

KIC 005978404

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})
005978404-01	OBS	No	0.641422	131.527175	2.6	6.245	8.9	2.5	1.86	7171	0.32	30445.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005978404-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

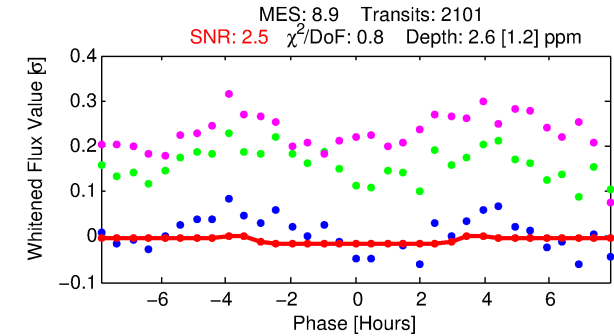
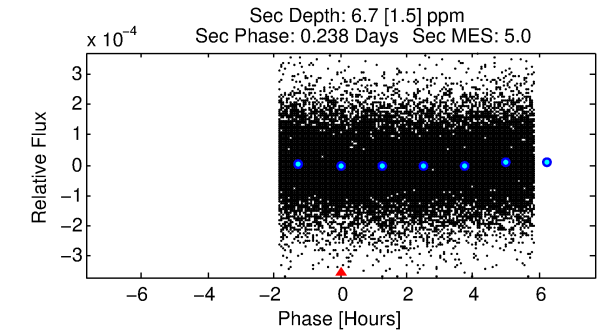
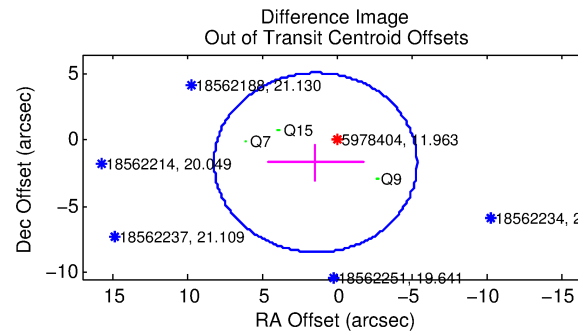
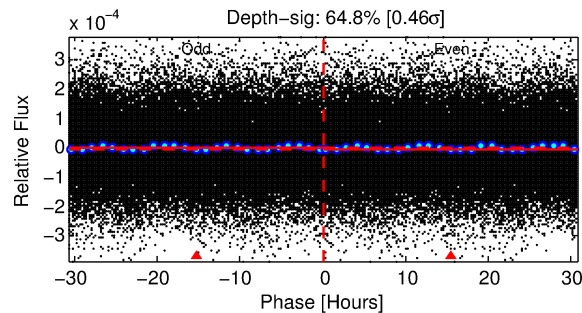
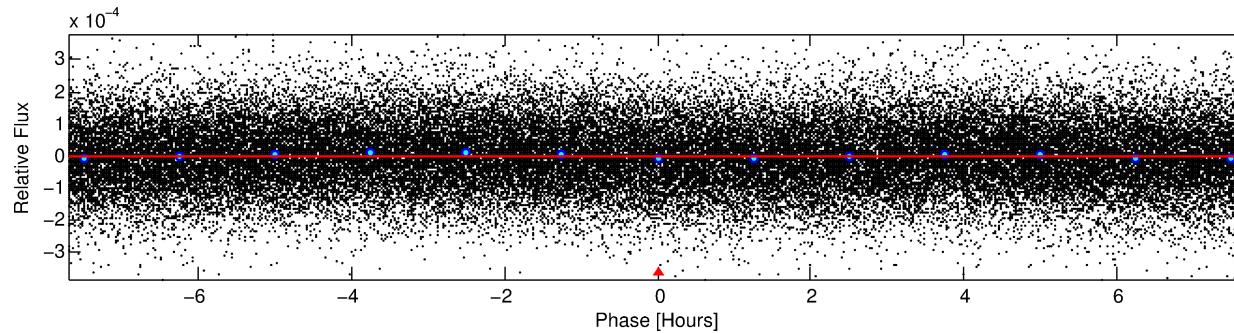
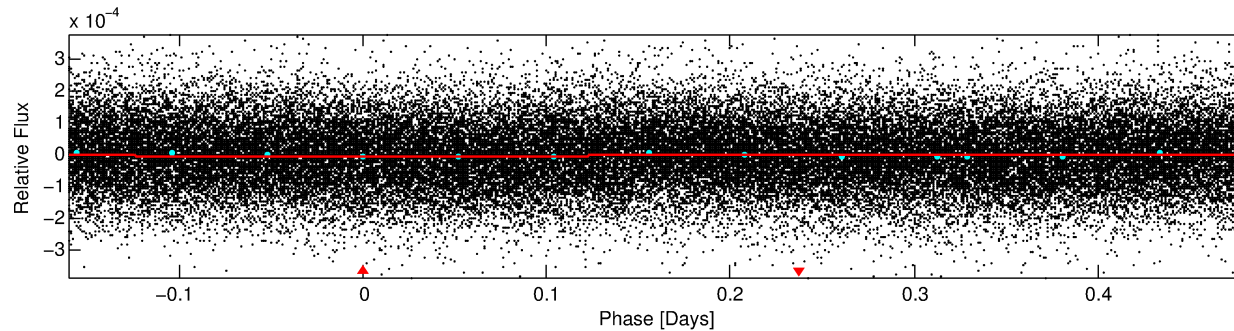
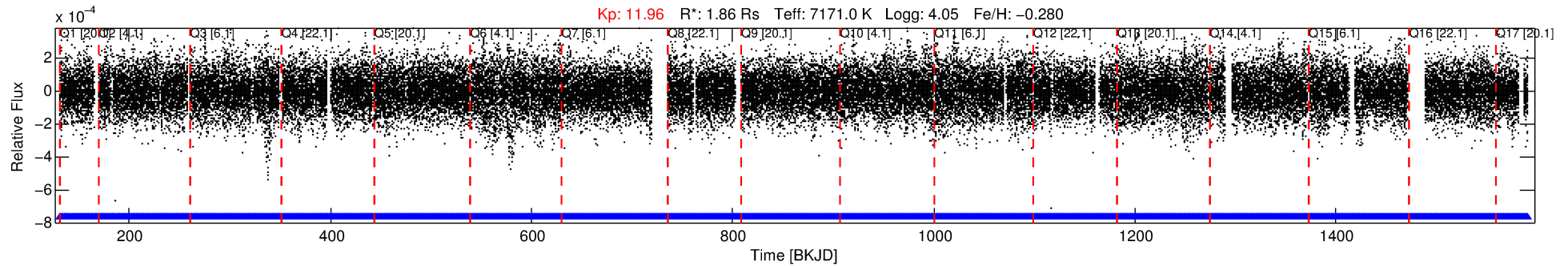
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005978404-01

No Significant Match Found

DV One-Page Summary

KIC: 5978404 Candidate: 1 of 1 Period: 0.641 d



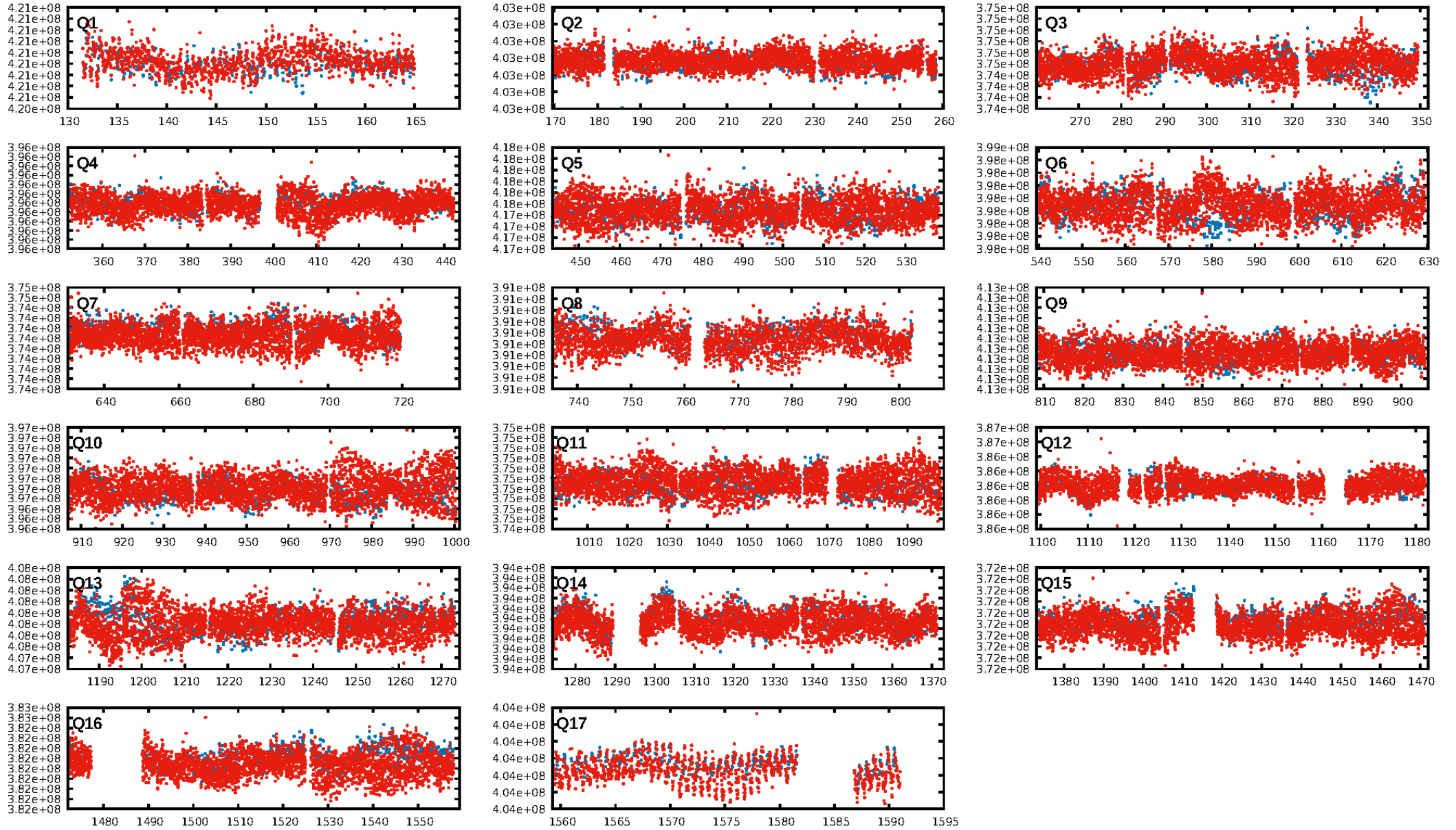
DV Fit Results:

