

KIC 012253769

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})
012253769-01	OBS	3310.01	20.551296	141.085370	183.4	4.722	15.8	15.6	0.92	5401	1.62	32.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012253769-01	OBS	PC	0.90	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.

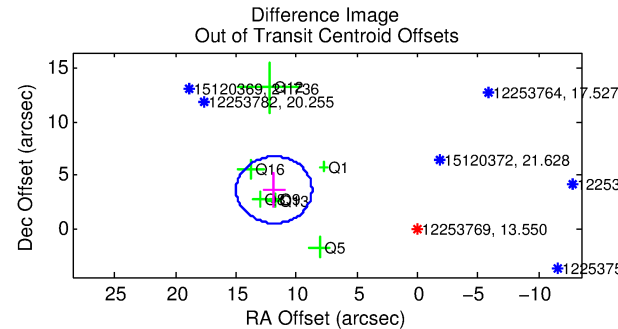
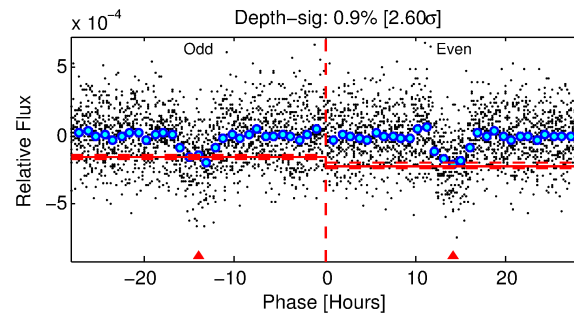
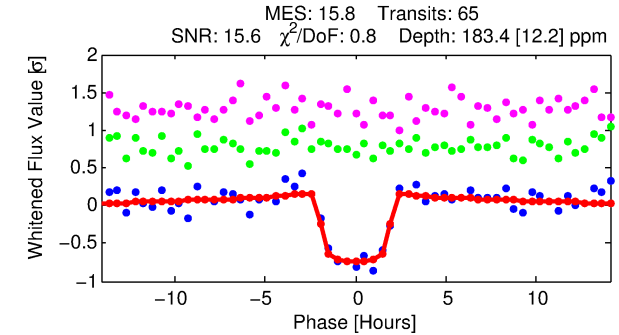
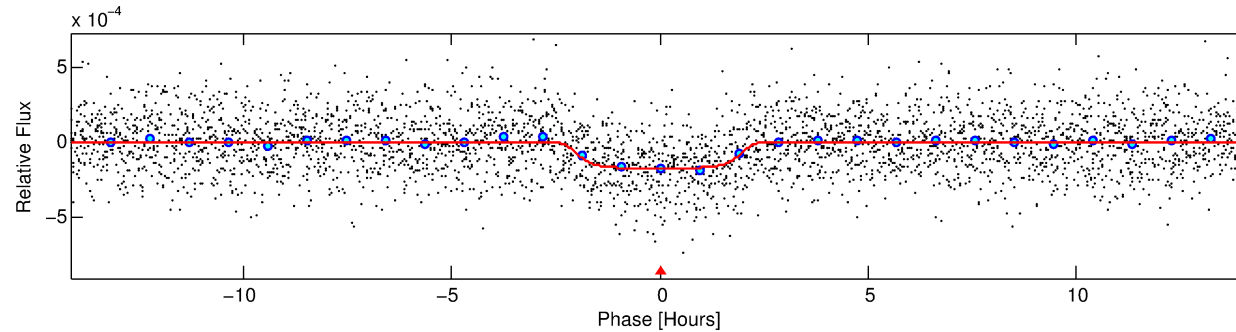
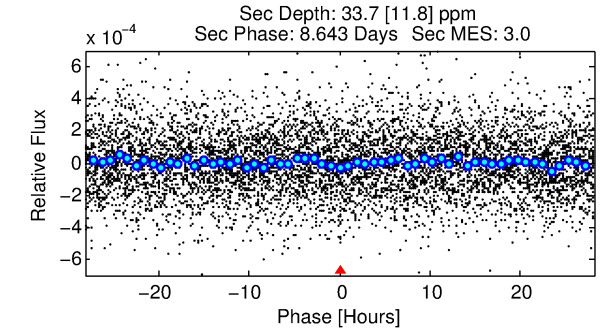
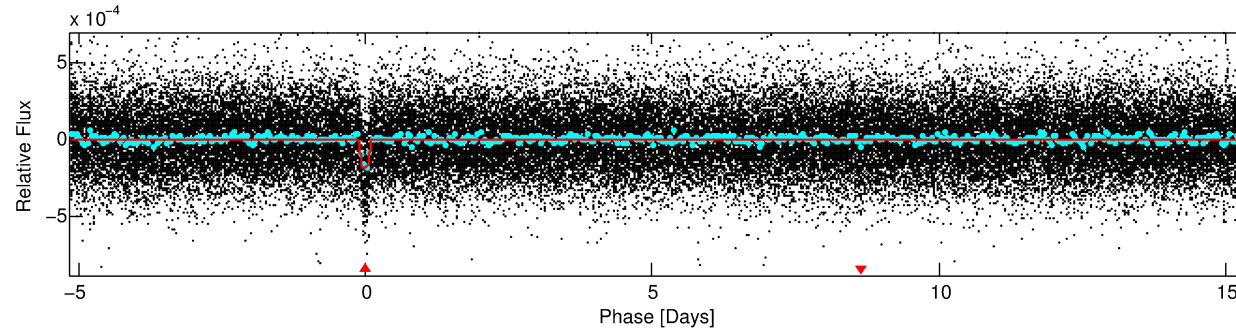
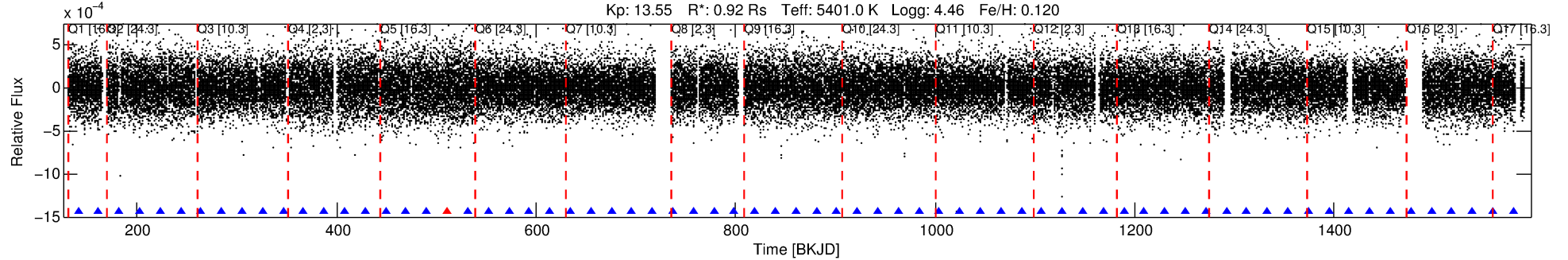
Ephemeris Match Information For 012253769-01

No Significant Match Found

DV One-Page Summary

KIC: 12253769 Candidate: 1 of 1 Period: 20.551 d
KOI: K03310.01 Corr: 0.894

Kp: 13.55 R*: 0.92 Rs Teff: 5401.0 K Logg: 4.46 Fe/H: 0.120



DV Fit Results:

Period = 20.55130 [0.00015] d
Epoch = 141.0854 [0.0057] BKJD
Rp/R* = 0.0162 [0.0012]
a/R* = 11.75 [3.57]
b = 0.95 [0.03]
Teff = 32.08 [5.32]
Teq = 607 [25] K
Rp = 1.62 [0.22] Re
a = 0.1415 [0.0136] AU
Ag = 141.44 [57.78] [2.43σ]
Teffp = 3236 [316] K [8.31σ]

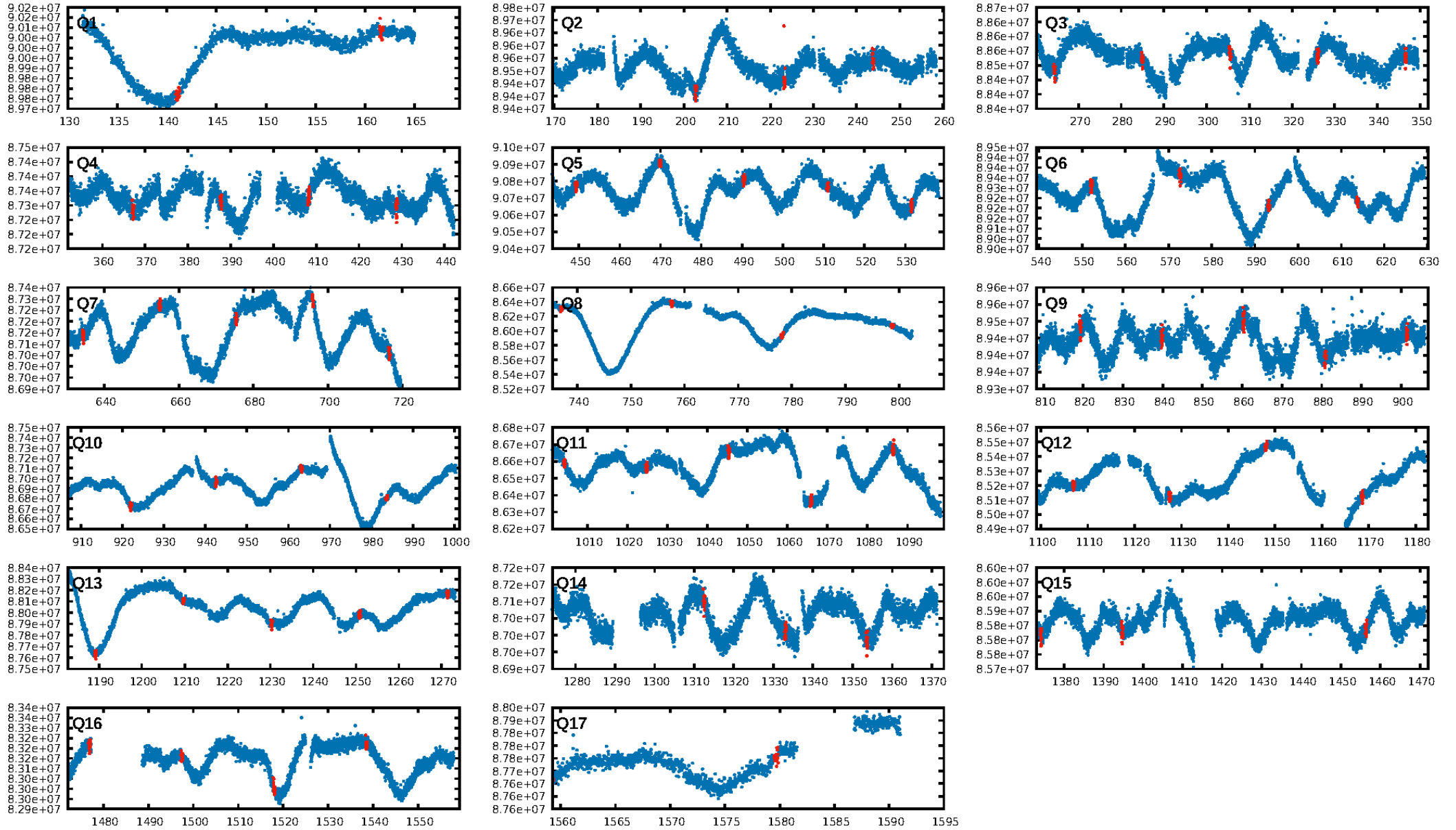
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.3%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 2.59e-54
RollingBand-fgt: 0.98 [61/62]
GhostDiagnostic-chr: 2.042
Centroid-sig: 0.1%
Centroid-so: 1.148 arcsec [1.62σ]
OotOffset-rm: 12.393 arcsec [11.90σ]
KicOffset-rm: 0.631 arcsec [0.72σ]
OotOffset-st: 0/0/3/4 [7]
KicOffset-st: 2/3/4/4 [13]
DiffImageQuality-fgm: 0.00 [0/13]
DiffImageOverlap-fno: 1.00 [17/17]

