

KIC 007613620

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})
007613620-01	OBS	7843.01	0.619018	131.929550	65.7	1.628	8.2	8.2	0.89	5395	0.88	2991.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007613620-01	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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

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

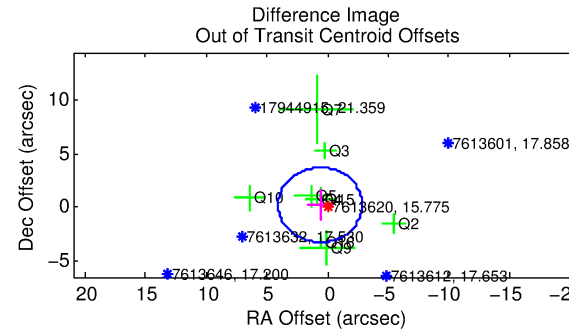
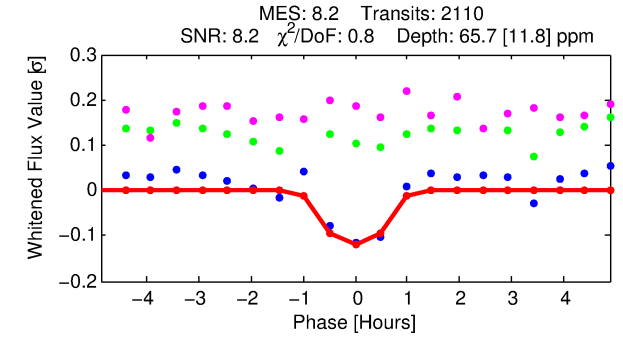
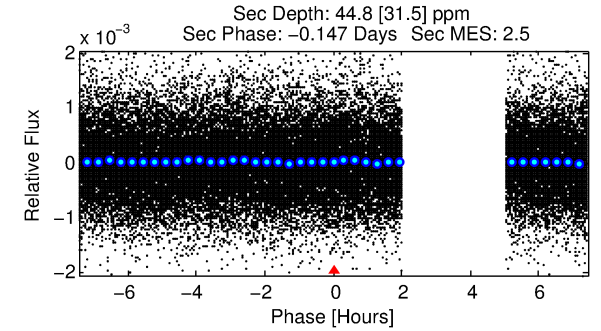
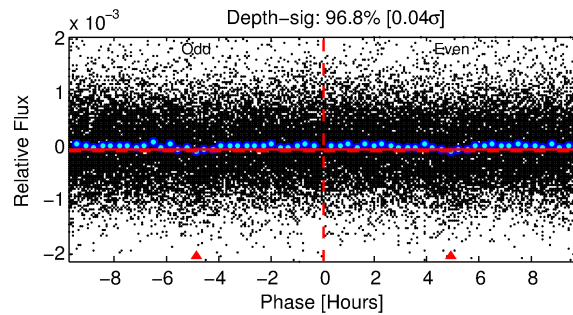
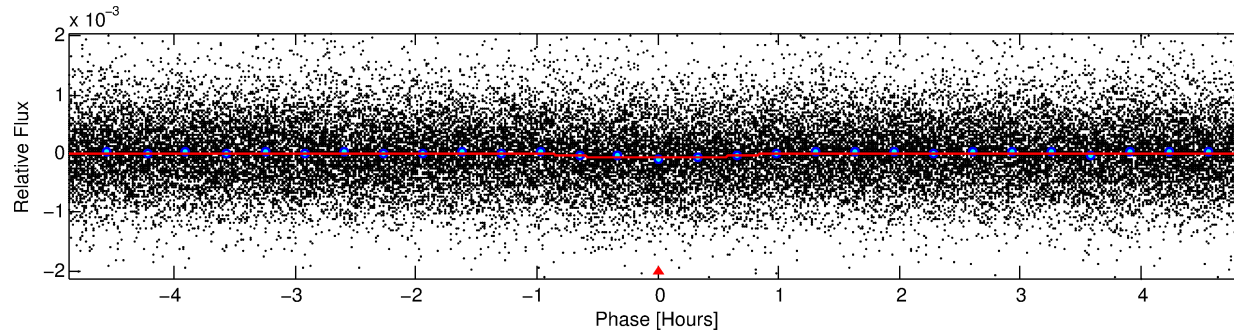
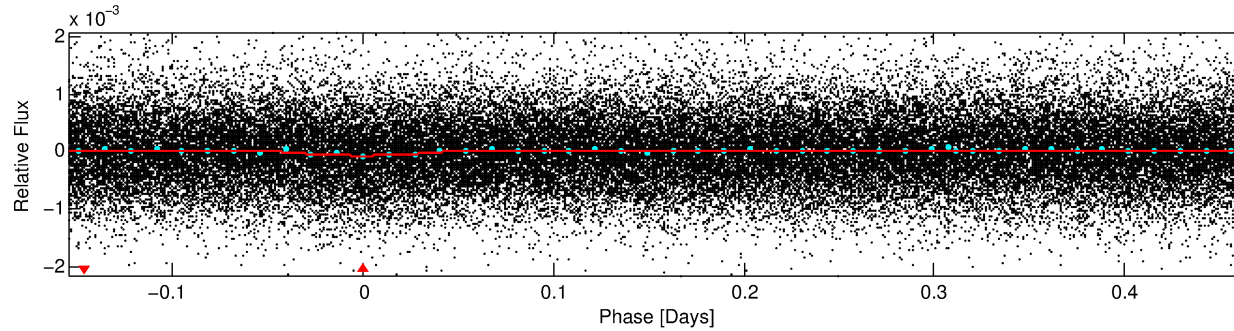
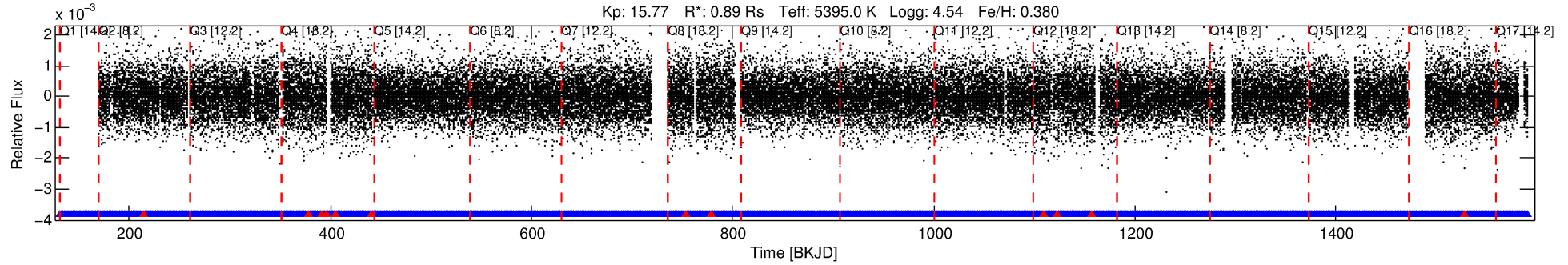
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007613620-01

No Significant Match Found

DV One-Page Summary

KIC: 7613620 Candidate: 1 of 1 Period: 0.619 d



DV Fit Results:

Period = 0.61902 [0.00001] d
Epoch = 131.9296 [0.0030] BKJD
Rp/R* = 0.0090 [0.0092]
a/R* = 1.62 [4.36]
b = 0.90 [0.94]
Seff = 2991.17 [949.85]
Teq = 1886 [150] K
Rp = 0.88 [0.92] Re
a = 0.0142 [0.0027] AU
Ag = 6.48 [14.16] [0.39 σ]
Teffp = 4651 [2524] K [1.09 σ]

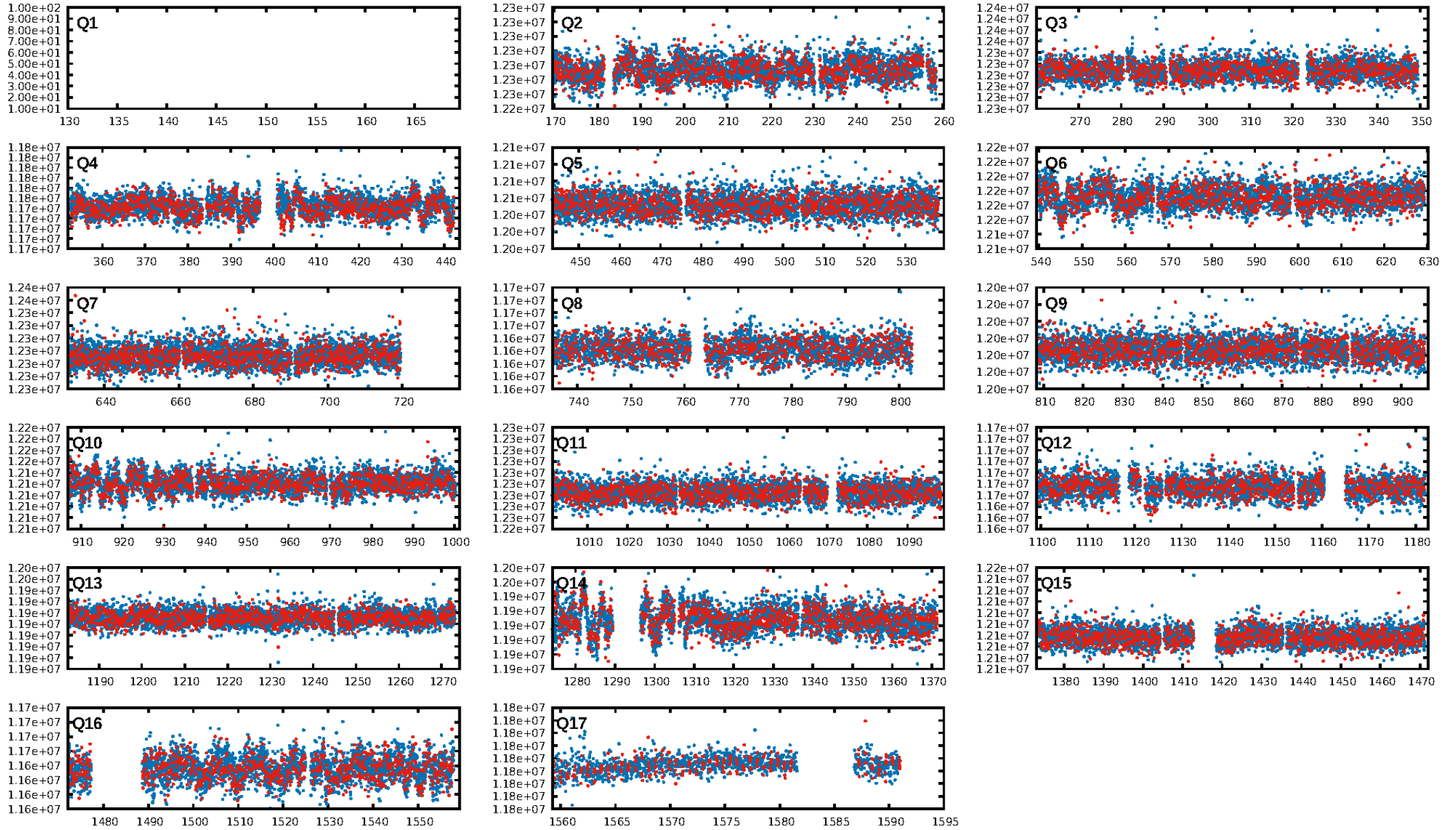
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.43e-17
RollingBand-fgt: 0.99 [2054/2067]
GhostDiagnostic-chr: 3.128
Centroid-sig: 17.6%
Centroid-so: 1.216 arcsec [0.71 σ]
OotOffset-rm: 0.660 arcsec [0.57 σ]
KicOffset-rm: 0.707 arcsec [0.64 σ]
OotOffset-st: 2/3/2/2 [9]
KicOffset-st: 2/3/2/2 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 1.00 [16/16]

