

KIC 007214055

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})
007214055-01	OBS	No	7.973290	139.170137	32.2	22.494	10.7	11.5	2.42	8287	1.89	2514.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007214055-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS

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

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

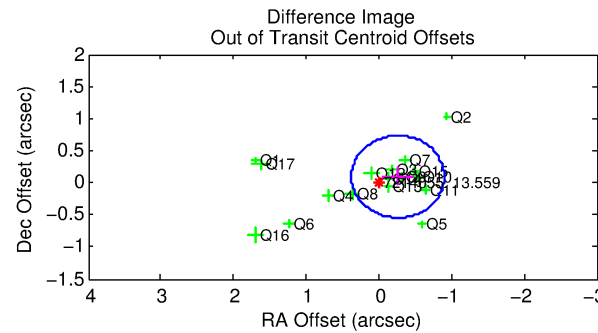
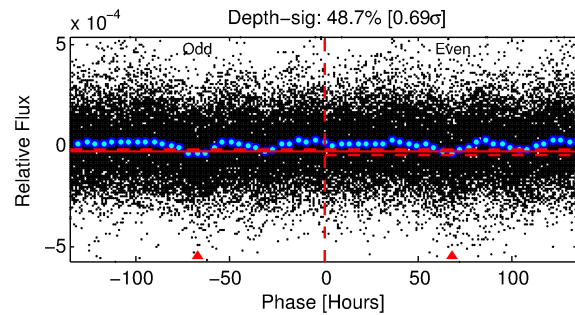
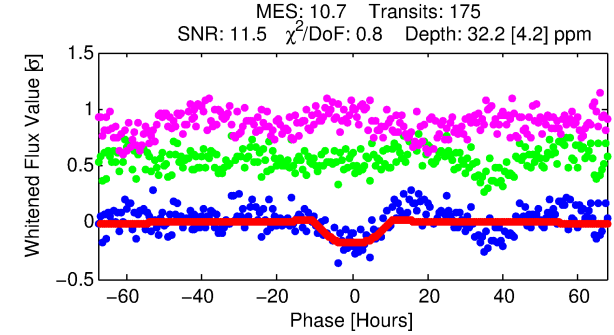
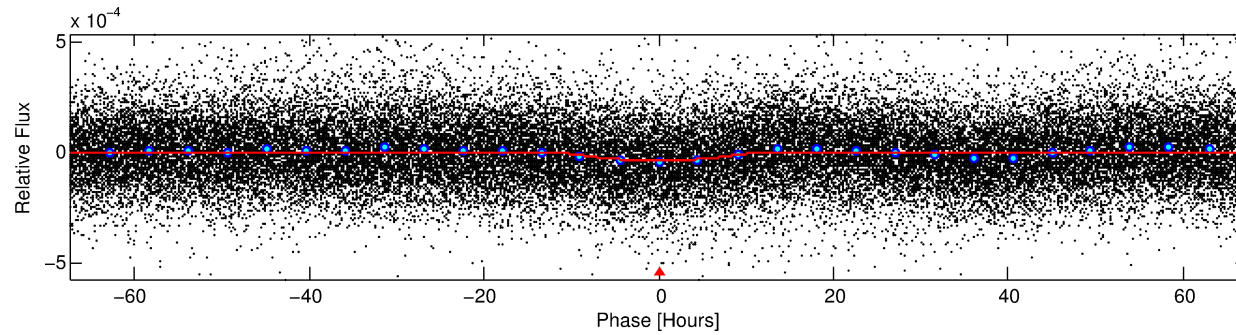
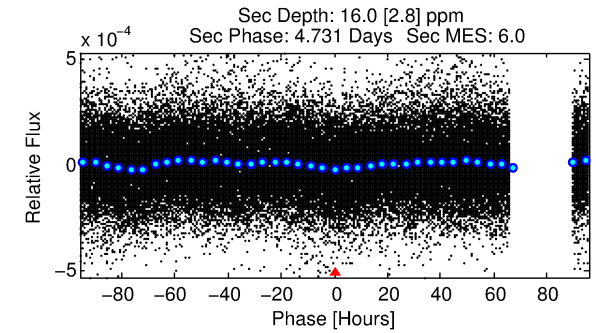
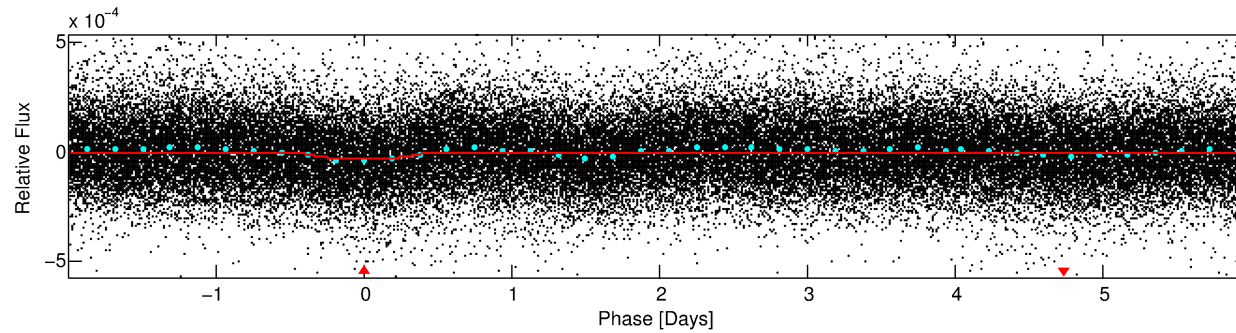
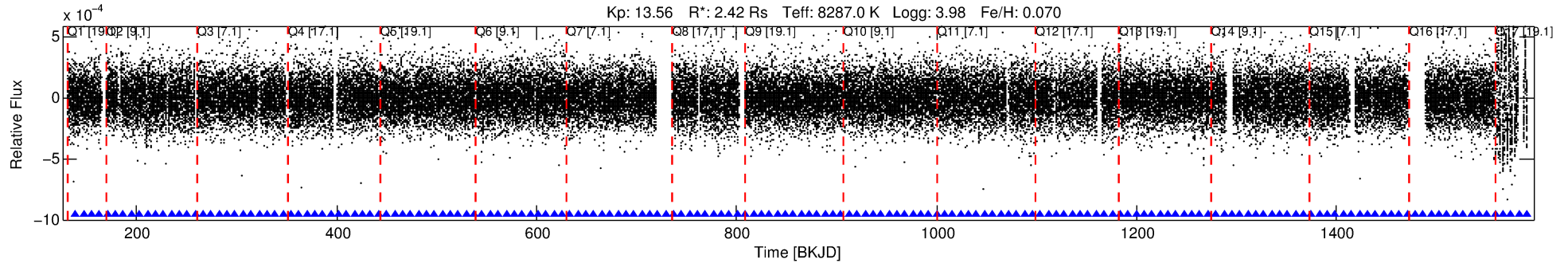
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007214055-01

No Significant Match Found

DV One-Page Summary

KIC: 7214055 Candidate: 1 of 1 Period: 7.973 d



DV Fit Results:

Period = 7.97329 [0.00041] d
Epoch = 139.1701 [0.0411] BKJD
Rp/R* = 0.0072 [0.0006]
a/R* = 1.10 [0.03]
b = 0.99 [0.00]
Seff = 2514.00 [1119.42]
Teff = 1806 [201] K
Rp = 1.89 [0.64] Re
a = 0.0990 [0.0278] AU
Ag = 24.16 [11.48] [2.02σ]
Teffp = 6189 [447] K [8.95σ]

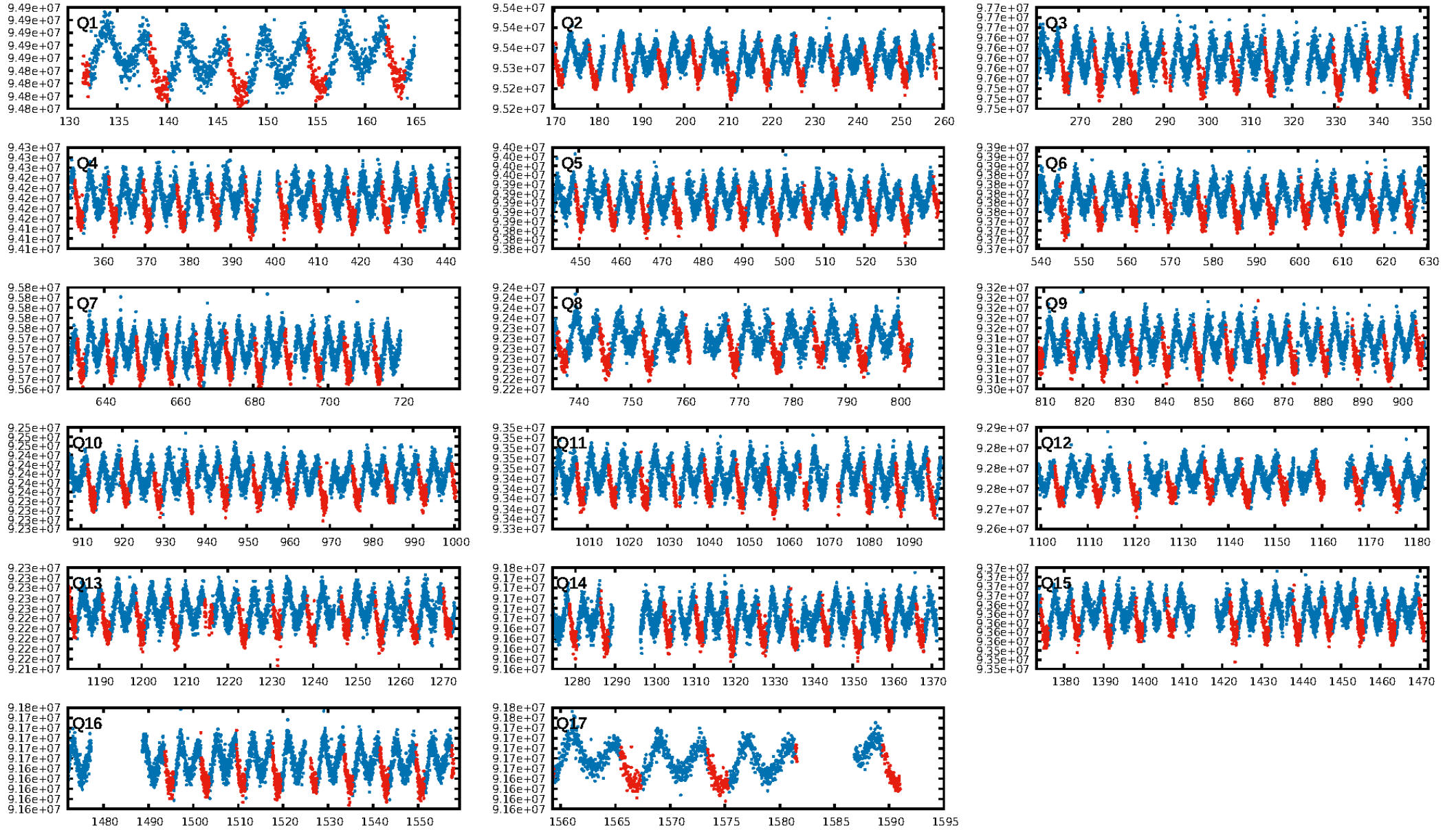
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 1.05e-25
RollingBand-fgt: 1.00 [167/167]
GhostDiagnostic-chr: 1.125
Centroid-sig: 0.0%
Centroid-so: 2.804 arcsec [2.98σ]
OotOffset-rm: 0.274 arcsec [1.29σ]
KicOffset-rm: 0.545 arcsec [3.32σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

