

KIC 010396708

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})
010396708-01	OBS	7320.01	8.502085	132.358909	110.9	2.819	8.1	9.4	0.71	4889	0.83	50.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010396708-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS

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.

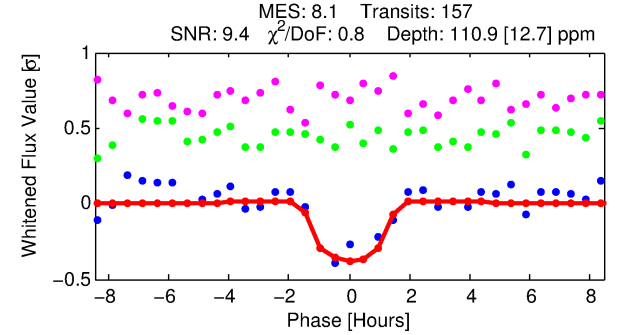
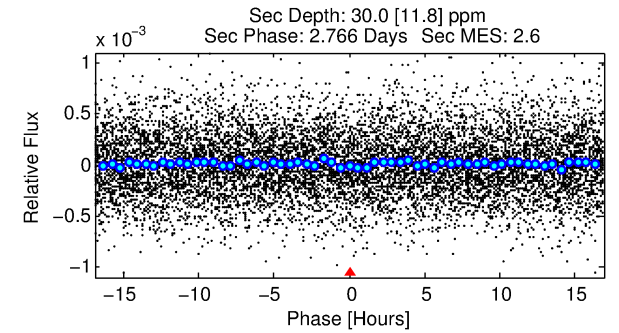
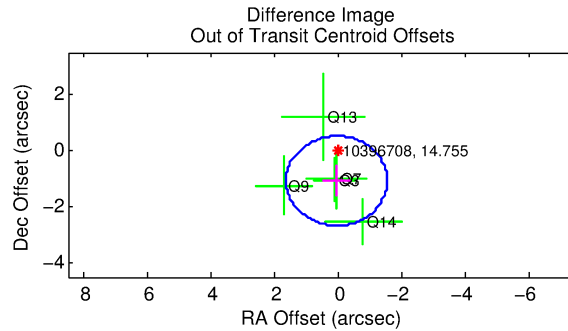
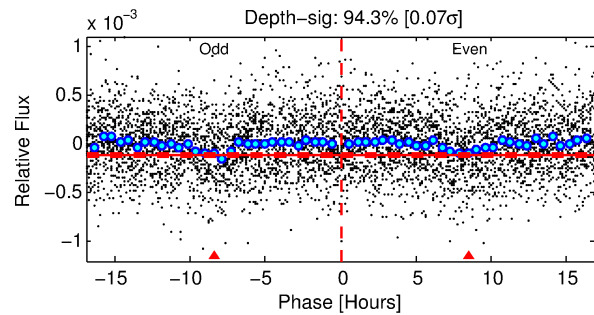
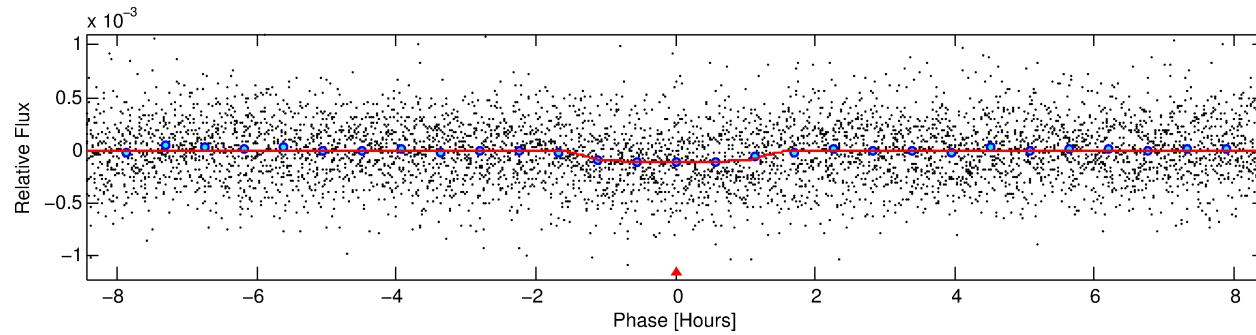
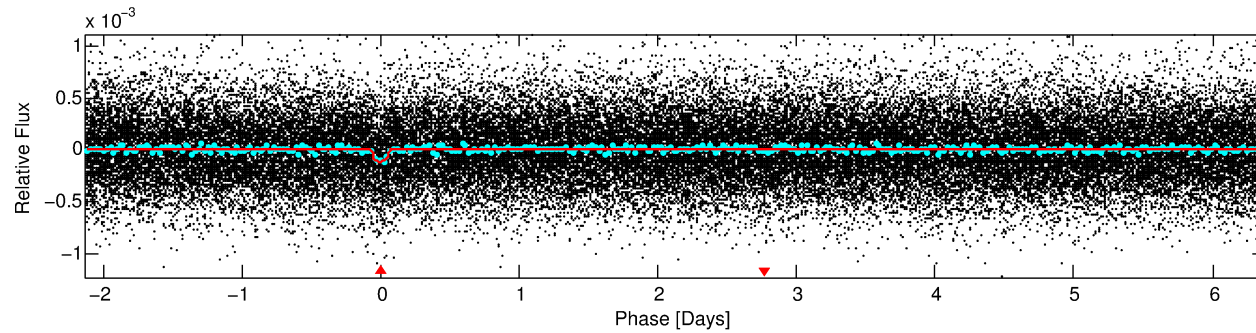
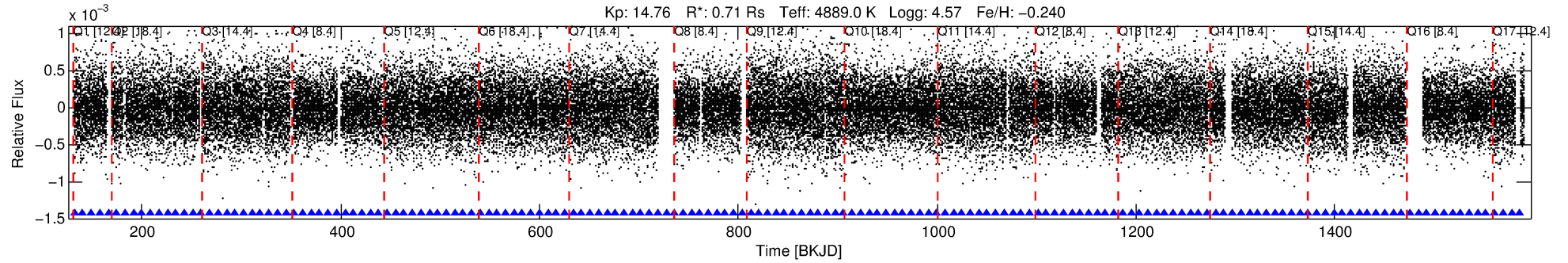
Ephemeris Match Information For 010396708-01

No Significant Match Found

DV One-Page Summary

KIC: 10396708 Candidate: 1 of 1 Period: 8.502 d

KOI: K07320.01 Corr: 0.923



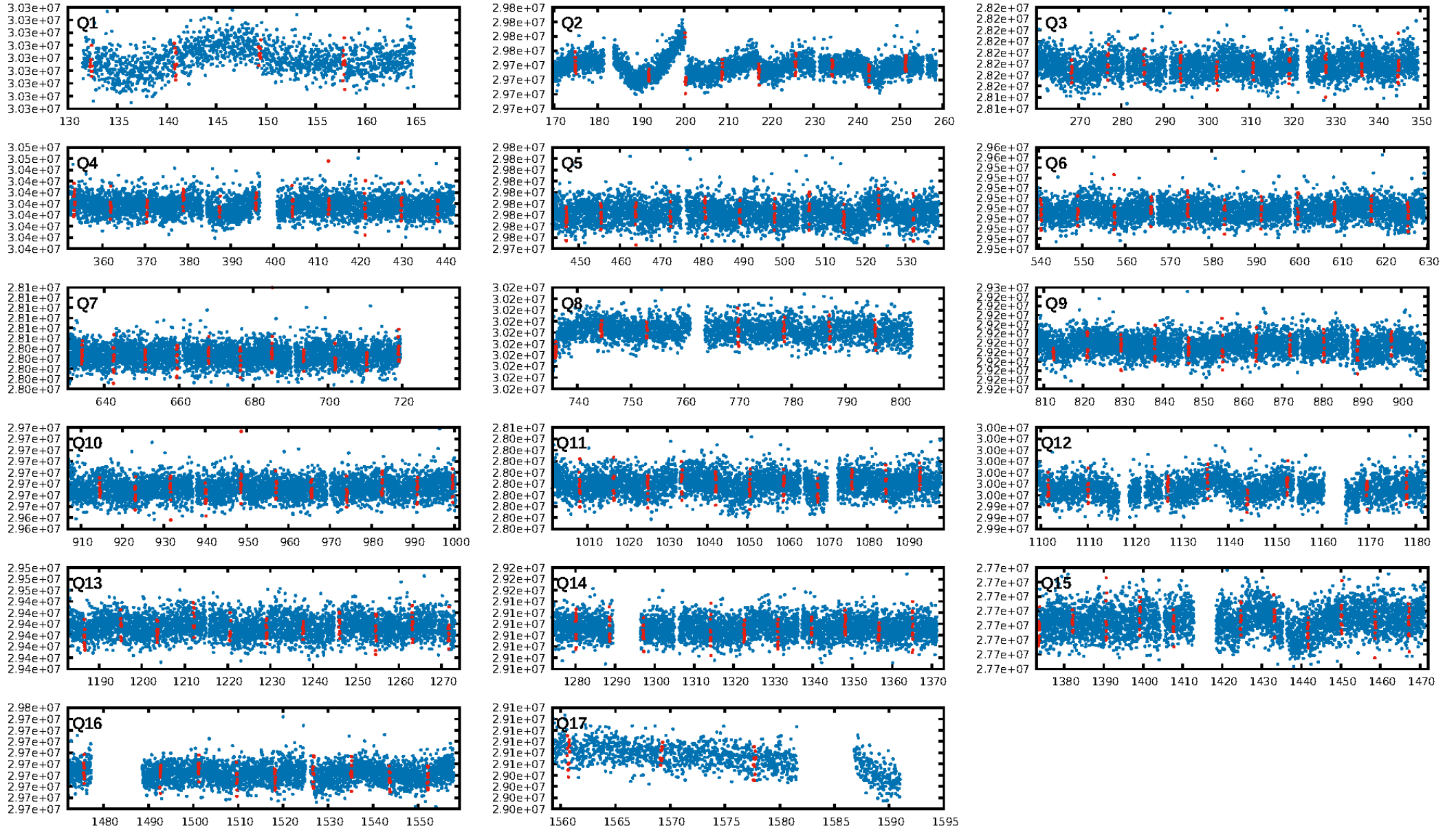
DV Fit Results:

Period = 8.50208 [0.00007] d
Epoch = 132.3589 [0.0068] BKJD
Rp/R* = 0.0106 [0.0101]
a/R* = 15.07 [50.62]
b = 0.77 [1.82]
Seff = 50.27 [8.51]
Teq = 679 [29] K
Rp = 0.83 [0.79] Re
a = 0.0722 [0.0059] AU
Ag = 124.63 [242.15] [0.51 σ]
Teffp = 3507 [1704] K [1.66 σ]

