

KIC 012110942

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})
012110942-01	OBS	0786.01	3.689920	133.465993	422.7	3.091	31.8	35.0	0.92	5880	2.36	409.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012110942-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

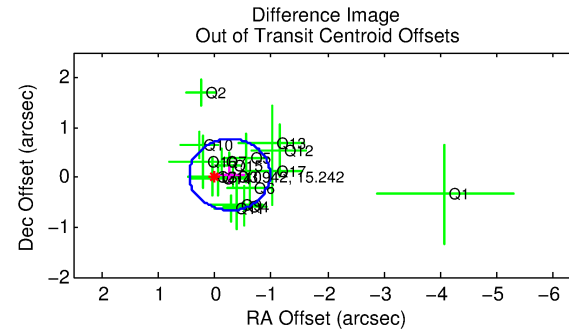
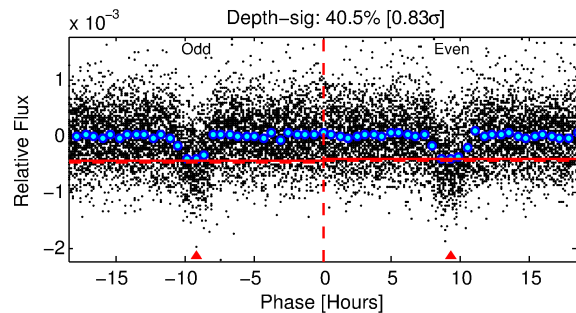
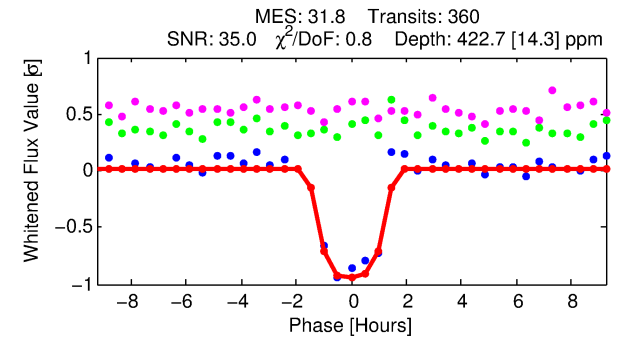
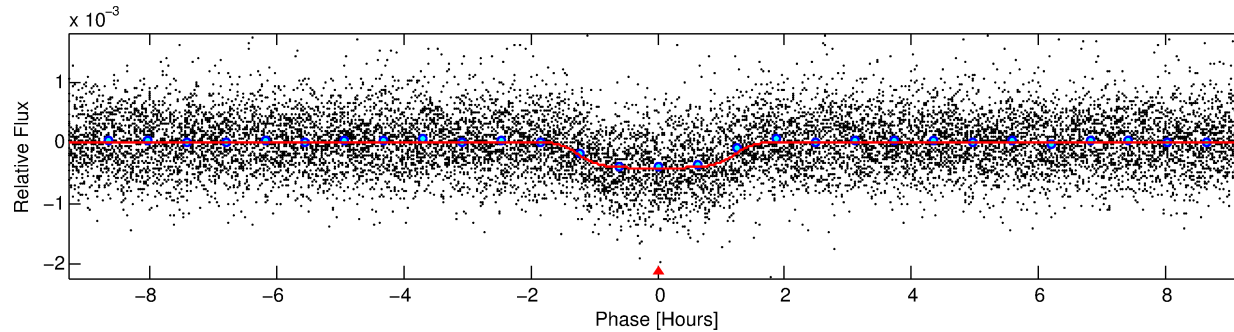
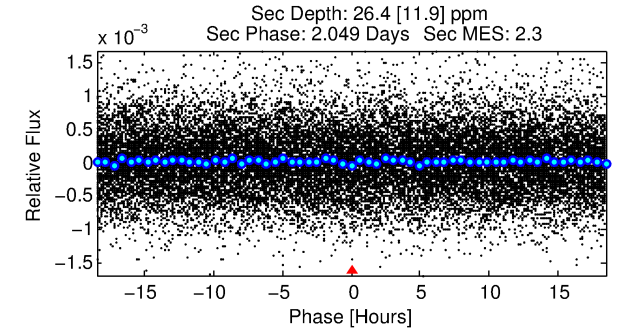
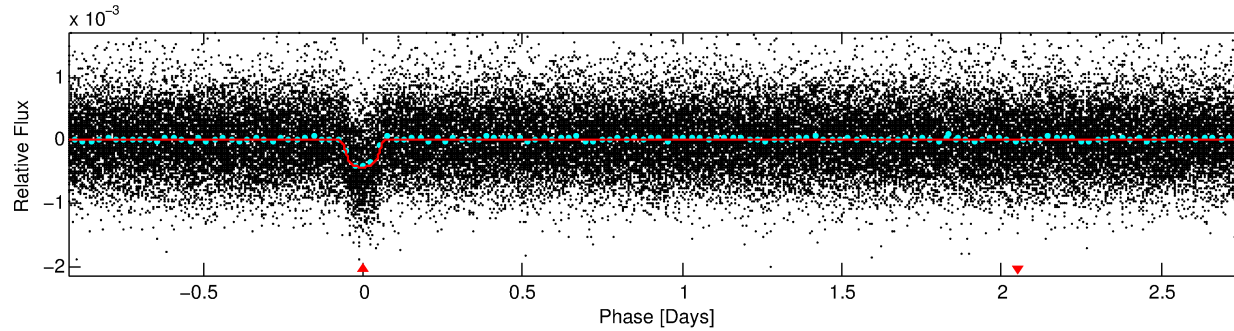
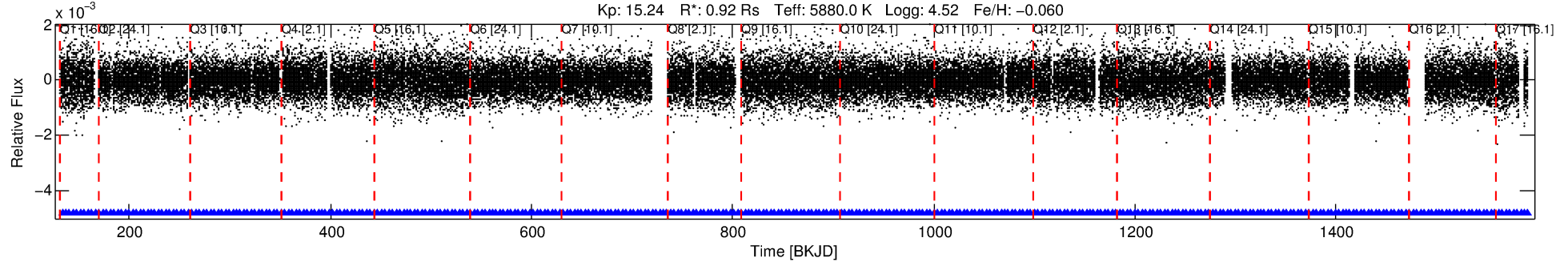
Ephemeris Match Information For 012110942-01

No Significant Match Found

DV One-Page Summary

KIC: 12110942 Candidate: 1 of 1 Period: 3.690 d
KOI: K00786.01 Corr: 0.922

Kp: 15.24 R*: 0.92 Rs Teff: 5880.0 K Logg: 4.52 Fe/H: -0.060



DV Fit Results:

Period = 3.68992 [0.00001] d
Epoch = 133.4660 [0.0016] BKJD
Rp/R* = 0.0236 [0.0011]
a/R* = 3.72 [0.68]
b = 0.94 [0.02]
Seff = 409.22 [155.22]
Teq = 1147 [109] K
Rp = 2.36 [0.68] Re
a = 0.0469 [0.0114] AU
Ag = 5.71 [3.33] [1.42σ]
Teffp = 2741 [328] K [4.61σ]

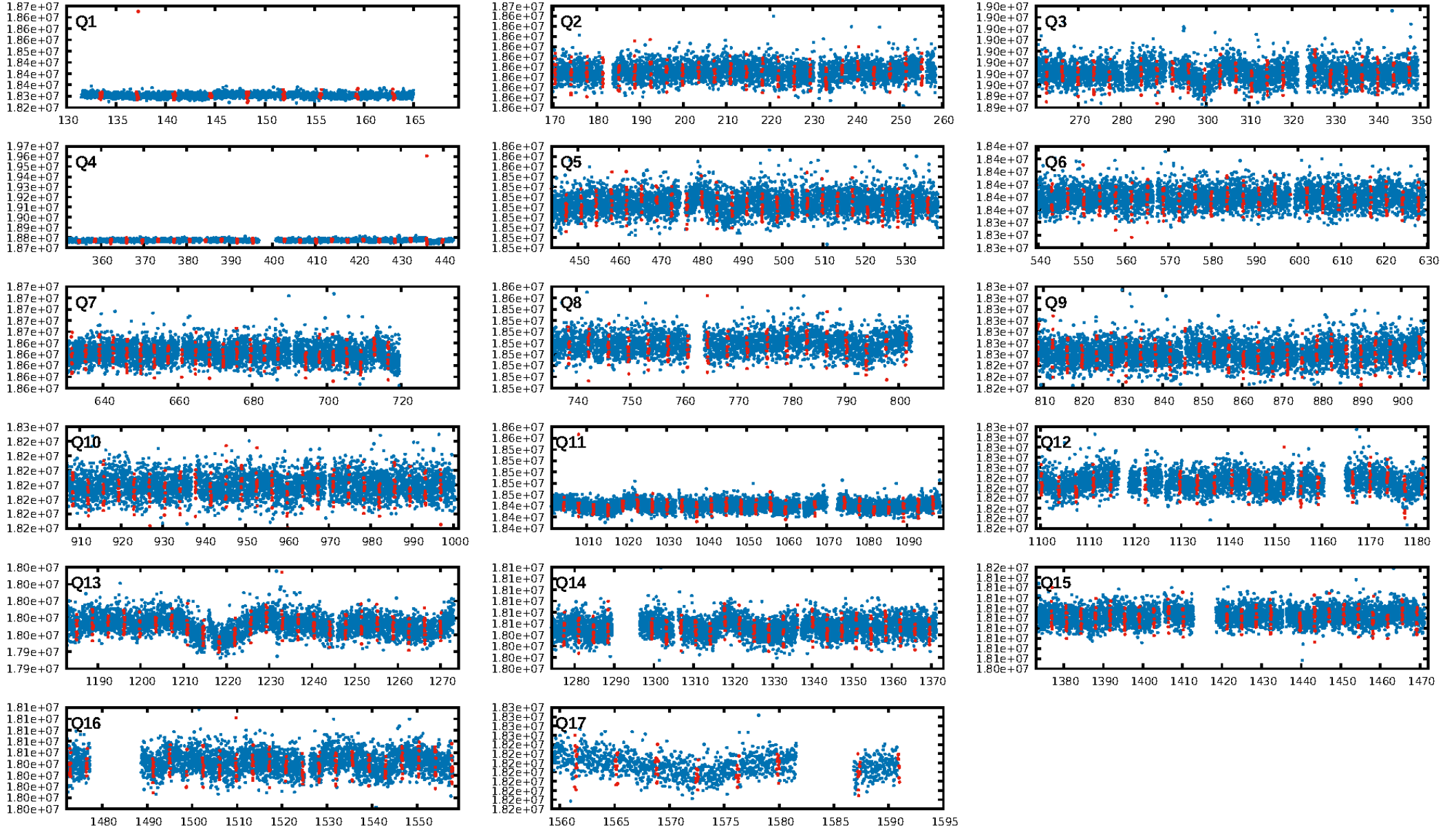
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-211
RollingBand-fgt: 1.00 [343/343]
GhostDiagnostic-chr: 3.083
Centroid-sig: 25.5%
Centroid-so: 0.277 arcsec [0.64σ]
OotOffset-rm: 0.272 arcsec [1.14σ]
KicOffset-rm: 0.296 arcsec [1.24σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