Period = 0.64142 [0.00005] d
Epoch = 131.5272 [0.0160] BKJD
Rp/R* = 0.0016 [0.0036]
a/R* = 1.02 [0.69]
b = 0.70 [10.32]
Seff = 30445.19 [12301.23]
Teq = 3368 [340] K
Rp = 0.32 [0.74] Re
a = 0.0164 [0.0041] AU
Ag = 9.79 [44.96] [0.20 σ]
Teffp = 9211 [10546] K [0.55 σ]

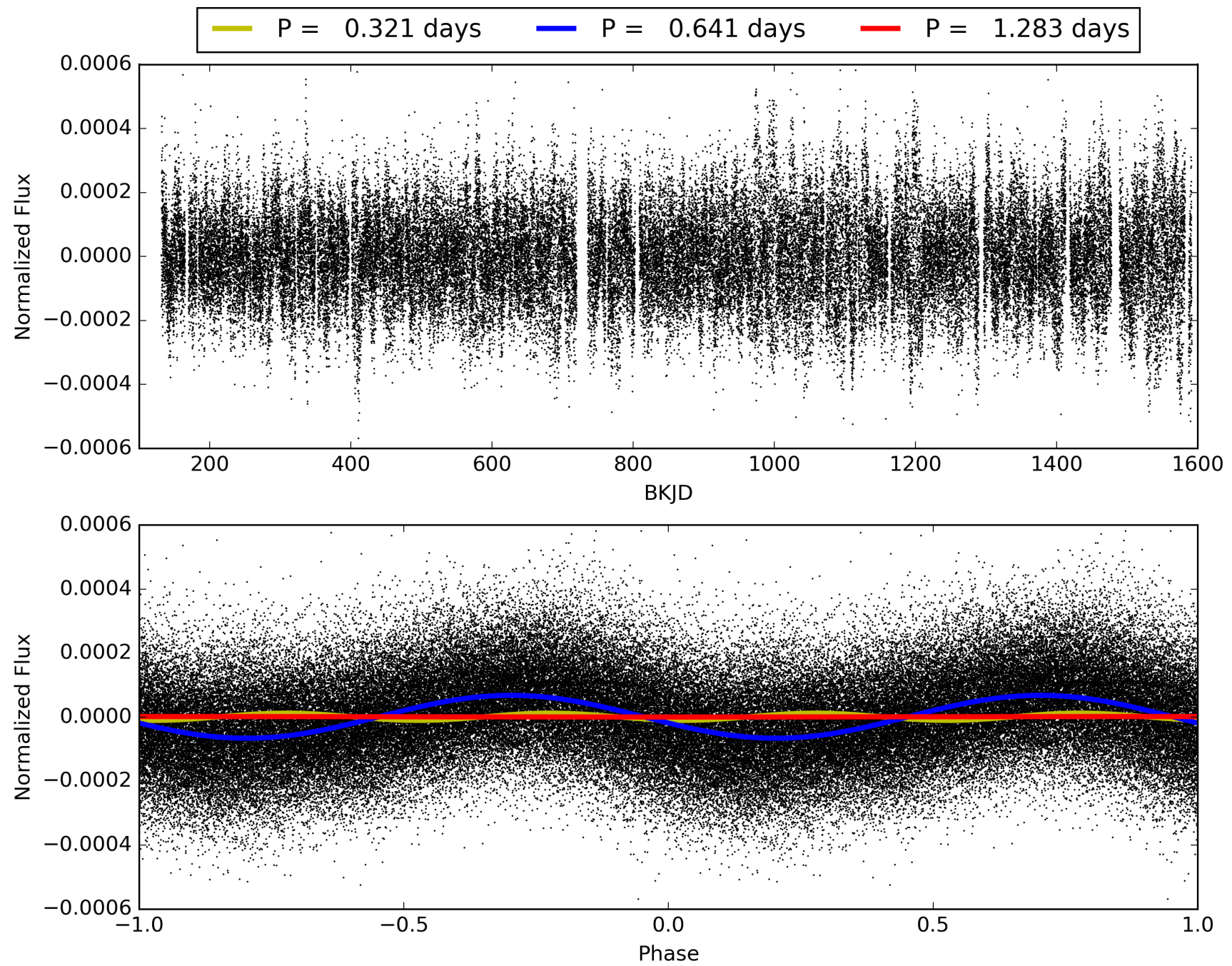
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2006/2006]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.193 arcsec [0.97 σ]
Centroid-so: N/A
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 2.108 arcsec [0.87 σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005978404-01, PDC Light Curves