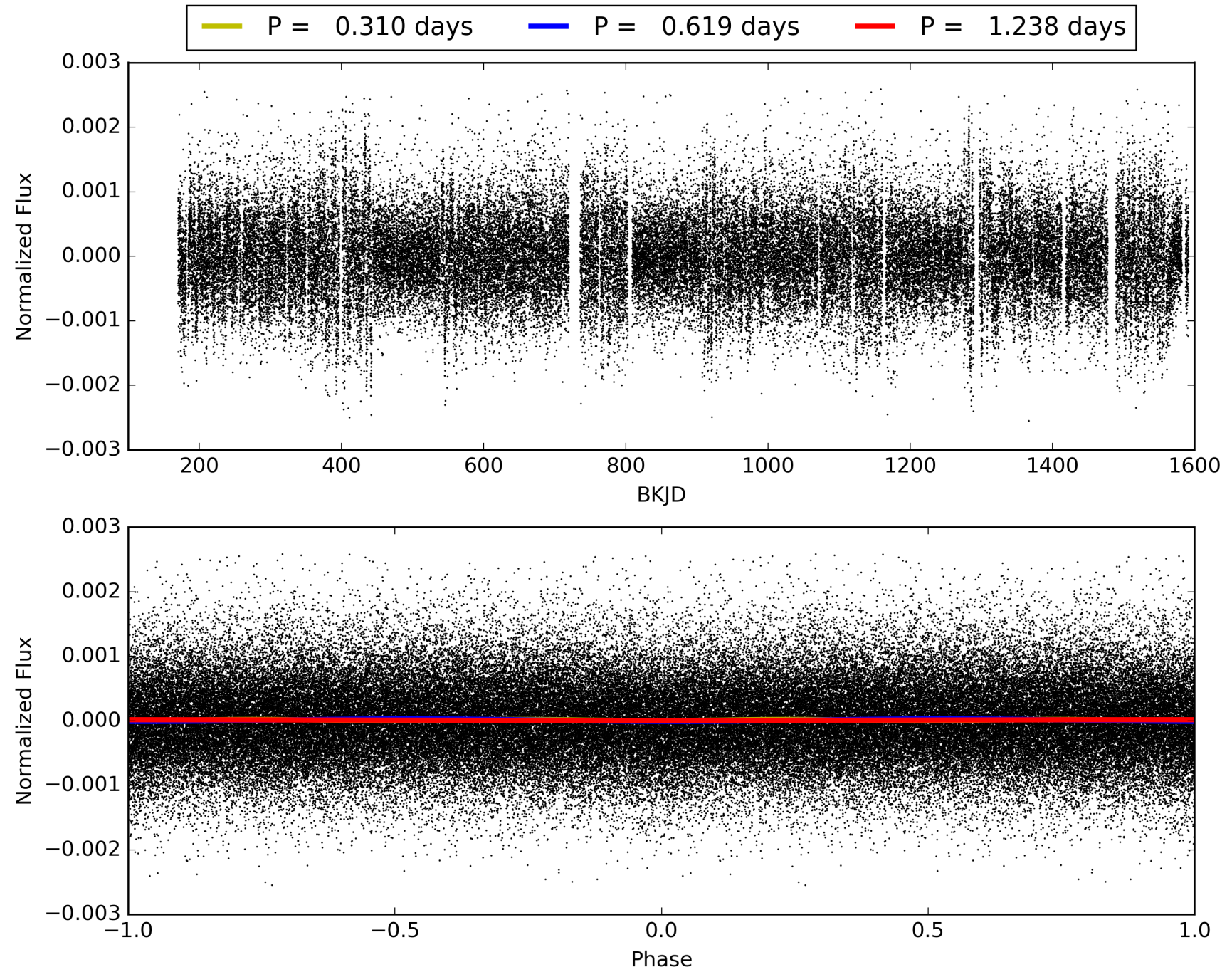
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:30:40 Z

