

KIC 002572029

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})
002572029-01	OBS	4581.01	6.006291	133.394355	40.0	4.907	8.9	9.1	1.16	6103	0.86	386.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002572029-01	OBS	PC	1.00	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.

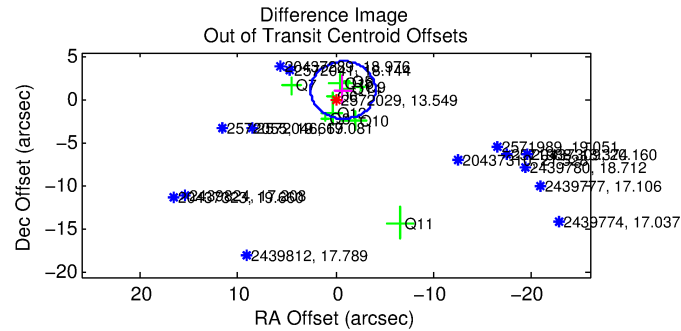
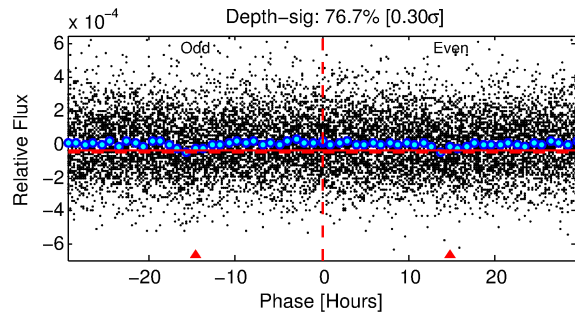
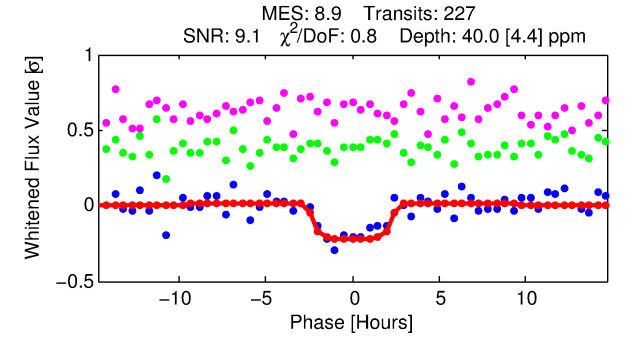
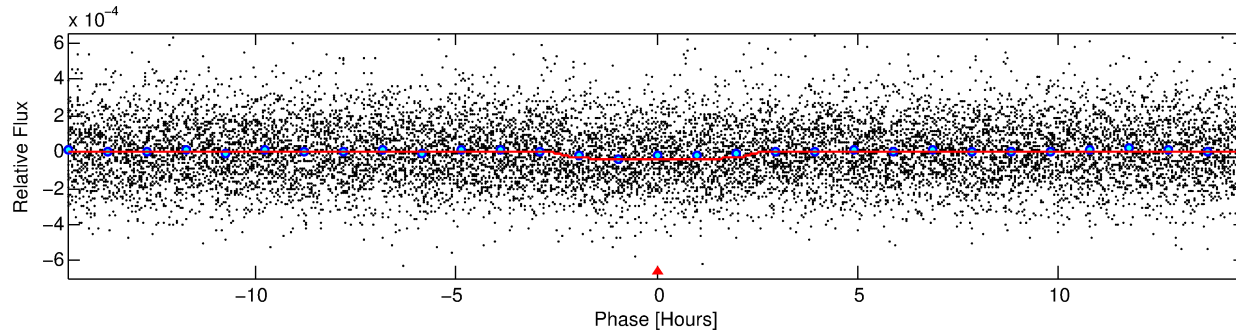
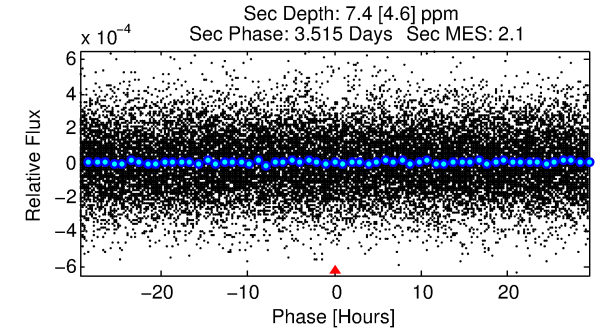
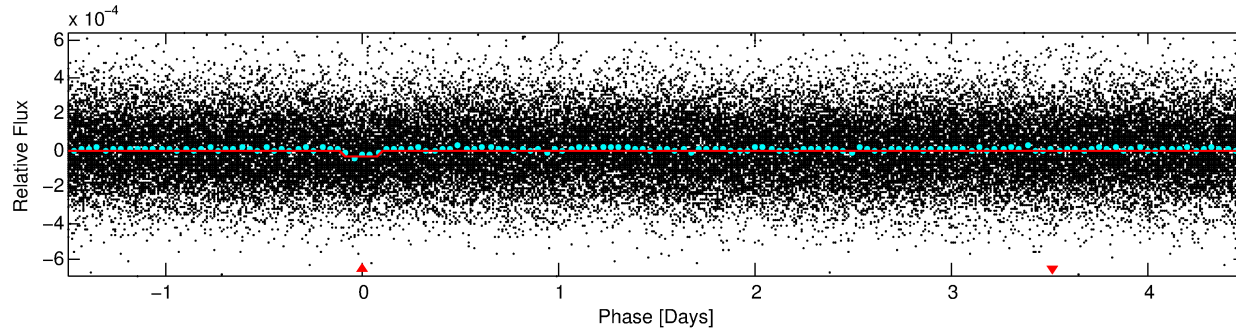
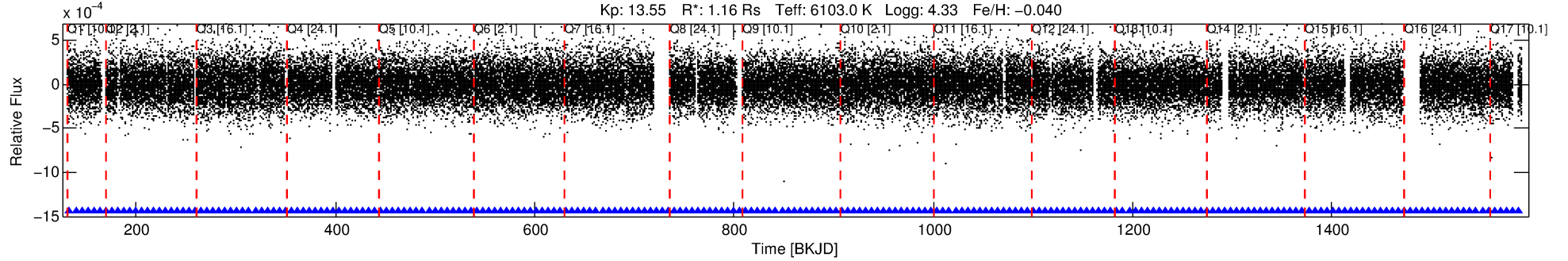
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002572029-01

No Significant Match Found

DV One-Page Summary

KIC: 2572029 Candidate: 1 of 1 Period: 6.006 d
KOI: K04581.01 Corr: 0.857



DV Fit Results:

Period = 6.00629 [0.00007] d
Epoch = 133.3944 [0.0085] BKJD
Rp/R* = 0.0068 [0.0034]
a/R* = 4.53 [11.46]
b = 0.89 [0.64]
Seff = 386.57 [150.48]
Teff = 1131 [110] K
Rp = 0.86 [0.51] Re
a = 0.0658 [0.0167] AU
Ag = 24.02 [29.90] [0.77σ]
Teffp = 3870 [1158] K [2.35σ]

