

KIC 006130409

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})
006130409-01	OBS	No	587.754109	327.123771	569.1	3.280	17.2	2.3	1.36	5705	3.36	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006130409-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV

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

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

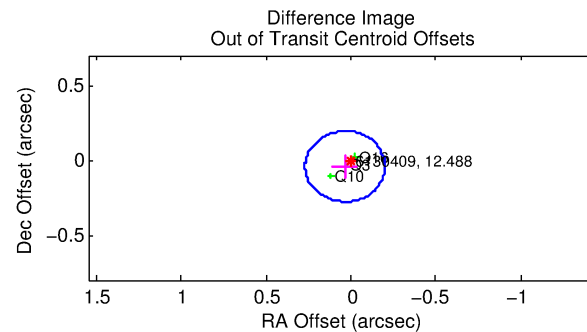
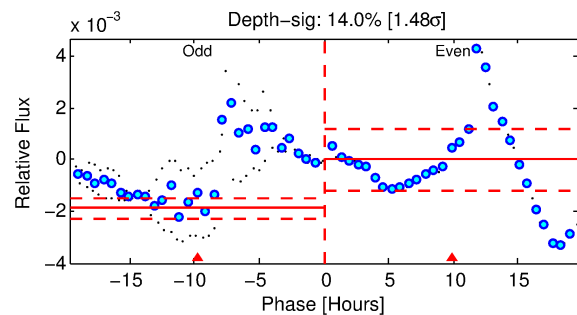
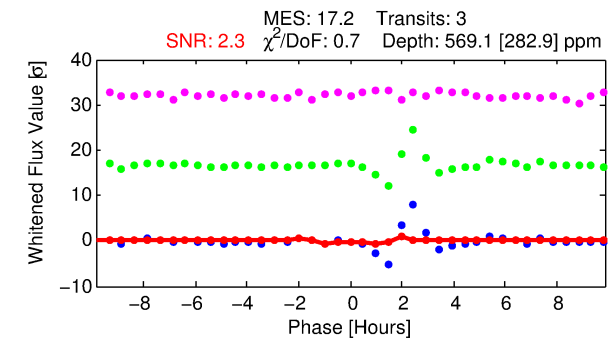
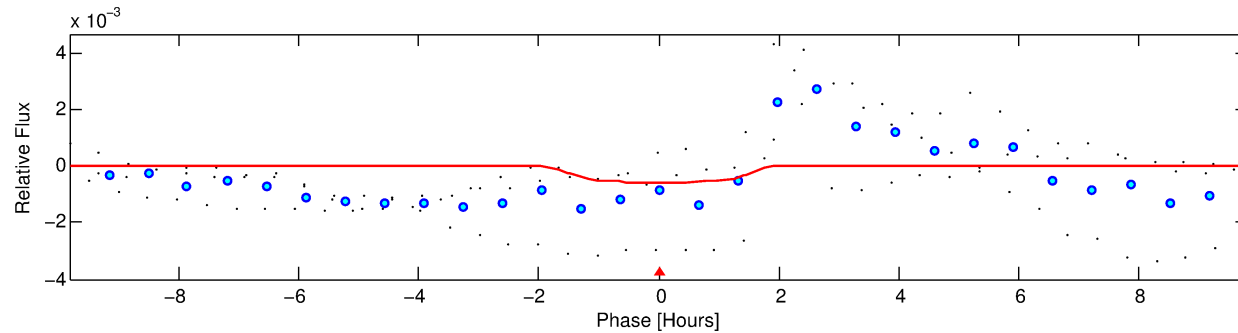
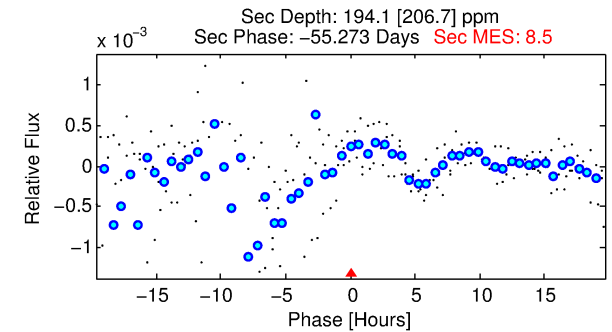
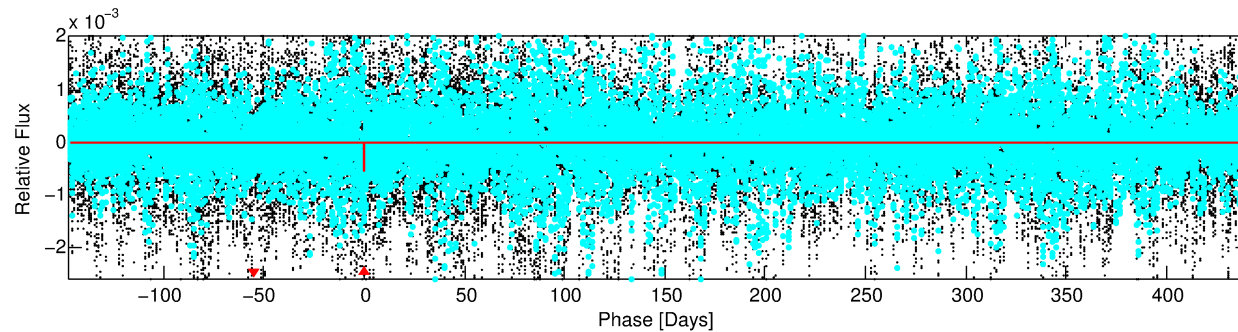
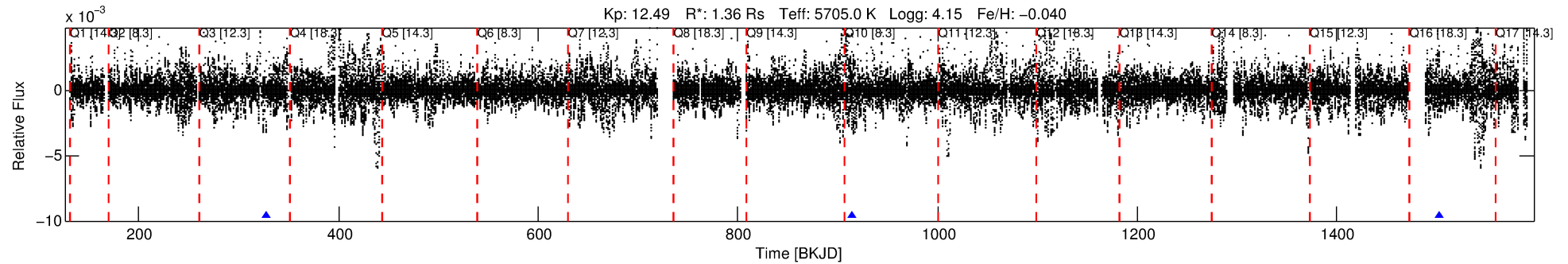
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006130409-01

No Significant Match Found

DV One-Page Summary

KIC: 6130409 Candidate: 1 of 1 Period: 587.754 d



DV Fit Results:

Period = 587.75411 [0.00789] d
Epoch = 327.1238 [0.0098] BKJD
Rp/R* = 0.0227 [0.0934]
a/R* = 1148.23 [20989.06]
b = 0.59 [20.78]
Seff = 0.96 [0.52]
Teq = 252 [34] K
Rp = 3.36 [13.87] Re
a = 1.3500 [0.4352] AU
Ag = 17276.91 [143824.84] [0.12 σ]
Teffp = 4471 [9287] K [0.45 σ]

