

KIC 007987866

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})
007987866-01	OBS	2363.01	3.138793	133.654012	171.3	1.793	18.1	20.1	0.72	5242	1.11	257.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007987866-01	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.

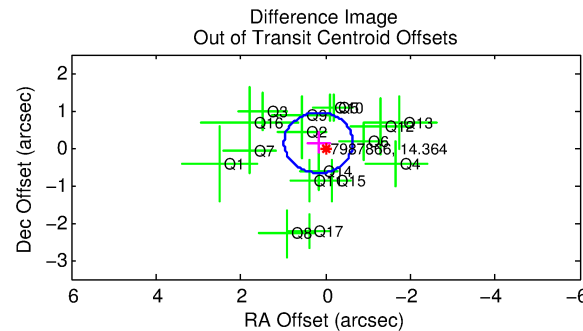
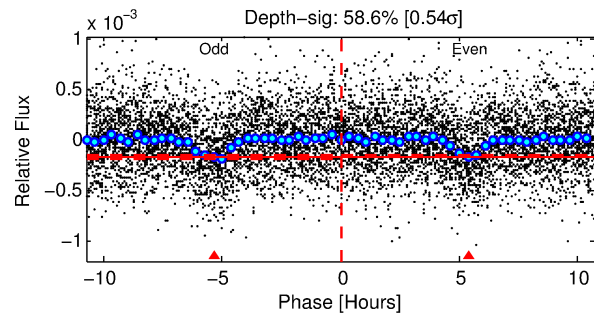
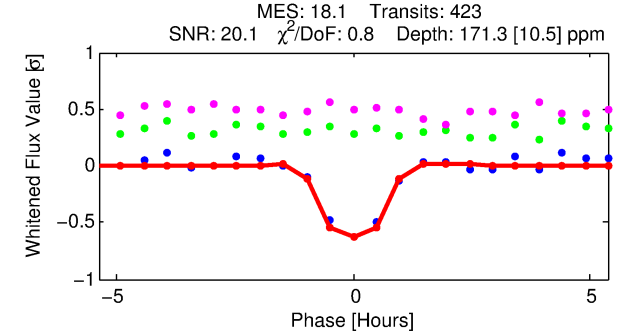
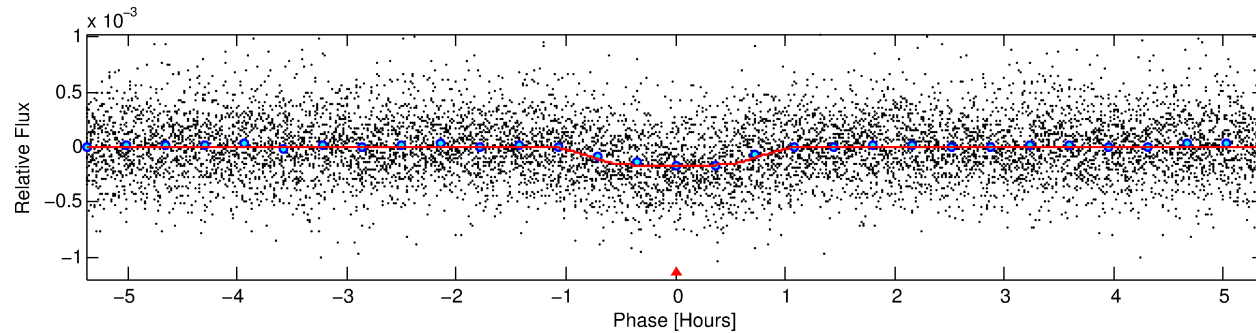
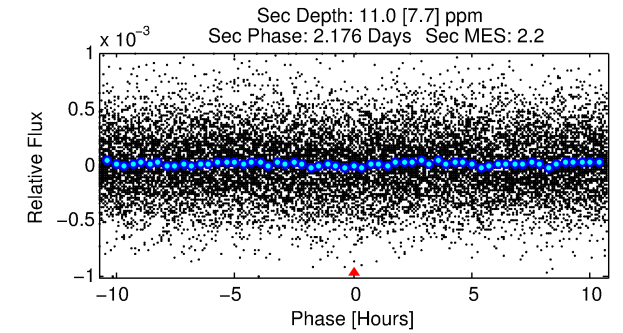
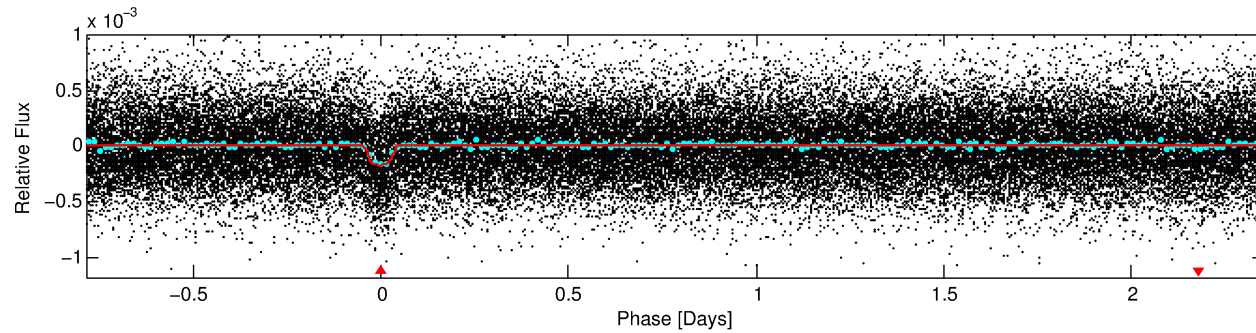
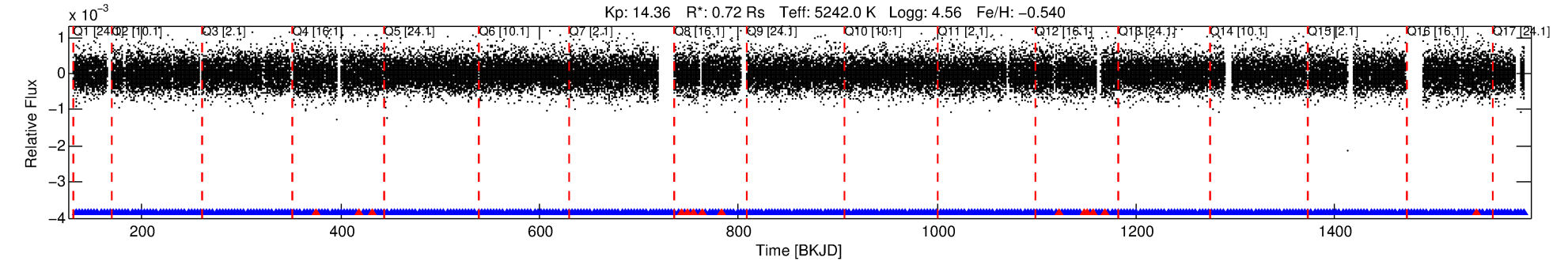
Ephemeris Match Information For 007987866-01

No Significant Match Found

DV One-Page Summary

KIC: 7987866 Candidate: 1 of 1 Period: 3.139 d

KOI: K02363.01 Corr: 0.960



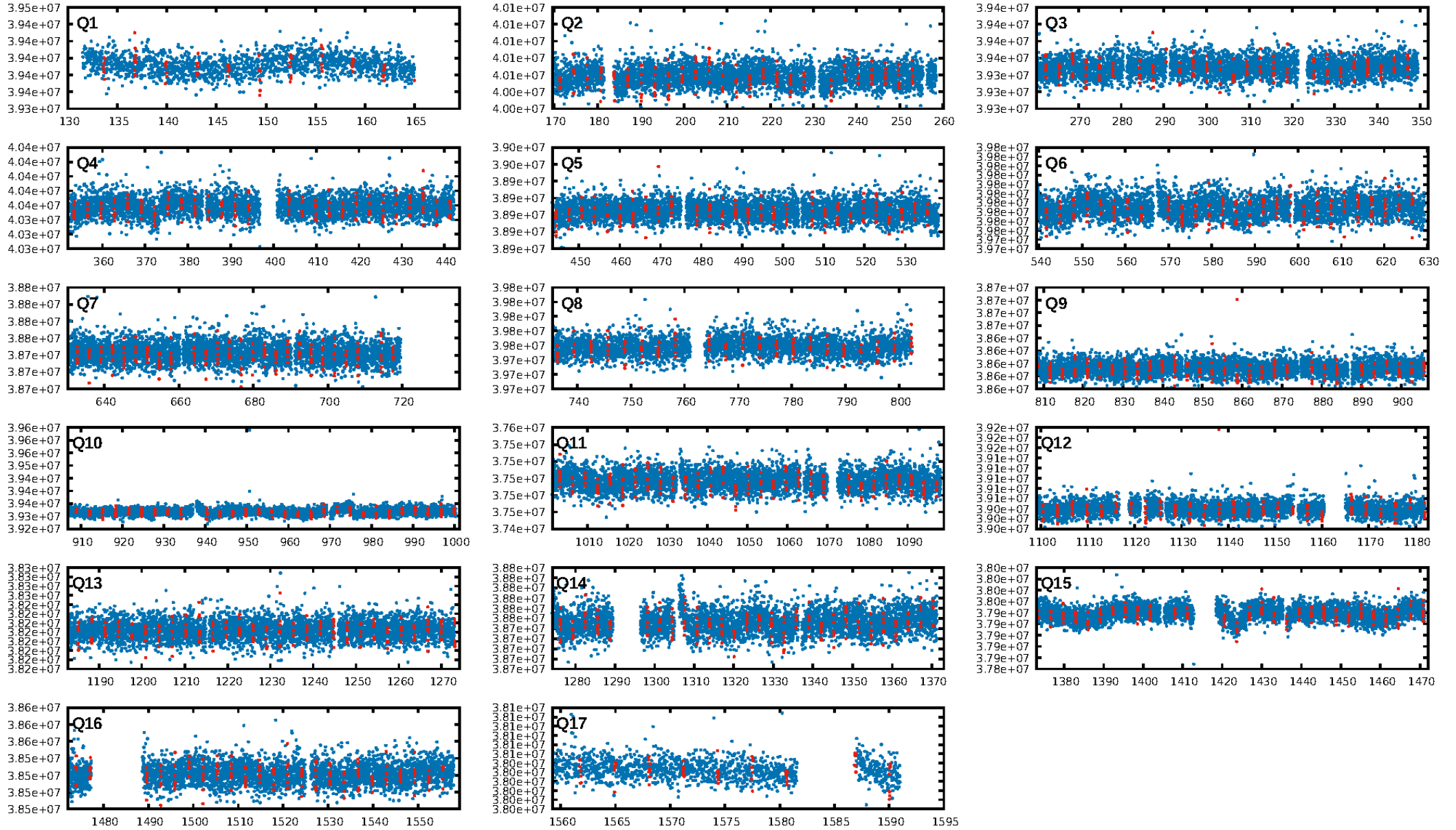
DV Fit Results:

Period = 3.13879 [0.00001] d
Epoch = 133.6540 [0.0017] BKJD
Rp/R* = 0.0141 [0.0079]
a/R* = 6.80 [16.01]
b = 0.88 [0.63]
Seff = 257.96 [54.91]
Teff = 1022 [54] K
Rp = 1.11 [0.64] Re
a = 0.0370 [0.0043] AU
Ag = 6.69 [8.87] [0.64σ]
Teffp = 2541 [838] K [1.81σ]

