

KIC 008016214

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})
008016214-01	OBS	6953.01	1.587495	132.130812	81829.9	4.500	10472.2	-1.0	0.82	5863	23.51	1074.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008016214-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_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.

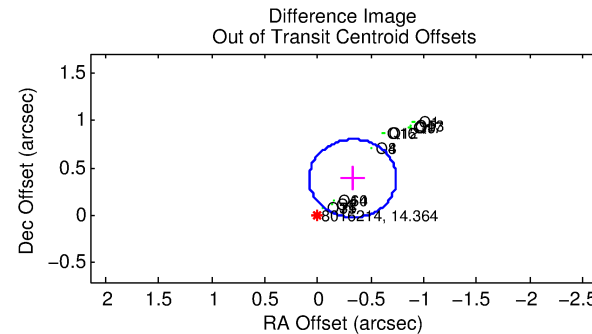
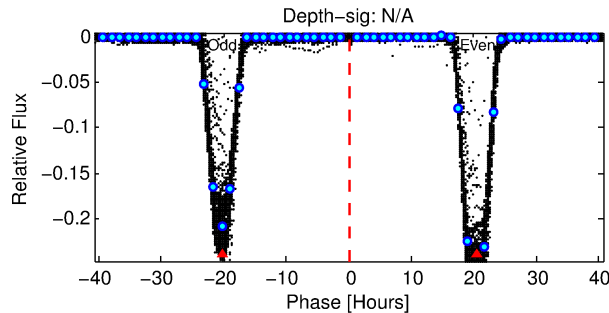
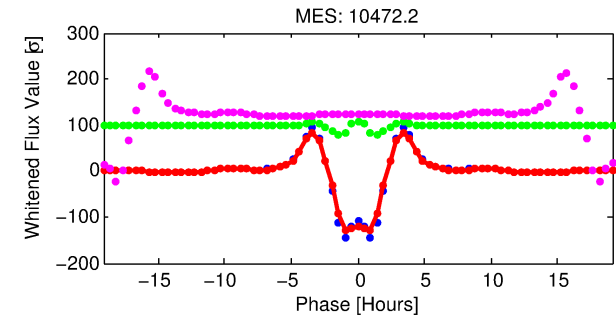
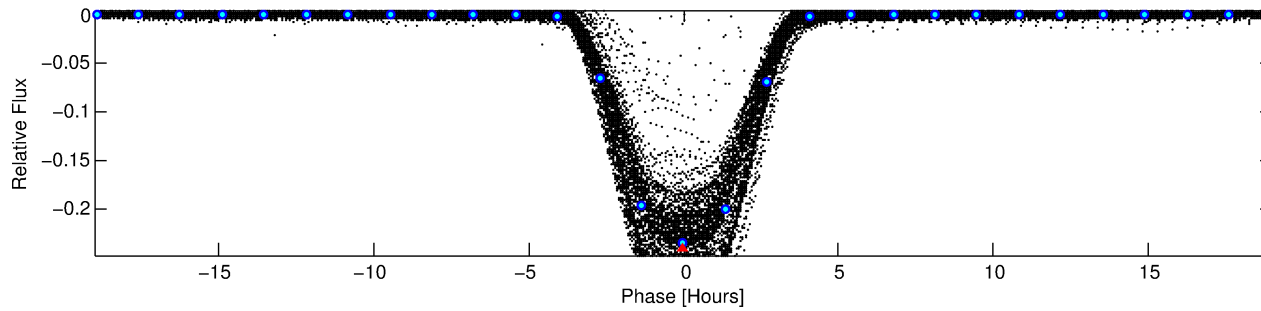
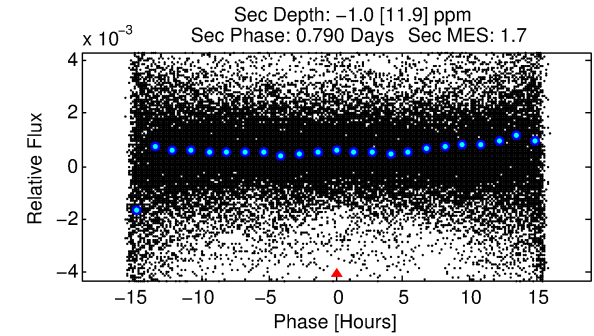
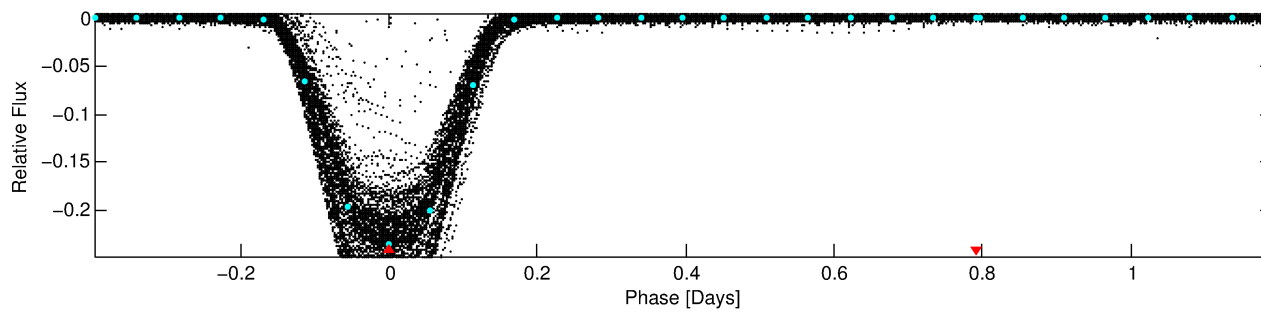
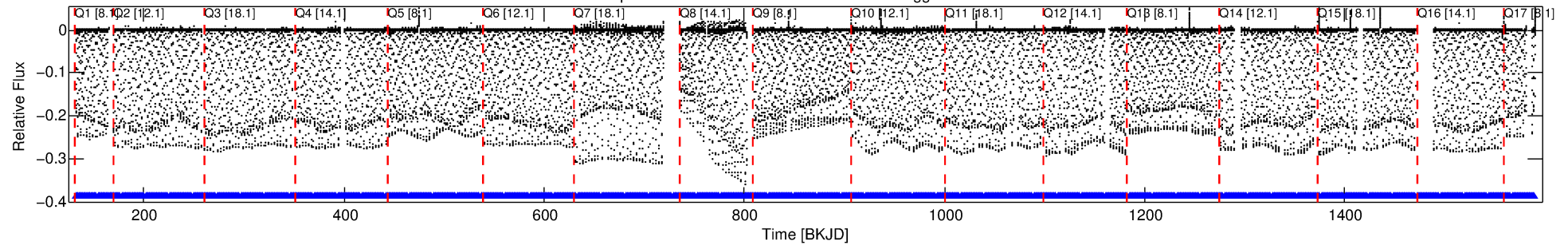
Ephemeris Match Information For 008016214-01

No Significant Match Found

DV One-Page Summary

KIC: 8016214 Candidate: 1 of 1 Period: 1.587 d
KOI: K06953.01 Corr: 0.762

Kp: 14.36 R*: 0.82 Rs Teff: 5863.0 K Logg: 4.57 Fe/H: -0.360



TPS TCE Results:

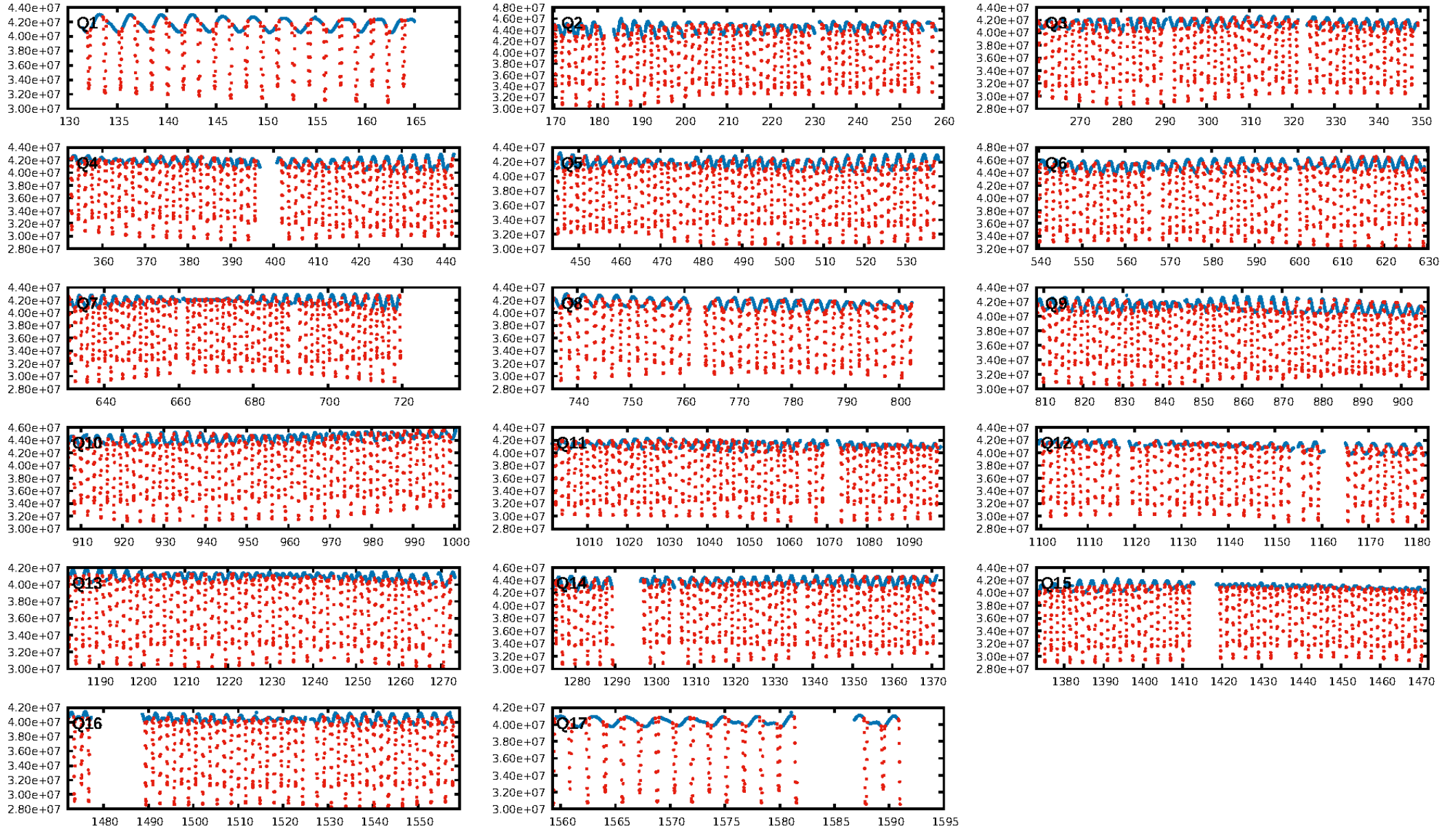
Period = 1.58749 d
Epoch = 132.1308 BKJD

