

KIC 003646449

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})
003646449-01	OBS	4999.01	65.752258	183.310017	364.5	6.925	9.0	8.9	1.03	5816	2.31	10.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003646449-01	OBS	PC	0.98	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.

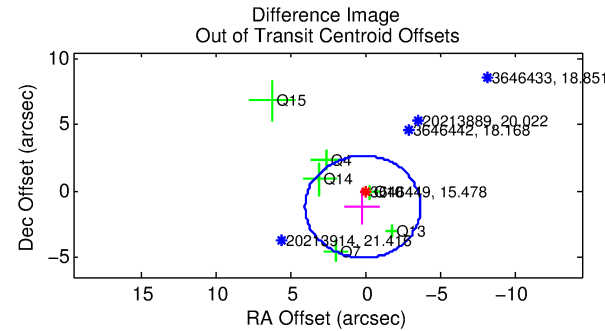
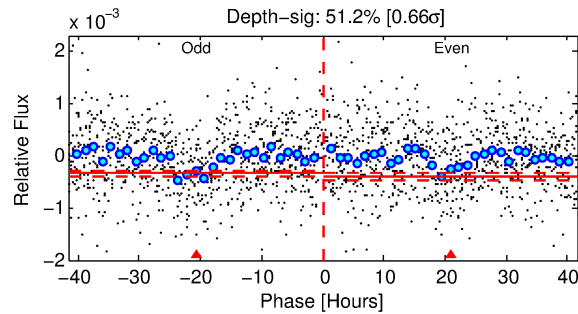
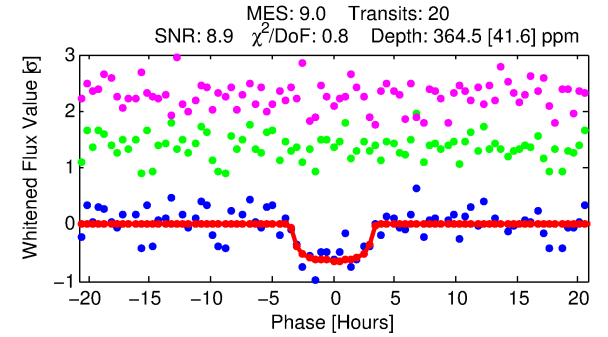
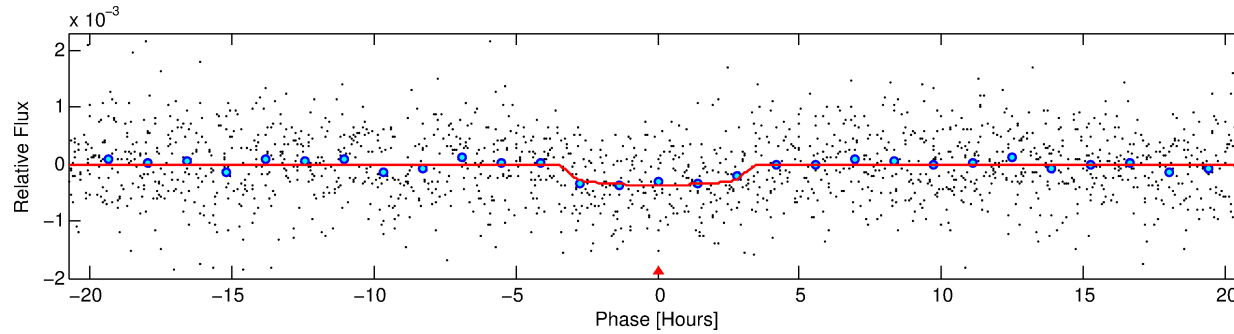
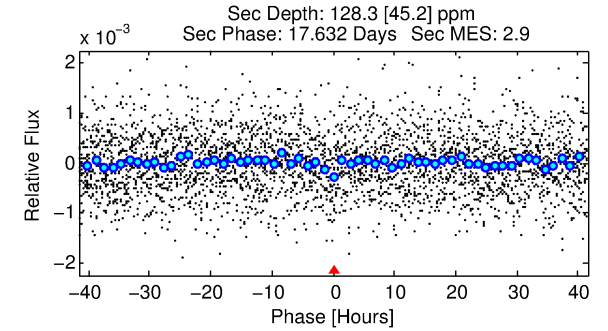
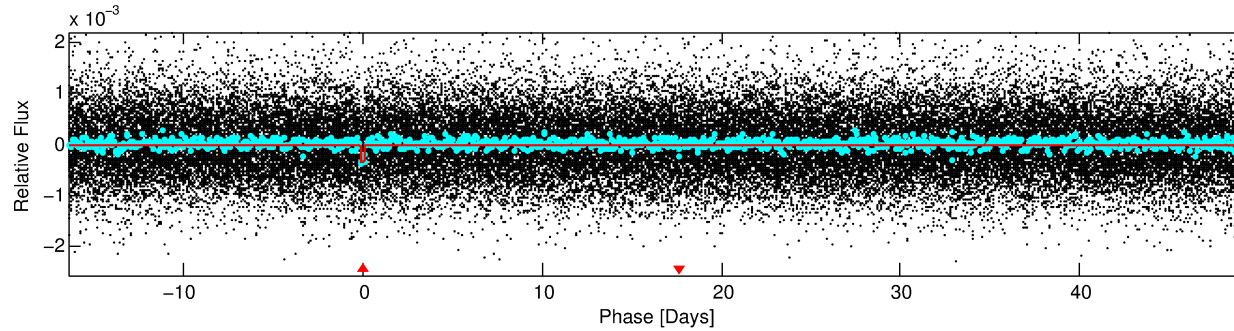
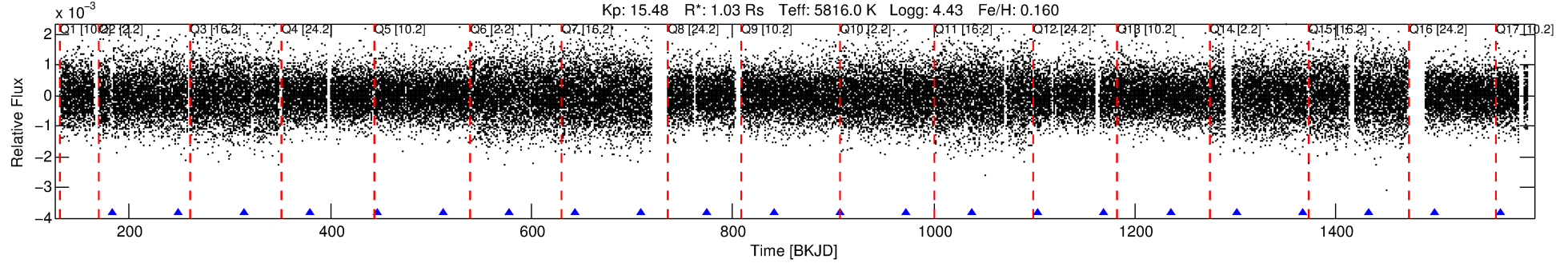
Ephemeris Match Information For 003646449-01

No Significant Match Found

DV One-Page Summary

KIC: 3646449 Candidate: 1 of 1 Period: 65.752 d
KOI: K04999.01 Corr: 0.976

Kp: 15.48 R*: 1.03 Rs Teff: 5816.0 K Logg: 4.43 Fe/H: 0.160



DV Fit Results:

Period = 65.75226 [0.00131] d
Epoch = 183.3100 [0.0167] BKJD
Rp/R* = 0.0205 [0.0052]
a/R* = 37.04 [42.09]
b = 0.88 [0.29]
Seff = 10.38 [2.23]
Teq = 458 [25] K
Rp = 2.31 [0.68] Re
a = 0.3237 [0.0438] AU
Ag = 1392.33 [905.27] [1.54σ]
Teffp = 4322 [668] K [5.78σ]

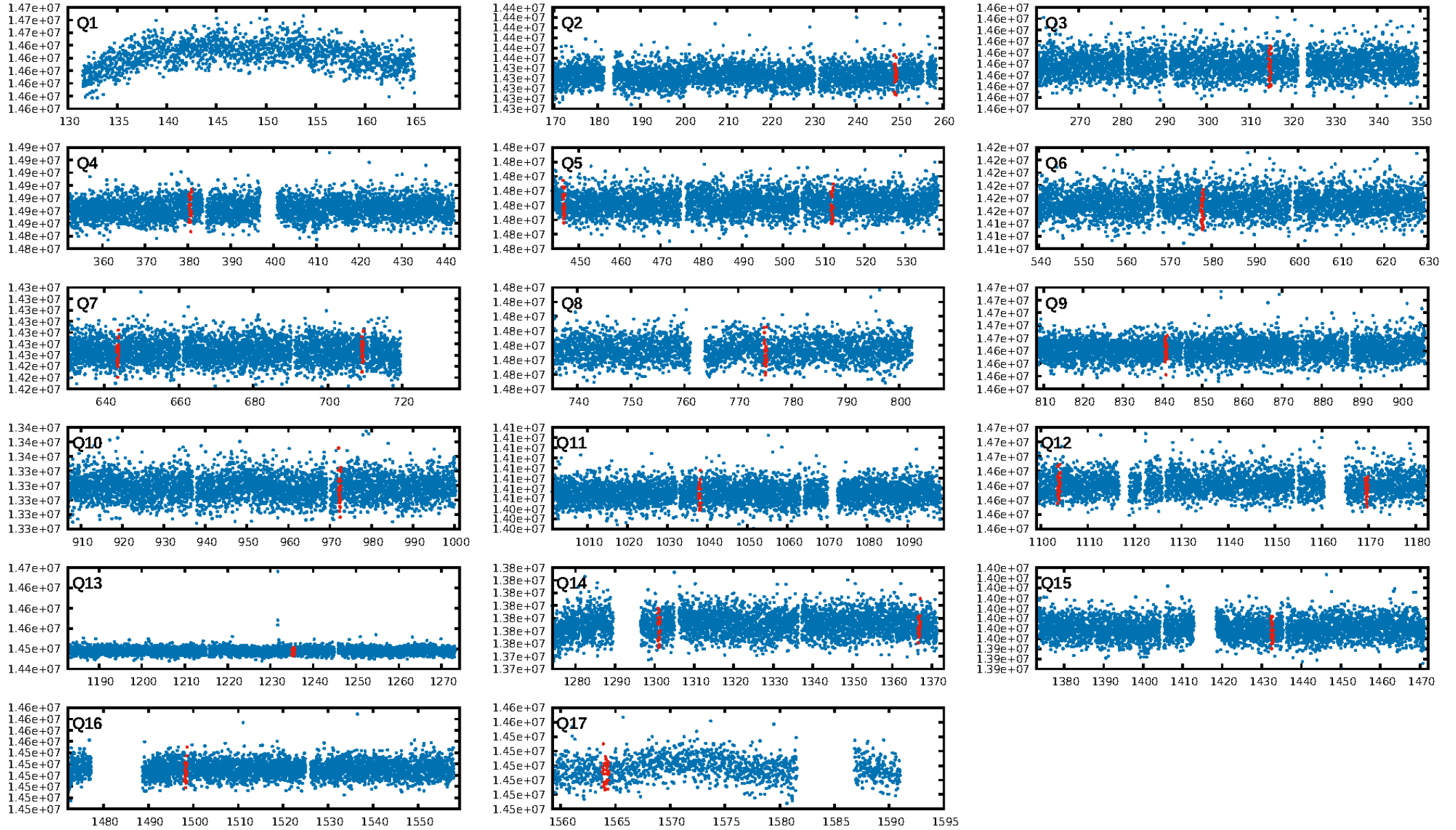
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.72e-20
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: -5.108
Centroid-sig: 38.2%
Centroid-so: 1.680 arcsec [0.93σ]
OotOffset-rm: 1.210 arcsec [0.94σ]
KicOffset-rm: 1.127 arcsec [0.69σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [14/14]