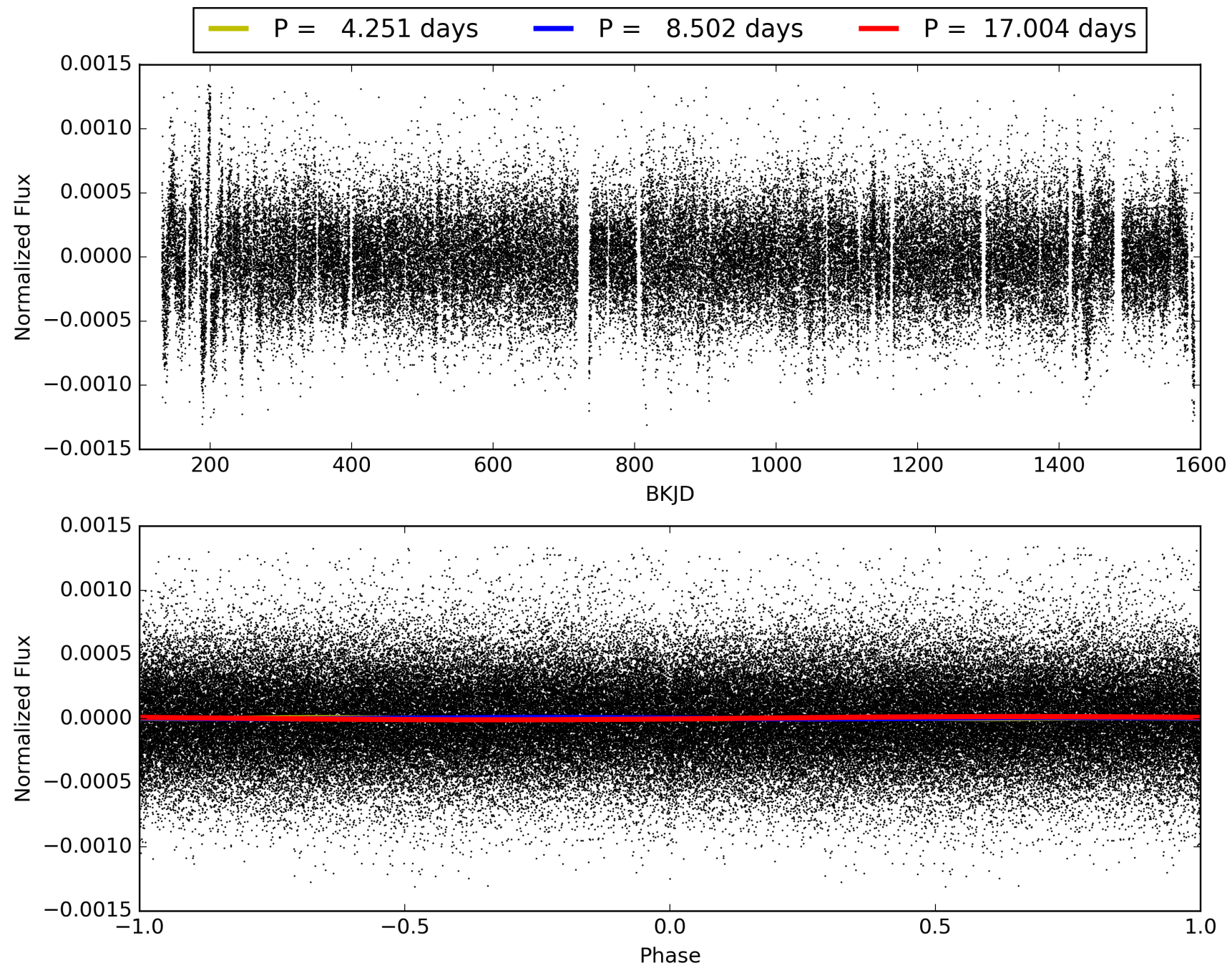
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.20e-16
RollingBand-fgt: 1.00 [150/150]
GhostDiagnostic-chr: 5.81
Centroid-sig: 11.3%
Centroid-so: 1.939 arcsec [1.59 σ]
OotOffset-rm: 1.079 arcsec [2.03 σ]
KicOffset-rm: 0.121 arcsec [0.16 σ]
OotOffset-st: 1/2/0/2 [5]
KicOffset-st: 1/2/3/2 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010396708-01, PDC Light Curves

