

KIC 012254792

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})
012254792-01	OBS	1506.01	40.428657	139.506129	943.0	7.160	31.6	34.3	0.83	5813	2.99	14.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012254792-01	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.

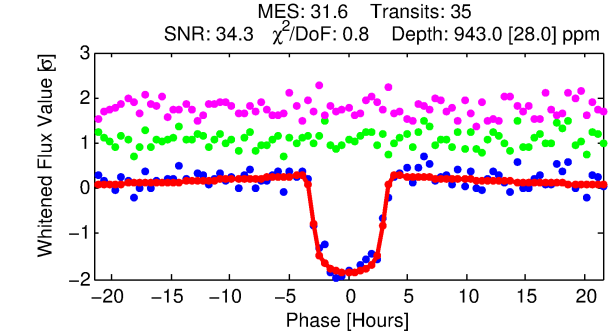
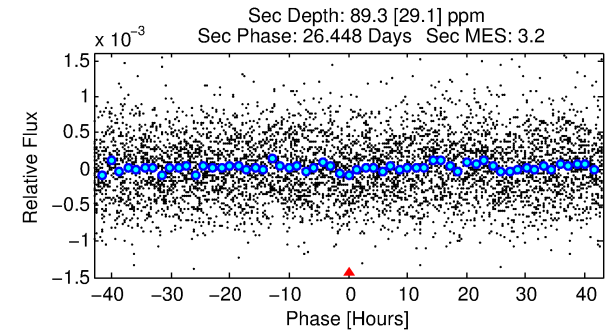
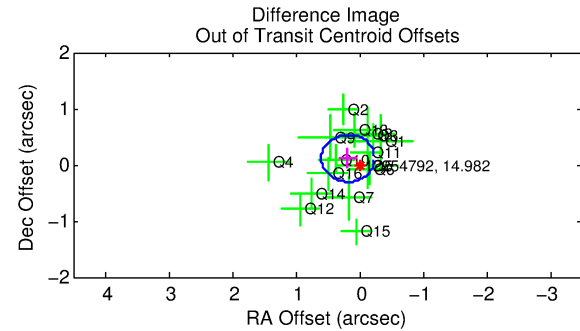
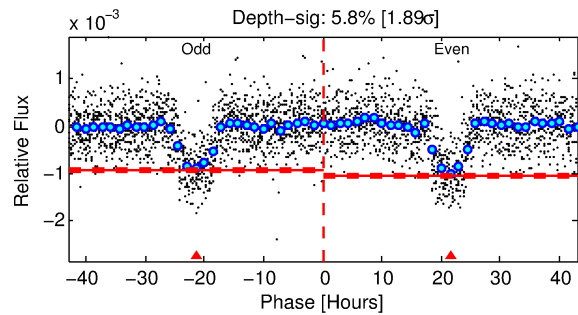
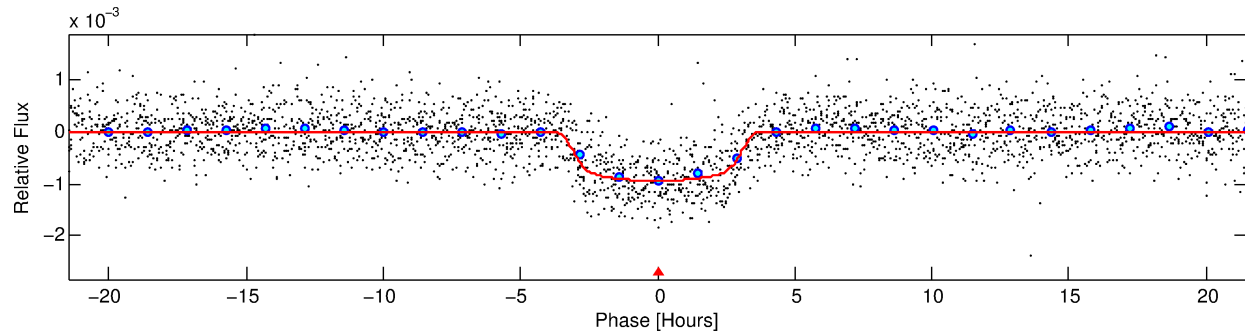
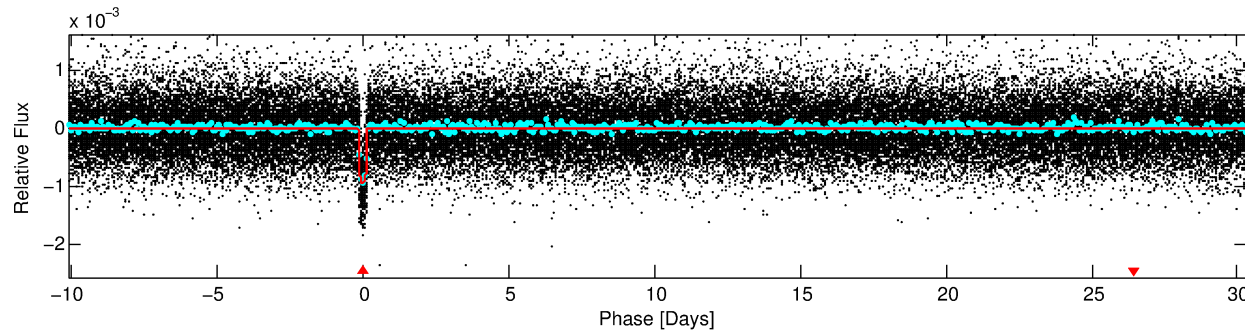
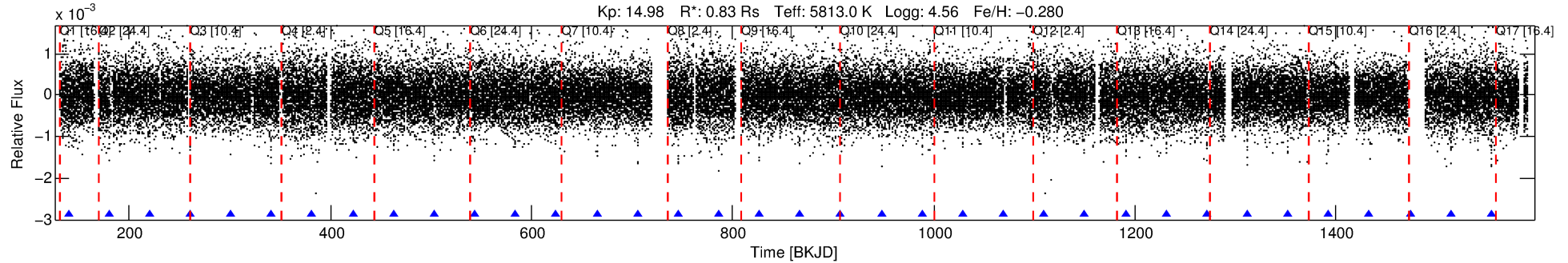
Ephemeris Match Information For 012254792-01

No Significant Match Found

DV One-Page Summary

KIC: 12254792 Candidate: 1 of 1 Period: 40.429 d

KOI: K01506.01 Corr: 0.974



DV Fit Results:

Period = 40.42866 [0.00019] d
Epoch = 139.5061 [0.0040] BKJD
Rp/R* = 0.0329 [0.0012]
a/R* = 22.83 [3.33]
b = 0.89 [0.04]
Seff = 14.10 [5.18]
Teq = 494 [45] K
Rp = 2.99 [0.82] Re
a = 0.2243 [0.0526] AU
Ag = 276.02 [133.63] [2.06 σ]
Teffp = 3114 [274] K [9.45 σ]