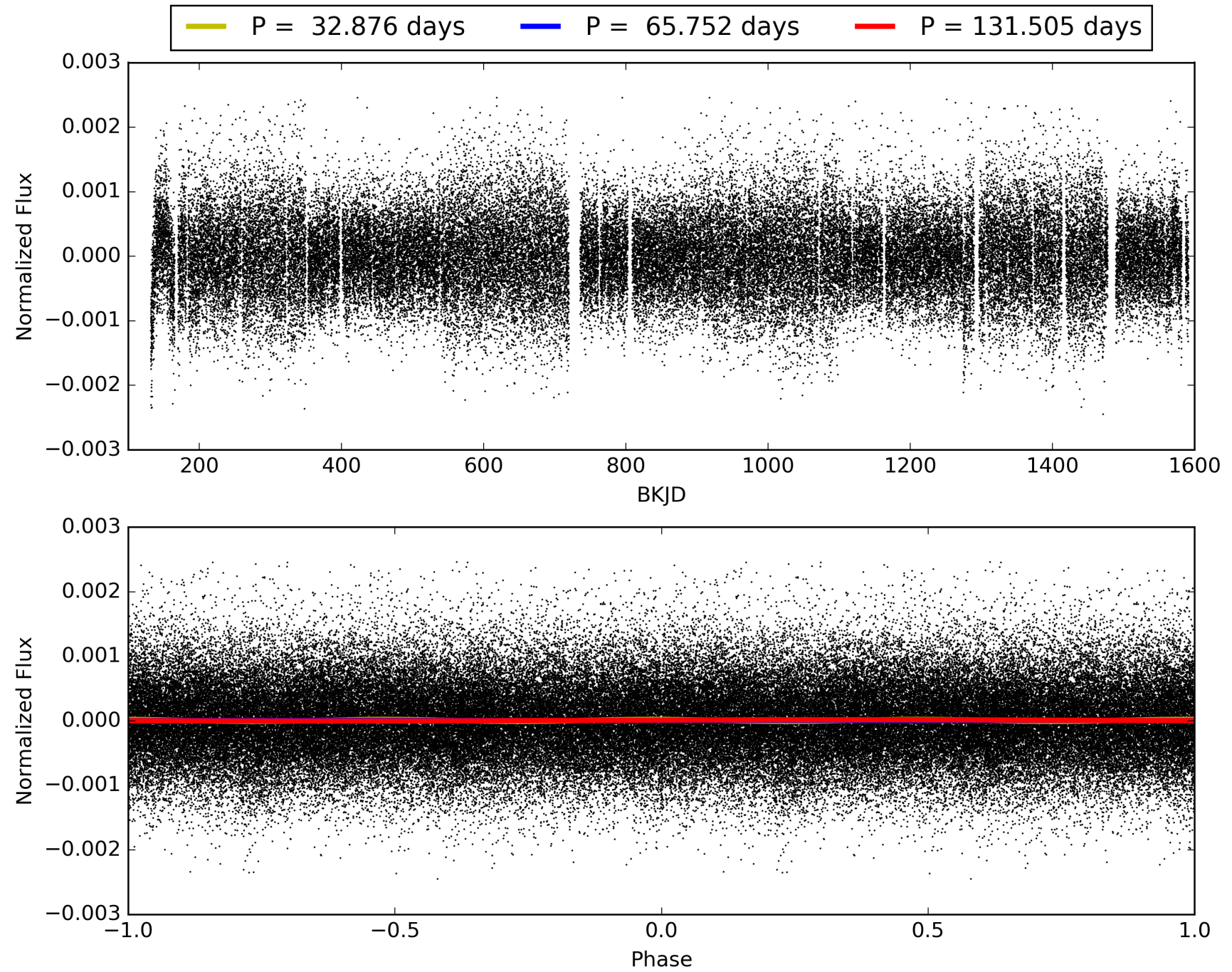
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:36:32 Z