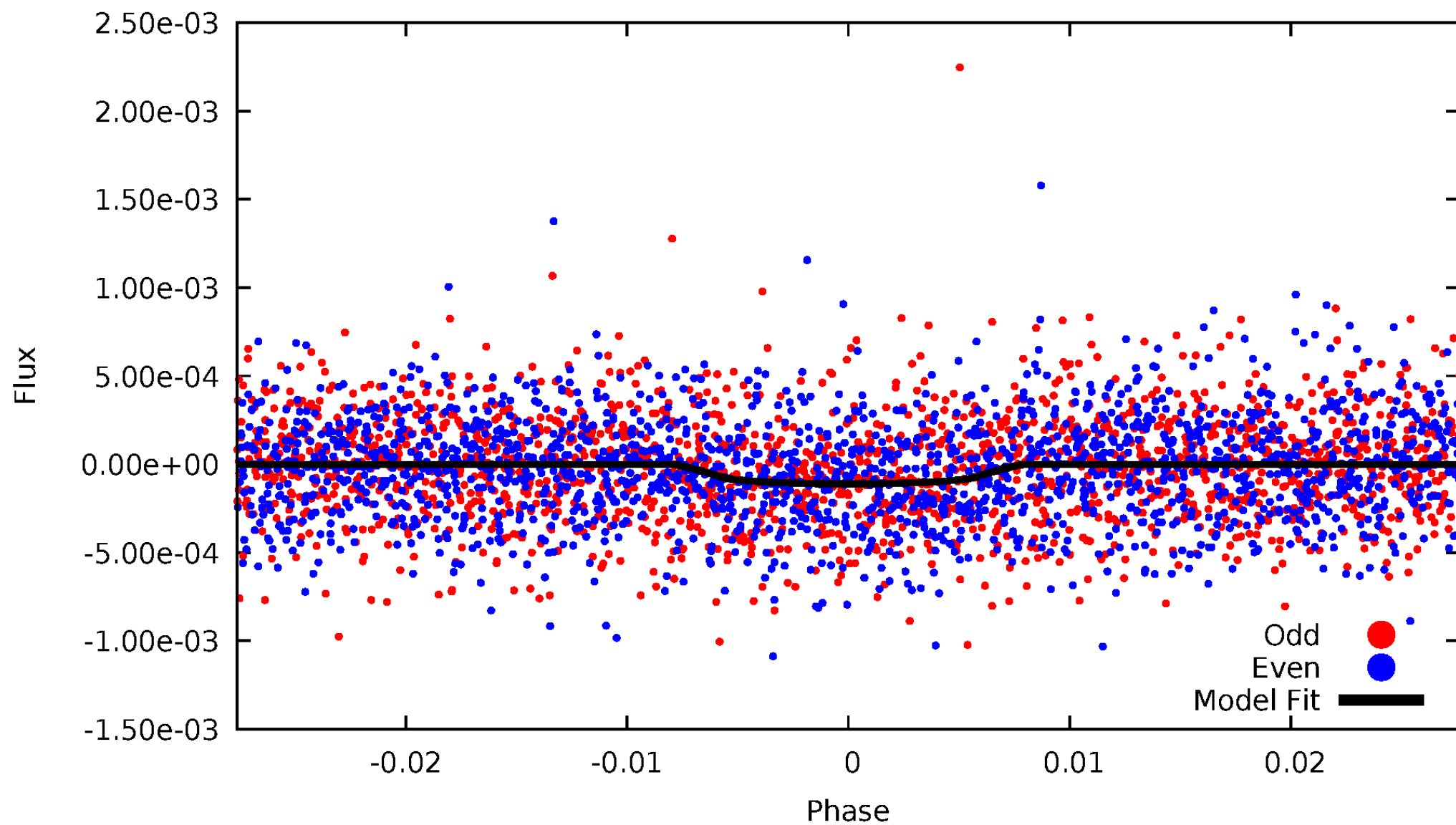


TCE 010396708-01



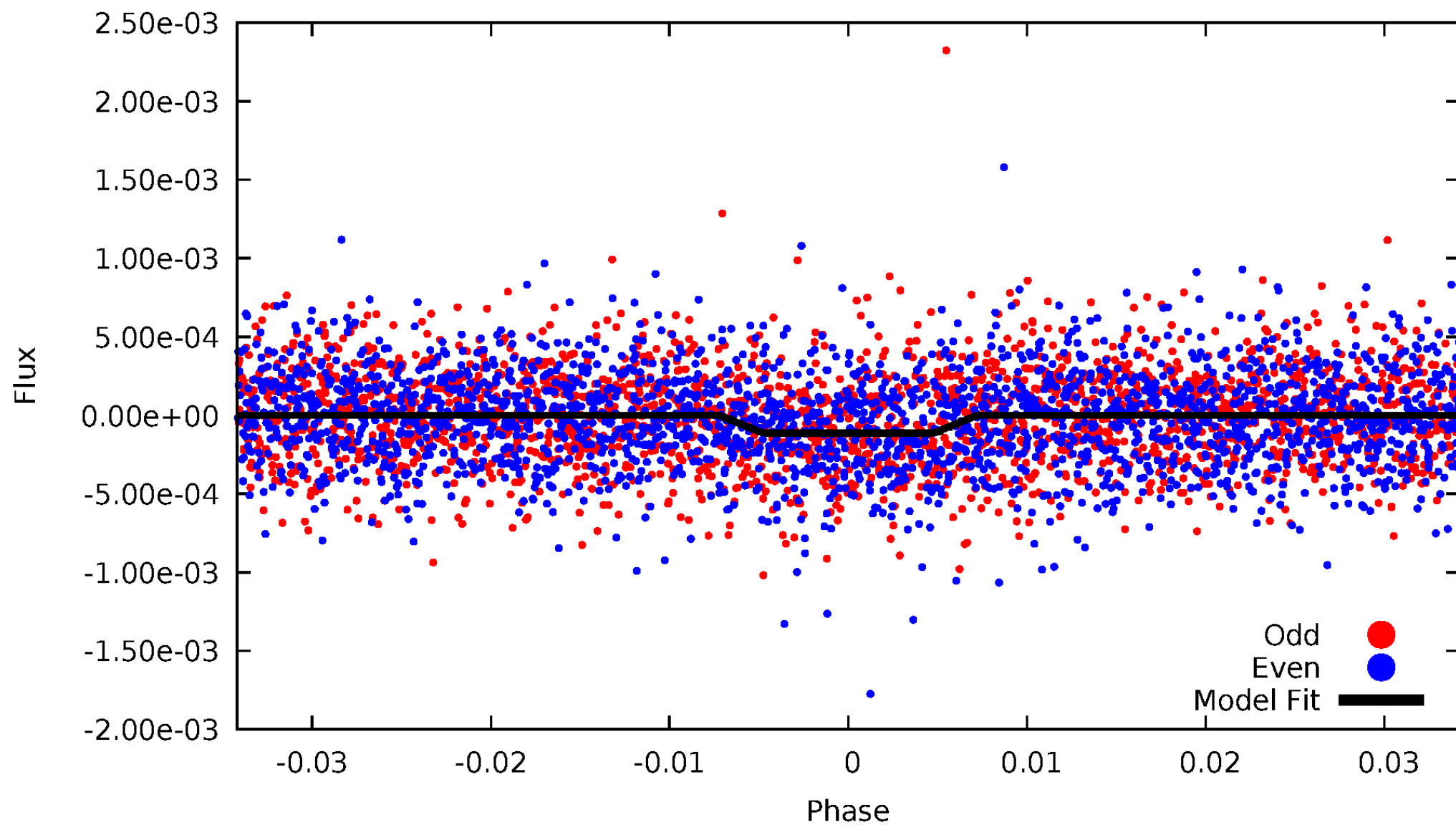
DV Odd/Even

TCE 010396708-01

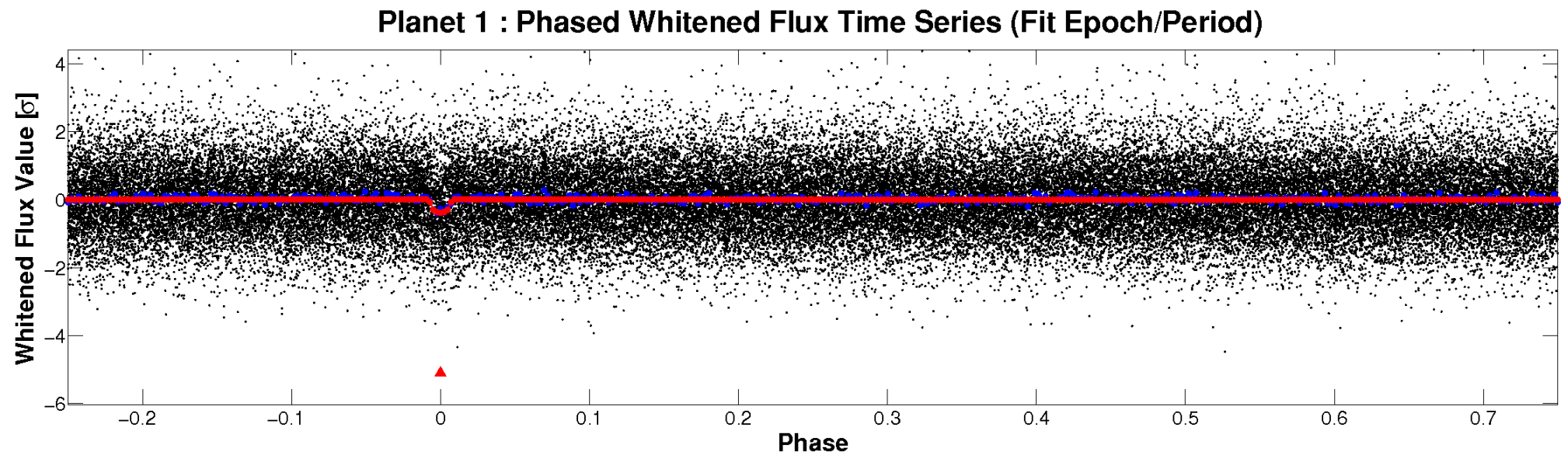
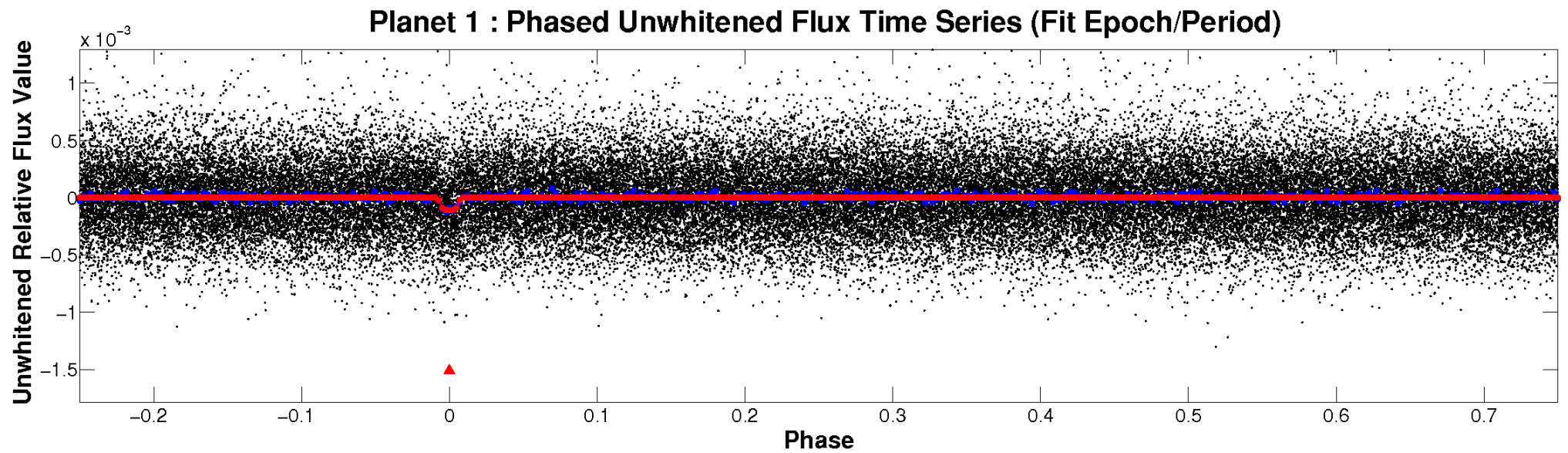


ALT Odd/Even

TCE 010396708-01

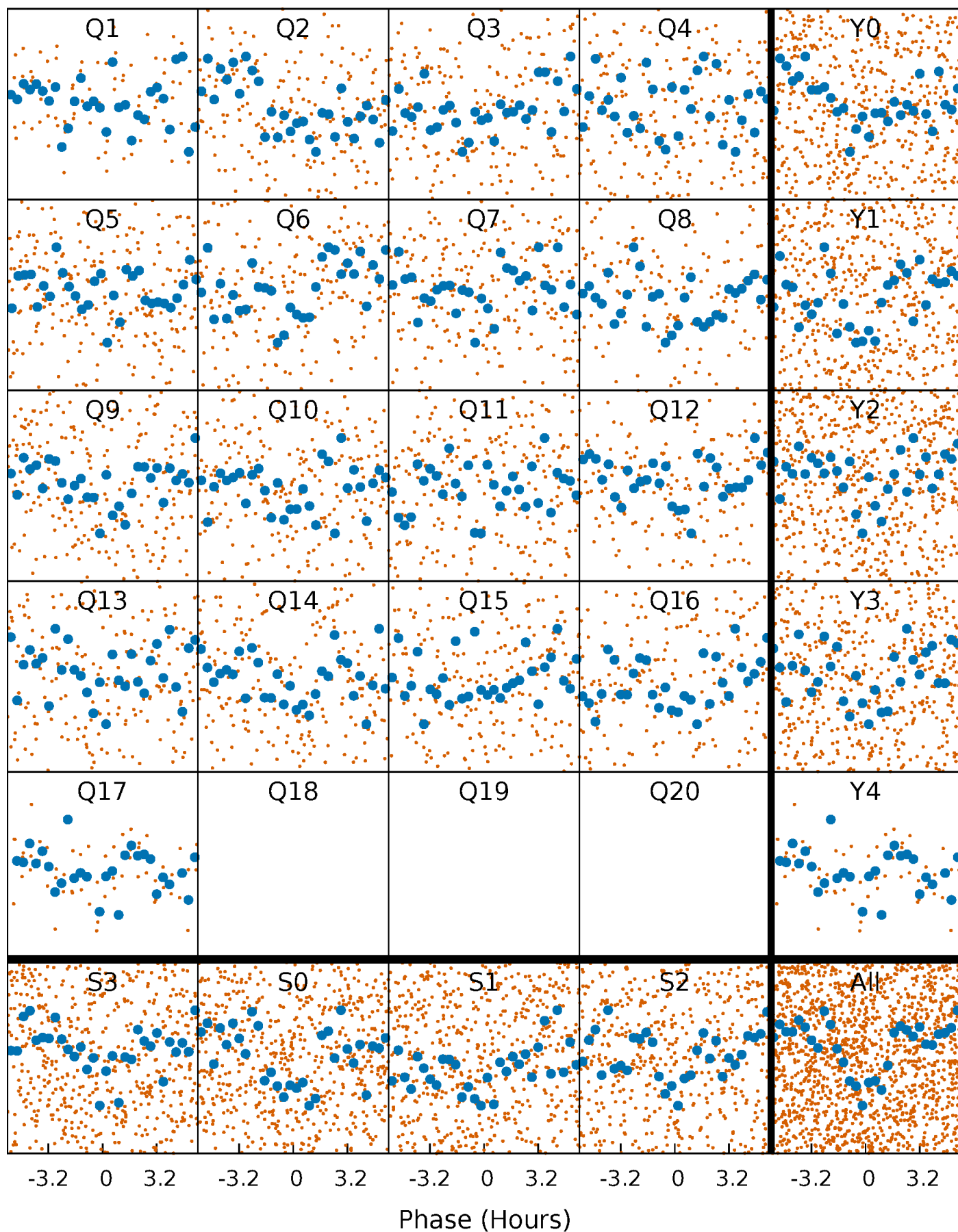


Non-Whitened Vs. Whitened Light Curve



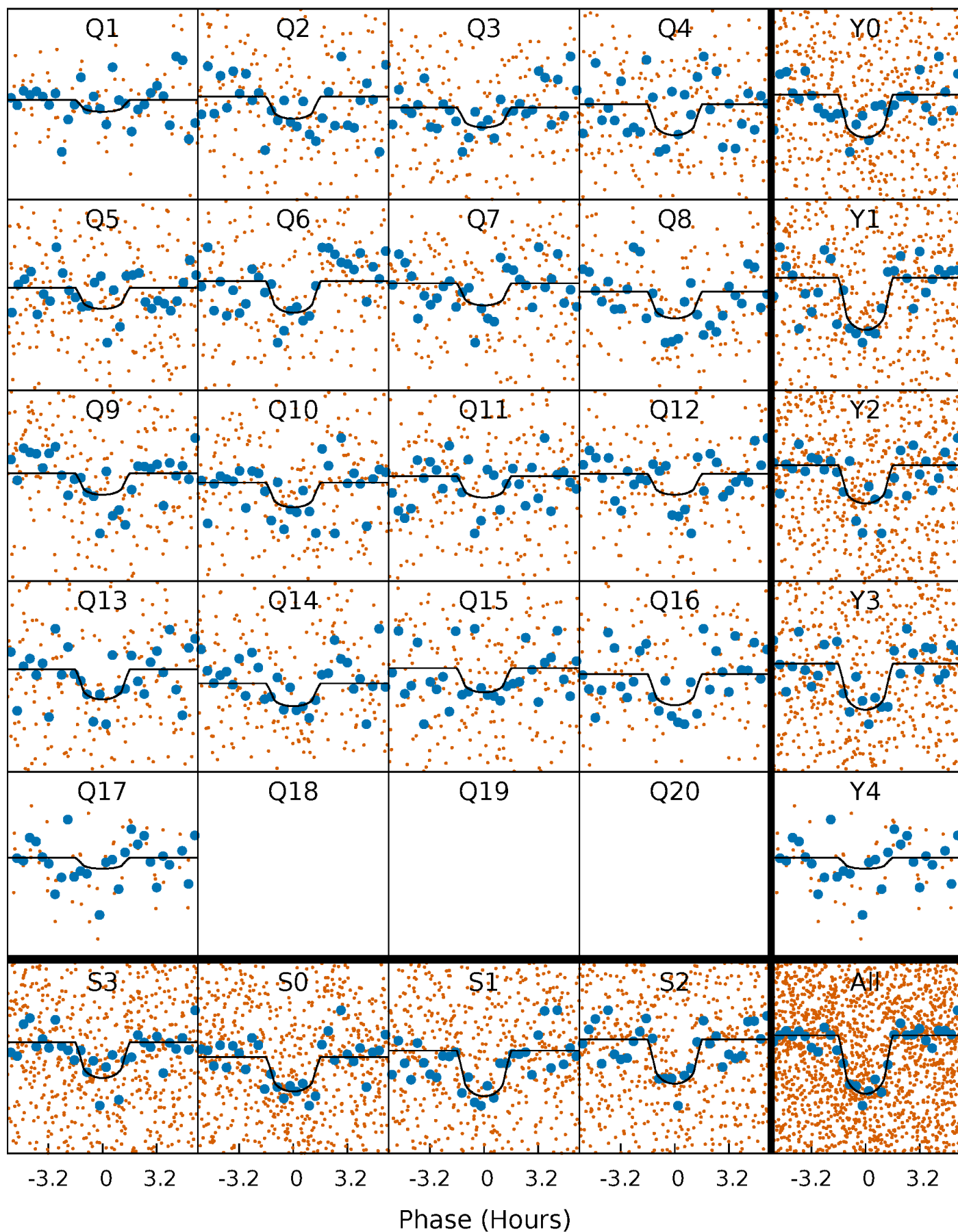
PDC Quarter-Phased Transit Curves

TCE 010396708-01 P= 8.502085 Days $T_0=132.358909$ (BKJD)



