

KIC 012157358

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})
012157358-01	OBS	No	1.641346	132.611000	191.6	5.000	7.8	-1.0	1.65	6749	2.29	5134.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157358-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

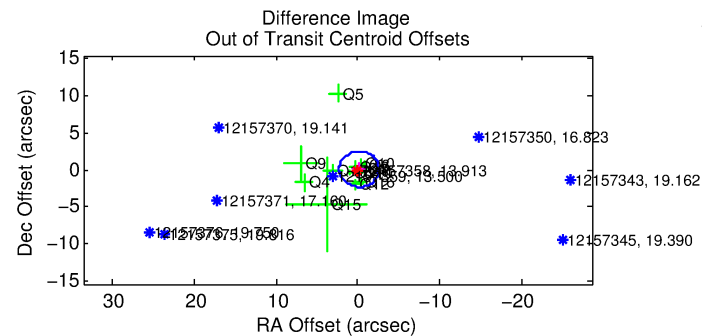
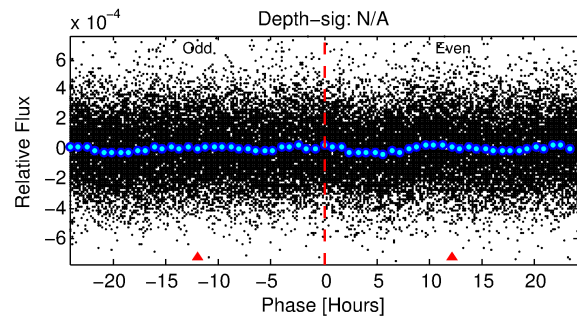
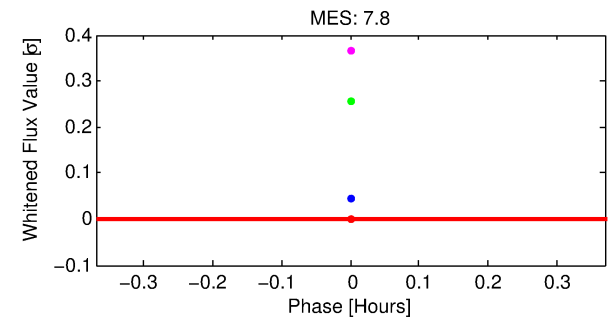
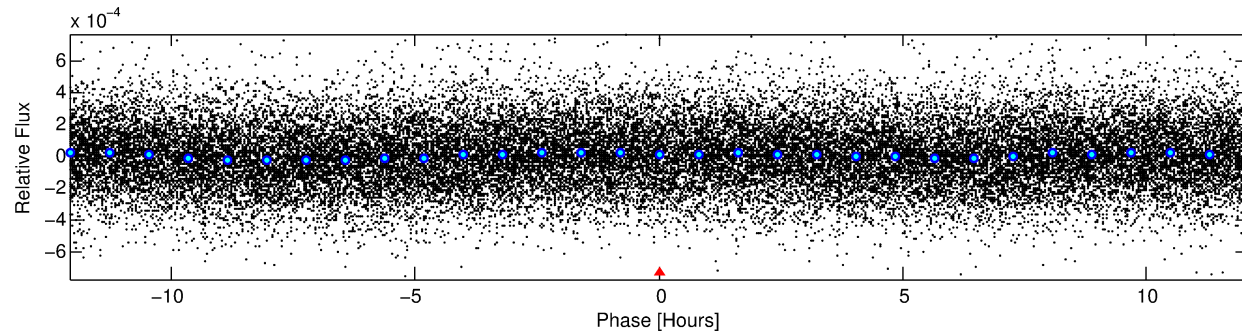
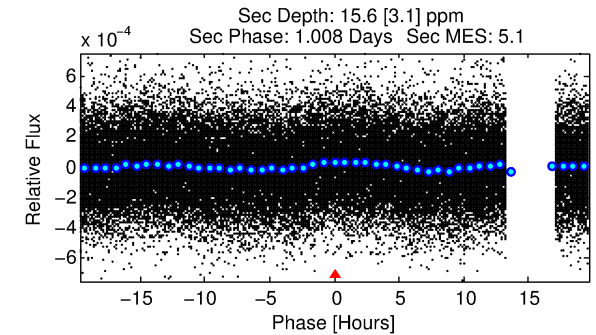
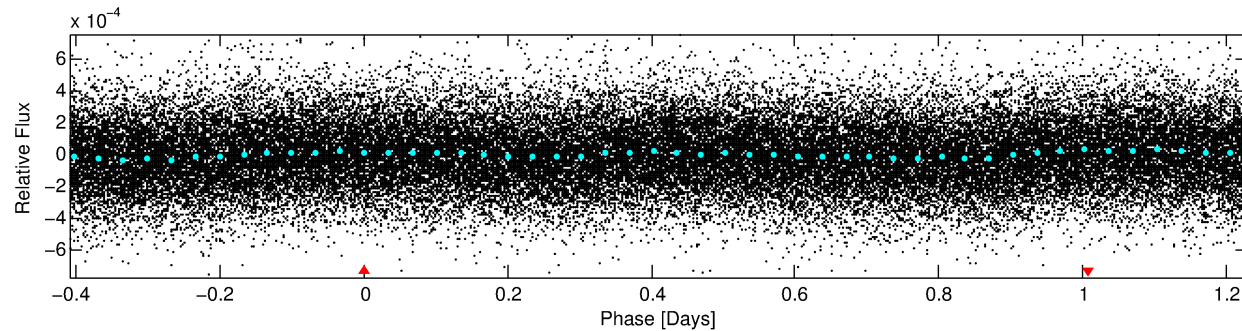
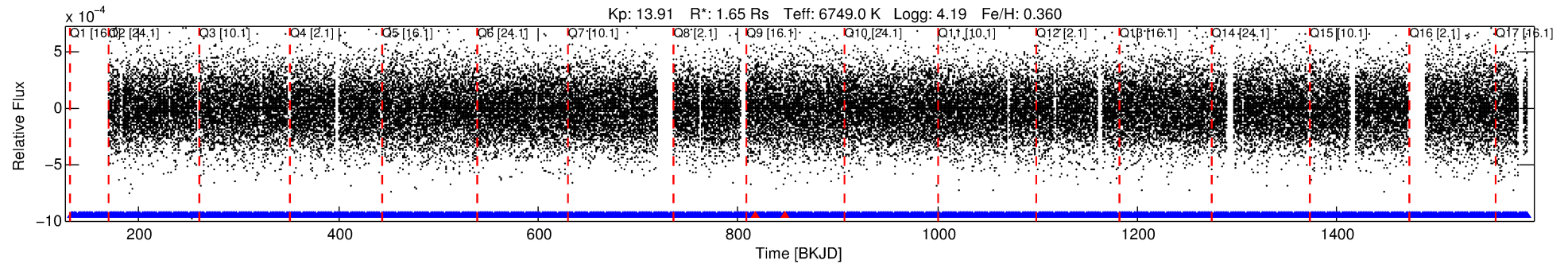
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157358-01

No Significant Match Found

DV One-Page Summary

KIC: 12157358 Candidate: 1 of 1 Period: 1.641 d



TPS TCE Results:

Period = 1.64135 d
Epoch = 132.6110 BKJD

DV fit results are unavailable

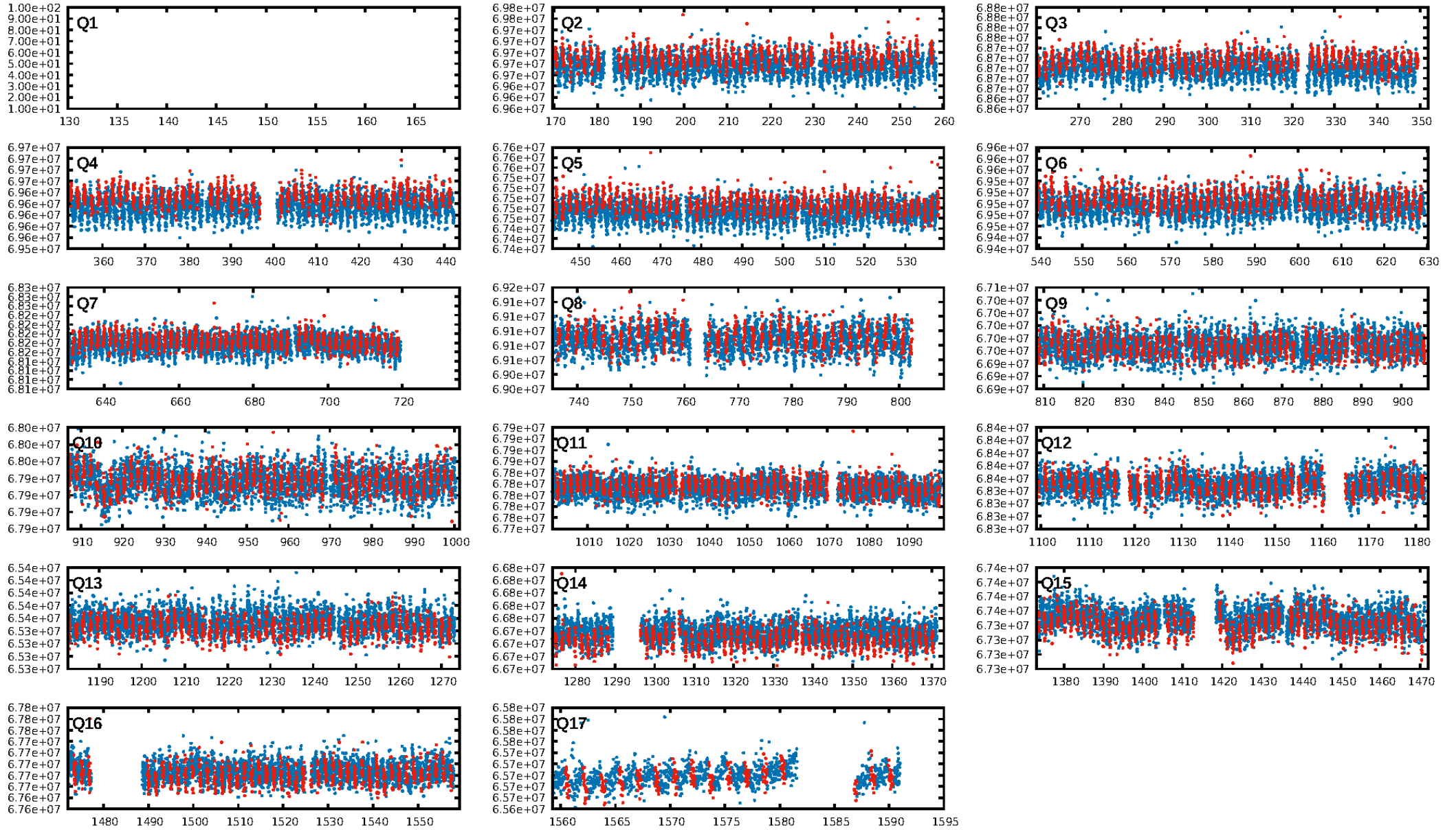
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.51e-12
RollingBand-fgt: 1.00 [780/782]
GhostDiagnostic-chr: 8.965
Centroid-sig: 38.6%
Centroid-so: 5.552 arcsec [0.76σ]
OotOffset-rm: 0.137 arcsec [0.17σ]
KicOffset-rm: 0.168 arcsec [0.22σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.31 [4/13]
DiffImageOverlap-fno: 1.00 [16/16]