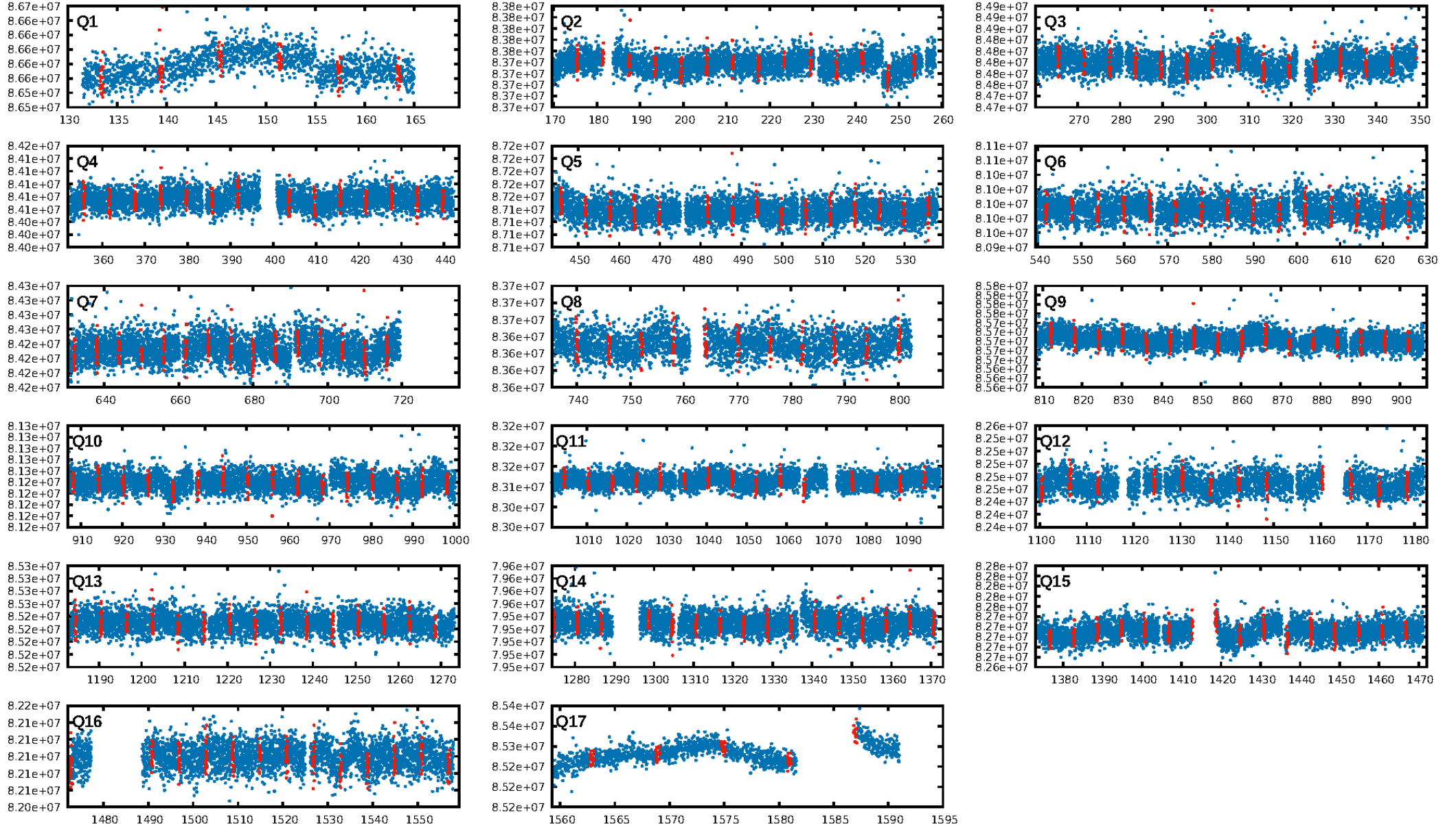
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.43e-19
RollingBand-fgt: 1.00 [216/216]
GhostDiagnostic-chr: 1.691
Centroid-sig: 45.0%
Centroid-so: 1.103 arcsec [0.61σ]
OotOffset-rm: 1.364 arcsec [1.24σ]
KicOffset-rm: 1.425 arcsec [1.41σ]
OotOffset-st: 3/2/3/2 [10]
KicOffset-st: 3/2/3/2 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 1.00 [17/17]

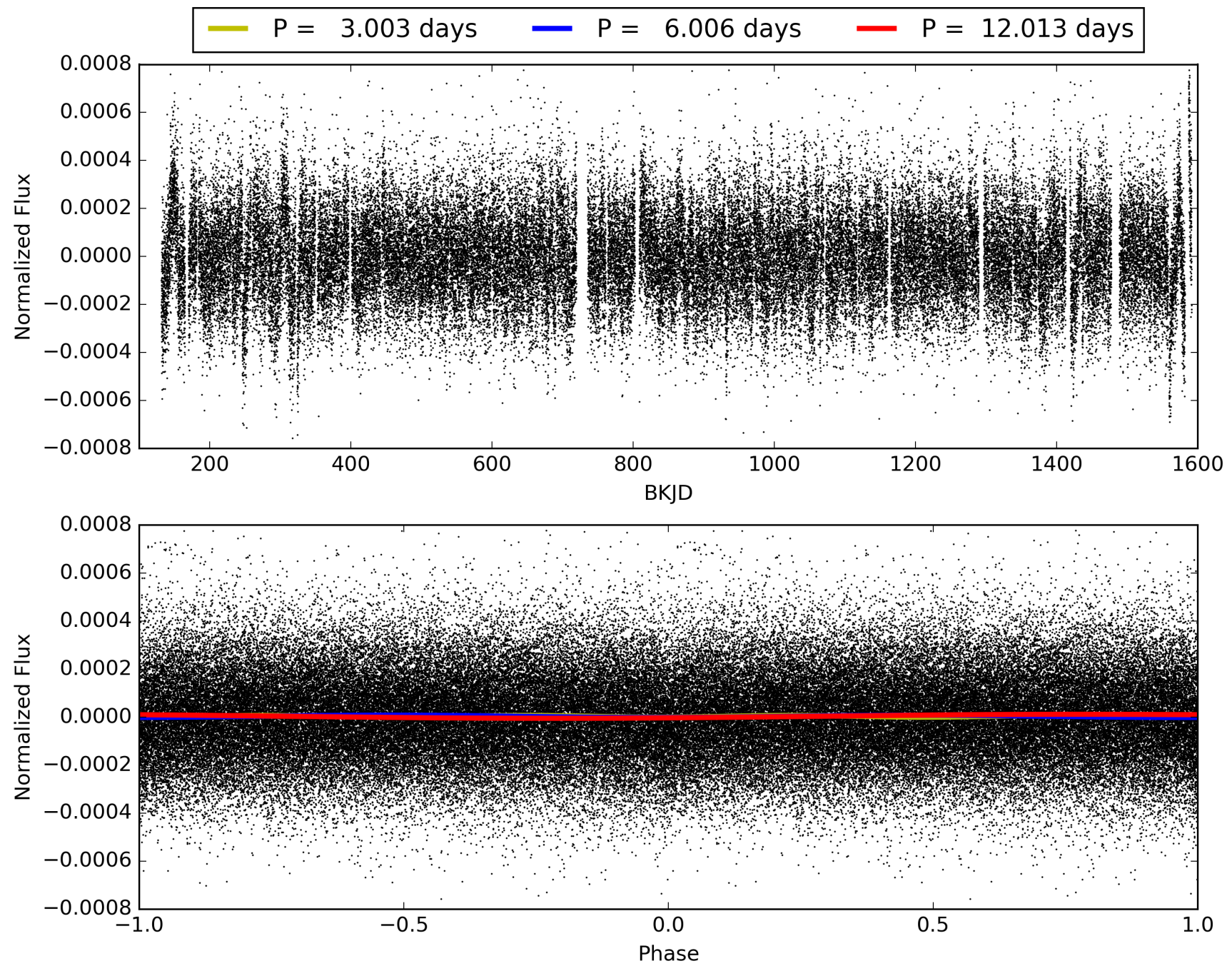
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:58:16 Z