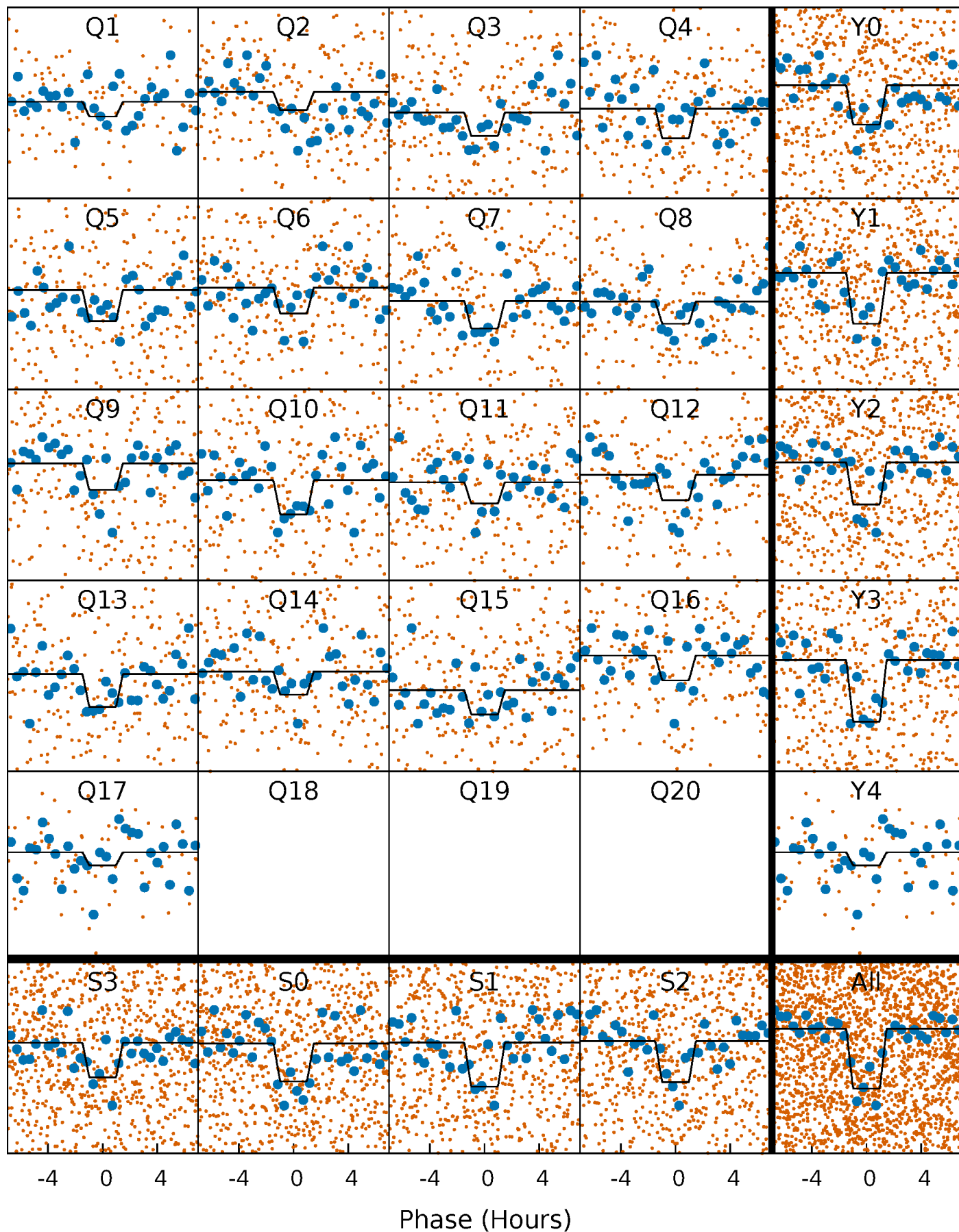
DV Quarter-Phased Transit Curves

TCE 010396708-01 P= 8.502085 Days $T_0=132.358909$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

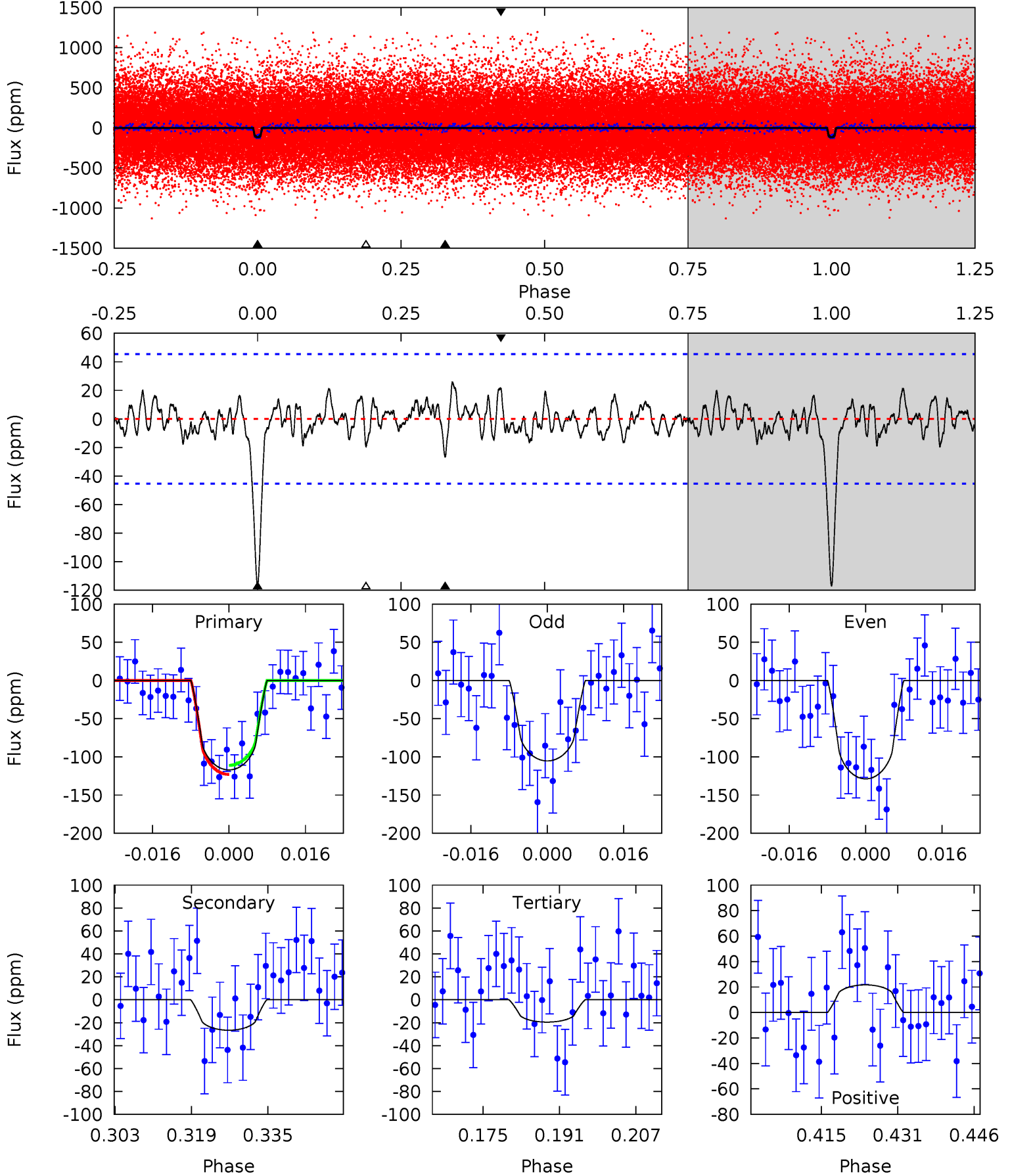
TCE 010396708-01 P= 8.502209 Days $T_0=132.346974$ (BKJD)



DV Model-Shift Uniqueness Test

010396708-01, P = 8.502085 Days, E = 123.856824 Days

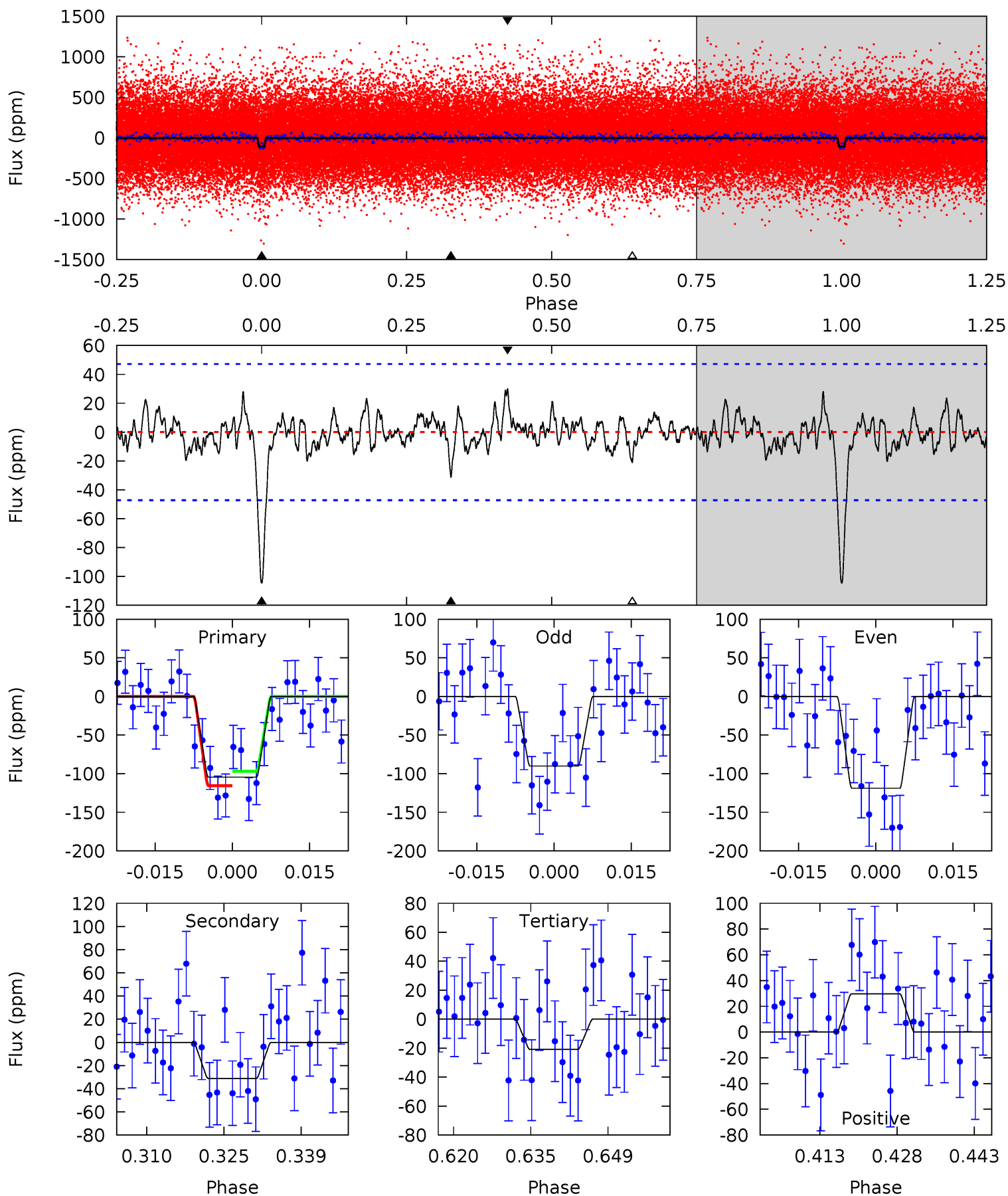
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	2.89	2.12	2.36	4.94	2.41	0.89	10.6	10.4	0.77	0.53	1.28	0.93	0.18	0.65