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

TCE 003646449-01, PDC Light Curves

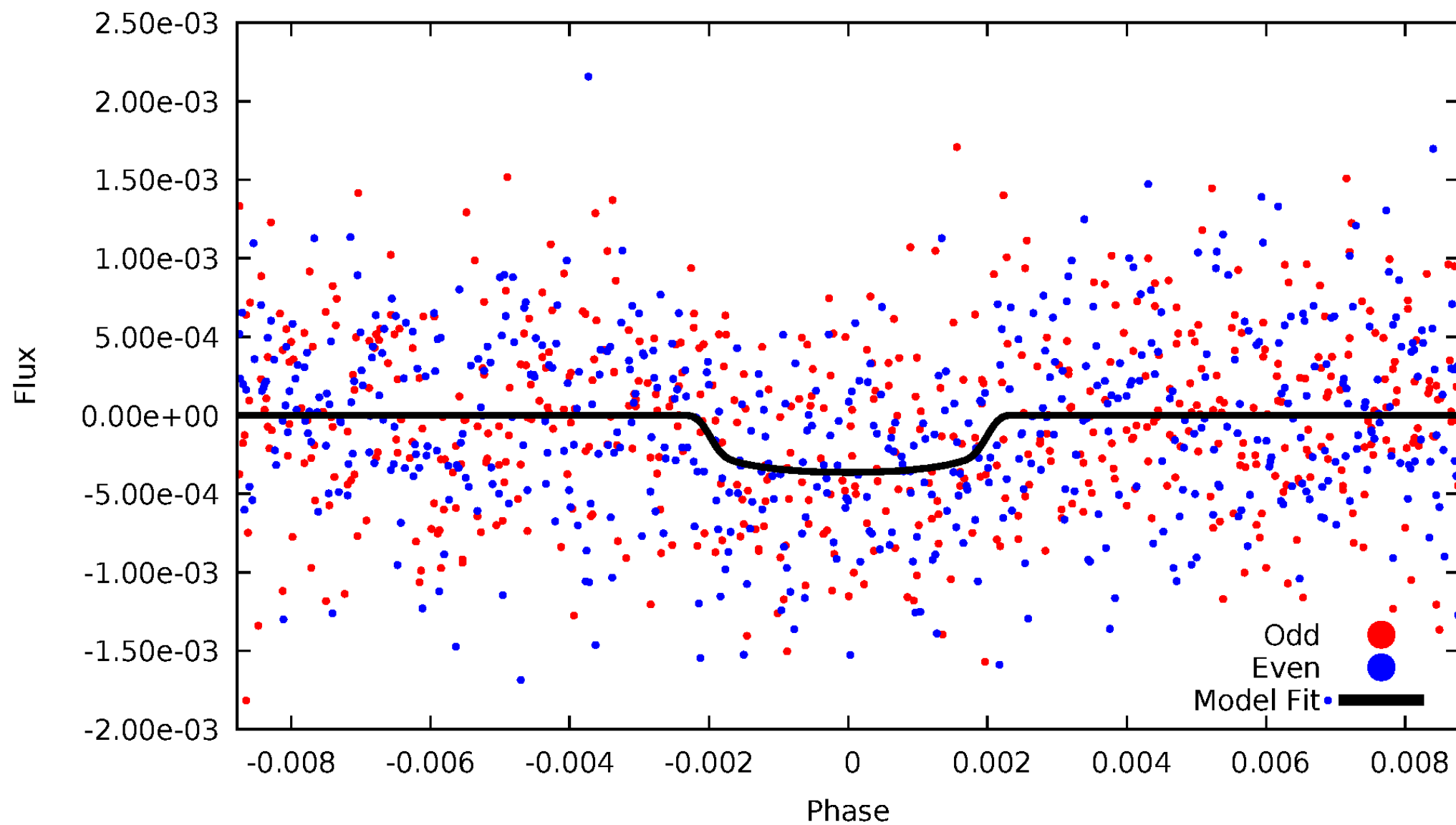


TCE 003646449-01



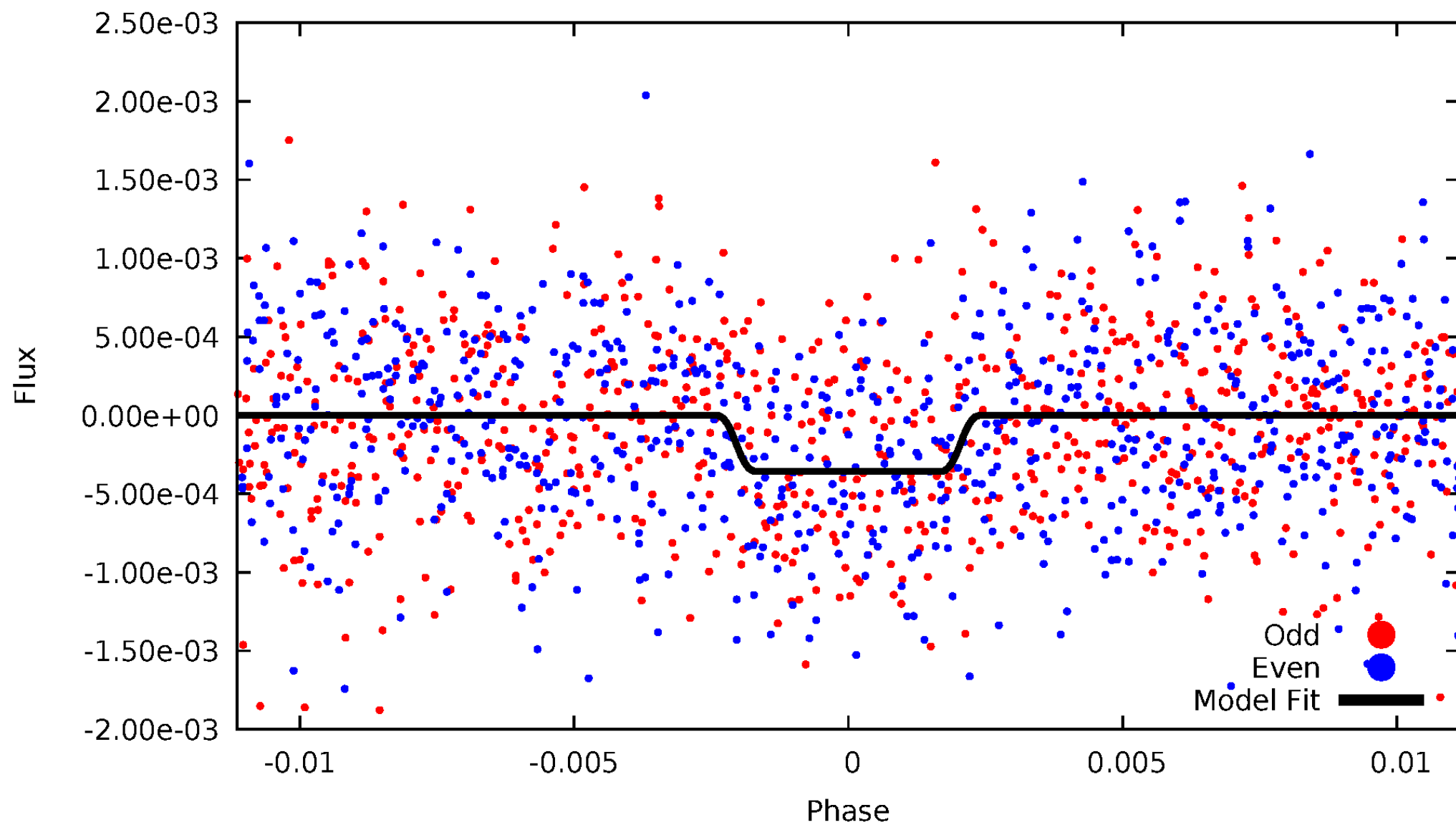
DV Odd/Even

TCE 003646449-01

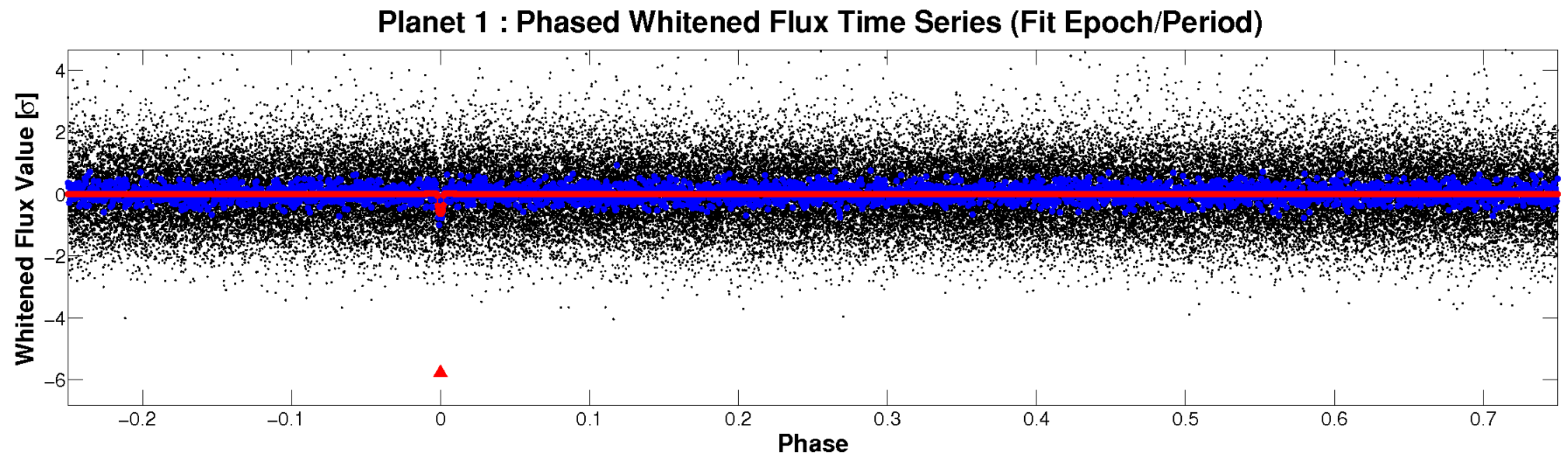
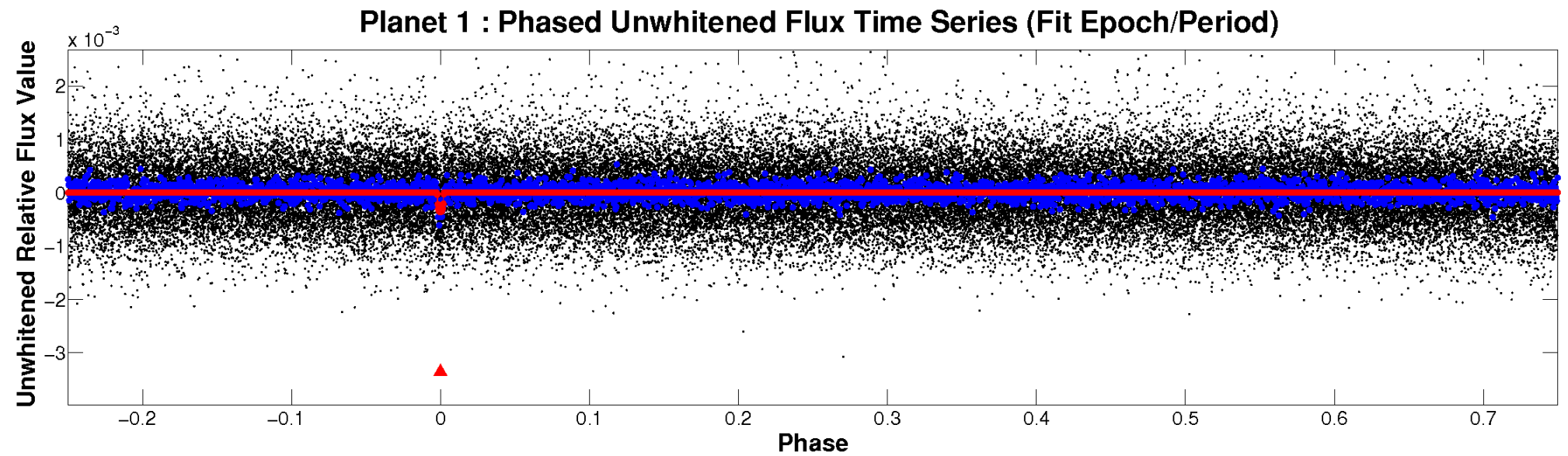


