

KIC 008620220

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})
008620220-01	OBS	No	402.353094	145.161912	1138.8	23.024	9.3	9.6	0.76	4617	3.17	0.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008620220-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

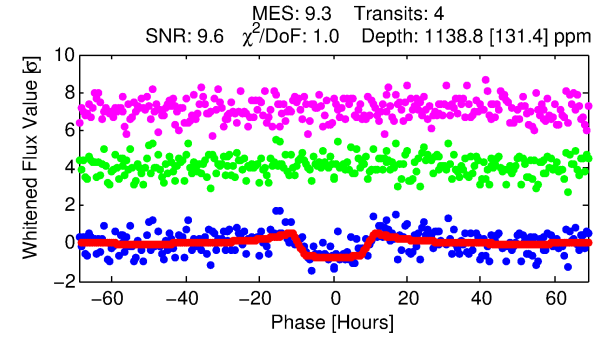
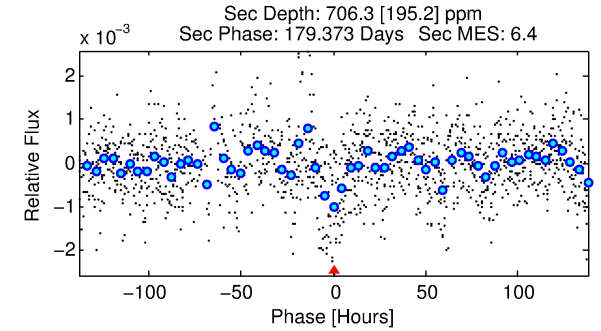
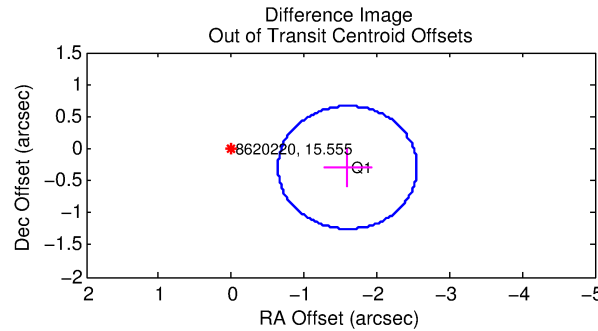
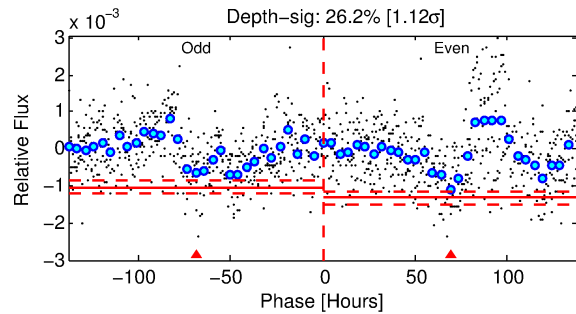
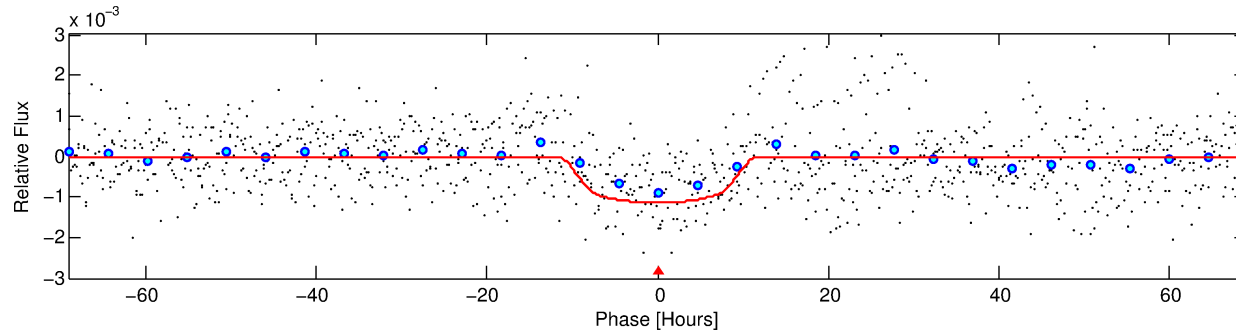
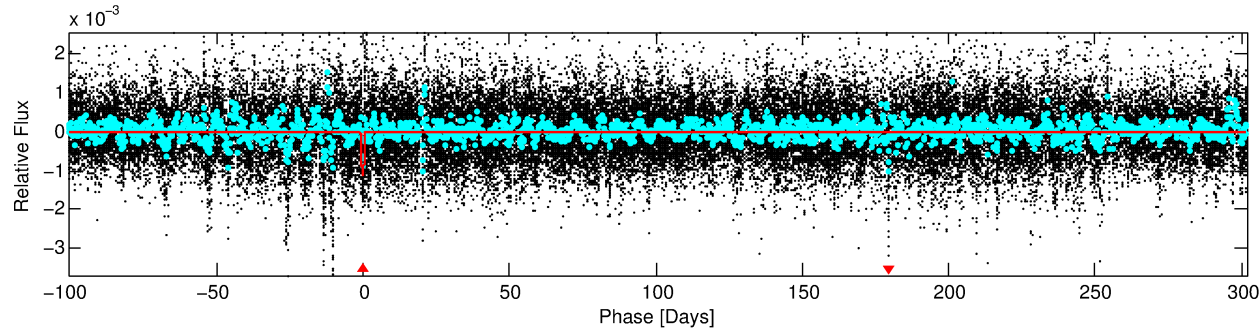
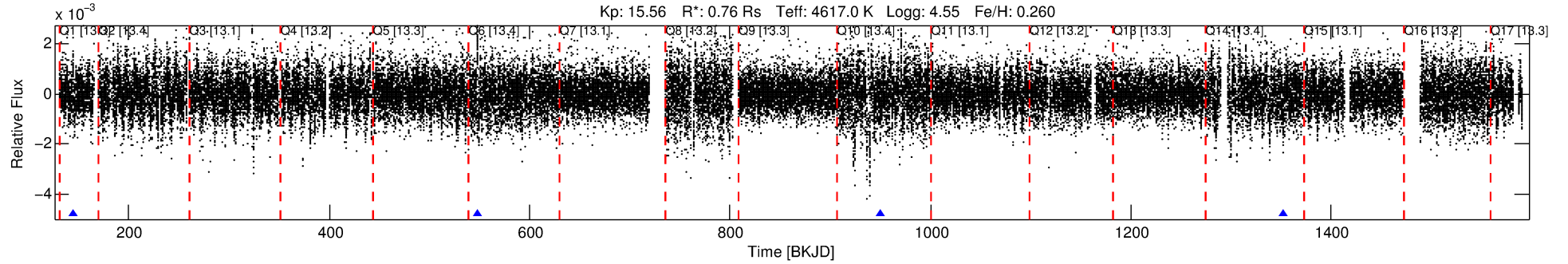
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008620220-01

No Significant Match Found

DV One-Page Summary

KIC: 8620220 Candidate: 1 of 1 Period: 402.353 d



DV Fit Results:

Period = 402.35309 [0.01466] d
Epoch = 145.1619 [0.0260] BKJD
Rp/R* = 0.0384 [0.0037]
a/R* = 68.45 [16.84]
b = 0.90 [0.05]
Seff = 0.25 [0.04]
Teq = 180 [7] K
Rp = 3.17 [0.40] Re
a = 0.9673 [0.0705] AU
Ag = 36123.72 [12826.89] [2.82 σ]
Teffp = 3843 [344] K [10.65 σ]

