

KIC 009156882

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})
009156882-01	OBS	No	0.630148	131.706510	1.1	2.240	7.3	0.1	0.79	5510	0.08	2731.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009156882-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_UNRESOLVED_OFFSET

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

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

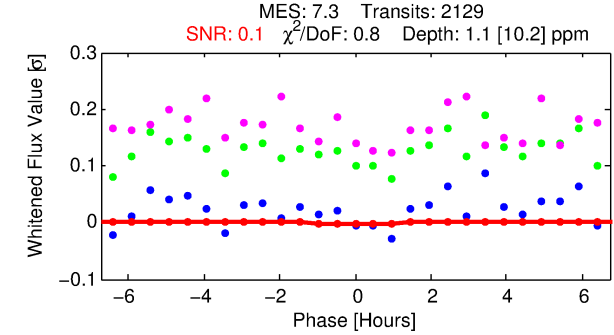
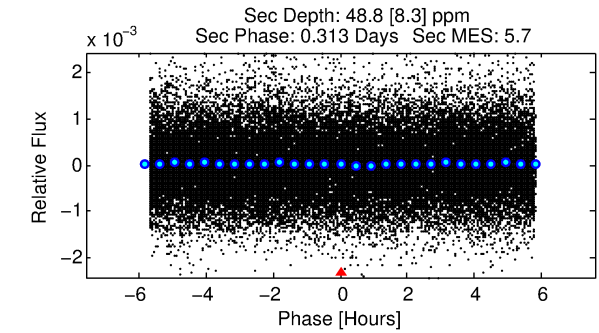
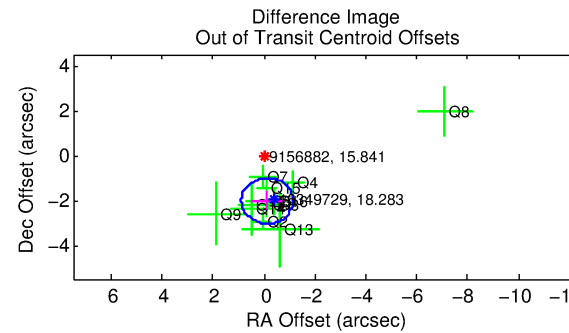
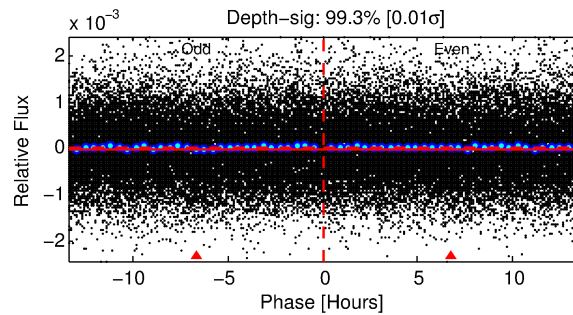
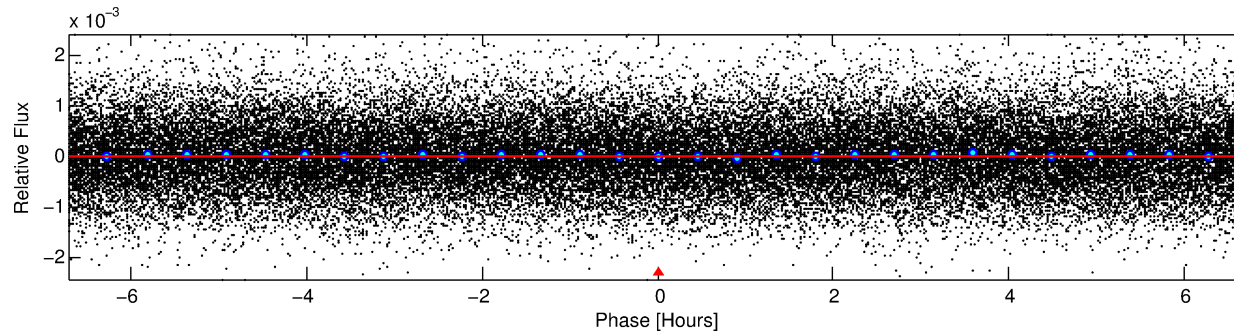
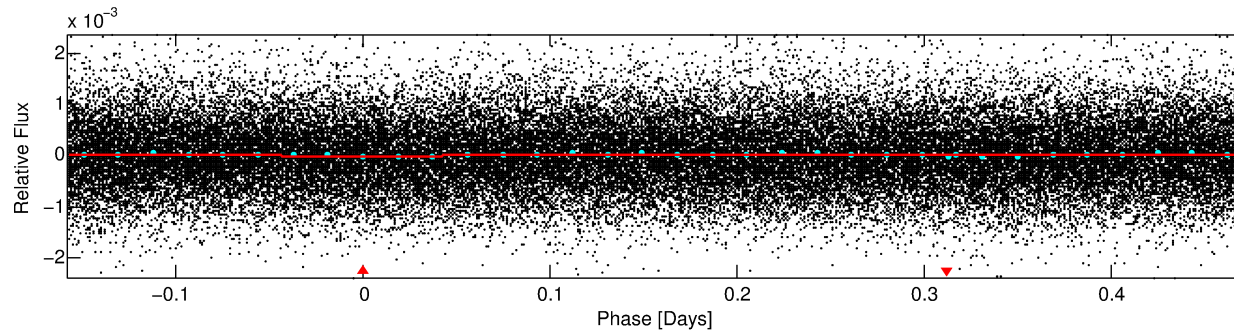
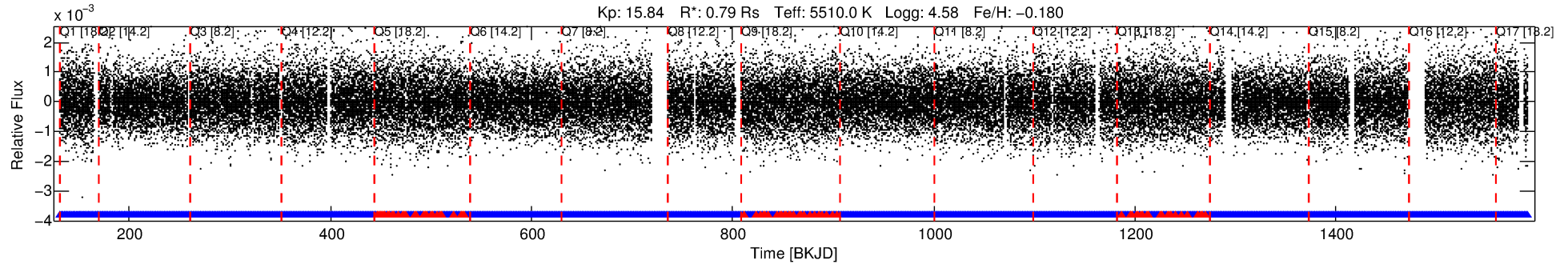
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009156882-01

No Significant Match Found

DV One-Page Summary

KIC: 9156882 Candidate: 1 of 1 Period: 0.630 d



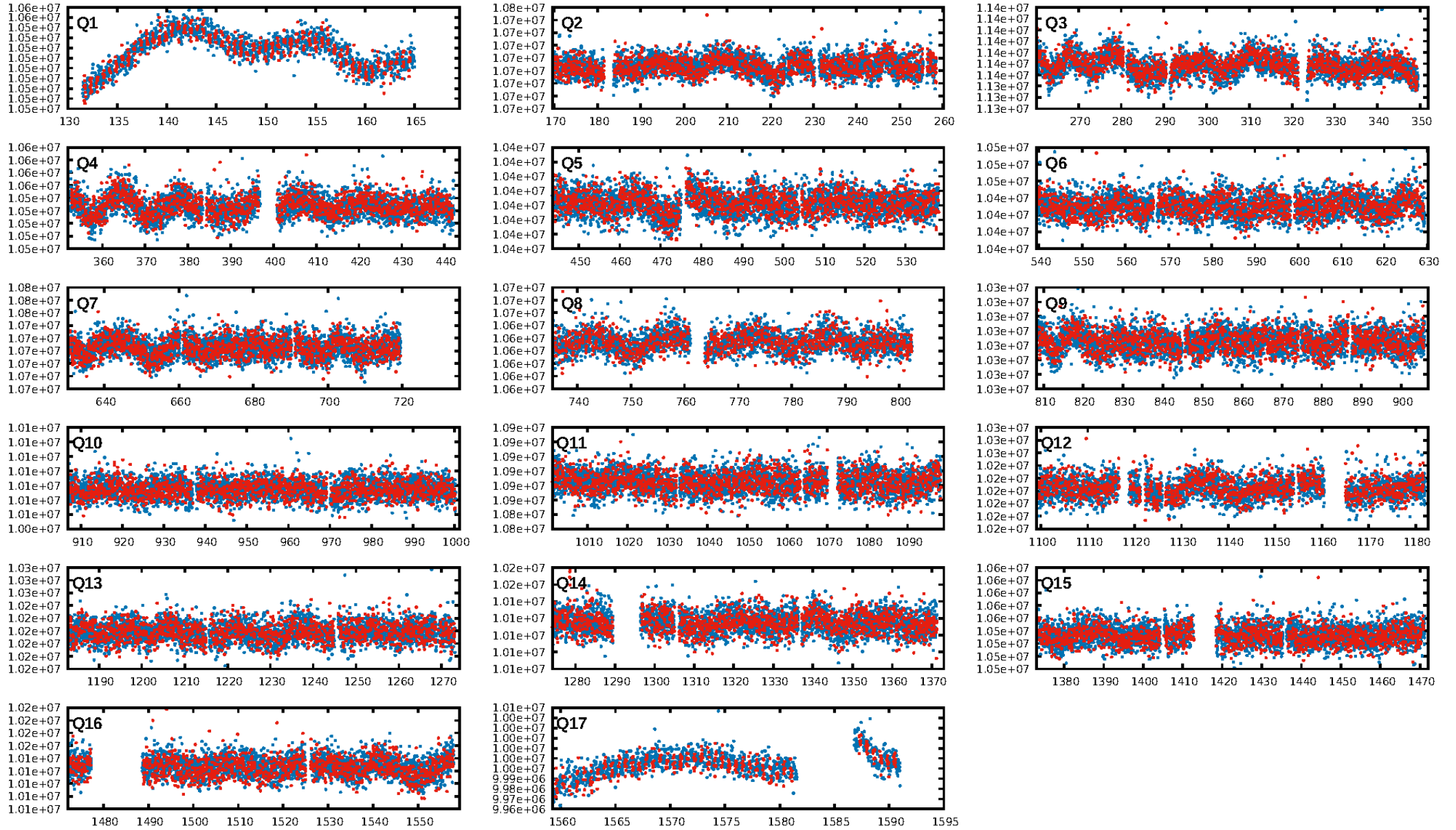
DV Fit Results:

