

KIC 003531558

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})
003531558-01	OBS	0118.01	24.993268	138.680703	265.2	6.083	48.4	50.1	1.32	5718	2.45	60.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003531558-01	OBS	PC	0.91	0	0	0	0	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.

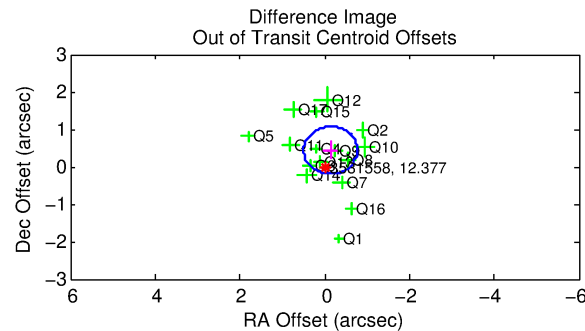
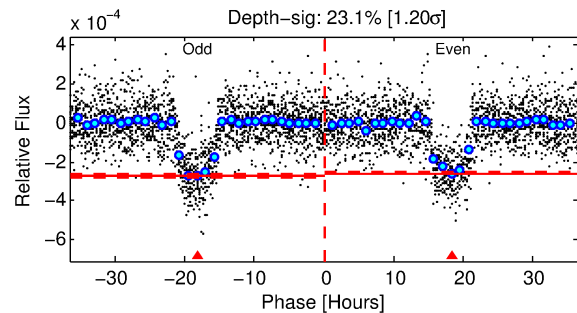
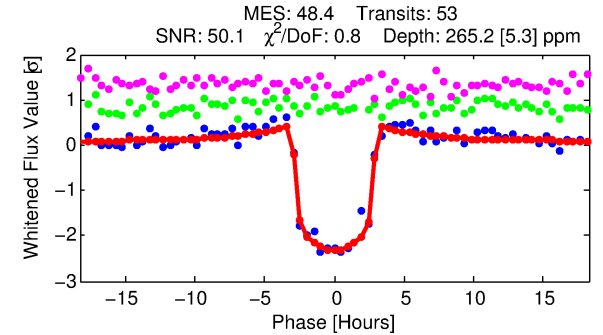
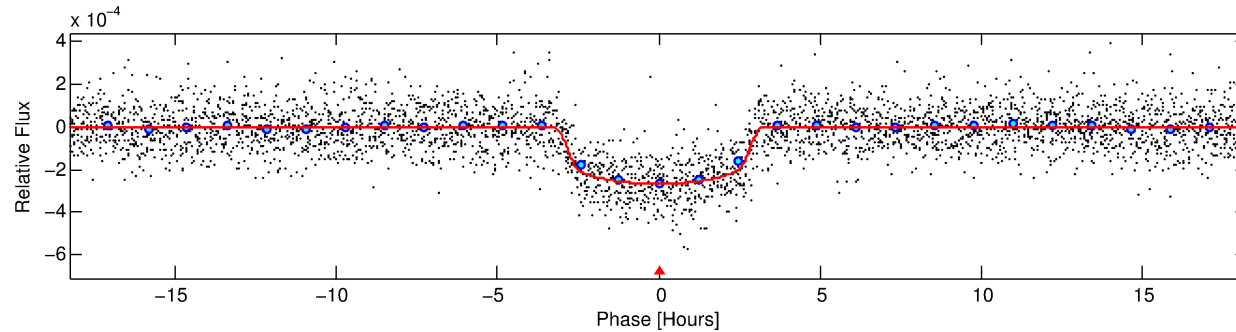
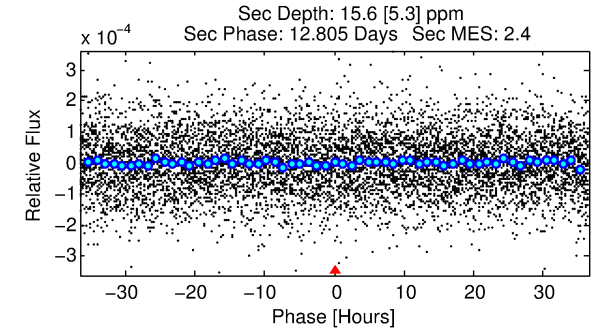
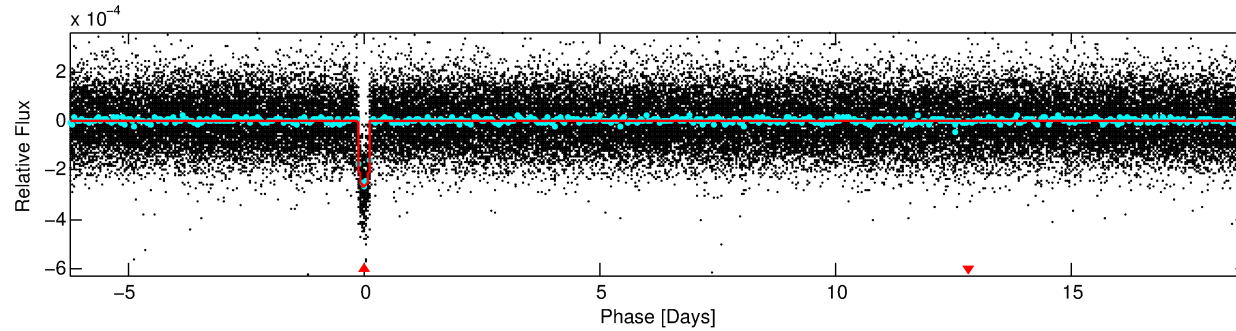
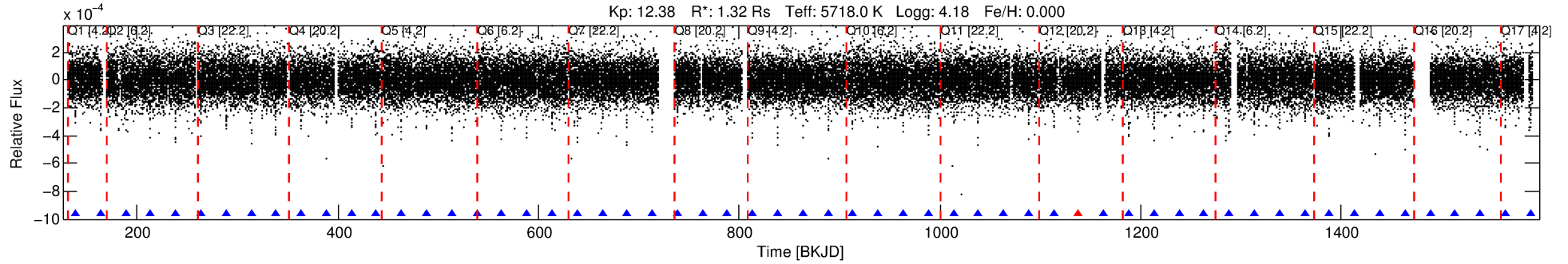
Ephemeris Match Information For 003531558-01

No Significant Match Found

DV One-Page Summary

KIC: 3531558 Candidate: 1 of 1 Period: 24.993 d

KOI: K00118.01 Corr: 0.986



DV Fit Results:

Period = 24.99327 [0.00006] d
Epoch = 138.6807 [0.0021] BKJD
Rp/R* = 0.0170 [0.0014]
a/R* = 17.62 [6.32]
b = 0.85 [0.12]
Seff = 60.98 [4.46]
Teq = 713 [13] K
Rp = 2.45 [0.23] Re
a = 0.1651 [0.0058] AU
Ag = 38.94 [14.76] [2.57σ]
Teffp = 2752 [262] K [7.76σ]