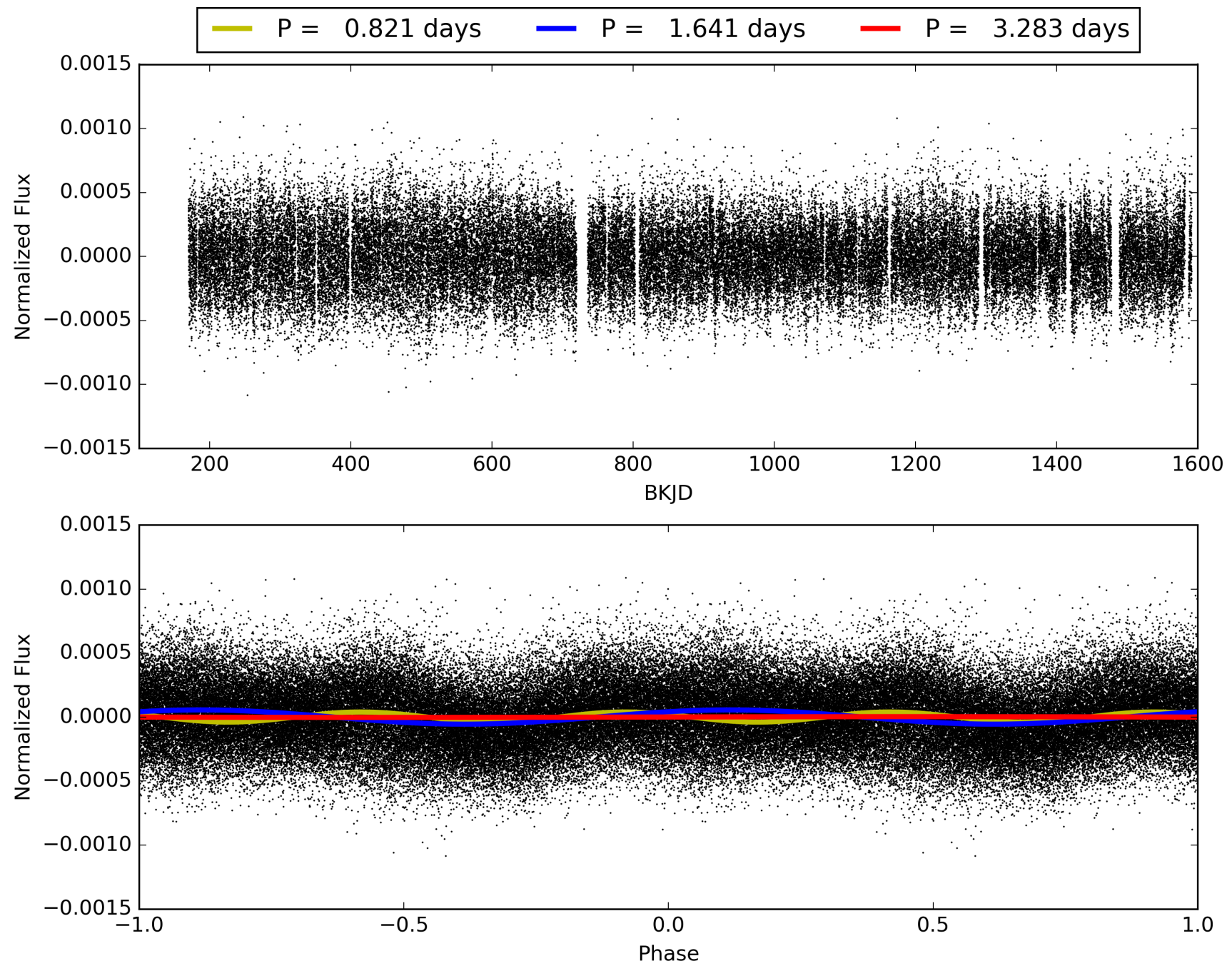
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:21:30 Z