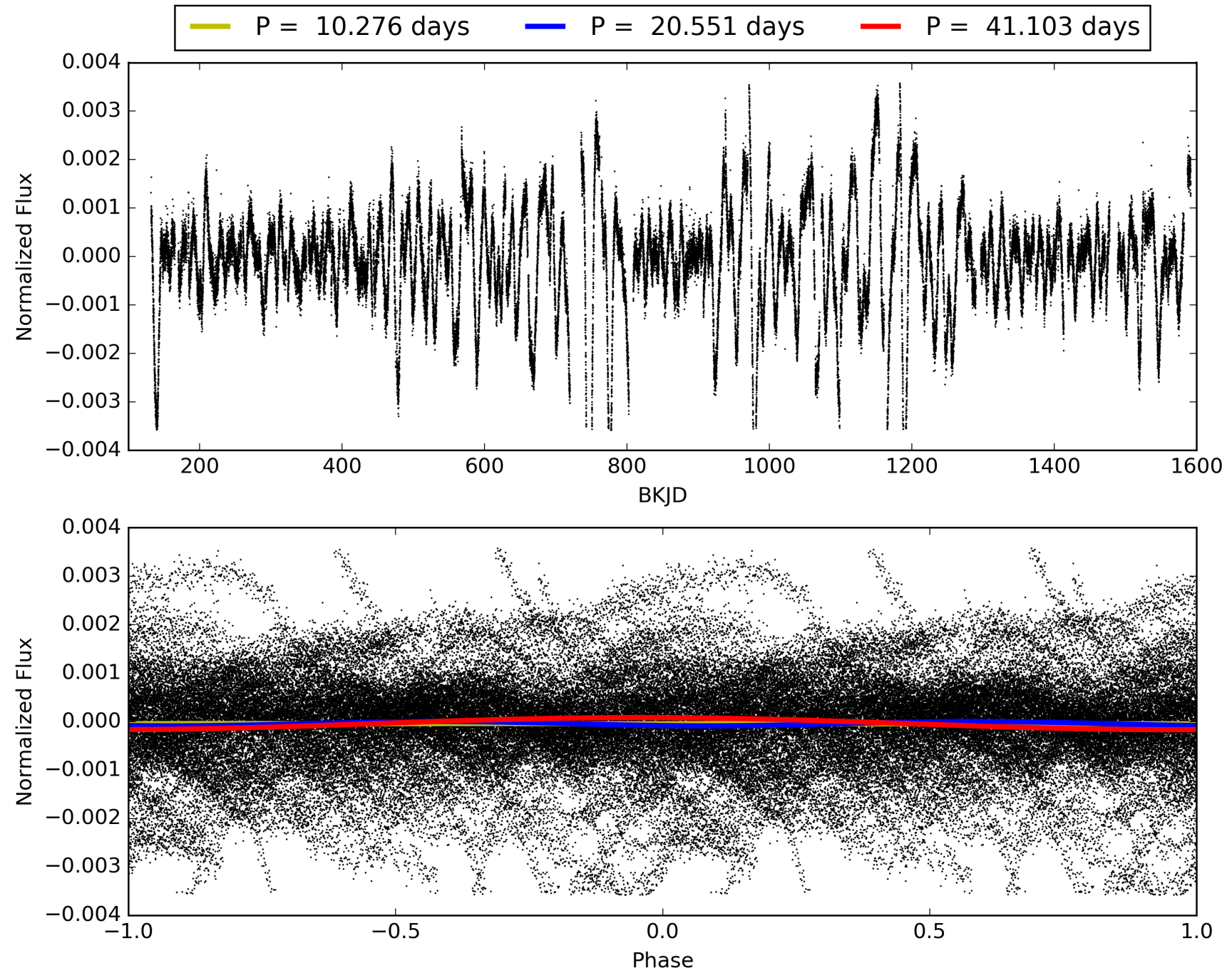
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:16:03 Z