Alt Model-Shift Uniqueness Test

010396708-01, P = 8.502209 Days, E = 123.844765 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	3.27	2.18	3.13	4.95	2.44	0.89	8.79	7.84	1.09	0.14	1.51	1.07	0.22	0.97



Stellar Parameters For KIC 010396708

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4889^{+146}_{-131}	$4.570^{+0.066}_{-0.044}$	$-0.240^{+0.300}_{-0.300}$	$0.715^{+0.062}_{-0.069}$	$0.693^{+0.088}_{-0.047}$	$2.666^{+0.745}_{-0.403}$
	+3%/-3%	+1%/-1%	+125%/-125%	+9%/-10%	+13%/-7%	+28%/-15%
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 010396708-01 / KOI 7320.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-27 ± 9	$0.97^{+0.73}_{-0.60}$	944^{+35}_{-33}	3537^{+1506}_{-594}	78^{+457}_{-54}
Alt.	-31 ± 10	$1.00^{+0.72}_{-0.58}$	945^{+36}_{-33}	3594^{+1326}_{-583}	89^{+438}_{-61}

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

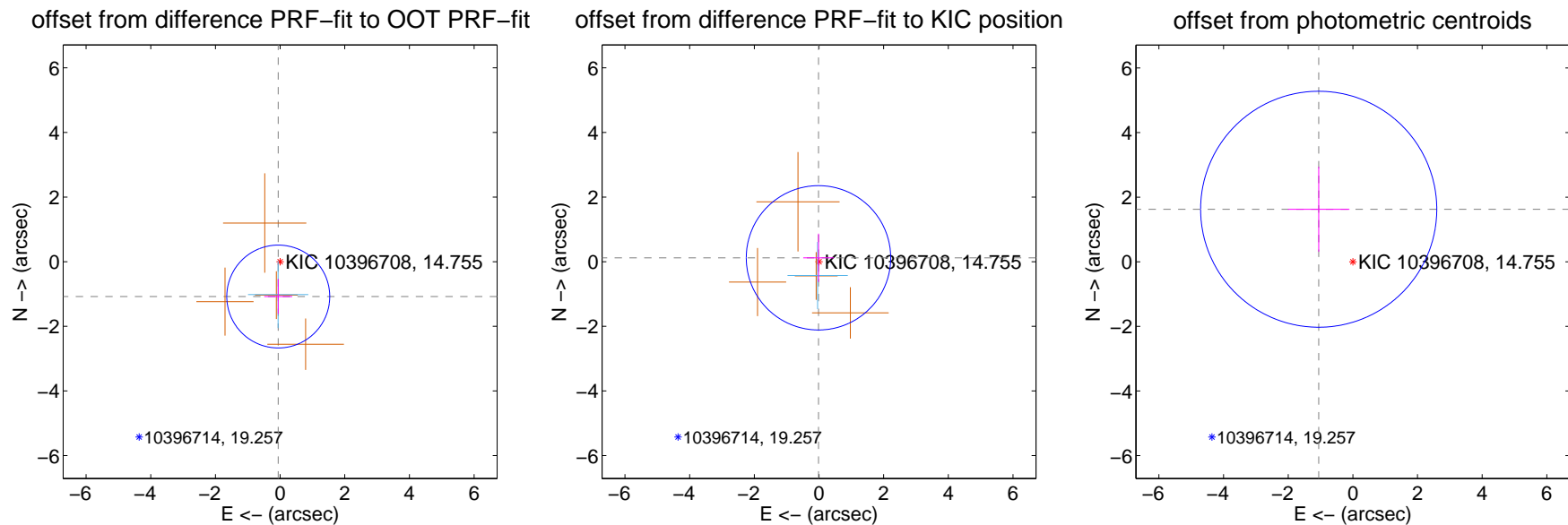
DV Centroid Data

Supplemental centroid analysis for 010396708-01. Kepler magnitude: 14.76. Transit SNR 9.39

There are 2 quarters with good PRF difference image offsets

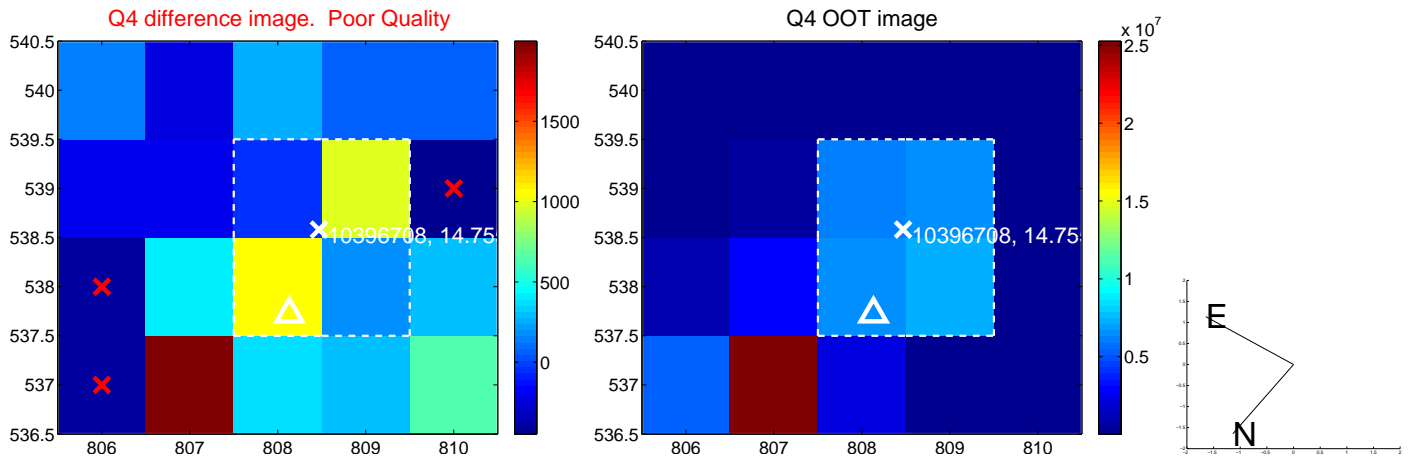
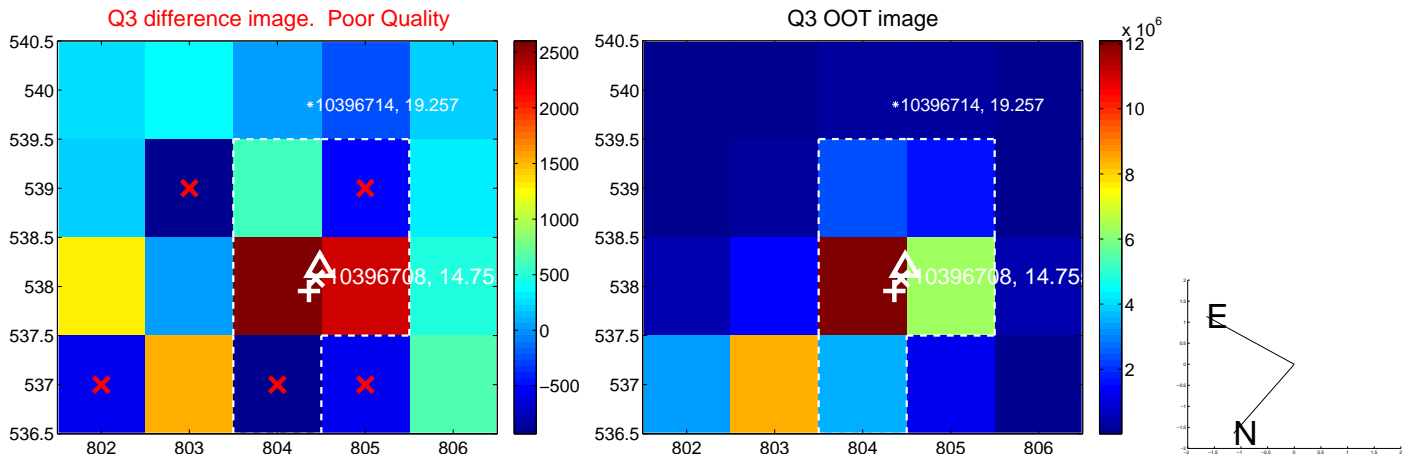
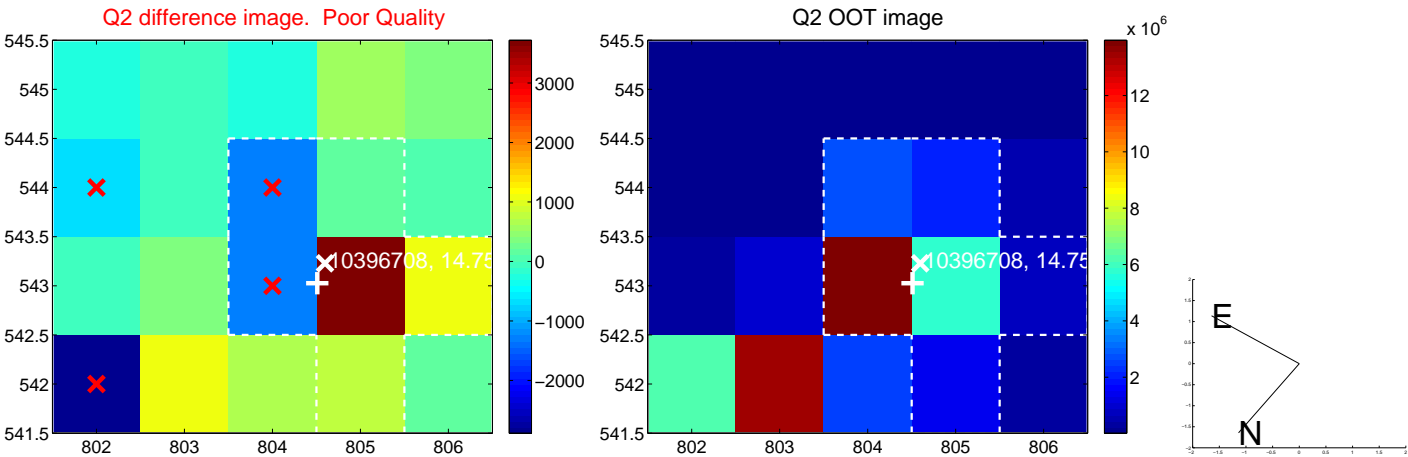
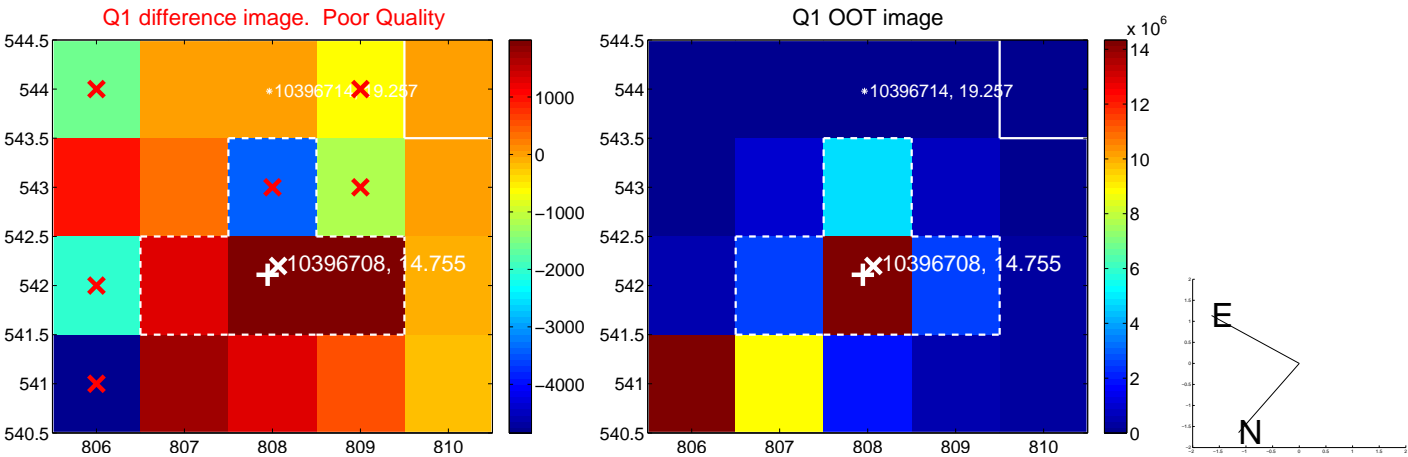
The direct PRF centroid is offset from the target star catalog position by about 0.99 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.079 ± 0.531	2.03	0.057 ± 0.435	-1.078 ± 0.544
PRF-fit source offset from KIC position	0.121 ± 0.744	0.16	0.016 ± 0.472	0.120 ± 0.748
photometric centroid source offset	1.94 ± 1.22	1.59	1.06 ± 0.95	1.63 ± 1.31