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

TCE 007613620-01, PDC Light Curves

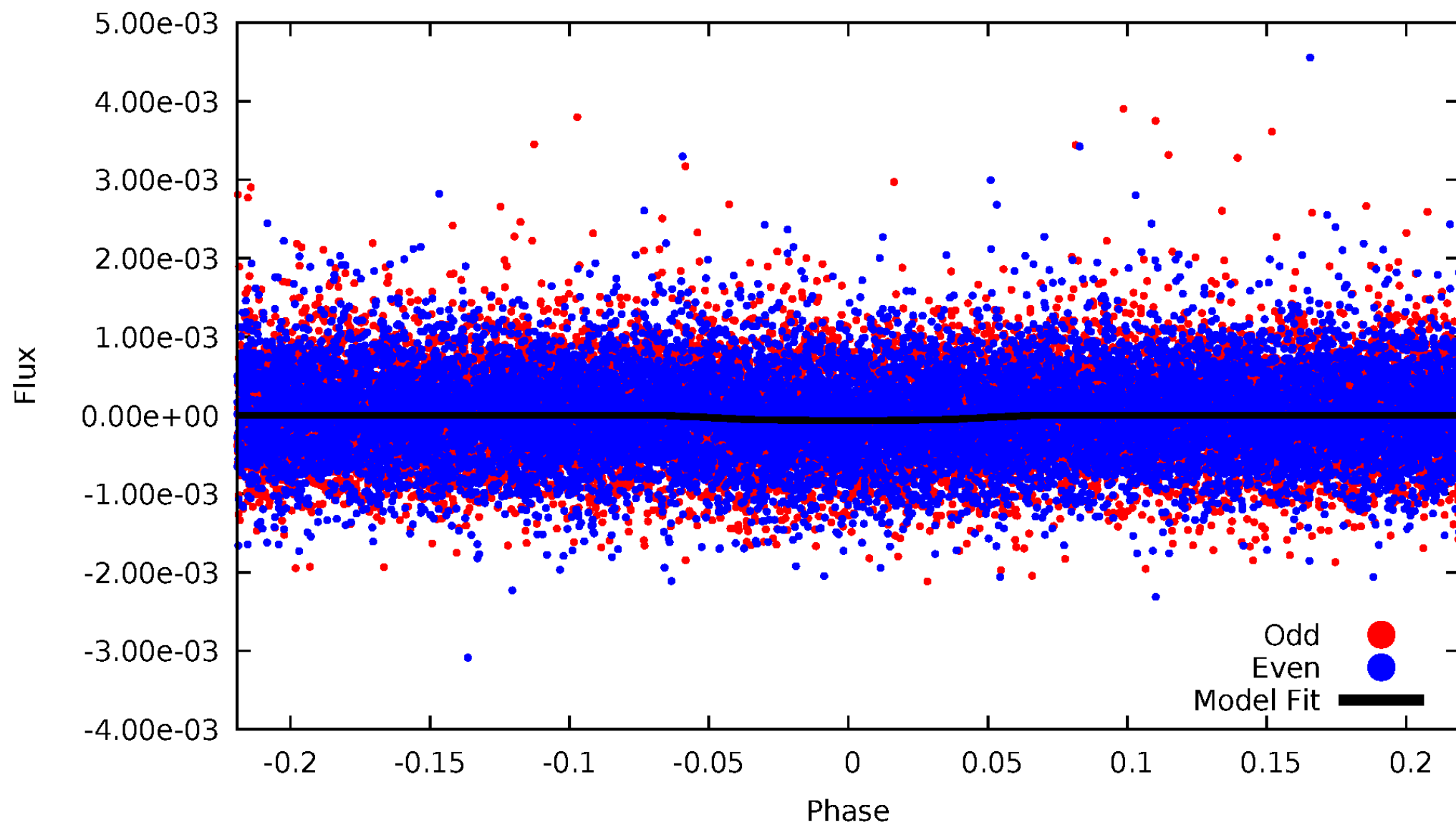


TCE 007613620-01



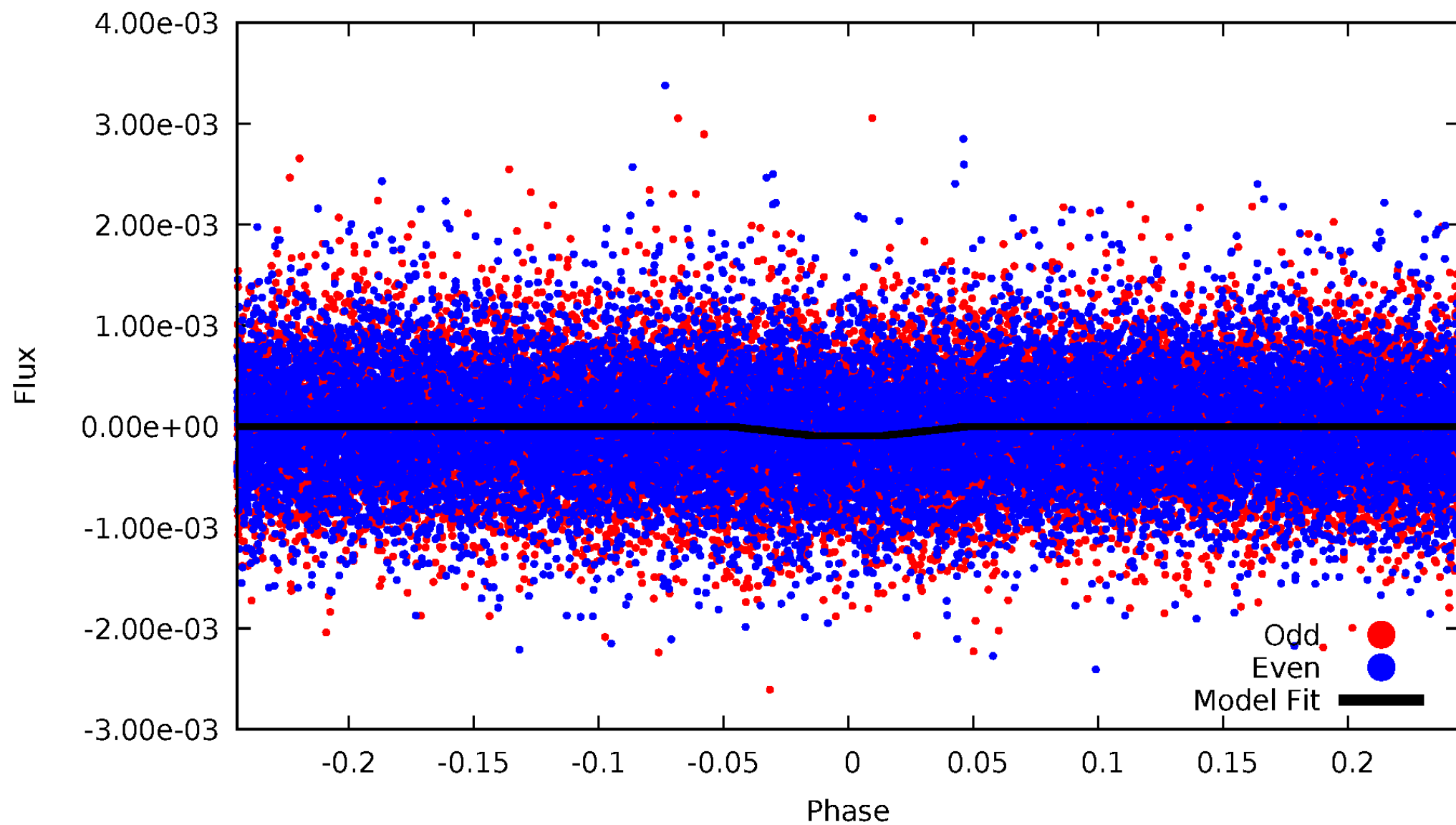
DV Odd/Even

TCE 007613620-01

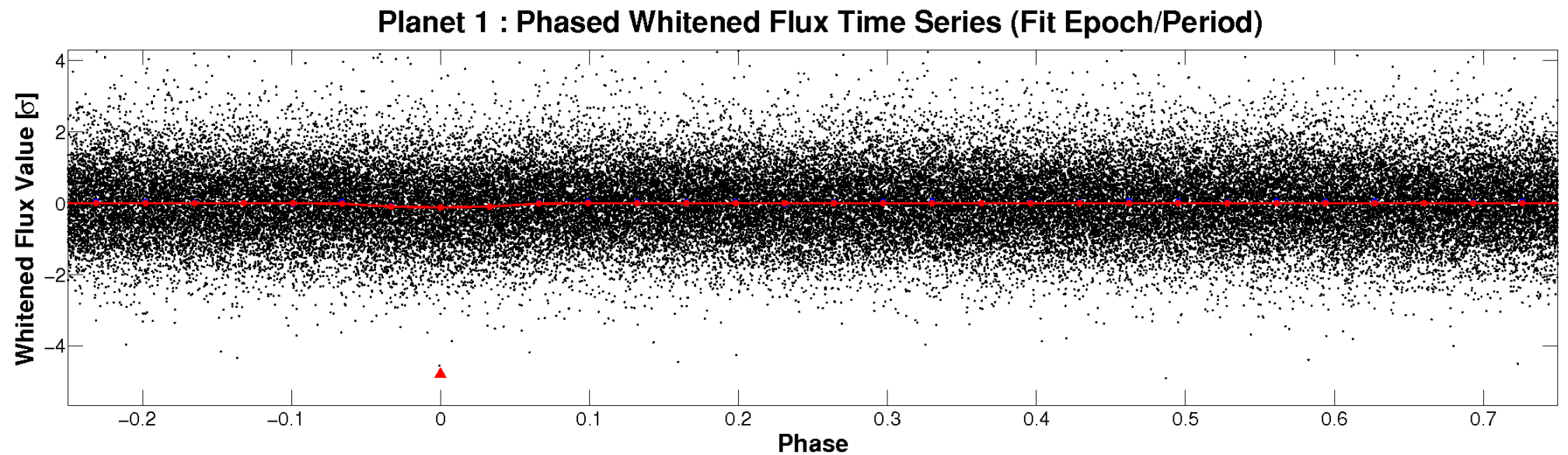
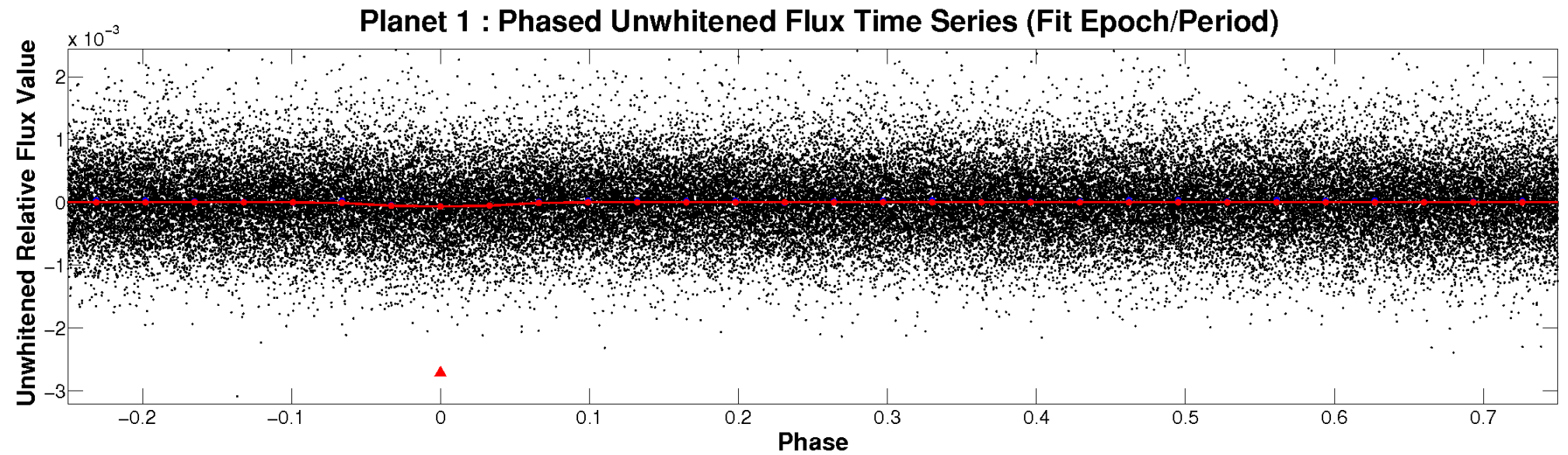