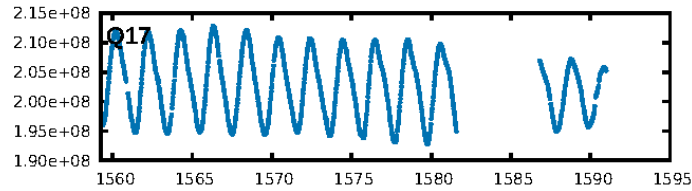
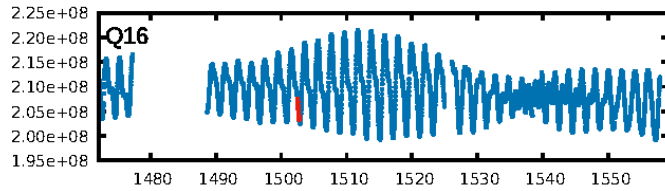
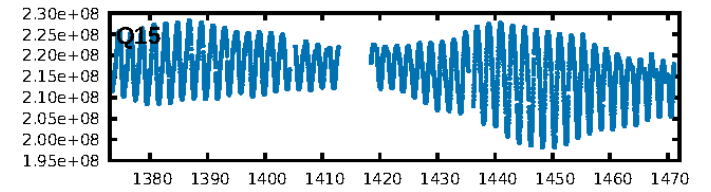
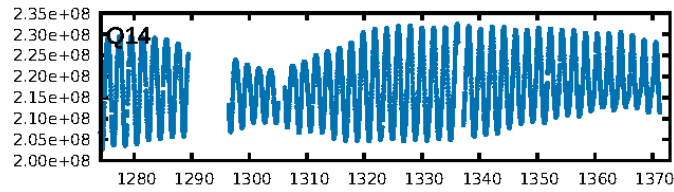
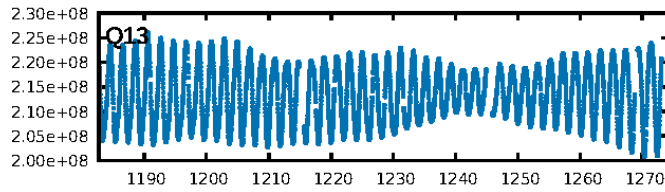
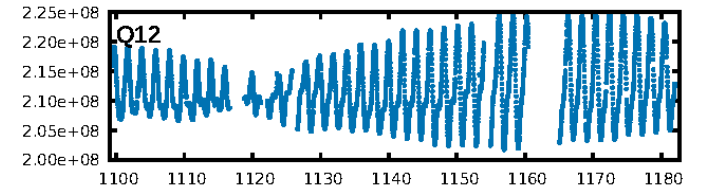
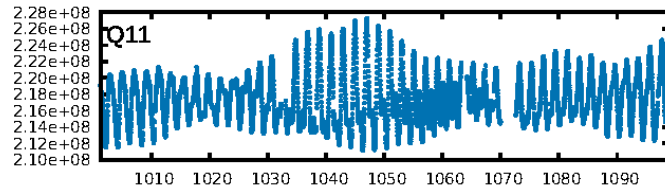
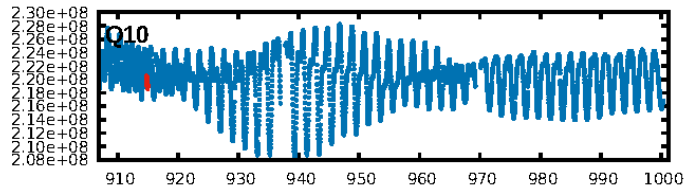
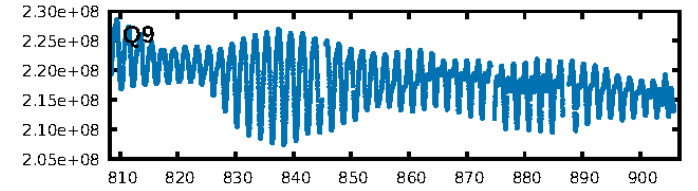
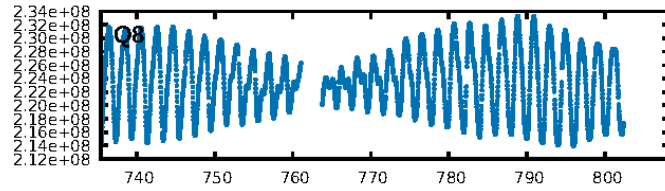
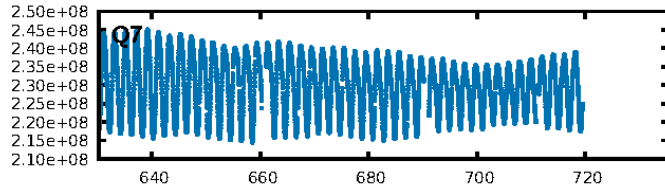
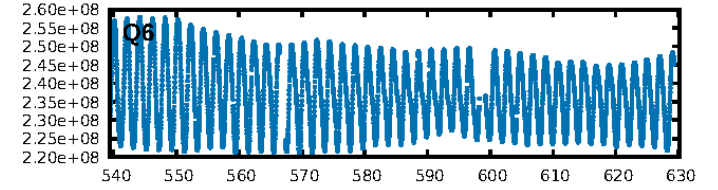
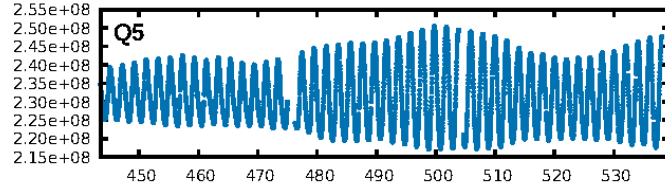
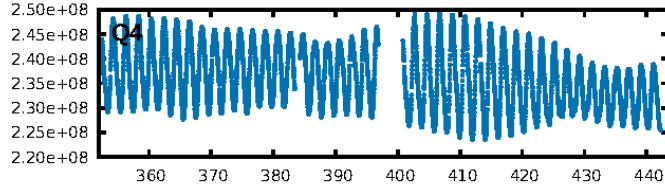
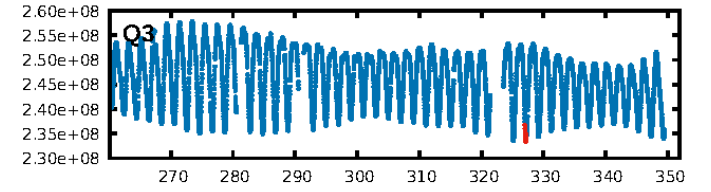
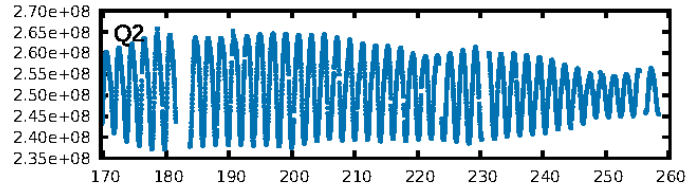
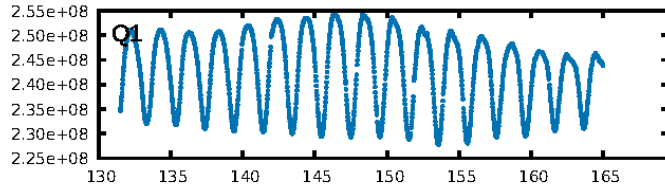
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.3%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.09e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7054
Centroid-sig: 3.0%
Centroid-so: 1.253 arcsec [1.76 σ]
OotOffset-rm: 0.055 arcsec [0.70 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-rm: 0.049 arcsec [0.67 σ]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

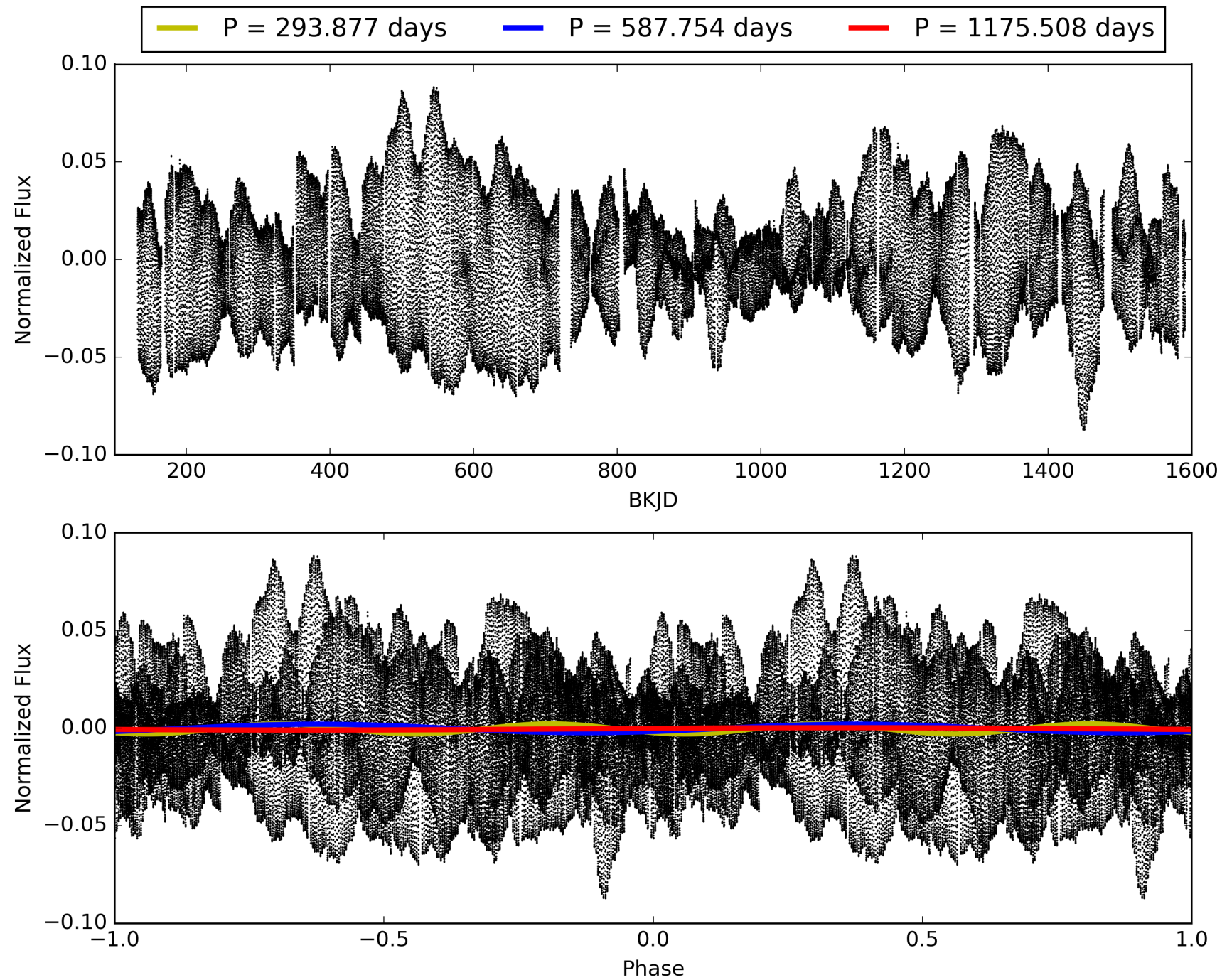
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:42:38 Z