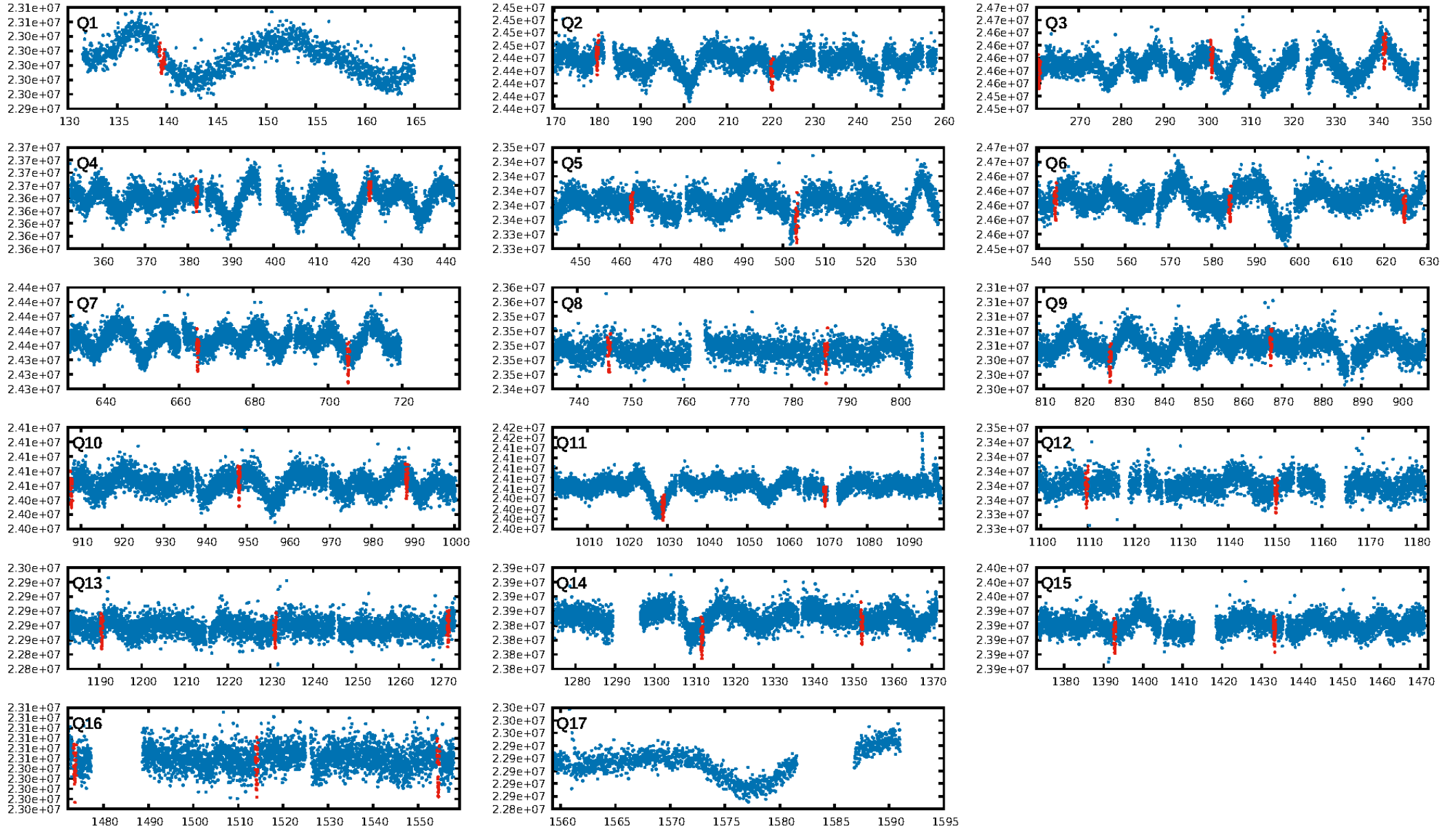
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.18e-208
RollingBand-fgt: 1.00 [34/34]
GhostDiagnostic-chr: 3.28
Centroid-sig: 73.1%
Centroid-so: 1.106 arcsec [3.10 σ]
OotOffset-rm: 0.215 arcsec [1.54 σ]
KicOffset-rm: 0.127 arcsec [0.90 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

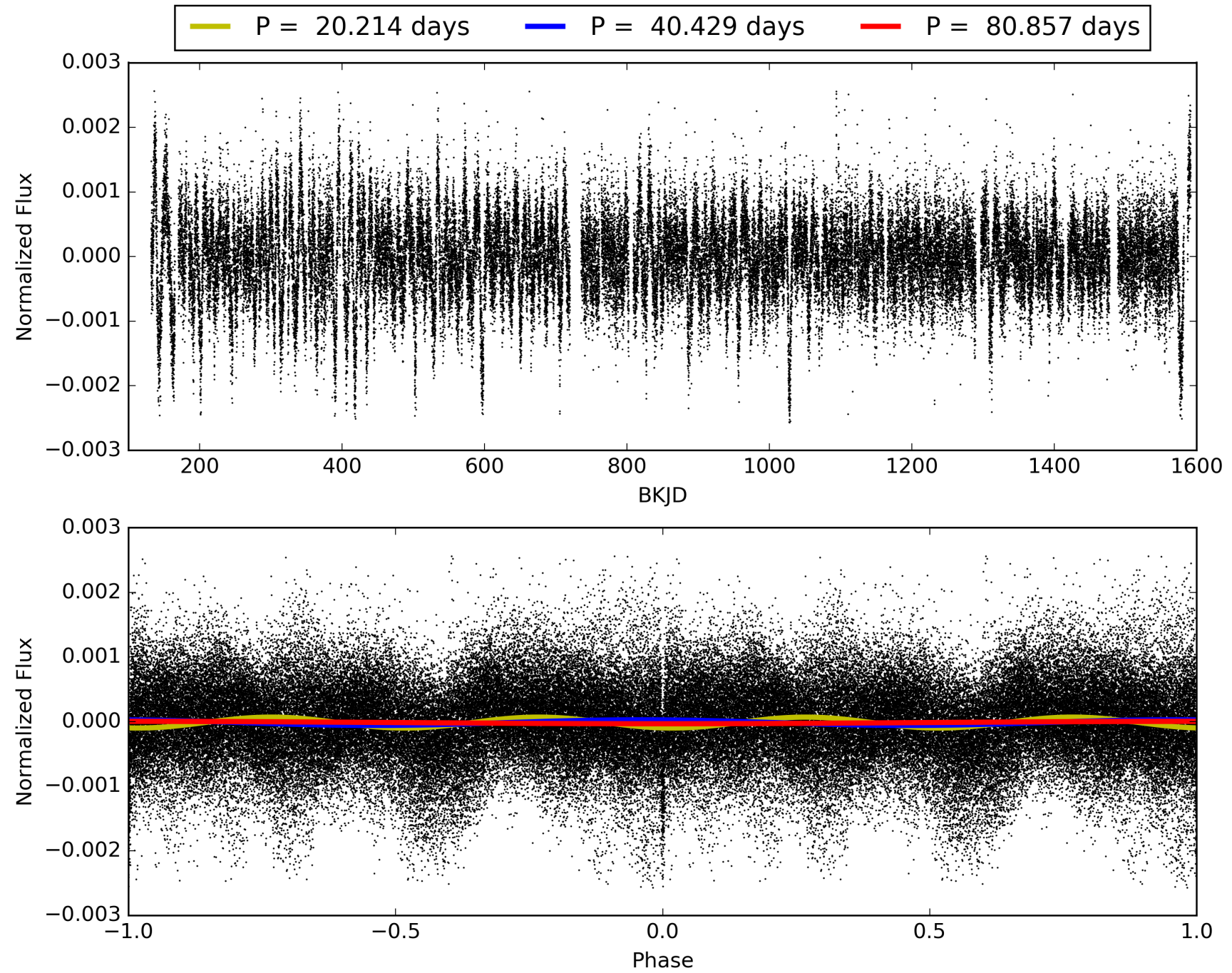
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:59:43 Z