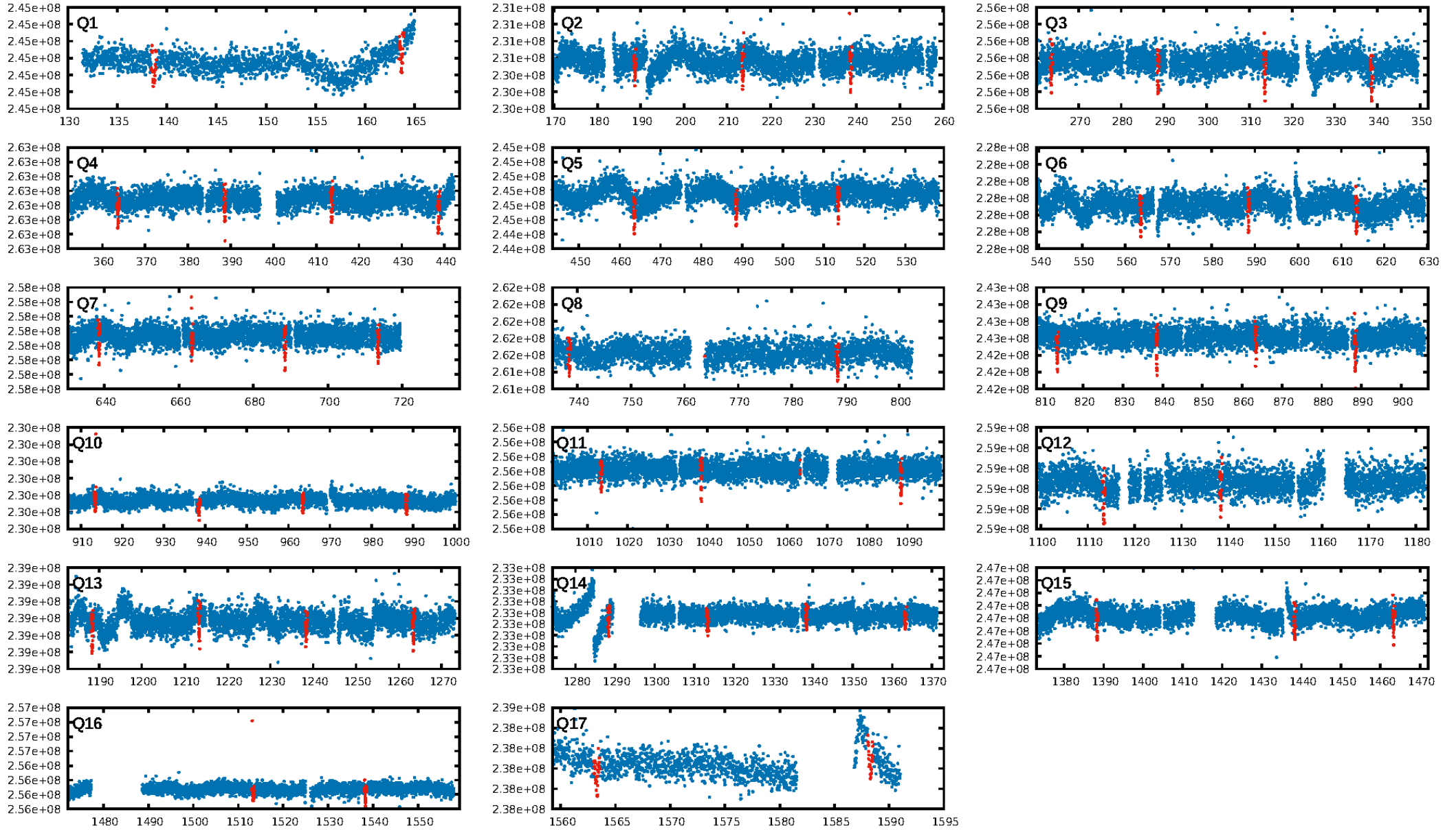
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 85.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [48/49]
GhostDiagnostic-chr: 6.15
Centroid-sig: 0.1%
Centroid-so: 0.455 arcsec [1.87σ]
OotOffset-rm: 0.458 arcsec [2.16σ]
KicOffset-rm: 0.812 arcsec [3.52σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

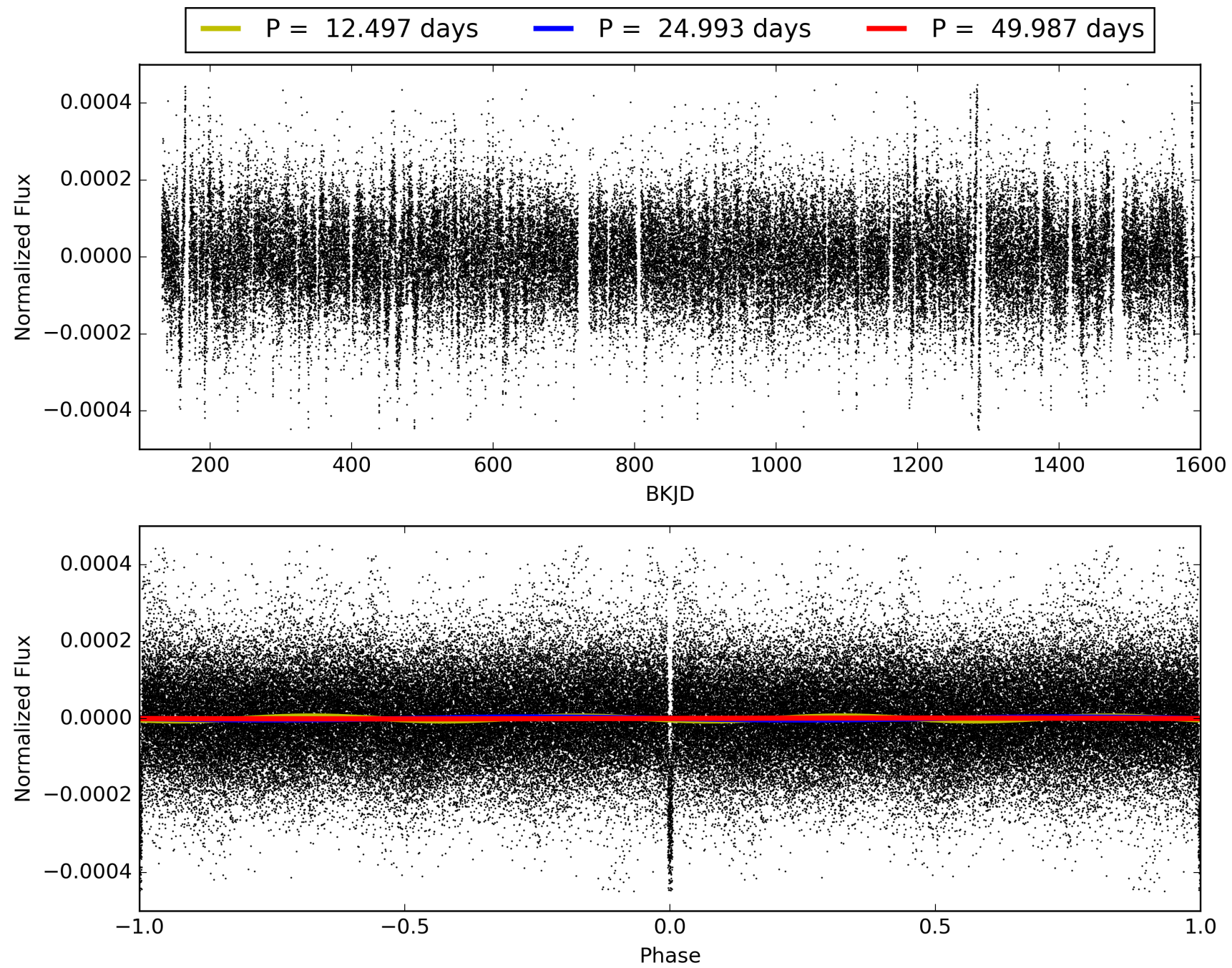
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:50:13 Z