ALT Odd/Even

TCE 003646449-01

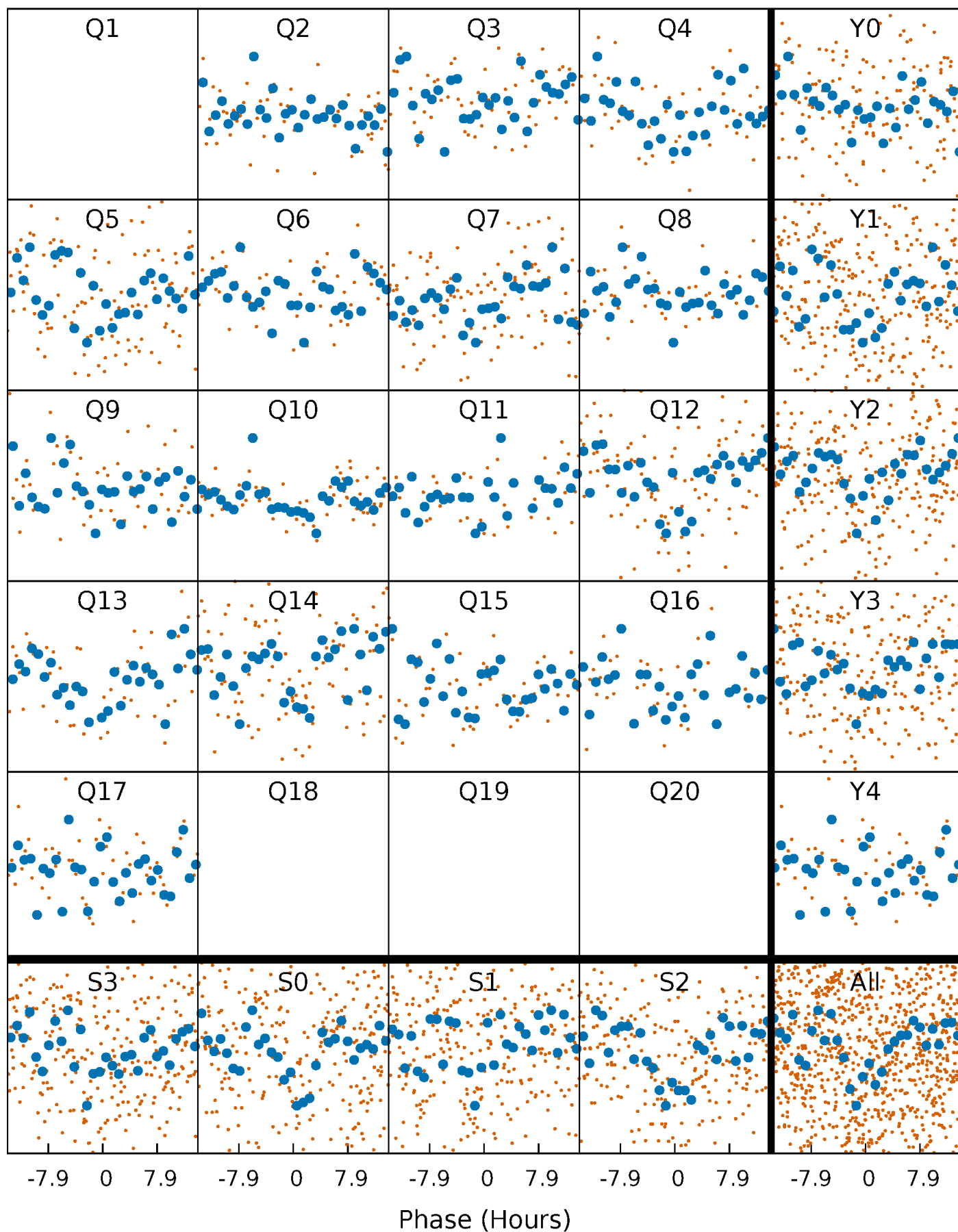


Non-Whitened Vs. Whitened Light Curve



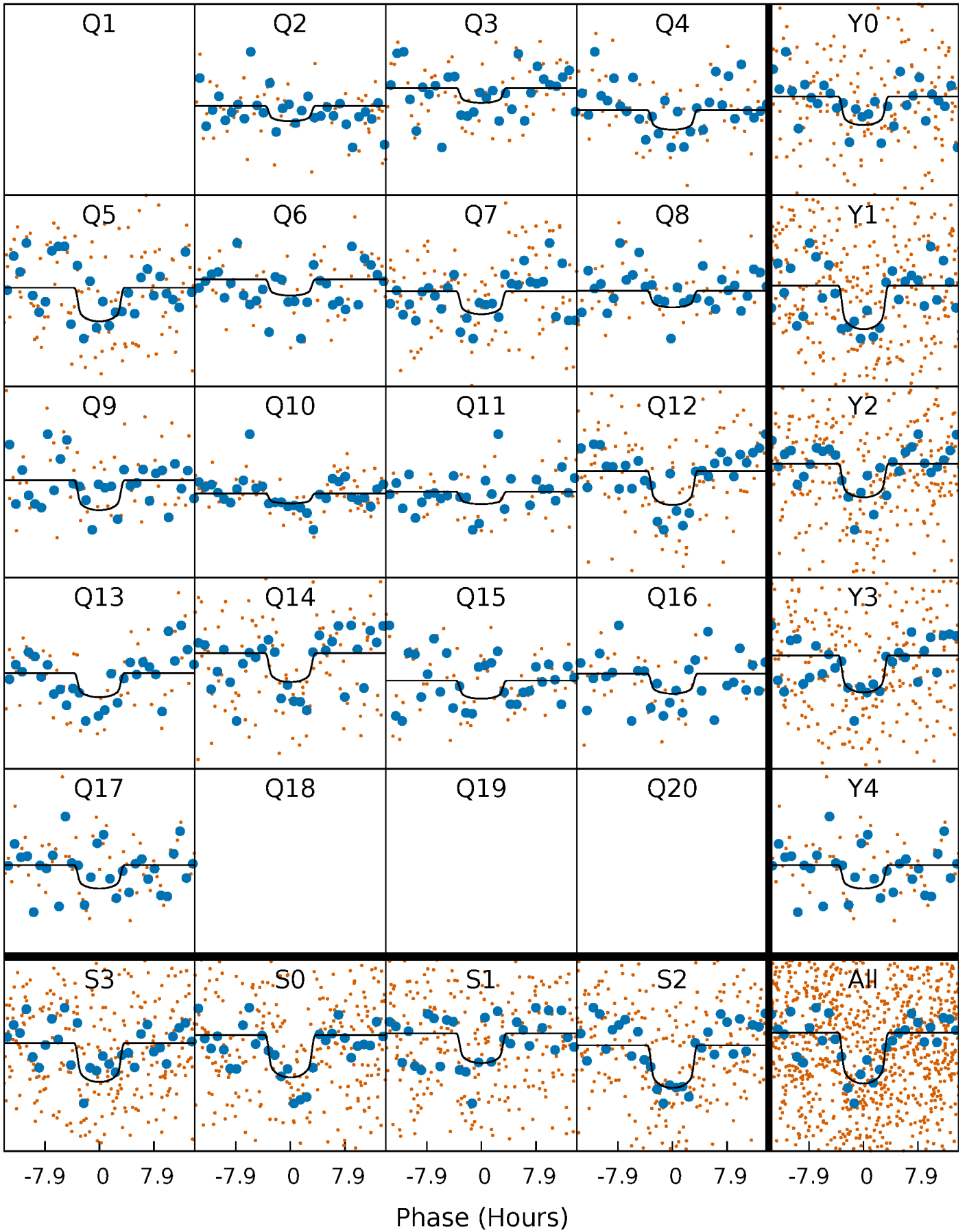
PDC Quarter-Phased Transit Curves

TCE 003646449-01 P= 65.752258 Days $T_0=183.310017$ (BKJD)



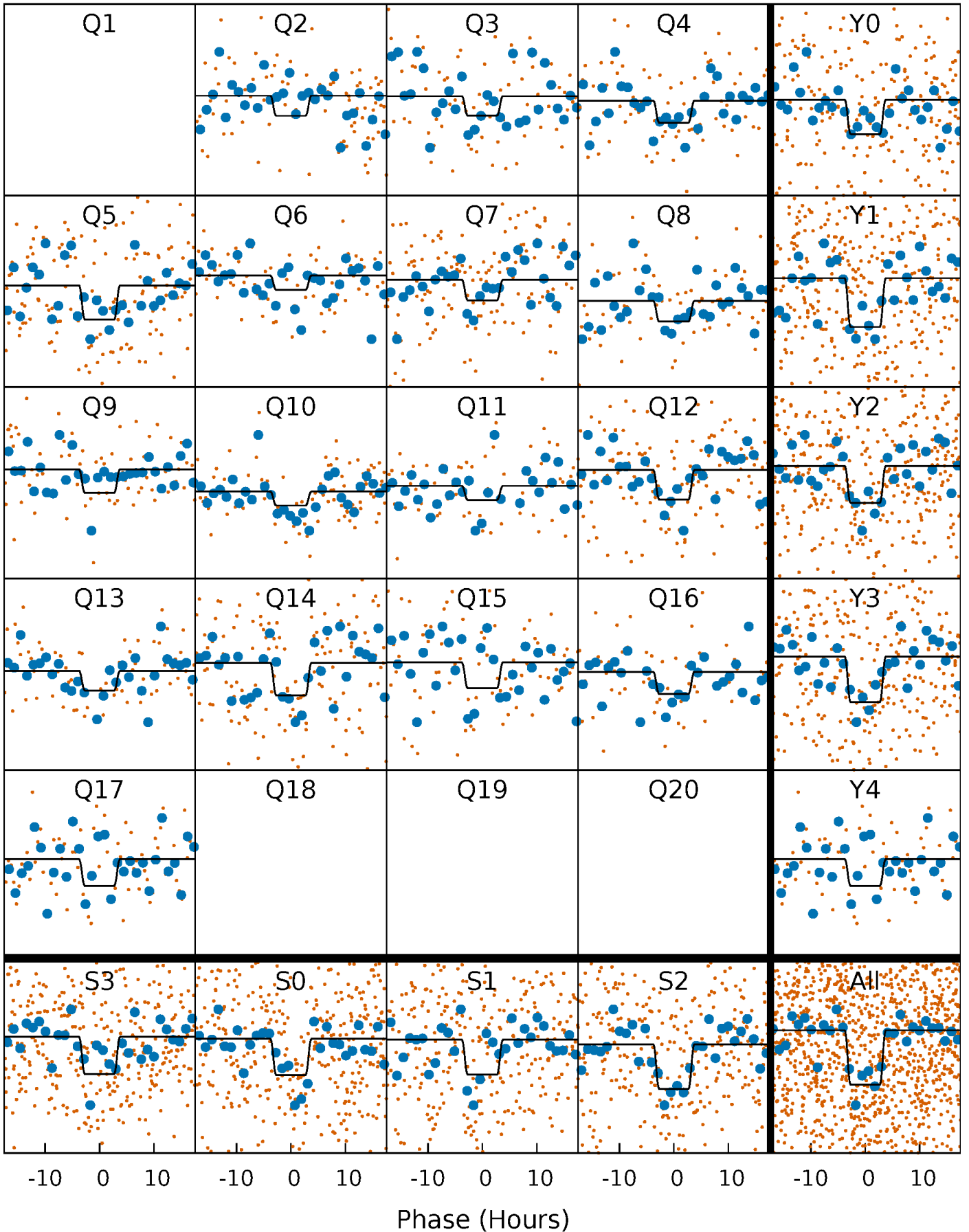
DV Quarter-Phased Transit Curves

TCE 003646449-01 P= 65.752258 Days $T_0=183.310017$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

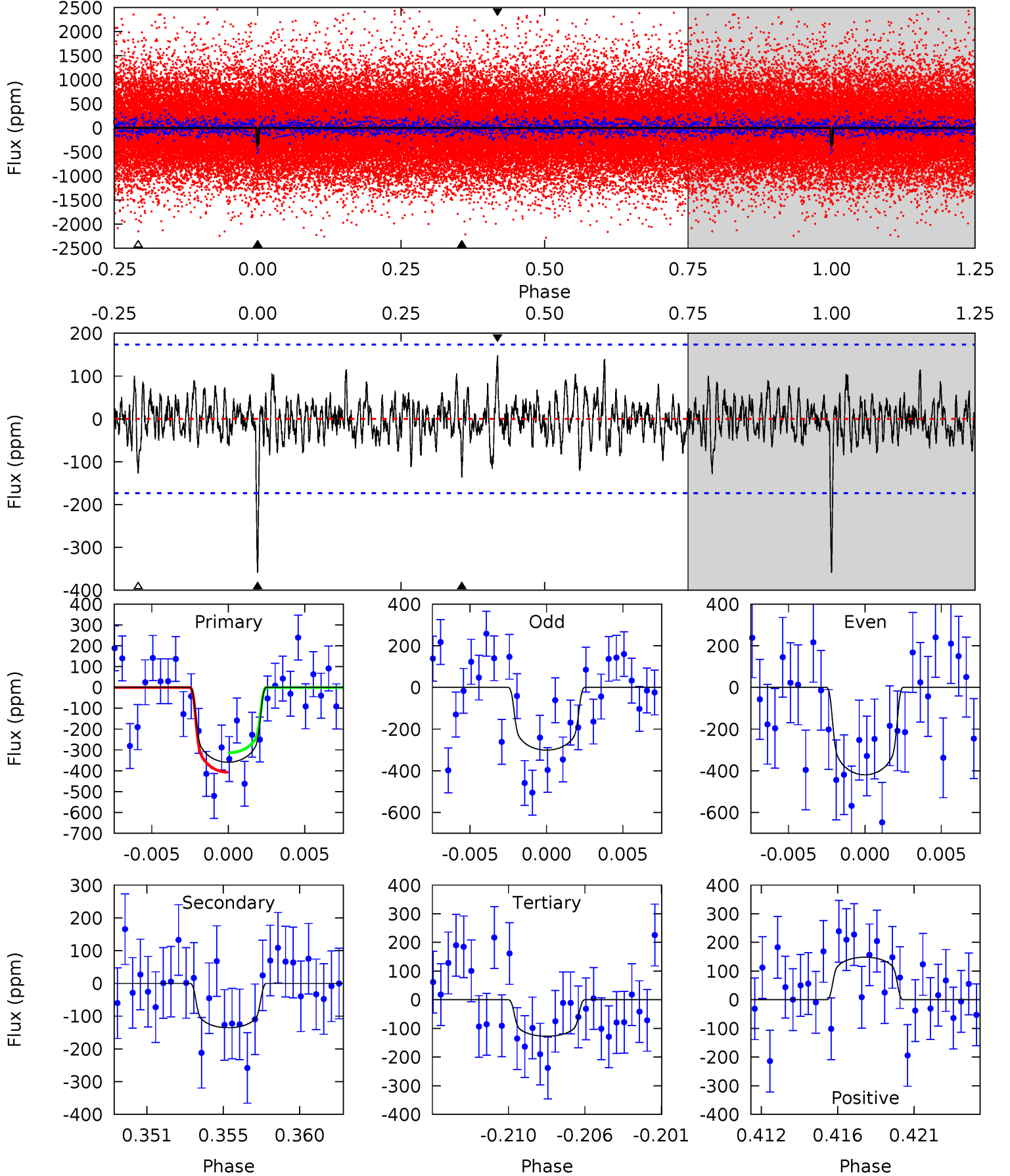
TCE 003646449-01 P= 65.753044 Days $T_0=183.297881$ (BKJD)