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

TCE 002572029-01, PDC Light Curves

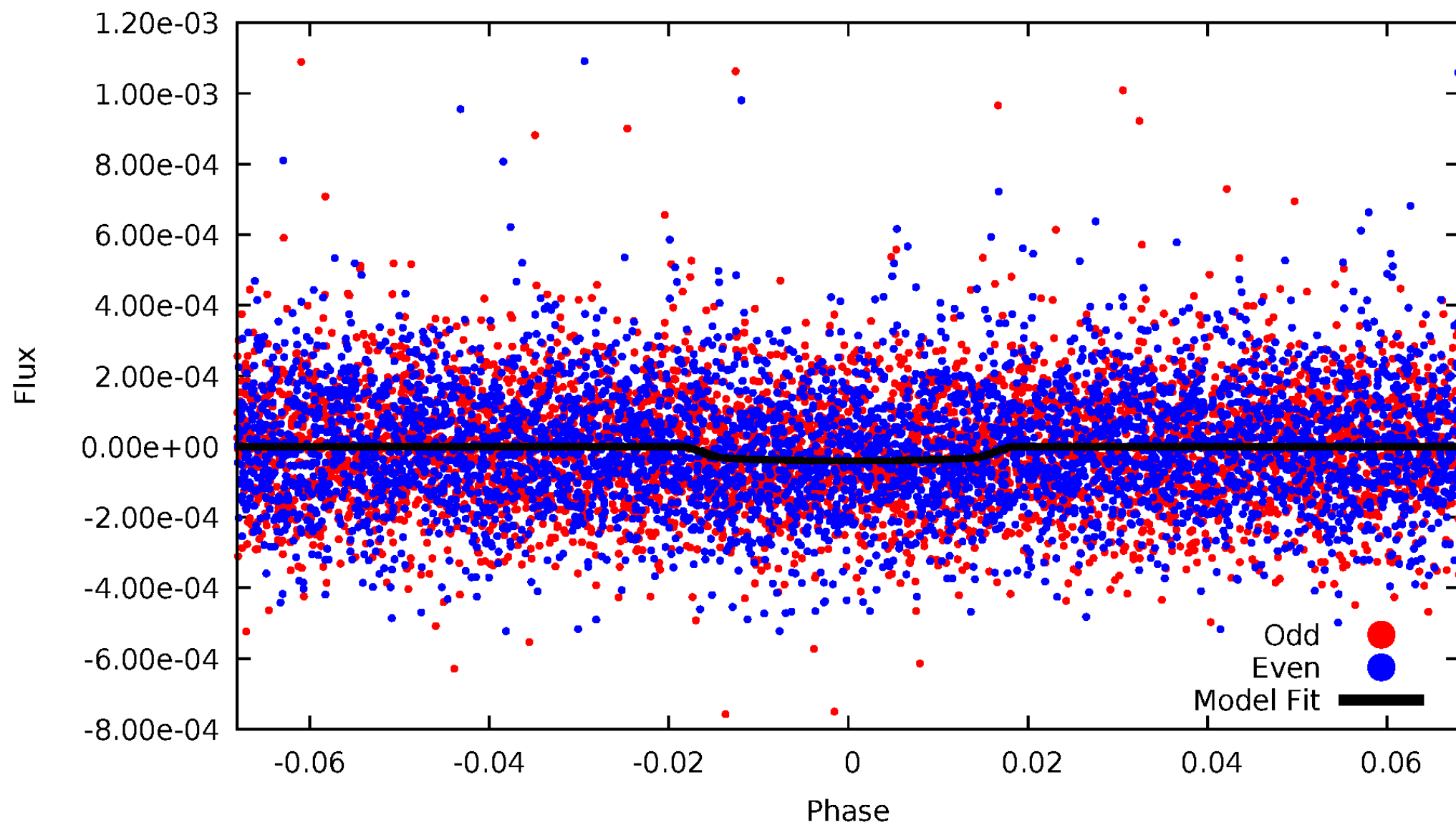


TCE 002572029-01



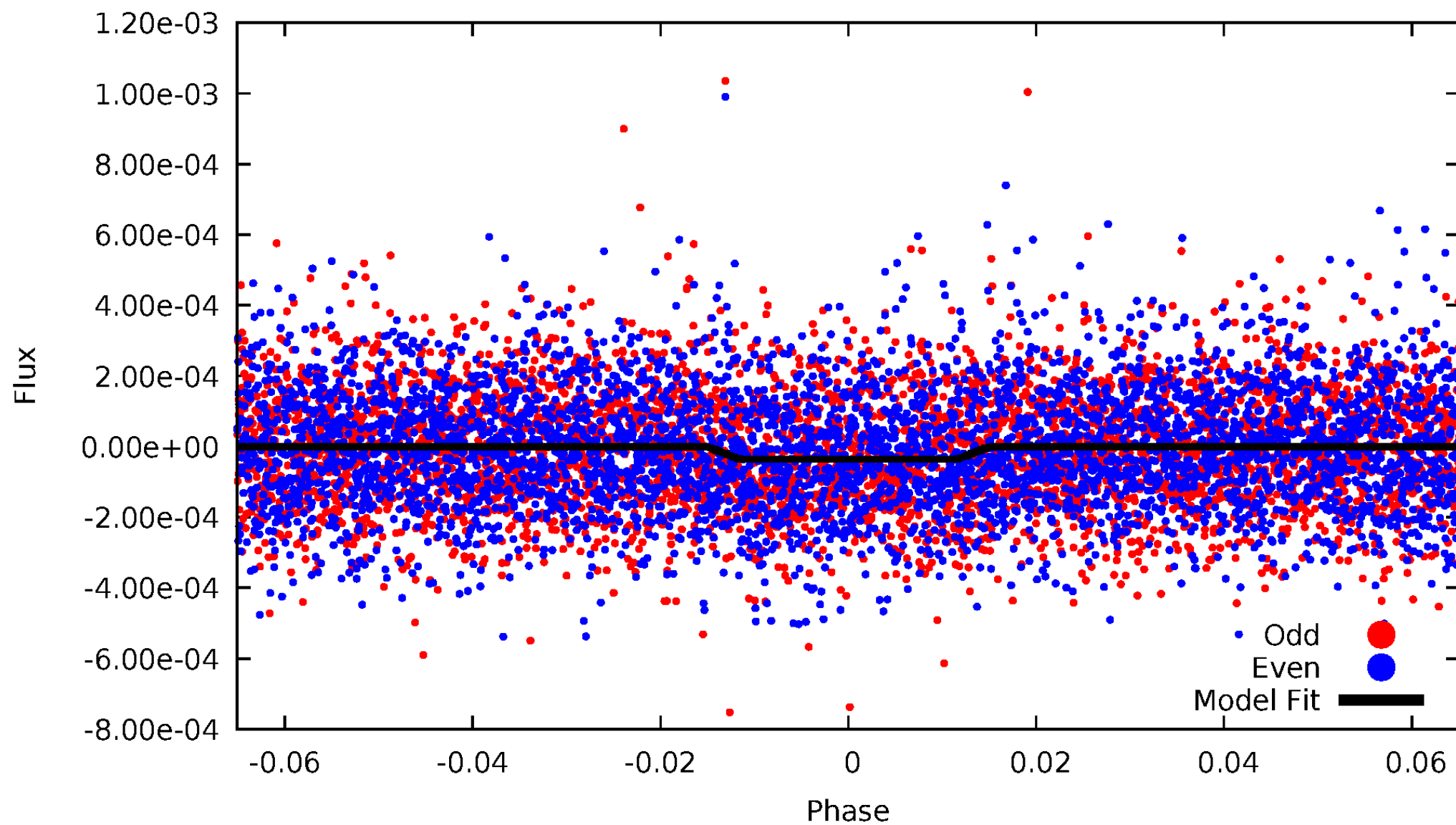
DV Odd/Even

TCE 002572029-01



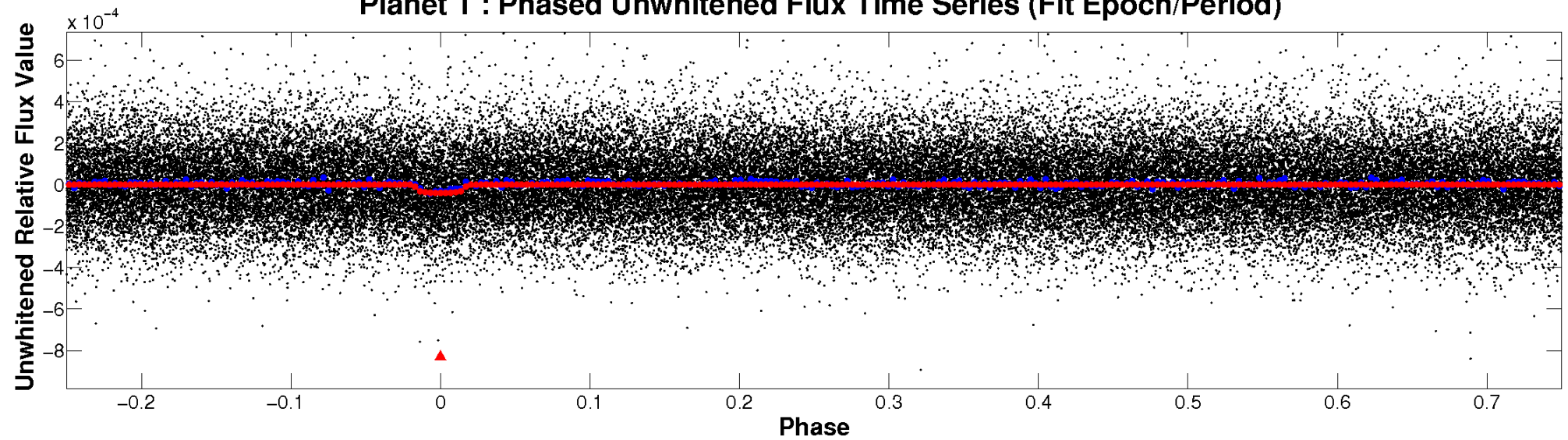
ALT Odd/Even

TCE 002572029-01

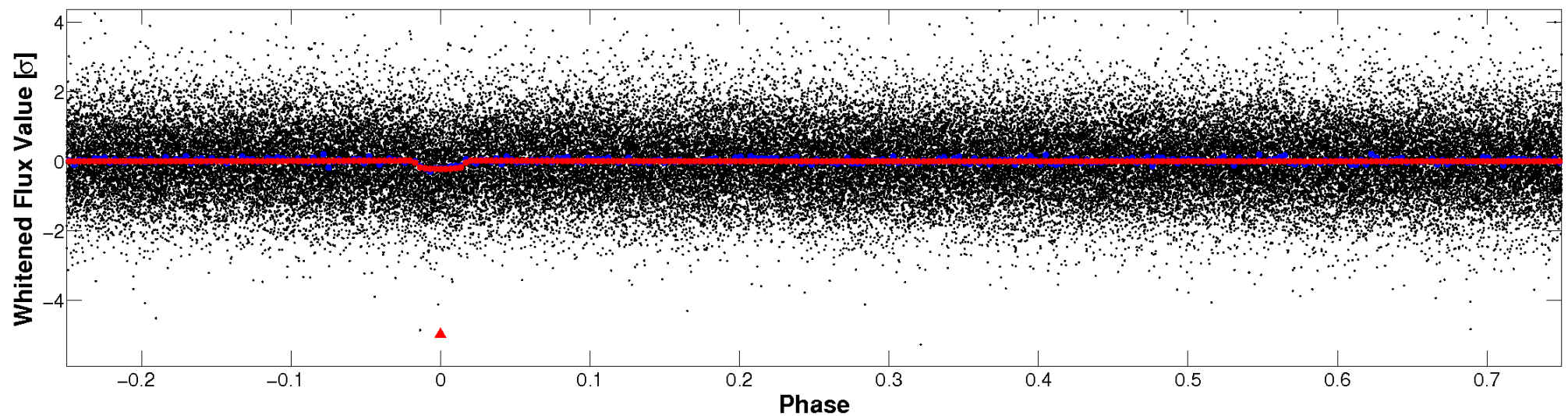