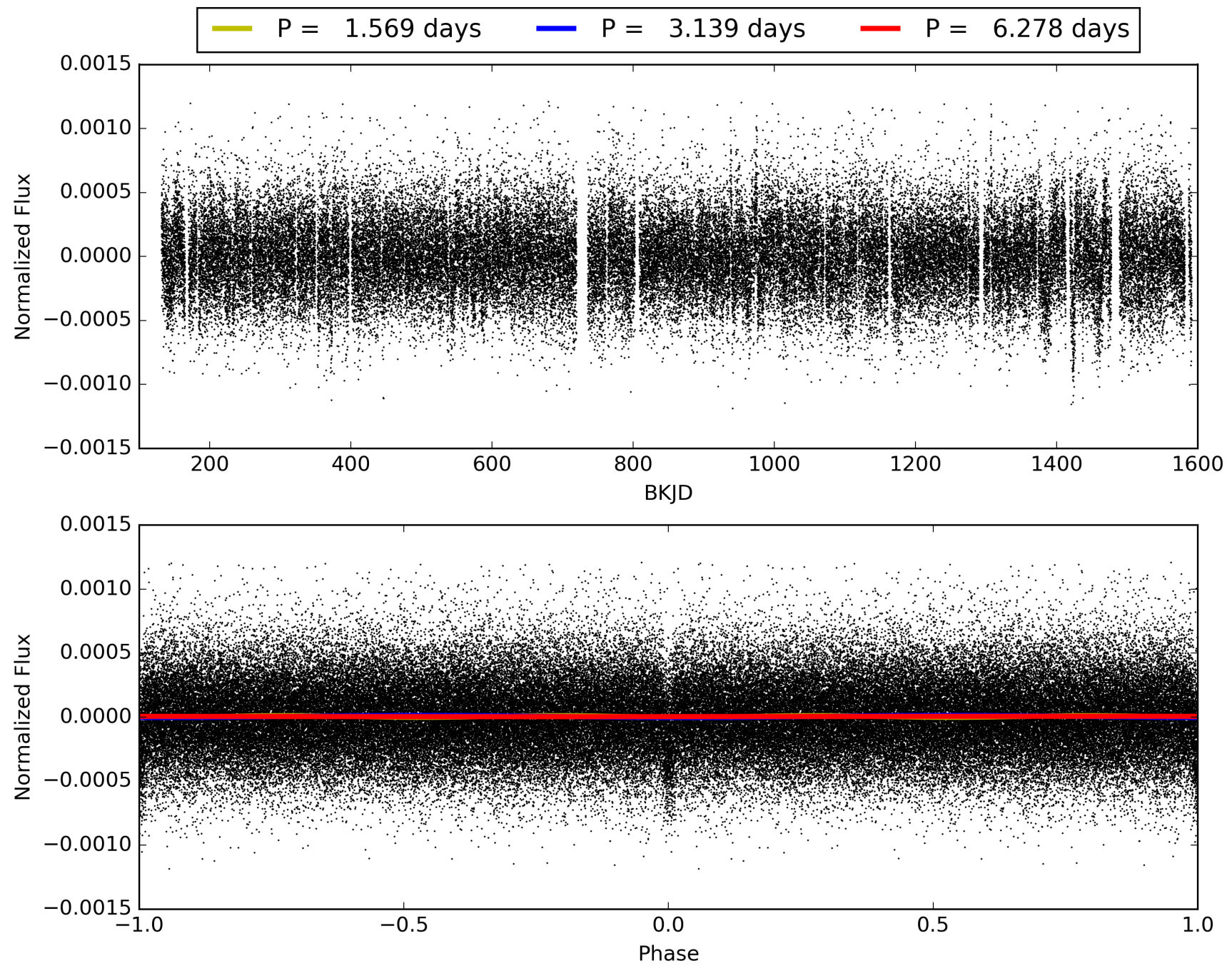
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.64e-71
RollingBand-fgt: 0.97 [390/404]
GhostDiagnostic-chr: -12.69
Centroid-sig: 86.9%
Centroid-so: 0.409 arcsec [0.50σ]
OotOffset-rm: 0.217 arcsec [0.80σ]
KicOffset-rm: 0.127 arcsec [0.45σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007987866-01, PDC Light Curves