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

TCE 012253769-01, PDC Light Curves

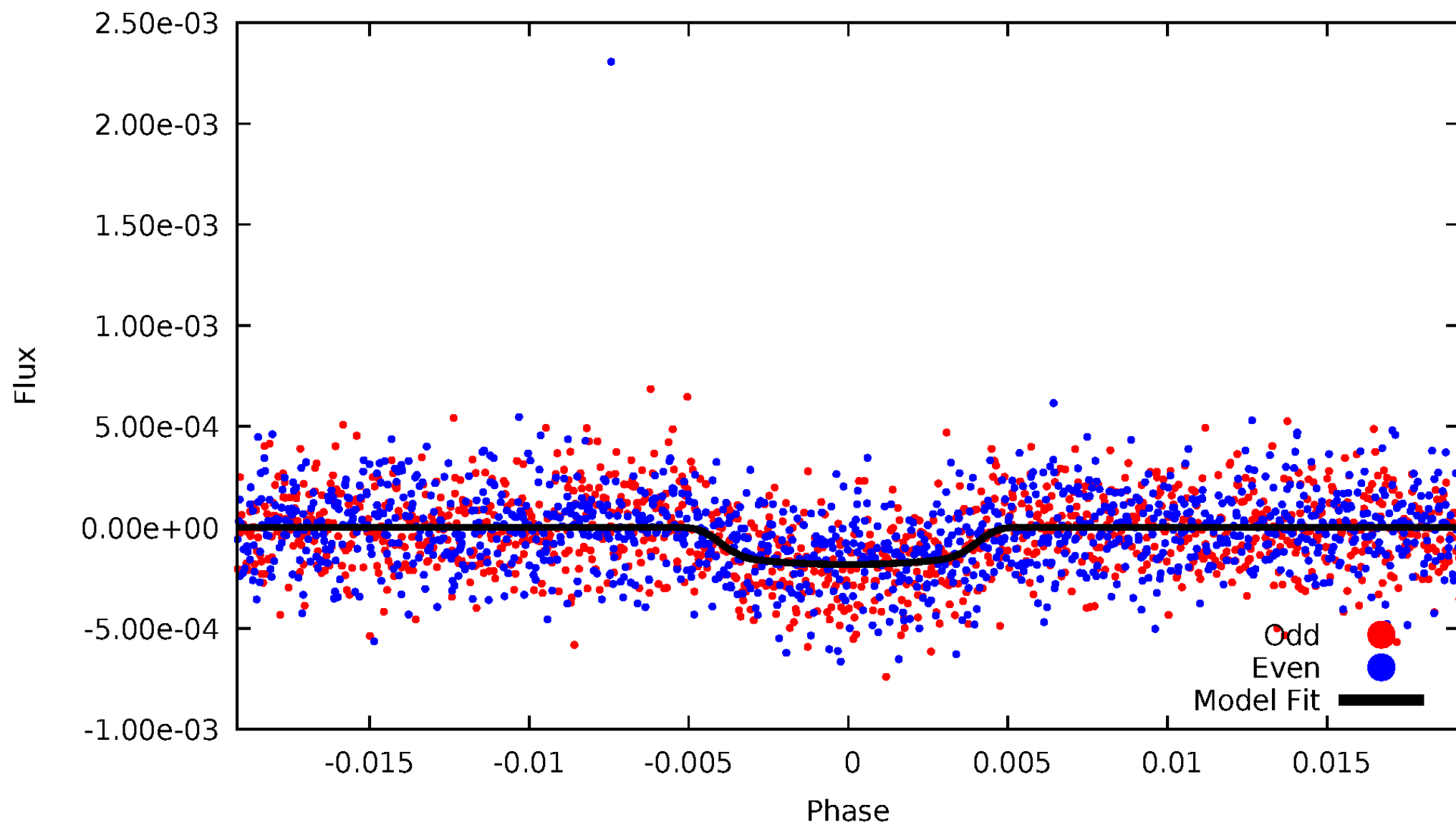


TCE 012253769-01



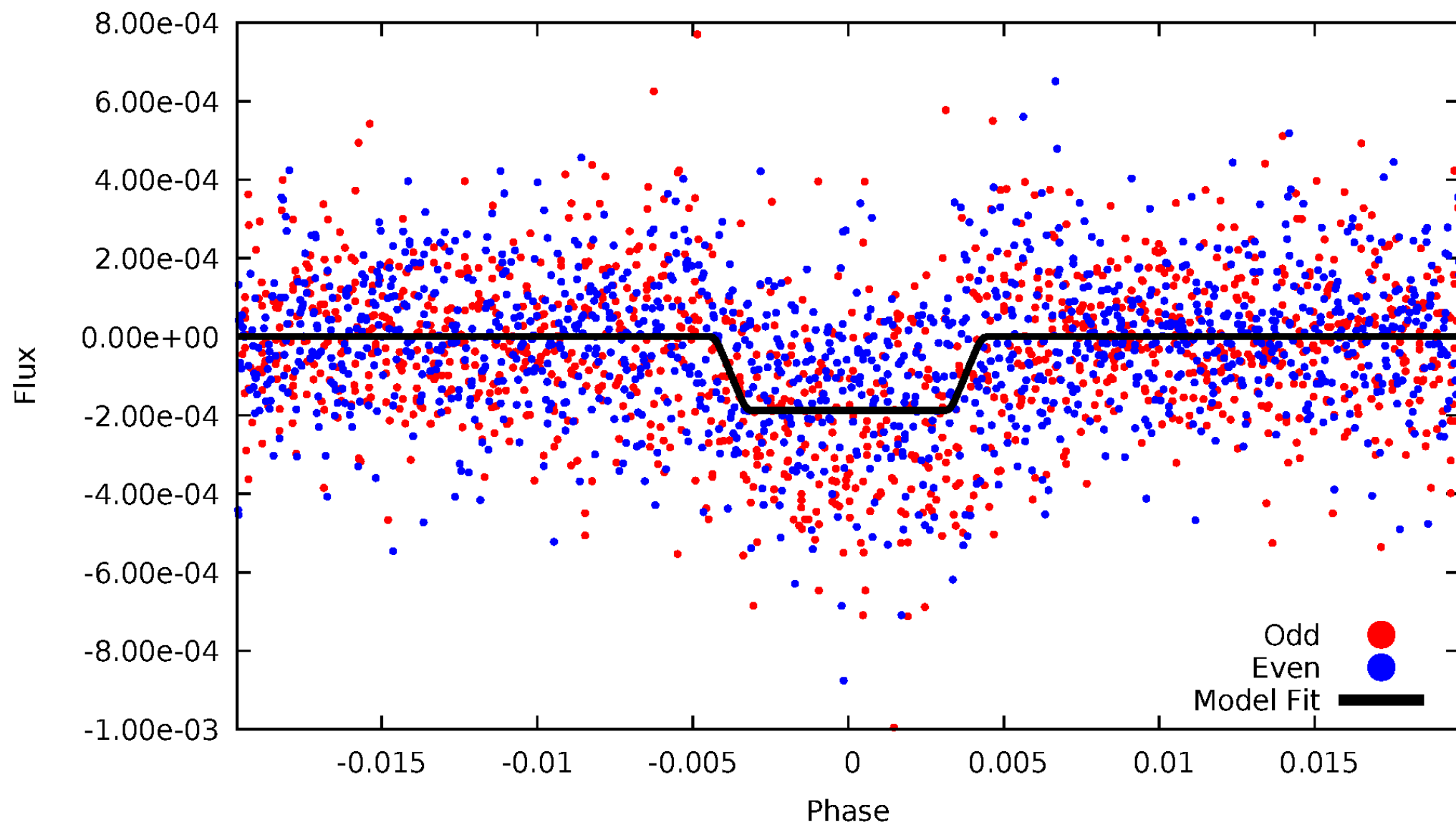
DV Odd/Even

TCE 012253769-01



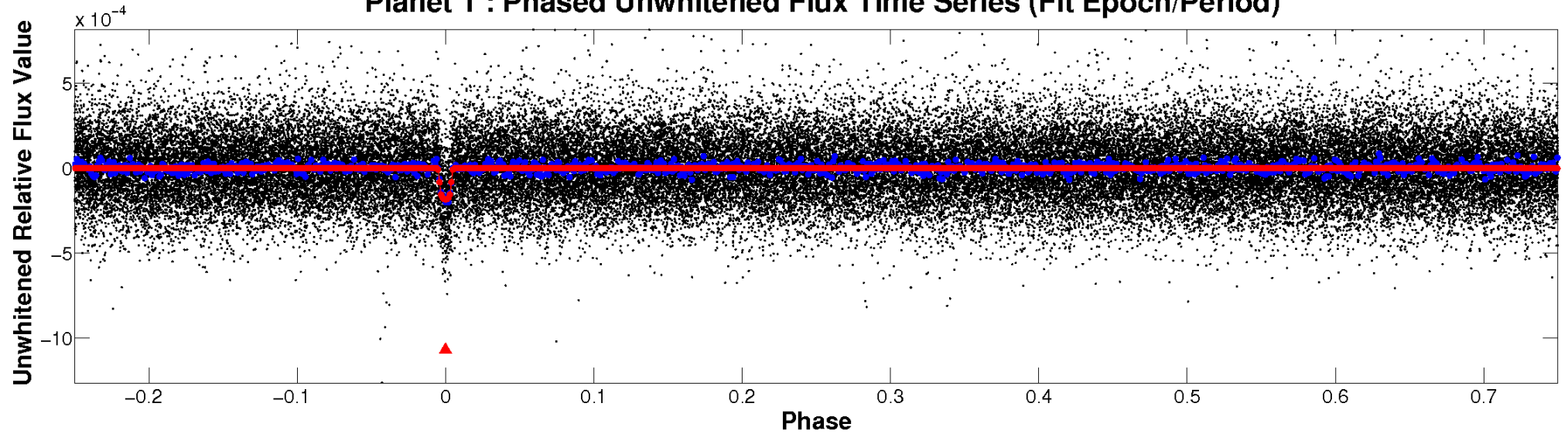
ALT Odd/Even

TCE 012253769-01

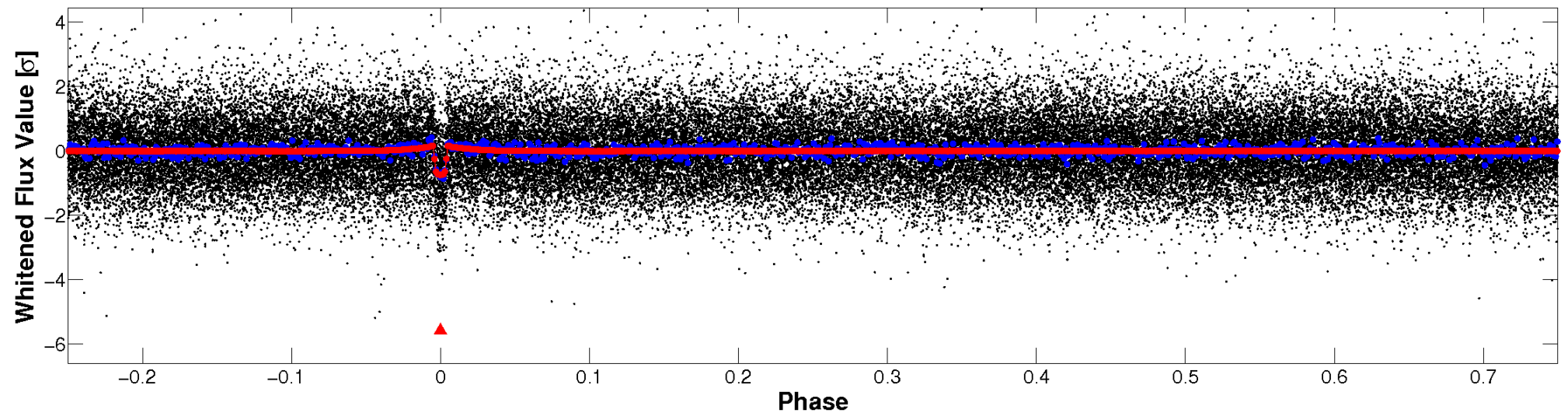


Non-Whitened Vs. Whitened Light Curve

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

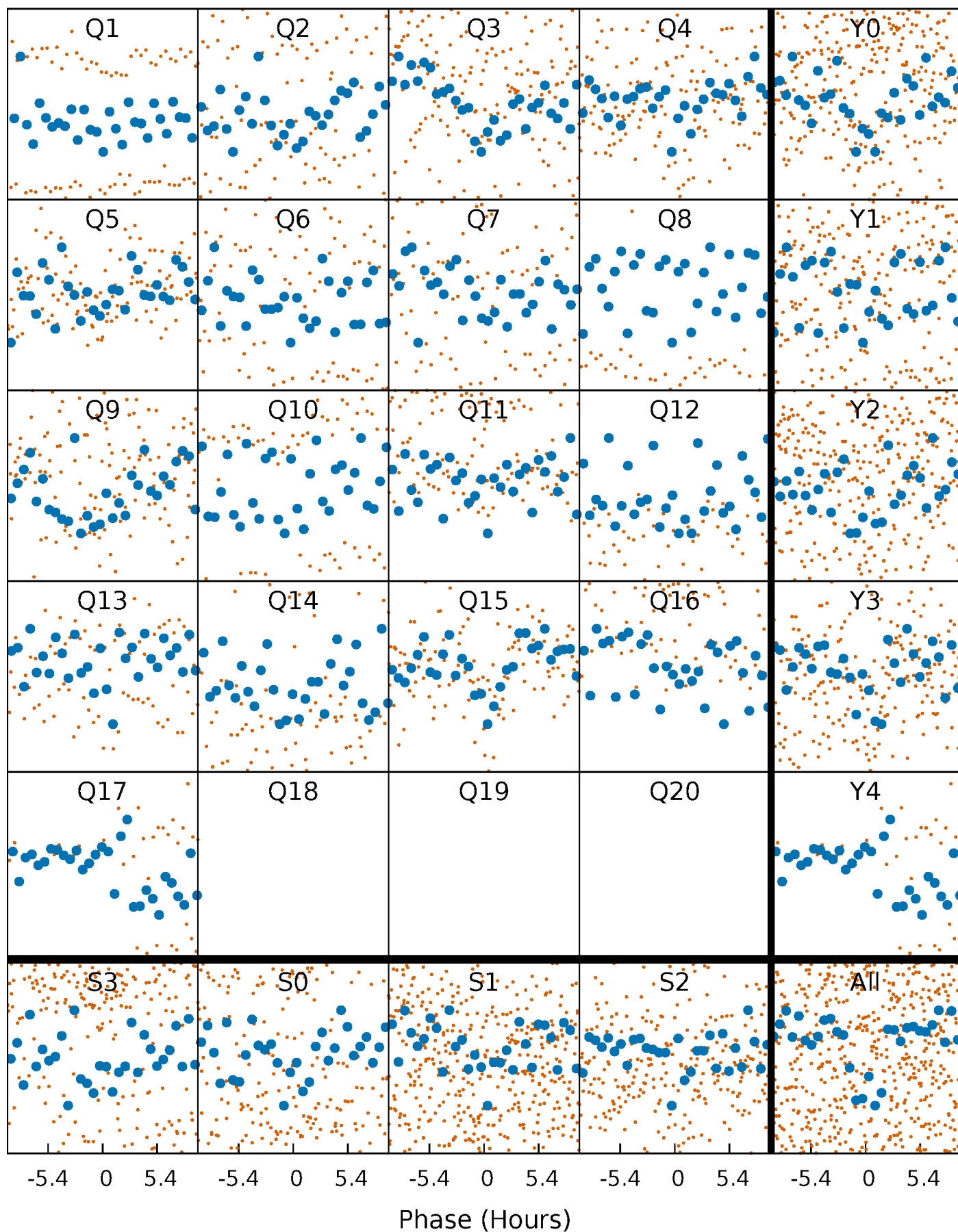


