

KIC 004473450

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})
004473450-01	OBS	No	0.847217	131.911616	54.3	2.485	9.2	6.5	3.71	7535	3.21	92660.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004473450-01	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.

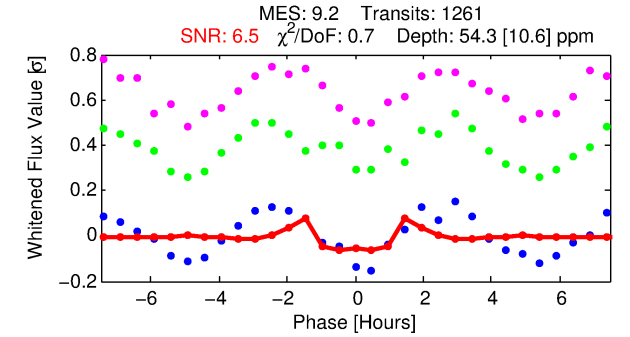
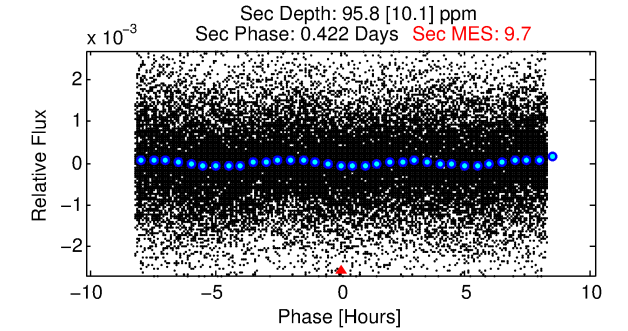
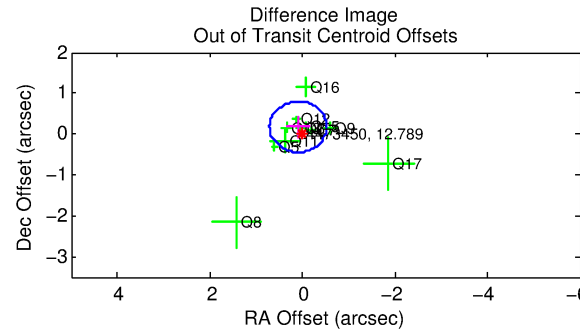
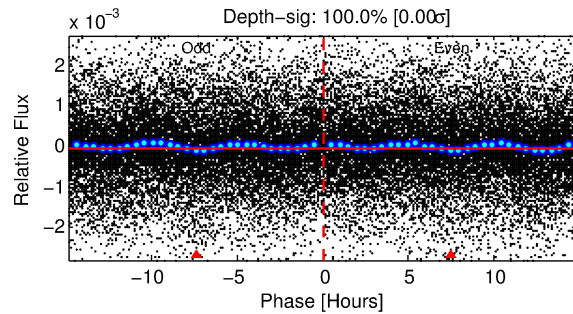
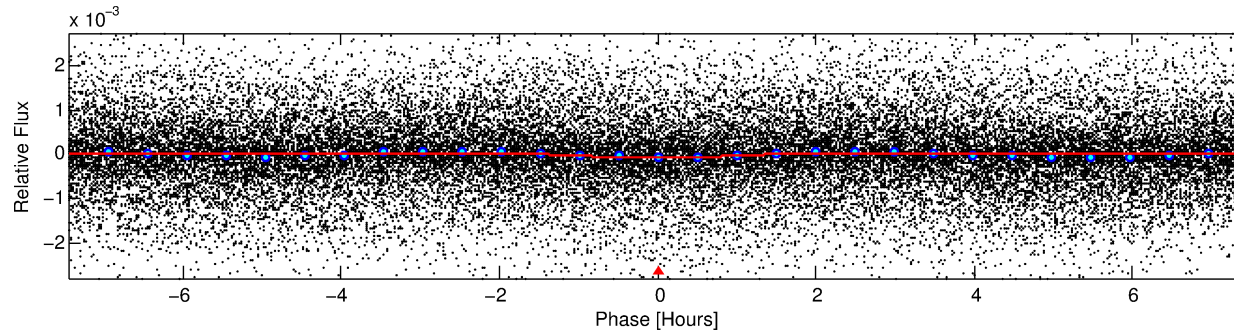
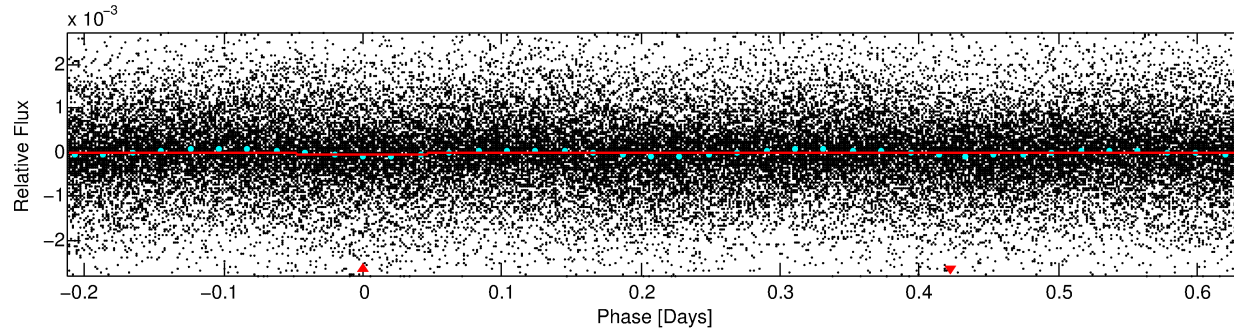
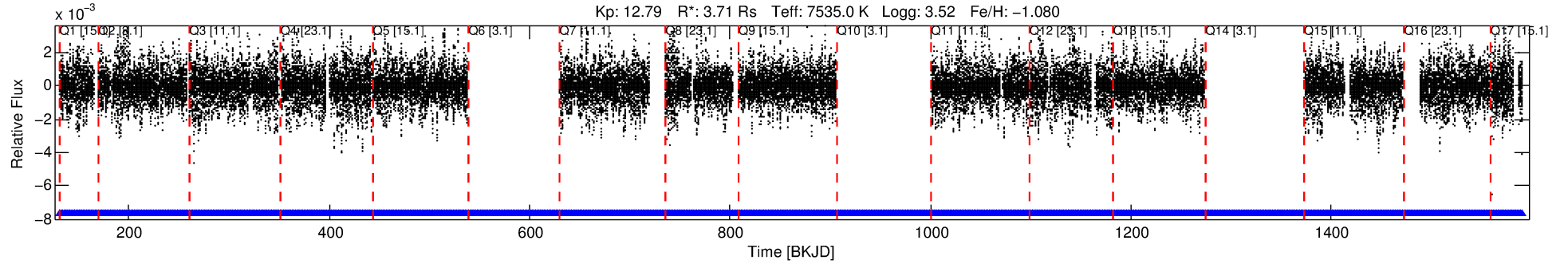
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004473450-01

No Significant Match Found

DV One-Page Summary

KIC: 4473450 Candidate: 1 of 1 Period: 0.847 d



DV Fit Results:

Period = 0.84722 [0.00001] d
Epoch = 131.9116 [0.0020] BKJD
Rp/R* = 0.0079 [0.0026]
a/R* = 1.51 [1.52]
b = 0.90 [0.39]
Seff = 92660.64 [123683.01]
Teq = 4449 [1485] K
Rp = 3.21 [2.33] Re
a = 0.0207 [0.0158] AU
Ag = 2.19 [3.25] [0.37σ]
Teffp = 8370 [1424] K [1.91σ]

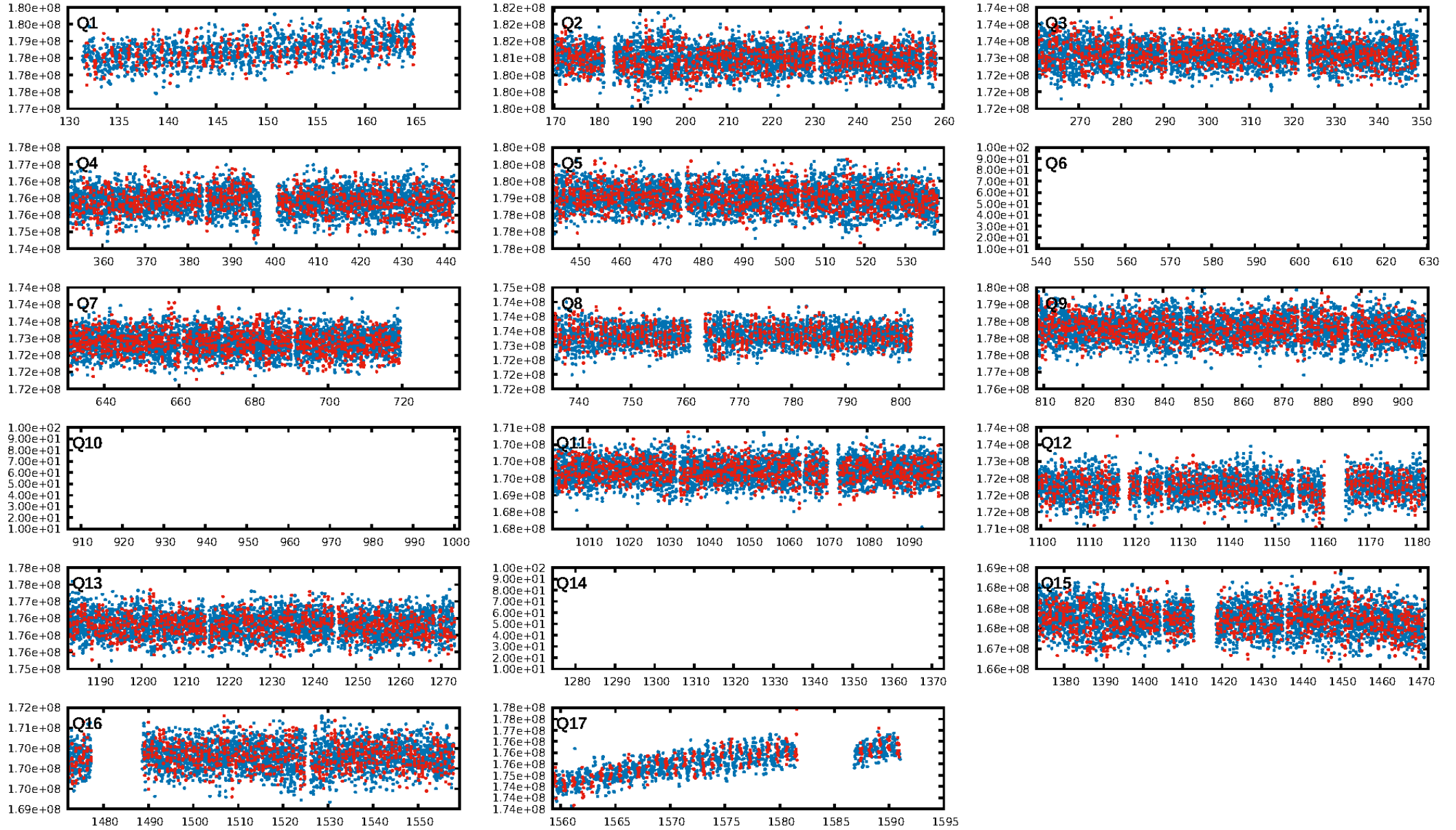
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.37e-20
RollingBand-fgt: 1.00 [1189/1189]
GhostDiagnostic-chr: 0.9776
Centroid-sig: 89.3%
Centroid-so: 0.087 arcsec [0.26σ]
OotOffset-rm: 0.200 arcsec [0.97σ]
KicOffset-rm: 0.209 arcsec [0.98σ]
OotOffset-st: 0/4/3/4 [11]
KicOffset-st: 0/4/3/4 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 1.00 [14/14]