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

TCE 012157358-01, PDC Light Curves

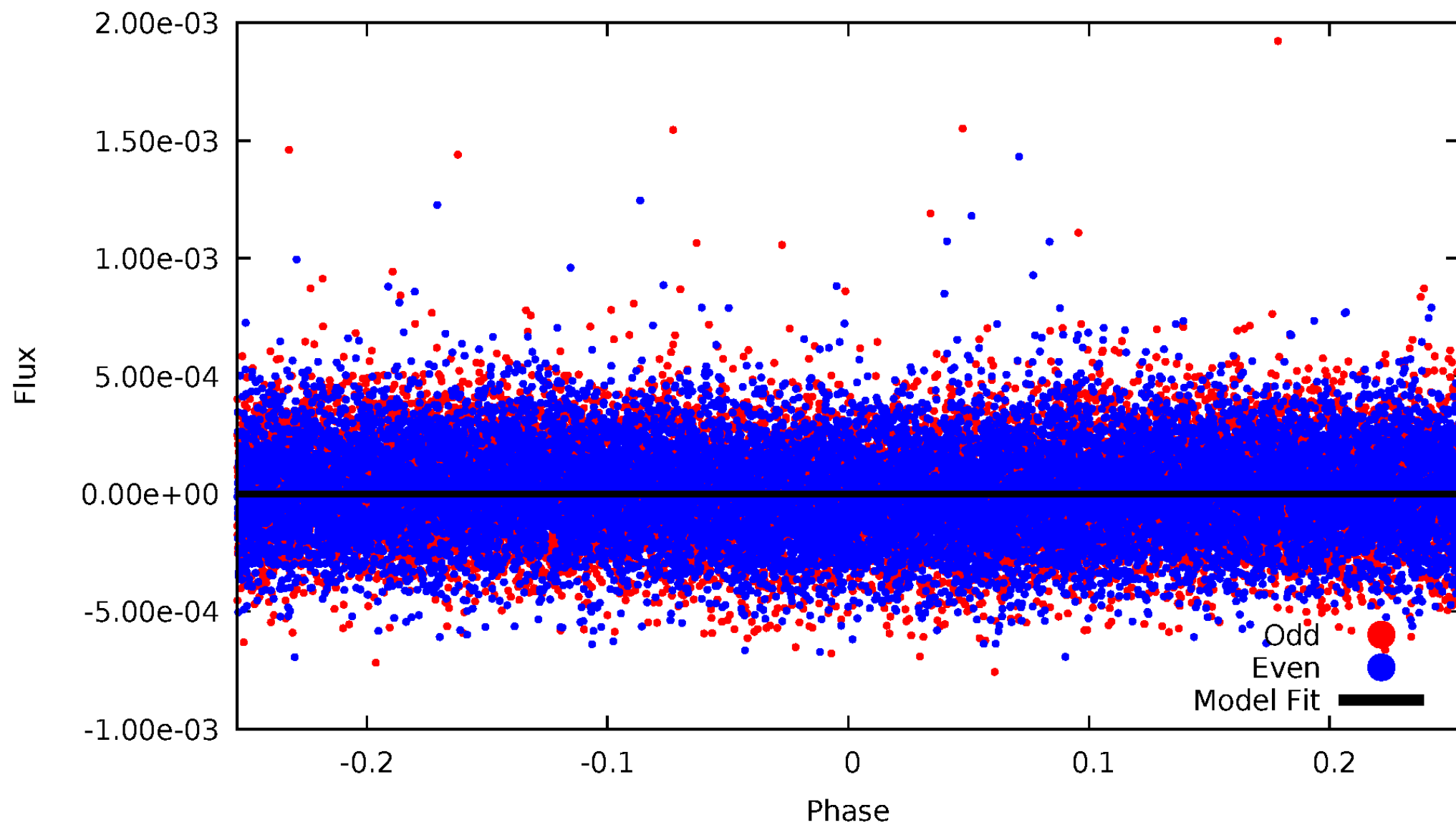


TCE 012157358-01



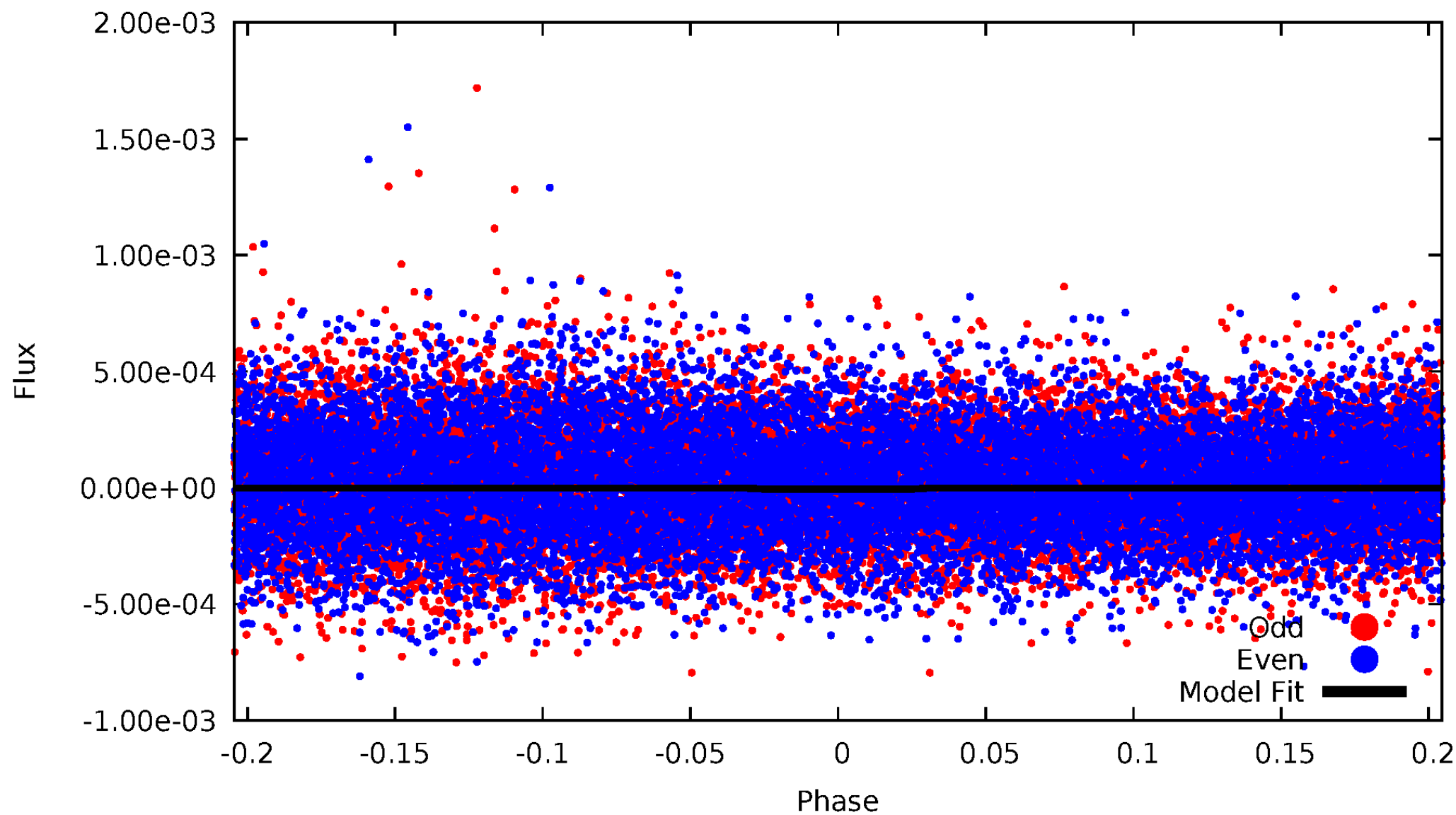
DV Odd/Even

TCE 012157358-01

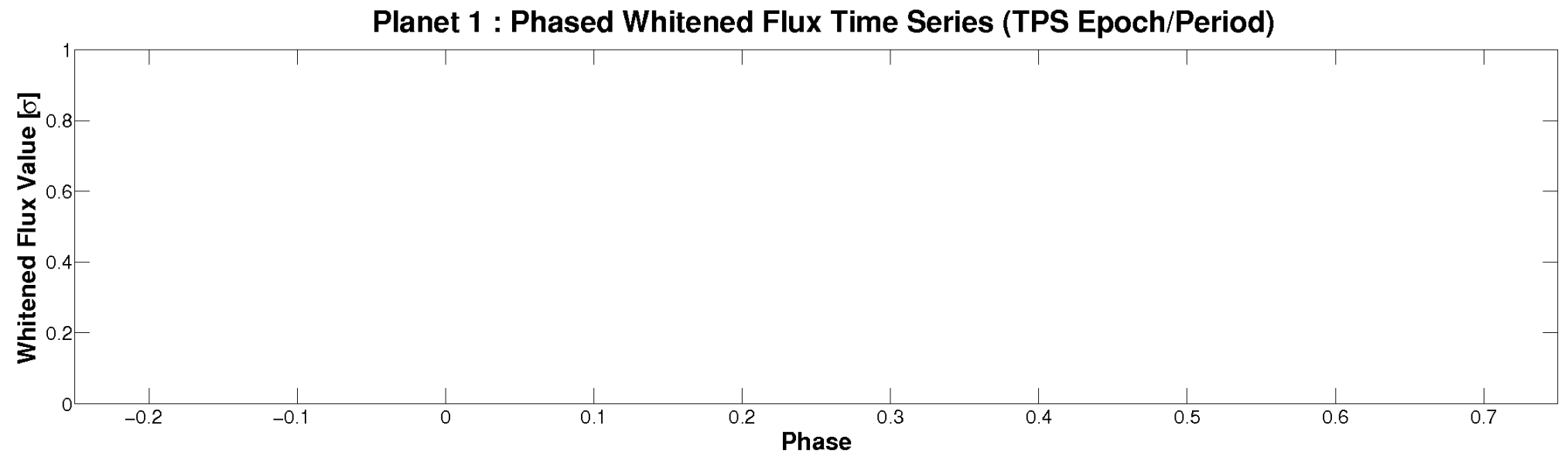
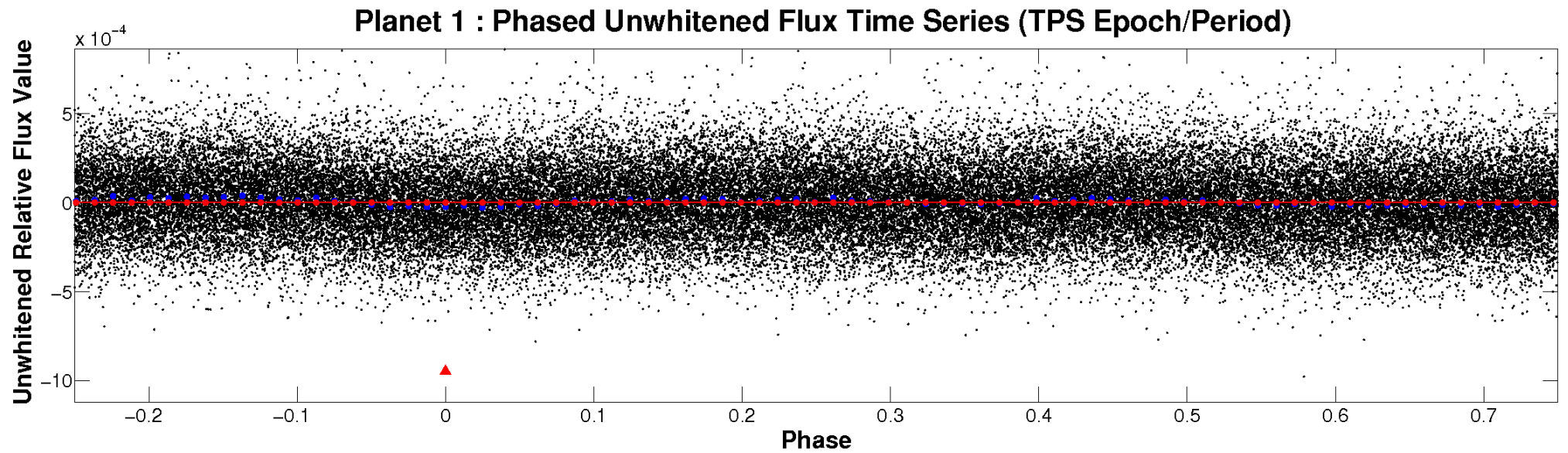