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



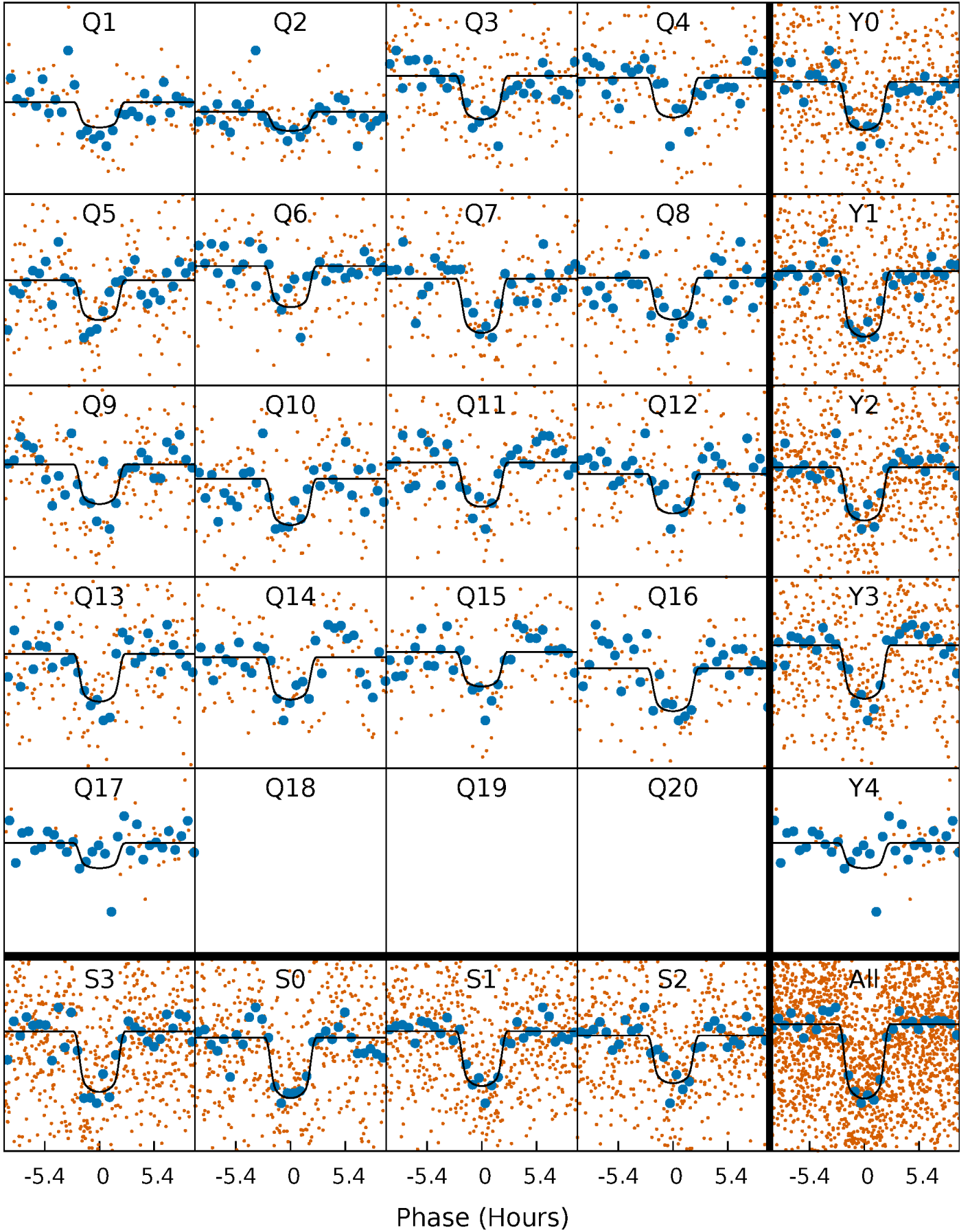
PDC Quarter-Phased Transit Curves

TCE 012253769-01 P= 20.551296 Days $T_0=141.085370$ (BKJD)



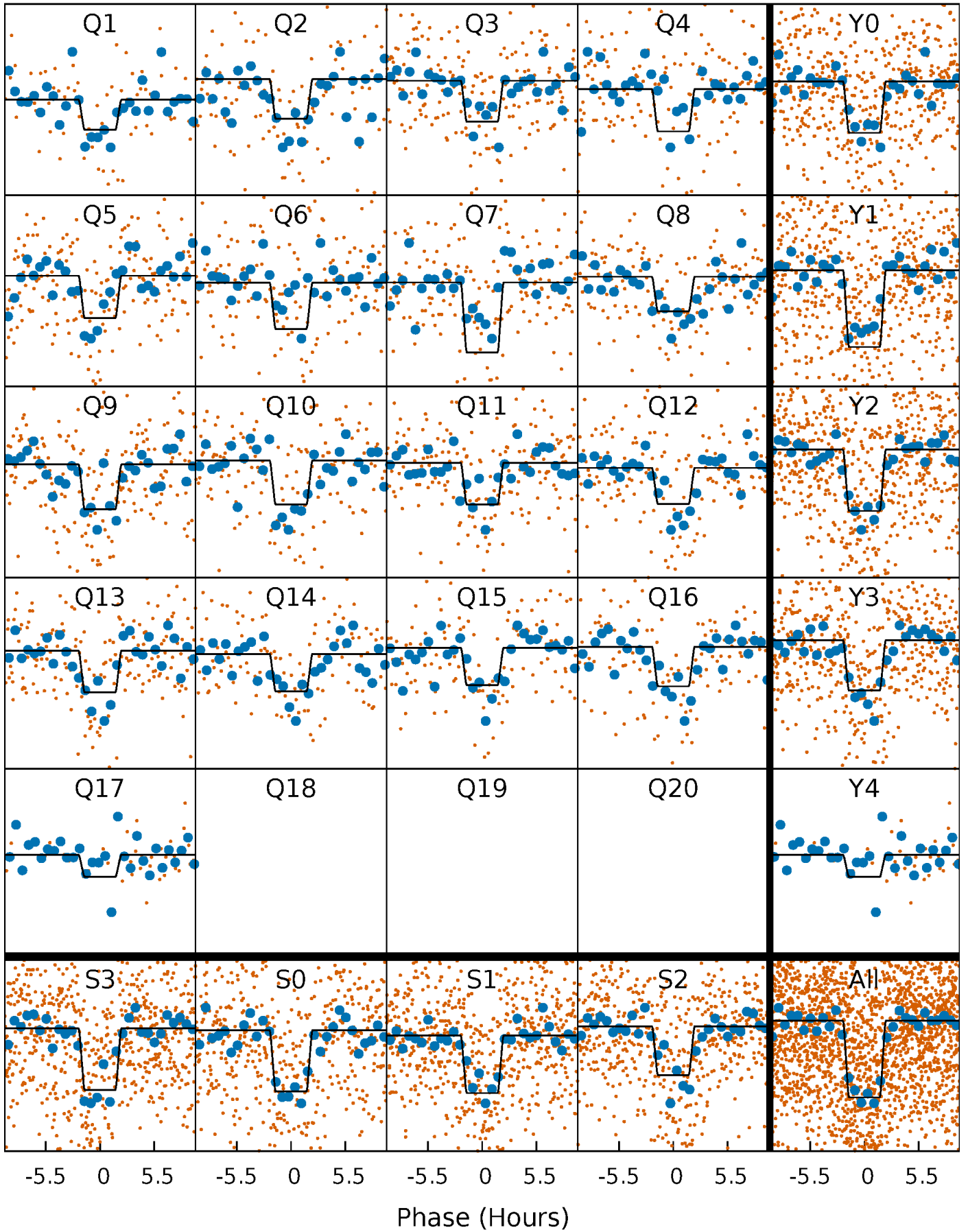
DV Quarter-Phased Transit Curves

TCE 012253769-01 P= 20.551296 Days $T_0=141.085370$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

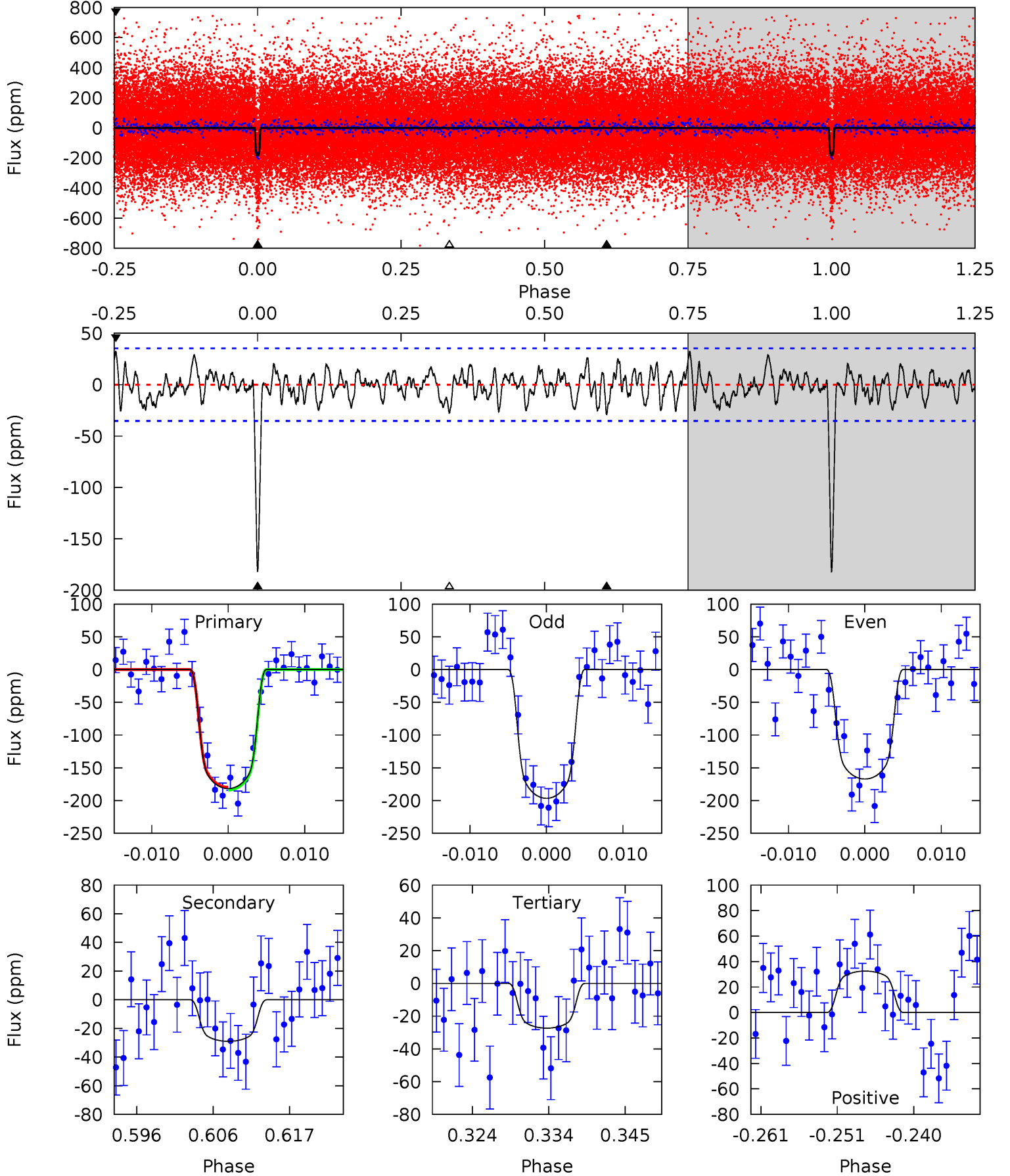
TCE 012253769-01 P= 20.551158 Days $T_0=141.086900$ (BKJD)