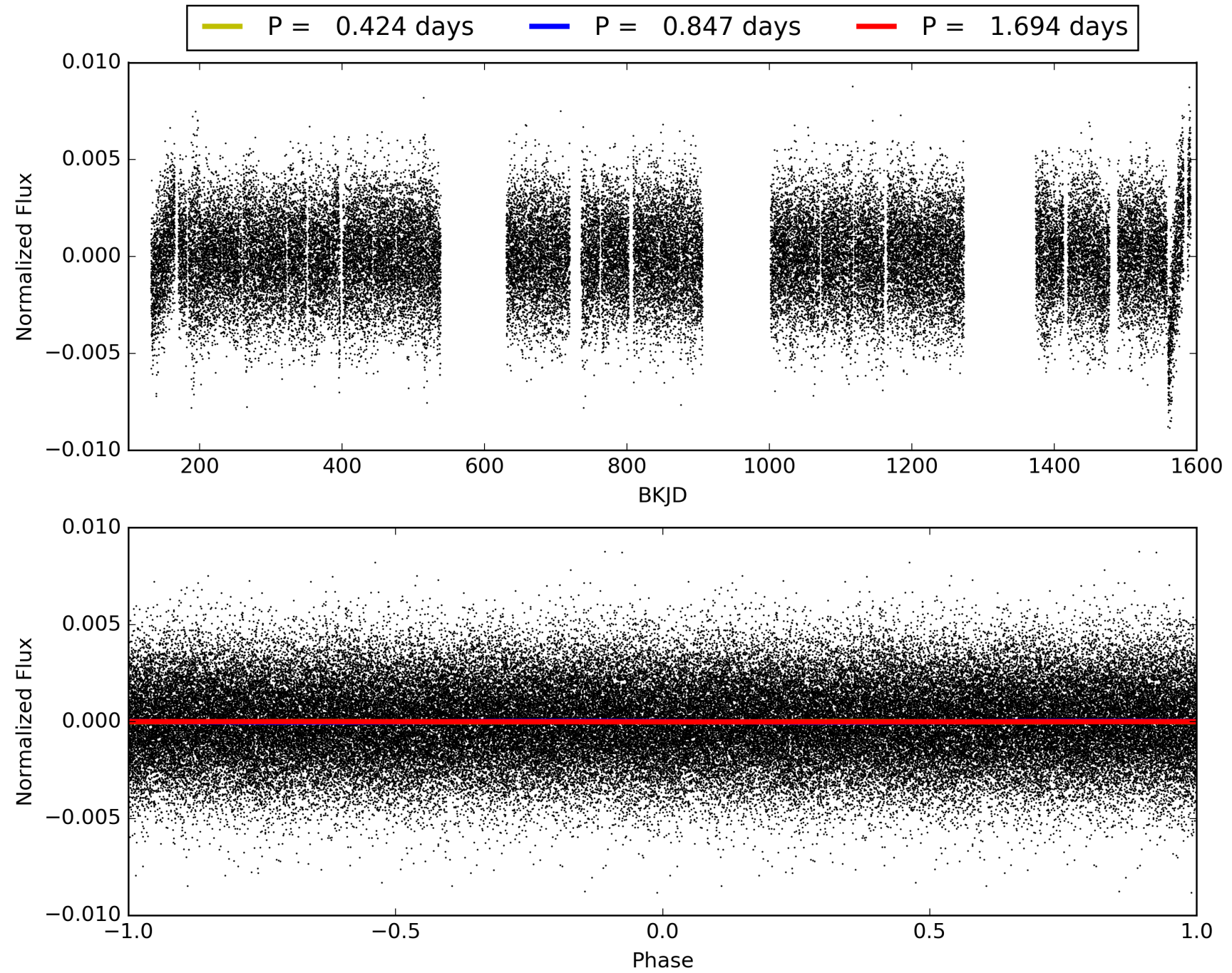
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:47:45 Z