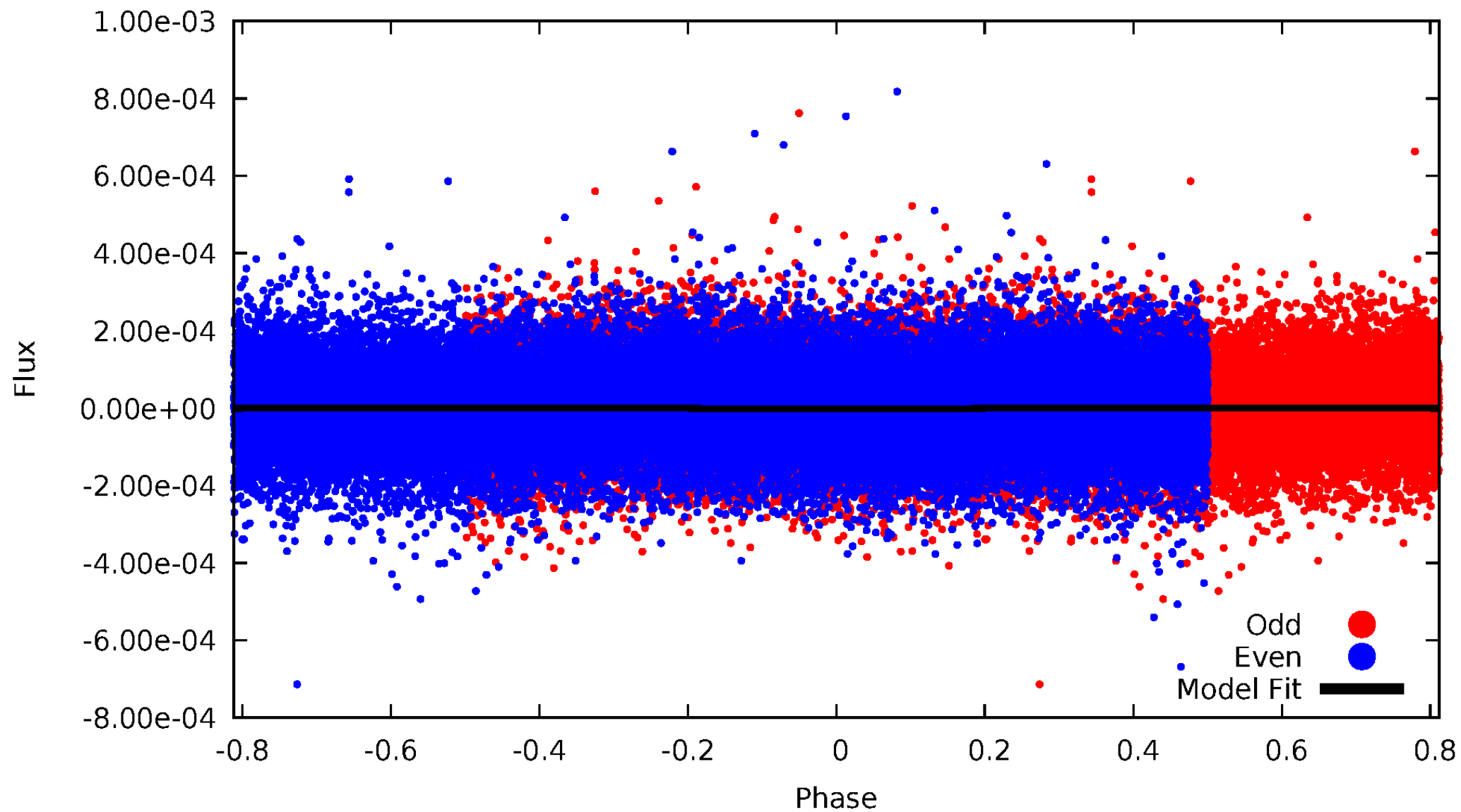


TCE 005978404-01



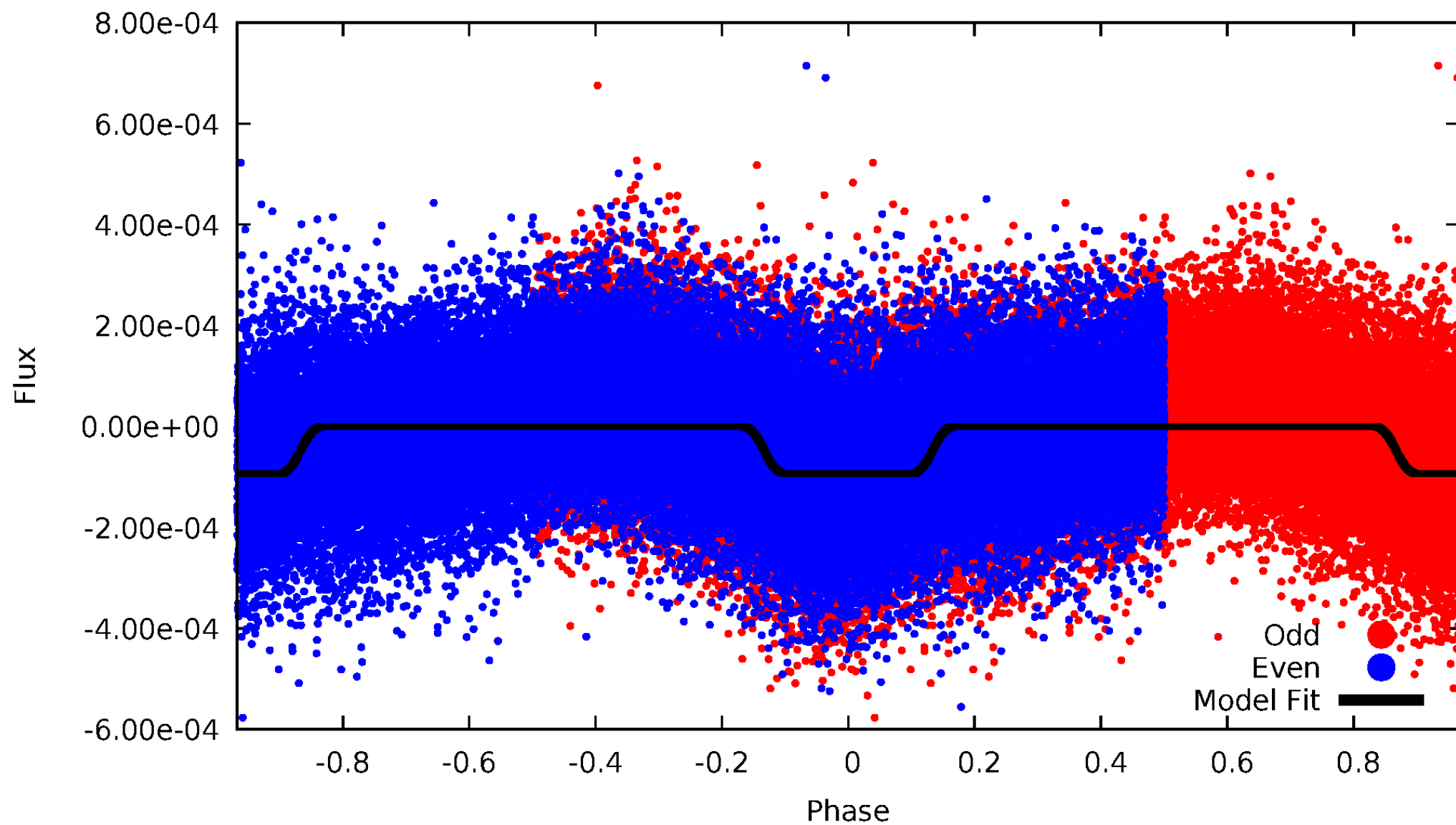
DV Odd/Even

TCE 005978404-01



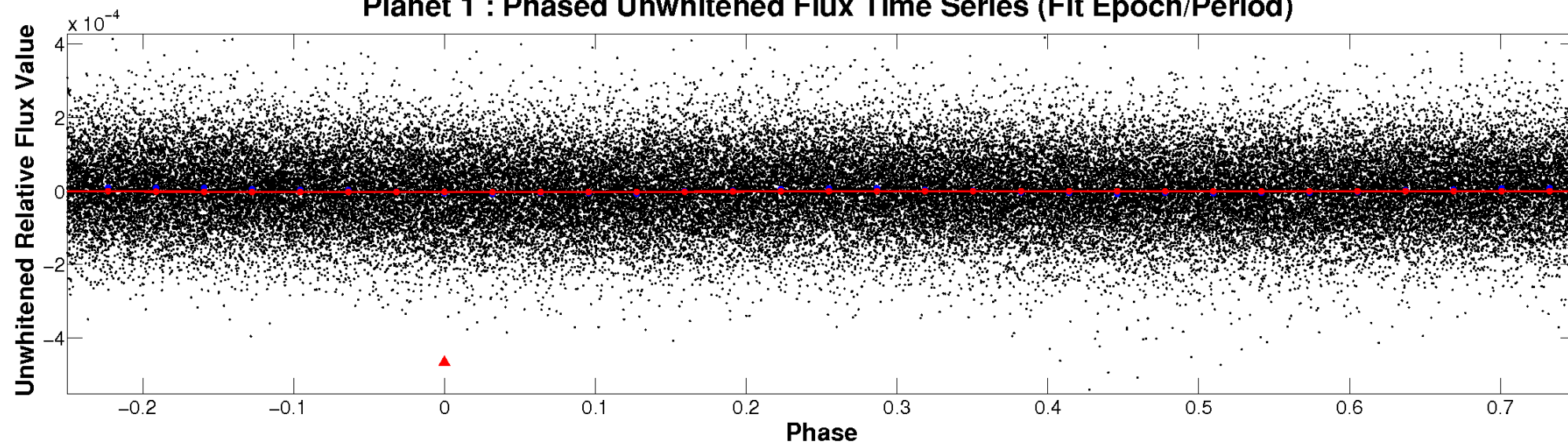
ALT Odd/Even

TCE 005978404-01

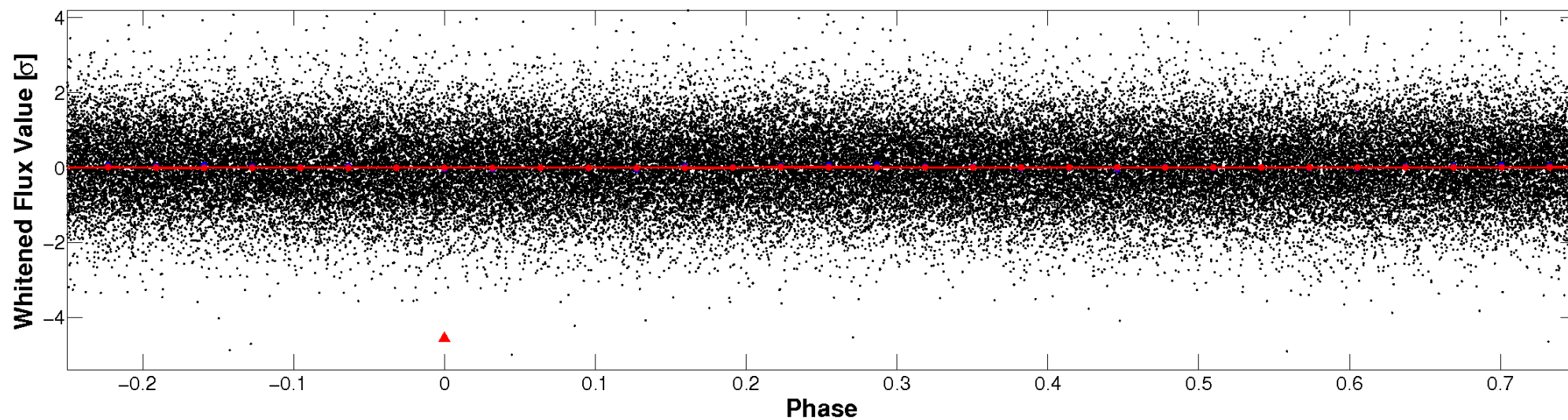


Non-Whitened Vs. Whitened Light Curve

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

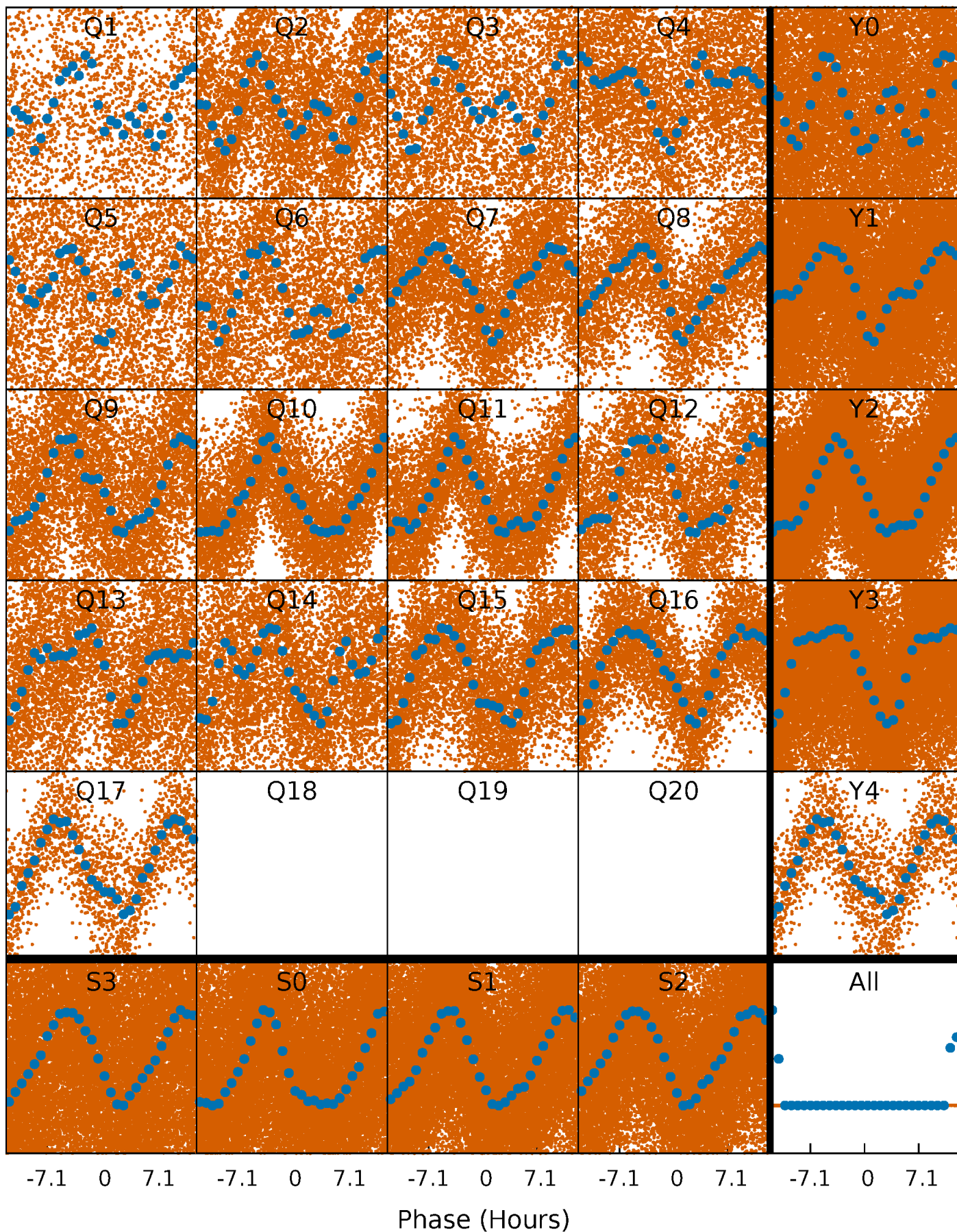