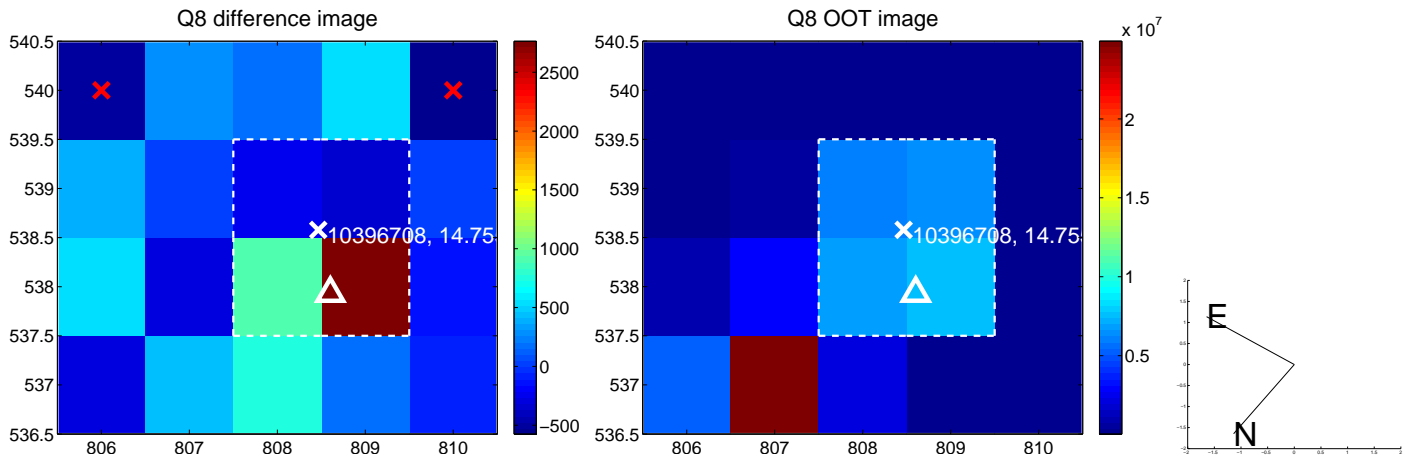
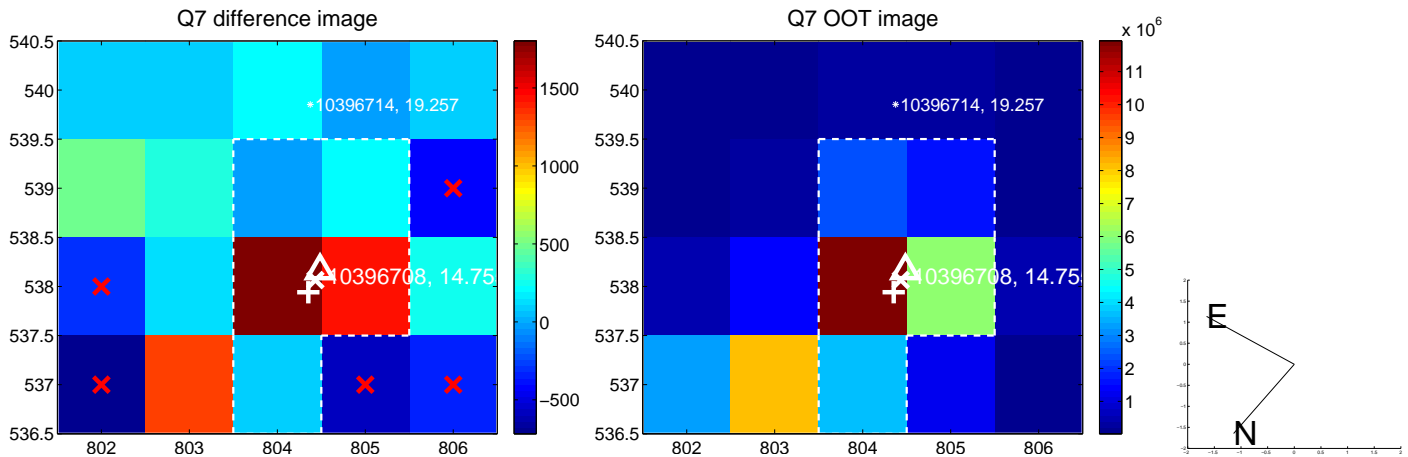
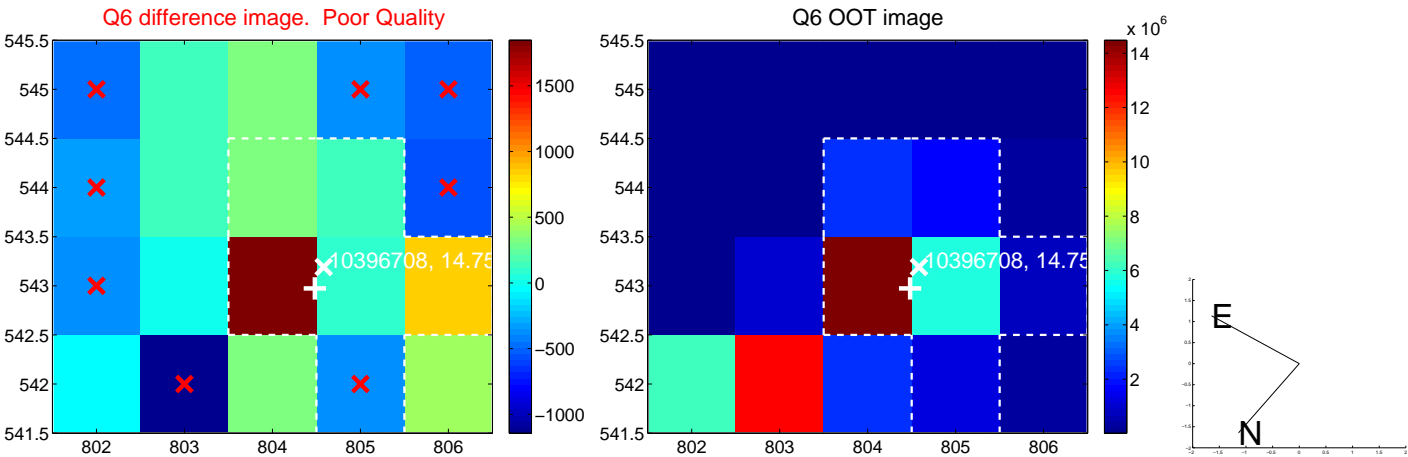
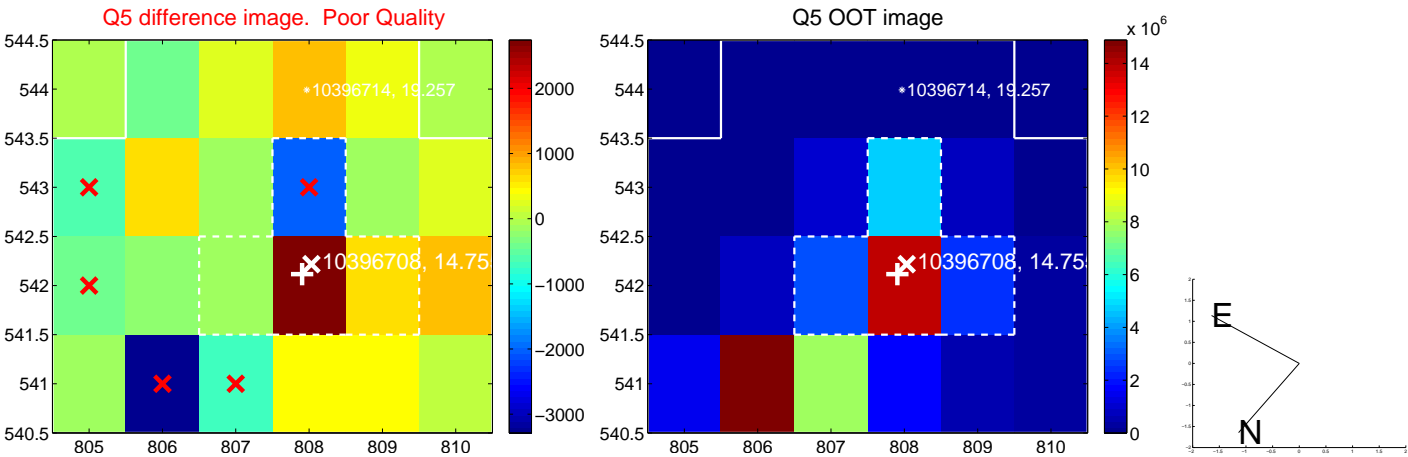