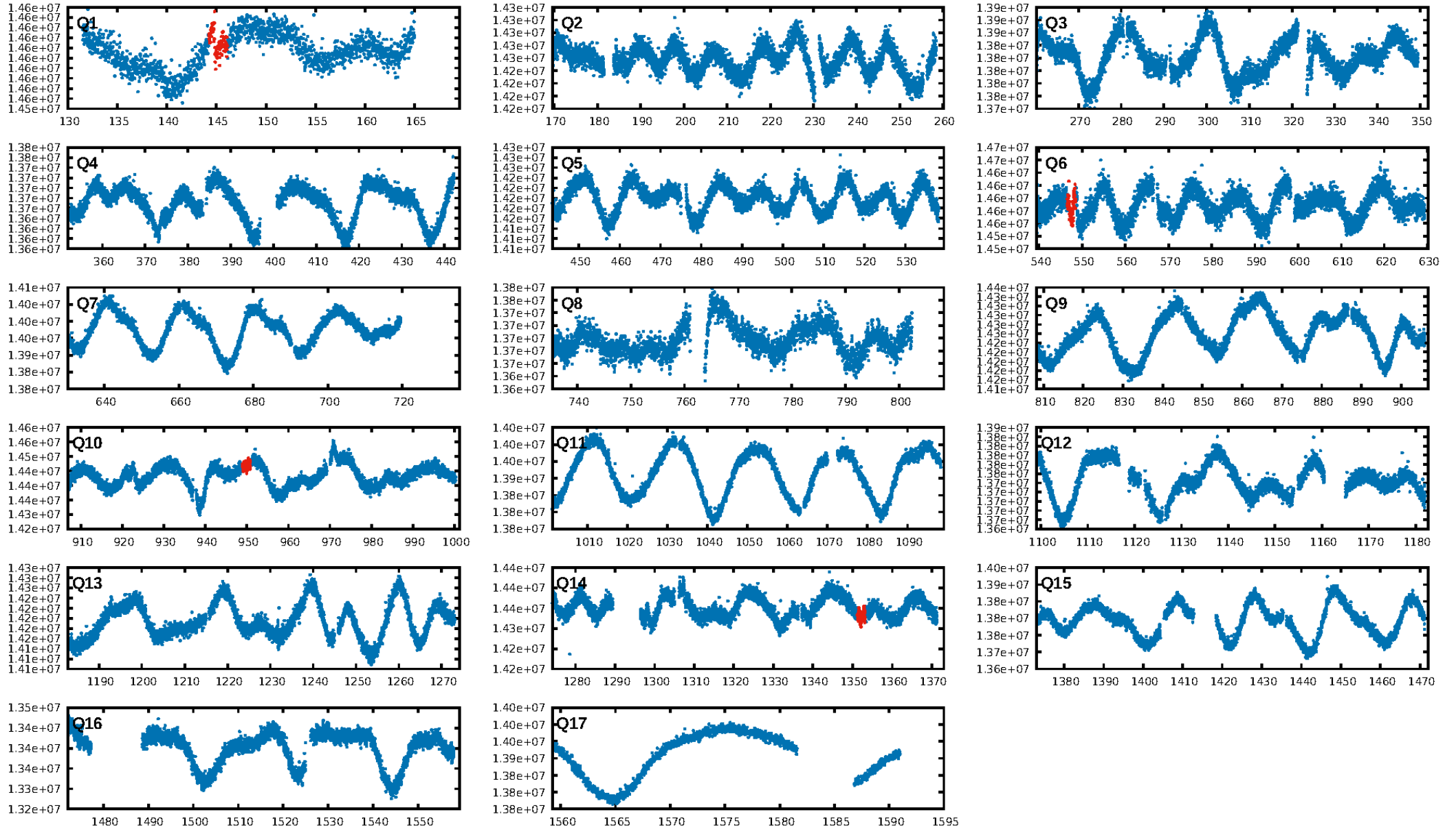
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.56e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -3.236
Centroid-sig: 44.2%
Centroid-so: 0.381 arcsec [0.42 σ]
OotOffset-rm: 1.622 arcsec [5.08 σ]
KicOffset-rm: 1.717 arcsec [5.40 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [4/4]

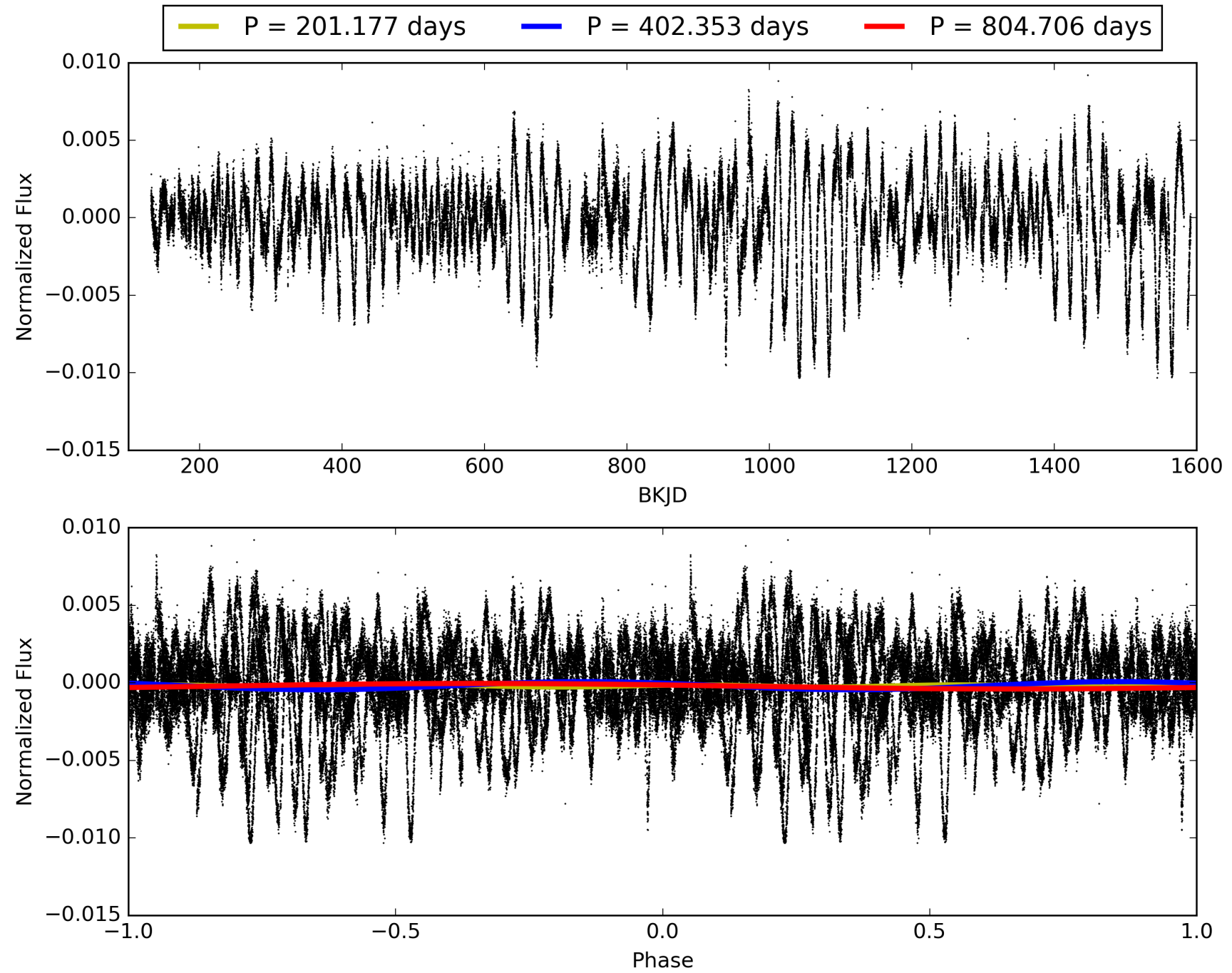
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:17:10 Z

