

KIC 008456728

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})
008456728-01	OBS	No	0.719186	131.837688	56.6	2.073	13.0	8.8	1.14	6760	1.00	9088.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008456728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

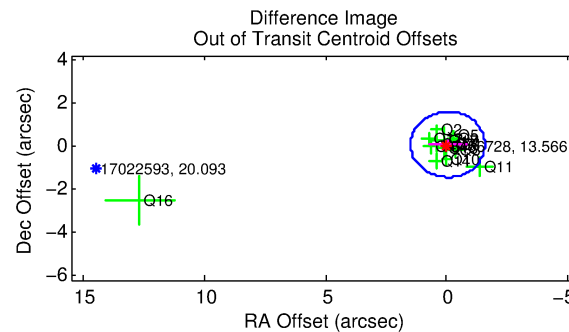
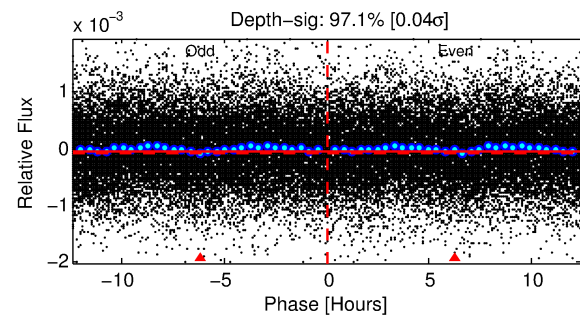
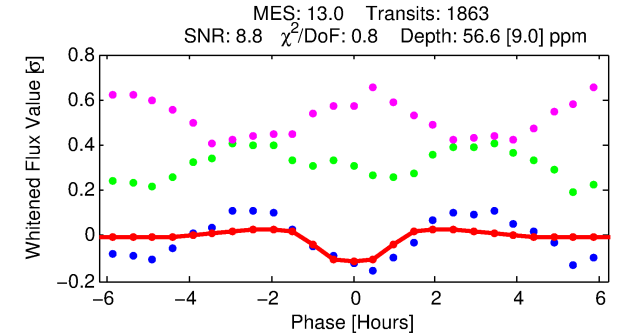
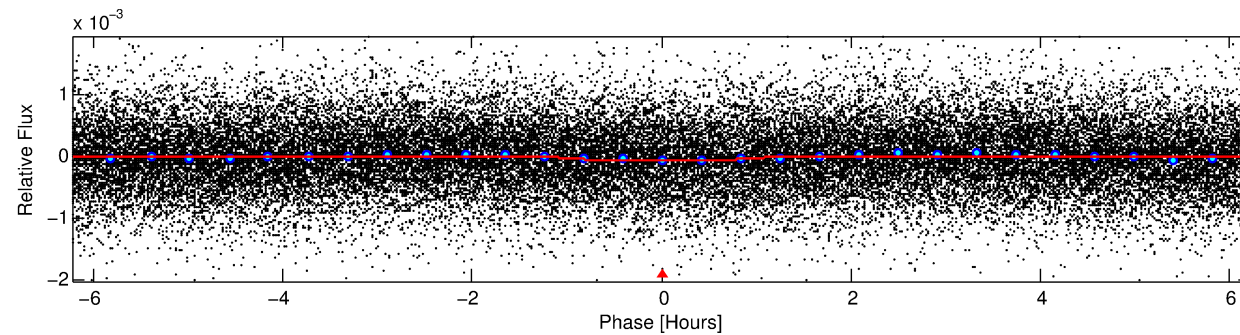
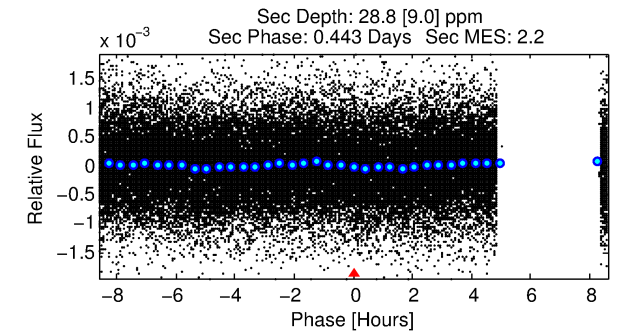
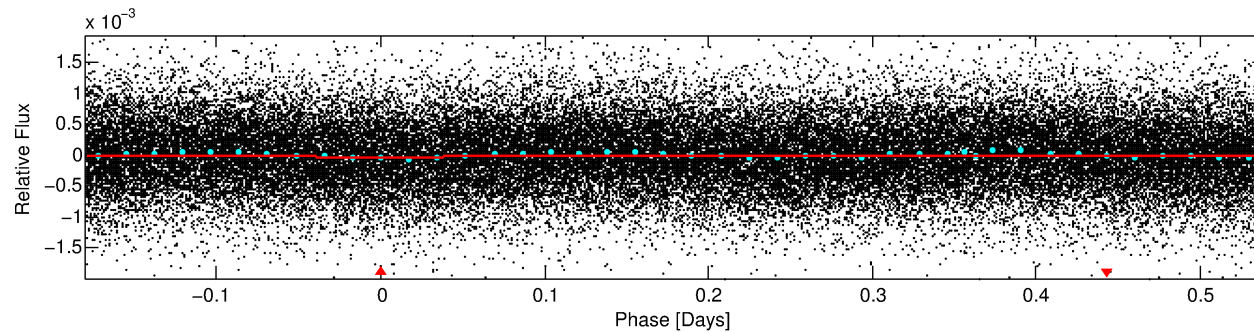
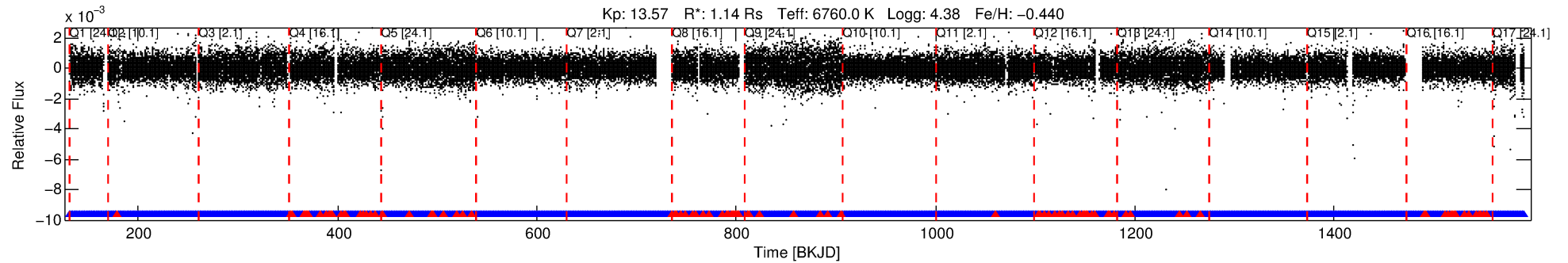
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008456728-01

No Significant Match Found

DV One-Page Summary

KIC: 8456728 Candidate: 1 of 1 Period: 0.719 d



DV Fit Results:

Period = 0.71919 [0.00001] d
Epoch = 131.8377 [0.0030] BKJD
Rp/R* = 0.0080 [0.0044]
a/R* = 1.55 [3.01]
b = 0.89 [0.76]
Seff = 9088.88 [3610.27]
Teq = 2490 [247] K
Rp = 1.00 [0.63] Re
a = 0.0164 [0.0042] AU
Ag = 4.29 [5.18] [0.63σ]
Teffp = 5540 [1605] K [1.88σ]

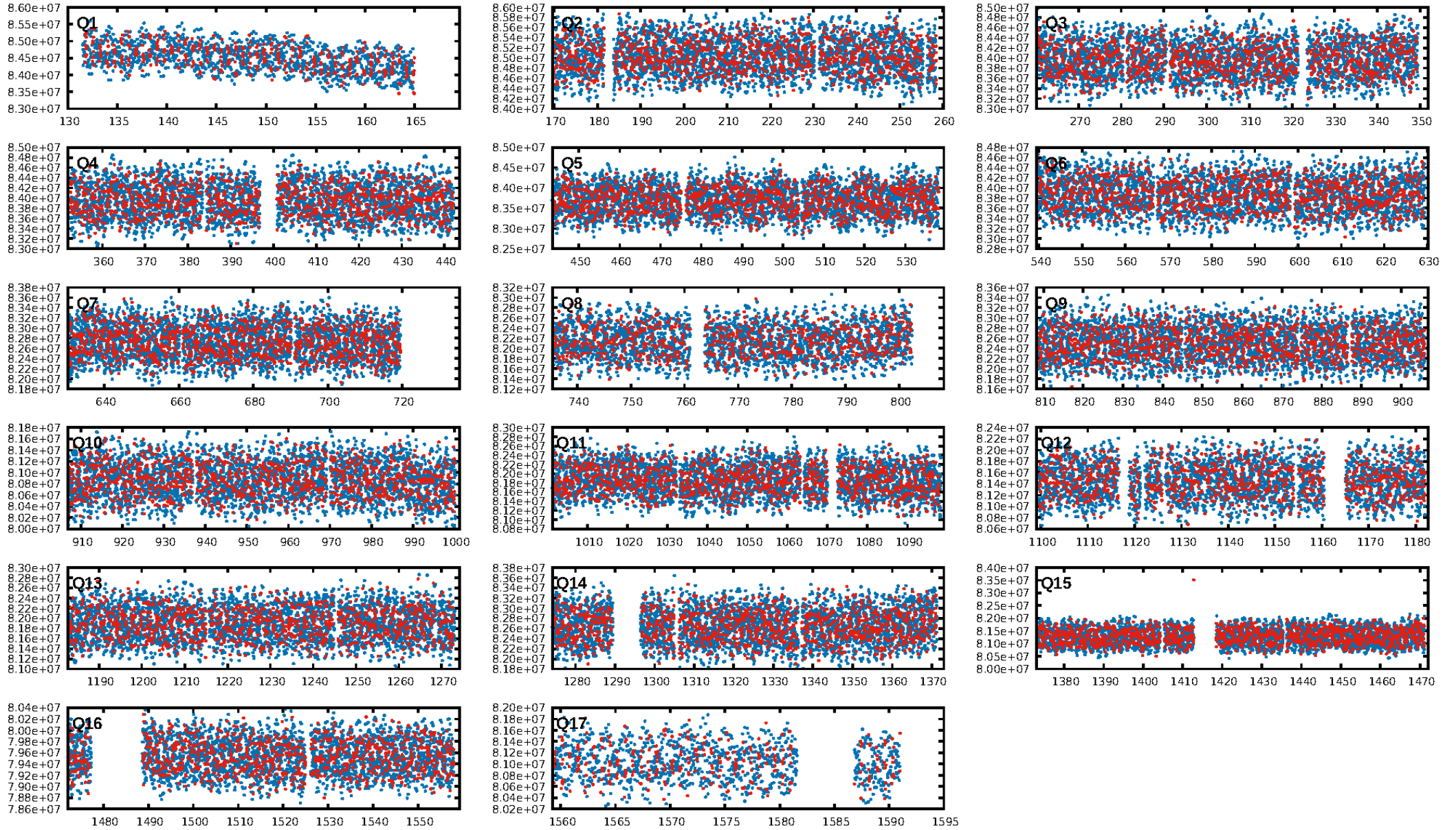
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.69e-40
RollingBand-fgt: 0.95 [1683/1780]
GhostDiagnostic-chr: 1.167
Centroid-sig: 43.1%
Centroid-so: 0.341 arcsec [0.58σ]
OotOffset-rm: 0.094 arcsec [0.18σ]
KicOffset-rm: 0.127 arcsec [0.23σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.87 [13/15]
DiffImageOverlap-fno: 1.00 [17/17]

