

KIC 007212040

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})
007212040-01	OBS	No	0.747530	132.264511	6.1	5.825	15.2	7.5	2.31	7710	0.59	43054.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007212040-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

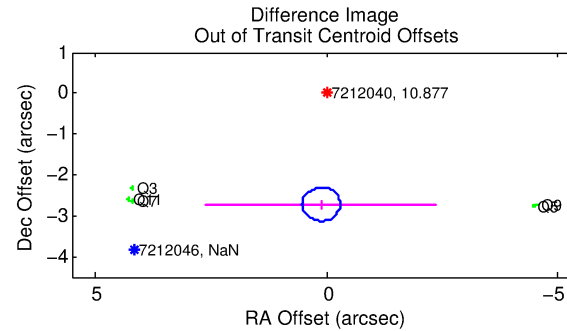
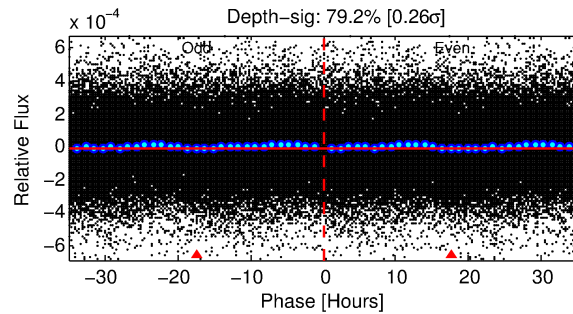
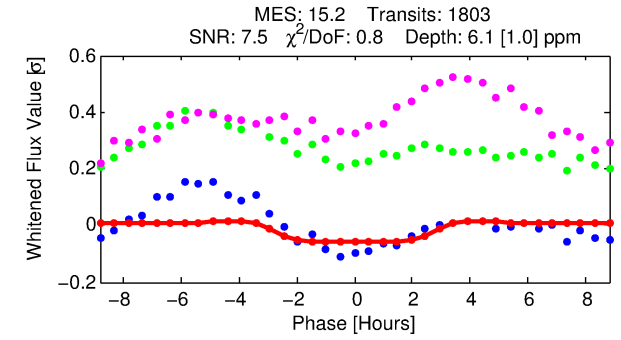
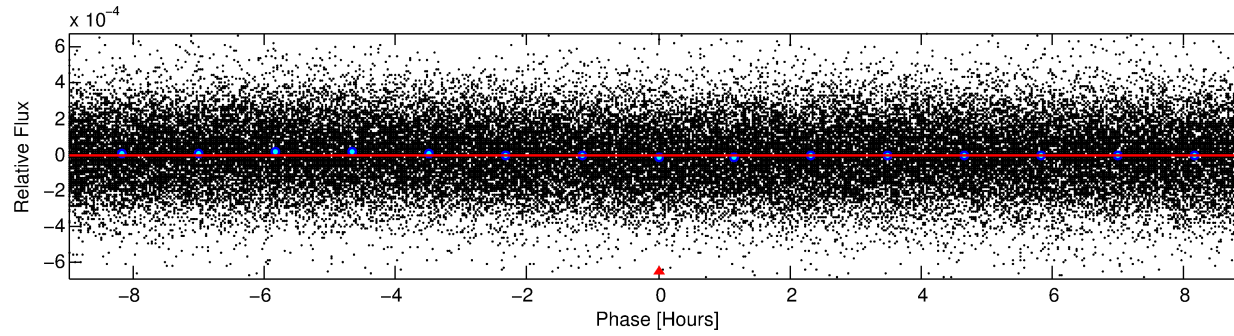
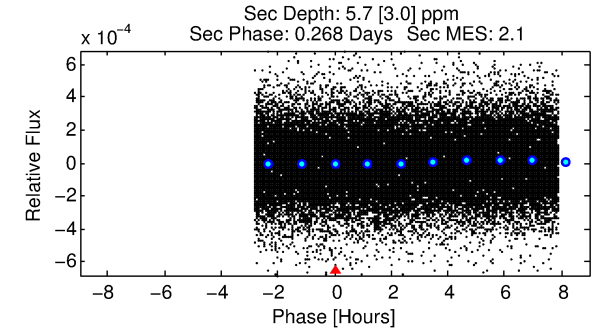
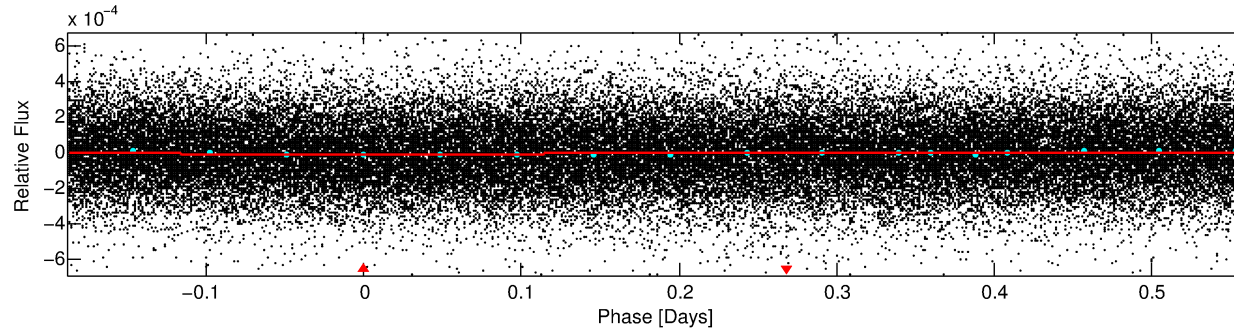
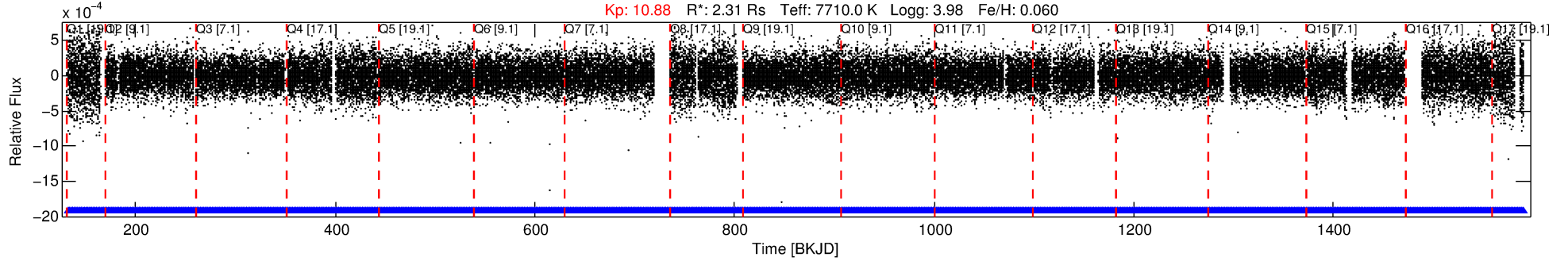
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007212040-01

No Significant Match Found

DV One-Page Summary

KIC: 7212040 Candidate: 1 of 1 Period: 0.748 d



DV Fit Results:

Period = 0.74753 [0.00002] d
Epoch = 132.2645 [0.0093] BKJD
Rp/R* = 0.0023 [0.0030]
a/R* = 1.16 [2.24]
b = 0.35 [19.63]
Seff = 43054.15 [17158.03]
Teq = 3673 [366] K
Rp = 0.59 [0.77] Re
a = 0.0198 [0.0047] AU
Ag = 3.60 [9.48] [0.27σ]
Teffp = 7821 [5117] K [0.81σ]

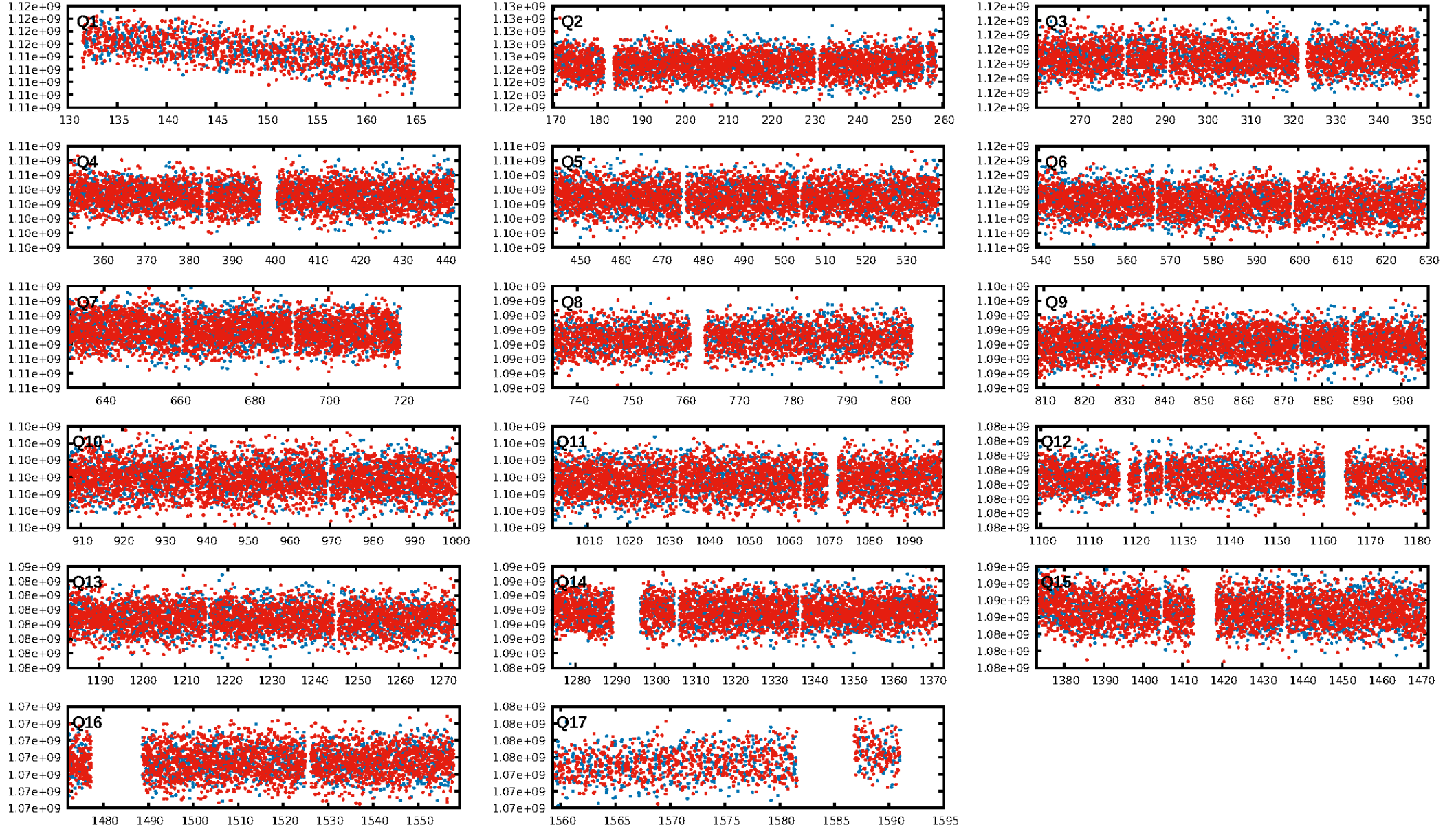
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1722/1722]
GhostDiagnostic-chr: 2.729
Centroid-sig: 0.0%
Centroid-so: 2.956 arcsec [3.45σ]
OotOffset-rm: 2.724 arcsec [19.96σ]
KicOffset-rm: 2.781 arcsec [9.28σ]
OotOffset-st: 0/3/0/2 [5]
KicOffset-st: 0/3/0/2 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [17/17]