Period = 0.63015 [0.00072] d
Epoch = 131.7065 [0.2241] BKJD
Rp/R* = 0.0010 [0.0137]
a/R* = 2.15 [94.46]
b = 0.31 [167.35]
Seff = 2731.66 [682.96]
Teq = 1843 [115] K
Rp = 0.08 [1.18] Re
a = 0.0138 [0.0021] AU
Ag = 738.61 [20994.14] [0.04 σ]
Teffp = 14859 [105584] K [0.12 σ]

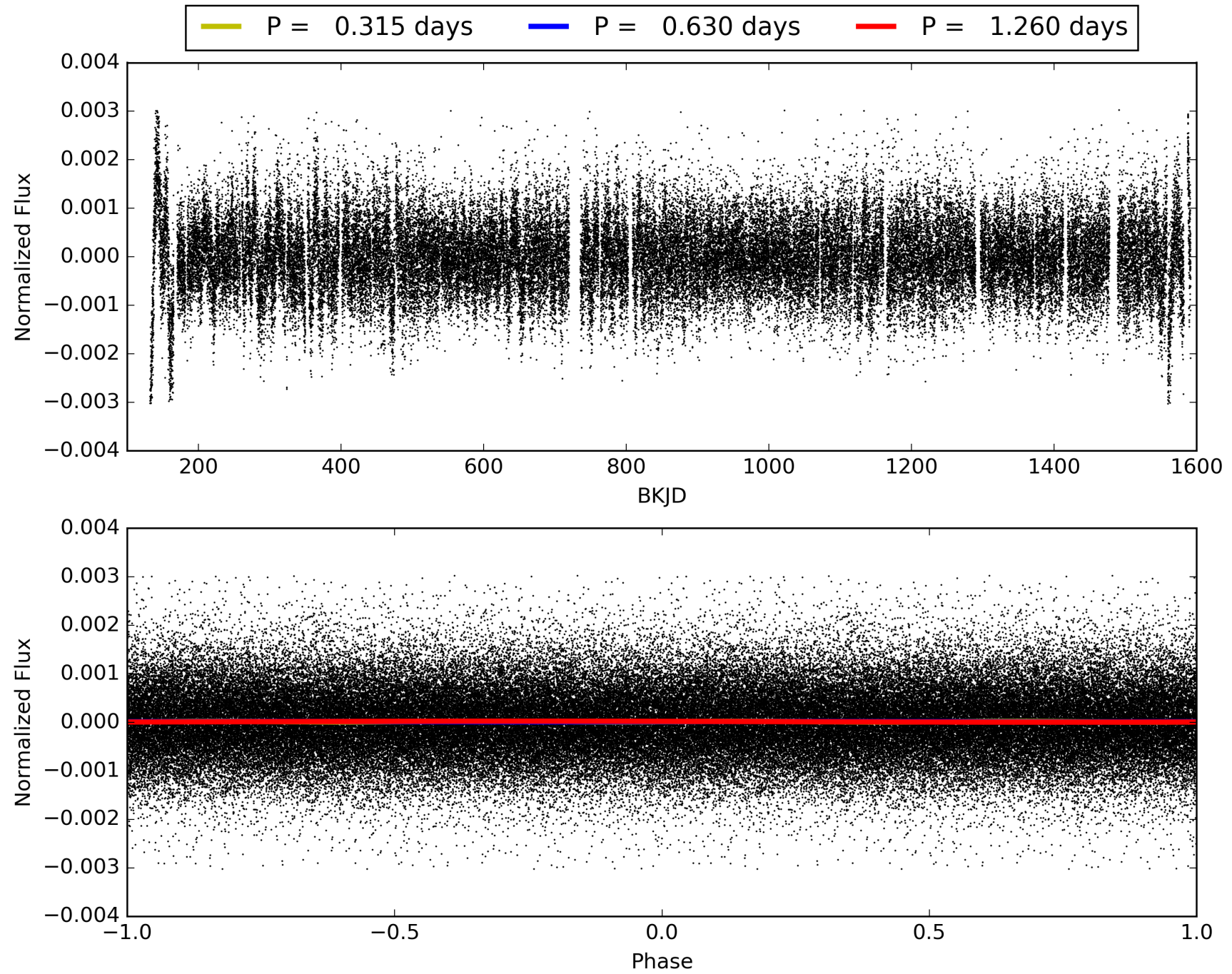
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.16e-13
RollingBand-fgt: 0.96 [1954/2035]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.029 arcsec [6.00 σ]
KicOffset-rm: 2.177 arcsec [6.61 σ]
OotOffset-st: 2/3/4/4 [13]
KicOffset-st: 2/3/4/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009156882-01, PDC Light Curves