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

TCE 008620220-01, PDC Light Curves

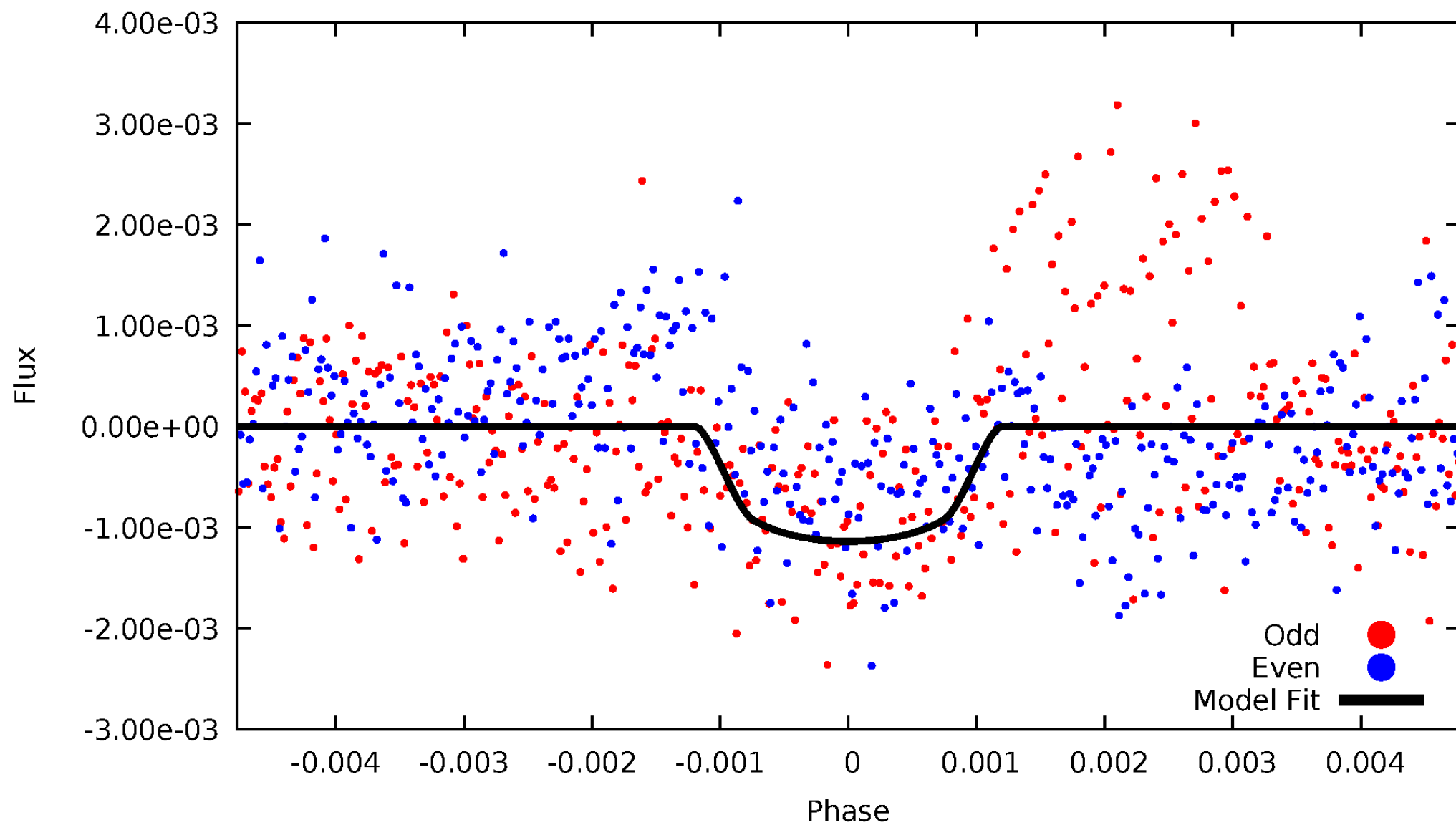


TCE 008620220-01



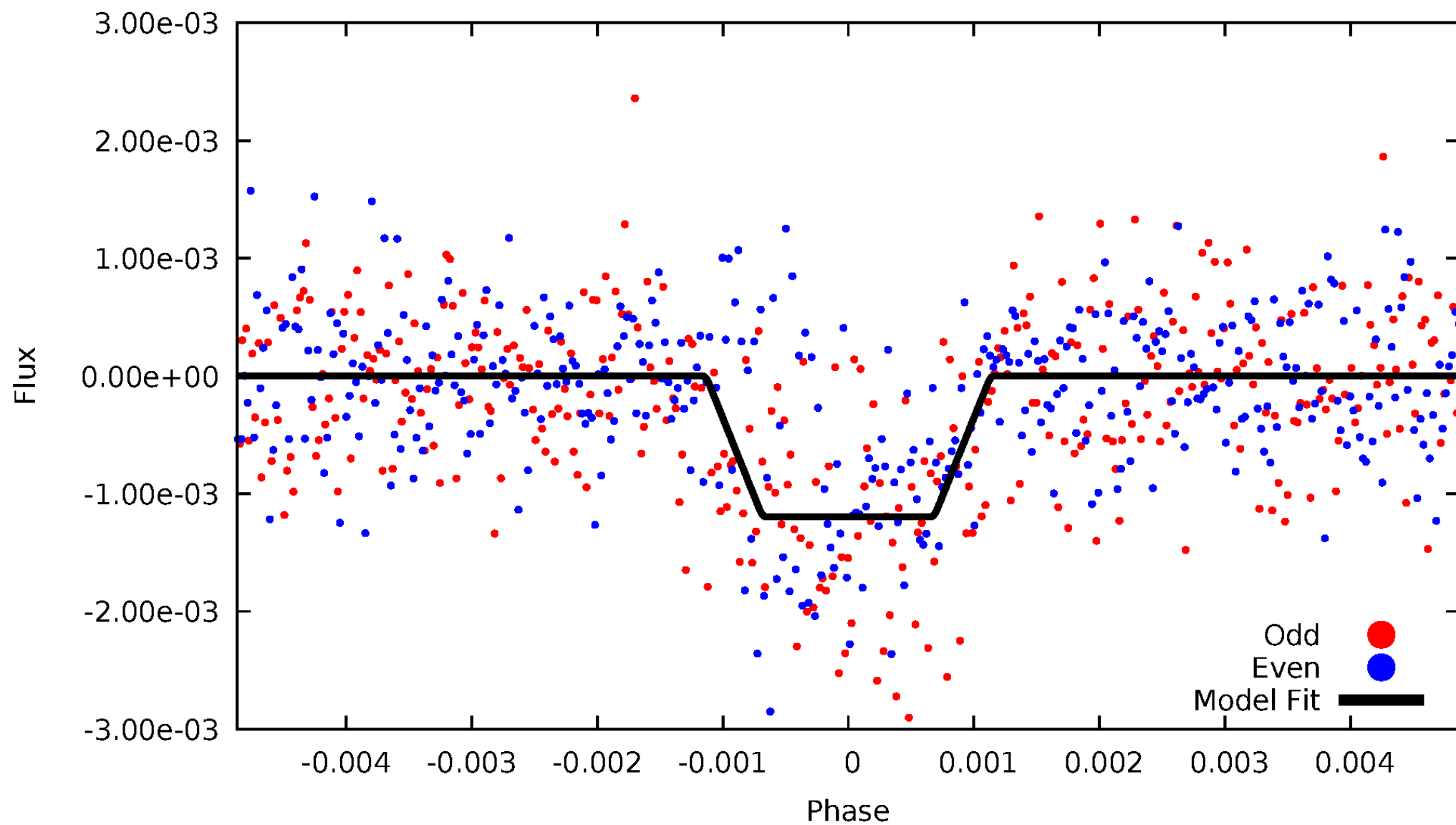
DV Odd/Even

TCE 008620220-01

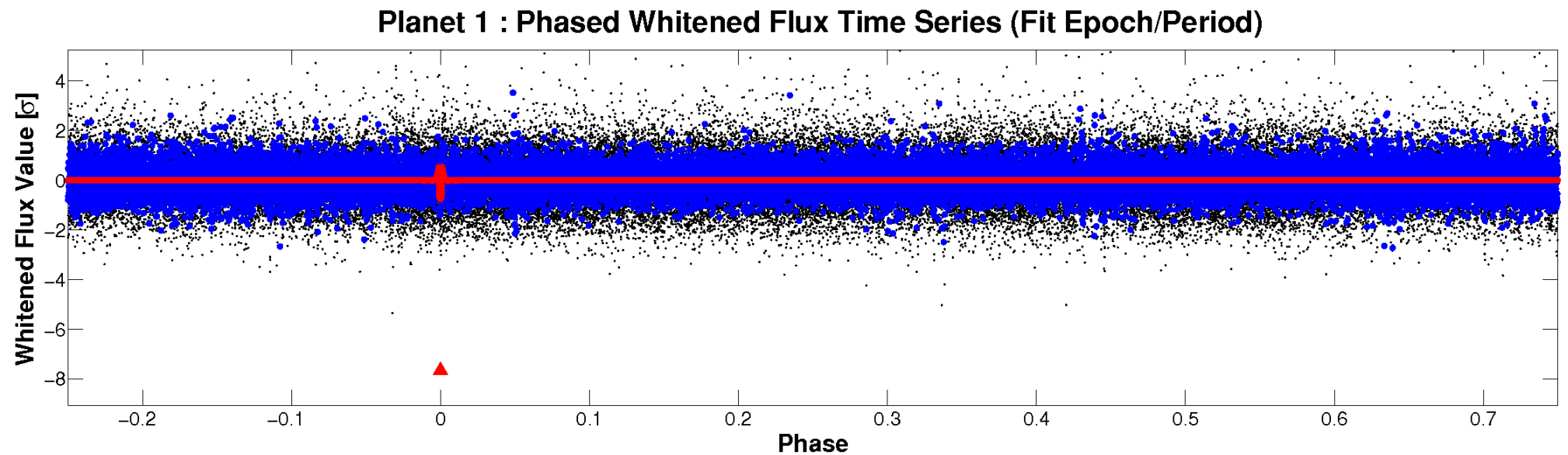
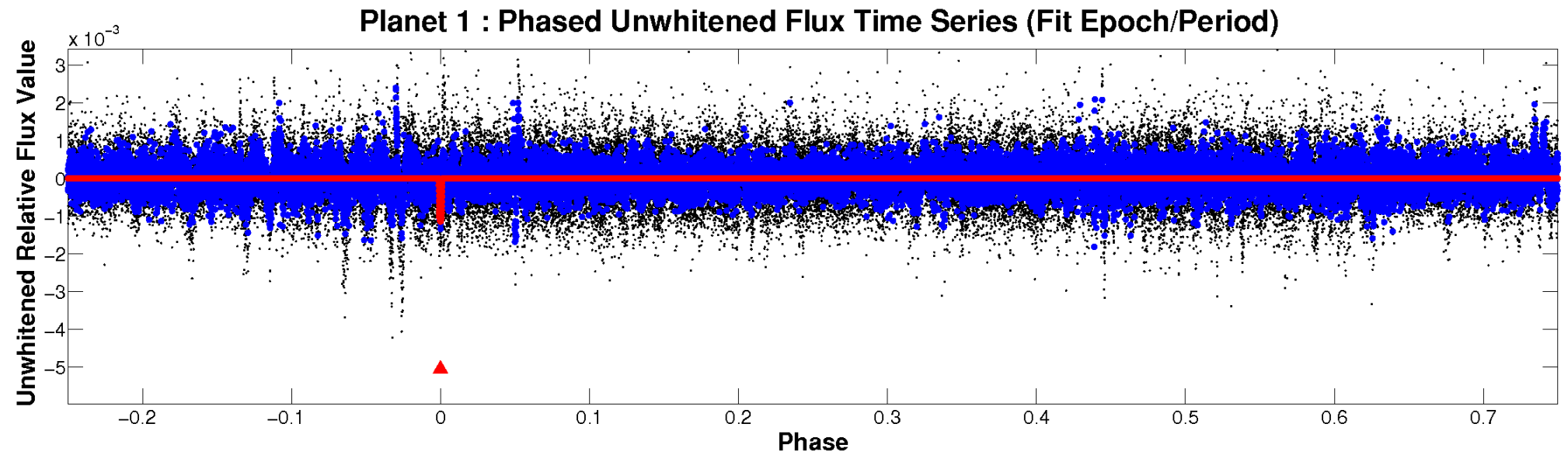


ALT Odd/Even

