

KIC 008456151

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})
008456151-01	OBS	No	1.386436	132.355054	106.4	10.816	7.8	6.0	1.69	6522	1.77	8038.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008456151-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

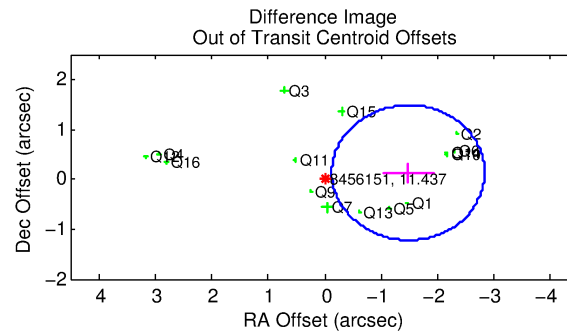
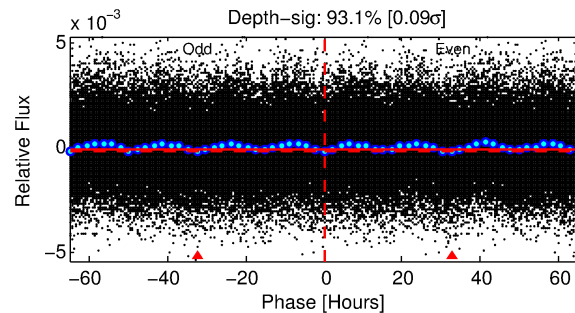
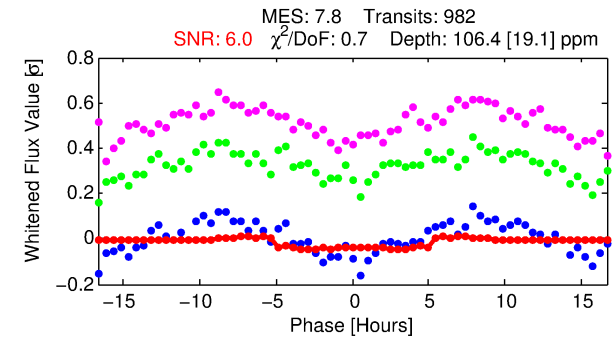
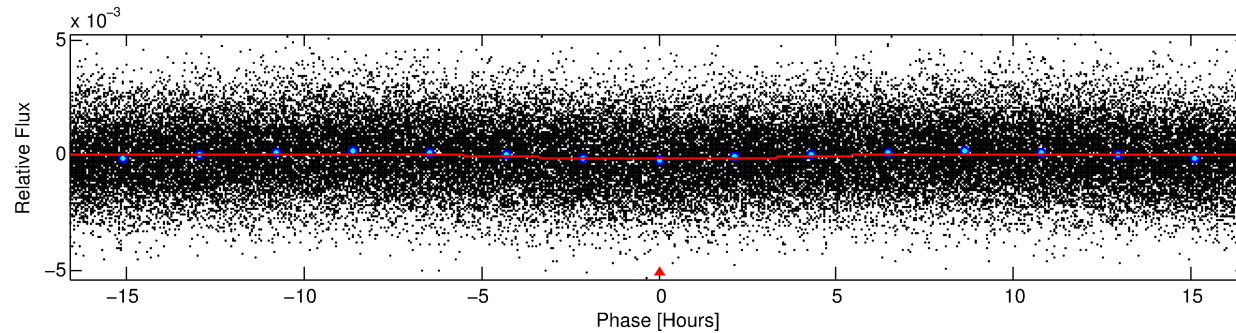
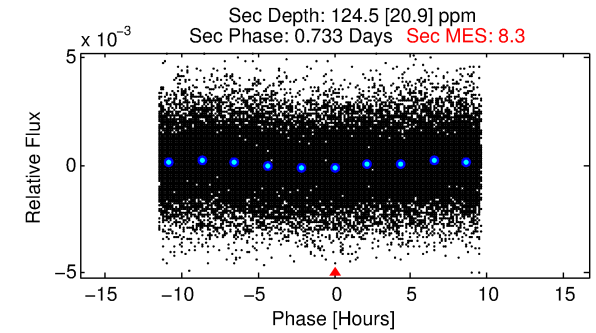
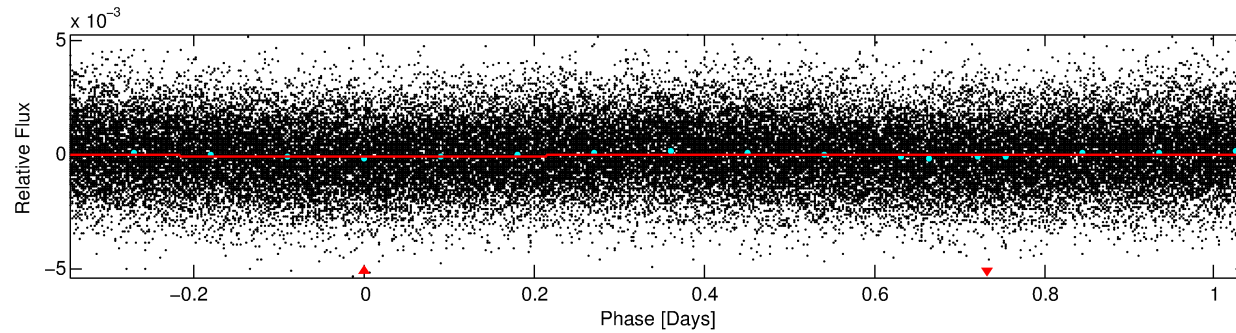
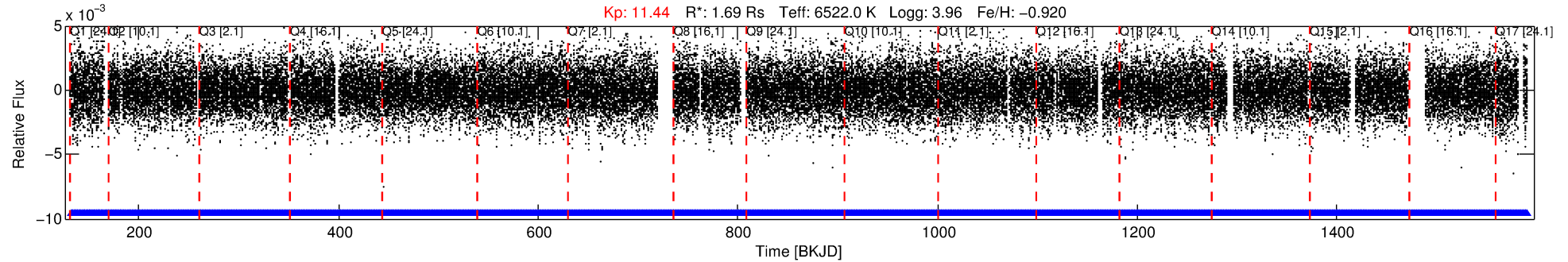
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008456151-01

No Significant Match Found

DV One-Page Summary

KIC: 8456151 Candidate: 1 of 1 Period: 1.386 d



DV Fit Results:

Period = 1.38644 [0.00003] d
Epoch = 132.3551 [0.0063] BKJD
Rp/R* = 0.0096 [0.0082]
a/R* = 1.17 [1.50]
b = 0.25 [17.81]
Seff = 8038.22 [6169.02]
Teq = 2414 [463] K
Rp = 1.77 [1.69] Re
a = 0.0241 [0.0107] AU
Ag = 12.68 [23.96] [0.49σ]
Teffp = 7044 [3061] K [1.50σ]

