

KIC 007385509

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})
007385509-01	OBS	0675.01	1.655426	133.145895	704.8	3.864	60.1	56.8	0.69	4583	2.59	322.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007385509-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—EPHEM_MATCH

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 007385509-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007385509-01	7385509	007385478-pri	7385478	1:1	18.4	-4	-3	11.47	13.84	269.65	Direct-PRF	0	2.37	1.40

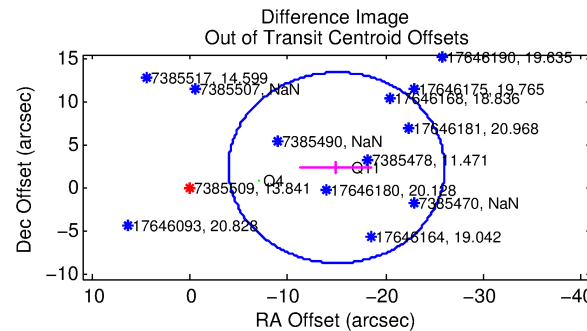
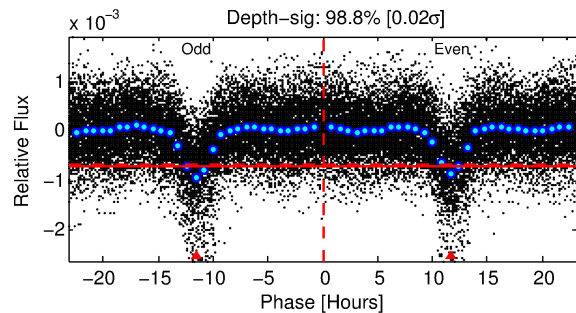
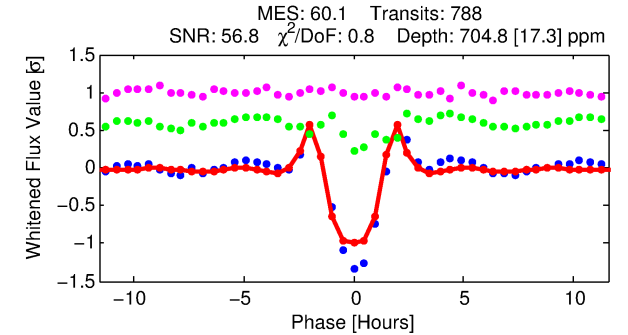
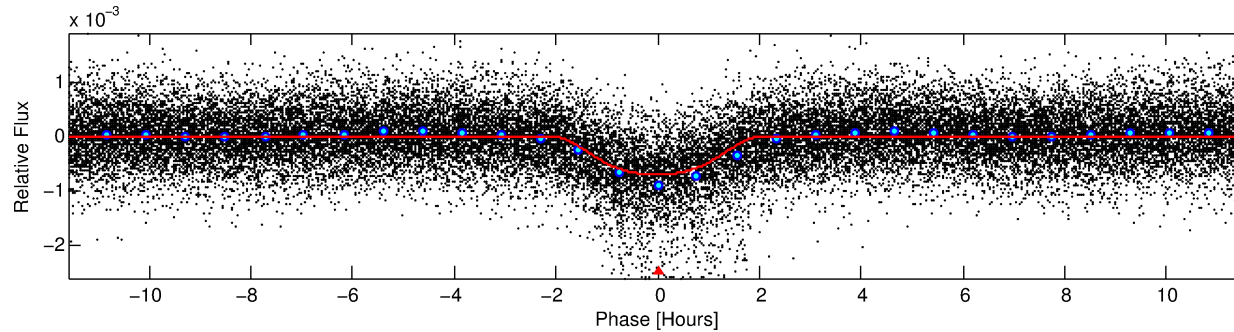
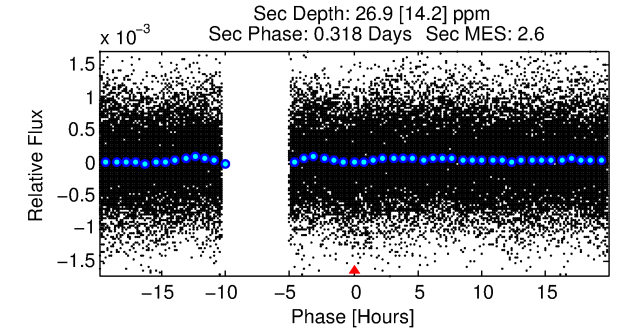
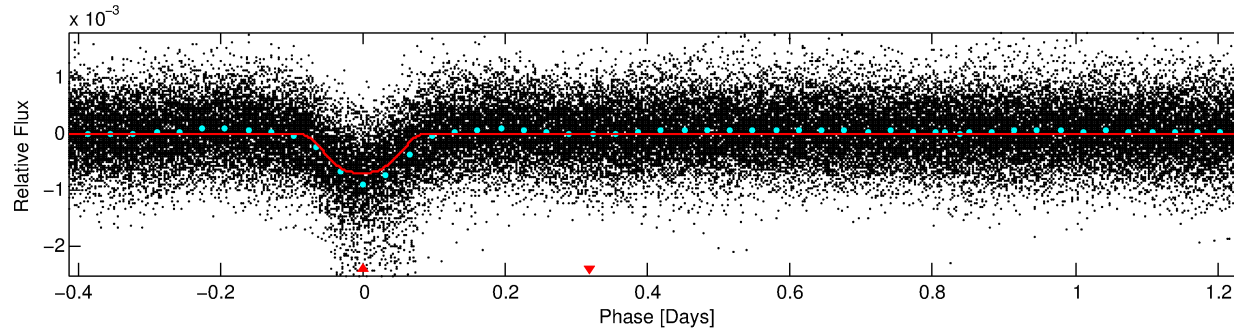
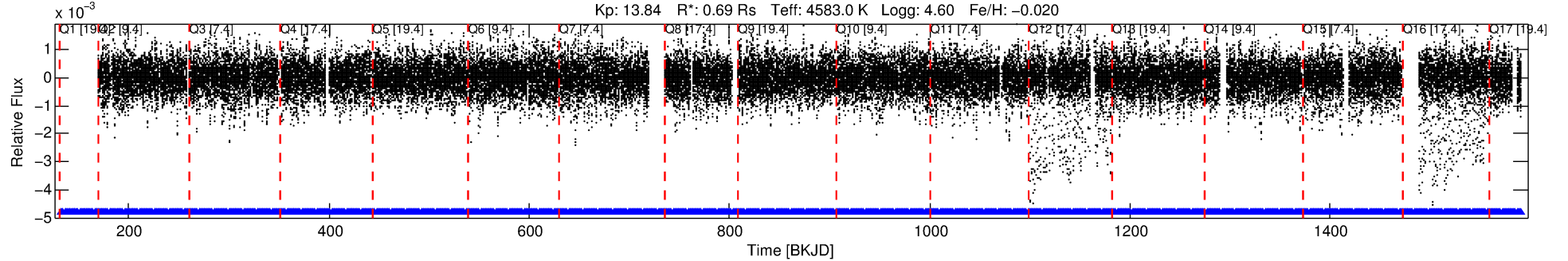
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7385509 Candidate: 1 of 1 Period: 1.655 d

KOI: K00675.01 Corr: 0.913

Kp: 13.84 R*: 0.69 Rs Teff: 4583.0 K Logg: 4.60 Fe/H: -0.020



DV Fit Results:

Period = 1.65543 [0.00000] d
Epoch = 133.1459 [0.0005] BKJD
Rp/R* = 0.0342 [0.0005]
a/R* = 1.57 [0.01]
b = 0.97 [0.00]
Seff = 322.31 [53.57]
Teq = 1080 [45] K
Rp = 2.59 [0.23] Re
a = 0.0243 [0.0016] AU
Ag = 1.31 [0.70] [0.44σ]
Teff = 1786 [245] K [2.84σ]

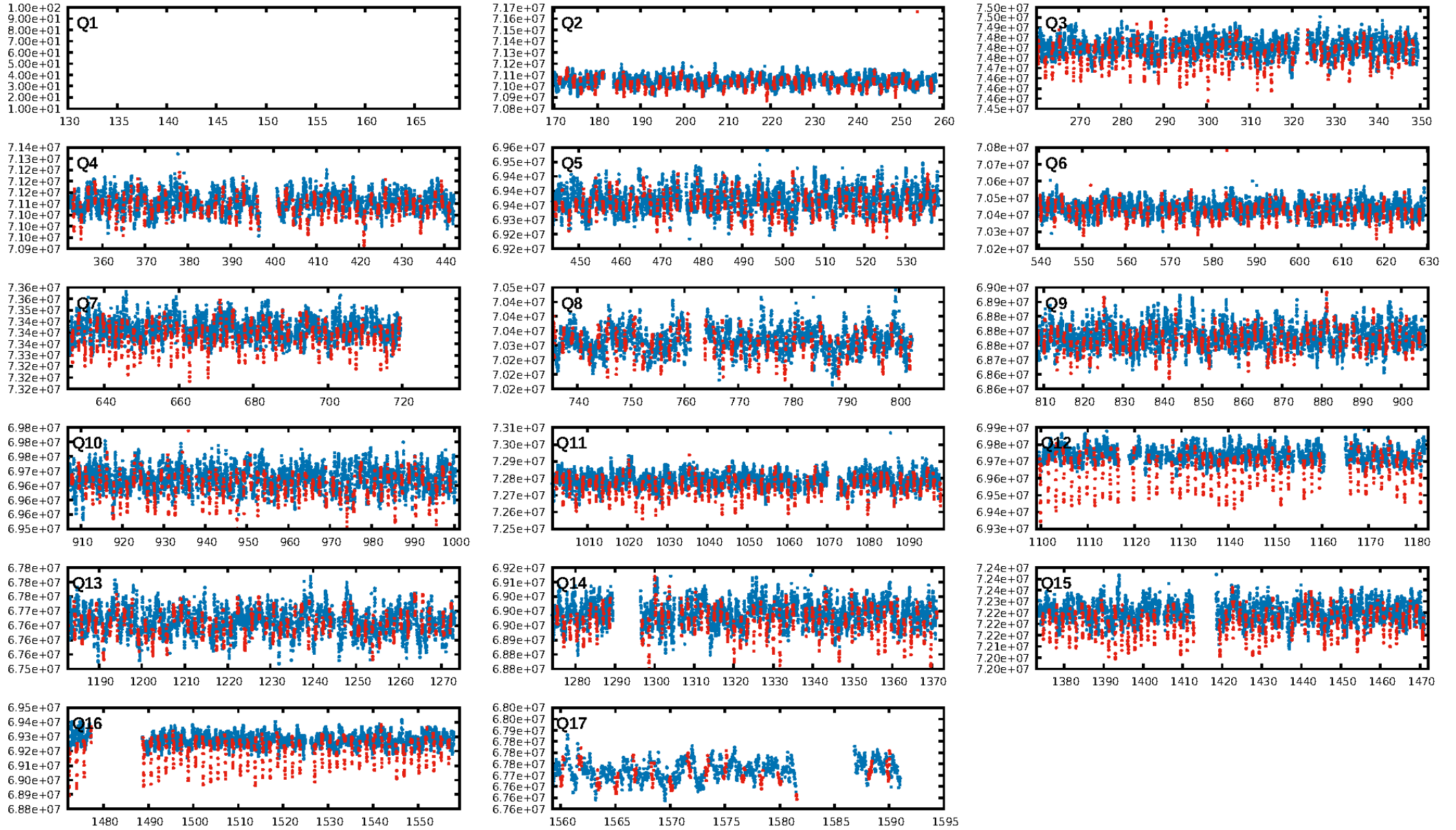
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [772/772]
GhostDiagnostic-chr: -0.2639
Centroid-sig: 0.0%
Centroid-so: 75.531 arcsec [667.84σ]
OotOffset-rm: 15.173 arcsec [4.12σ]
KicOffset-rm: 16.038 arcsec [7.08σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [16/16]

