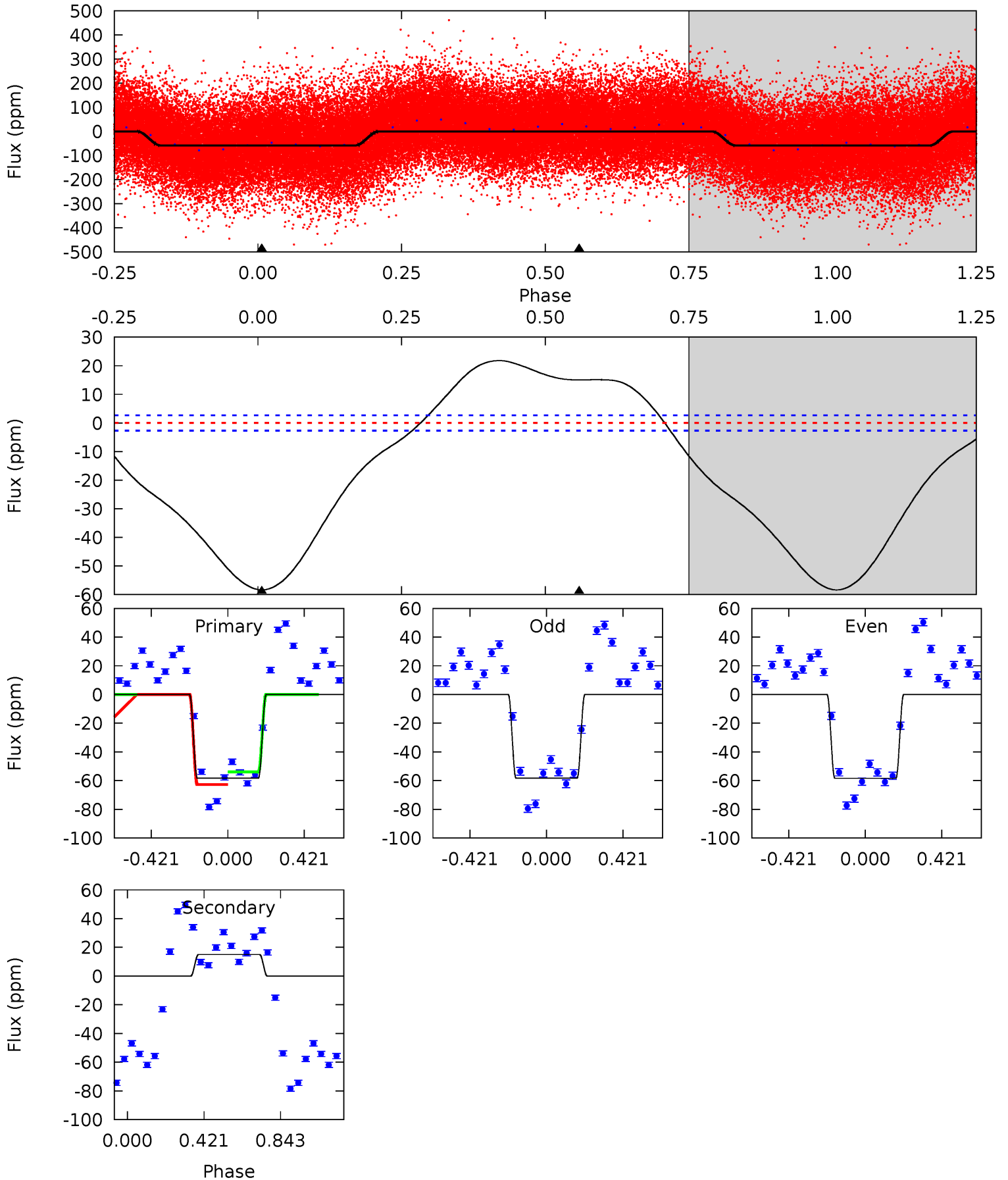
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.45	6.45	0	0	4.27	0.85	1.39	9.45	9.45	6.45	6.45	1.47	1.27	0.45	1.33



Alt Model-Shift Uniqueness Test

009163180-01, P = 1.348211 Days, E = 130.678132 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.8	-23.9	