DV Model-Shift Uniqueness Test

003646449-01, $P = 65.752258$ Days, $E = 117.557759$ Days

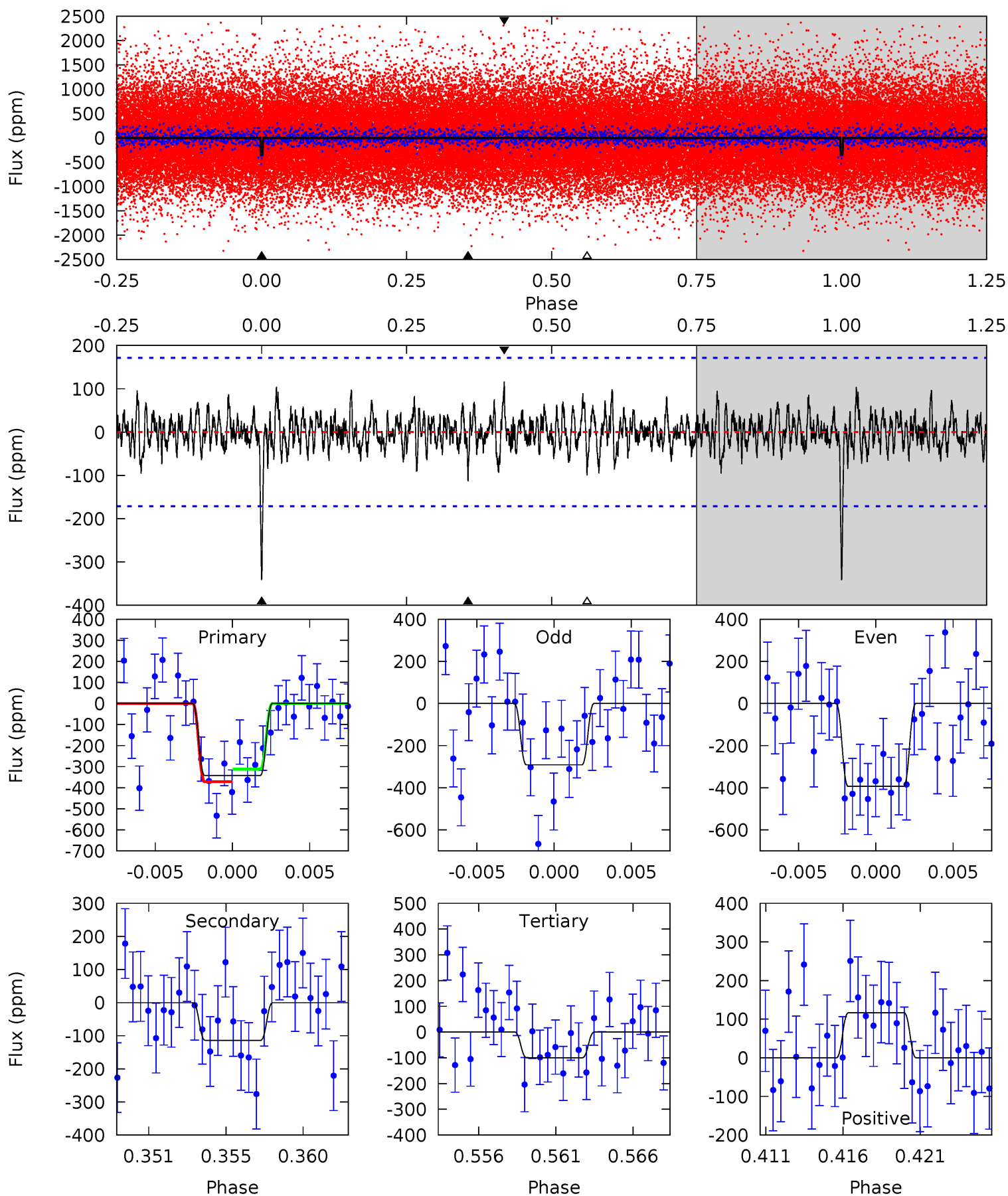
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	4.04	3.80	4.43	5.17	2.83	1.15	6.91	6.28	0.24	-0.39	1.78	1.01	0.29	1.40



Alt Model-Shift Uniqueness Test

003646449-01, P = 65.753044 Days, E = 117.544837 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	3.43	3.01	3.53	5.17	2.83	0.98	7.30	6.78	0.42	-0.10	1.55	0.99	0.26	0.91



Stellar Parameters For KIC 003646449

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5816^{+78}_{-78}	$4.432^{+0.051}_{-0.119}$	$0.160^{+0.150}_{-0.150}$	$1.030^{+0.154}_{-0.071}$	$1.047^{+0.063}_{-0.063}$	$1.348^{+0.268}_{-0.466}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-7%	+6%/-6%	+20%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 003646449-01 / KOI 4999.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-136 ± 34	$2.32^{+0.65}_{-0.57}$	643^{+26}_{-17}	4583^{+596}_{-459}	1468^{+1228}_{-646}
Alt.	-114 ± 33	$2.17^{+0.63}_{-0.59}$	643^{+26}_{-18}	4516^{+715}_{-459}	1353^{+1361}_{-602}

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 $A_{obs} \gg 1.0$

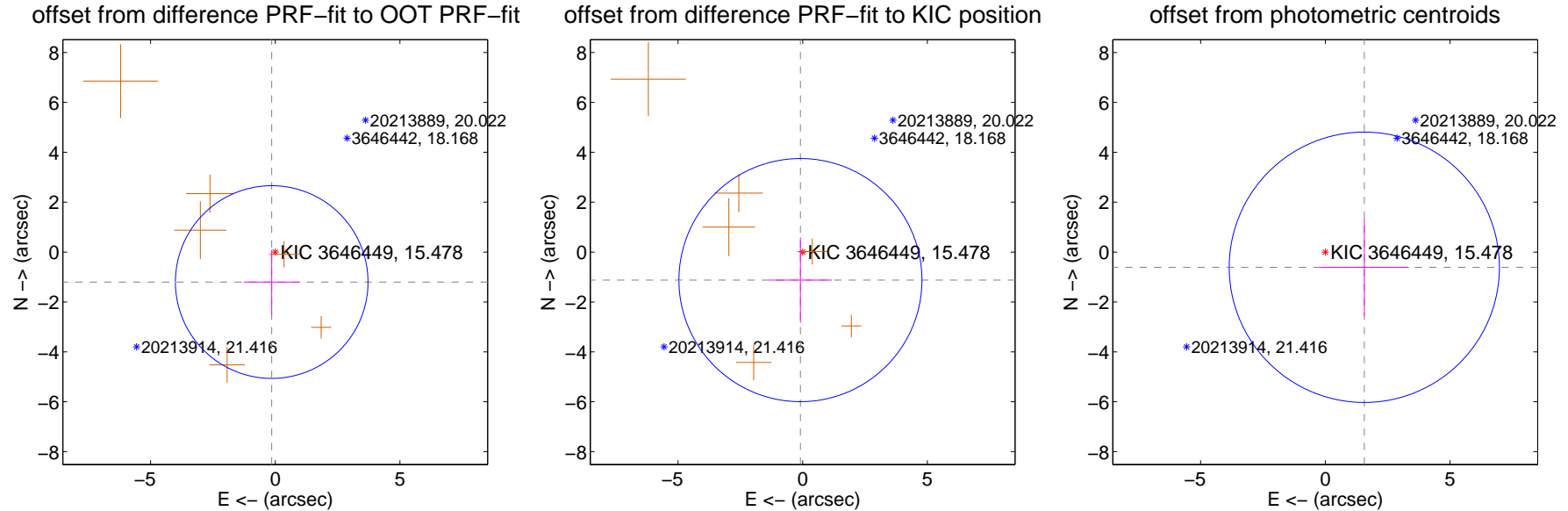
DV Centroid Data

Supplemental centroid analysis for 003646449-01. Kepler magnitude: 15.48. Transit SNR 8.90

There are 0 quarters with good PRF difference image offsets

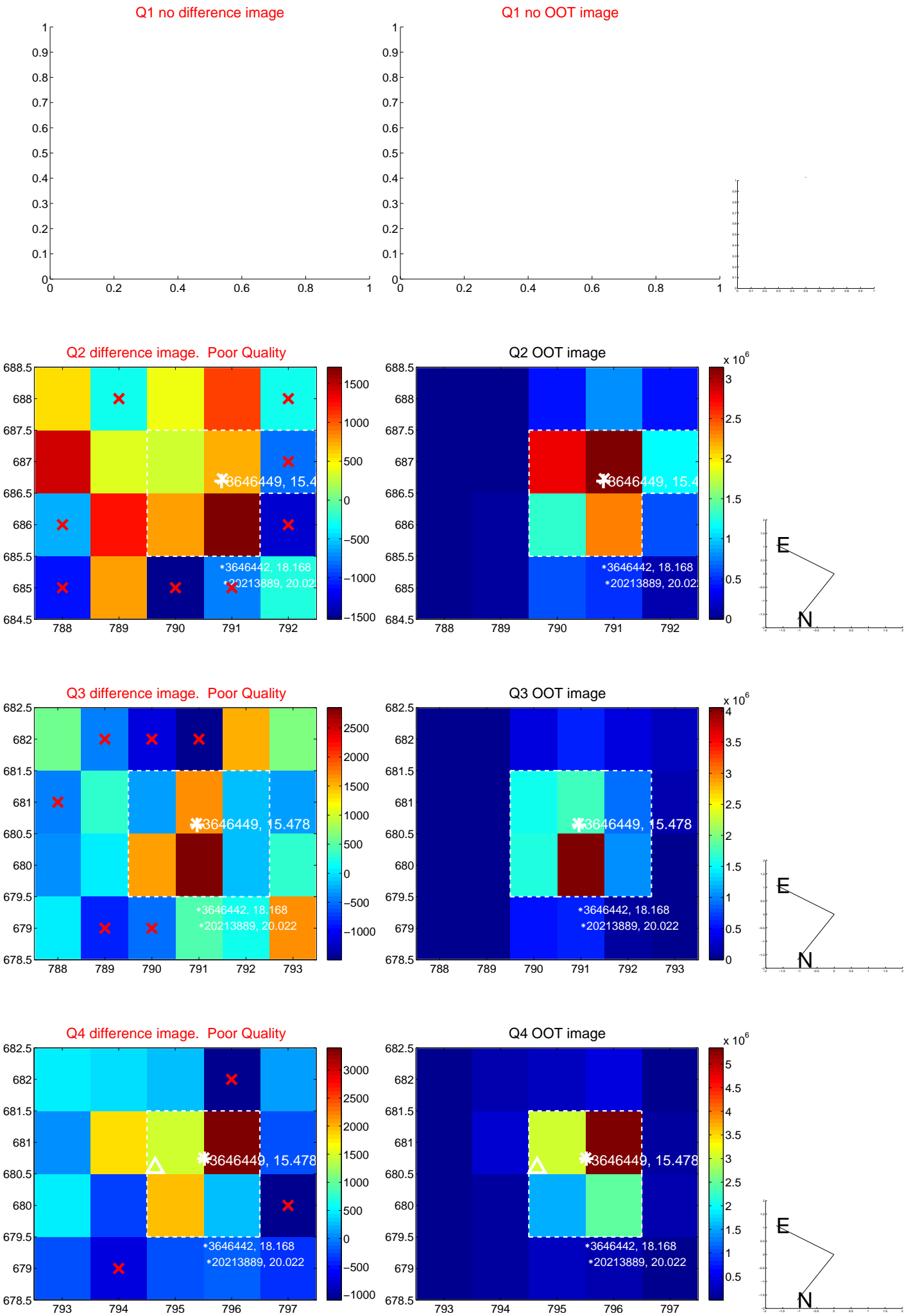
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.210 ± 1.287	0.94	0.143 ± 1.123	-1.202 ± 1.290
PRF-fit source offset from KIC position	1.127 ± 1.624	0.69	0.090 ± 1.260	-1.123 ± 1.716
photometric centroid source offset	1.68 ± 1.81	0.93	-1.57 ± 1.78	-0.61 ± 1.96