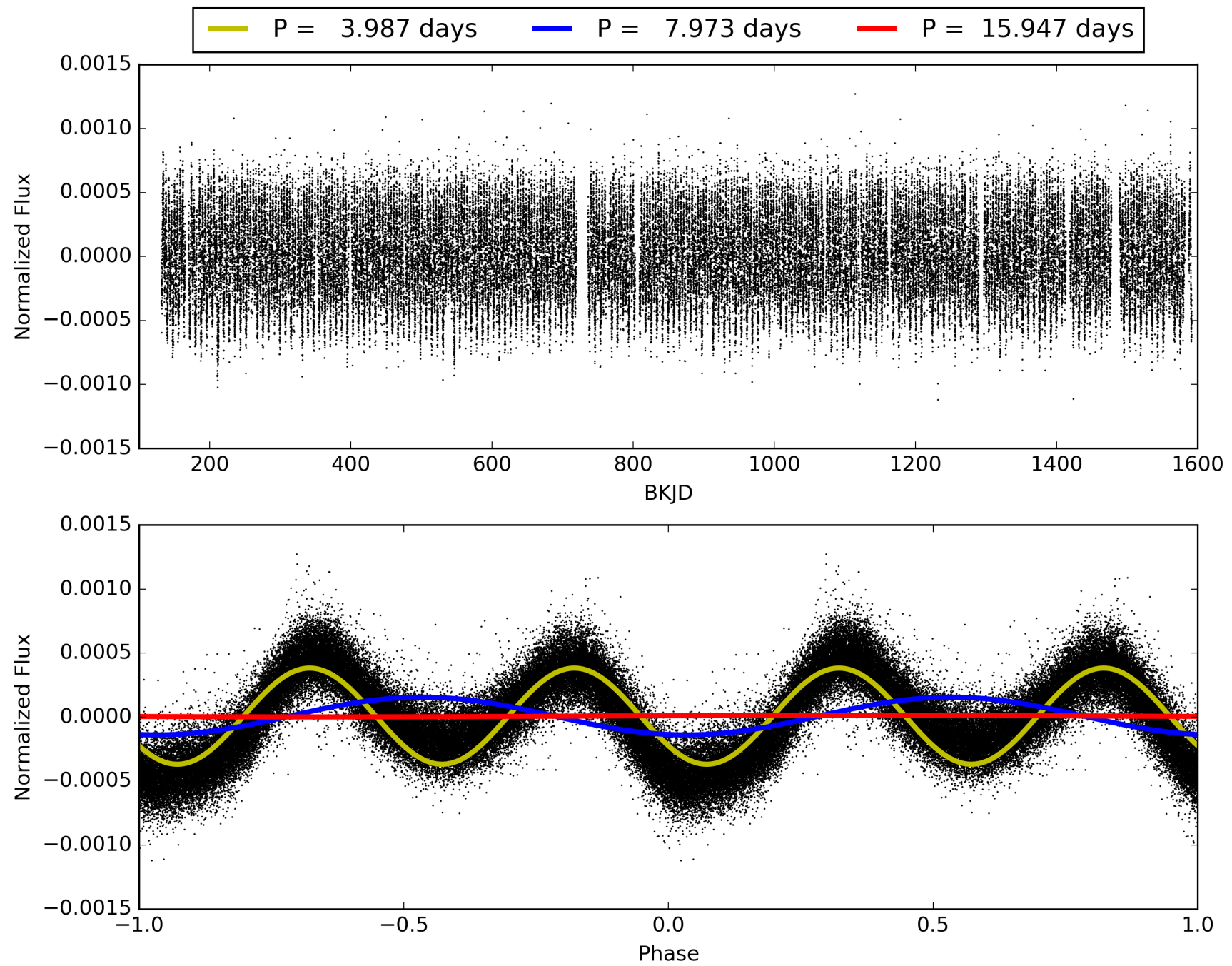
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:22:56 Z