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

TCE 004473450-01, PDC Light Curves

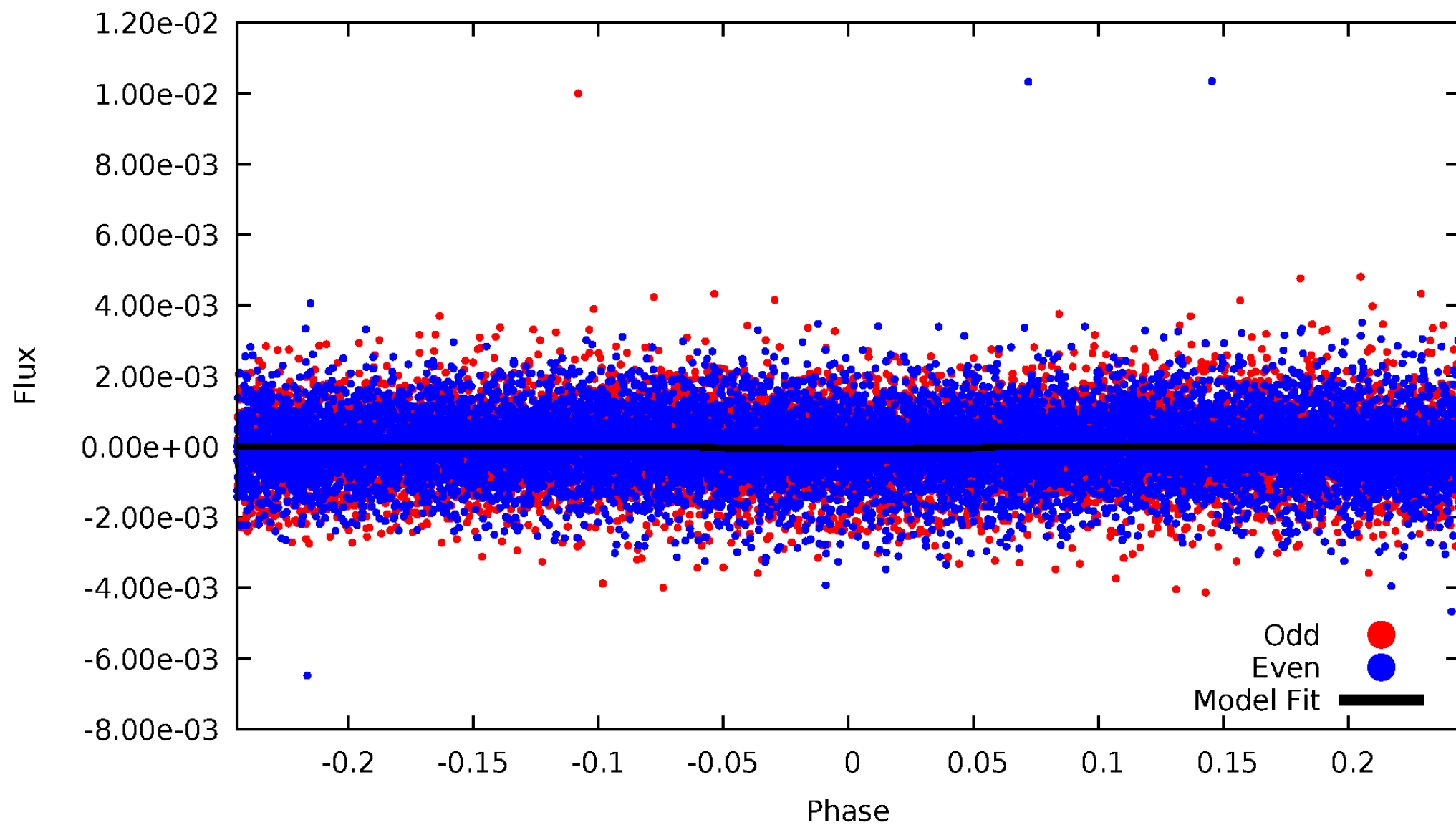


TCE 004473450-01



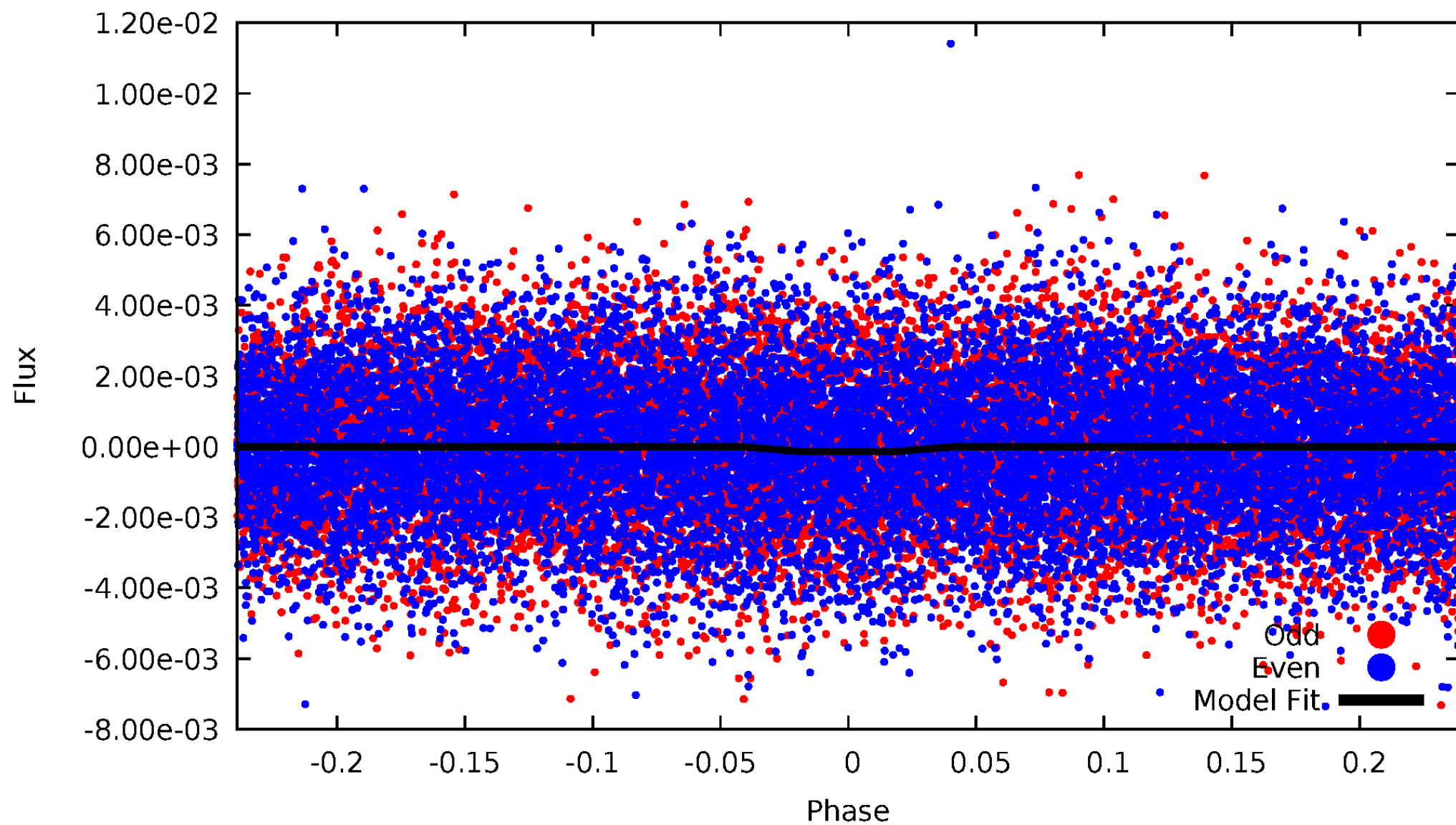
DV Odd/Even

TCE 004473450-01

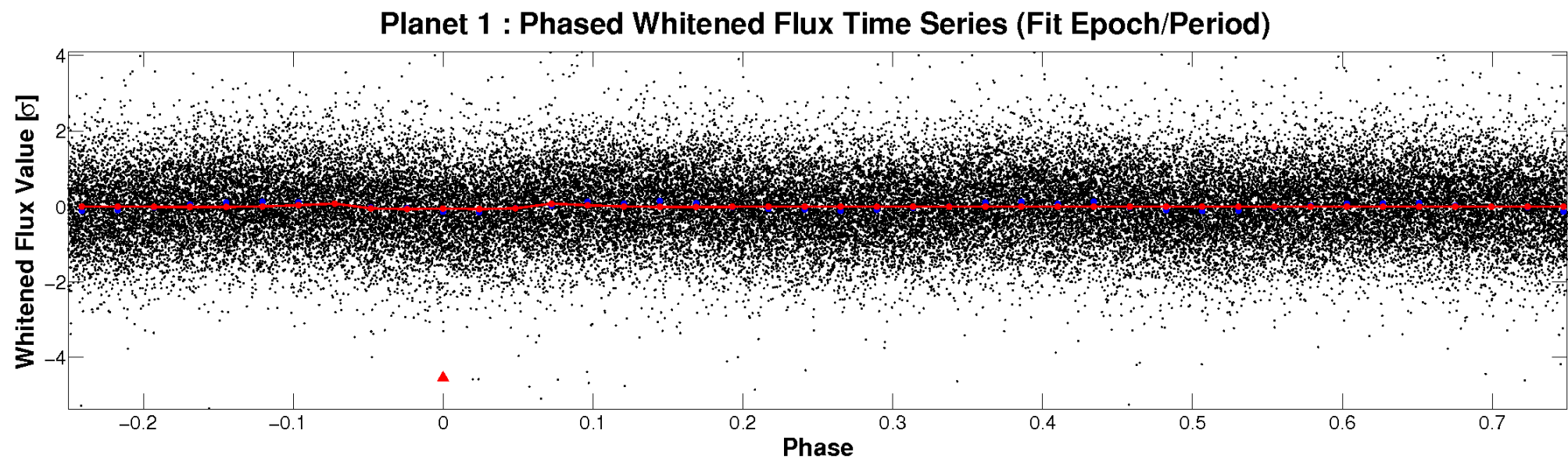
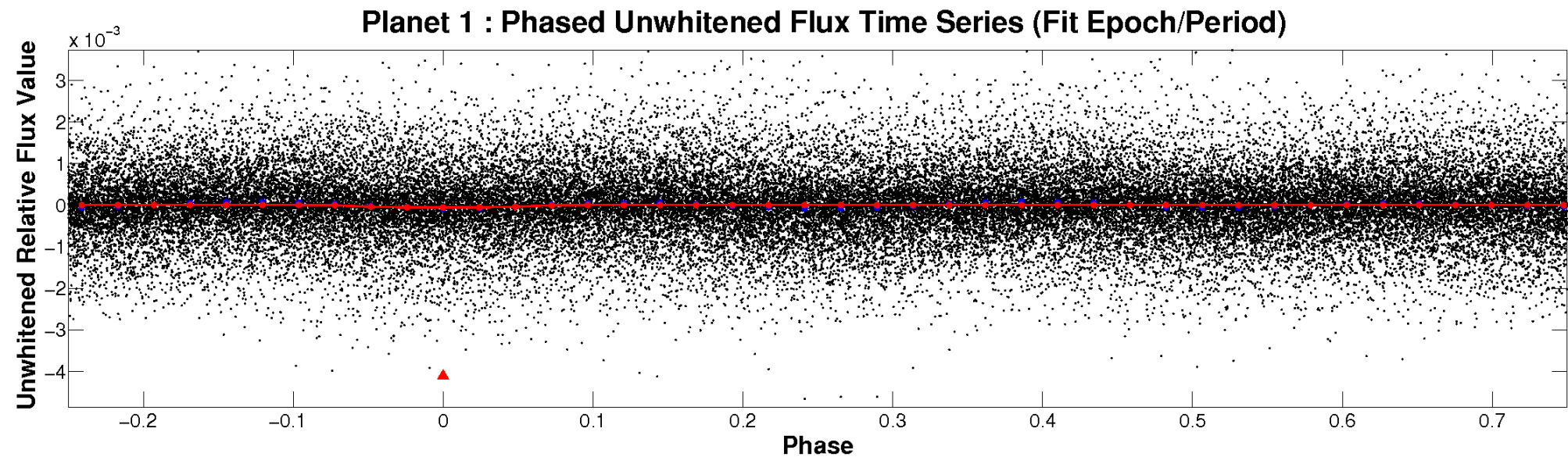