DV Model-Shift Uniqueness Test

012253769-01, $P = 20.551296$ Days, $E = 120.534074$ Days

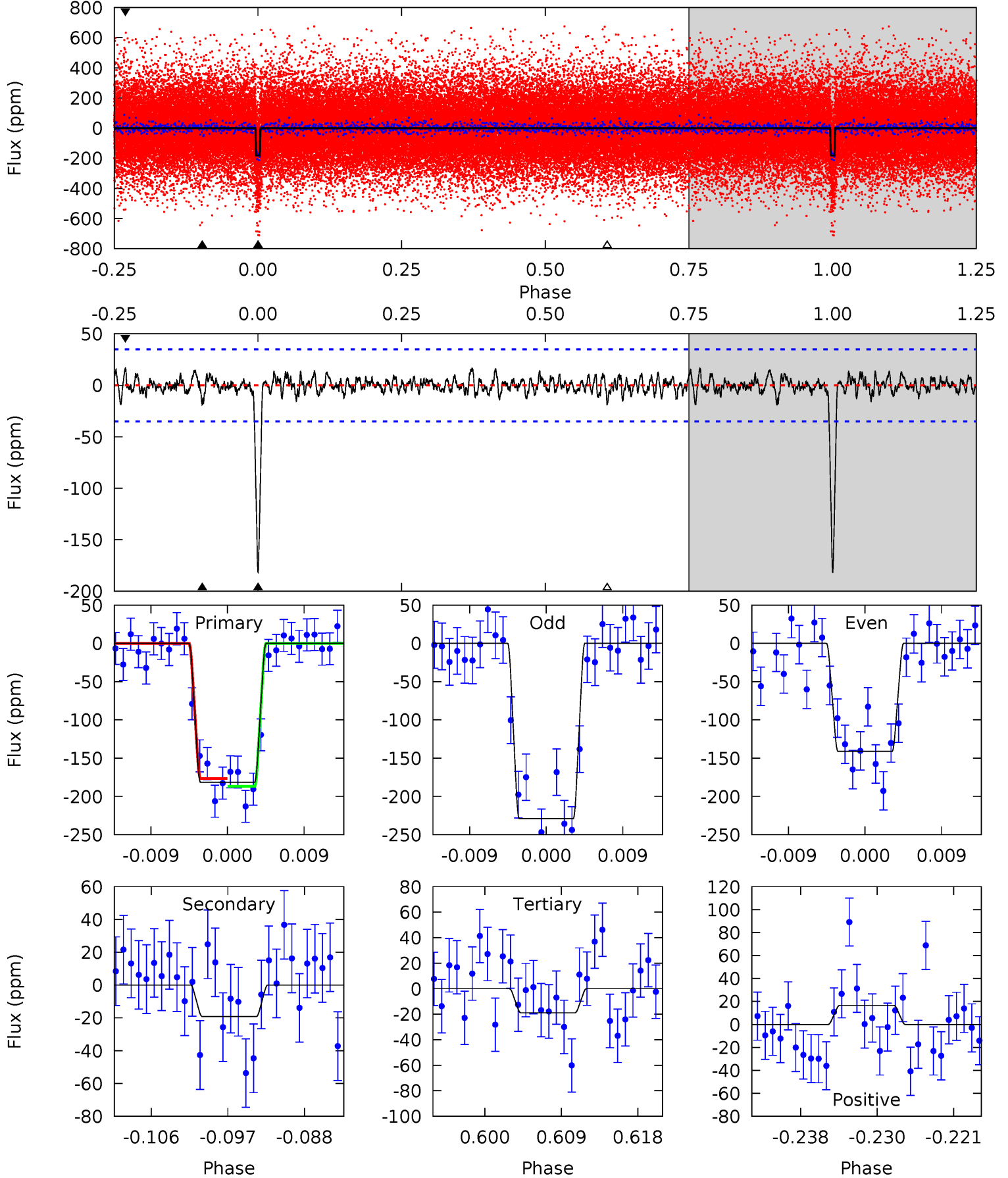
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	4.12	3.89	4.62	5.02	2.56	1.59	21.9	21.2	0.24	-0.50	2.10	1.08	0.15	0.30



Alt Model-Shift Uniqueness Test

012253769-01, P = 20.551158 Days, E = 120.535742 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	2.77	2.72	2.39	5.05	2.62	0.85	23.5	23.8	0.04	0.38	6.32	1.06	0.08	0.72



Stellar Parameters For KIC 012253769

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5401^{+108}_{-97}	$4.464^{+0.075}_{-0.082}$	$0.120^{+0.150}_{-0.150}$	$0.918^{+0.100}_{-0.073}$	$0.894^{+0.055}_{-0.044}$	$1.628^{+0.460}_{-0.427}$
	+2%/-2%	+2%/-2%	+125%/-125%	+11%/-8%	+6%/-5%	+28%/-26%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 012253769-01 / KOI 3310.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 7	$1.63^{+0.15}_{-0.16}$	848^{+31}_{-26}	3561^{+164}_{-183}	120^{+39}_{-34}
Alt.	-19 ± 7	$1.37^{+0.16}_{-0.14}$	849^{+31}_{-27}	3515^{+209}_{-283}	110^{+51}_{-45}

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

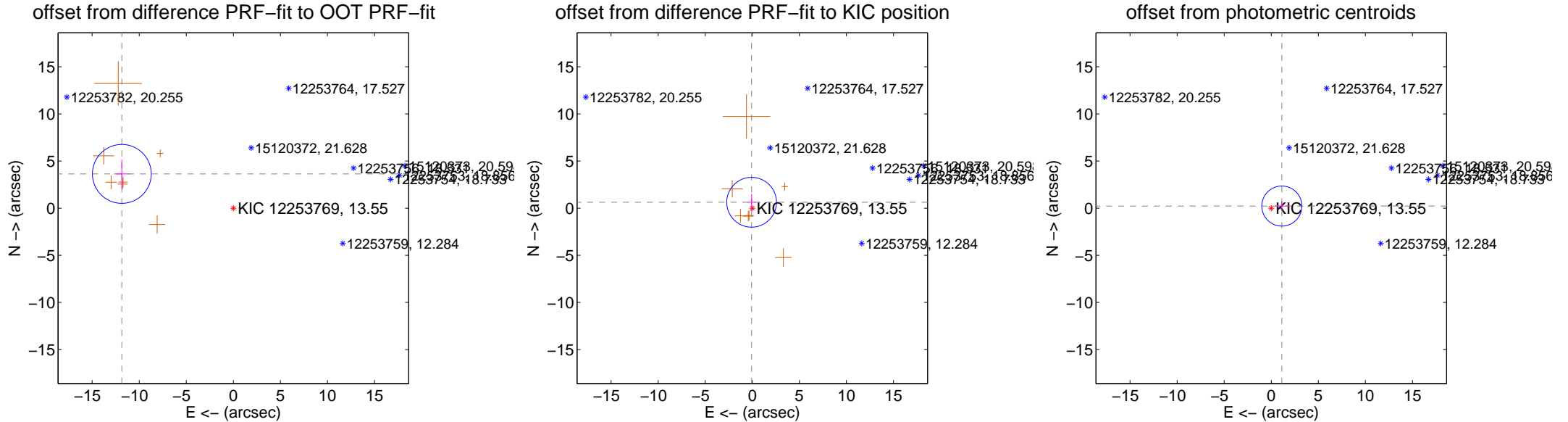
DV Centroid Data

Supplemental centroid analysis for 012253769-01. Kepler magnitude: 13.55. Transit SNR 15.56