TCE 008620220-01

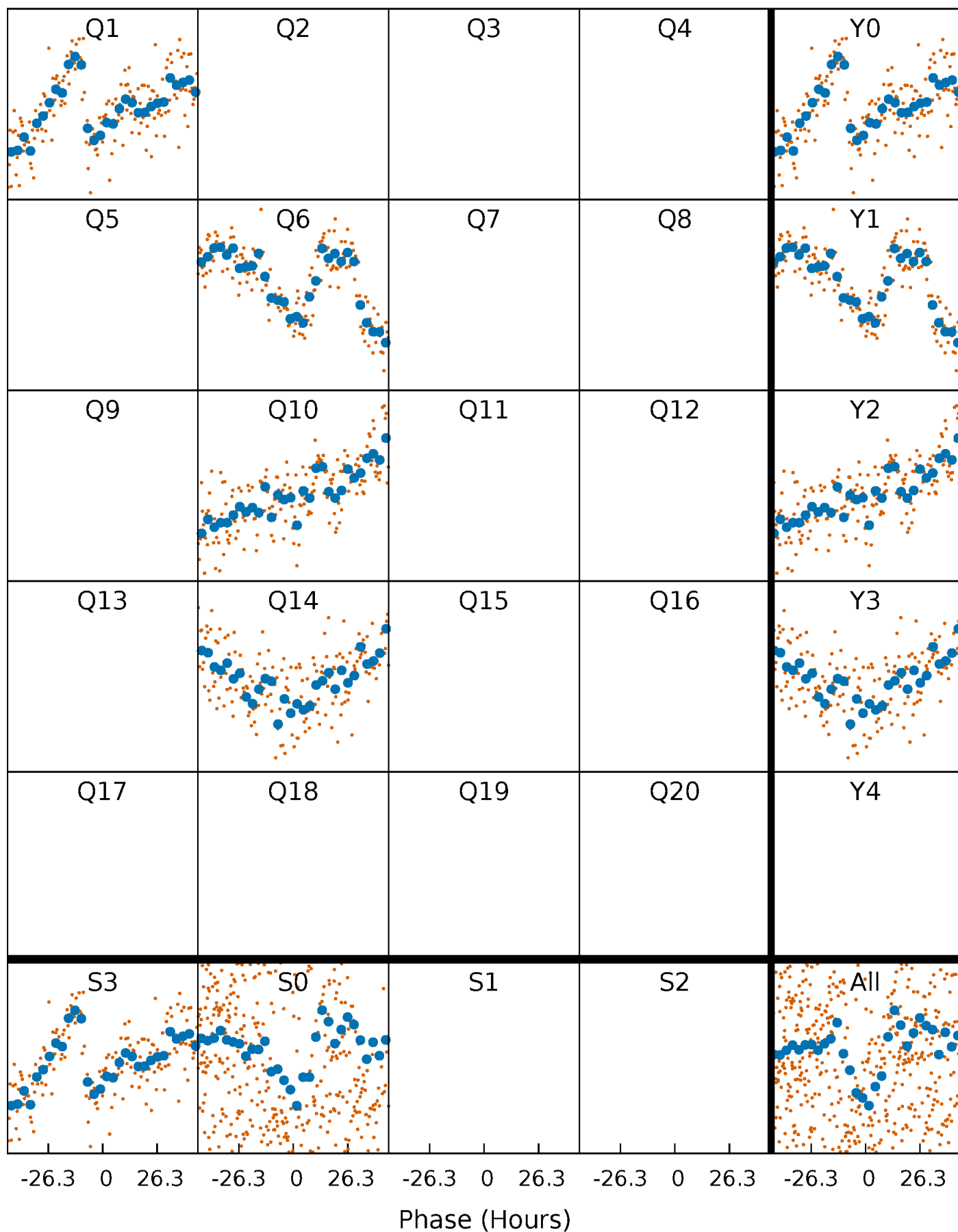


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008620220-01 P=402.353094 Days $T_0=145.161912$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008620220-01 P=402.353094 Days $T_0=145.161912$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