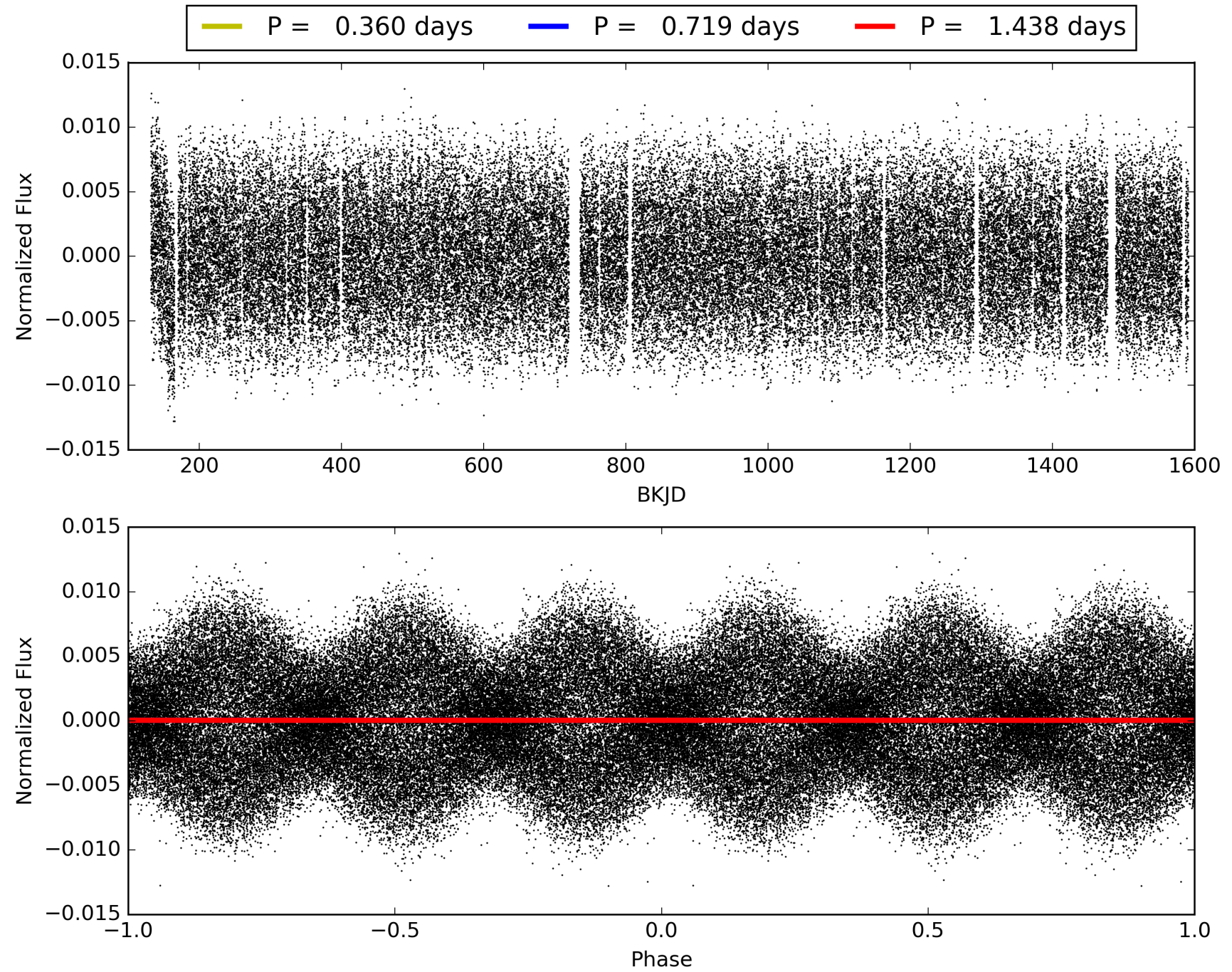
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:39:27 Z

