

KIC 004168490

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})
004168490-01	OBS	No	0.849187	132.134879	50.5	3.564	7.3	6.7	0.87	5978	0.67	2979.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004168490-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

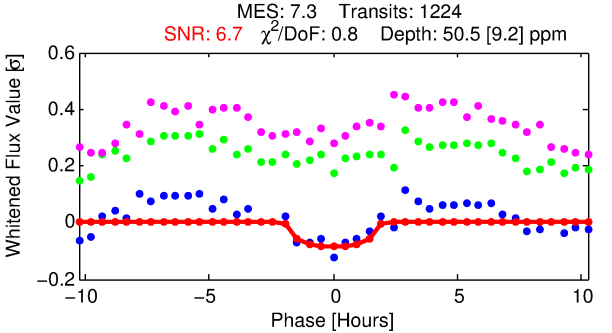
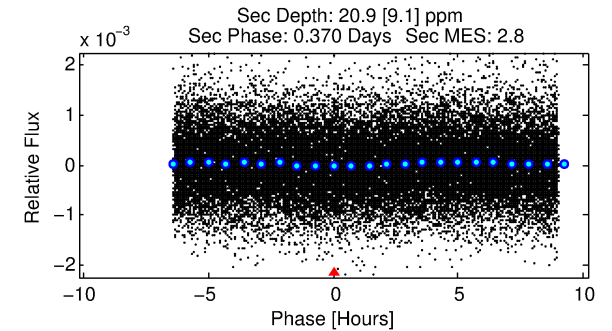
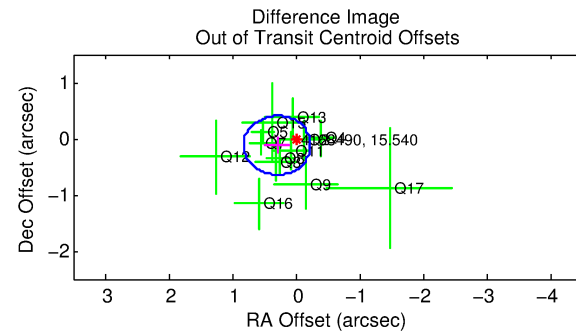
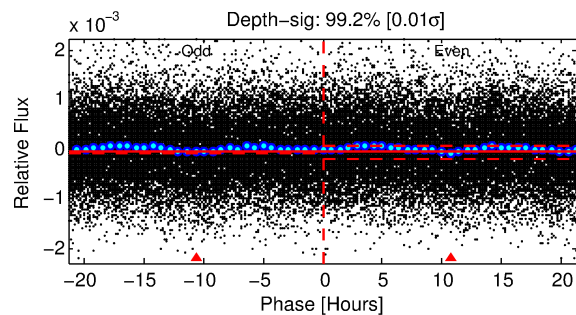
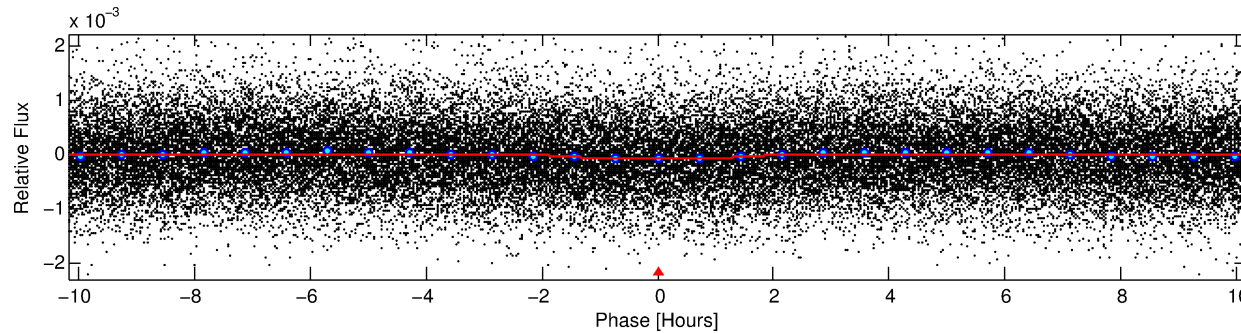
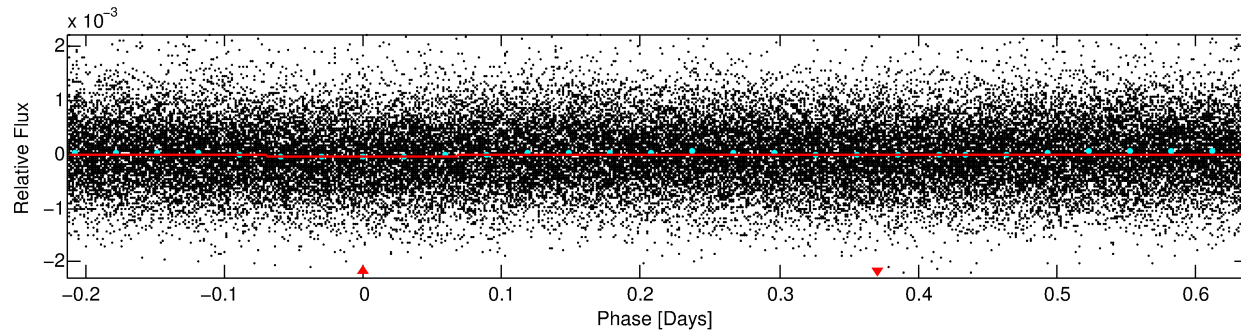
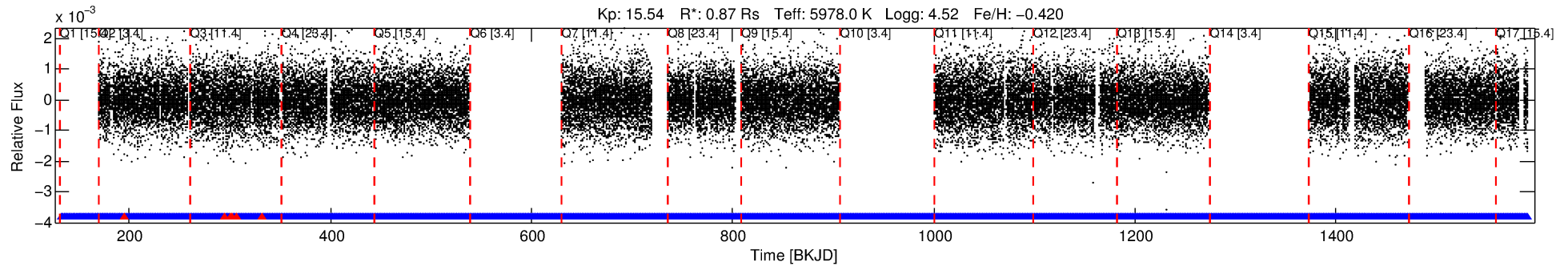
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004168490-01

No Significant Match Found

DV One-Page Summary

KIC: 4168490 Candidate: 1 of 1 Period: 0.849 d



DV Fit Results:

Period = 0.84919 [0.00002] d
Epoch = 132.1349 [0.0065] BKJD
Rp/R* = 0.0071 [0.0080]
a/R* = 1.49 [4.68]
b = 0.75 [3.38]
Seff = 2979.39 [1145.86]
Teq = 1884 [181] K
Rp = 0.67 [0.78] Re
a = 0.0170 [0.0042] AU
Ag = 7.42 [17.24] [0.37 σ]
Teff = 4808 [2762] K [1.06 σ]

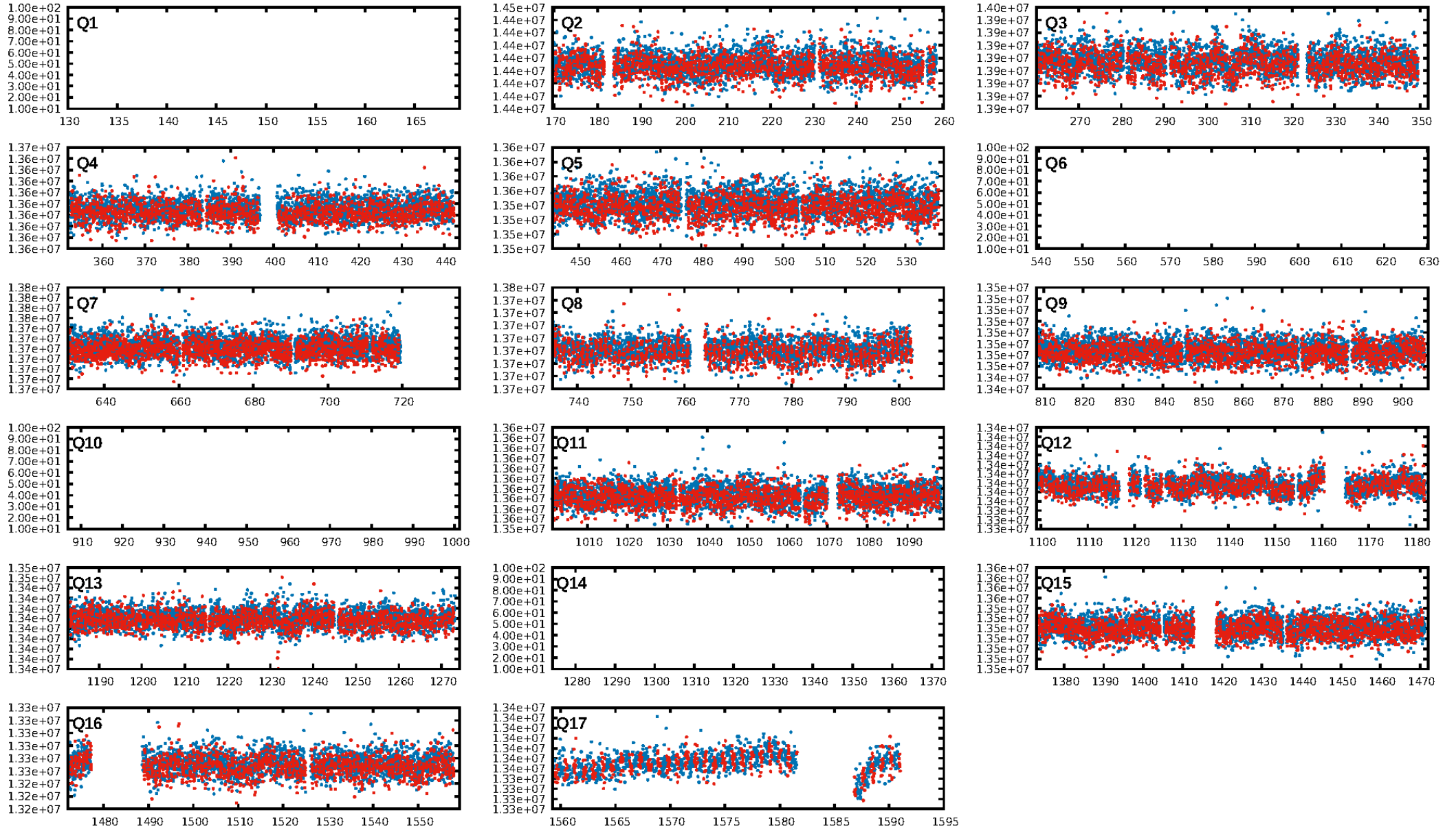
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.45e-12
RollingBand-fgt: 0.99 [1185/1192]
GhostDiagnostic-chr: 2.909
Centroid-sig: 0.1%
Centroid-so: 4.830 arcsec [2.03 σ]
OotOffset-rm: 0.316 arcsec [1.80 σ]
KicOffset-rm: 0.355 arcsec [2.04 σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [13/13]