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



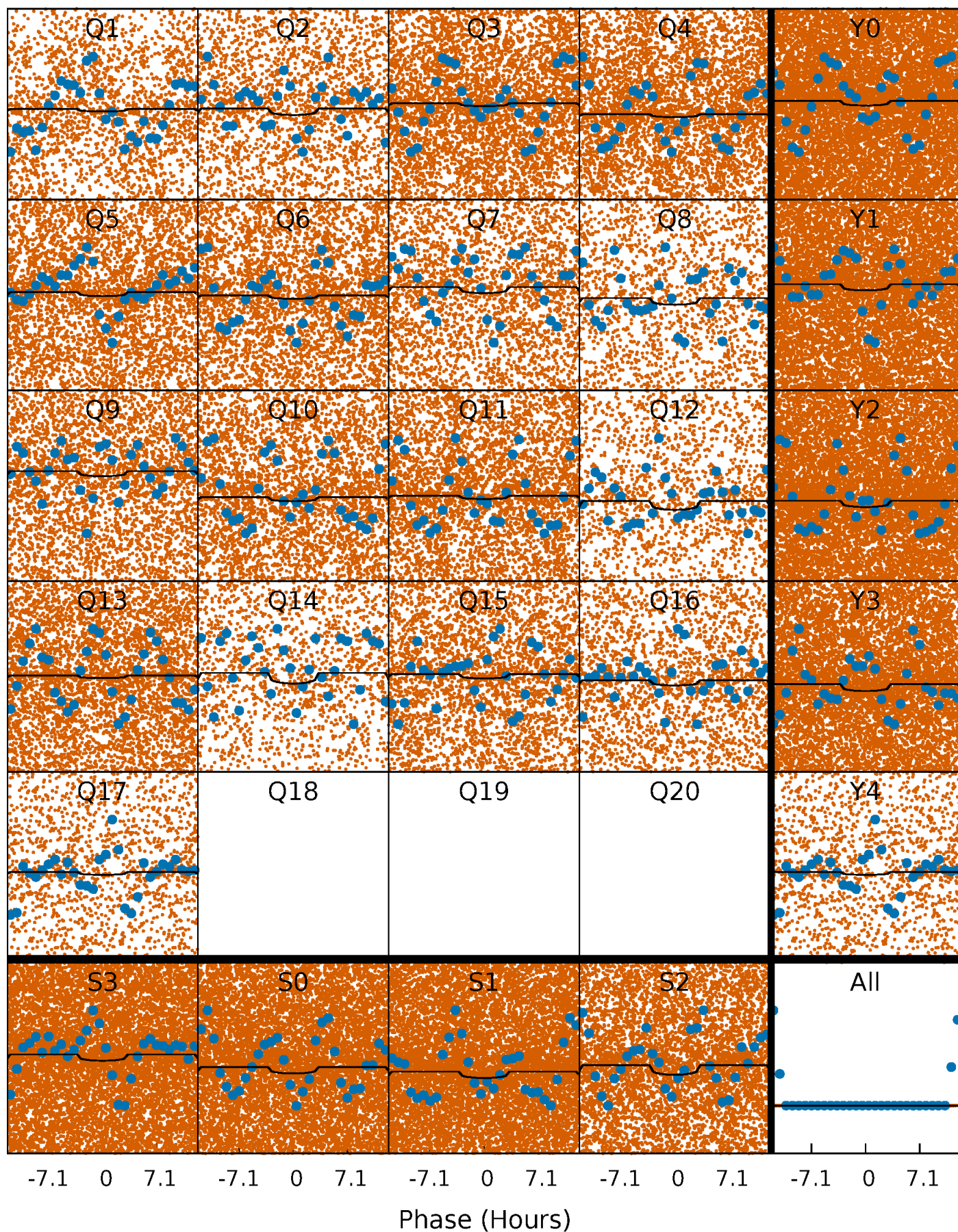
PDC Quarter-Phased Transit Curves

TCE 005978404-01 P= 0.641422 Days $T_0=131.527175$ (BKJD)



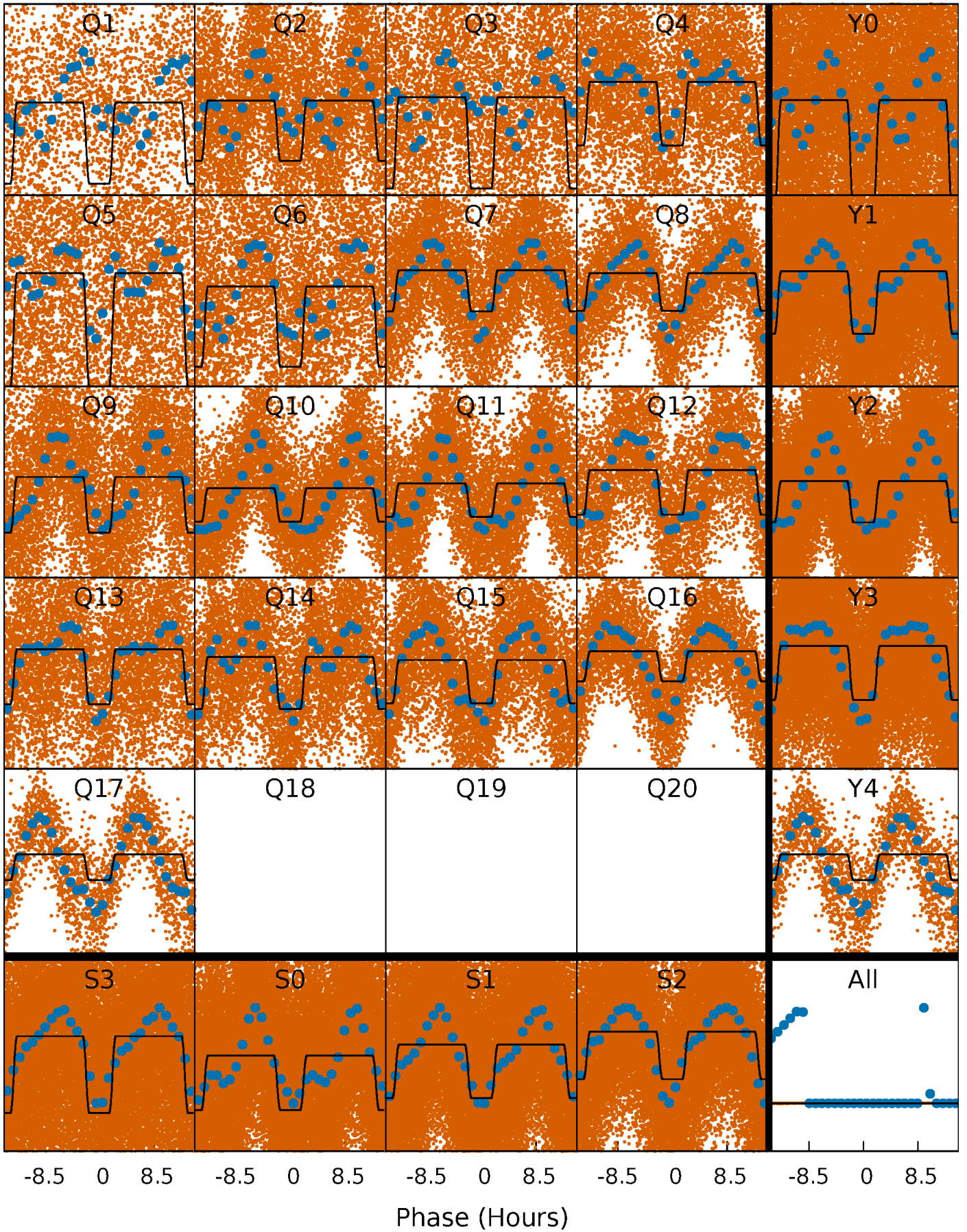
DV Quarter-Phased Transit Curves

TCE 005978404-01 P= 0.641422 Days $T_0=131.527175$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