DV fit results are unavailable

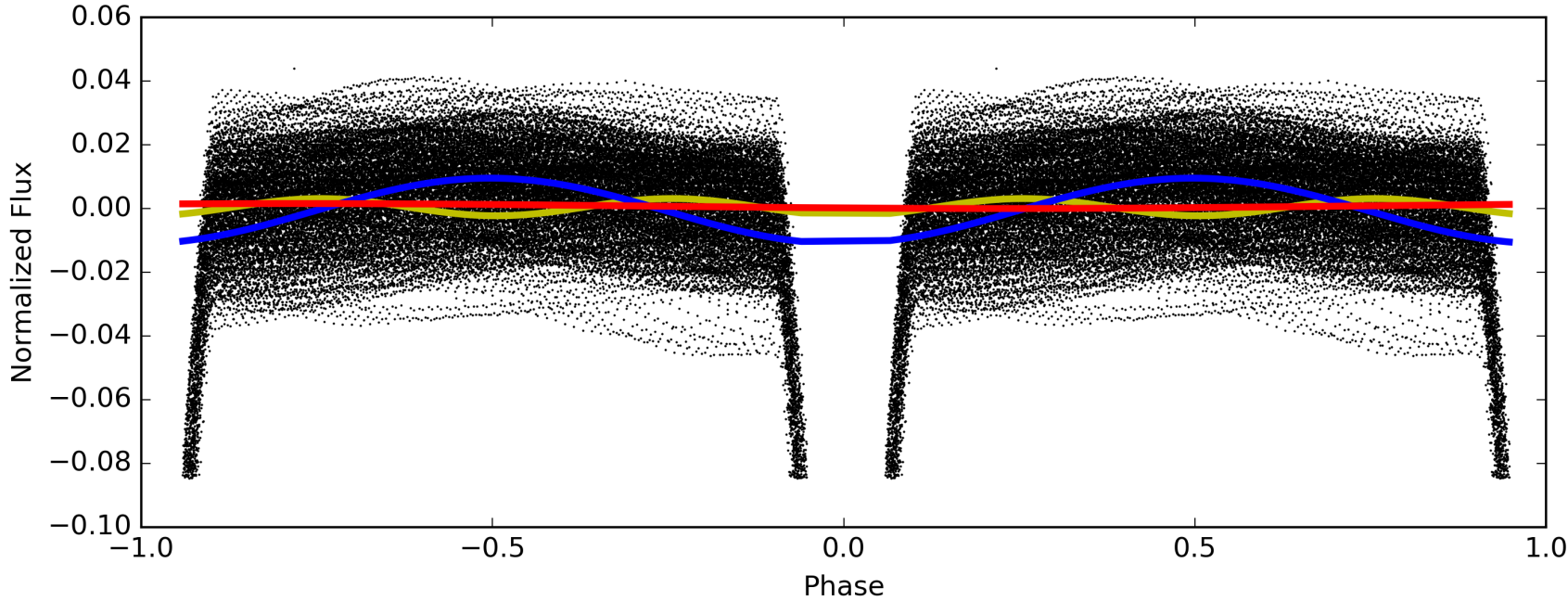
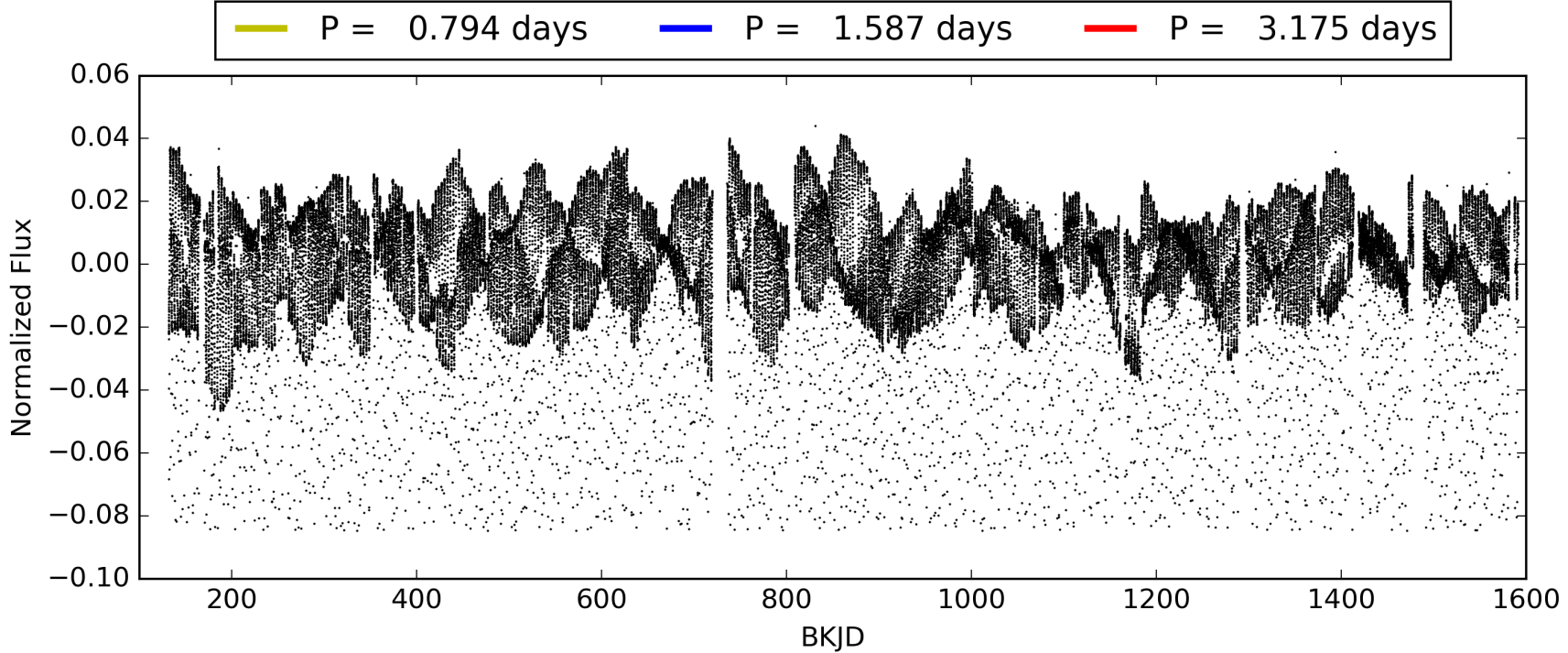
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [813/813]
GhostDiagnostic-chr: 1.058
Centroid-sig: N/A
Centroid-so: 0.070 arcsec [213.73σ]
OotOffset-rm: 0.509 arcsec [3.72σ]
KicOffset-rm: 0.086 arcsec [0.94σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008016214-01, PDC Light Curves