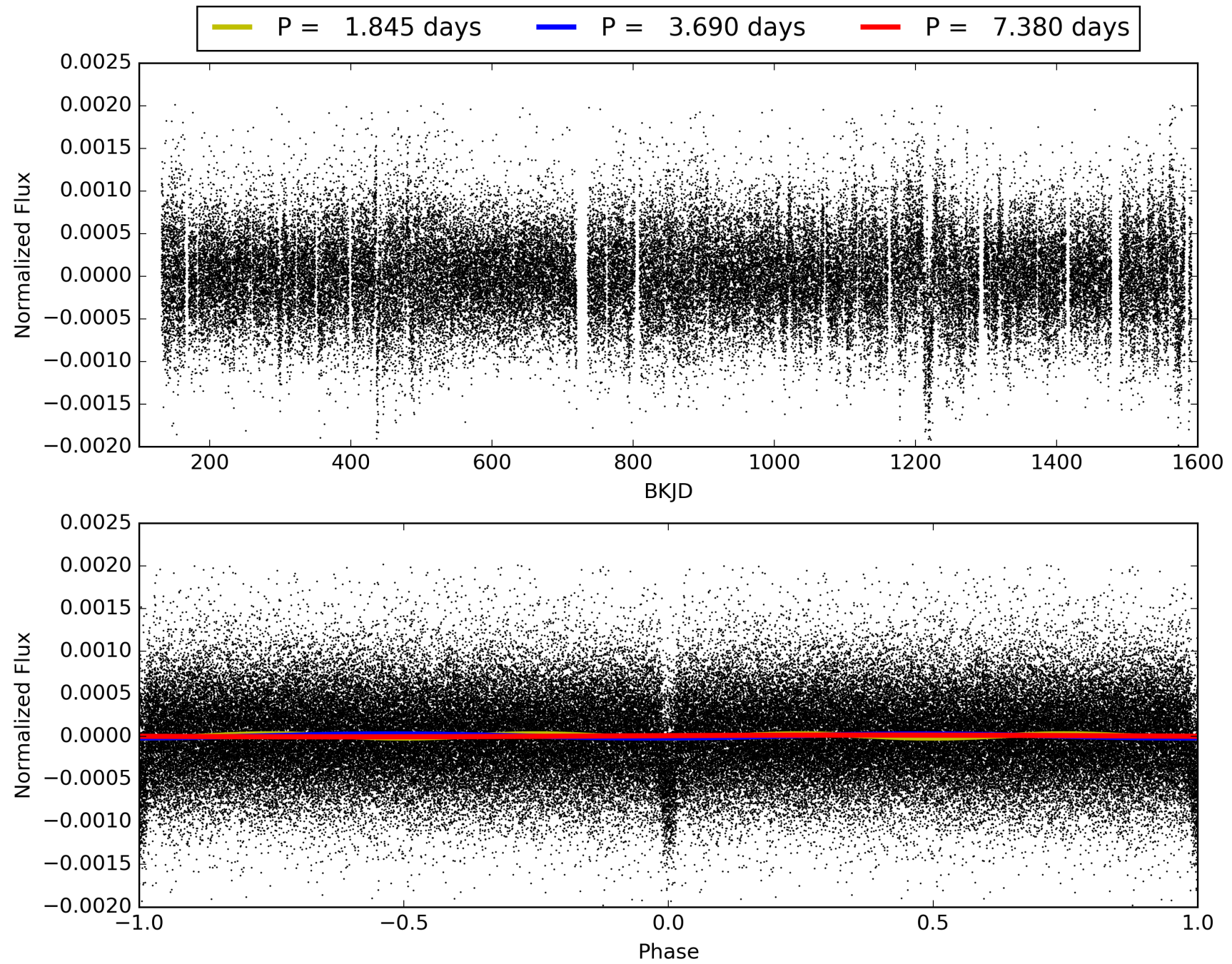
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:28:03 Z