ALT Odd/Even

TCE 007613620-01

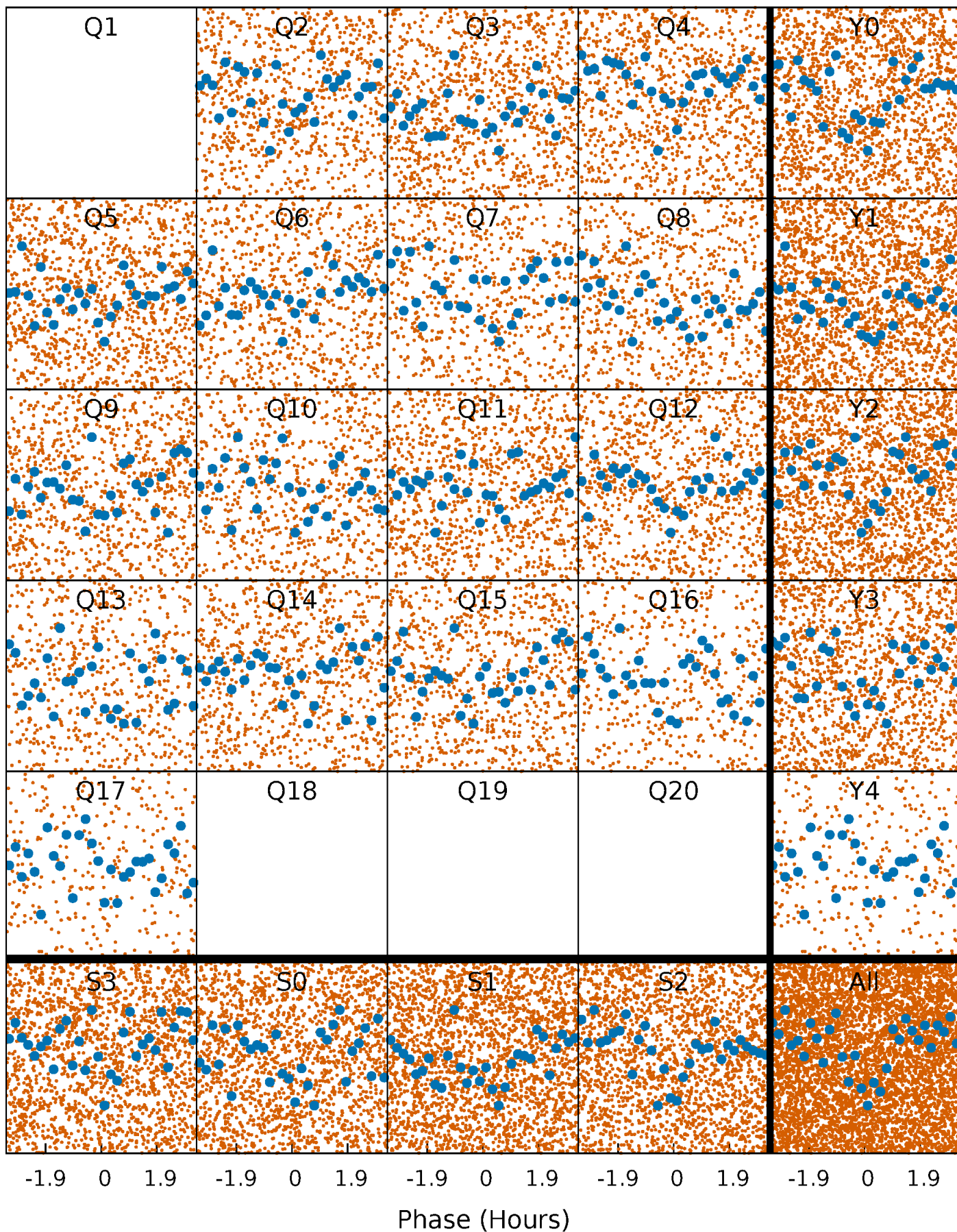


Non-Whitened Vs. Whitened Light Curve



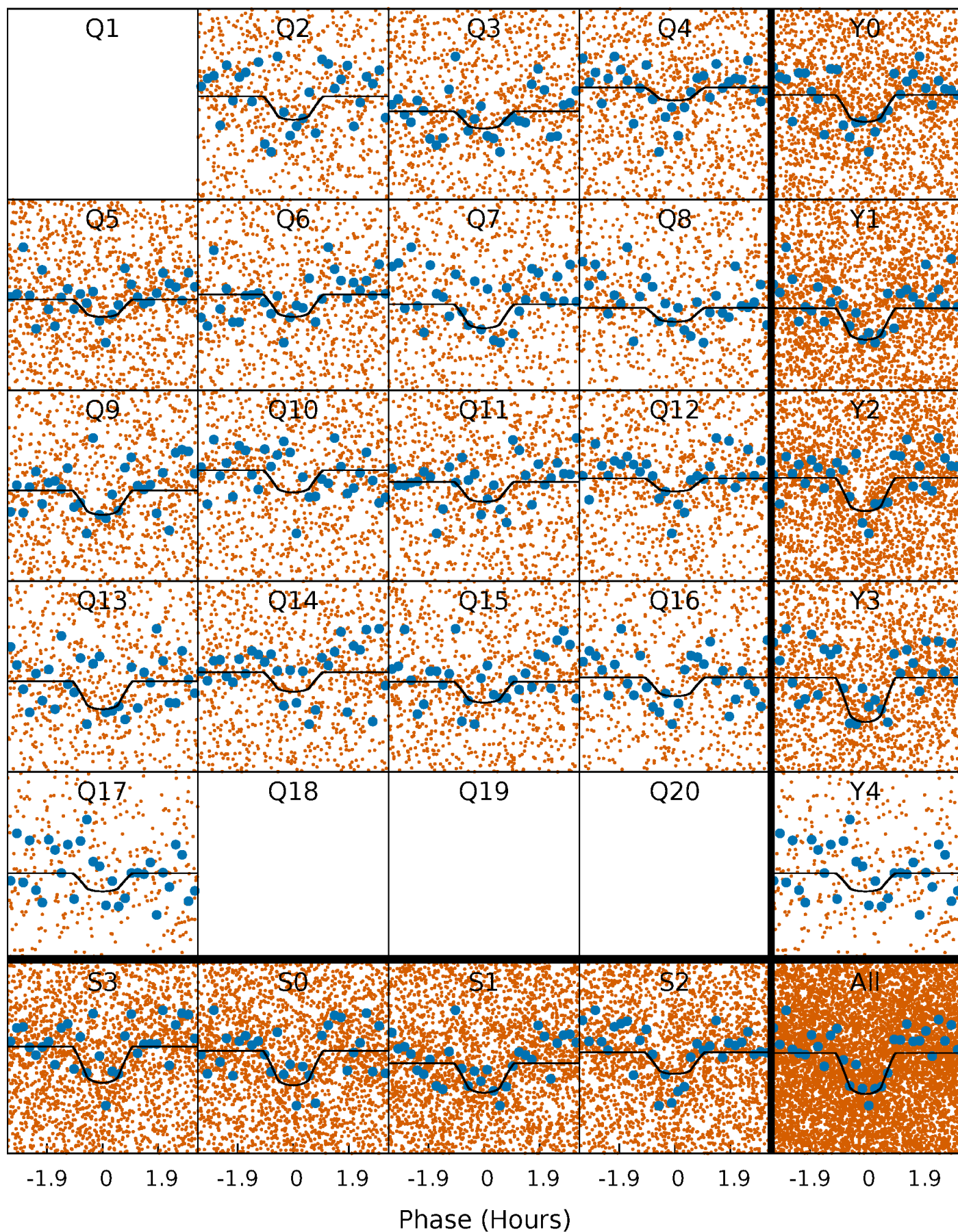
PDC Quarter-Phased Transit Curves

TCE 007613620-01 P= 0.619018 Days $T_0=131.929550$ (BKJD)



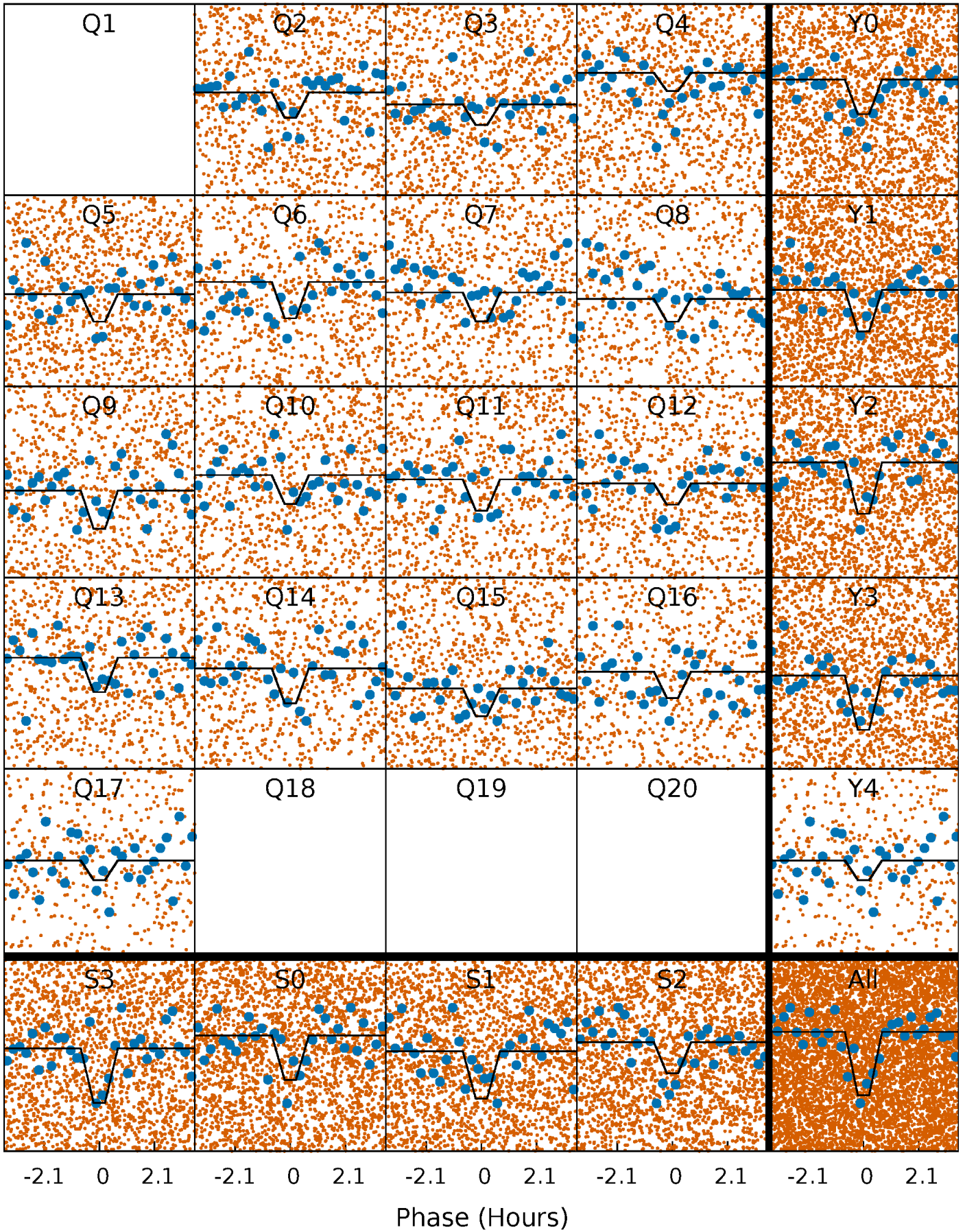
DV Quarter-Phased Transit Curves

TCE 007613620-01 P= 0.619018 Days $T_0=131.929550$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

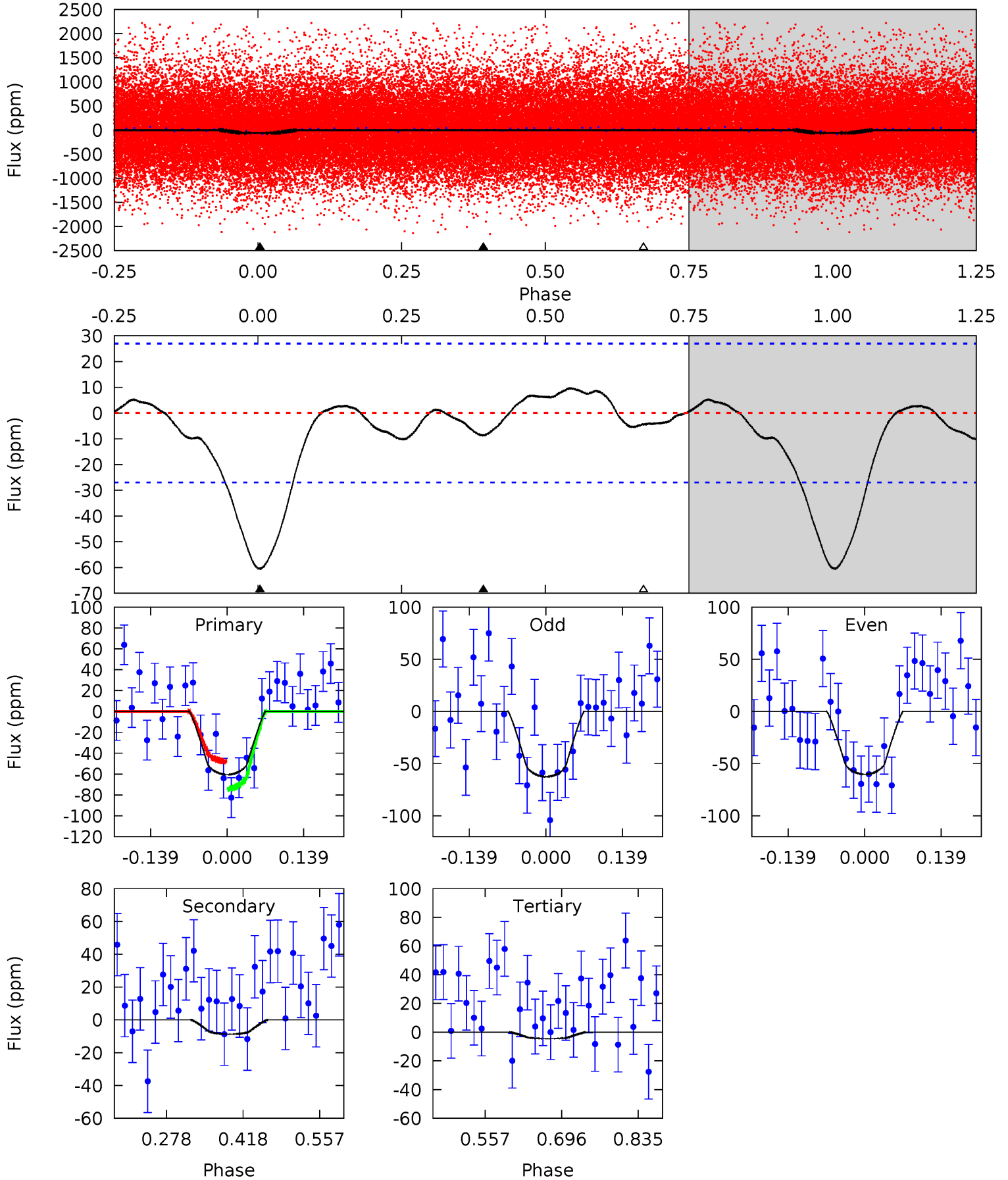
TCE 007613620-01 P= 0.619022 Days $T_0=131.930820$ (BKJD)