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

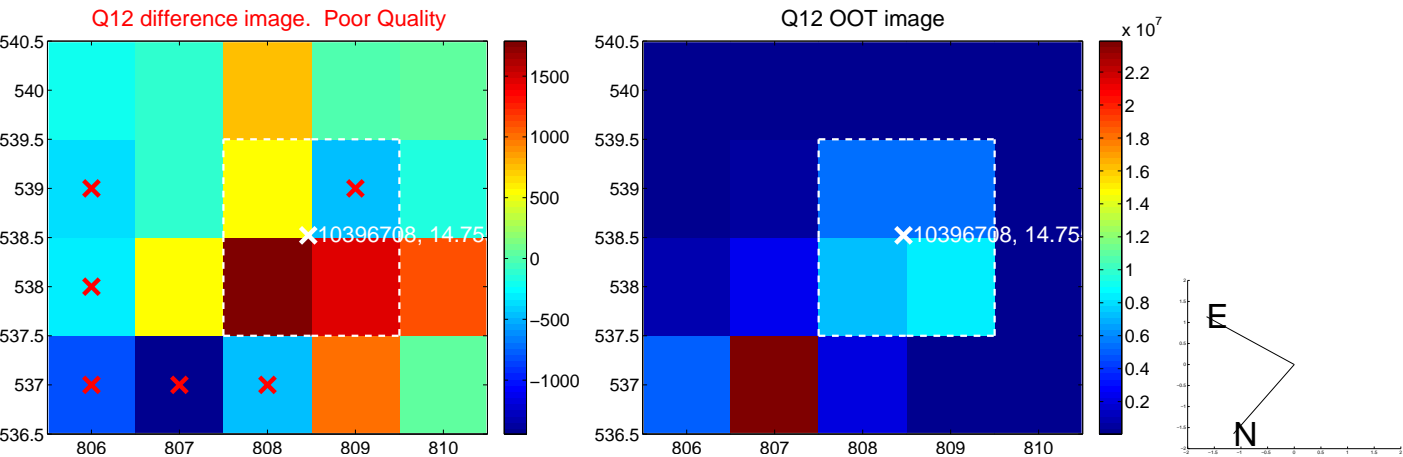
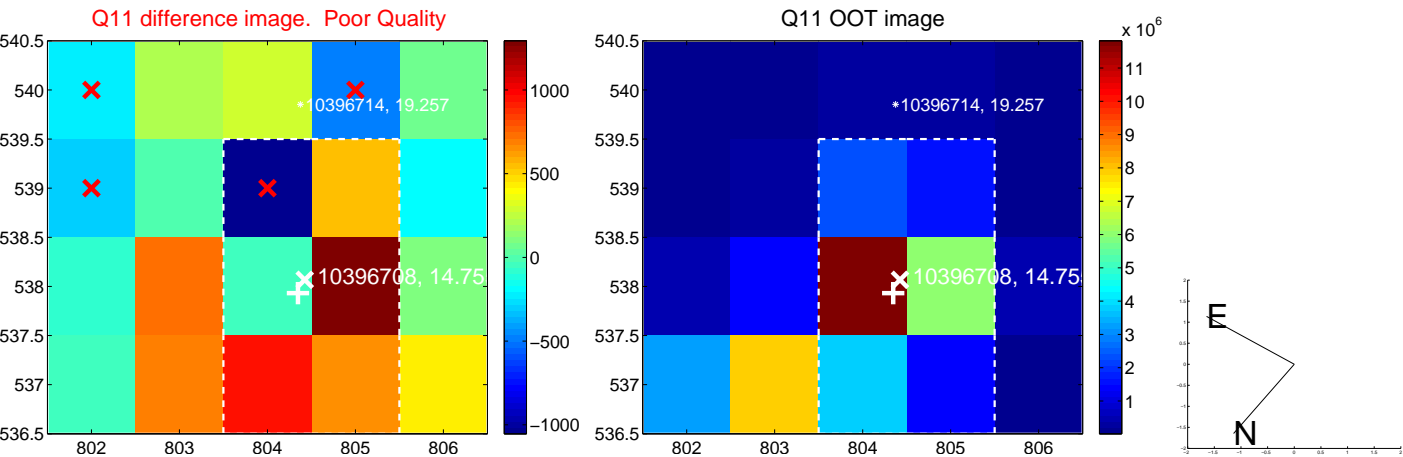
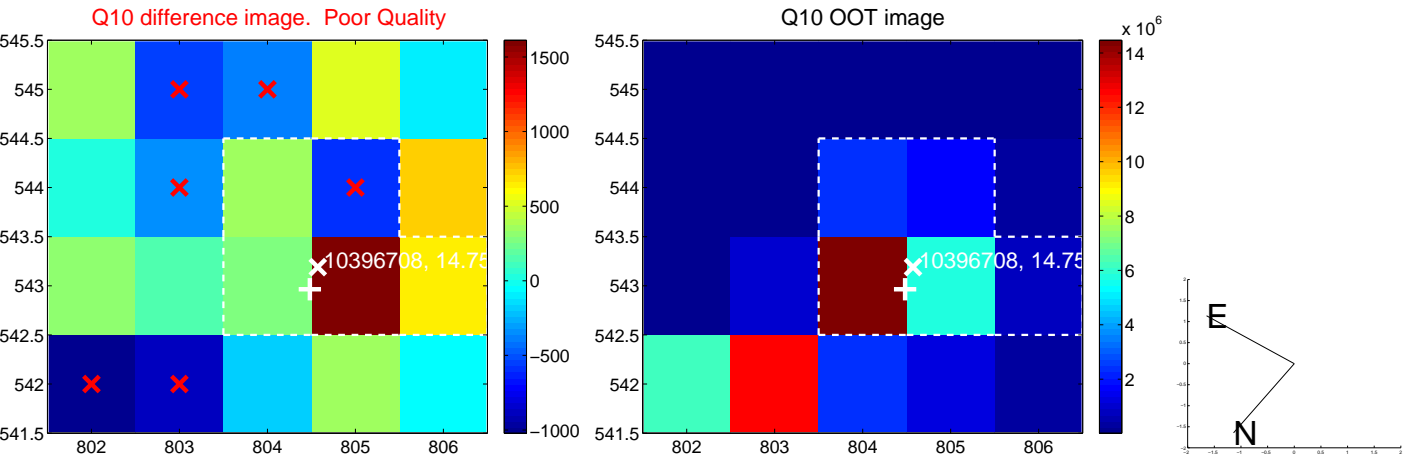
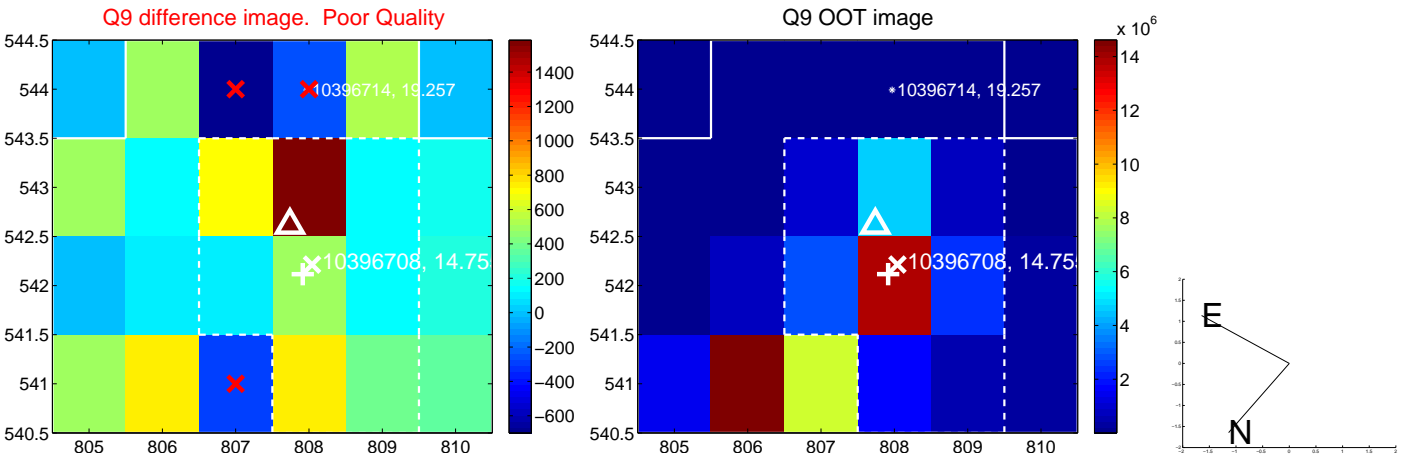
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