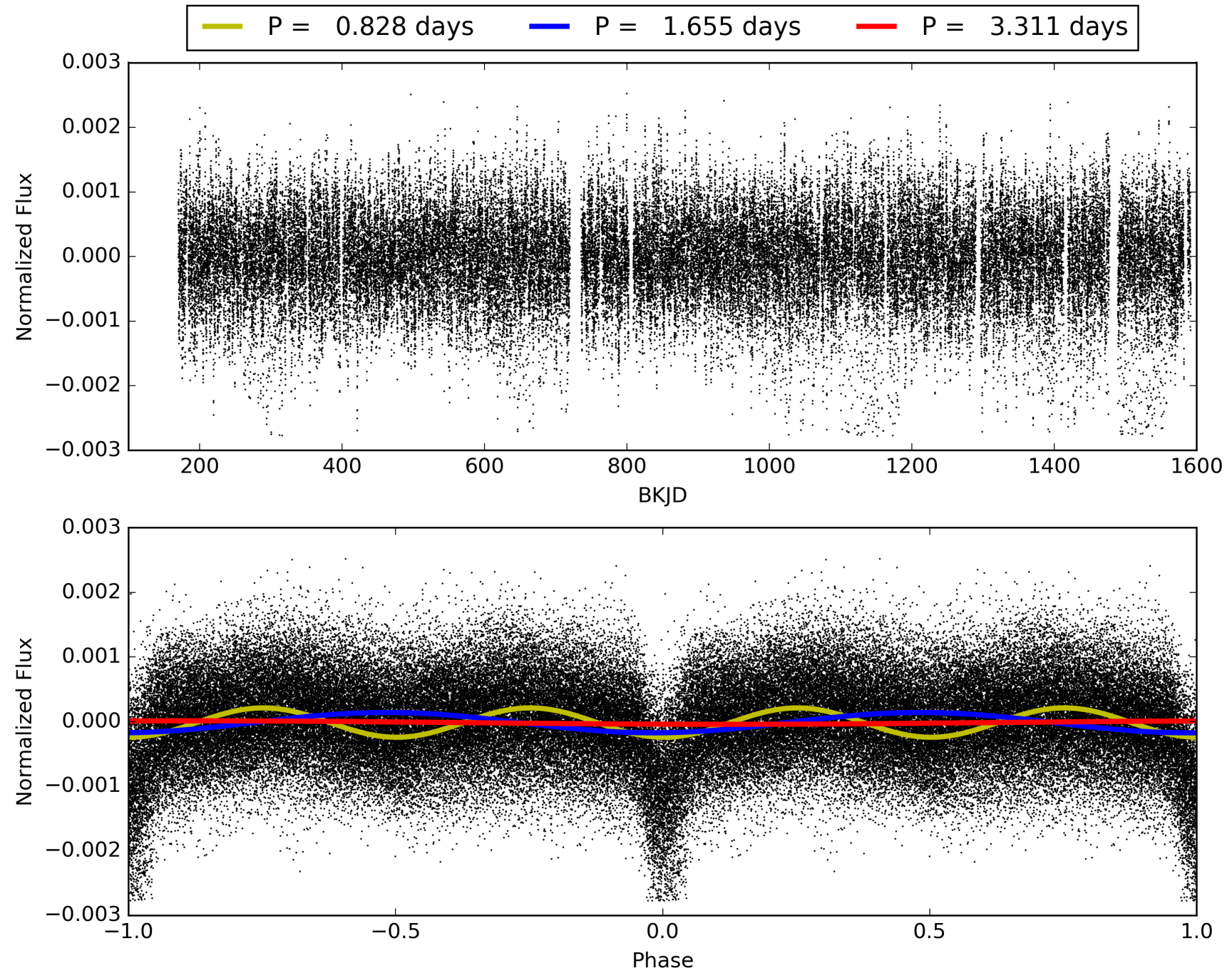
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:22:11 Z