0	0	4.25	0.80	8.81	92.8	92.8	-23.9	-23.9	0.06	1.00	0.27	7.27



Stellar Parameters For KIC 009163180

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6934^{+184}_{-225}	$3.709^{+0.304}_{-0.076}$	$-0.120^{+0.300}_{-0.250}$	$3.003^{+0.452}_{-1.054}$	$1.682^{+0.194}_{-0.316}$	$0.087^{+0.184}_{-0.021}$
	+3%/-3%	+8%/-2%	+250%/-208%	+15%/-35%	+12%/-19%	+211%/-25%
Source	PHO1	FLK73	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 009163180-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 1	$0.98^{+1.01}_{-0.64}$	4266^{+260}_{-352}	5035^{+4492}_{-1647}	$1.784^{+12.618}_{-1.351}$
Alt.	15 ± 1	$2.26^{+1.17}_{-0.99}$	4275^{+245}_{-347}	-5208^{+551}_{-1629}	$-1.303^{+0.740}_{-2.701}$

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 $A_{obs} \gg 1.0$

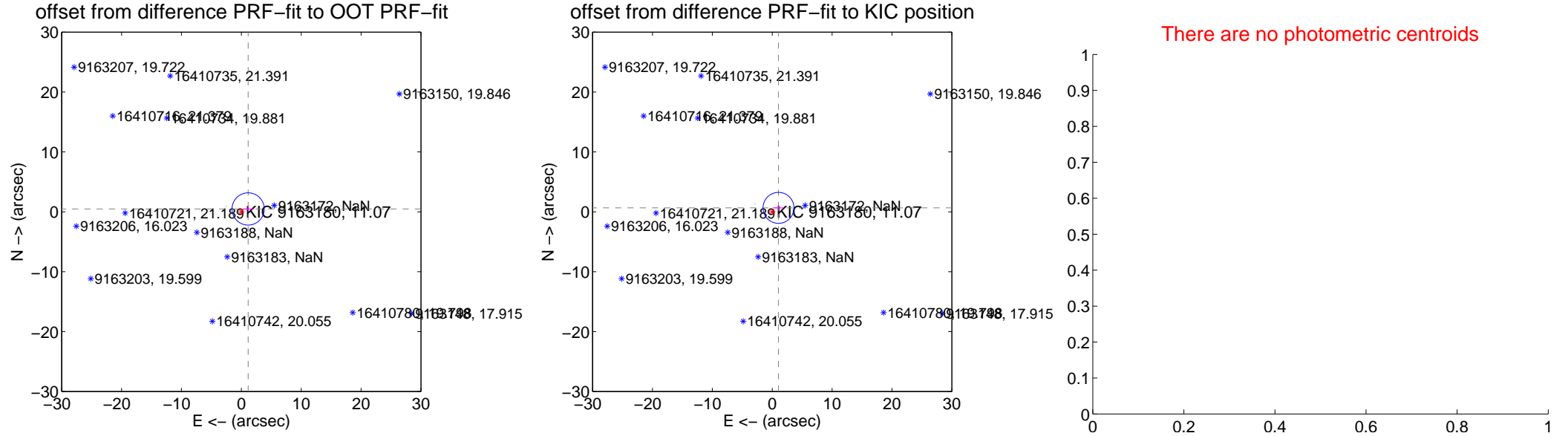
DV Centroid Data

Supplemental centroid analysis for 009163180-01. **Kepler magnitude: 11.07.** Transit SNR 4.62