ALT Odd/Even

TCE 004473450-01

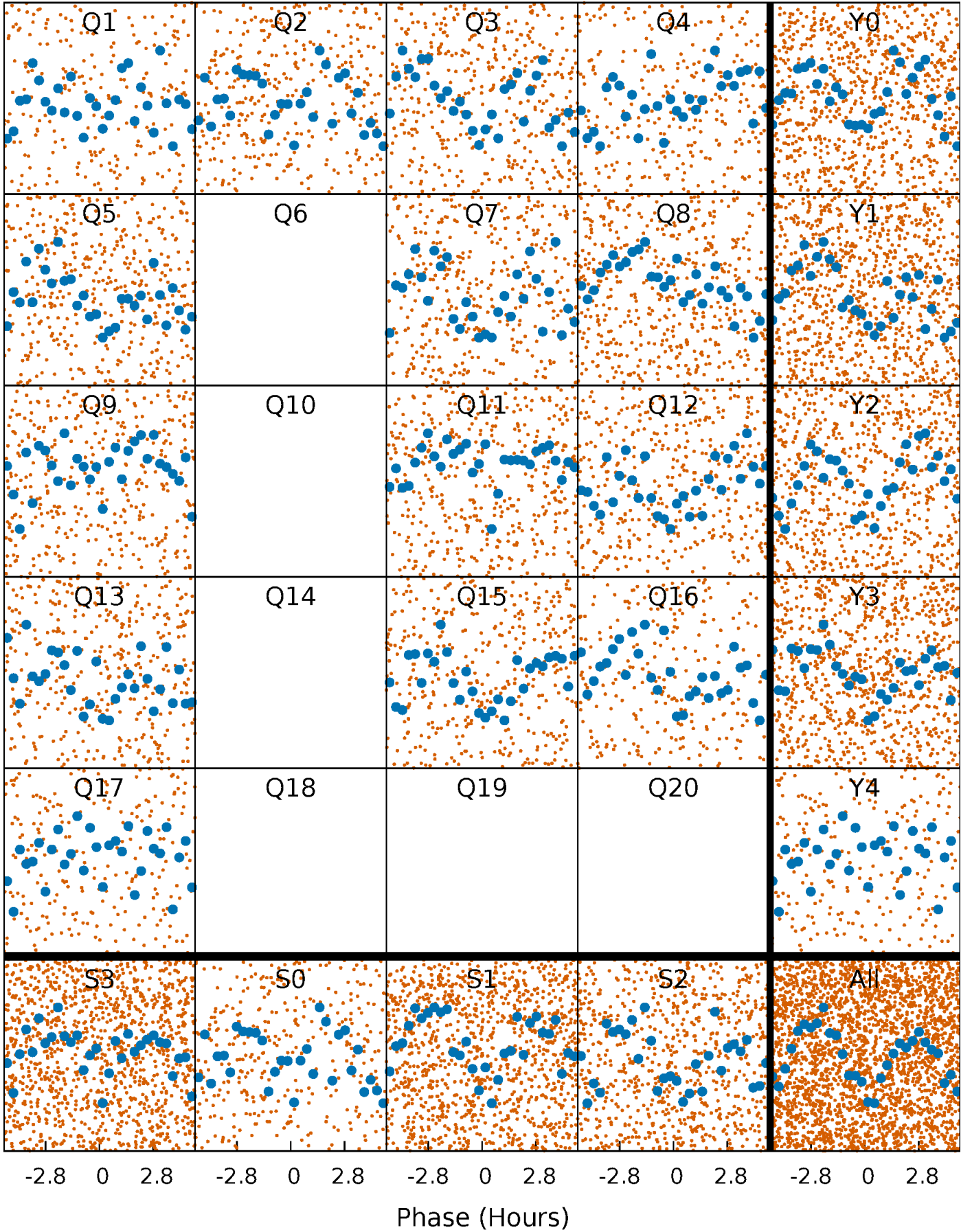


Non-Whitened Vs. Whitened Light Curve



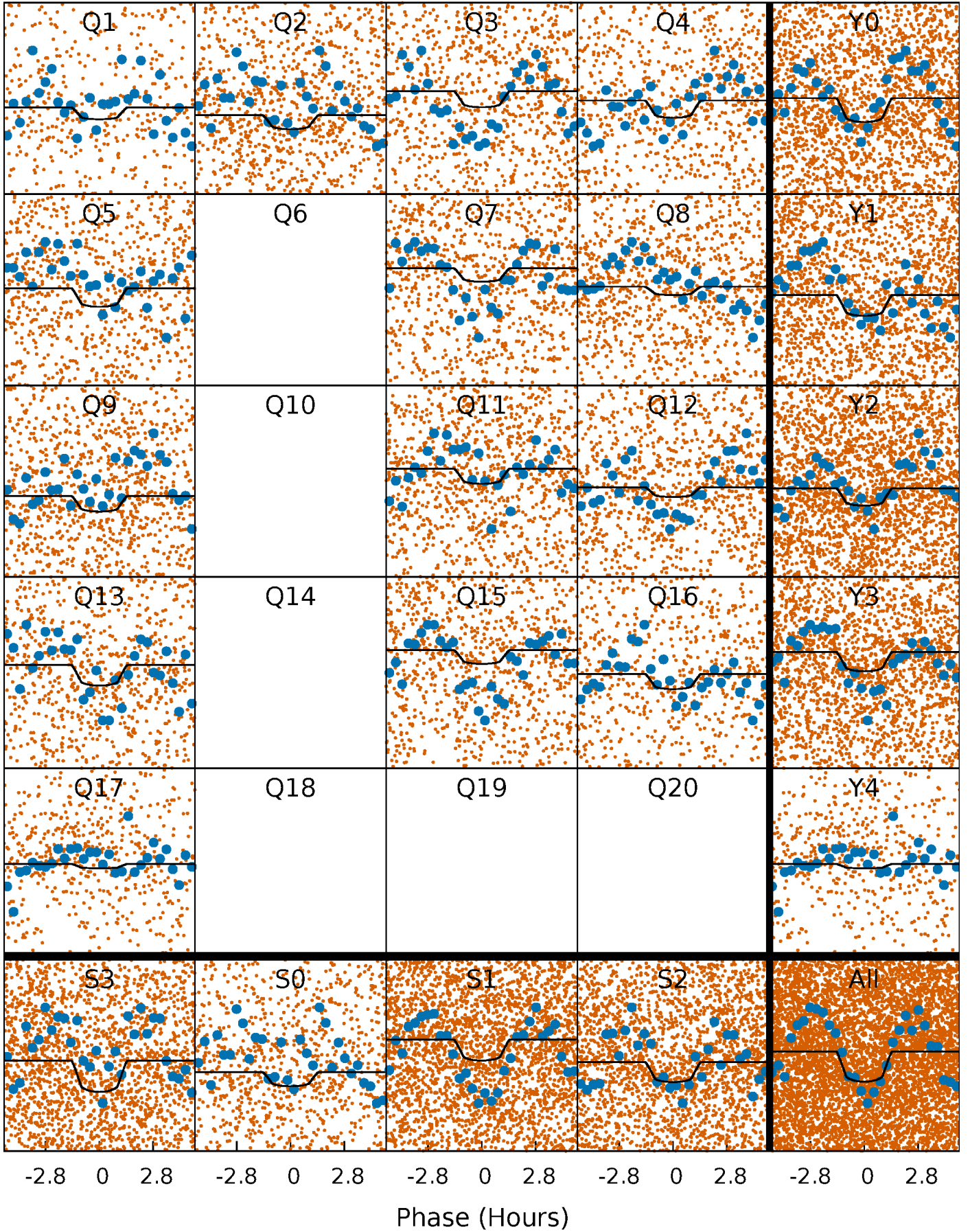
PDC Quarter-Phased Transit Curves

TCE 004473450-01 P= 0.847217 Days $T_0=131.911616$ (BKJD)



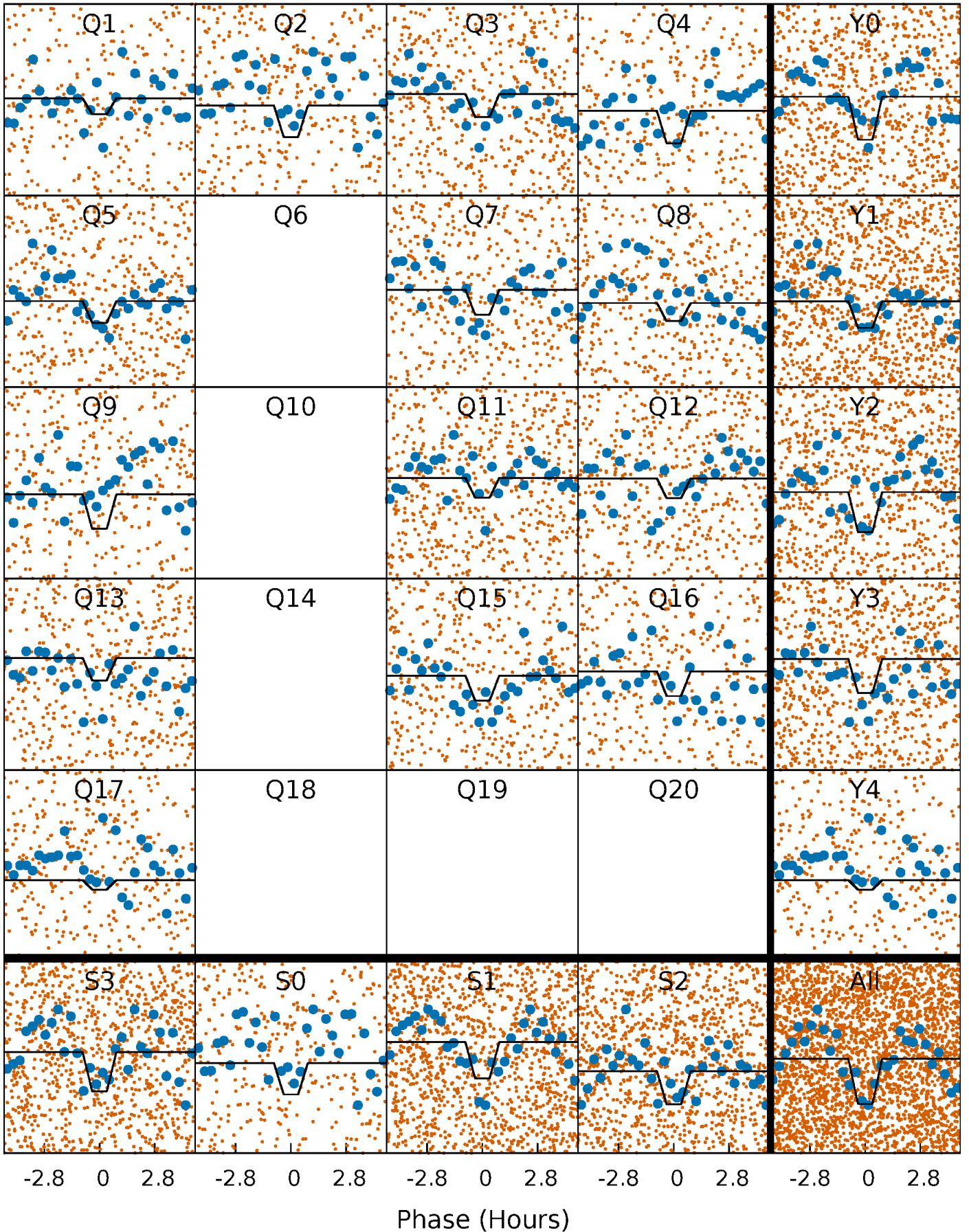
DV Quarter-Phased Transit Curves

TCE 004473450-01 P= 0.847217 Days $T_0=131.911616$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

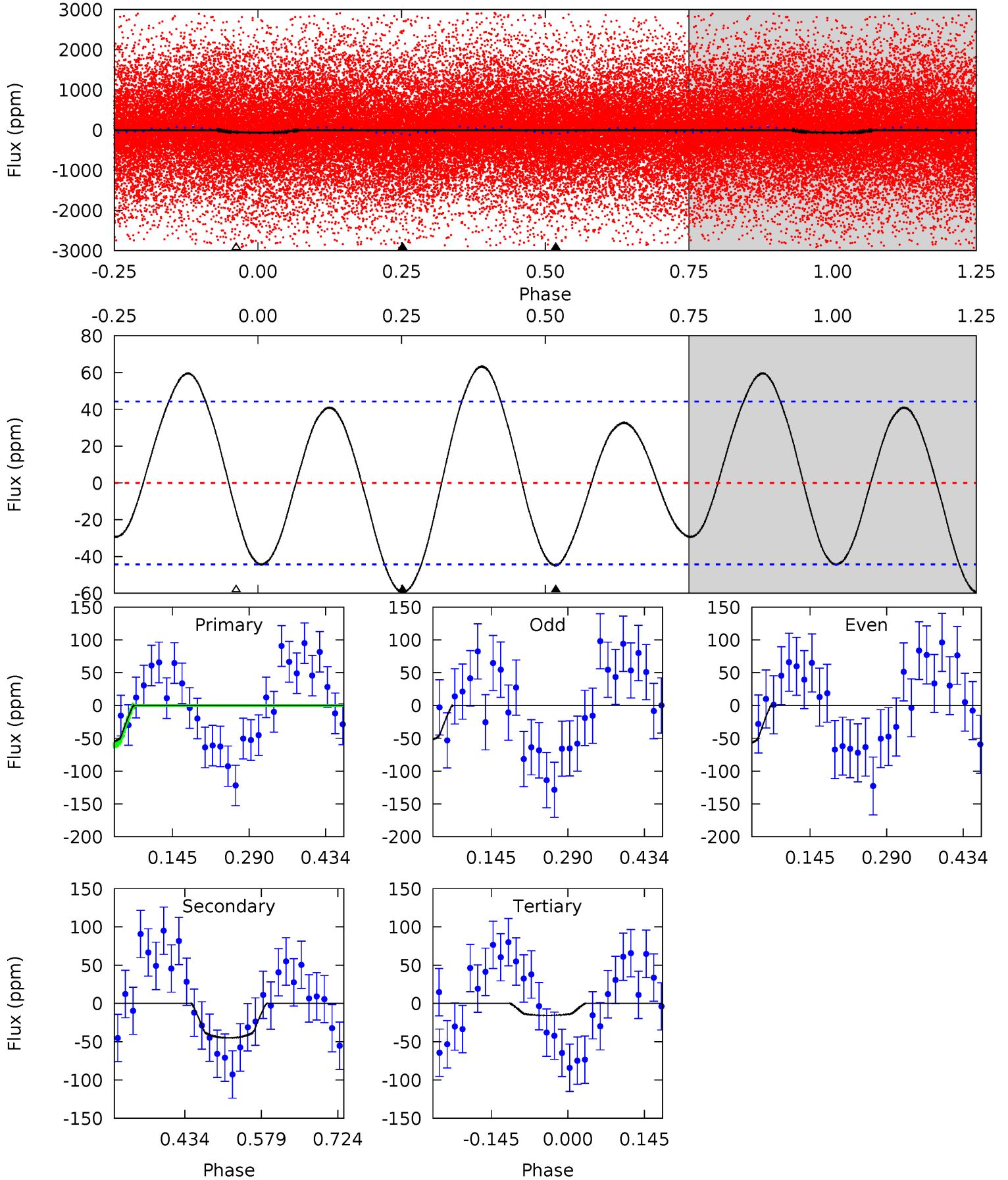
TCE 004473450-01 P= 0.847235 Days $T_0=131.907244$ (BKJD)