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

TCE 007385509-01, PDC Light Curves

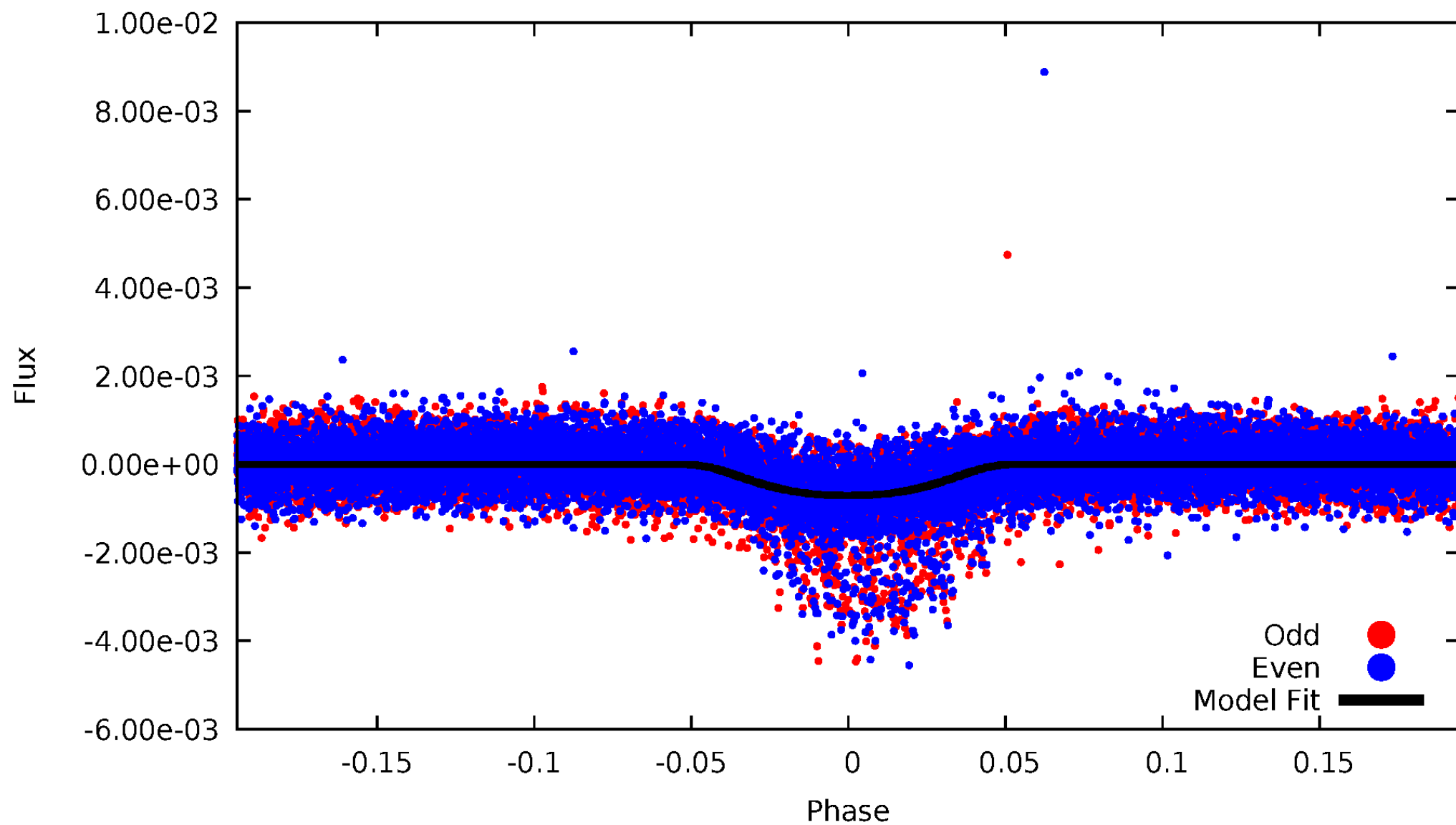


TCE 007385509-01



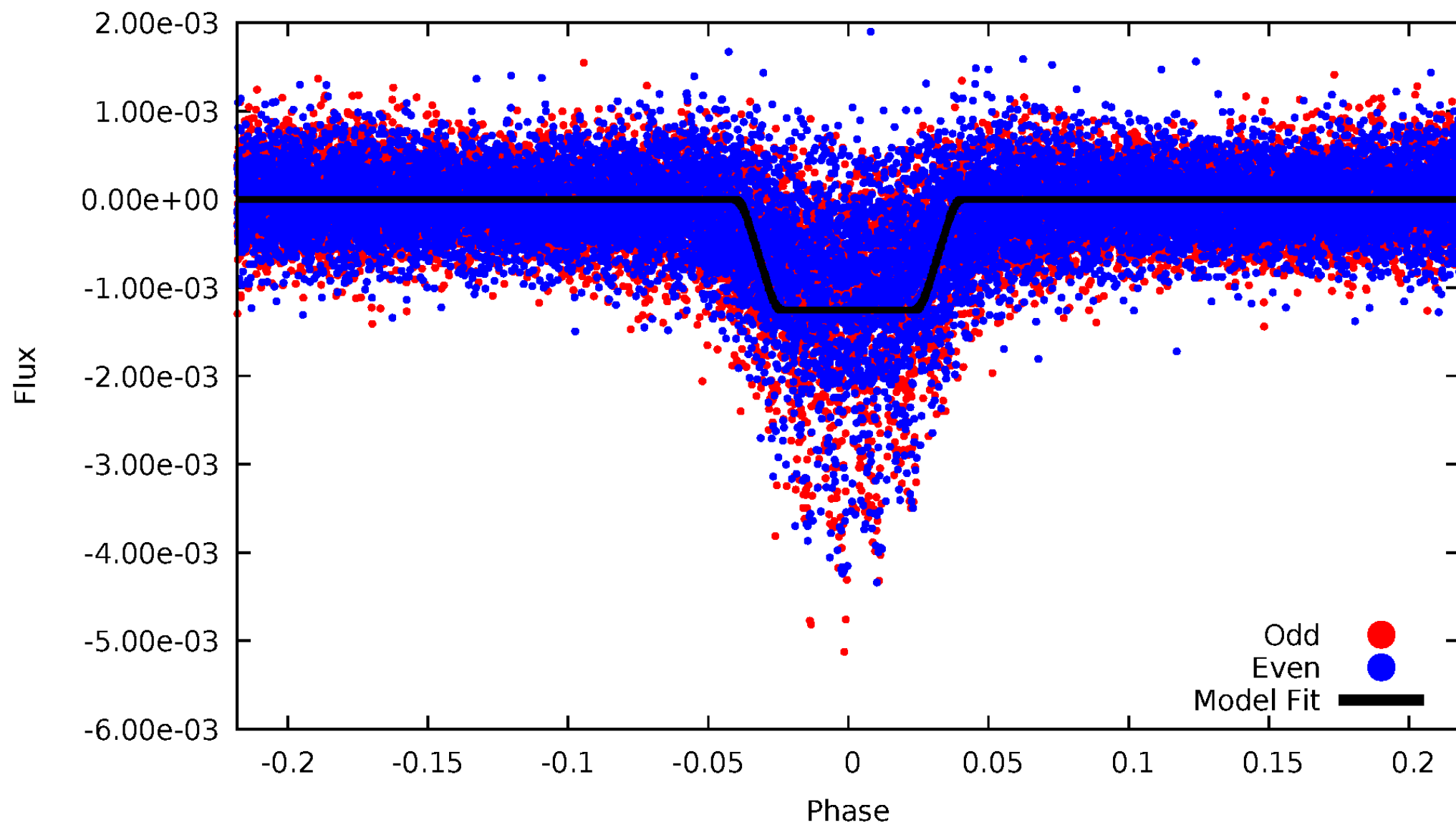
DV Odd/Even

TCE 007385509-01

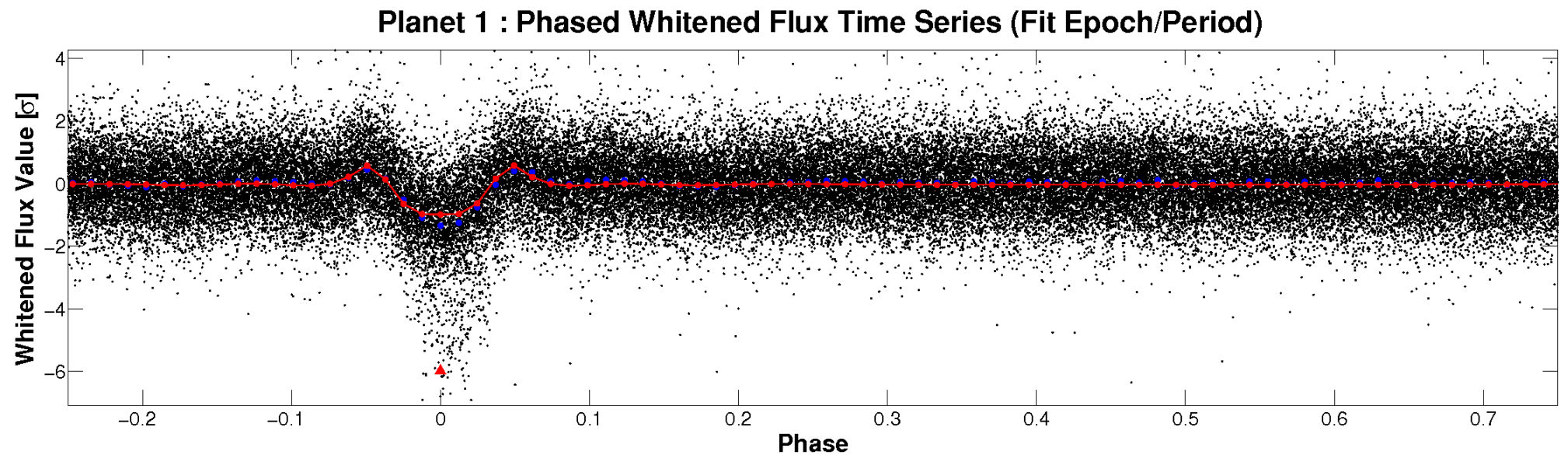
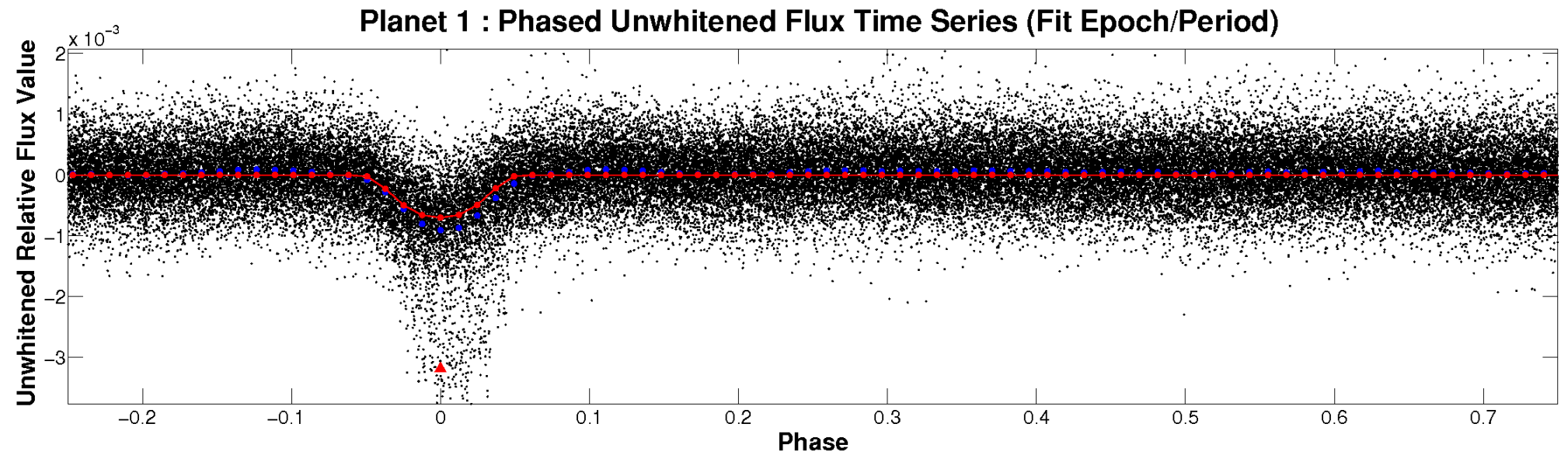