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

TCE 003531558-01, PDC Light Curves

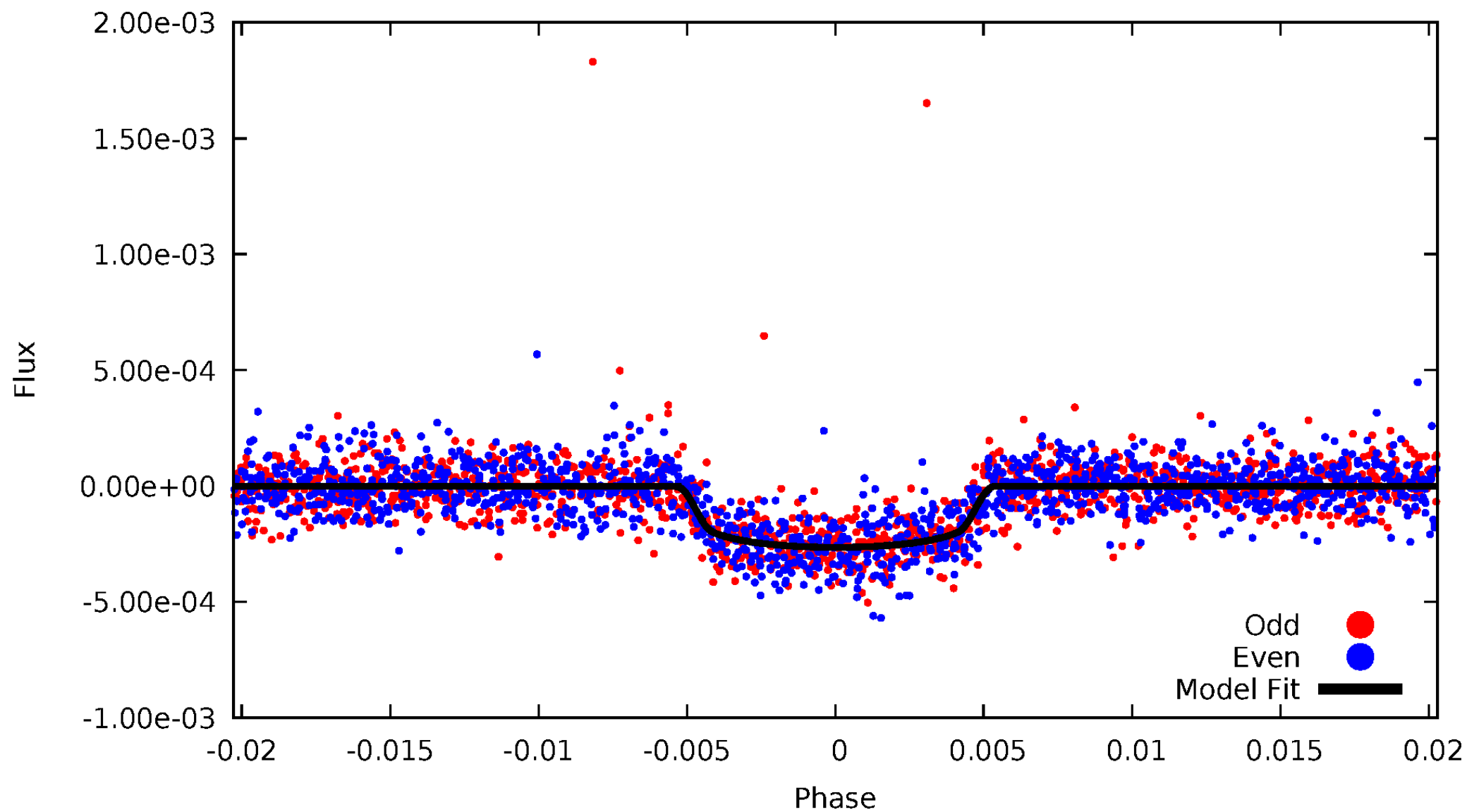


TCE 003531558-01



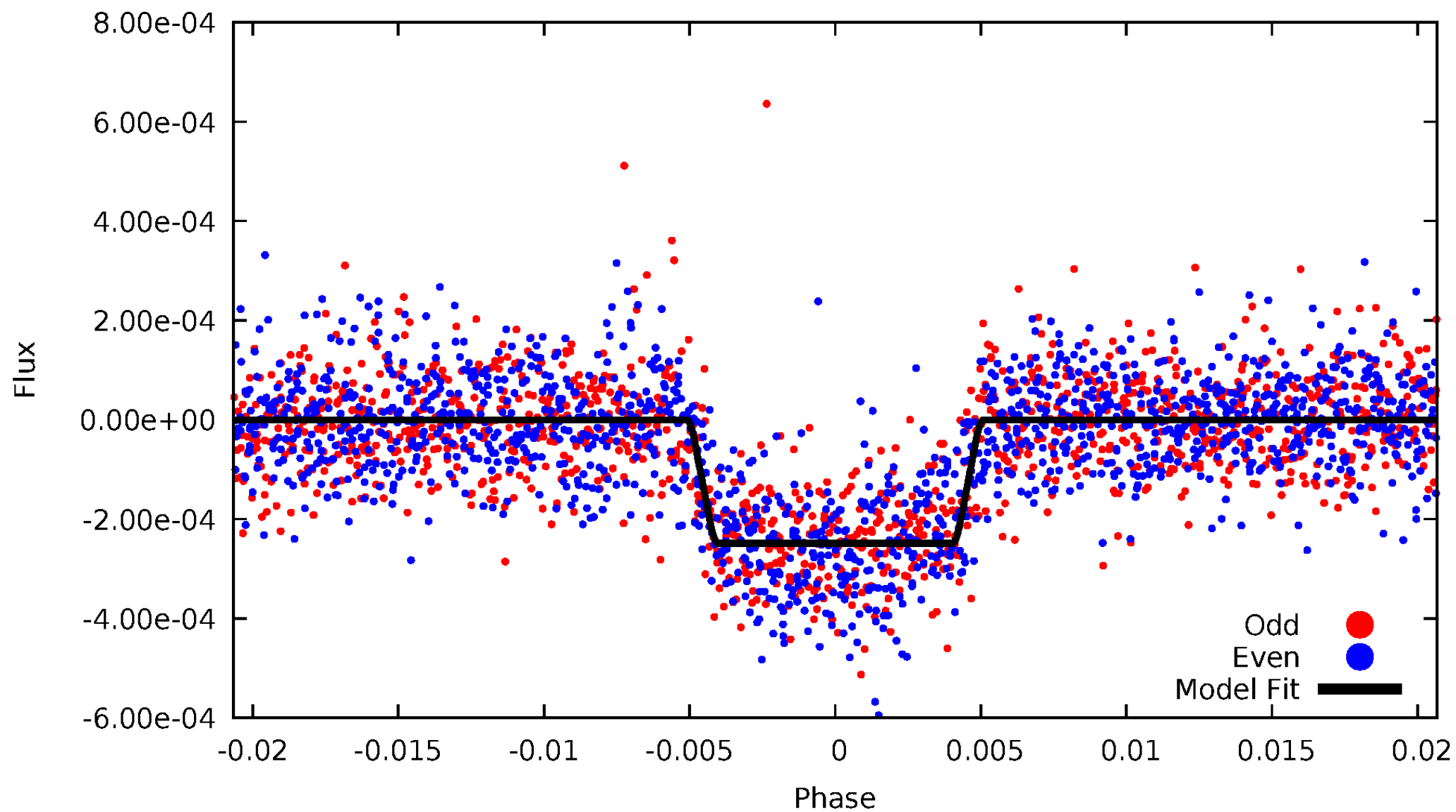
DV Odd/Even

TCE 003531558-01



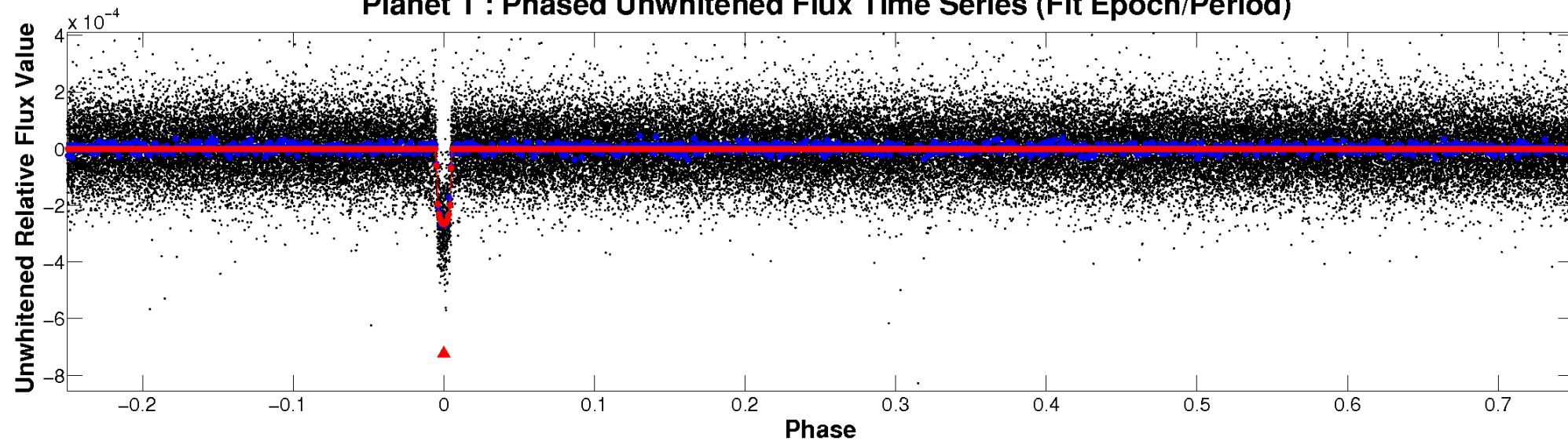
ALT Odd/Even

TCE 003531558-01

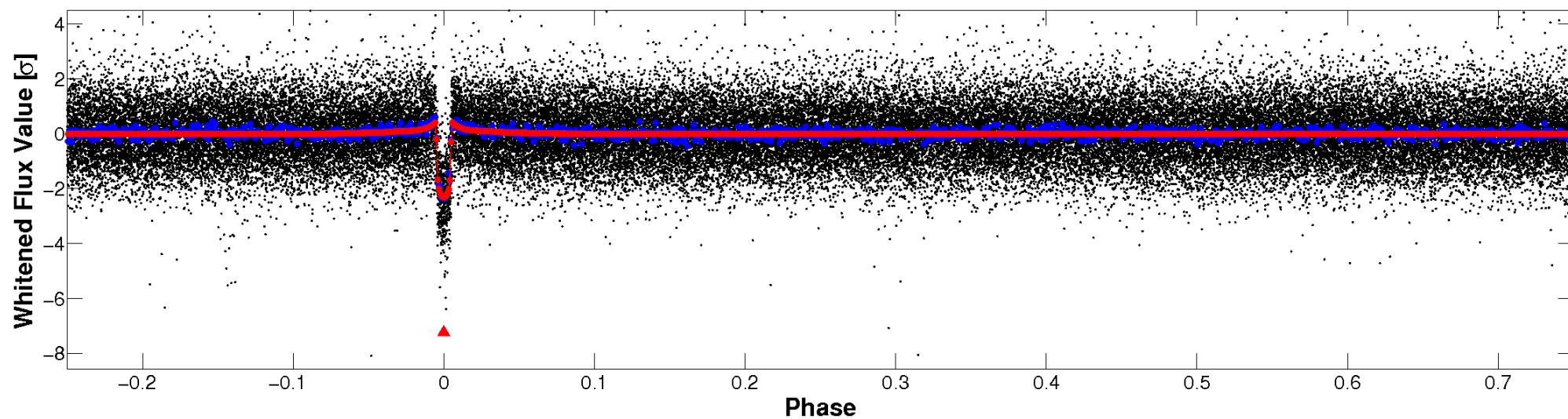