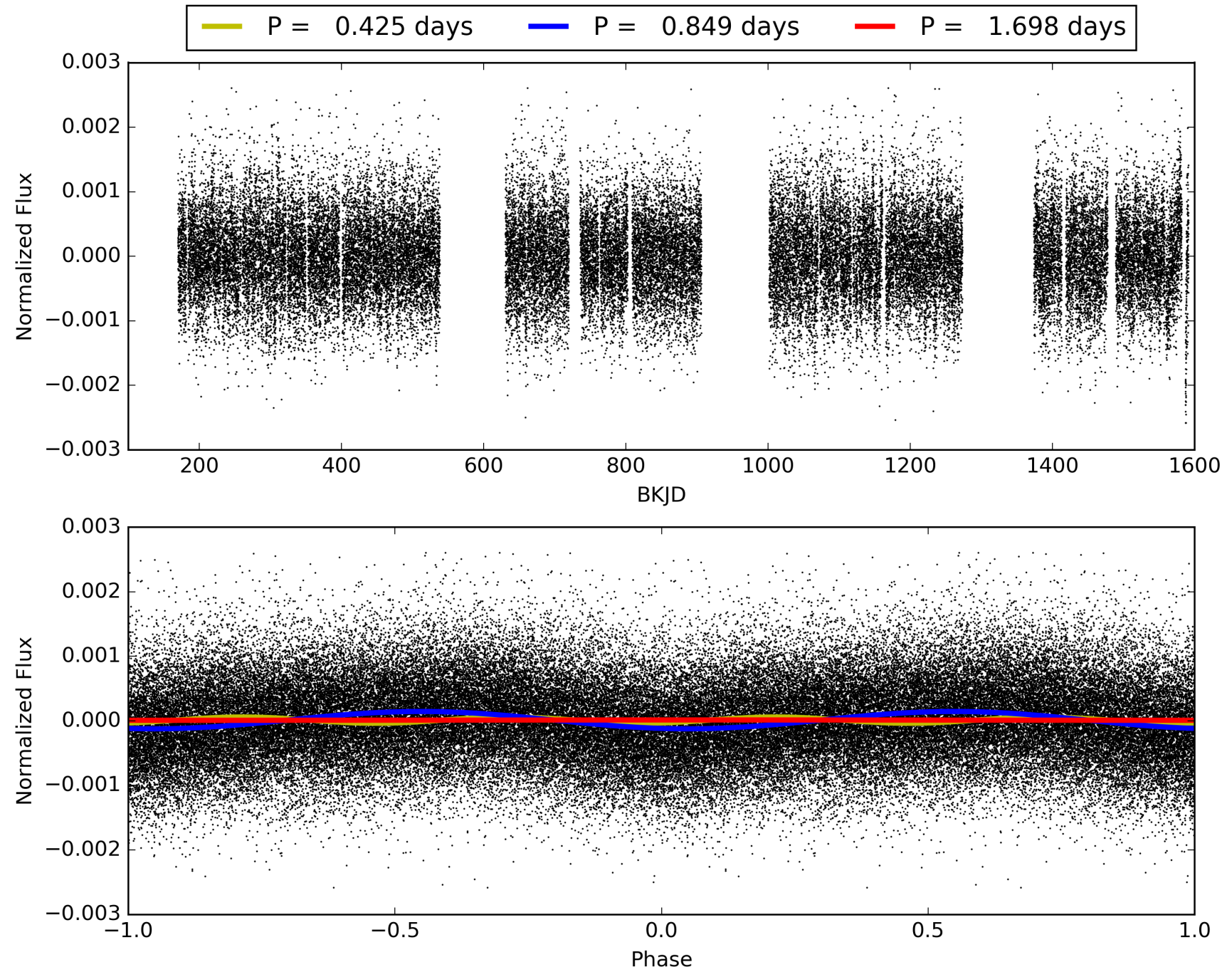
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:37:12 Z