ALT Odd/Even

TCE 007385509-01

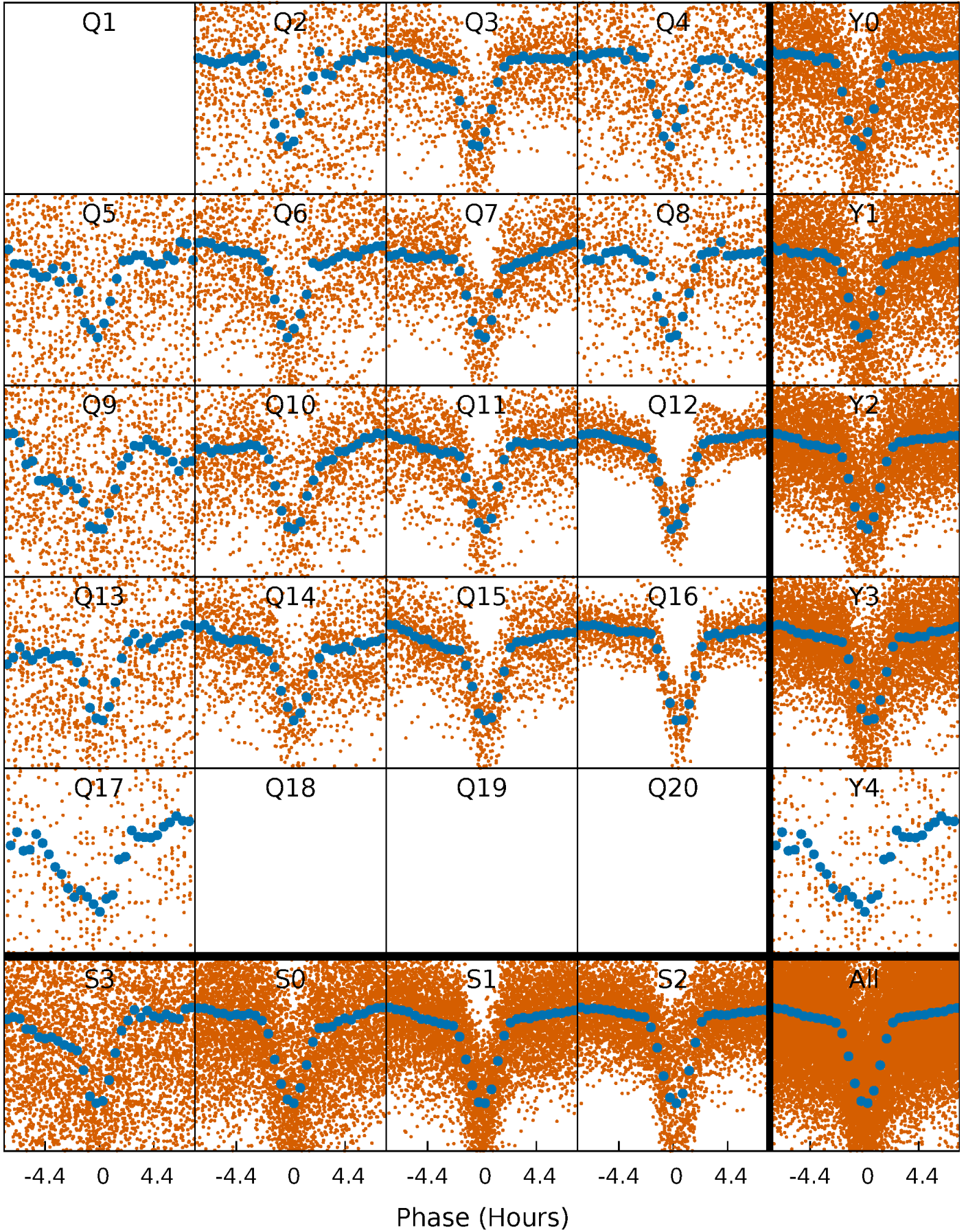


Non-Whitened Vs. Whitened Light Curve



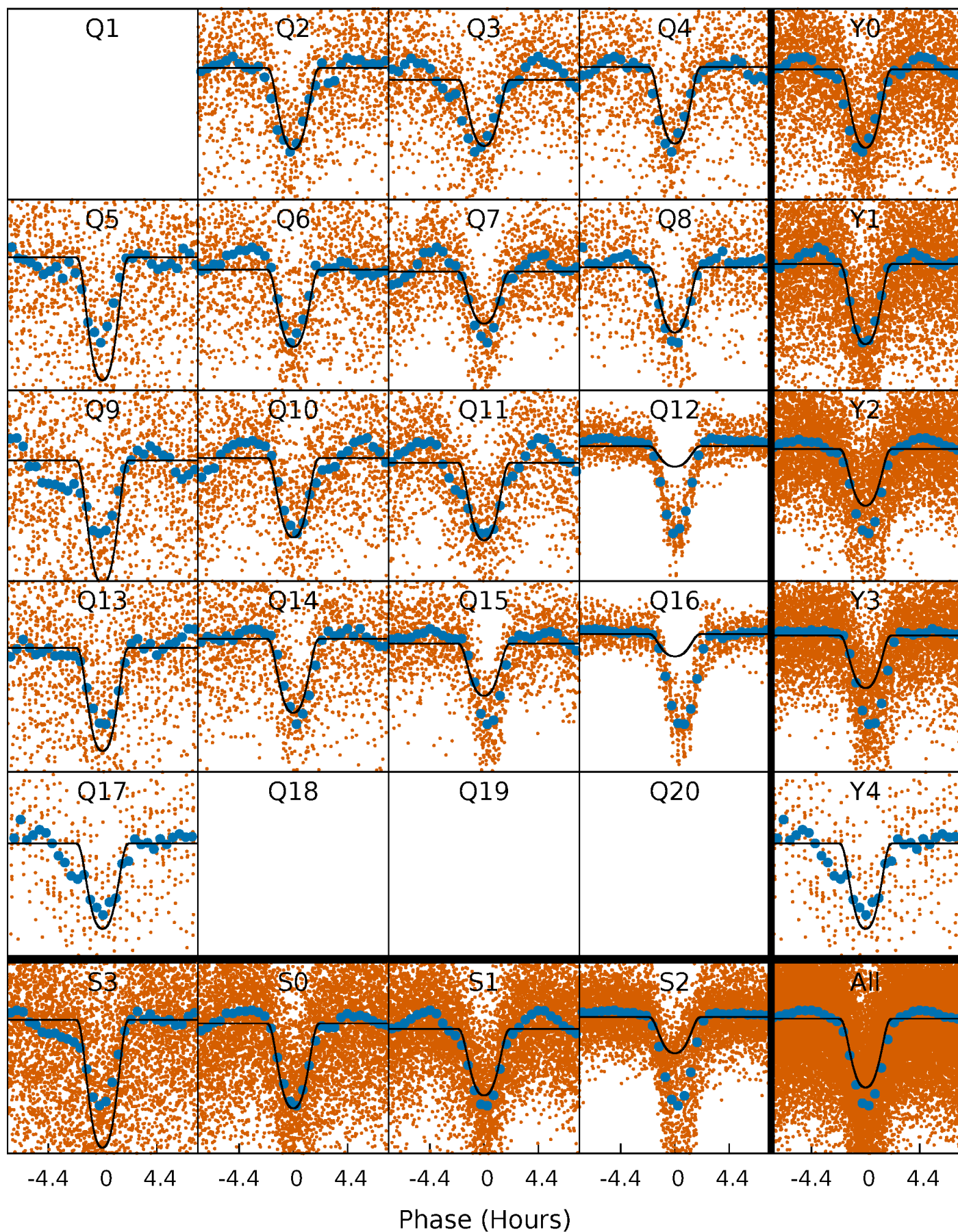
PDC Quarter-Phased Transit Curves

TCE 007385509-01 P= 1.655426 Days $T_0=133.145895$ (BKJD)



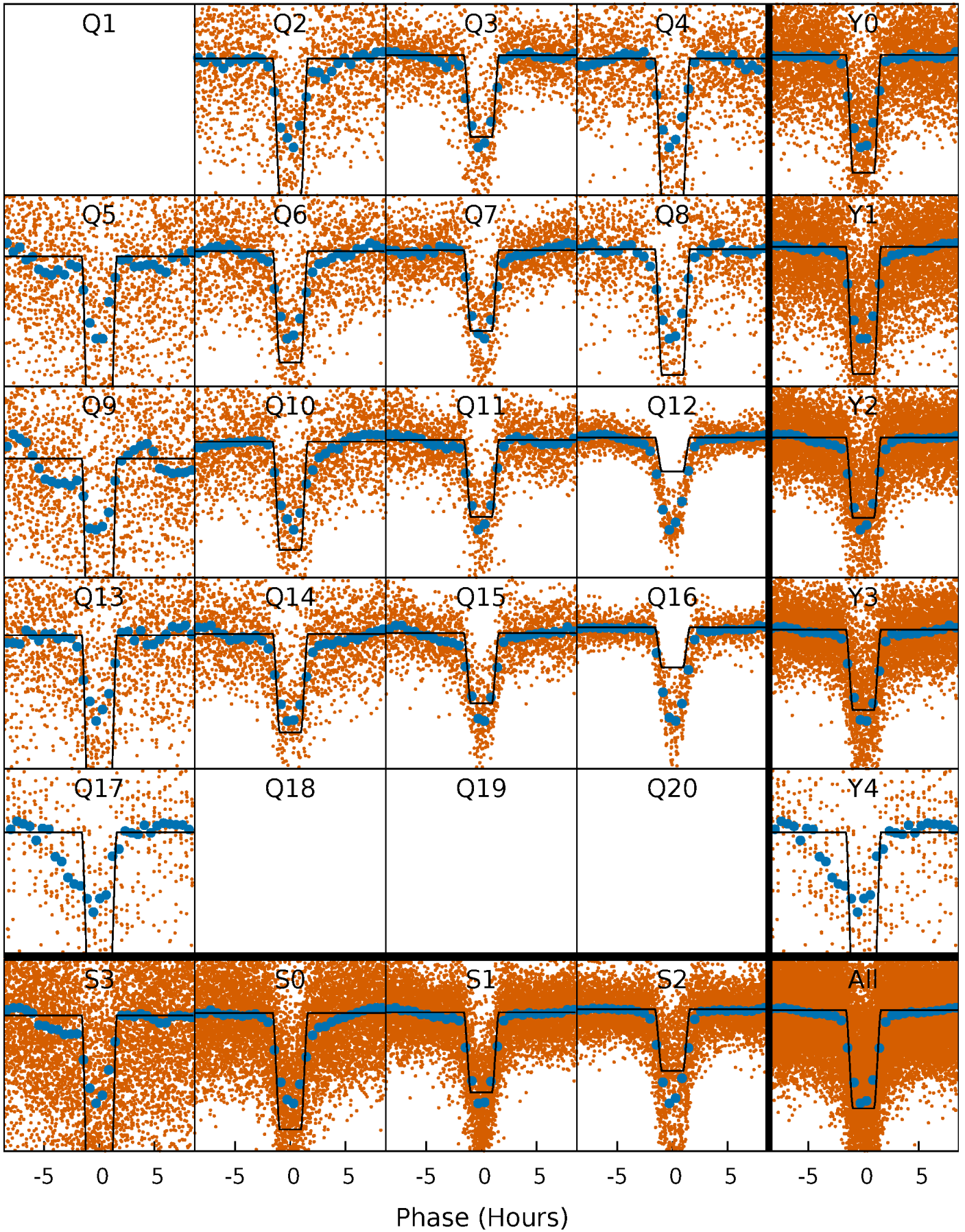
DV Quarter-Phased Transit Curves

TCE 007385509-01 P= 1.655426 Days $T_0=133.145895$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

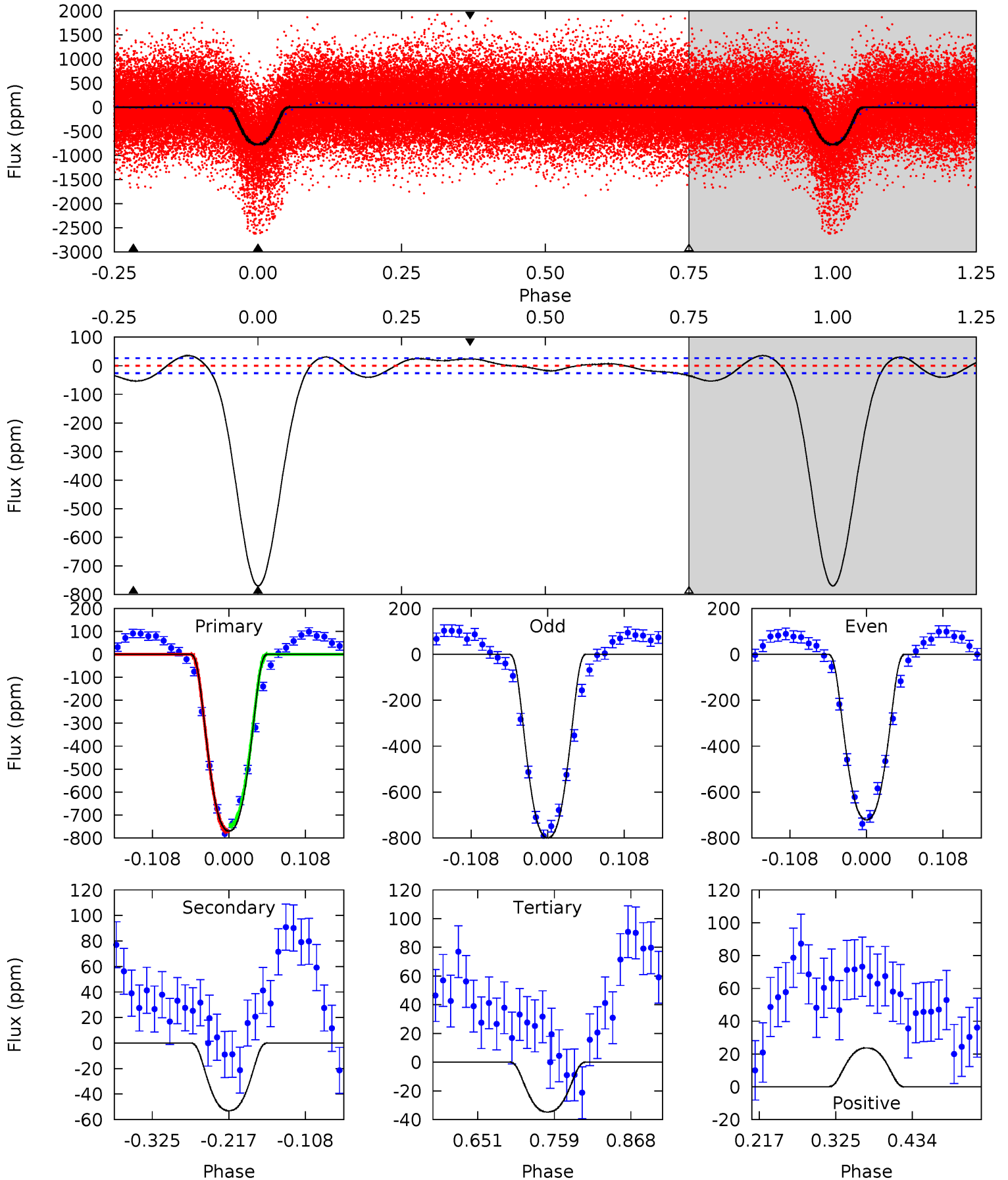
TCE 007385509-01 P= 1.655463 Days $T_0=133.130841$ (BKJD)