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

TCE 012110942-01, PDC Light Curves

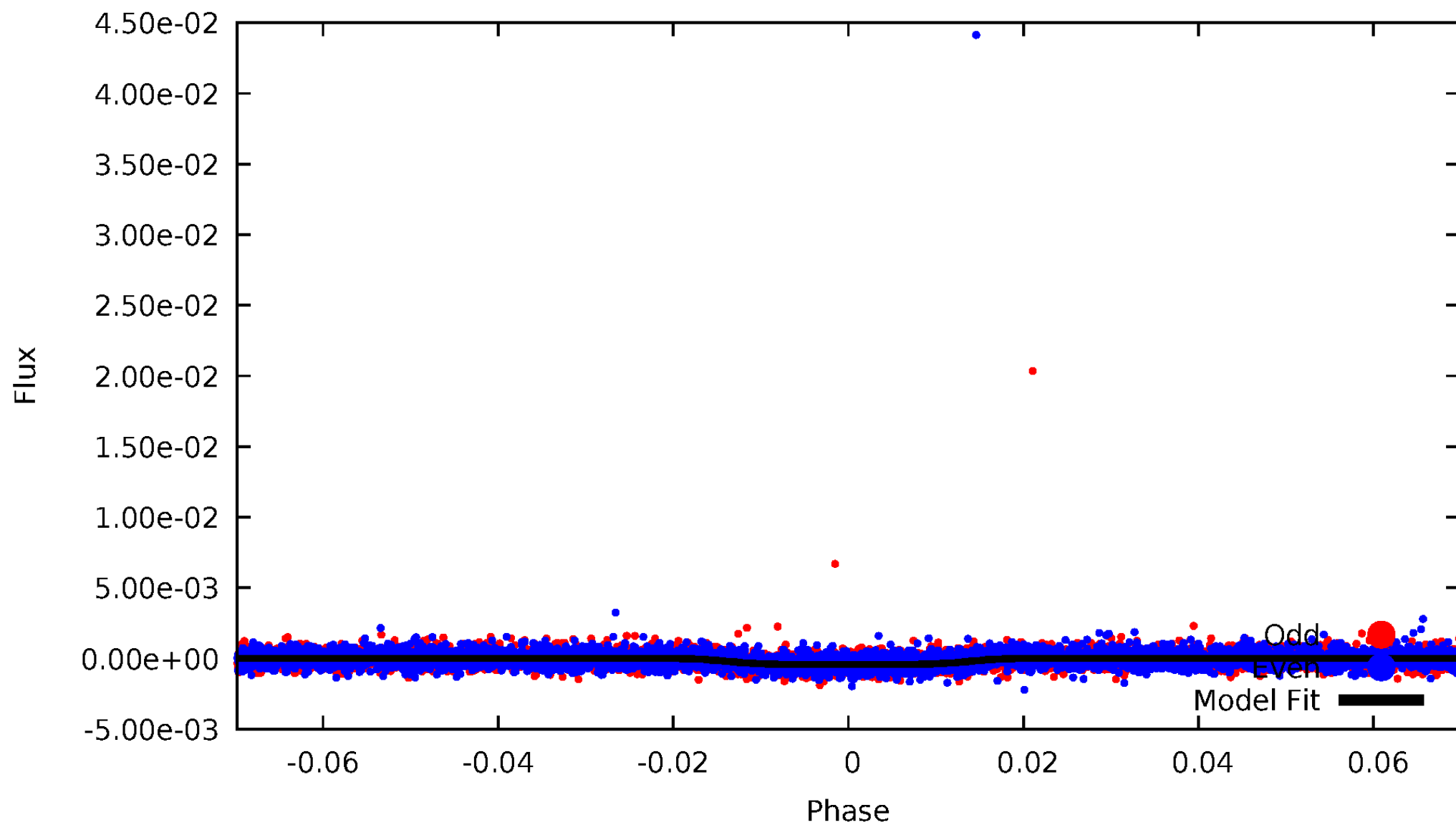


TCE 012110942-01



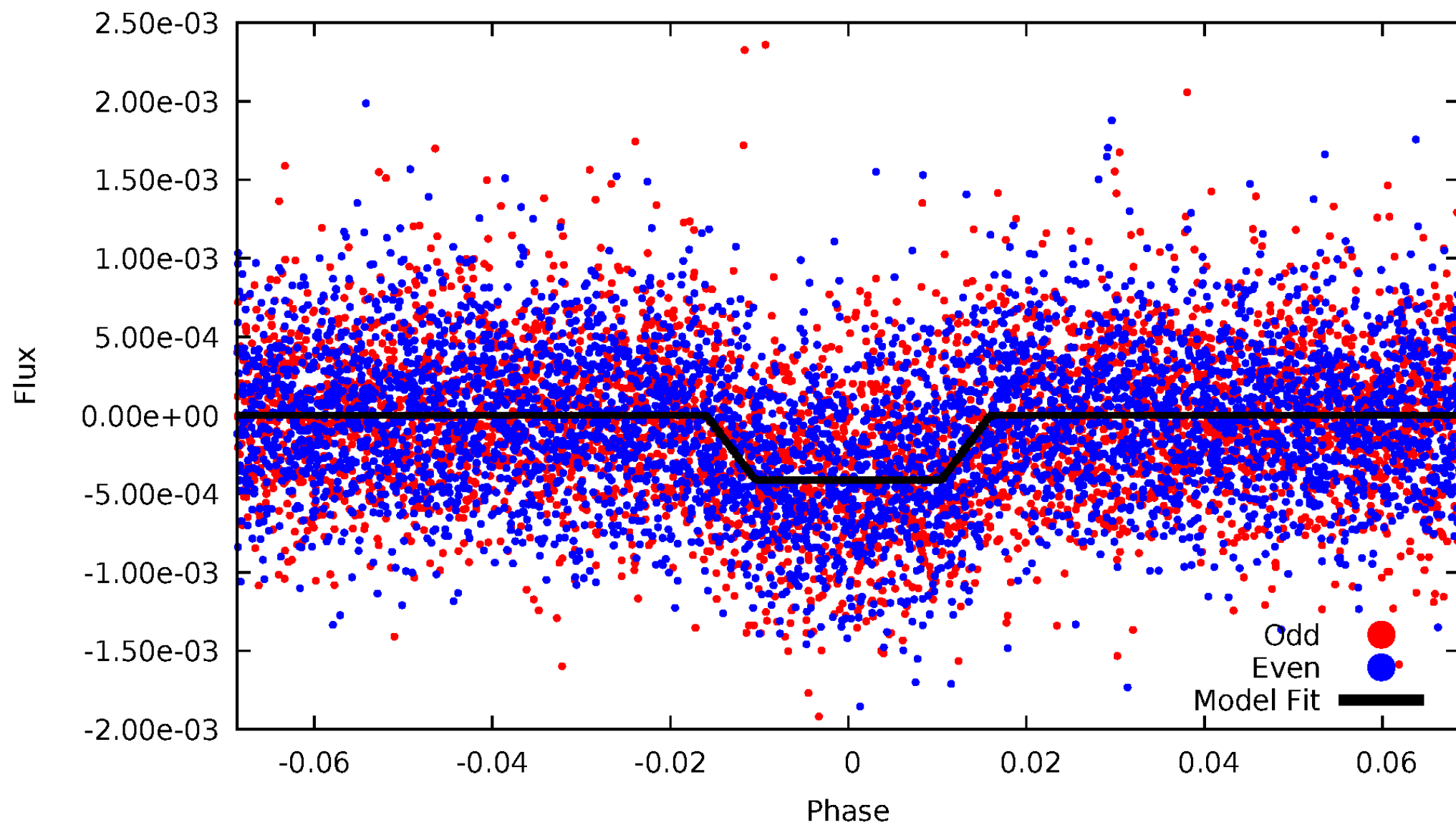
DV Odd/Even

TCE 012110942-01



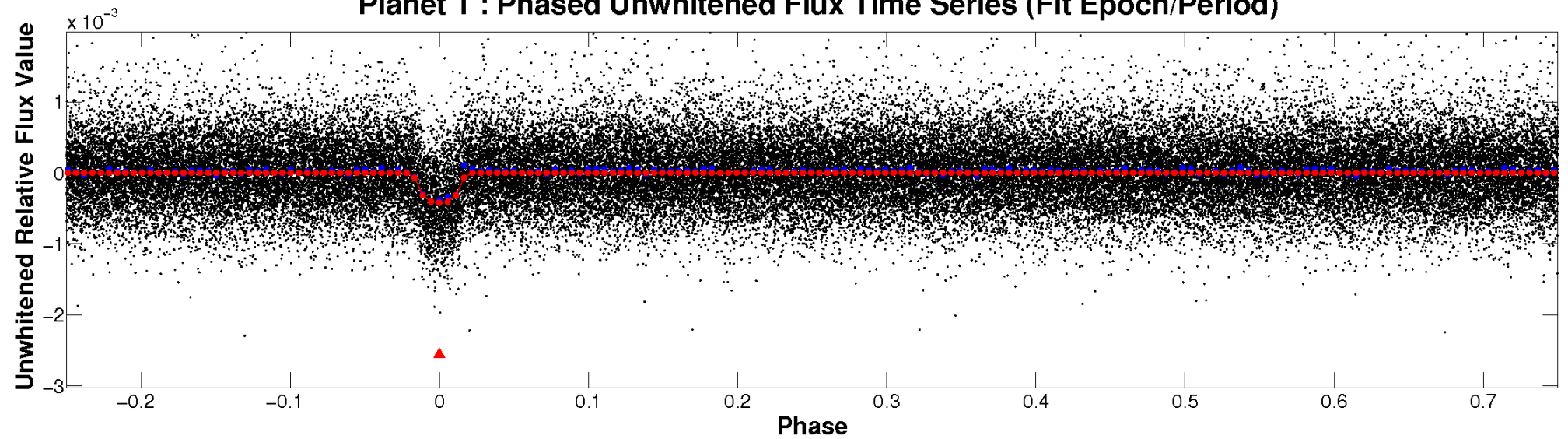
ALT Odd/Even

TCE 012110942-01

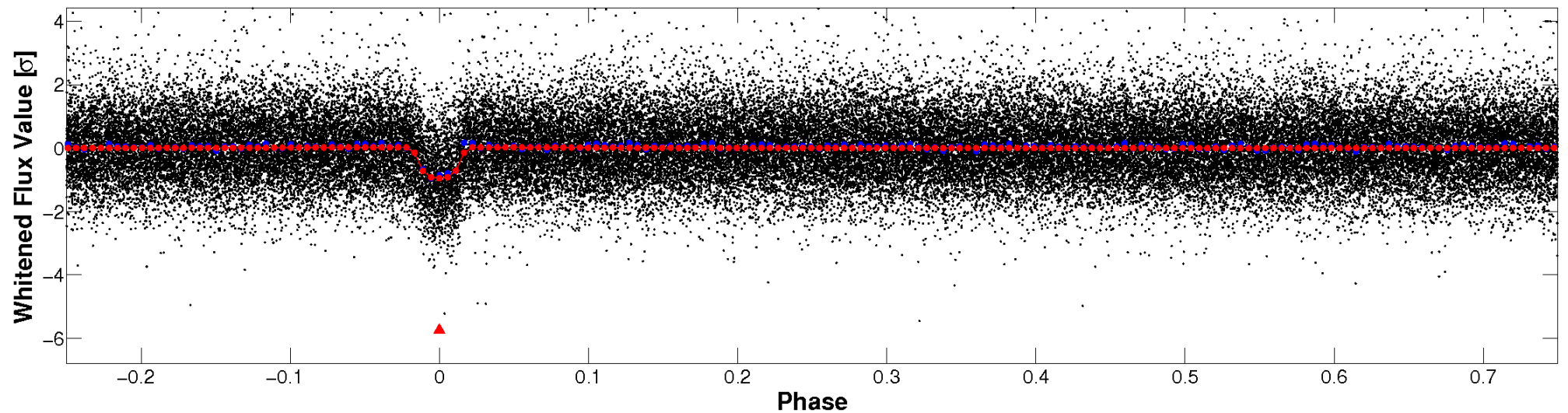


Non-Whitened Vs. Whitened Light Curve

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