Non-Whitened Vs. Whitened Light Curve

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

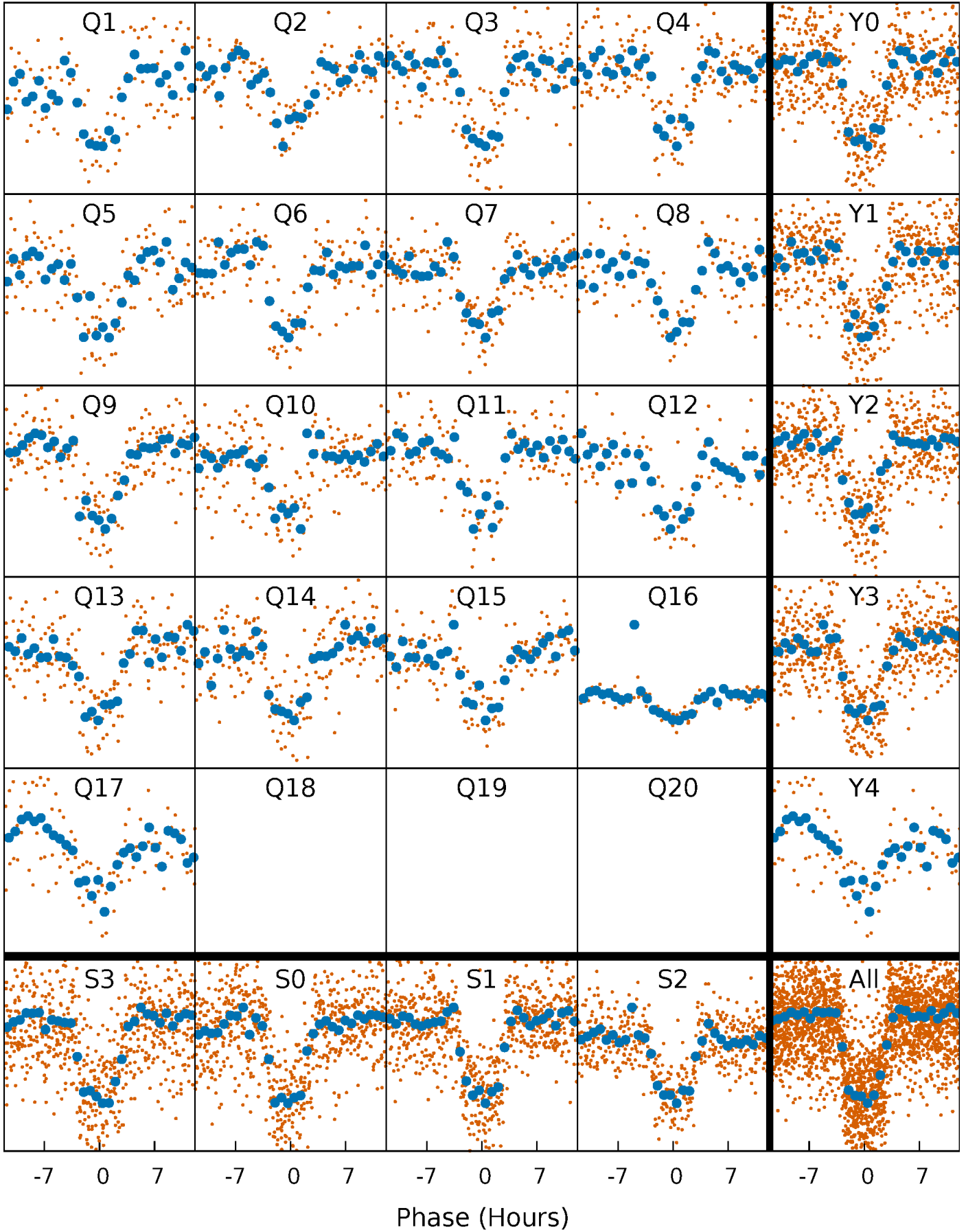


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



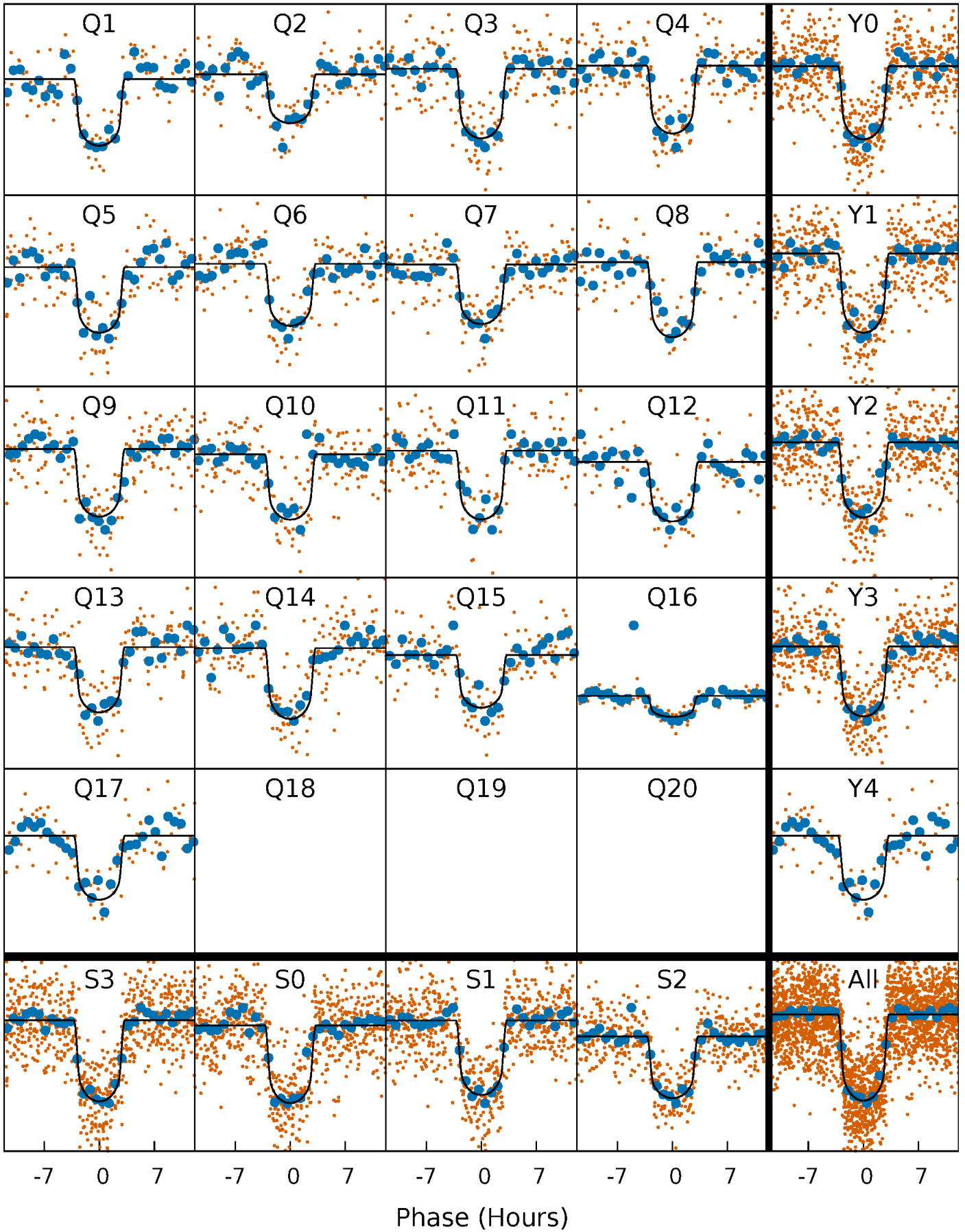
PDC Quarter-Phased Transit Curves

TCE 003531558-01 P= 24.993268 Days $T_0=138.680703$ (BKJD)