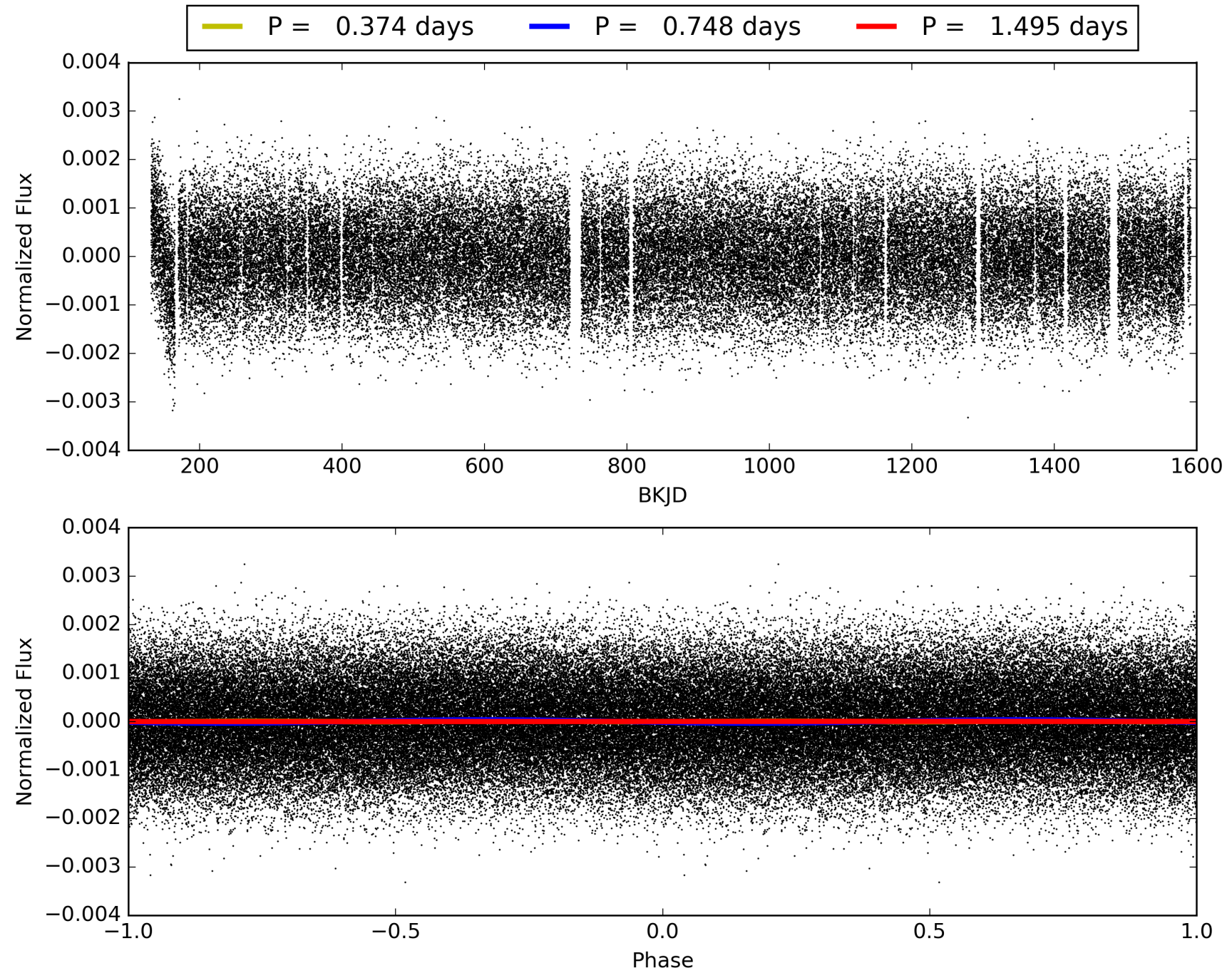
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:56:17 Z