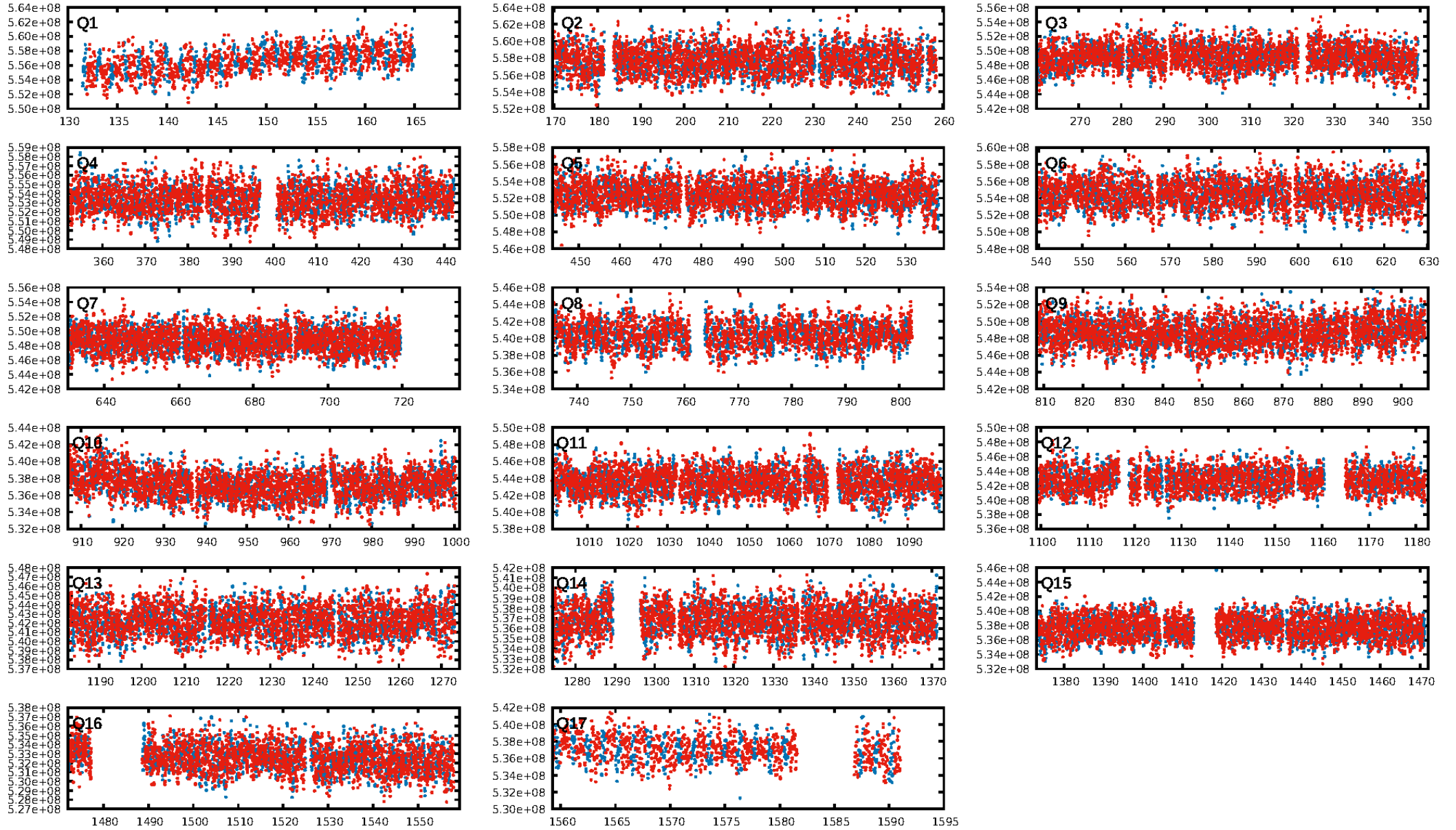
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.88e-01
RollingBand-fgt: 1.00 [938/938]
GhostDiagnostic-chr: 1.348
Centroid-sig: 15.3%
Centroid-so: 0.242 arcsec [2.94σ]
OotOffset-rm: 1.484 arcsec [3.30σ]
KicOffset-rm: 1.504 arcsec [3.26σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [17/17]

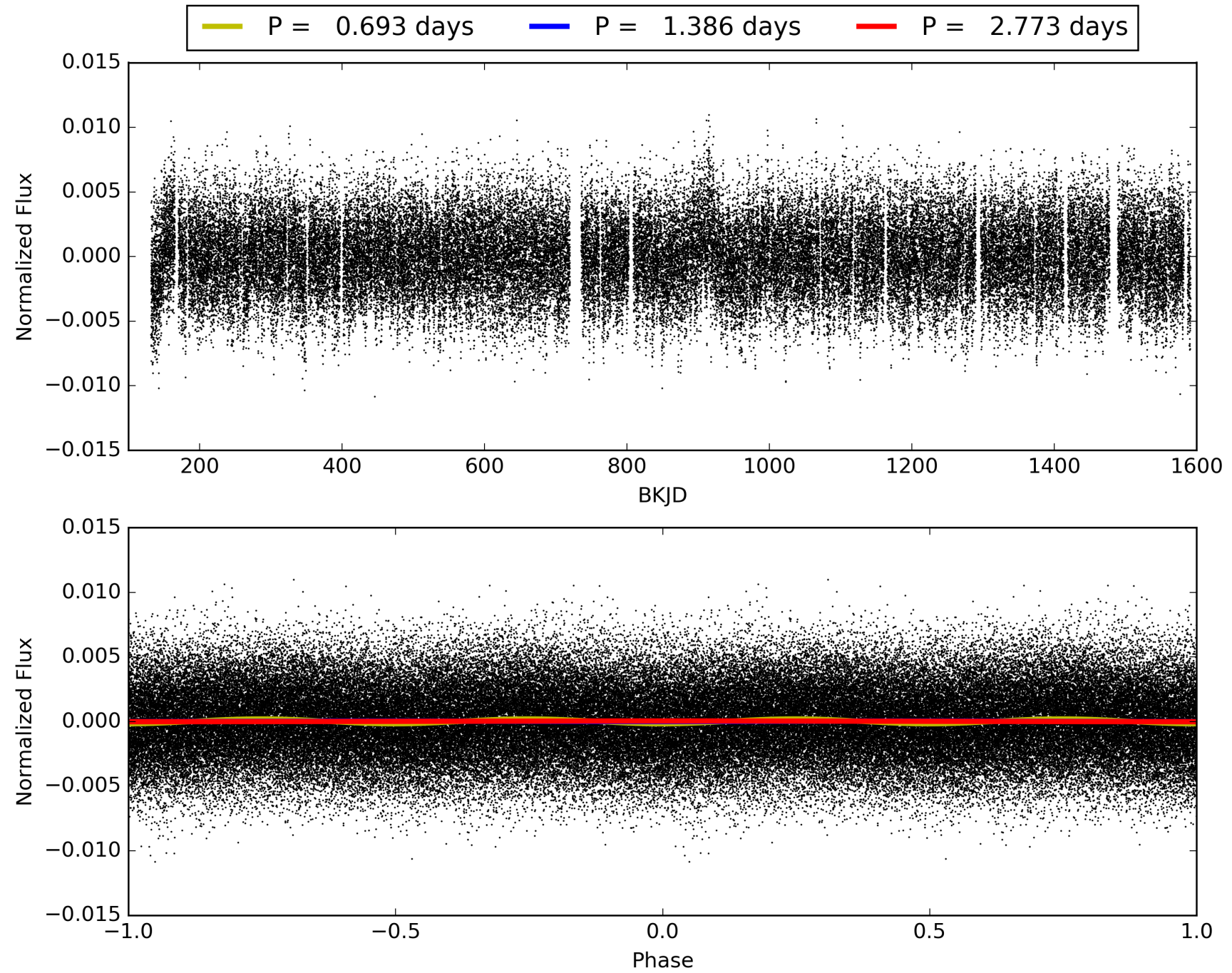
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:00:17 Z