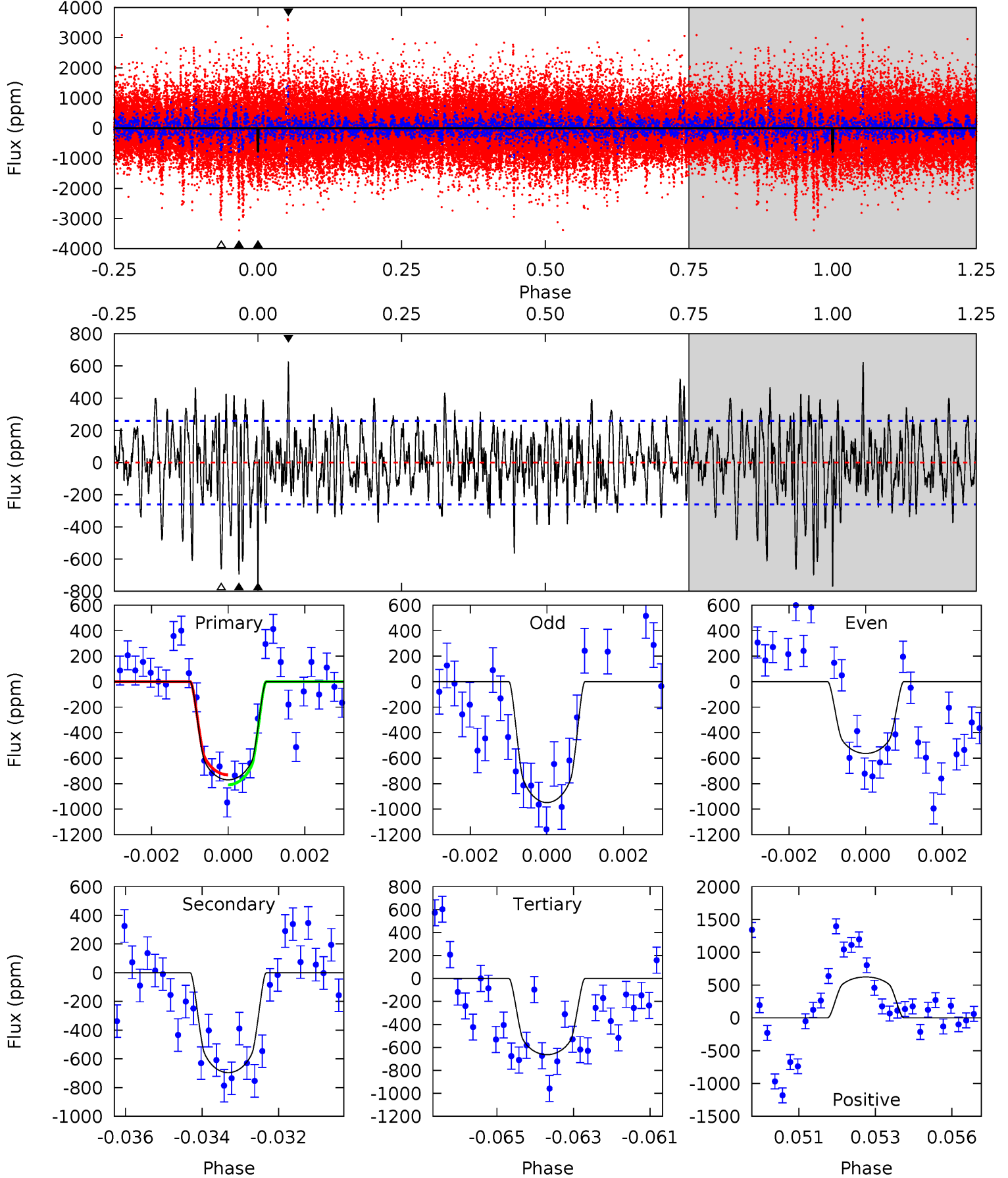
TCE 008620220-01 P=402.384475 Days $T_0=145.167416$ (BKJD)



DV Model-Shift Uniqueness Test

008620220-01, P = 402.353094 Days, E = 145.161912 Days

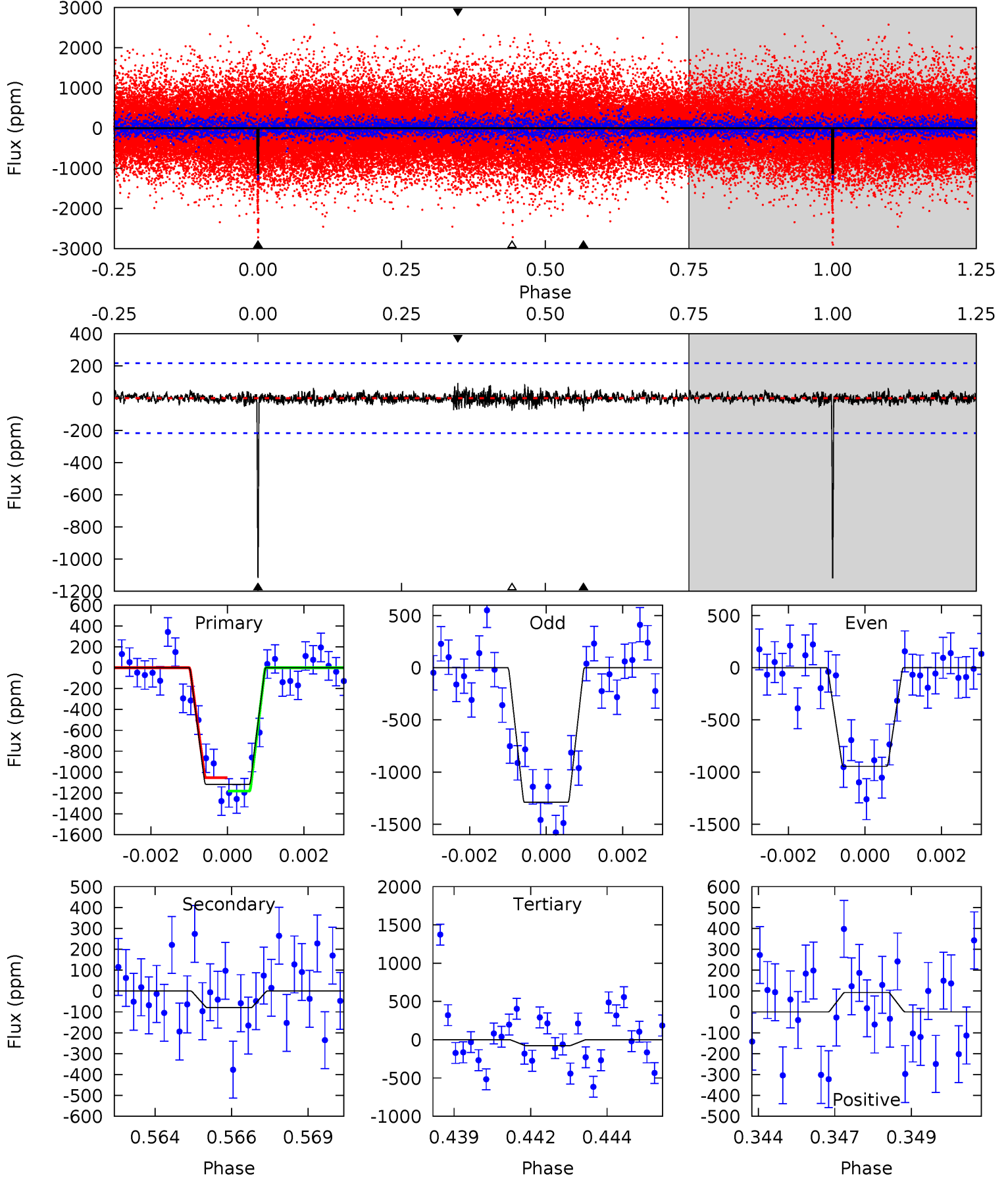
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	14.2	13.5	12.7	5.29	3.03	3.51	2.17	2.98	0.66	1.47	3.86	0.99	0.45	0.80



Alt Model-Shift Uniqueness Test

008620220-01, P = 402.384475 Days, E = 145.167416 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.2	1.94	1.87	2.26	5.30	3.05	0.47	25.4	25.0	0.07	-0.32	4.21	0.97	0.08	1.57



Stellar Parameters For KIC 008620220

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4617^{+124}_{-138}	$4.551^{+0.063}_{-0.023}$	$0.260^{+0.200}_{-0.300}$	$0.758^{+0.031}_{-0.062}$	$0.747^{+0.049}_{-0.049}$	$2.414^{+0.610}_{-0.222}$
	+3%/-3%	+1%/-1%	+77%/-115%	+4%/-8%	+7%/-7%	+25%/-9%
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 008620220-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-696 ± 49	$3.14^{+0.32}_{-0.35}$	250^{+8}_{-9}	4001^{+188}_{-174}	36408^{+10138}_{-6659}
Alt.	-80 ± 41	$2.81^{+0.34}_{-0.31}$	250^{+9}_{-8}	2942^{+226}_{-293}	5155^{+3202}_{-2885}

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

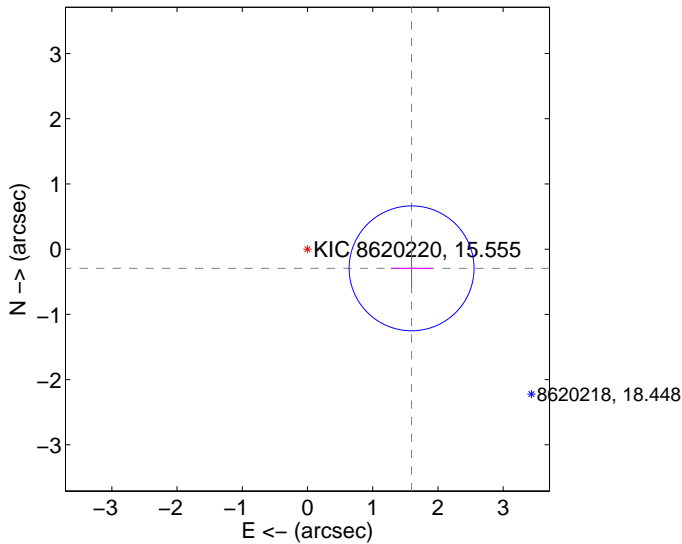
Supplemental centroid analysis for 008620220-01. Kepler magnitude: 15.55. Transit SNR 9.57