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

TCE 006130409-01, PDC Light Curves

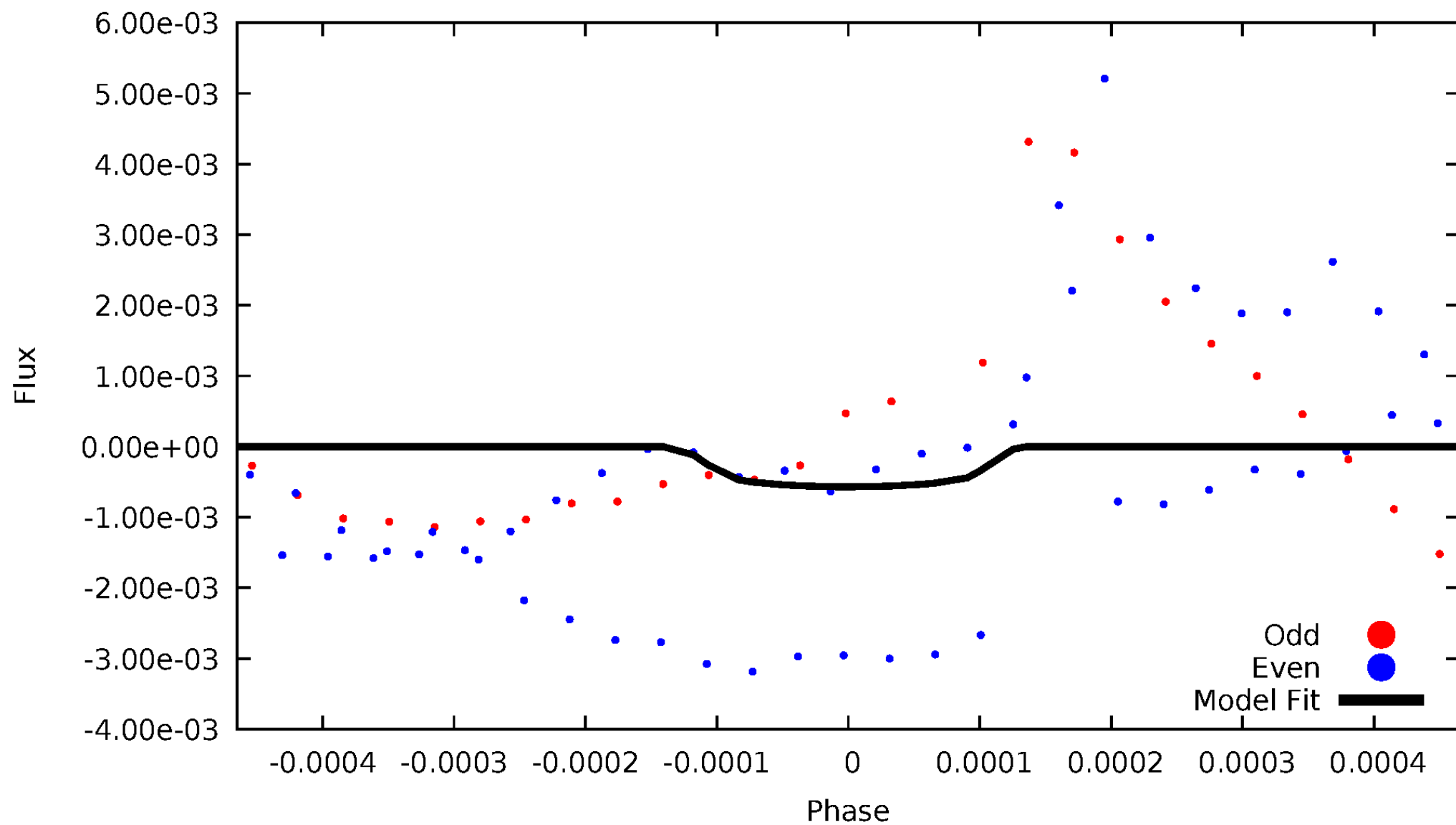


TCE 006130409-01



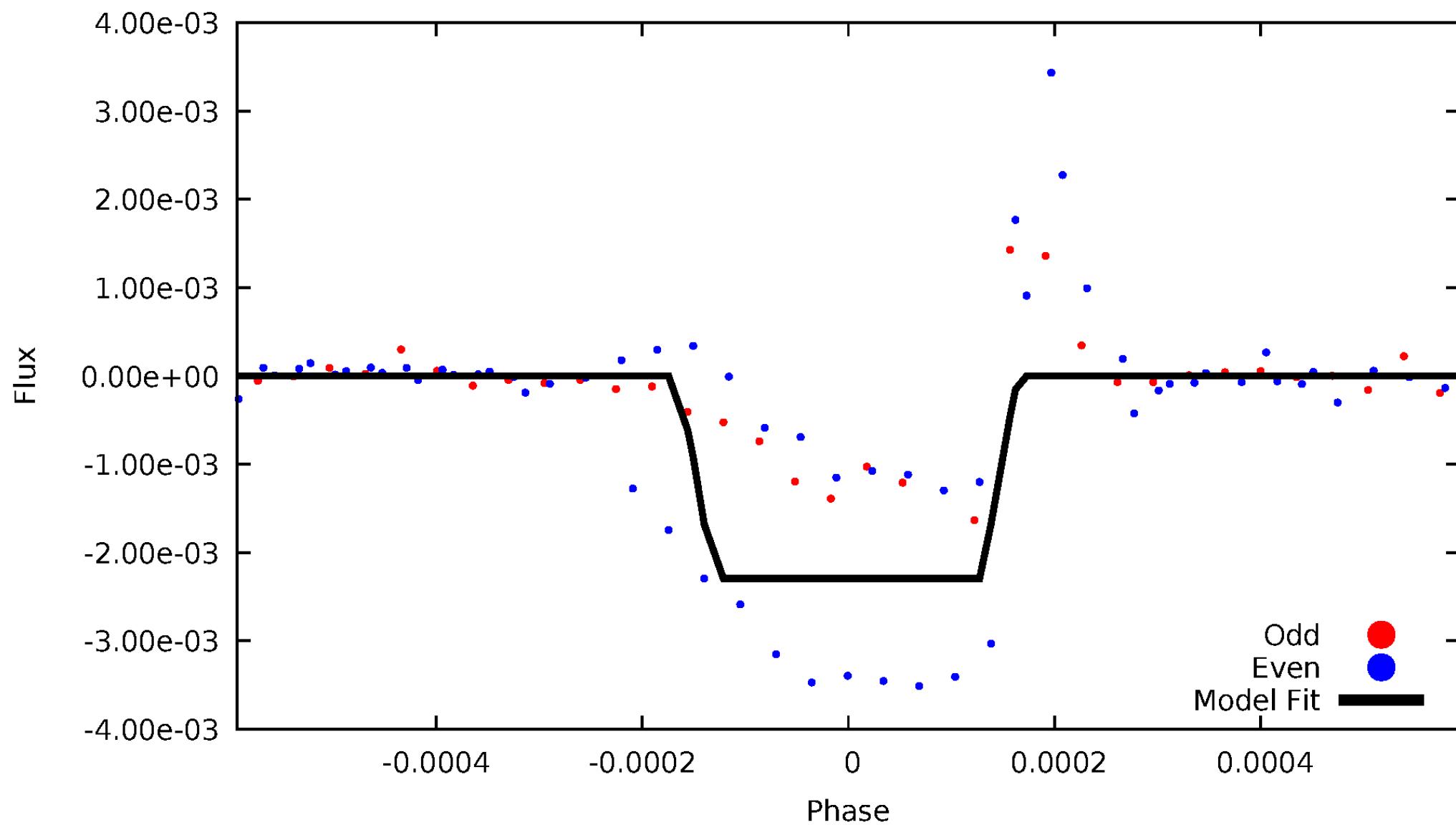
DV Odd/Even

TCE 006130409-01

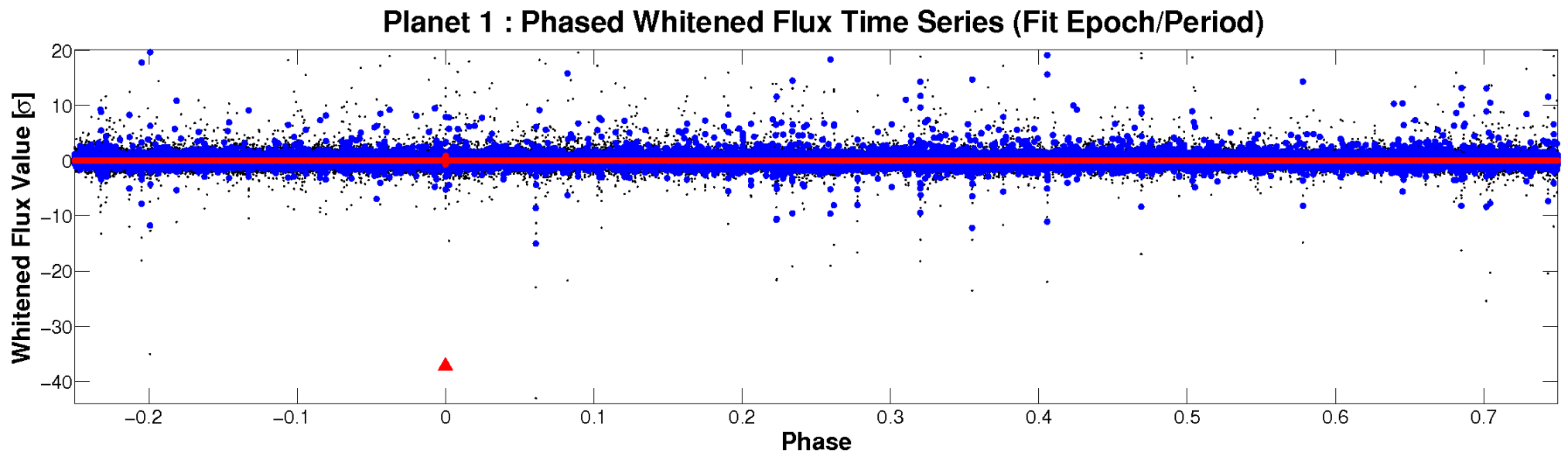
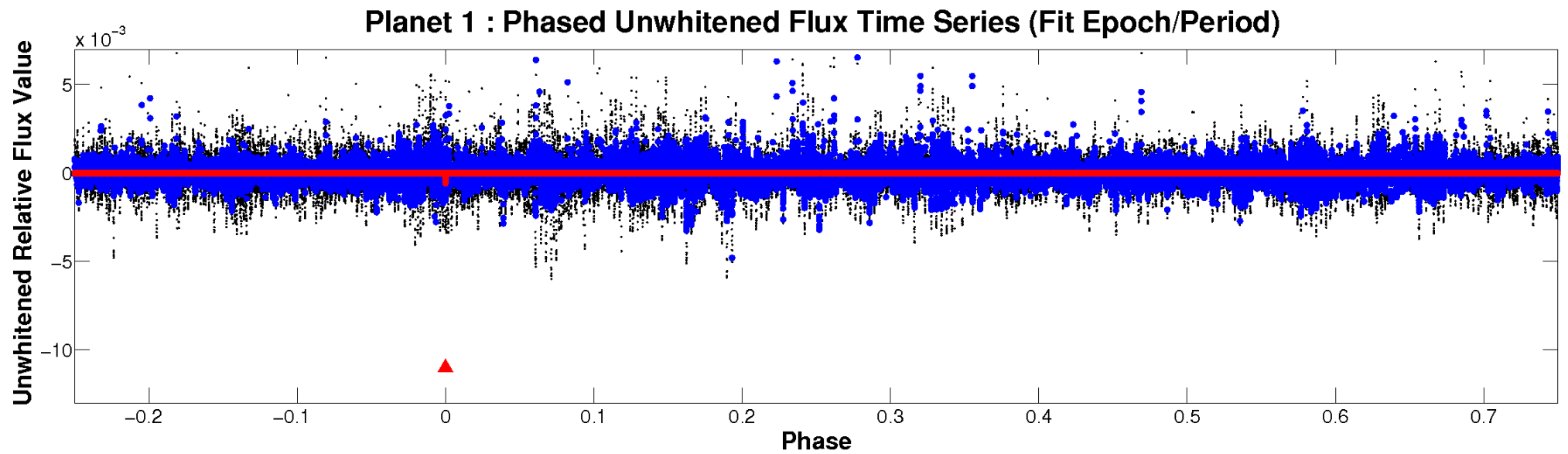