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

TCE 007212040-01, PDC Light Curves

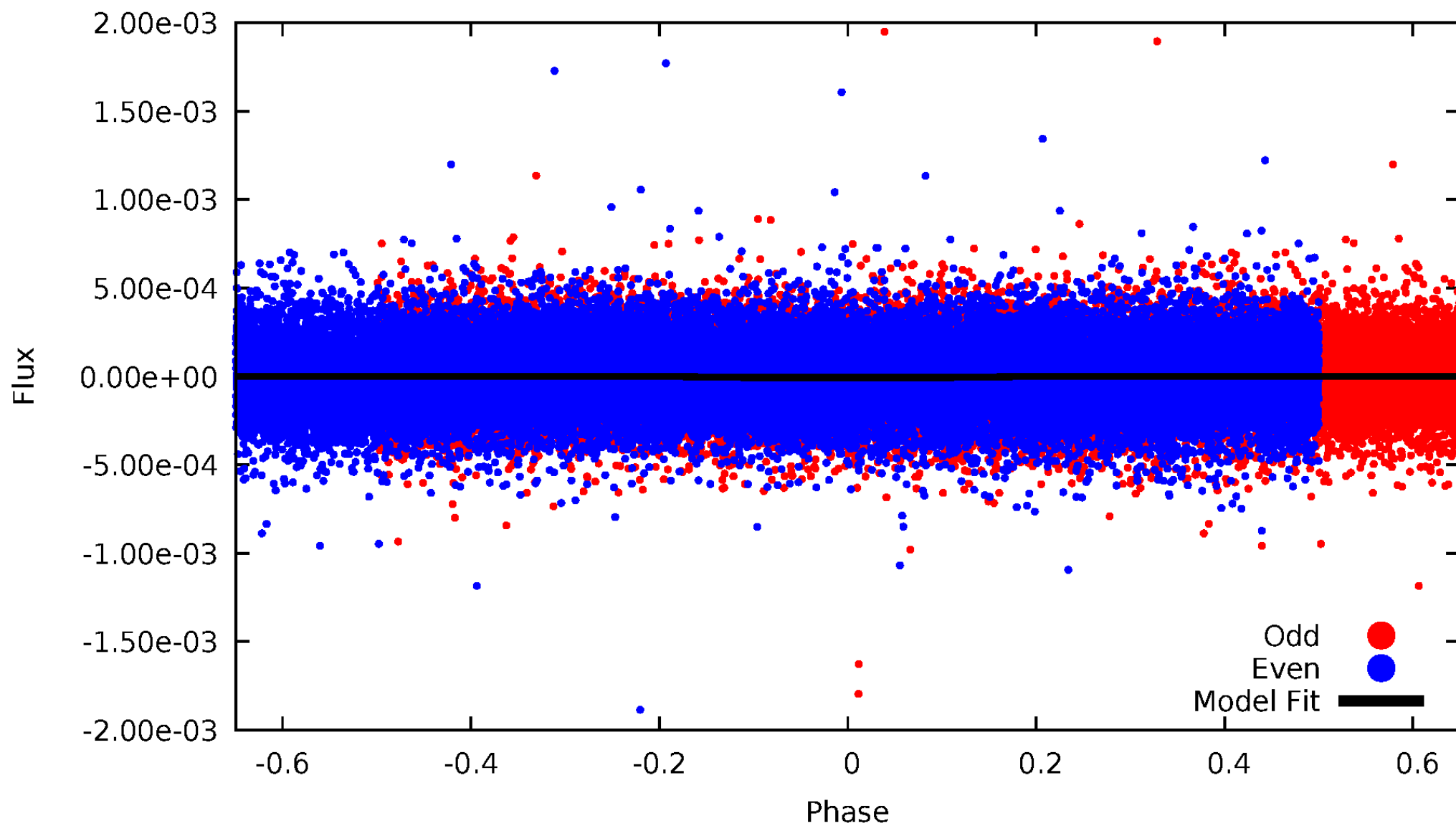


TCE 007212040-01



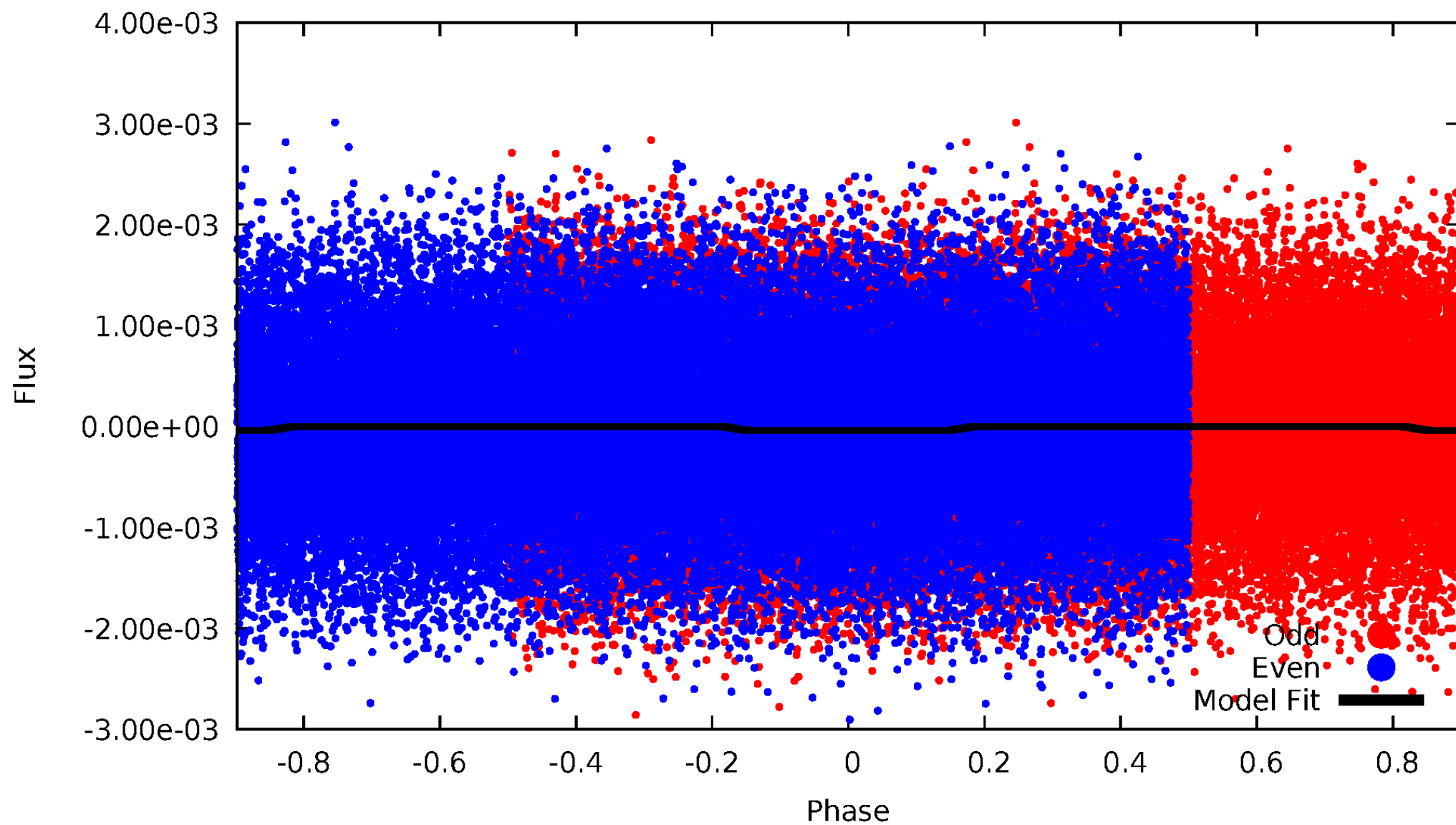
DV Odd/Even

TCE 007212040-01



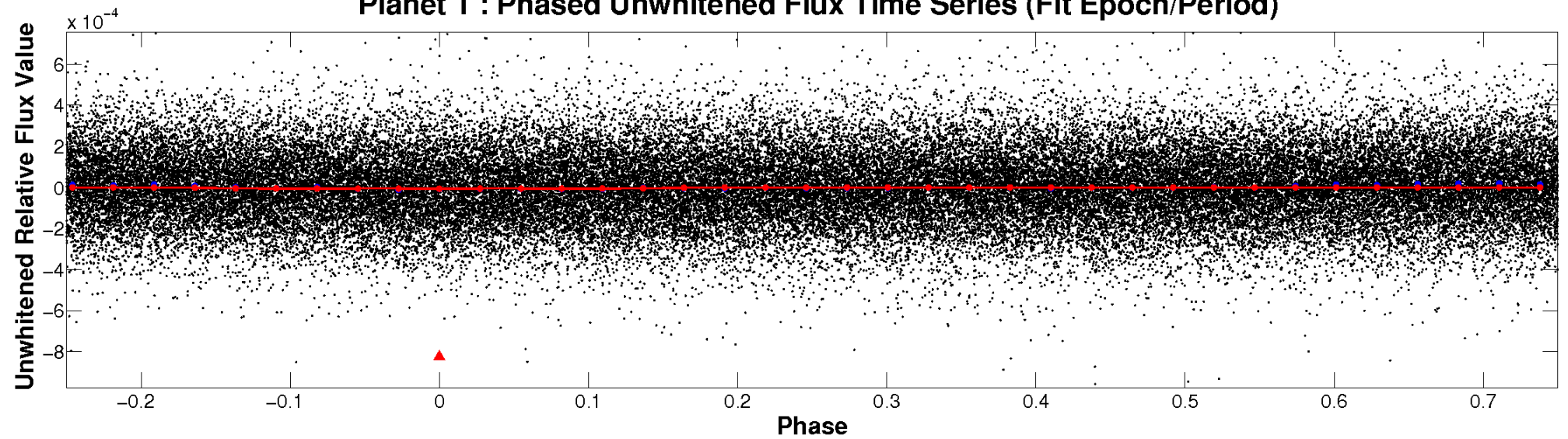
ALT Odd/Even

TCE 007212040-01

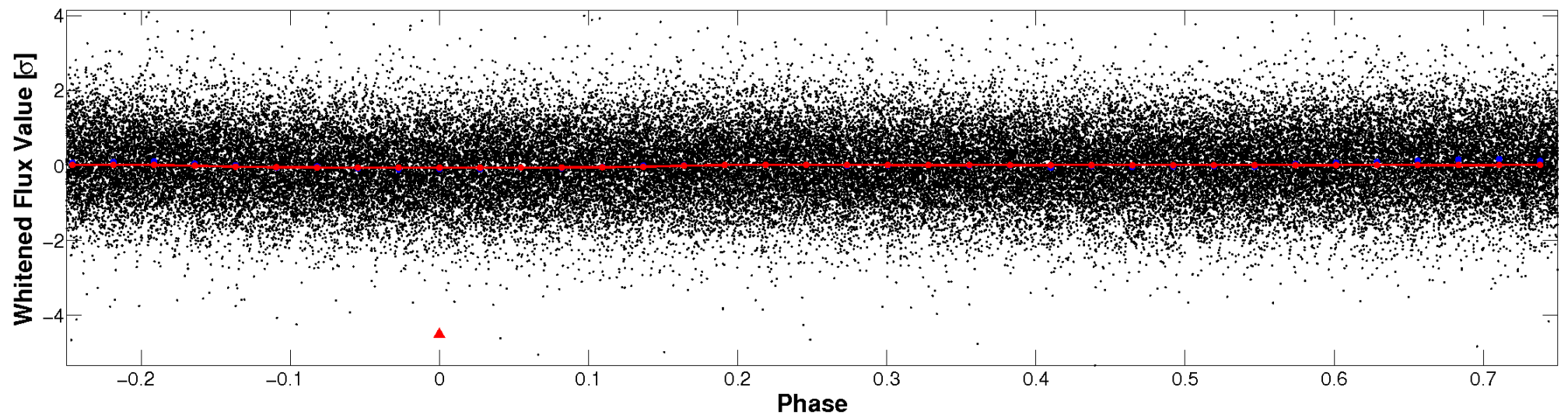


Non-Whitened Vs. Whitened Light Curve

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

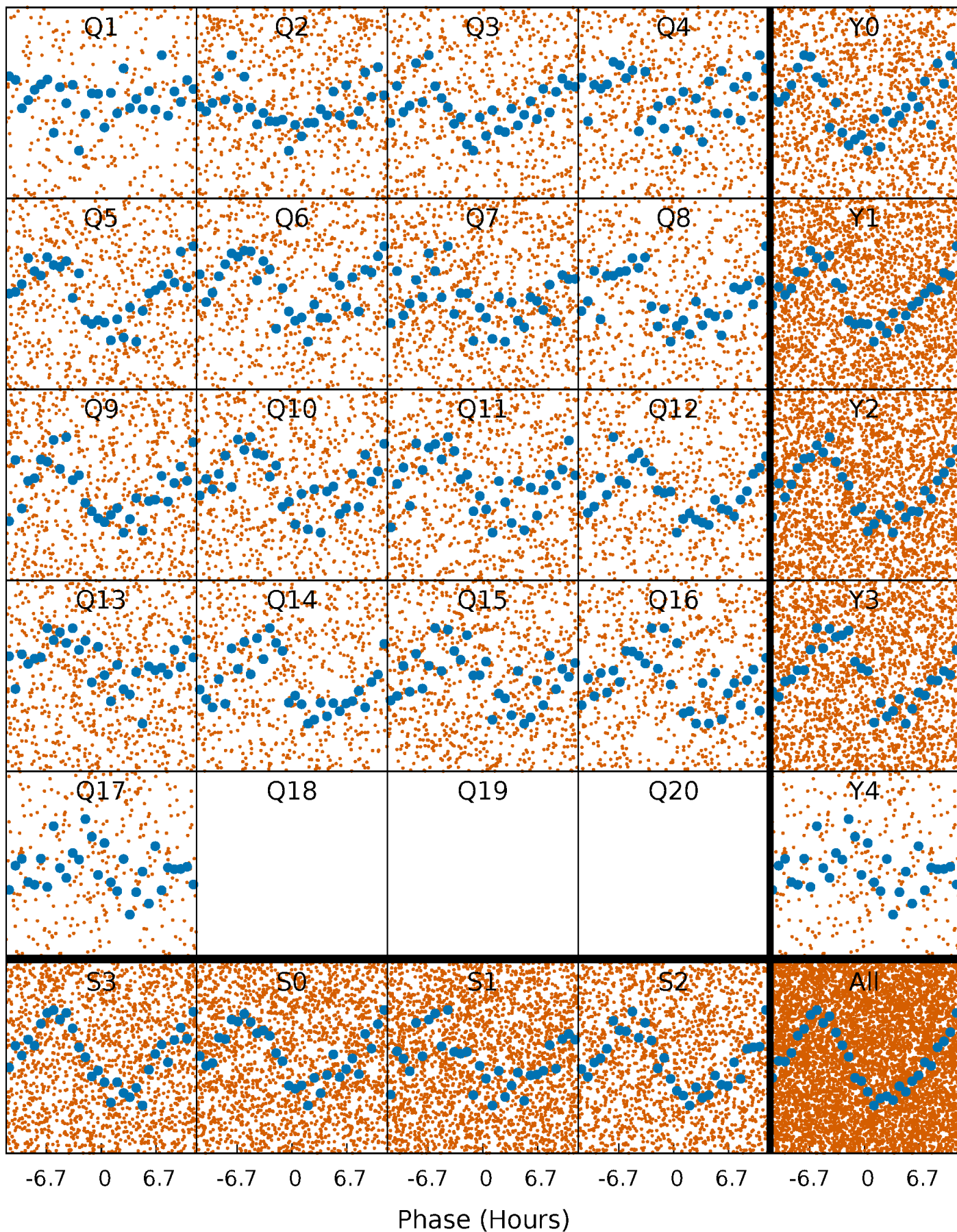