There are 5 quarters with good PRF difference image offsets

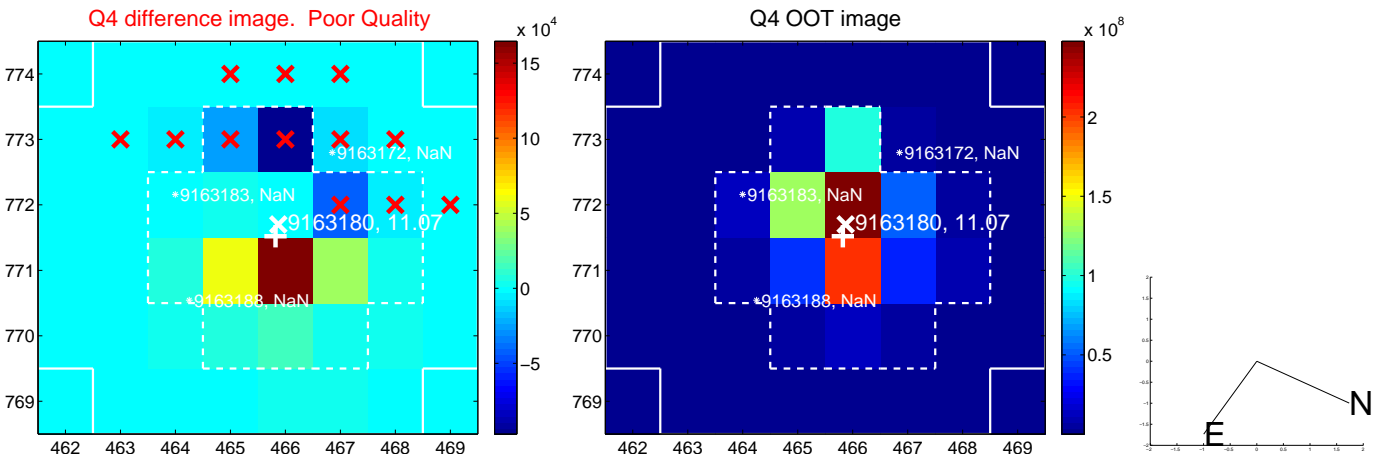
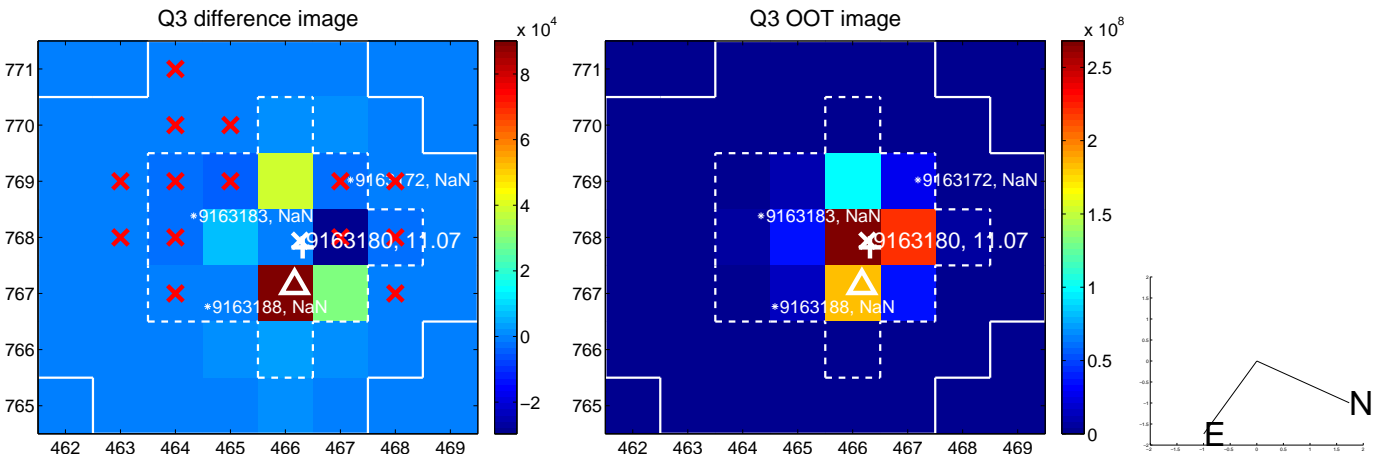
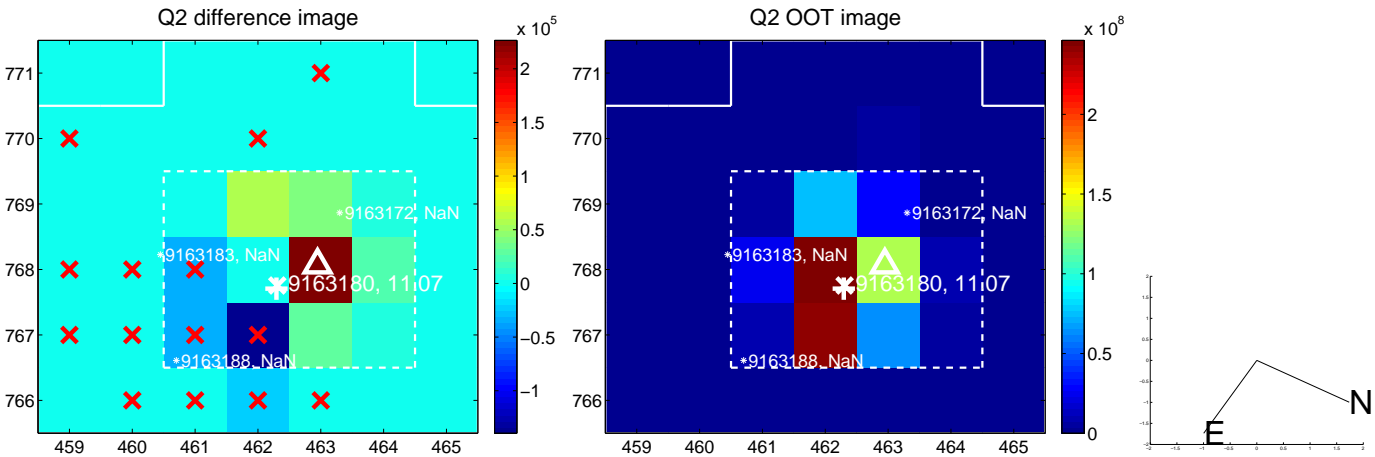
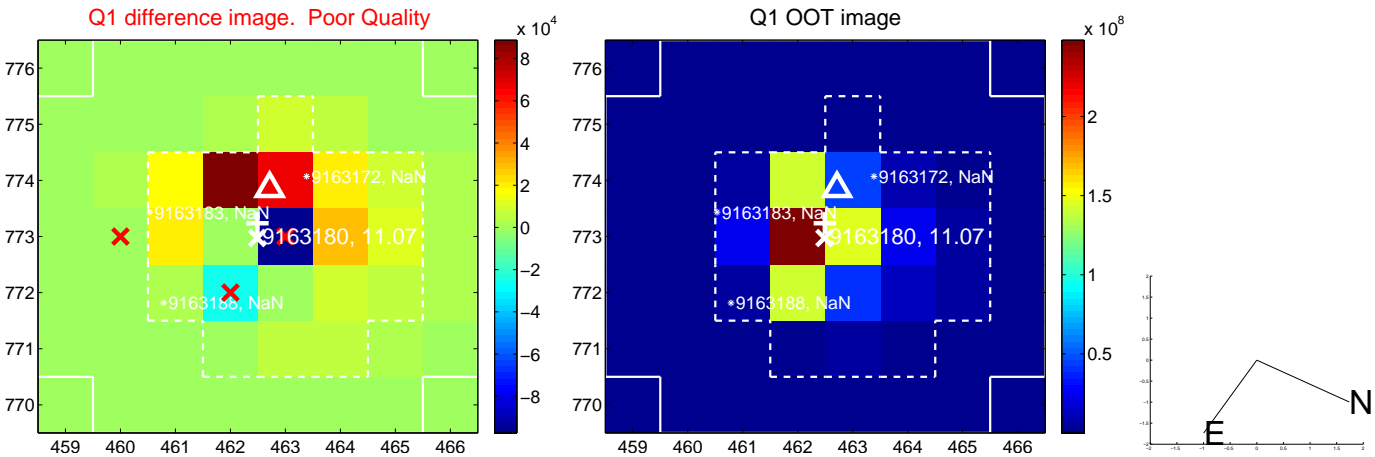
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.234 ± 0.897	1.38	-1.138 ± 0.950	0.476 ± 0.501