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

TCE 007214055-01, PDC Light Curves

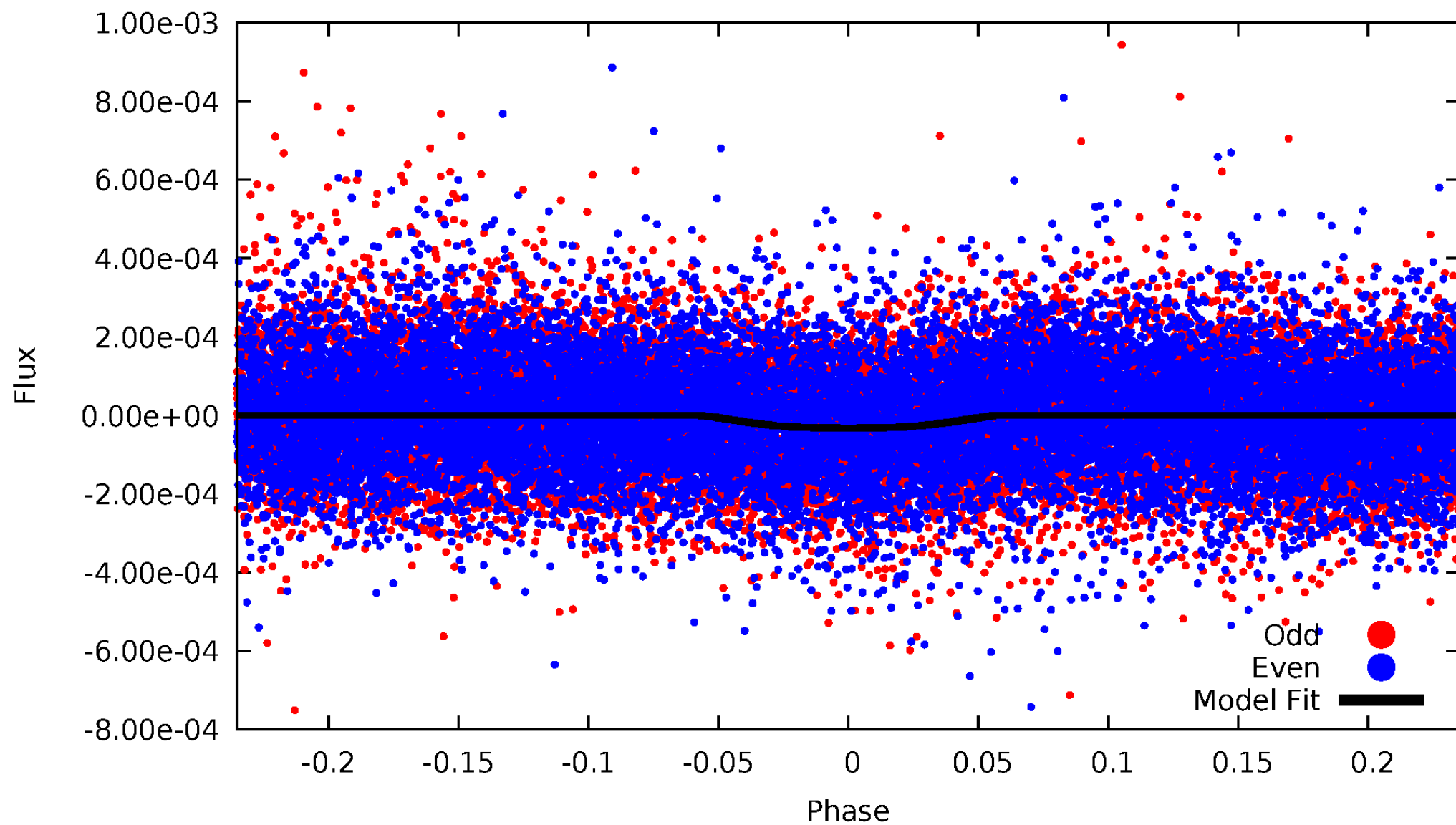


TCE 007214055-01



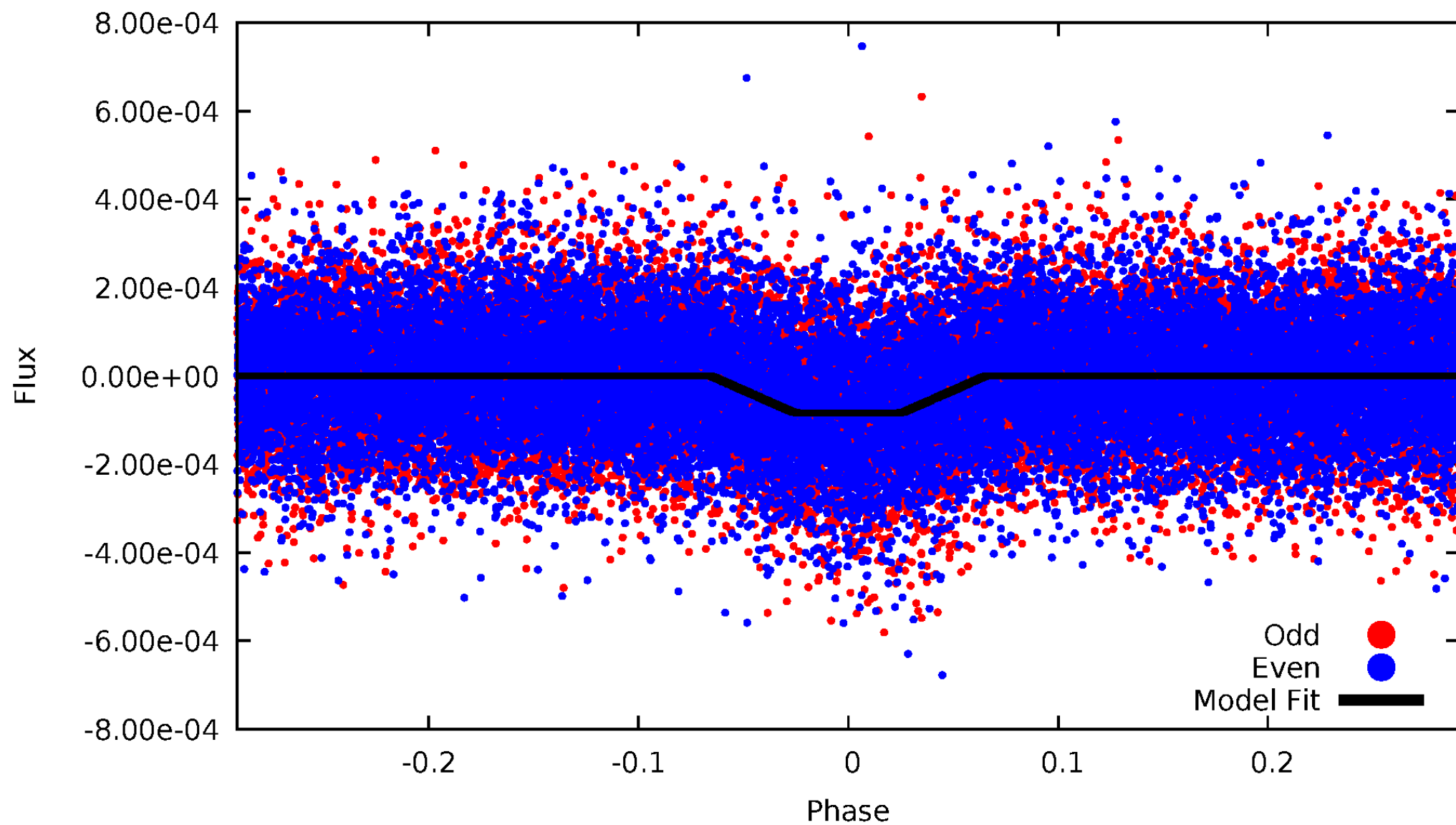
DV Odd/Even

TCE 007214055-01



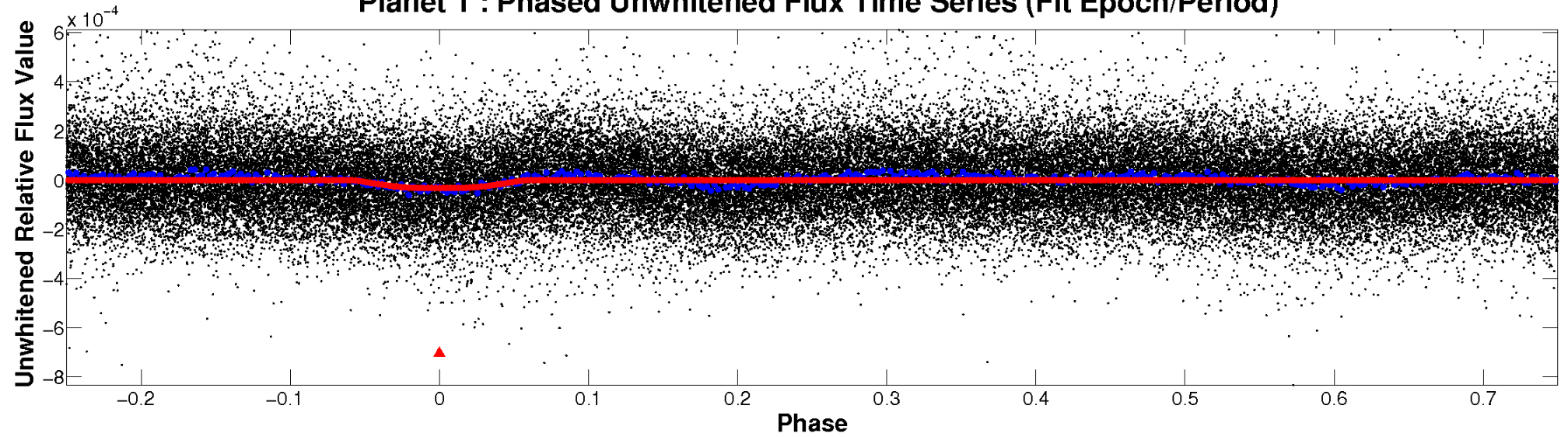
ALT Odd/Even

TCE 007214055-01

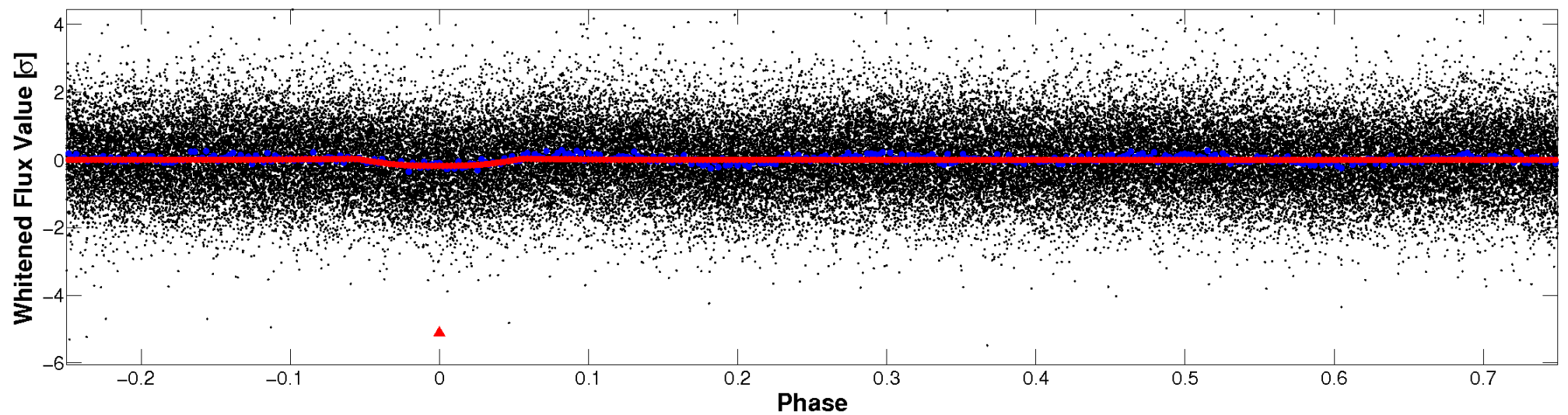


Non-Whitened Vs. Whitened Light Curve

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

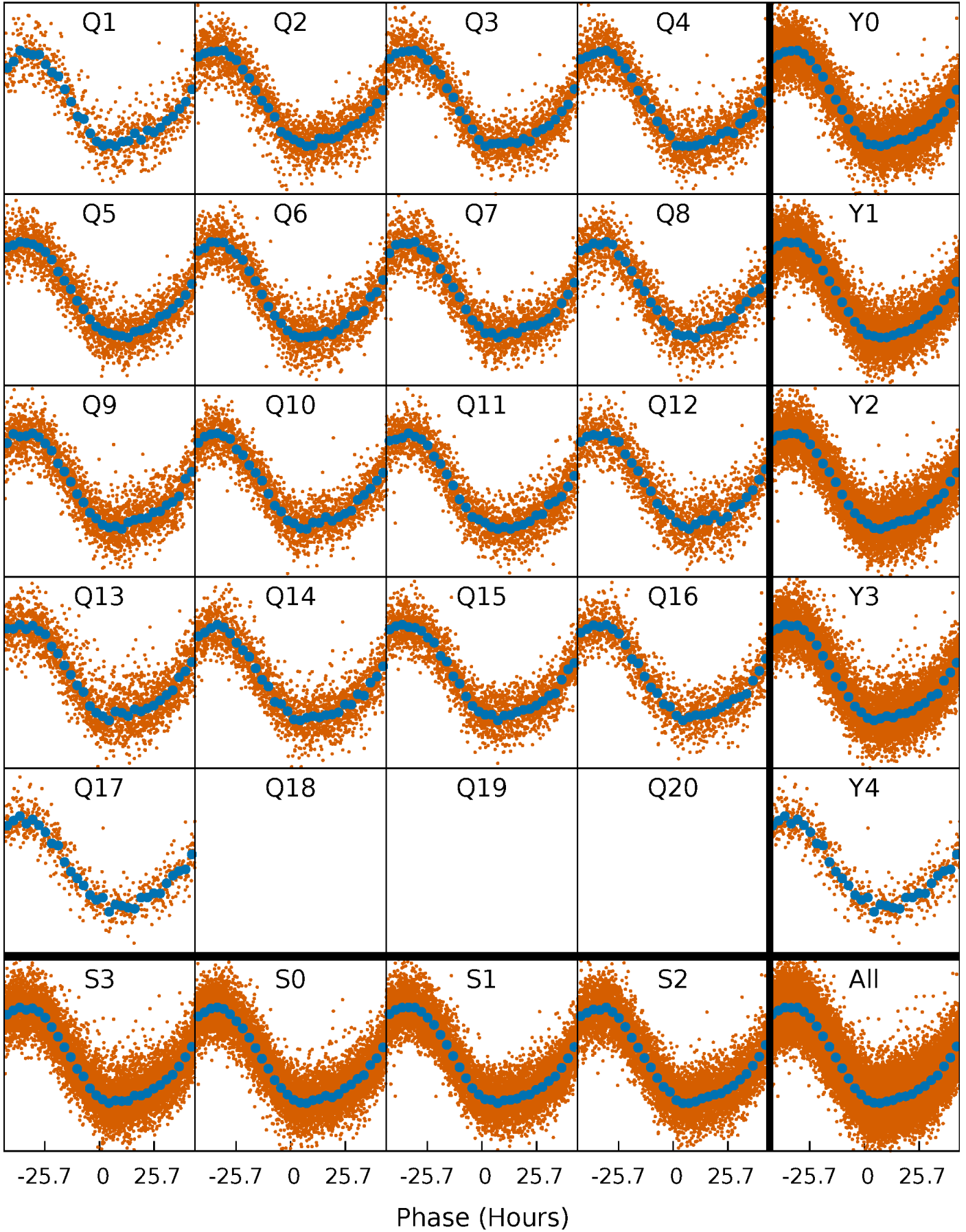