DV Model-Shift Uniqueness Test

007613620-01, P = 0.619018 Days, E = 131.929550 Days

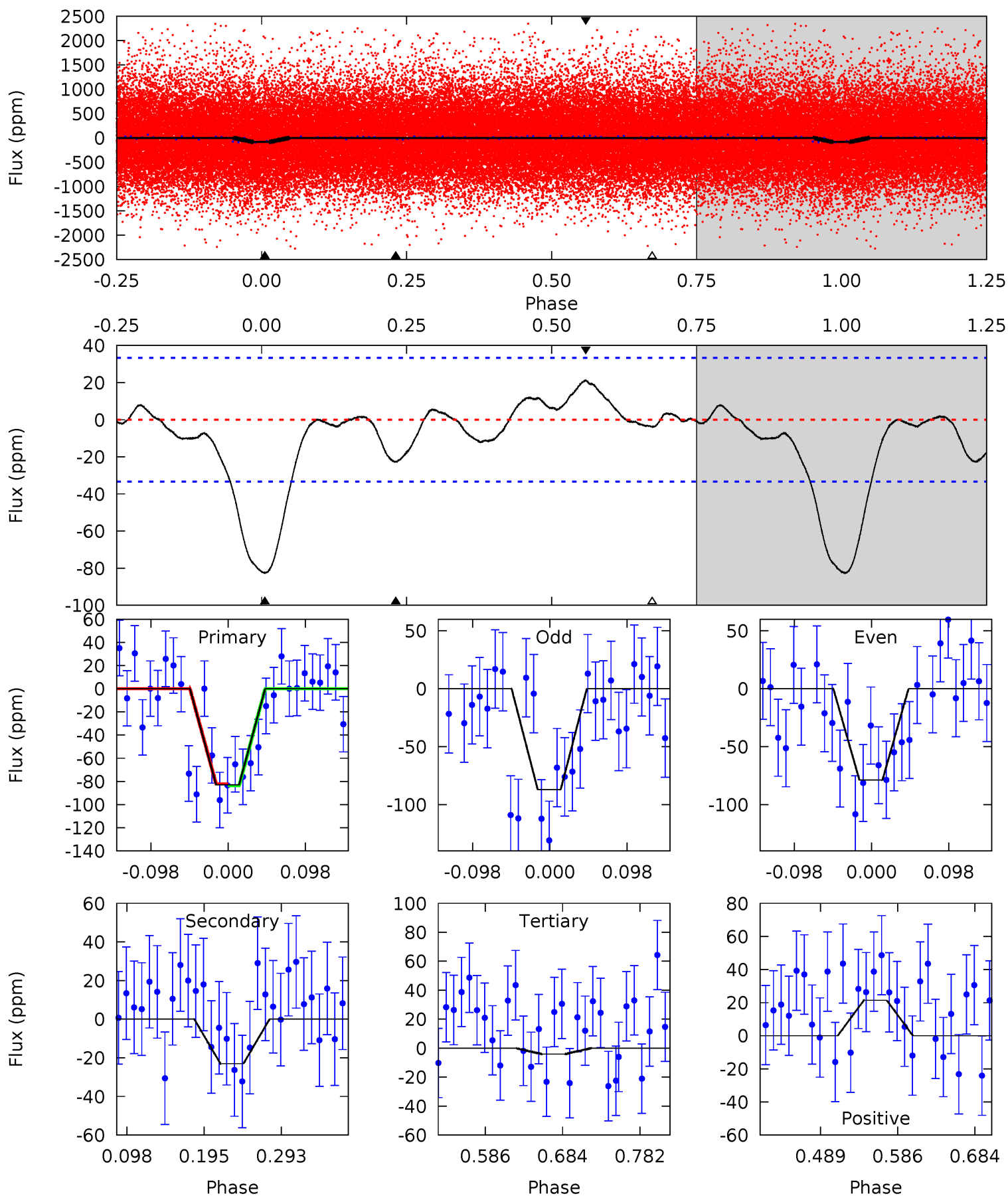
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	1.45	0.75	0	4.49	1.48	0.88	9.33	10.1	0.70	1.45	0.19	1.02	0.14	2.19



Alt Model-Shift Uniqueness Test

007613620-01, P = 0.619022 Days, E = 131.930820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	3.15	0.56	2.93	4.57	1.66	1.13	10.8	8.43	2.59	0.22	0.56	0.96	0.20	0.13



Stellar Parameters For KIC 007613620

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5395^{+180}_{-164}	$4.536^{+0.028}_{-0.161}$	$0.380^{+0.050}_{-0.300}$	$0.891^{+0.198}_{-0.074}$	$0.995^{+0.065}_{-0.106}$	$1.980^{+0.301}_{-0.854}$
	+3%/-3%	+1%/-4%	+13%/-79%	+22%/-8%	+7%/-11%	+15%/-43%
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 007613620-01 / KOI 7843.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 6	$1.18^{+0.84}_{-0.75}$	2691^{+150}_{-121}	2856^{+1514}_{-5555}	$0.573^{+3.685}_{-0.449}$
Alt.	-23 ± 7	$1.14^{+0.80}_{-0.71}$	2697^{+169}_{-114}	3750^{+1894}_{-888}	$1.957^{+10.898}_{-1.403}$

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 $A_{obs} \gg 1.0$

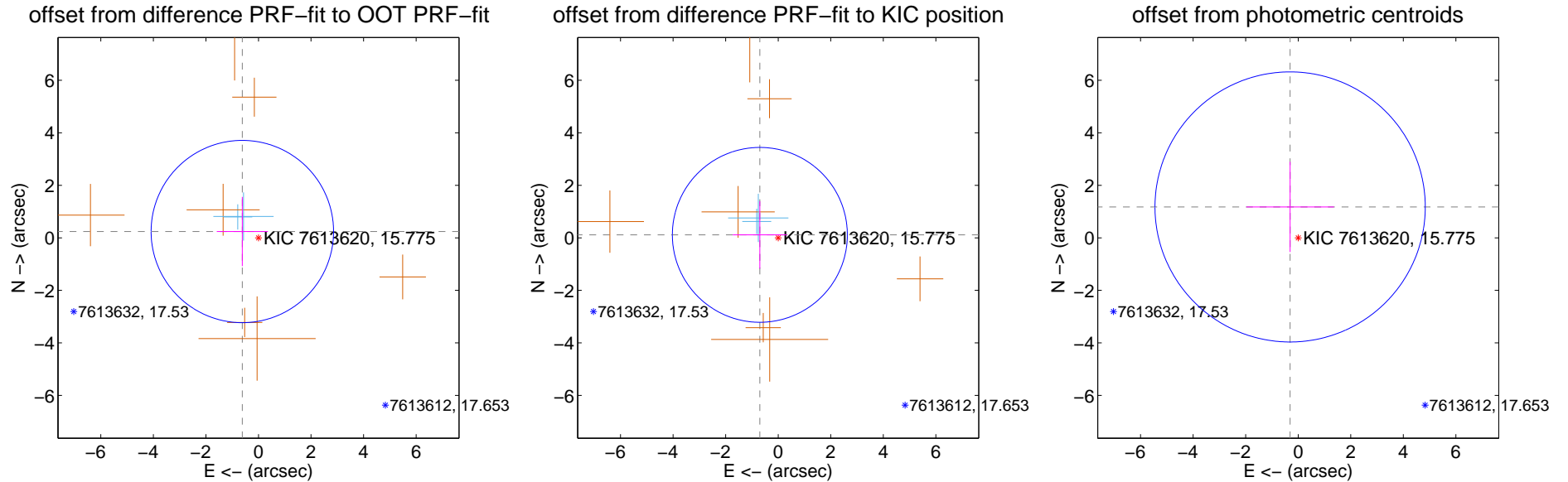
DV Centroid Data

Supplemental centroid analysis for 007613620-01. Kepler magnitude: 15.78. Transit SNR 8.15

There are 2 quarters with good PRF difference image offsets

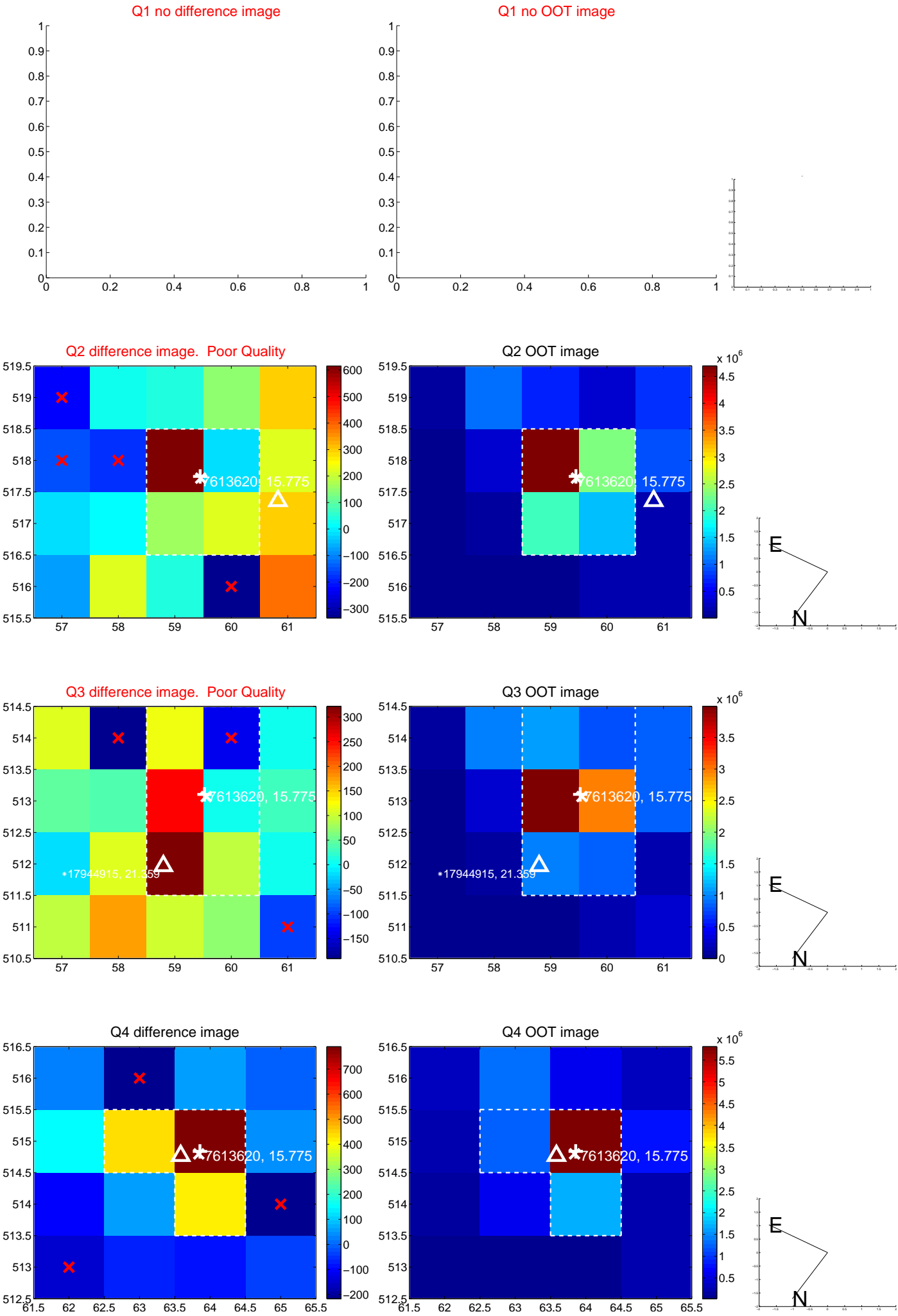
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.660 ± 1.157	0.57	0.614 ± 0.974	0.240 ± 1.318
PRF-fit source offset from KIC position	0.707 ± 1.110	0.64	0.698 ± 1.031	0.113 ± 1.284
photometric centroid source offset	1.22 ± 1.71	0.71	0.31 ± 1.67	1.18 ± 1.72