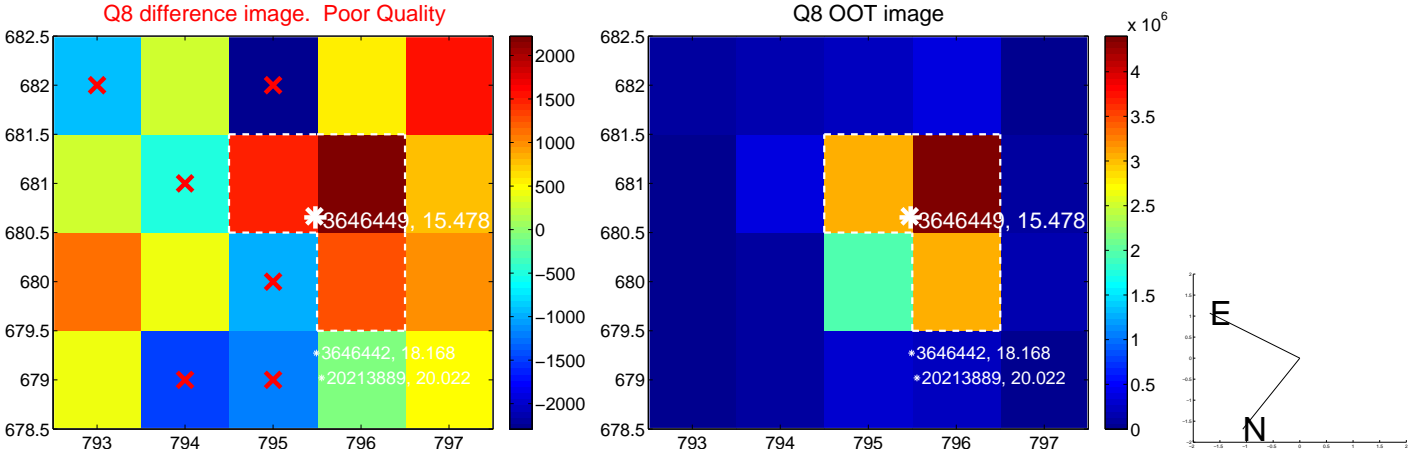
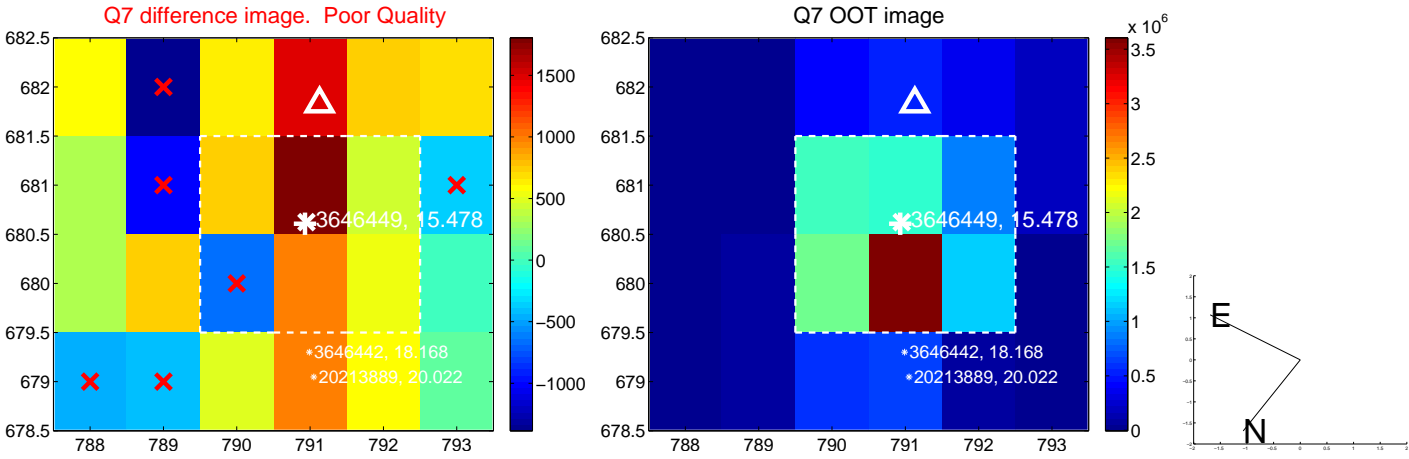
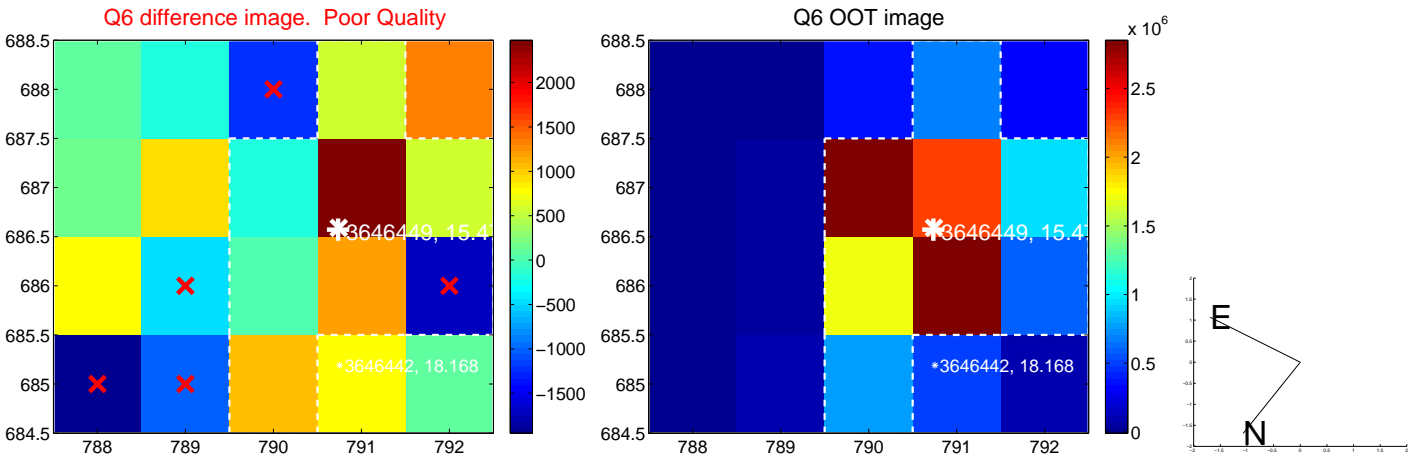
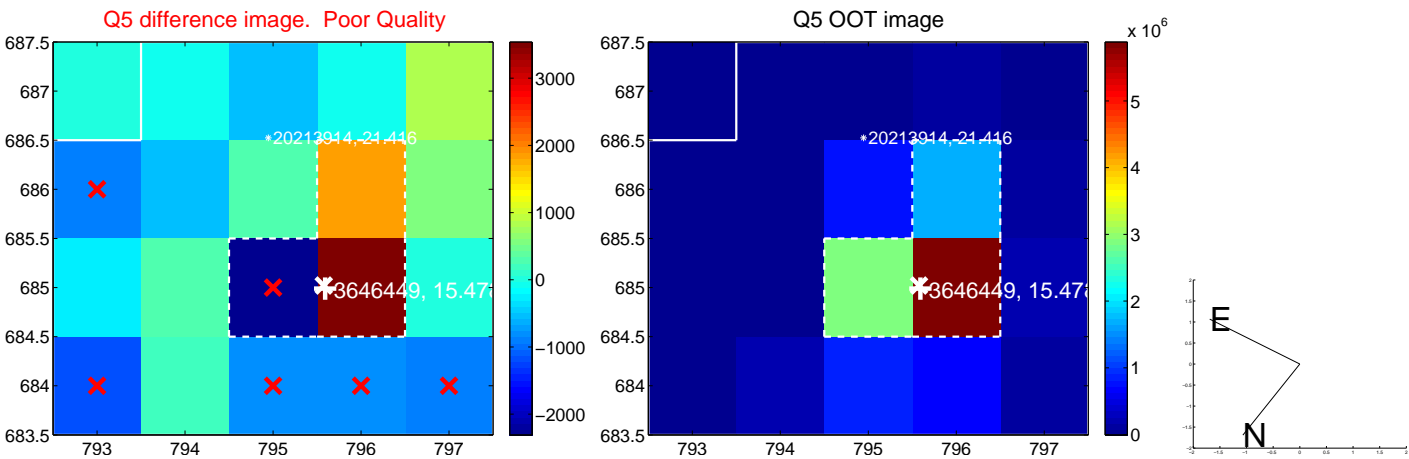