Non-Whitened Vs. Whitened Light Curve

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

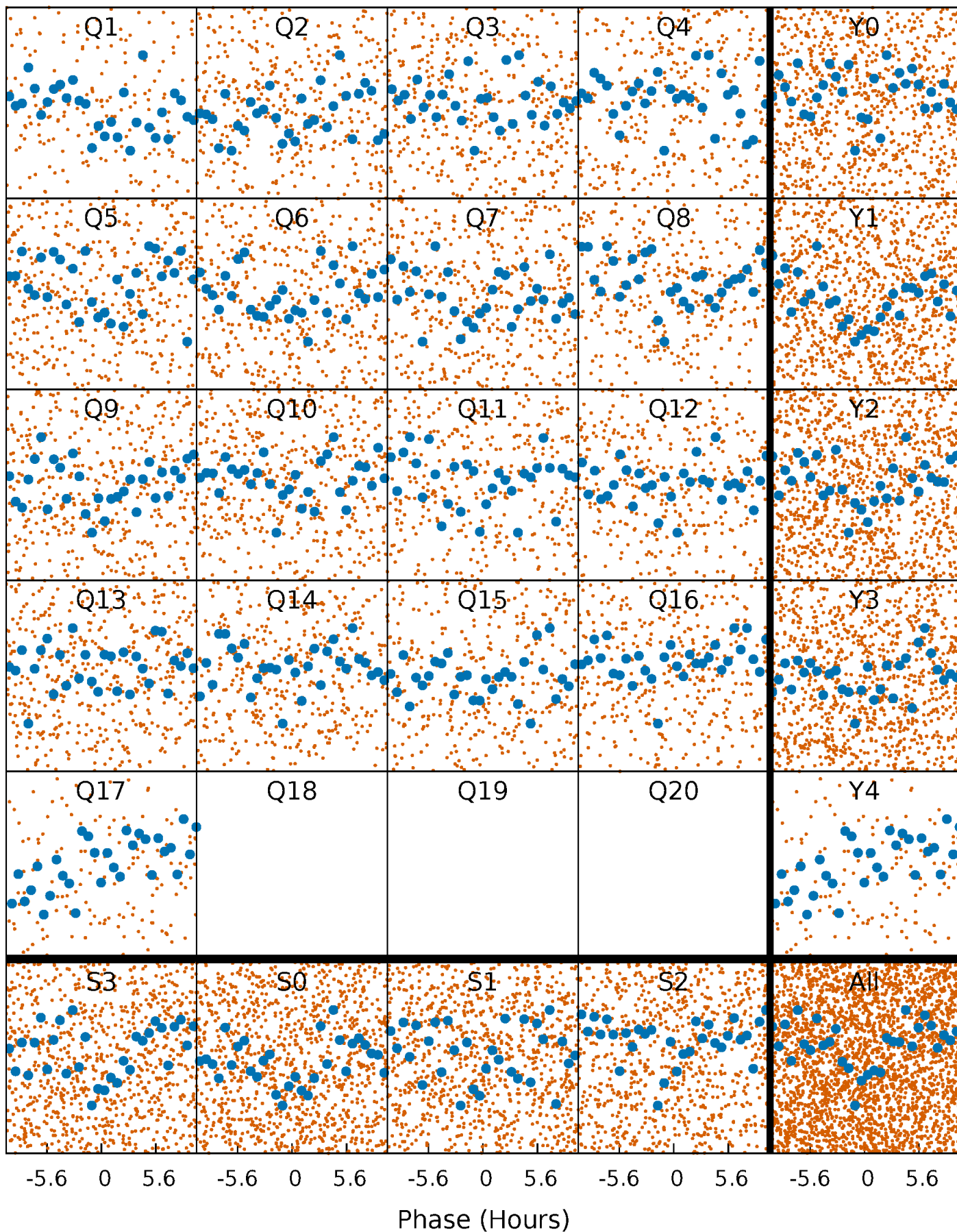


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



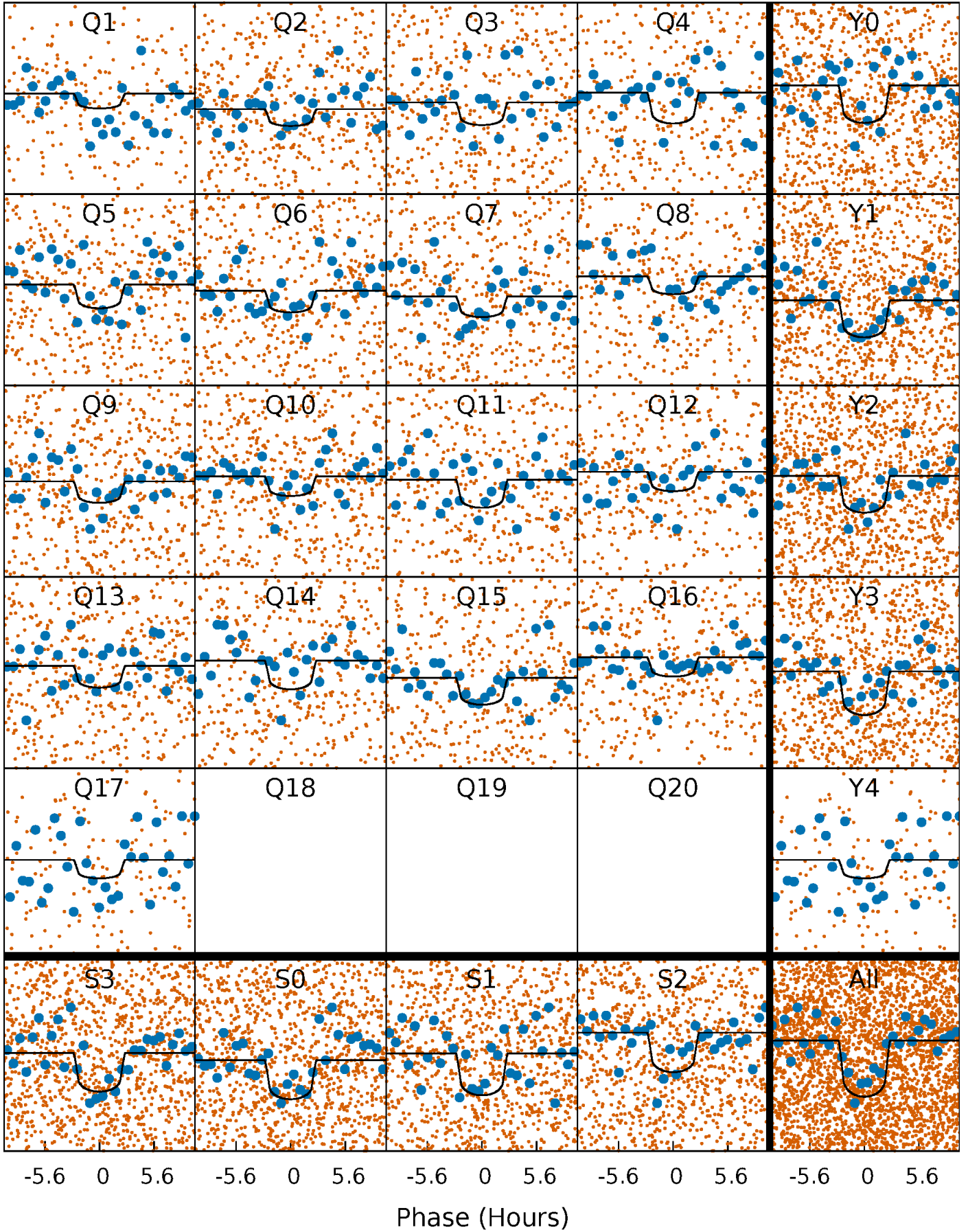
PDC Quarter-Phased Transit Curves

TCE 002572029-01 P= 6.006291 Days $T_0=133.394355$ (BKJD)