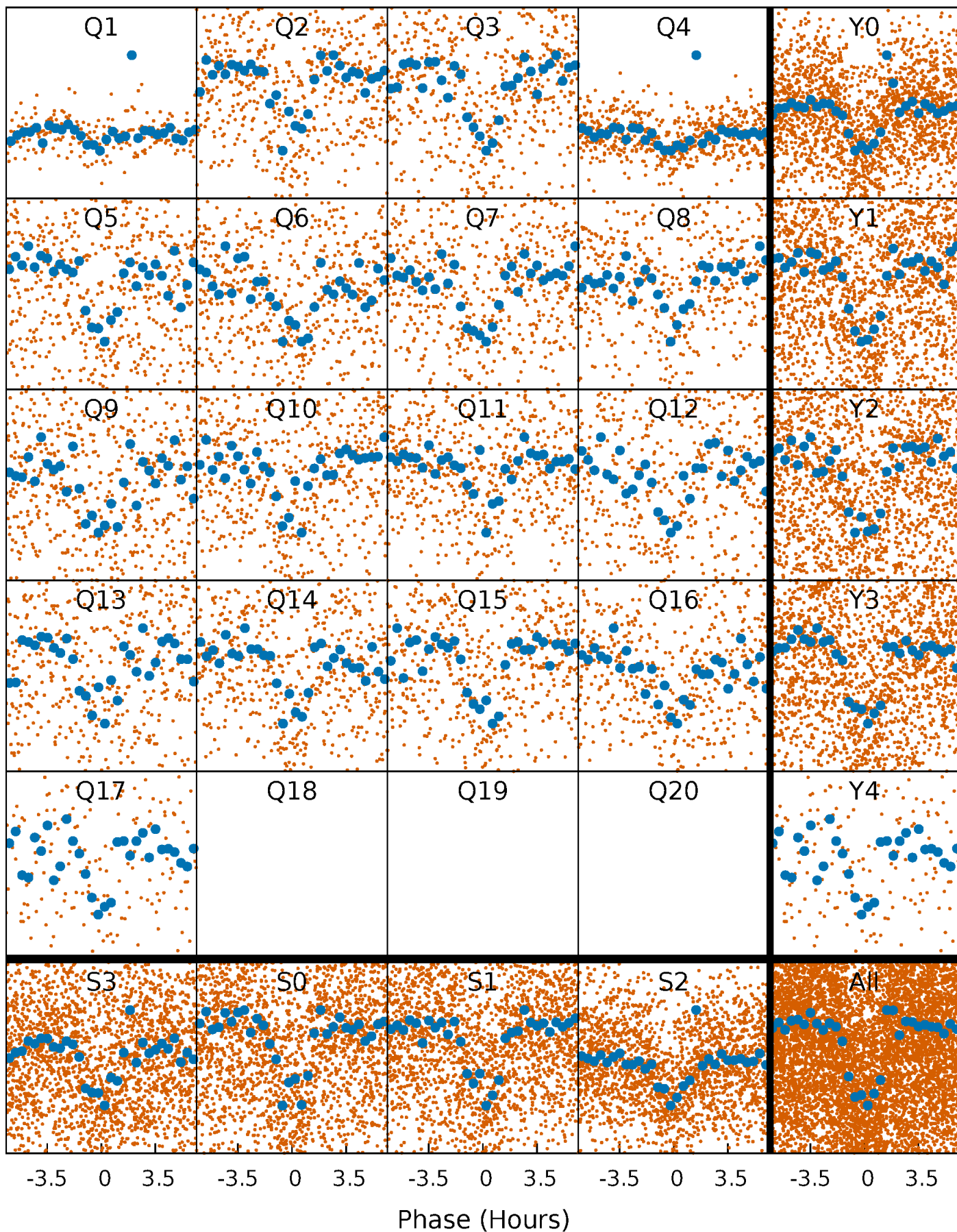


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



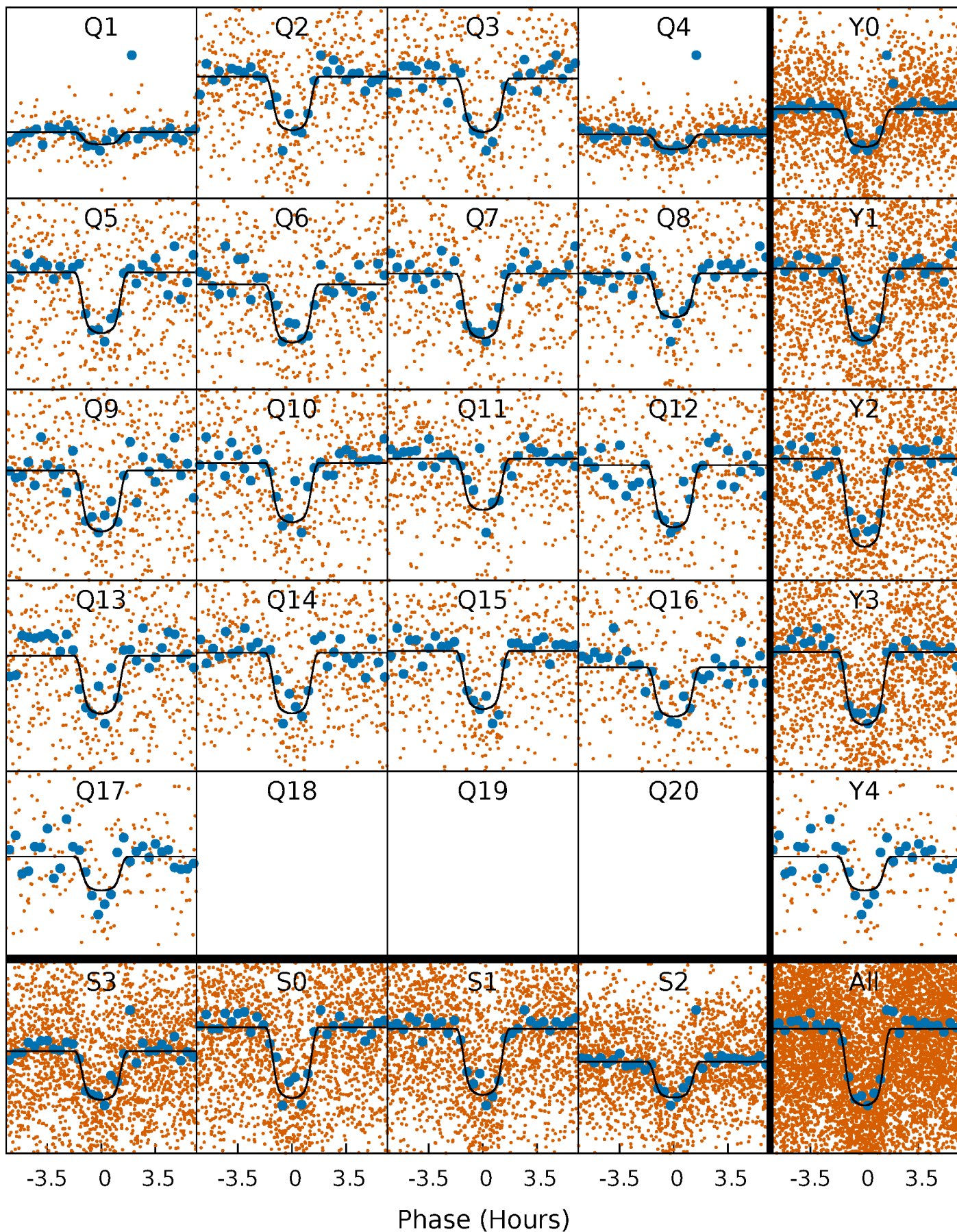
PDC Quarter-Phased Transit Curves

TCE 012110942-01 P= 3.689920 Days $T_0=133.465993$ (BKJD)



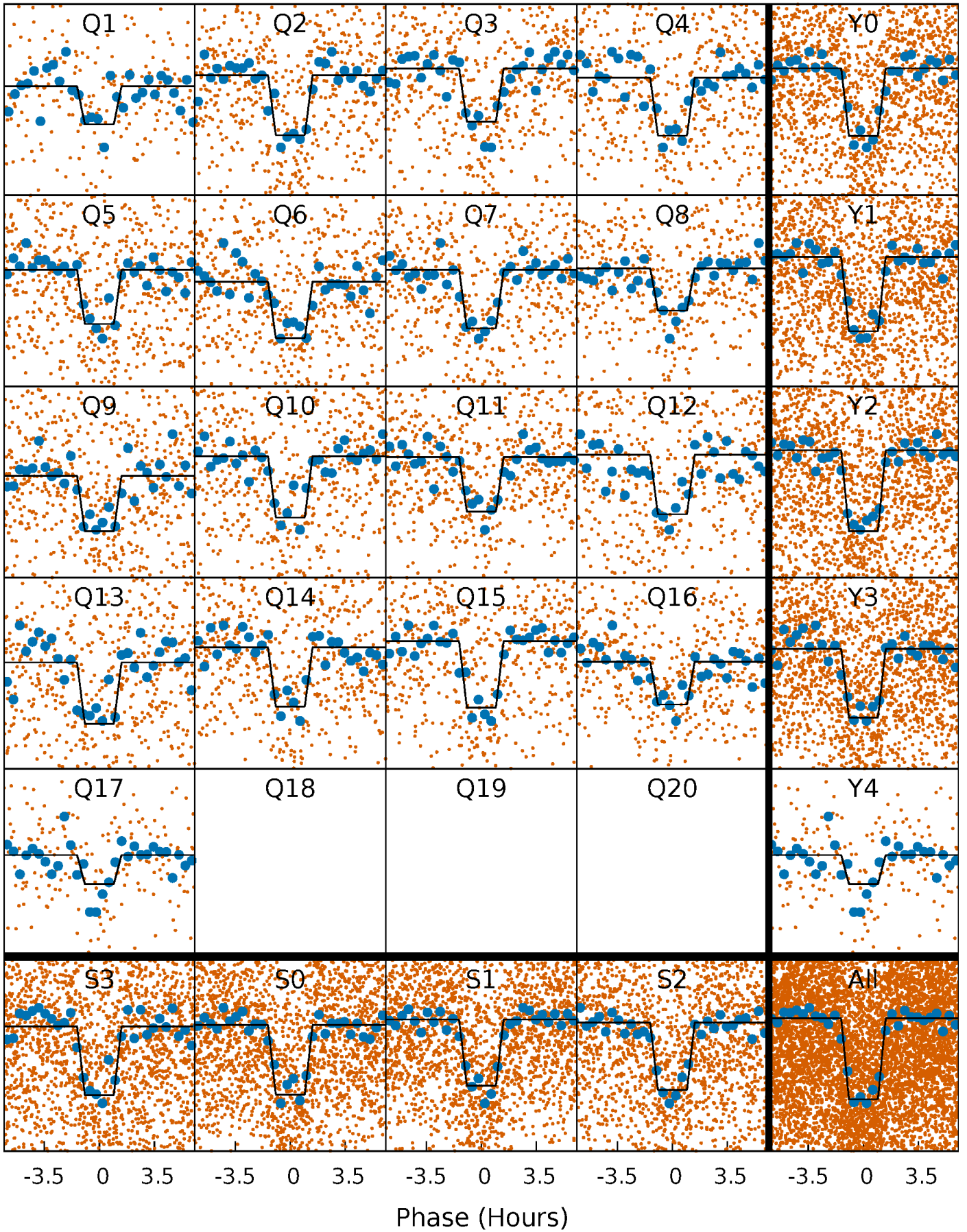
DV Quarter-Phased Transit Curves

TCE 012110942-01 P= 3.689920 Days $T_0=133.465993$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