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

TCE 004168490-01, PDC Light Curves

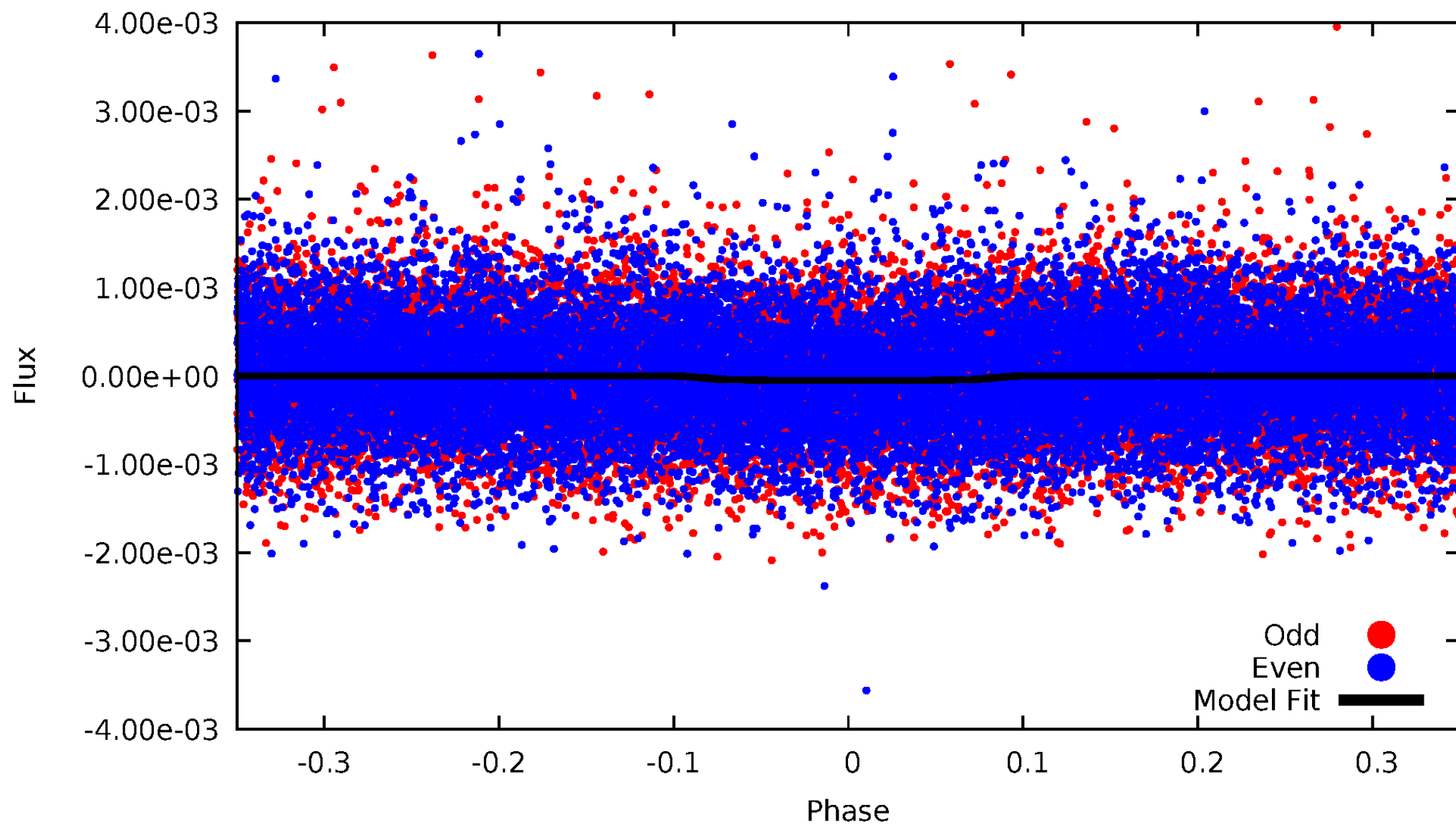


TCE 004168490-01



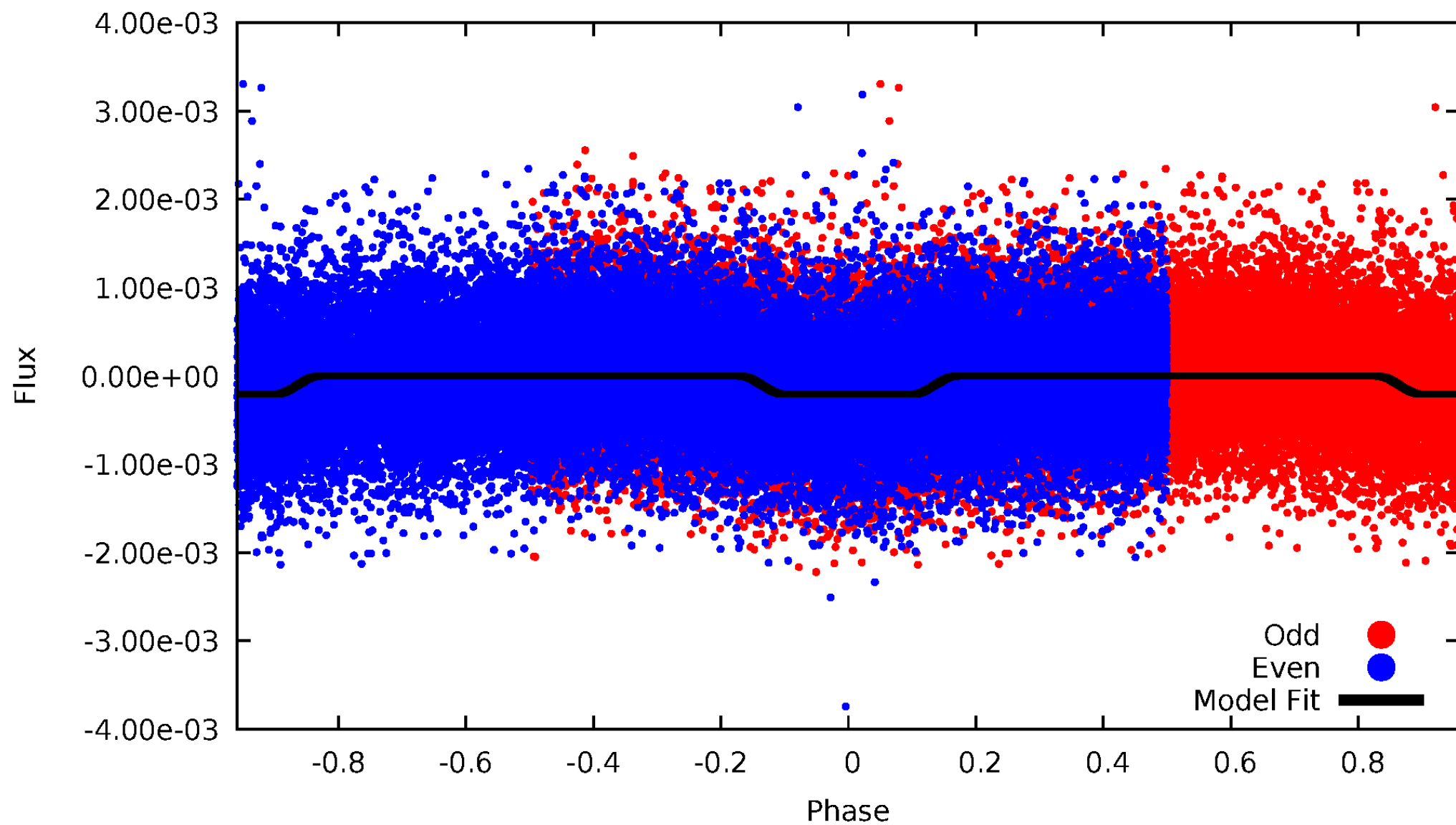
DV Odd/Even

TCE 004168490-01

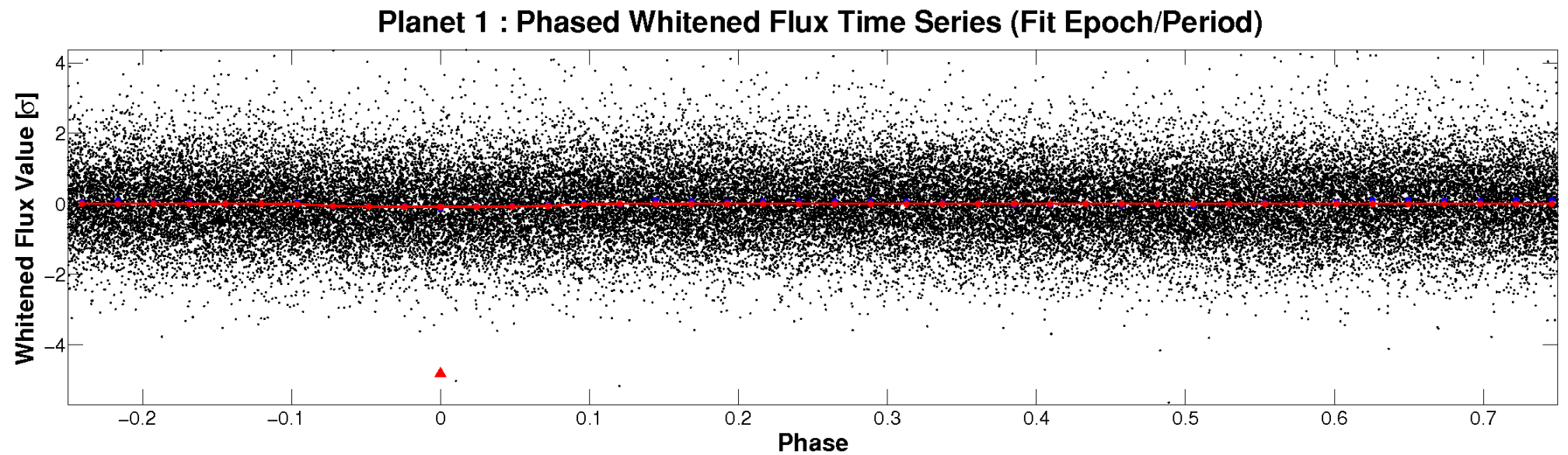
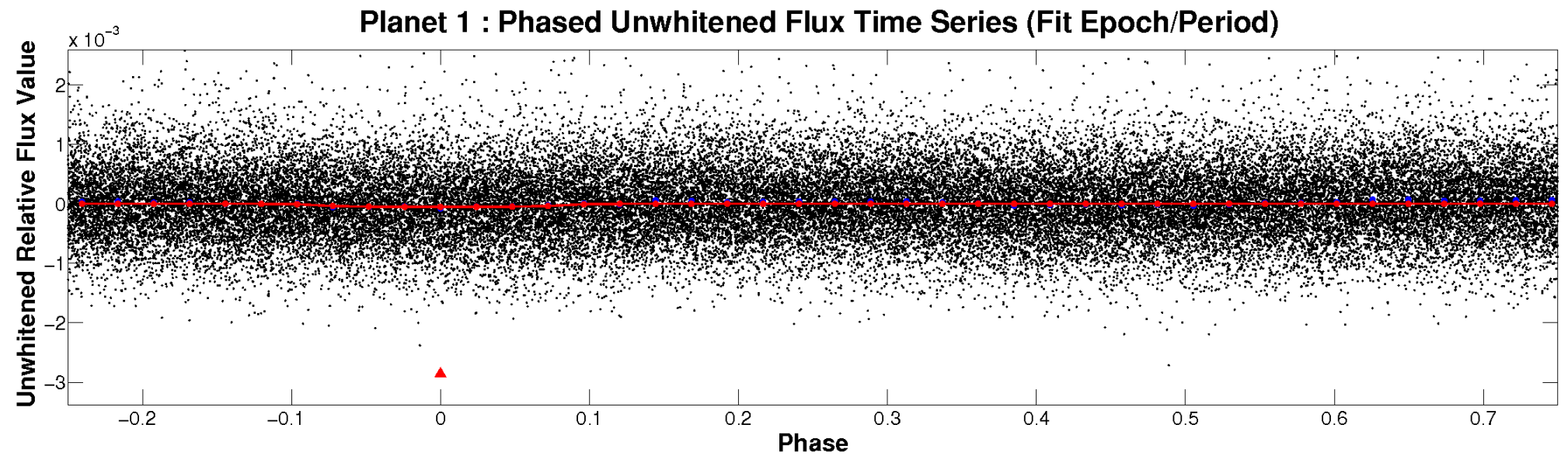