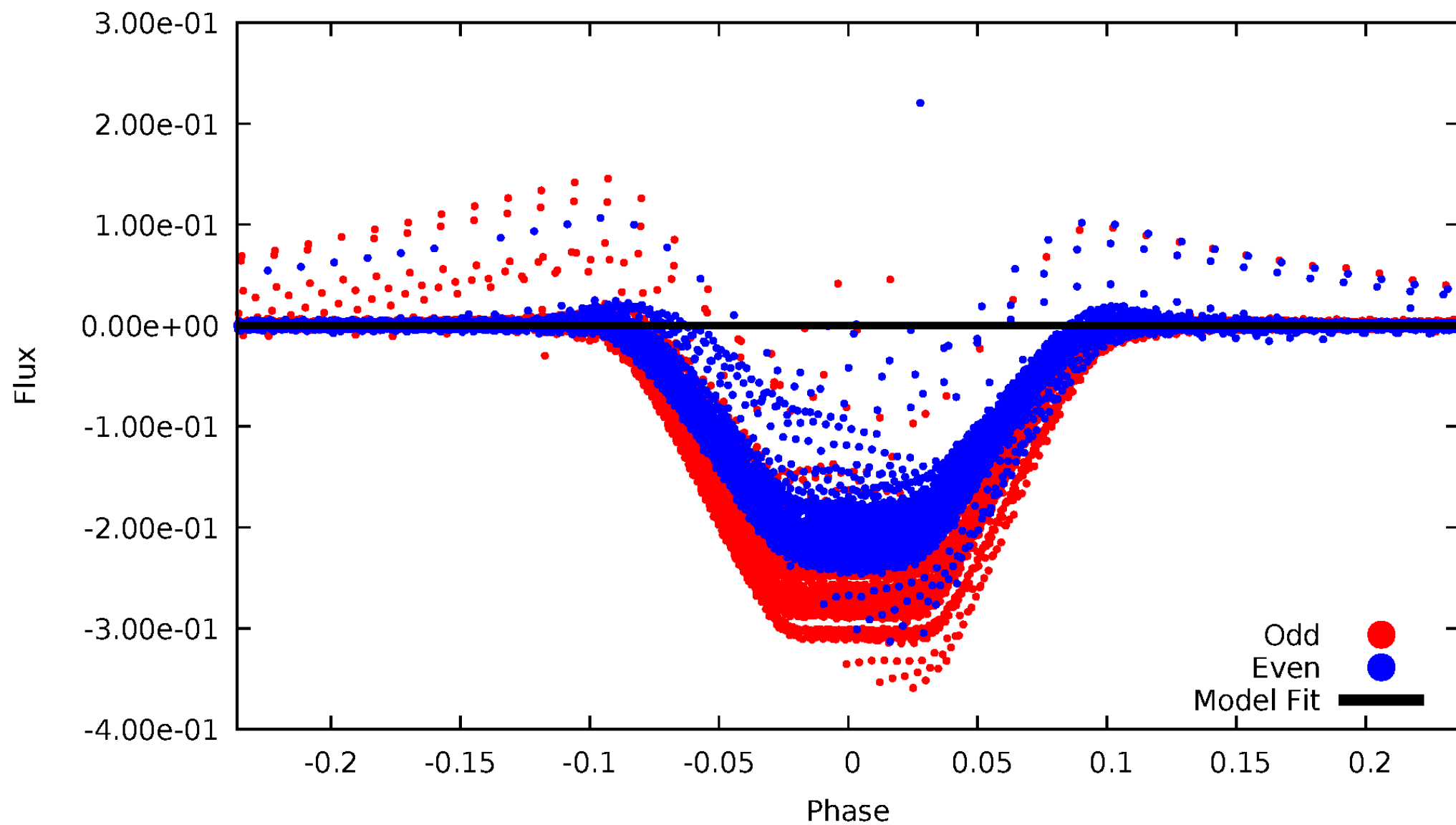


TCE 008016214-01



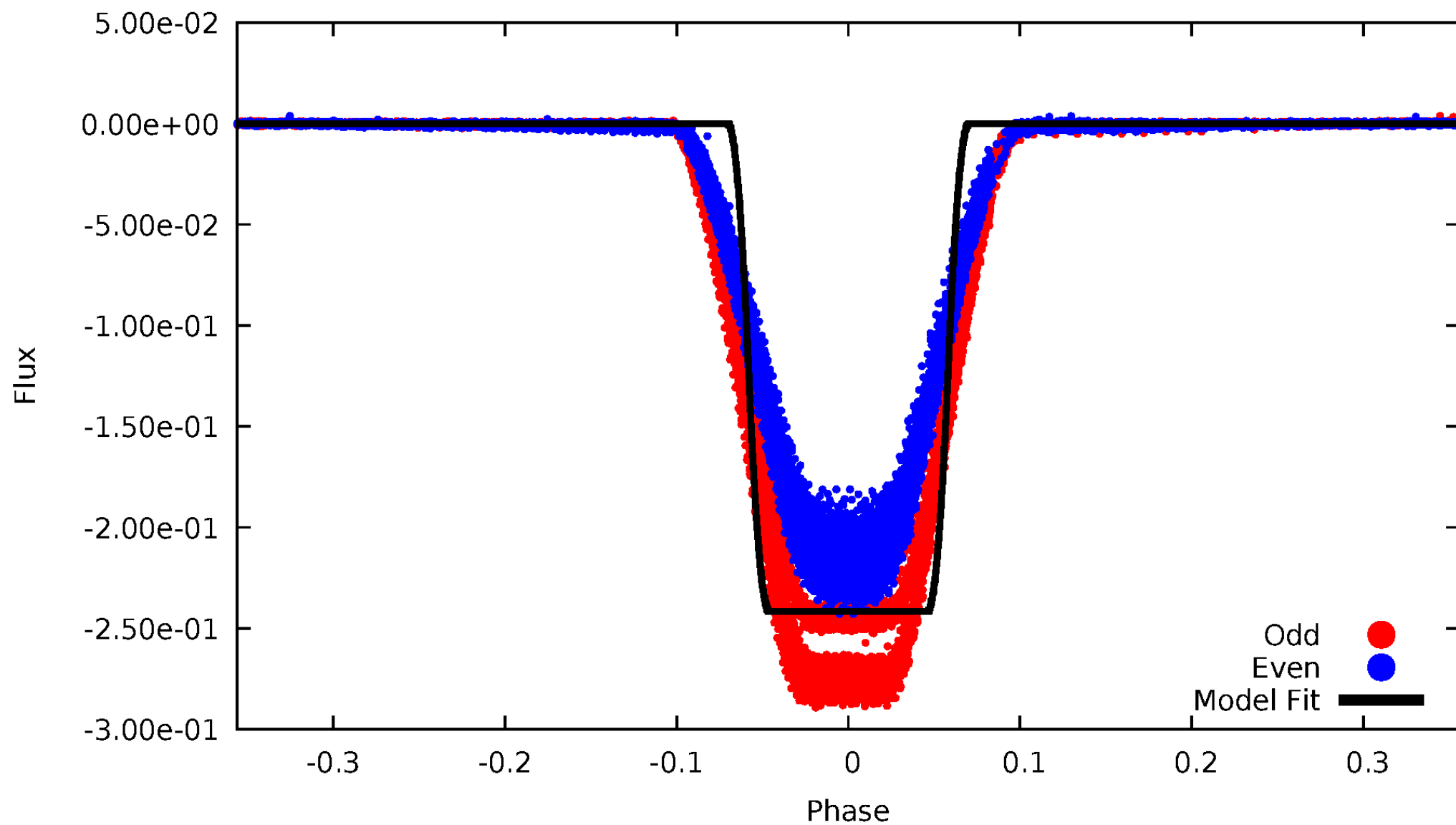
DV Odd/Even

TCE 008016214-01



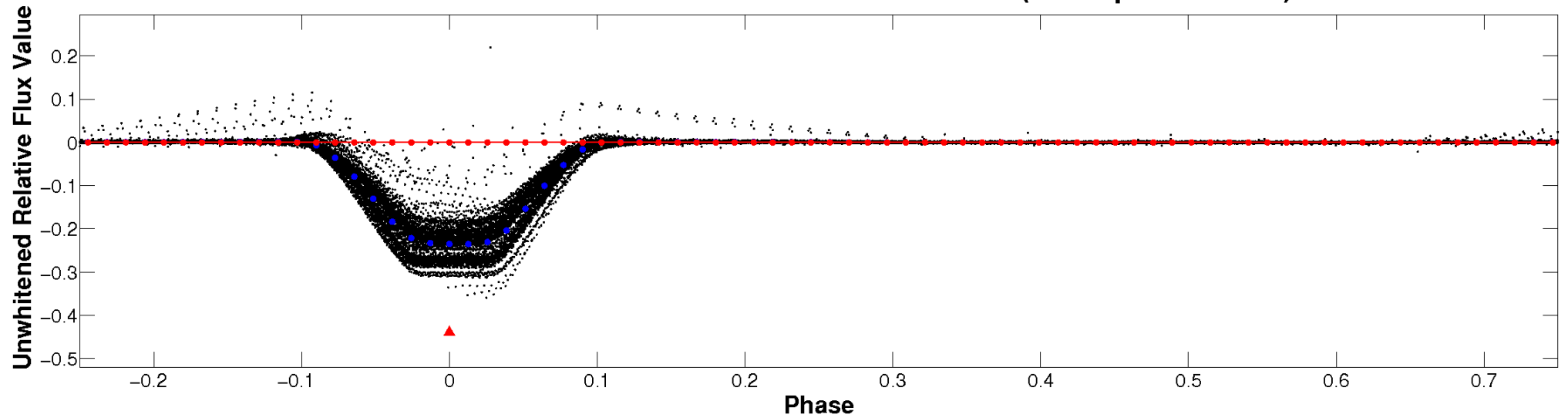
ALT Odd/Even

TCE 008016214-01



Non-Whitened Vs. Whitened Light Curve

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

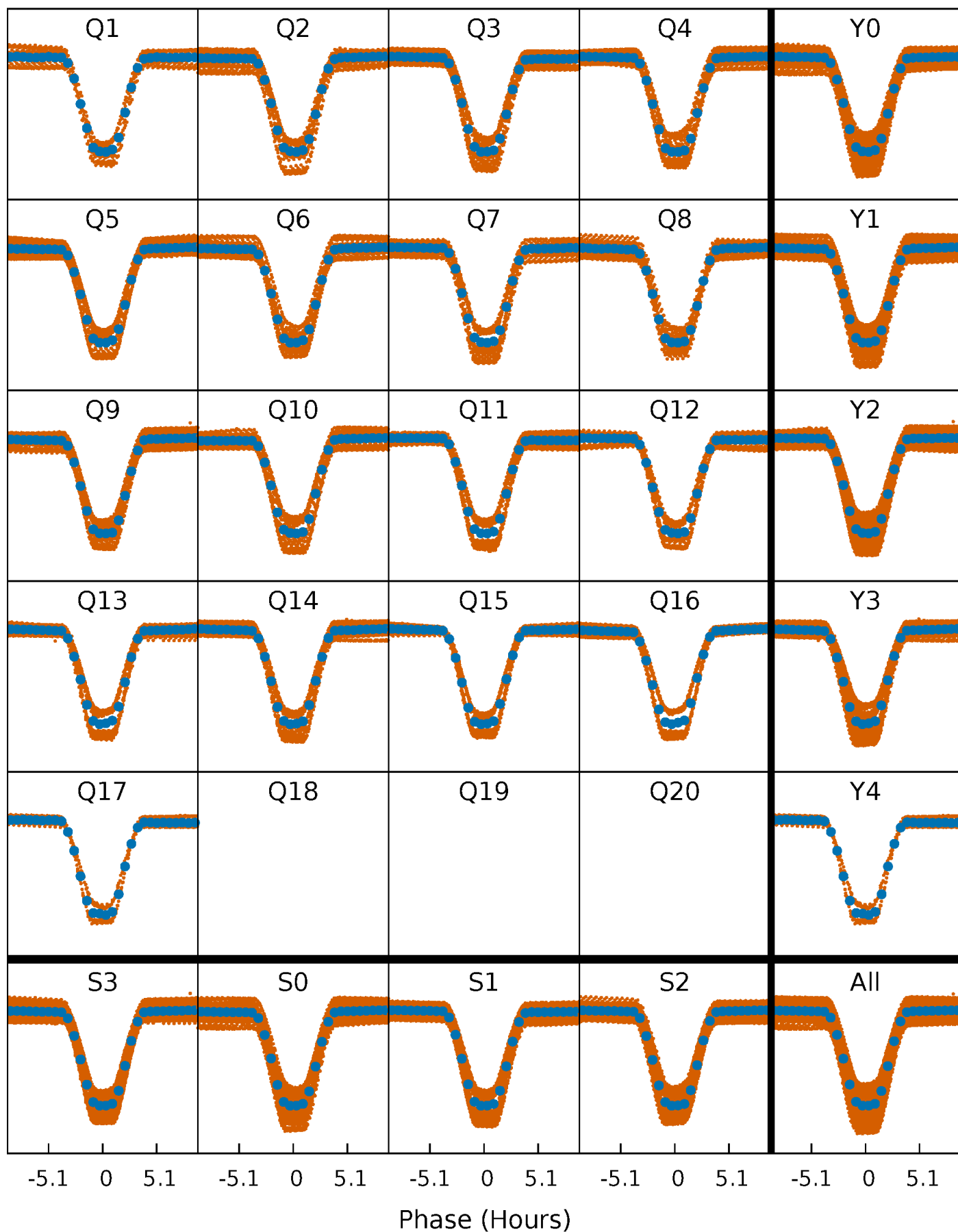


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