DV Model-Shift Uniqueness Test

004473450-01, P = 0.847217 Days, E = 131.064399 Days

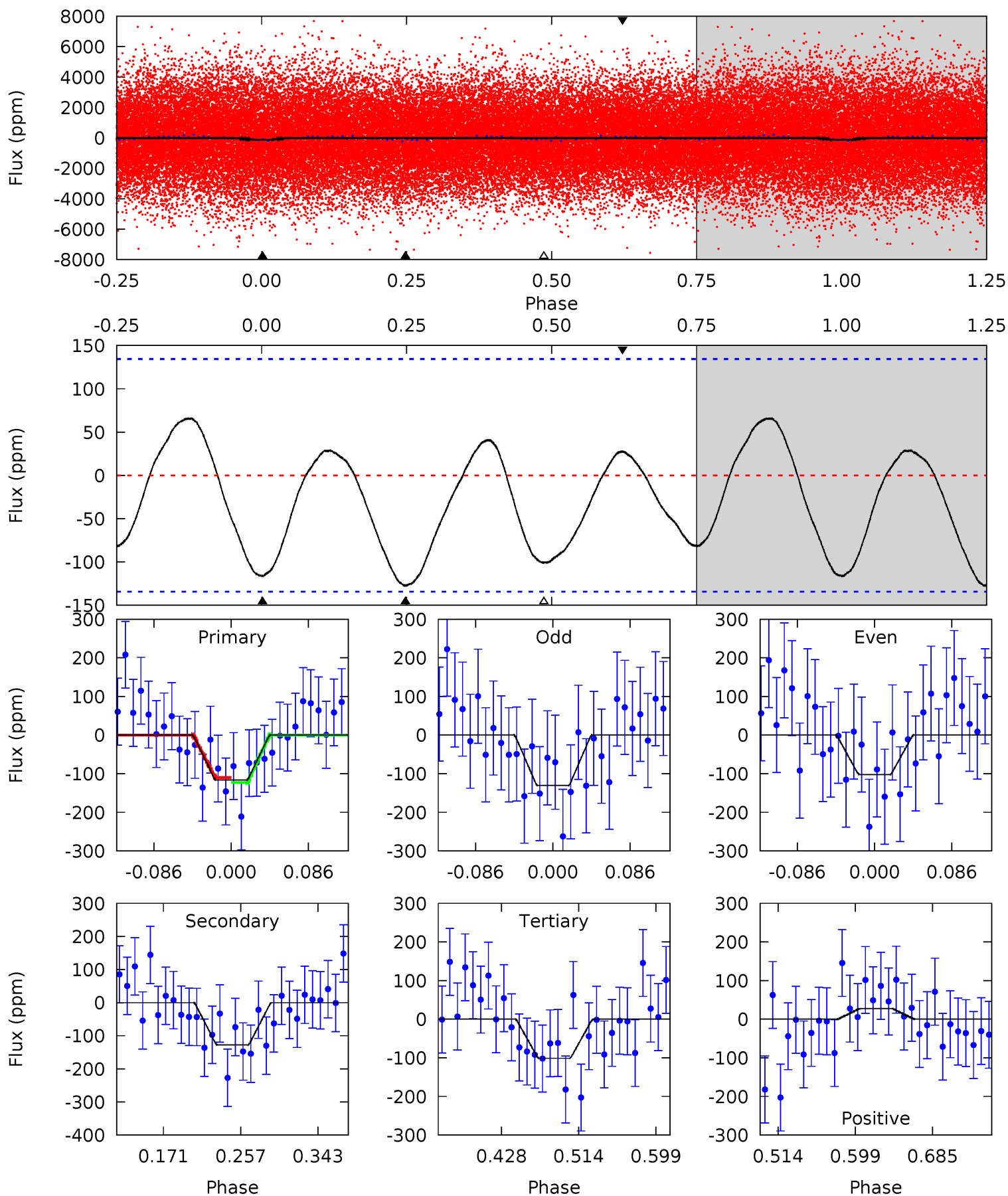
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.02	4.55	1.59	0	4.49	1.46	3.18	4.44	6.02	2.97	4.55	0.28	1.71	0.52	0.77



Alt Model-Shift Uniqueness Test

004473450-01, P = 0.847235 Days, E = 131.060009 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.99	4.37	3.46	0.95	4.60	1.72	1.66	0.53	3.04	0.91	3.42	0.49	0.89	0.34	0.22



Stellar Parameters For KIC 004473450

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7535^{+236}_{-289}	$3.517^{+0.817}_{-0.086}$	$-1.080^{+0.350}_{-0.300}$	$3.711^{+0.599}_{-2.396}$	$1.650^{+0.107}_{-0.605}$	$0.045^{+0.762}_{-0.012}$
	+3%/-4%	+23%/-2%	+32%/-28%	+16%/-65%	+6%/-37%	+1676%/-27%
Source	KIC0	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 004473450-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-45 ± 10	$2.64^{+1.21}_{-1.14}$	5840^{+579}_{-1013}	6440^{+2002}_{-1320}	$1.452^{+2.646}_{-0.773}$
Alt.	-128 ± 29	$3.98^{+1.54}_{-1.44}$	5875^{+540}_{-1038}	6937^{+1418}_{-1083}	$1.839^{+2.810}_{-0.934}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

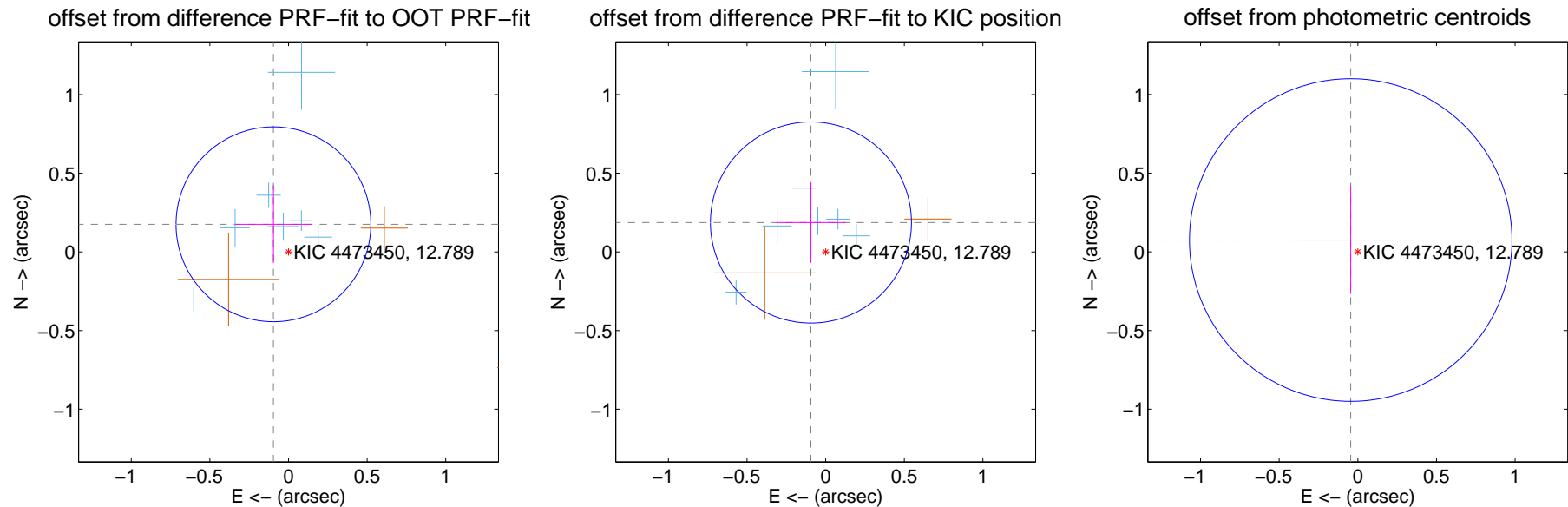
DV Centroid Data

Supplemental centroid analysis for 004473450-01. Kepler magnitude: 12.79. Transit SNR 6.53