ALT Odd/Even

TCE 012157358-01

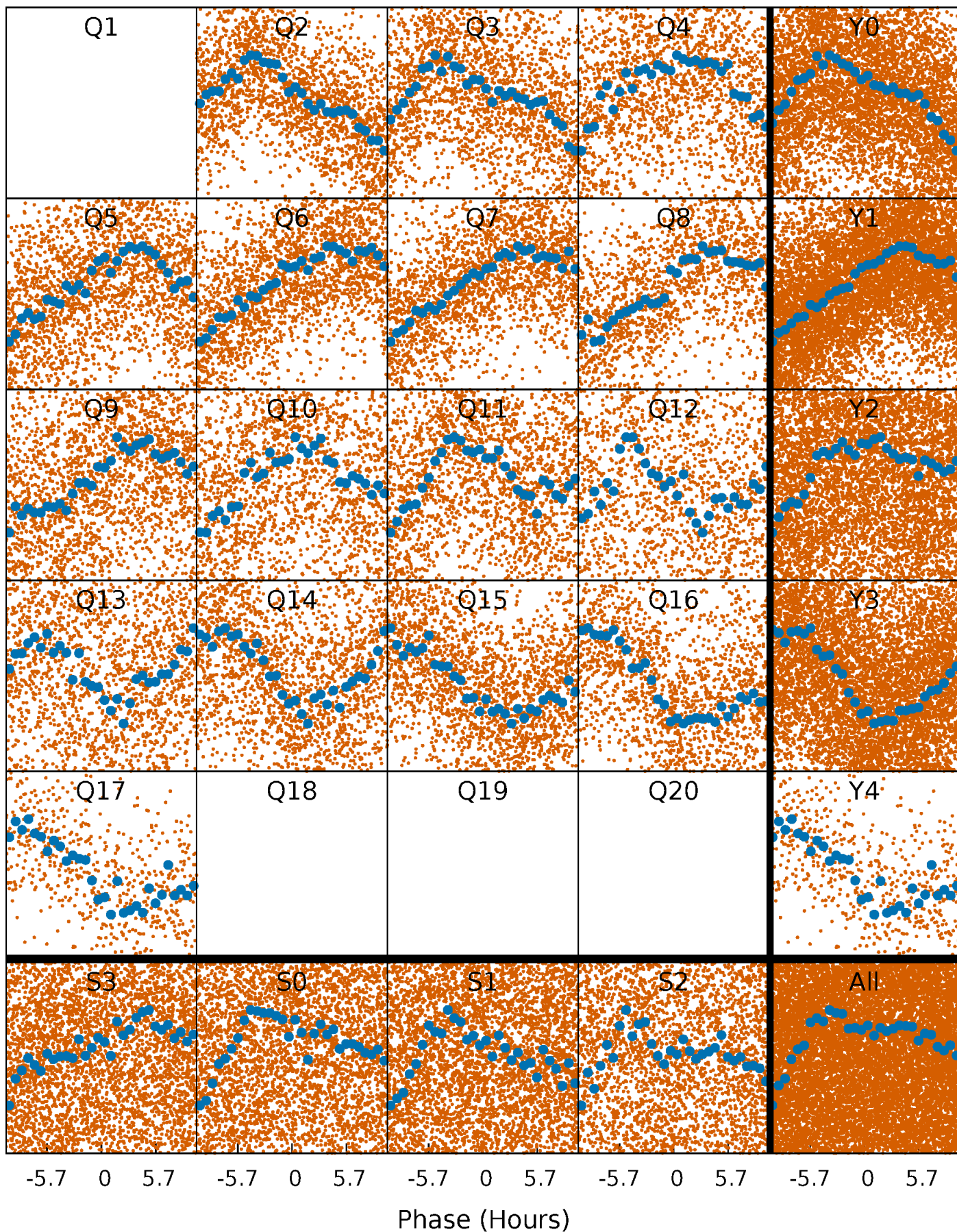


Non-Whitened Vs. Whitened Light Curve



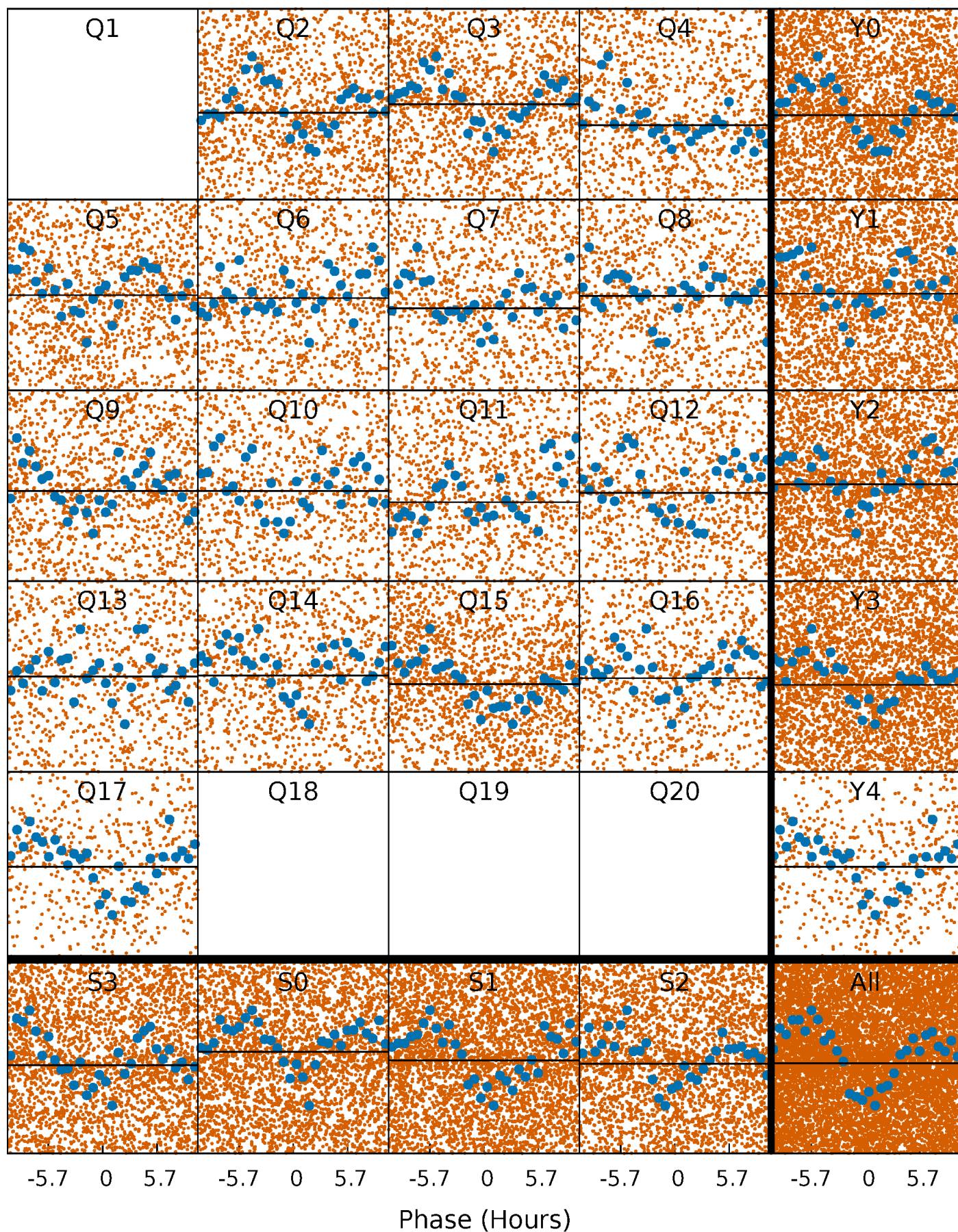
PDC Quarter-Phased Transit Curves

TCE 012157358-01 P= 1.641346 Days $T_0=132.611000$ (BKJD)



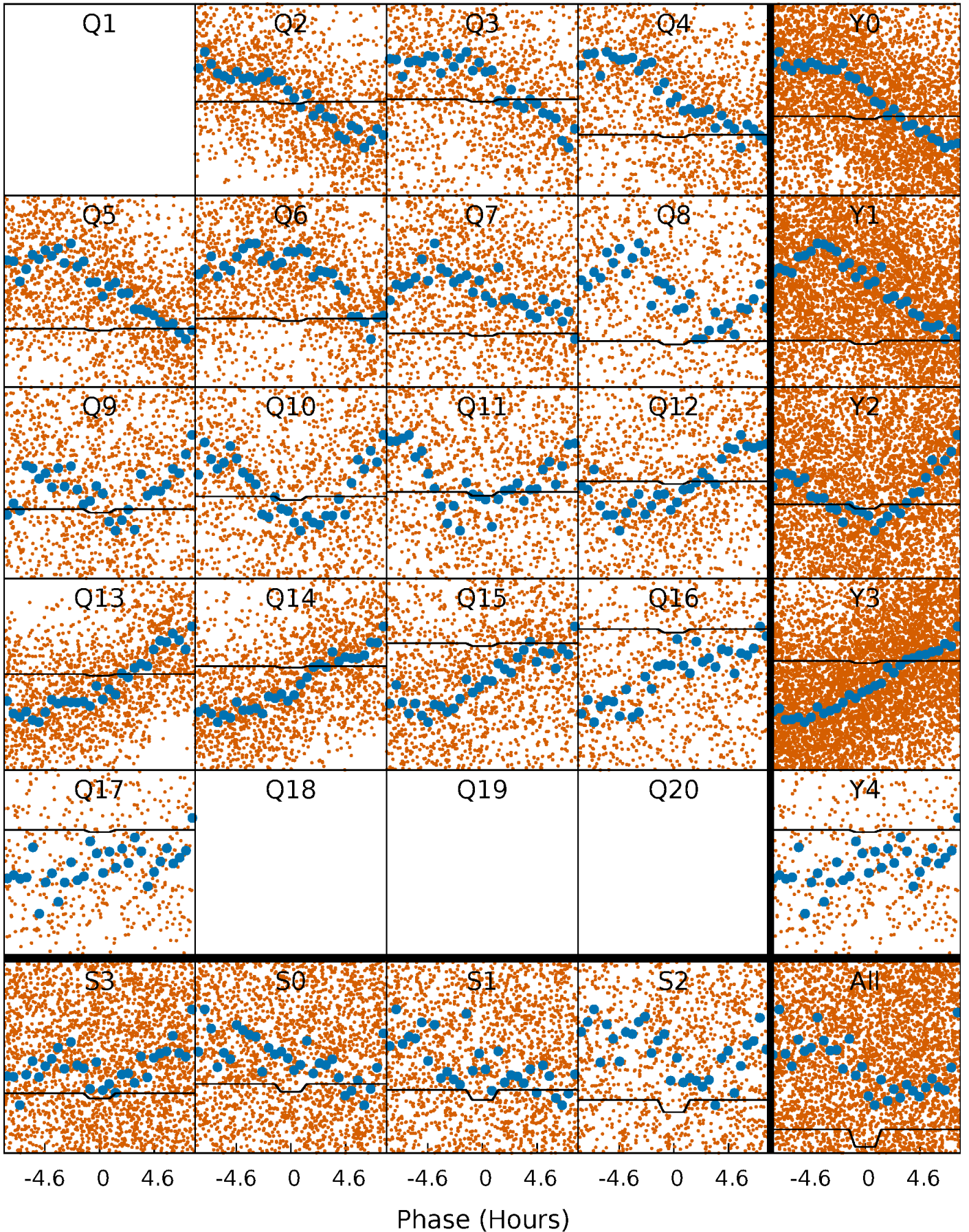
DV Quarter-Phased Transit Curves

TCE 012157358-01 P= 1.641346 Days $T_0=132.611000$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