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



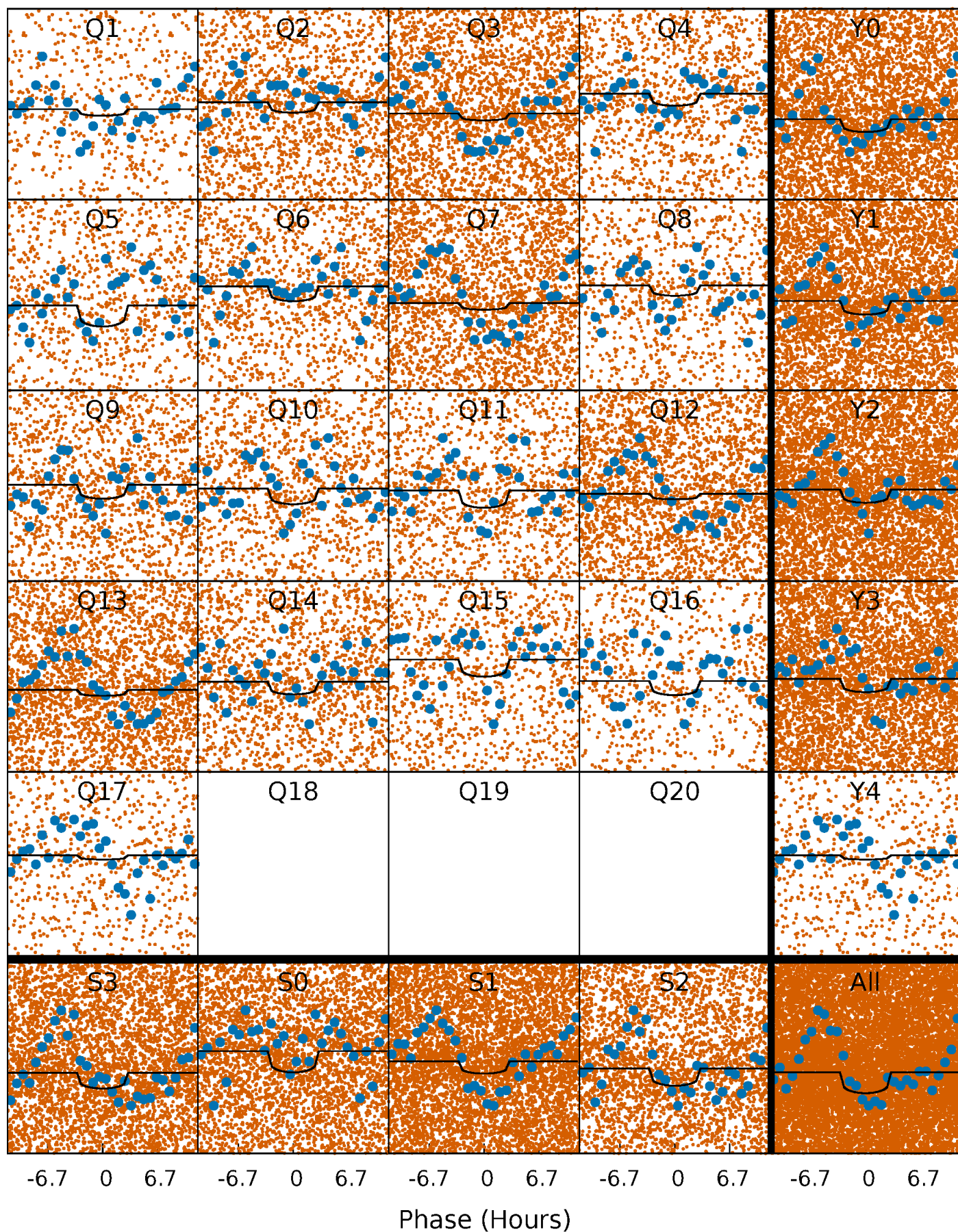
PDC Quarter-Phased Transit Curves

TCE 007212040-01 P= 0.747530 Days $T_0=132.264511$ (BKJD)



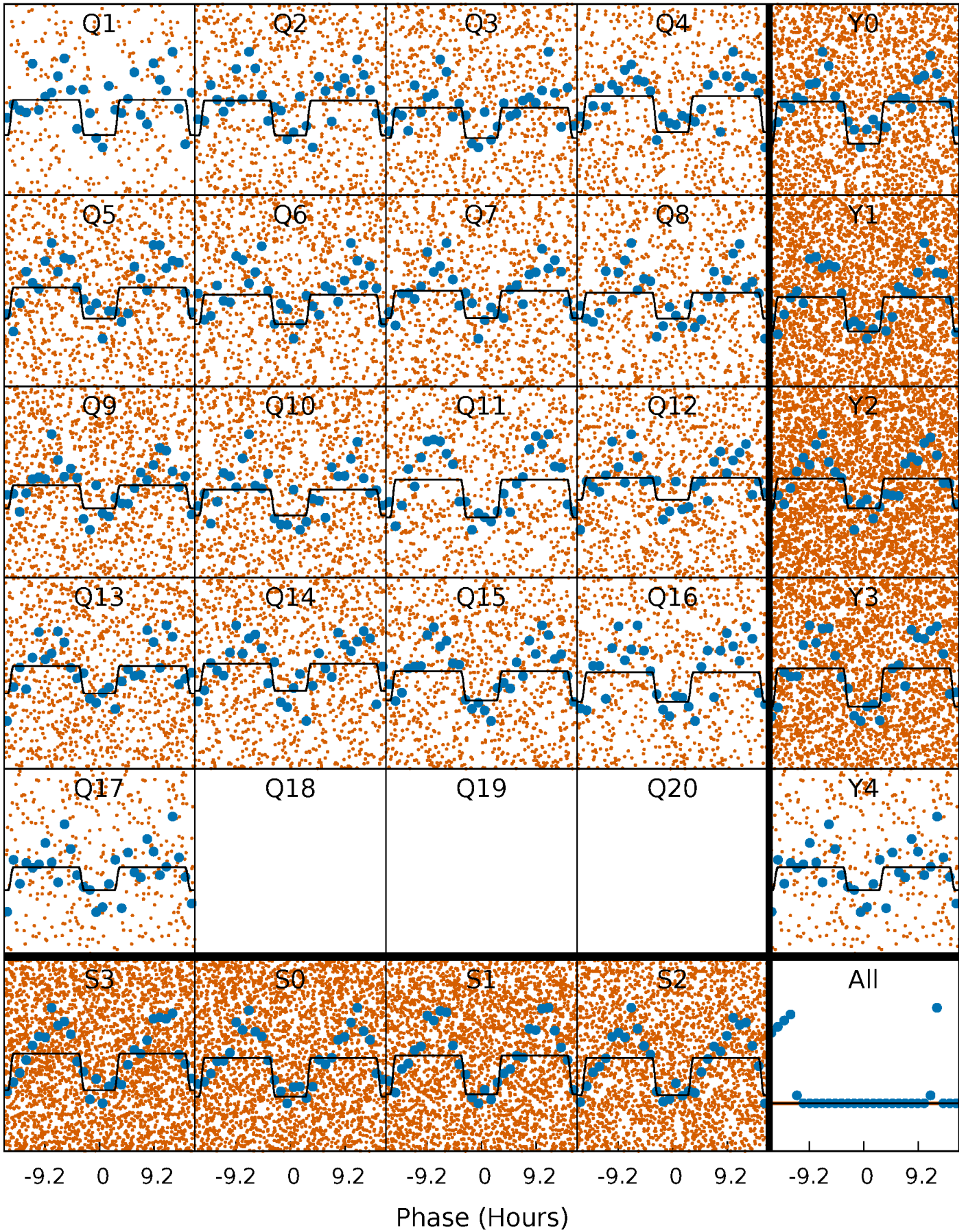
DV Quarter-Phased Transit Curves

TCE 007212040-01 P= 0.747530 Days $T_0=132.264511$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

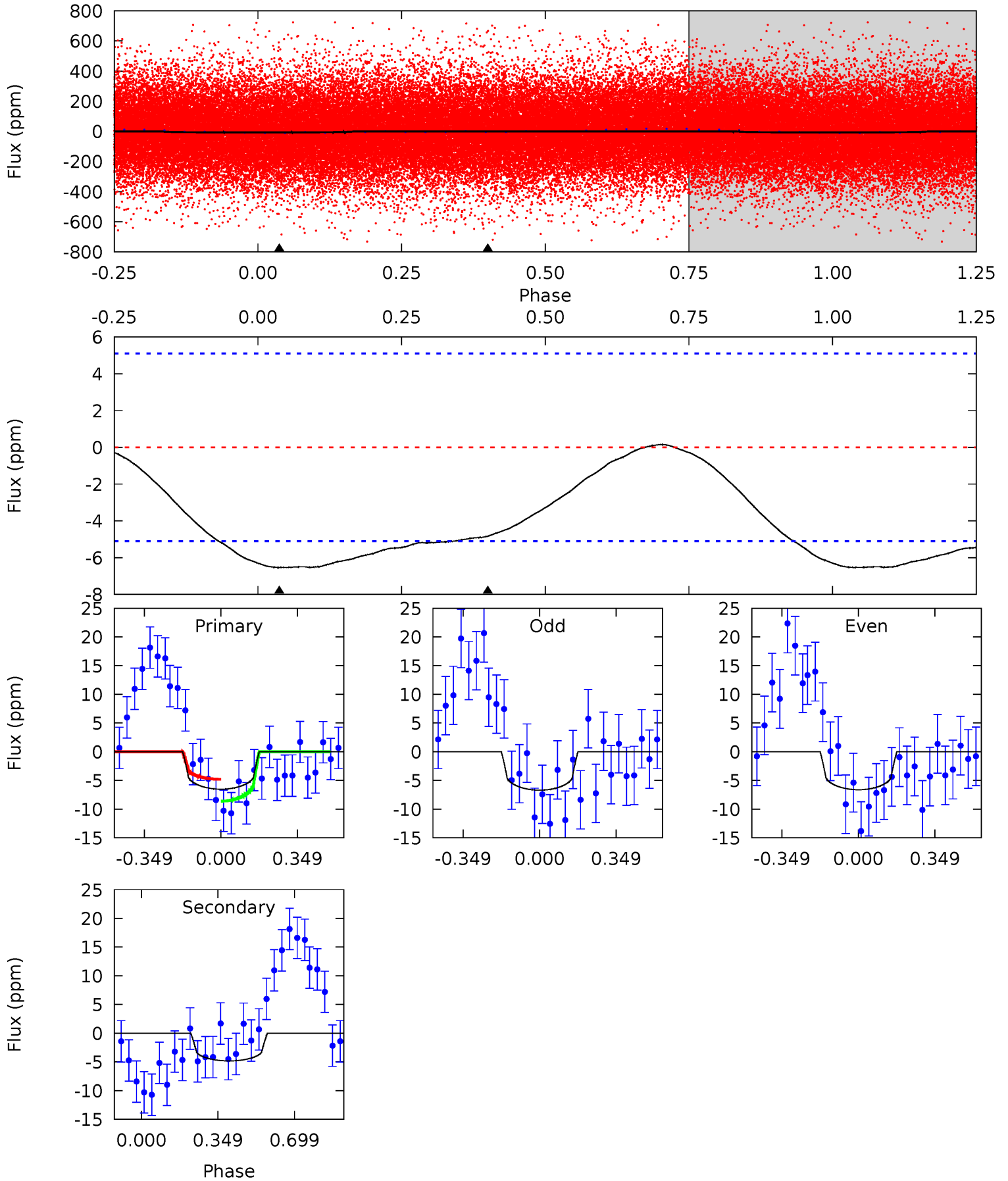
TCE 007212040-01 P= 0.747634 Days $T_0=132.236924$ (BKJD)