There are 7 quarters with good PRF difference image offsets

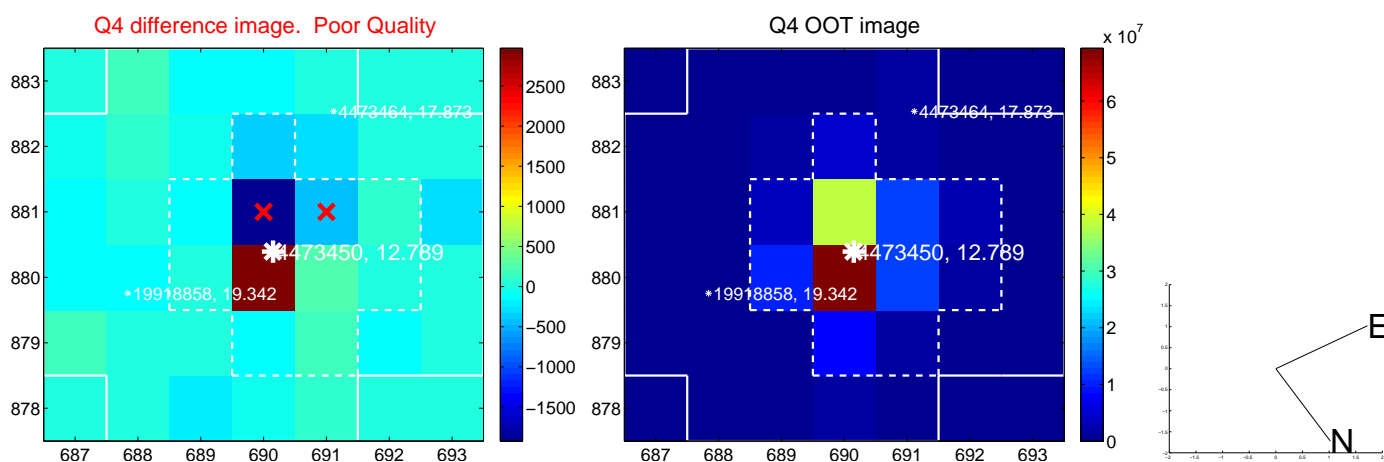
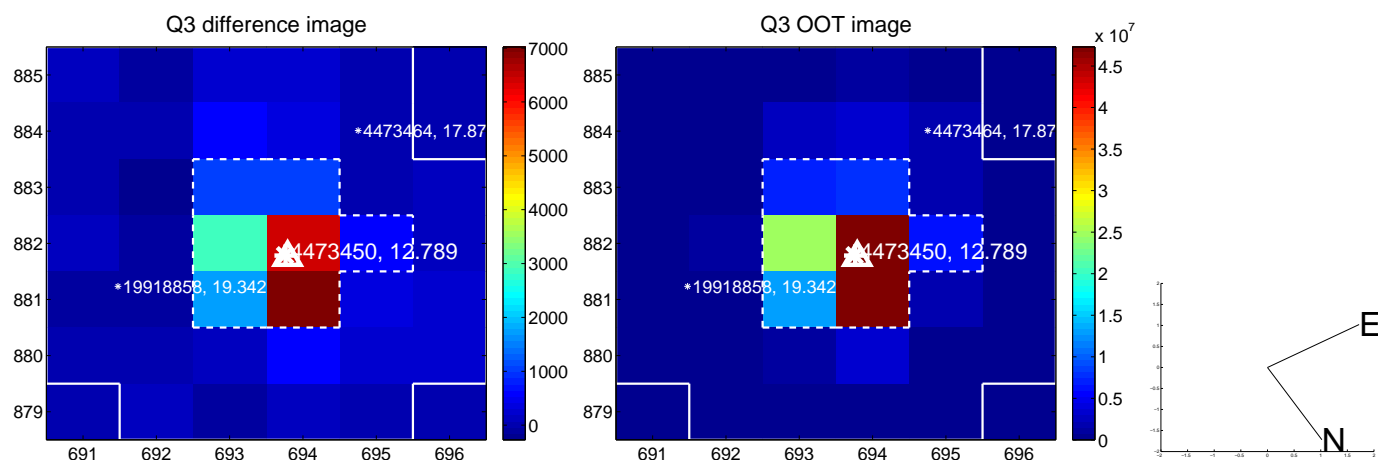
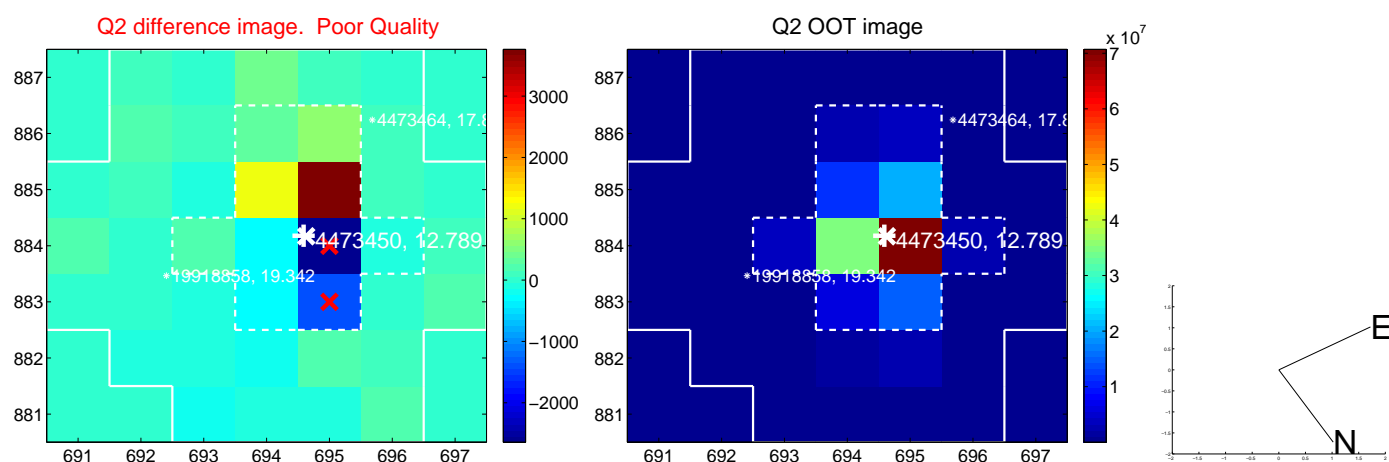
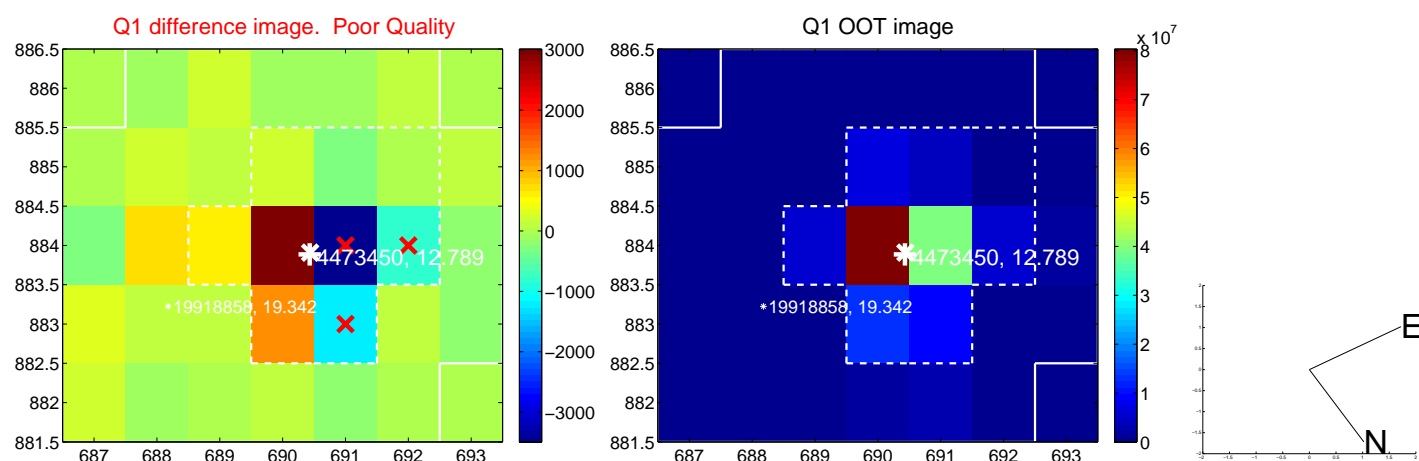
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.200 ± 0.206	0.97	0.096 ± 0.245	0.175 ± 0.247
PRF-fit source offset from KIC position	0.209 ± 0.213	0.98	0.094 ± 0.221	0.187 ± 0.257
photometric centroid source offset	0.09 ± 0.34	0.26	0.05 ± 0.34	0.07 ± 0.34

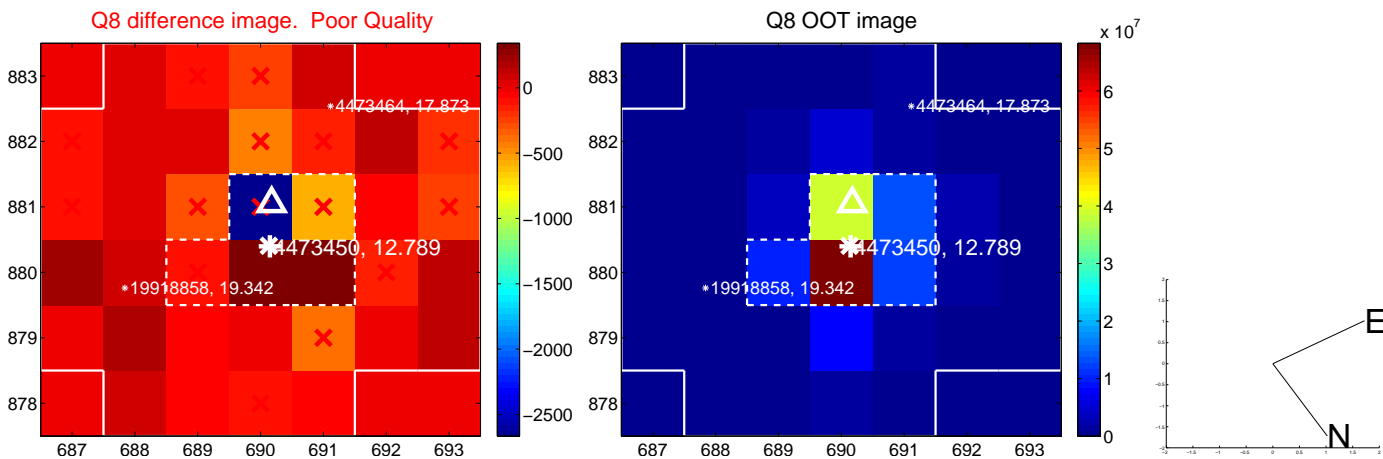
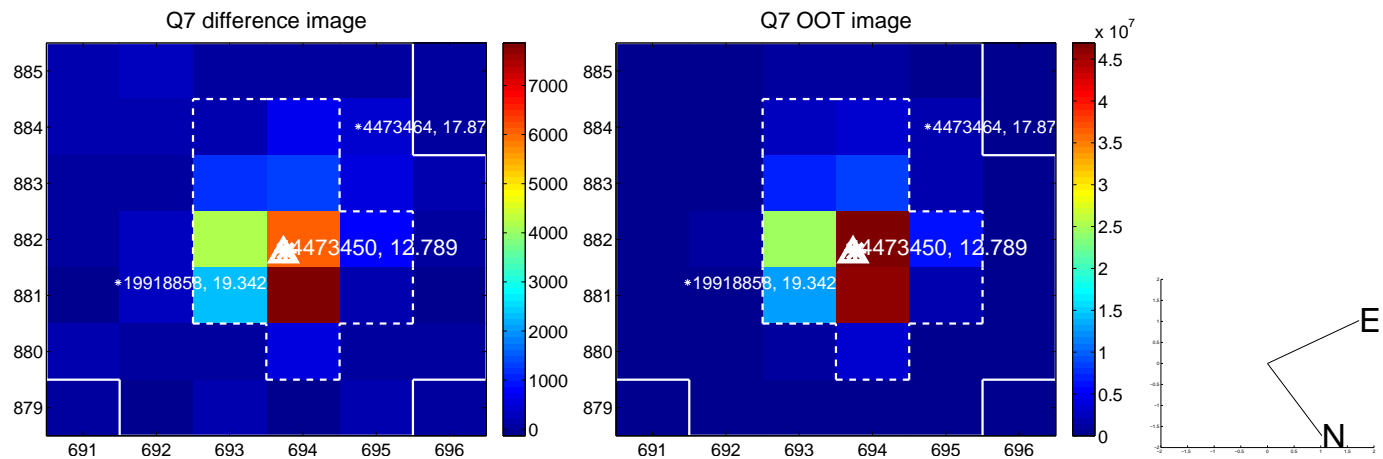
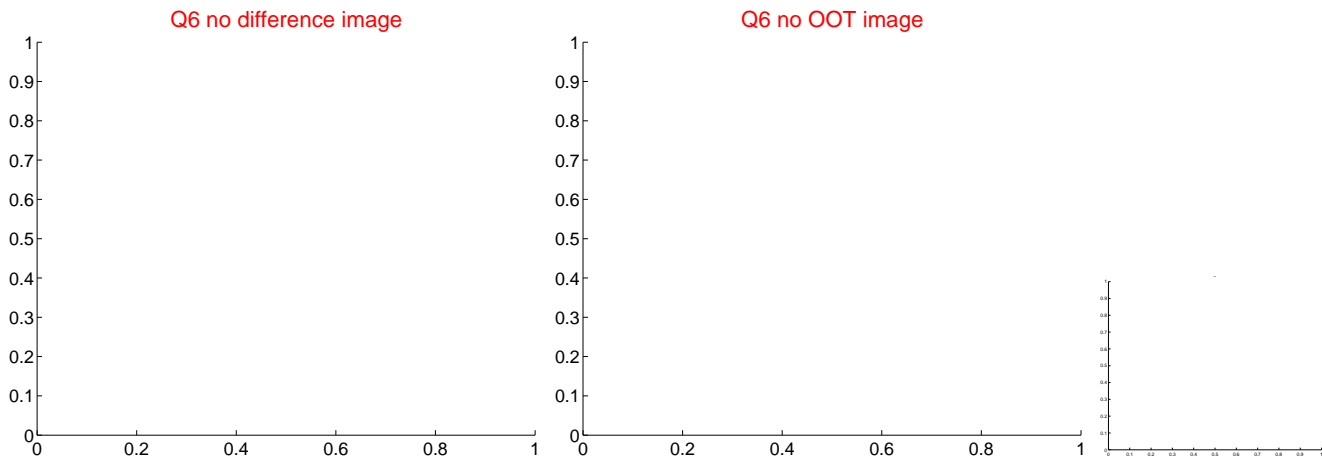
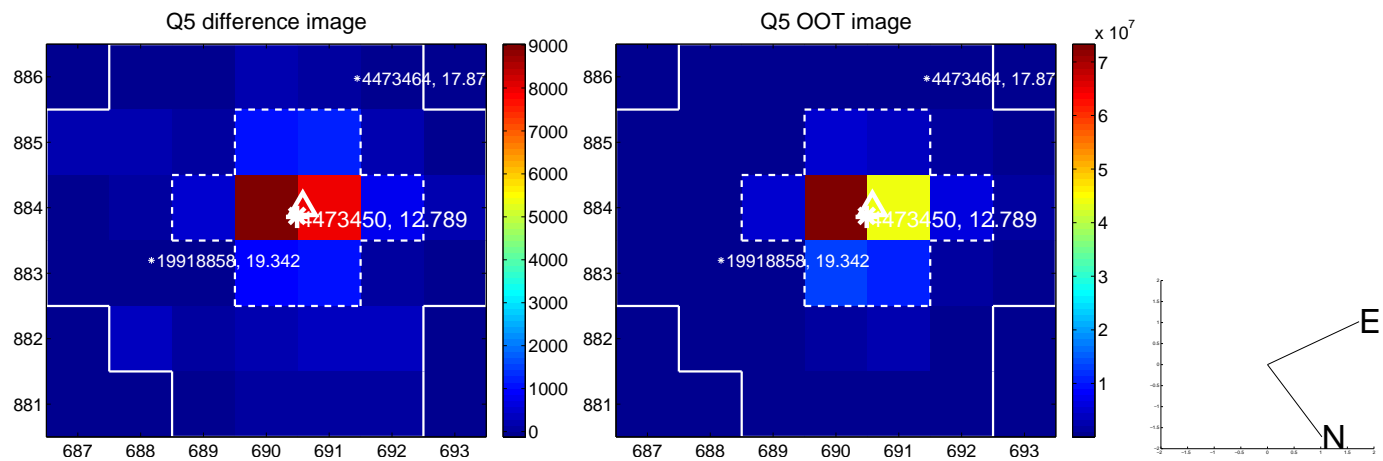