DV Model-Shift Uniqueness Test

007385509-01, P = 1.655426 Days, E = 133.145895 Days

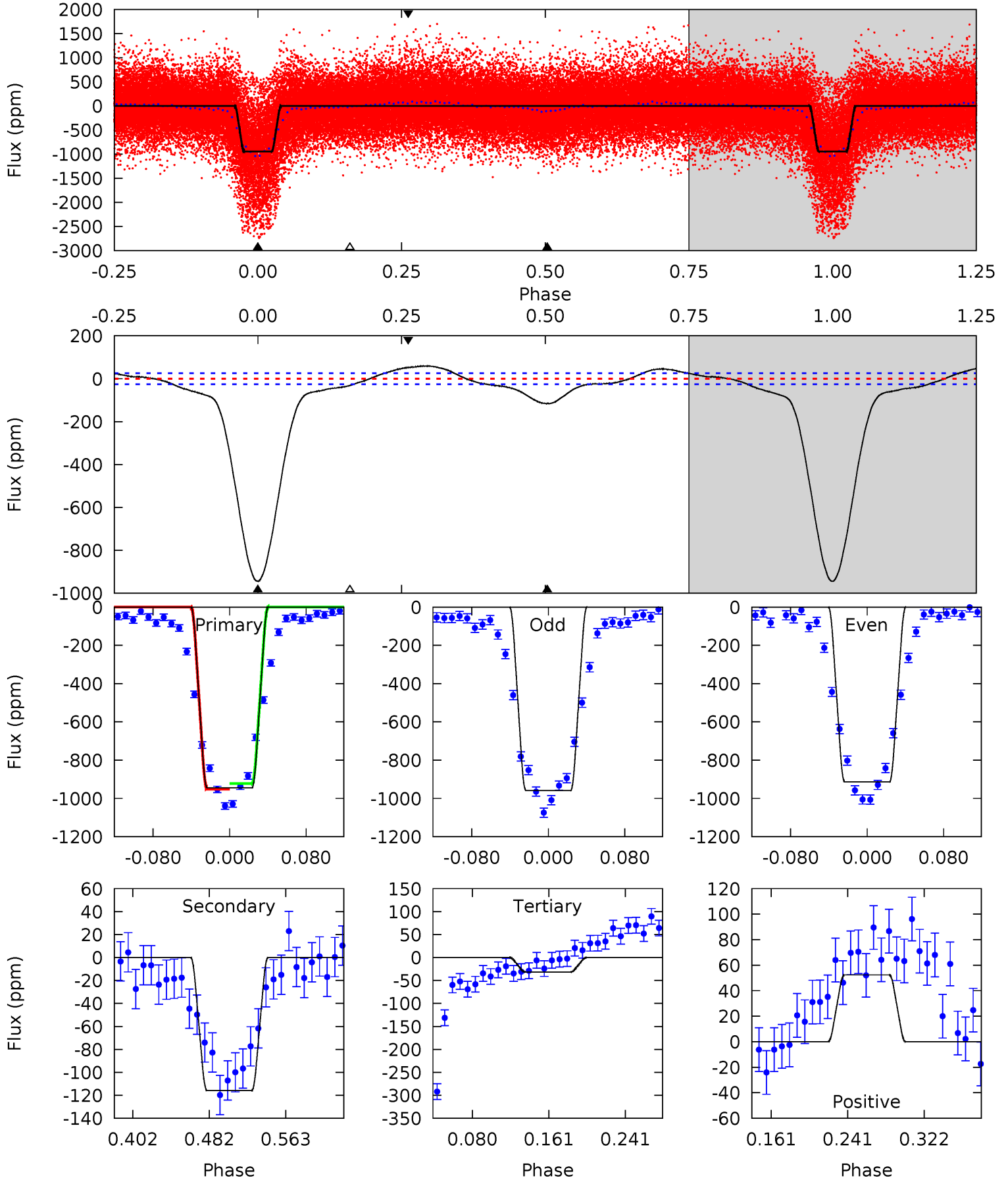
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
133.3	9.19	6.01	4.11	4.55	1.61	3.24	127.3	129.2	3.18	5.08	6.84	1.25	0.04	2.20



Alt Model-Shift Uniqueness Test

007385509-01, P = 1.655463 Days, E = 133.130841 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
169.9	20.8	5.70	9.42	4.61	1.75	6.77	164.2	160.5	15.2	11.4	4.00	1.11	0.06	2.63



Stellar Parameters For KIC 007385509

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4583^{+161}_{-161}	$4.600^{+0.044}_{-0.028}$	$-0.020^{+0.250}_{-0.300}$	$0.695^{+0.049}_{-0.060}$	$0.701^{+0.066}_{-0.060}$	$2.942^{+0.632}_{-0.358}$
	+4%/-4%	+1%/-1%	+1250%/-1500%	+7%/-9%	+9%/-9%	+21%/-12%
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 007385509-01 / KOI 0675.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-53 ± 6	$2.59^{+0.13}_{-0.13}$	1506^{+53}_{-56}	2744^{+83}_{-82}	$2.600^{+0.380}_{-0.320}$
Alt.	-116 ± 6	$2.69^{+0.12}_{-0.14}$	1504^{+61}_{-55}	3050^{+84}_{-81}	$5.314^{+0.444}_{-0.434}$

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

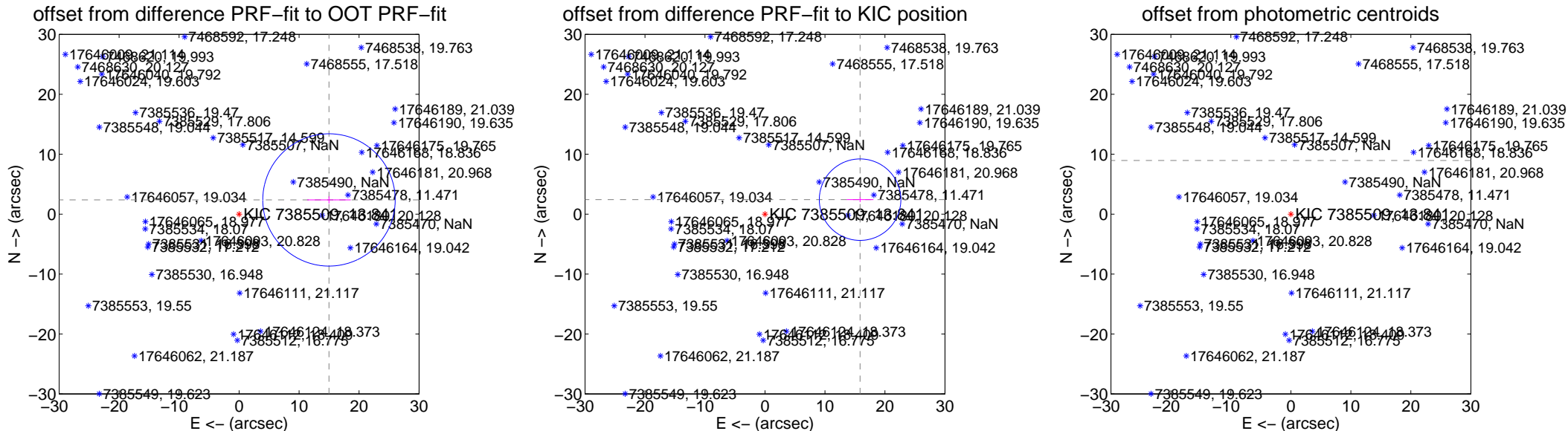
DV Centroid Data

Supplemental centroid analysis for 007385509-01. Kepler magnitude: 13.84. Transit SNR 56.76