ALT Odd/Even

TCE 004168490-01

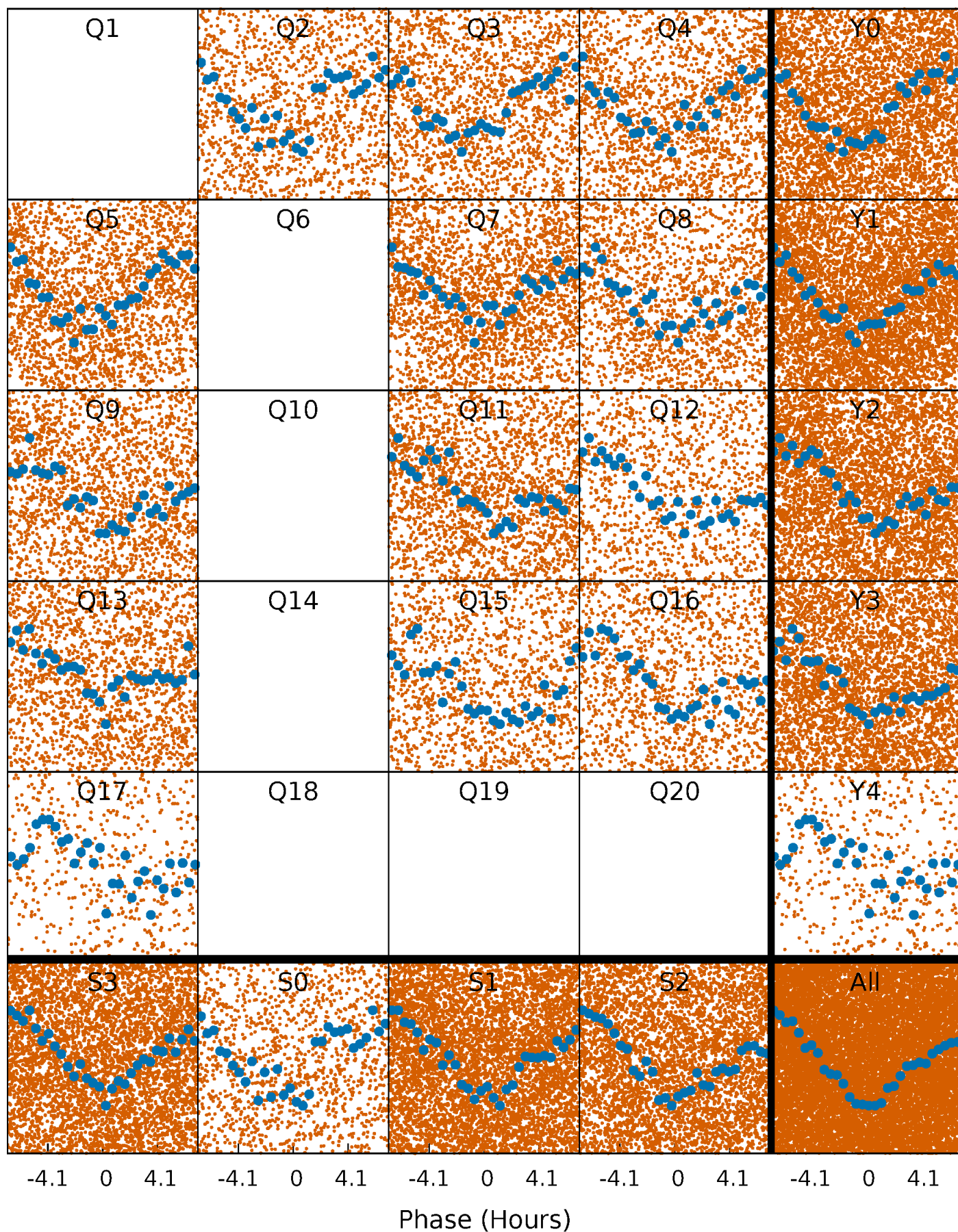


Non-Whitened Vs. Whitened Light Curve



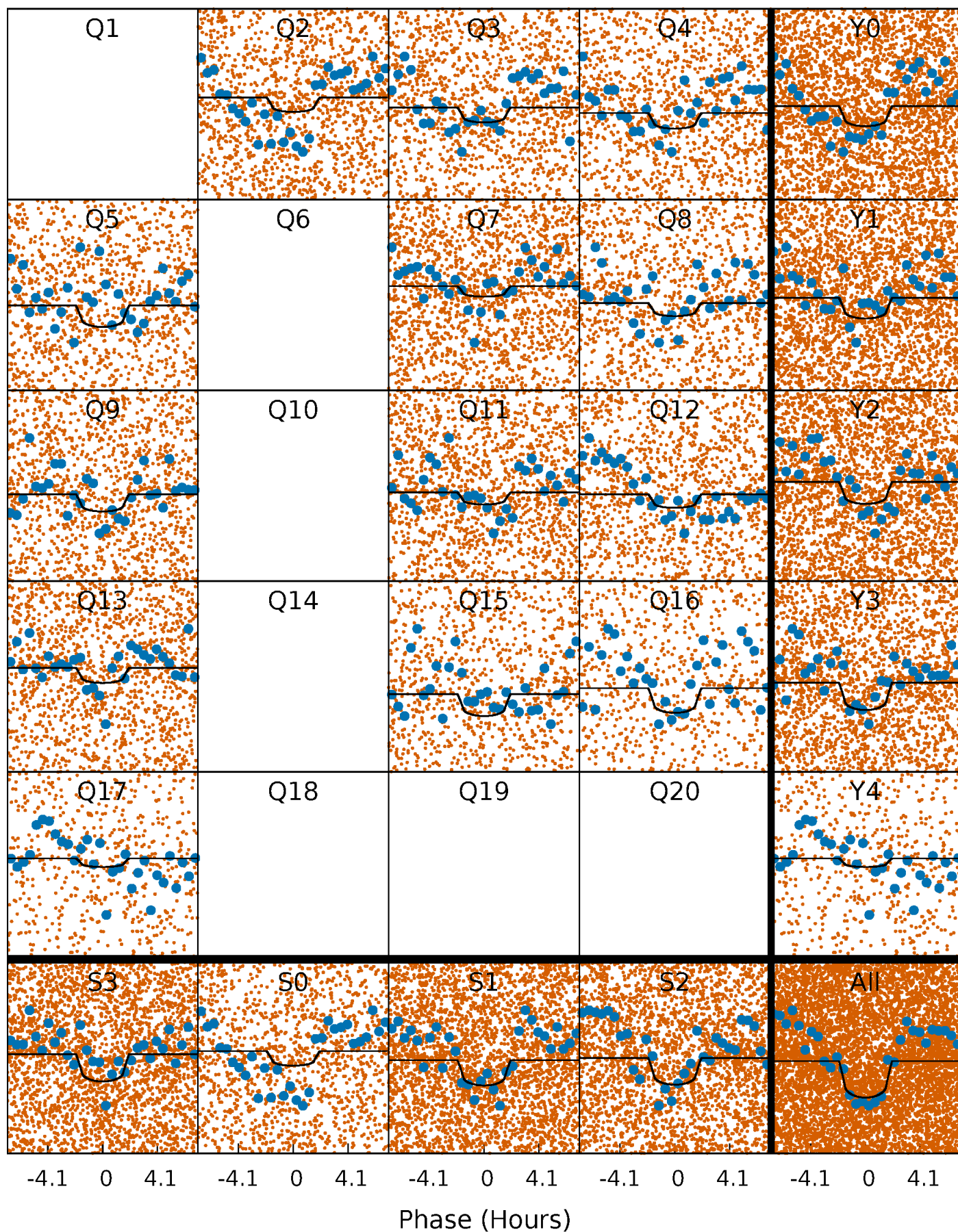
PDC Quarter-Phased Transit Curves

TCE 004168490-01 P= 0.849187 Days $T_0=132.134879$ (BKJD)



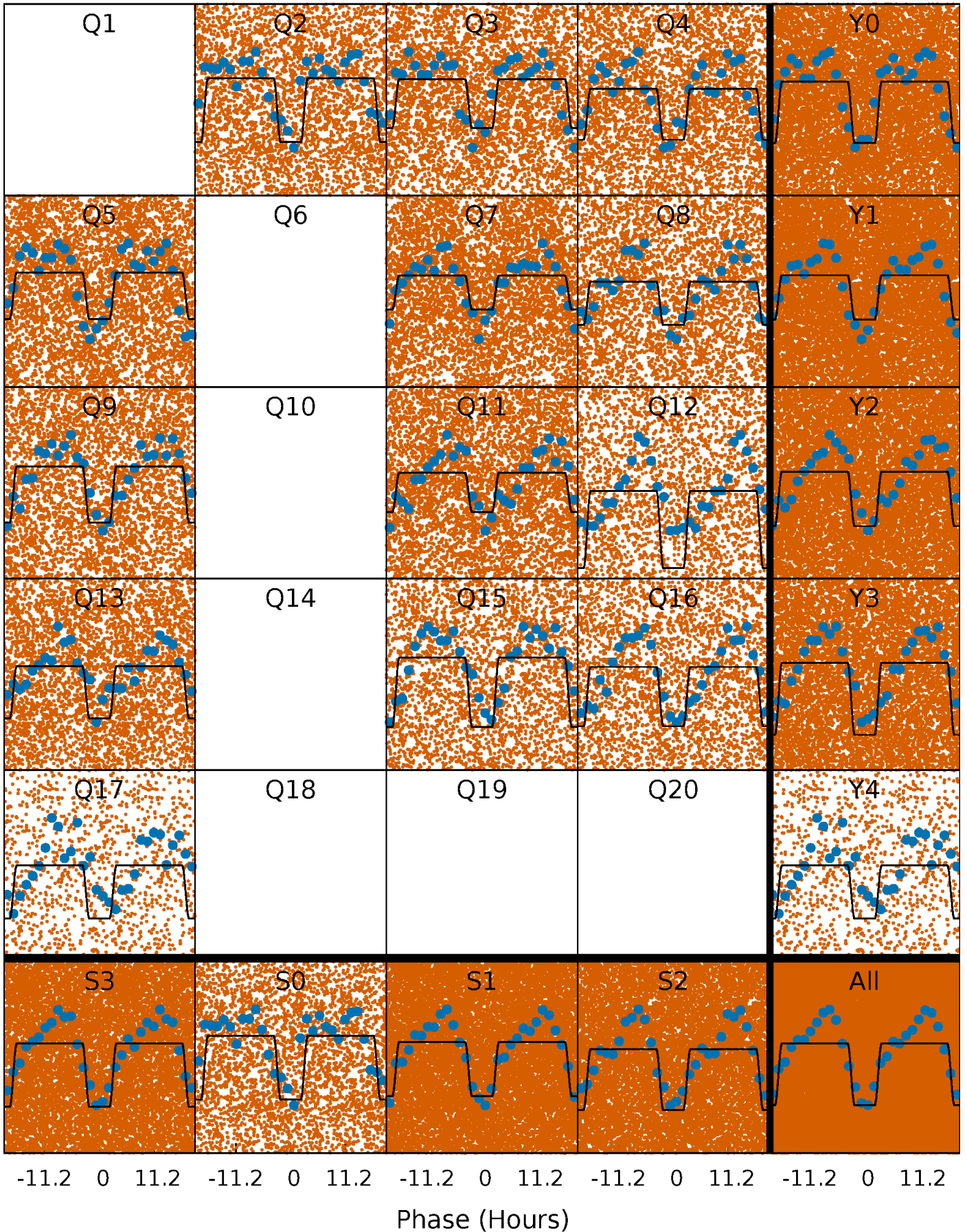
DV Quarter-Phased Transit Curves

TCE 004168490-01 P= 0.849187 Days $T_0=132.134879$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

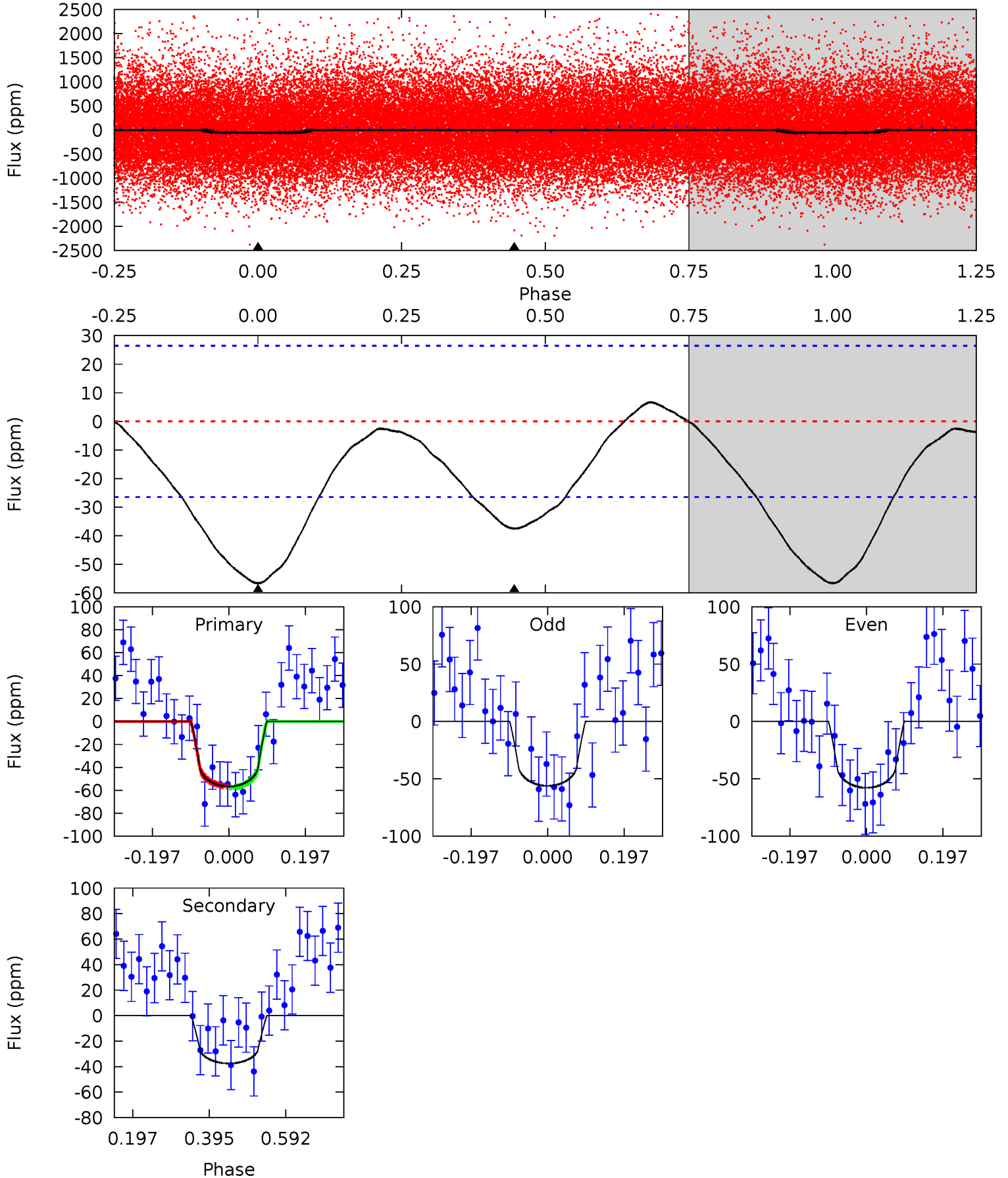
TCE 004168490-01 P= 0.849196 Days $T_0=132.134993$ (BKJD)