There are 1 quarters with good PRF difference image offsets

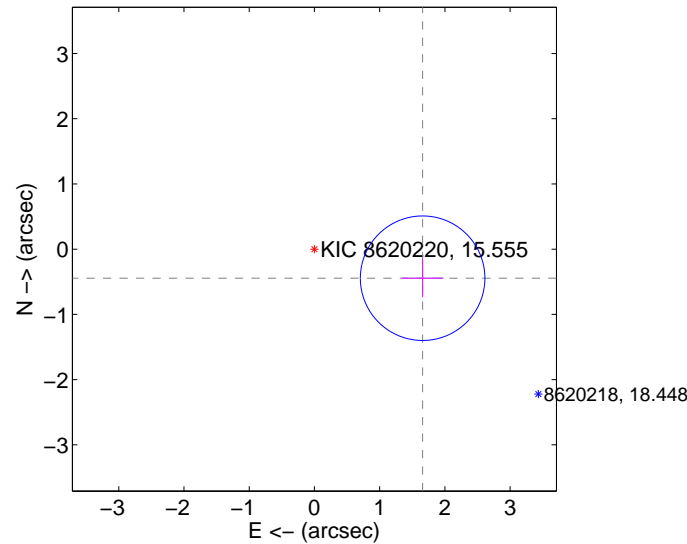
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.622 ± 0.319	5.08	-1.596 ± 0.320	-0.294 ± 0.293
PRF-fit source offset from KIC position	1.717 ± 0.318	5.40	-1.658 ± 0.320	-0.445 ± 0.293
photometric centroid source offset	0.38 ± 0.90	0.42	-0.05 ± 0.84	0.38 ± 0.90

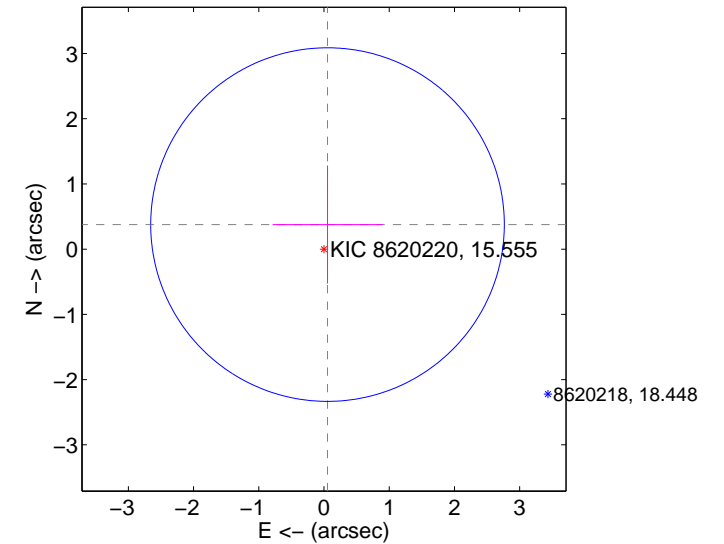
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