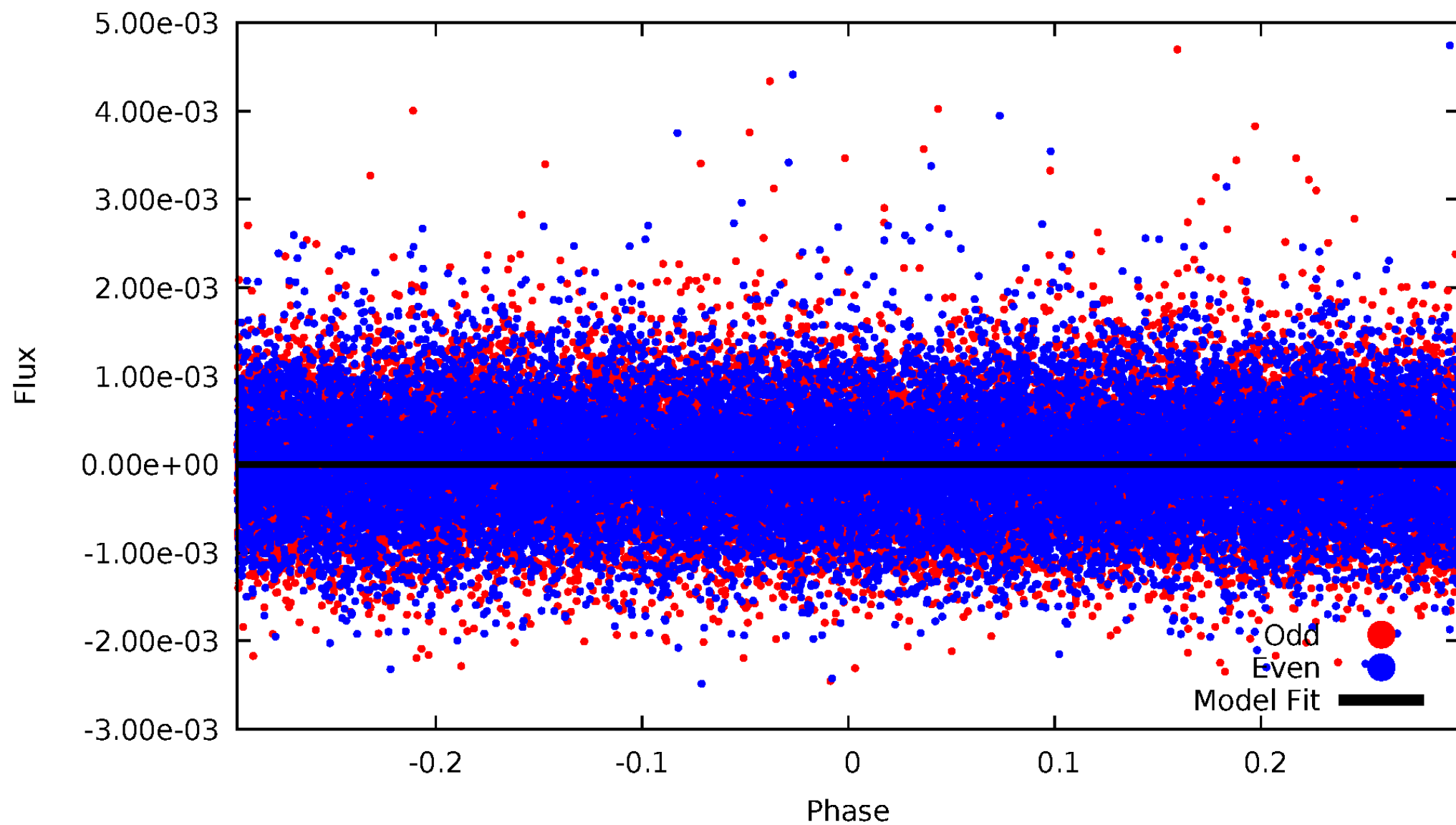


TCE 009156882-01



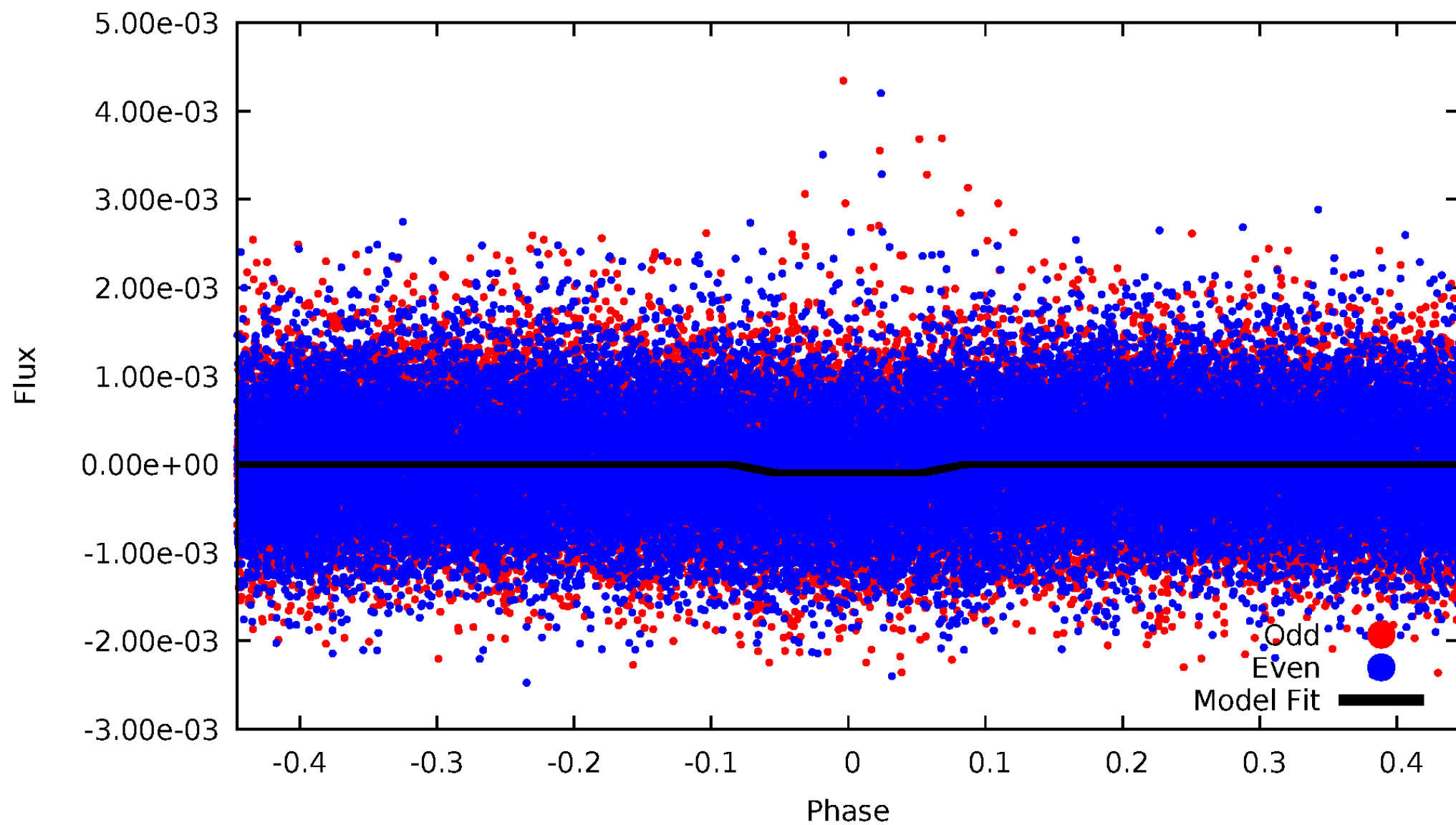
DV Odd/Even

TCE 009156882-01



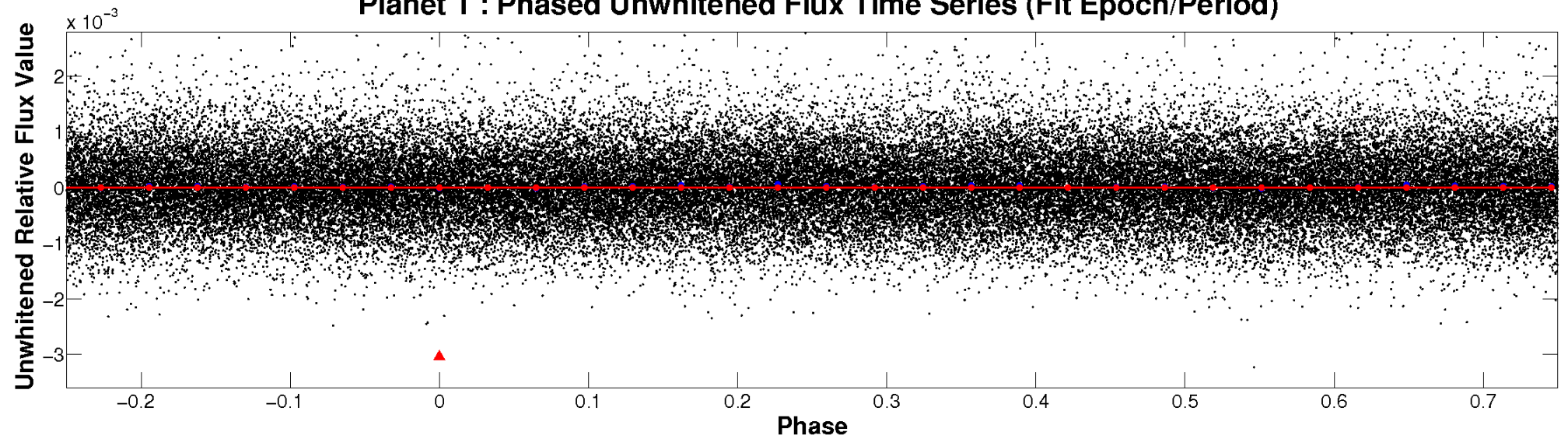
ALT Odd/Even

TCE 009156882-01

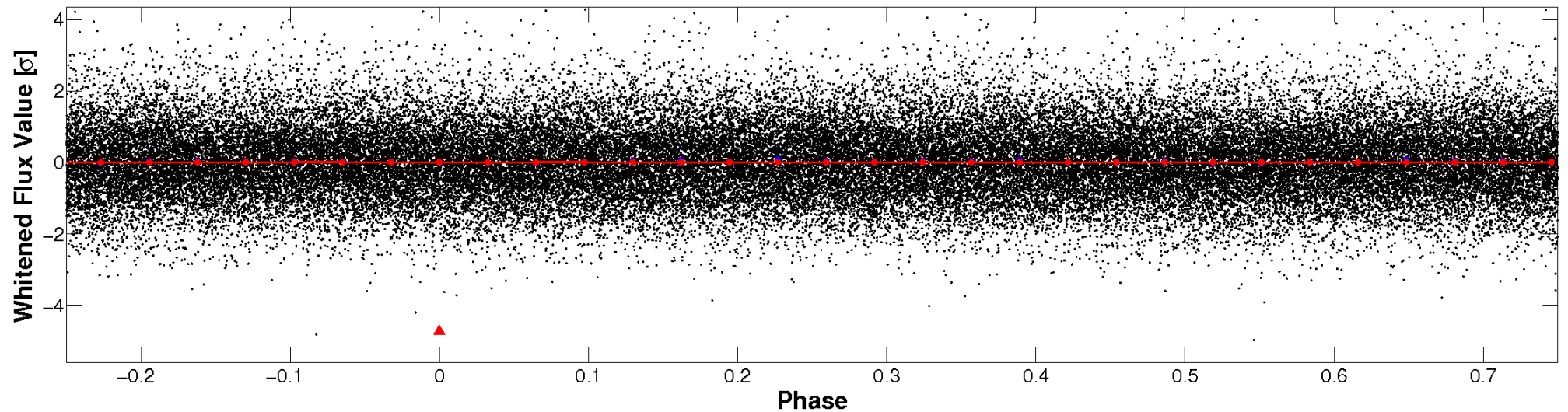


Non-Whitened Vs. Whitened Light Curve

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

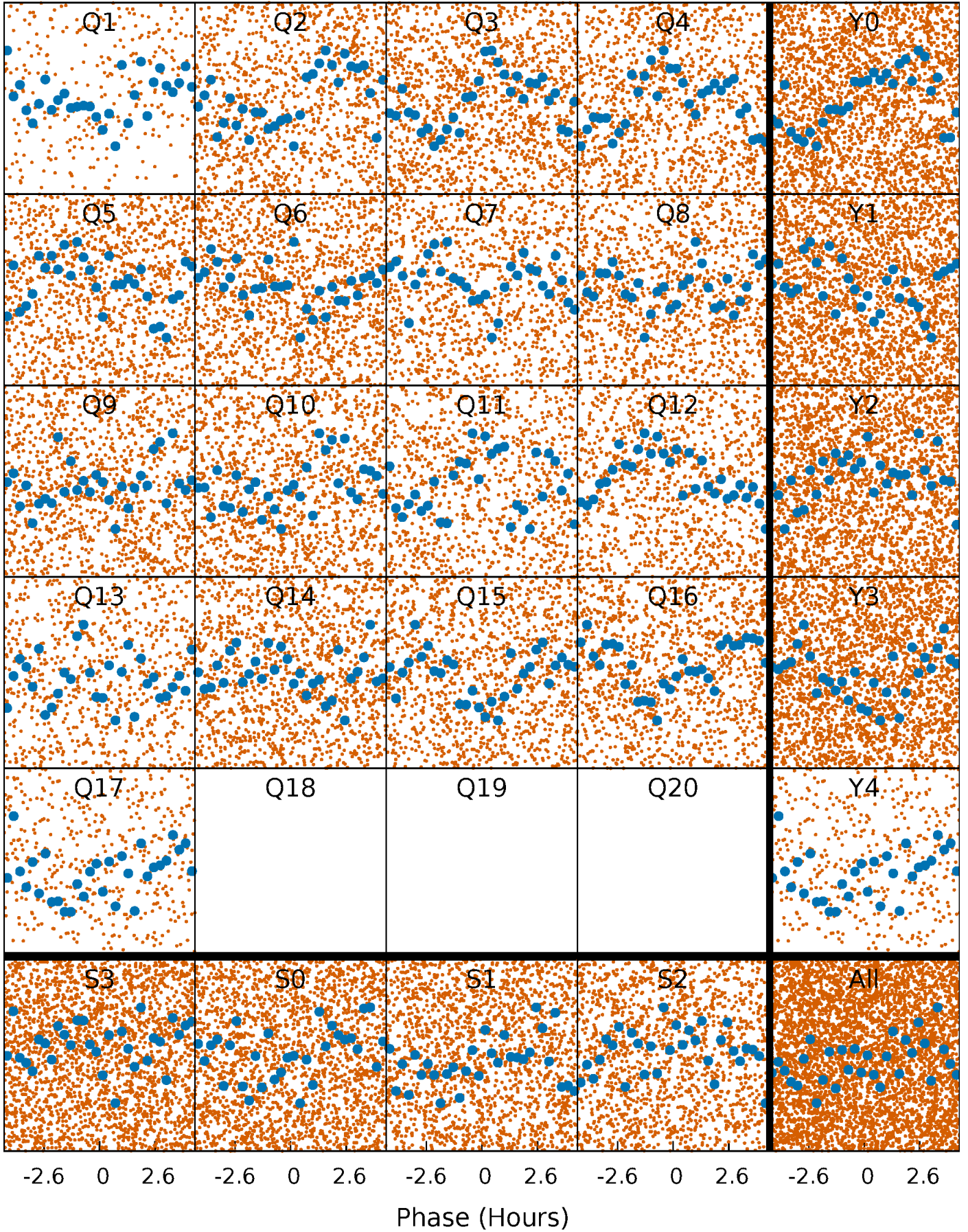


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