ALT Odd/Even

TCE 006130409-01

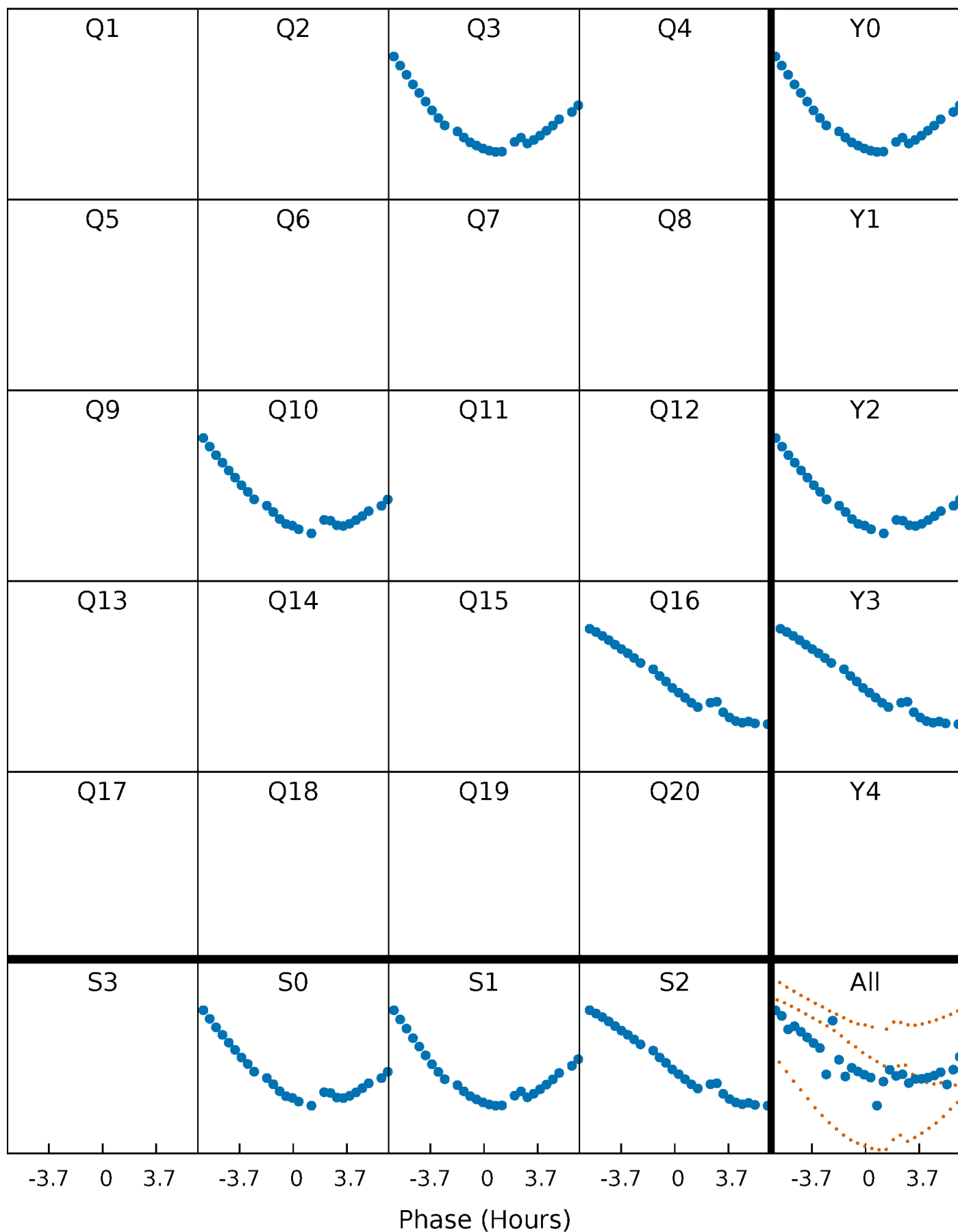


Non-Whitened Vs. Whitened Light Curve



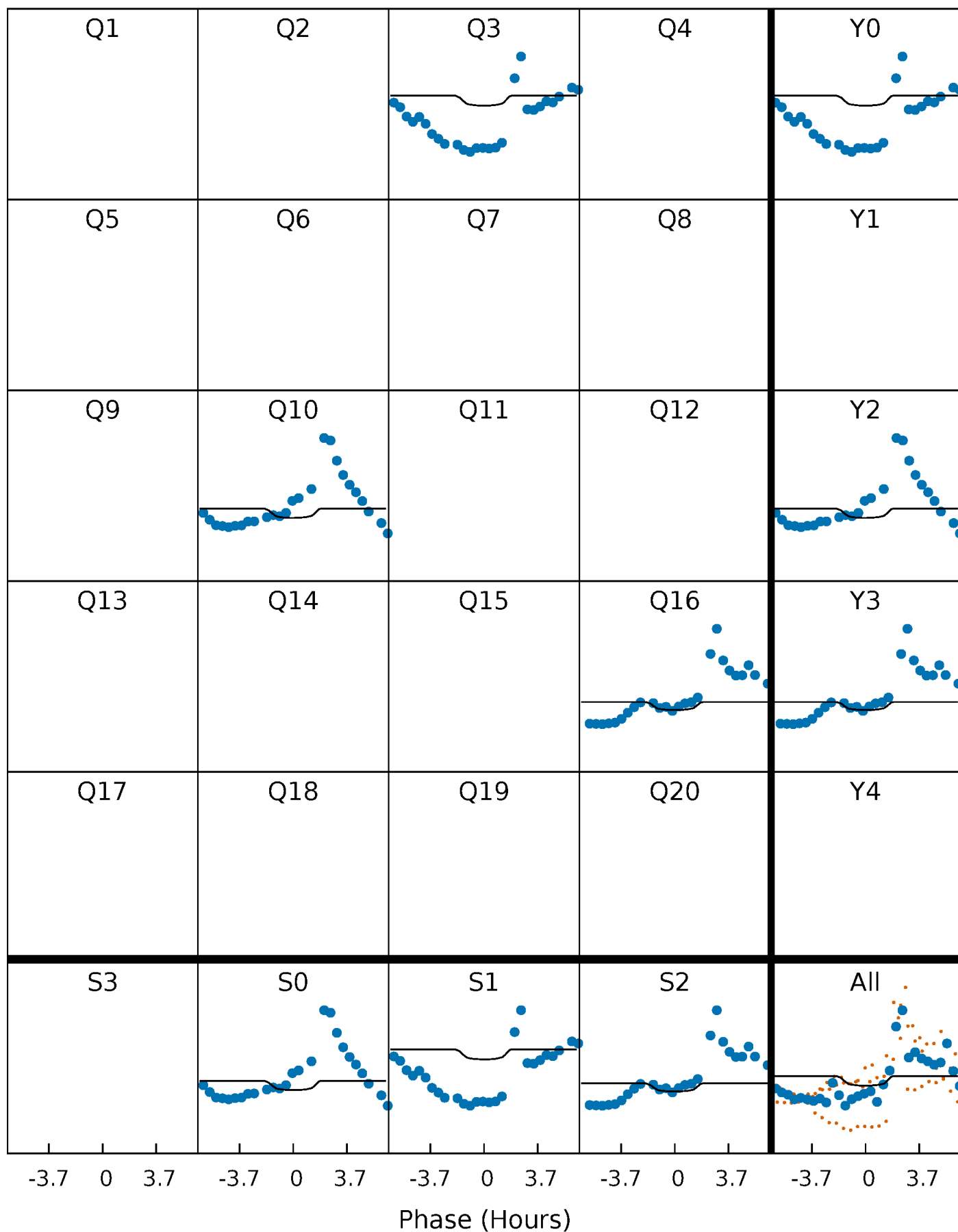
PDC Quarter-Phased Transit Curves

TCE 006130409-01 P=587.754109 Days $T_0=327.123771$ (BKJD)