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

TCE 012254792-01, PDC Light Curves

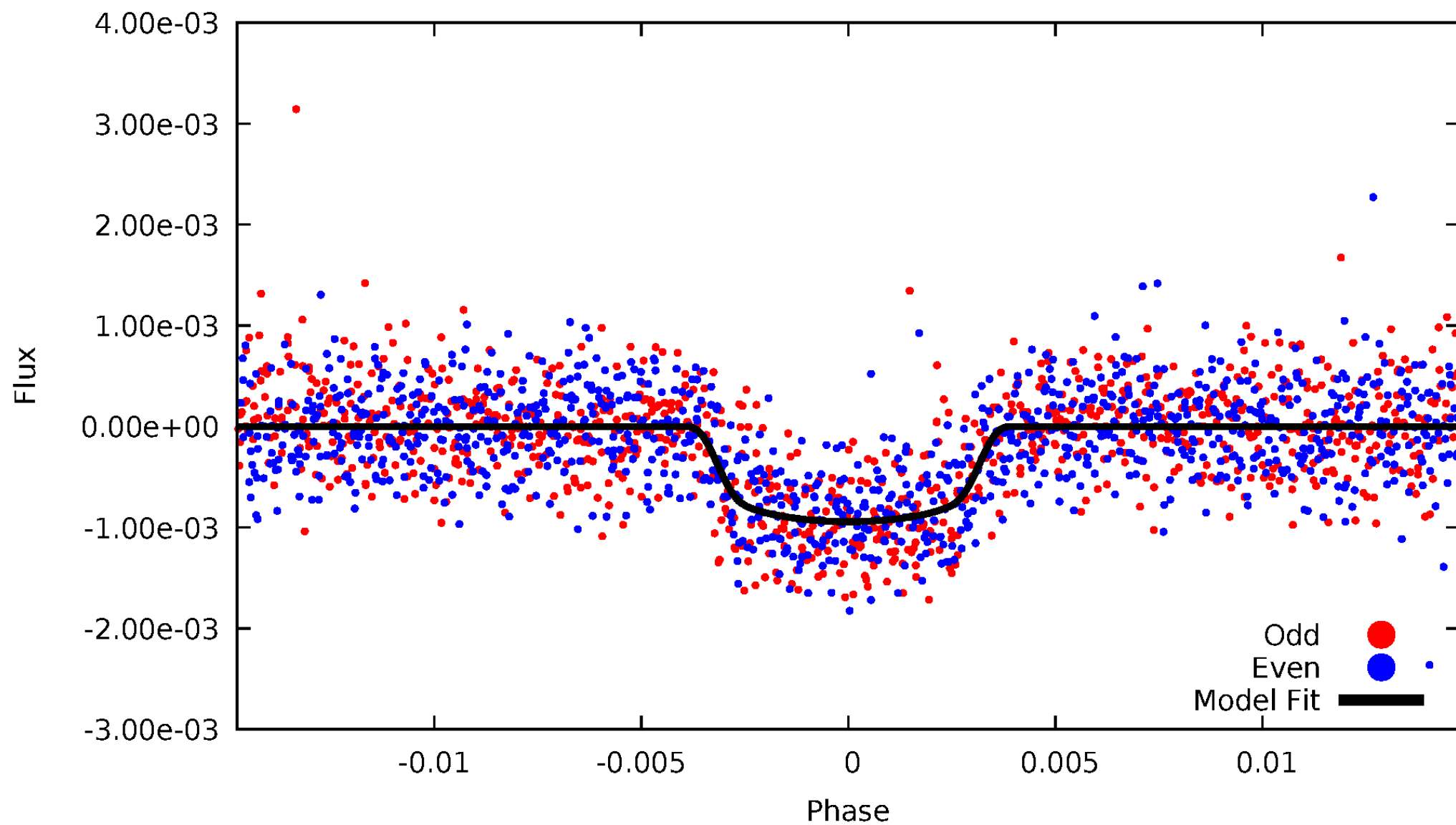


TCE 012254792-01



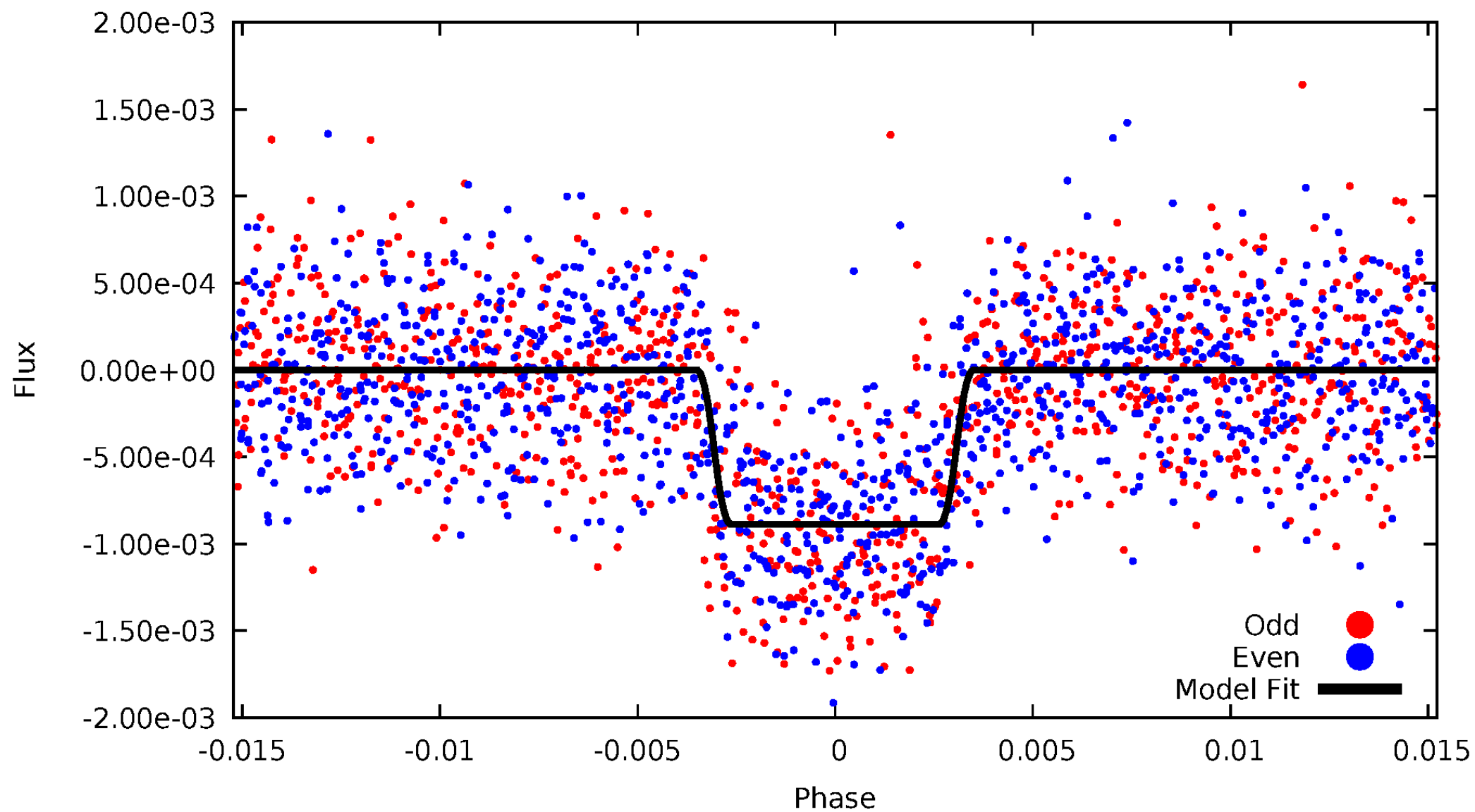
DV Odd/Even

TCE 012254792-01

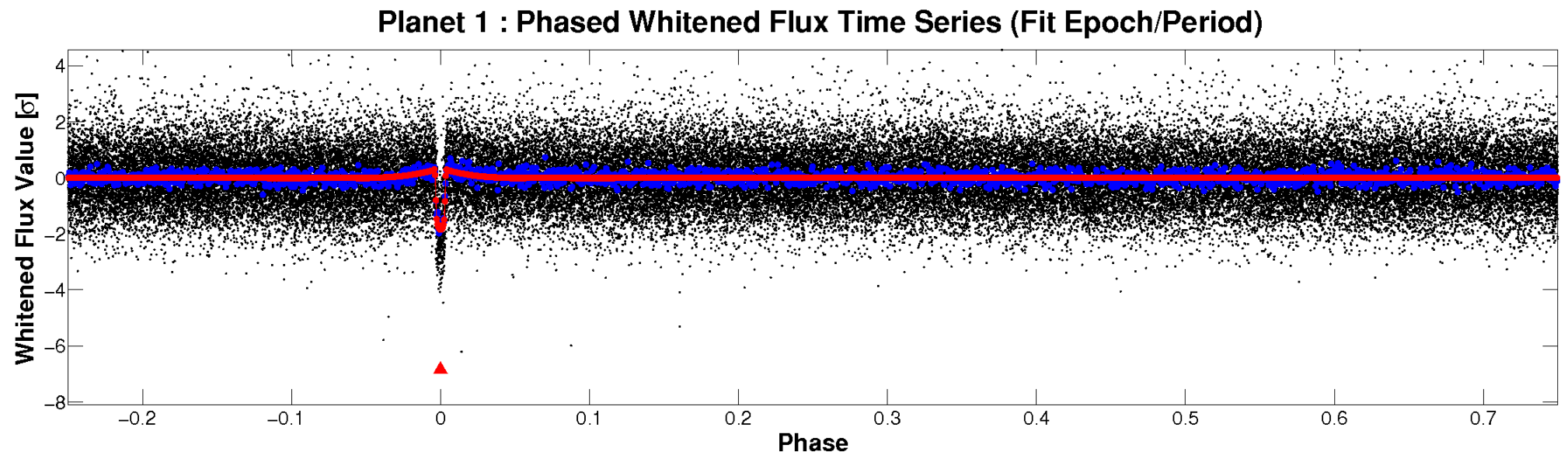
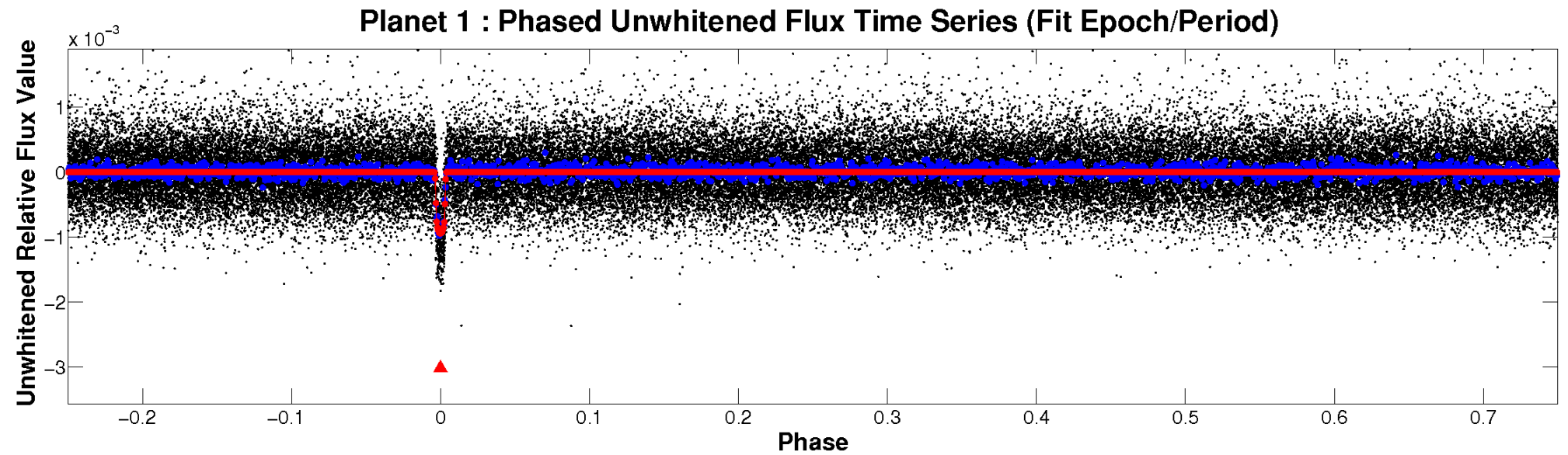