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

TCE 008456728-01, PDC Light Curves

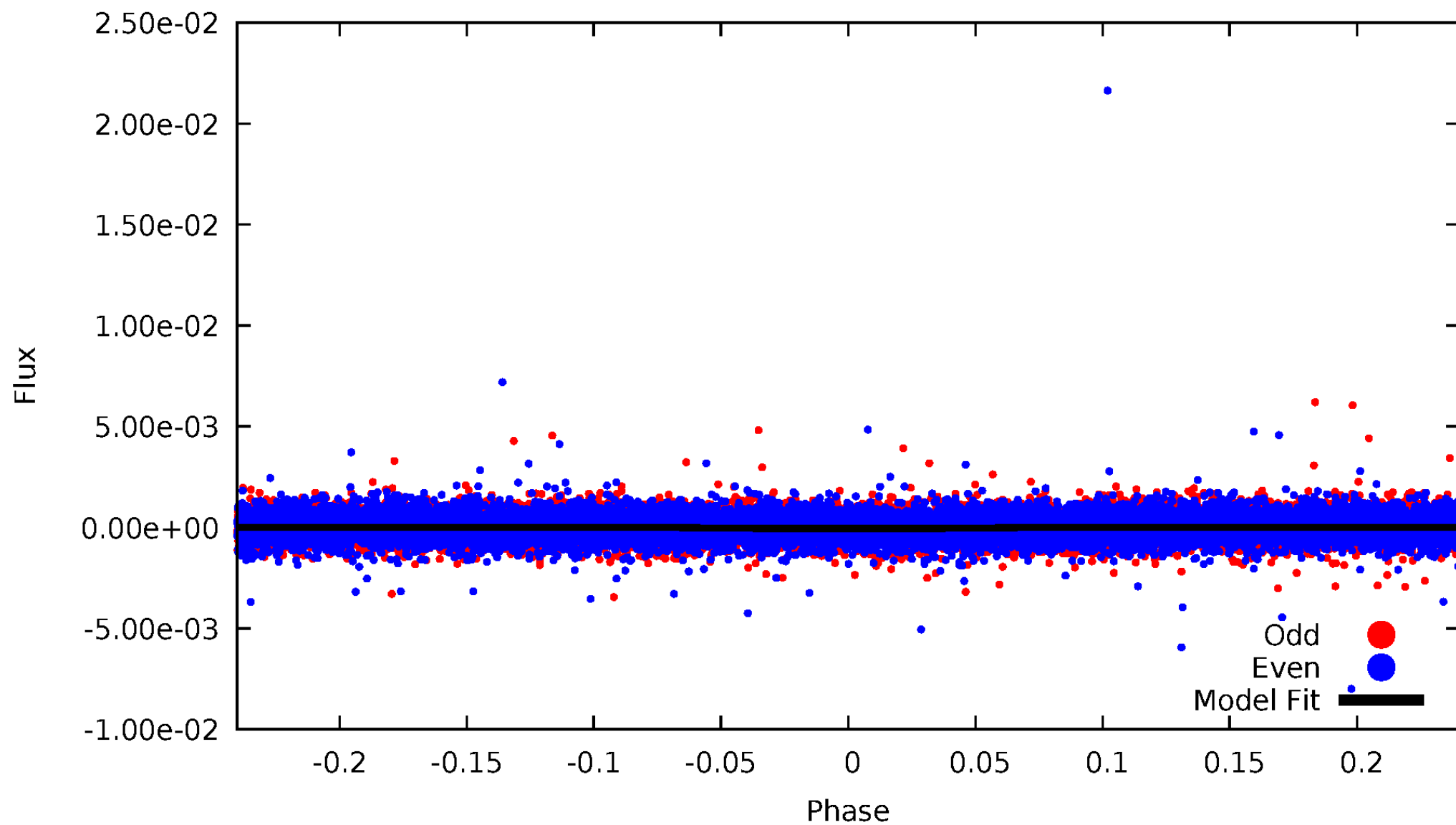


TCE 008456728-01



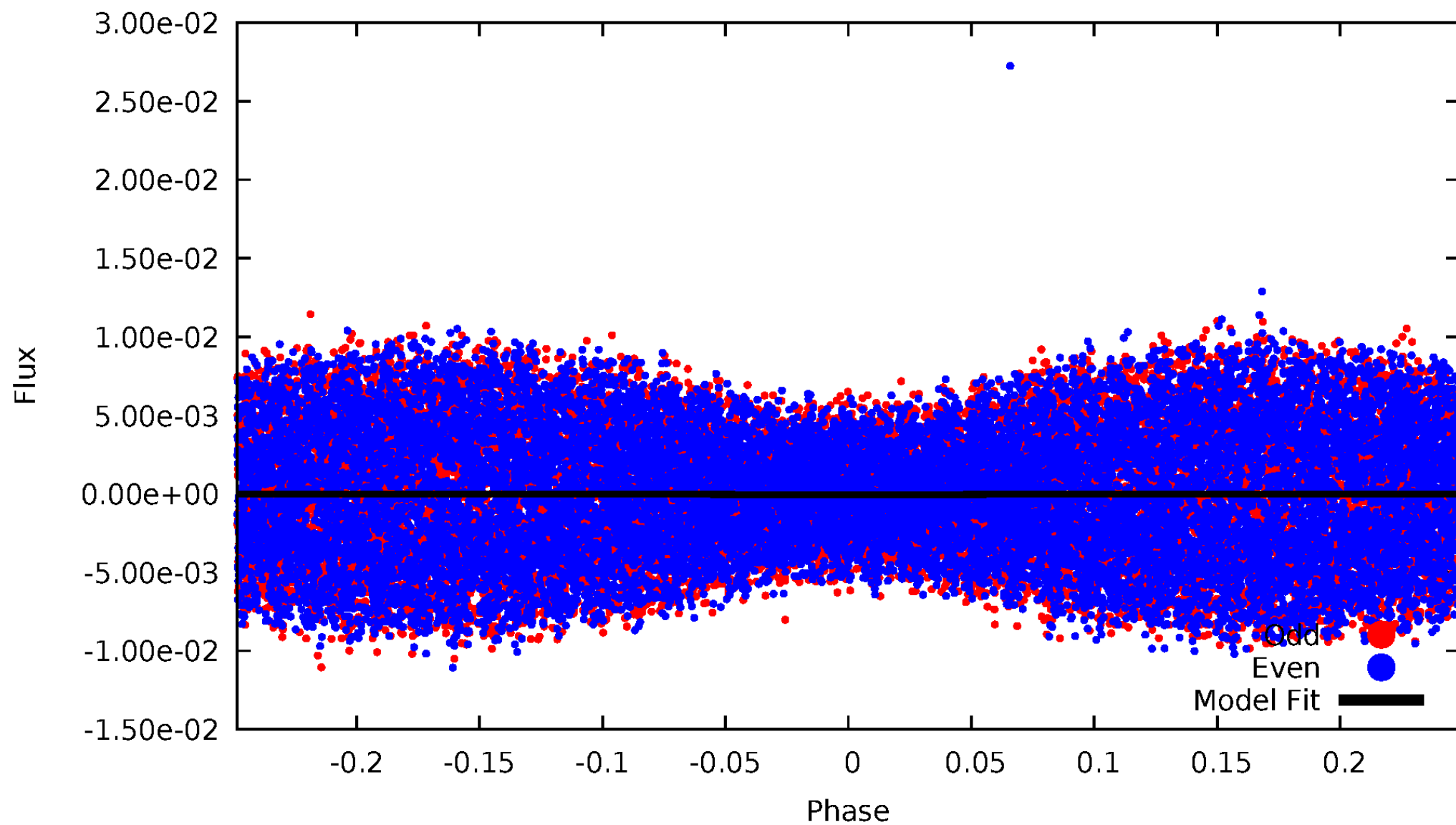
DV Odd/Even

TCE 008456728-01



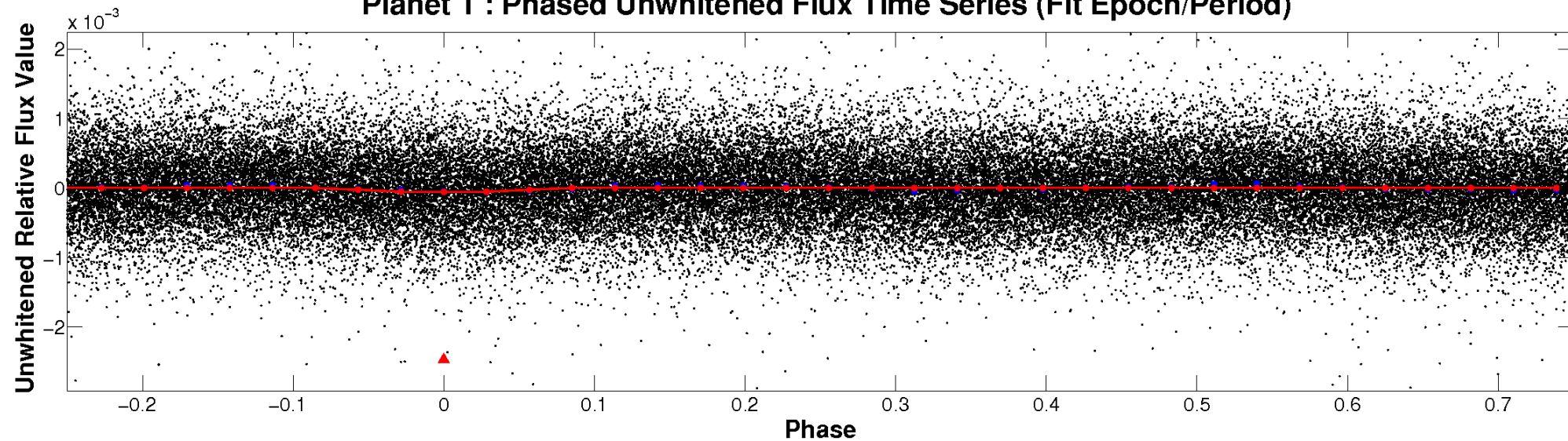
ALT Odd/Even

TCE 008456728-01

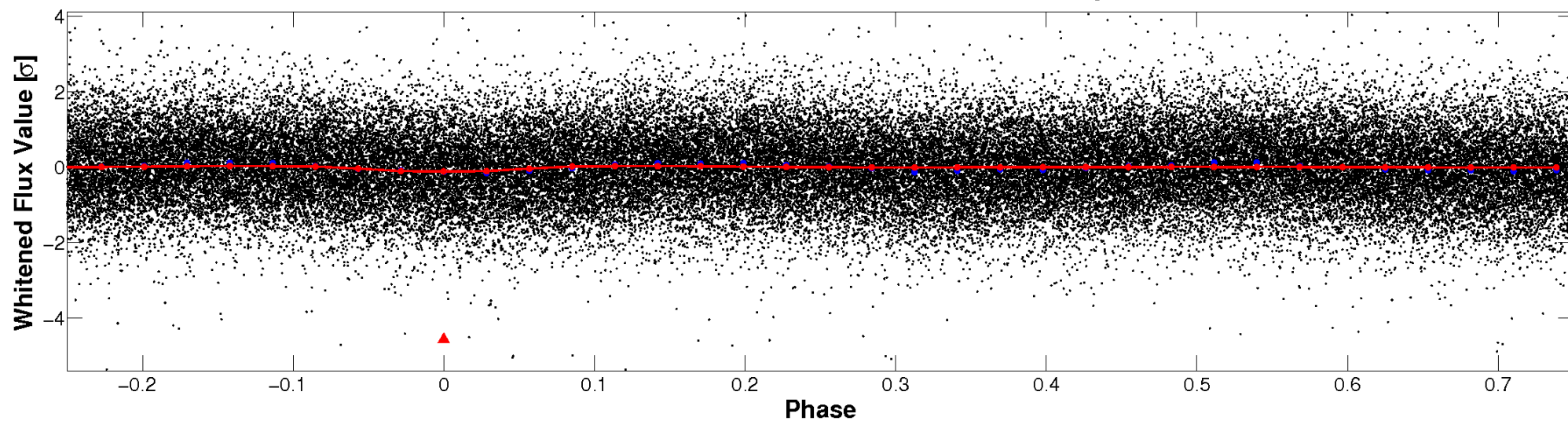


Non-Whitened Vs. Whitened Light Curve

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

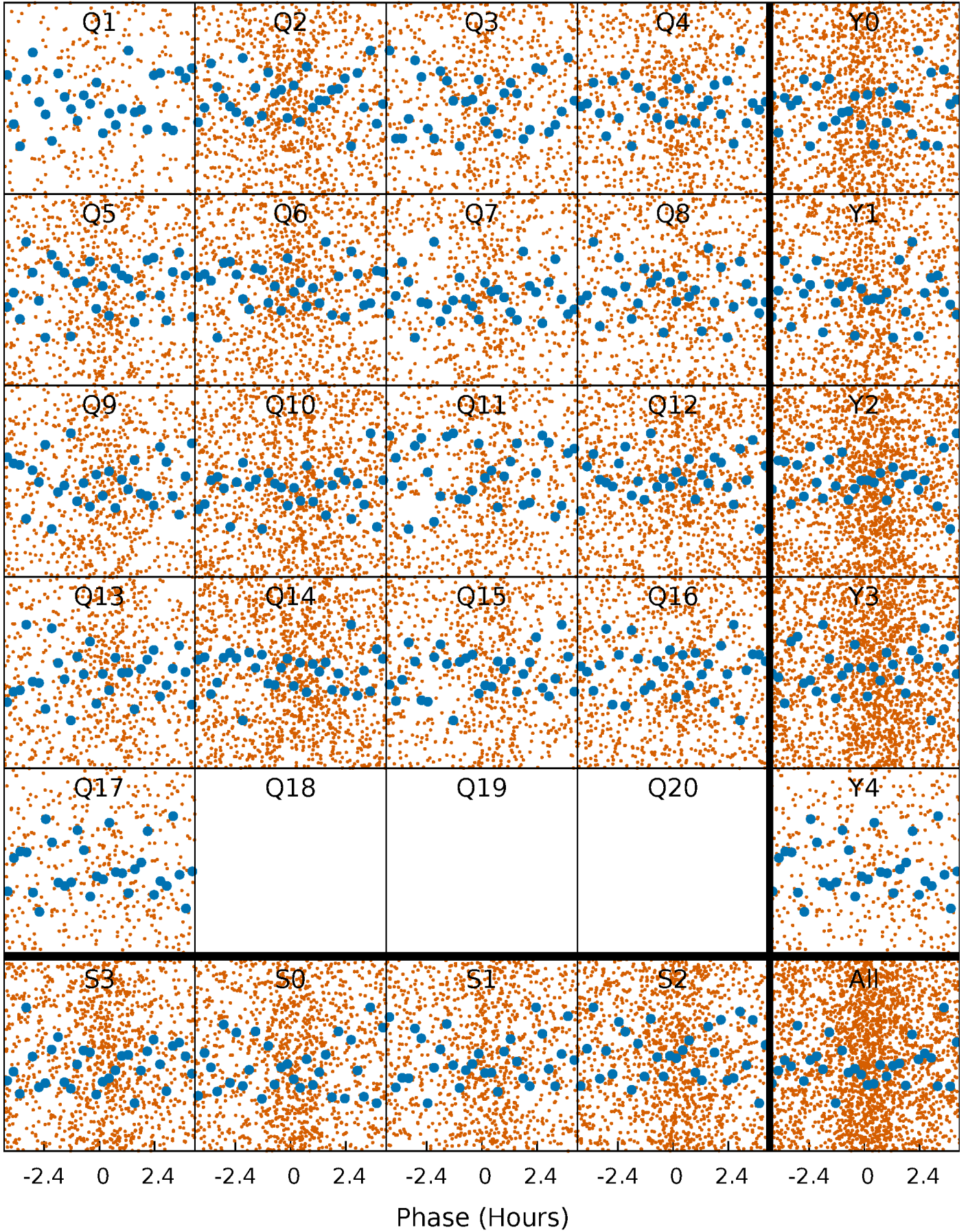


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



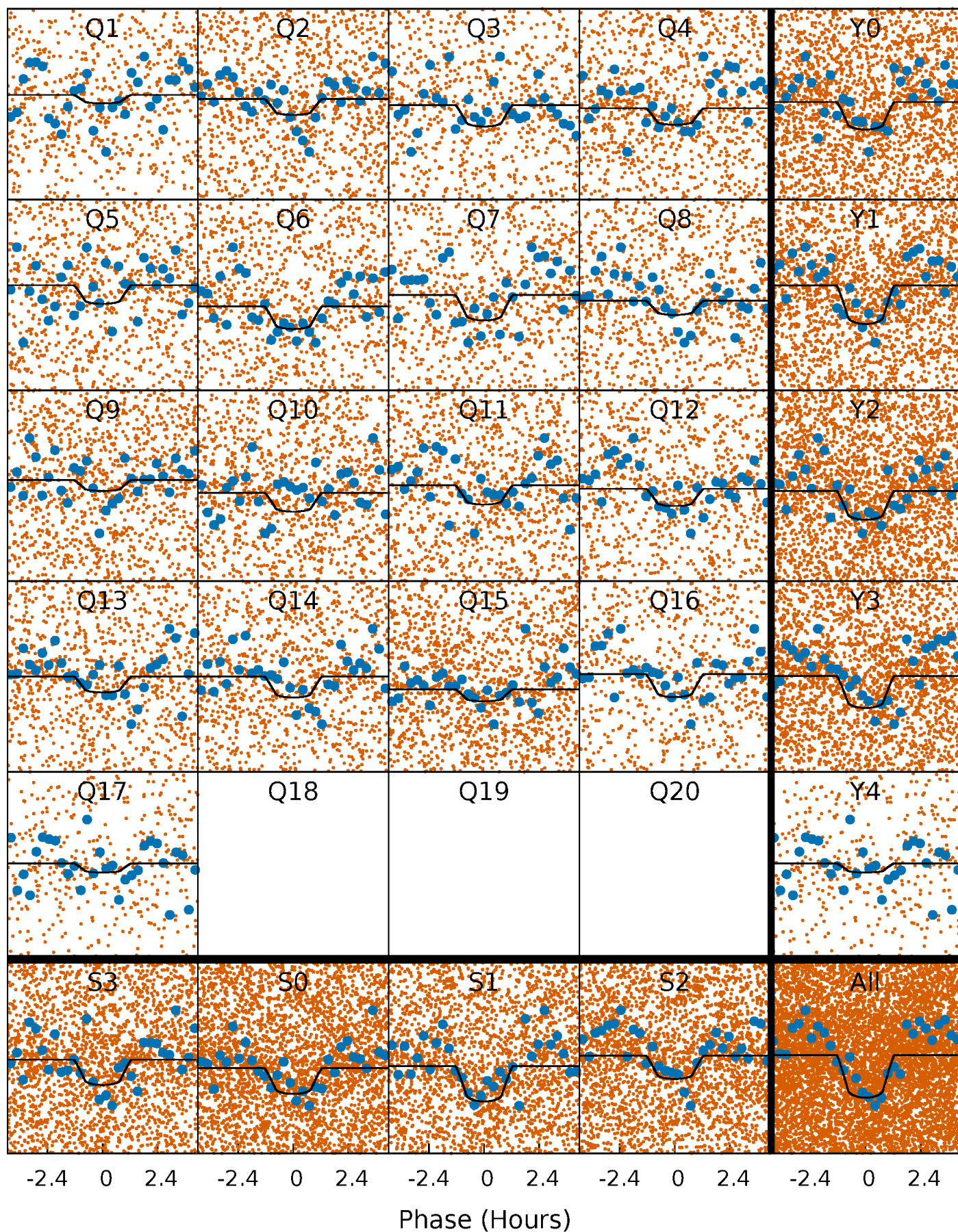
PDC Quarter-Phased Transit Curves

TCE 008456728-01 P= 0.719186 Days $T_0=131.837688$ (BKJD)