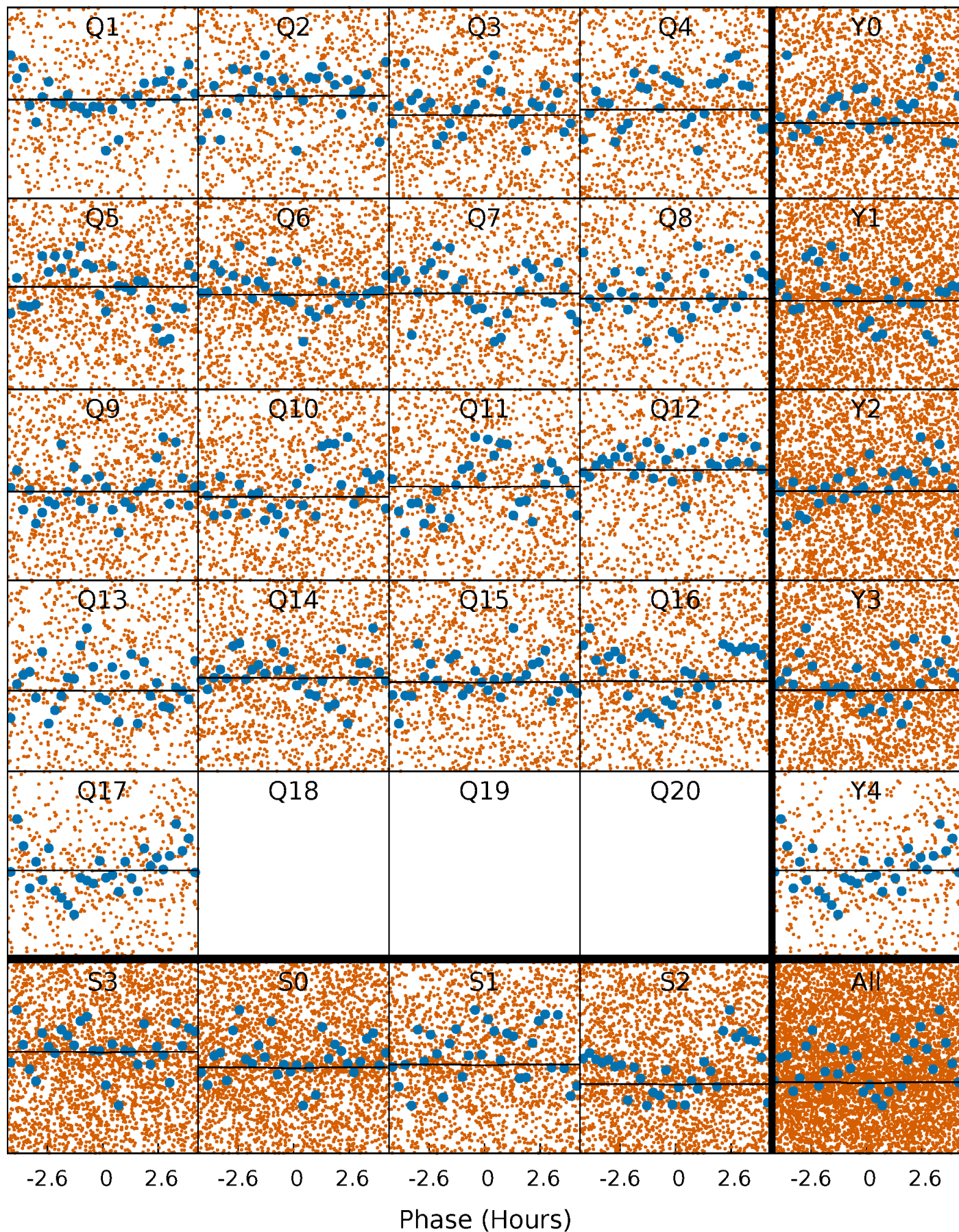
PDC Quarter-Phased Transit Curves

TCE 009156882-01 P= 0.630148 Days $T_0=131.706510$ (BKJD)



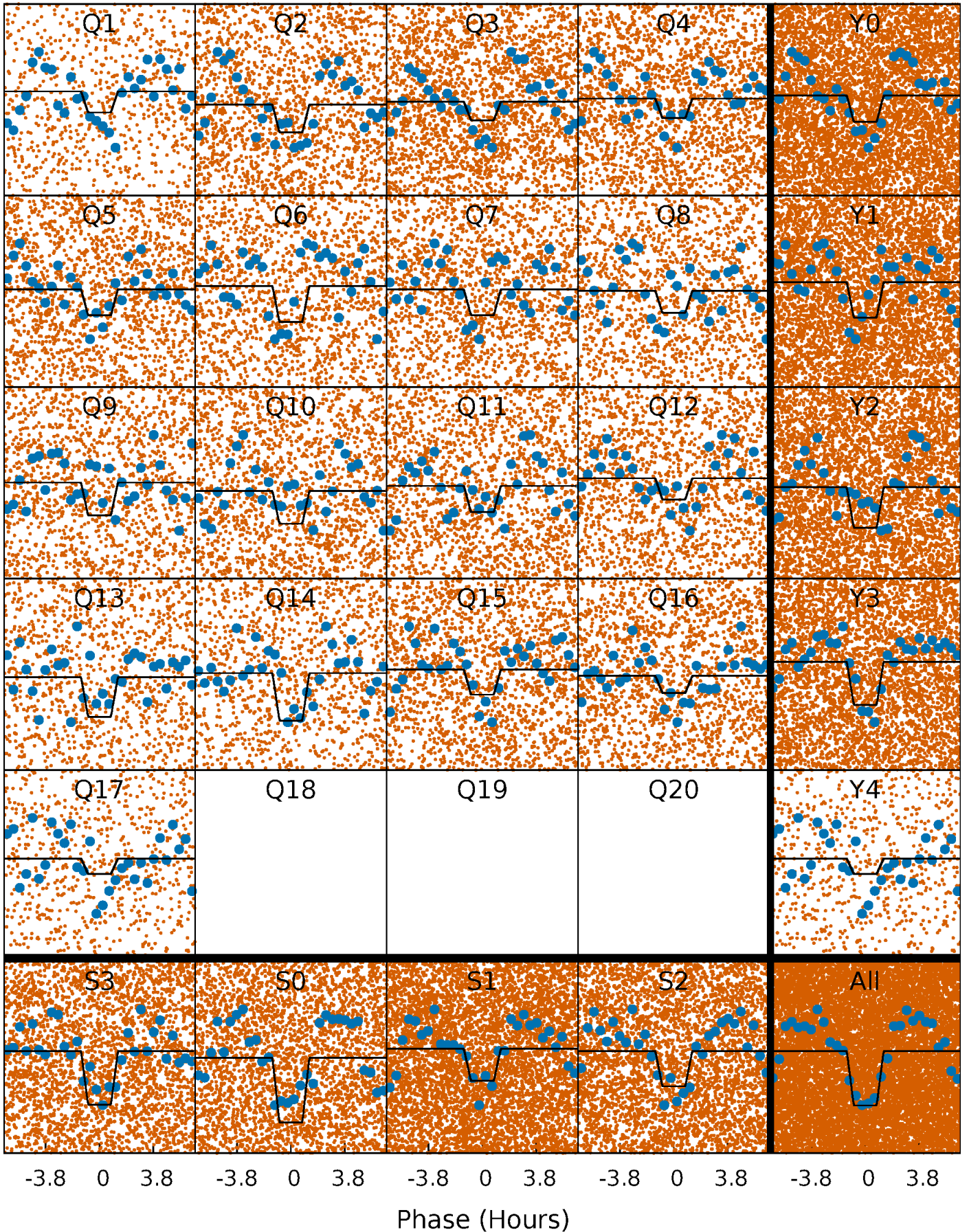
DV Quarter-Phased Transit Curves

TCE 009156882-01 P= 0.630148 Days $T_0=131.706510$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

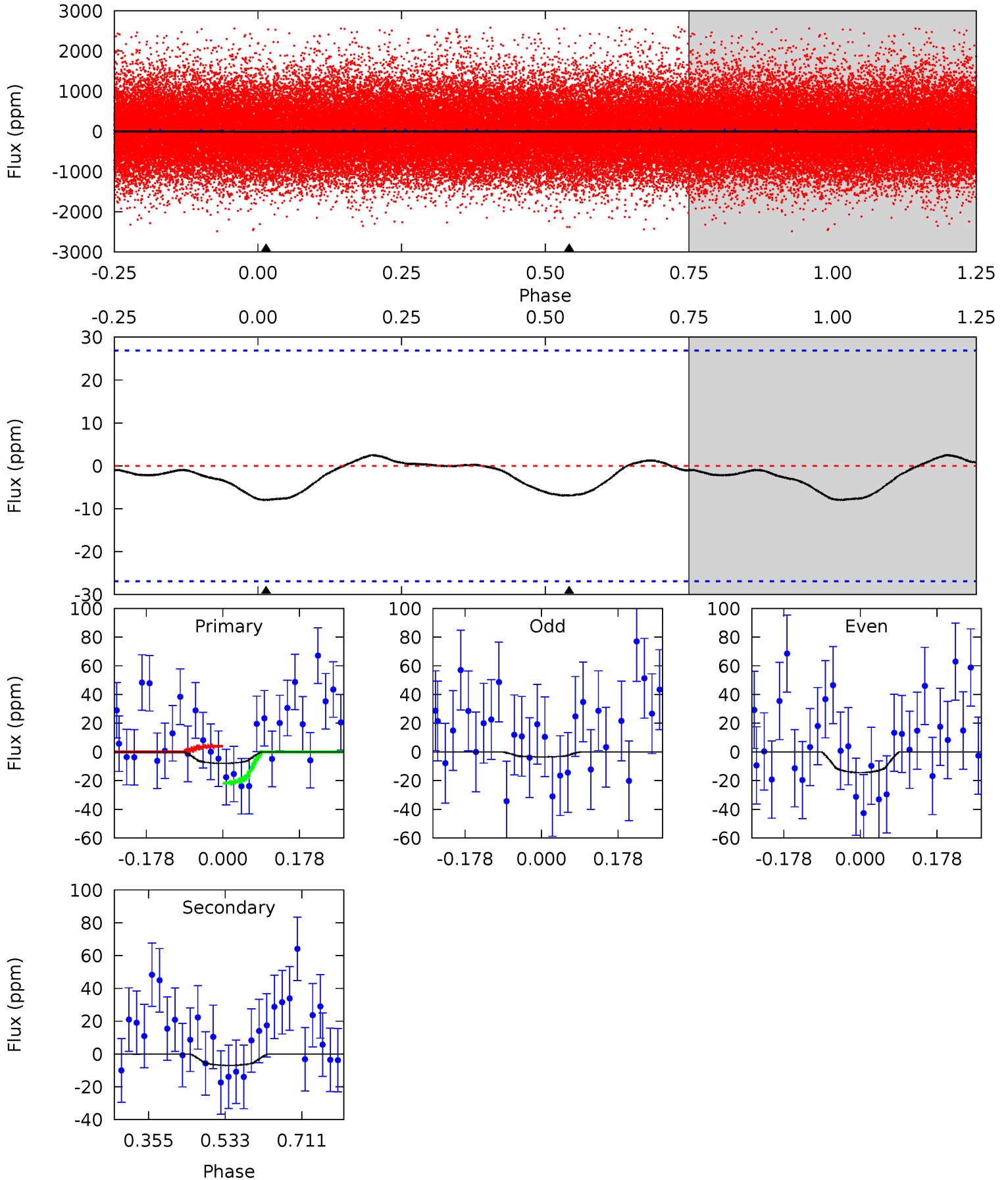
TCE 009156882-01 P= 0.629841 Days $T_0=131.701930$ (BKJD)