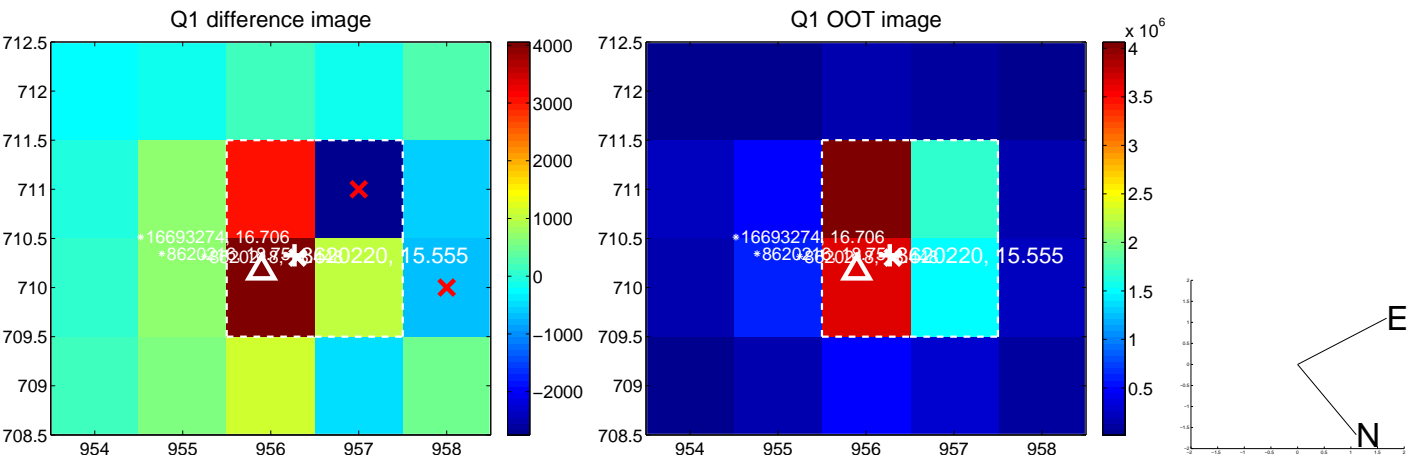


offset from photometric centroids

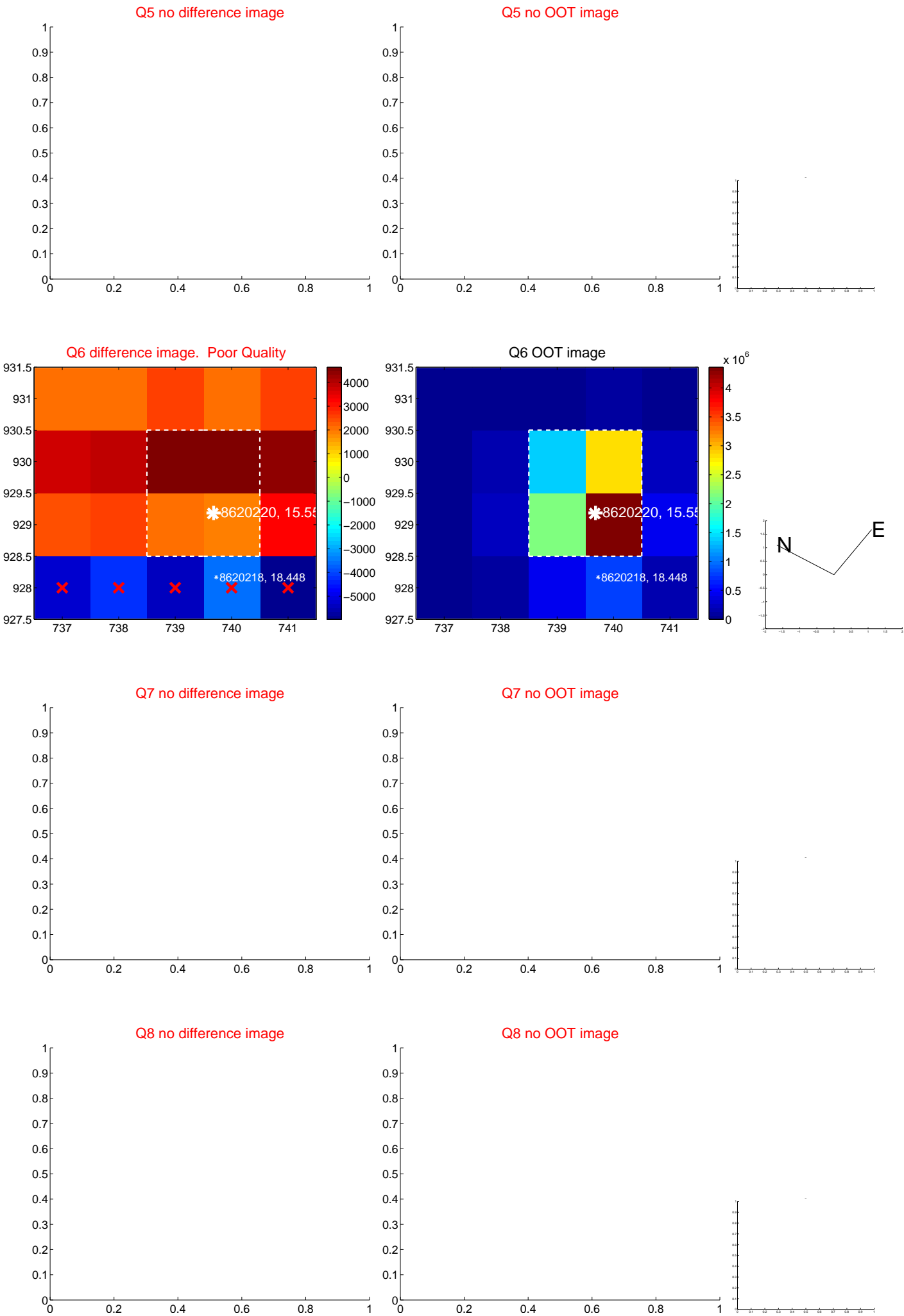


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

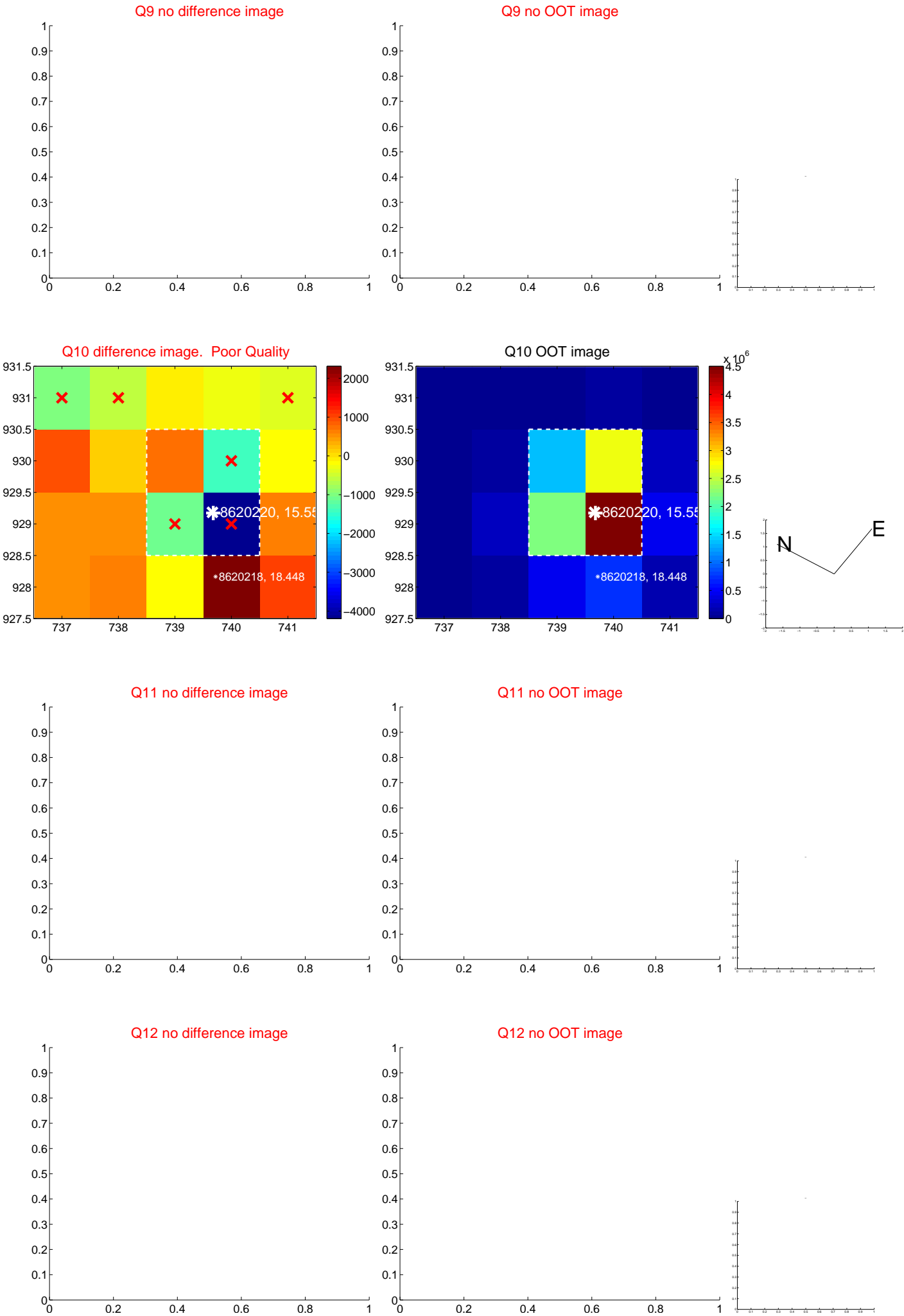
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