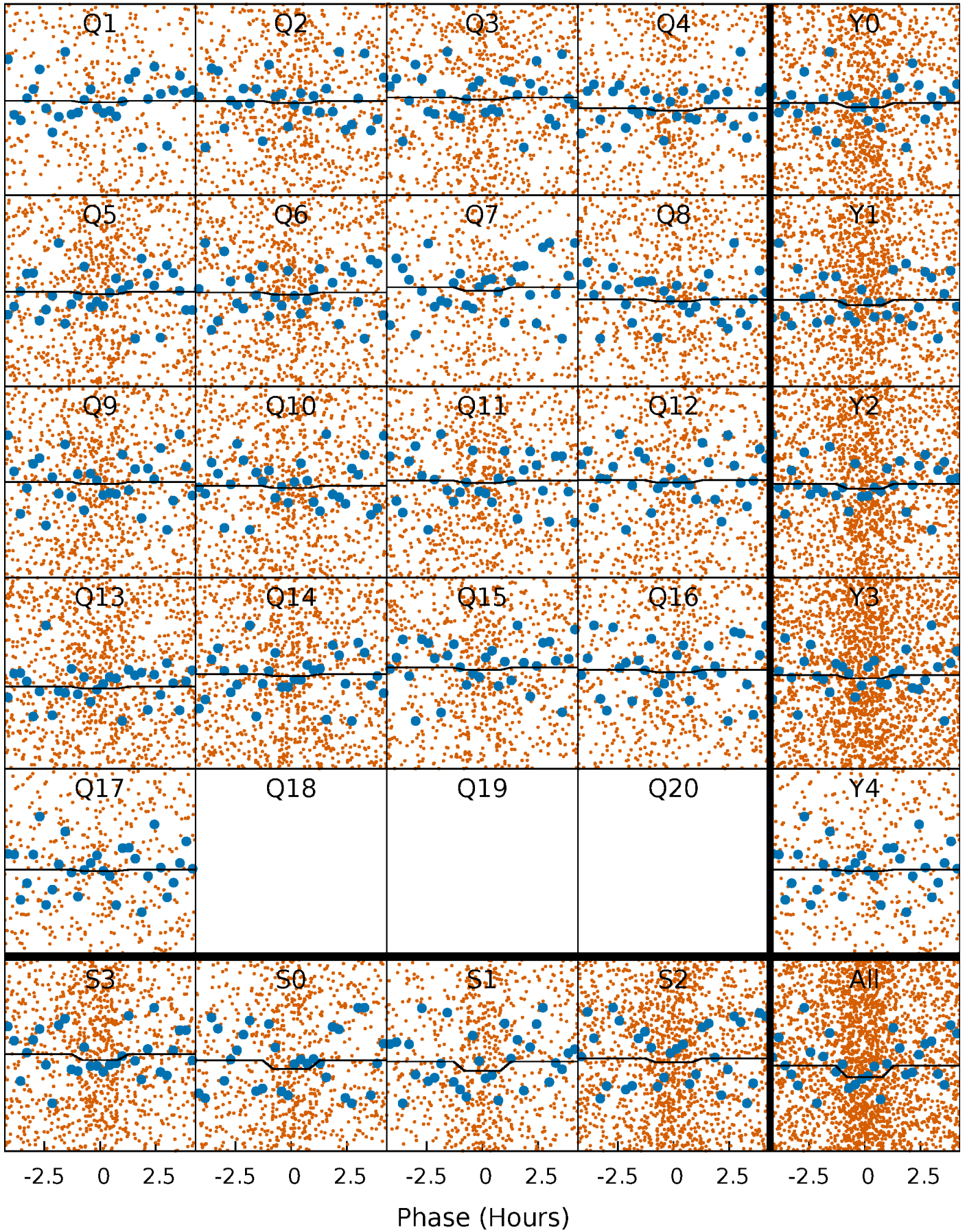
DV Quarter-Phased Transit Curves

TCE 008456728-01 P= 0.719186 Days $T_0=131.837688$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

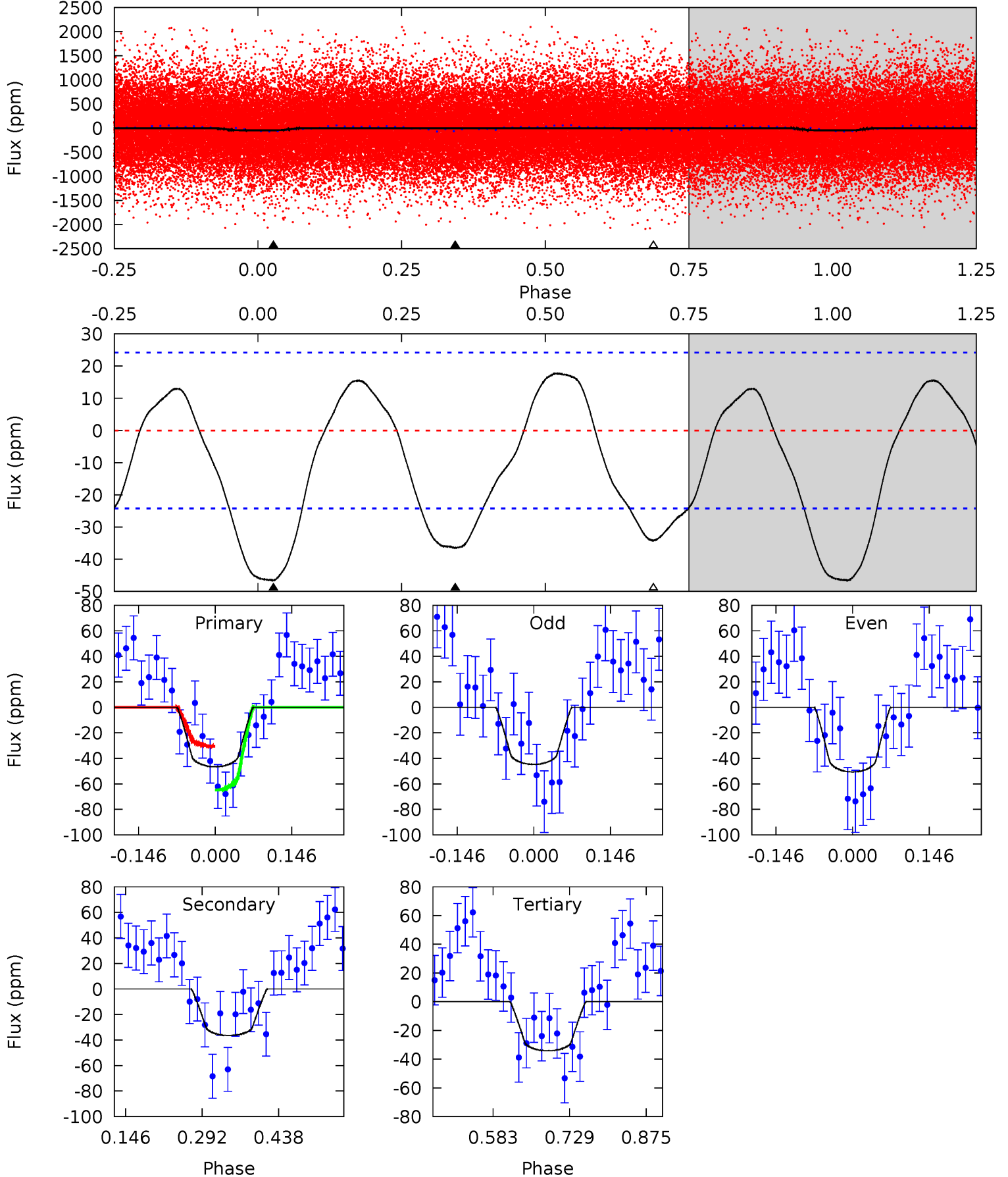
TCE 008456728-01 P= 0.719201 Days $T_0=131.836824$ (BKJD)



DV Model-Shift Uniqueness Test

008456728-01, P = 0.719186 Days, E = 131.118502 Days

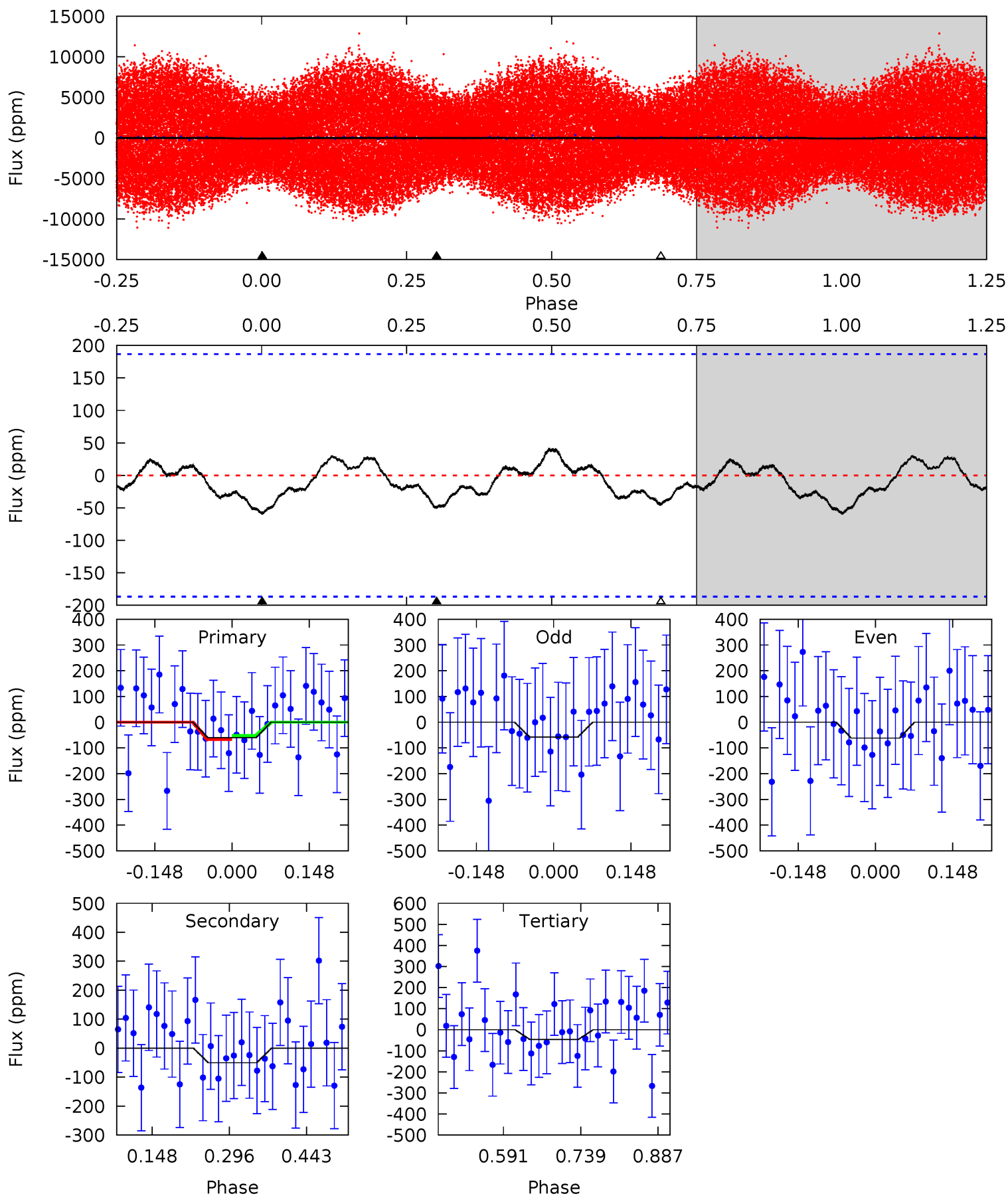
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.63	6.76	6.34	0	4.48	1.45	3.44	2.30	8.63	0.42	6.76	0.55	1.15	0.28	3.22