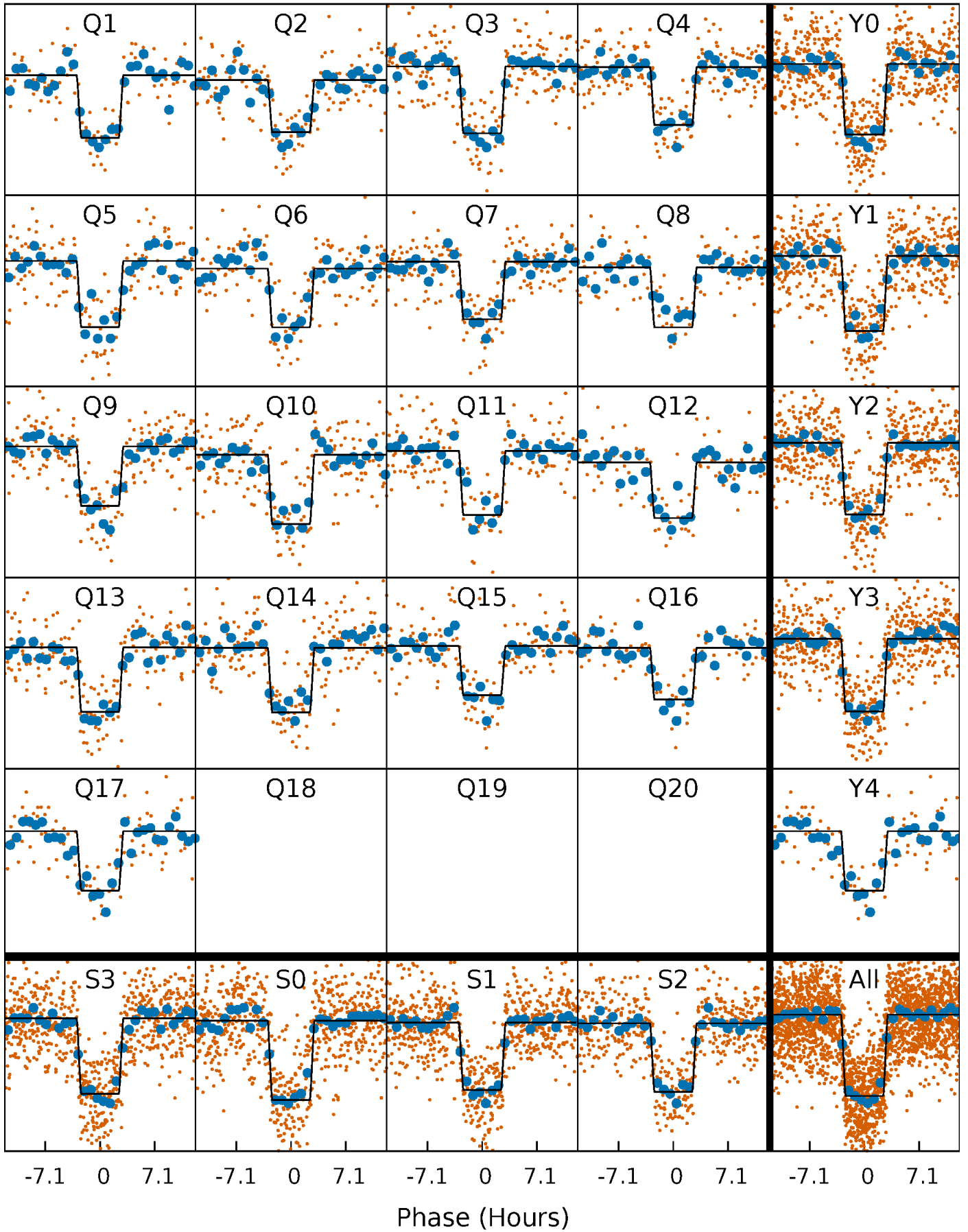
DV Quarter-Phased Transit Curves

TCE 003531558-01 P= 24.993268 Days $T_0=138.680703$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

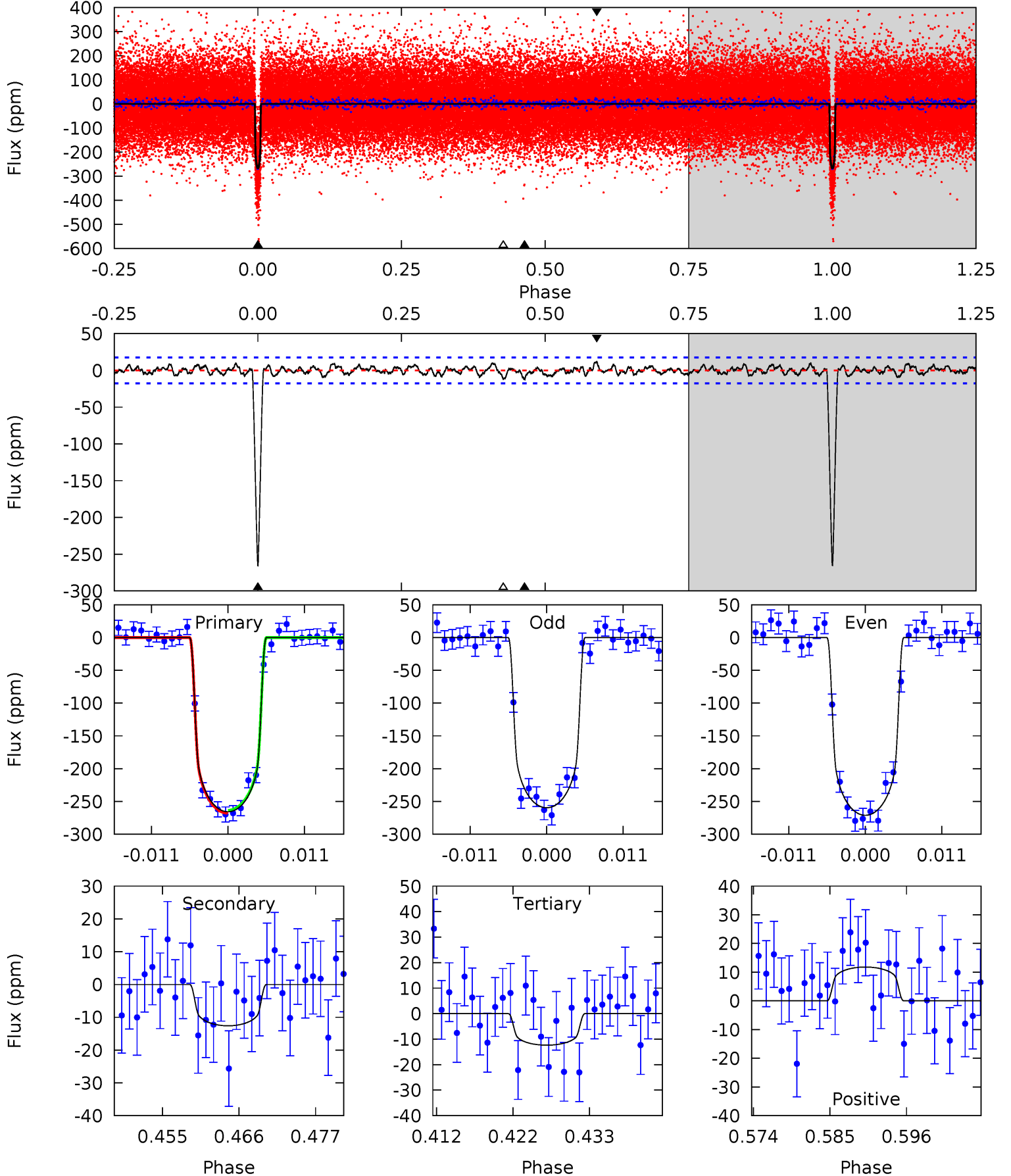
TCE 003531558-01 P= 24.993437 Days $T_0=138.676711$ (BKJD)



DV Model-Shift Uniqueness Test

003531558-01, P = 24.993268 Days, E = 113.687435 Days

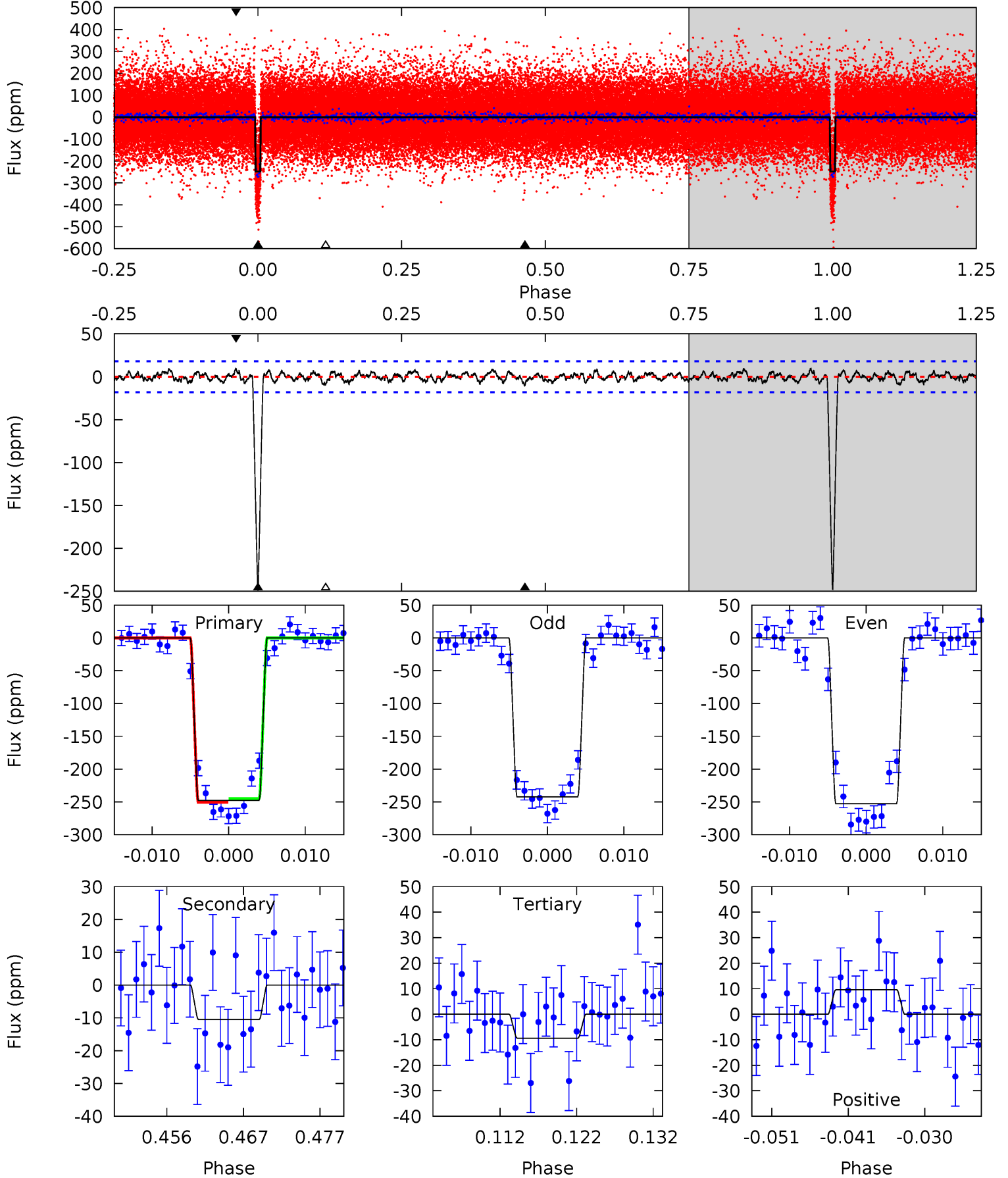
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.6	3.58	3.52	3.35	5.01	2.55	1.16	72.1	72.2	0.07	0.23	1.63	0.99	0.04	0.63