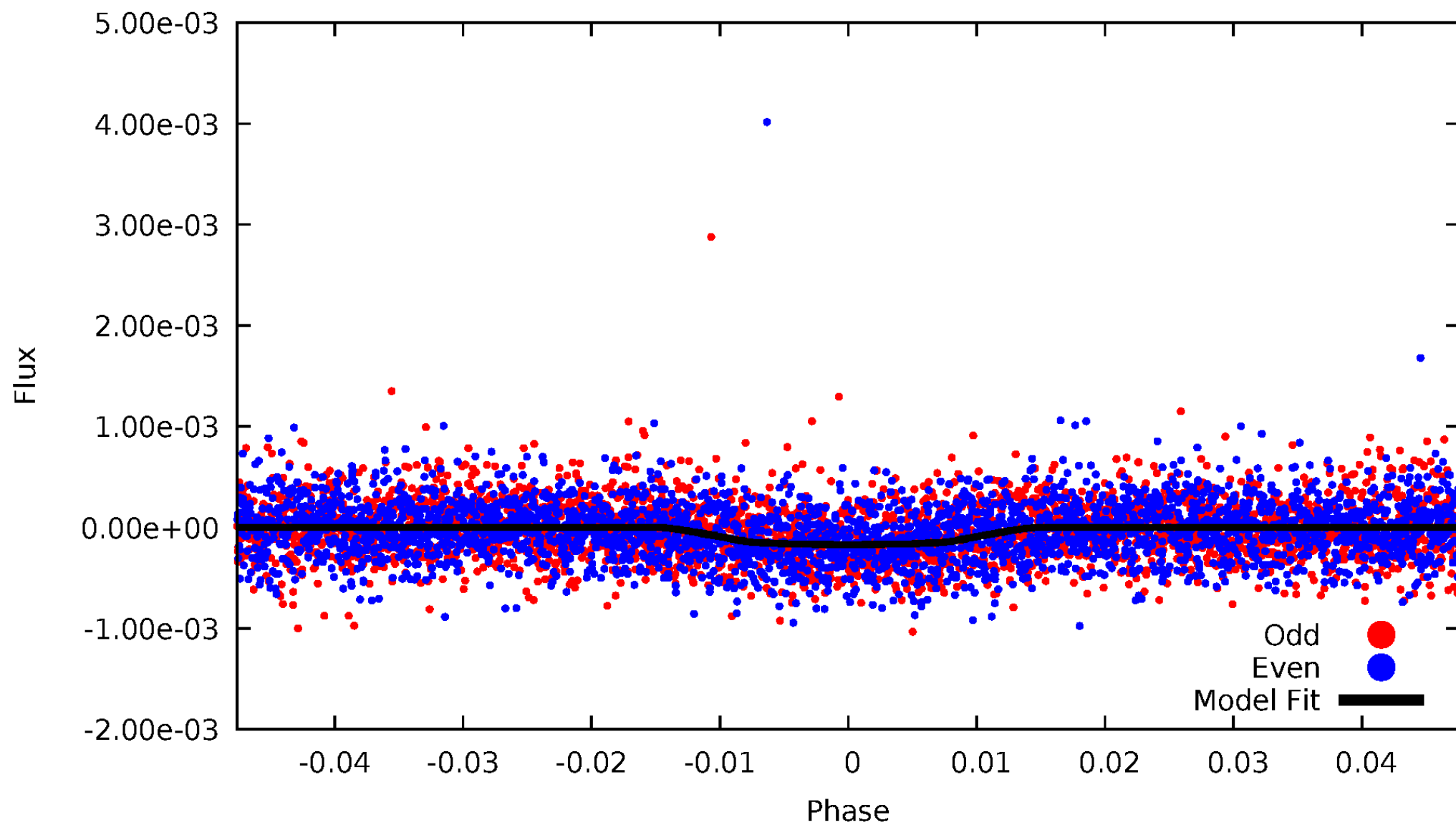


TCE 007987866-01



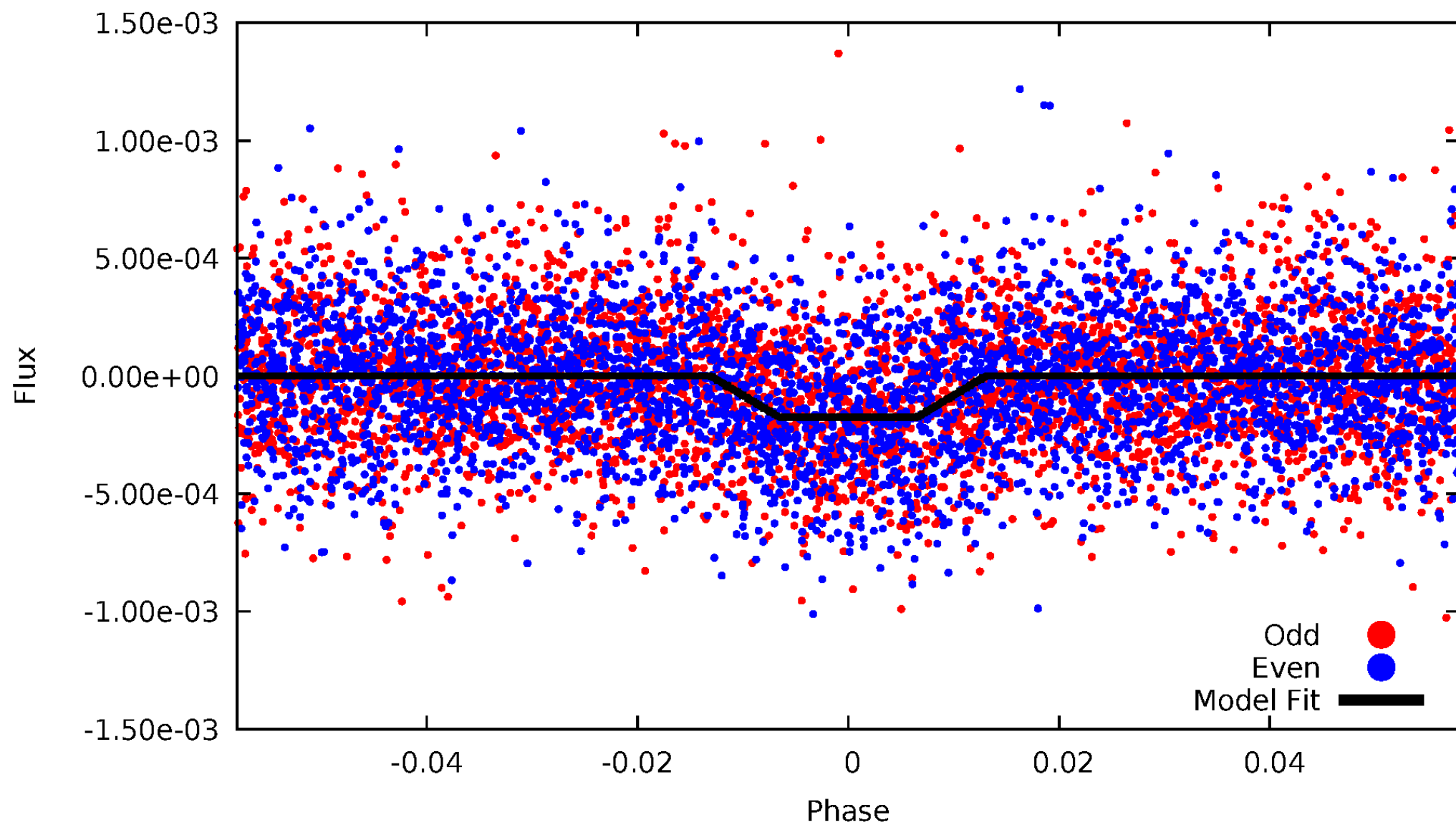
DV Odd/Even

TCE 007987866-01

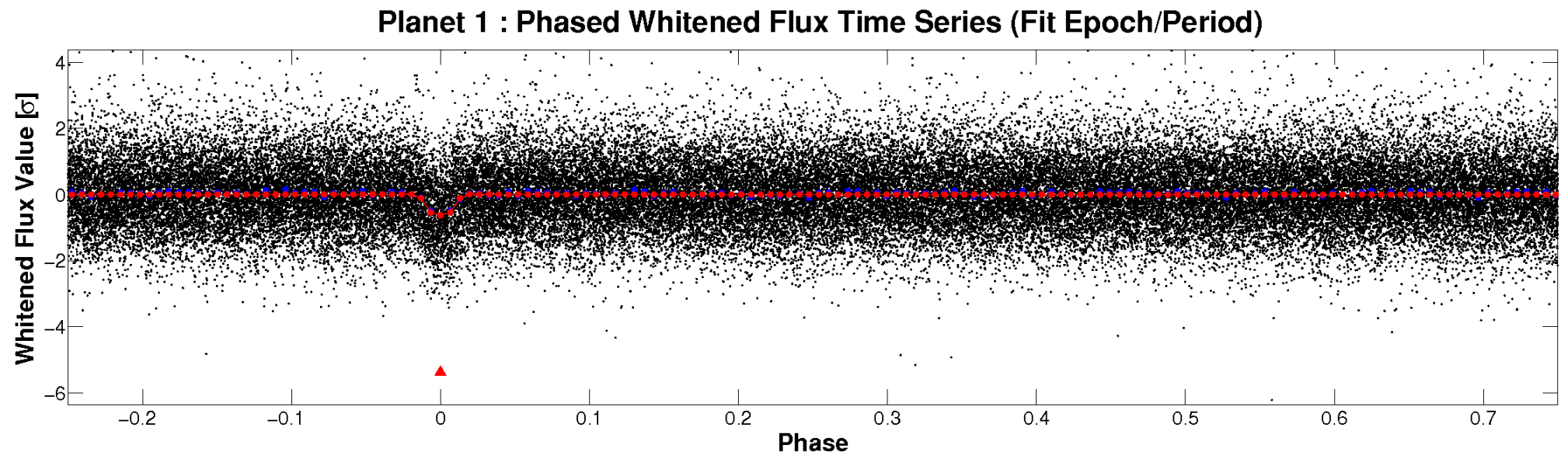
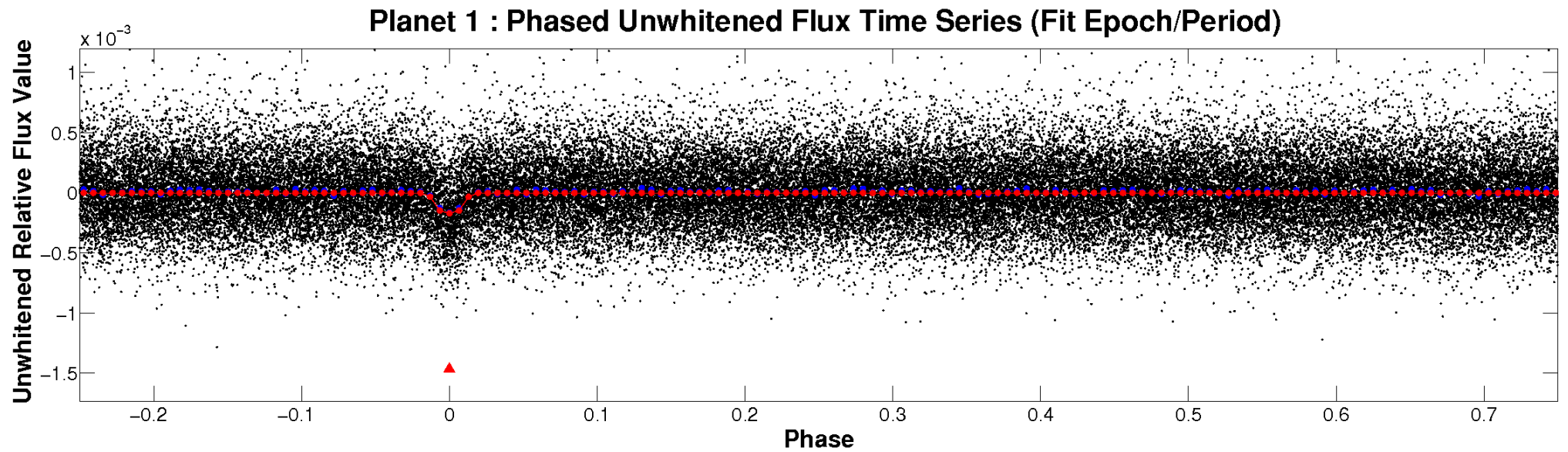


ALT Odd/Even

TCE 007987866-01

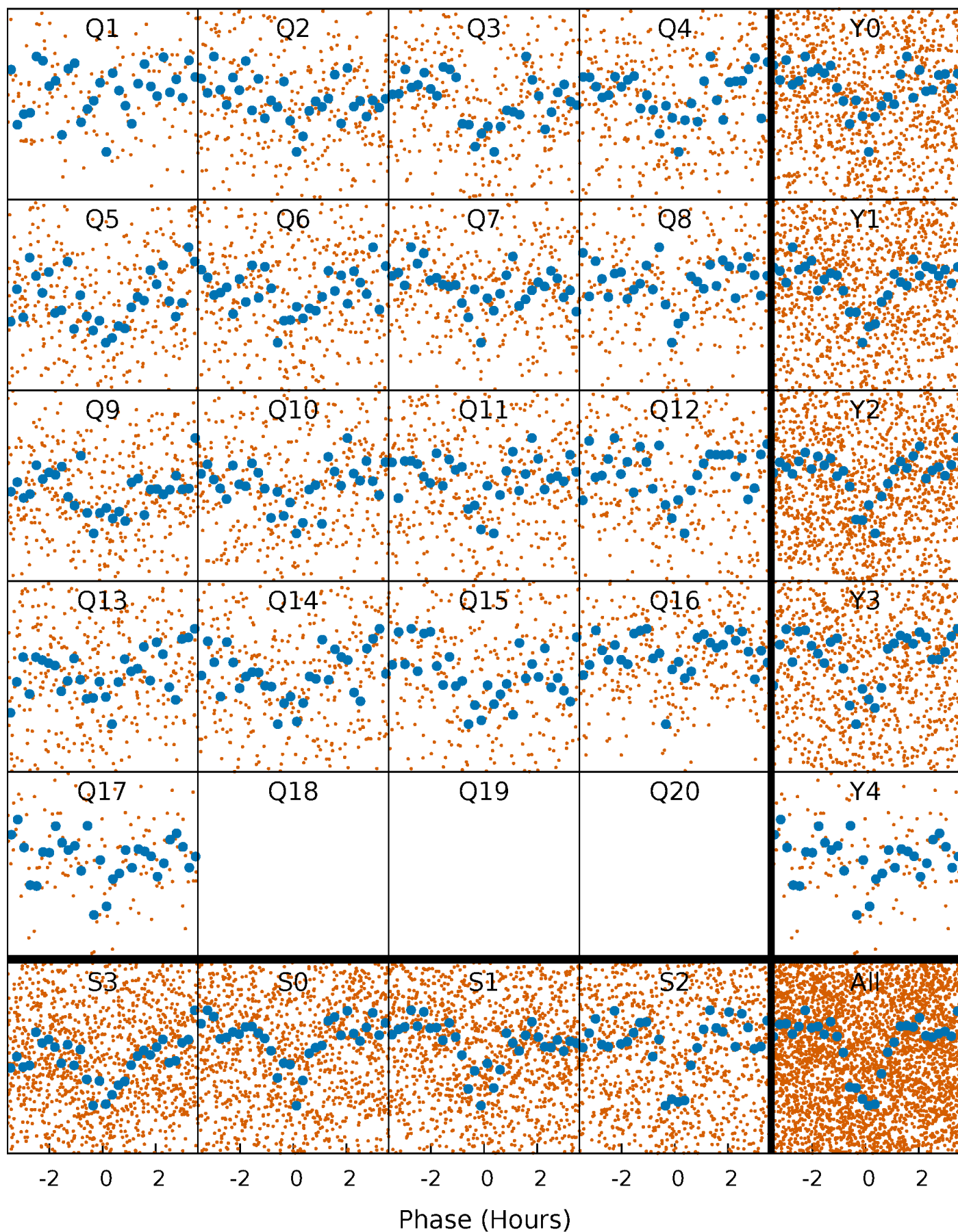


Non-Whitened Vs. Whitened Light Curve



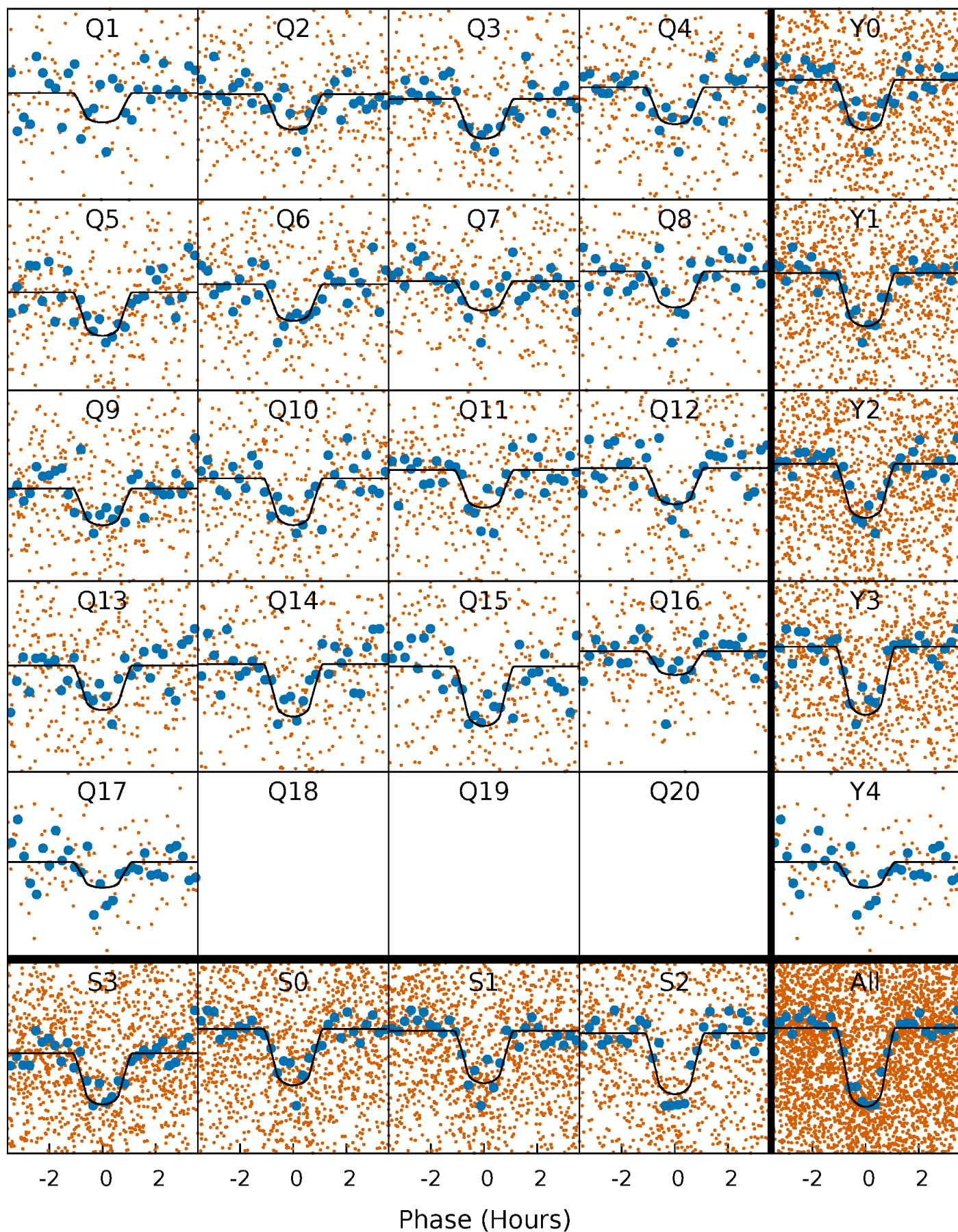
PDC Quarter-Phased Transit Curves

TCE 007987866-01 P= 3.138793 Days $T_0=133.654012$ (BKJD)