There are 0 quarters with good PRF difference image offsets

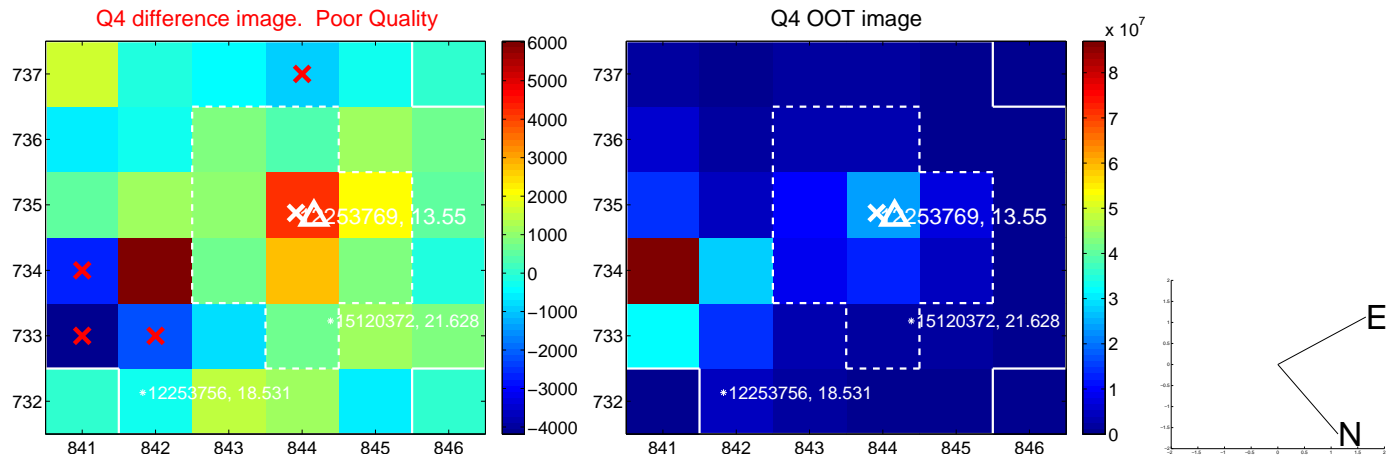
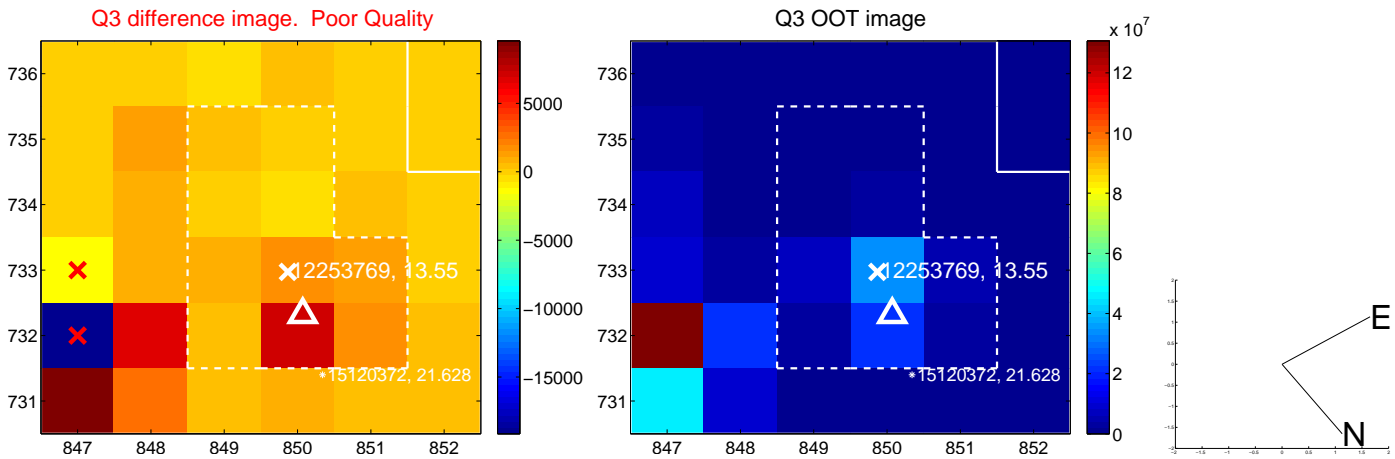
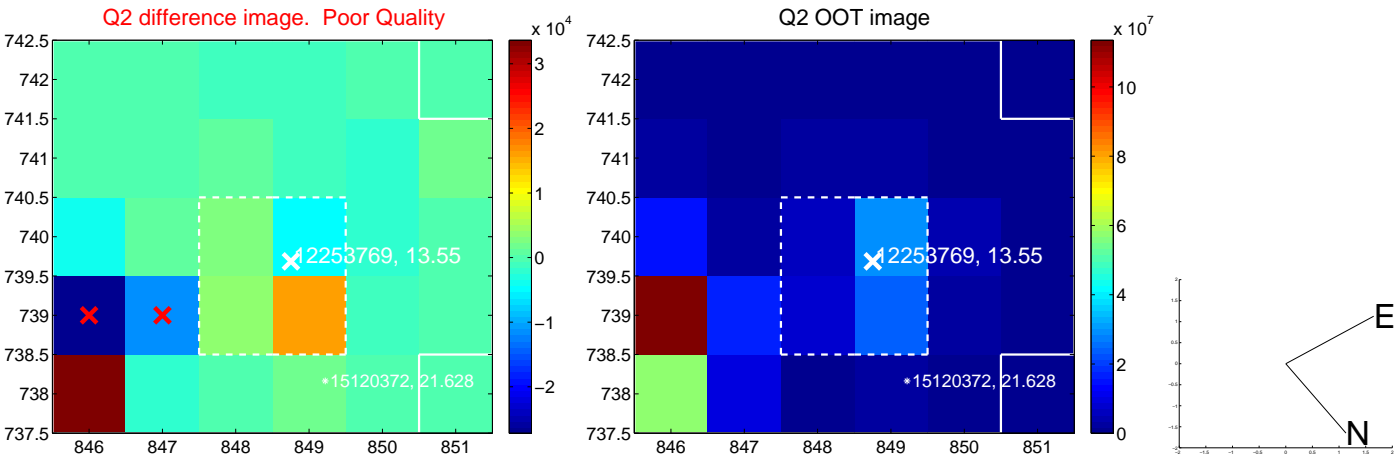
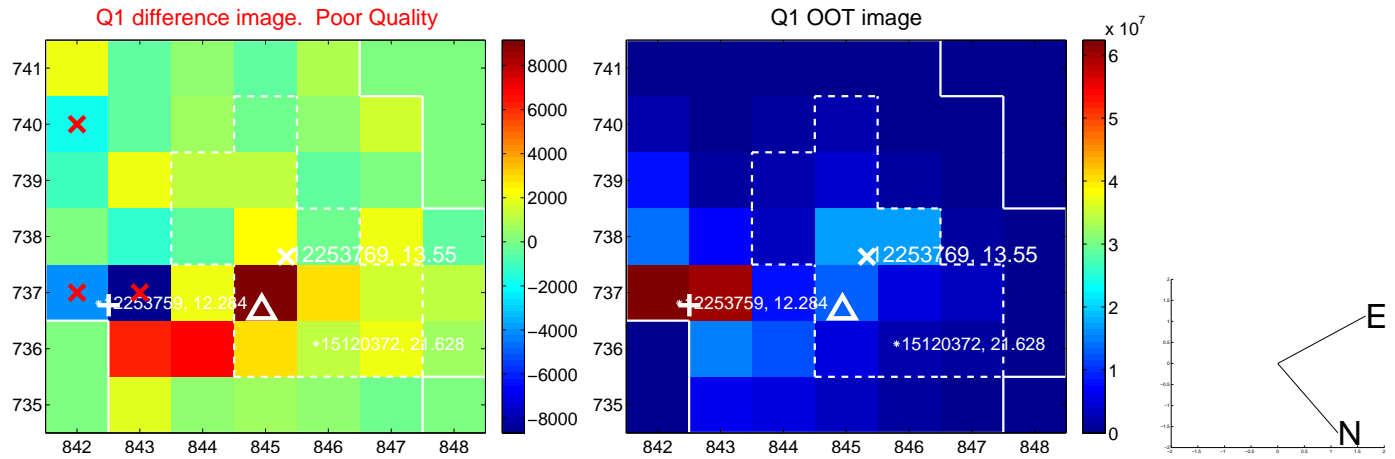
The OOT PRF centroid is offset from the target star catalog position by about 12.16 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.393 \pm 1.041	11.90	11.847 \pm 0.828	3.638 \pm 1.505
PRF-fit source offset from KIC position	0.631 \pm 0.881	0.72	0.073 \pm 0.428	0.626 \pm 0.876
photometric centroid source offset	1.15 \pm 0.71	1.62	-1.13 \pm 0.72	0.22 \pm 0.51