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

TCE 008456151-01, PDC Light Curves

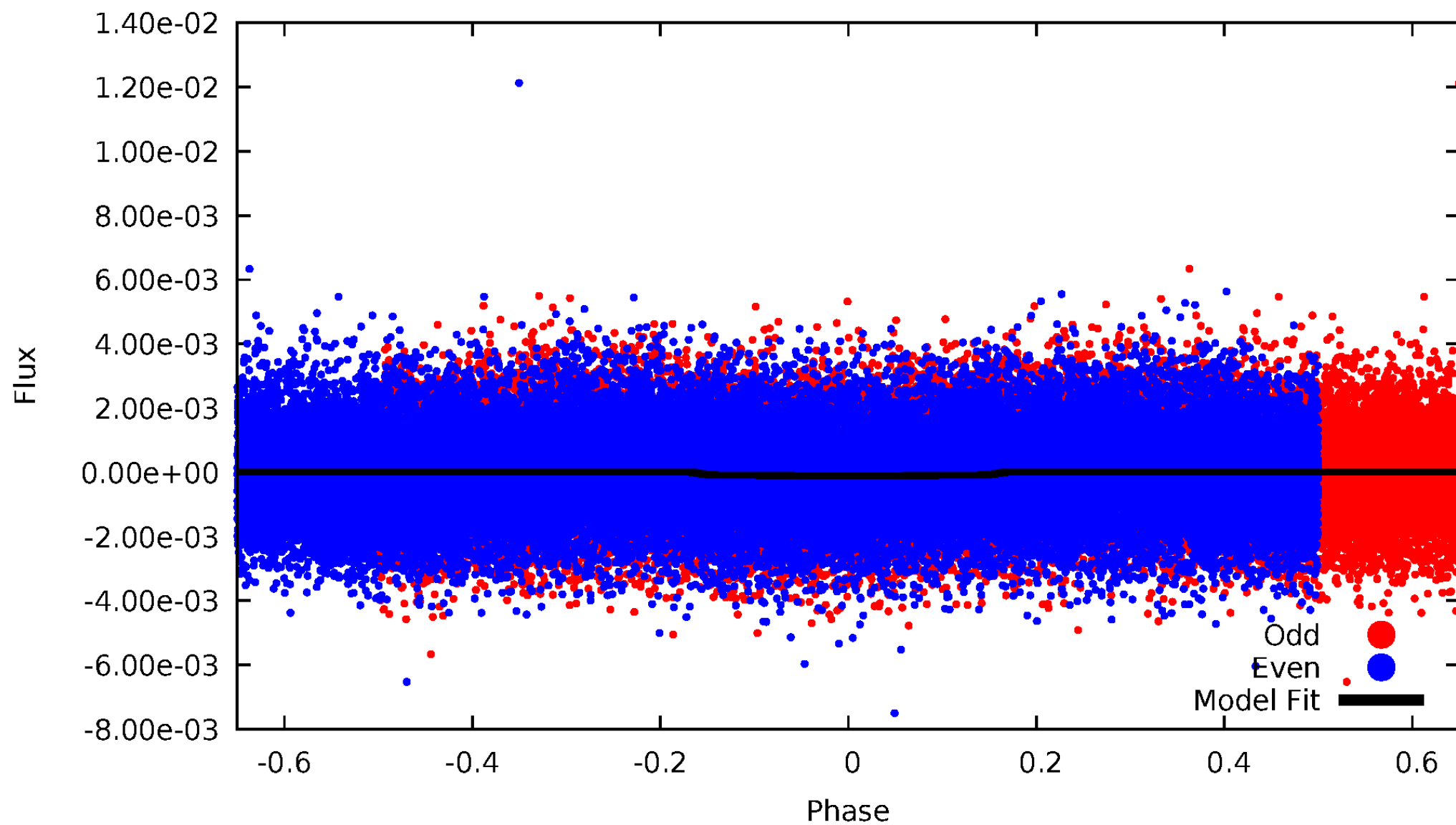


TCE 008456151-01



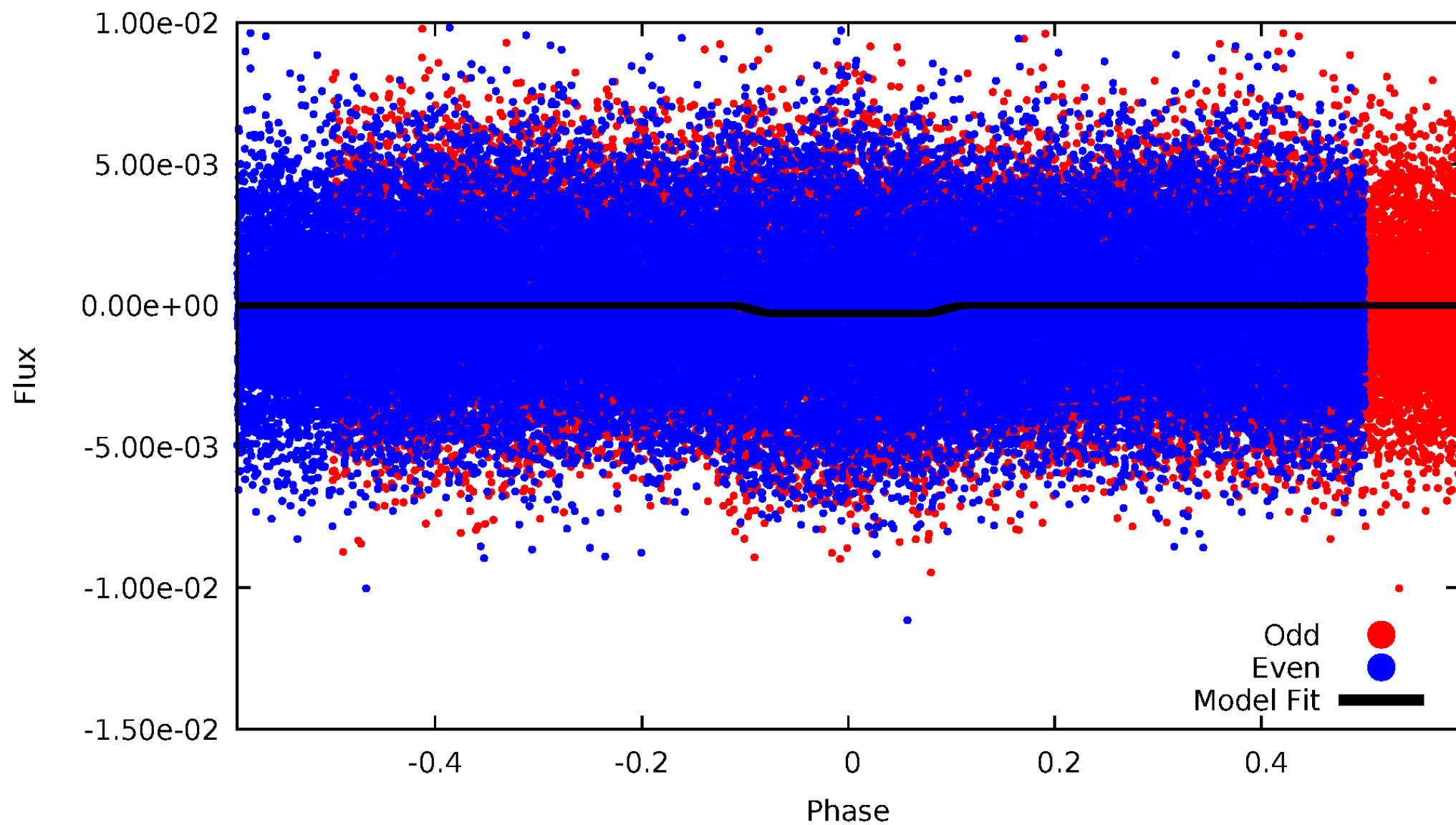
DV Odd/Even

TCE 008456151-01



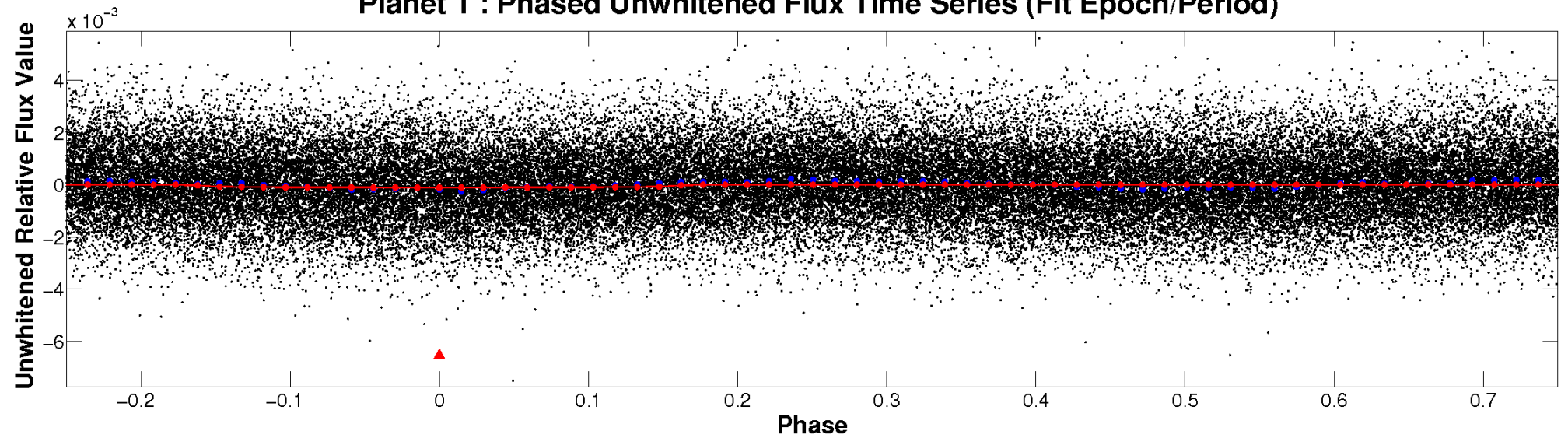
ALT Odd/Even

TCE 008456151-01

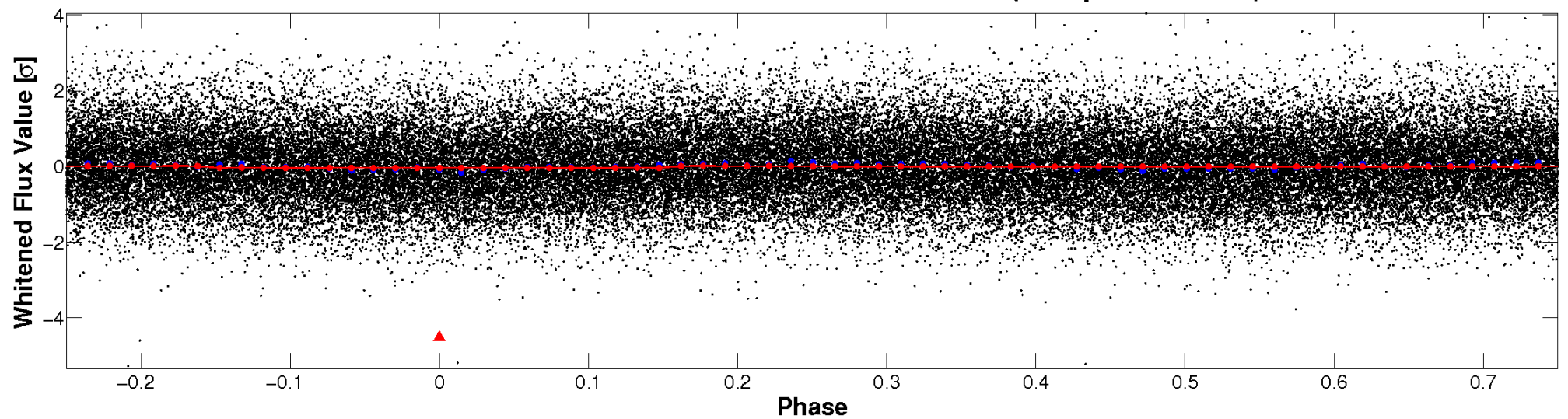