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

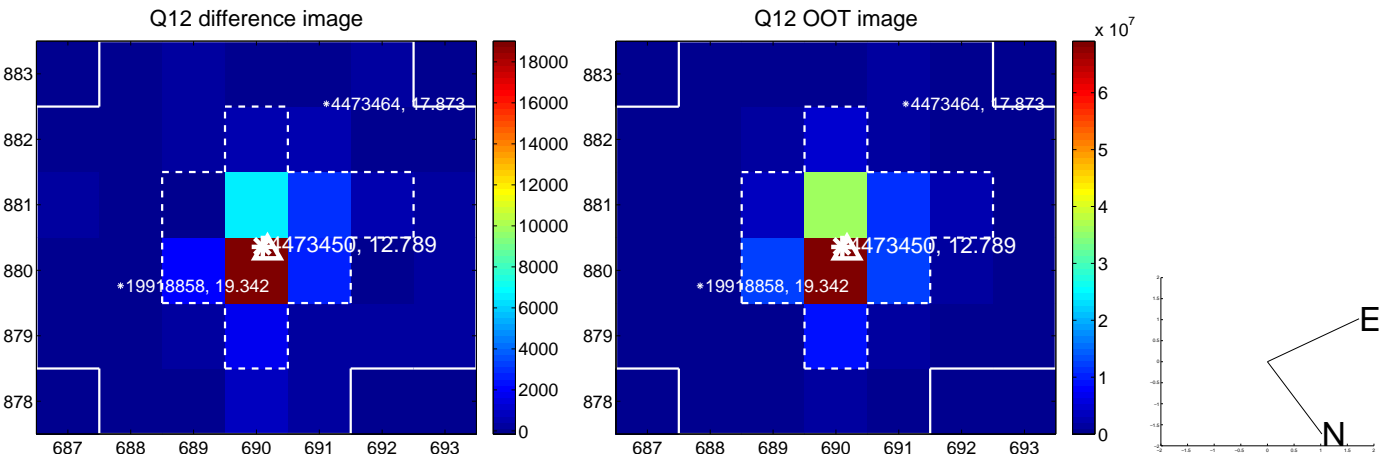
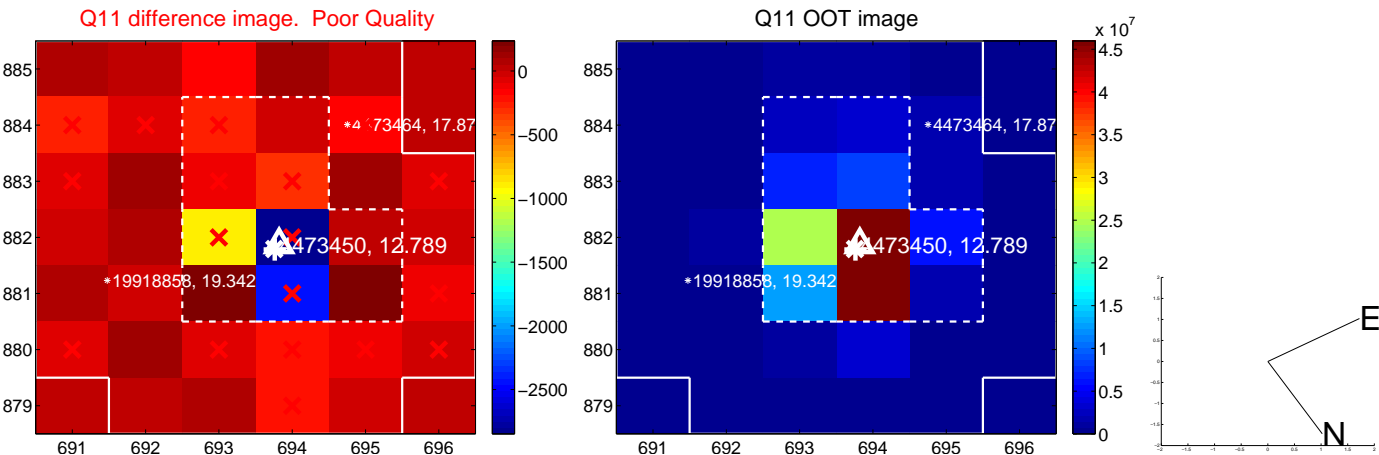
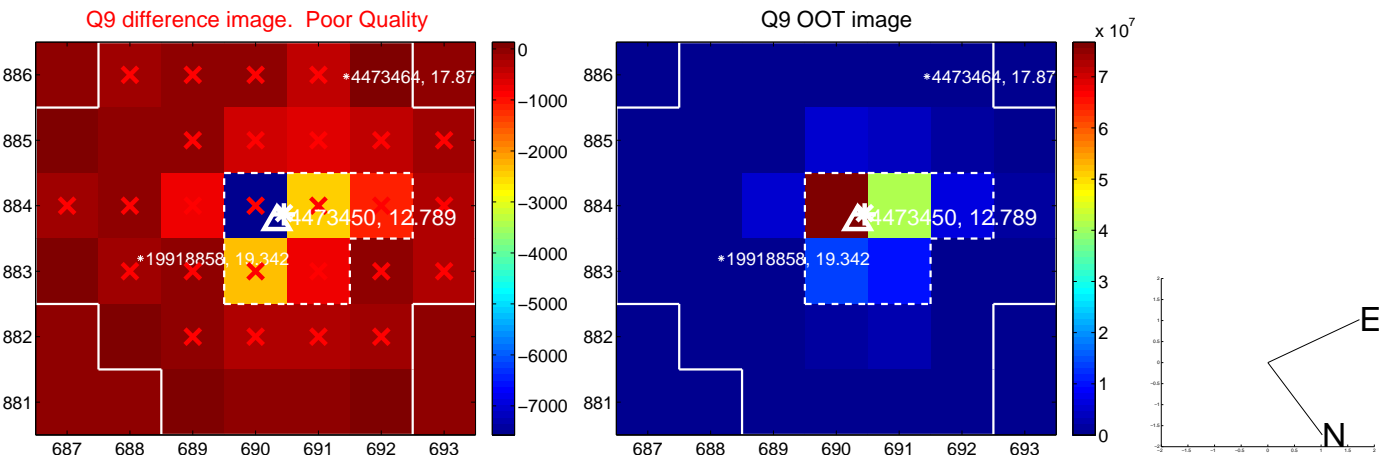
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