DV Model-Shift Uniqueness Test

004168490-01, P = 0.849187 Days, E = 132.134879 Days

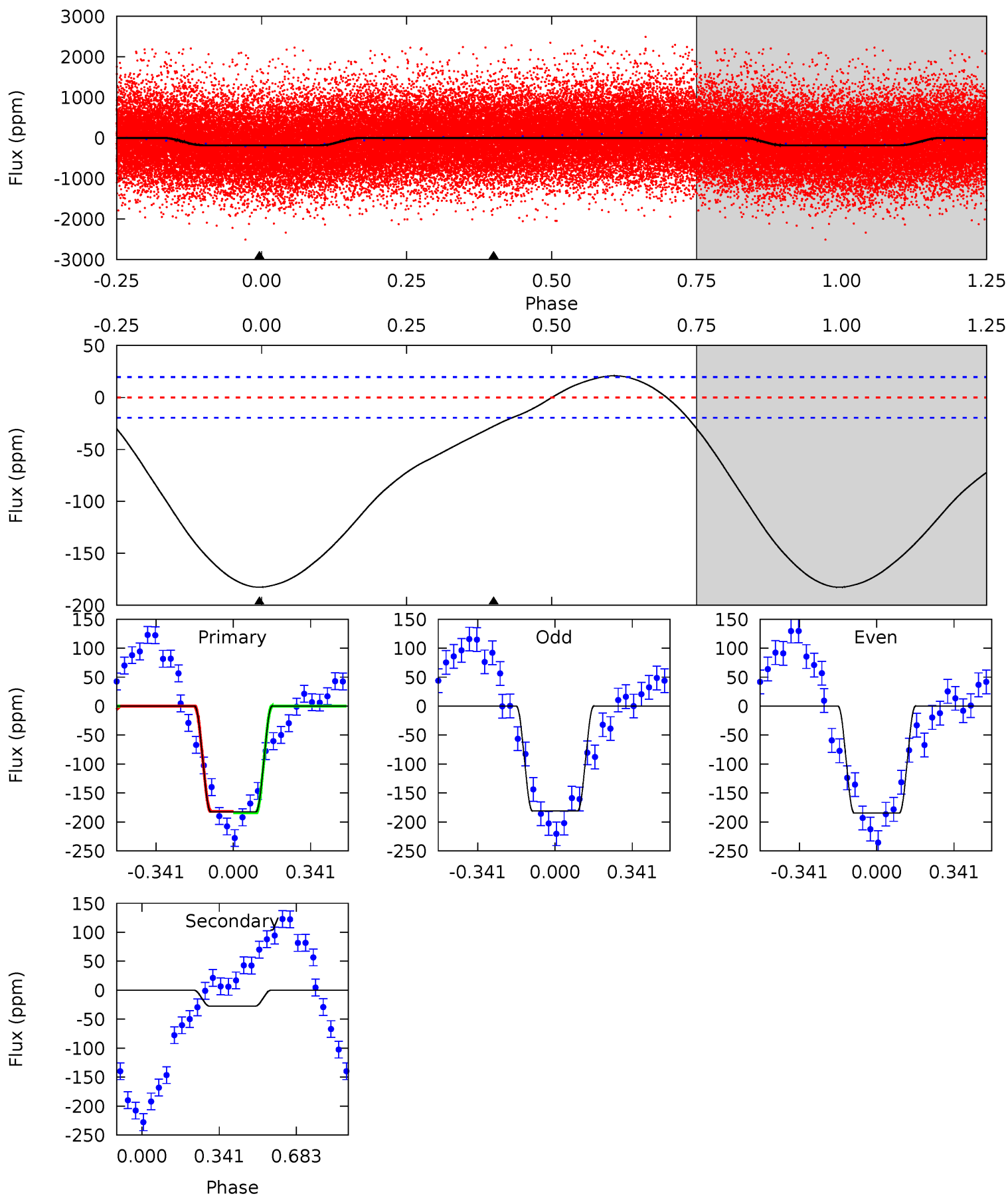
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	6.27	0	0	4.42	1.29	0.76	9.47	9.47	6.27	6.27	0.14	0.82	0.11	0.10



Alt Model-Shift Uniqueness Test

004168490-01, P = 0.849196 Days, E = 132.134993 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.0	6.06	0	0	4.30	0.95	2.91	40.0	40.0	6.06	6.06	0.39	0.97	0.10	0.31



Stellar Parameters For KIC 004168490

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5978^{+179}_{-197}	$4.520^{+0.050}_{-0.200}$	$-0.420^{+0.300}_{-0.300}$	$0.868^{+0.248}_{-0.083}$	$0.909^{+0.109}_{-0.098}$	$1.959^{+0.511}_{-0.985}$
	+3%/-3%	+1%/-4%	+71%/-71%	+29%/-10%	+12%/-11%	+26%/-50%
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 004168490-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-37 ± 6	$0.86^{+0.76}_{-0.55}$	2686^{+196}_{-125}	5067^{+3682}_{-1154}	$8.131^{+52.321}_{-5.847}$
Alt.	-28 ± 5	$1.46^{+0.77}_{-0.75}$	2681^{+195}_{-124}	3781^{+1323}_{-588}	$2.006^{+6.585}_{-1.141}$

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

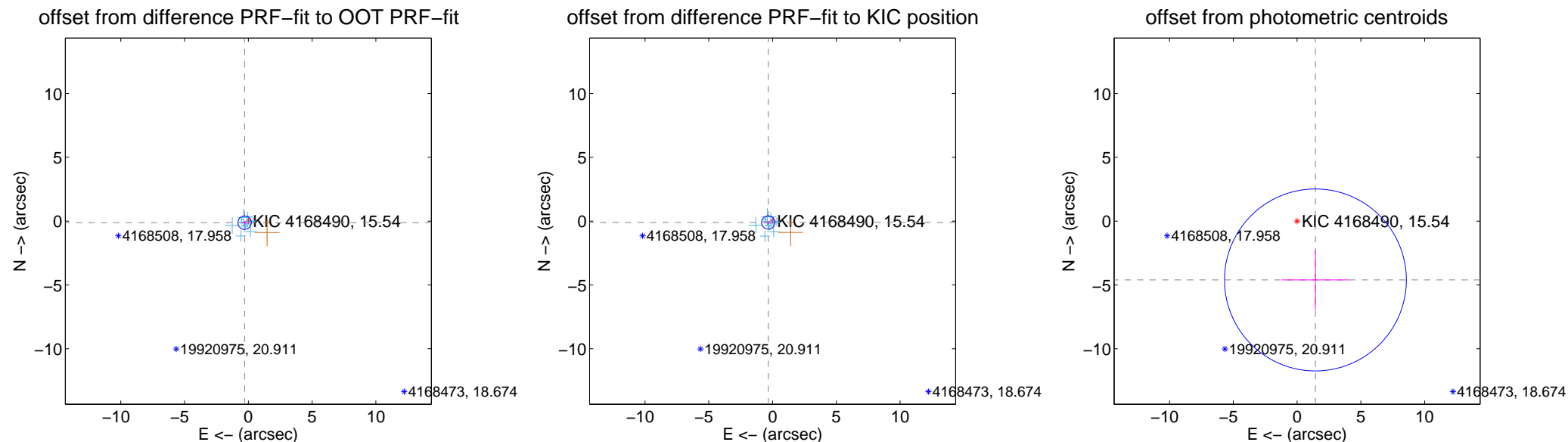
DV Centroid Data

Supplemental centroid analysis for 004168490-01. Kepler magnitude: 15.54. Transit SNR 6.67

There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.316 ± 0.175	1.80	0.292 ± 0.184	-0.120 ± 0.138
PRF-fit source offset from KIC position	0.355 ± 0.174	2.04	0.338 ± 0.185	-0.107 ± 0.133
photometric centroid source offset	4.83 ± 2.38	2.03	-1.44 ± 2.65	-4.61 ± 2.35



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.