ALT Odd/Even

TCE 012254792-01

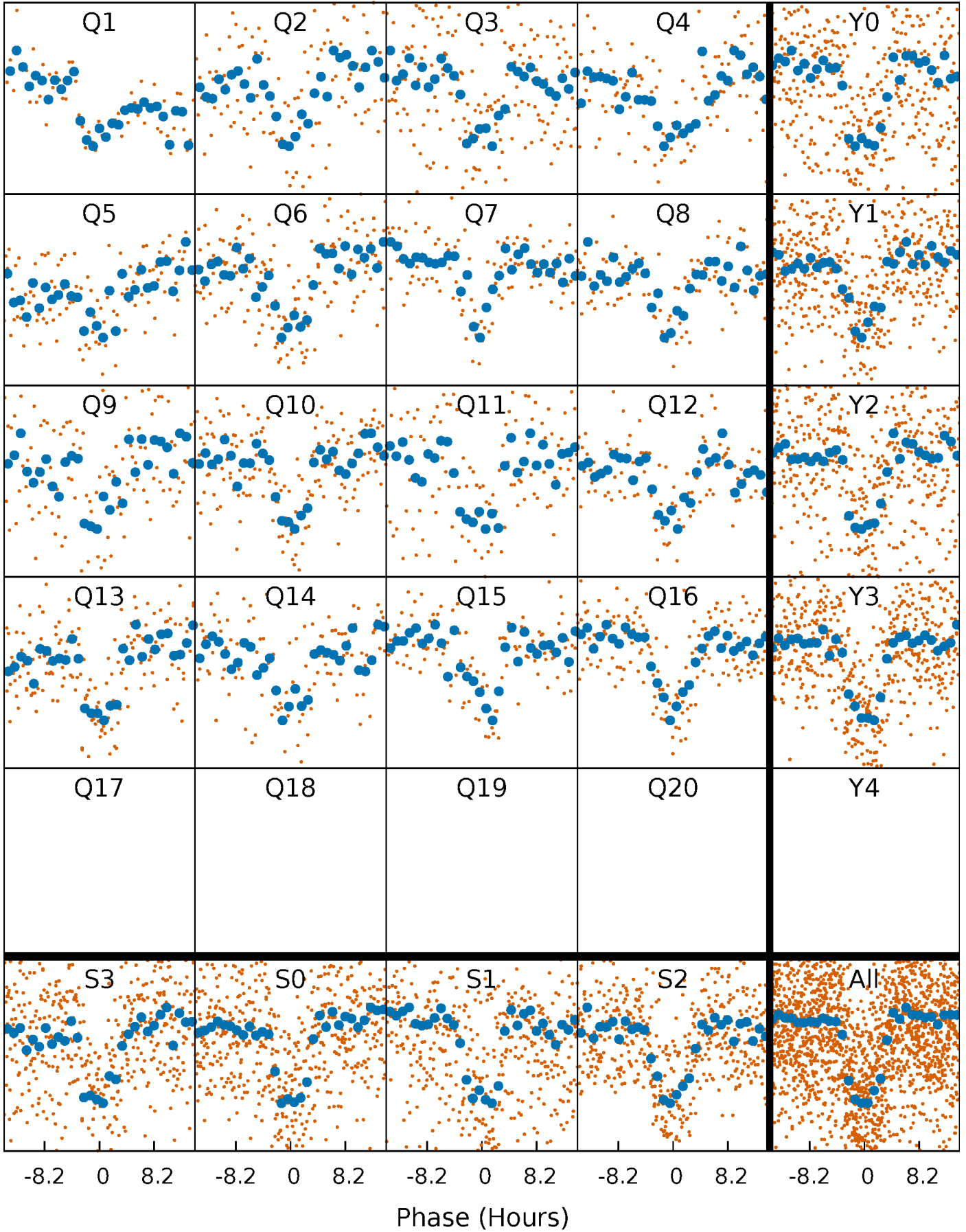


Non-Whitened Vs. Whitened Light Curve



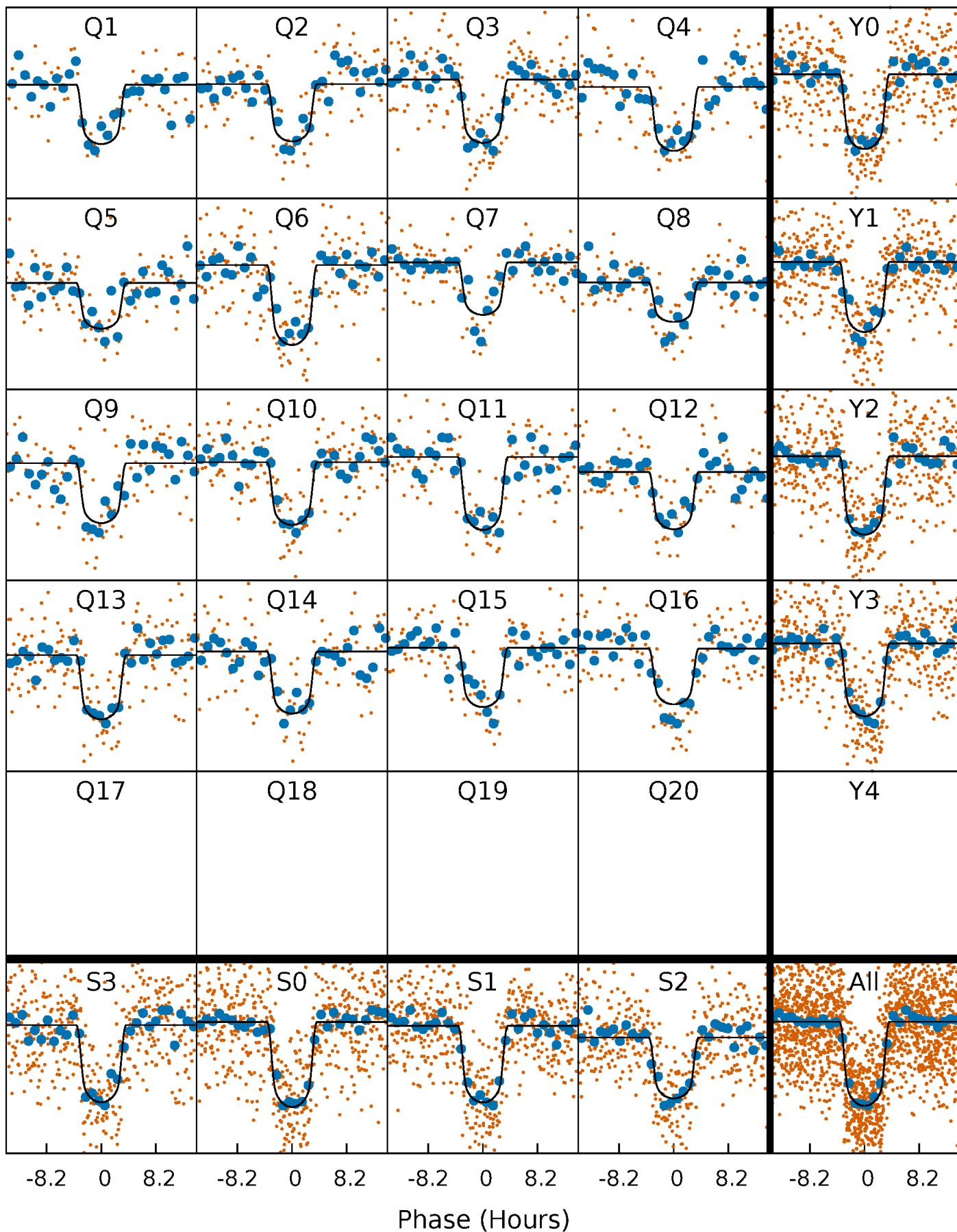
PDC Quarter-Phased Transit Curves

TCE 012254792-01 P= 40.428657 Days $T_0=139.506129$ (BKJD)