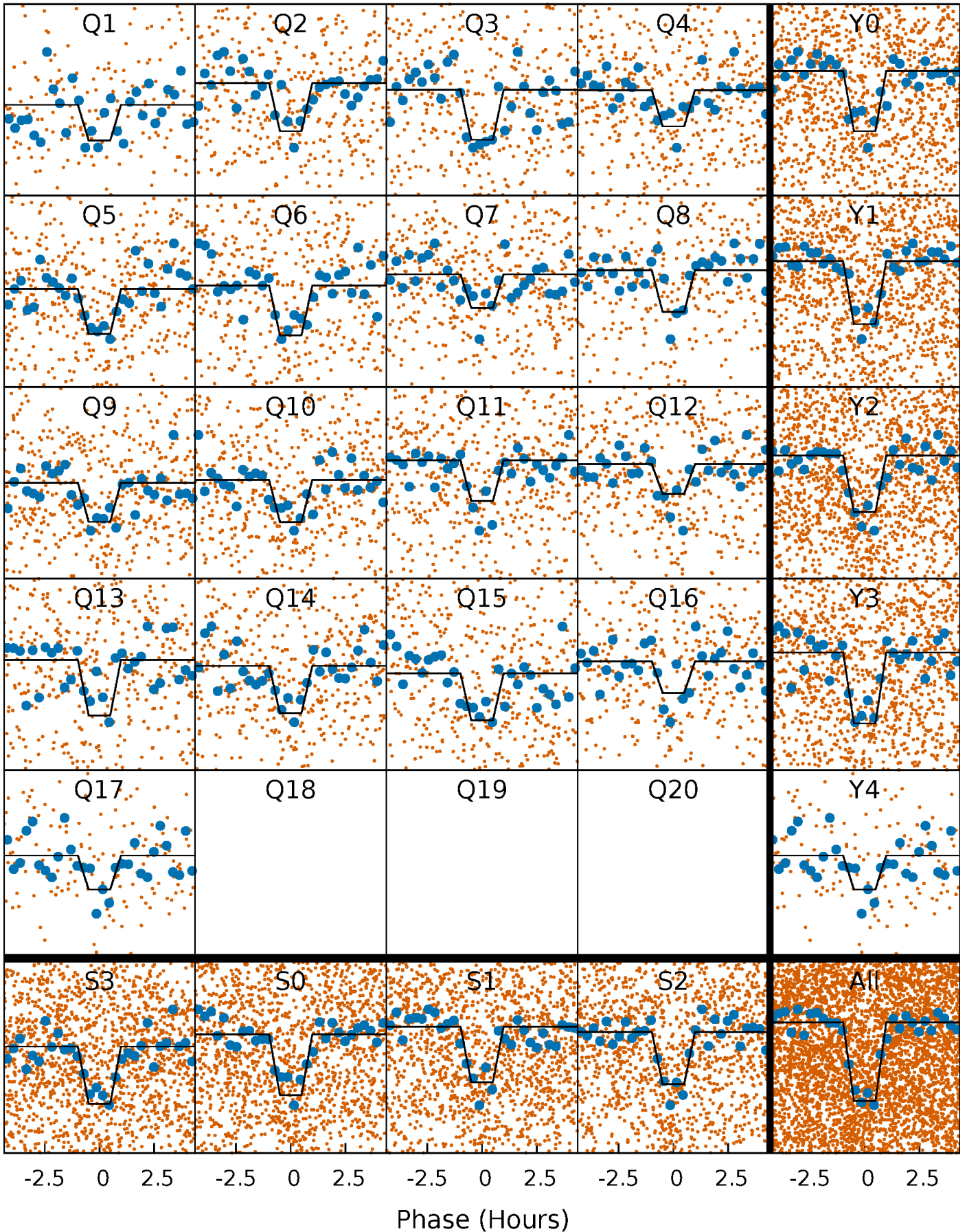
DV Quarter-Phased Transit Curves

TCE 007987866-01 P= 3.138793 Days $T_0=133.654012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

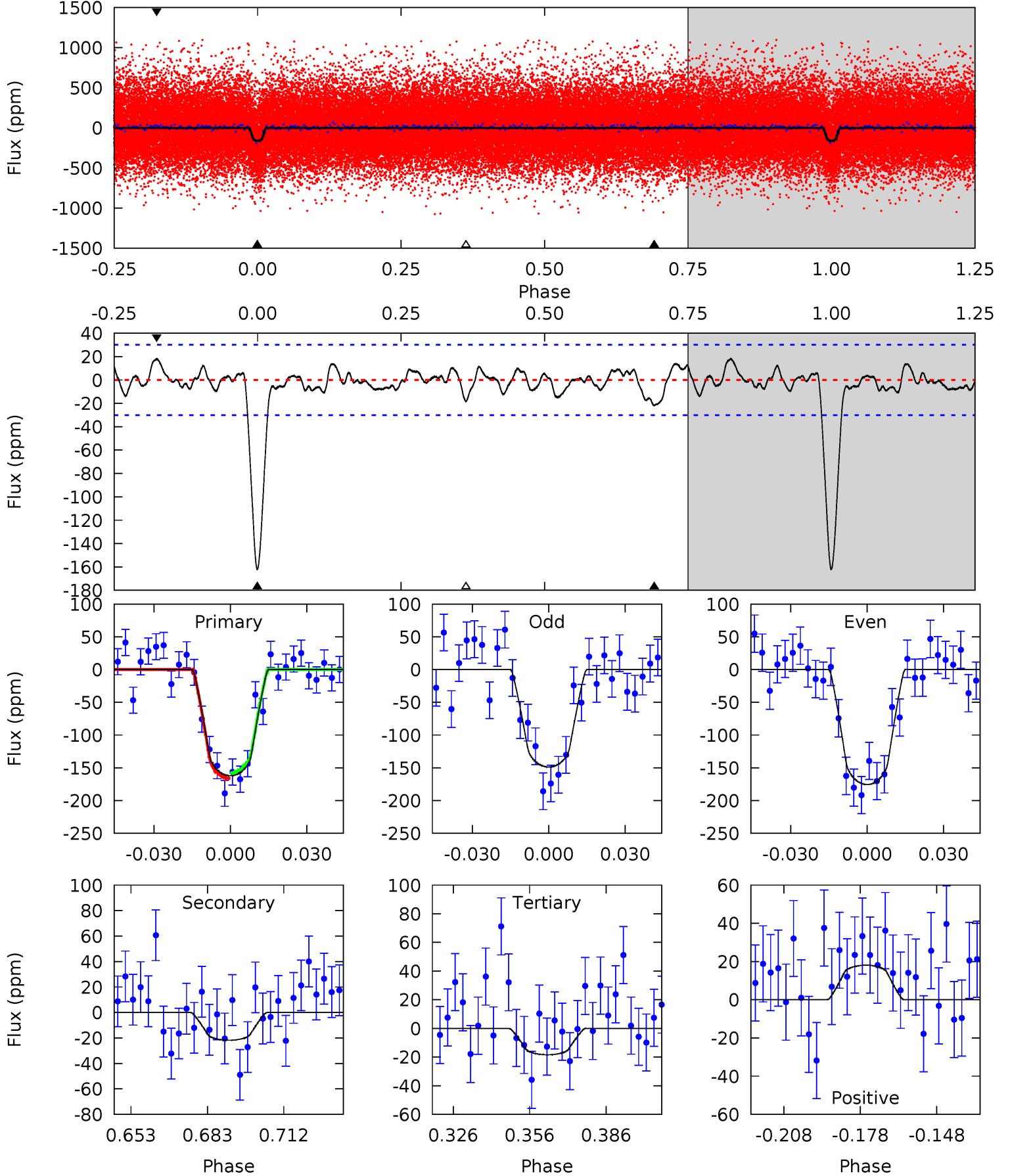
TCE 007987866-01 P= 3.138782 Days $T_0=133.655810$ (BKJD)



DV Model-Shift Uniqueness Test

007987866-01, P = 3.138793 Days, E = 130.515219 Days

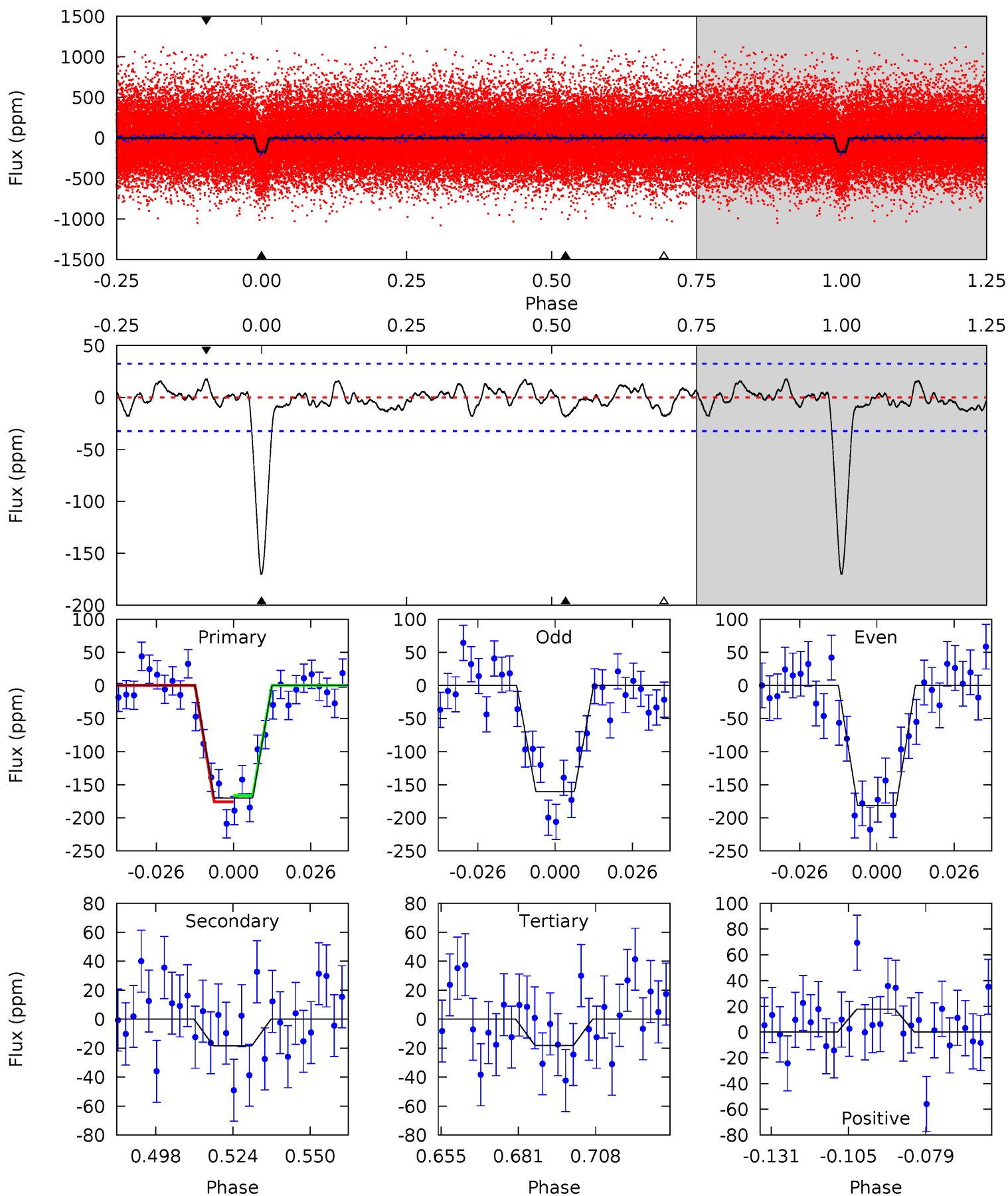
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	3.48	2.94	2.90	4.81	2.17	1.09	23.0	23.0	0.54	0.59	2.14	1.01	0.10	0.65