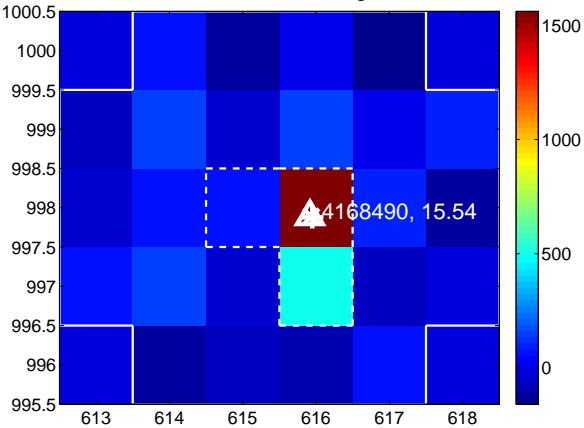
Q1 no difference image



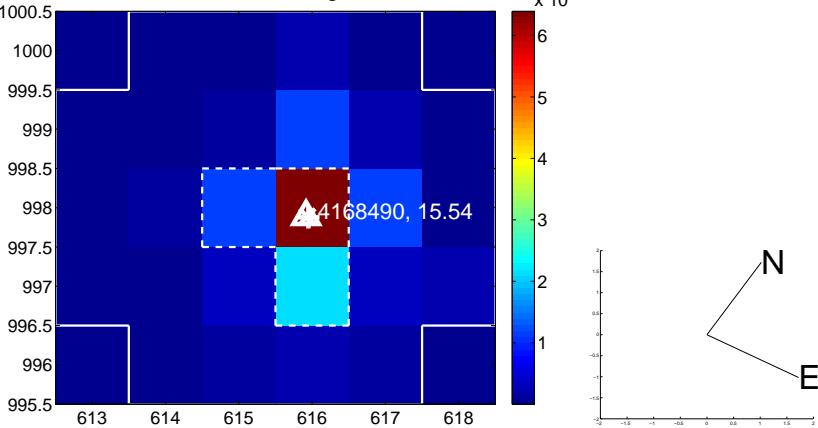
Q1 no OOT image



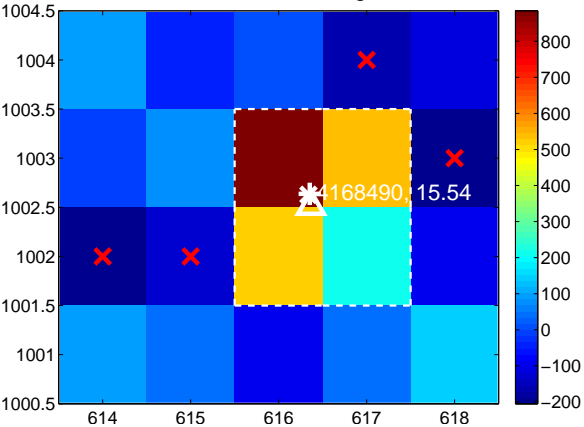
Q2 difference image



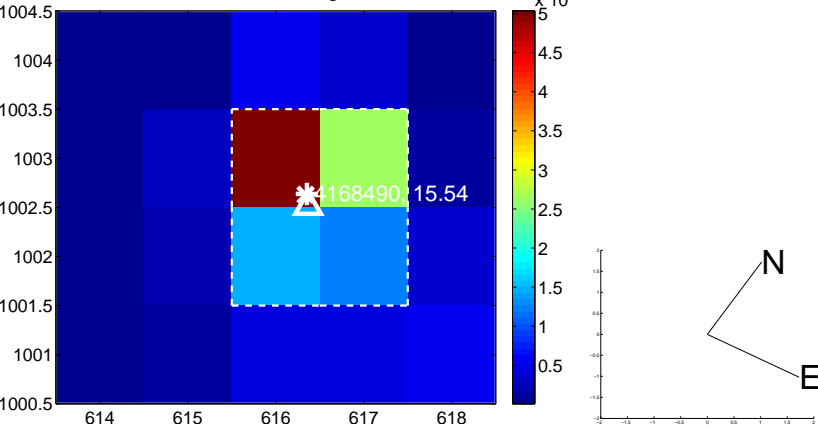
Q2 OOT image



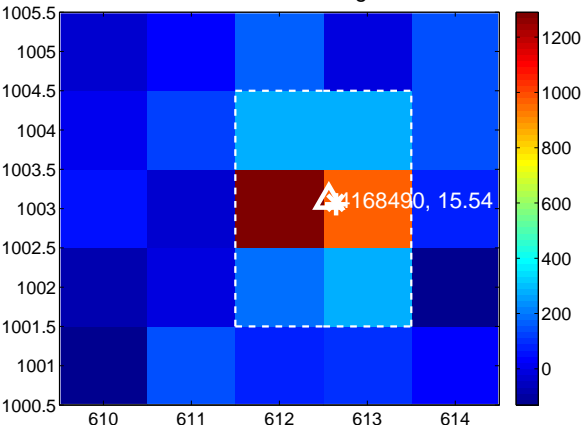
Q3 difference image



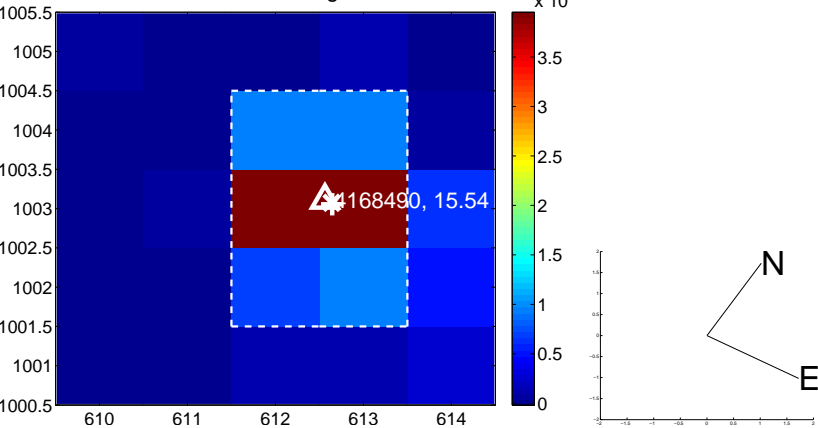
Q3 OOT image



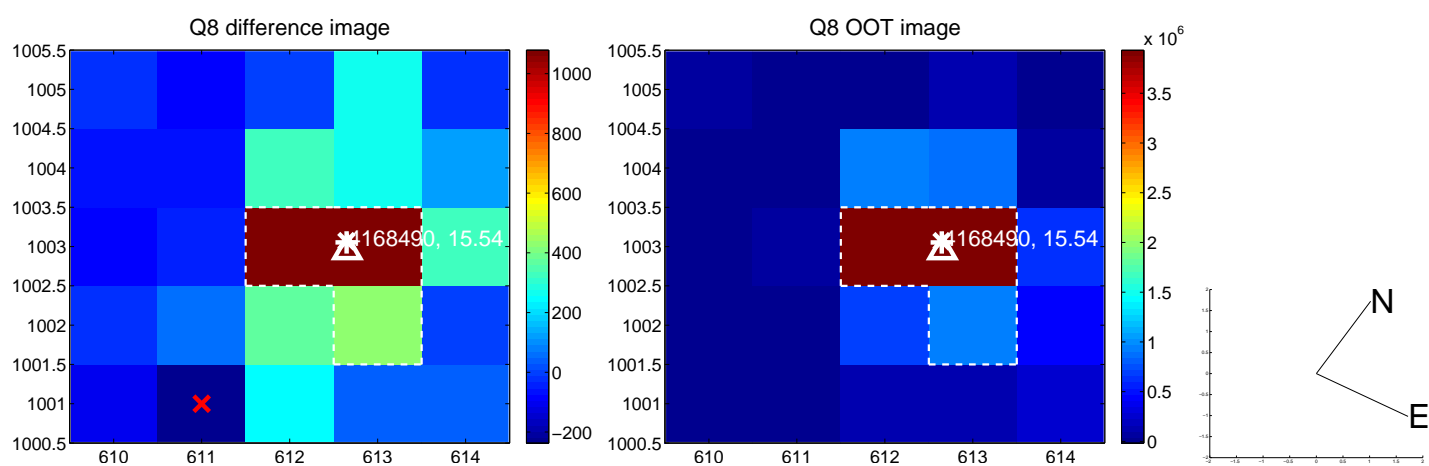
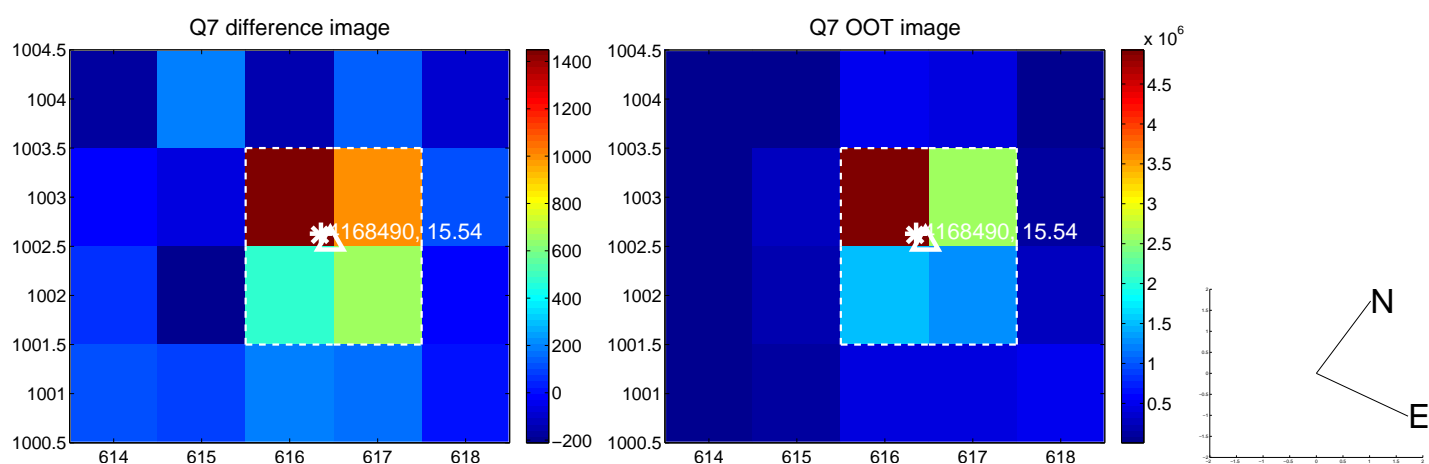
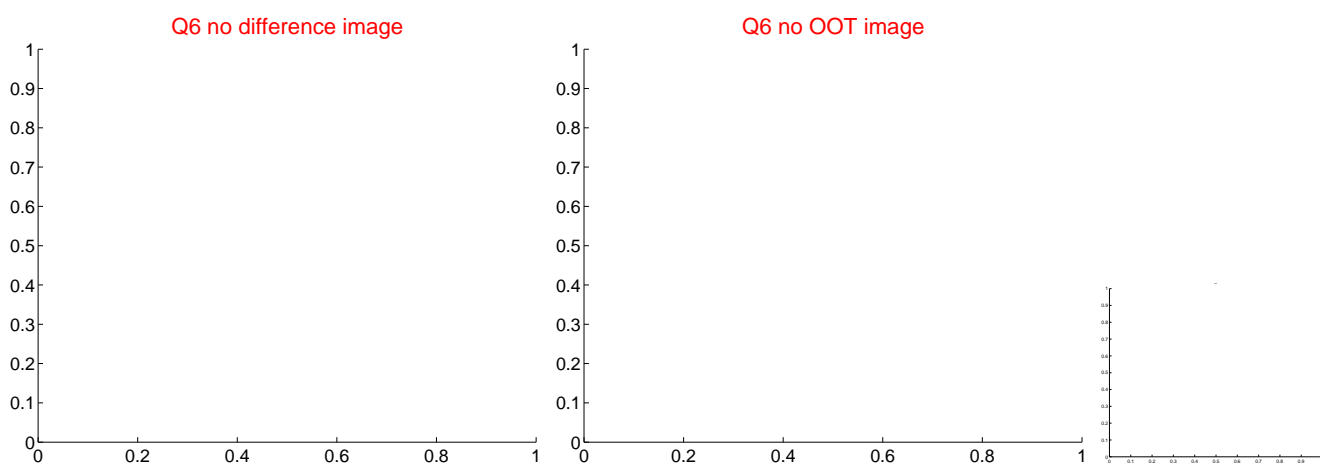
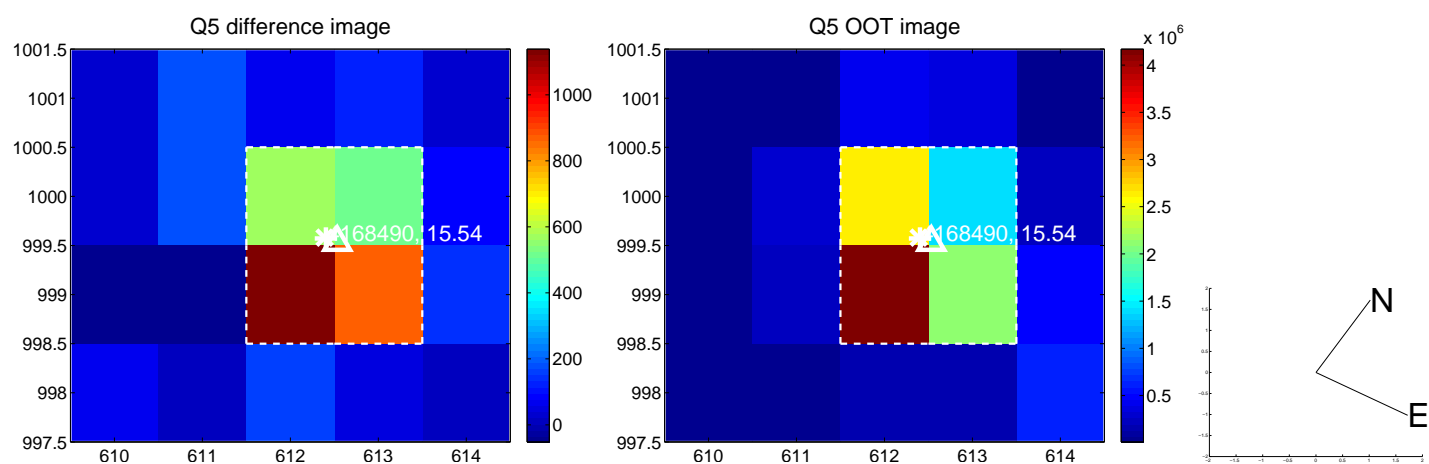
Q4 difference image