Alt Model-Shift Uniqueness Test

008456728-01, P = 0.719201 Days, E = 131.117623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.43	1.21	1.11	0	4.48	1.45	0.53	0.33	1.43	0.10	1.21	0.05	1.02	0.41	0.24



Stellar Parameters For KIC 008456728

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6760^{+181}_{-242}	$4.378^{+0.067}_{-0.202}$	$-0.440^{+0.250}_{-0.300}$	$1.144^{+0.348}_{-0.124}$	$1.143^{+0.164}_{-0.148}$	$1.075^{+0.376}_{-0.537}$
	+3%/-4%	+2%/-5%	+57%/-68%	+30%/-11%	+14%/-13%	+35%/-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 008456728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-36 ± 5	$1.04^{+0.62}_{-0.51}$	3532^{+258}_{-173}	5712^{+2743}_{-1091}	$5.006^{+13.574}_{-3.131}$
Alt.	-50 ± 42	$0.98^{+0.59}_{-0.53}$	3542^{+230}_{-187}	6257^{+4119}_{-2507}	$6.636^{+25.801}_{-5.770}$

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

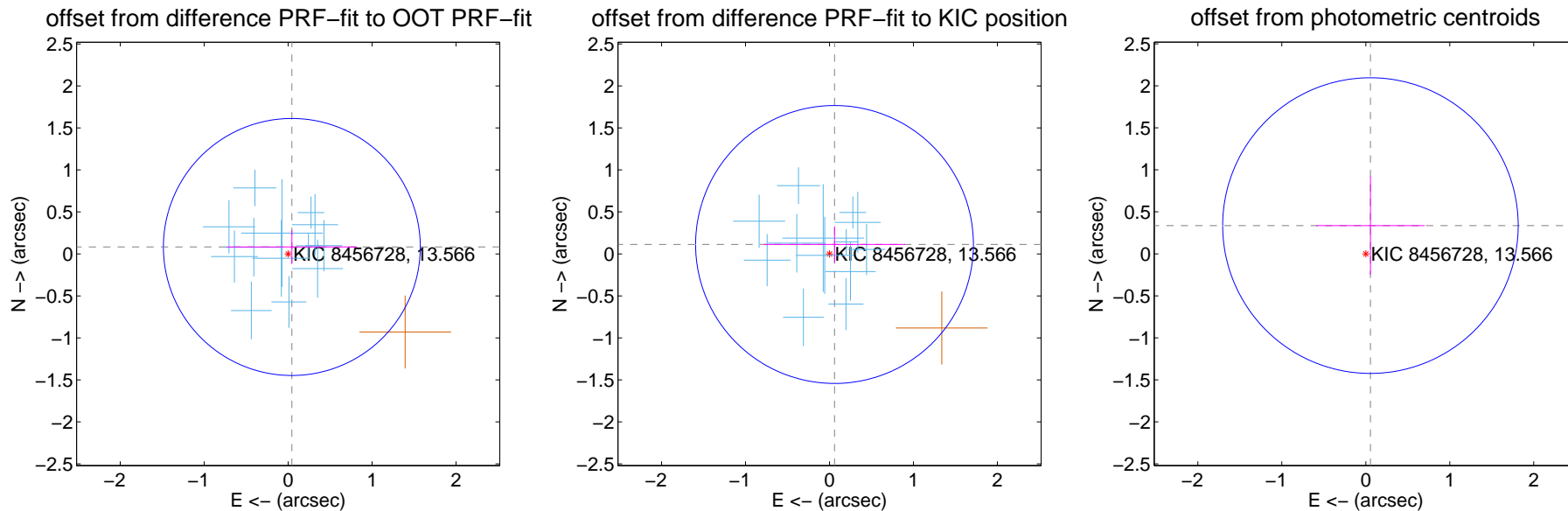
DV Centroid Data

Supplemental centroid analysis for 008456728-01. Kepler magnitude: 13.57. Transit SNR 8.79

There are 13 quarters with good PRF difference image offsets

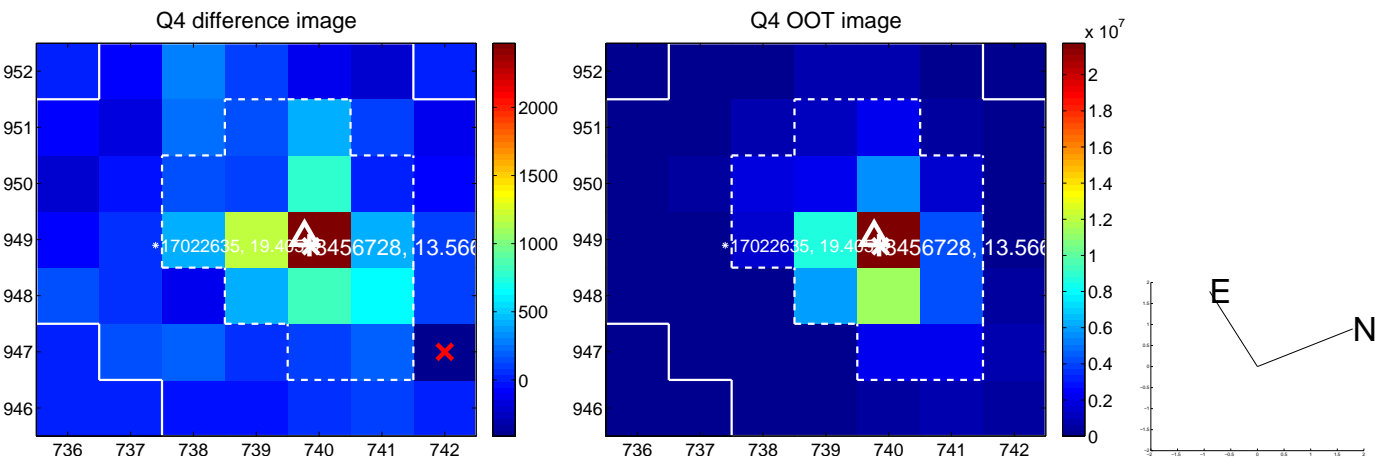
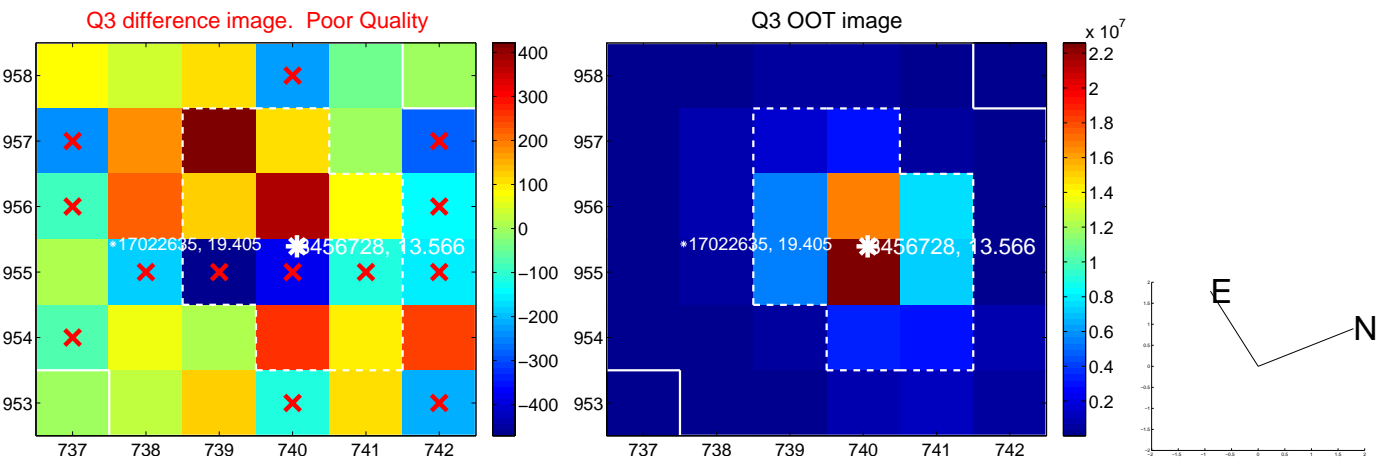
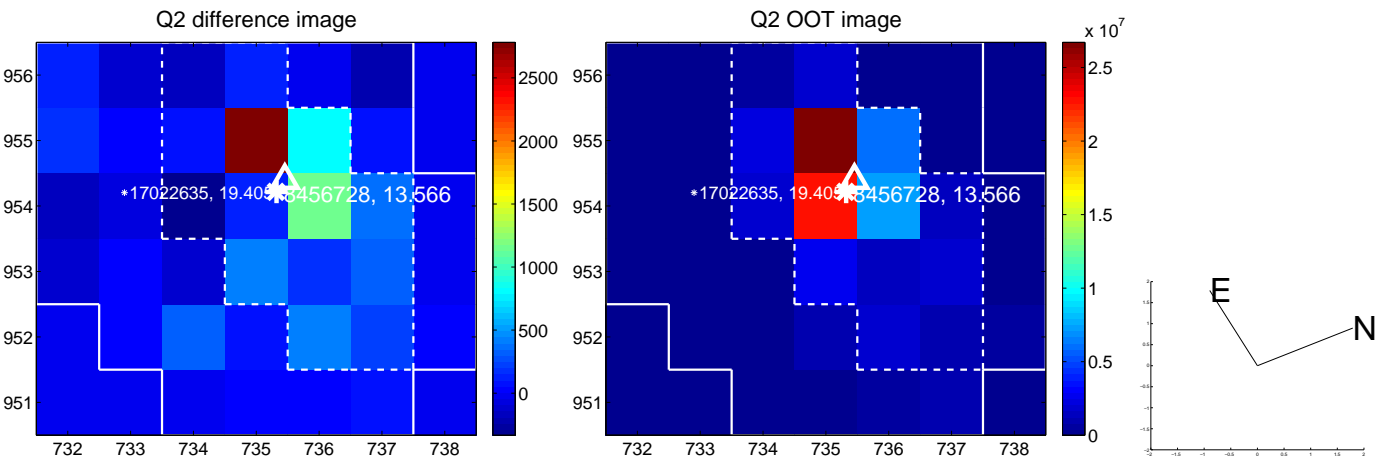
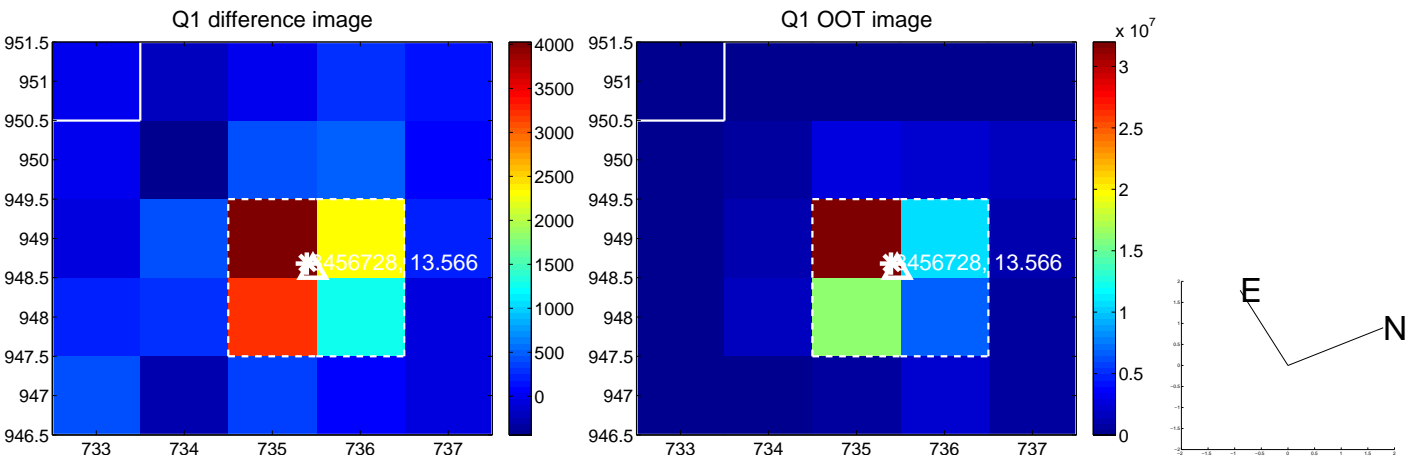
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.510	0.18	-0.044 ± 0.777	0.082 ± 0.200
PRF-fit source offset from KIC position	0.127 ± 0.552	0.23	-0.060 ± 0.842	0.112 ± 0.217
photometric centroid source offset	0.34 ± 0.59	0.58	-0.06 ± 0.65	0.34 ± 0.59