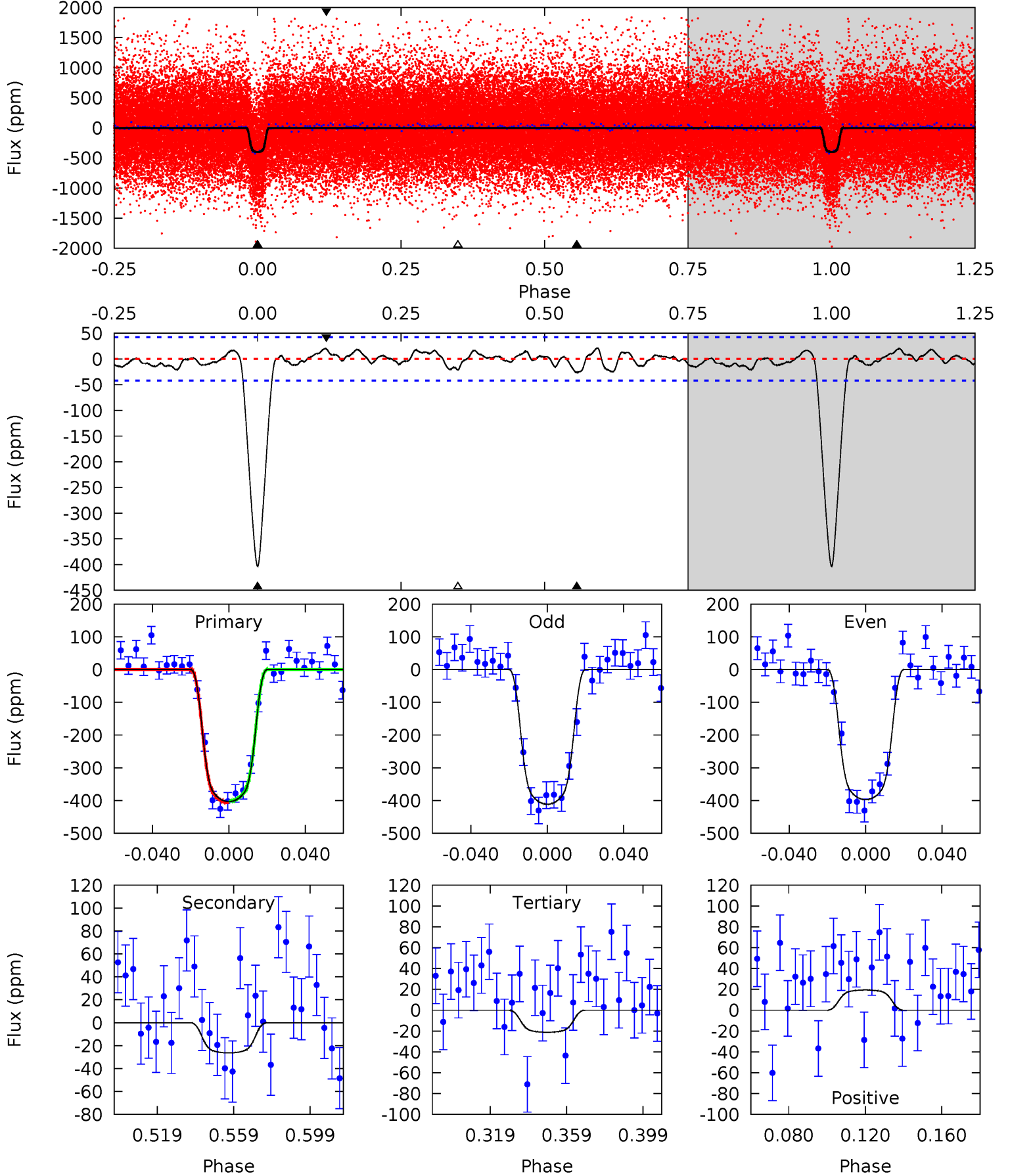
TCE 012110942-01 P= 3.689942 Days $T_0=133.462627$ (BKJD)



DV Model-Shift Uniqueness Test

012110942-01, P = 3.689920 Days, E = 129.776073 Days

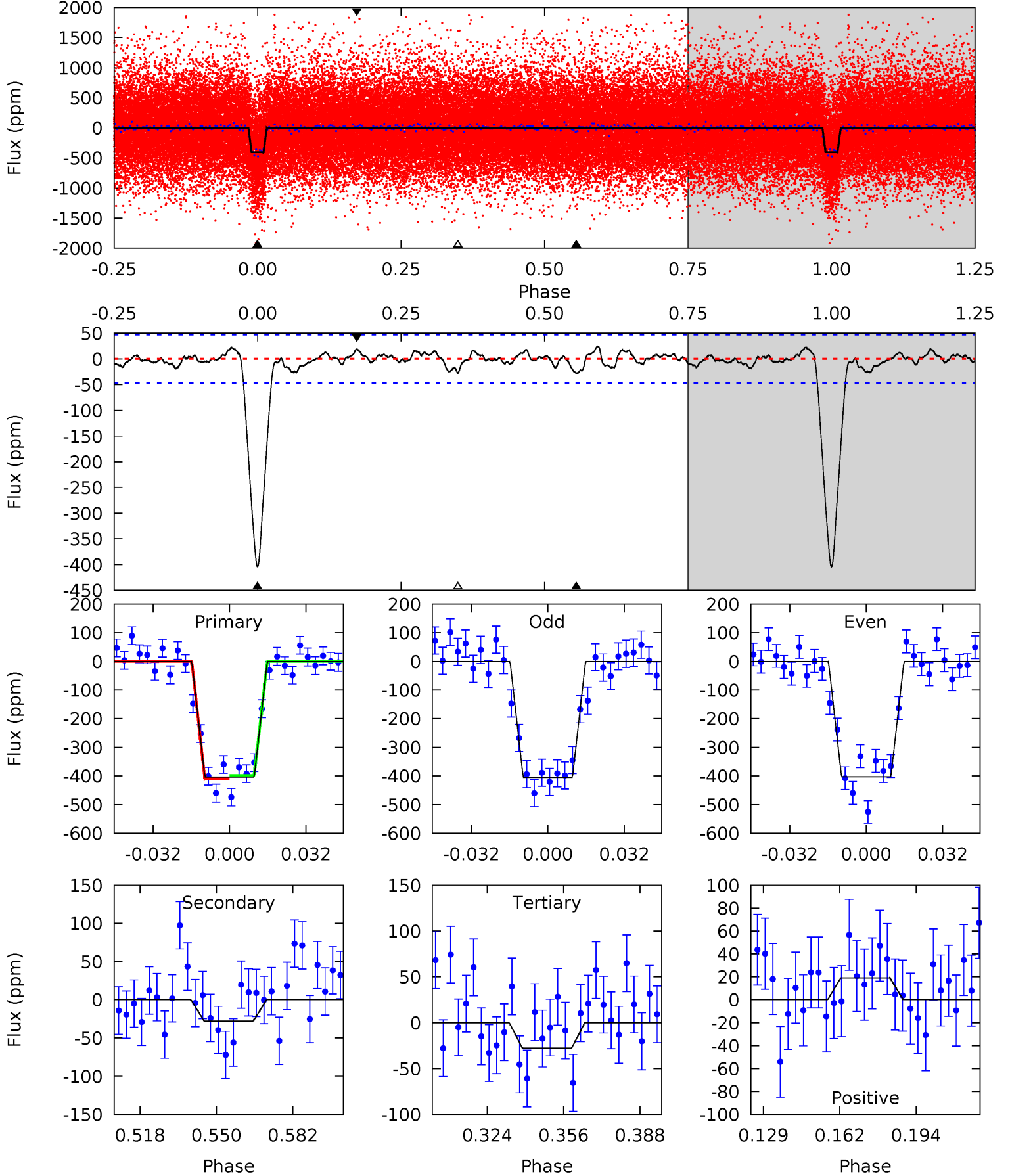
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.4	2.97	2.39	2.19	4.75	2.05	1.12	43.0	43.2	0.58	0.78	0.79	0.95	0.05	0.26



Alt Model-Shift Uniqueness Test

012110942-01, P = 3.689942 Days, E = 129.772685 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.0	2.82	2.81	1.94	4.80	2.14	1.01	38.2	39.1	0.01	0.88	0.08	0.99	0.06	0.62



Stellar Parameters For KIC 012110942

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5880^{+157}_{-192}	$4.518^{+0.046}_{-0.196}$	$-0.060^{+0.300}_{-0.300}$	$0.917^{+0.262}_{-0.098}$	$1.010^{+0.116}_{-0.139}$	$1.844^{+0.369}_{-0.918}$
	+3%/-3%	+1%/-4%	+500%/-500%	+29%/-11%	+11%/-14%	+20%/-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 012110942-01 / KOI 0786.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 9	$2.44^{+0.40}_{-0.22}$	1641^{+108}_{-80}	3265^{+176}_{-206}	$5.076^{+2.128}_{-1.868}$
Alt.	-28 ± 10	$2.11^{+0.31}_{-0.20}$	1636^{+112}_{-74}	3459^{+197}_{-259}	$7.245^{+3.372}_{-2.923}$

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

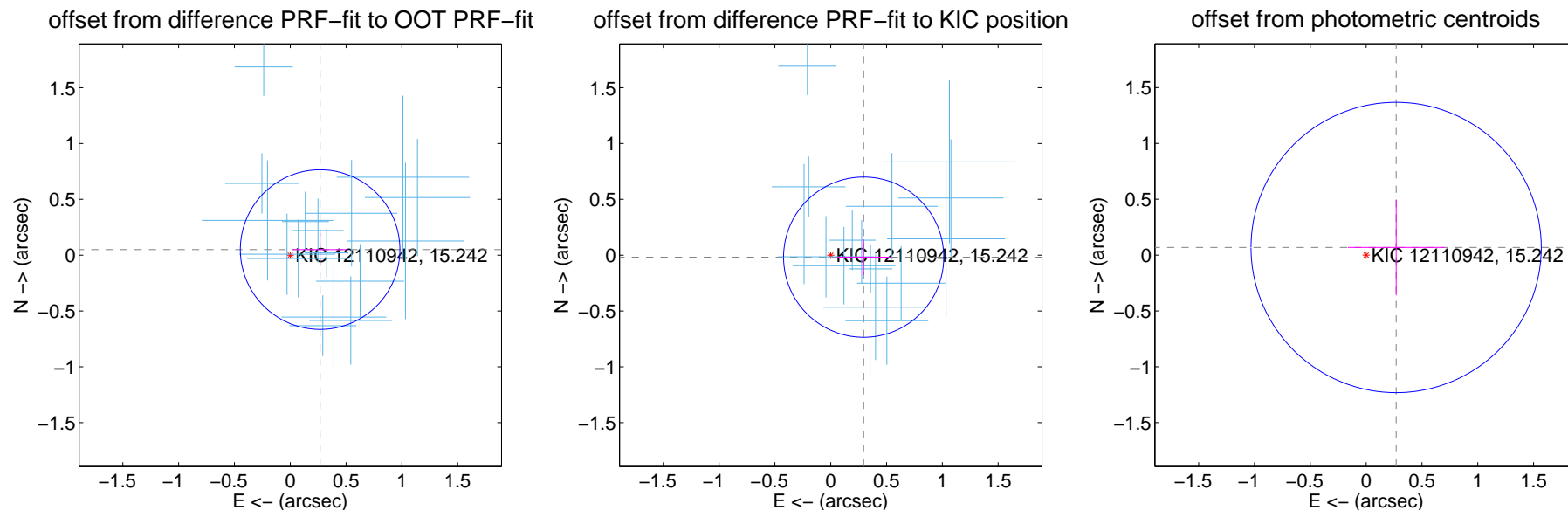
DV Centroid Data

Supplemental centroid analysis for 012110942-01. Kepler magnitude: 15.24. Transit SNR 35.04