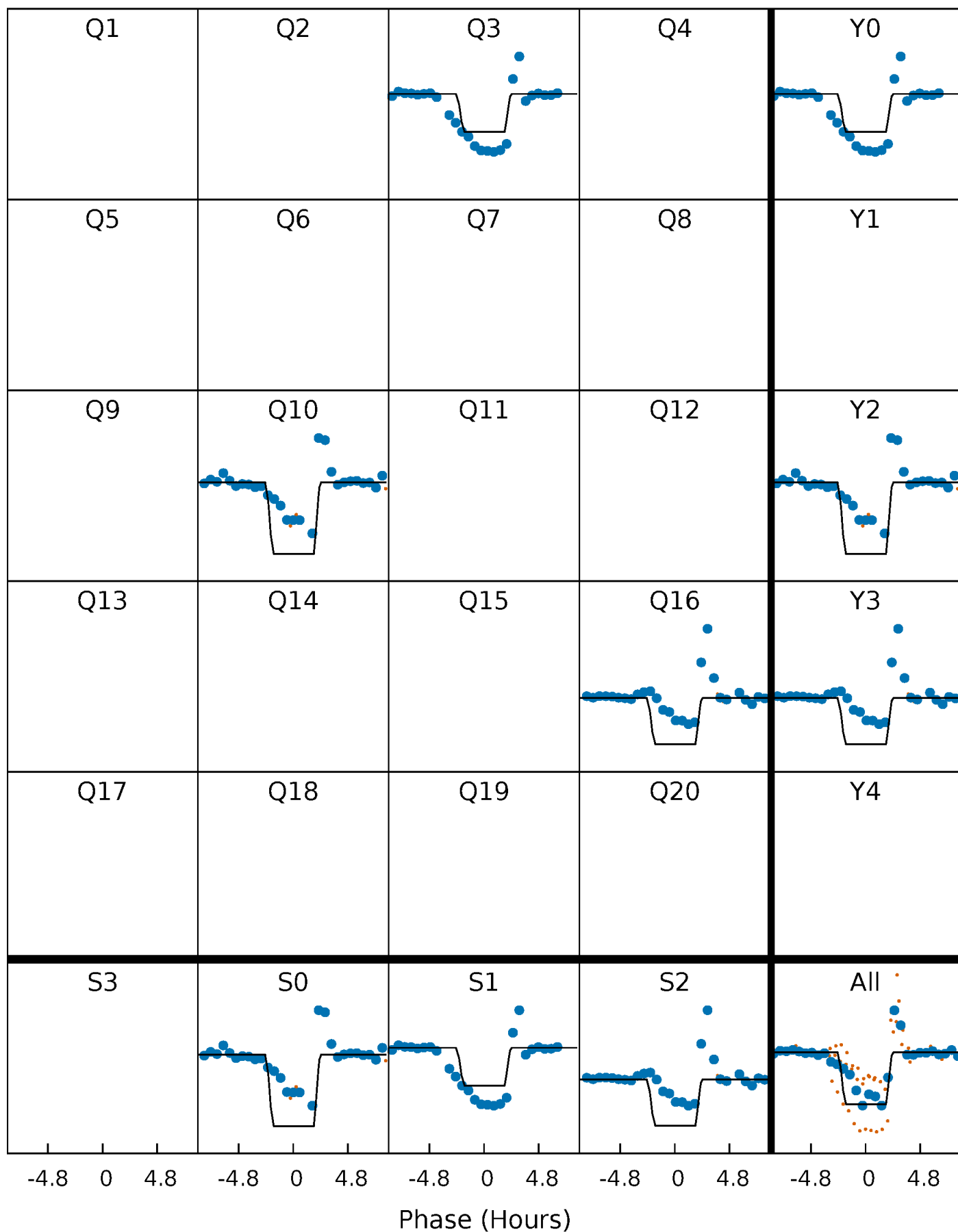
DV Quarter-Phased Transit Curves

TCE 006130409-01 P=587.754109 Days $T_0=327.123771$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

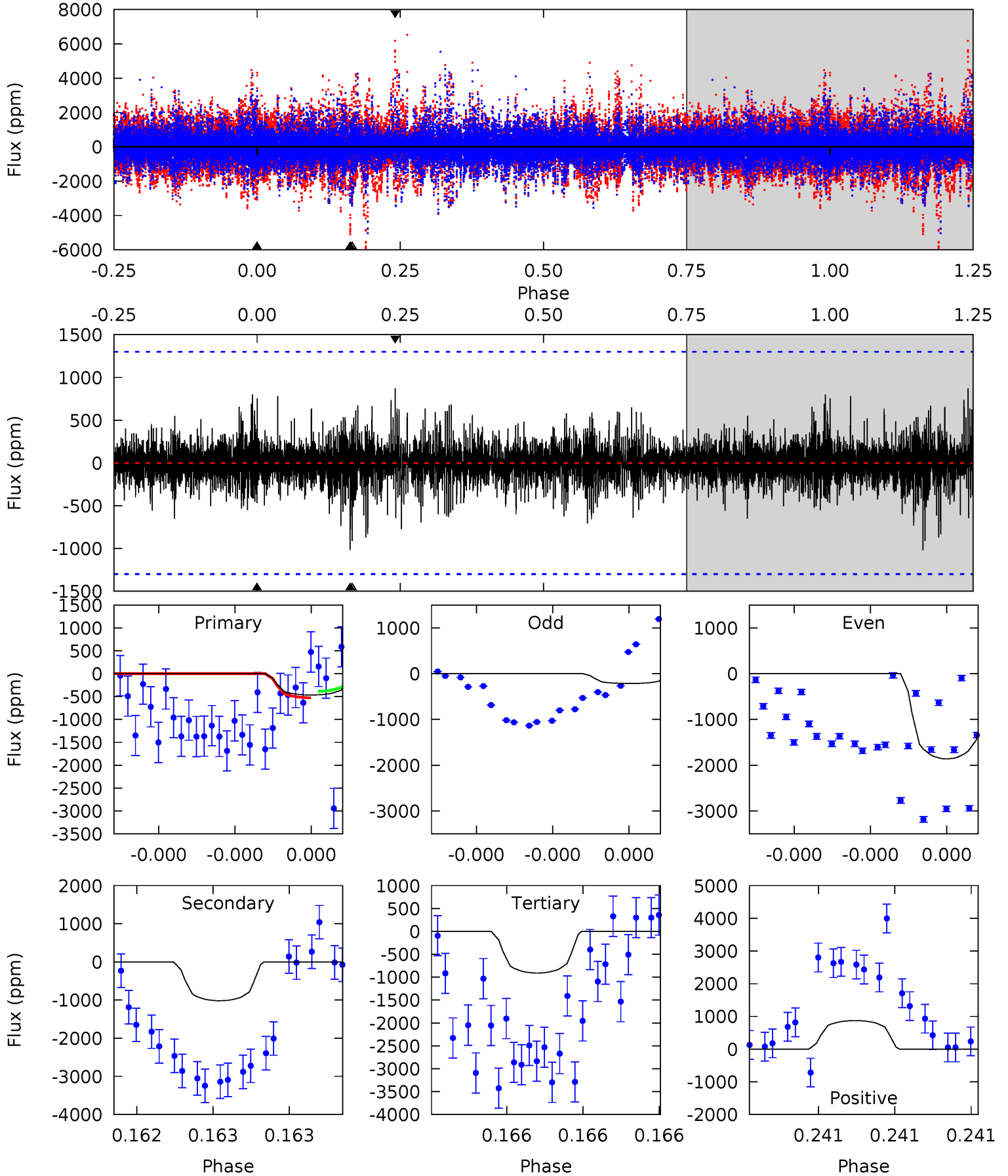
TCE 006130409-01 P=587.764542 Days $T_0=327.101704$ (BKJD)