DV Model-Shift Uniqueness Test

007212040-01, P = 0.747530 Days, E = 130.769451 Days

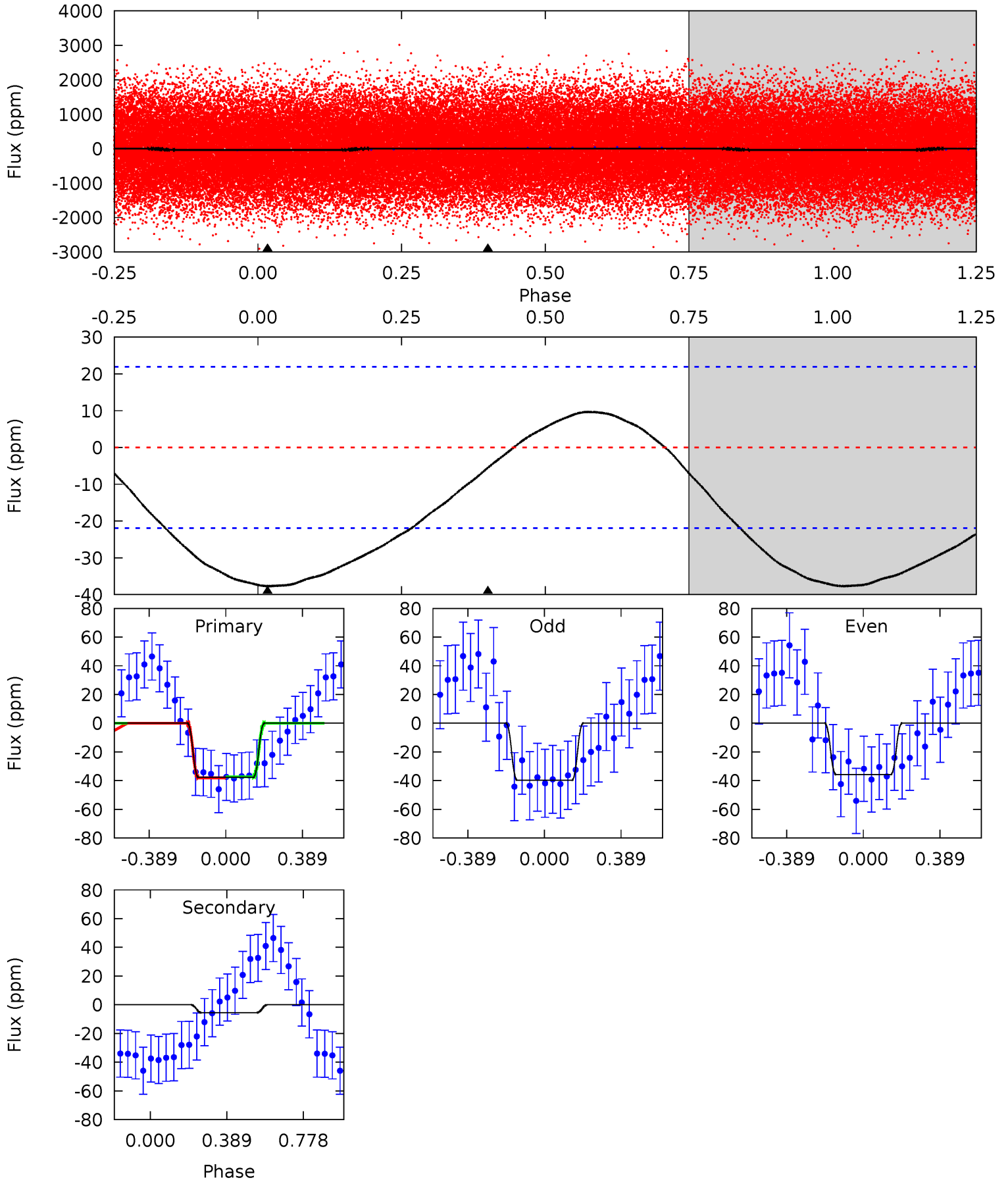
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.49	4.06	0	0	4.29	0.94	0.18	5.49	5.49	4.06	4.06	0.03	0.96	0.02	1.63



Alt Model-Shift Uniqueness Test

007212040-01, P = 0.747634 Days, E = 131.489290 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.35	1.08	0	0	4.27	0.86	0.84	7.35	7.35	1.08	1.08	0.39	1.00	0.20	0.07



Stellar Parameters For KIC 007212040

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7710^{+214}_{-322}	$3.979^{+0.204}_{-0.136}$	$0.060^{+0.200}_{-0.350}$	$2.310^{+0.514}_{-0.628}$	$1.855^{+0.136}_{-0.339}$	$0.212^{+0.259}_{-0.088}$
	+3%/-4%	+5%/-3%	+333%/-583%	+22%/-27%	+7%/-18%	+122%/-42%
Source	KIC0	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 007212040-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 1	$0.76^{+0.60}_{-0.49}$	5073^{+333}_{-410}	5895^{+6318}_{-1813}	$1.681^{+12.851}_{-1.161}$
Alt.	-6 ± 5	$1.56^{+0.78}_{-0.73}$	5095^{+336}_{-389}	3675^{+2269}_{-7989}	$0.412^{+1.290}_{-0.390}$

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

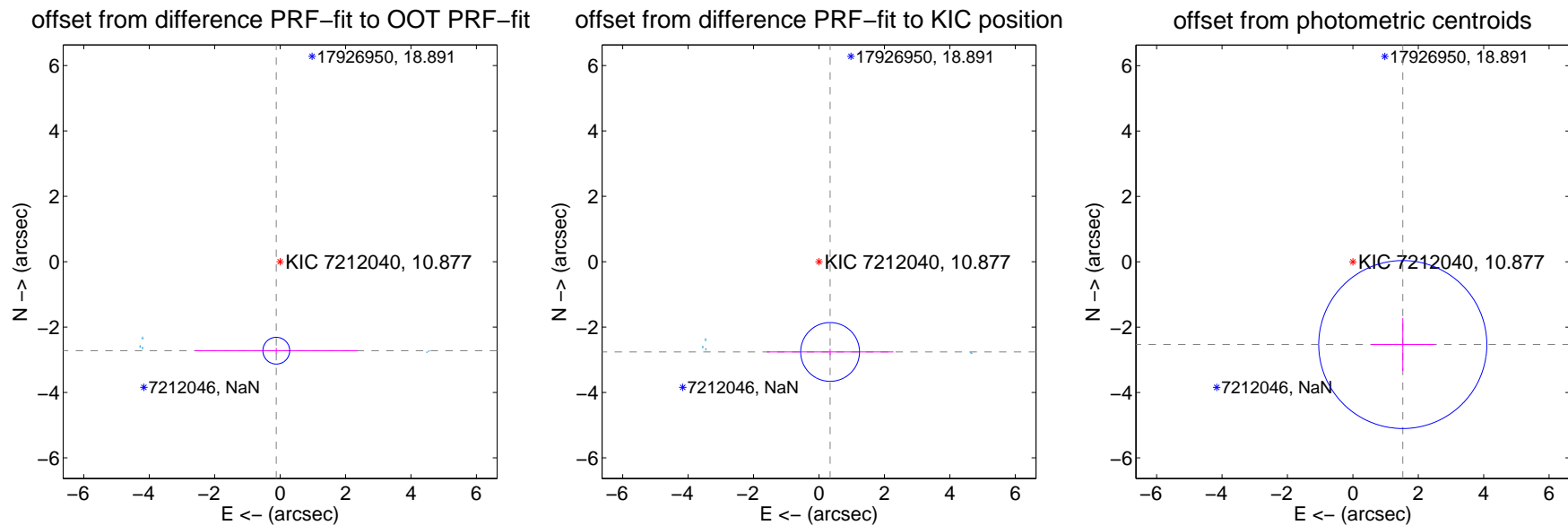
DV Centroid Data

Supplemental centroid analysis for 007212040-01. **Kepler magnitude: 10.88.** Transit SNR 7.53