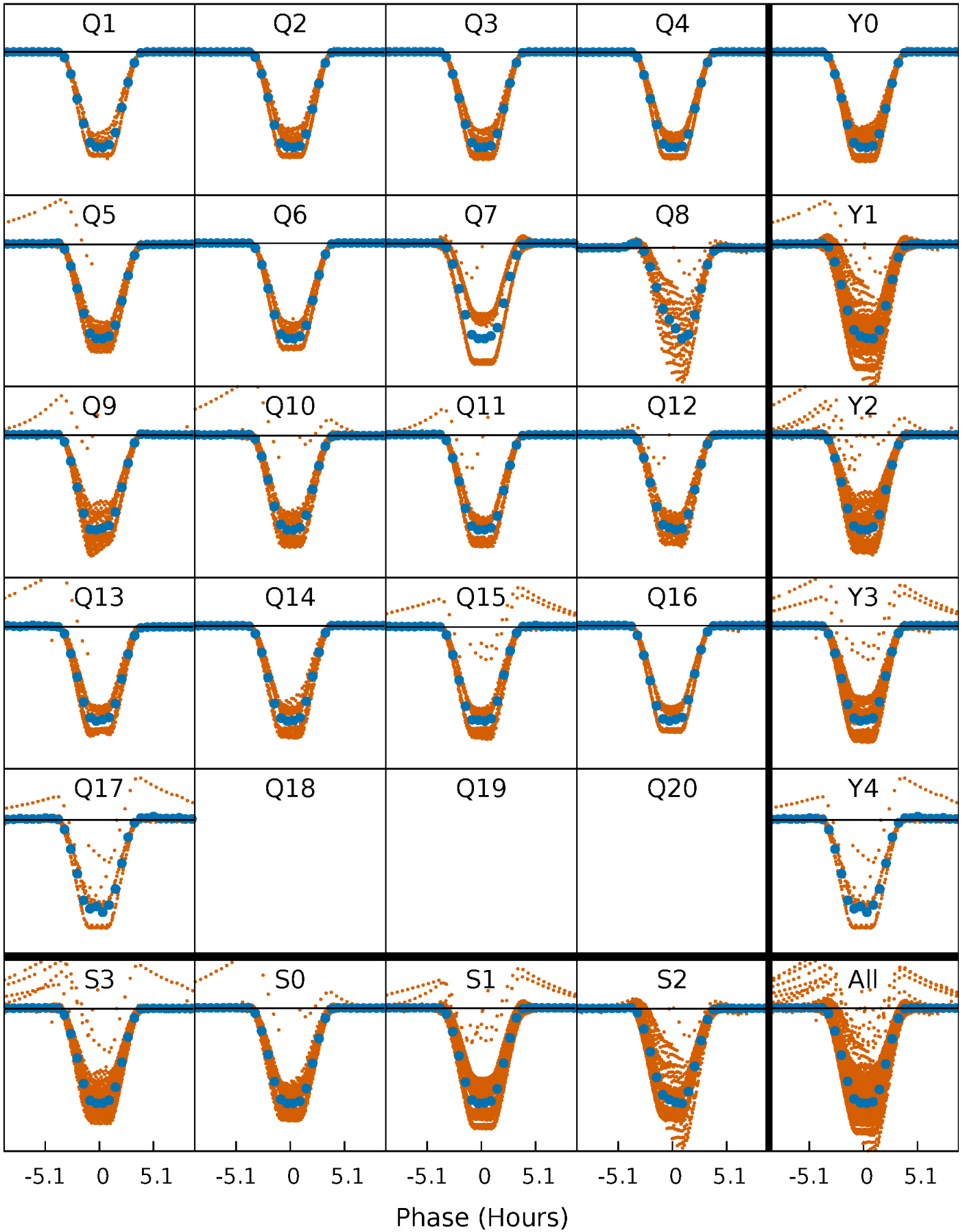
PDC Quarter-Phased Transit Curves

TCE 008016214-01 P= 1.587495 Days $T_0=132.130812$ (BKJD)



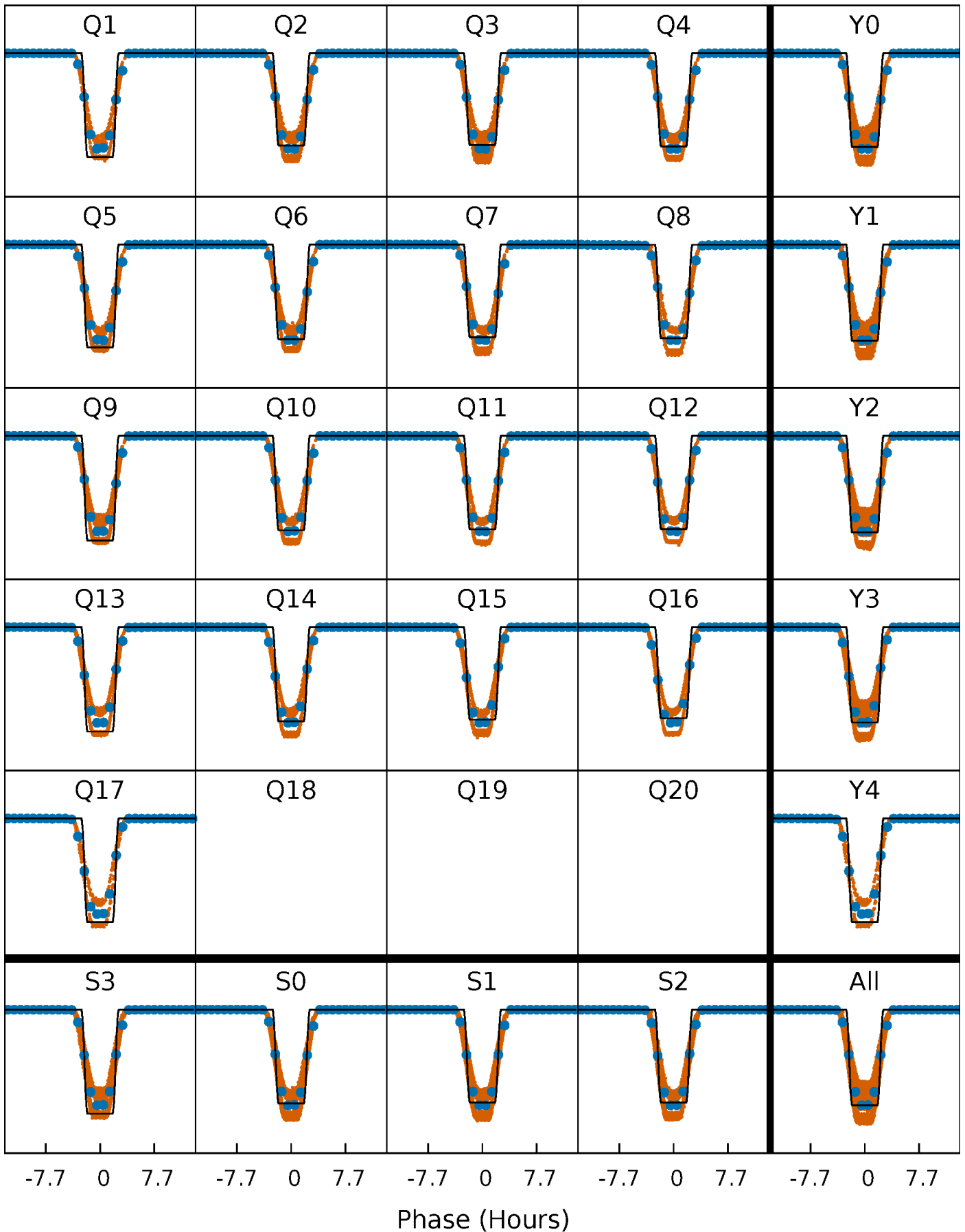
DV Quarter-Phased Transit Curves

TCE 008016214-01 P= 1.587495 Days $T_0=132.130812$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

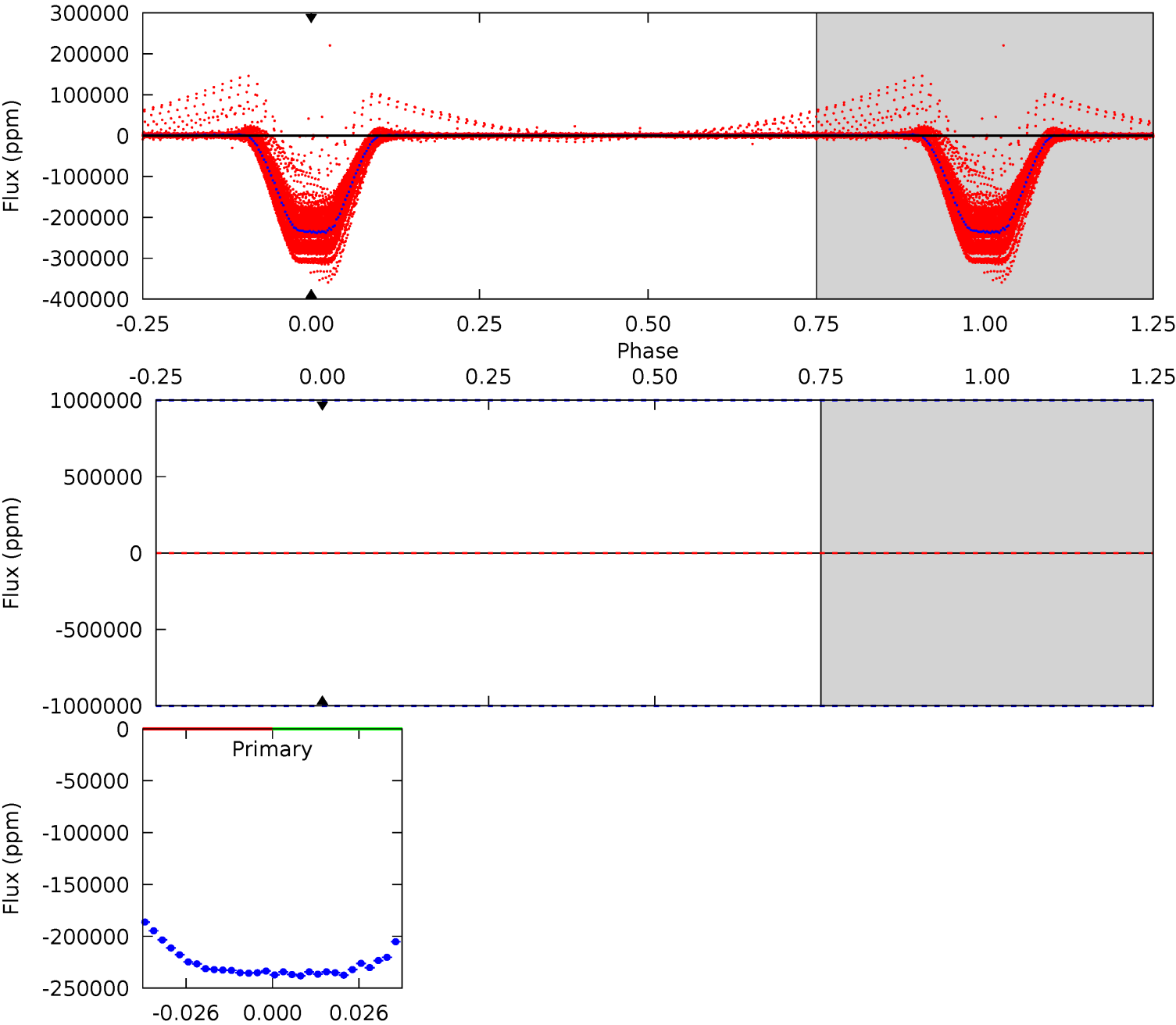
TCE 008016214-01 P= 1.587495 Days $T_0=132.134371$ (BKJD)