PRF-fit source offset from KIC position	1.239 ± 0.861	1.44	-1.050 ± 0.963	0.658 ± 0.519
photometric centroid source offset	—	—	—	—

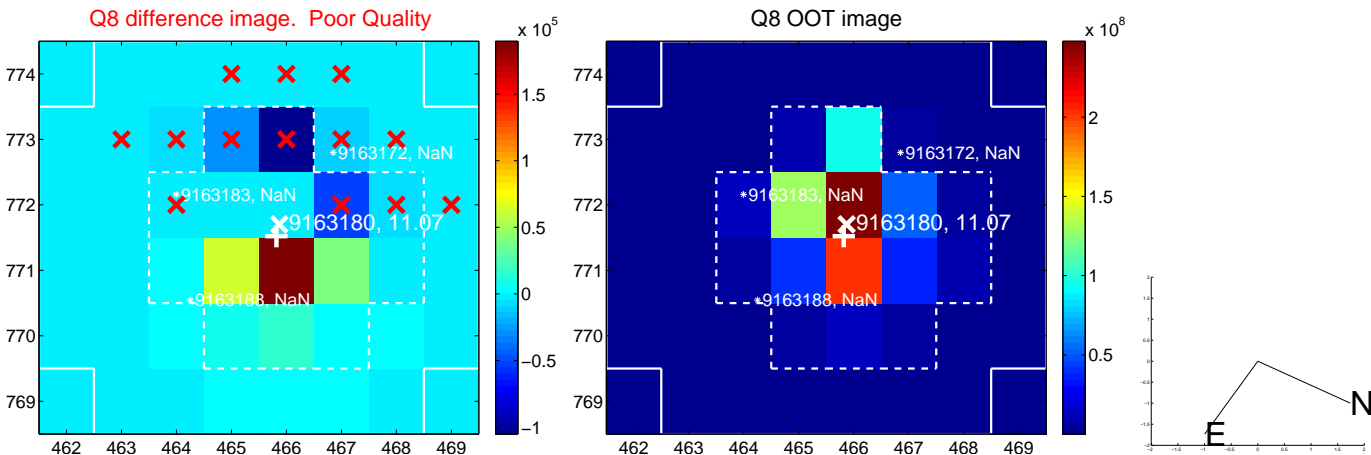
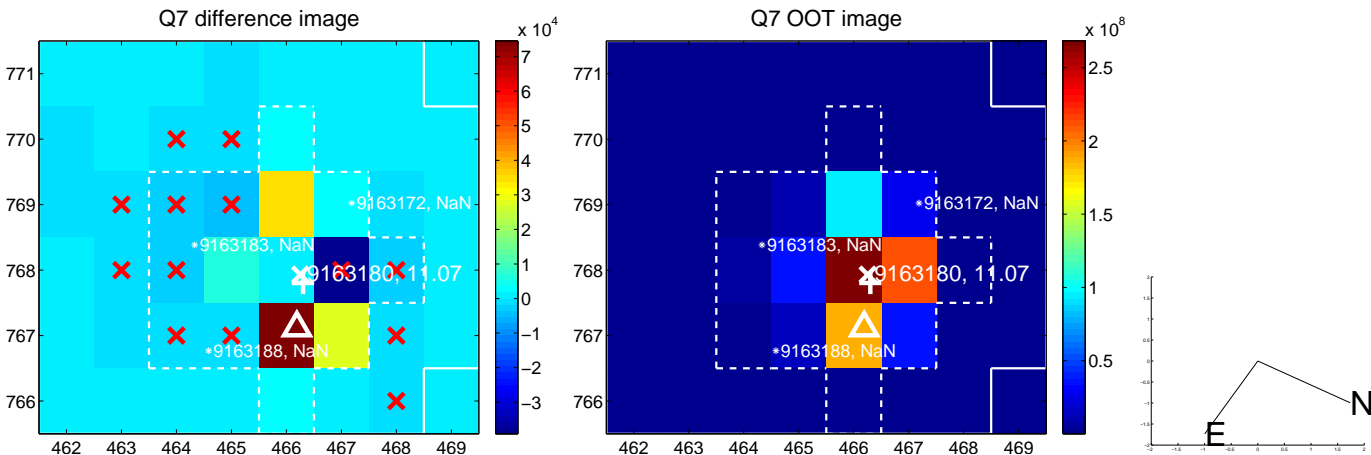
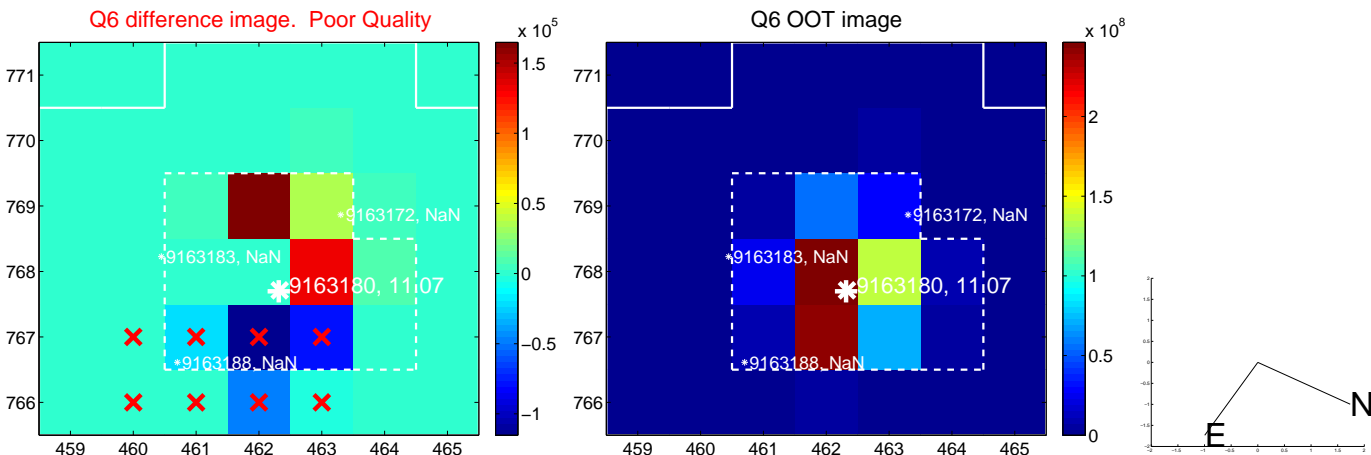
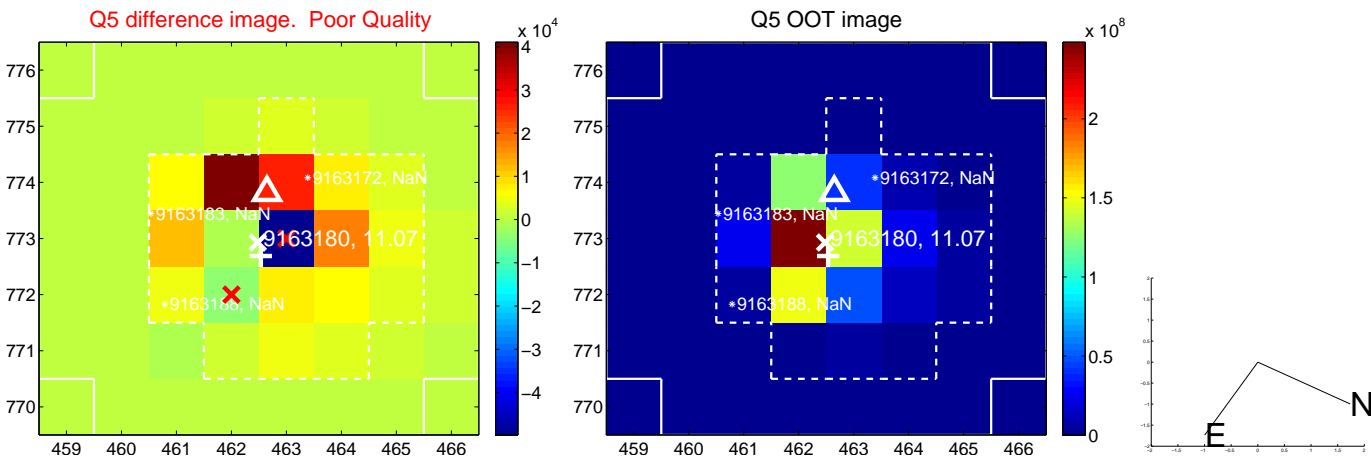