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



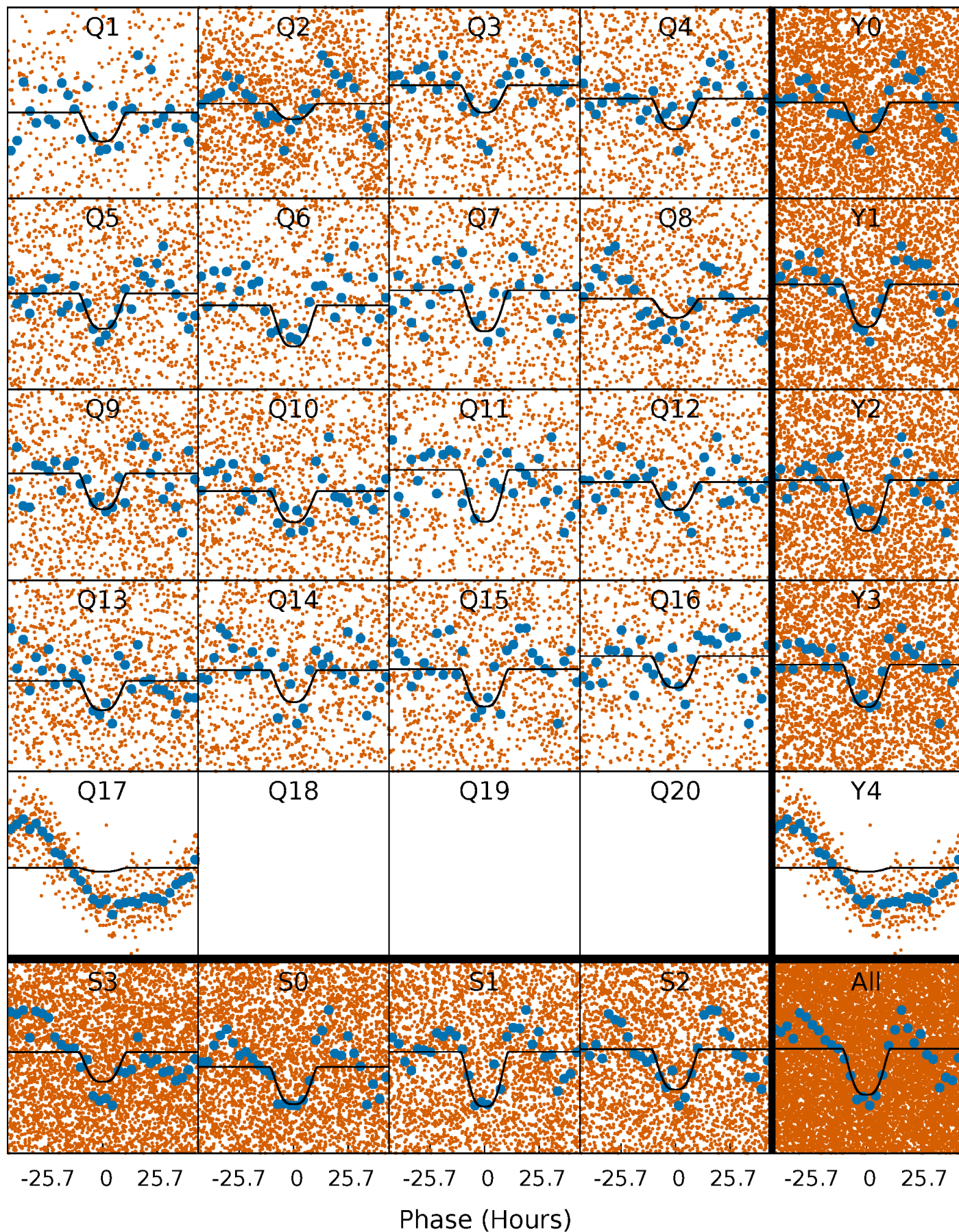
PDC Quarter-Phased Transit Curves

TCE 007214055-01 P= 7.973290 Days $T_0=139.170137$ (BKJD)



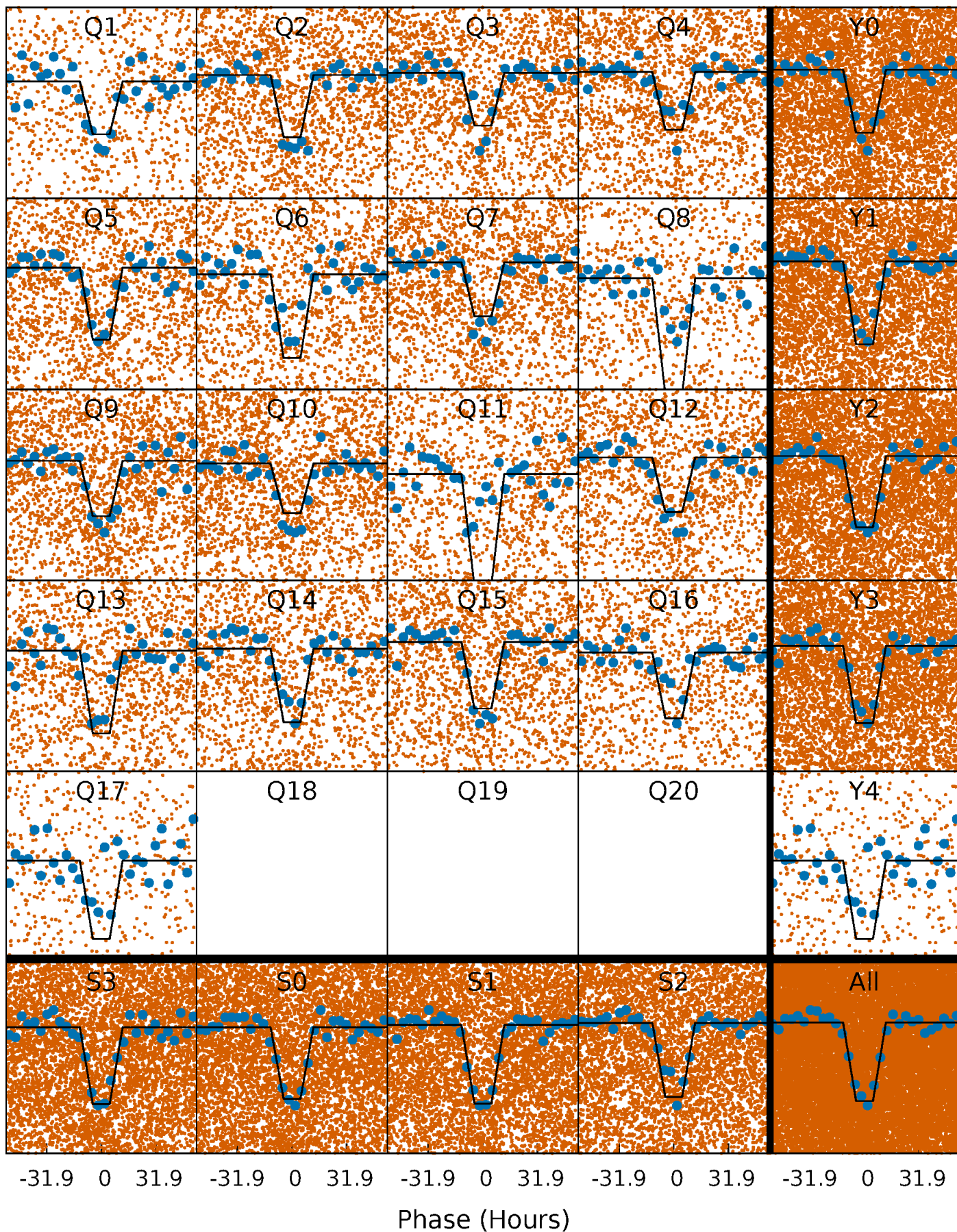
DV Quarter-Phased Transit Curves

TCE 007214055-01 P= 7.973290 Days $T_0=139.170137$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

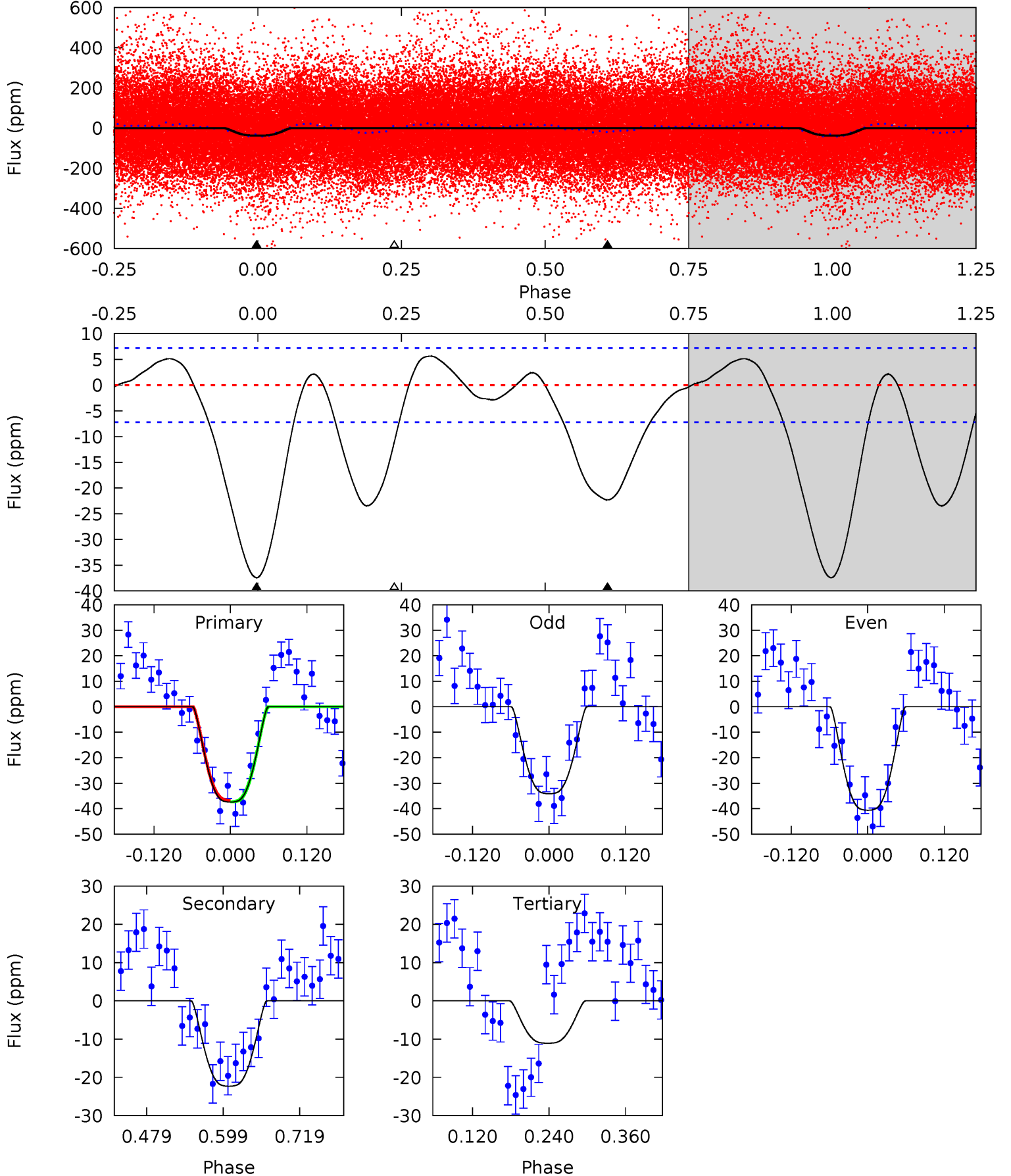
TCE 007214055-01 P= 7.973470 Days $T_0=139.156232$ (BKJD)