There are 5 quarters with good PRF difference image offsets

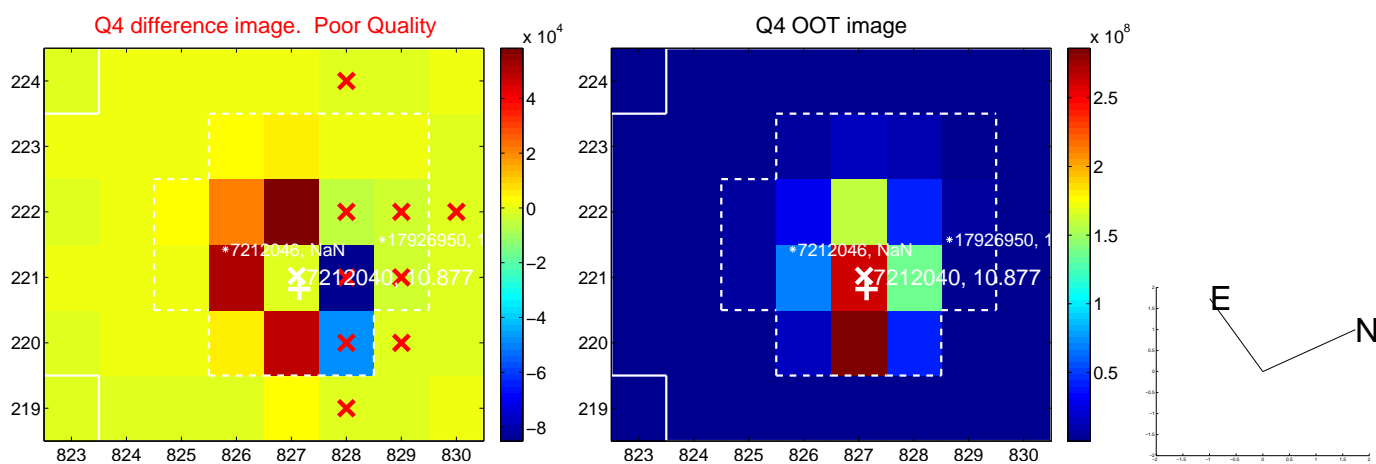
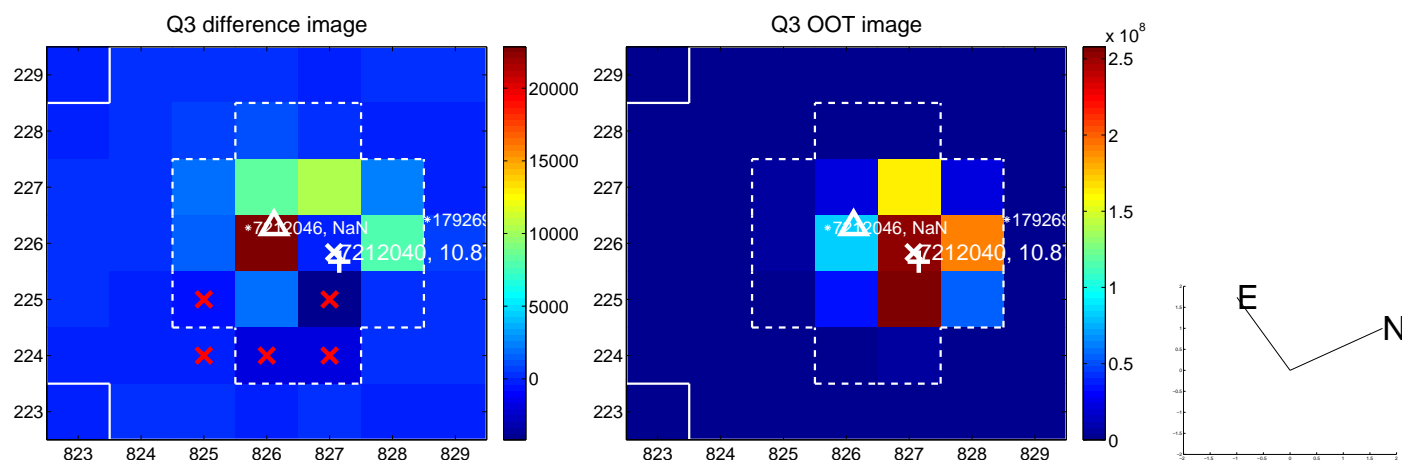
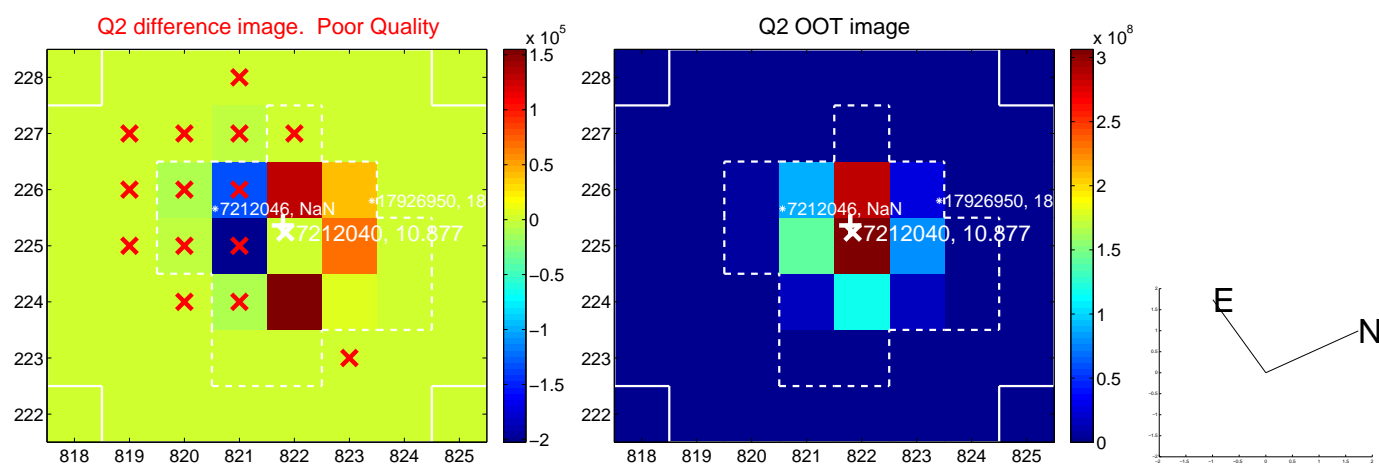
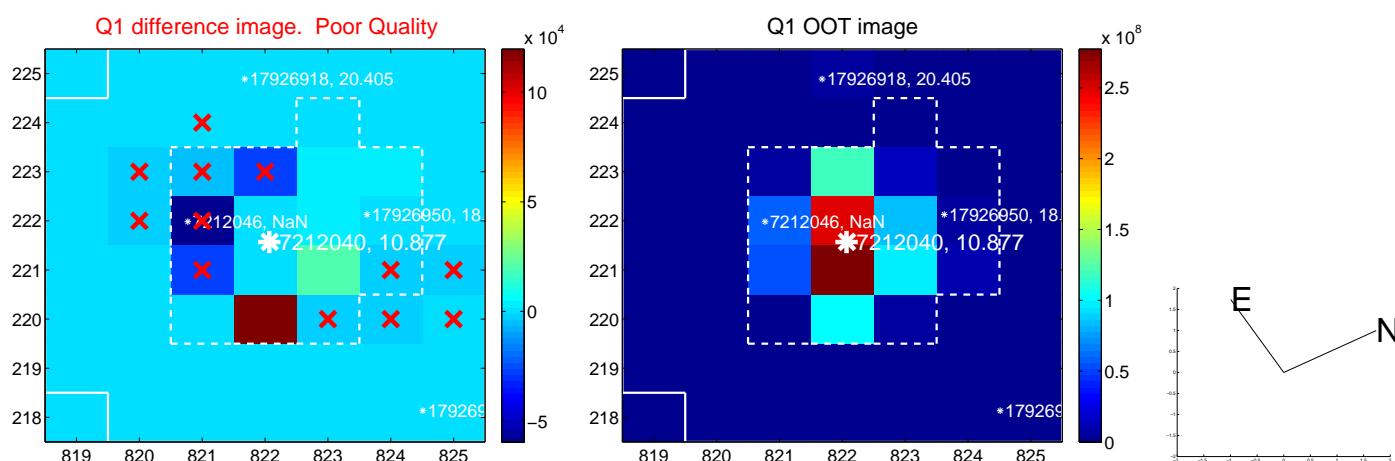
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.724 ± 0.136	19.96	0.117 ± 2.485	-2.722 ± 0.085
PRF-fit source offset from KIC position	2.781 ± 0.300	9.28	-0.339 ± 1.939	-2.760 ± 0.093
photometric centroid source offset	2.96 ± 0.86	3.45	-1.53 ± 0.98	-2.53 ± 0.81