There are 16 quarters with good PRF difference image offsets

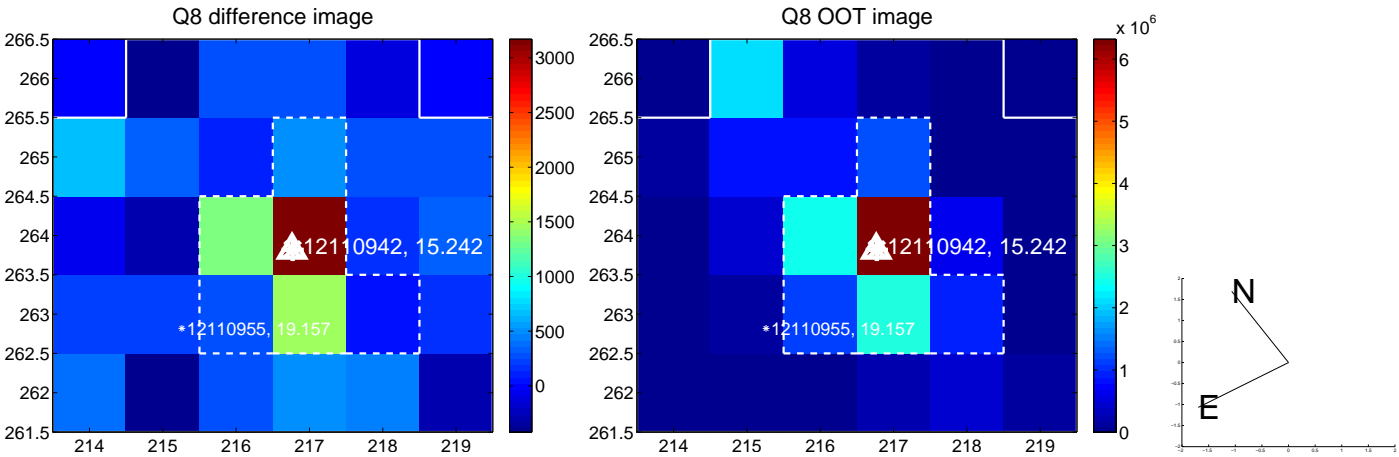
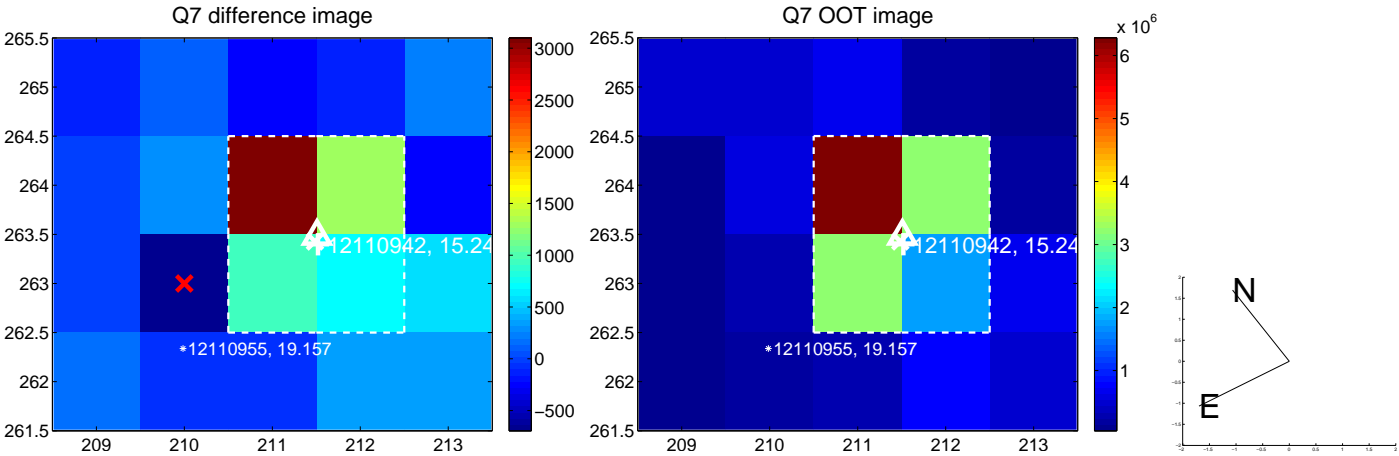
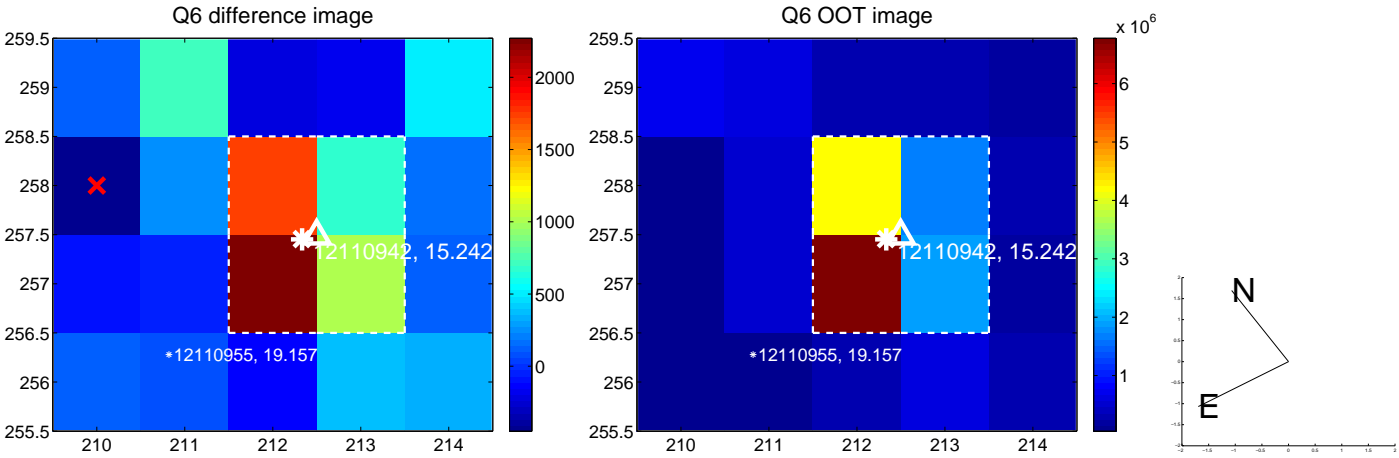
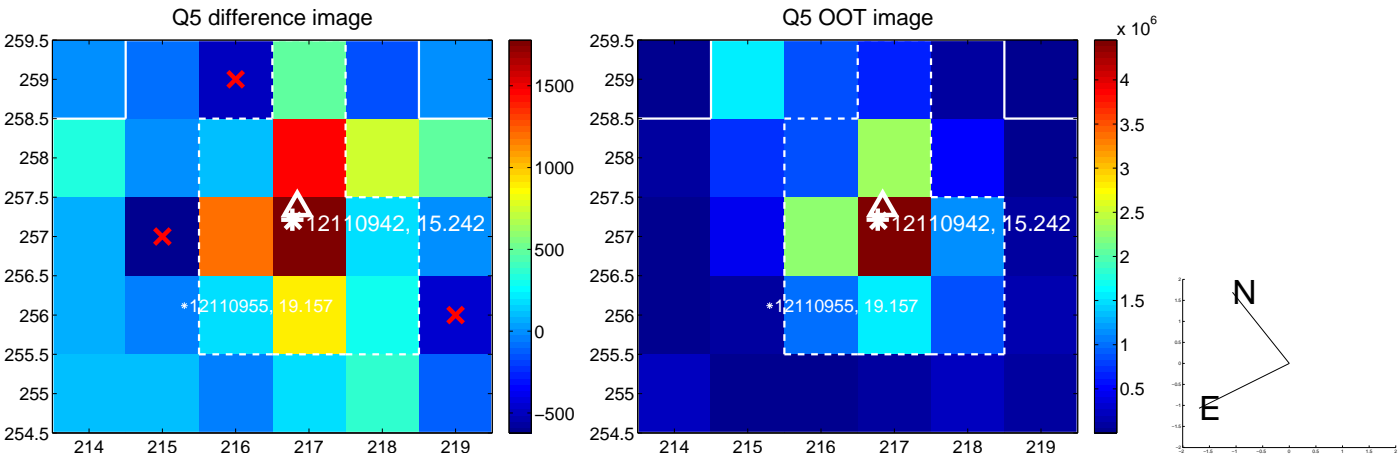
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.272 ± 0.238	1.14	-0.267 ± 0.249	0.050 ± 0.149
PRF-fit source offset from KIC position	0.296 ± 0.239	1.24	-0.295 ± 0.237	-0.018 ± 0.159
photometric centroid source offset	0.28 ± 0.43	0.64	-0.27 ± 0.43	0.07 ± 0.43