DV Model-Shift Uniqueness Test

008016214-01, P = 1.587495 Days, E = 130.543317 Days

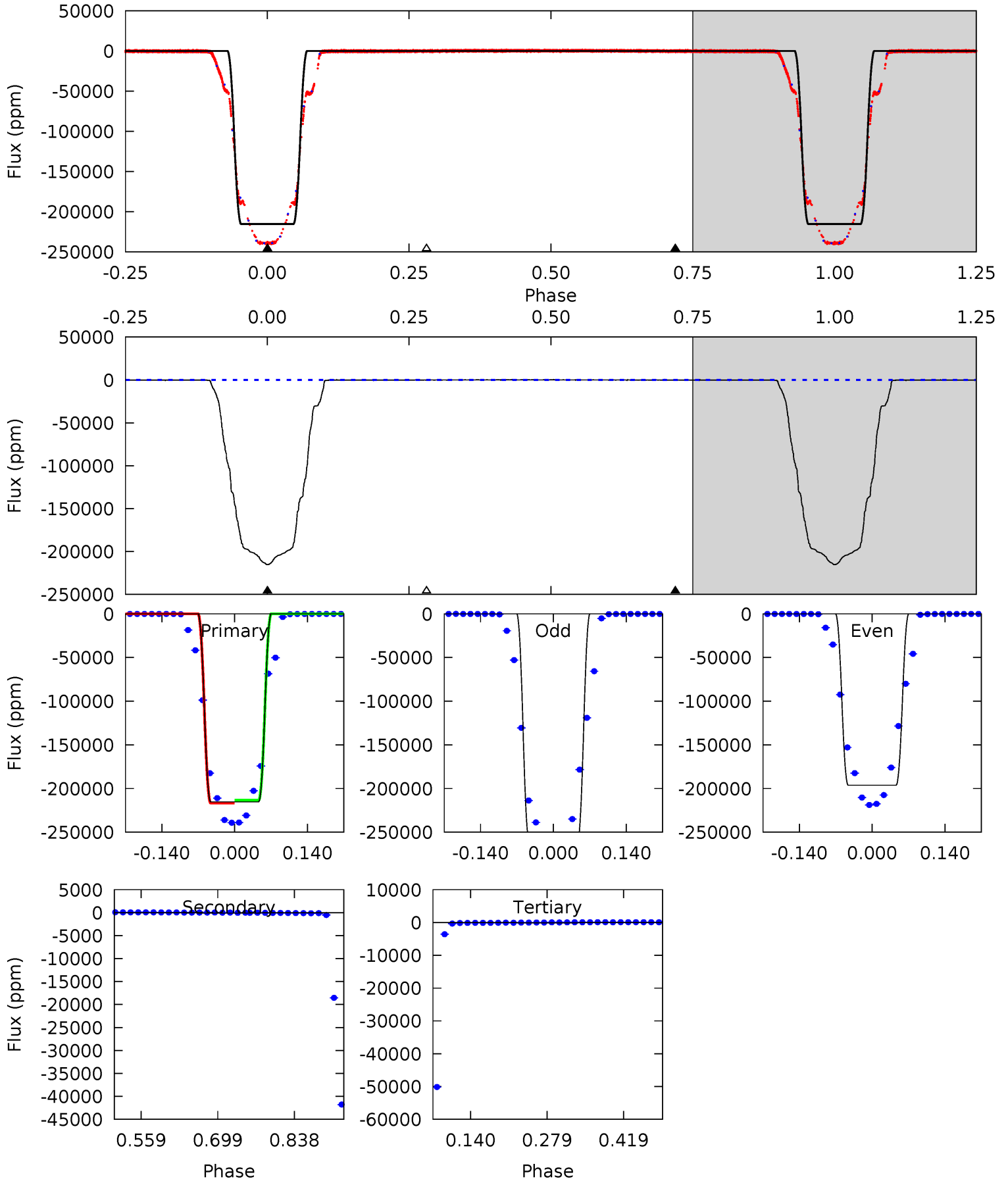
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008016214-01, P = 1.587495 Days, E = 130.546876 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9767	5.46	4.58	0	4.49	1.48	3.67	9762	9767	0.88	5.46	2819	1.00	0.00	0



Stellar Parameters For KIC 008016214

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5863^{+158}_{-158}	$4.566^{+0.040}_{-0.160}$	$-0.360^{+0.300}_{-0.300}$	$0.821^{+0.185}_{-0.066}$	$0.908^{+0.089}_{-0.099}$	$2.306^{+0.462}_{-1.018}$
	+3%/-3%	+1%/-4%	+83%/-83%	+23%/-8%	+10%/-11%	+20%/-44%
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 008016214-01 / KOI 6953.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$24.09^{+10.47}_{-9.46}$	2077^{+112}_{-79}	-3415^{+10467}_{-3160}	$-1.899^{+82.151}_{-64.315}$
Alt.	-120 ± 22	$45.89^{+10.30}_{-10.70}$	2075^{+125}_{-86}	-2514^{+58}_{-79}	$0.021^{+0.016}_{-0.007}$

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 $A_{obs} \gg 1.0$

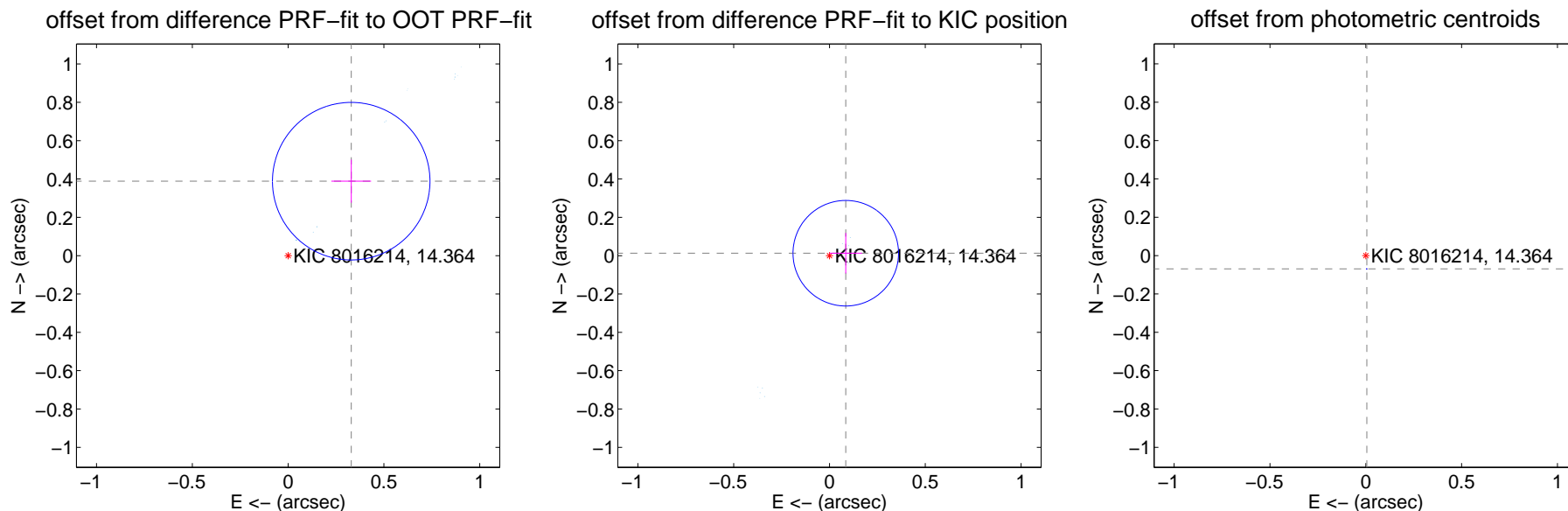
DV Centroid Data

Supplemental centroid analysis for 008016214-01. Kepler magnitude: 14.36. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