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

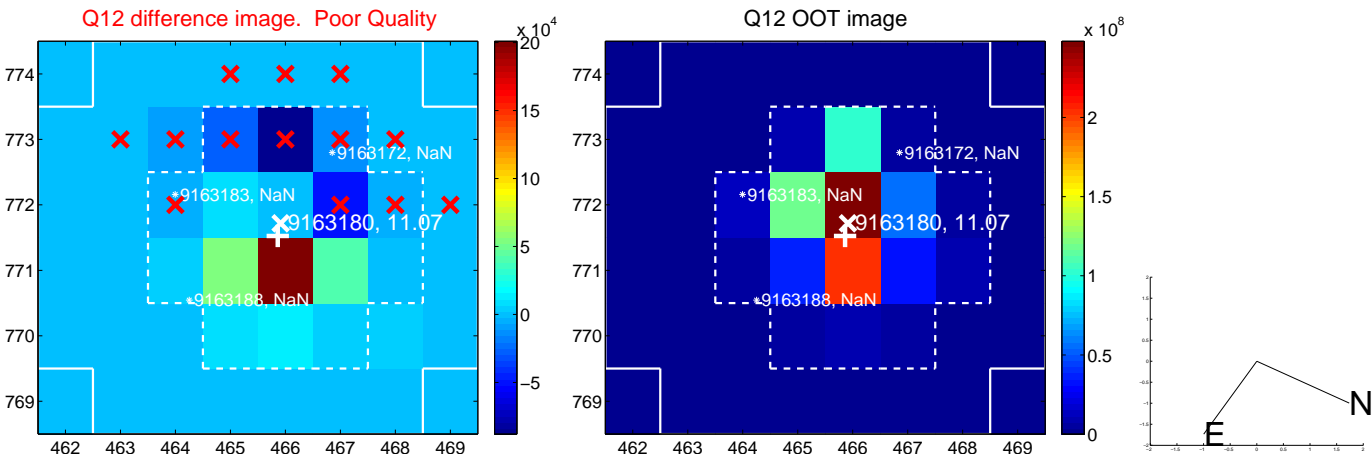
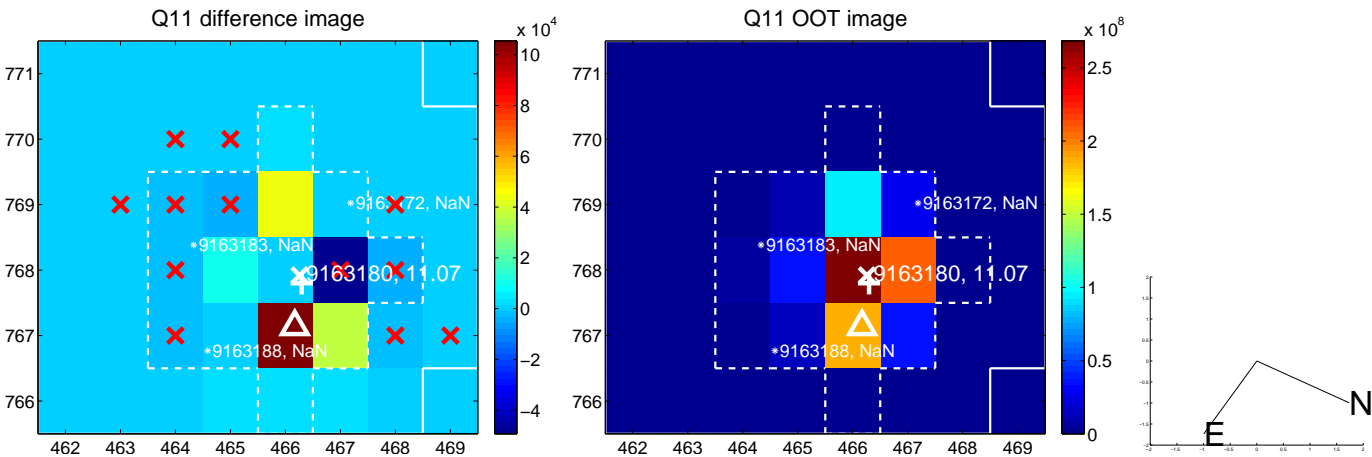
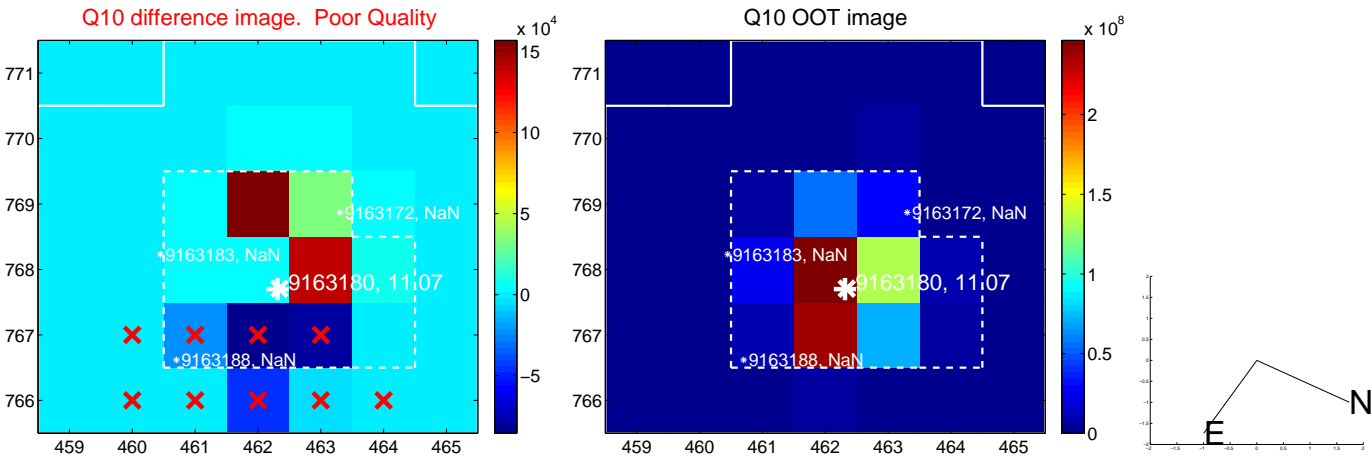
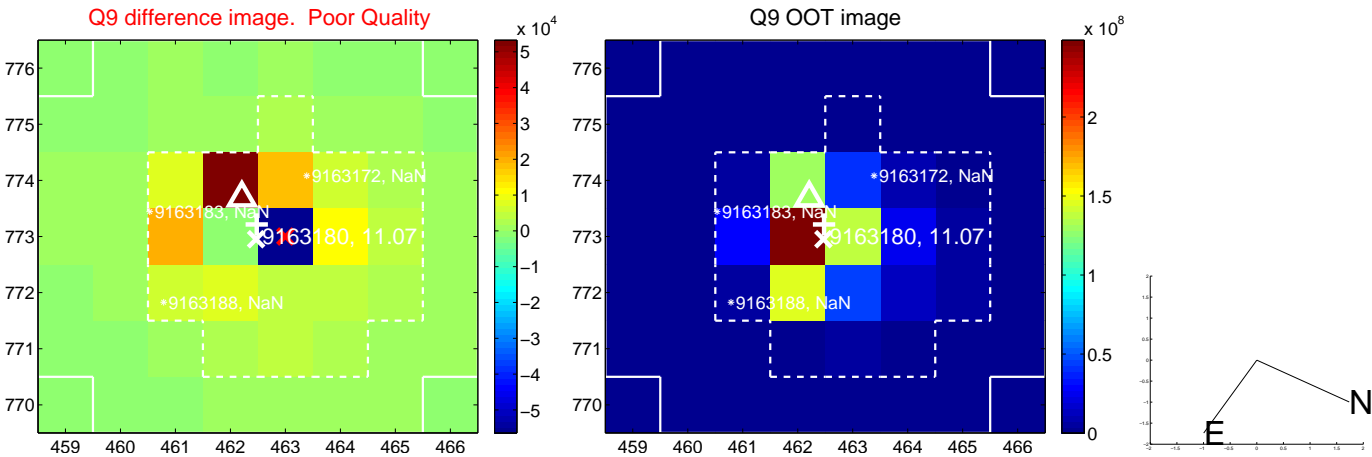
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