Non-Whitened Vs. Whitened Light Curve

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

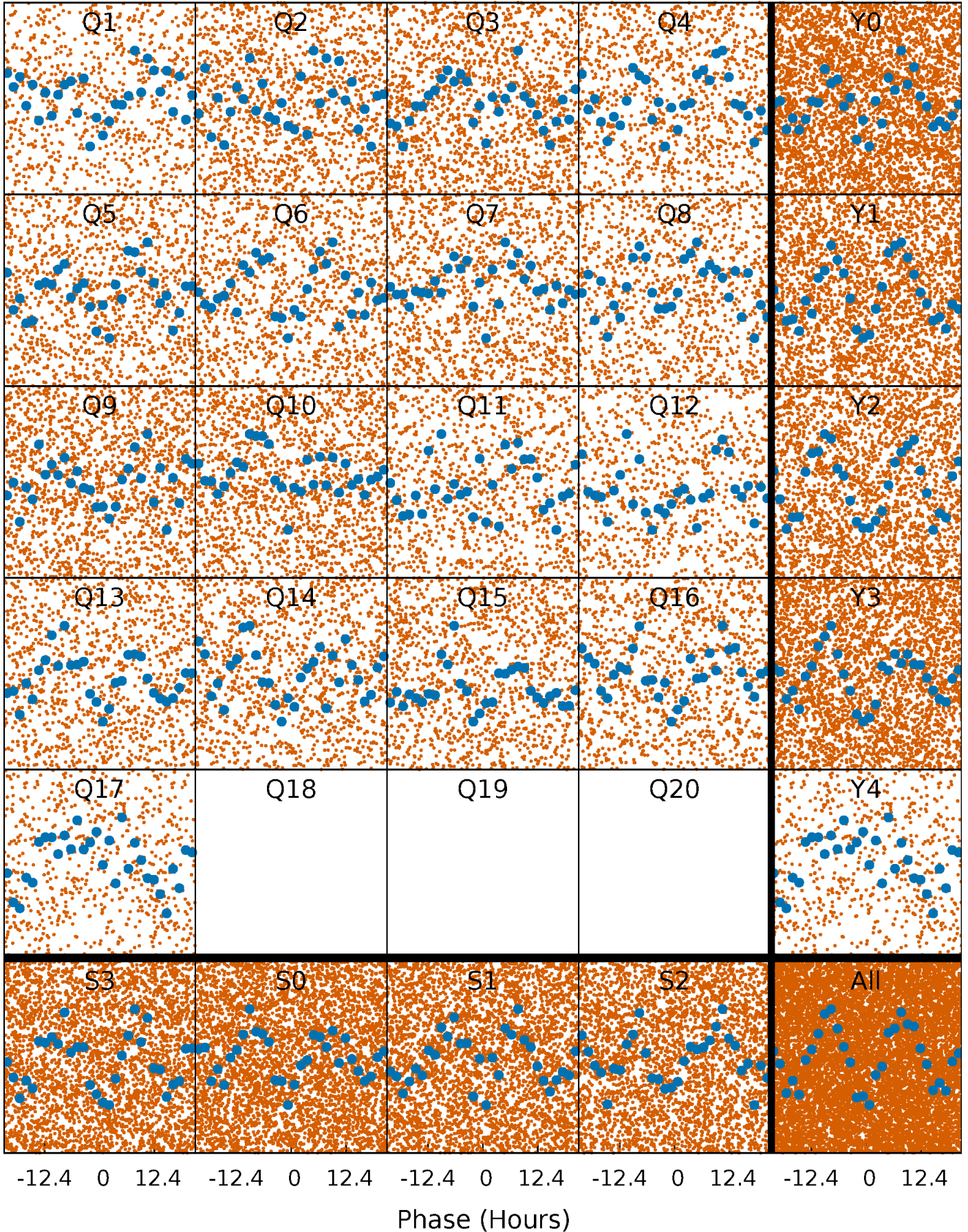


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



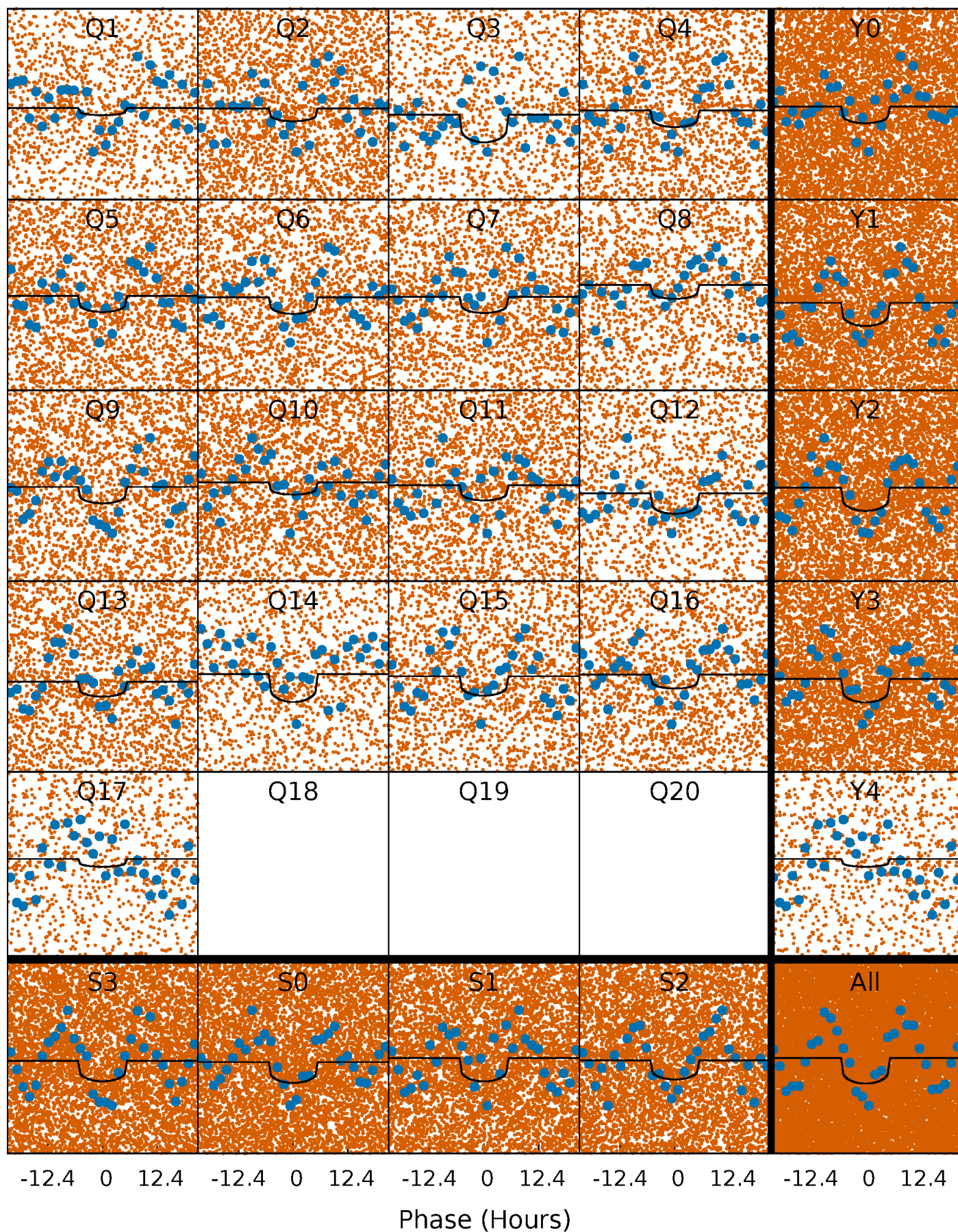
PDC Quarter-Phased Transit Curves

TCE 008456151-01 P= 1.386436 Days $T_0=132.355054$ (BKJD)