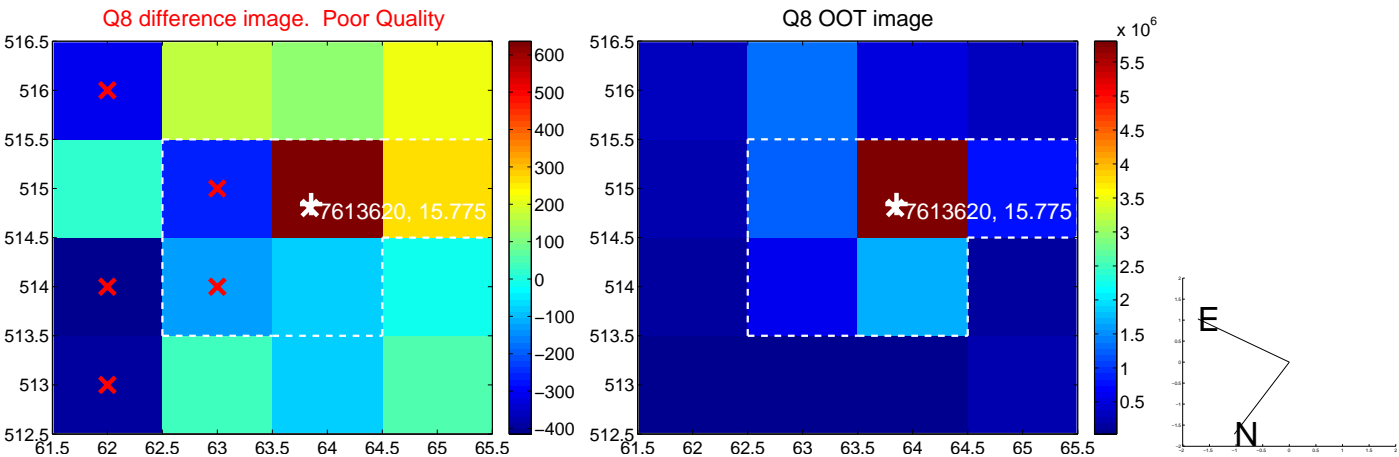
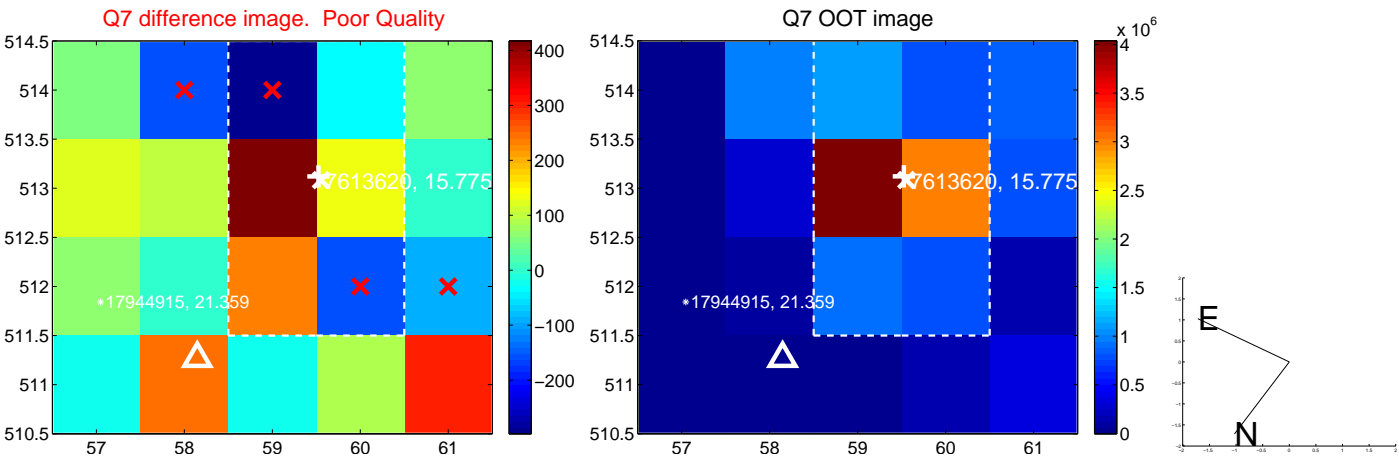
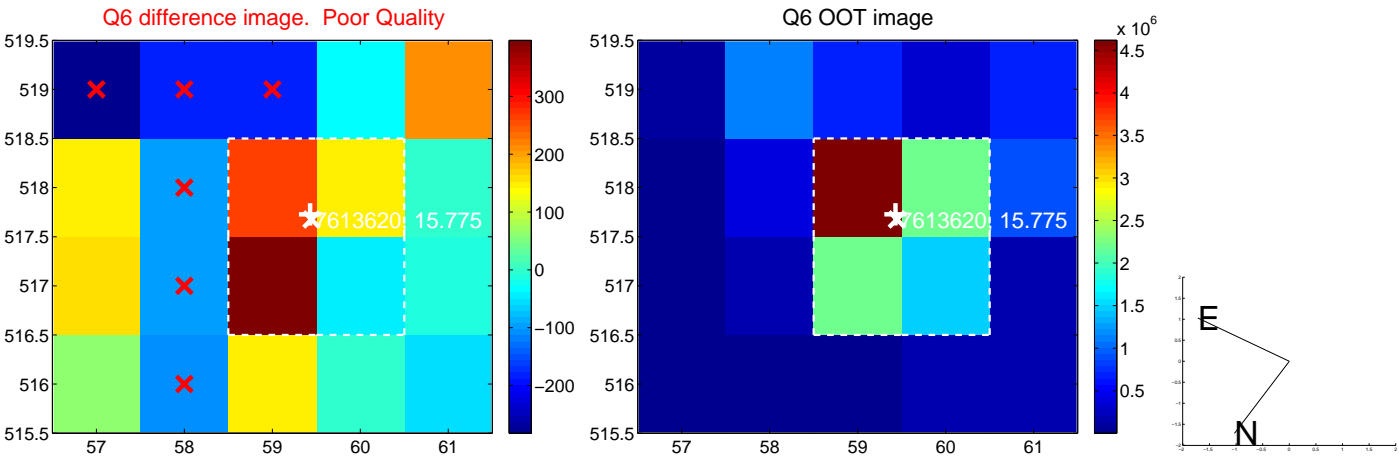
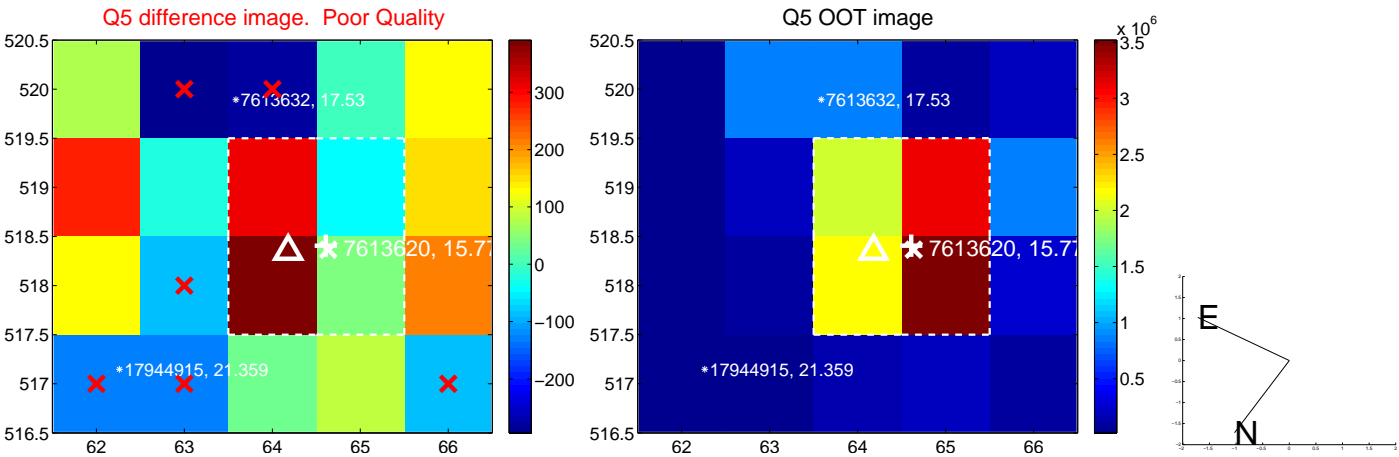