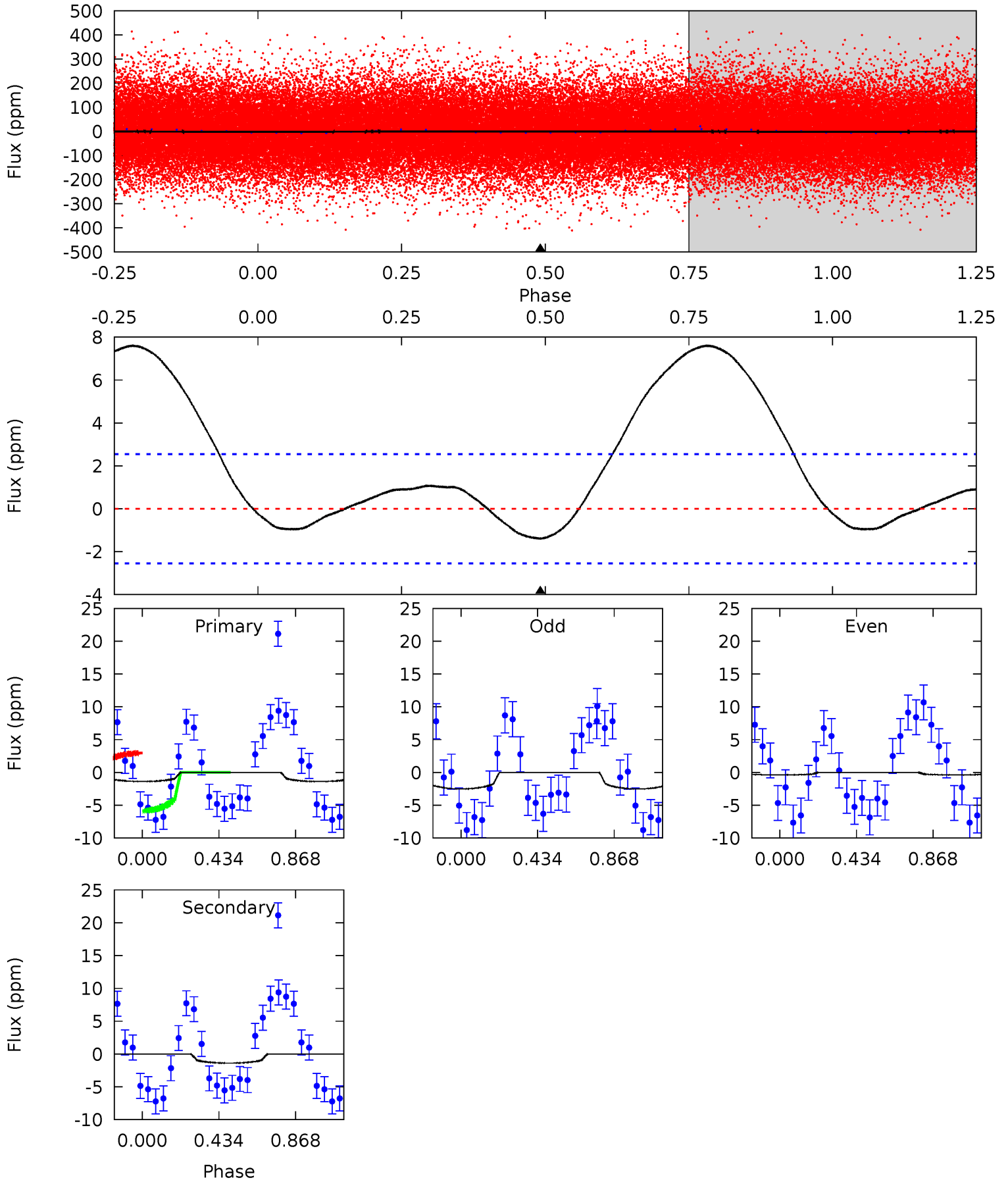
TCE 005978404-01 P= 0.641488 Days $T_0=131.534084$ (BKJD)



DV Model-Shift Uniqueness Test

005978404-01, P = 0.641422 Days, E = 130.885753 Days

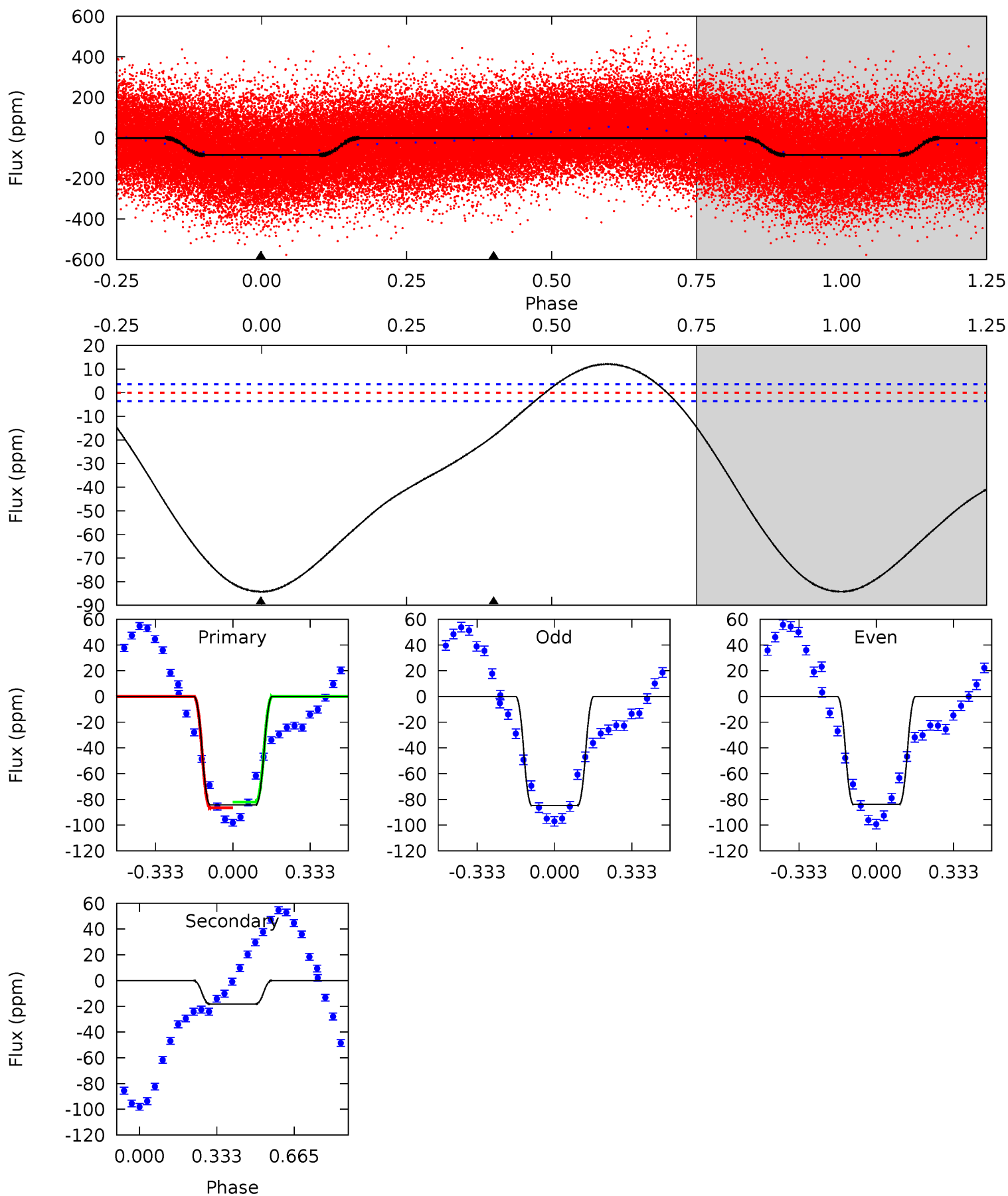
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.32	2.32	0	0	4.25	0.78	1.95	2.32	2.32	2.32	2.32	1.77	0.51	0.85	2.44



Alt Model-Shift Uniqueness Test

005978404-01, P = 0.641488 Days, E = 130.892596 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.4	22.0	0	0	4.31	0.97	8.39	101.4	101.4	22.0	22.0	0.53	0.97	0.13	2.56



Stellar Parameters For KIC 005978404

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7171^{+224}_{-249}	$4.055^{+0.214}_{-0.175}$	$-0.280^{+0.300}_{-0.300}$	$1.861^{+0.530}_{-0.477}$	$1.435^{+0.205}_{-0.251}$	$0.313^{+0.421}_{-0.147}$
	+3%/-3%	+5%/-4%	+107%/-107%	+28%/-26%	+14%/-17%	+134%/-47%
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 005978404-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 1	$0.59^{+0.62}_{-0.40}$	4683^{+347}_{-356}	3948^{+3718}_{-7739}	$0.550^{+4.554}_{-0.438}$
Alt.	-18 ± 1	$1.94^{+0.82}_{-0.73}$	4686^{+373}_{-333}	4320^{+1321}_{-1187}	$0.736^{+1.138}_{-0.382}$

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

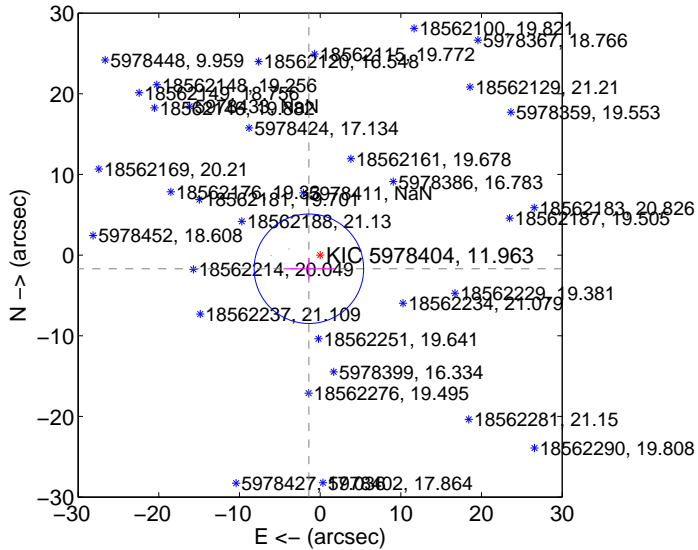
Supplemental centroid analysis for 005978404-01. **Kepler magnitude: 11.96.** Transit SNR 2.50