Alt Model-Shift Uniqueness Test

007987866-01, P = 3.138782 Days, E = 130.517028 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	2.74	2.71	2.65	4.84	2.22	1.14	22.7	22.8	0.03	0.09	1.57	1.01	0.09	0.72



Stellar Parameters For KIC 007987866

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5242^{+157}_{-157}	$4.556^{+0.090}_{-0.099}$	$-0.540^{+0.300}_{-0.300}$	$0.722^{+0.096}_{-0.078}$	$0.684^{+0.098}_{-0.042}$	$2.561^{+0.982}_{-0.712}$
	+3%/-3%	+2%/-2%	+56%/-56%	+13%/-11%	+14%/-6%	+38%/-28%
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 007987866-01 / KOI 2363.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 6	$1.16^{+0.66}_{-0.59}$	1431^{+63}_{-61}	3420^{+990}_{-482}	12^{+40}_{-7}
Alt.	-18 ± 7	$1.10^{+0.57}_{-0.57}$	1428^{+63}_{-63}	3390^{+961}_{-476}	12^{+36}_{-7}

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

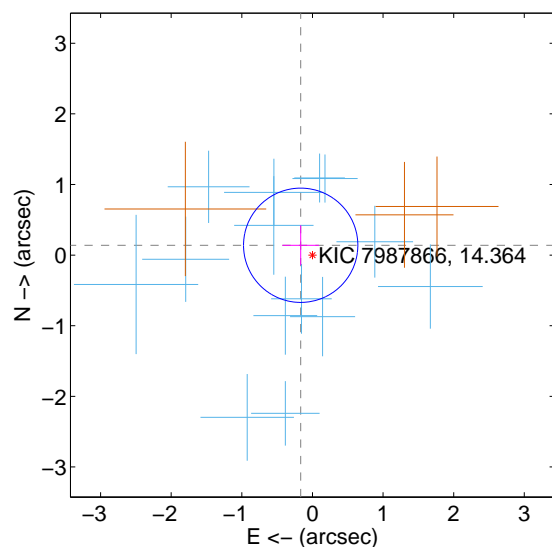
Supplemental centroid analysis for 007987866-01. Kepler magnitude: 14.36. Transit SNR 20.08

There are 14 quarters with good PRF difference image offsets

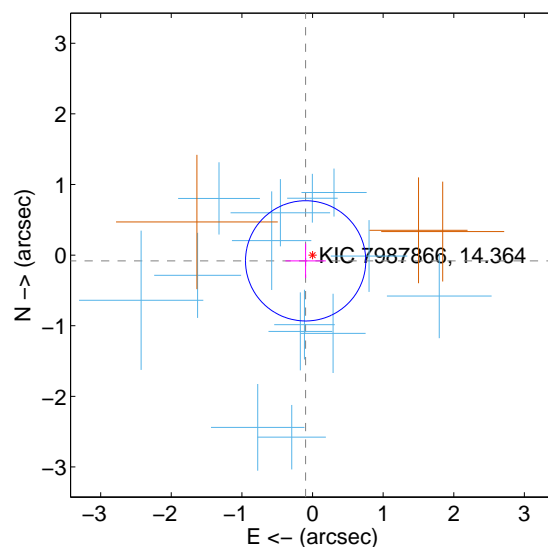
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.217 ± 0.270	0.80	0.166 ± 0.260	0.139 ± 0.283
PRF-fit source offset from KIC position	0.127 ± 0.284	0.45	0.098 ± 0.286	-0.081 ± 0.244
photometric centroid source offset	0.41 ± 0.82	0.50	0.41 ± 0.82	-0.02 ± 0.82

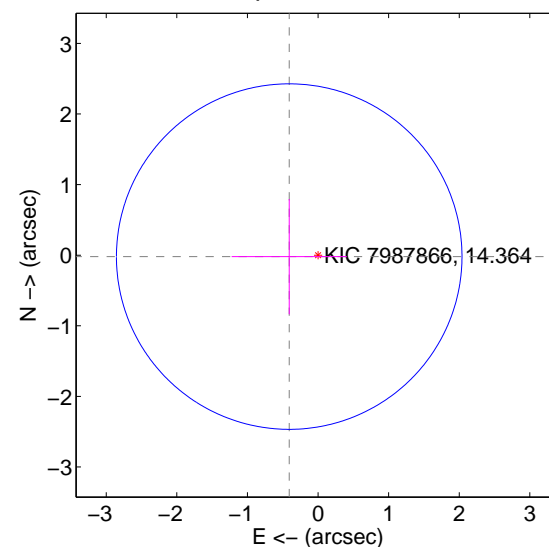
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

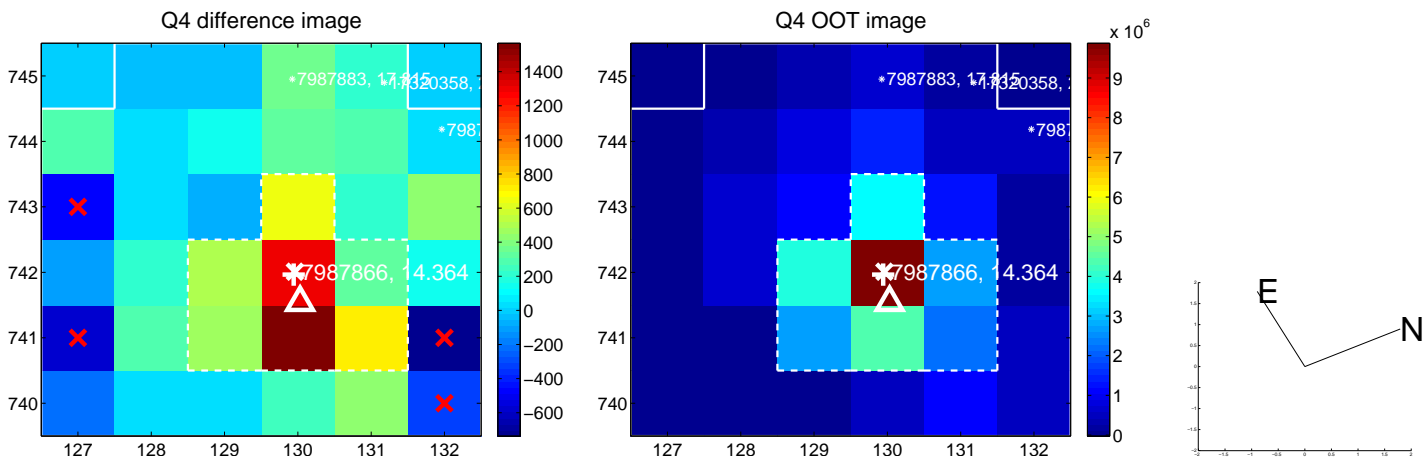
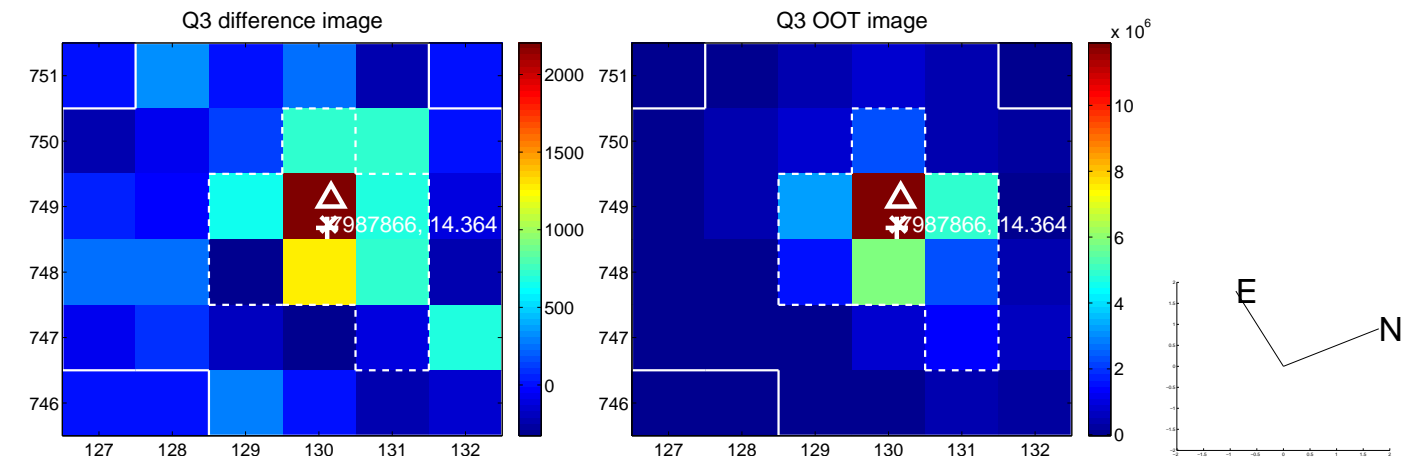
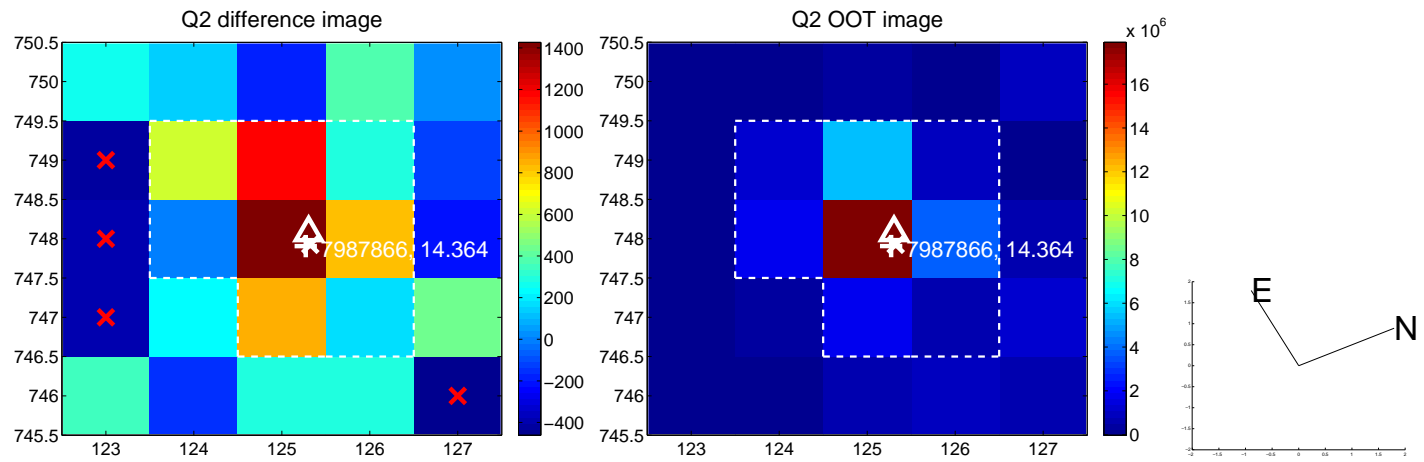
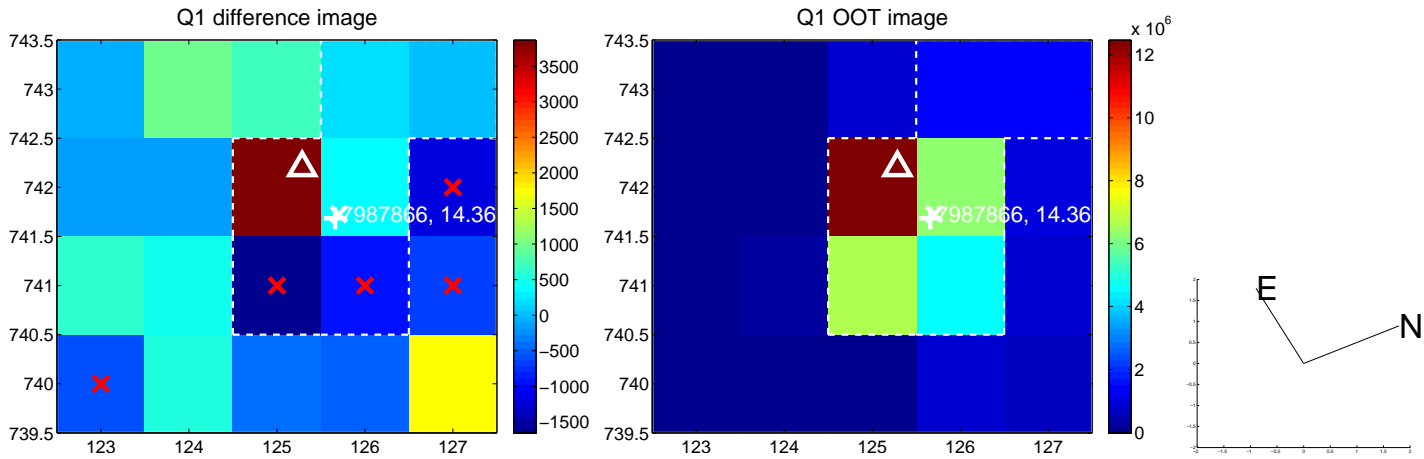