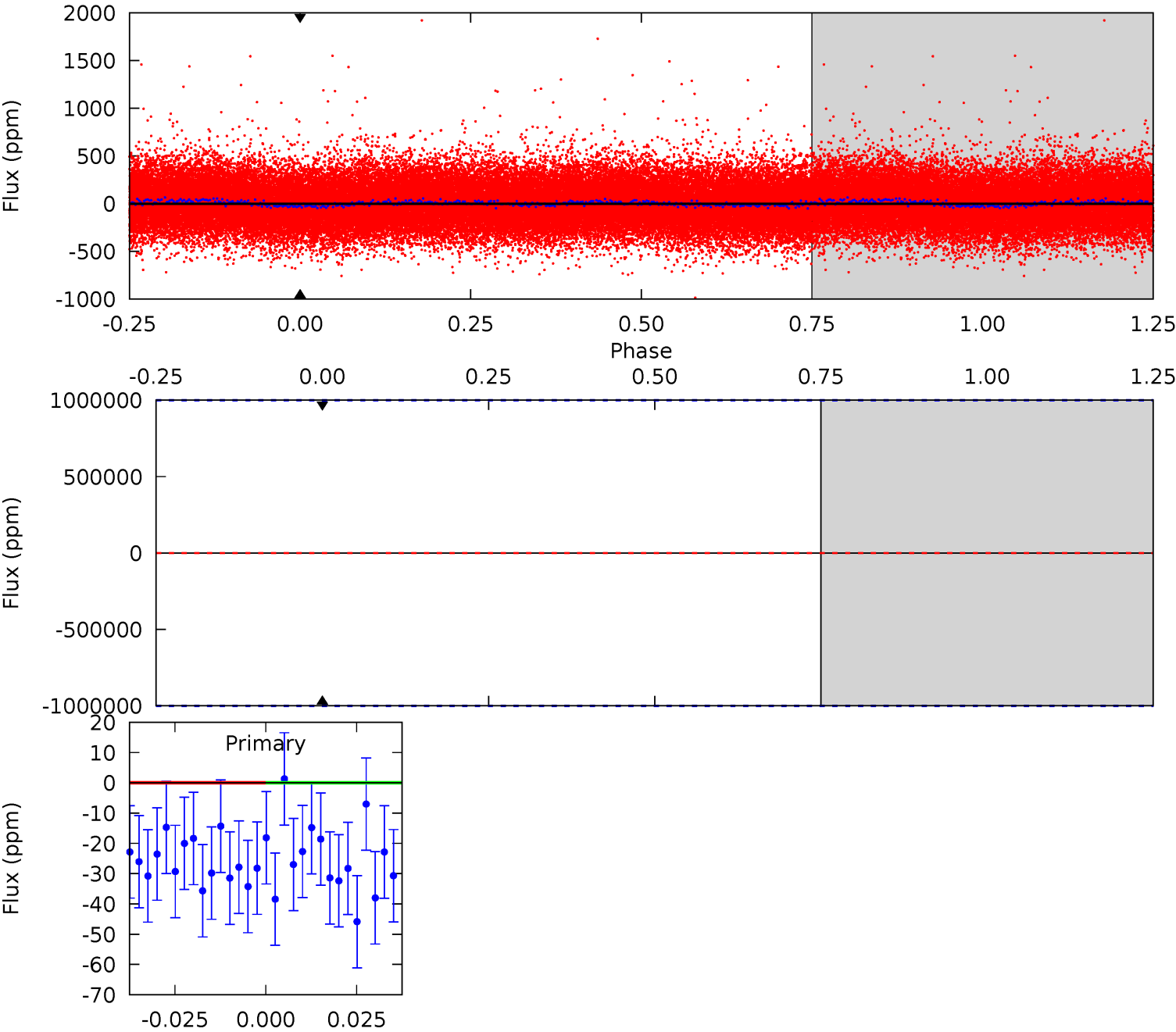
TCE 012157358-01 P= 1.641346 Days $T_0=132.927991$ (BKJD)



DV Model-Shift Uniqueness Test

012157358-01, P = 1.641346 Days, E = 132.611000 Days

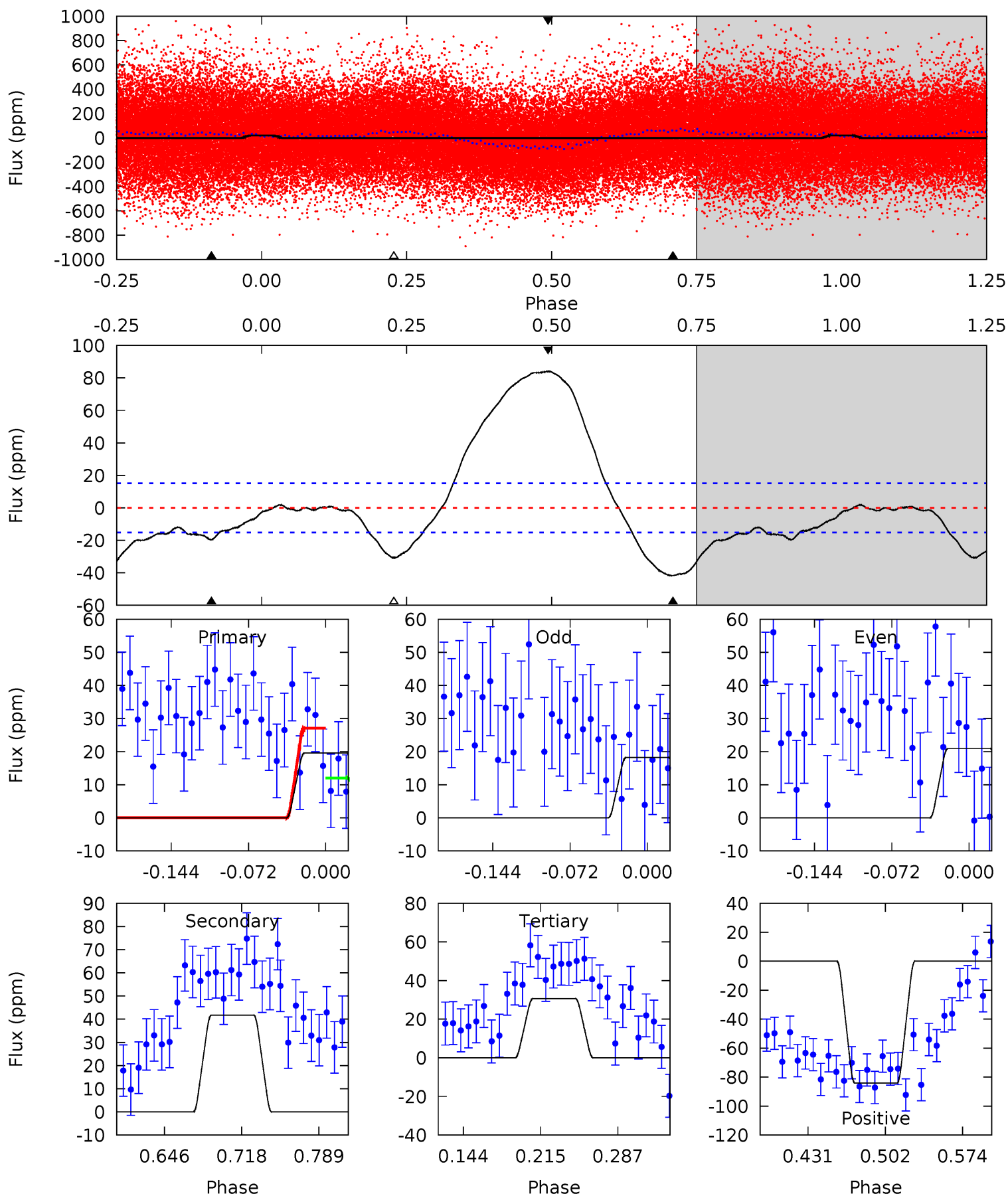
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012157358-01, P = 1.641346 Days, E = 132.927991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.98	12.8	9.37	25.7	4.63	1.80	11.2	-3.38	-19.7	3.38	-12.9	0.41	1.14	0.67	2.30



Stellar Parameters For KIC 012157358

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6749^{+185}_{-301}	$4.187^{+0.105}_{-0.210}$	$0.360^{+0.100}_{-0.350}$	$1.646^{+0.542}_{-0.292}$	$1.520^{+0.203}_{-0.223}$	$0.480^{+0.242}_{-0.257}$
	+3%/-4%	+3%/-5%	+28%/-97%	+33%/-18%	+13%/-15%	+50%/-54%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012157358-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.66^{+13.28}_{-9.74}$	3039^{+235}_{-172}	4993^{+27579}_{-35880}	$3.806^{+528.110}_{-493.366}$
Alt.	-42 ± 3	$13.65^{+13.70}_{-9.55}$	3042^{+236}_{-184}	-2847^{+6603}_{-257}	$0.120^{+1.138}_{-0.089}$