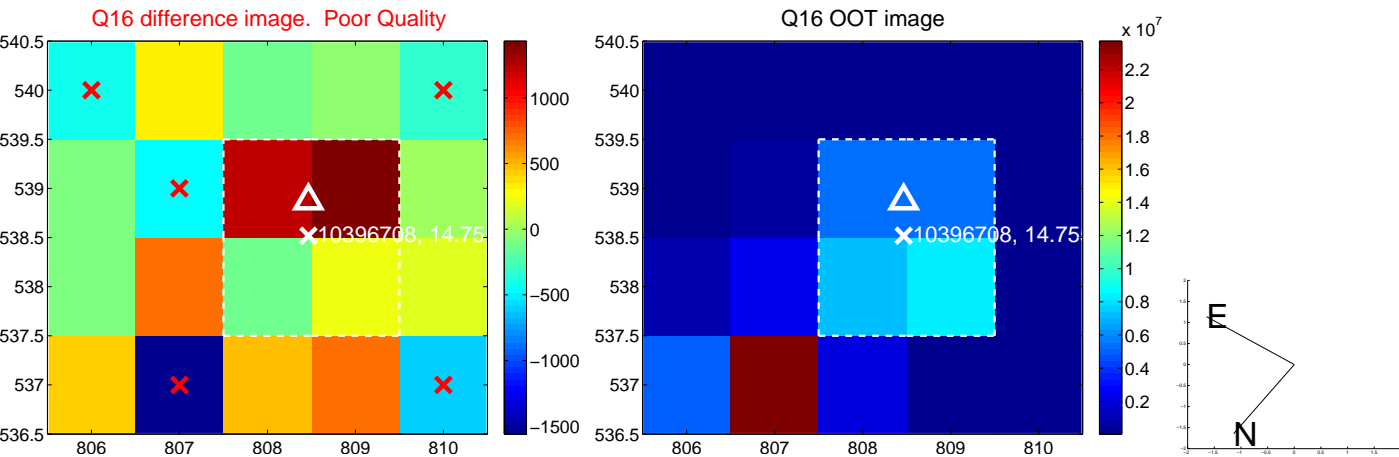
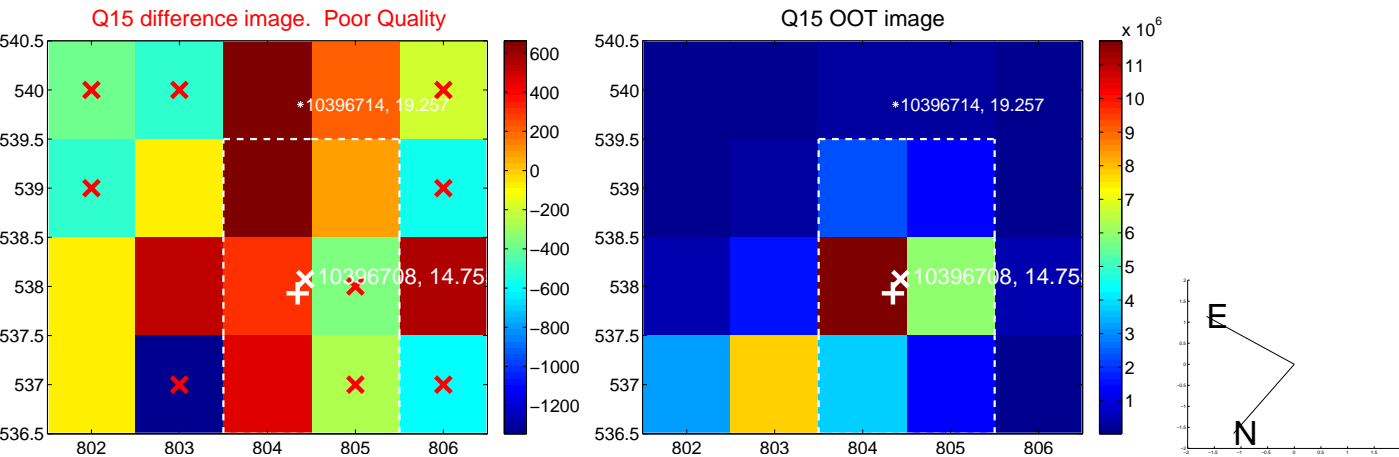
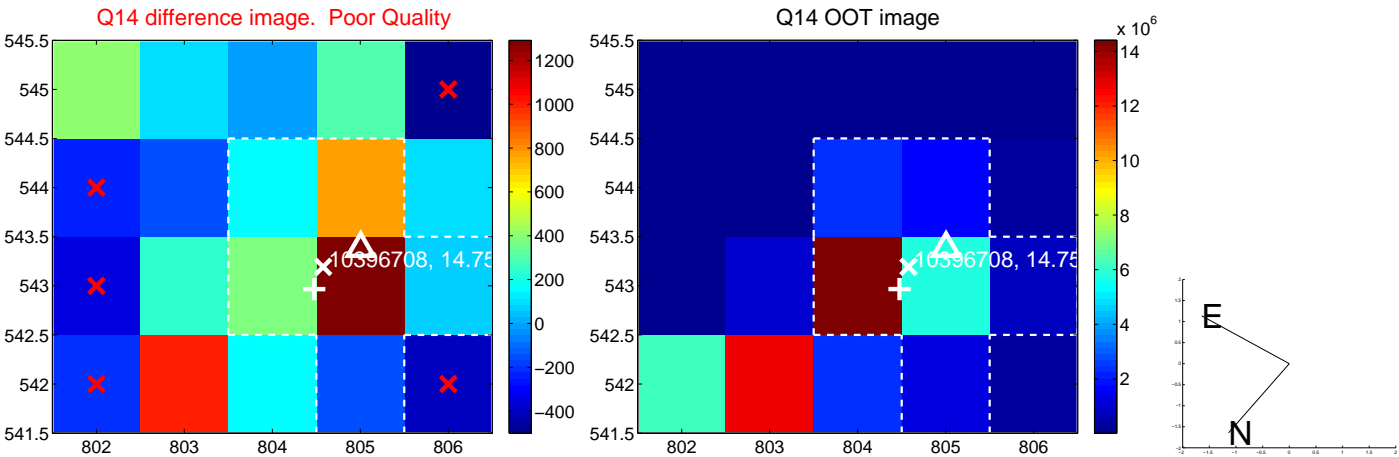
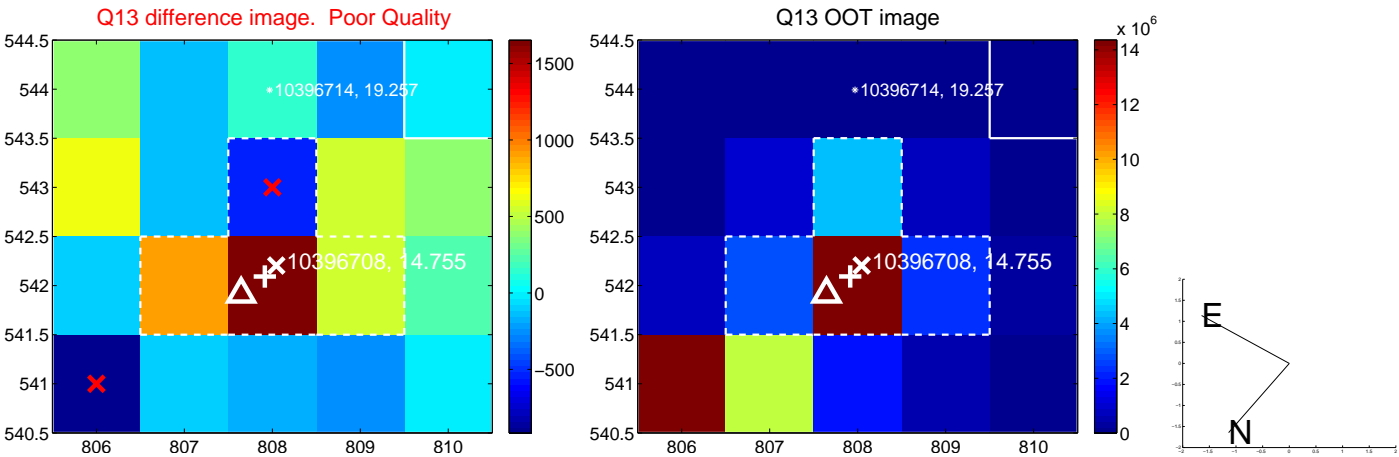
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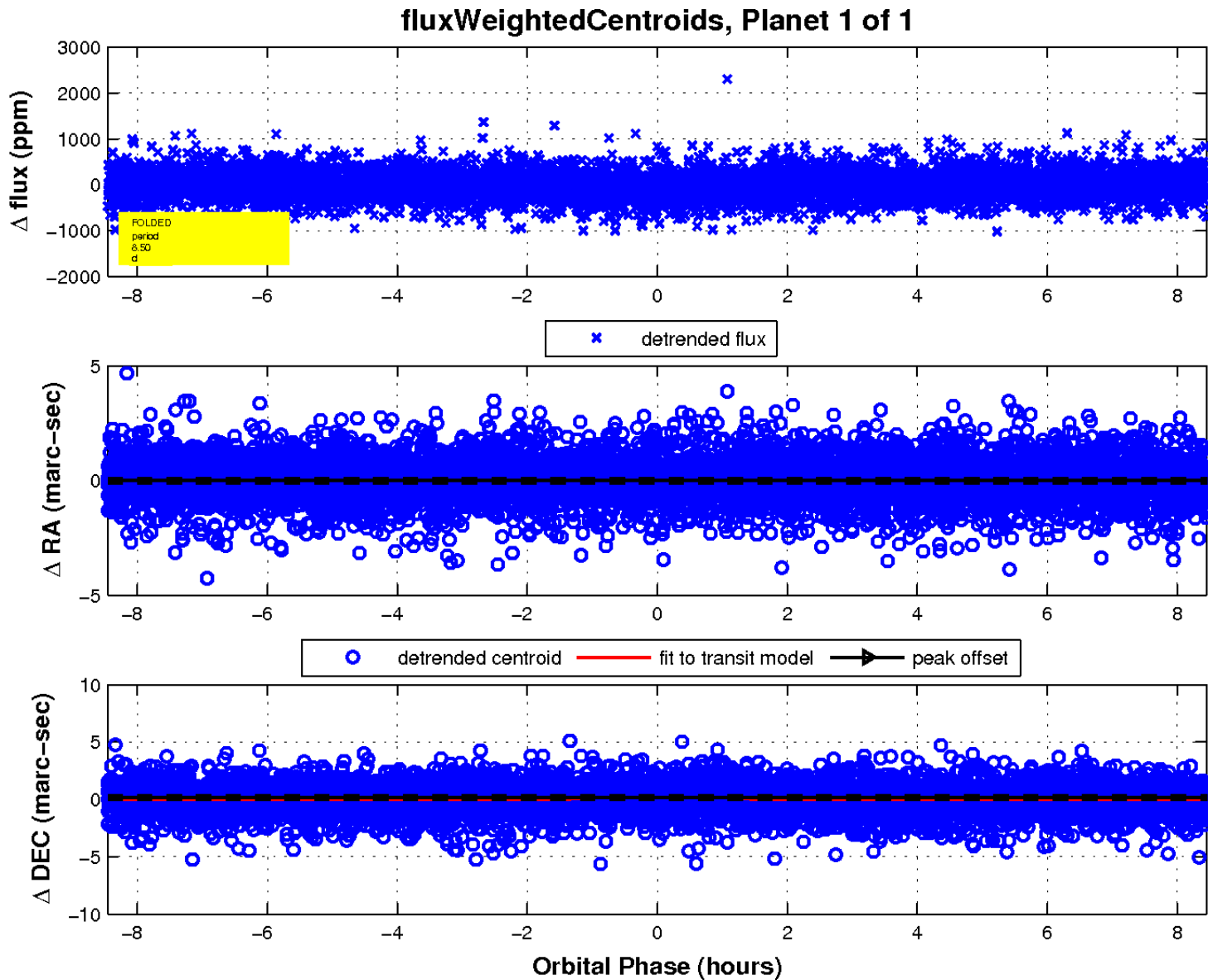
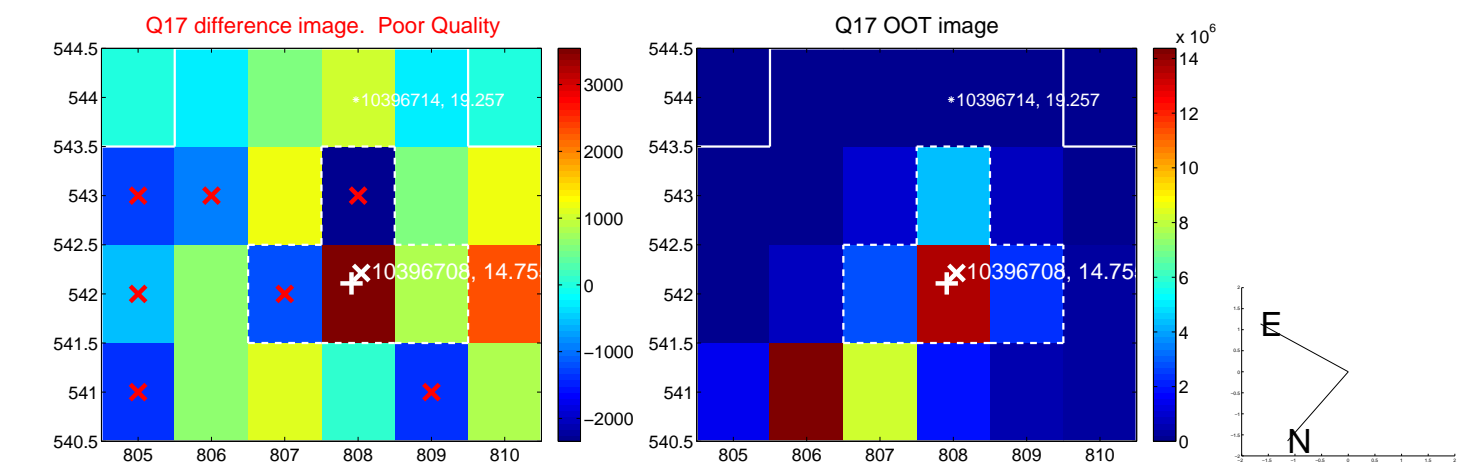
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UKIRT Image

Declination