offset from photometric centroids

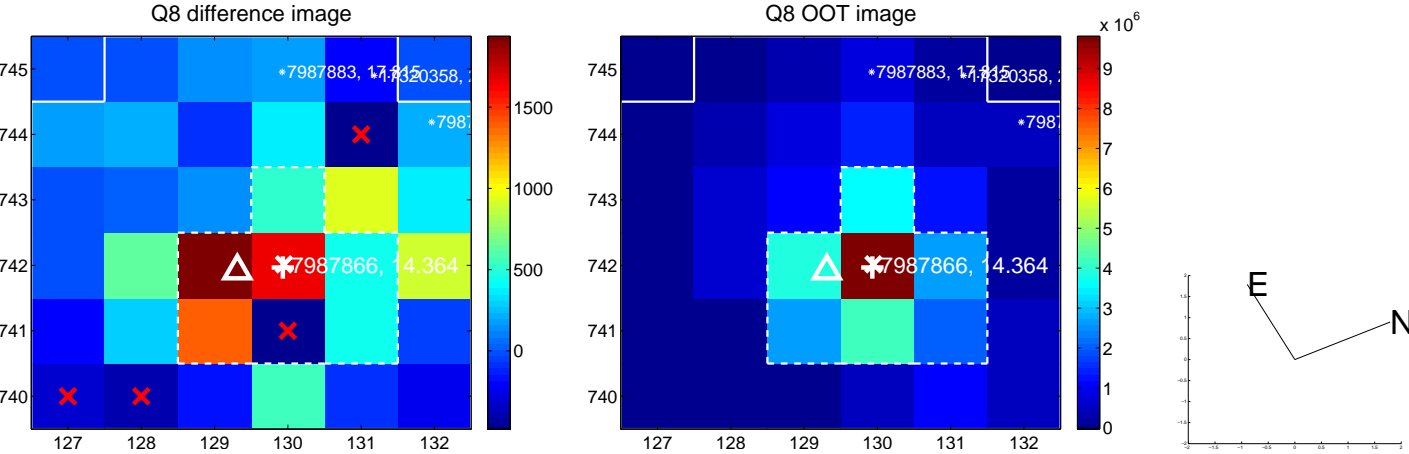
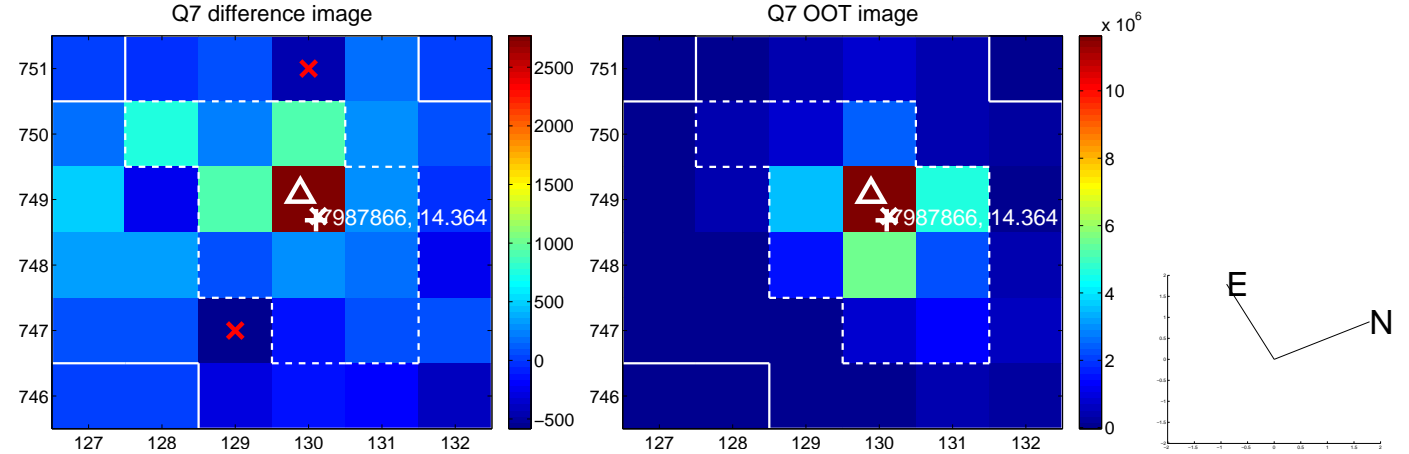
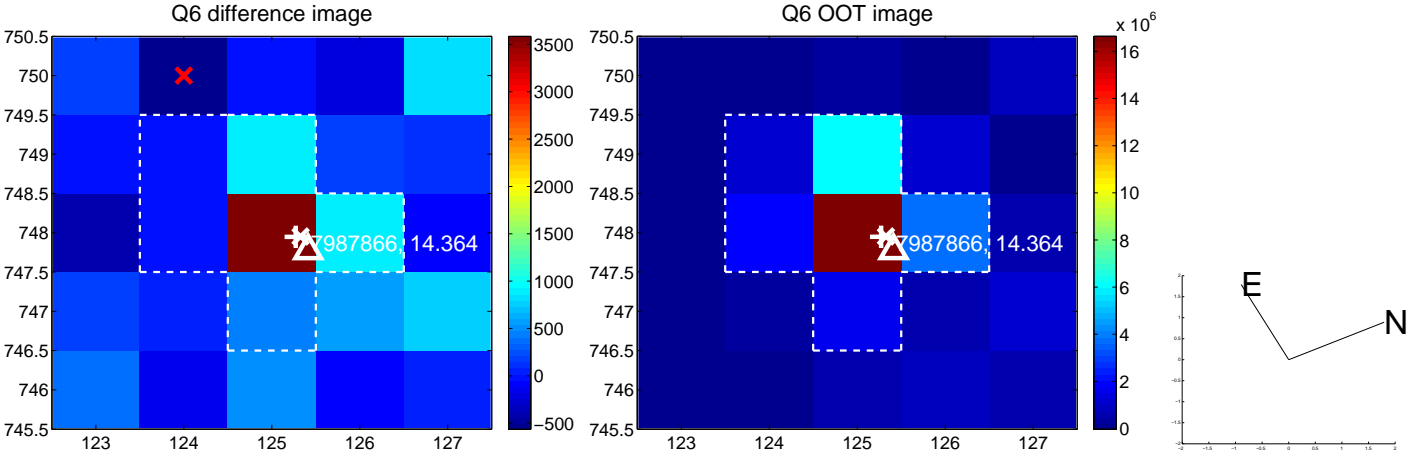
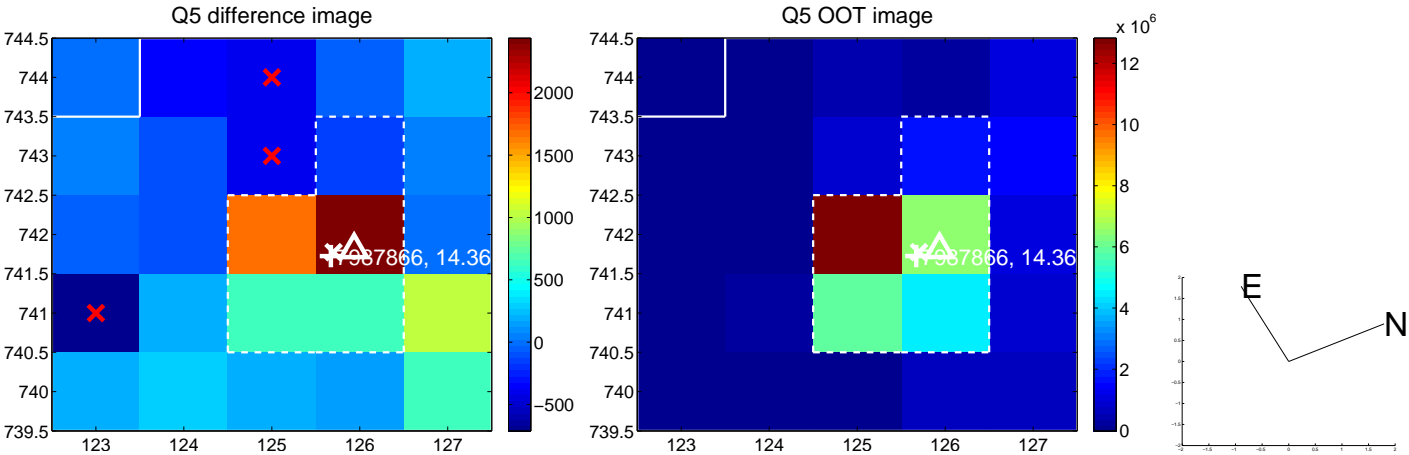