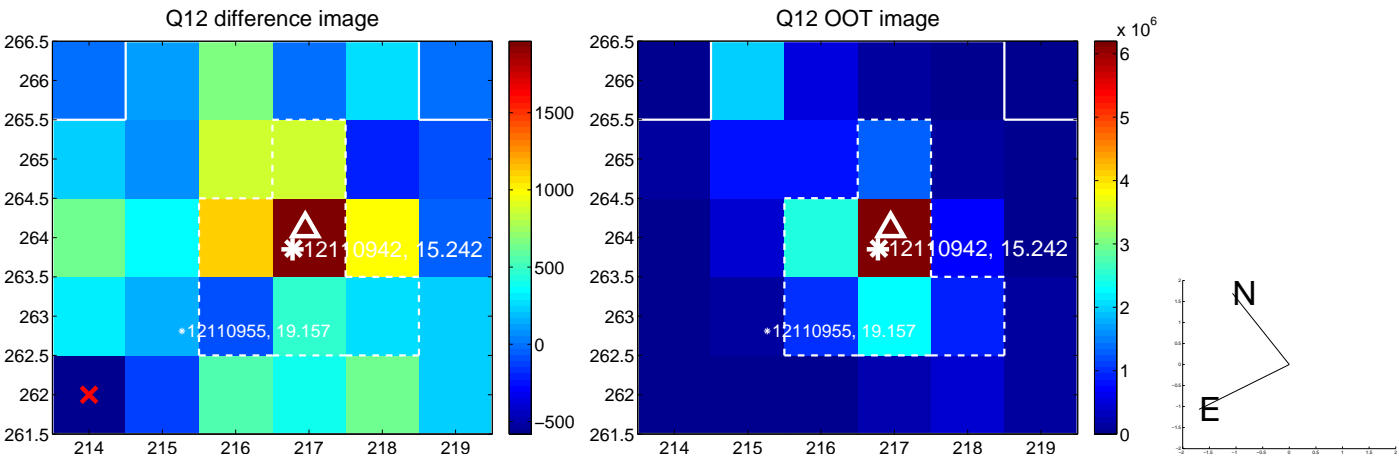
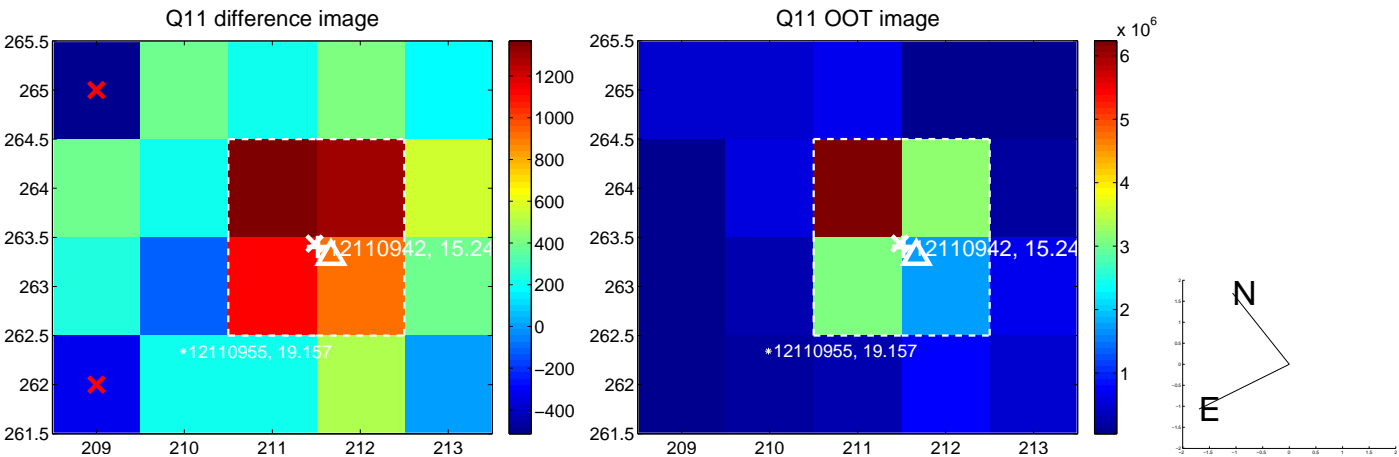
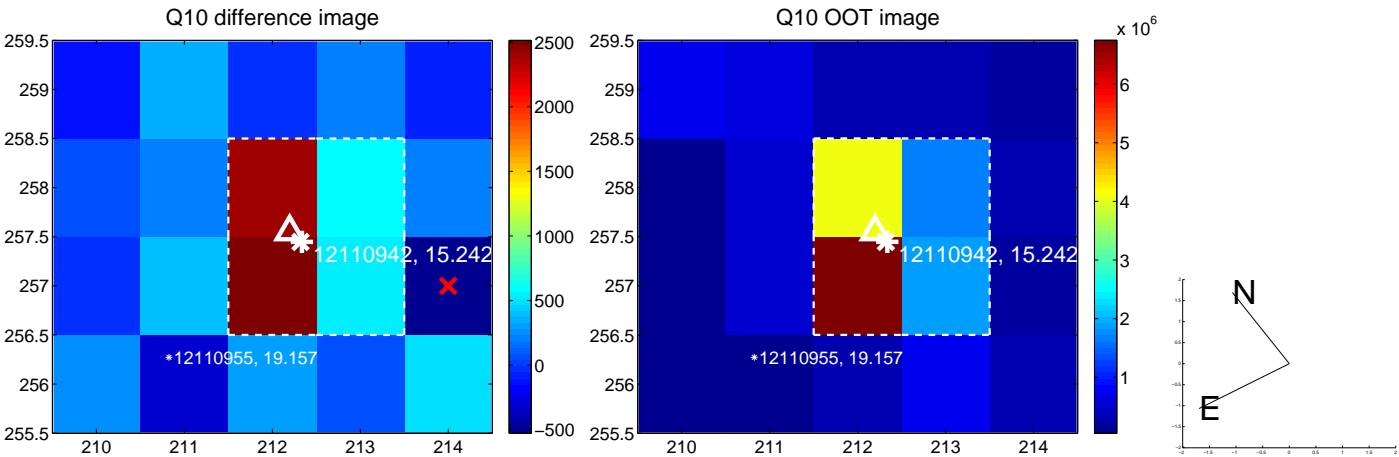
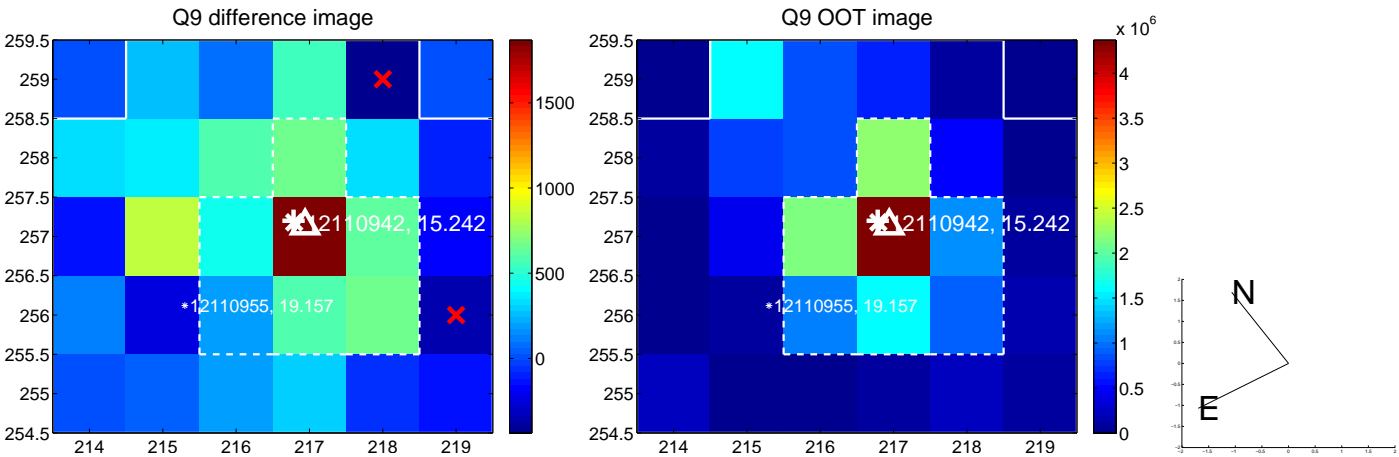