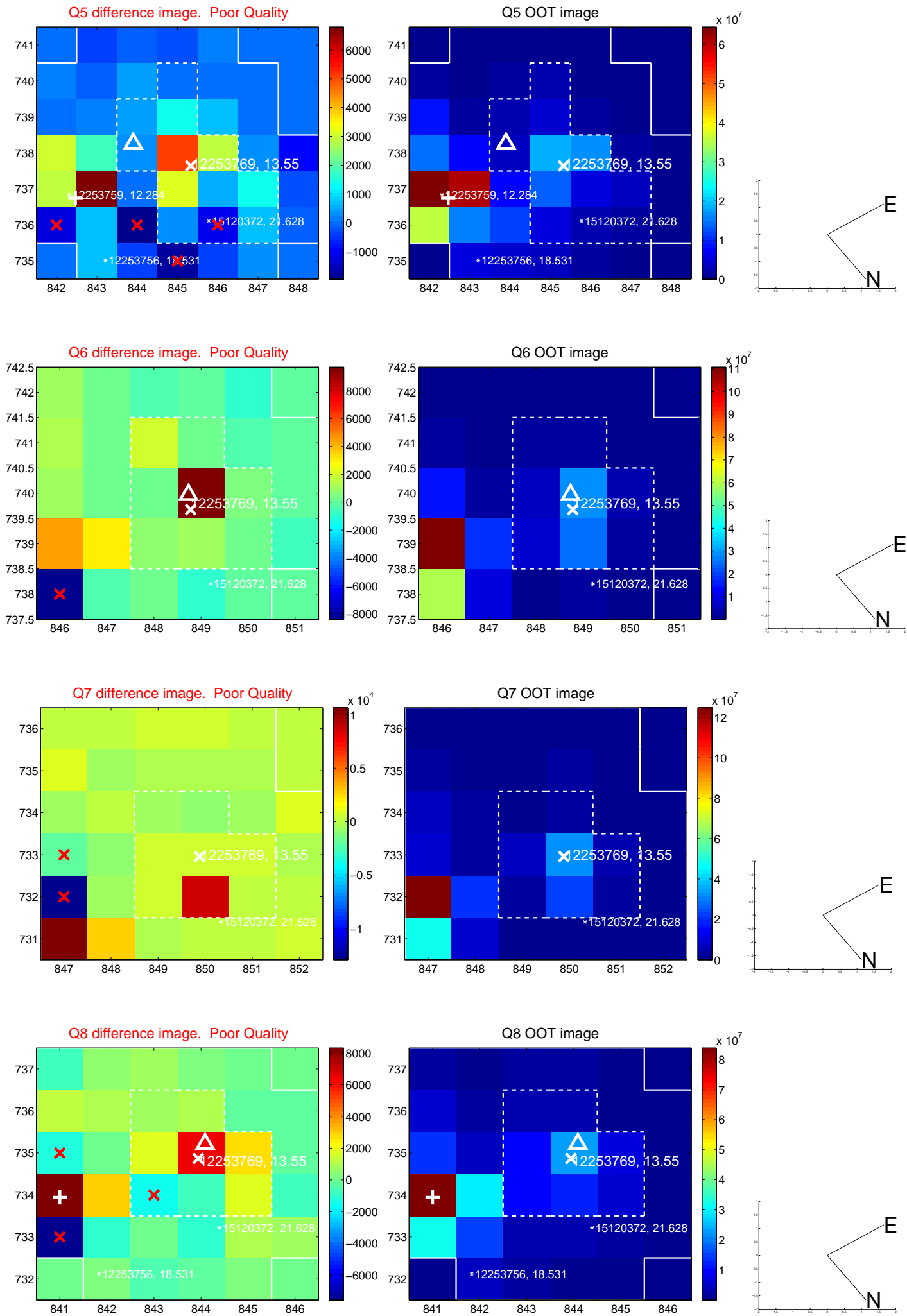


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

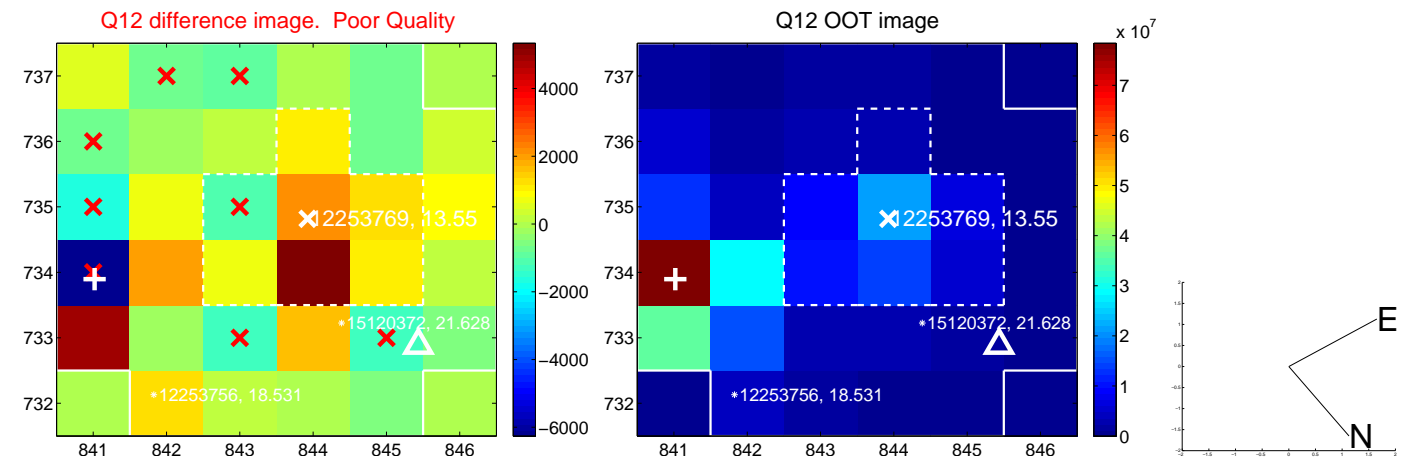
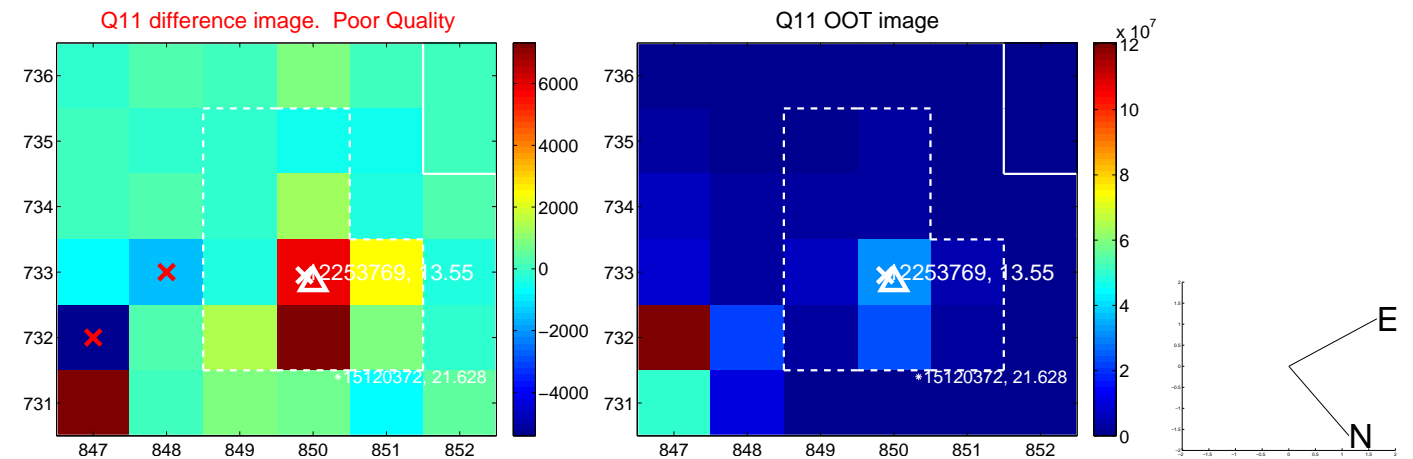
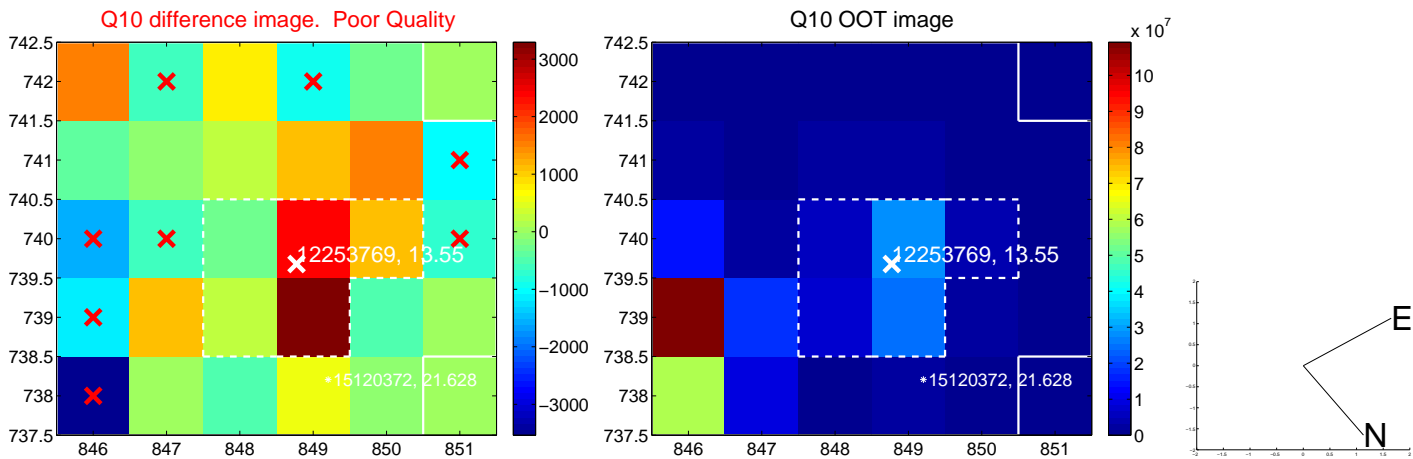
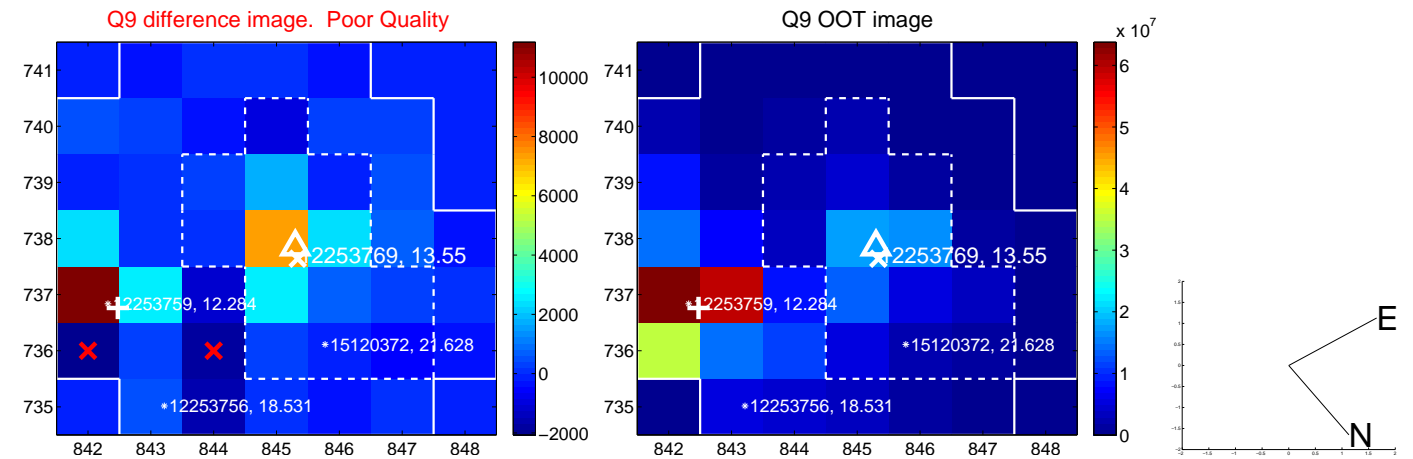
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