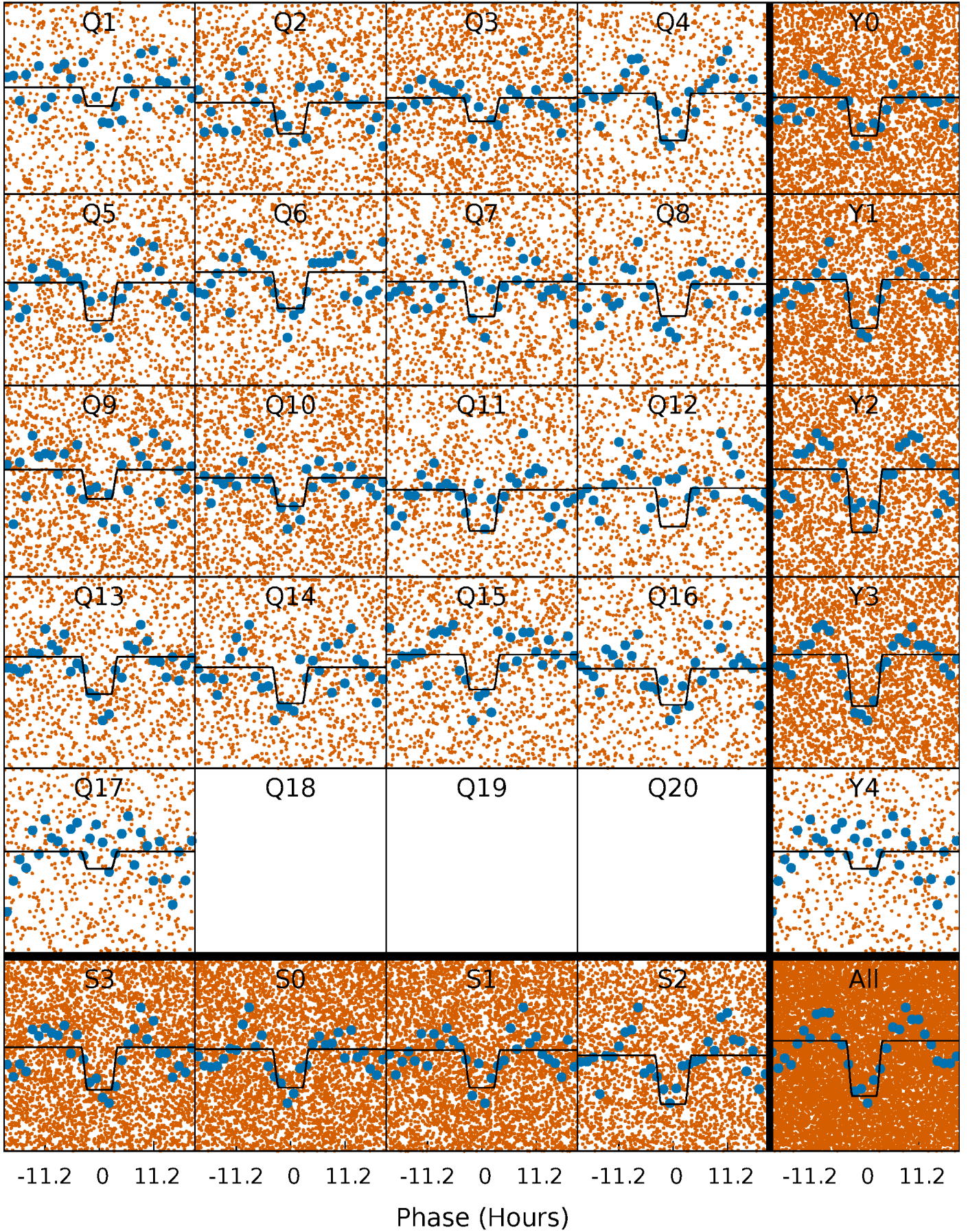
DV Quarter-Phased Transit Curves

TCE 008456151-01 P= 1.386436 Days $T_0=132.355054$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

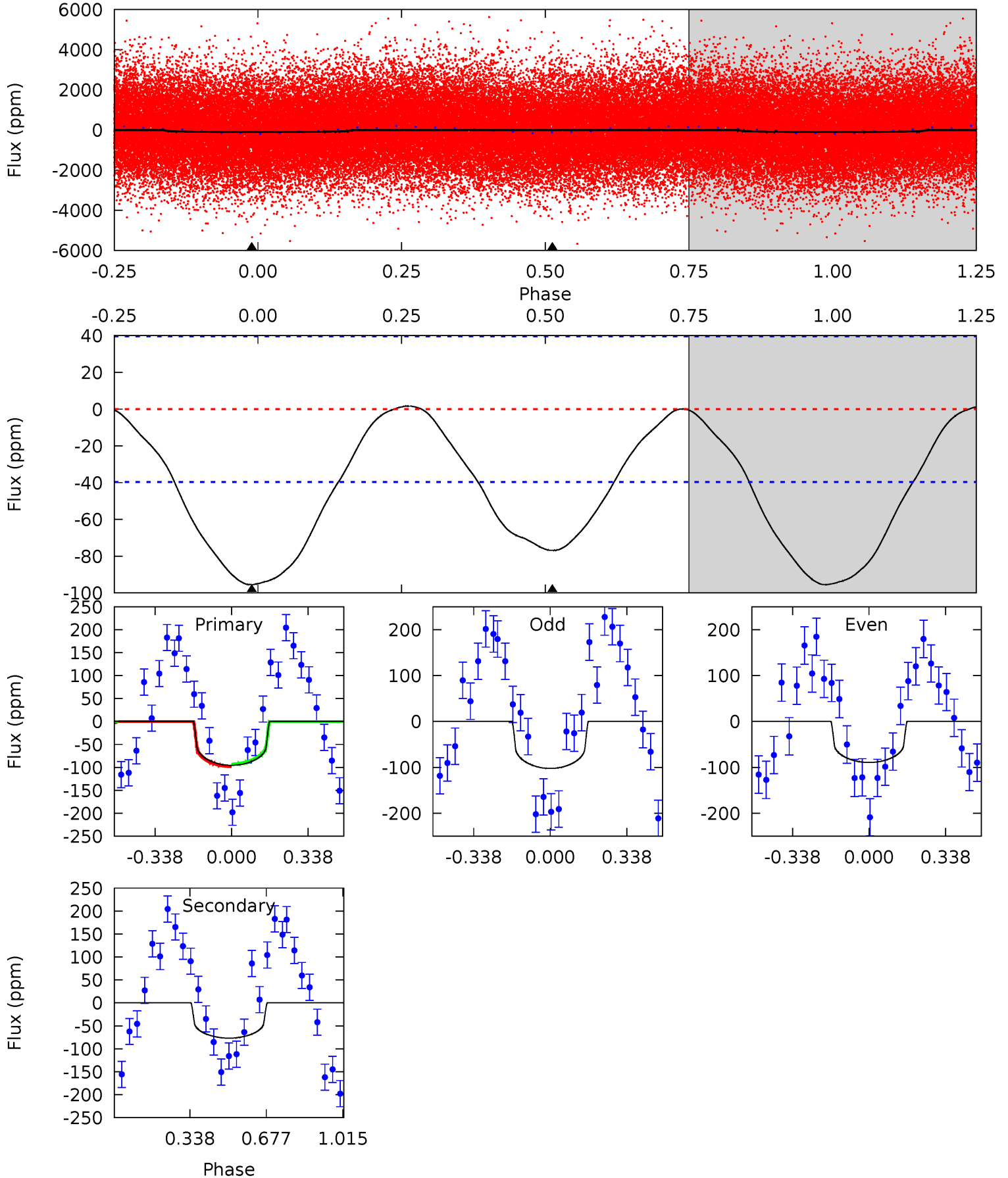
TCE 008456151-01 P= 1.386444 Days $T_0=132.342049$ (BKJD)



DV Model-Shift Uniqueness Test

008456151-01, P = 1.386436 Days, E = 130.968618 Days

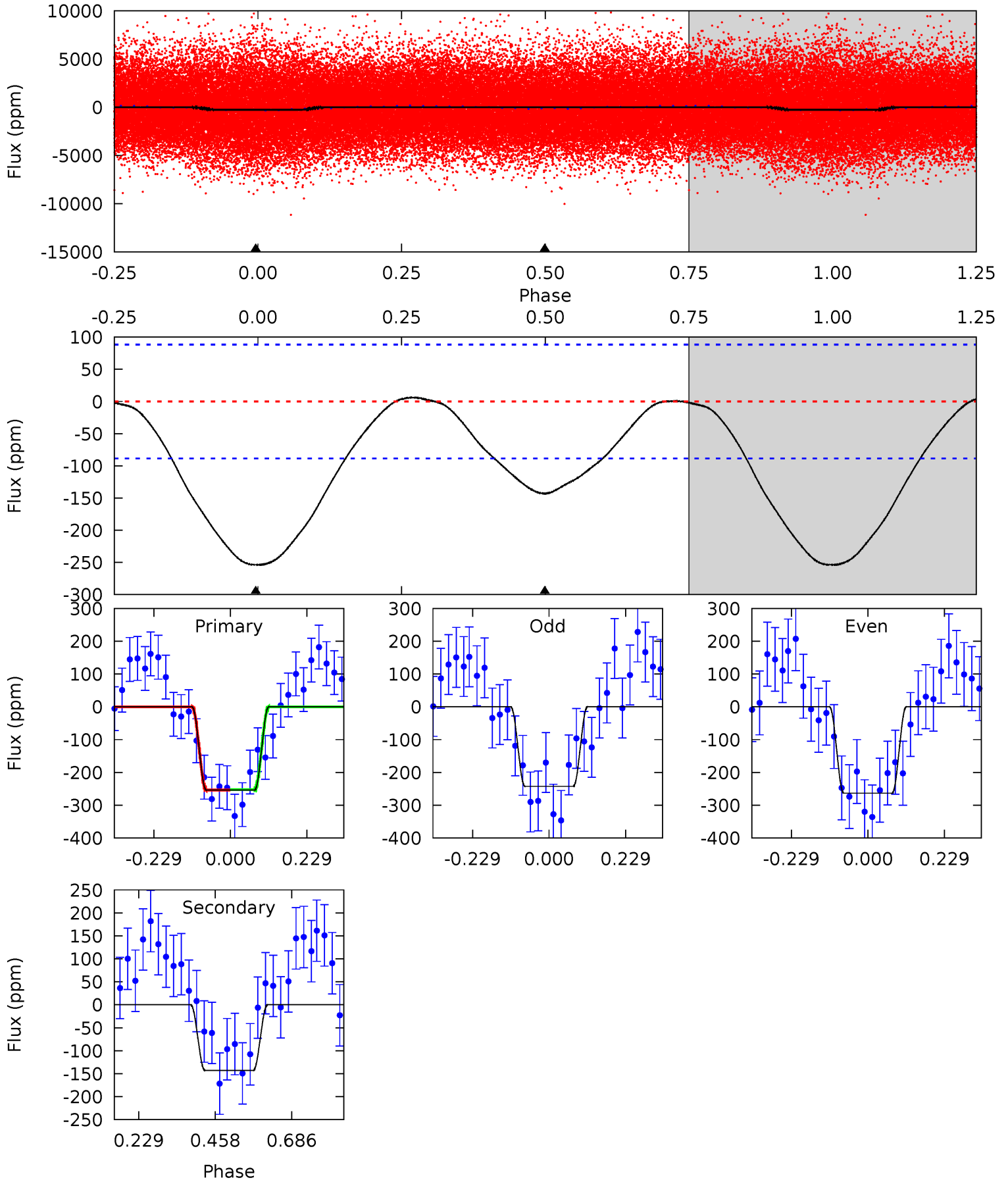
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	8.34	0	0	4.30	0.96	0.16	10.4	10.4	8.34	8.34	0.70	1.00	0.02	0.30