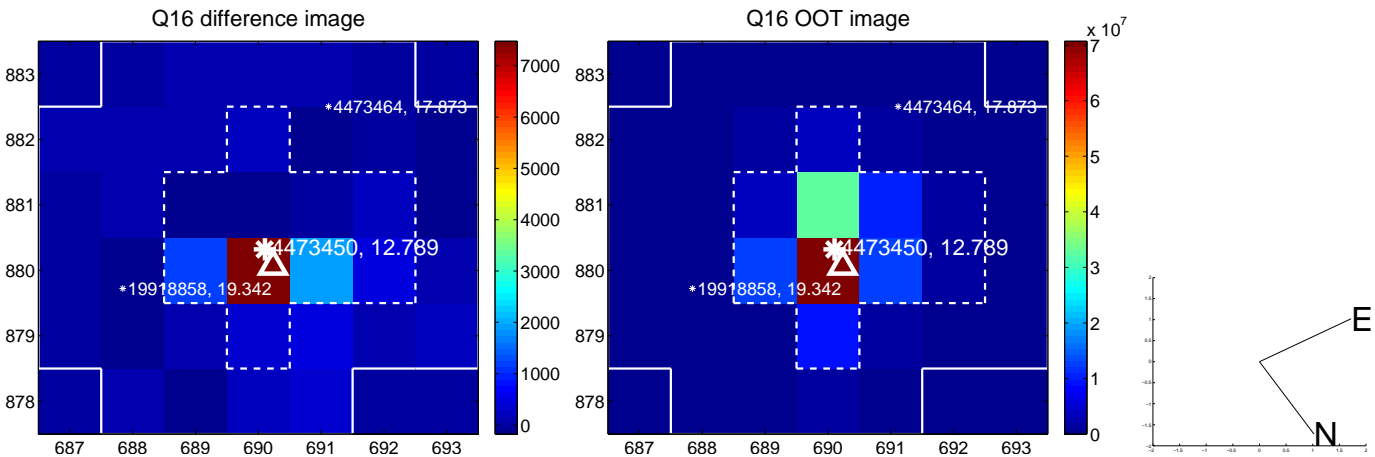
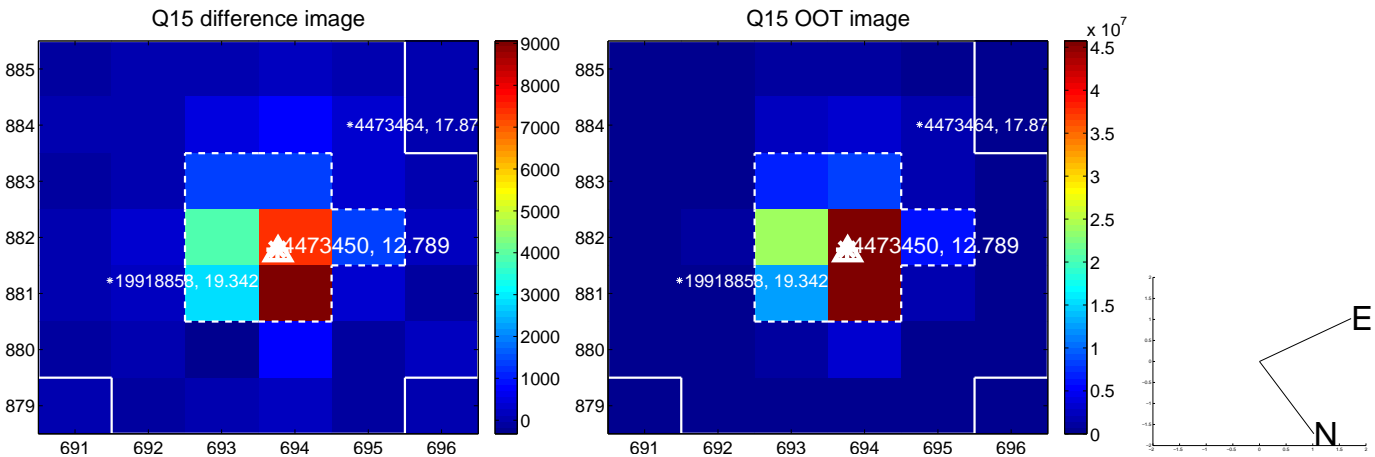
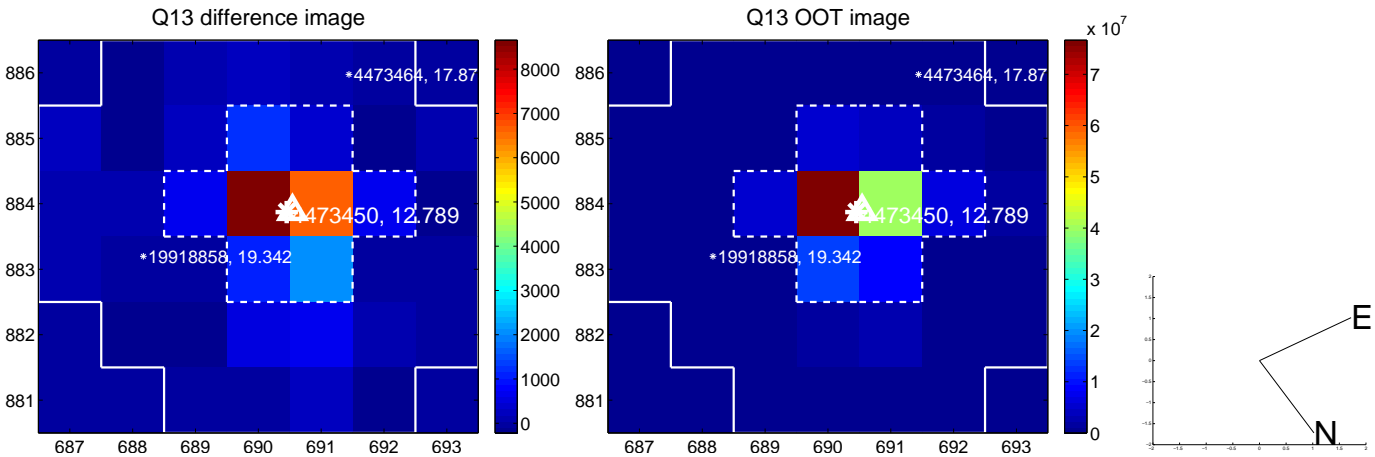
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



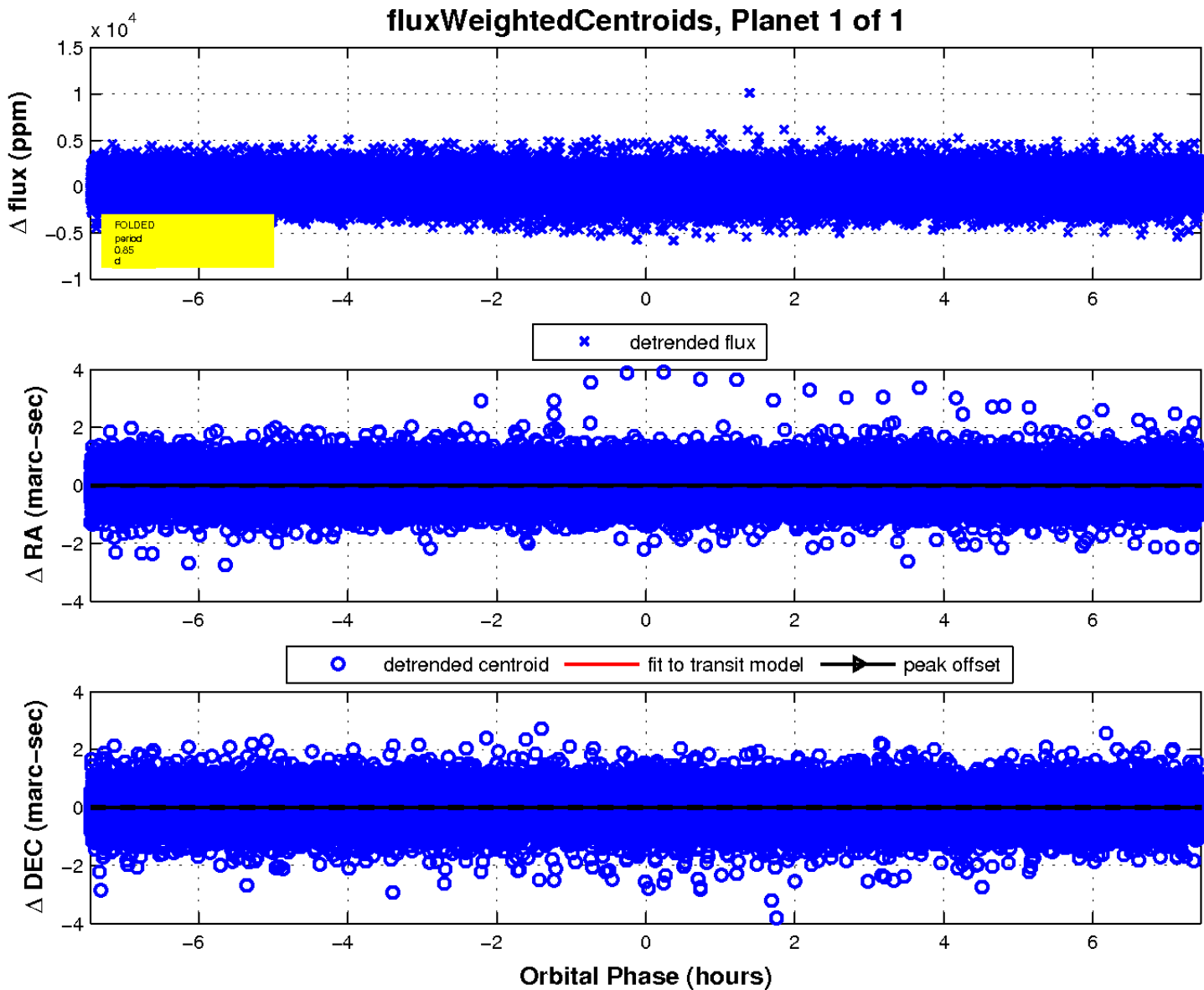
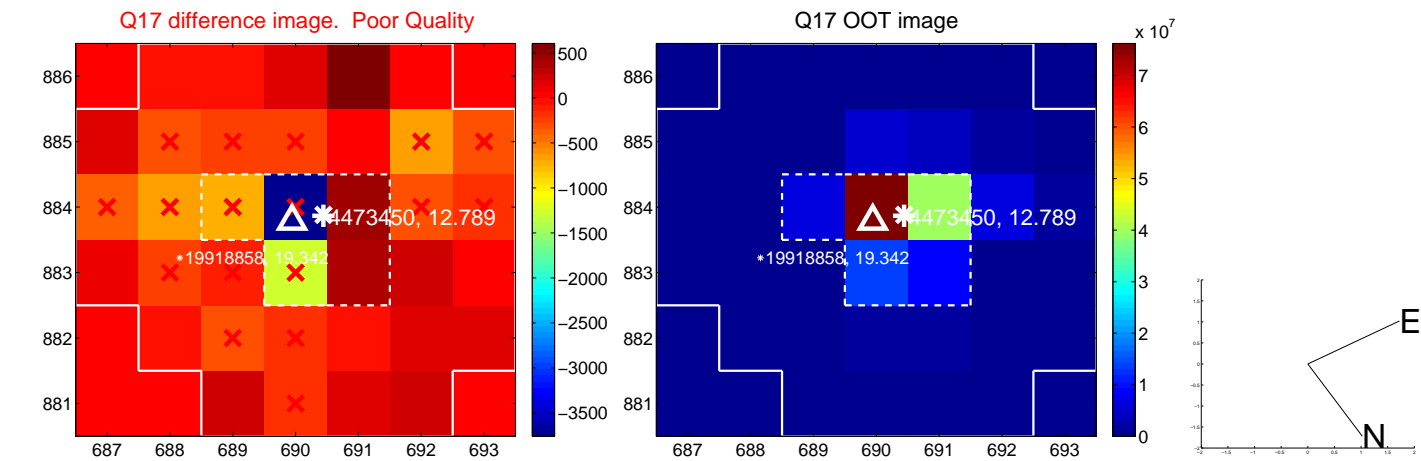
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