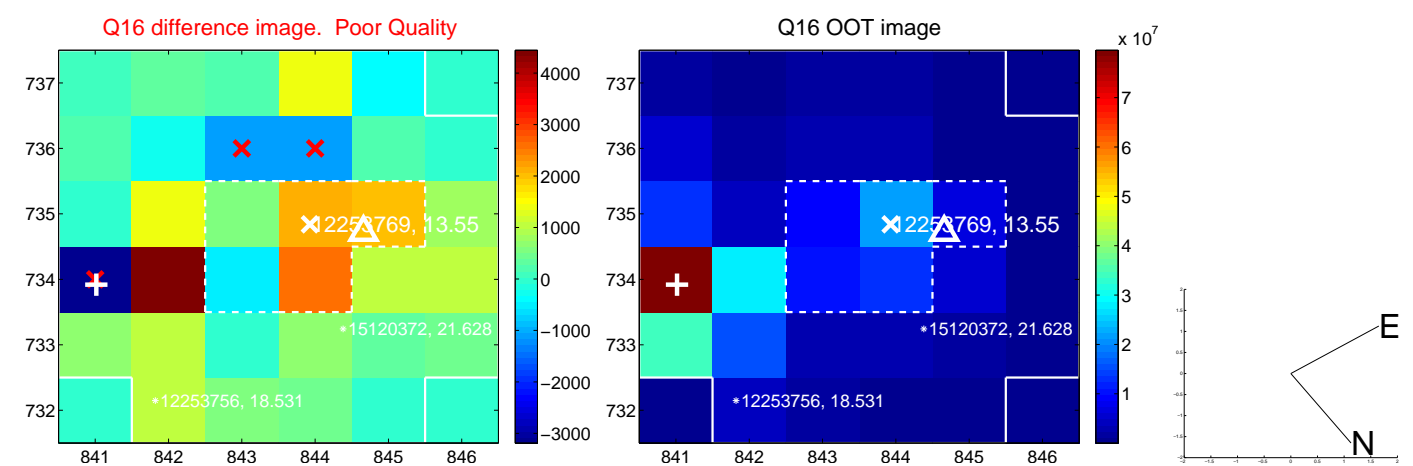
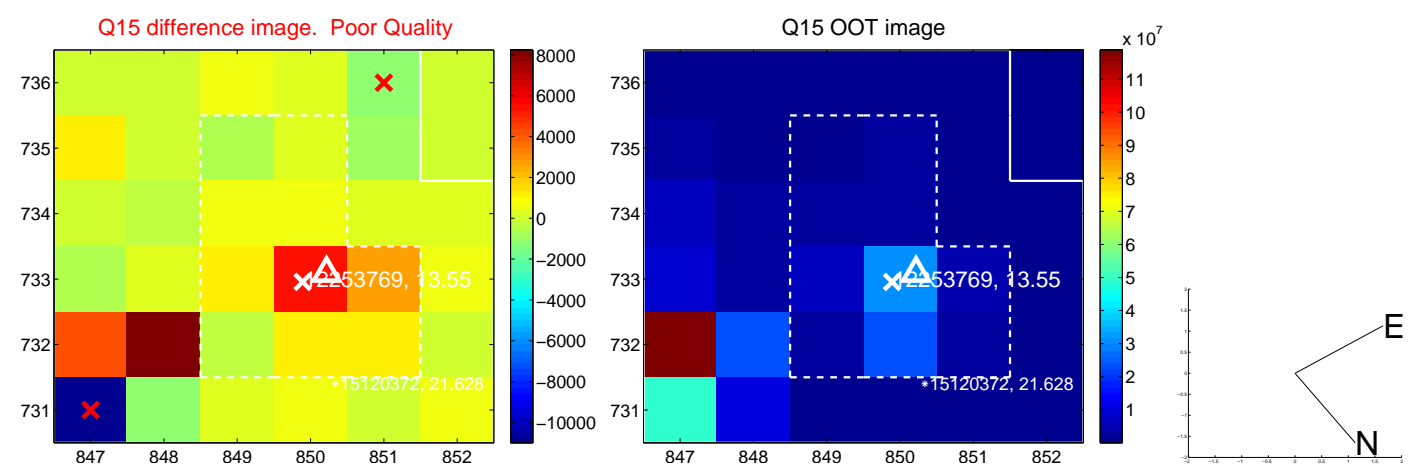
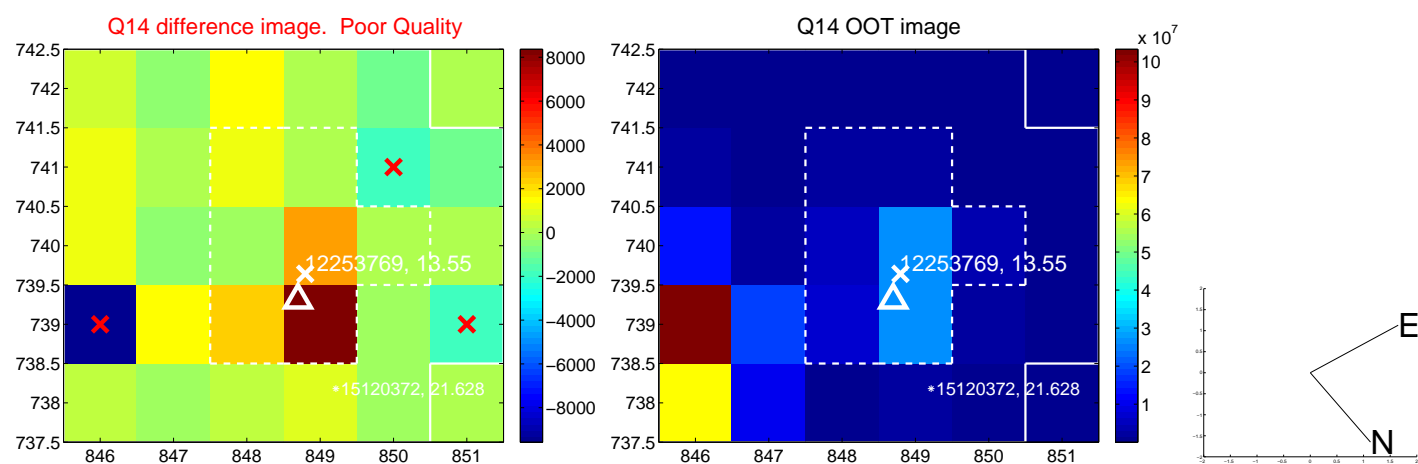
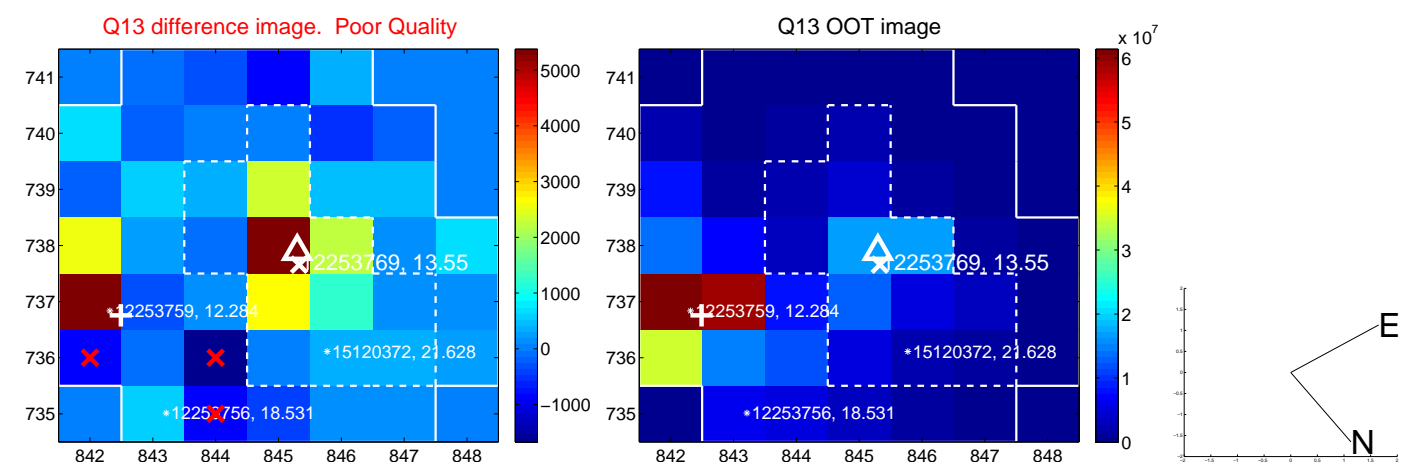
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



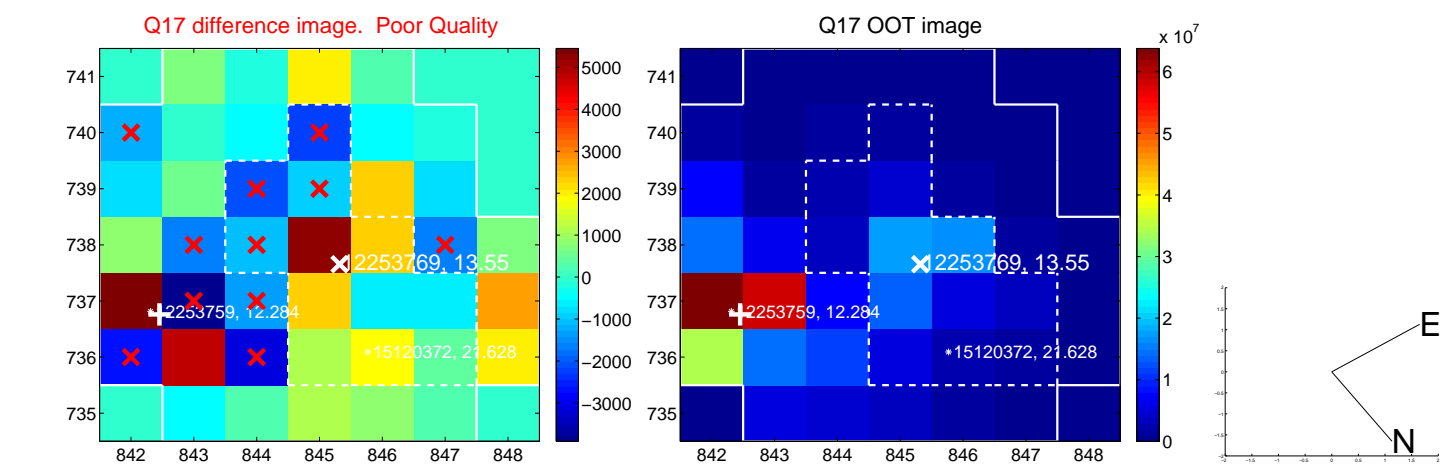
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



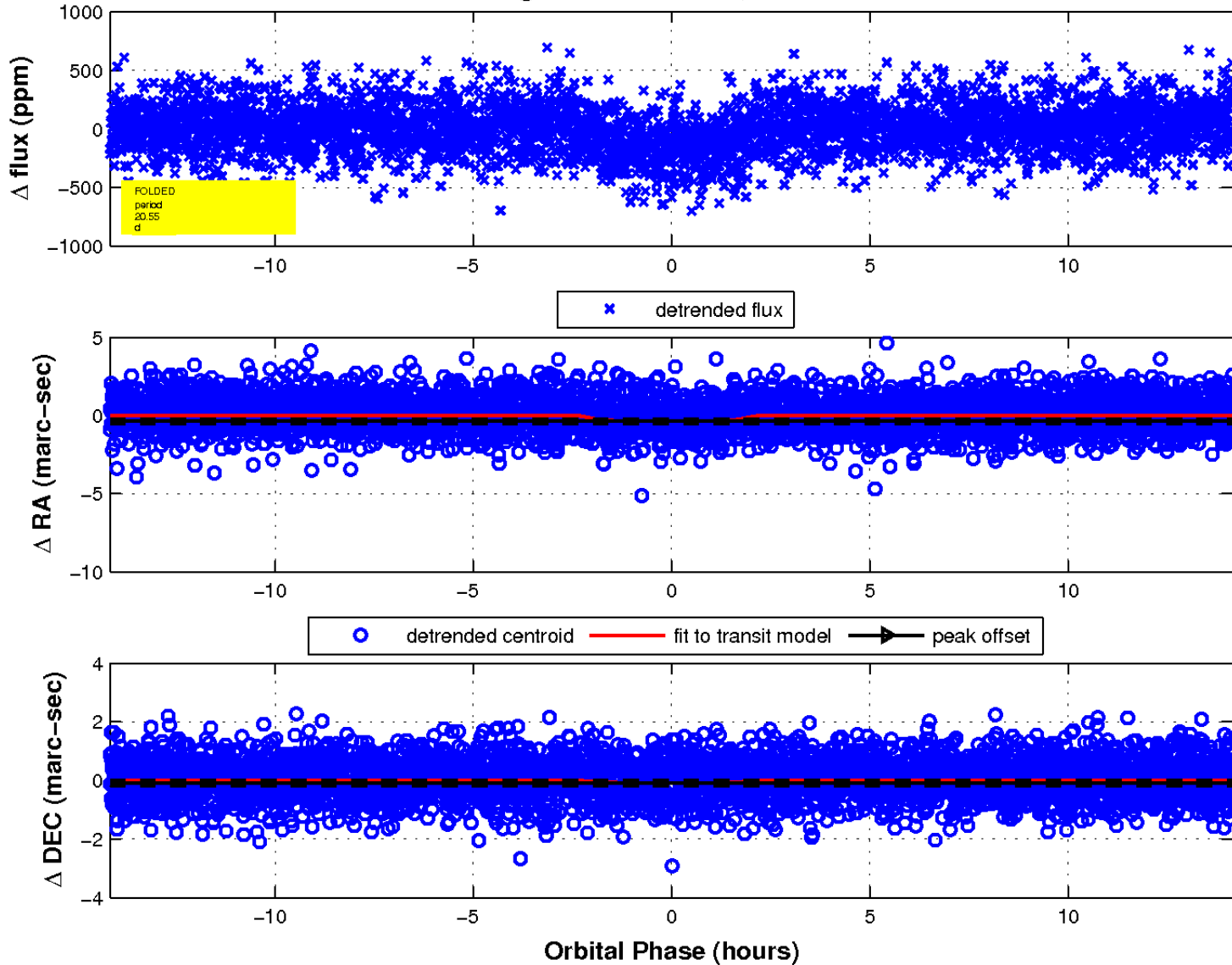
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