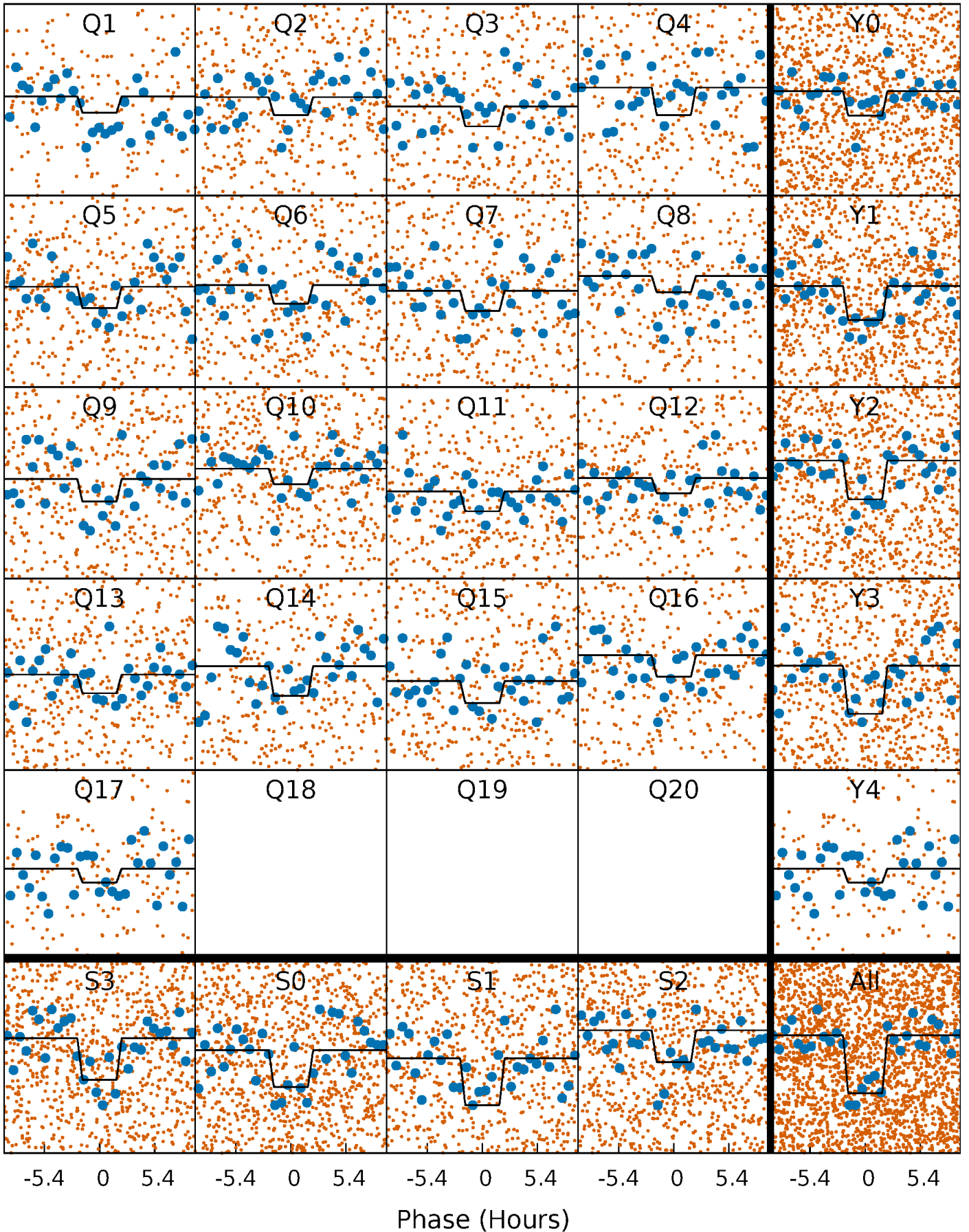
DV Quarter-Phased Transit Curves

TCE 002572029-01 P= 6.006291 Days $T_0=133.394355$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

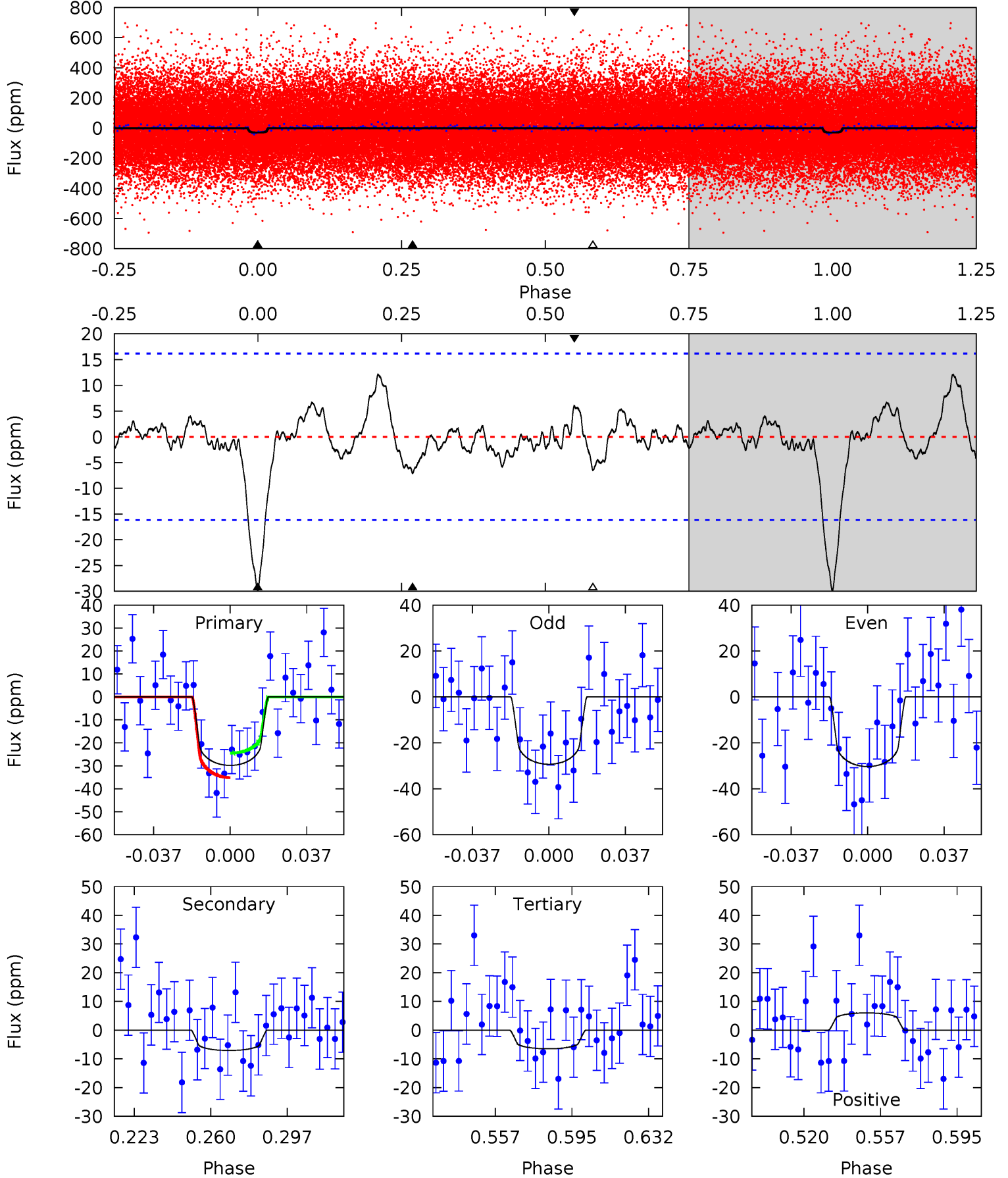
TCE 002572029-01 P= 6.006168 Days $T_0=133.404786$ (BKJD)



DV Model-Shift Uniqueness Test

002572029-01, P = 6.006291 Days, E = 127.388064 Days

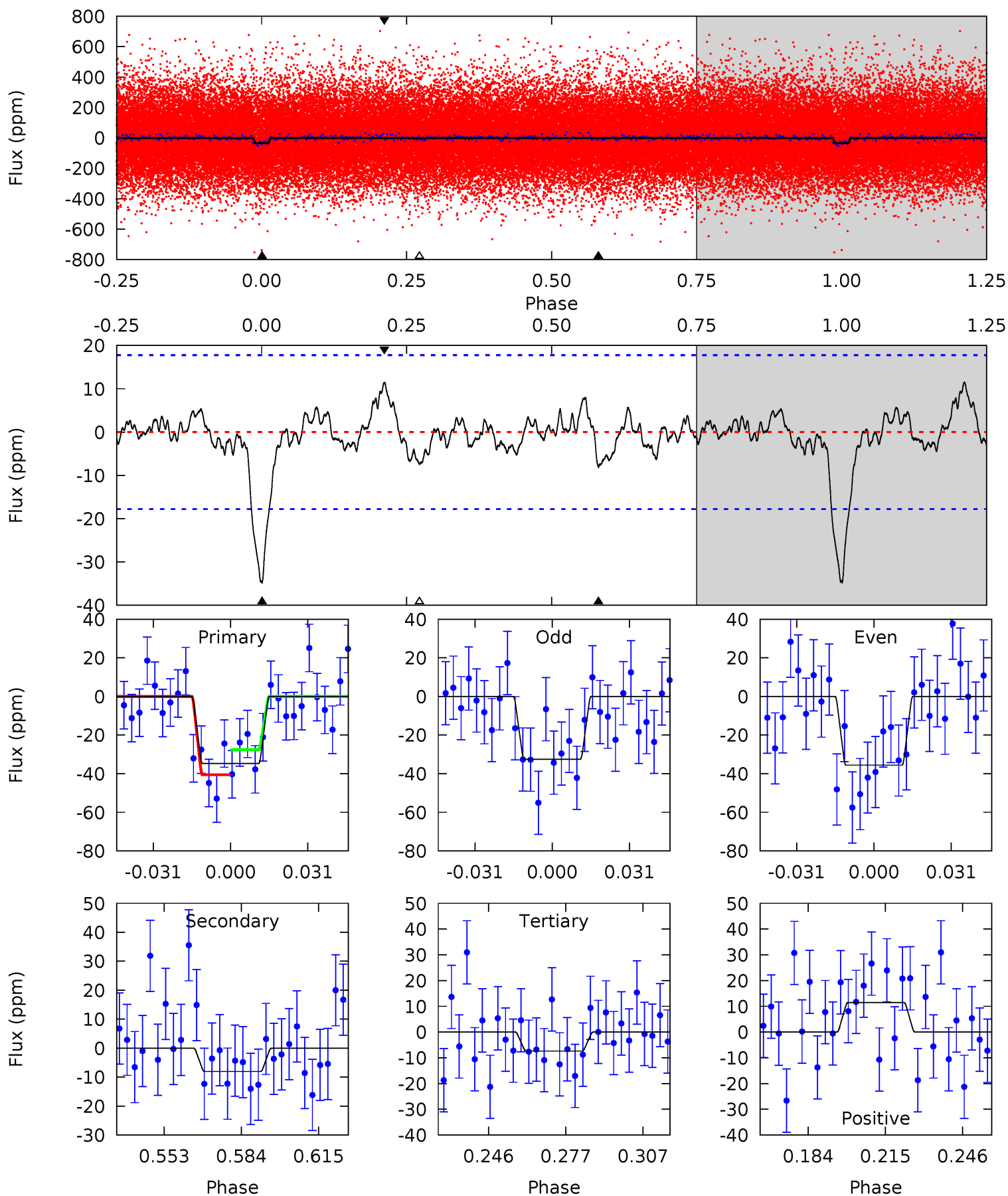
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	2.09	1.91	1.77	4.77	2.08	0.93	6.88	7.02	0.18	0.32	0.15	0.96	0.29	1.57