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

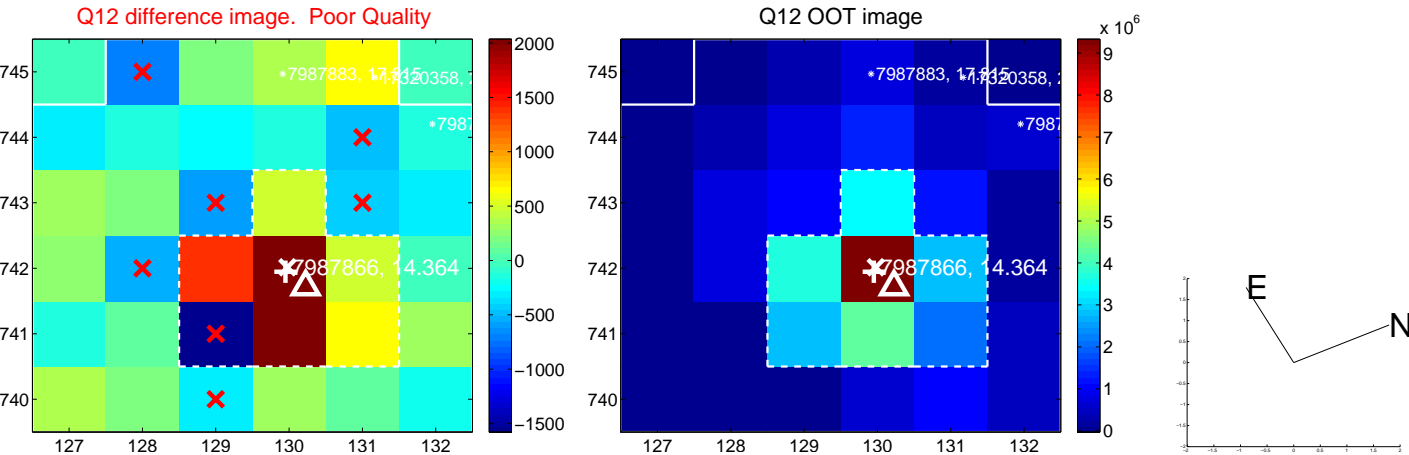
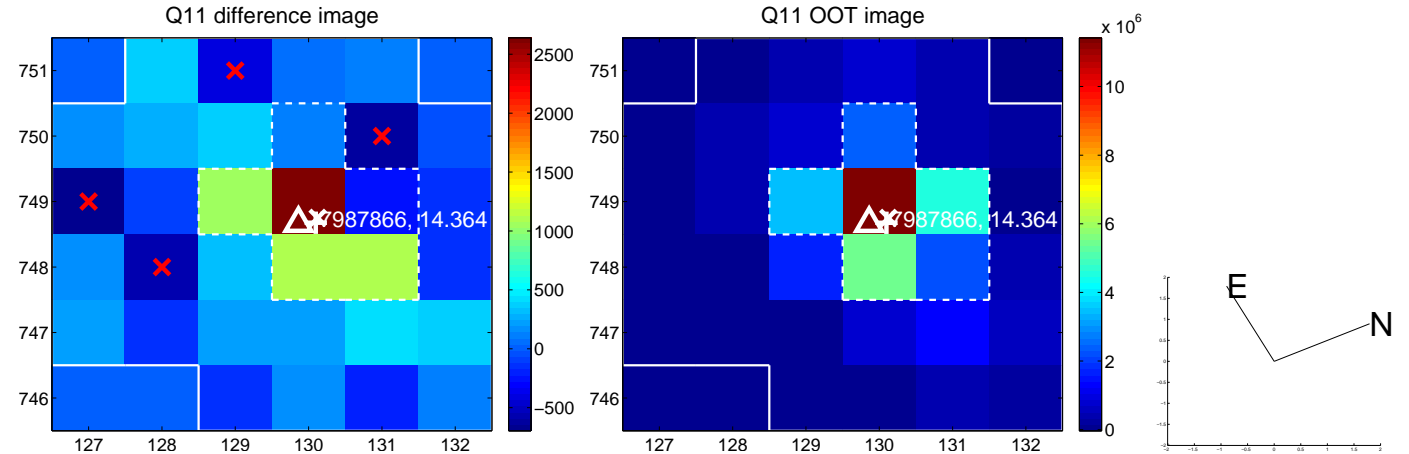
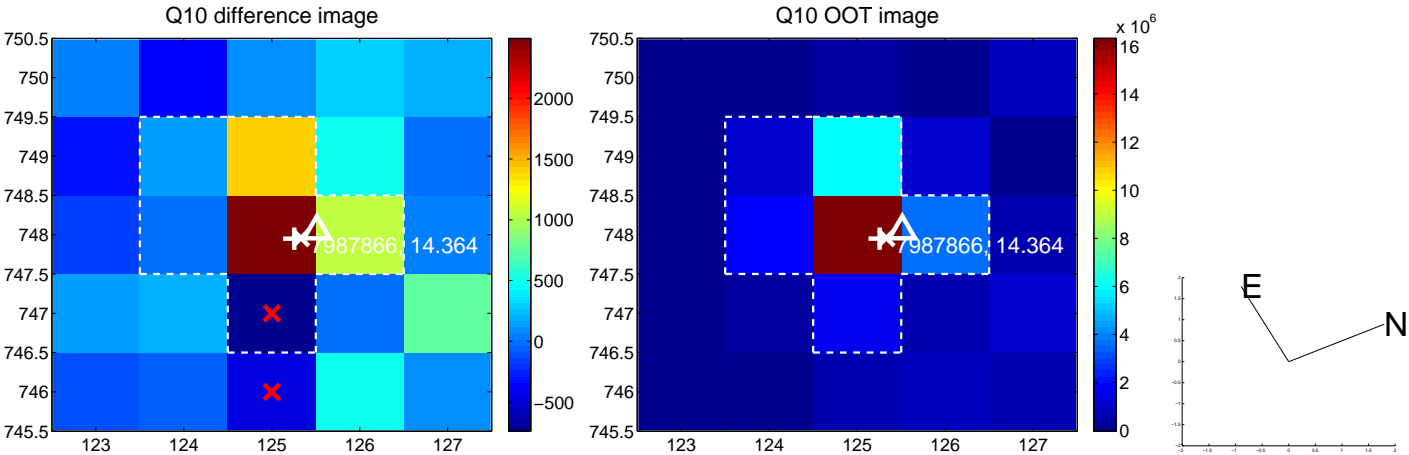
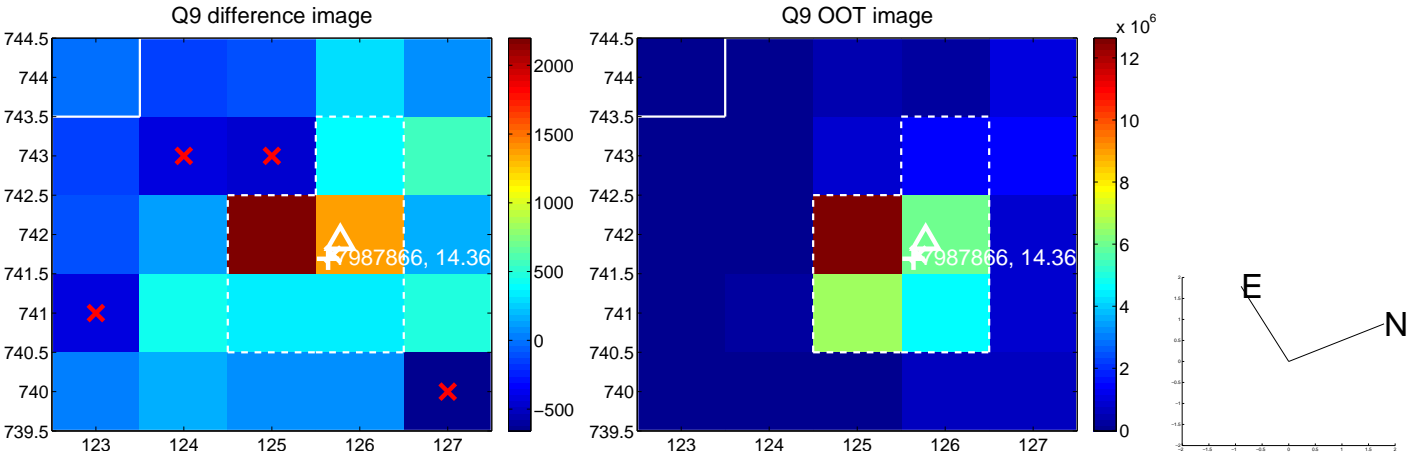
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