Alt Model-Shift Uniqueness Test

008456151-01, P = 1.386444 Days, E = 130.955605 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	7.10	0	0	4.39	1.20	0.23	12.6	12.6	7.10	7.10	0.52	1.00	0.02	0.03



Stellar Parameters For KIC 008456151

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6522^{+207}_{-230}	$3.965^{+0.458}_{-0.153}$	$-0.920^{+0.300}_{-0.300}$	$1.694^{+0.463}_{-0.695}$	$0.966^{+0.103}_{-0.125}$	$0.280^{+1.067}_{-0.124}$
	+3%/-4%	+12%/-4%	+33%/-33%	+27%/-41%	+11%/-13%	+382%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008456151-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-77 ± 9	$1.80^{+1.54}_{-1.07}$	3305^{+271}_{-376}	5846^{+4053}_{-1386}	$7.481^{+39.294}_{-5.200}$
Alt.	-143 ± 20	$2.92^{+1.54}_{-1.42}$	3291^{+278}_{-395}	5356^{+2023}_{-895}	$5.245^{+15.333}_{-3.004}$

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

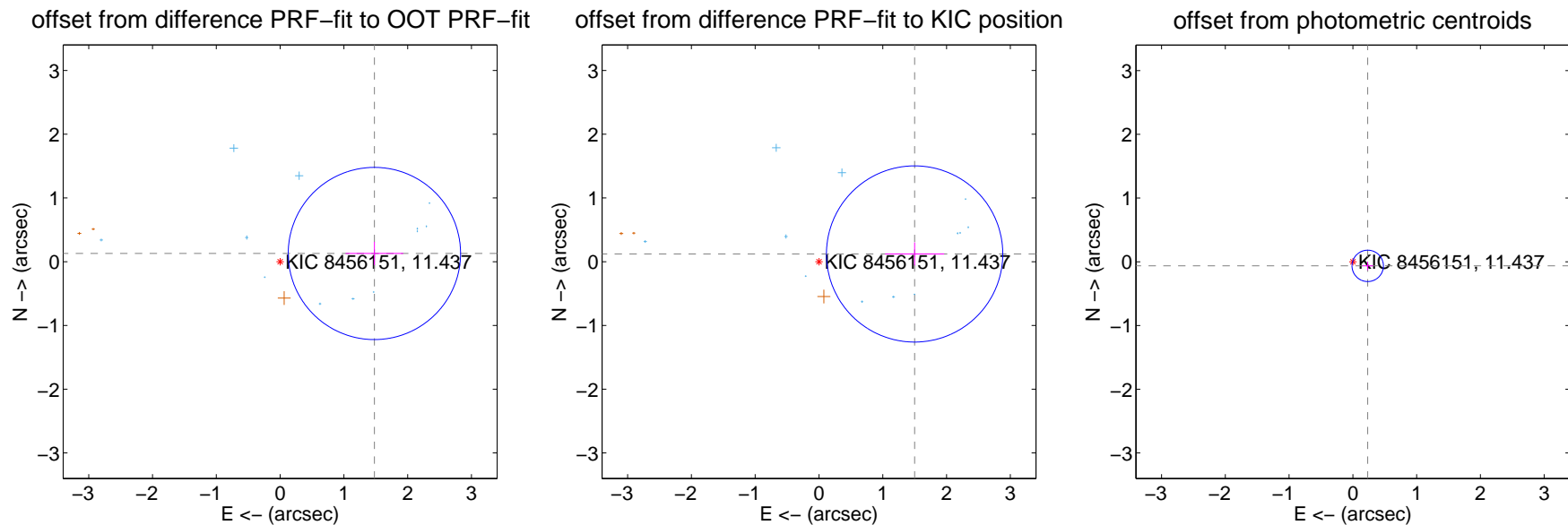
DV Centroid Data

Supplemental centroid analysis for 008456151-01. **Kepler magnitude: 11.44.** Transit SNR 6.02

There are 12 quarters with good PRF difference image offsets

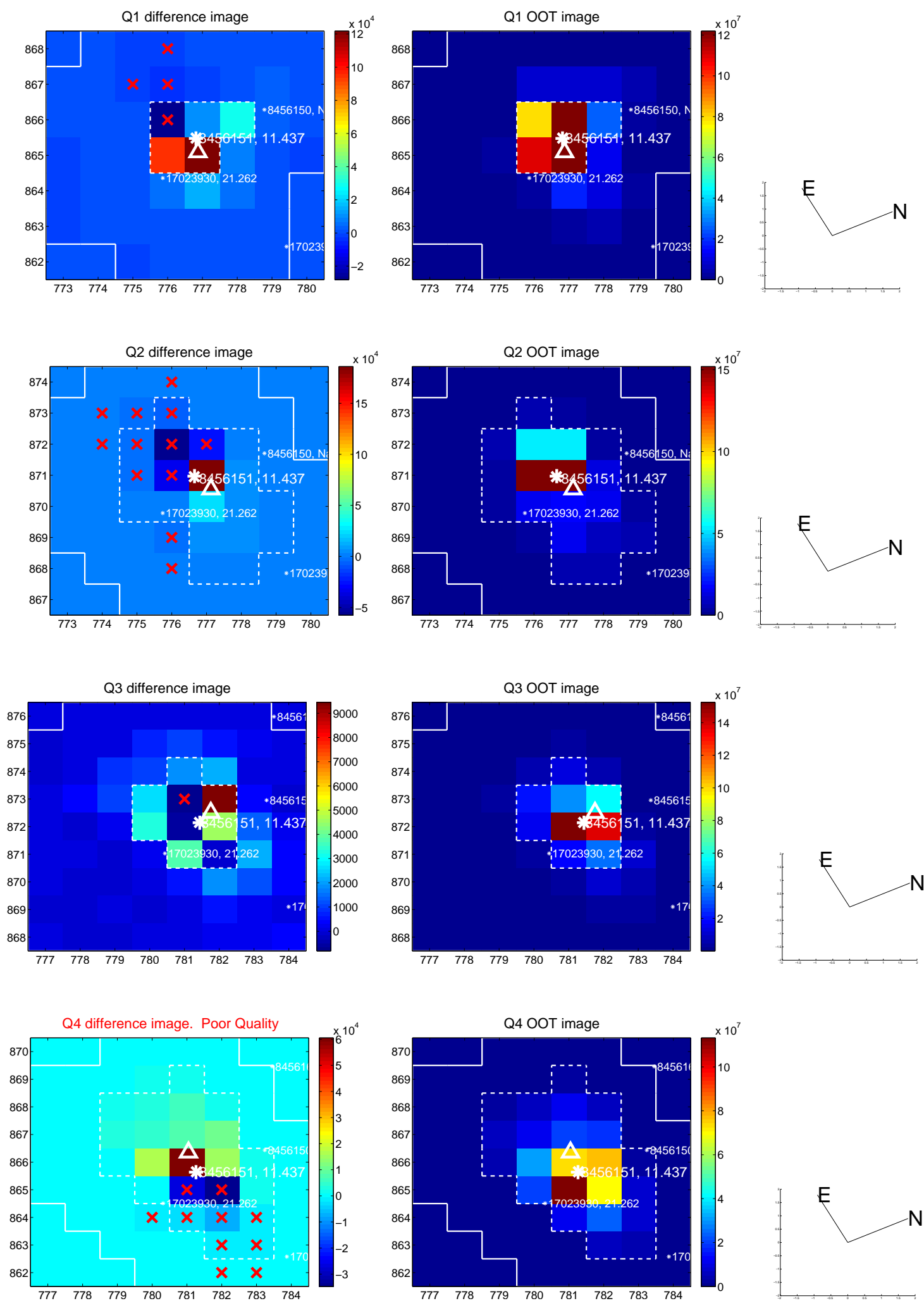
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.484 ± 0.450	3.30	-1.478 ± 0.452	0.129 ± 0.183
PRF-fit source offset from KIC position	1.504 ± 0.461	3.26	-1.499 ± 0.463	0.121 ± 0.181
photometric centroid source offset	0.24 ± 0.08	2.94	-0.23 ± 0.08	-0.06 ± 0.07