Alt Model-Shift Uniqueness Test

002572029-01, P = 6.006168 Days, E = 127.398618 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.40	2.18	1.99	3.10	4.81	2.16	0.85	7.41	6.30	0.19	-0.92	0.41	0.89	0.25	1.76



Stellar Parameters For KIC 002572029

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6103^{+165}_{-202}	$4.331^{+0.115}_{-0.198}$	$-0.040^{+0.250}_{-0.300}$	$1.160^{+0.355}_{-0.191}$	$1.050^{+0.167}_{-0.125}$	$0.947^{+0.495}_{-0.492}$
	+3%/-3%	+3%/-5%	+625%/-750%	+31%/-16%	+16%/-12%	+52%/-52%
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 002572029-01 / KOI 4581.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 3	$0.89^{+0.45}_{-0.42}$	1596^{+121}_{-98}	4041^{+1303}_{-706}	20^{+59}_{-14}
Alt.	-8 ± 4	$0.78^{+0.45}_{-0.41}$	1587^{+125}_{-88}	4333^{+1701}_{-758}	30^{+106}_{-20}

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

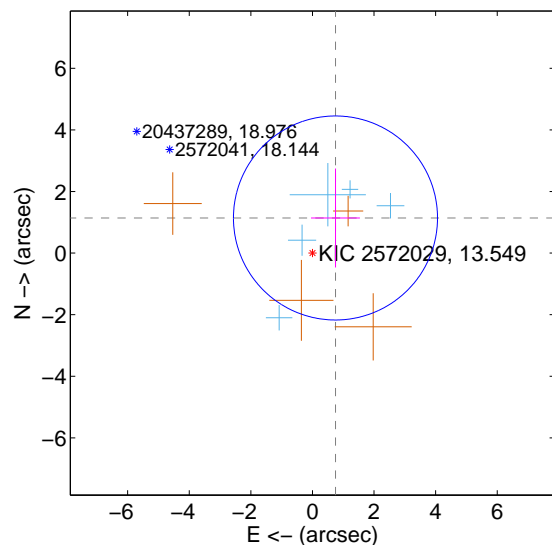
Supplemental centroid analysis for 002572029-01. Kepler magnitude: 13.55. Transit SNR 9.13

There are 5 quarters with good PRF difference image offsets

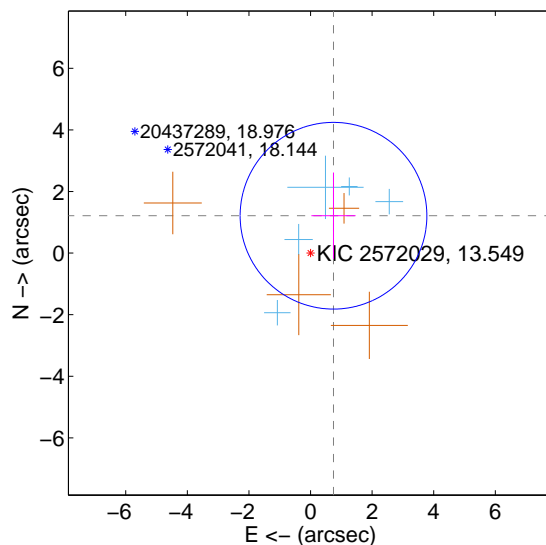
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.364 ± 1.104	1.24	-0.748 ± 0.794	1.141 ± 1.607
PRF-fit source offset from KIC position	1.425 ± 1.011	1.41	-0.746 ± 0.717	1.213 ± 1.402
photometric centroid source offset	1.10 ± 1.82	0.61	-0.04 ± 1.50	-1.10 ± 1.82

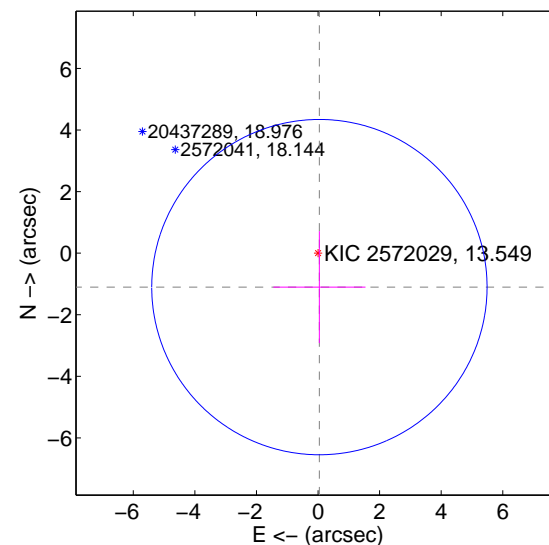
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