There are 2 quarters with good PRF difference image offsets

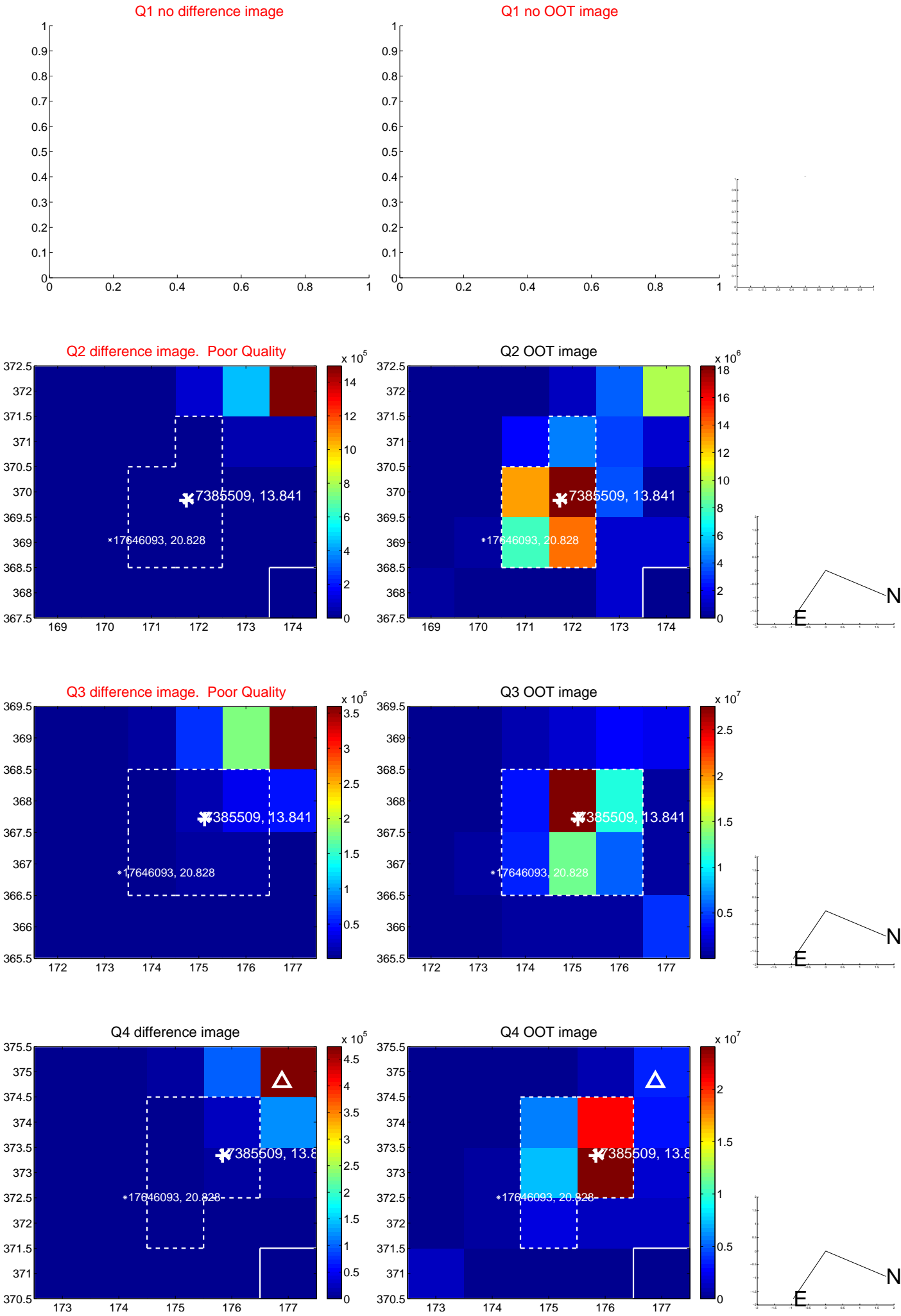
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.173 \pm 3.679	4.12	-14.986 \pm 3.633	2.371 \pm 0.585
PRF-fit source offset from KIC position	16.038 \pm 2.265	7.08	-15.855 \pm 2.232	2.415 \pm 0.399
photometric centroid source offset	75.53 \pm 0.11	667.84	-75.00 \pm 0.11	8.95 \pm 0.07

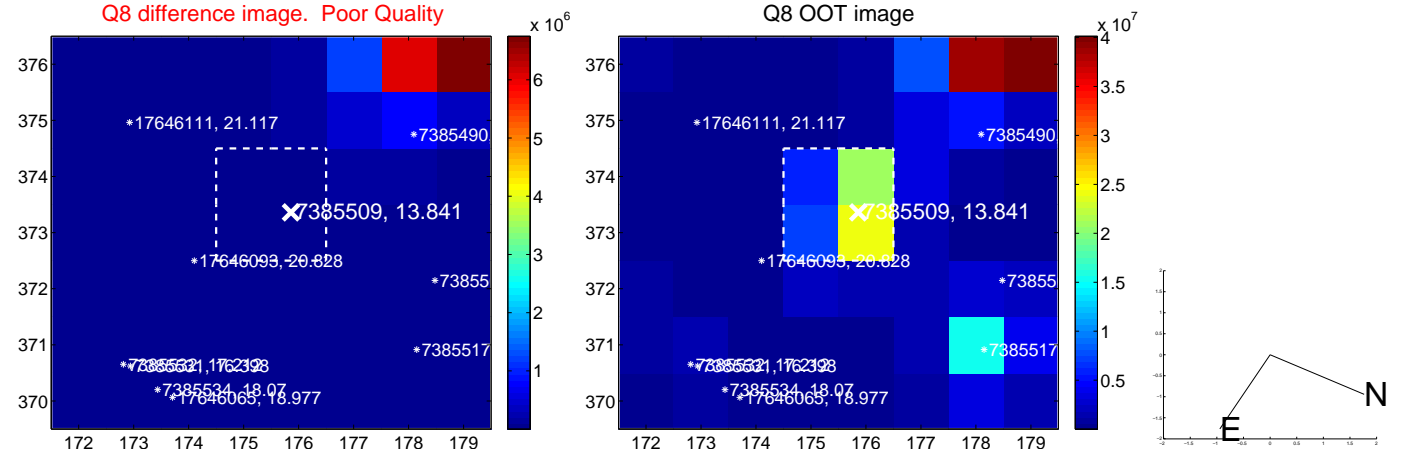
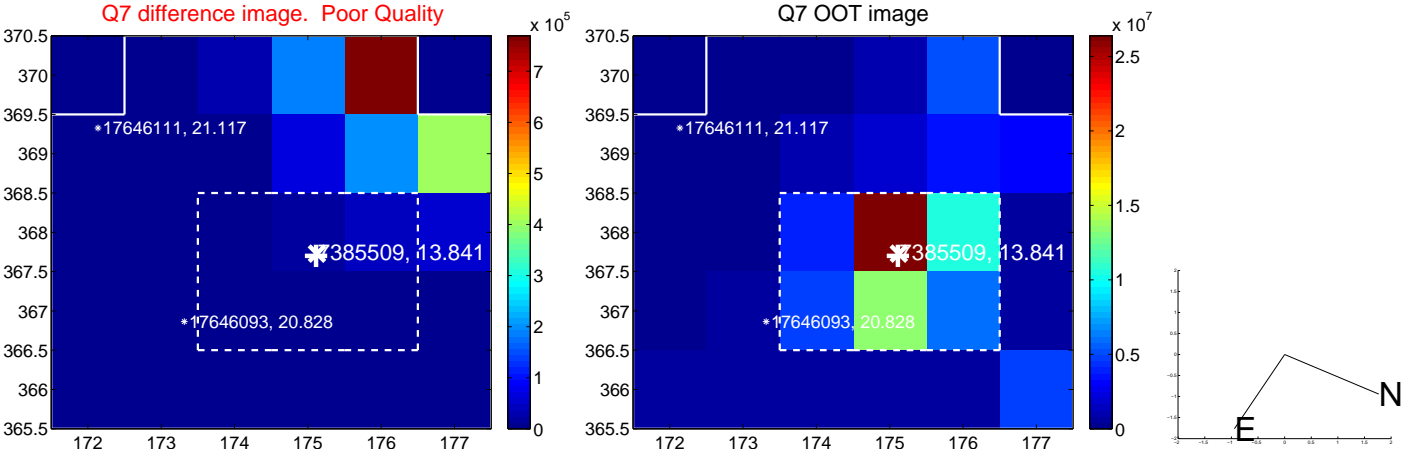
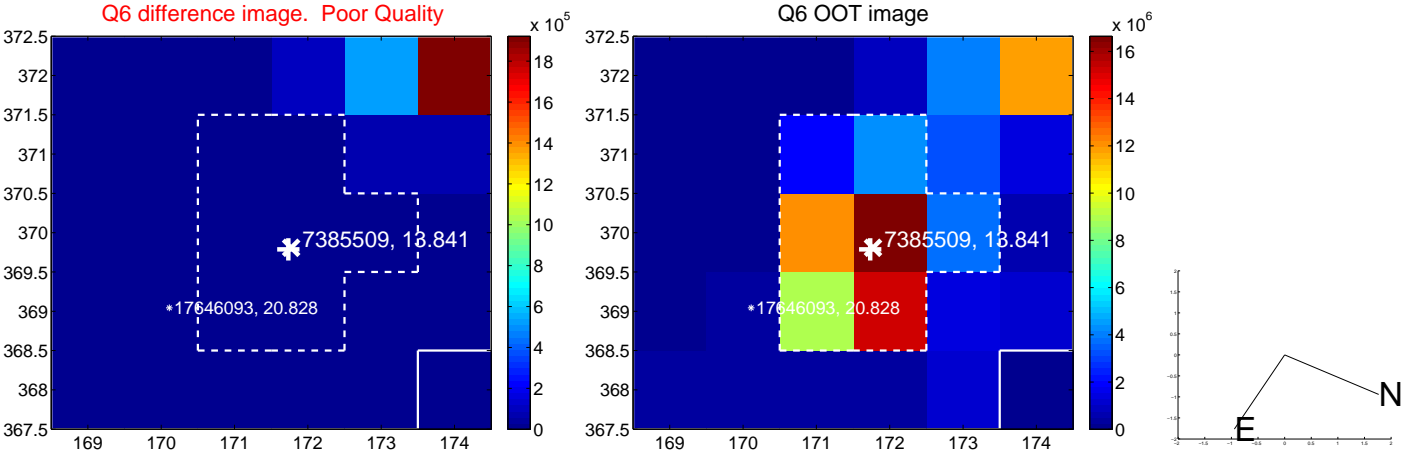
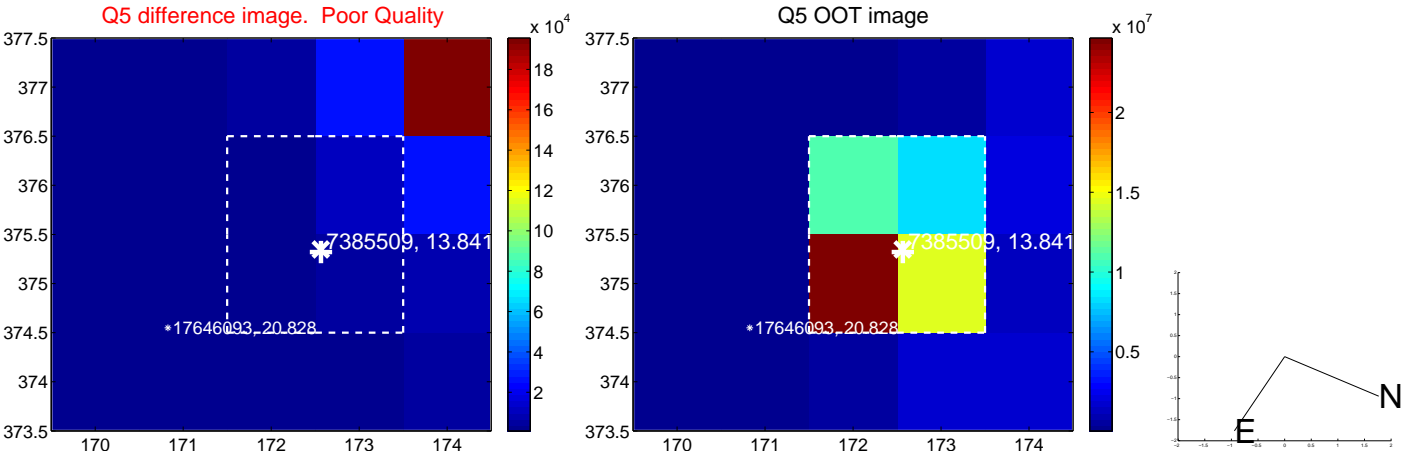