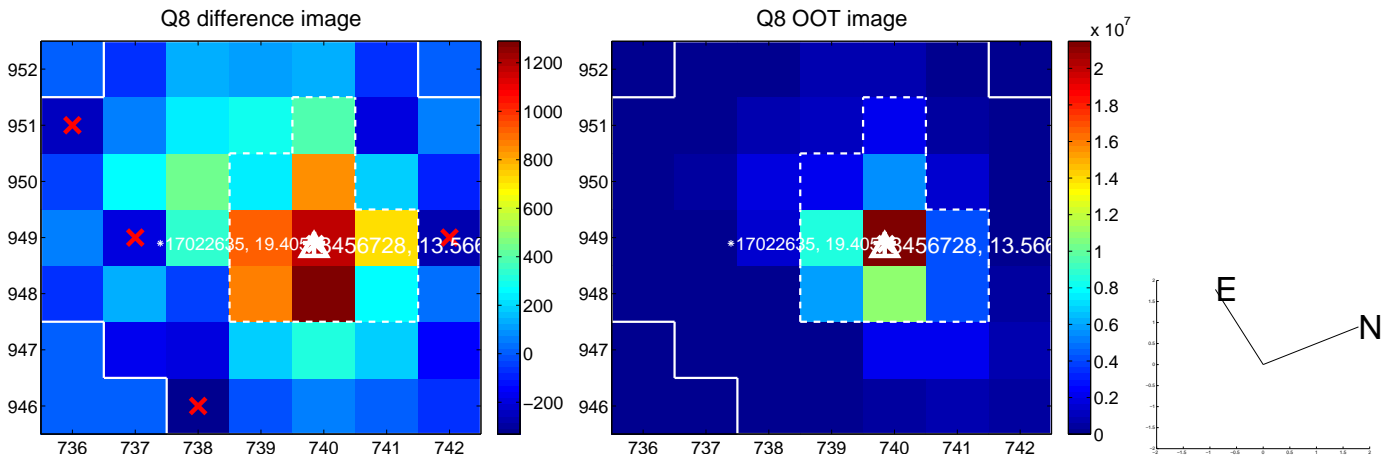
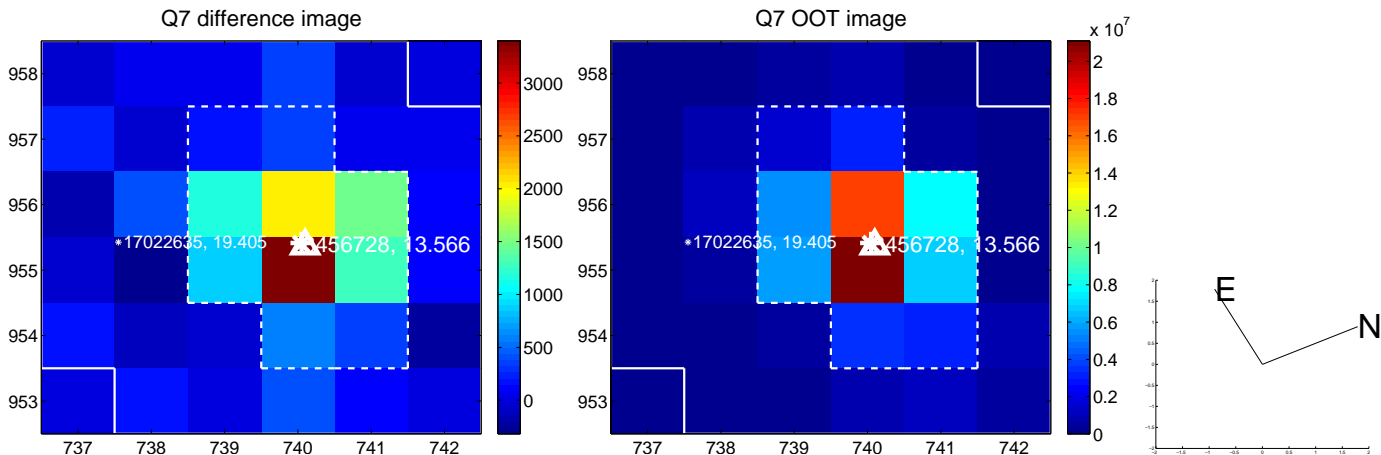
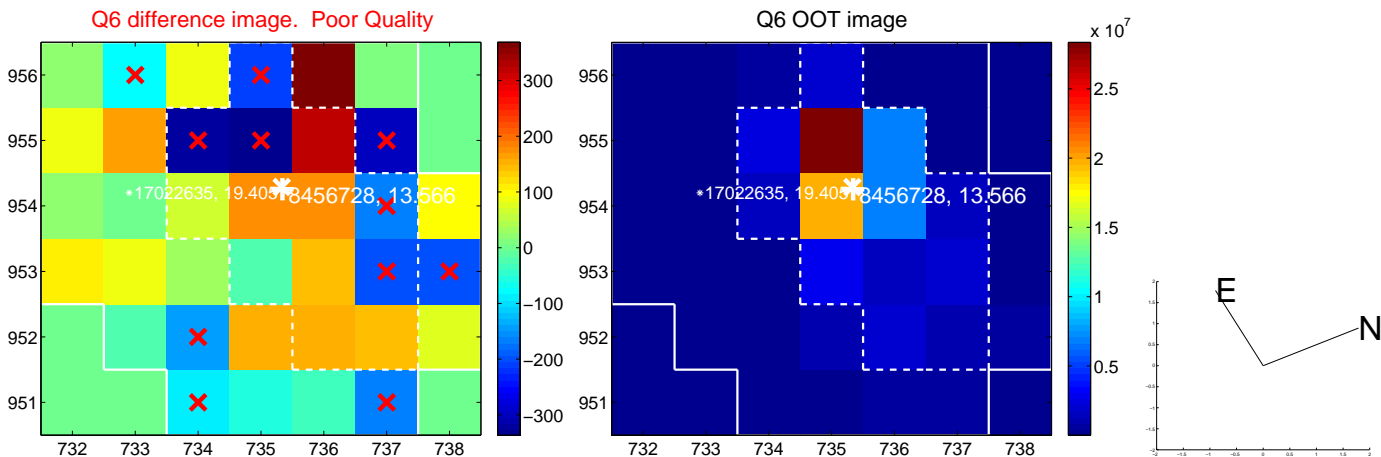
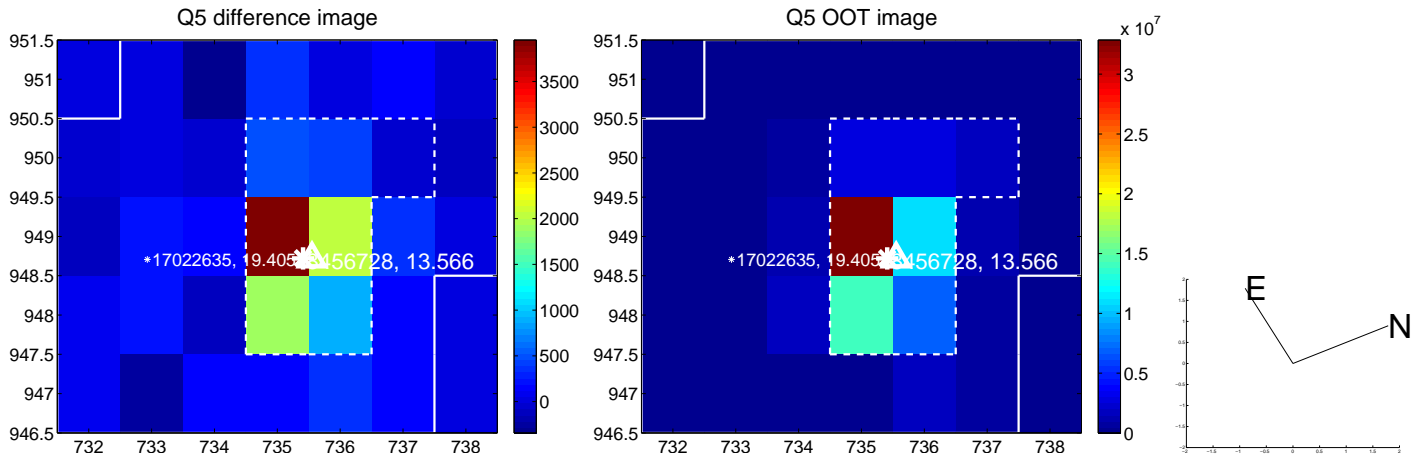