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

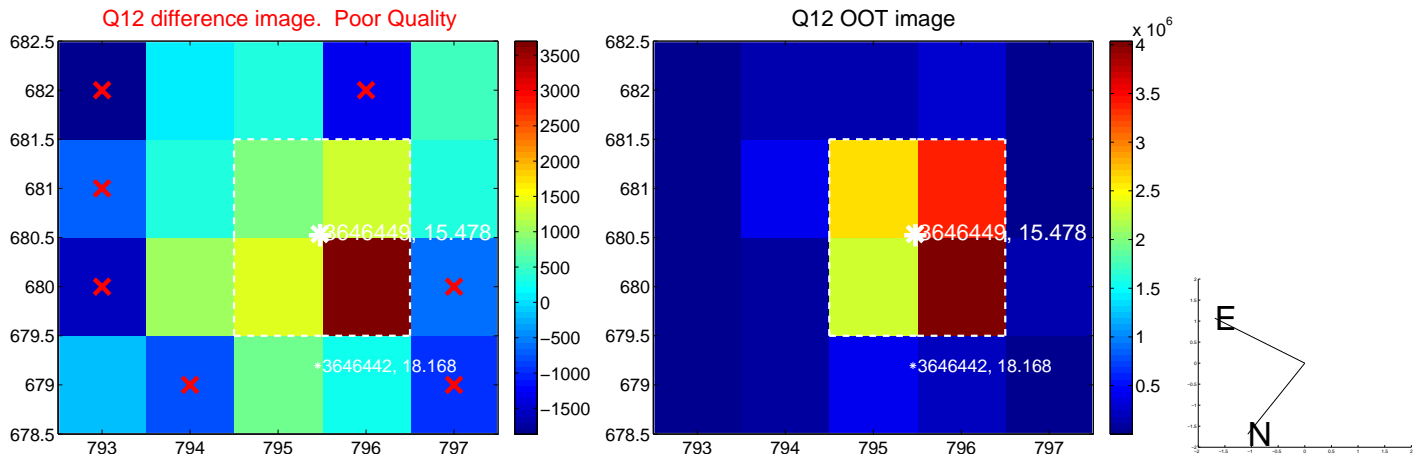
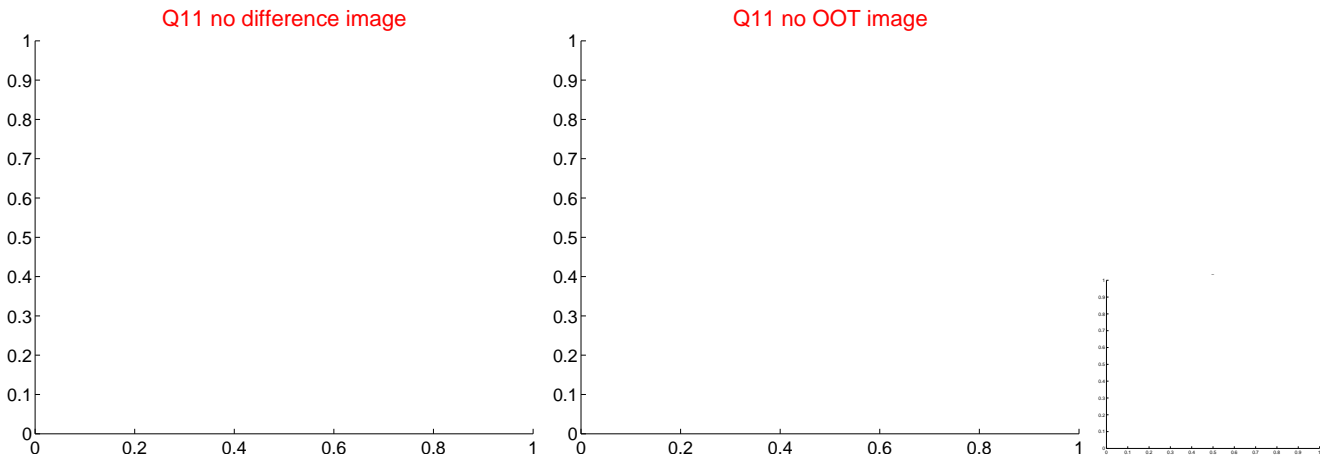
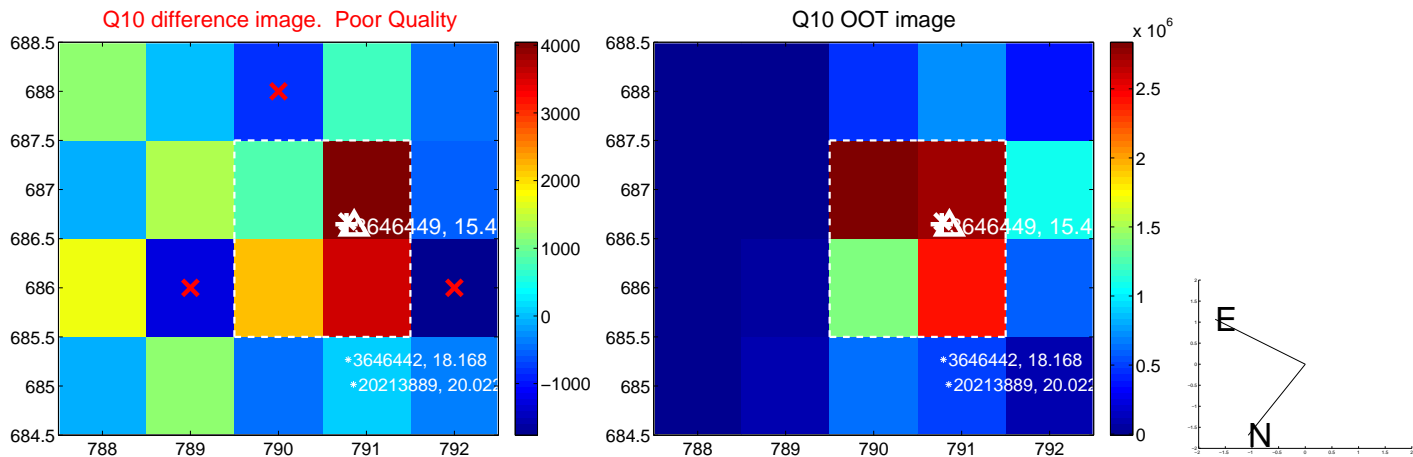
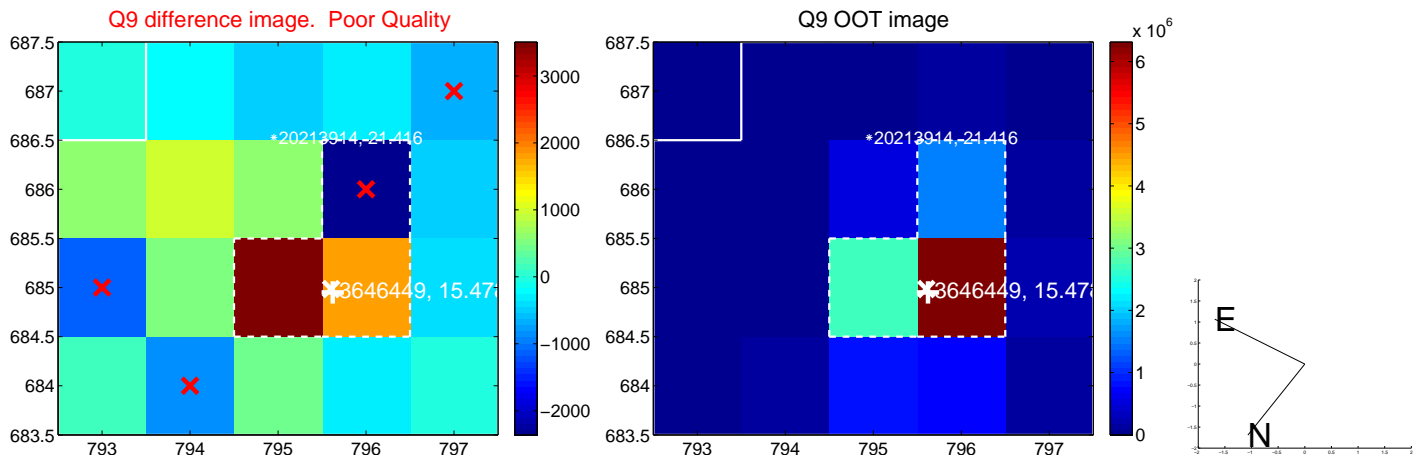
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