Alt Model-Shift Uniqueness Test

003531558-01, P = 24.993437 Days, E = 113.683274 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
68.7	2.90	2.60	2.65	5.02	2.57	0.99	66.1	66.0	0.30	0.25	1.45	0.99	0.04	0.79



Stellar Parameters For KIC 003531558

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5718^{+85}_{-77}	$4.181^{+0.018}_{-0.016}$	$0.000^{+0.150}_{-0.150}$	$1.317^{+0.064}_{-0.048}$	$0.961^{+0.082}_{-0.055}$	$0.592^{+0.042}_{-0.039}$
	+1%/-1%	+0%/-0%	+inf%/-inf%	+5%/-4%	+9%/-6%	+7%/-7%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 003531558-01 / KOI 0118.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 4	$2.46^{+0.22}_{-0.20}$	996^{+17}_{-15}	3189^{+154}_{-155}	31^{+11}_{-9}
Alt.	-10 ± 4	$2.27^{+0.20}_{-0.21}$	995^{+18}_{-15}	3183^{+175}_{-209}	30^{+13}_{-11}

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

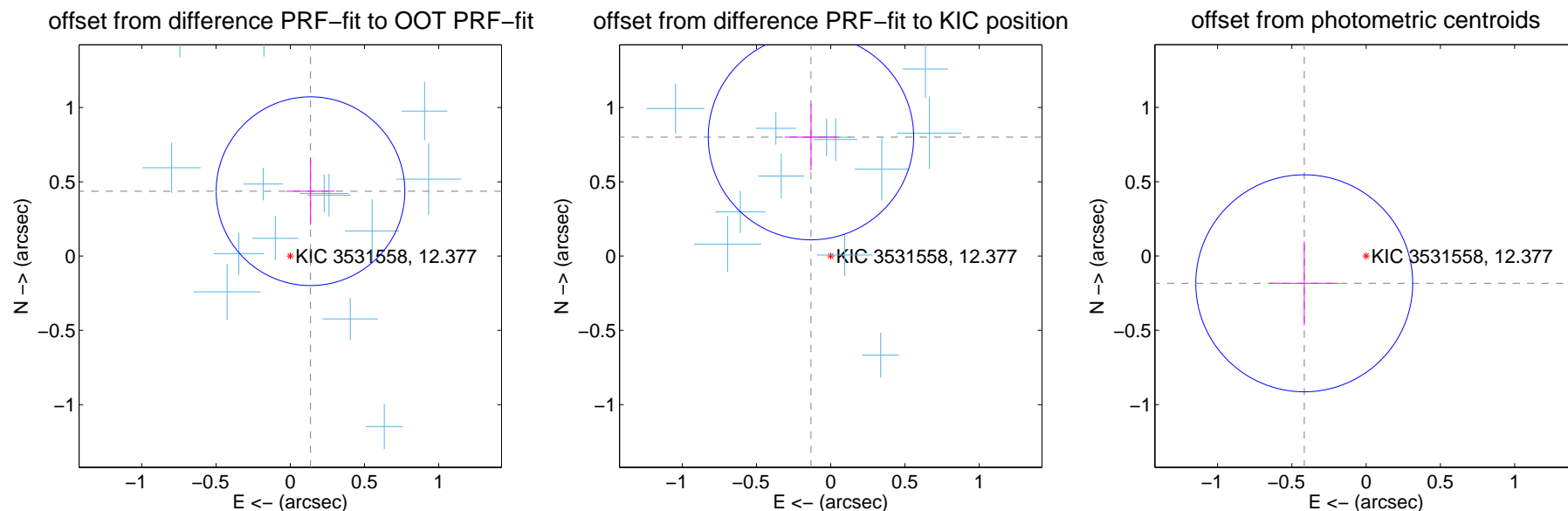
DV Centroid Data

Supplemental centroid analysis for 003531558-01. Kepler magnitude: 12.38. Transit SNR 50.07

There are 16 quarters with good PRF difference image offsets

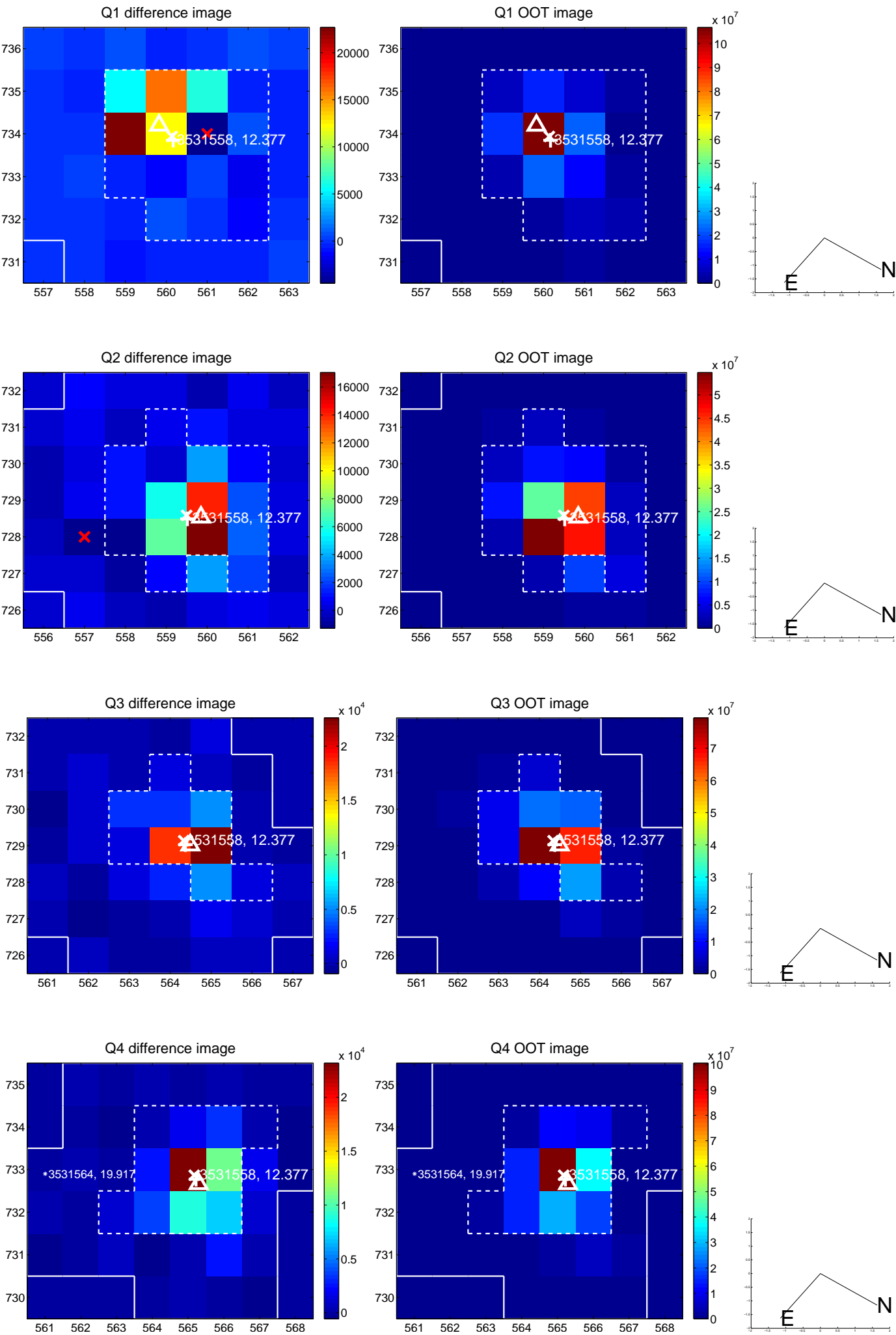
The direct PRF centroid is offset from the target star catalog position by about 0.54 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.458 ± 0.212	2.16	-0.136 ± 0.162	0.437 ± 0.227
PRF-fit source offset from KIC position	0.812 ± 0.231	3.52	0.133 ± 0.176	0.801 ± 0.225
photometric centroid source offset	0.46 ± 0.24	1.87	0.42 ± 0.24	-0.18 ± 0.28