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

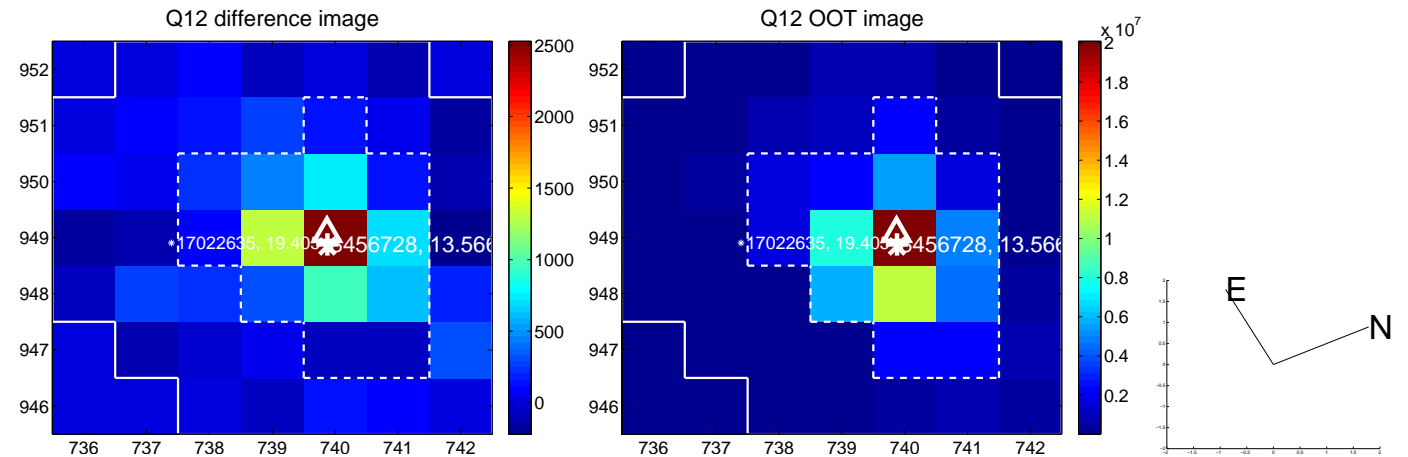
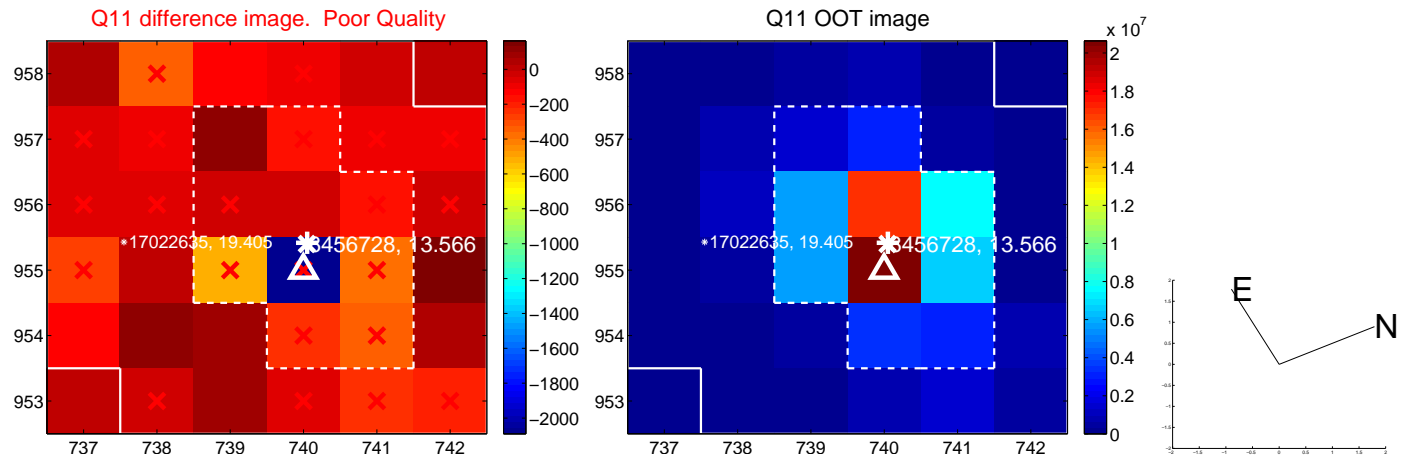
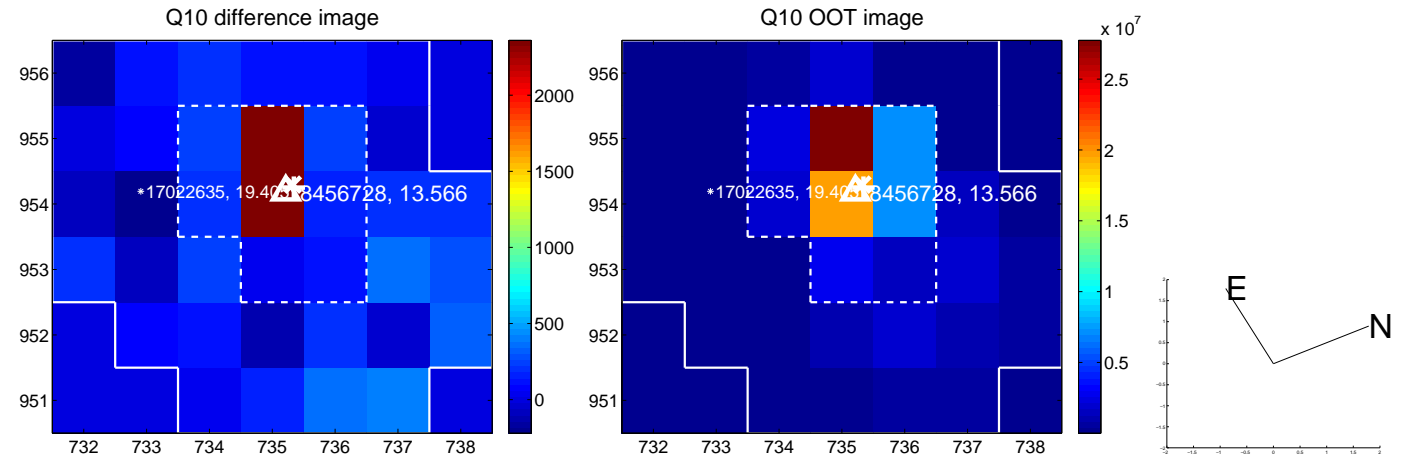
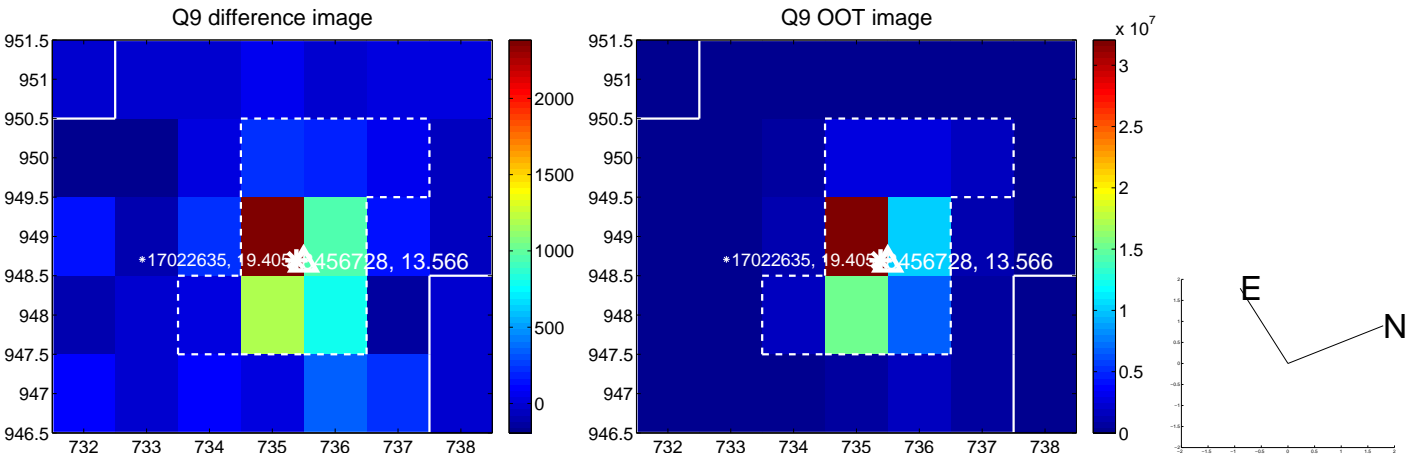
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