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

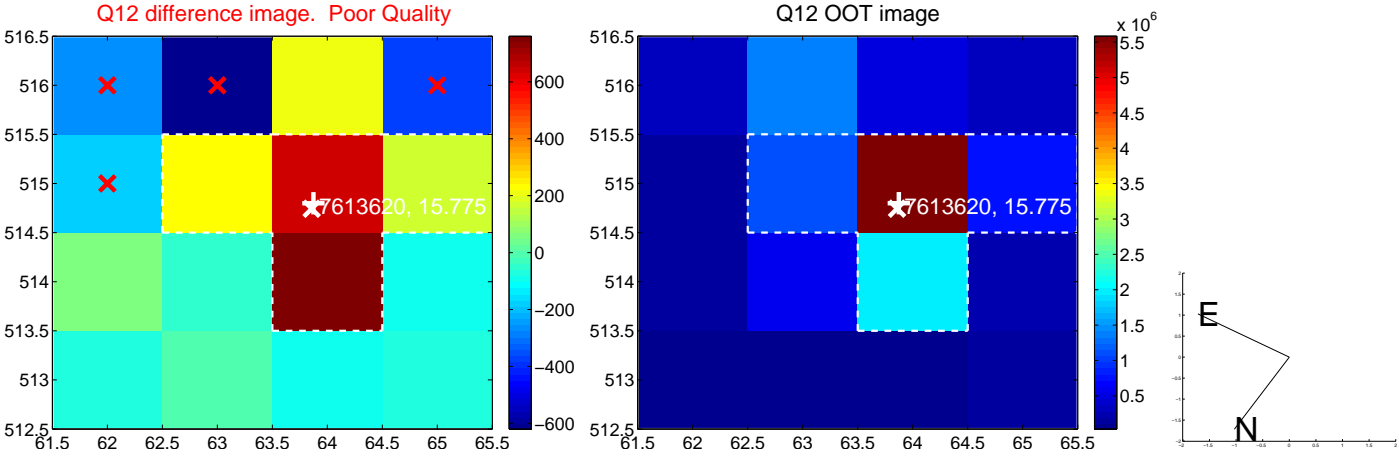
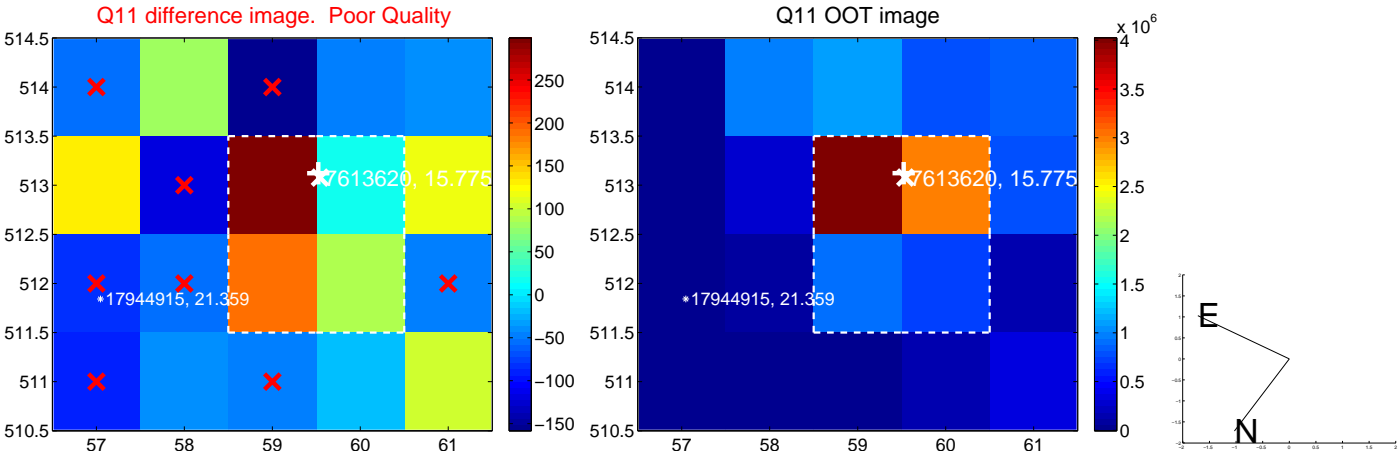
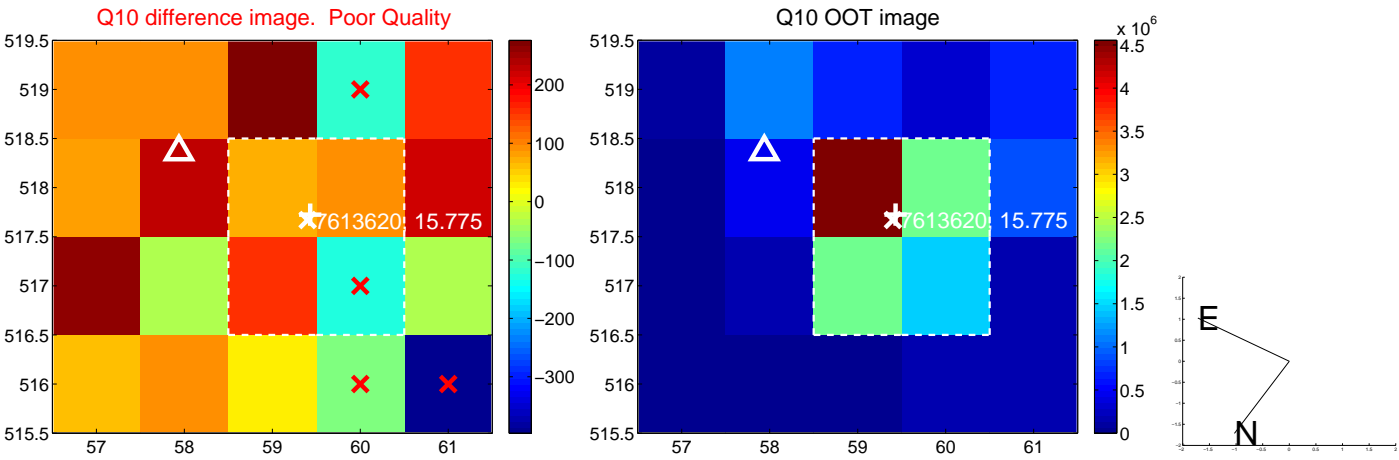
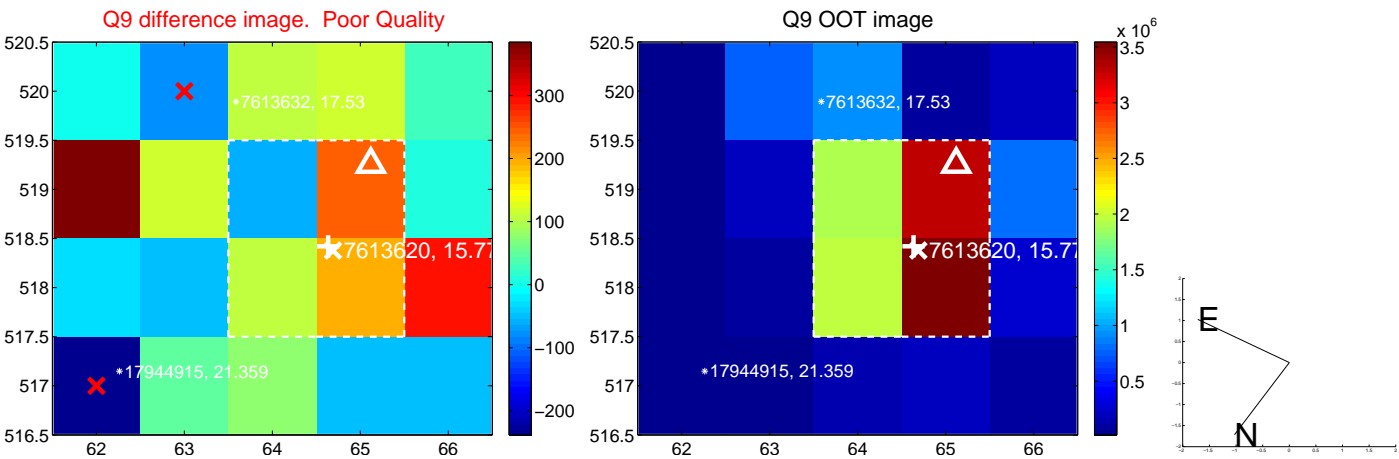
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