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

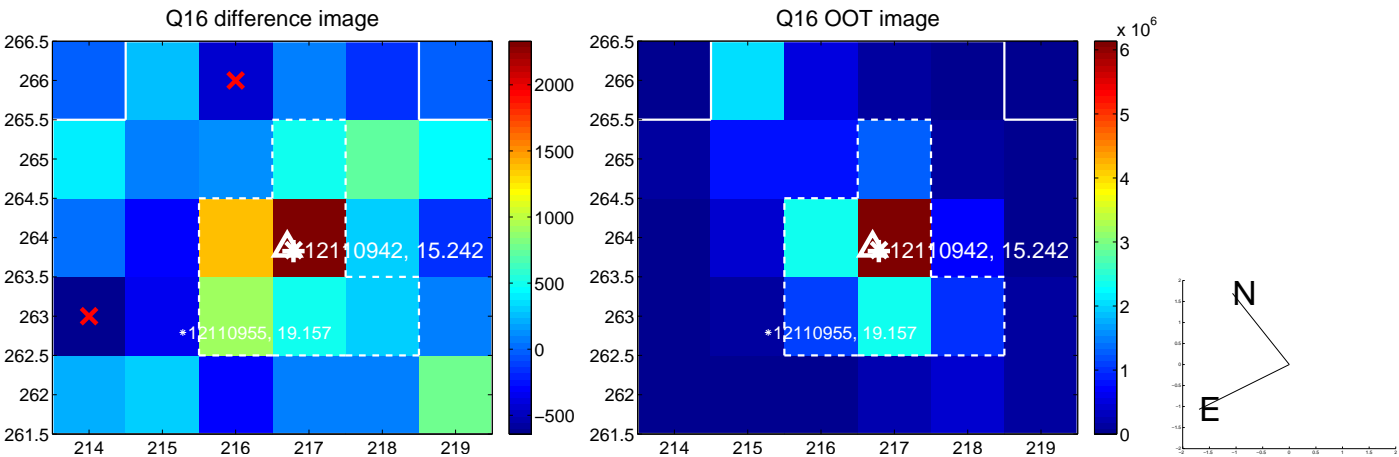
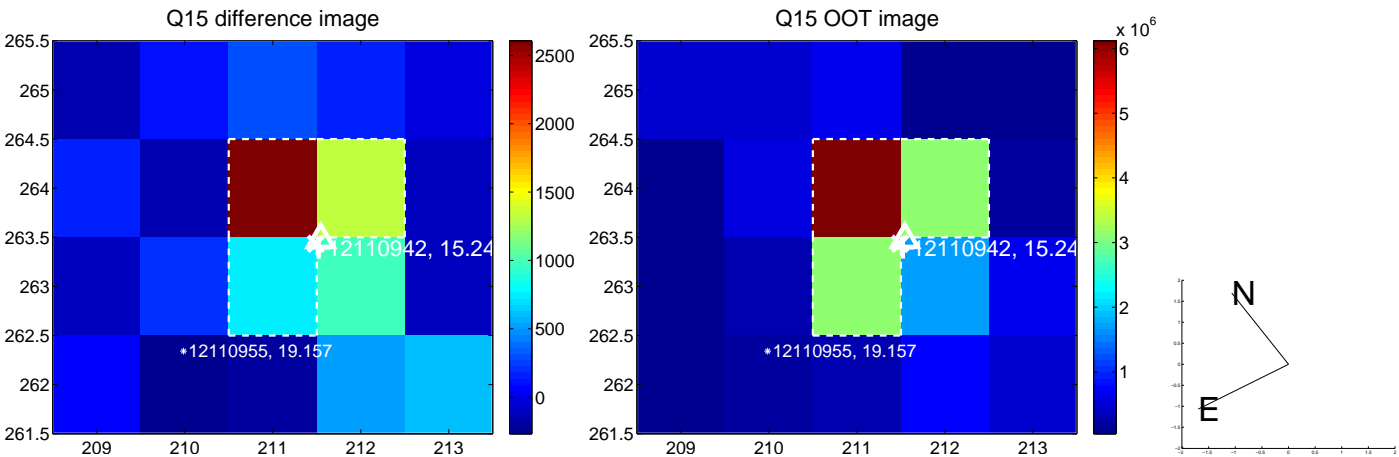
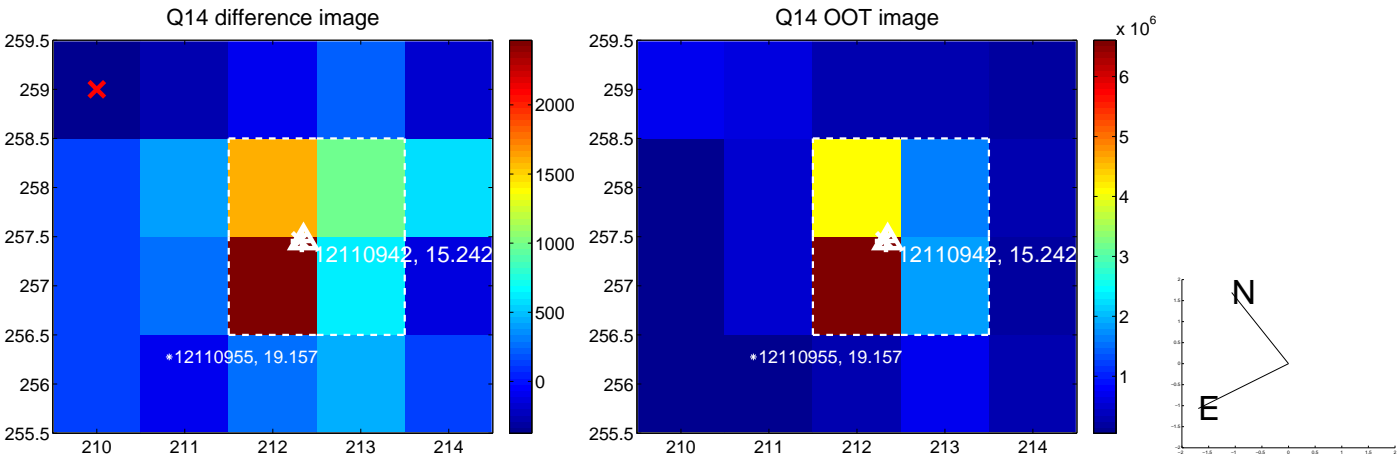
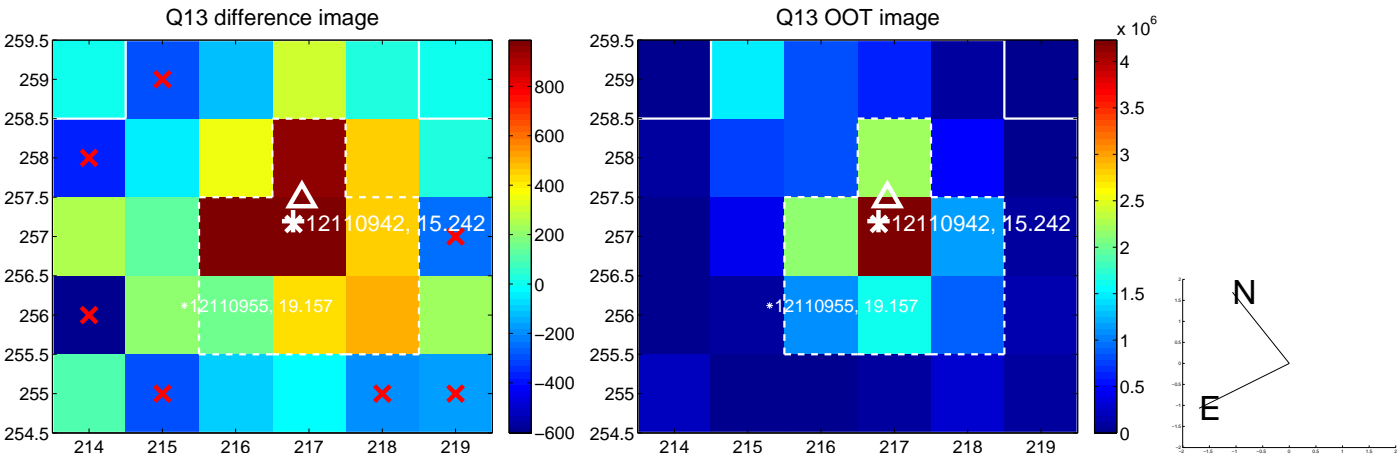
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



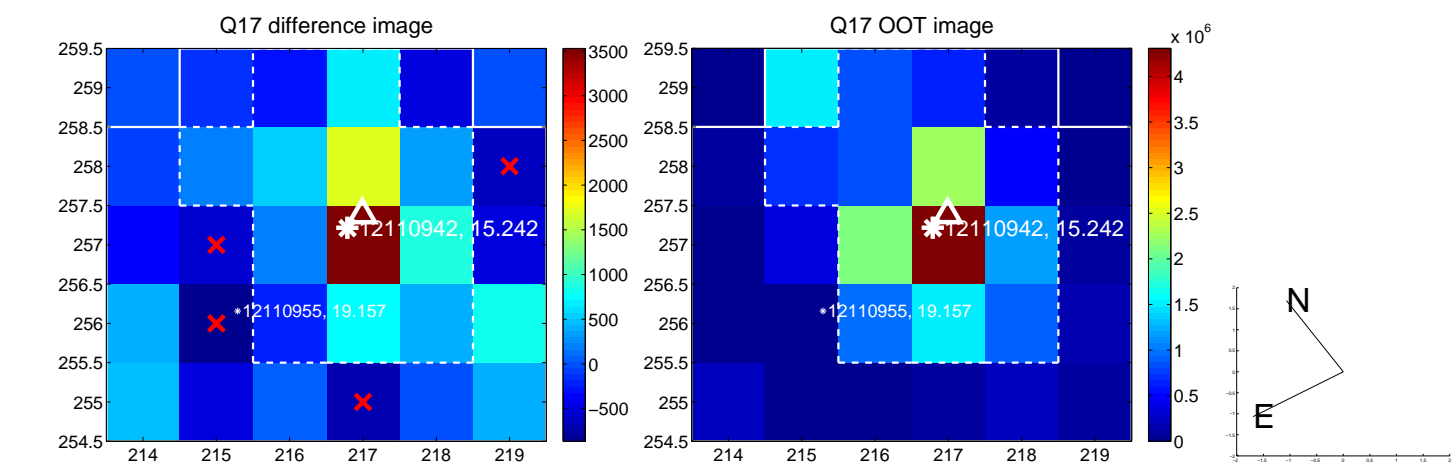
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



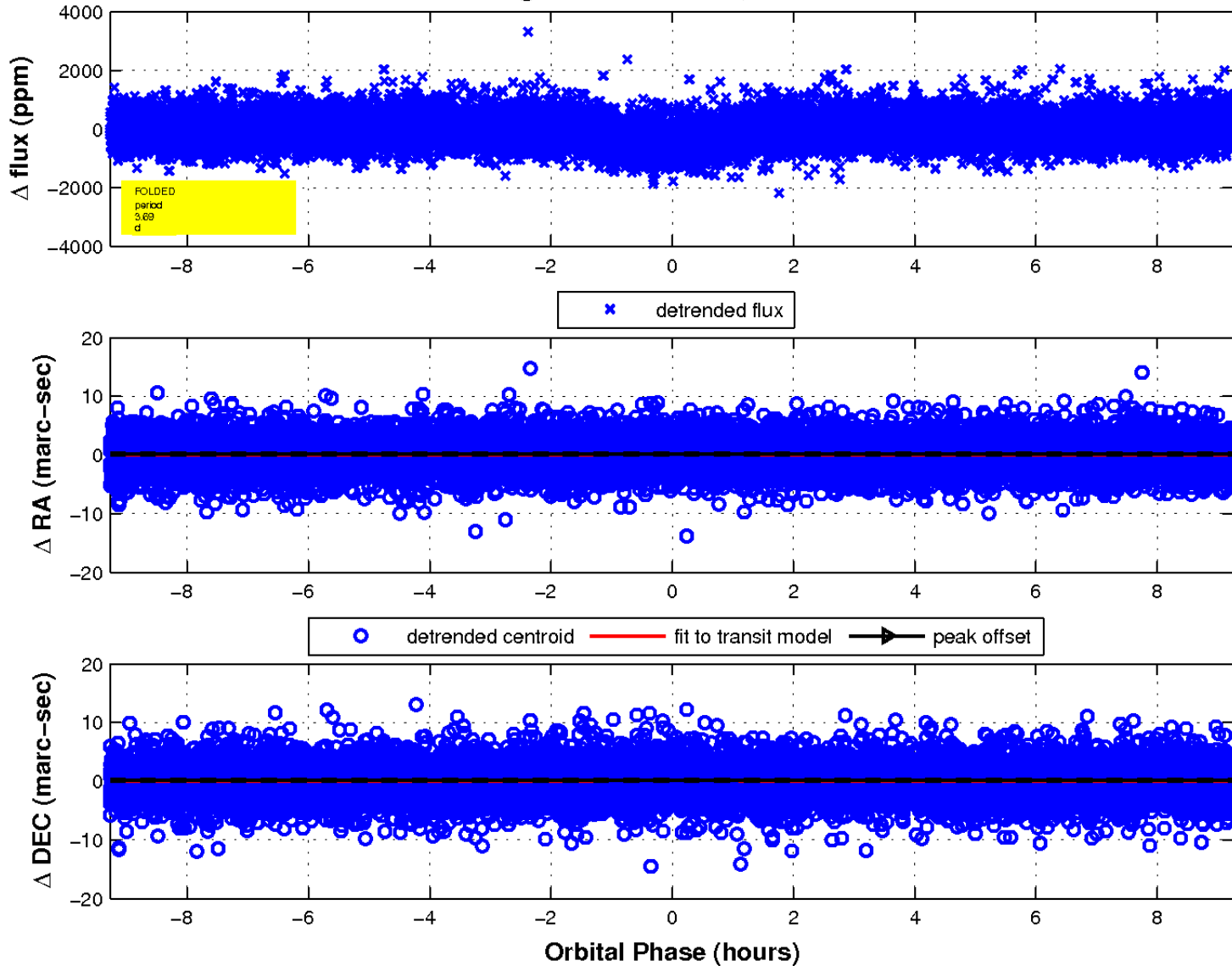
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