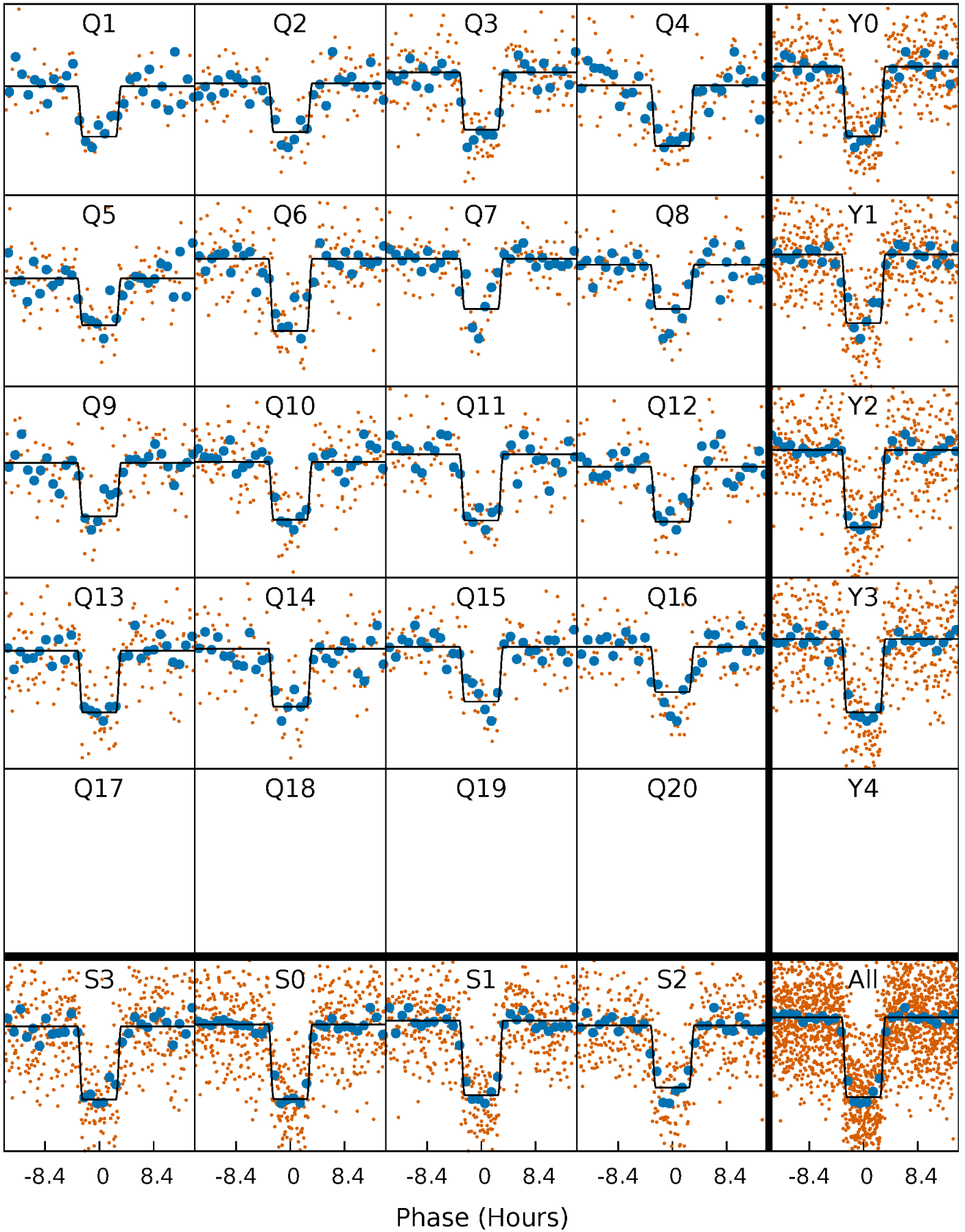
DV Quarter-Phased Transit Curves

TCE 012254792-01 P= 40.428657 Days $T_0=139.506129$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

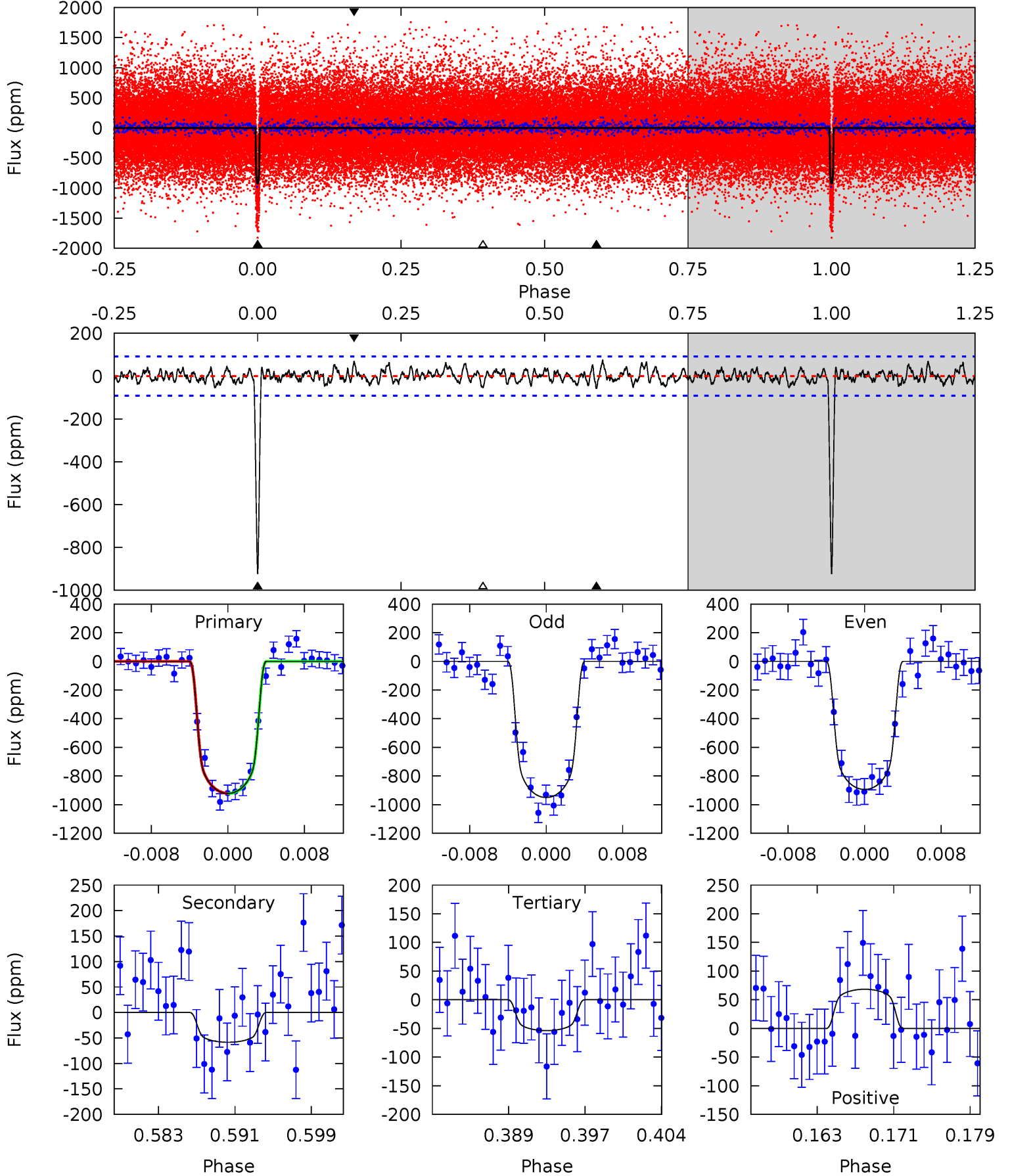
TCE 012254792-01 P= 40.428620 Days $T_0=139.509869$ (BKJD)