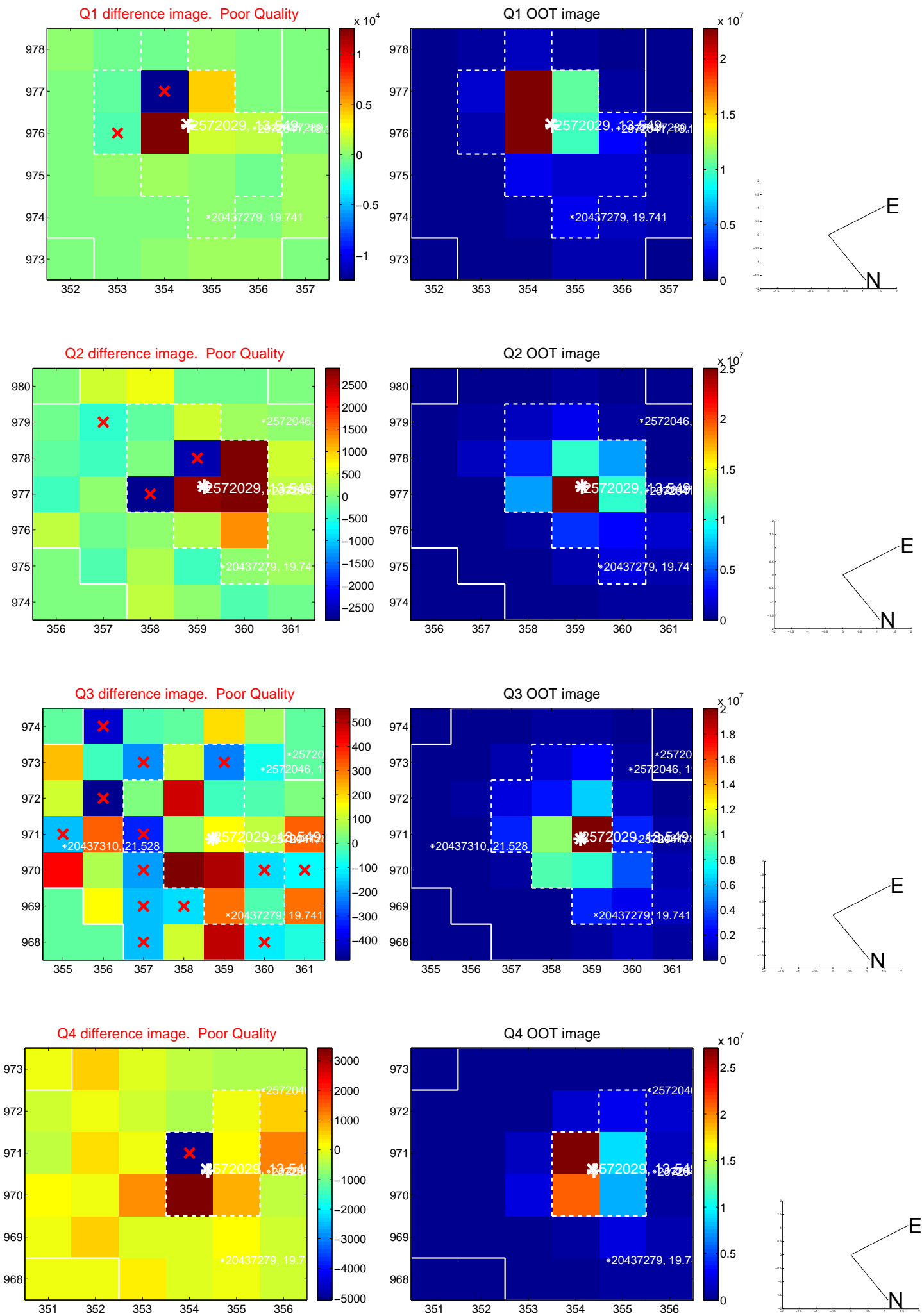


offset from photometric centroids

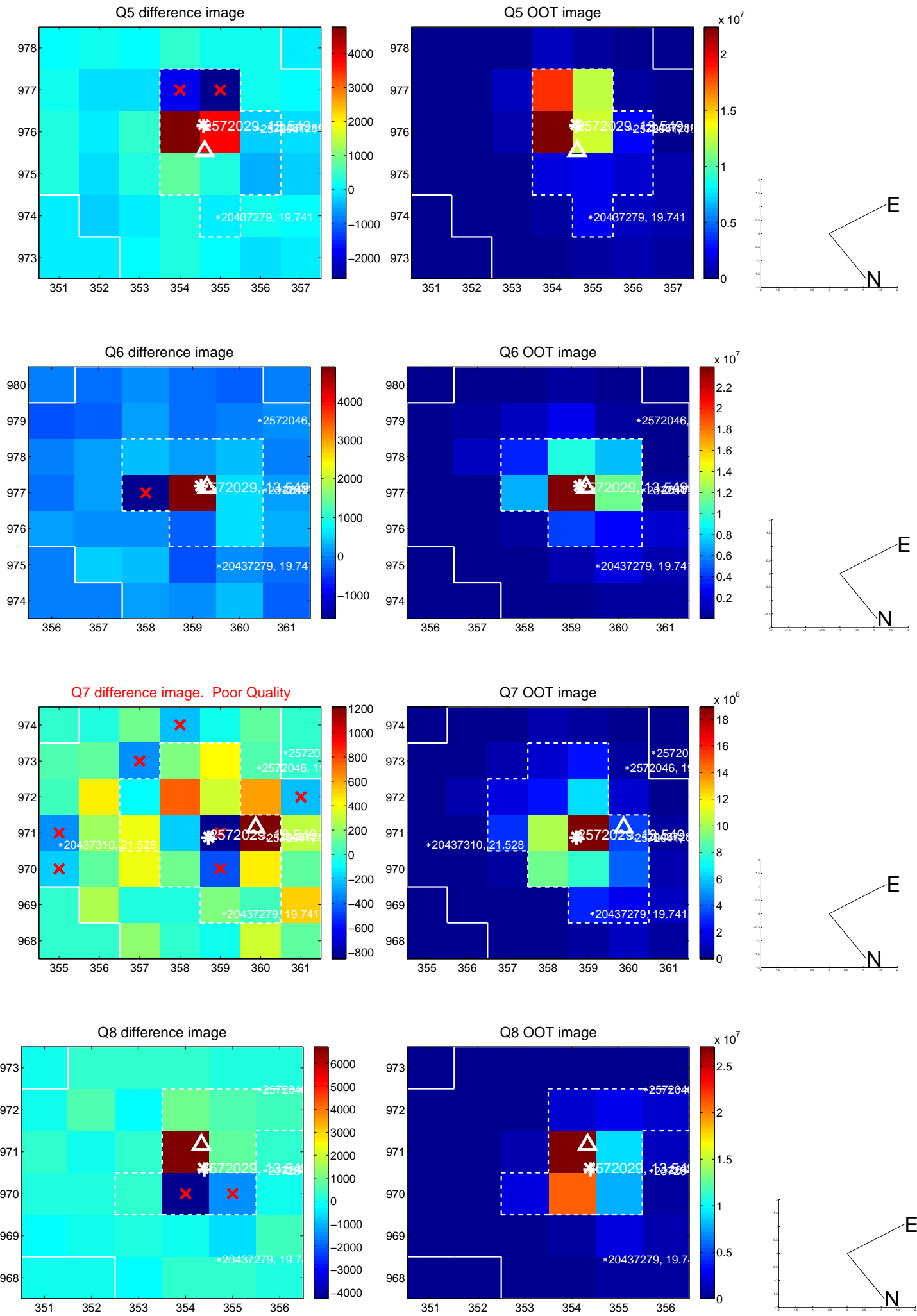


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

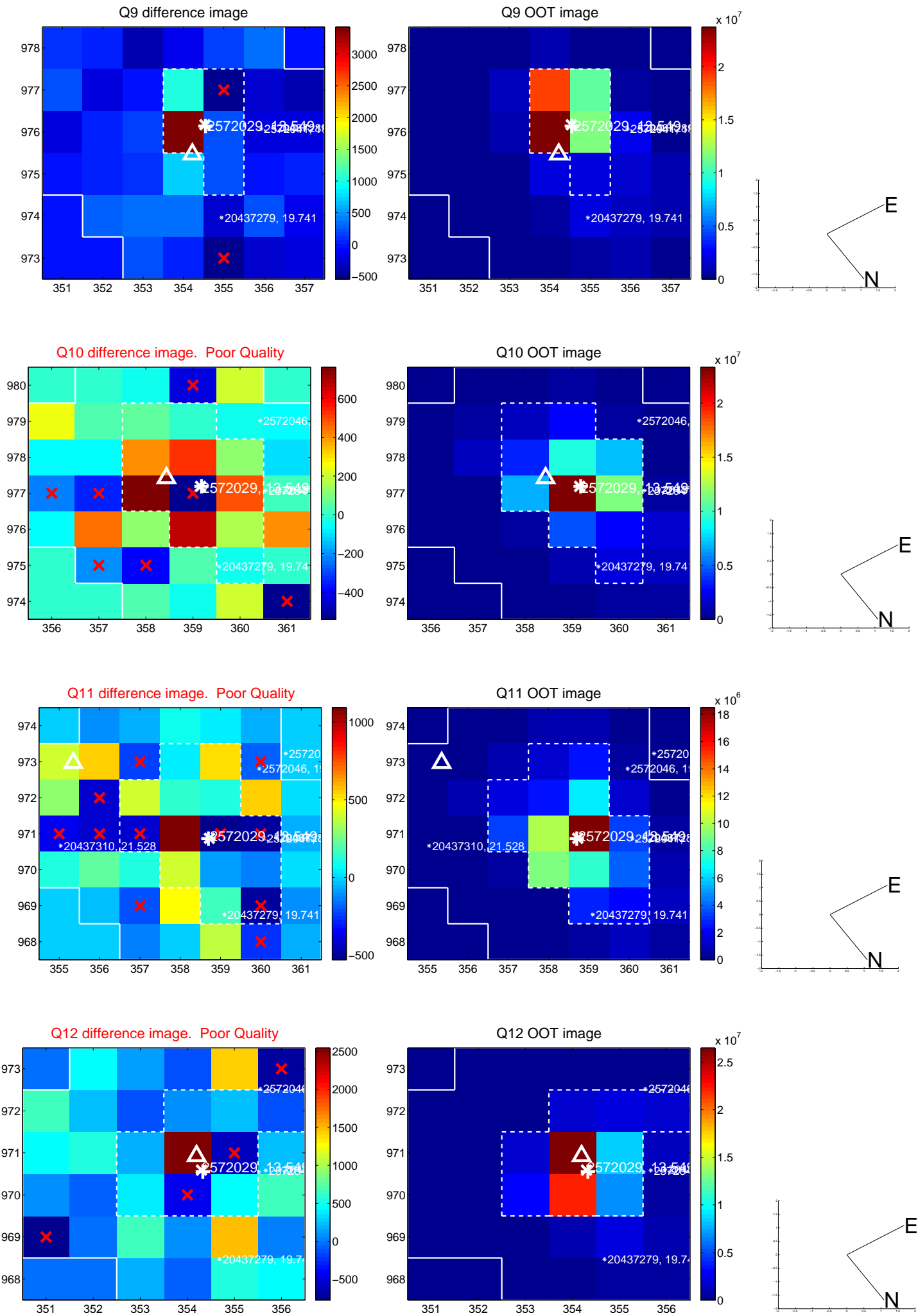
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