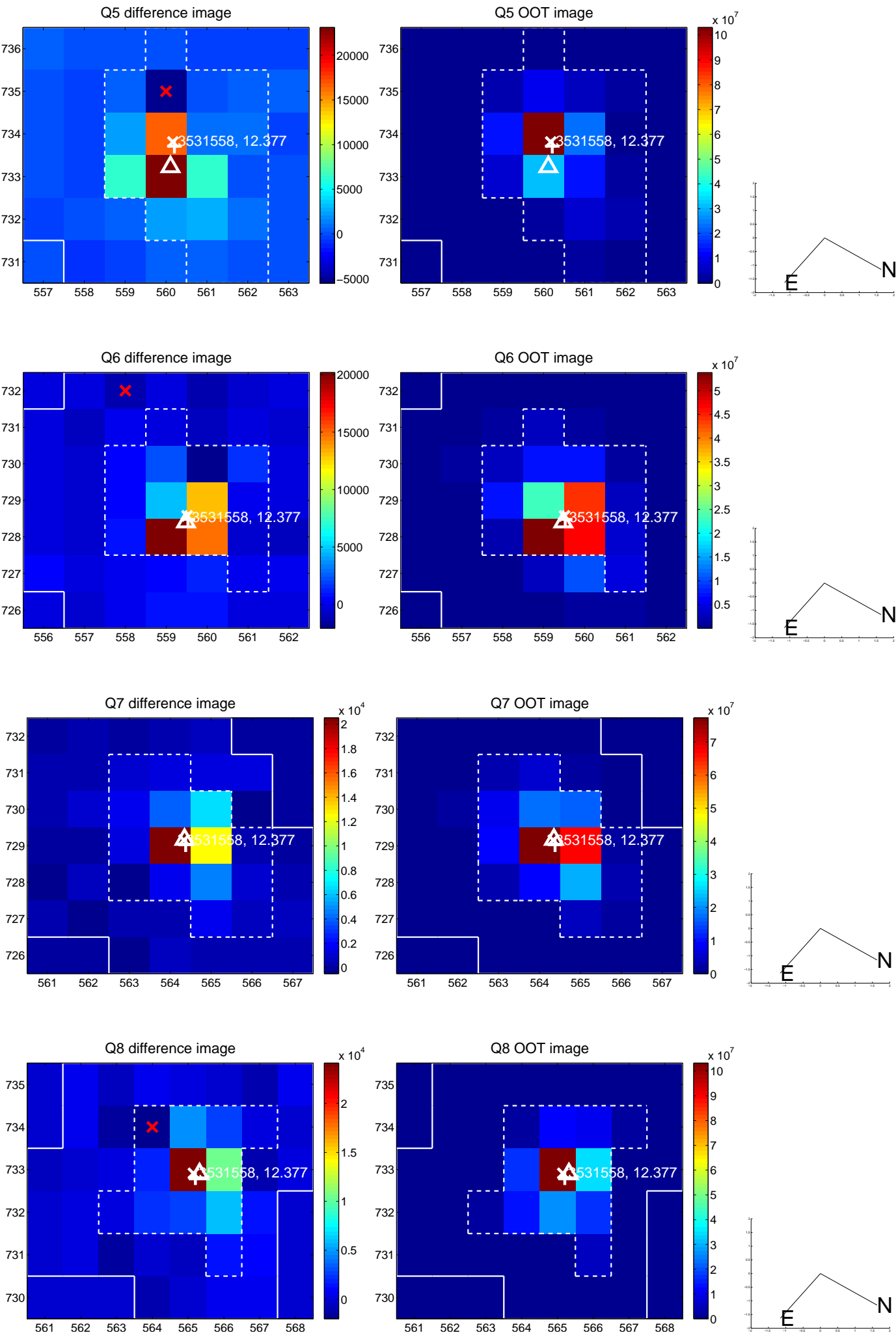


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

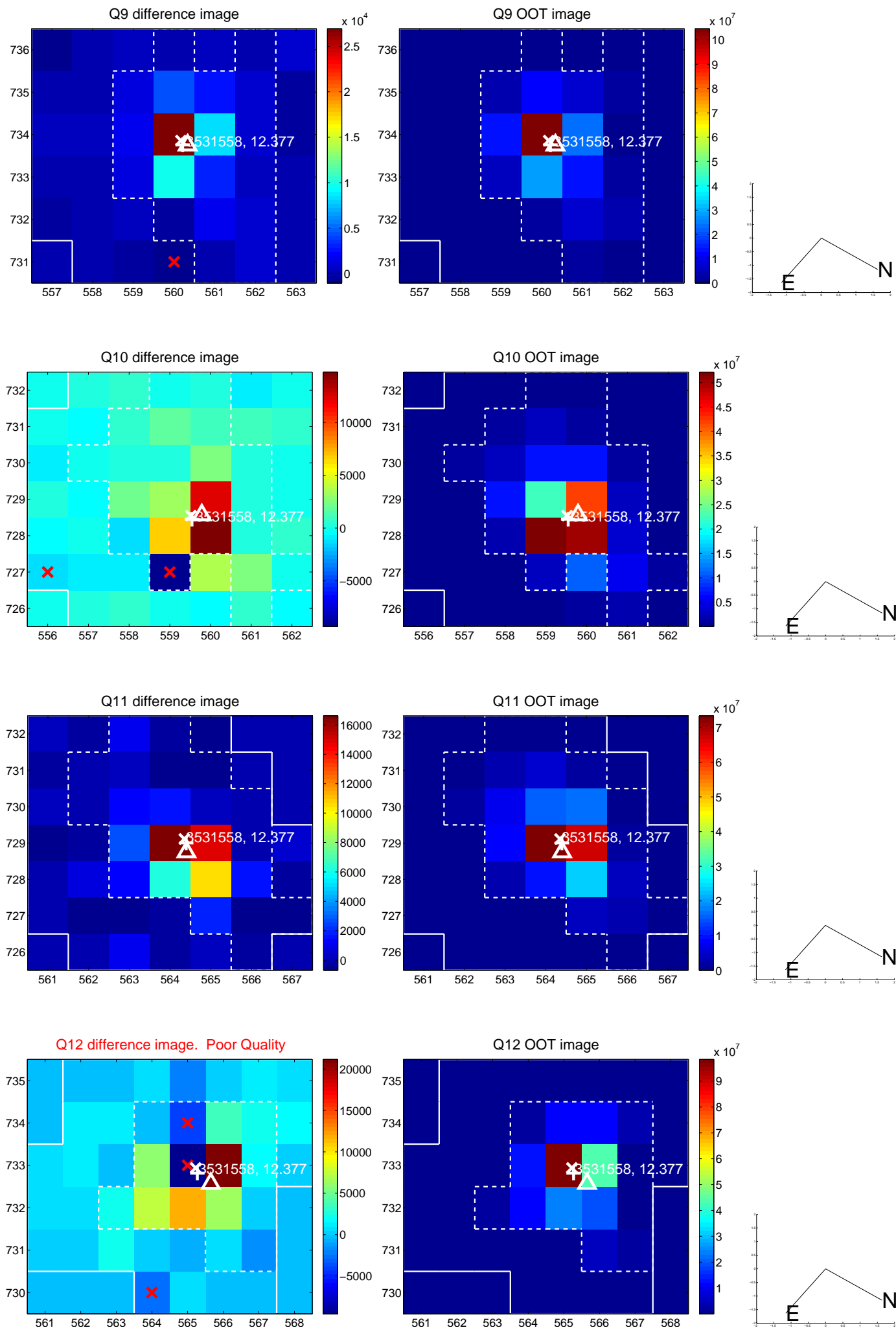
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