DV Model-Shift Uniqueness Test

012254792-01, P = 40.428657 Days, E = 99.077472 Days

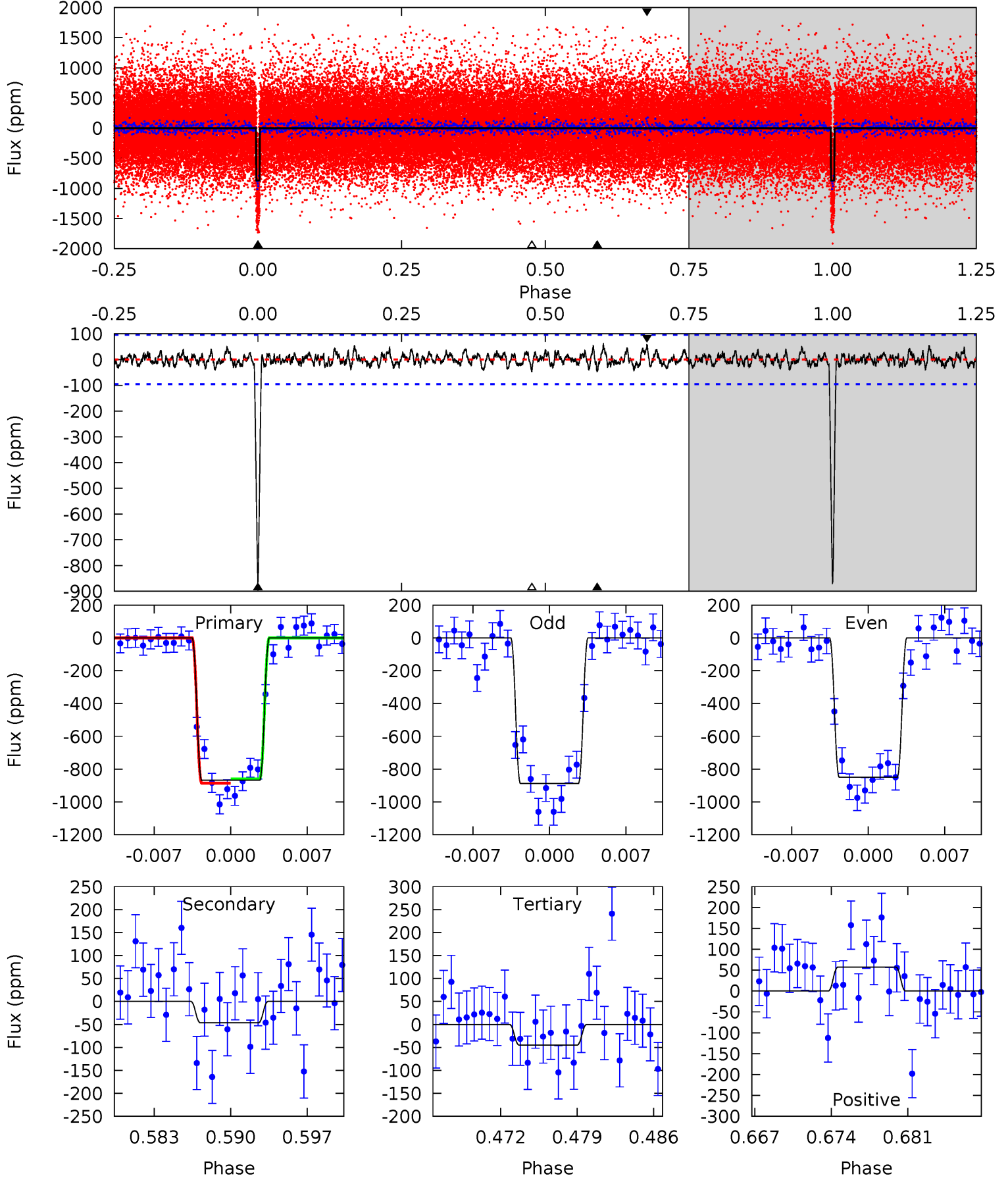
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.0	3.23	2.97	3.78	5.07	2.66	1.27	48.0	47.2	0.26	-0.55	1.56	1.03	0.08	0.05



Alt Model-Shift Uniqueness Test

012254792-01, P = 40.428620 Days, E = 99.081249 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.1	2.47	2.38	3.04	5.10	2.70	0.94	43.7	43.1	0.09	-0.56	1.01	1.06	0.07	0.71



Stellar Parameters For KIC 012254792

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5813^{+145}_{-160}	$4.561^{+0.035}_{-0.196}$	$-0.280^{+0.300}_{-0.300}$	$0.833^{+0.225}_{-0.075}$	$0.925^{+0.101}_{-0.111}$	$2.256^{+0.437}_{-1.150}$
	+2%/-3%	+1%/-4%	+107%/-107%	+27%/-9%	+11%/-12%	+19%/-51%
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 012254792-01 / KOI 1506.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-58 ± 18	$3.13^{+0.44}_{-0.26}$	709^{+46}_{-29}	3342^{+152}_{-184}	156^{+66}_{-54}
Alt.	-47 ± 19	$2.82^{+0.43}_{-0.26}$	707^{+46}_{-30}	3322^{+203}_{-268}	154^{+82}_{-70}

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

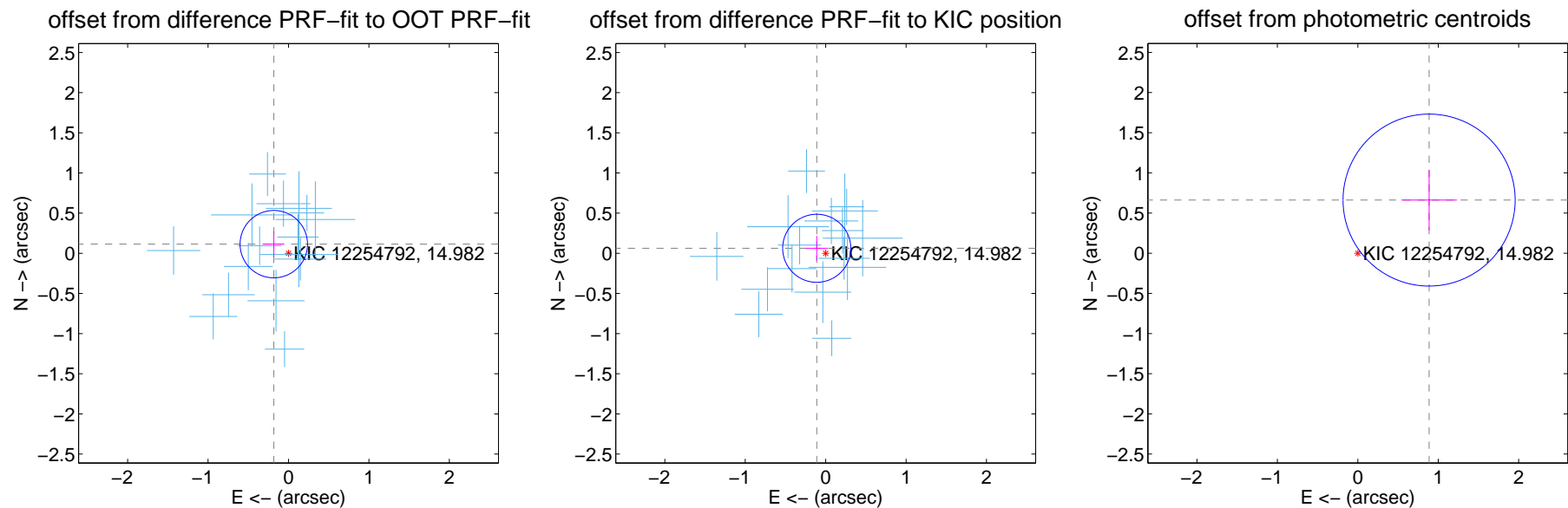
DV Centroid Data

Supplemental centroid analysis for 012254792-01. Kepler magnitude: 14.98. Transit SNR 34.28