DV Model-Shift Uniqueness Test

009156882-01, P = 0.630148 Days, E = 131.076362 Days

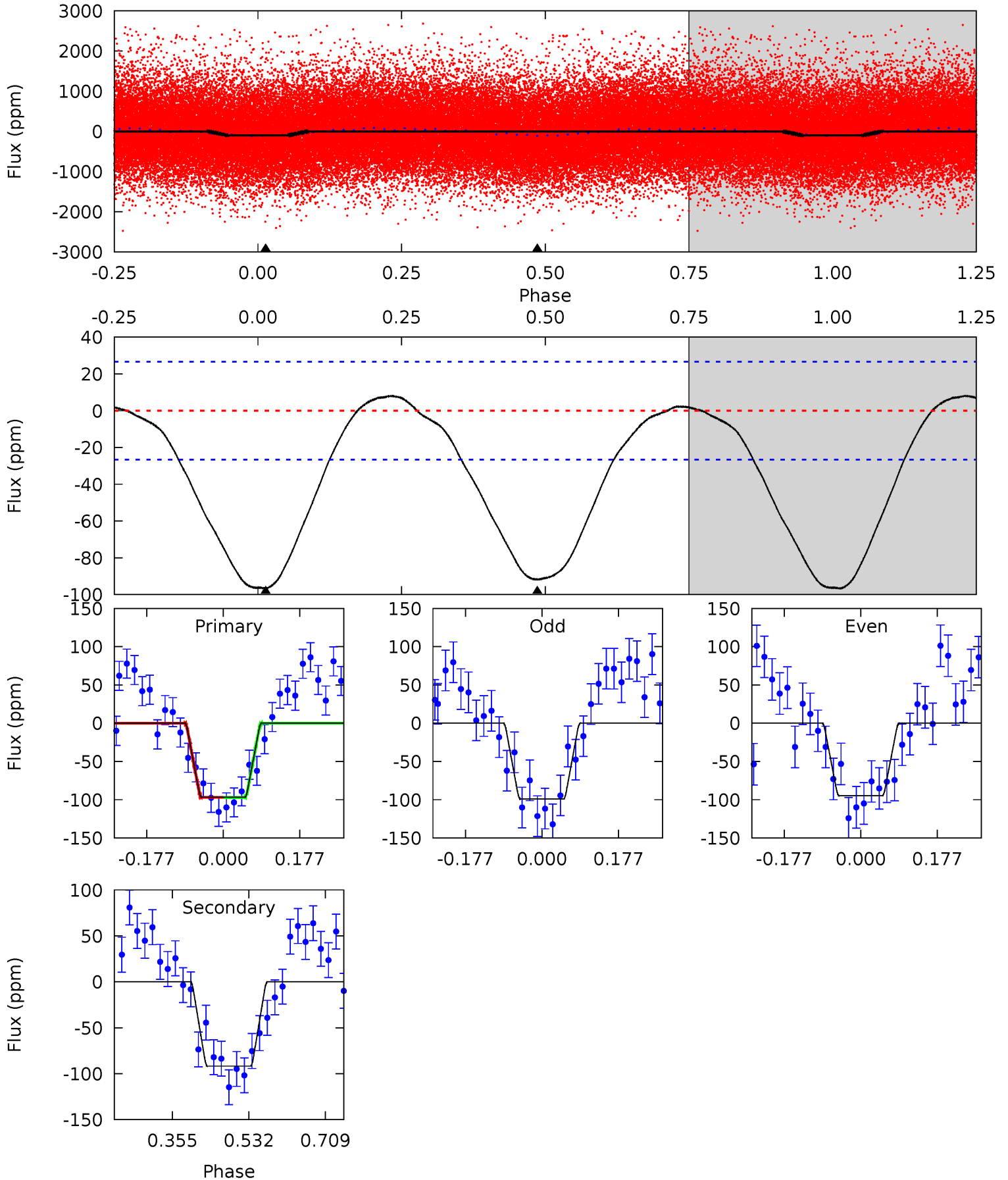
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.32	1.15	0	0	4.44	1.35	0.22	1.32	1.32	1.15	1.15	0.90	-0.11	0.24	1.50



Alt Model-Shift Uniqueness Test

009156882-01, P = 0.629841 Days, E = 131.072089 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	15.3	0	0	4.44	1.35	0.85	16.1	16.1	15.3	15.3	0.36	0.80	0.08	0.01



Stellar Parameters For KIC 009156882

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5510^{+149}_{-166}	$4.584^{+0.040}_{-0.120}$	$-0.180^{+0.300}_{-0.300}$	$0.793^{+0.141}_{-0.065}$	$0.888^{+0.074}_{-0.111}$	$2.511^{+0.426}_{-0.945}$
	+3%/-3%	+1%/-3%	+167%/-167%	+18%/-8%	+8%/-12%	+17%/-38%
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 009156882-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 6	$0.89^{+0.93}_{-0.63}$	2610^{+121}_{-100}	2838^{+2073}_{-5685}	$0.594^{+7.466}_{-0.579}$
Alt.	-92 ± 6	$1.25^{+1.04}_{-0.81}$	2611^{+122}_{-100}	4657^{+3049}_{-1012}	$6.086^{+41.608}_{-4.323}$

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

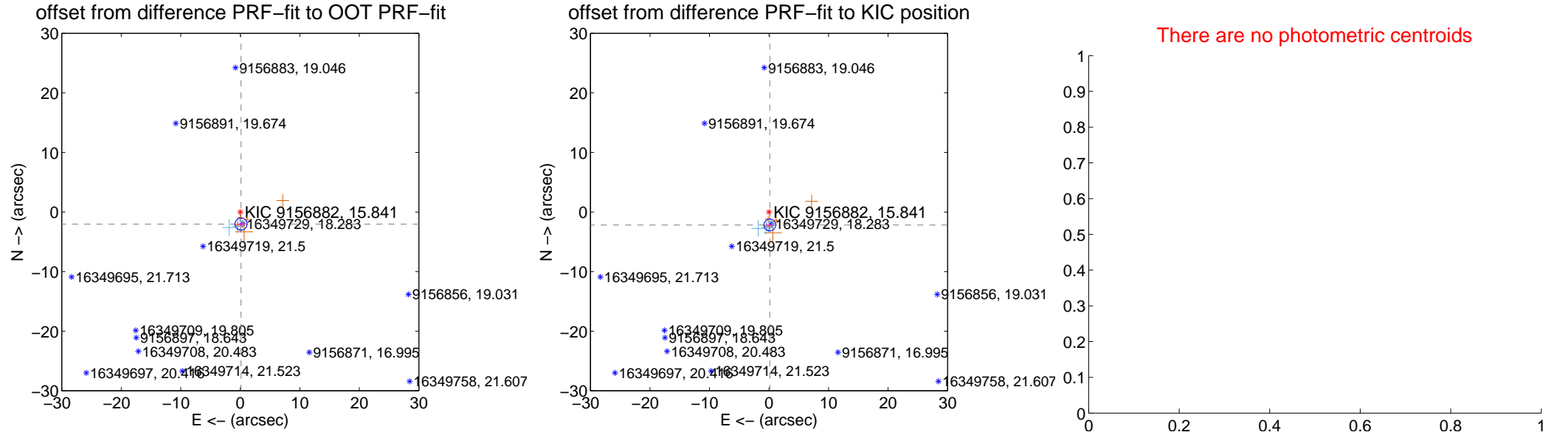
DV Centroid Data

Supplemental centroid analysis for 009156882-01. Kepler magnitude: 15.84. Transit SNR 0.14