DV Model-Shift Uniqueness Test

007214055-01, P = 7.973290 Days, E = 131.196847 Days

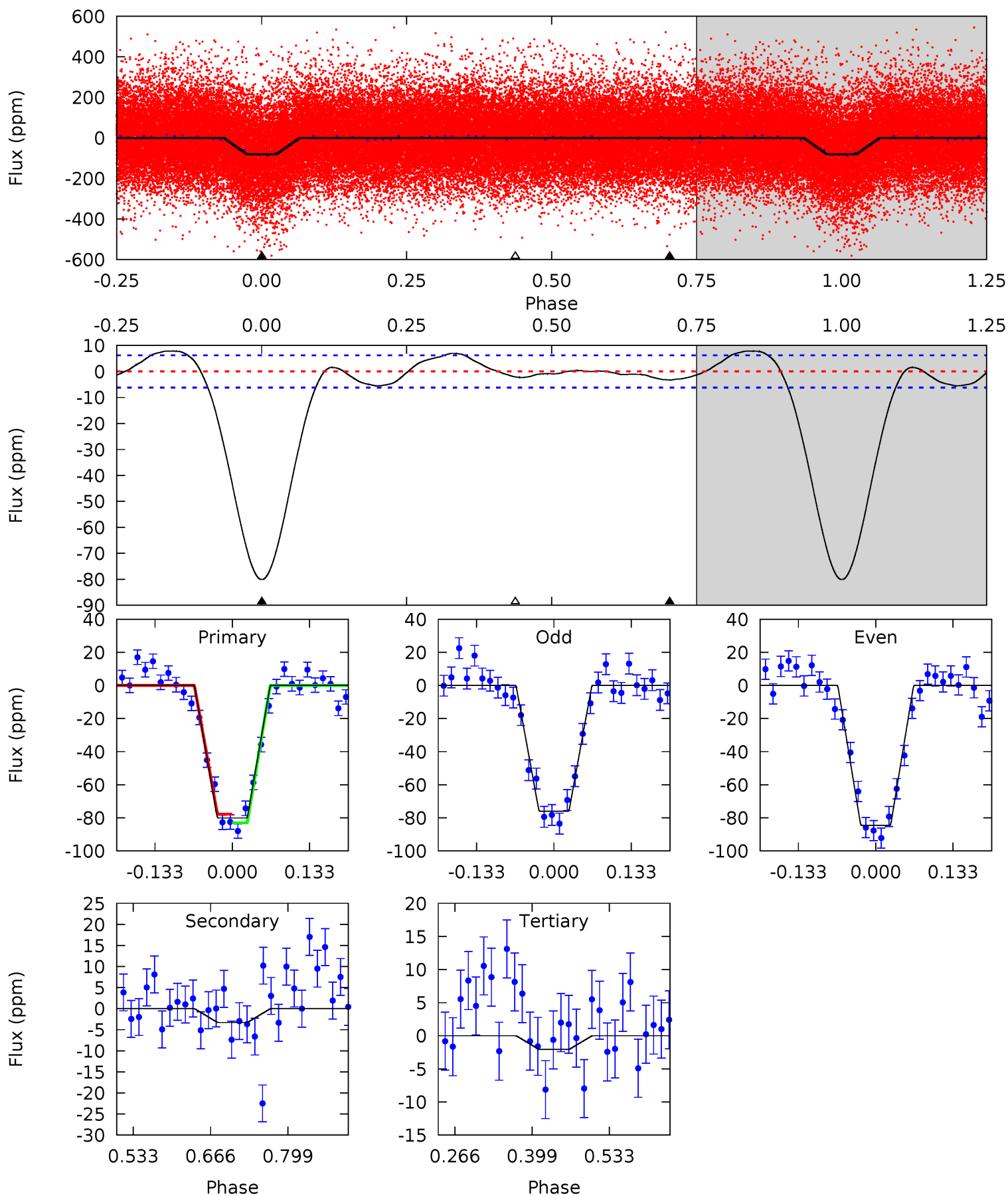
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	14.0	6.97	0	4.53	1.56	5.26	16.6	23.5	7.07	14.0	2.04	1.22	0.13	0.17



Alt Model-Shift Uniqueness Test

007214055-01, P = 7.973470 Days, E = 131.182762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.0	2.38	1.50	0	4.50	1.50	2.80	56.5	58.0	0.88	2.38	3.08	0.84	0.09	1.93



Stellar Parameters For KIC 007214055

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8287^{+231}_{-346}	$3.981^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.550}$	$2.416^{+0.427}_{-0.793}$	$2.039^{+0.294}_{-0.503}$	$0.204^{+0.285}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-786%	+18%/-33%	+14%/-25%	+140%/-38%
Source	KIC0	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 007214055-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 2	$1.86^{+0.28}_{-0.31}$	2493^{+161}_{-185}	6478^{+354}_{-323}	35^{+15}_{-8}
Alt.	-3 ± 1	$2.38^{+0.31}_{-0.44}$	2497^{+152}_{-205}	3847^{+285}_{-395}	$3.135^{+2.045}_{-1.398}$

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

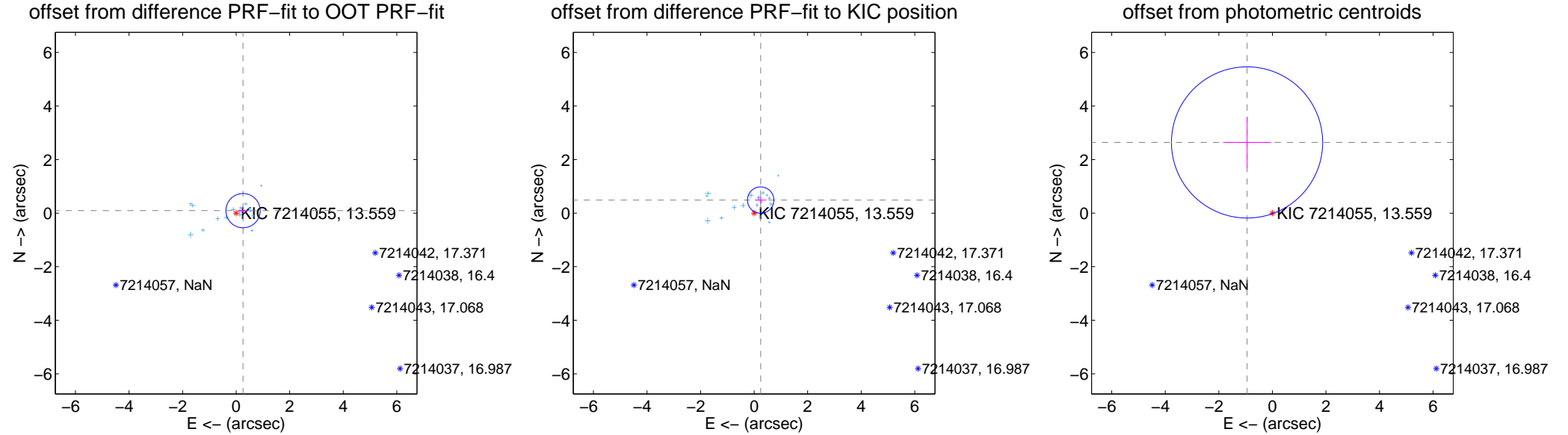
DV Centroid Data

Supplemental centroid analysis for 007214055-01. Kepler magnitude: 13.56. Transit SNR 11.47