DV Model-Shift Uniqueness Test

006130409-01, P = 587.754109 Days, E = 327.123771 Days

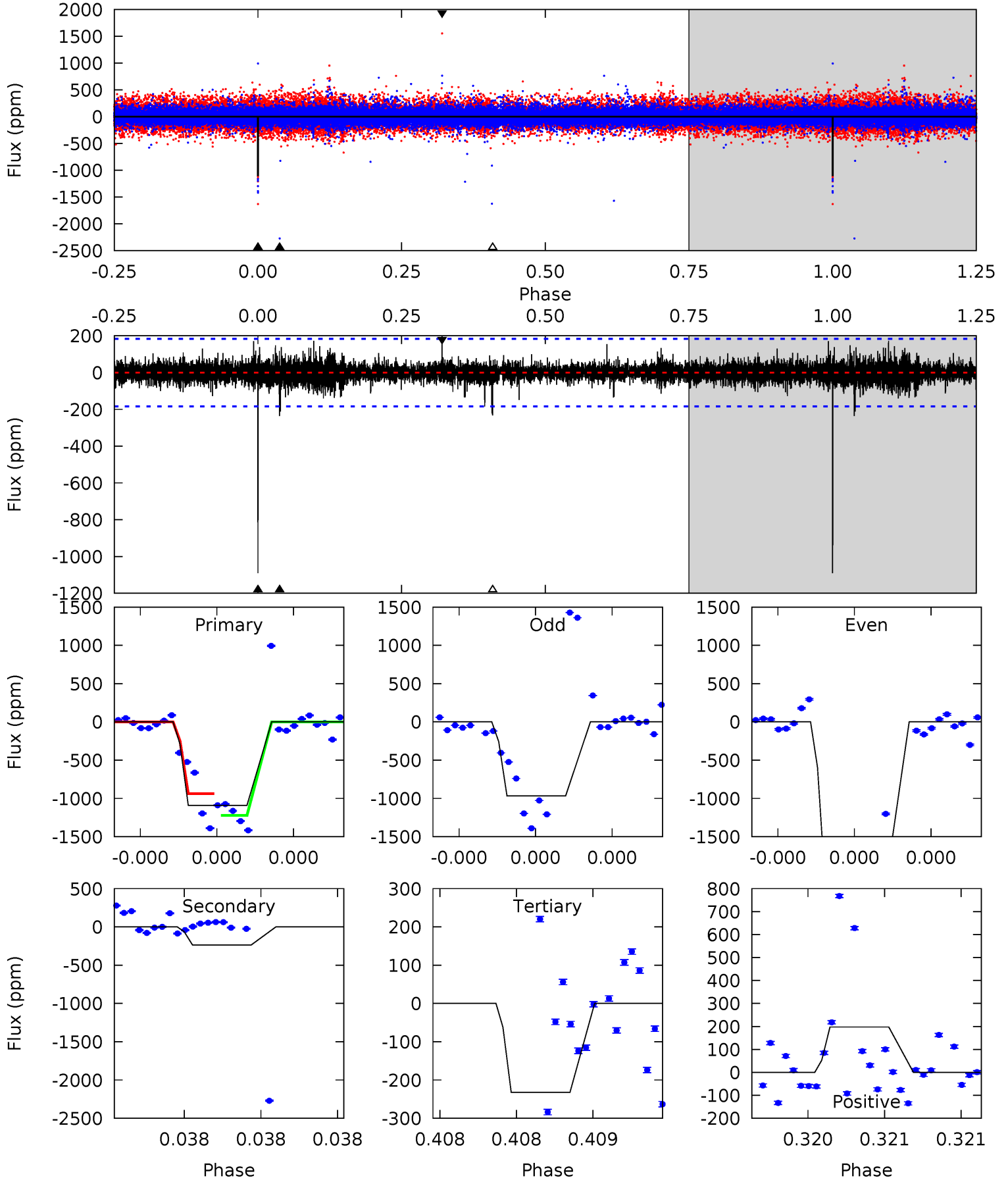
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.05	4.47	4.00	3.83	5.70	3.68	0.74	-1.95	-1.78	0.48	0.64	3.63	3.45	0.46	0.30



Alt Model-Shift Uniqueness Test

006130409-01, P = 587.764542 Days, E = 327.101704 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.6	7.26	7.16	6.09	5.65	3.60	0.89	26.4	27.5	0.10	1.17	17.6	1.64	0.15	0



Stellar Parameters For KIC 006130409

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5705^{+138}_{-156}	$4.151^{+0.322}_{-0.161}$	$-0.040^{+0.300}_{-0.300}$	$1.356^{+0.344}_{-0.421}$	$0.950^{+0.125}_{-0.091}$	$0.536^{+1.074}_{-0.244}$
	+2%/-3%	+8%/-4%	+750%/-750%	+25%/-31%	+13%/-10%	+200%/-45%
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 006130409-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1019 ± 228	$9.96^{+10.64}_{-6.74}$	346^{+28}_{-31}	4089^{+2682}_{-836}	10314^{+95002}_{-7931}
Alt.	-236 ± 32	$11.73^{+11.77}_{-8.03}$	349^{+28}_{-32}	3086^{+1528}_{-500}	1674^{+16283}_{-1252}

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

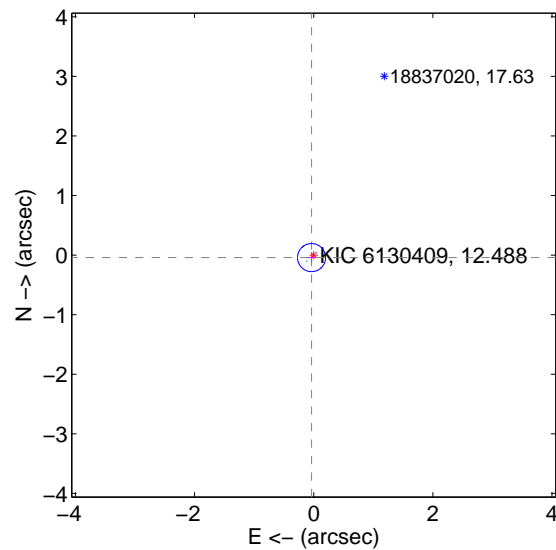
Supplemental centroid analysis for 006130409-01. Kepler magnitude: 12.49. Transit SNR 2.28

There are 3 quarters with good PRF difference image offsets

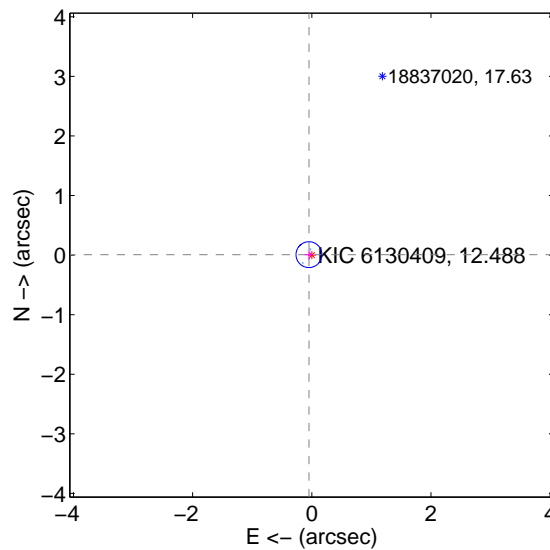
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.055 ± 0.079	0.70	0.036 ± 0.074	-0.042 ± 0.072
PRF-fit source offset from KIC position	0.049 ± 0.072	0.67	0.048 ± 0.072	0.008 ± 0.083
photometric centroid source offset	1.25 ± 0.71	1.76	1.13 ± 0.72	-0.53 ± 0.69