There are 6 quarters with good PRF difference image offsets

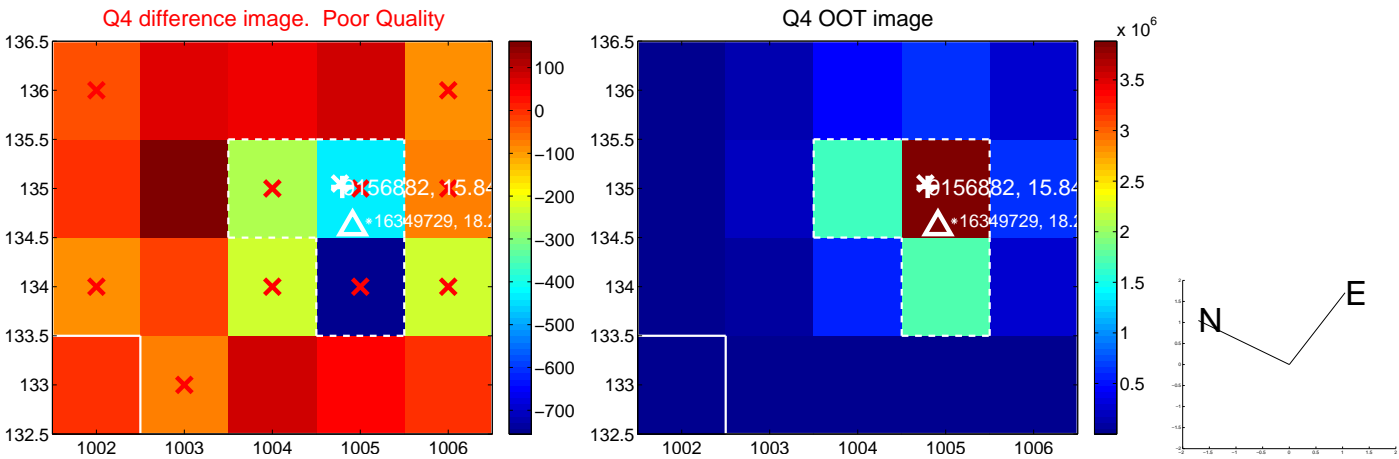
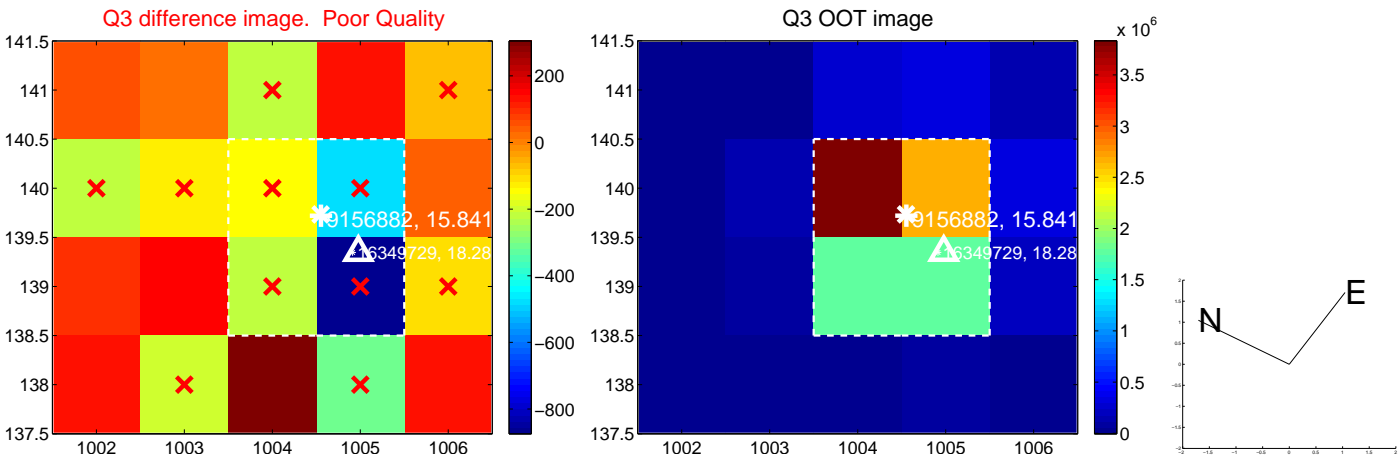
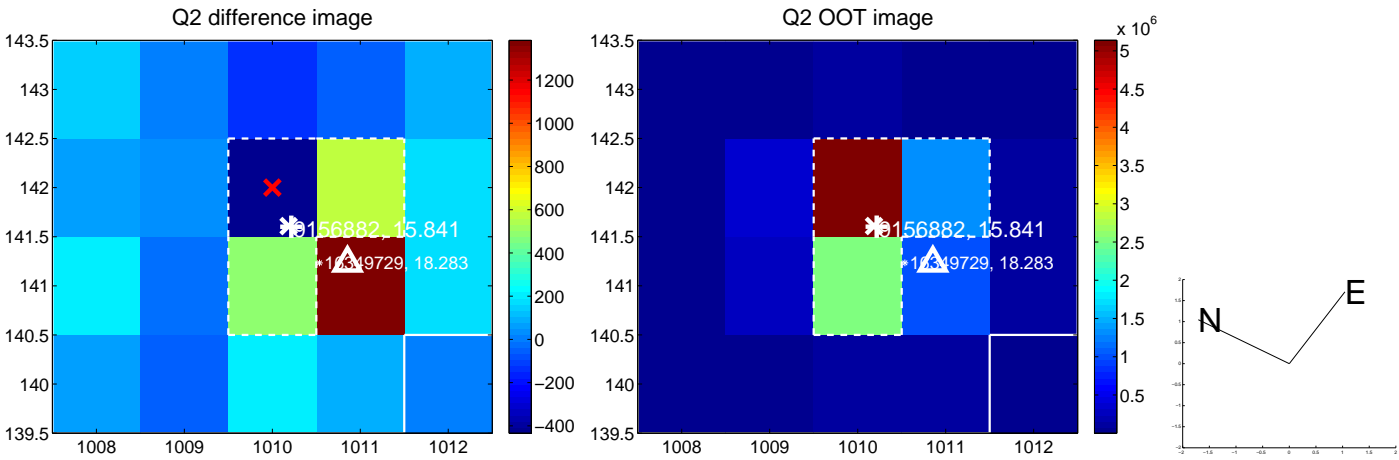
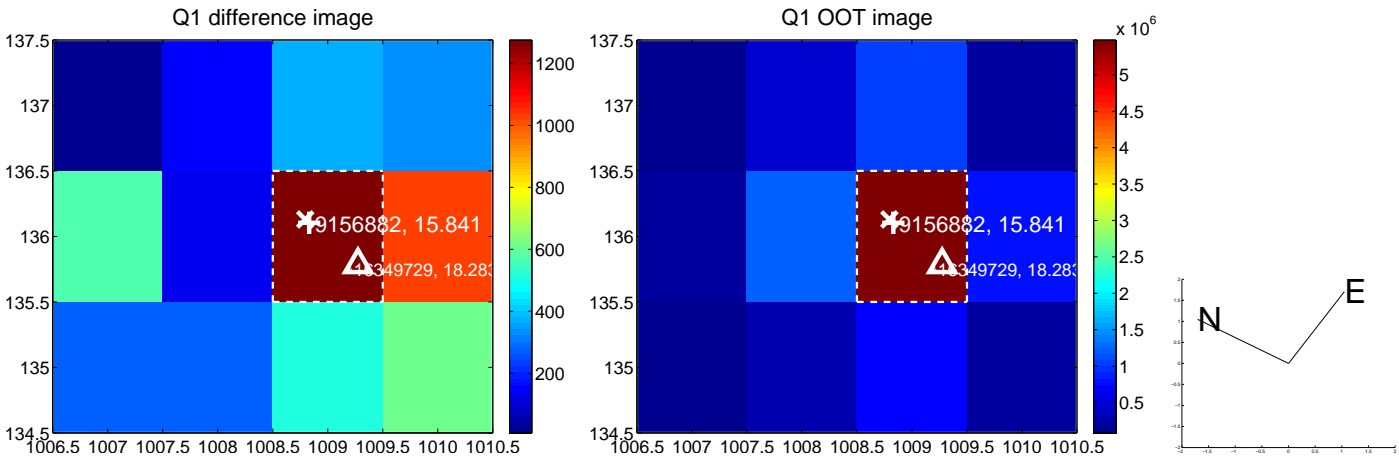
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.029 \pm 0.338	6.00	-0.125 \pm 0.613	-2.025 \pm 0.371
PRF-fit source offset from KIC position	2.177 \pm 0.329	6.61	-0.132 \pm 0.557	-2.173 \pm 0.358
photometric centroid source offset	—	—	—	—

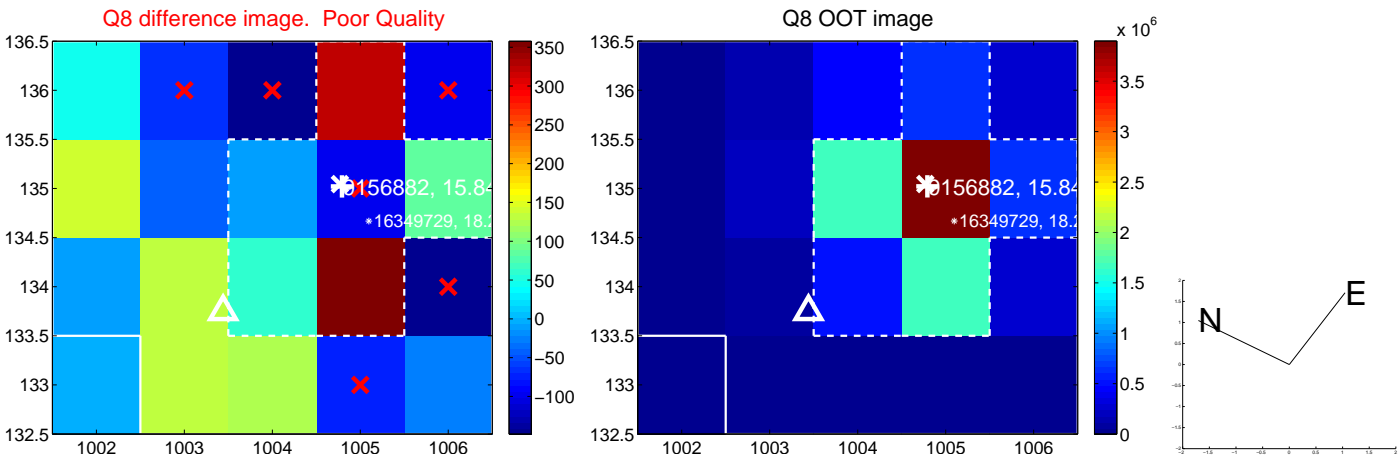
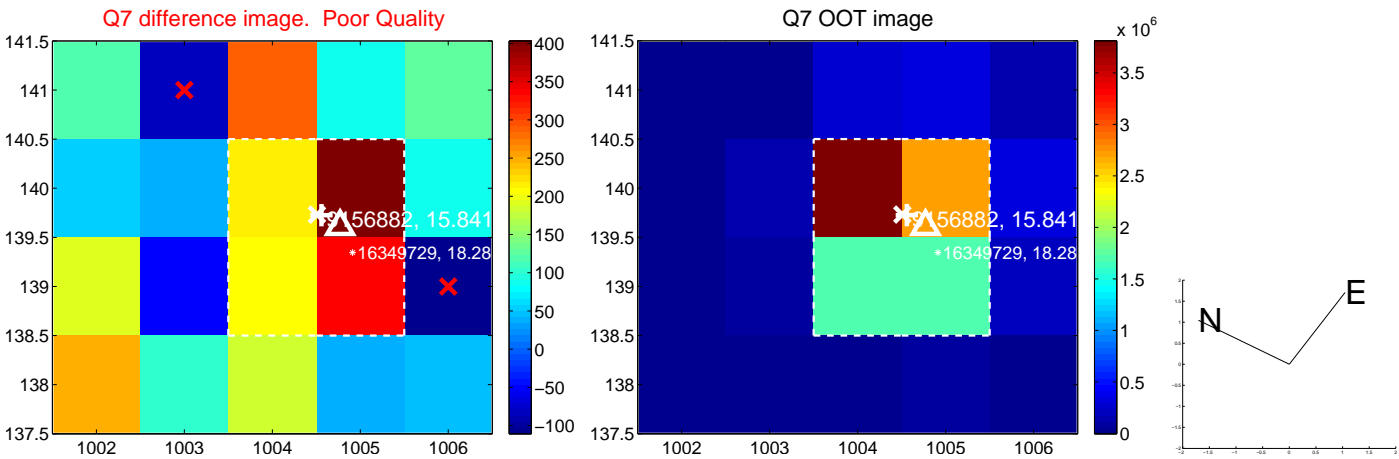
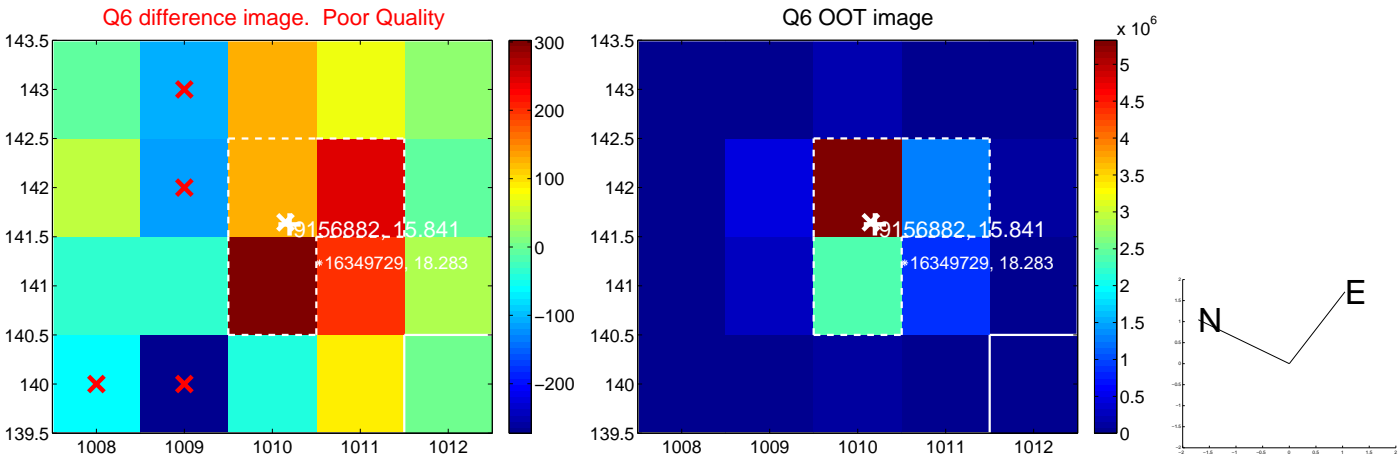
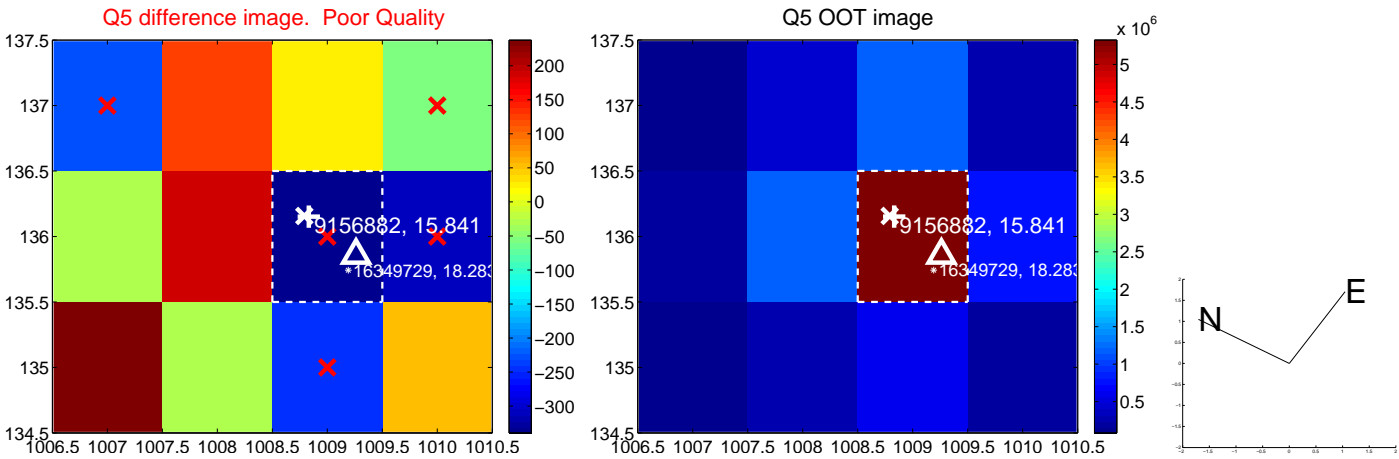