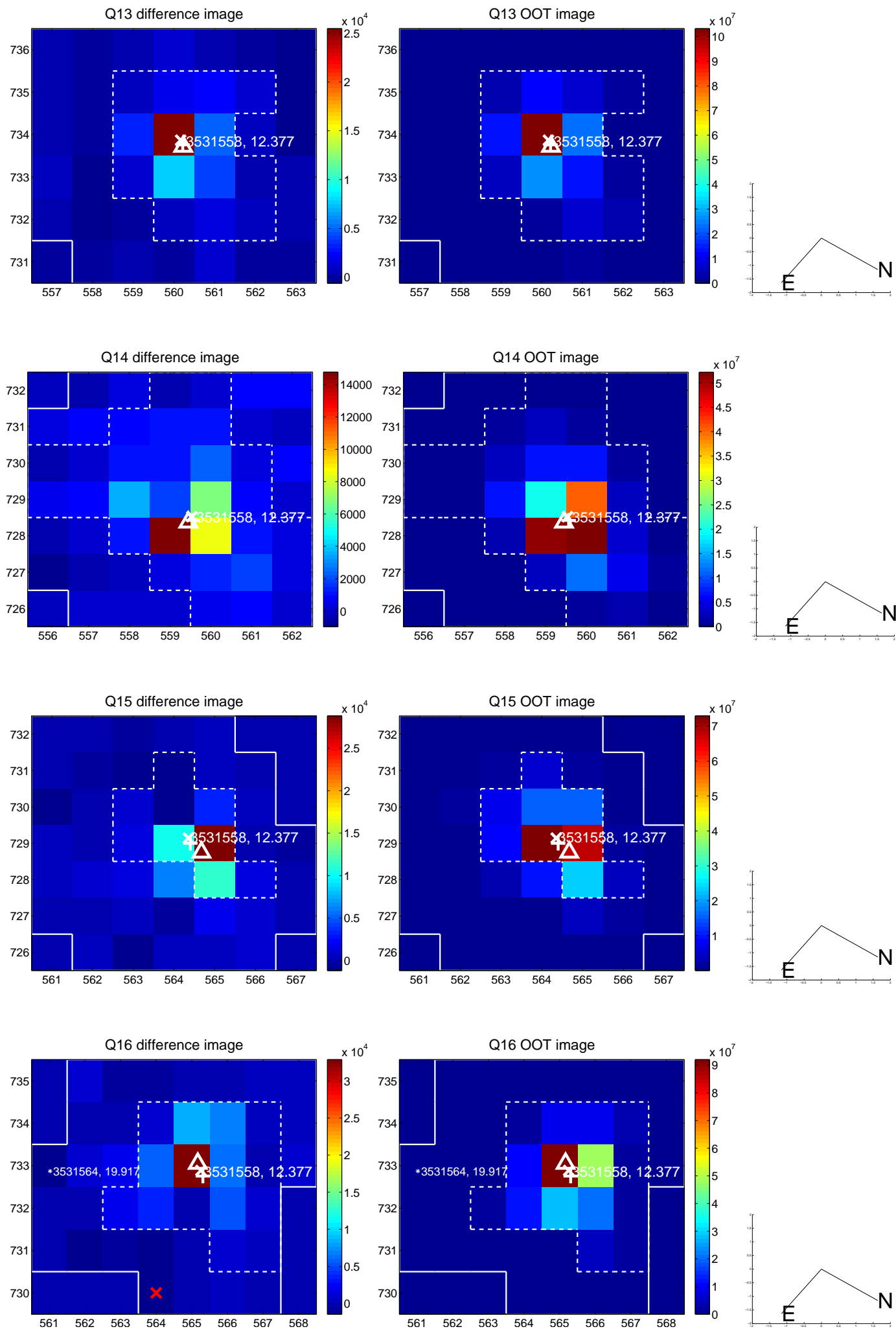
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



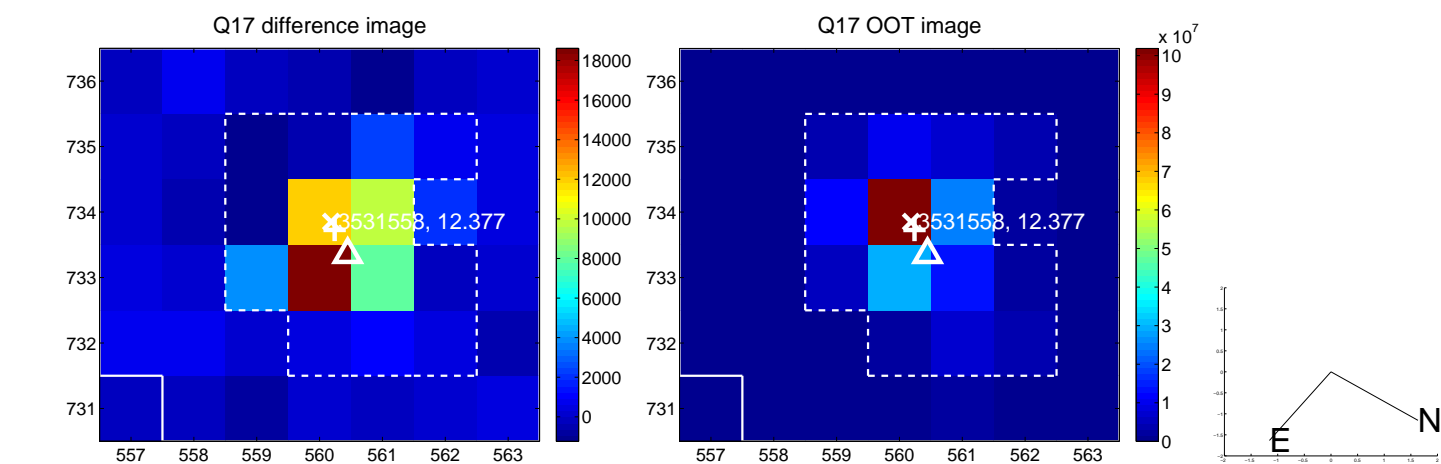
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



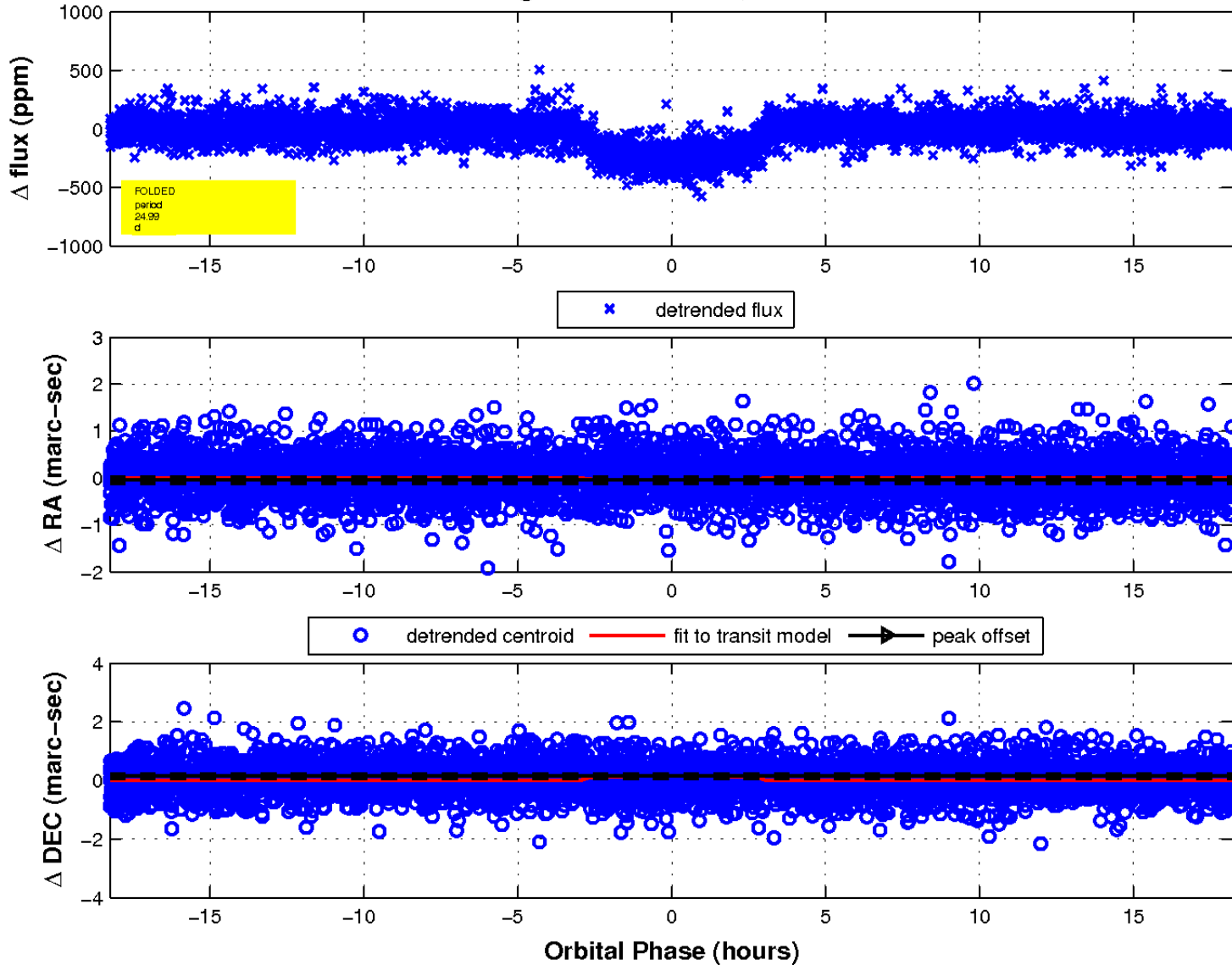
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