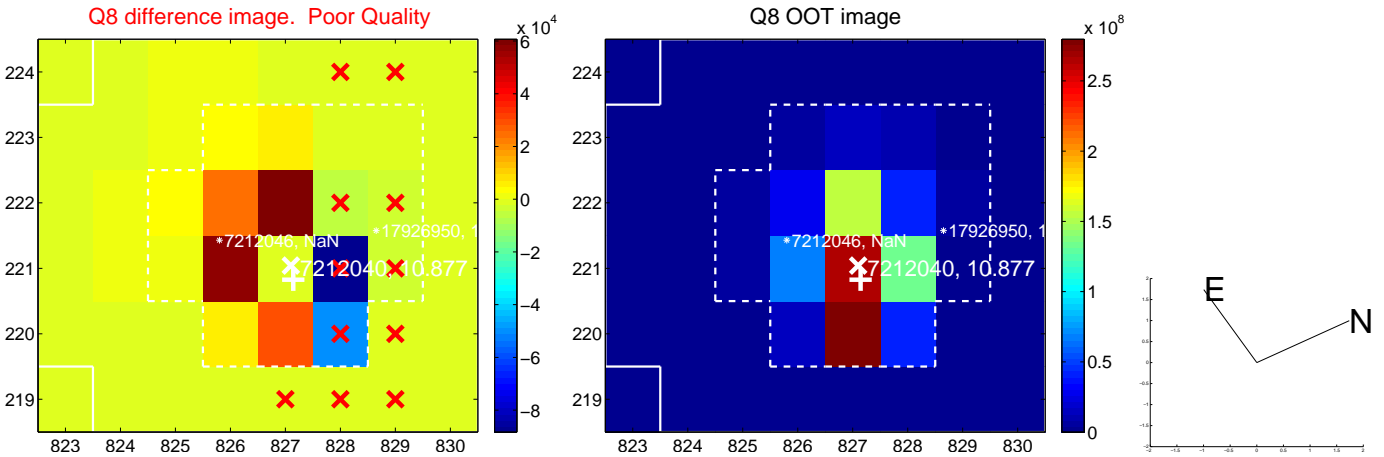
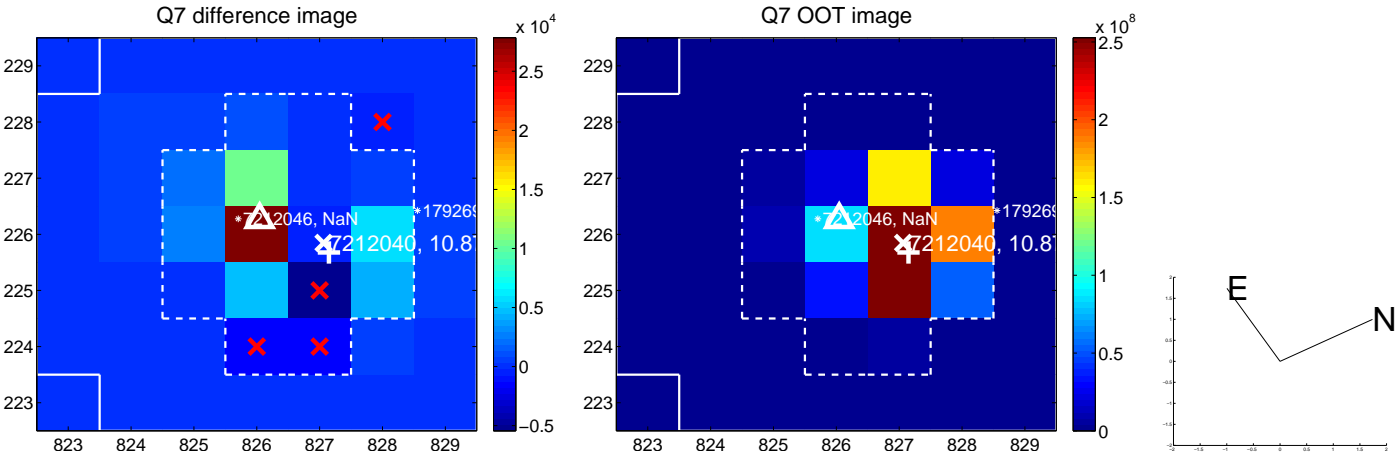
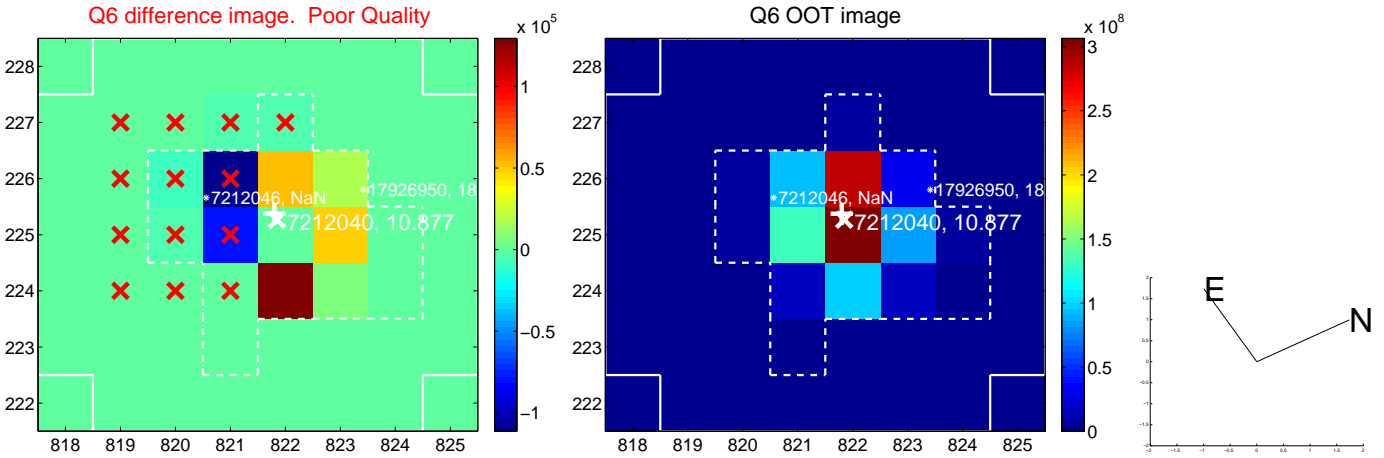
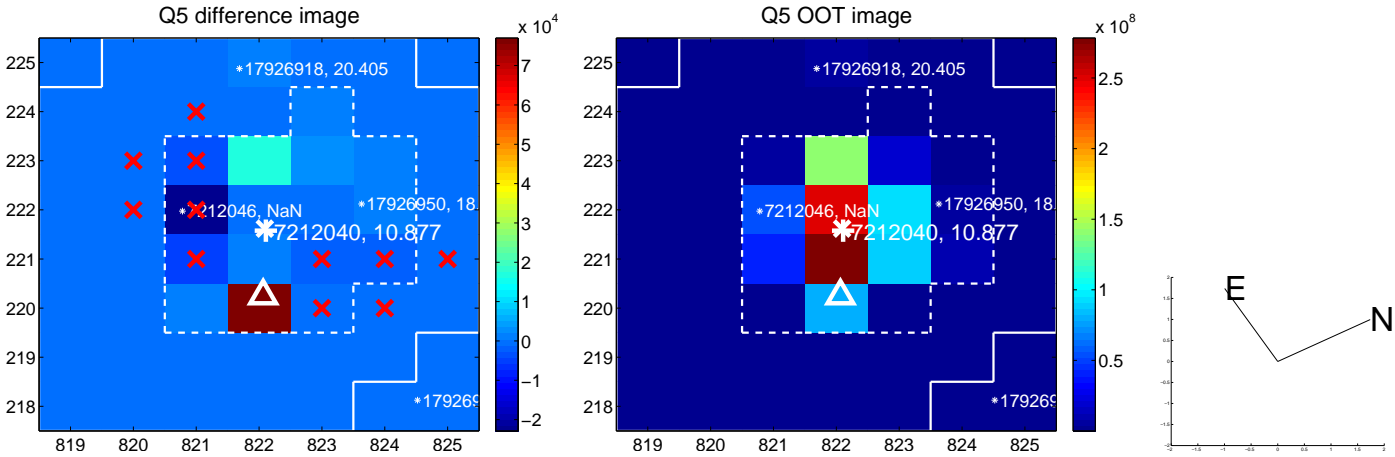


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

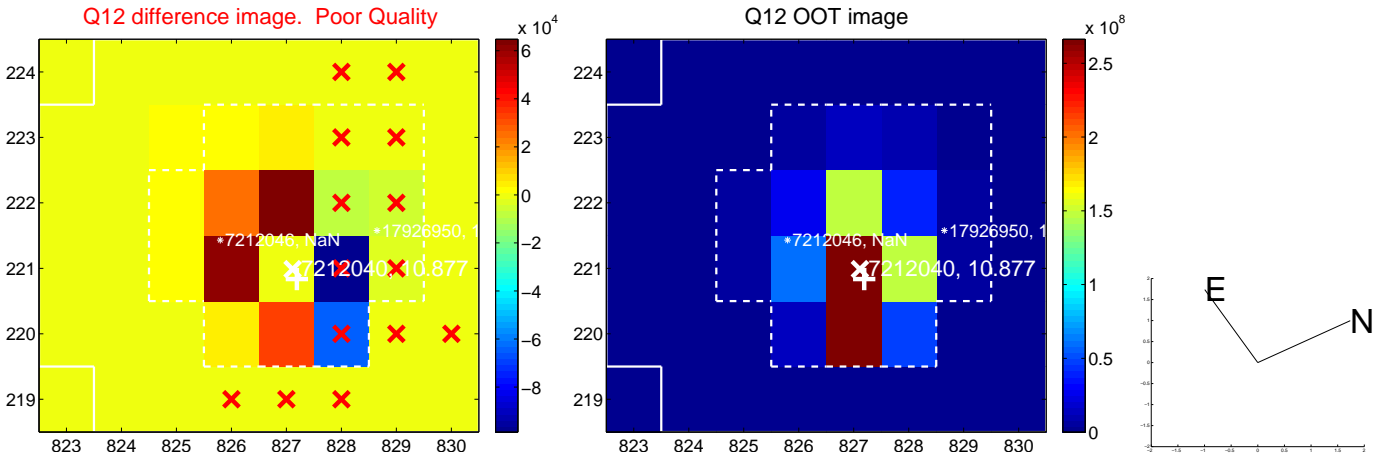
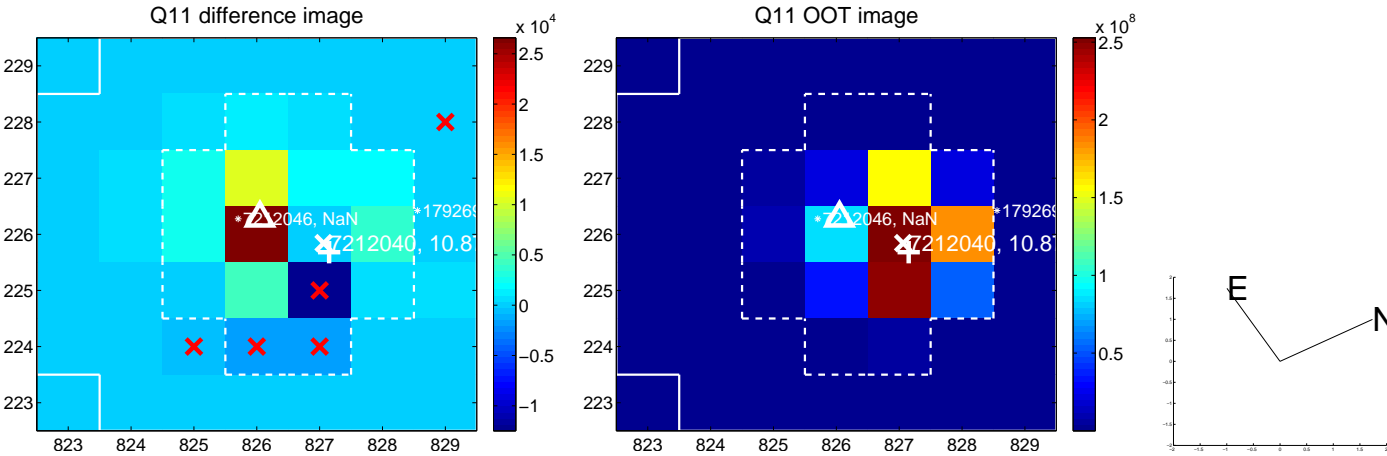
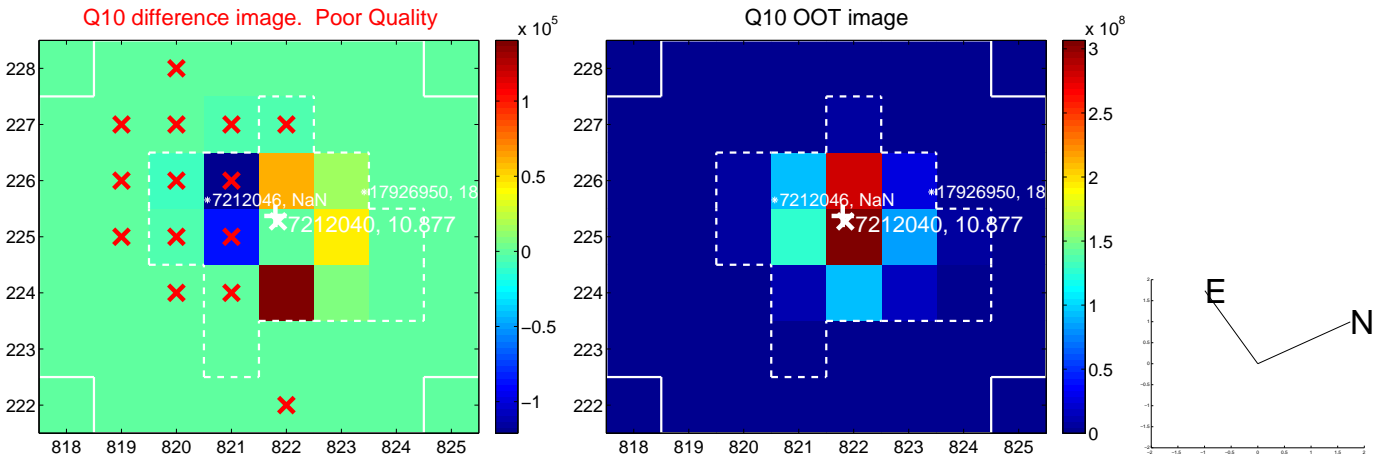
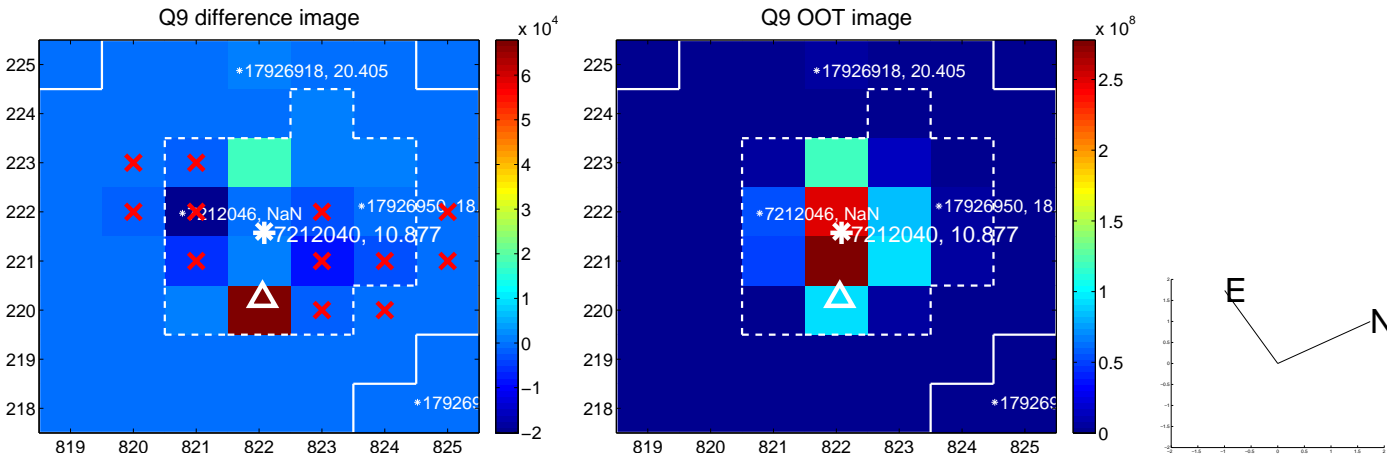
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