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

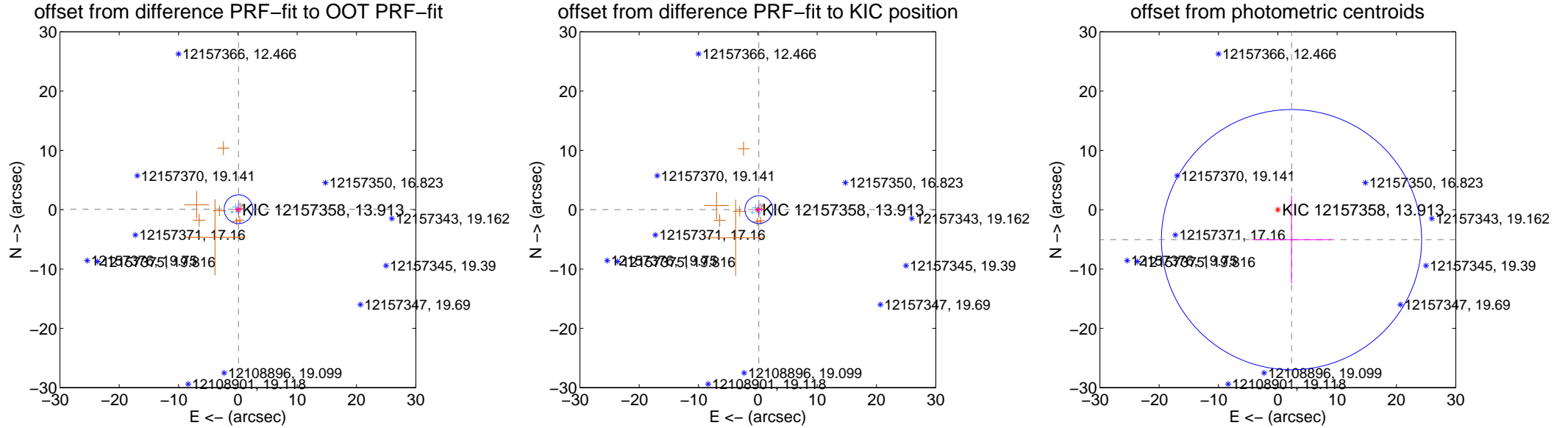
DV Centroid Data

Supplemental centroid analysis for 012157358-01. Kepler magnitude: 13.91. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

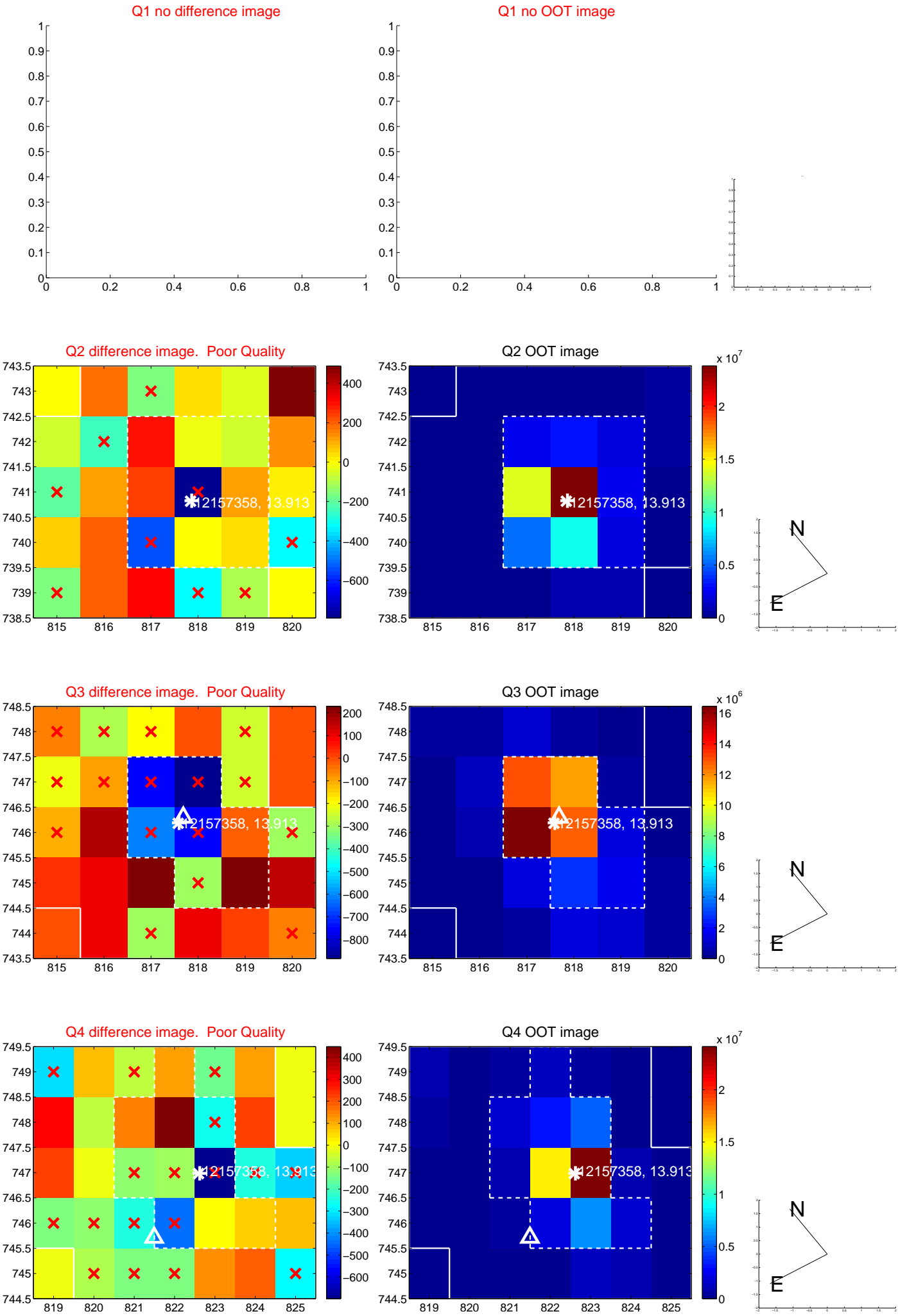
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.807	0.17	-0.105 ± 0.672	0.089 ± 0.894
PRF-fit source offset from KIC position	0.168 ± 0.782	0.22	-0.167 ± 0.774	0.016 ± 0.921
photometric centroid source offset	5.55 ± 7.31	0.76	-2.31 ± 6.74	-5.05 ± 7.43