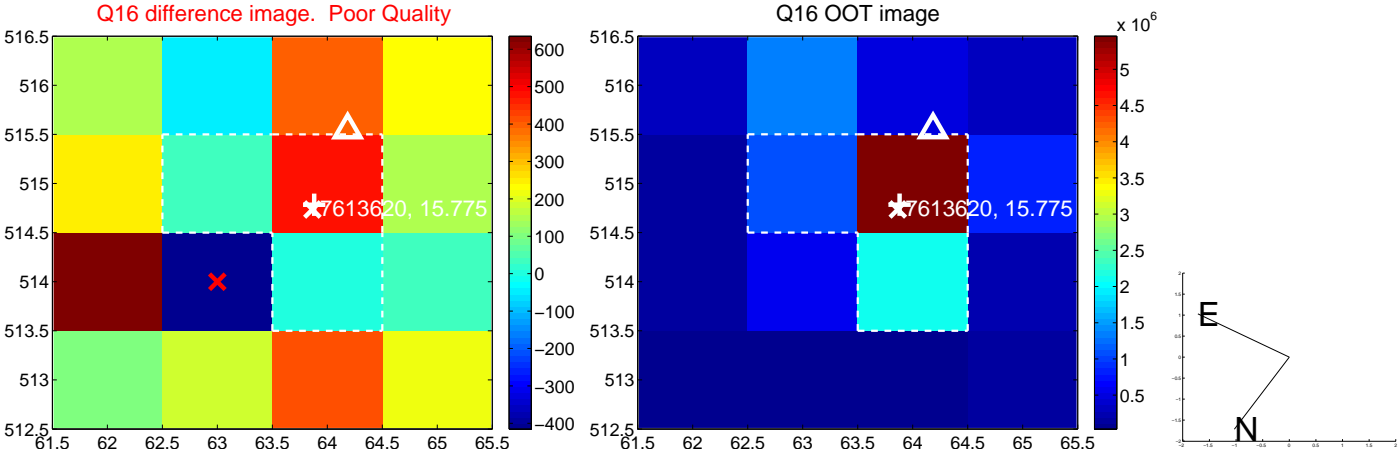
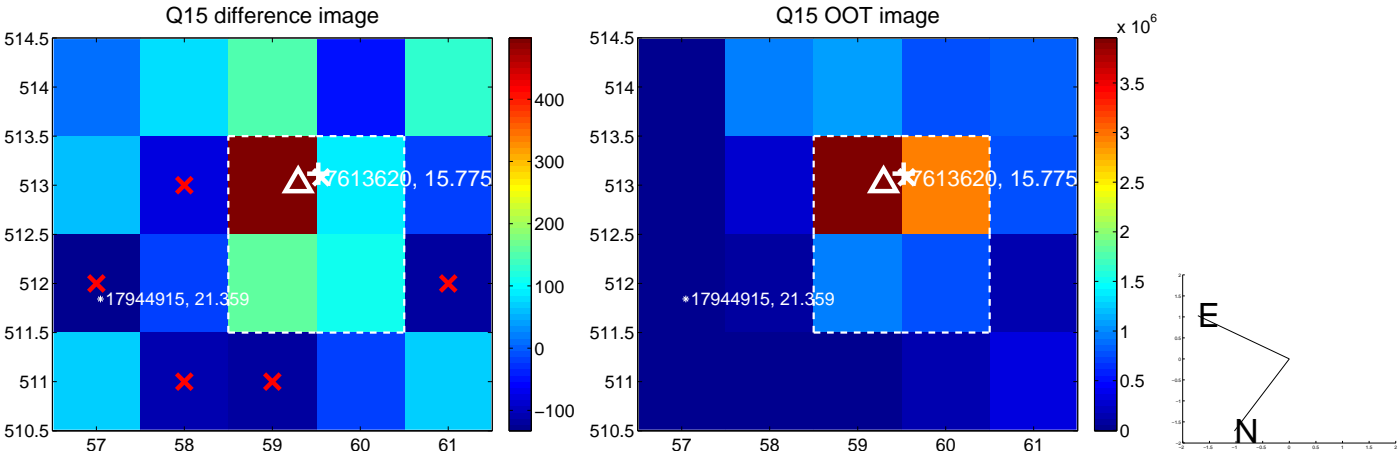
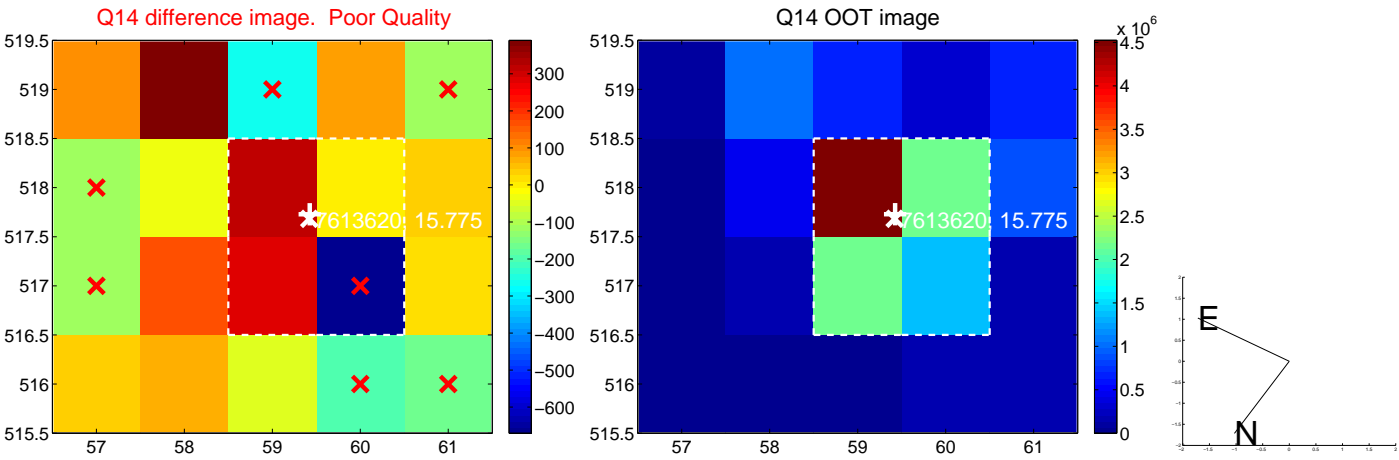
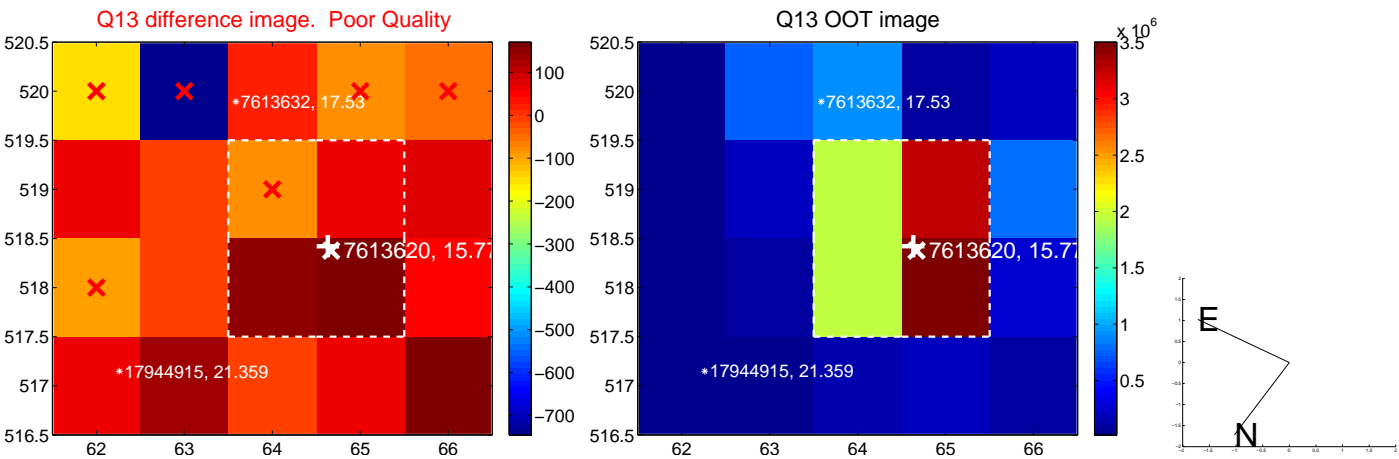
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



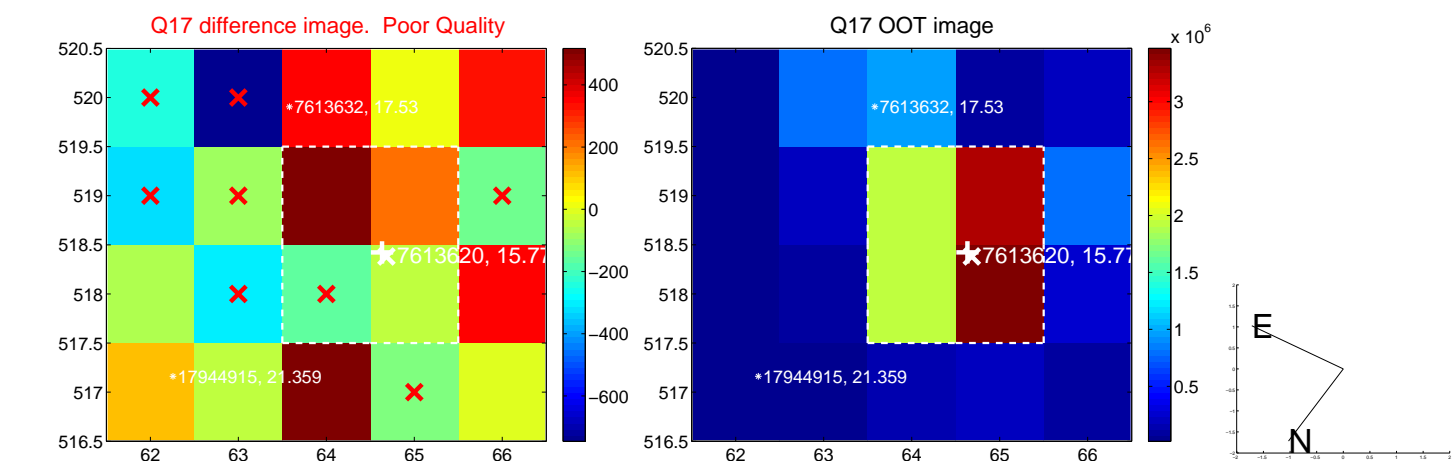
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



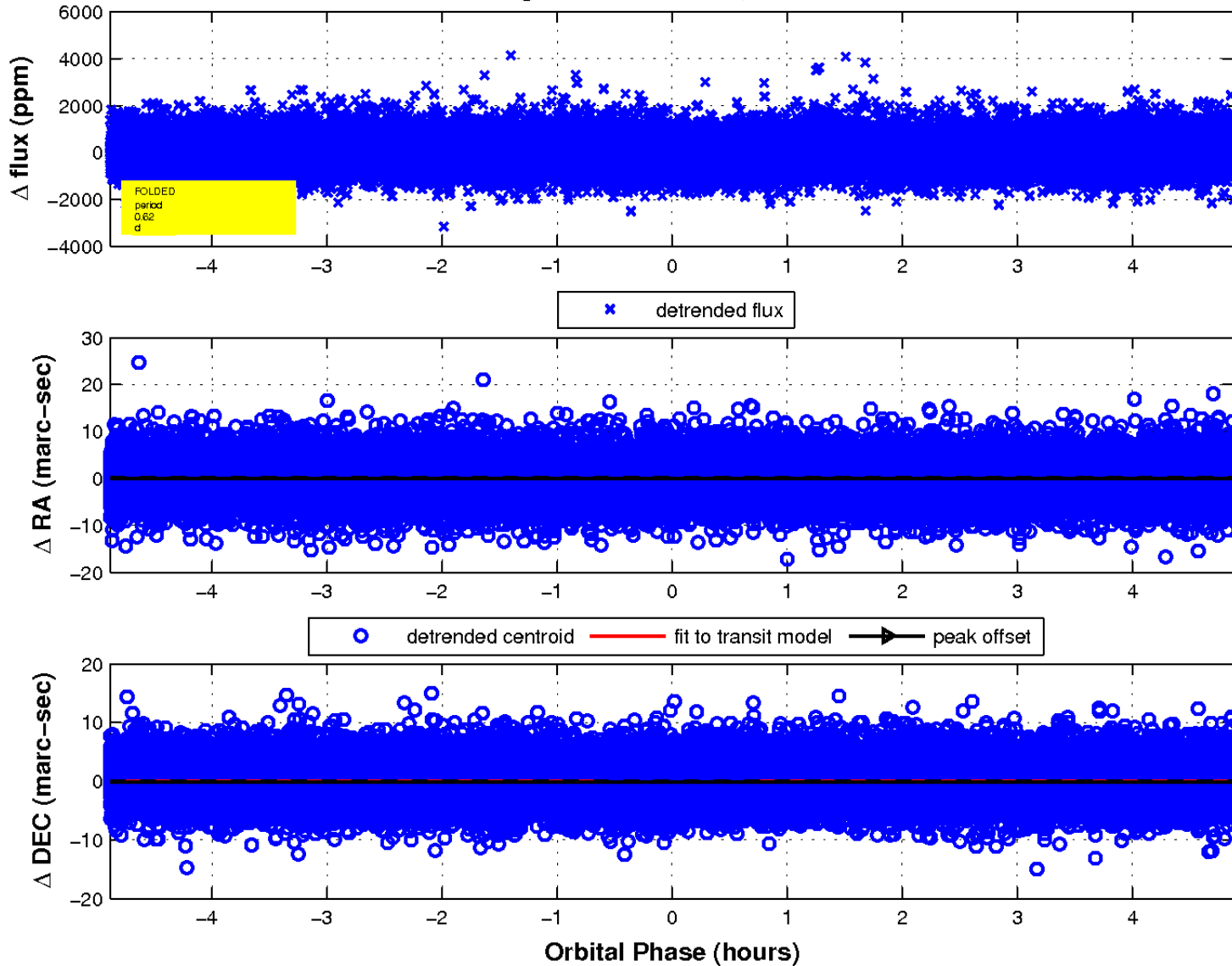
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