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

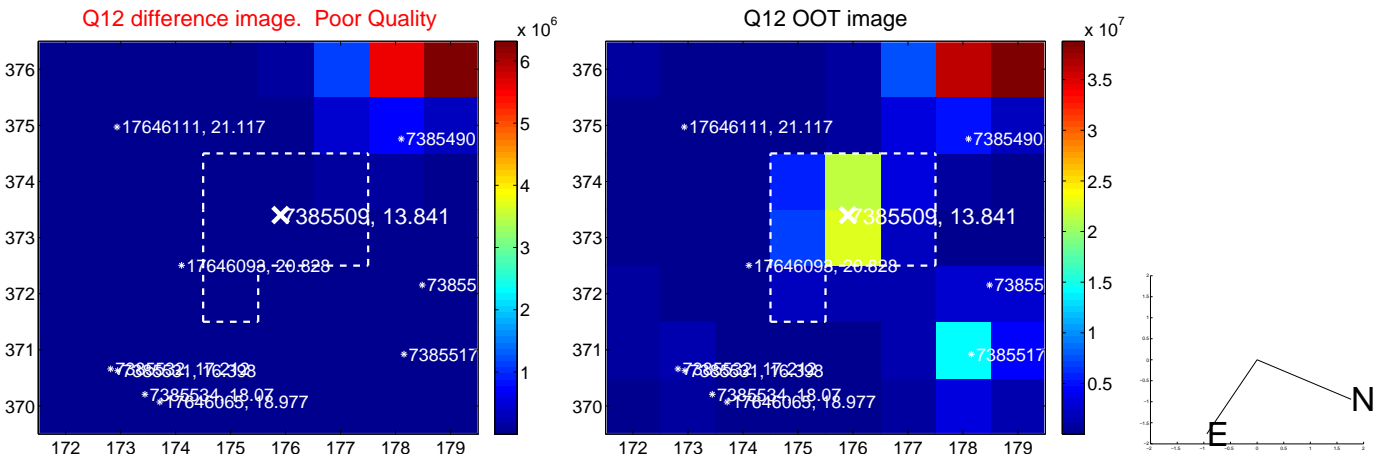
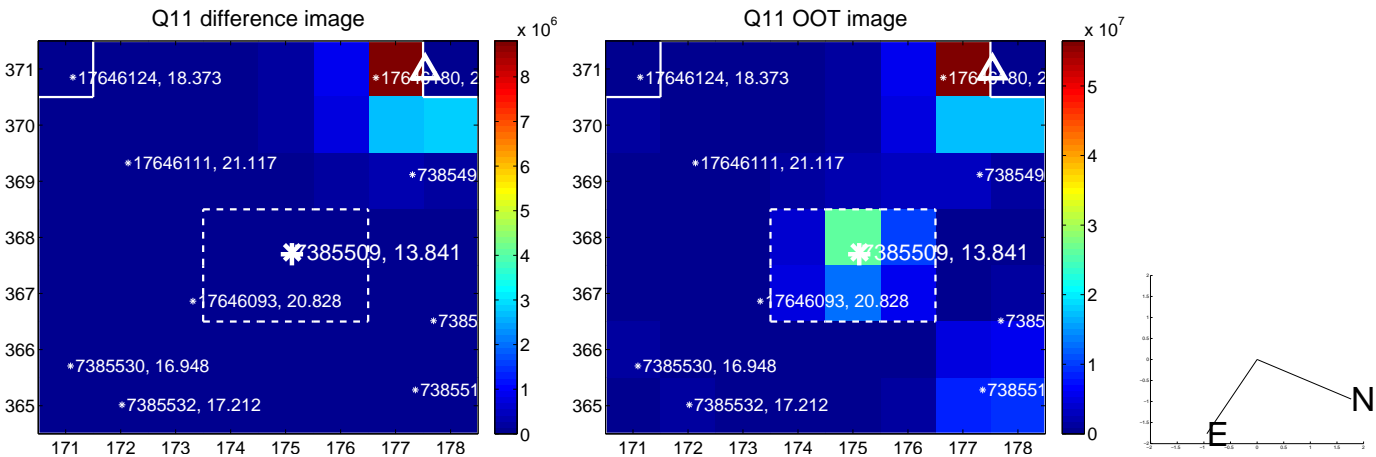
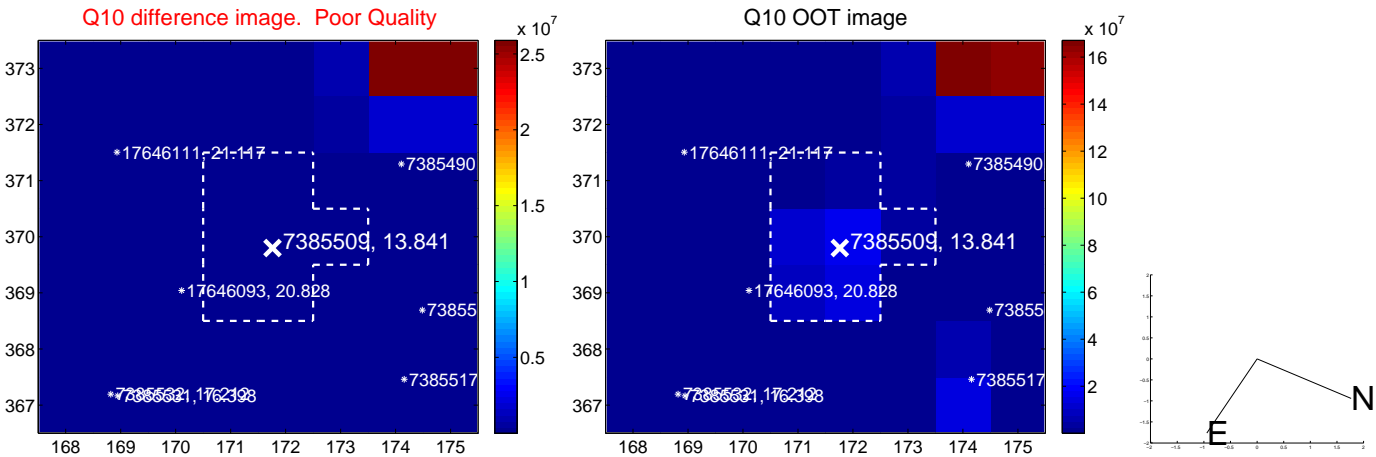
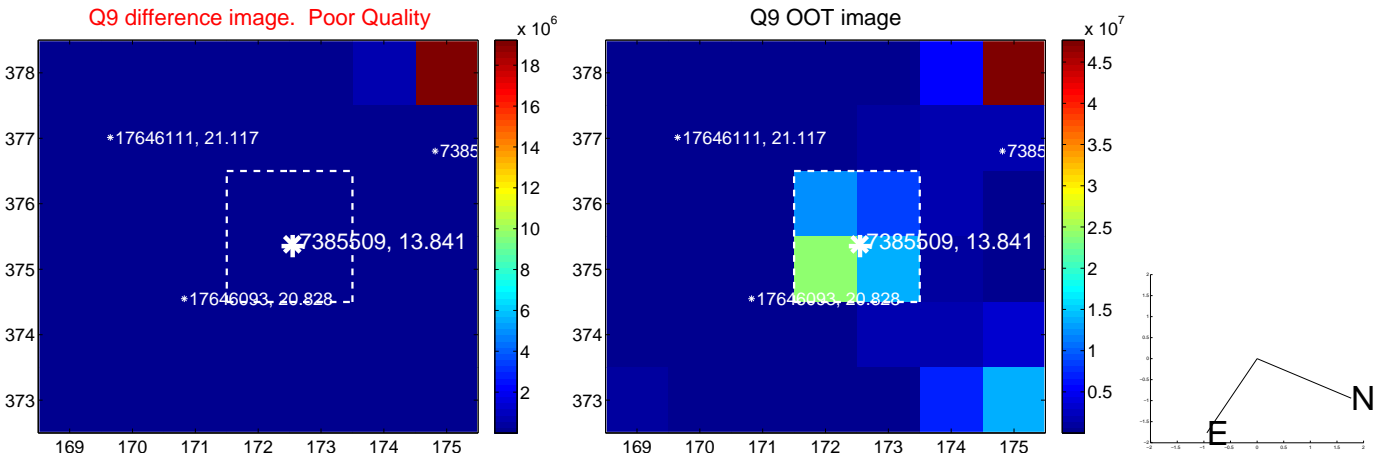
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