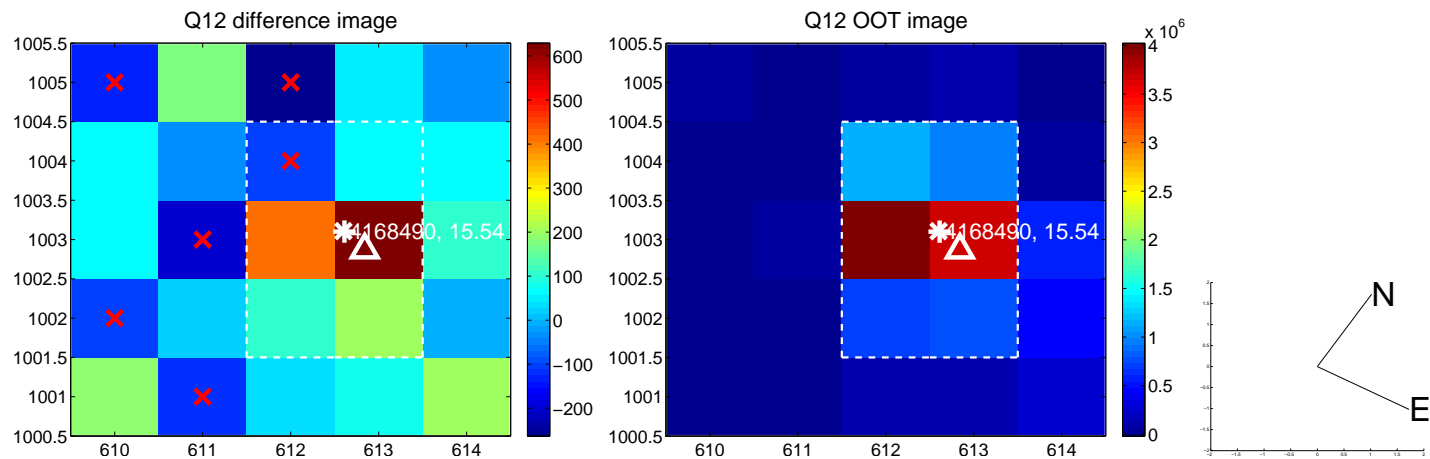
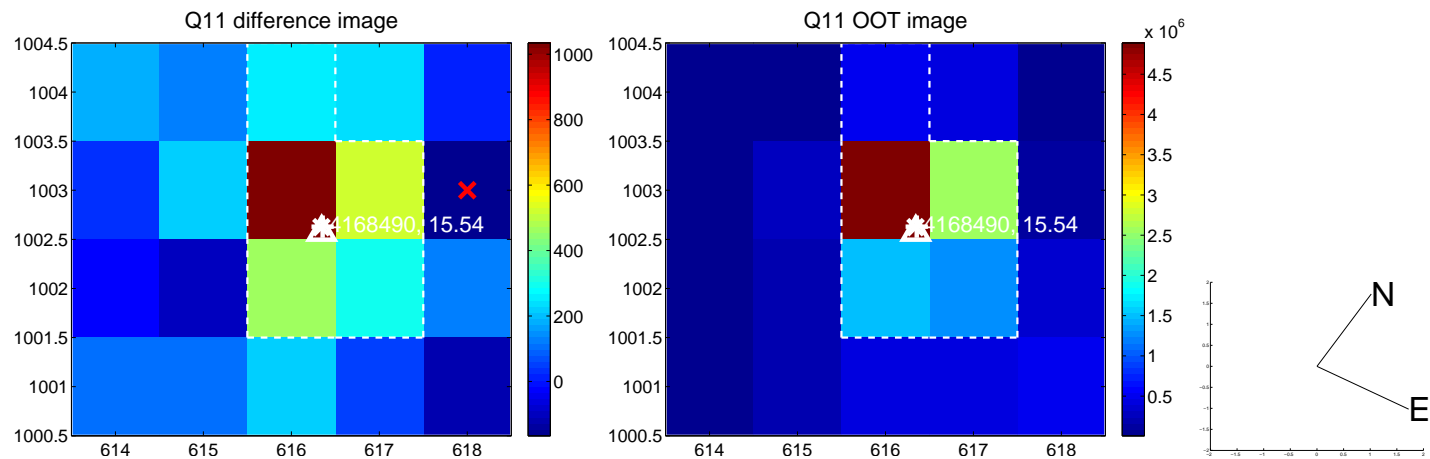
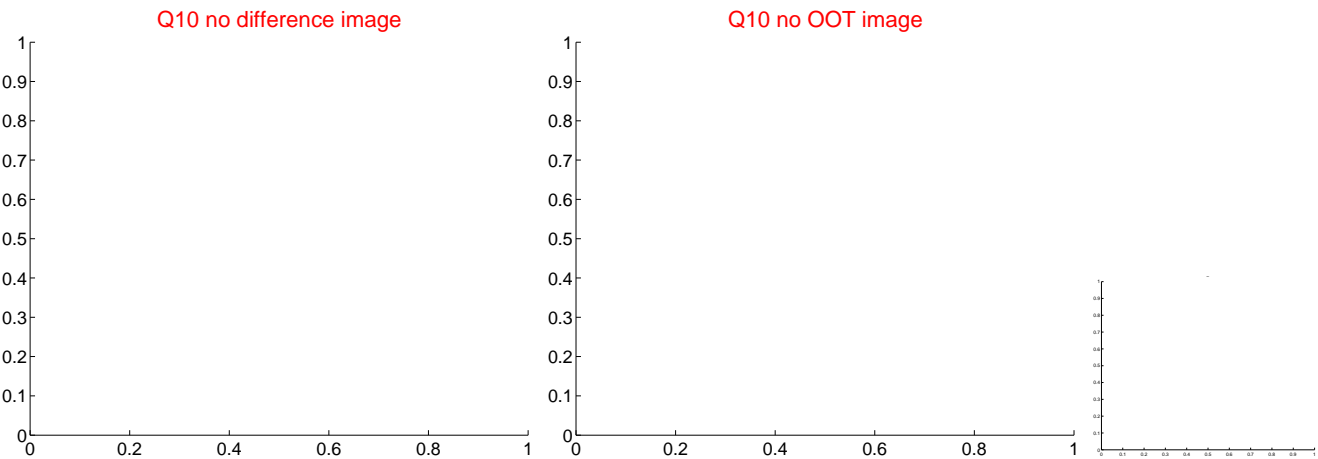
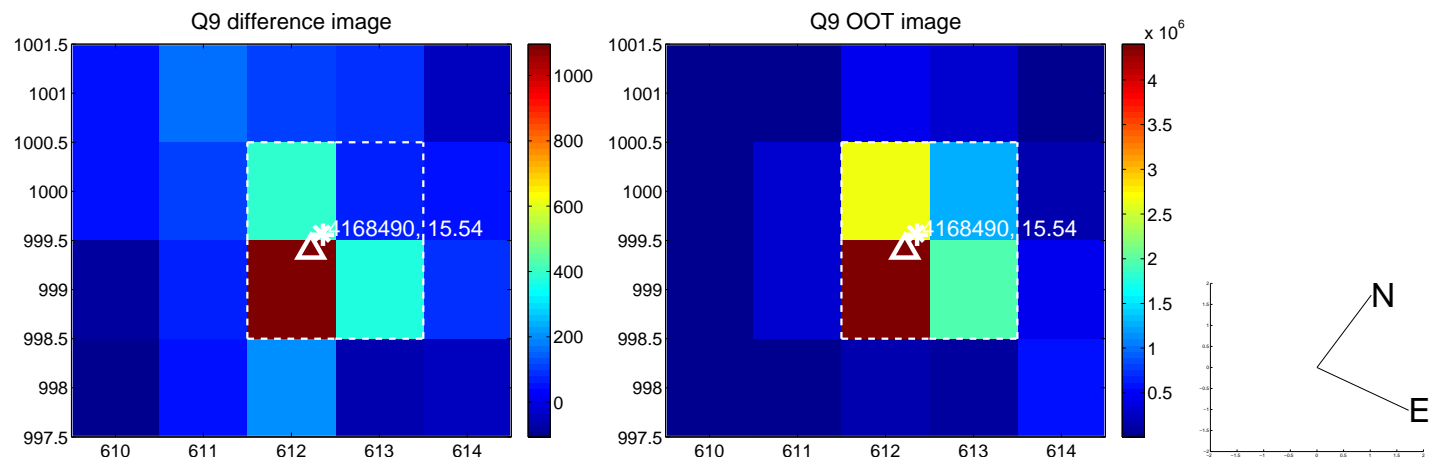
Q4 OOT image