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

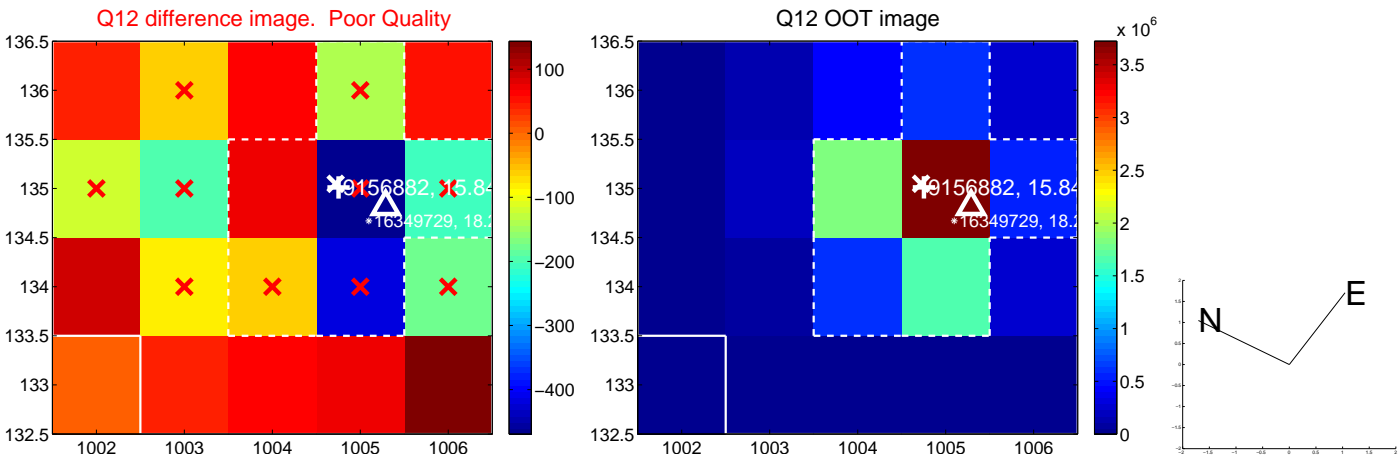
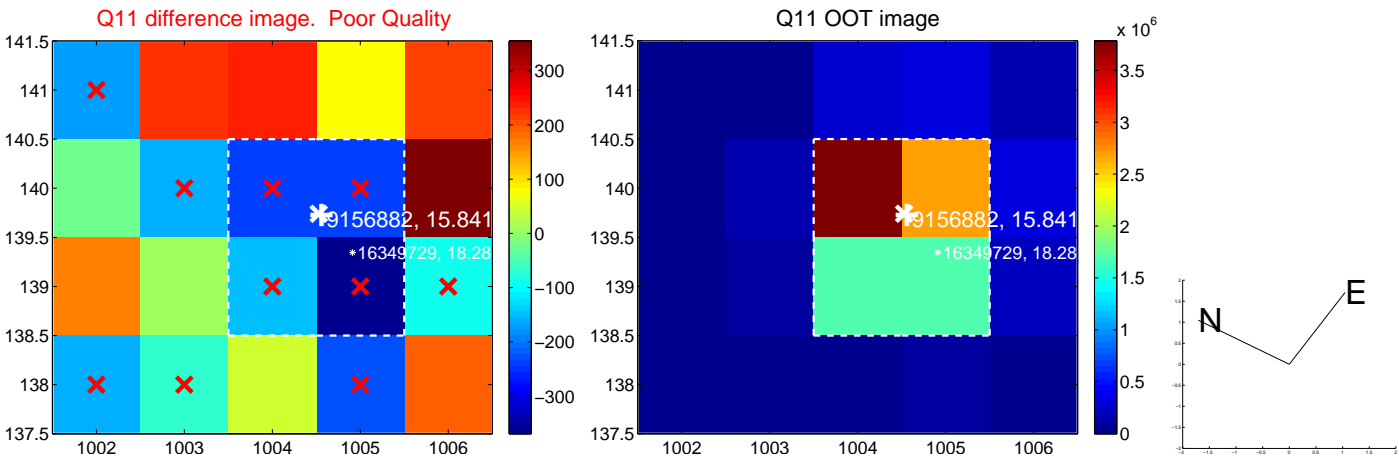
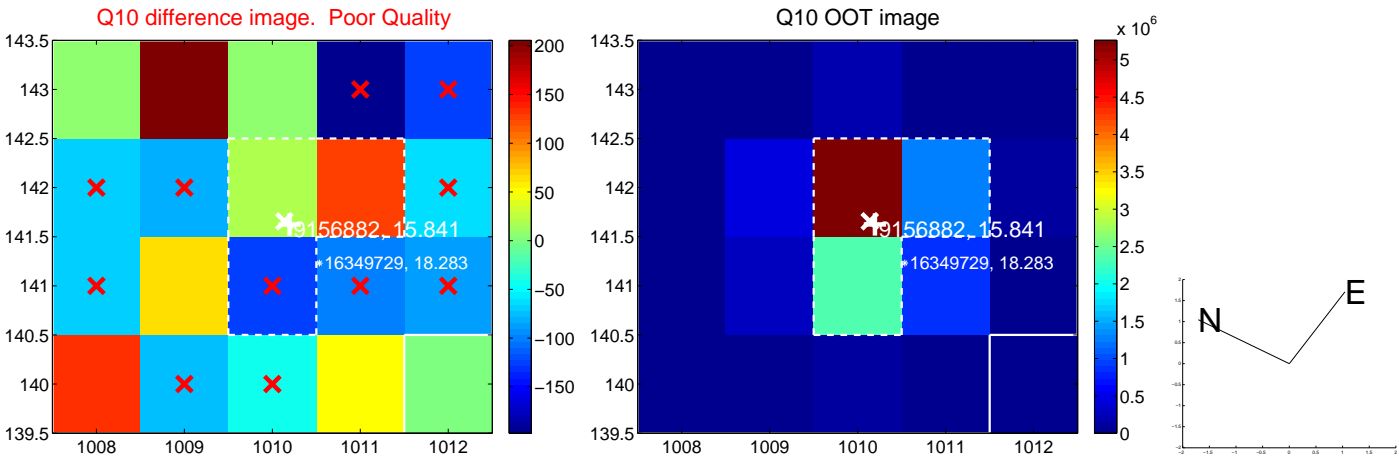
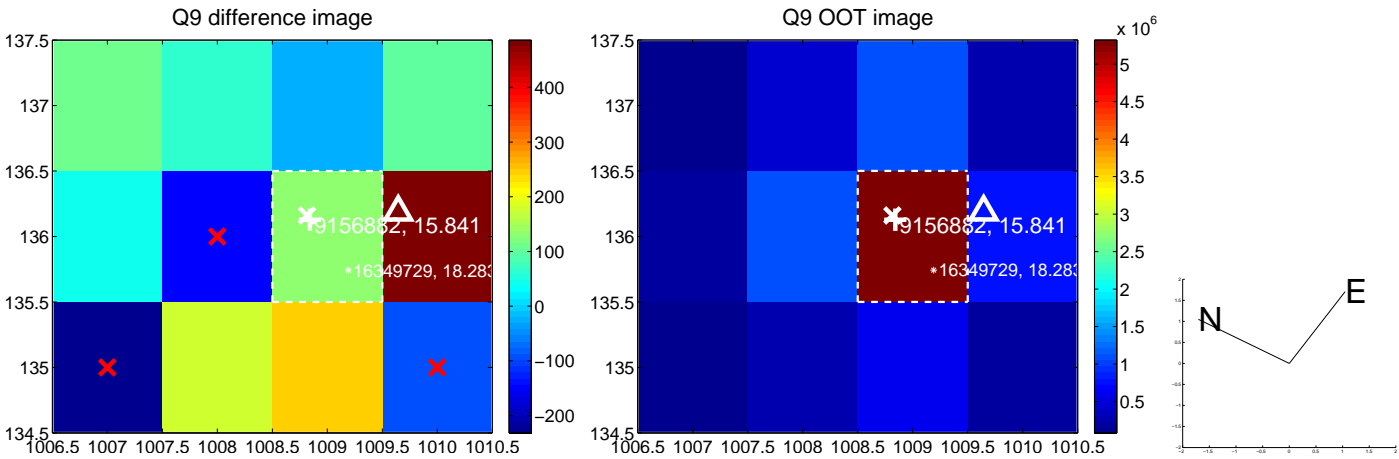
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