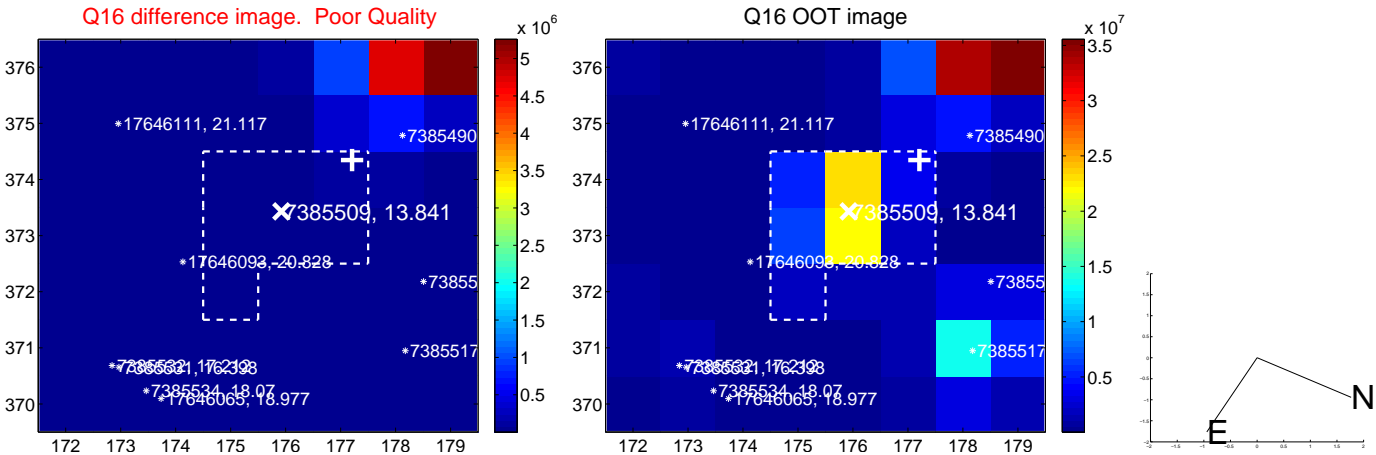
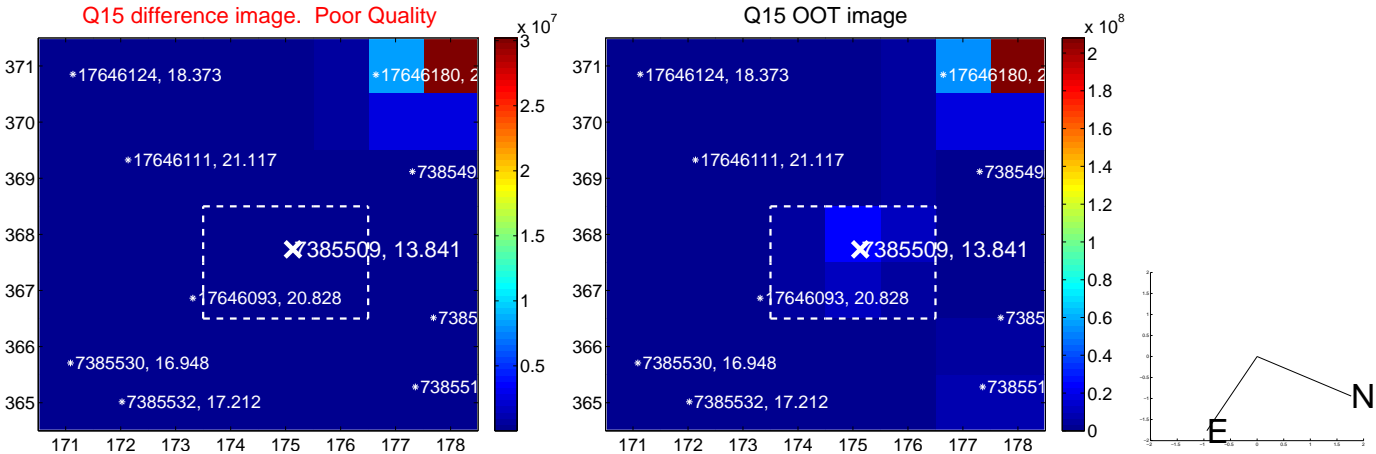
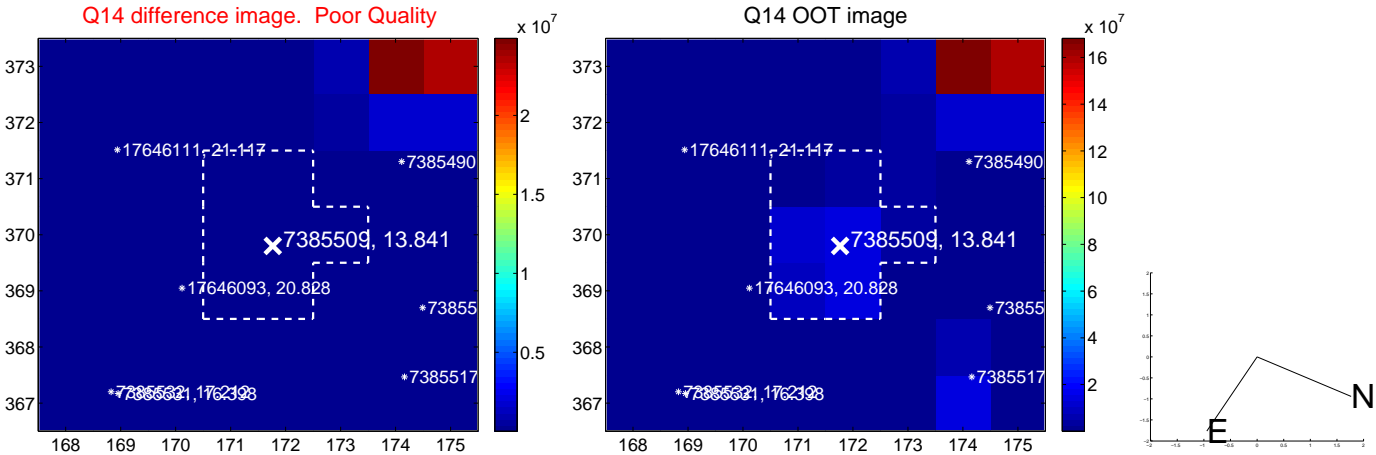
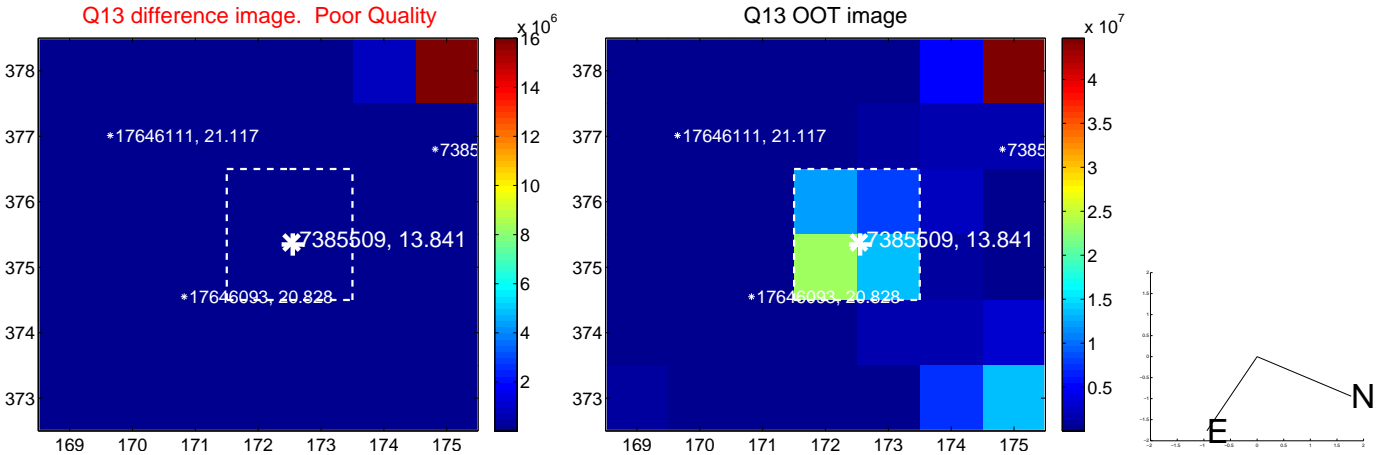
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



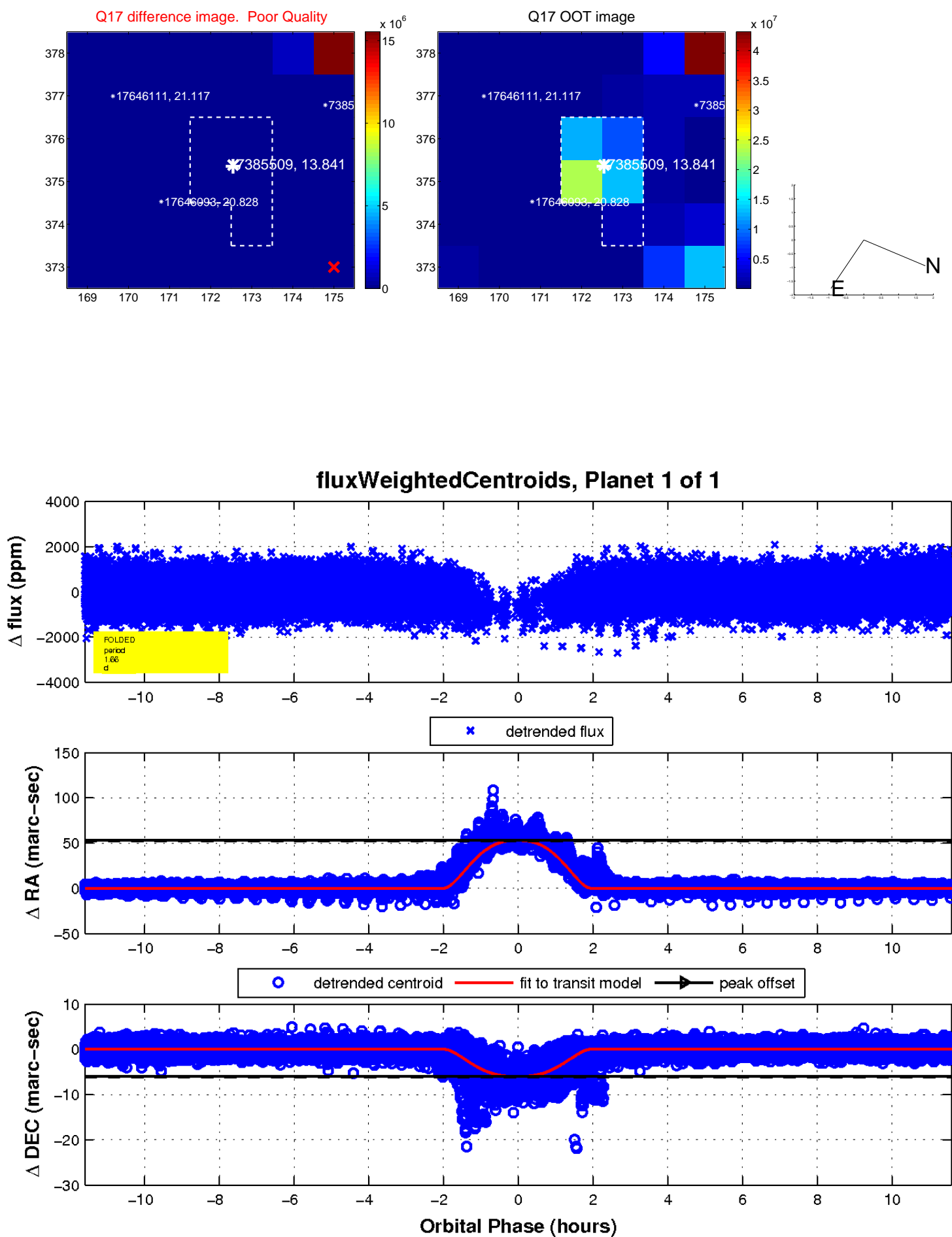
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