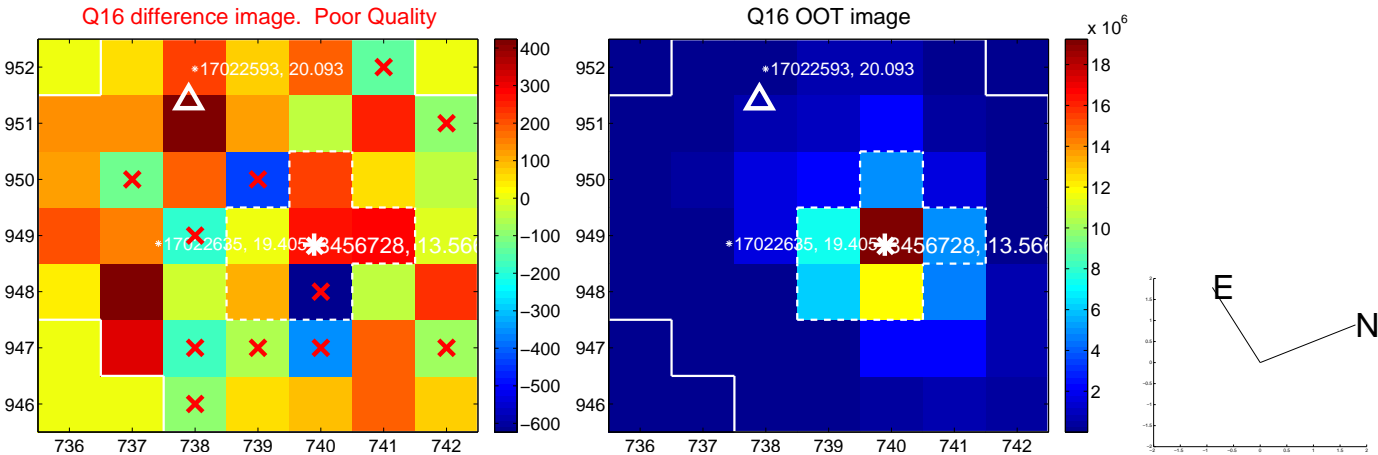
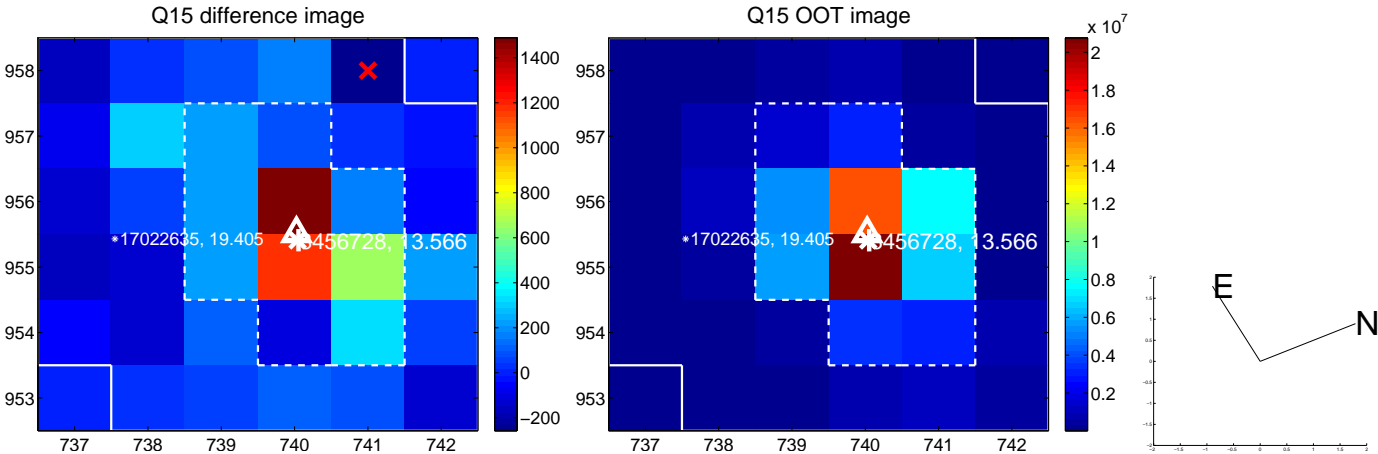
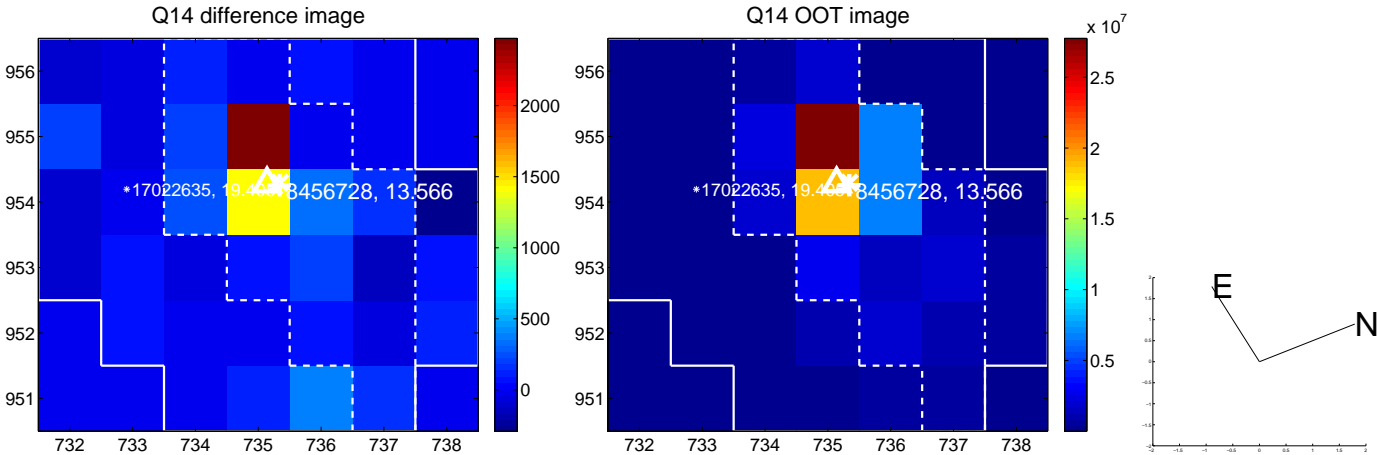
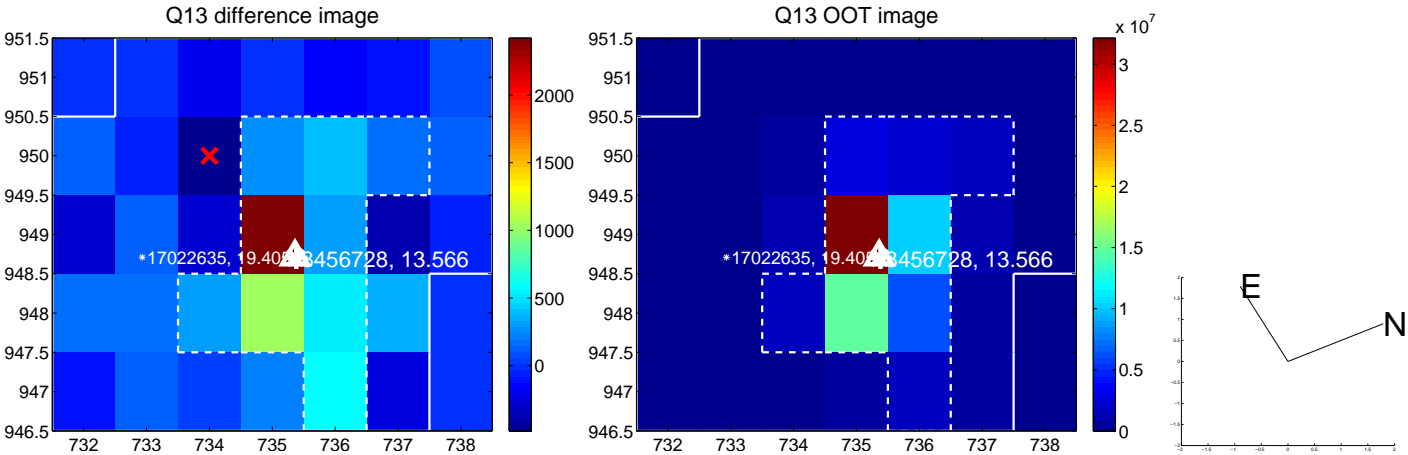
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



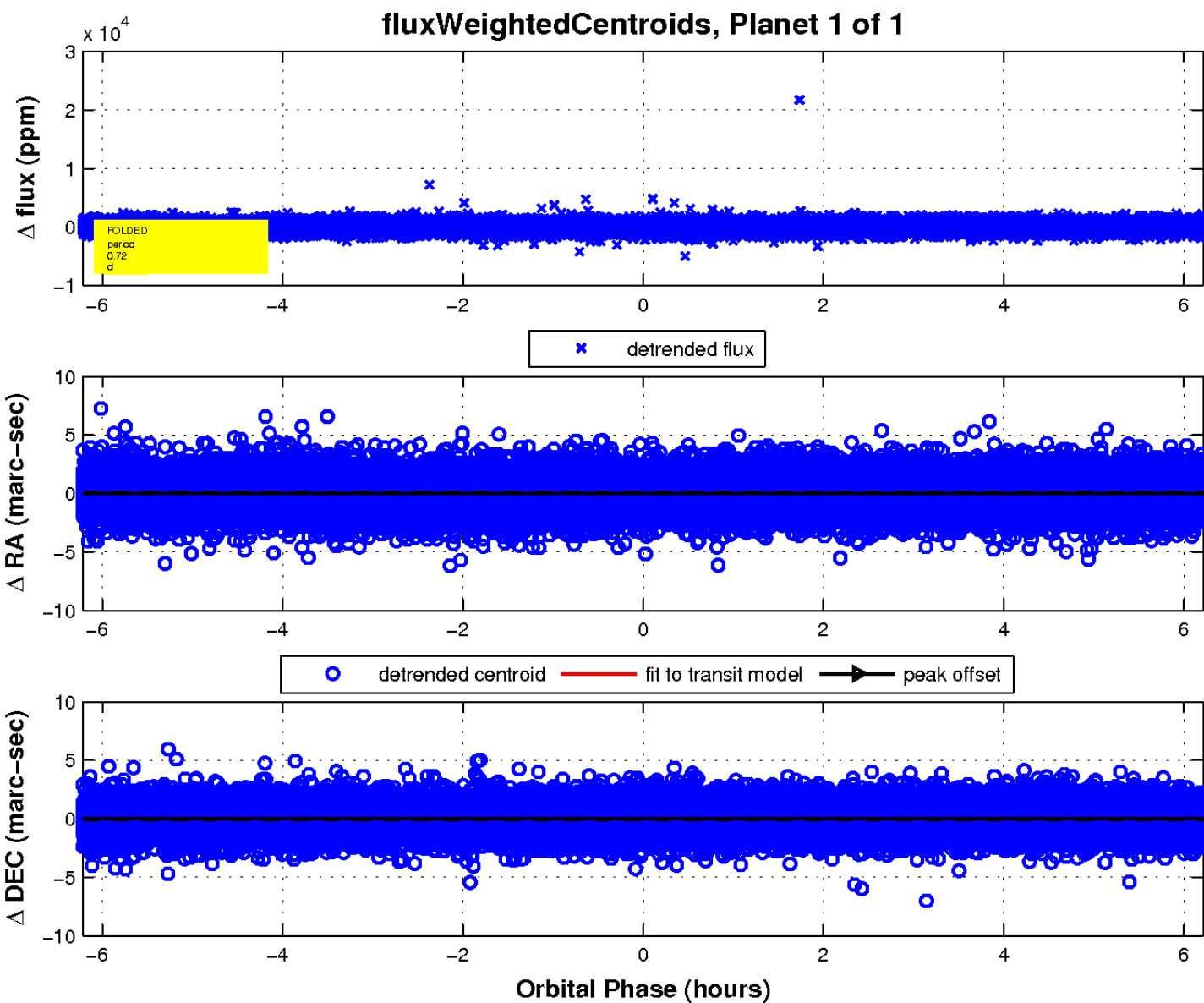
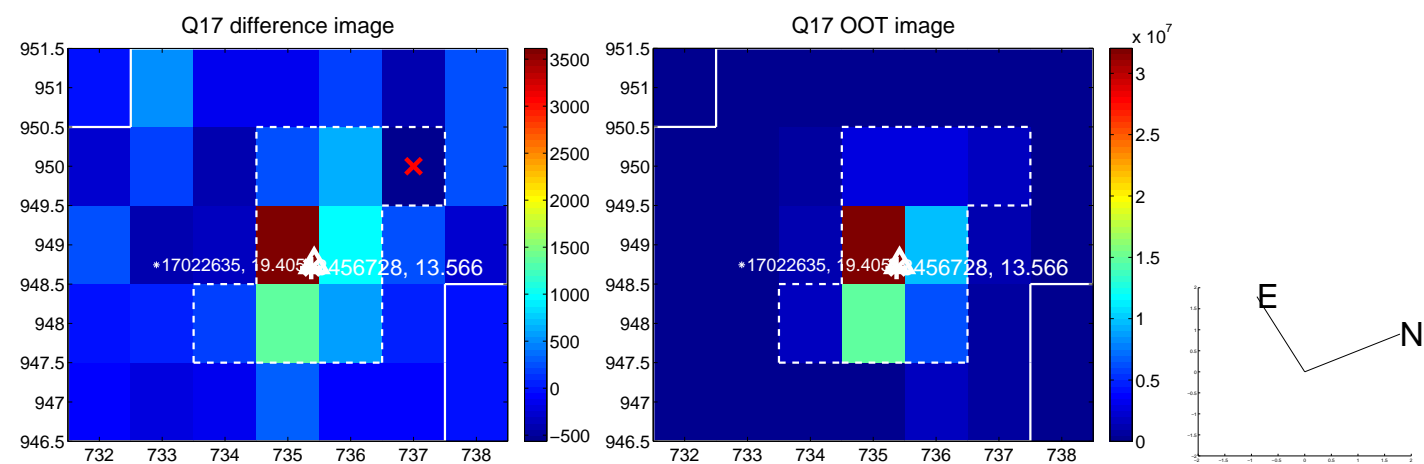
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UKIRT Image