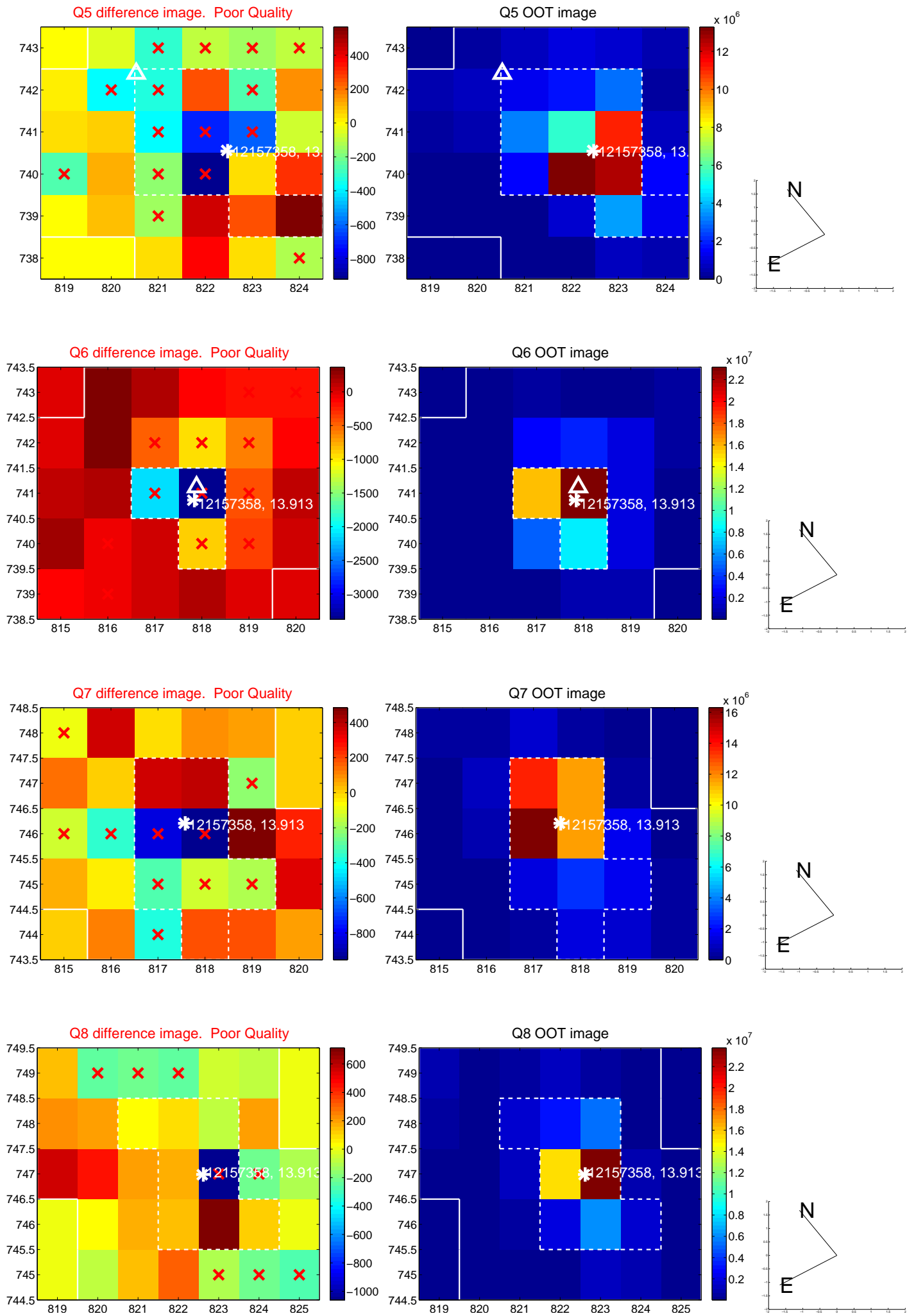


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

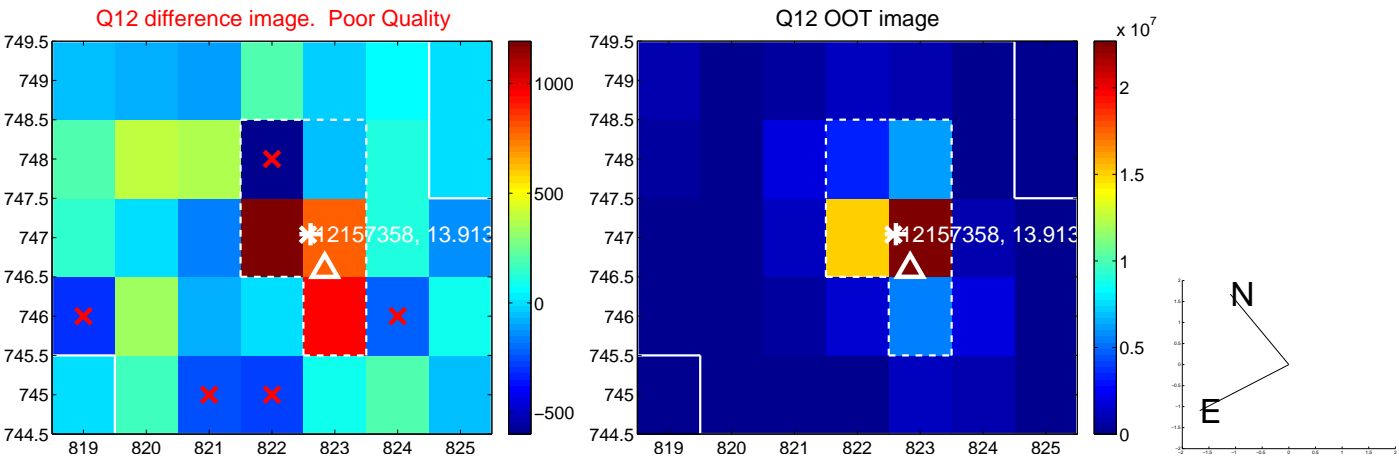
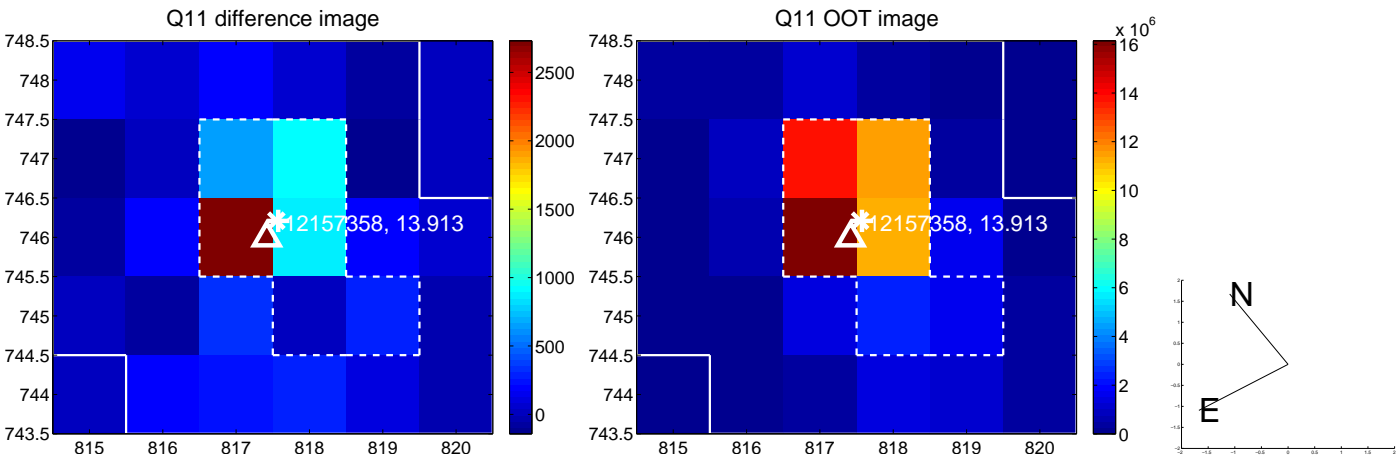
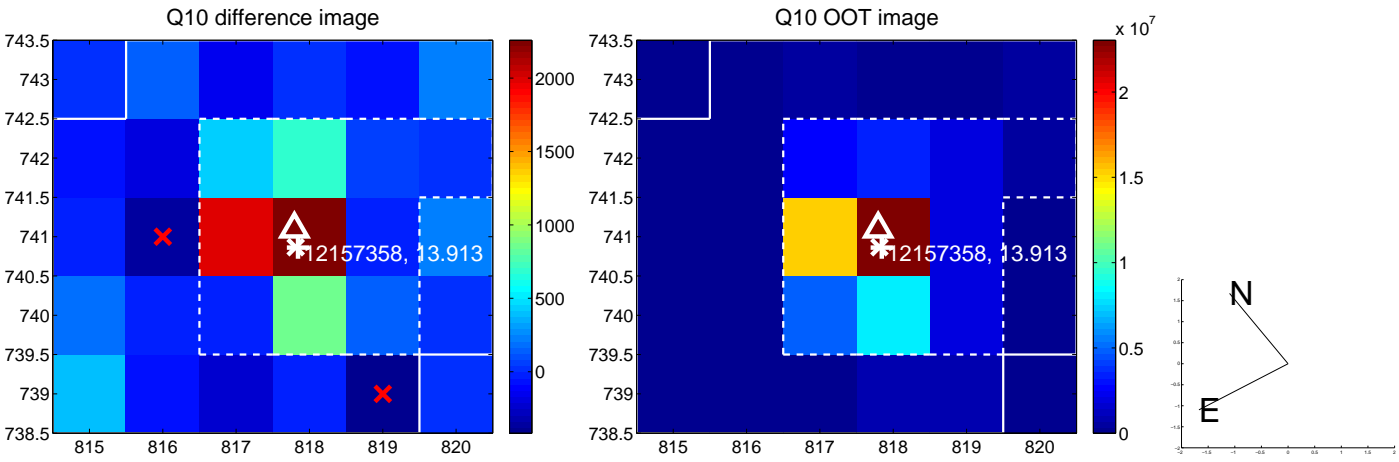
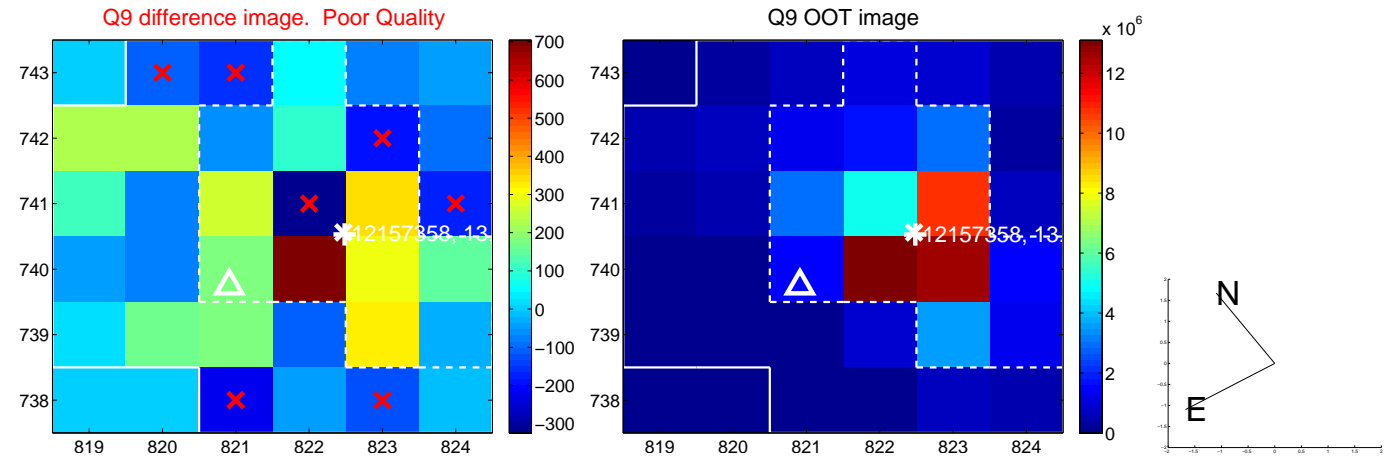
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