There are 17 quarters with good PRF difference image offsets

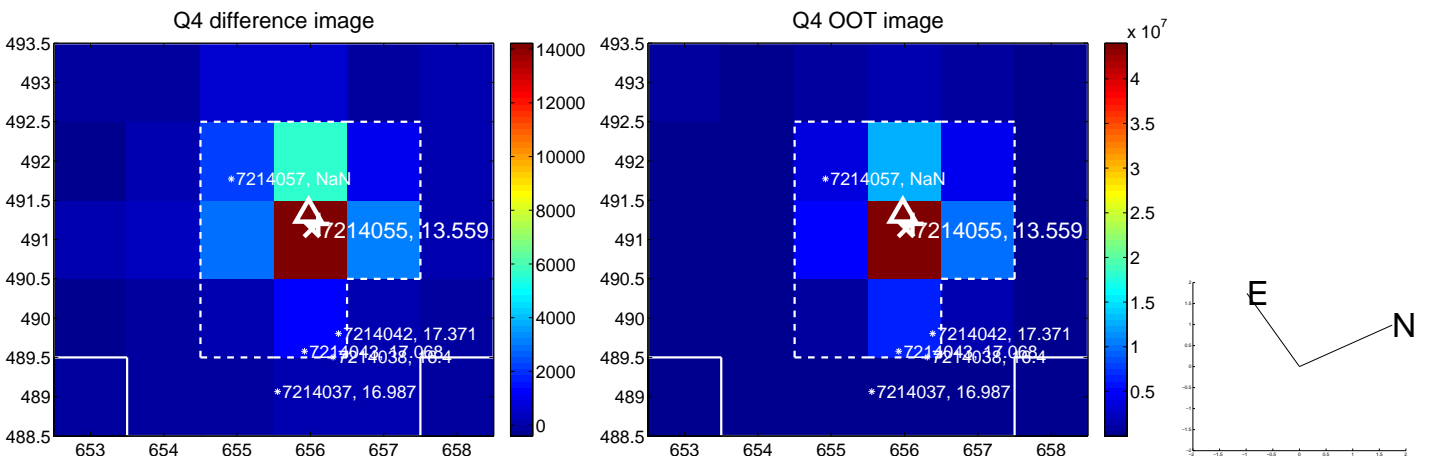
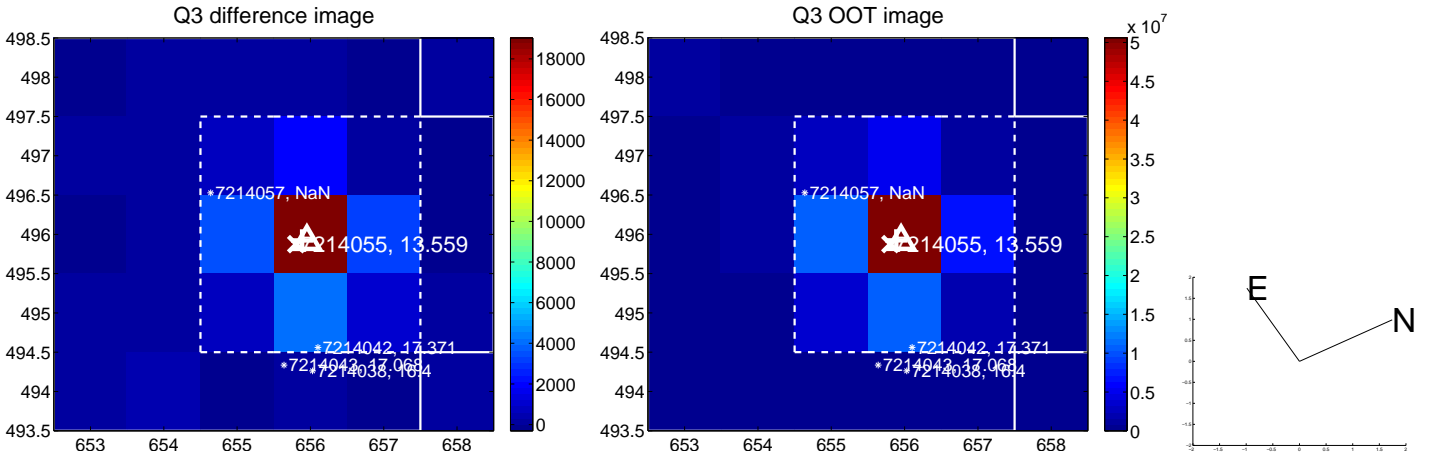
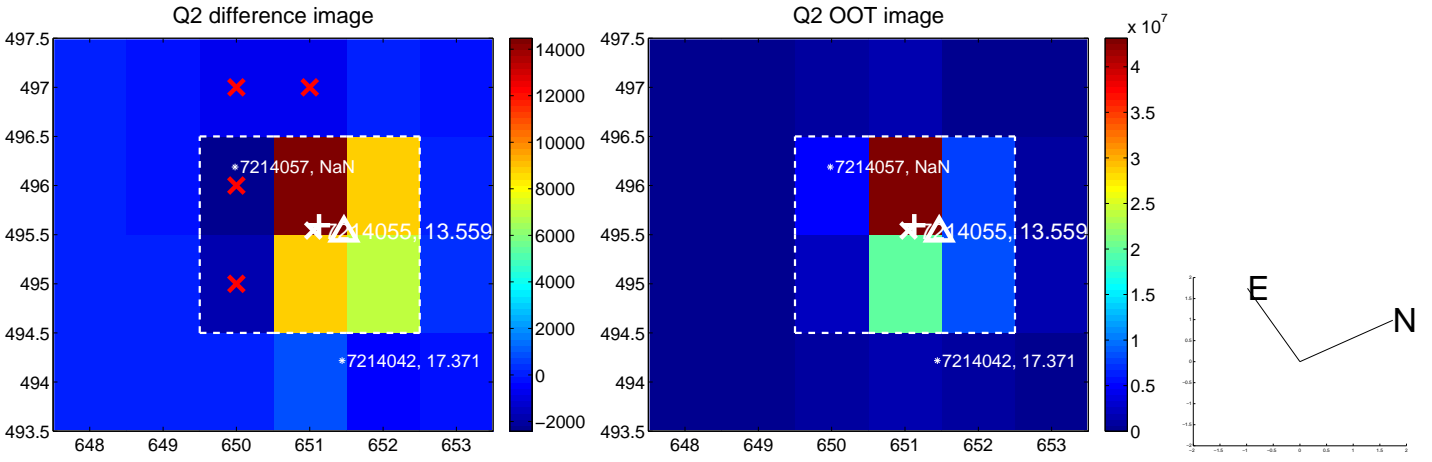
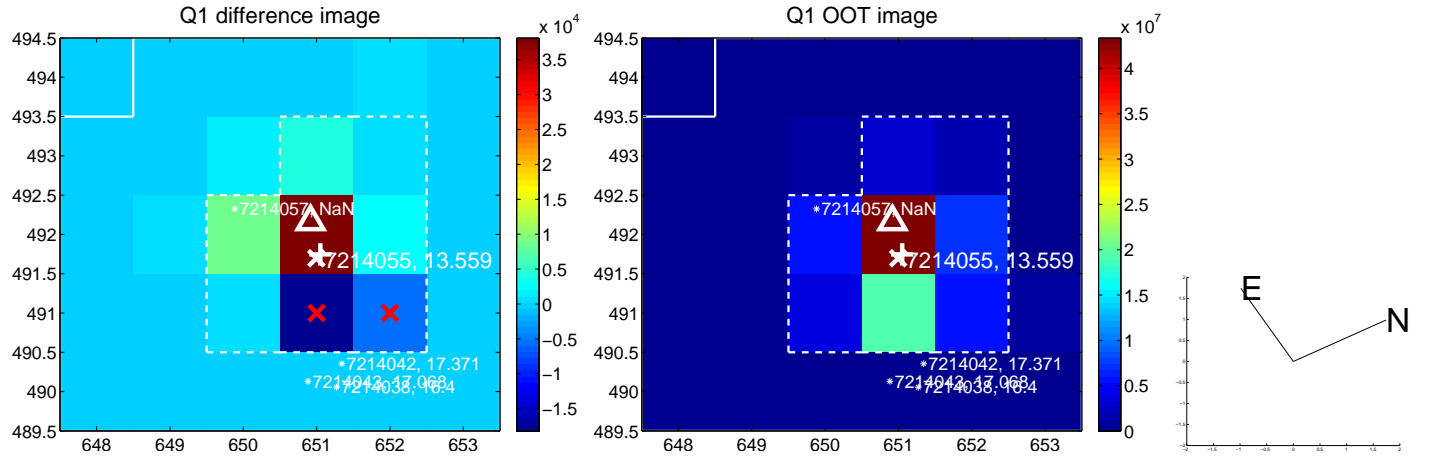
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.274 ± 0.213	1.29	-0.258 ± 0.211	0.093 ± 0.128
PRF-fit source offset from KIC position	0.545 ± 0.164	3.32	-0.245 ± 0.216	0.487 ± 0.124
photometric centroid source offset	2.80 ± 0.94	2.98	0.95 ± 0.89	2.64 ± 0.95