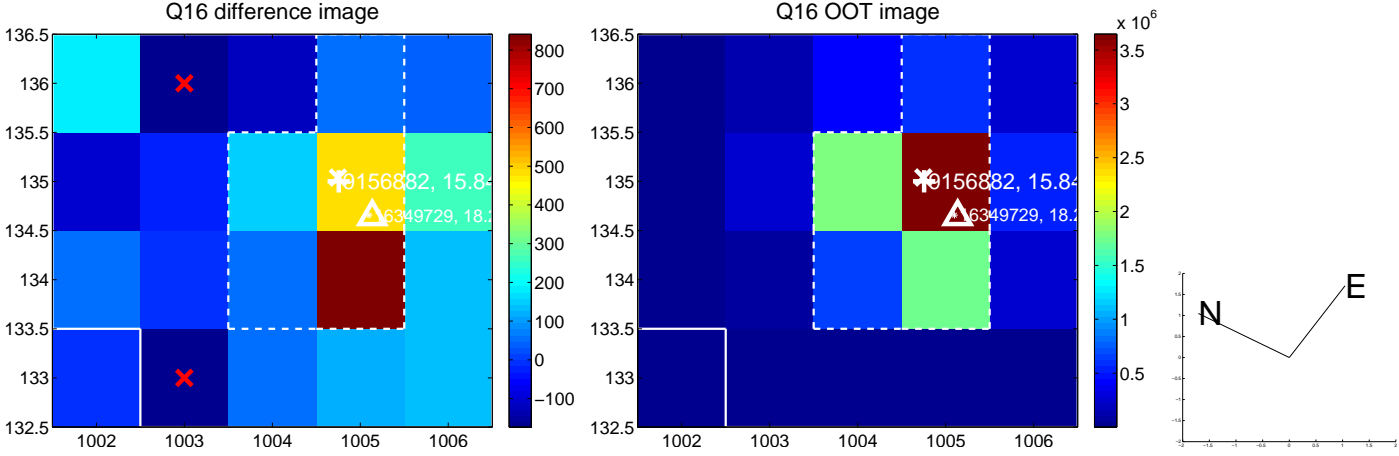
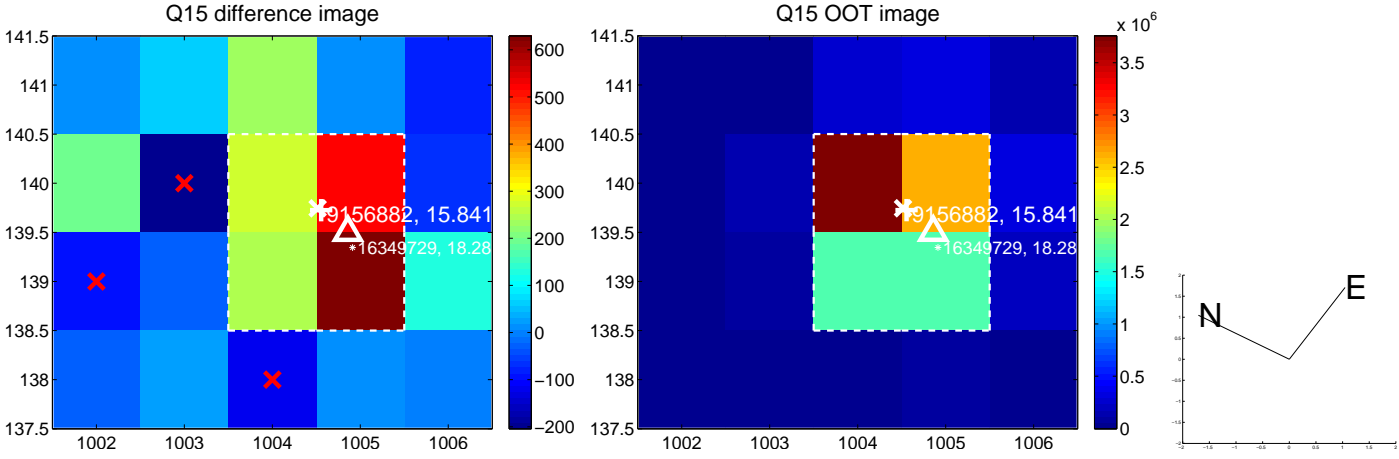
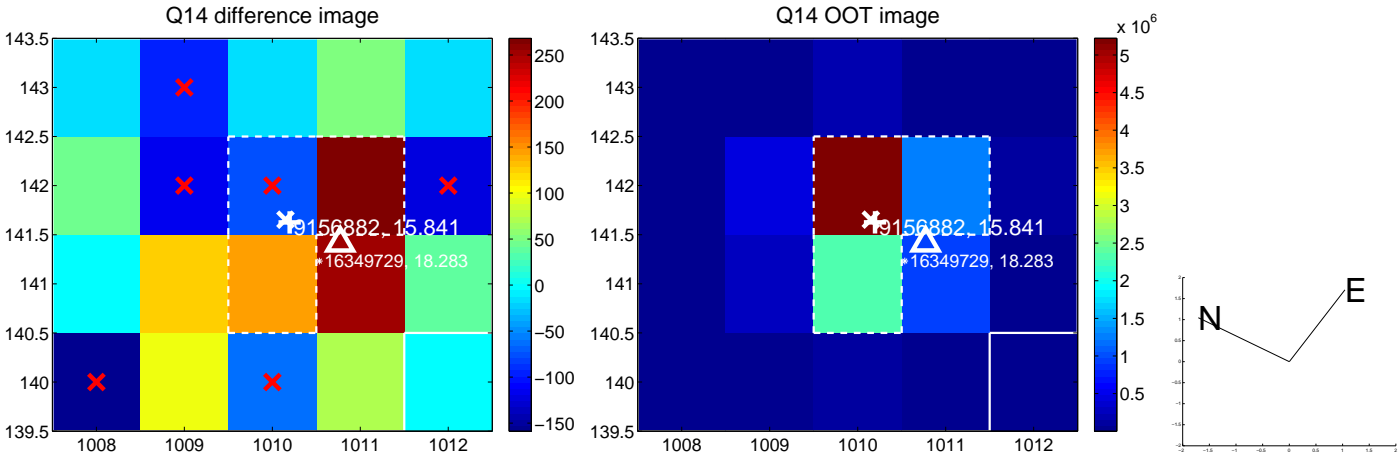
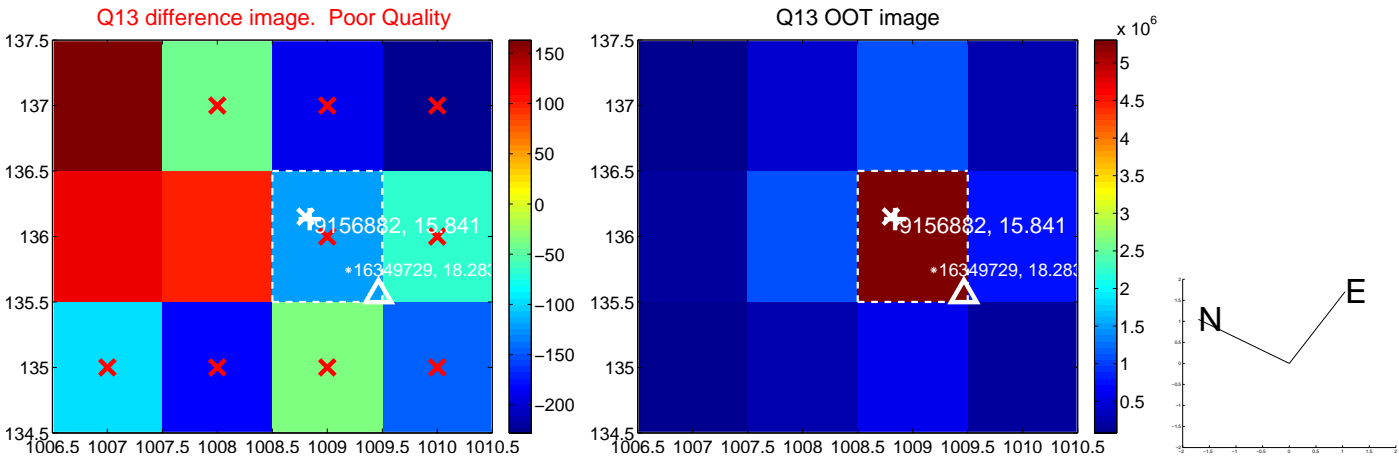
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



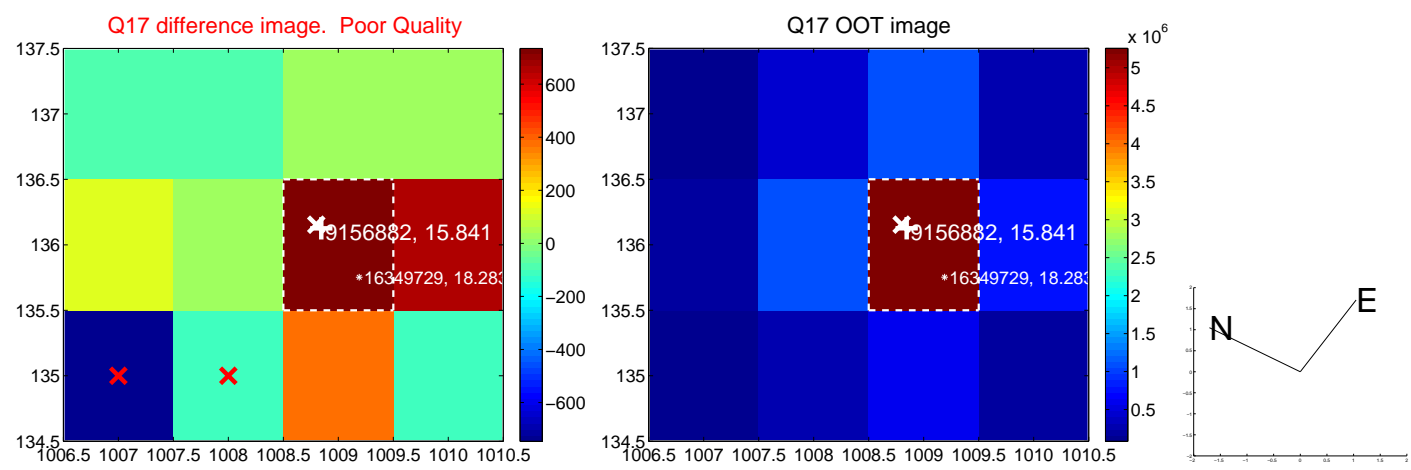
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