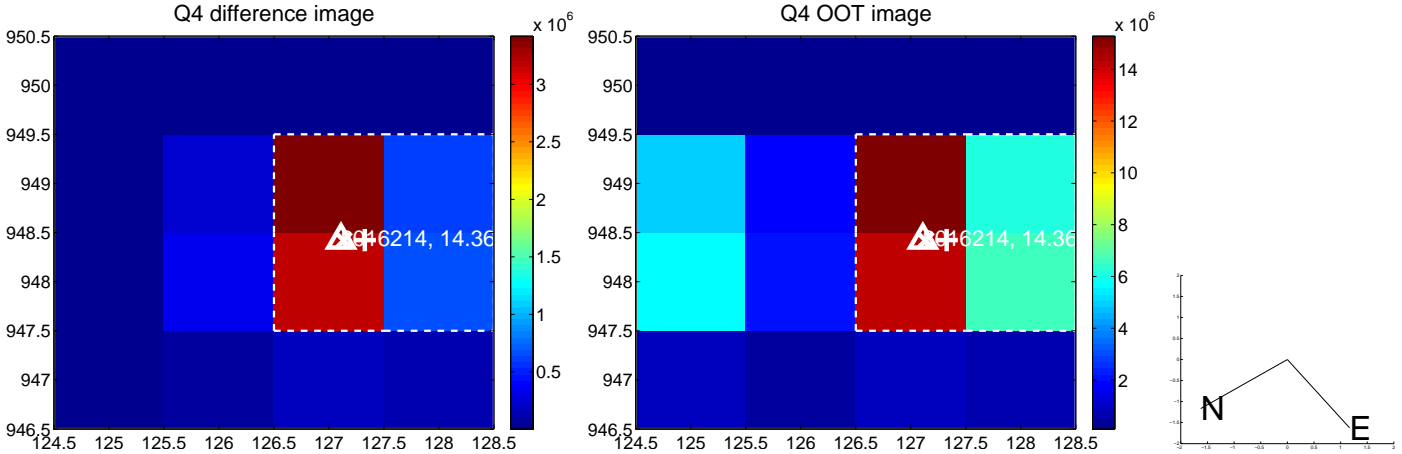
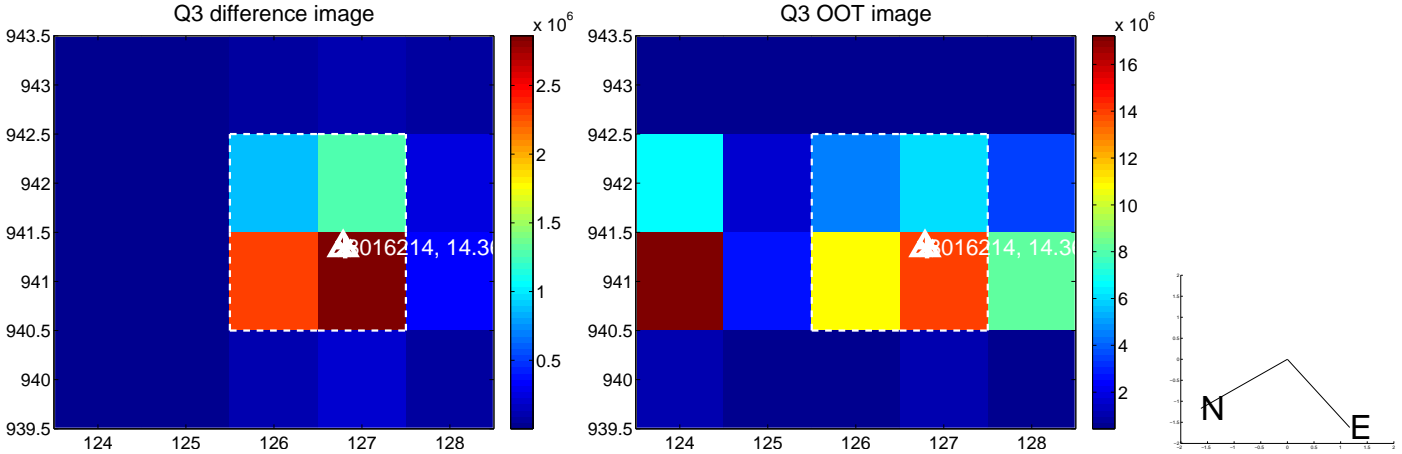
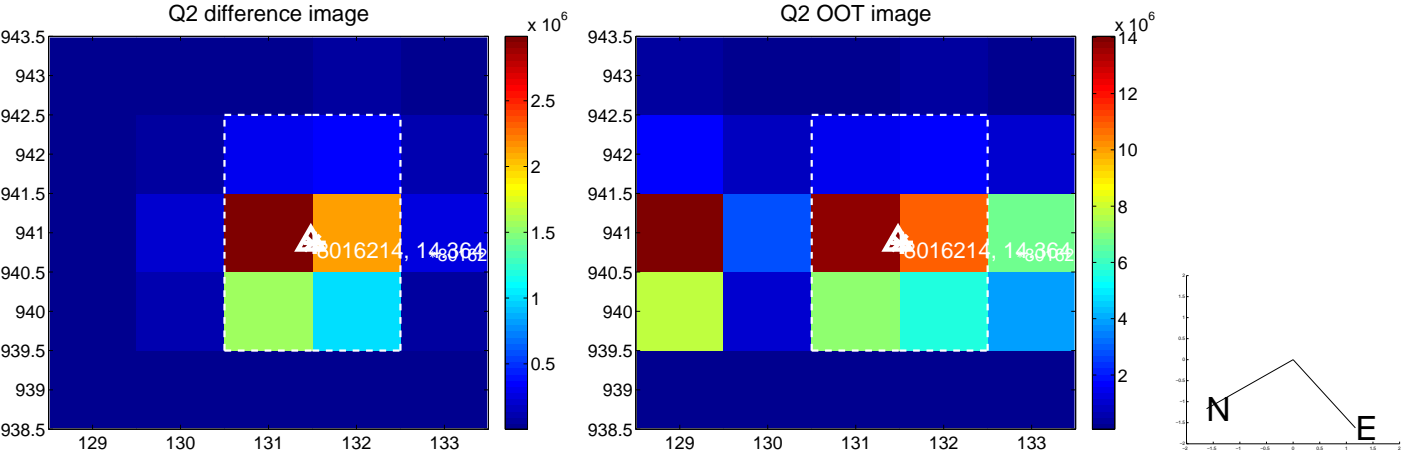
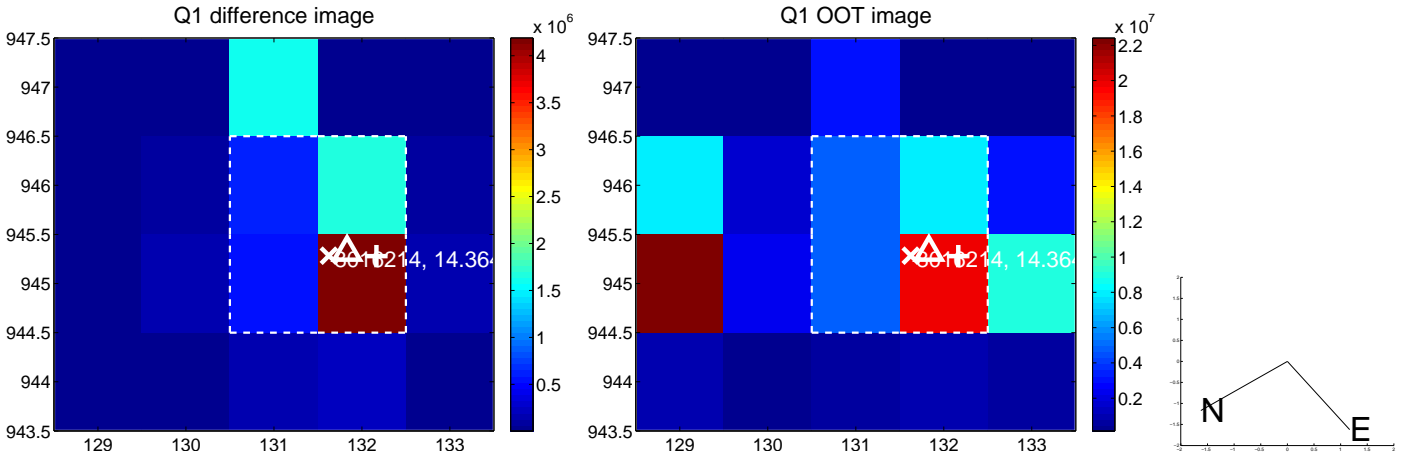
The OOT PRF centroid is offset from the target star catalog position by about 2.03 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.509 ± 0.137	3.72	-0.329 ± 0.104	0.389 ± 0.112
PRF-fit source offset from KIC position	0.086 ± 0.092	0.94	-0.085 ± 0.084	0.013 ± 0.106
photometric centroid source offset	0.07 ± 0.00	213.73	-0.01 ± 0.00	-0.07 ± 0.00

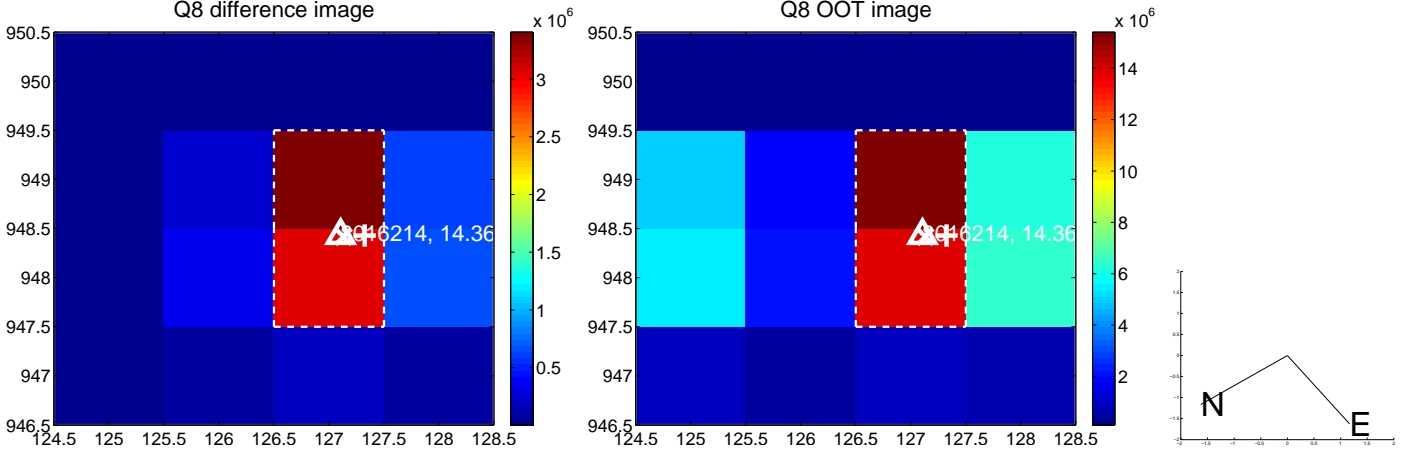
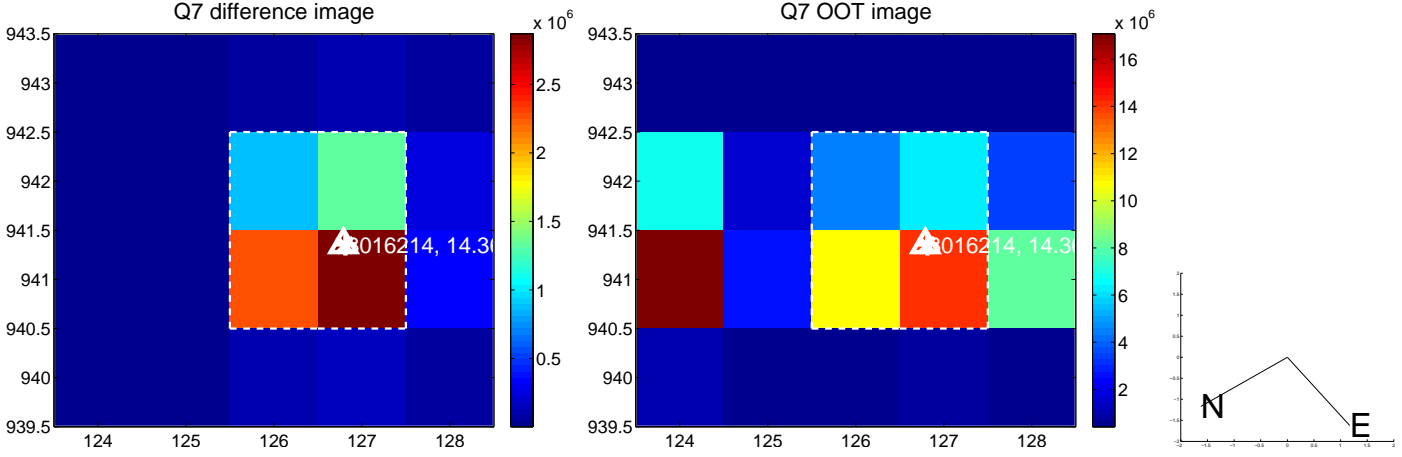
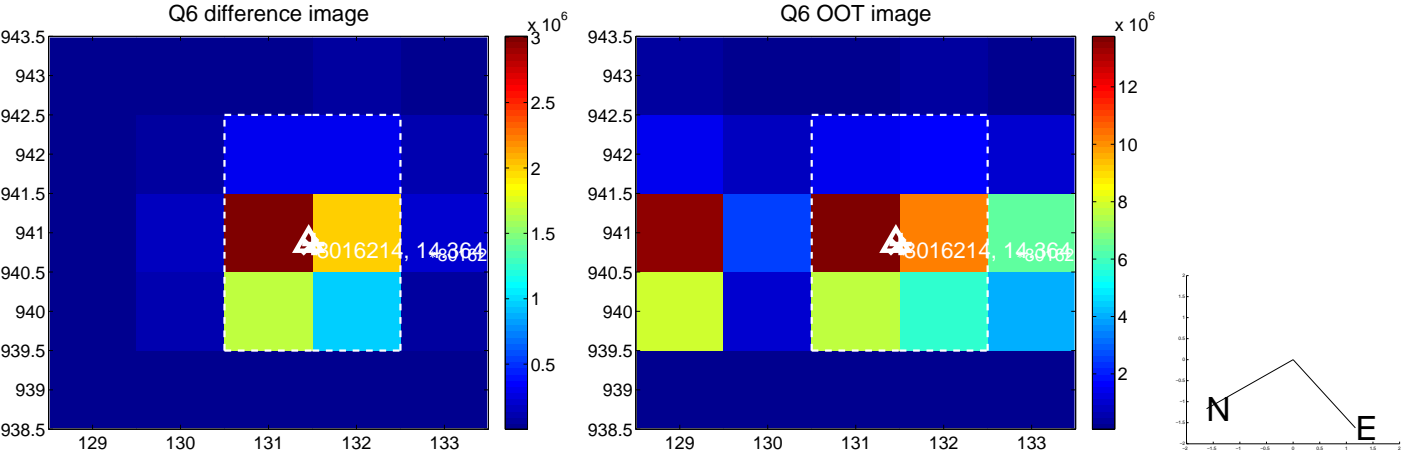
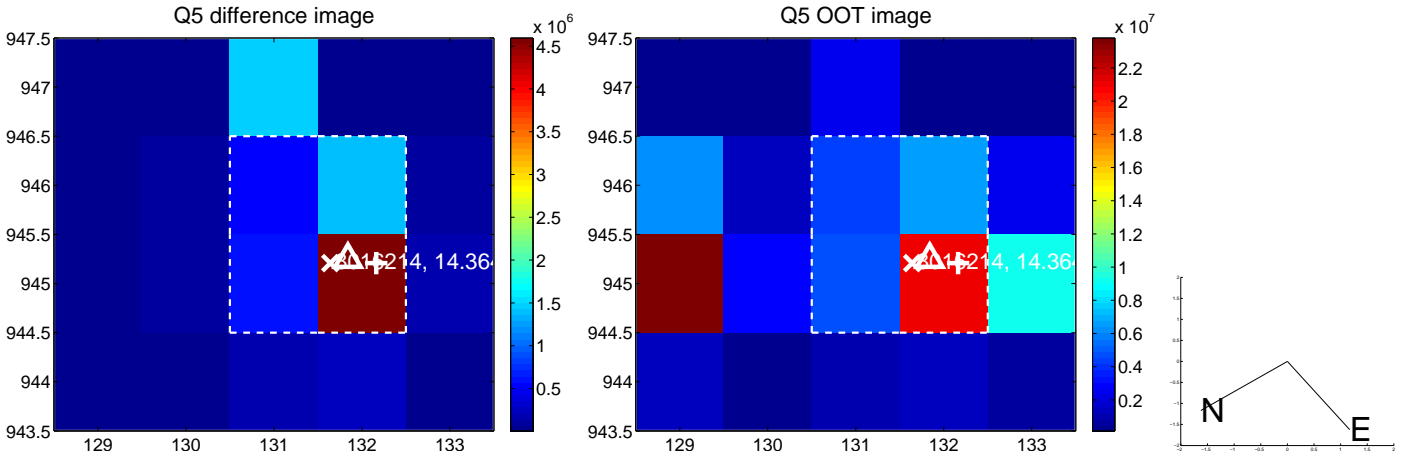