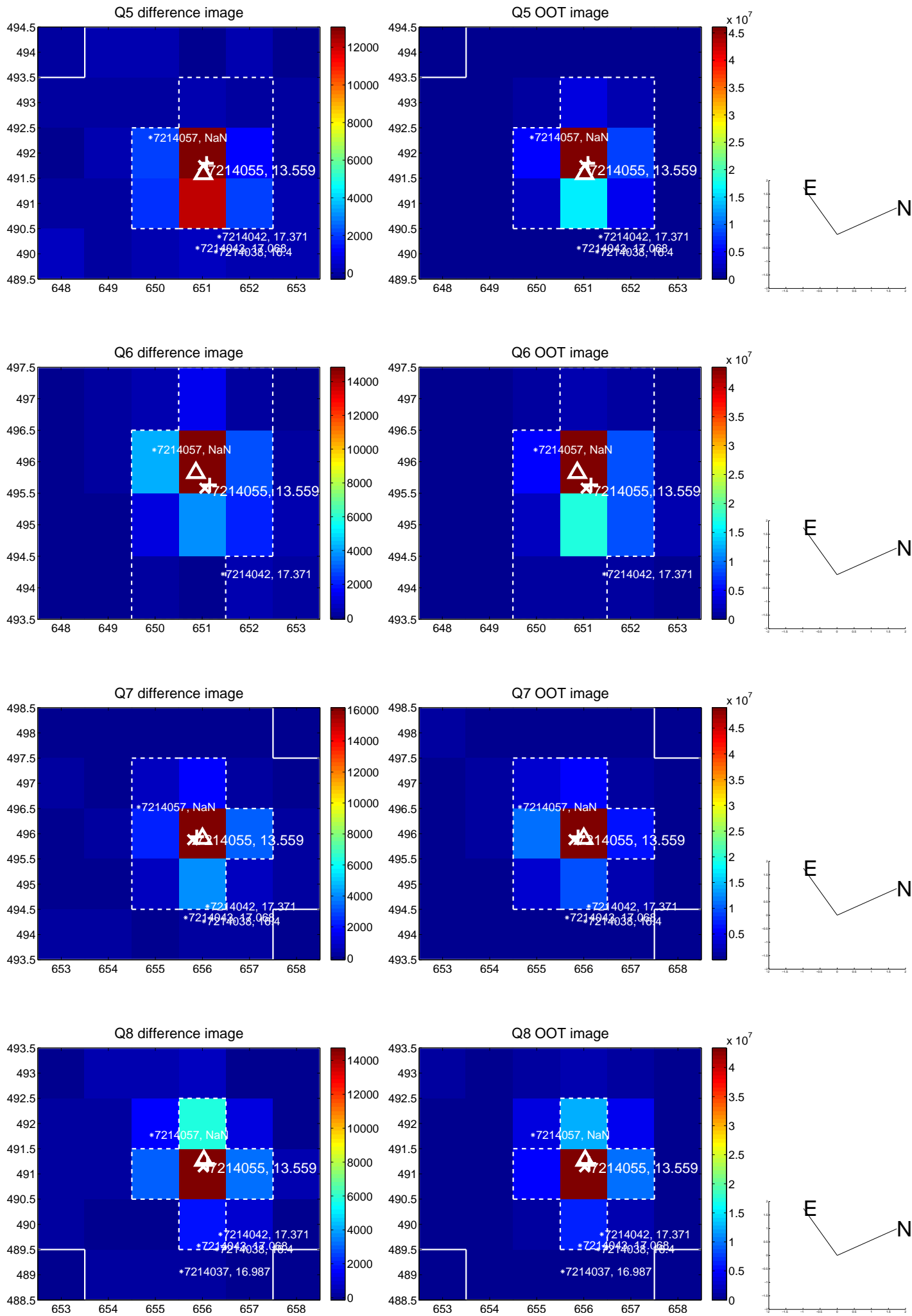


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

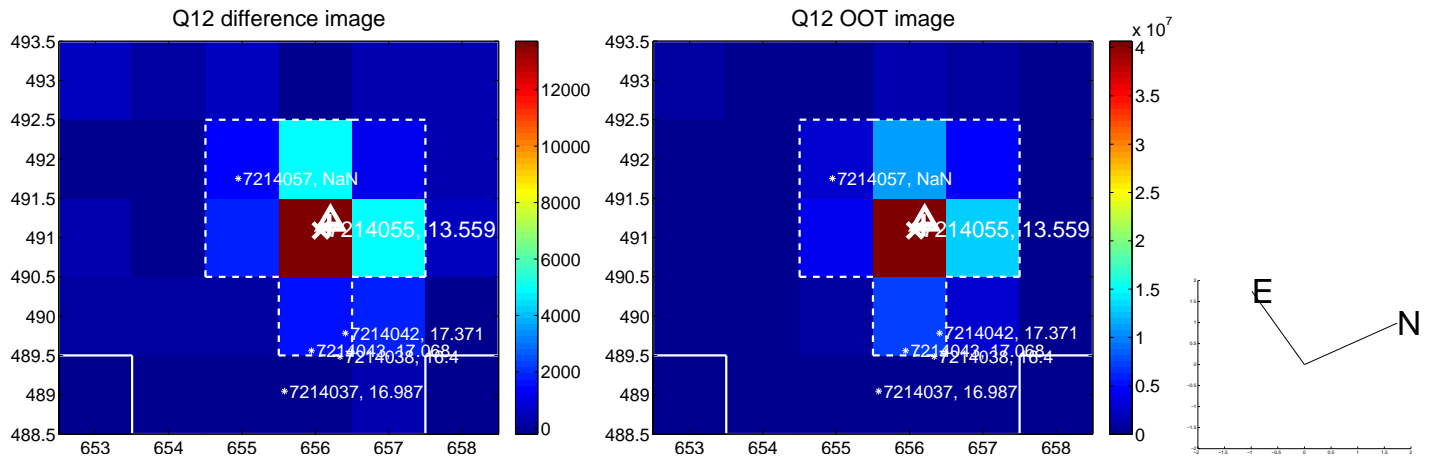
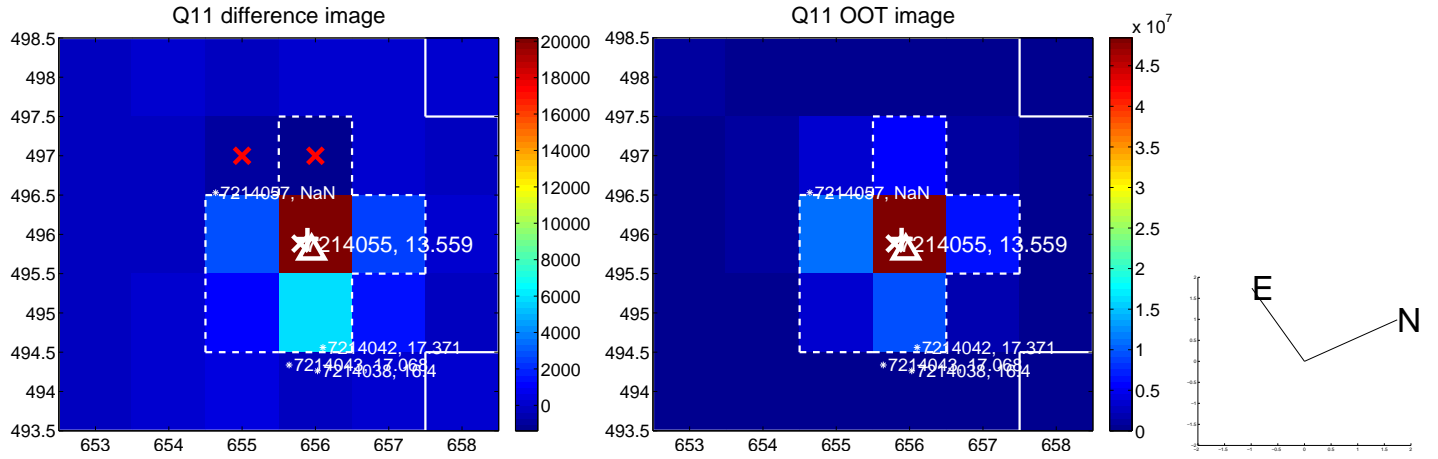
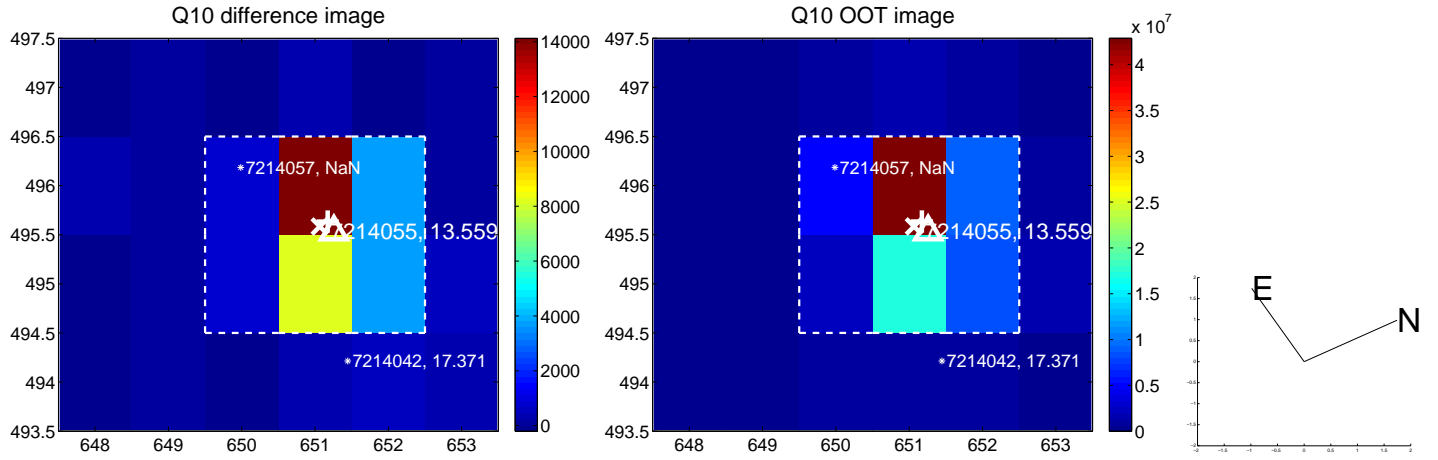
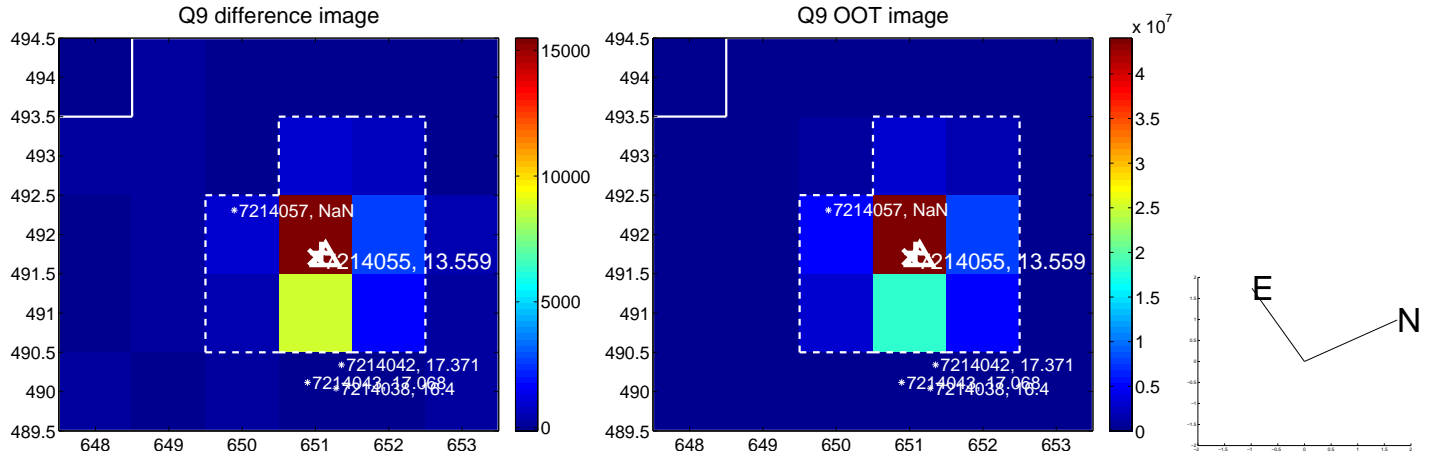
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