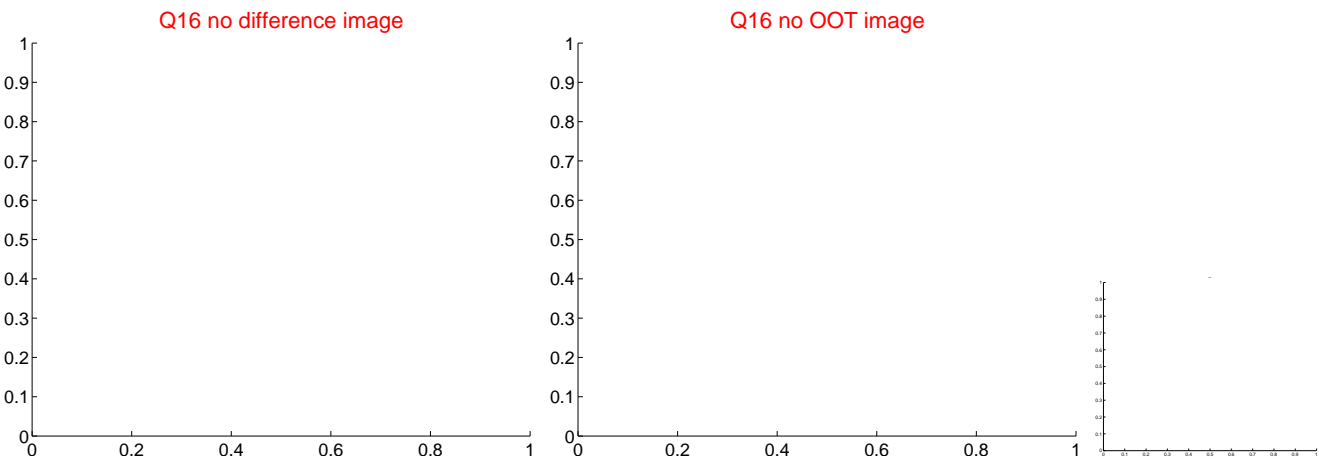
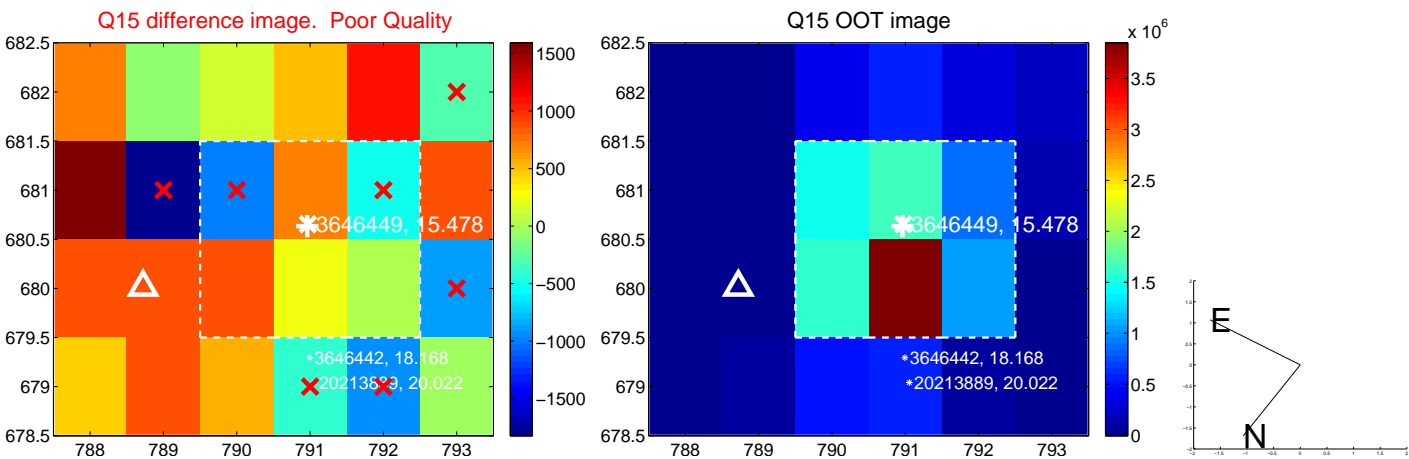
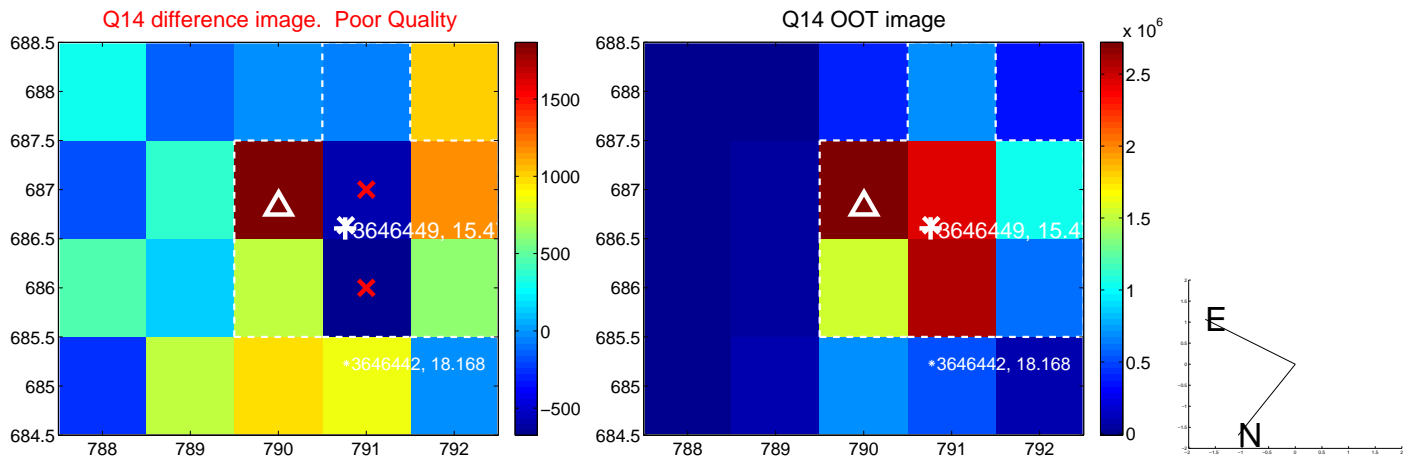
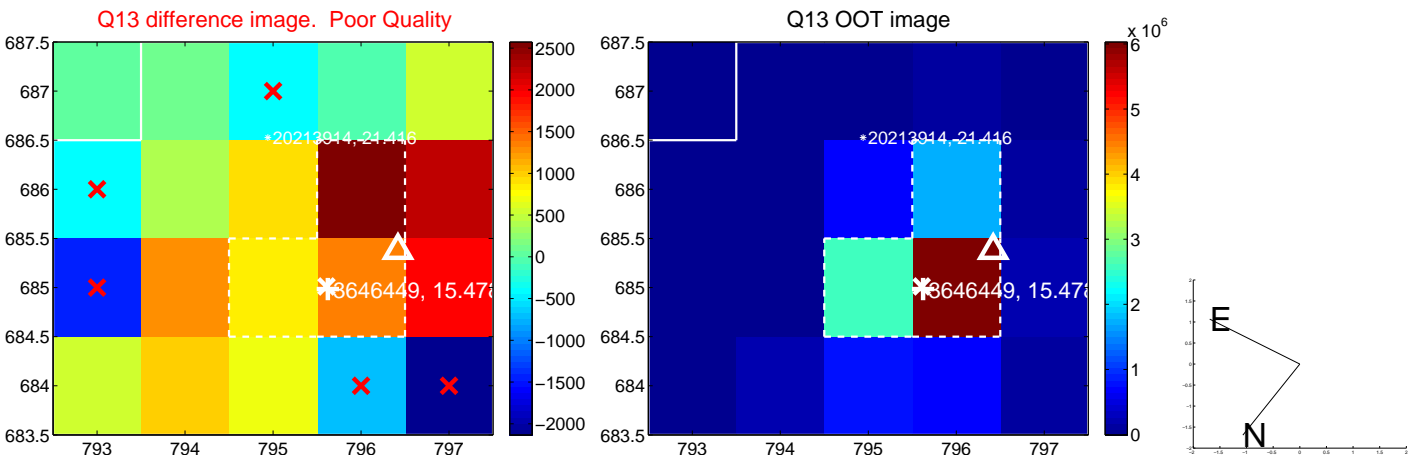
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



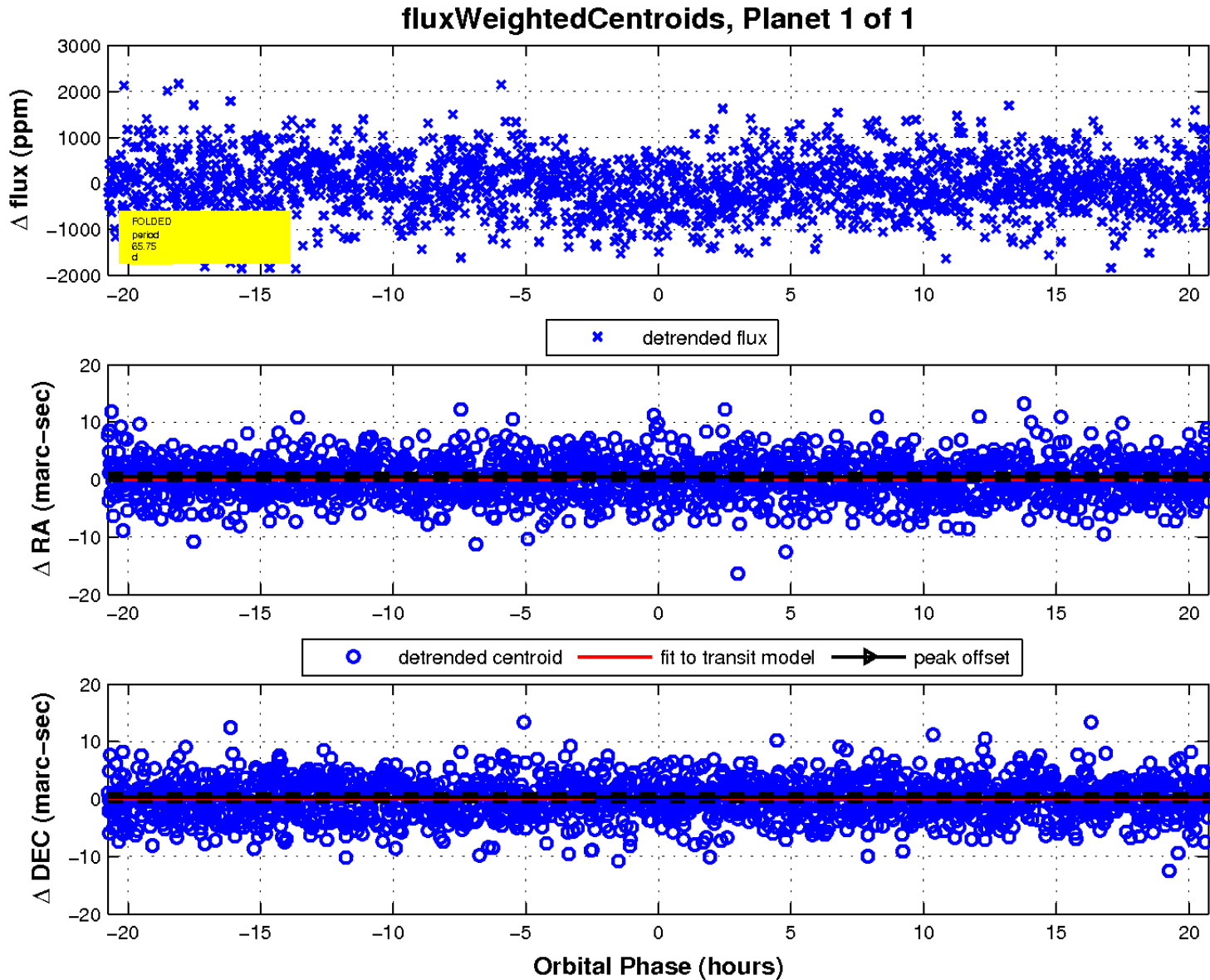
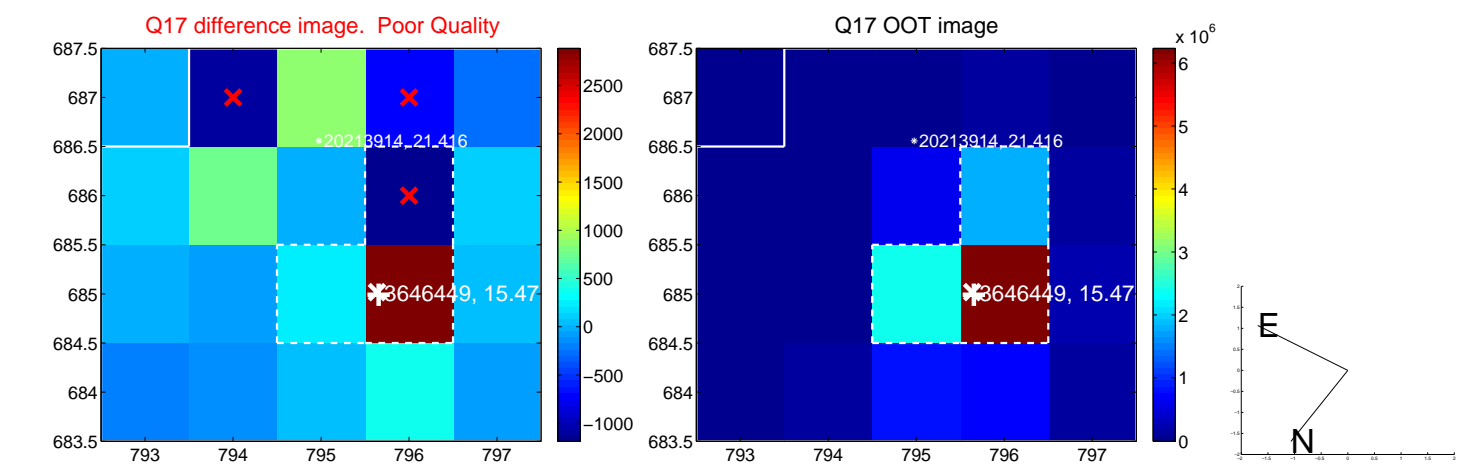
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UKIRT Image

Declination