There are 16 quarters with good PRF difference image offsets

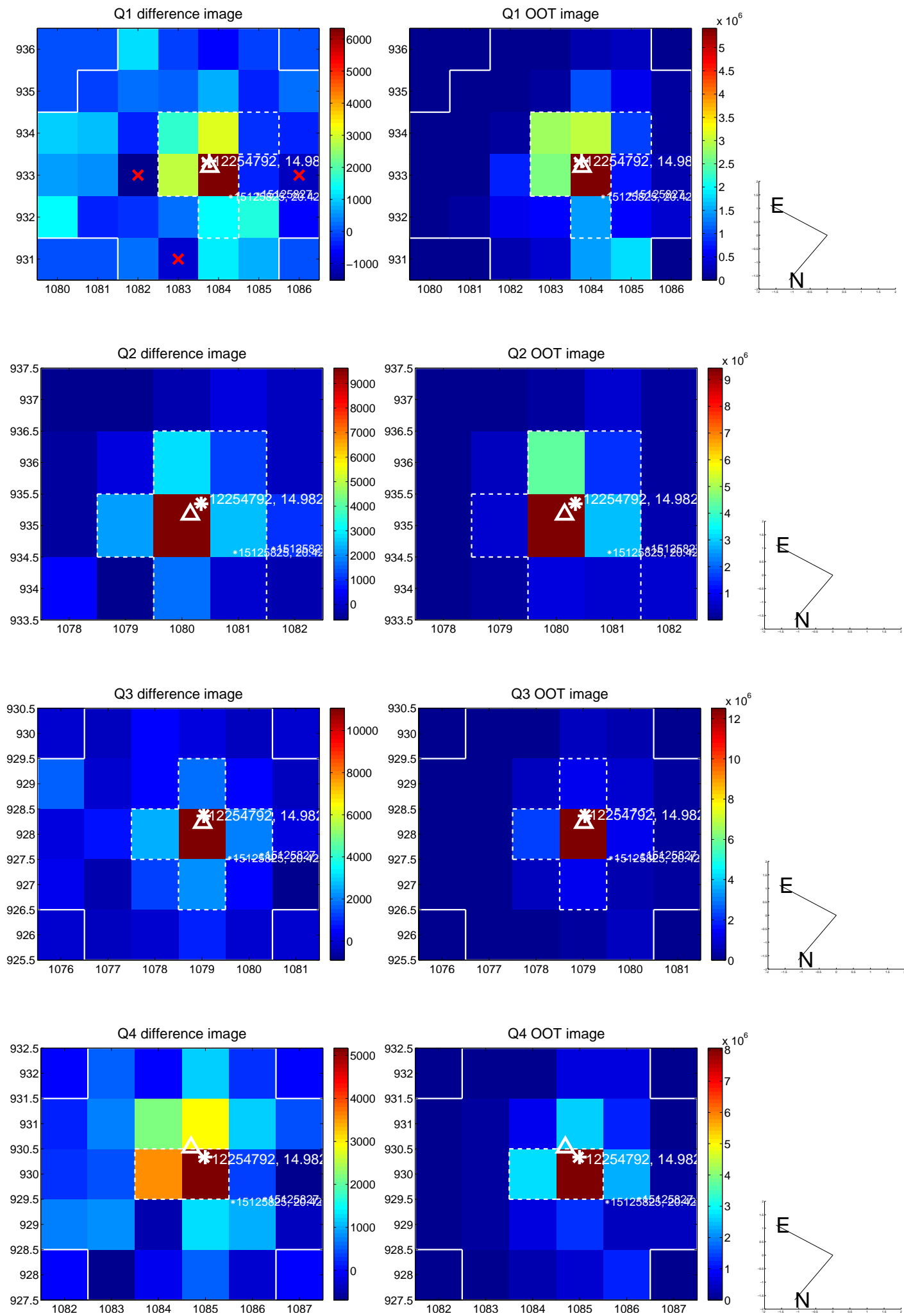
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.215 ± 0.140	1.54	0.183 ± 0.131	0.114 ± 0.161
PRF-fit source offset from KIC position	0.127 ± 0.141	0.90	0.111 ± 0.137	0.062 ± 0.155
photometric centroid source offset	1.11 ± 0.36	3.10	-0.89 ± 0.35	0.66 ± 0.38

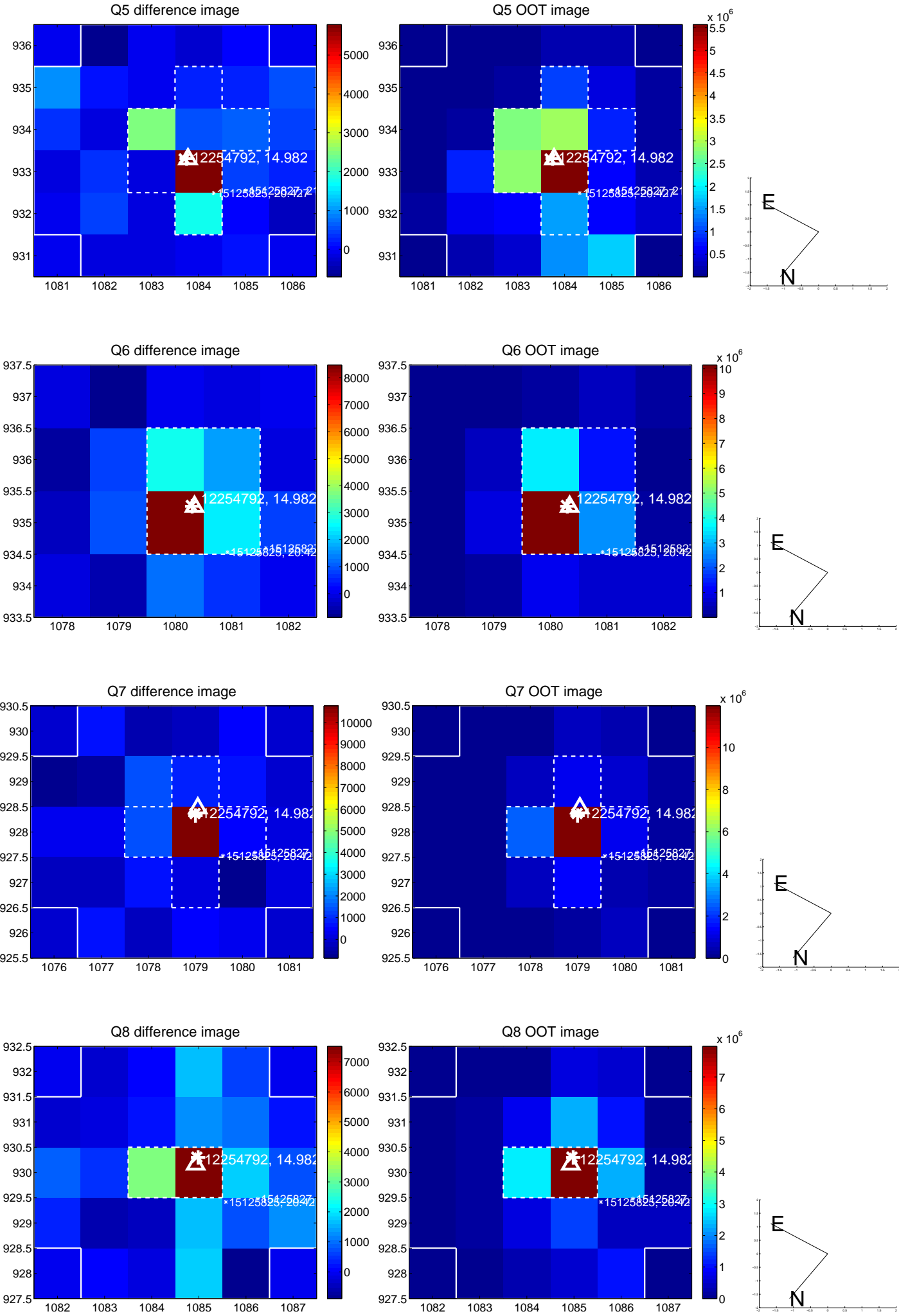


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

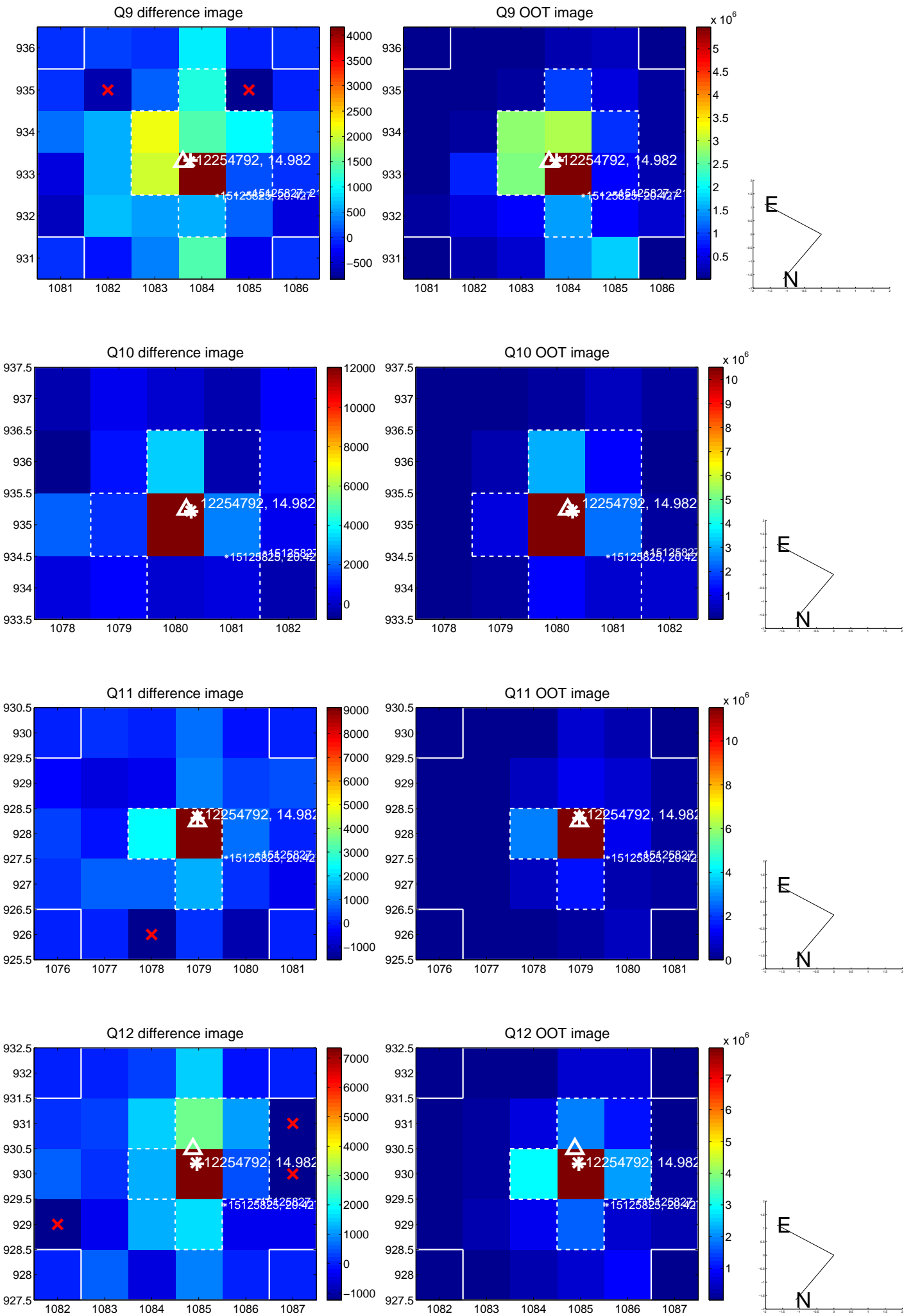
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