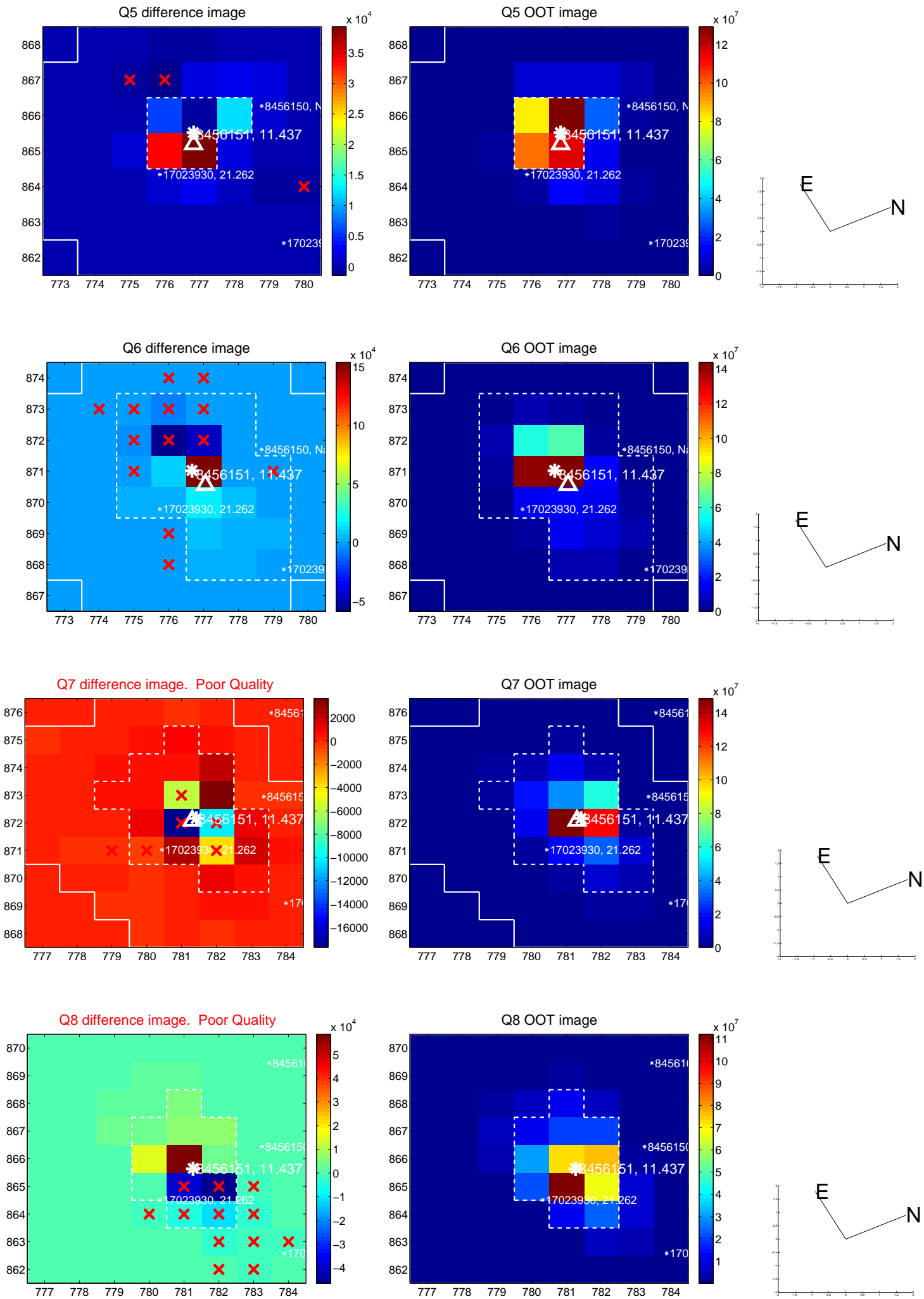


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

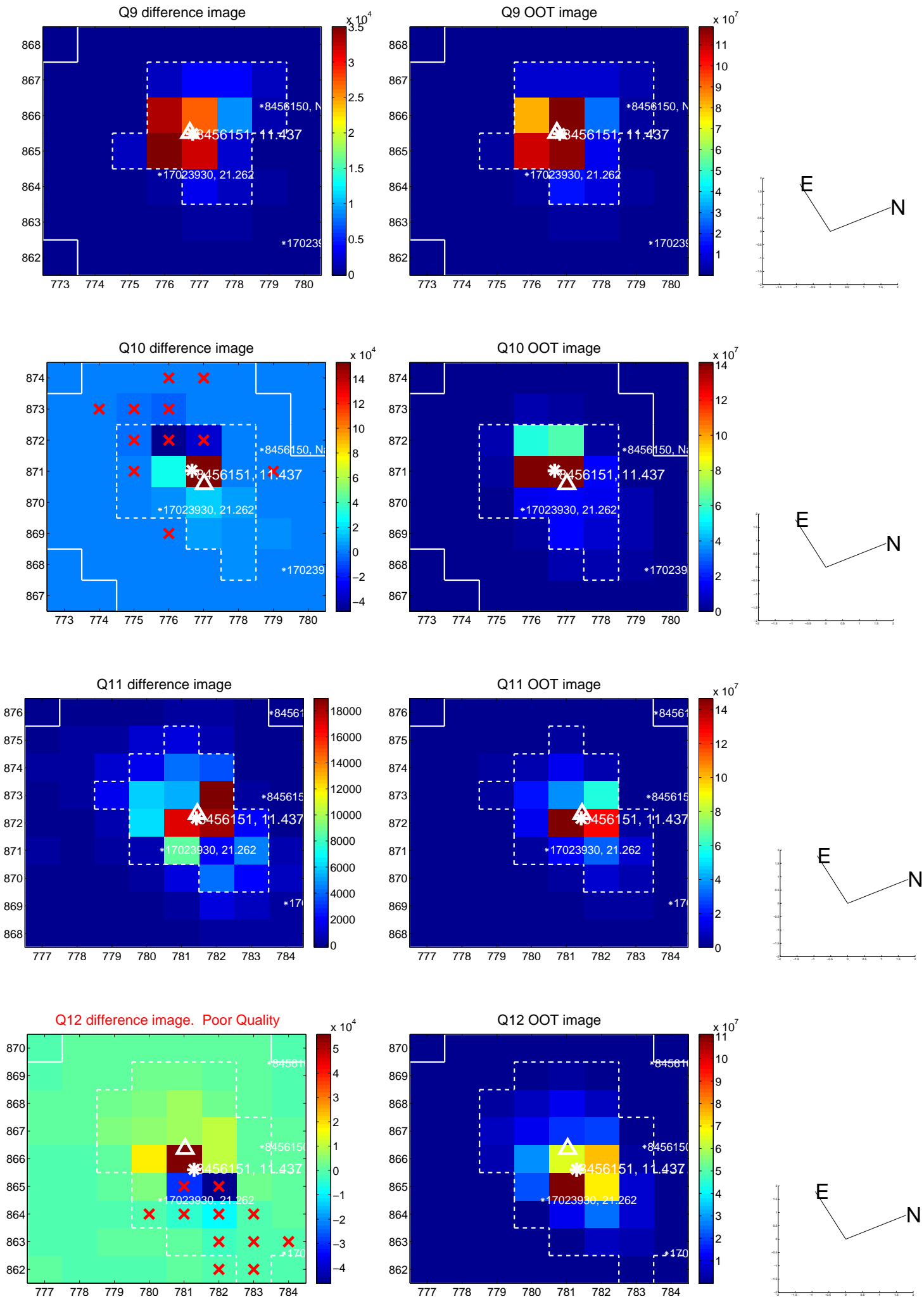
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