There are 1 quarters with good PRF difference image offsets

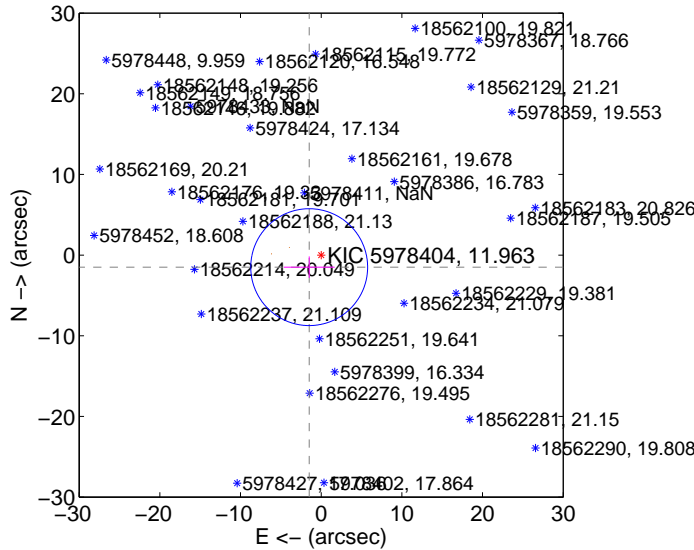
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.193 ± 2.262	0.97	1.395 ± 3.171	-1.692 ± 1.324
PRF-fit source offset from KIC position	2.108 ± 2.415	0.87	1.487 ± 3.152	-1.494 ± 1.327
photometric centroid source offset	—	—	—	—

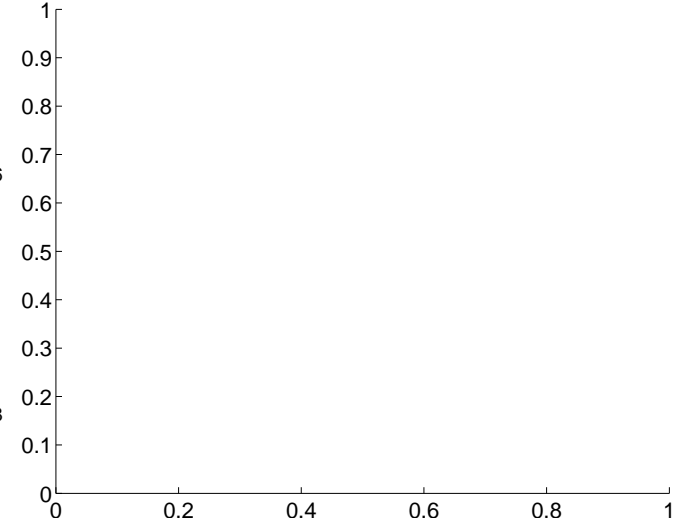
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

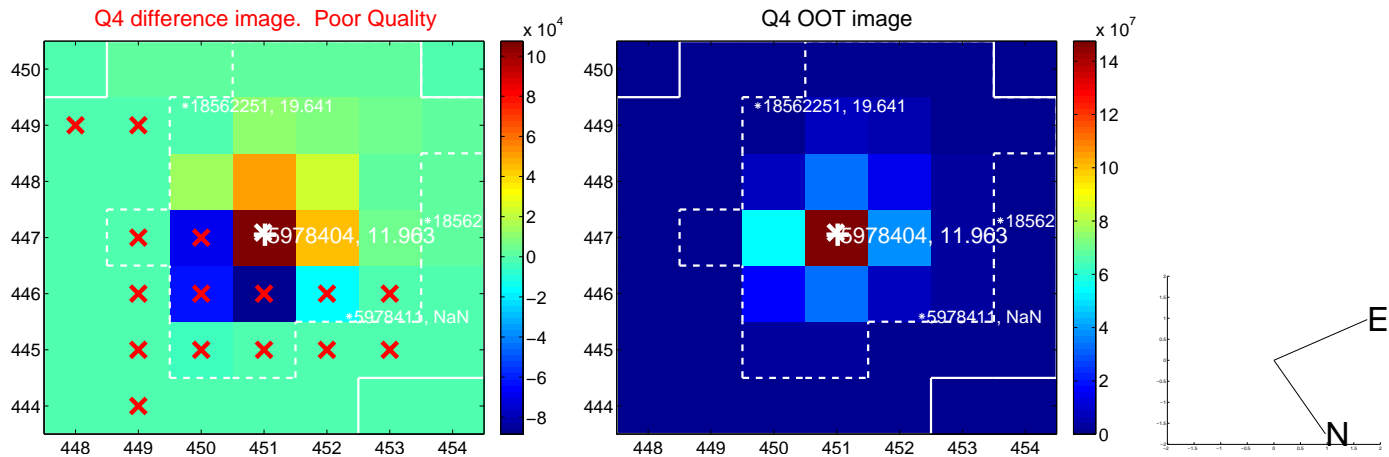
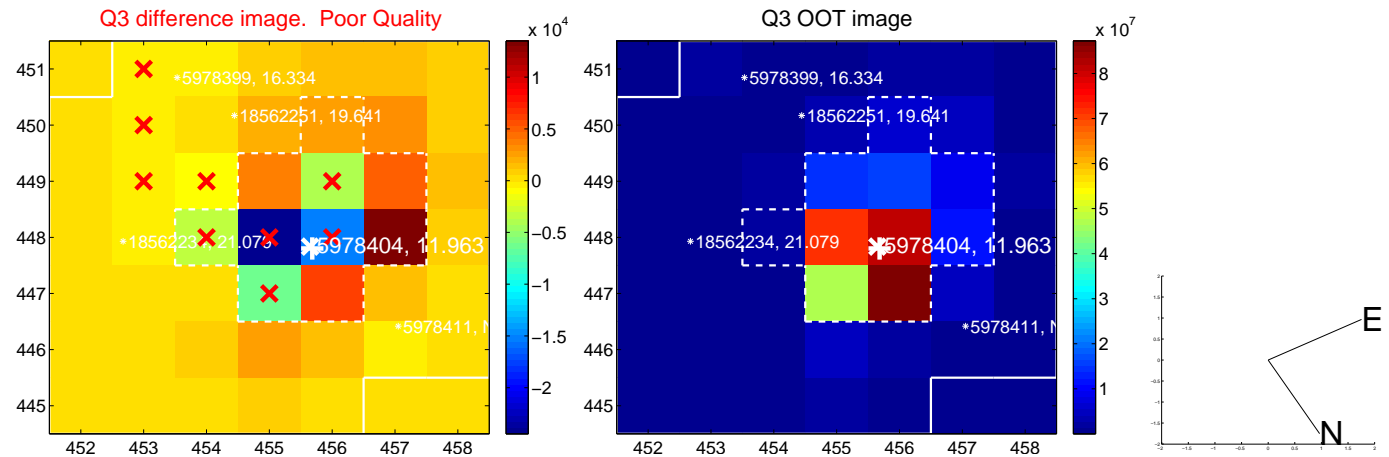
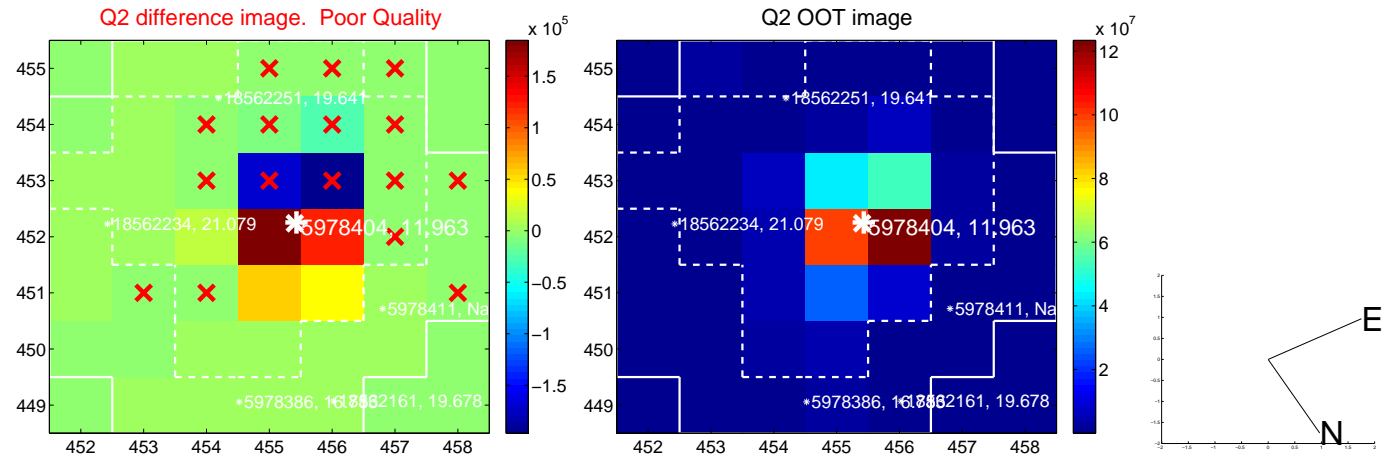
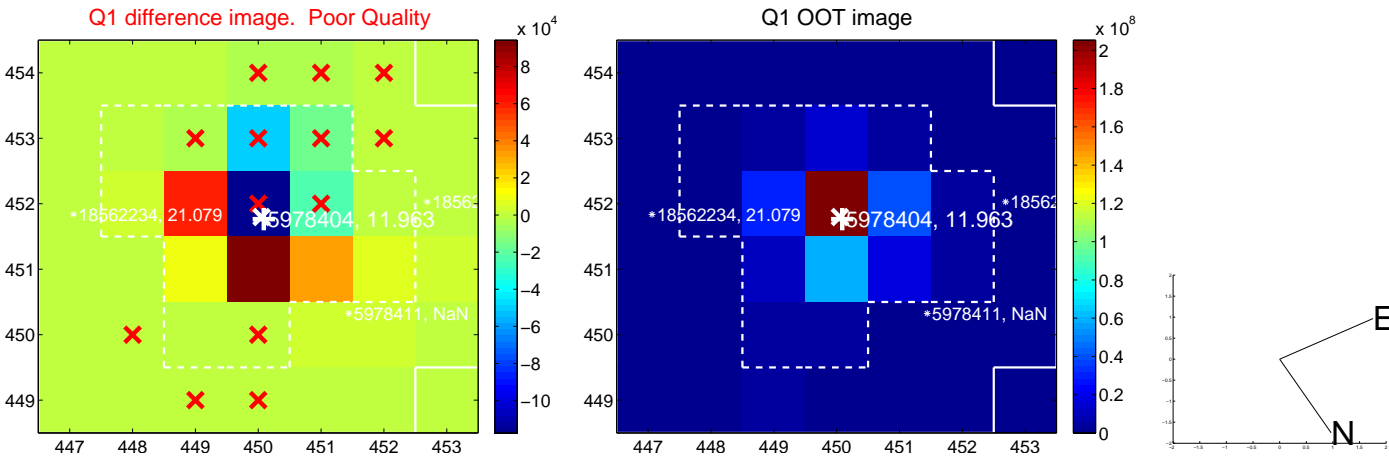