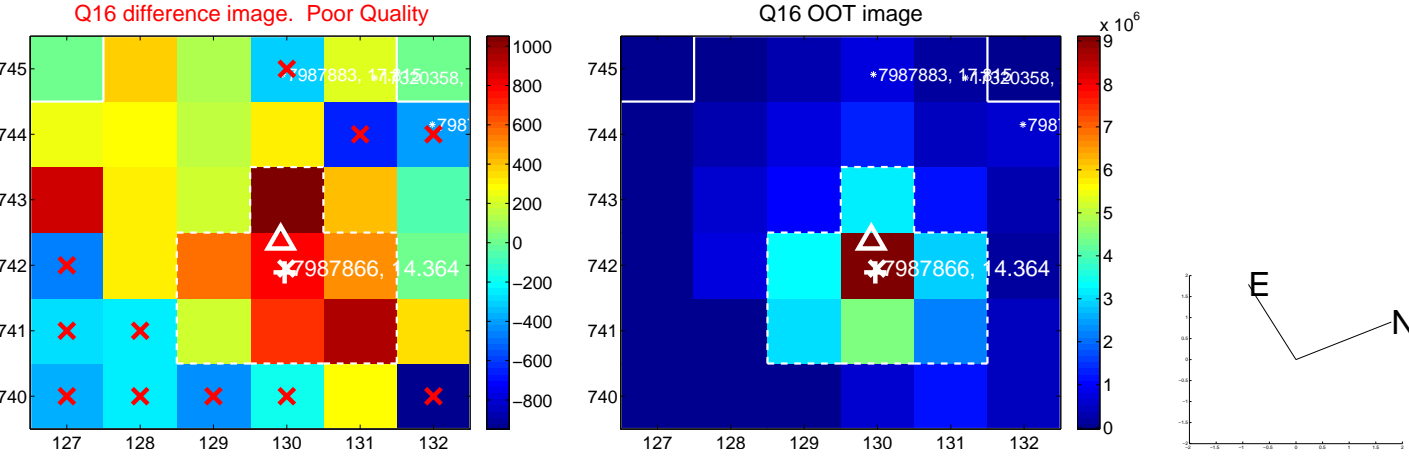
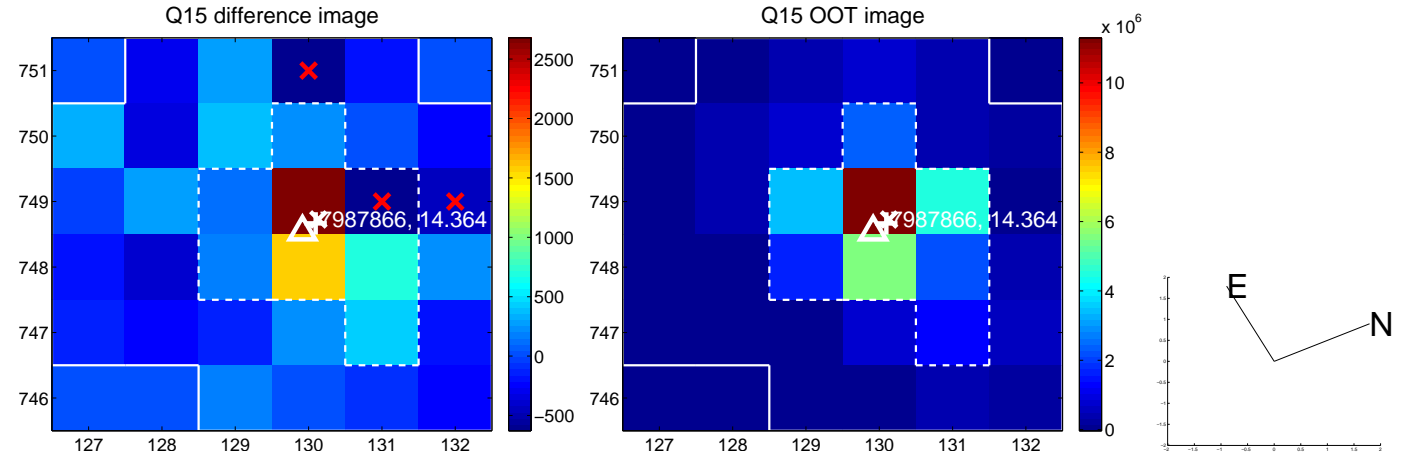
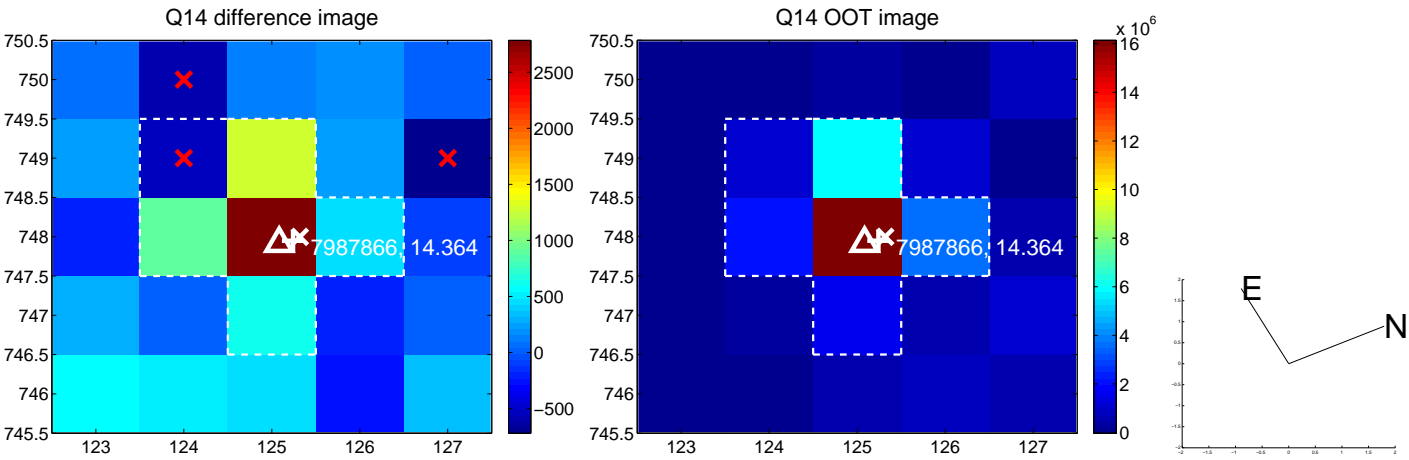
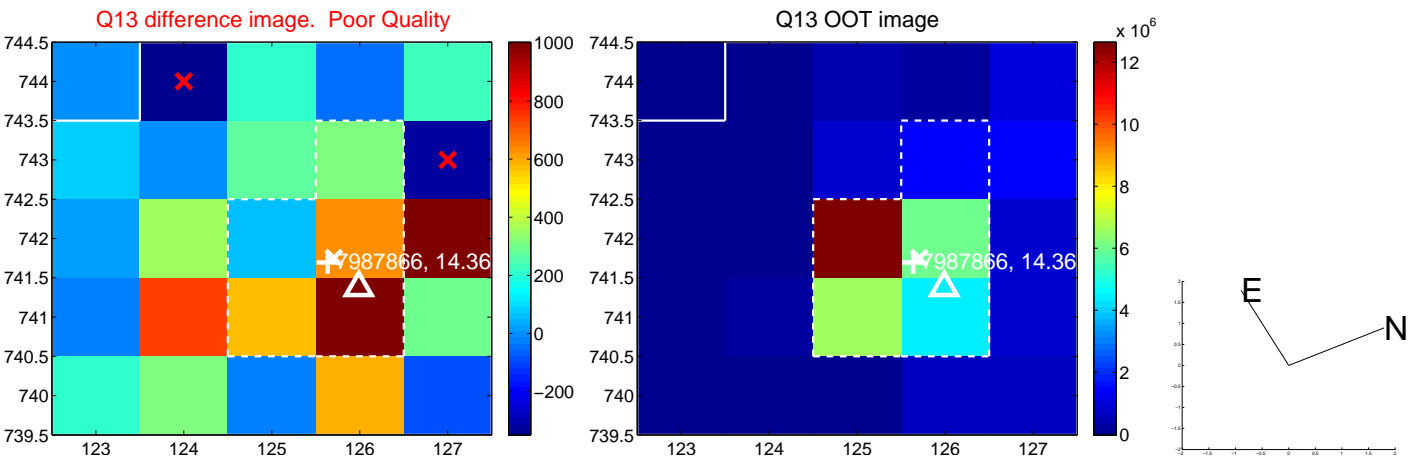
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



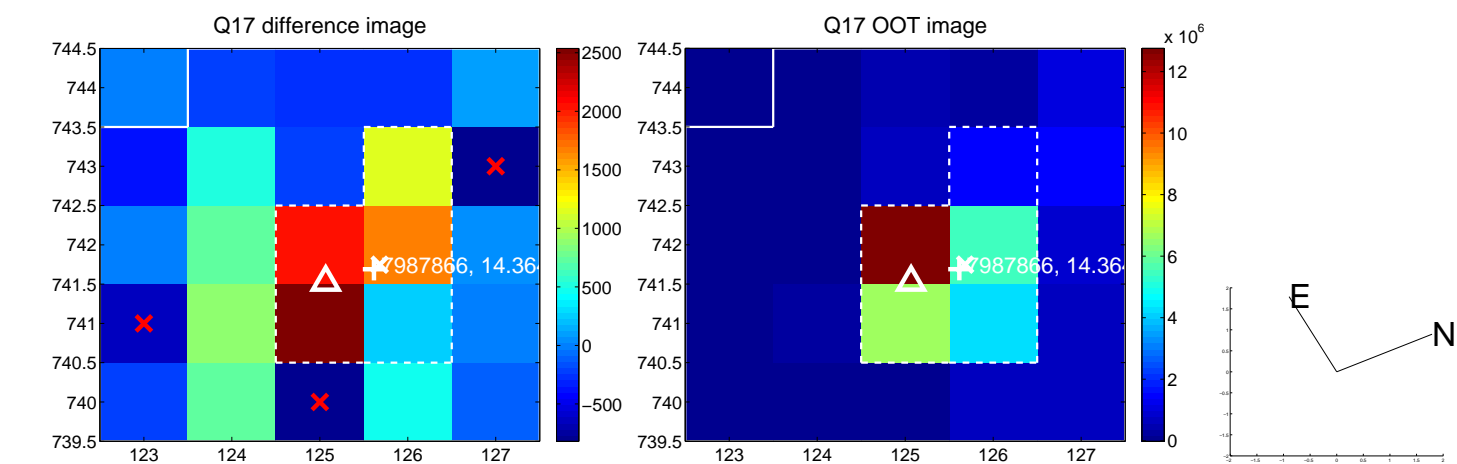
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



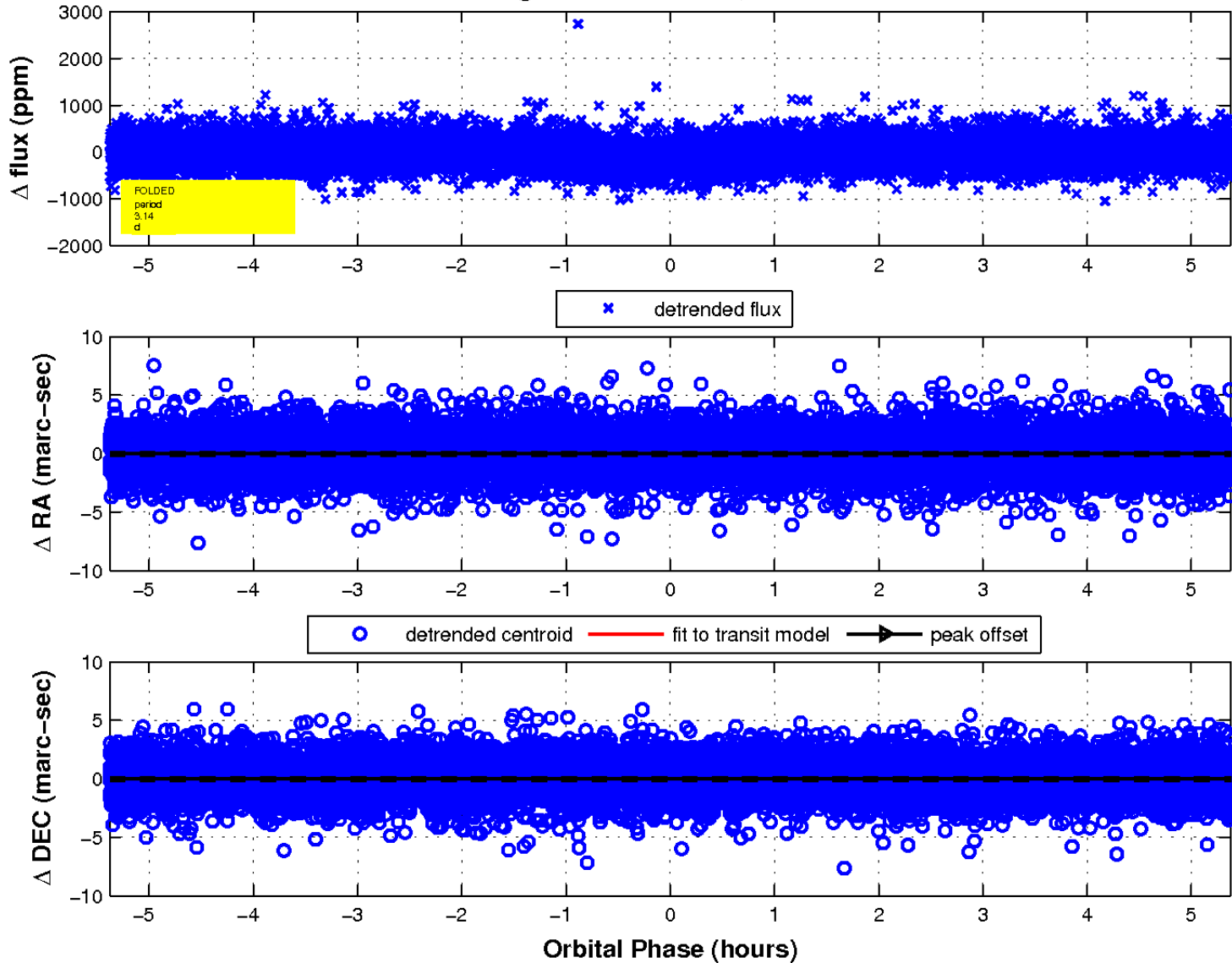
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