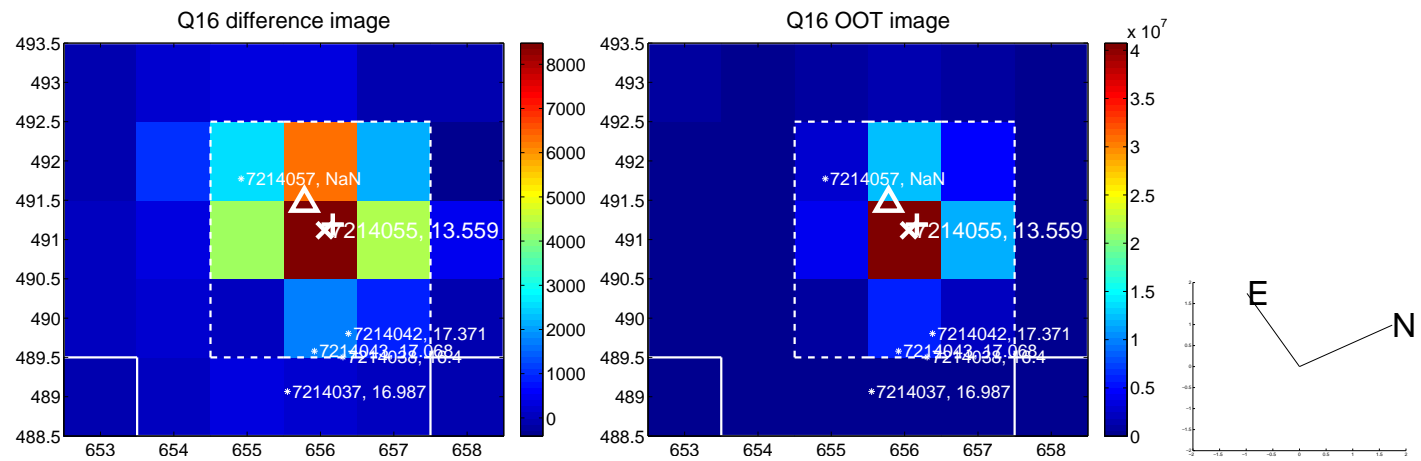
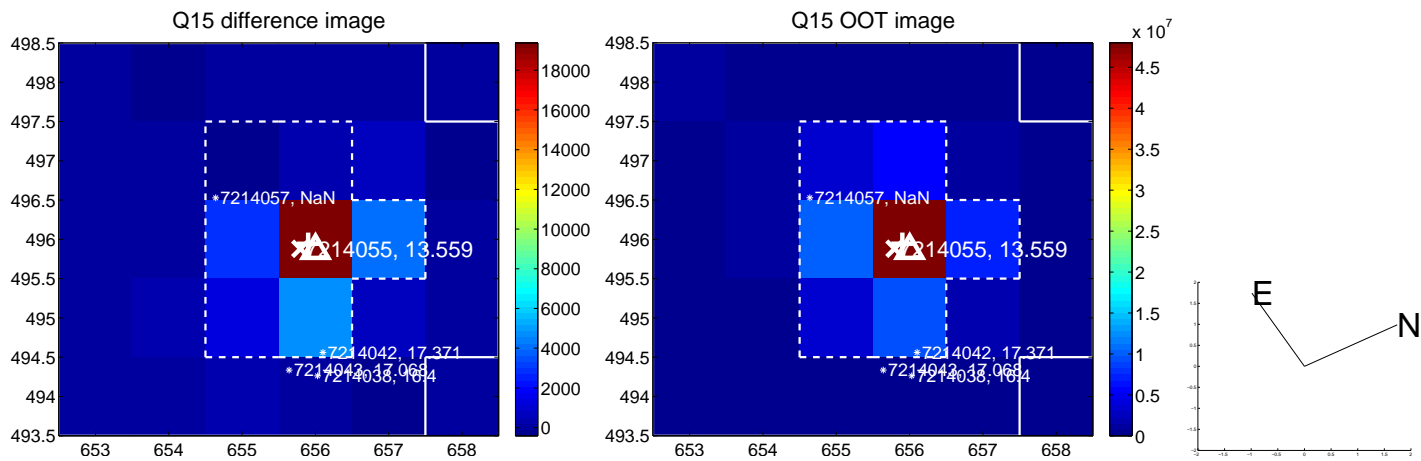
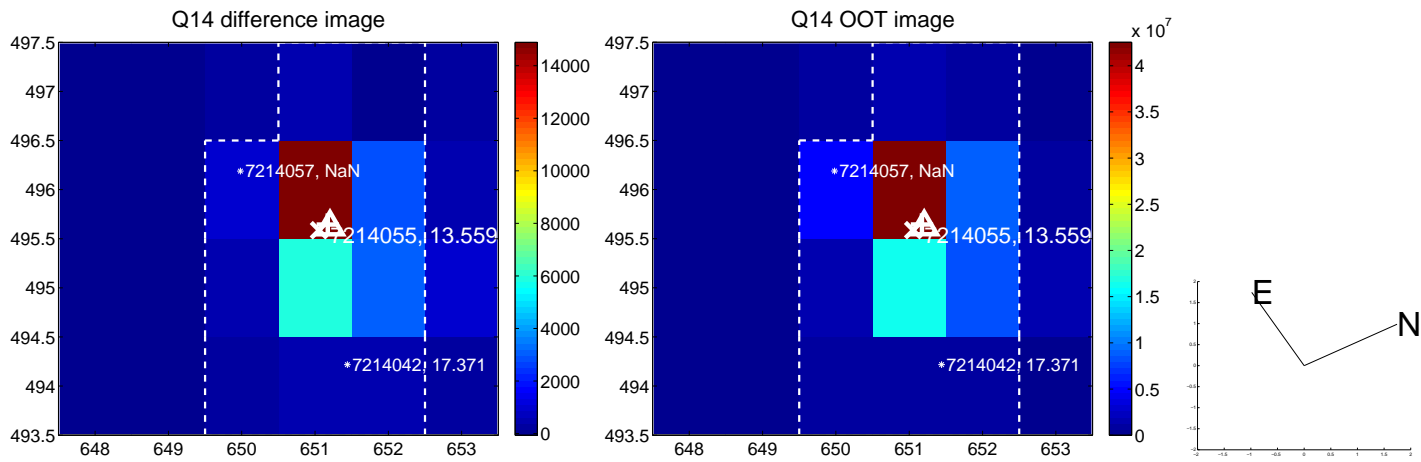
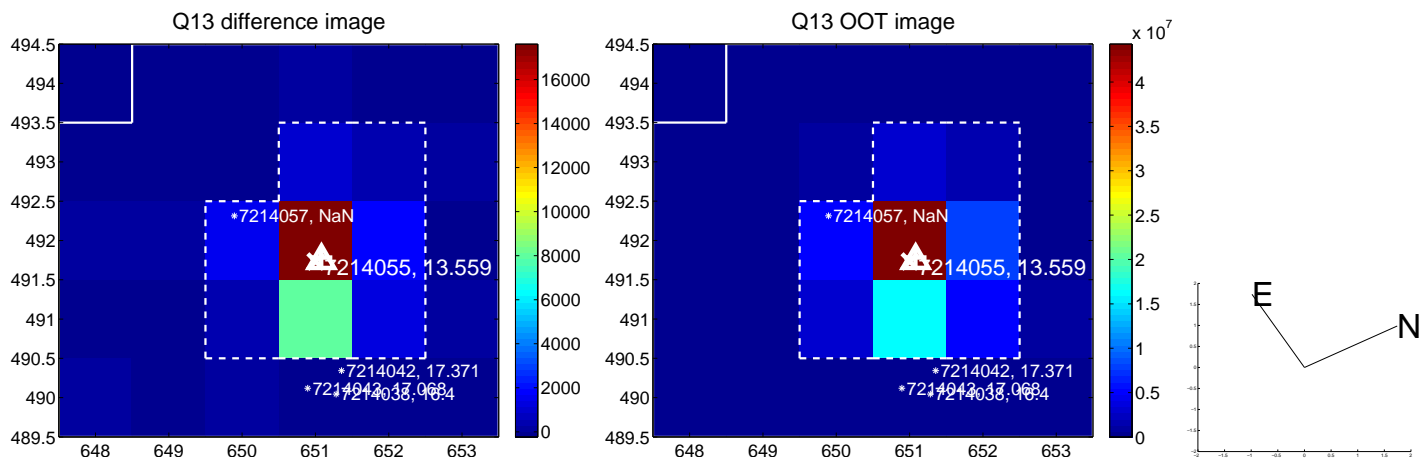
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



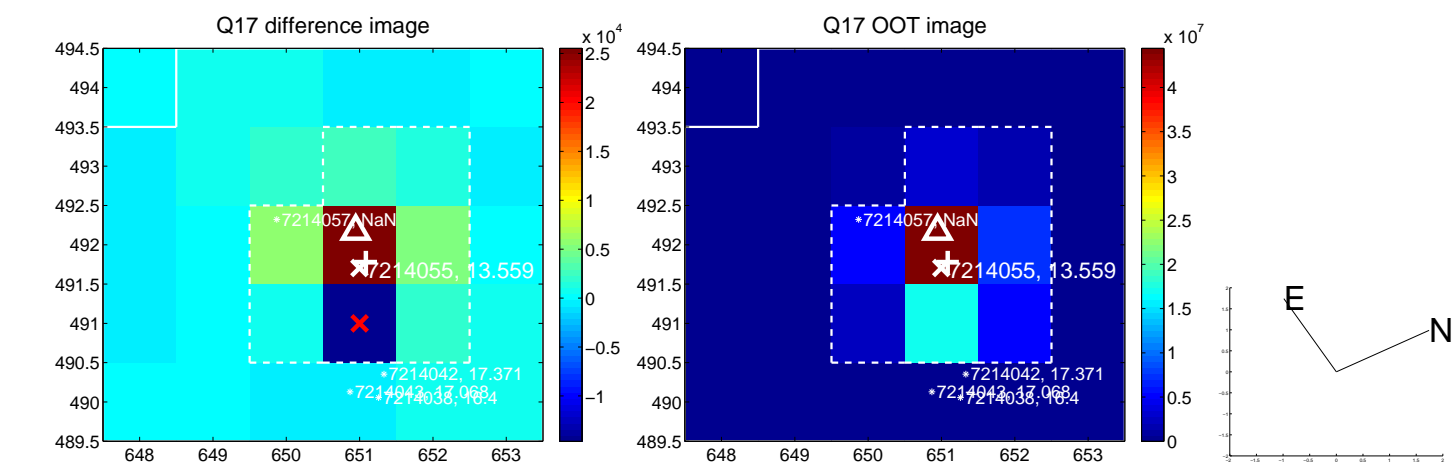
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



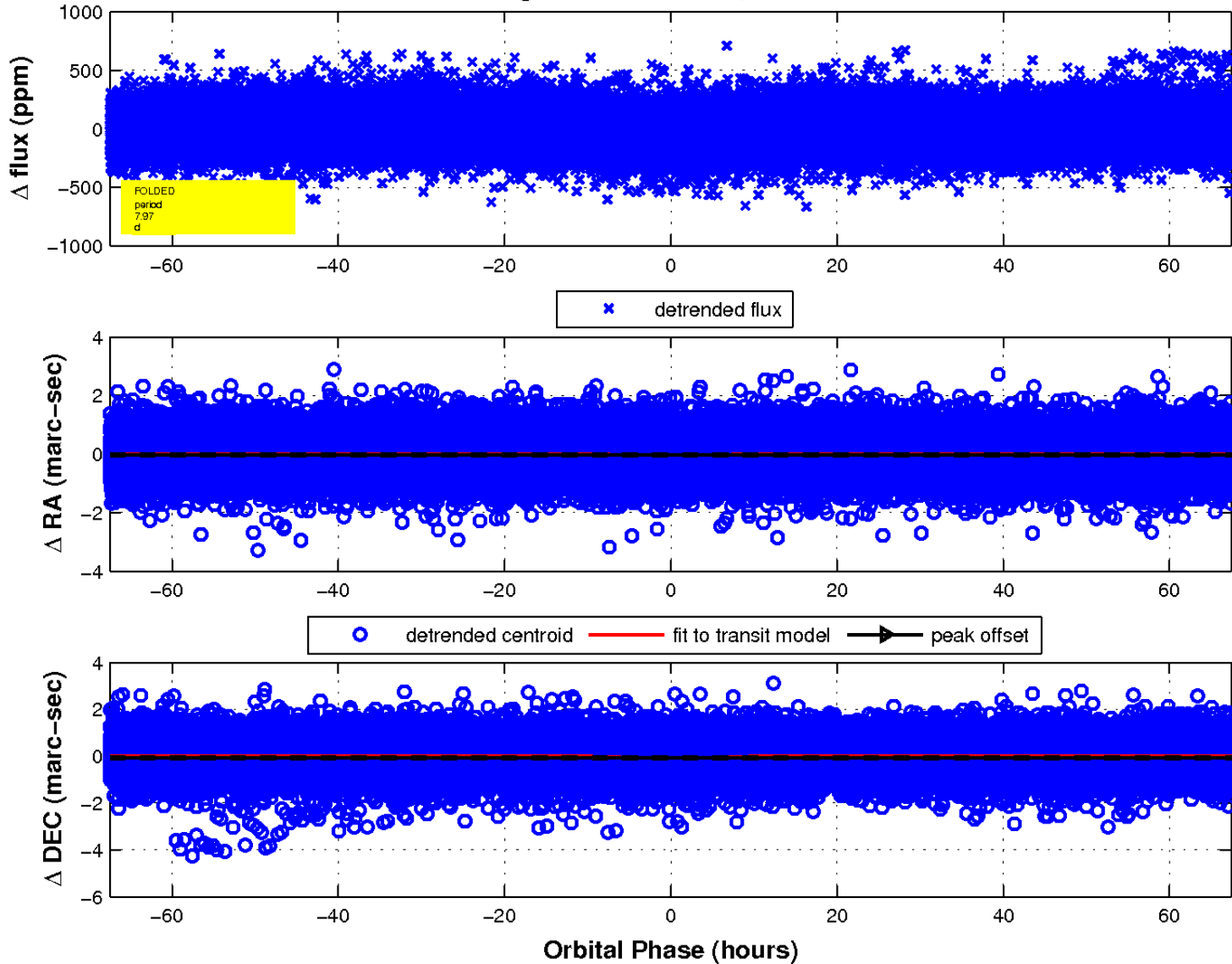
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