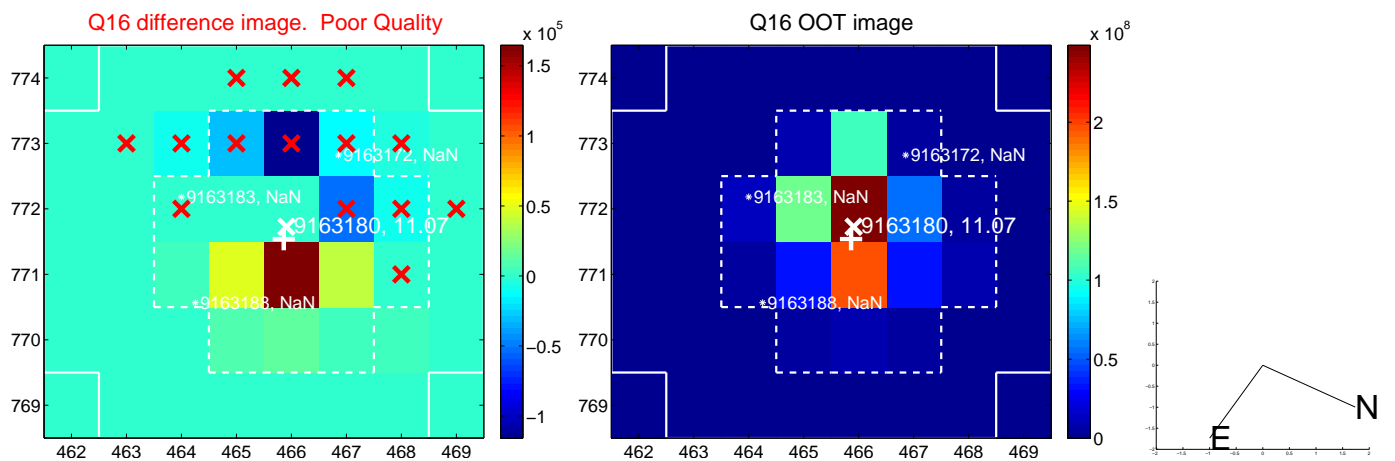
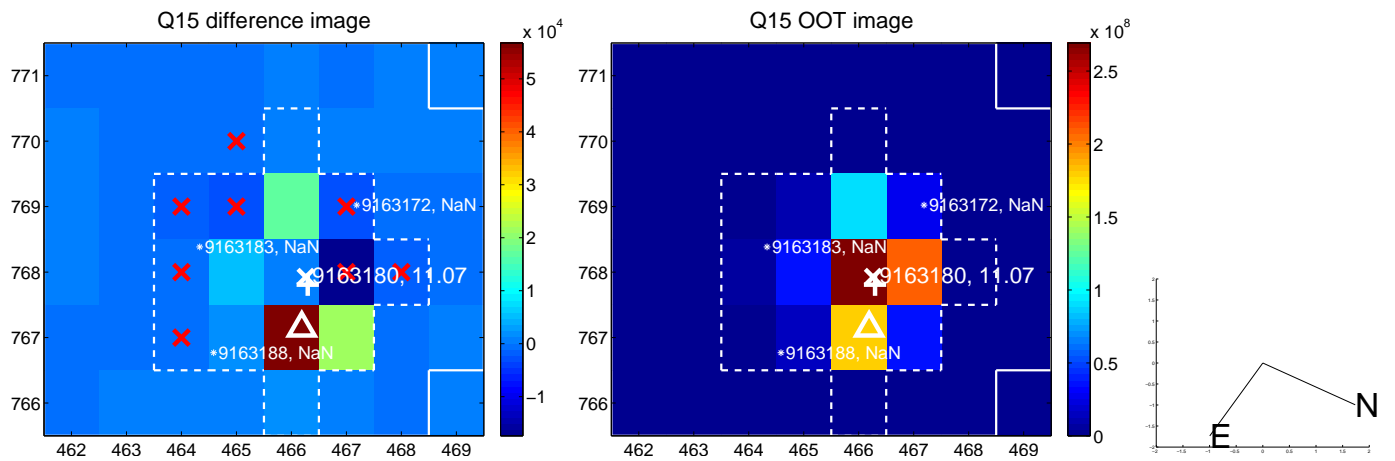
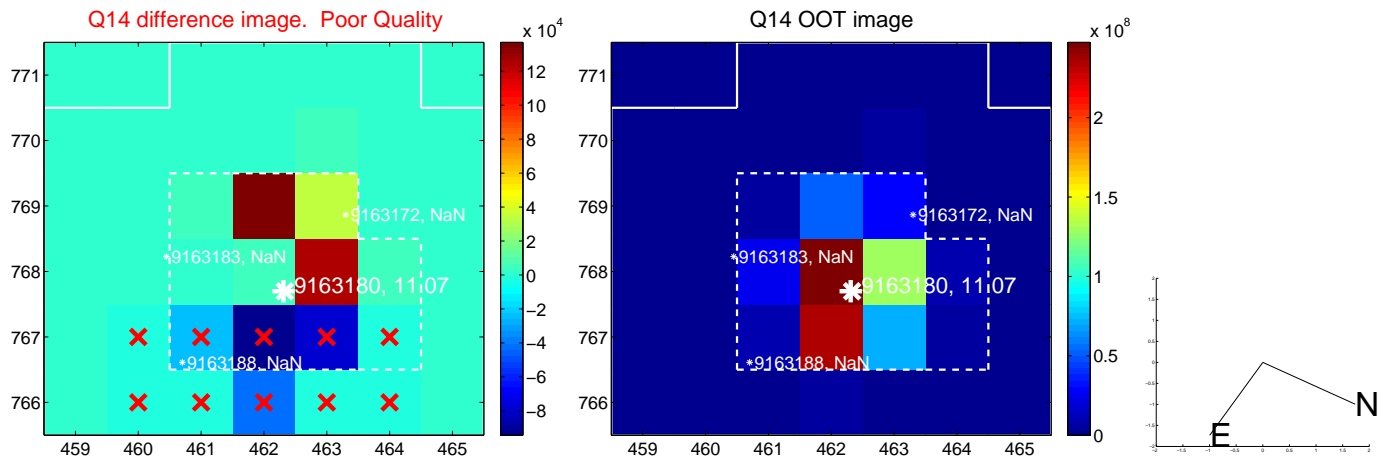
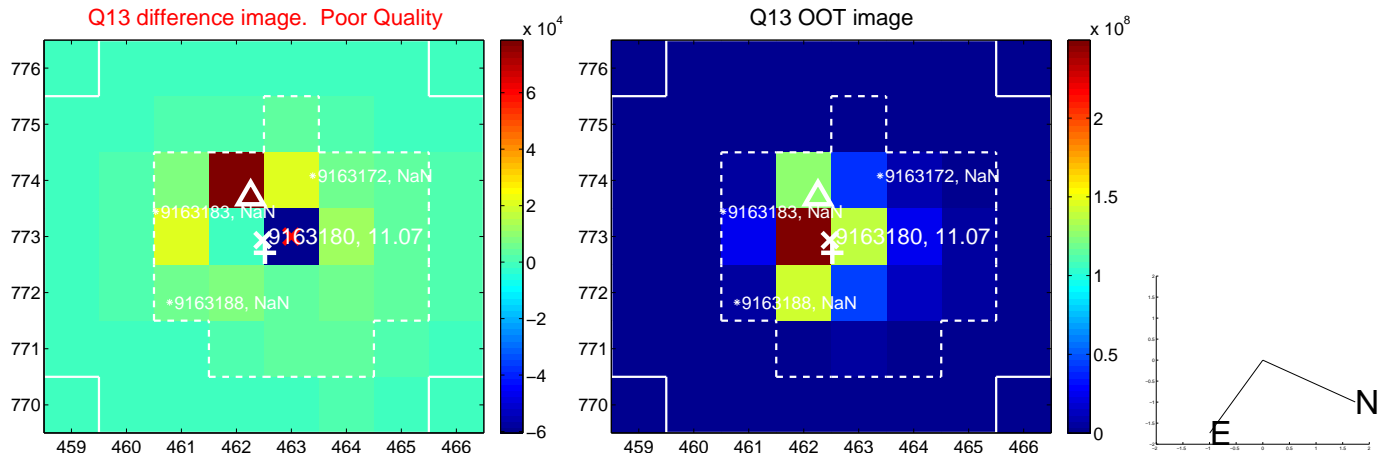
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



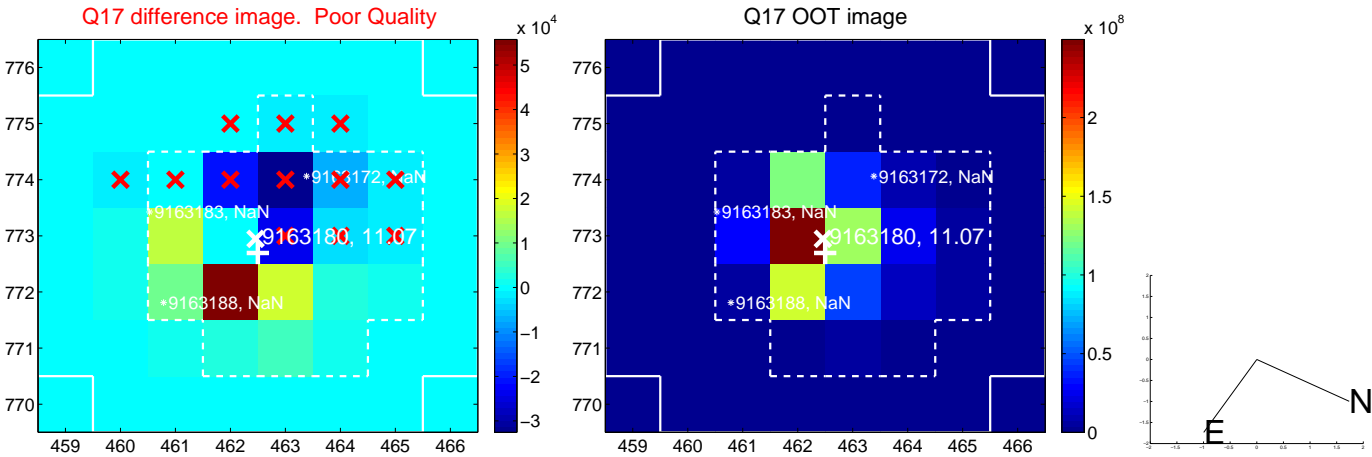
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