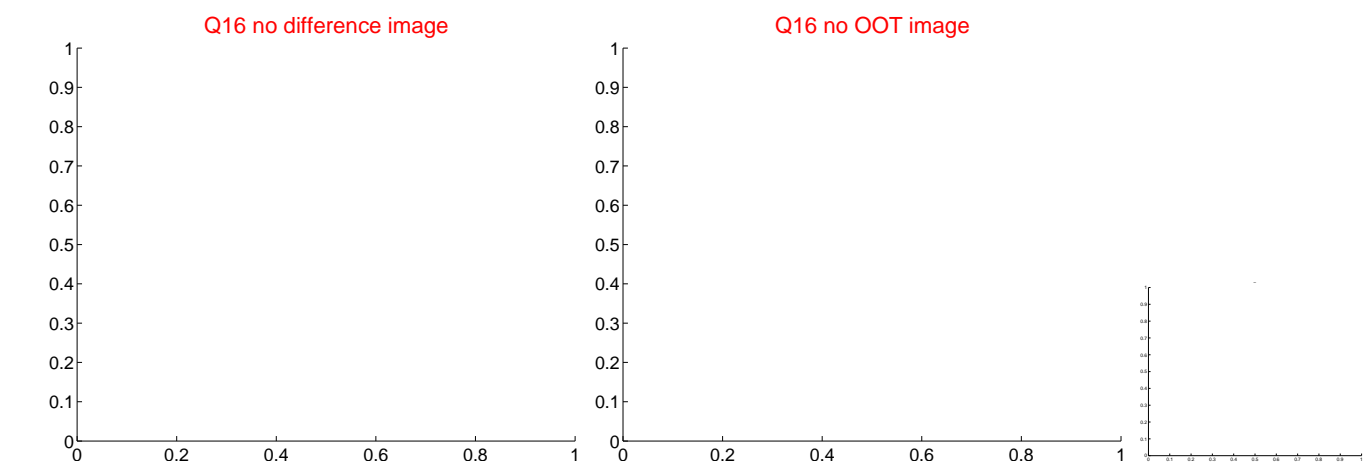
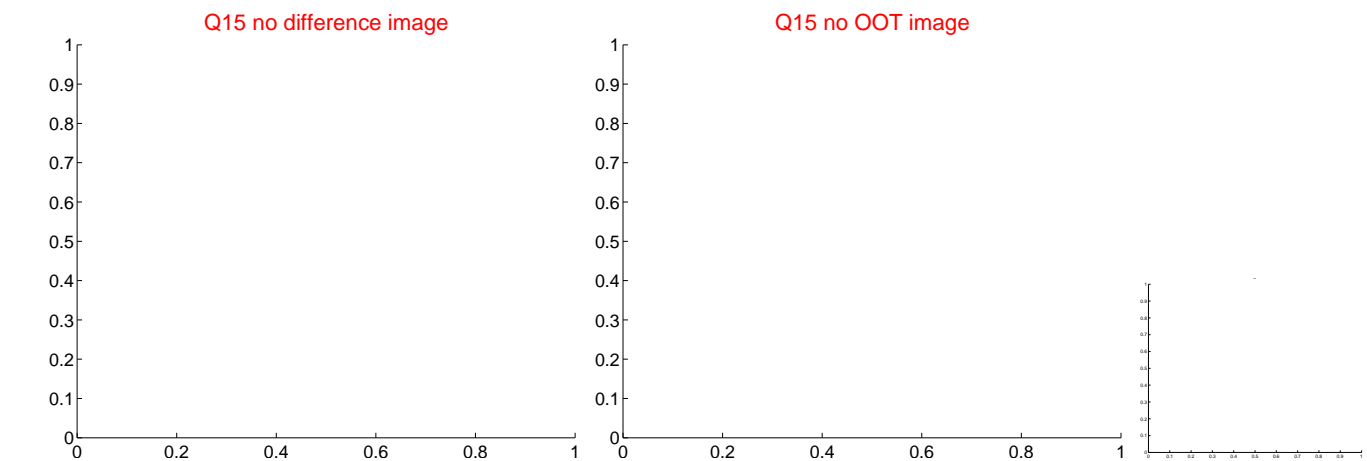
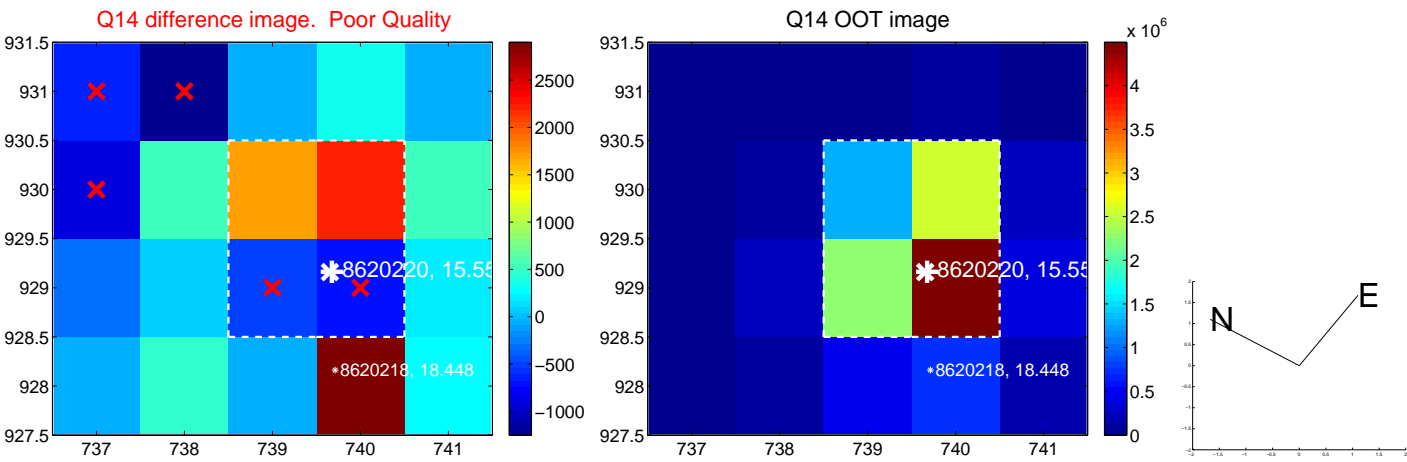
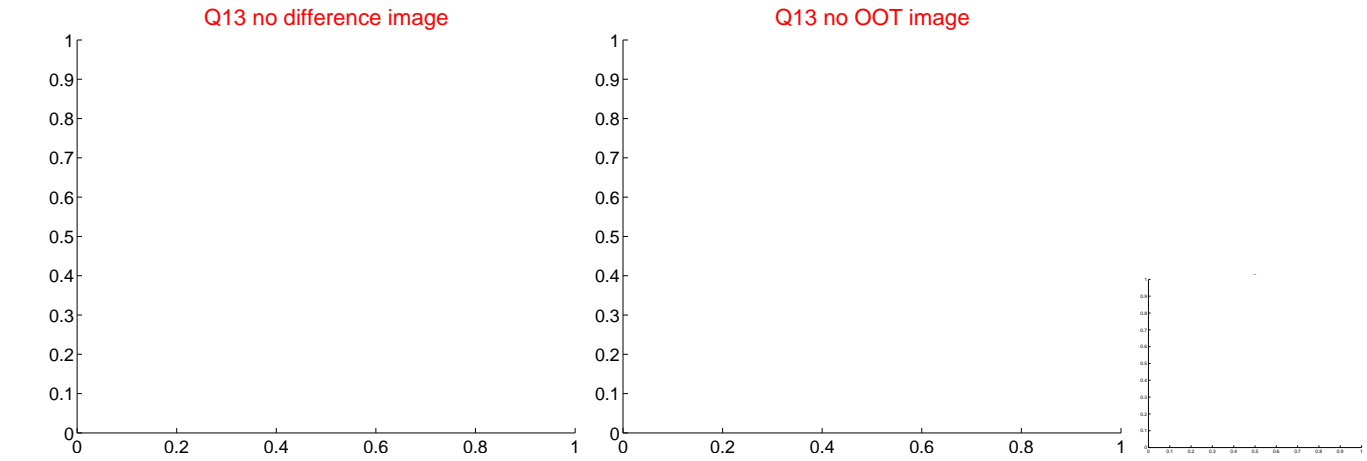
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



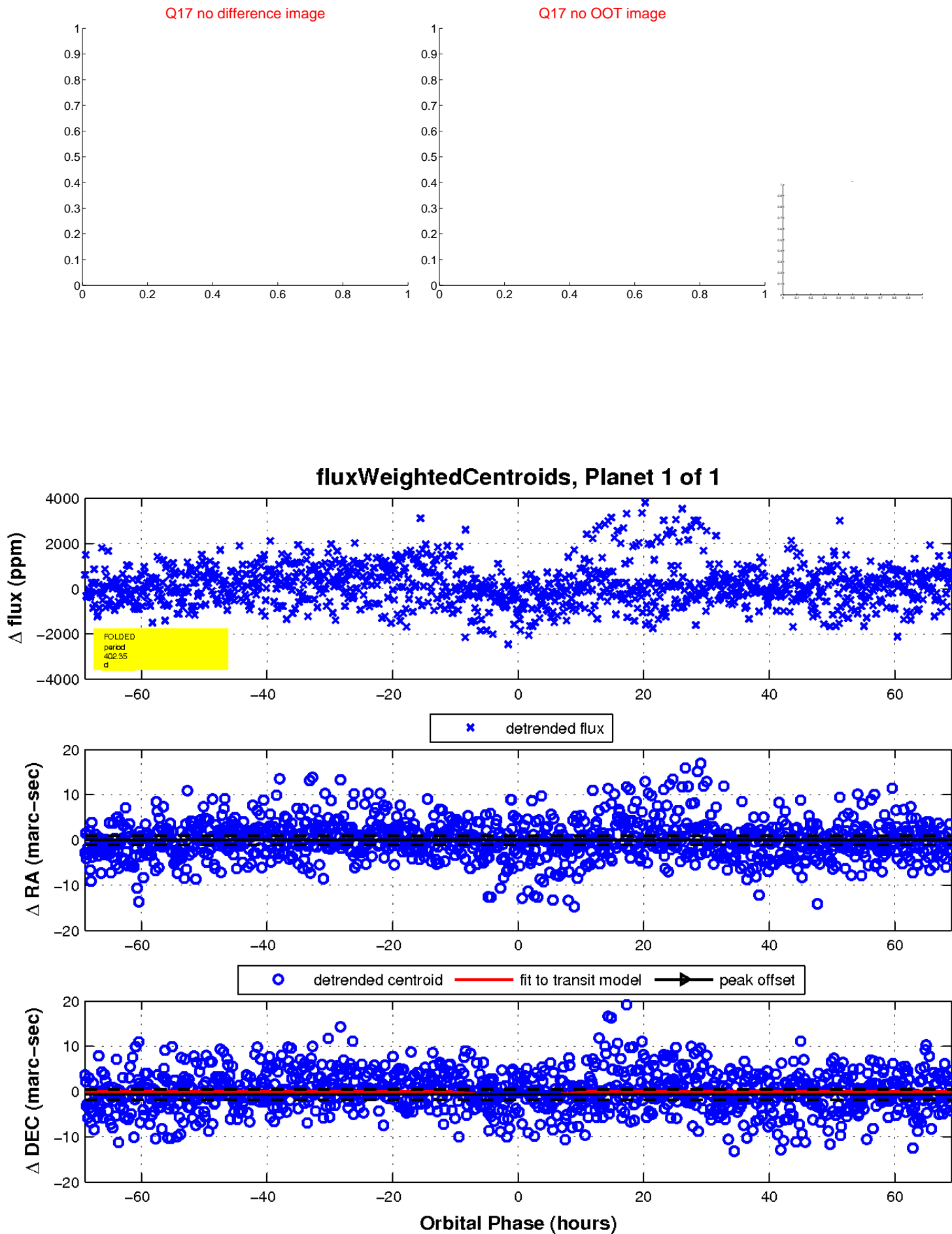
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