There are no photometric centroids

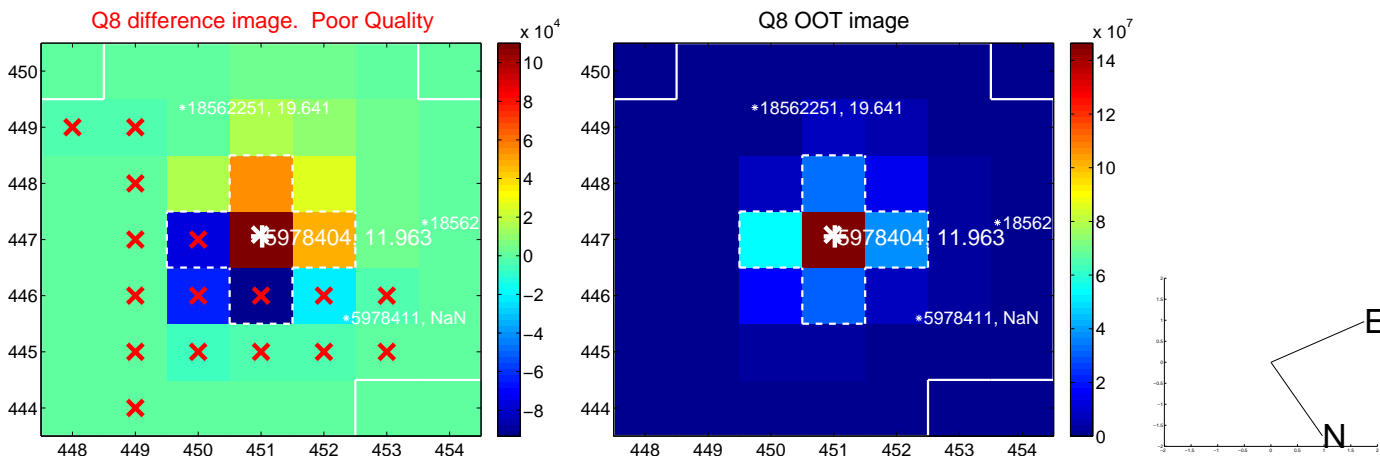
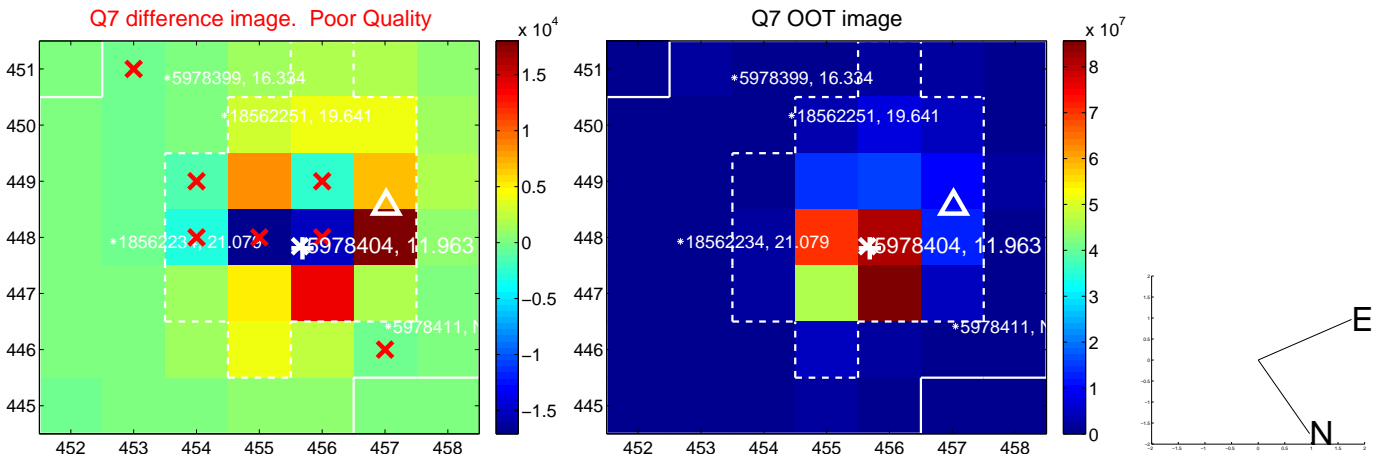
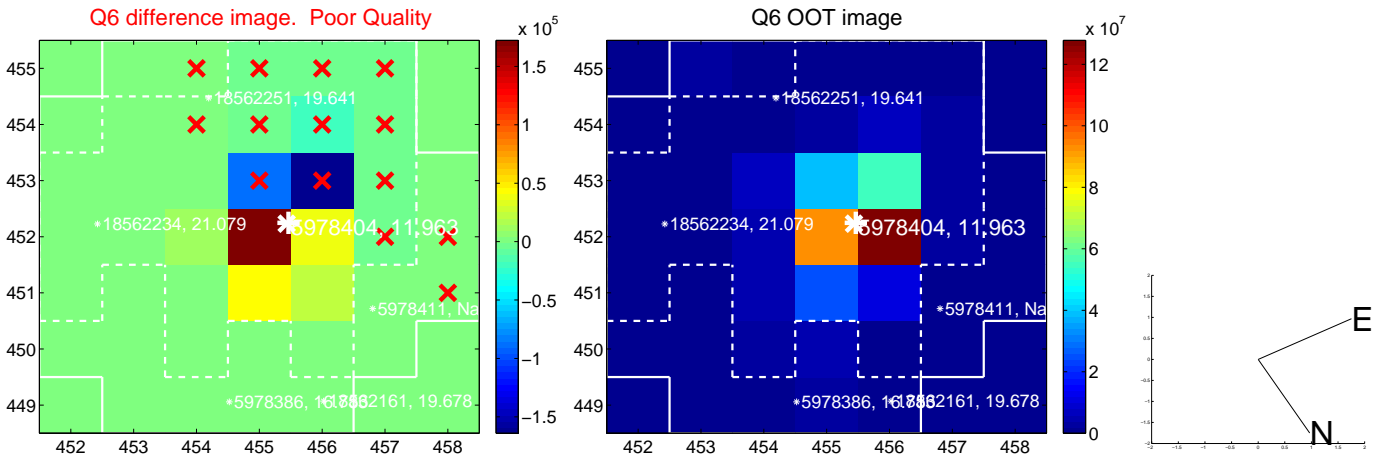
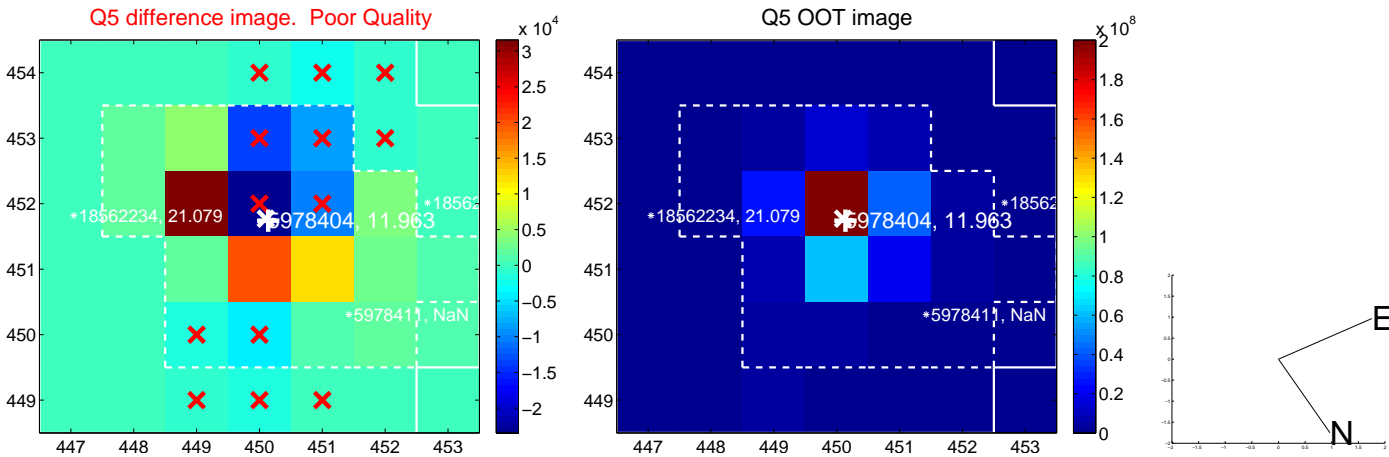