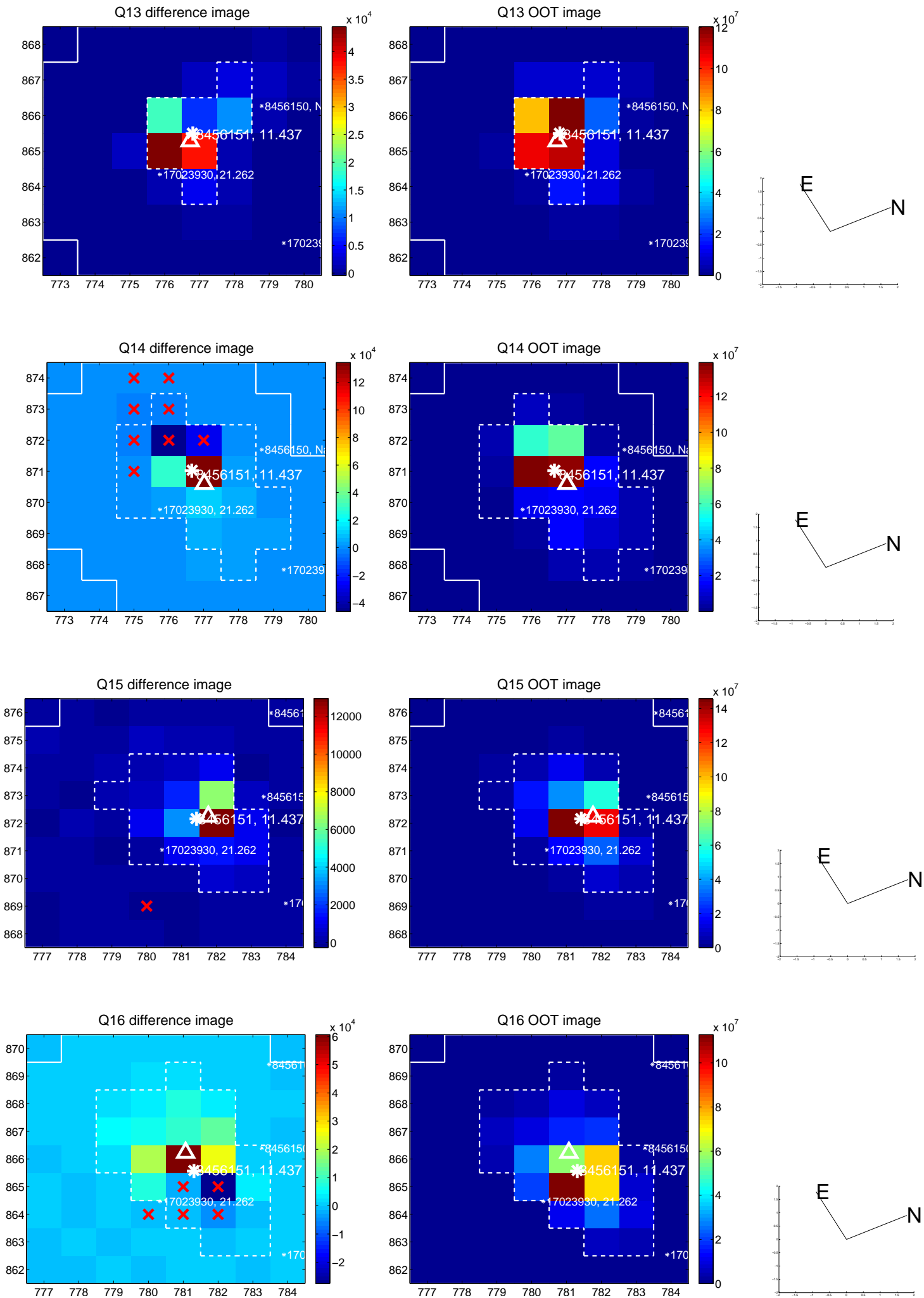
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



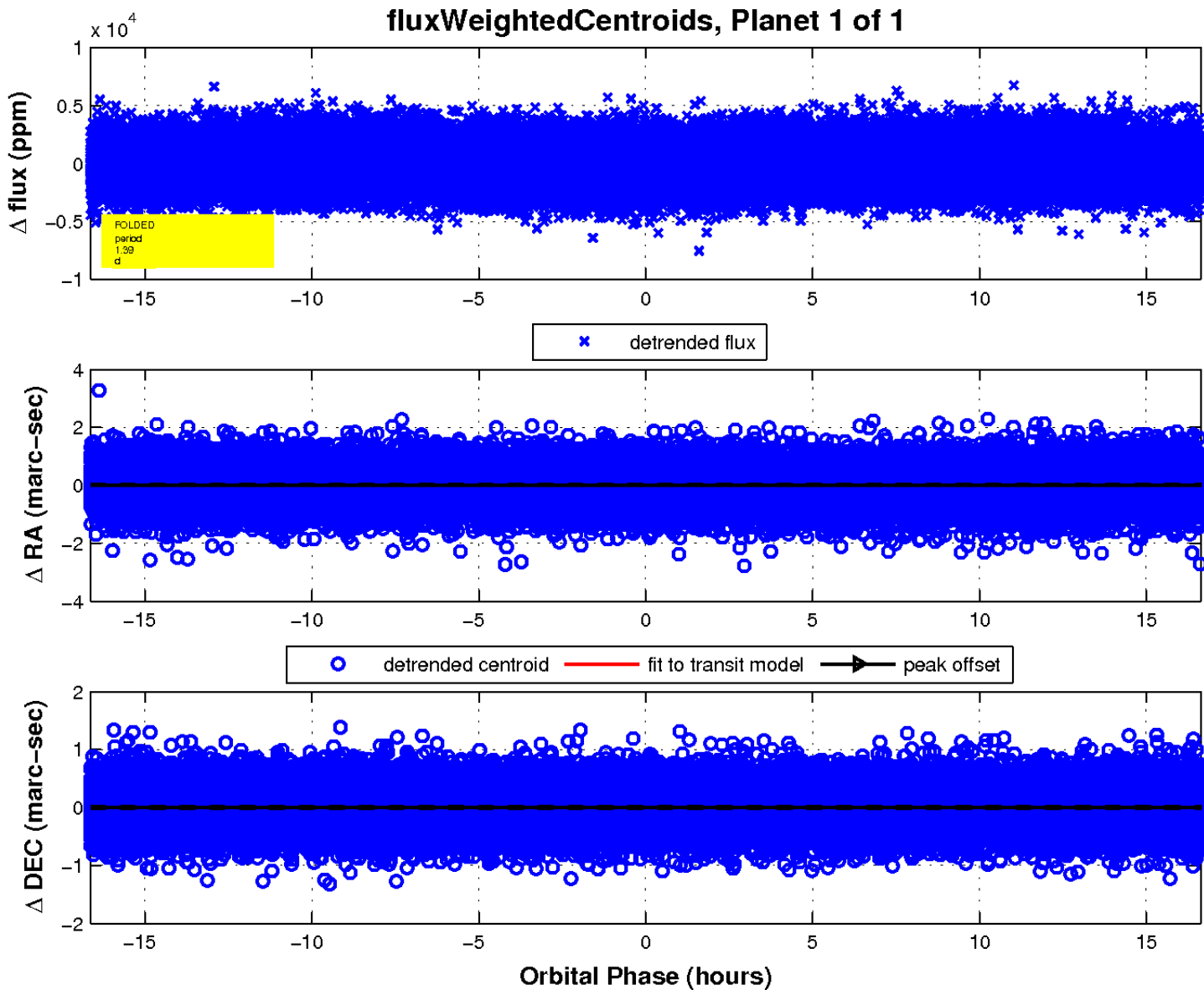
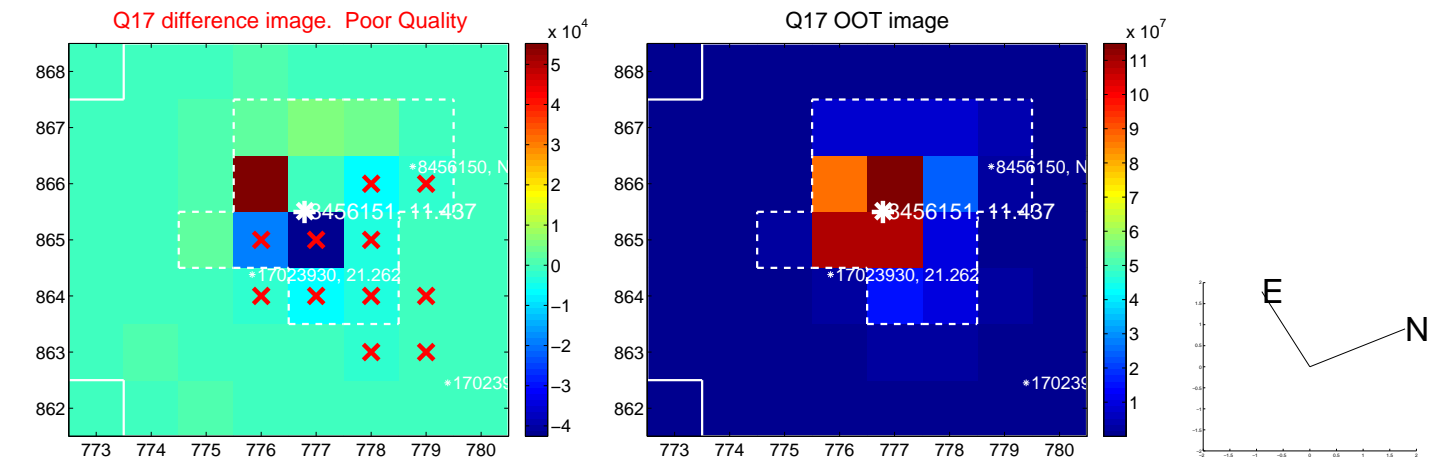
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