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

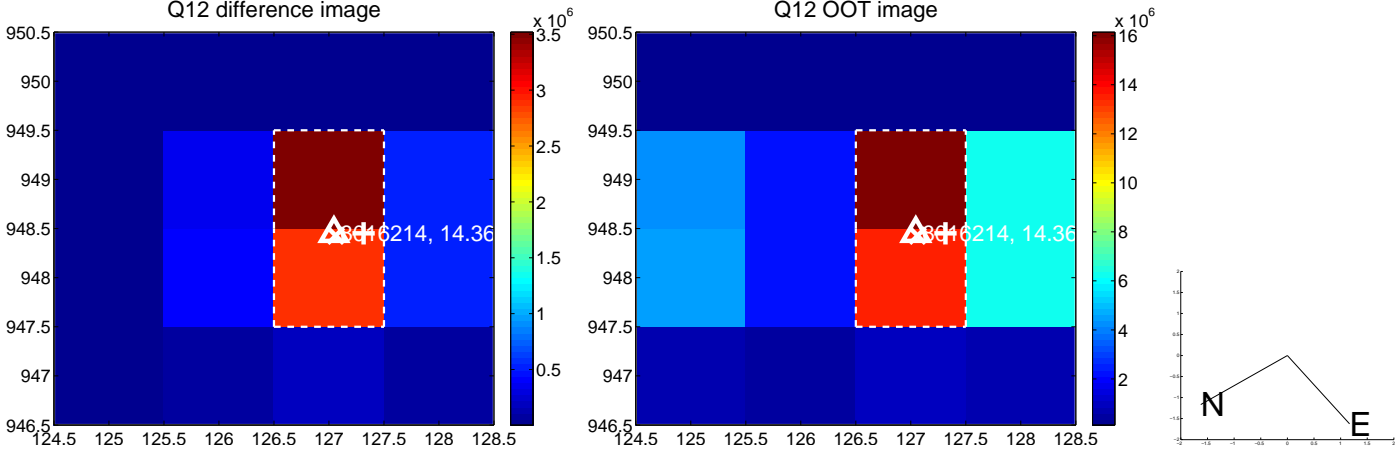
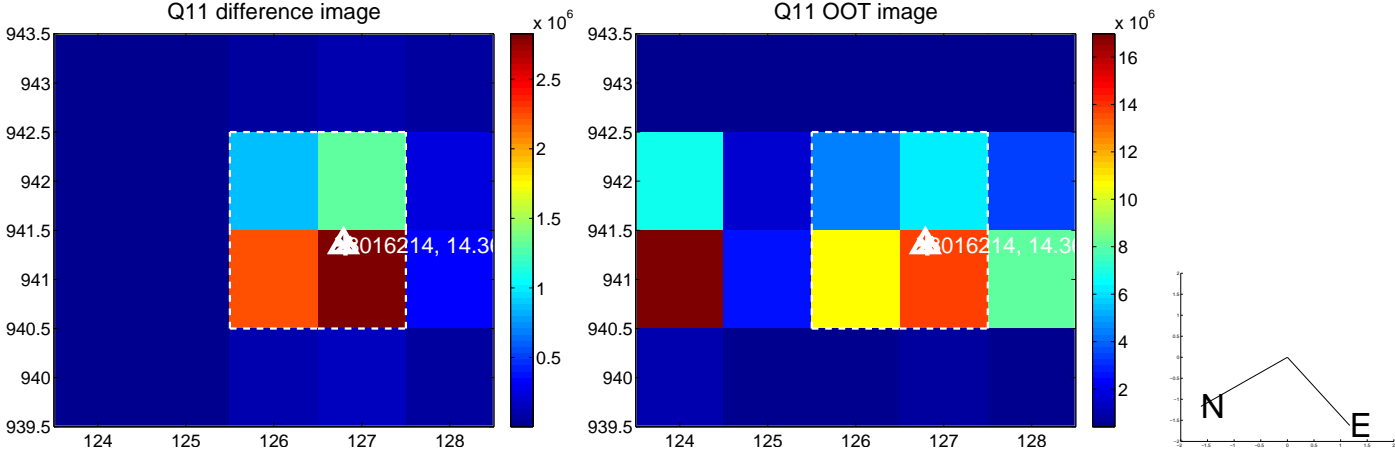
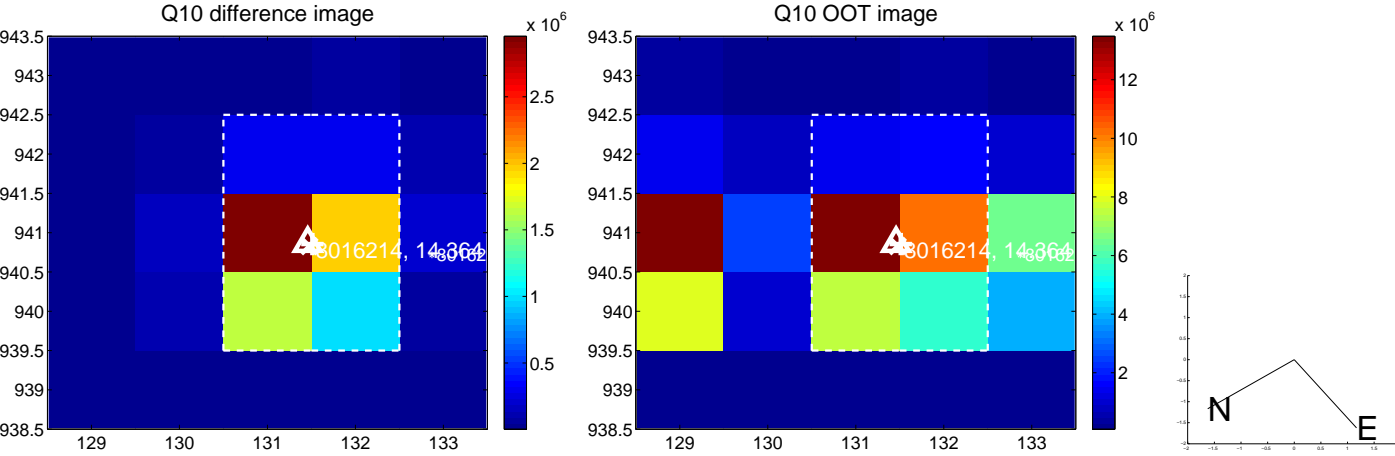
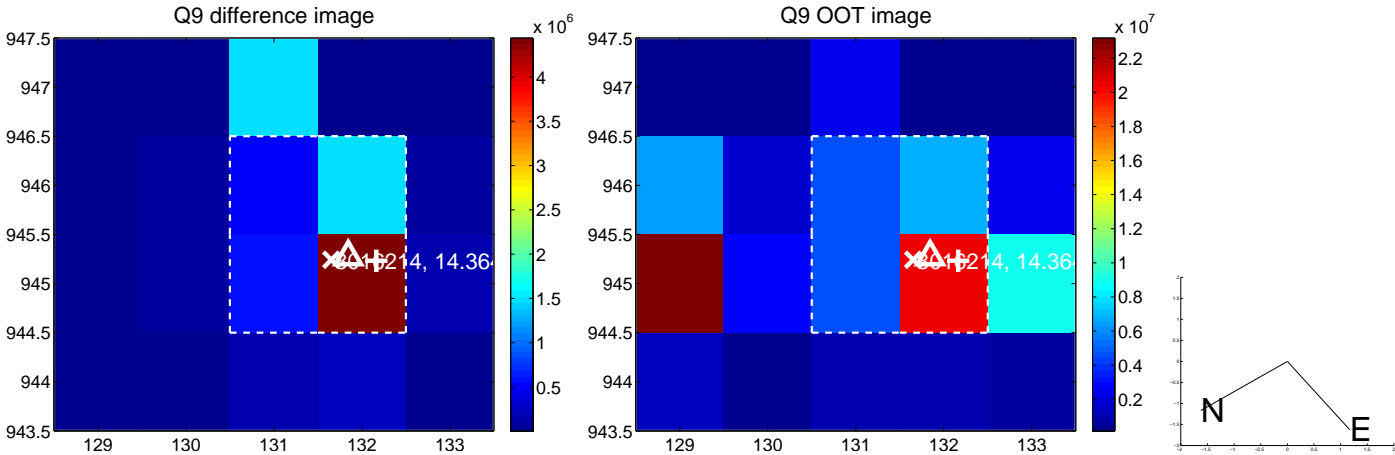
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