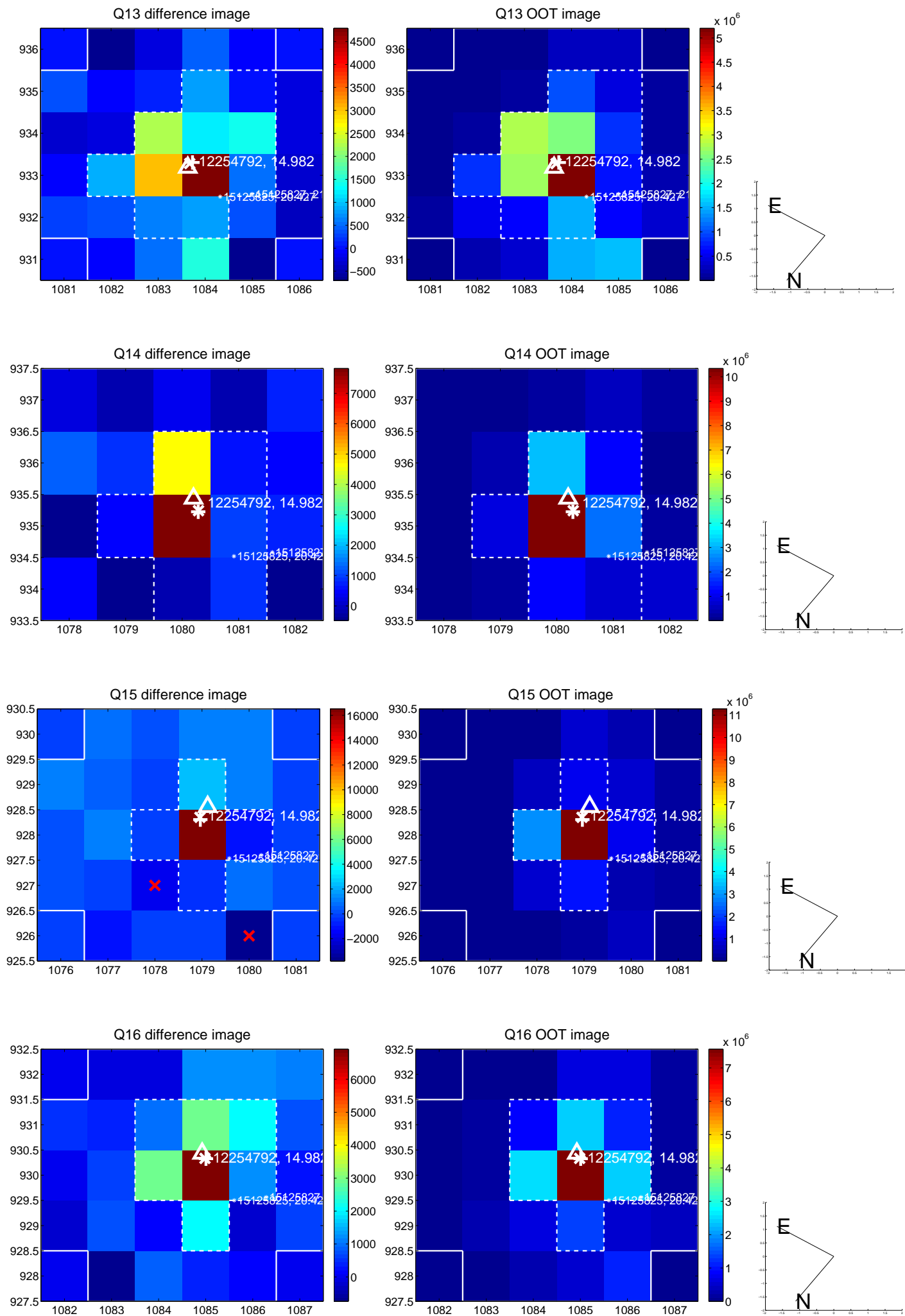
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



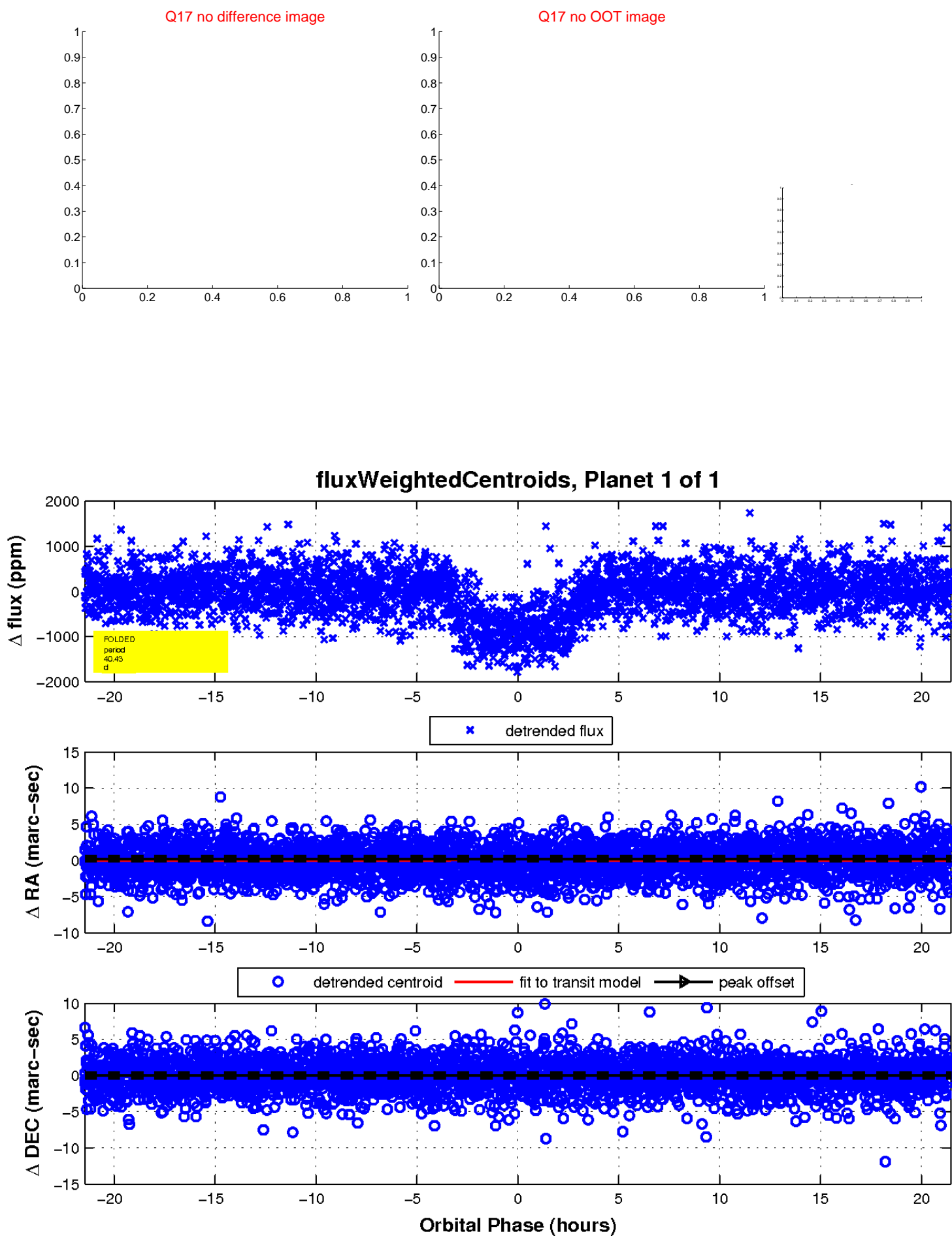
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