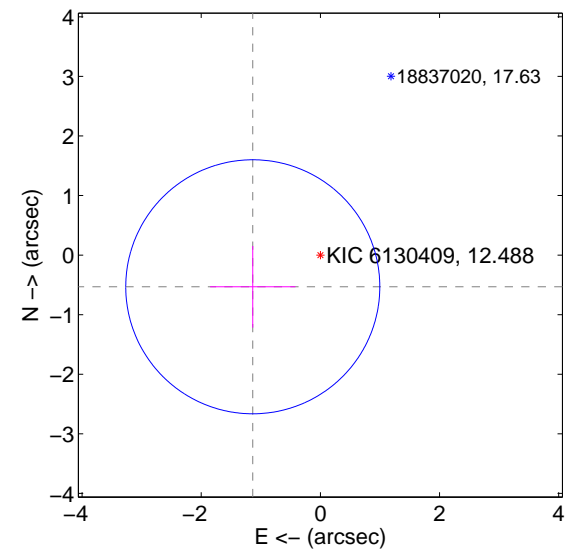
offset from difference PRF-fit to OOT PRF-fit



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

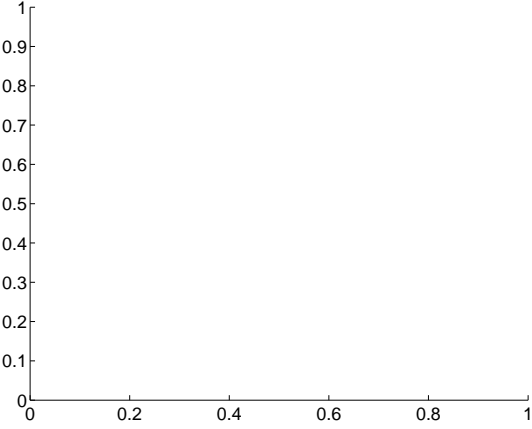
Q1 no difference image



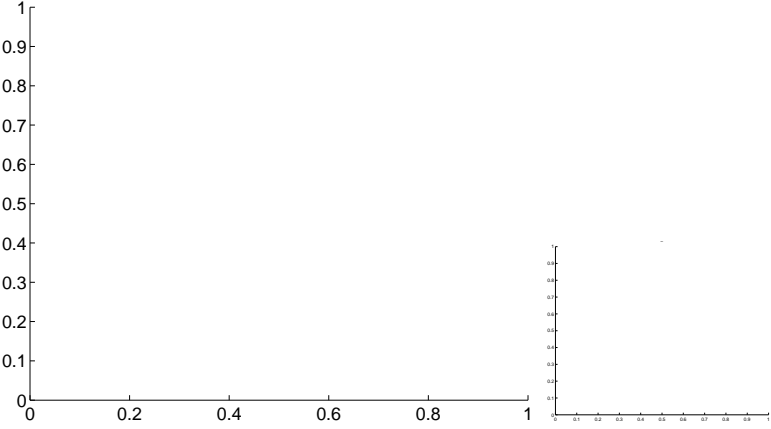
Q1 no OOT image



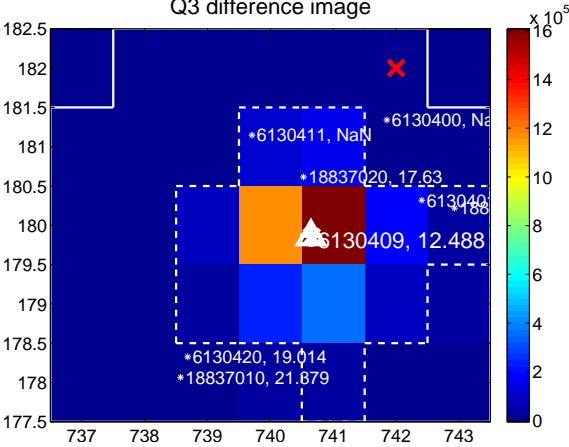
Q2 no difference image



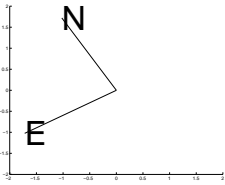
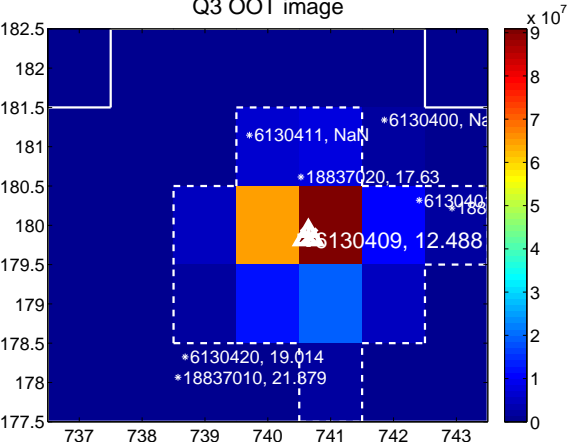
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



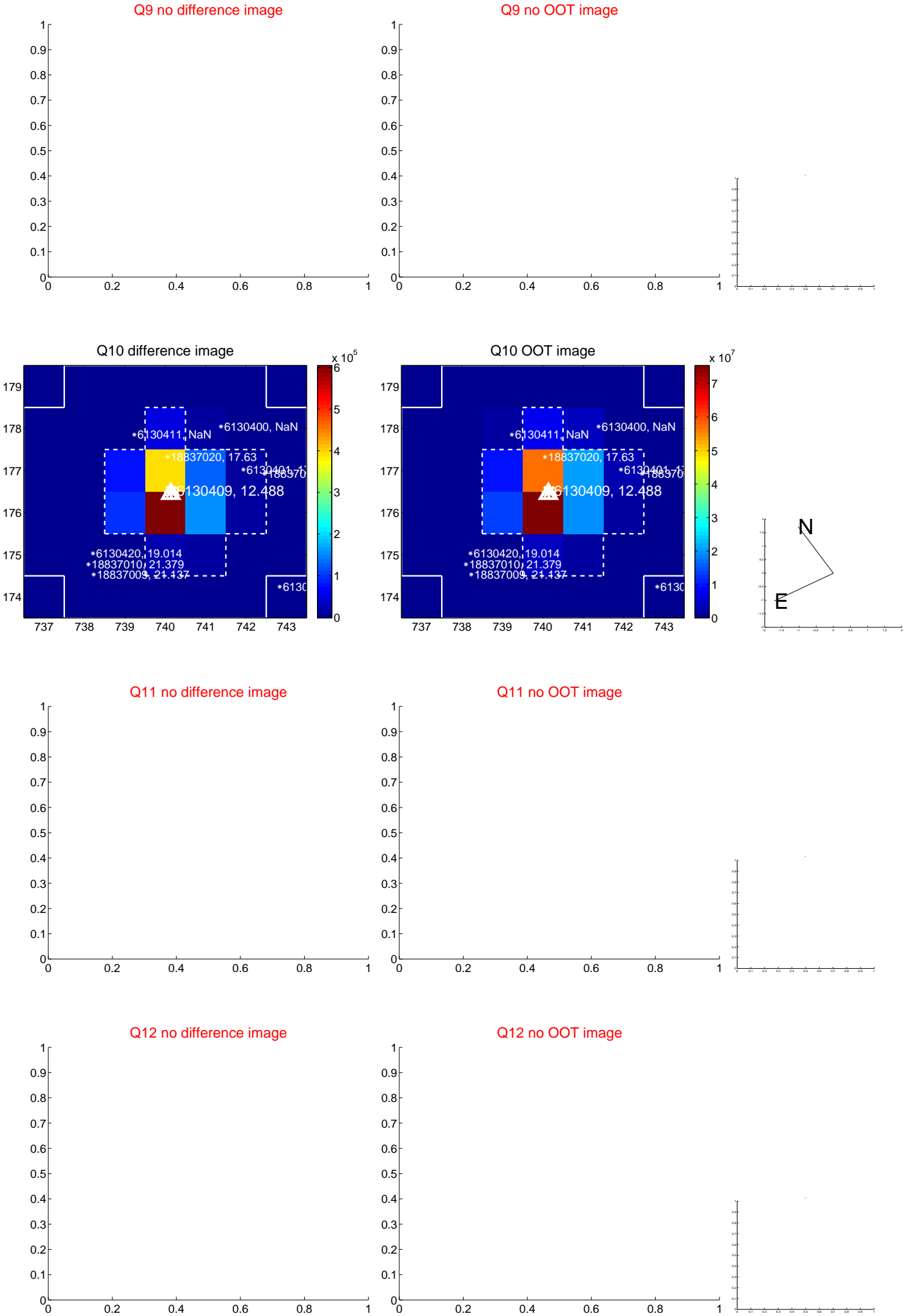
Q4 no OOT image



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.