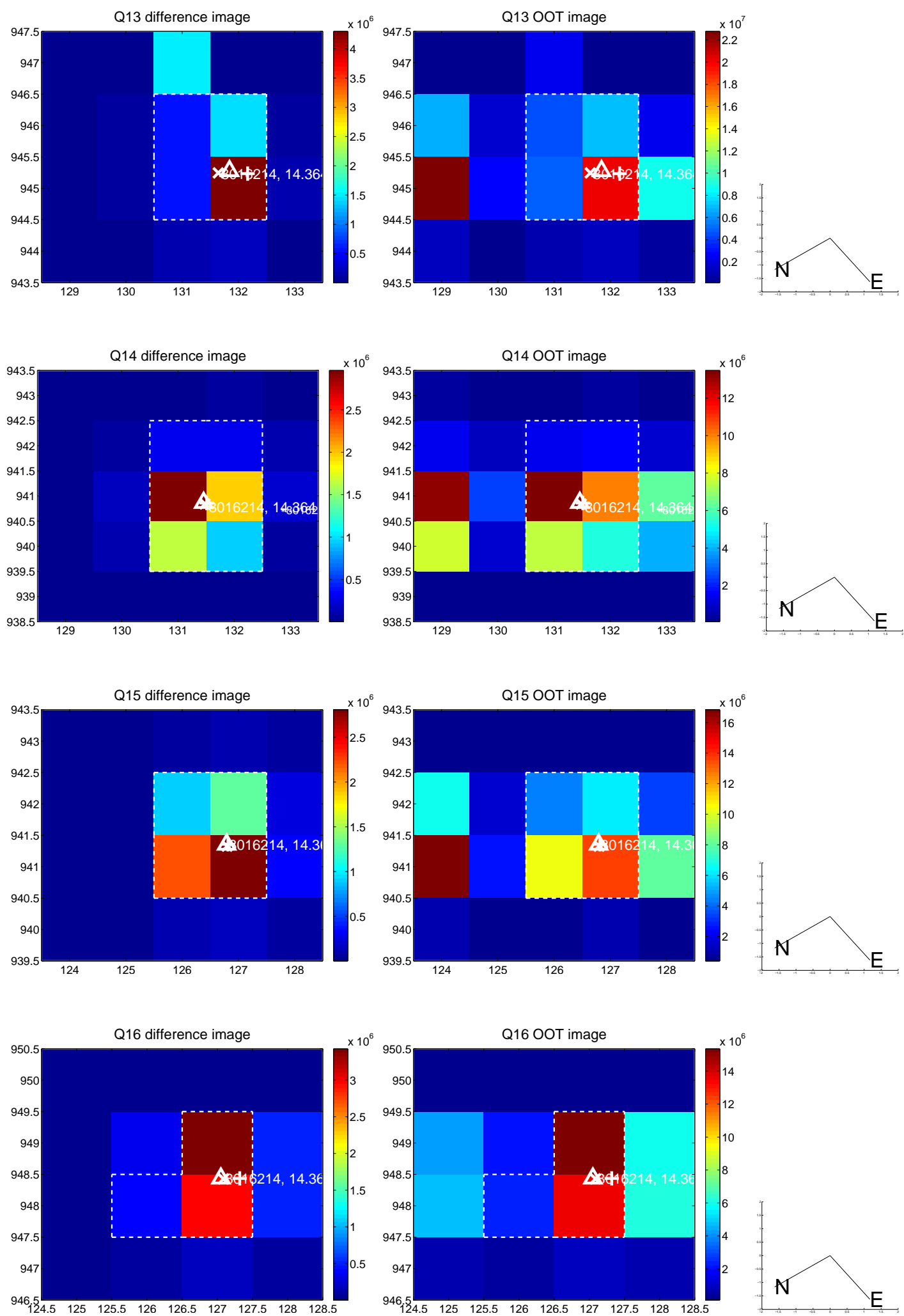
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



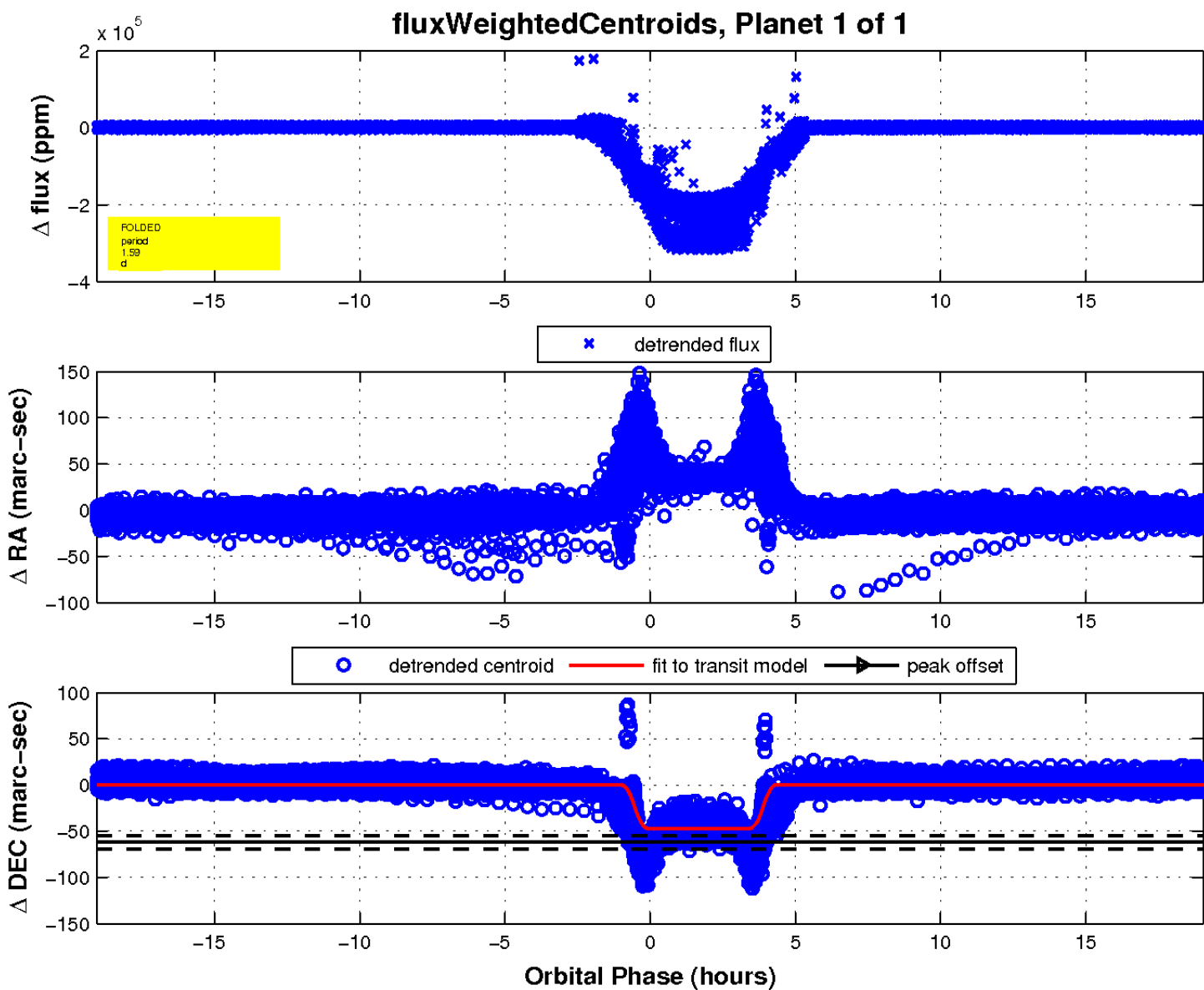
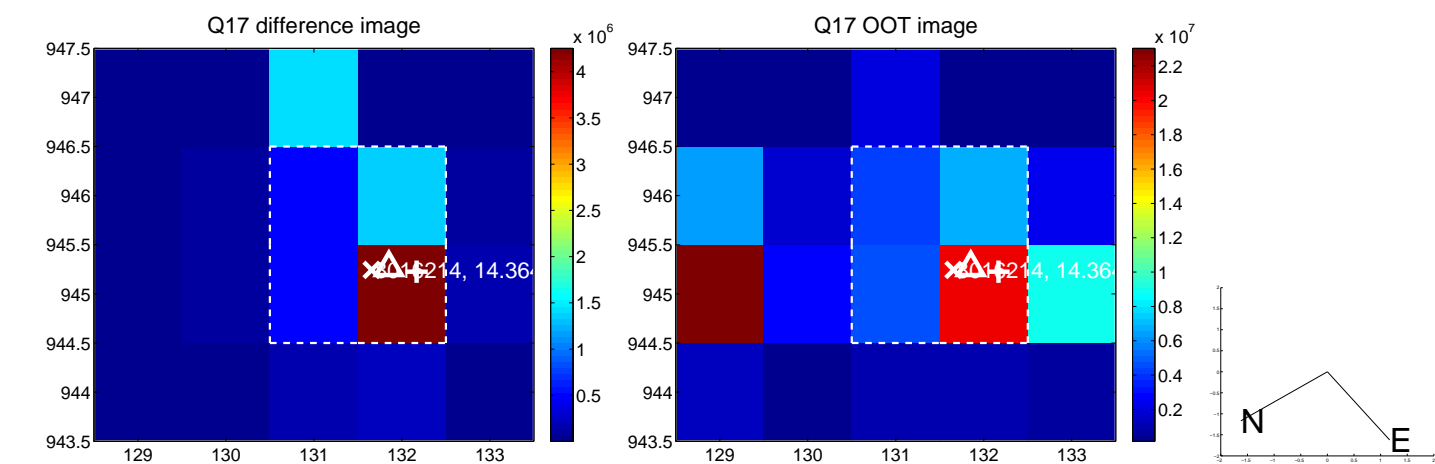
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UKIRT Image

Declination