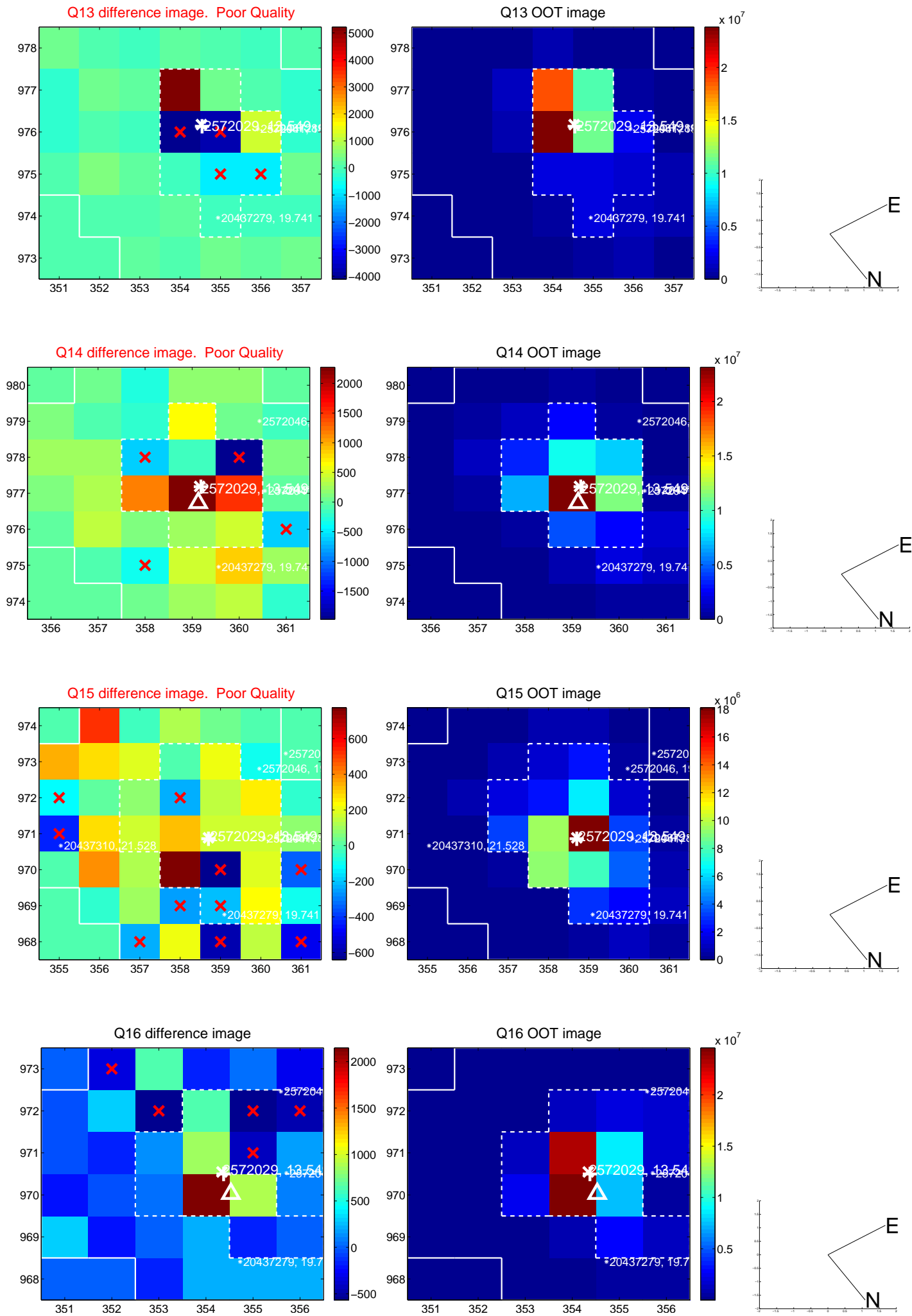
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



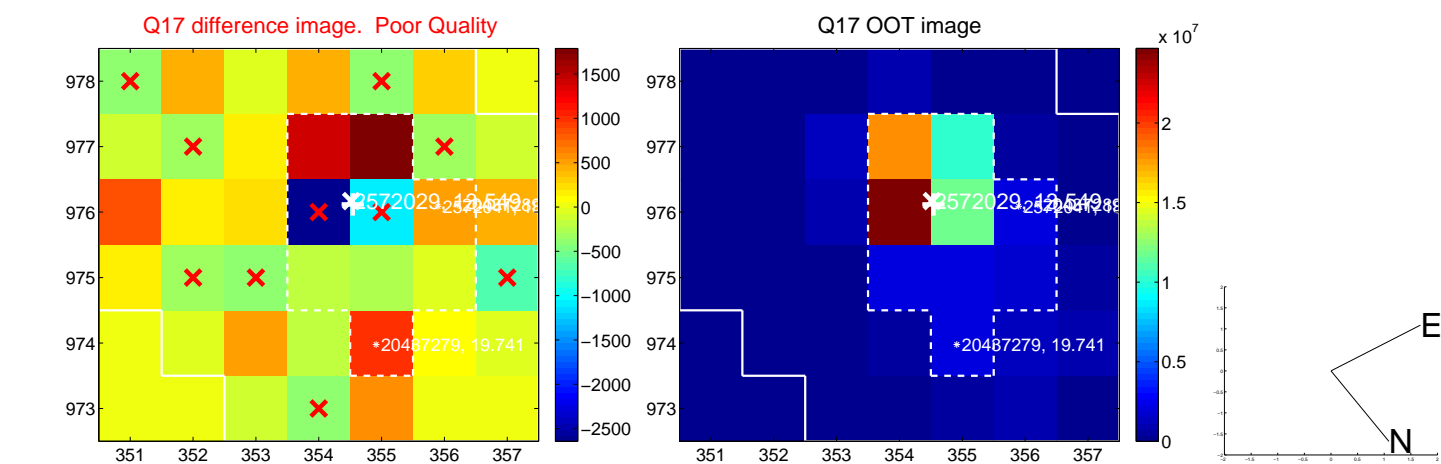
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



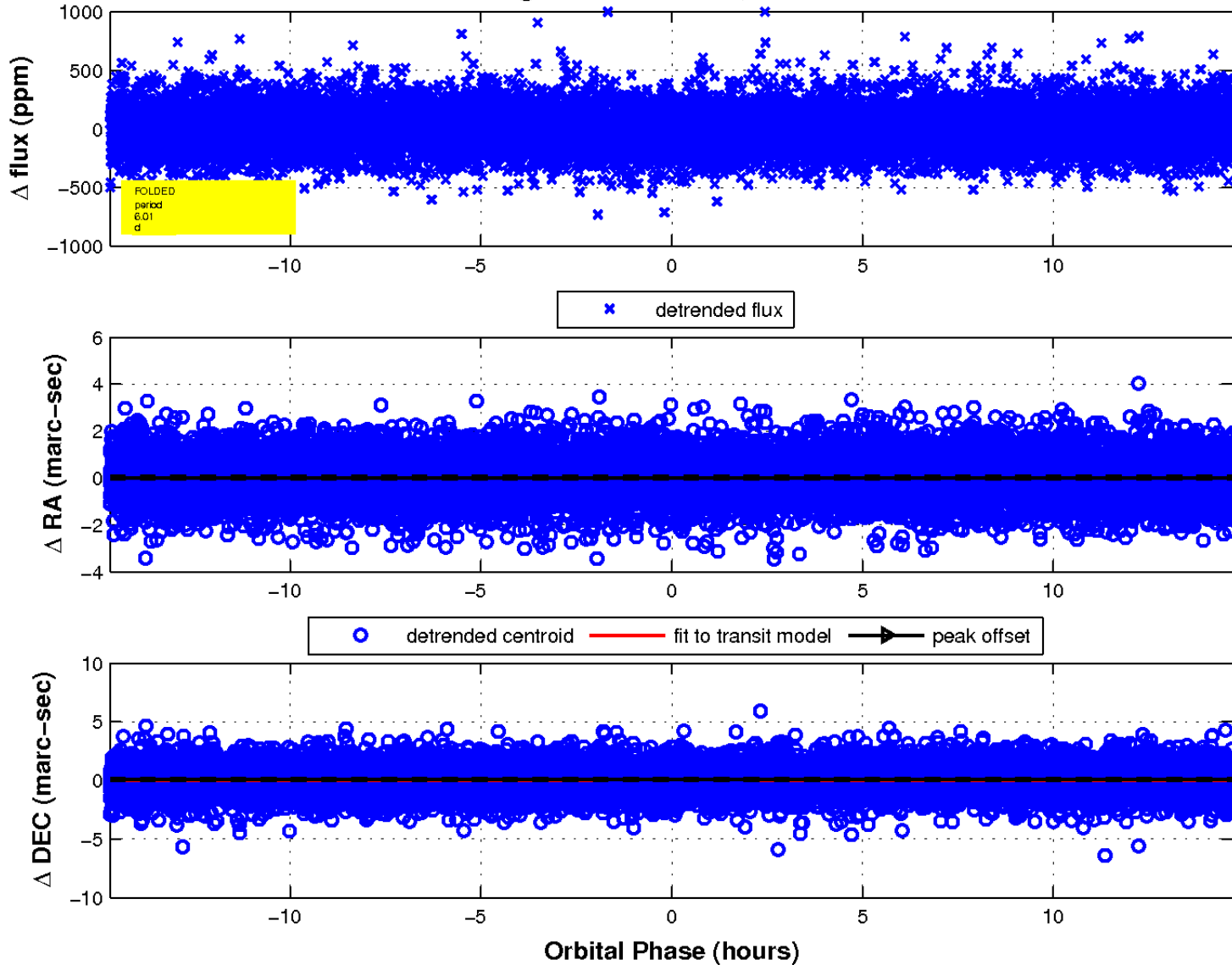
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