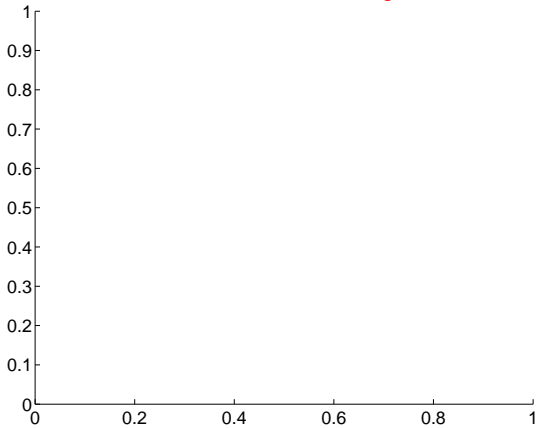
Q13 no difference image



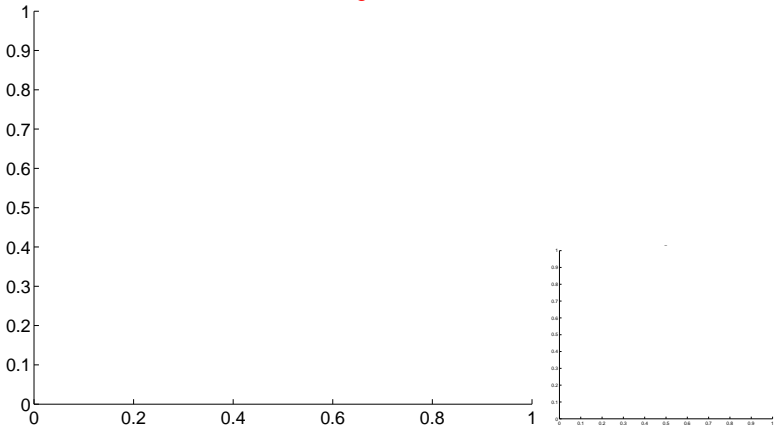
Q13 no OOT image



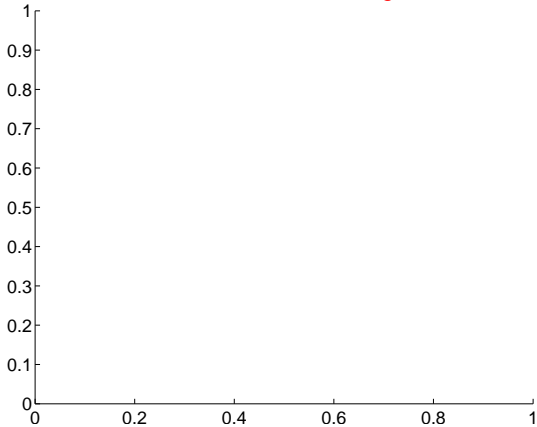
Q14 no difference image



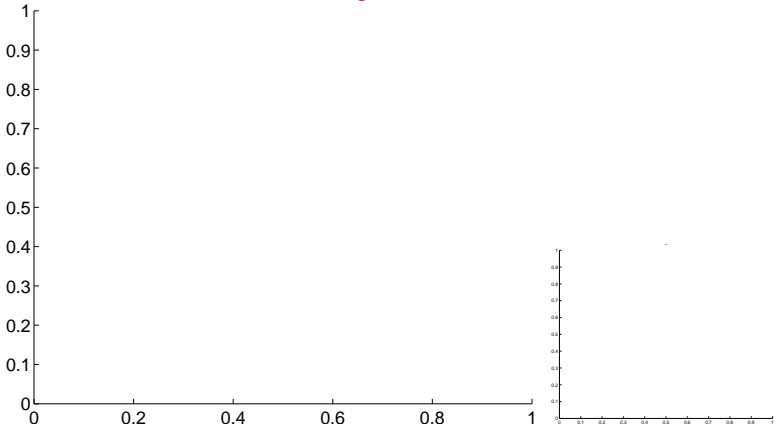
Q14 no OOT image



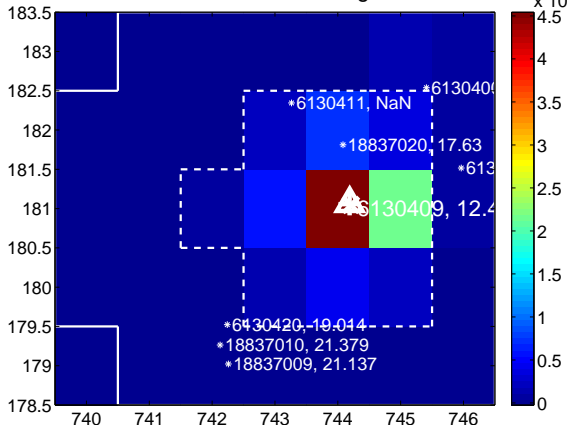
Q15 no difference image



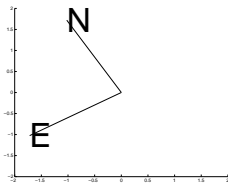
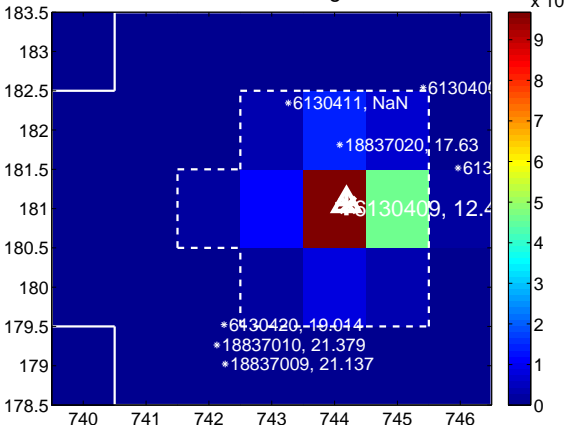
Q15 no OOT image



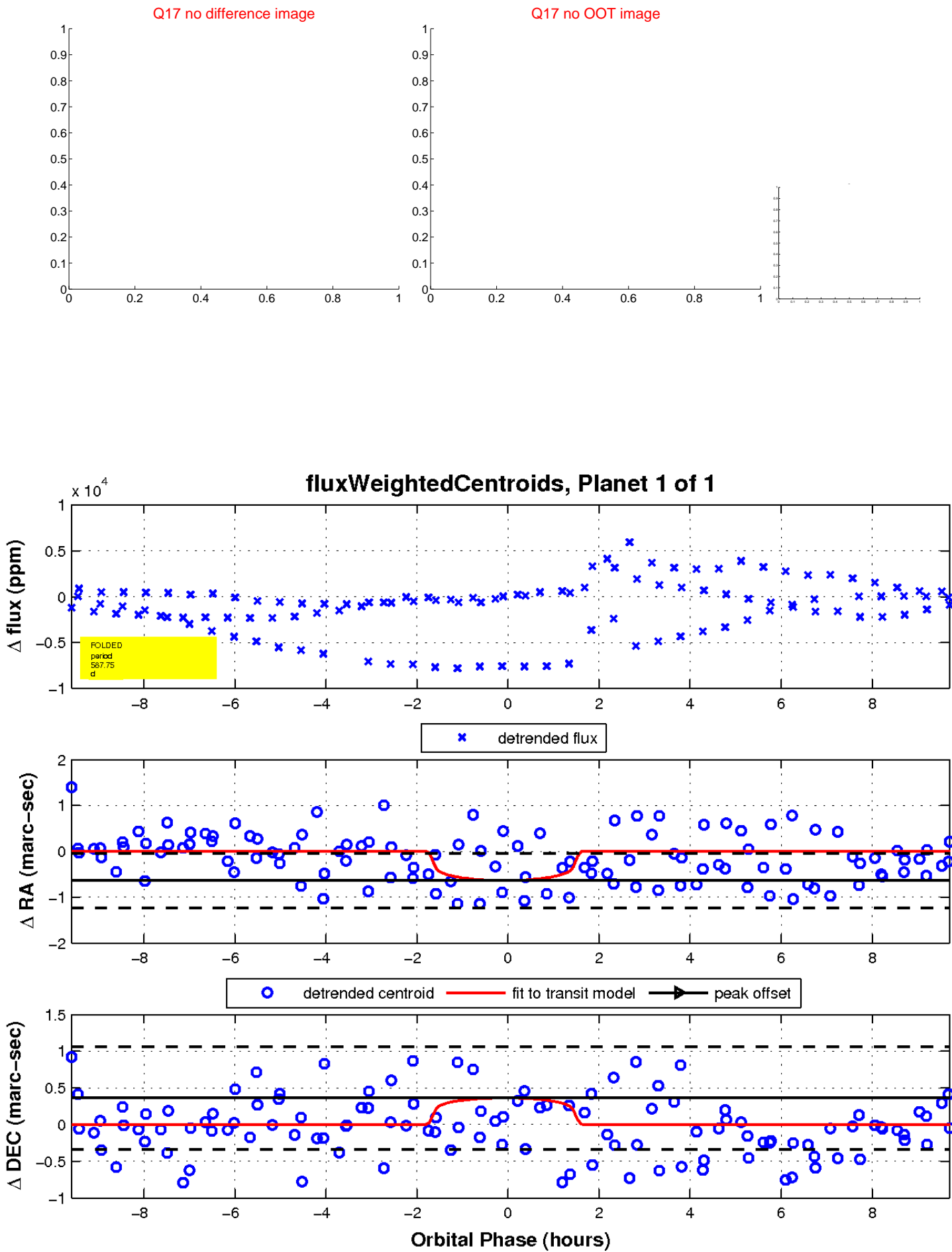
Q16 difference image



Q16 OOT image



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



UKIRT Image