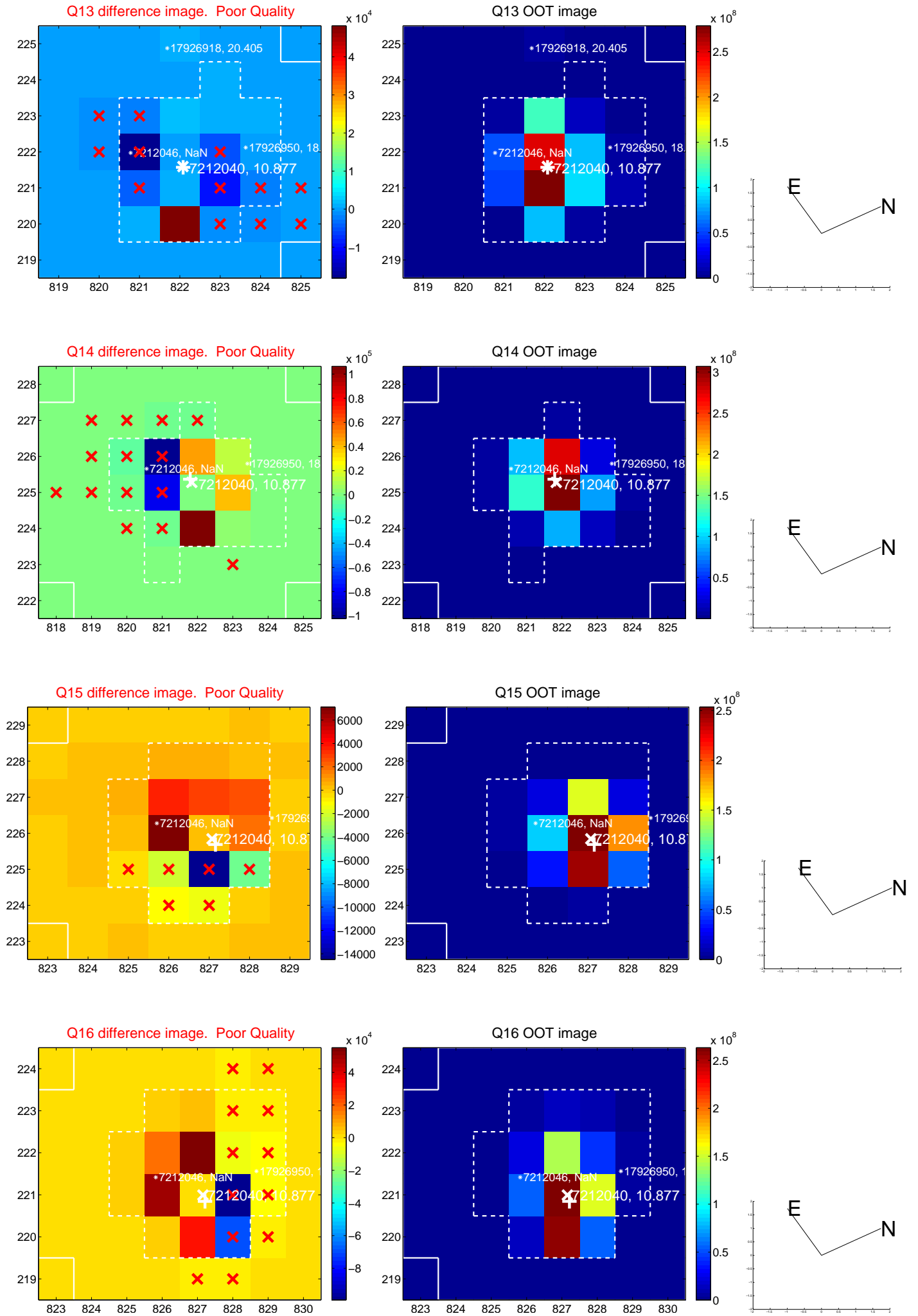
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



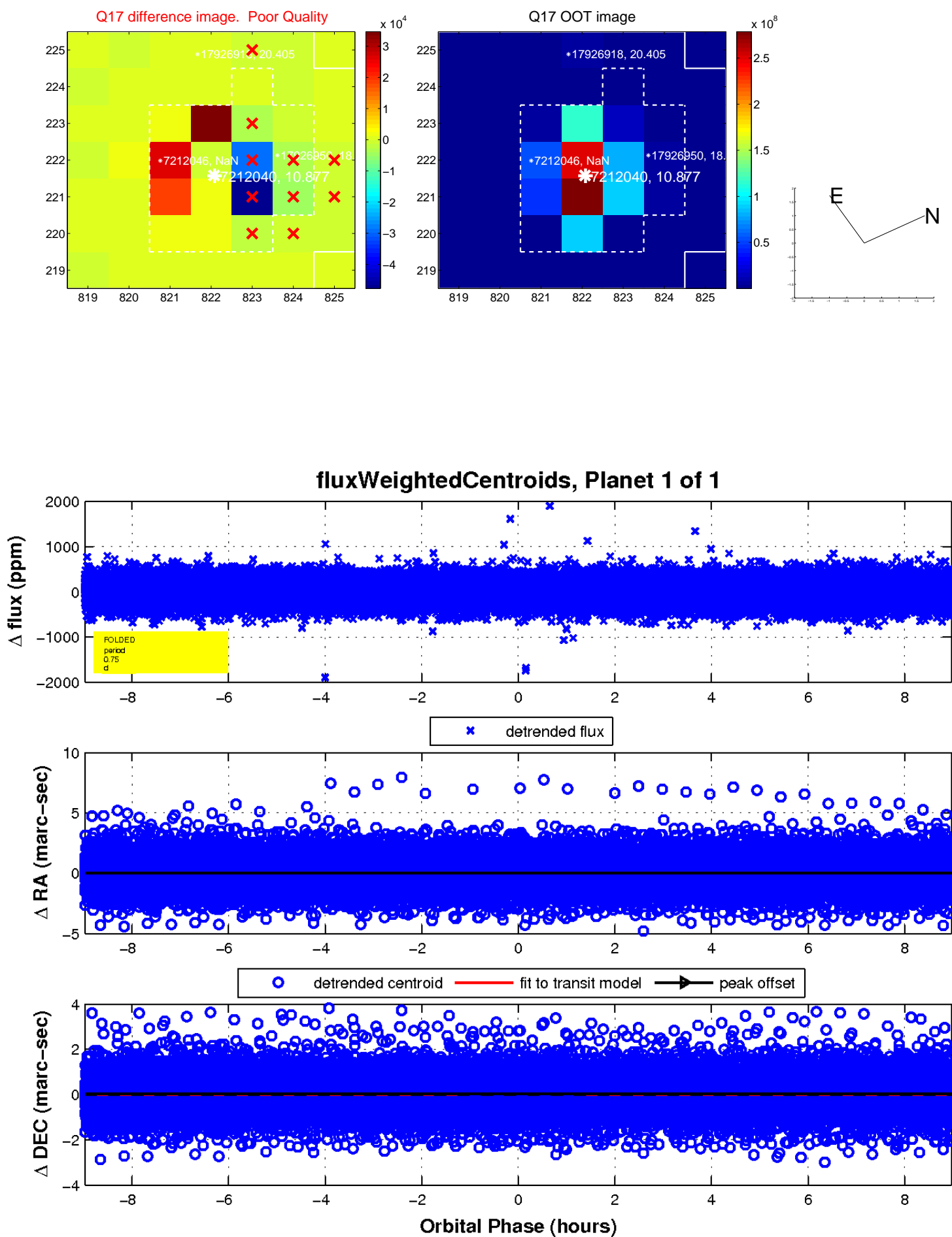
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