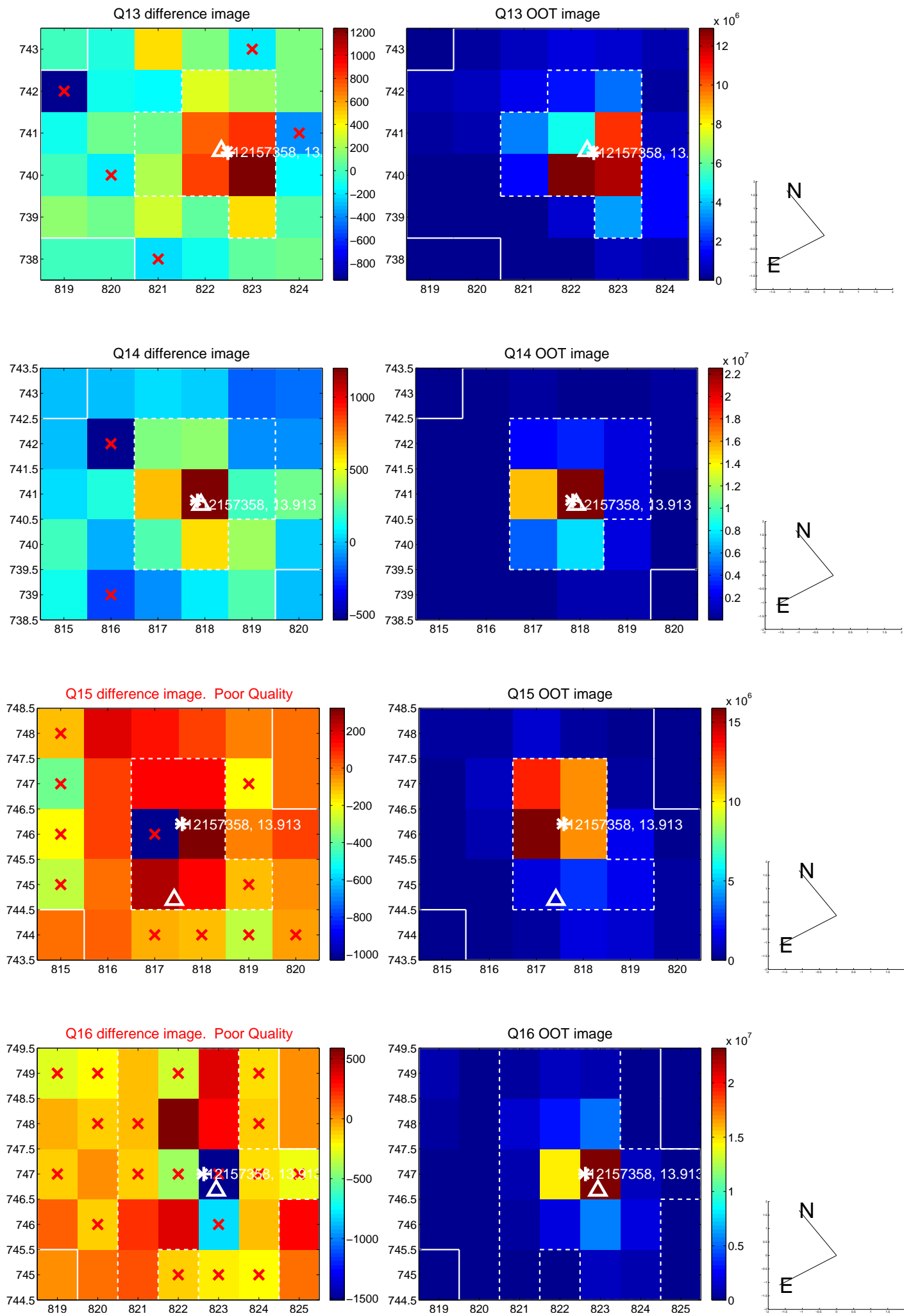
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



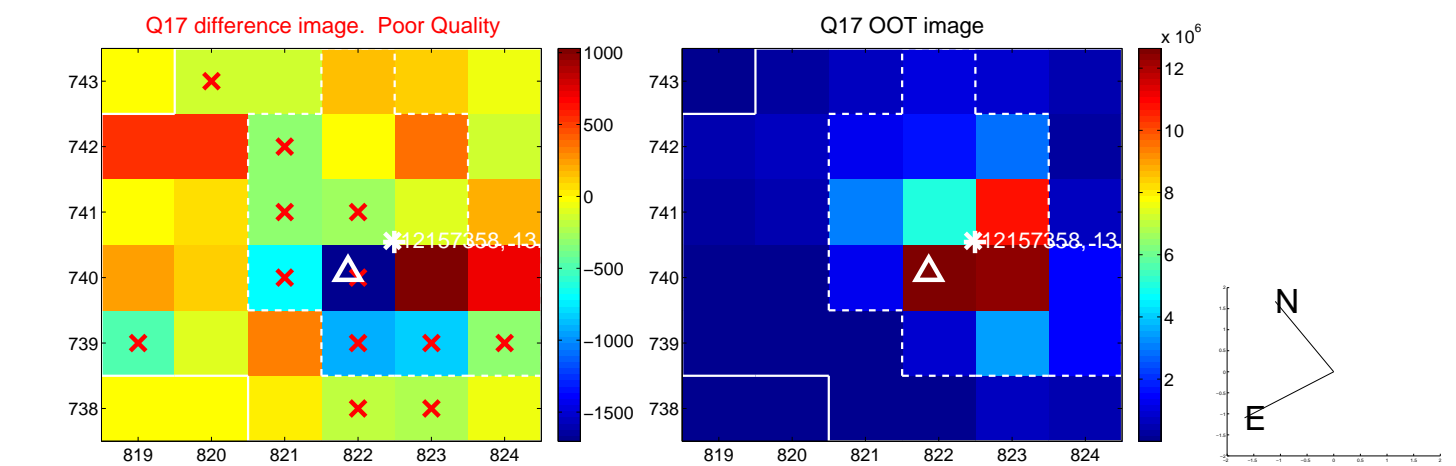
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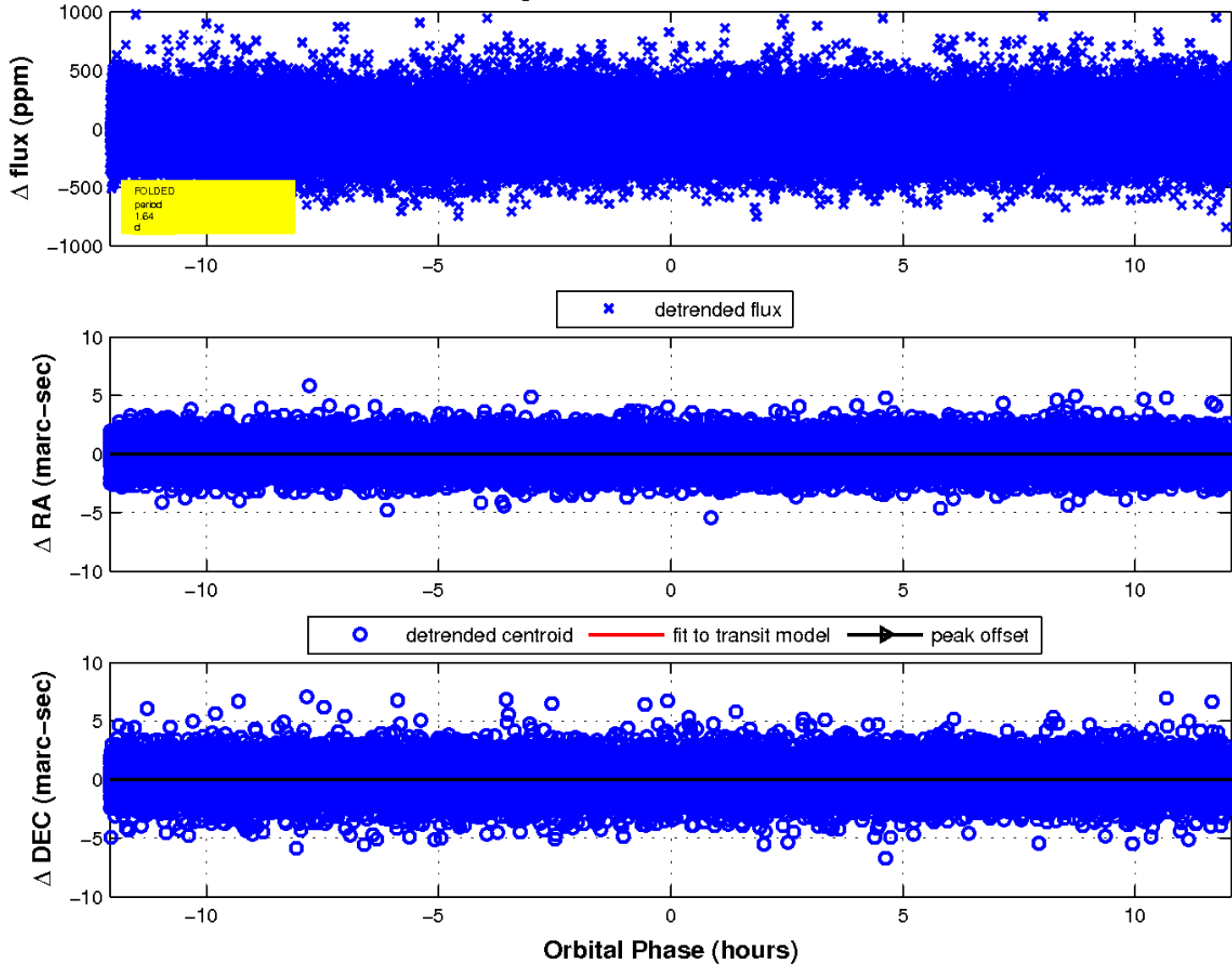
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