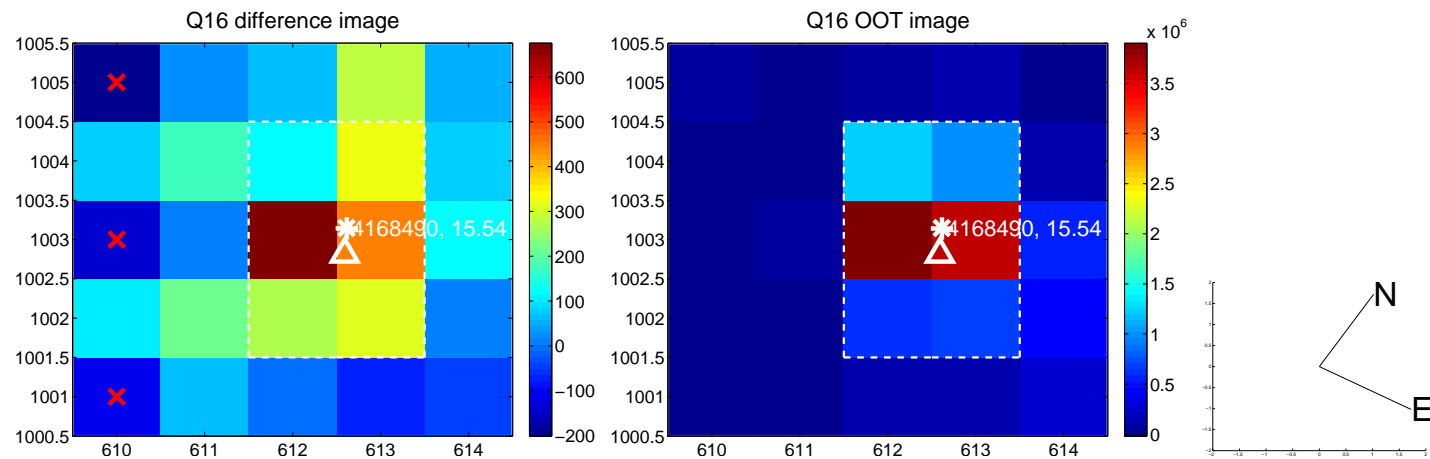
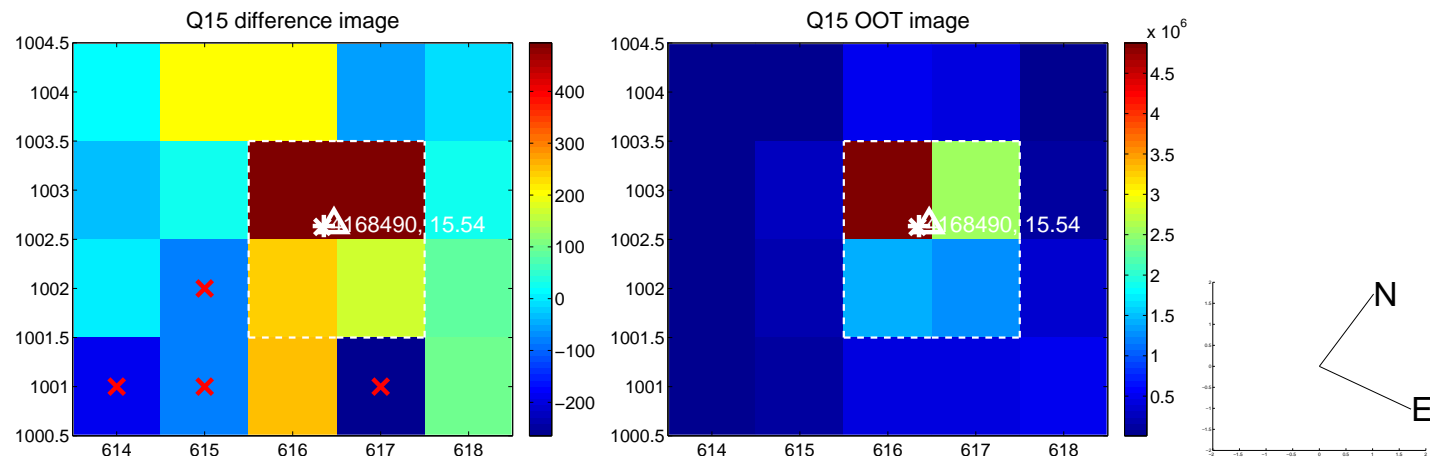
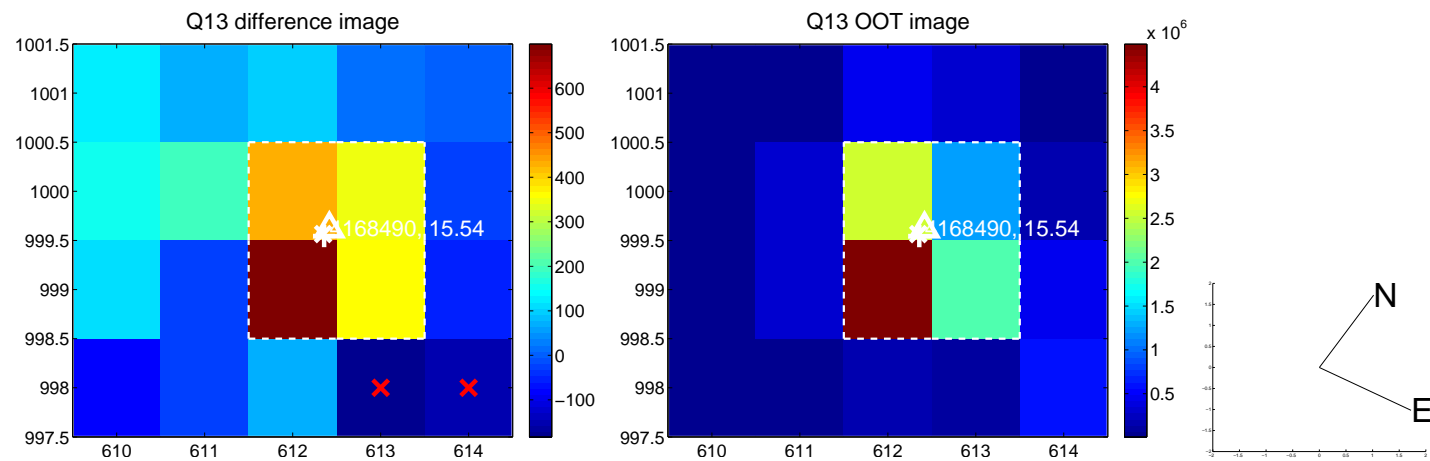
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



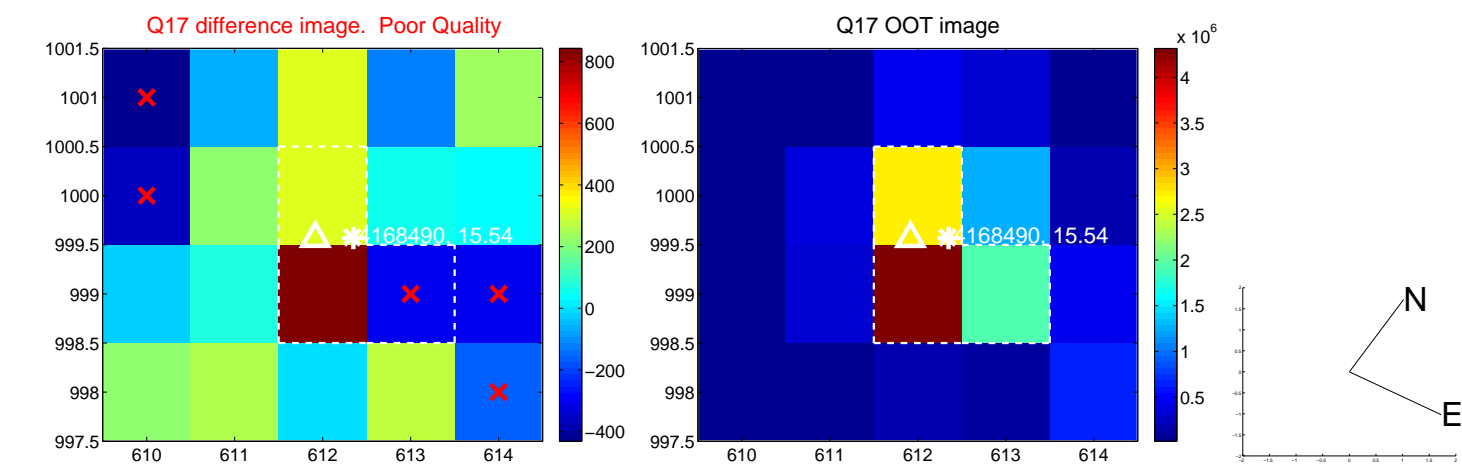
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



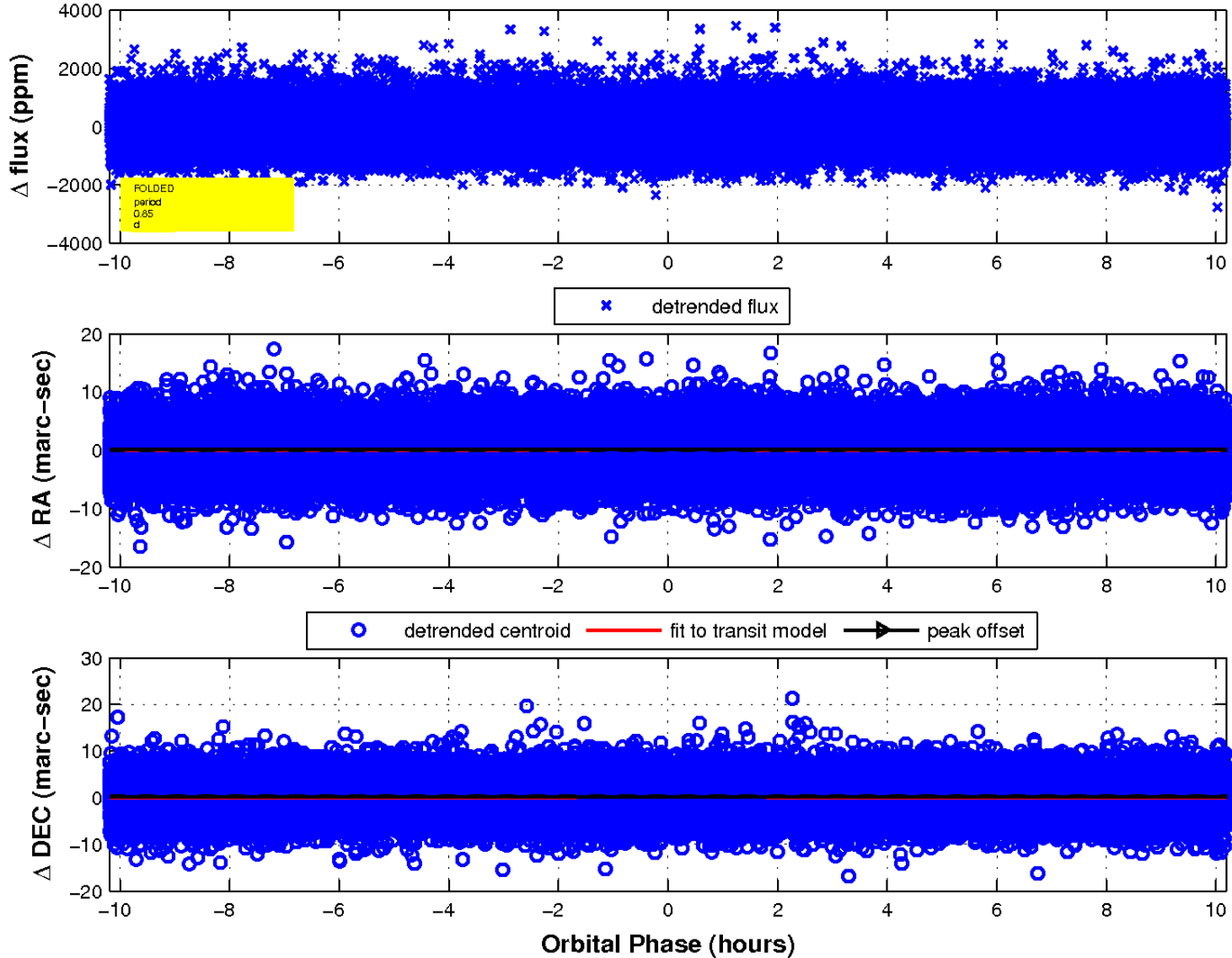
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