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

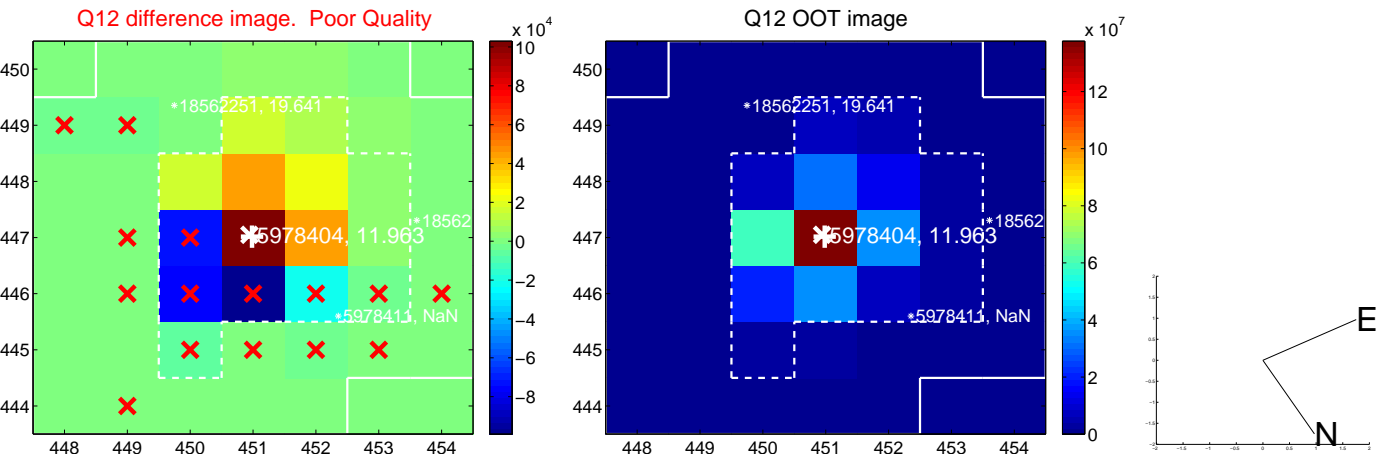
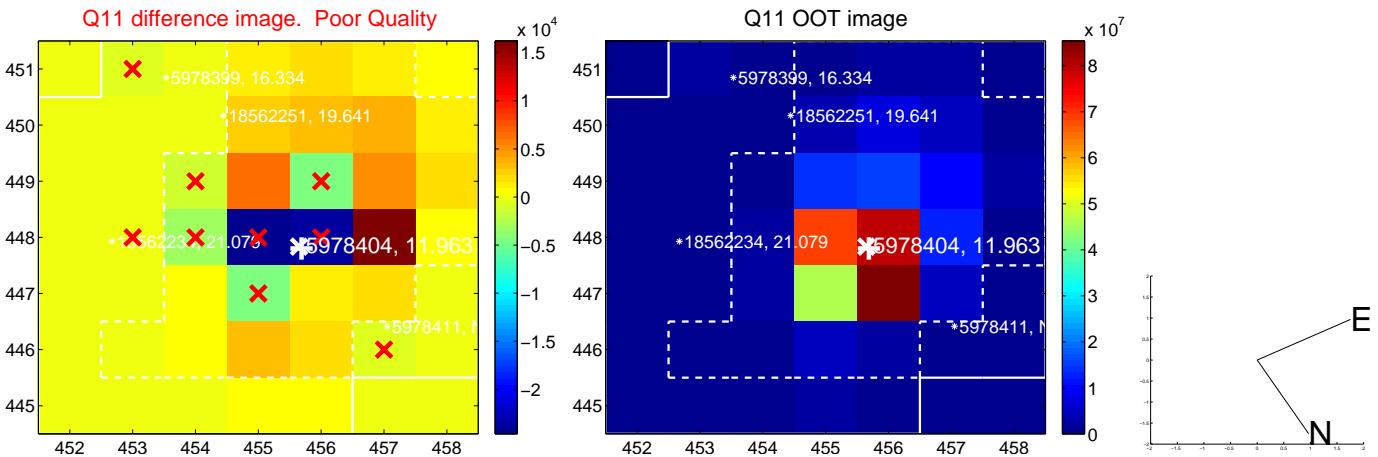
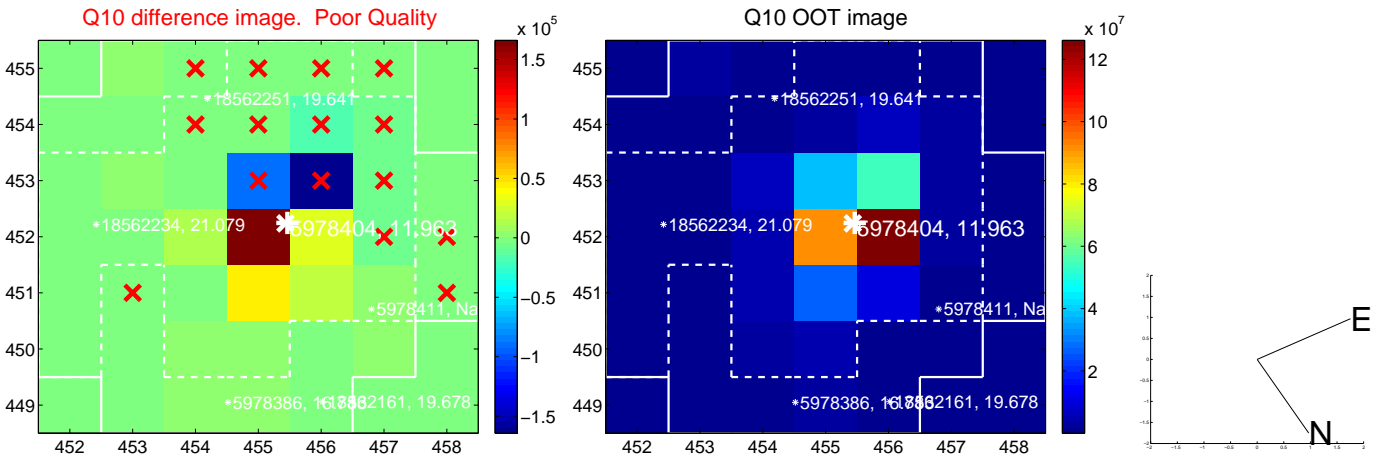
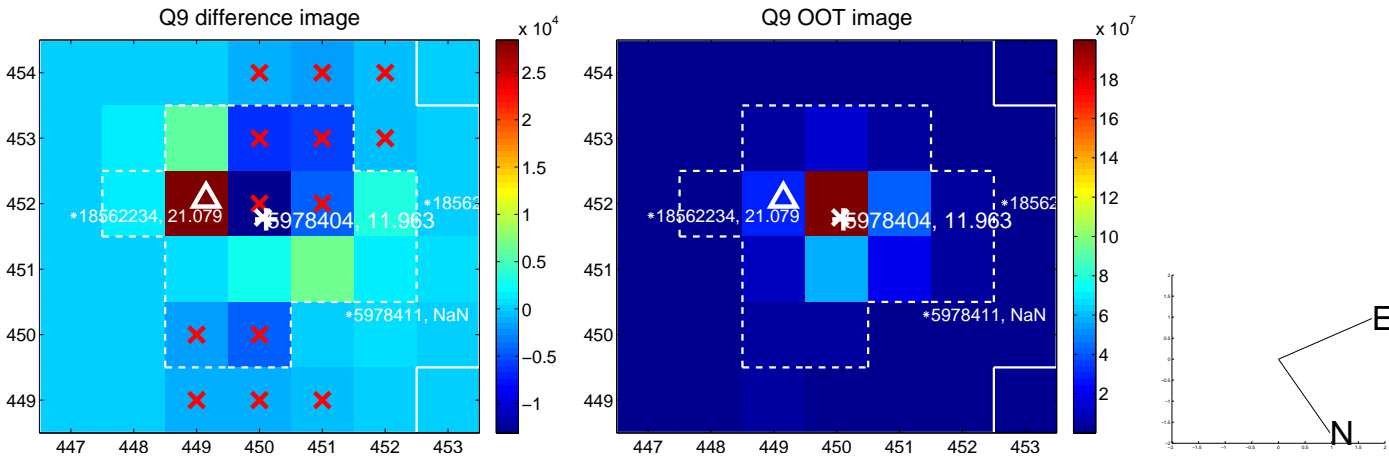
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



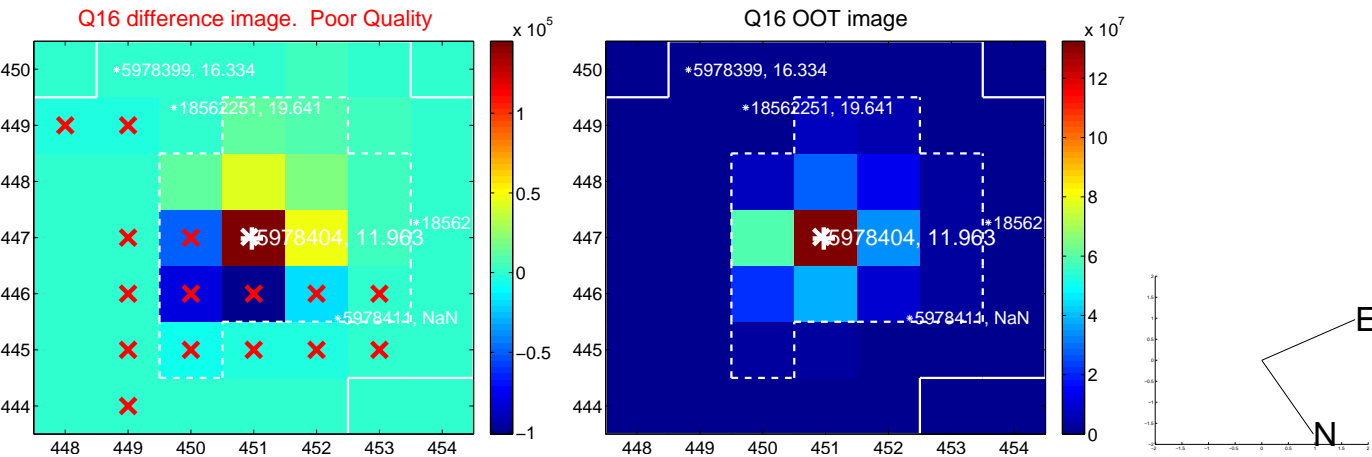
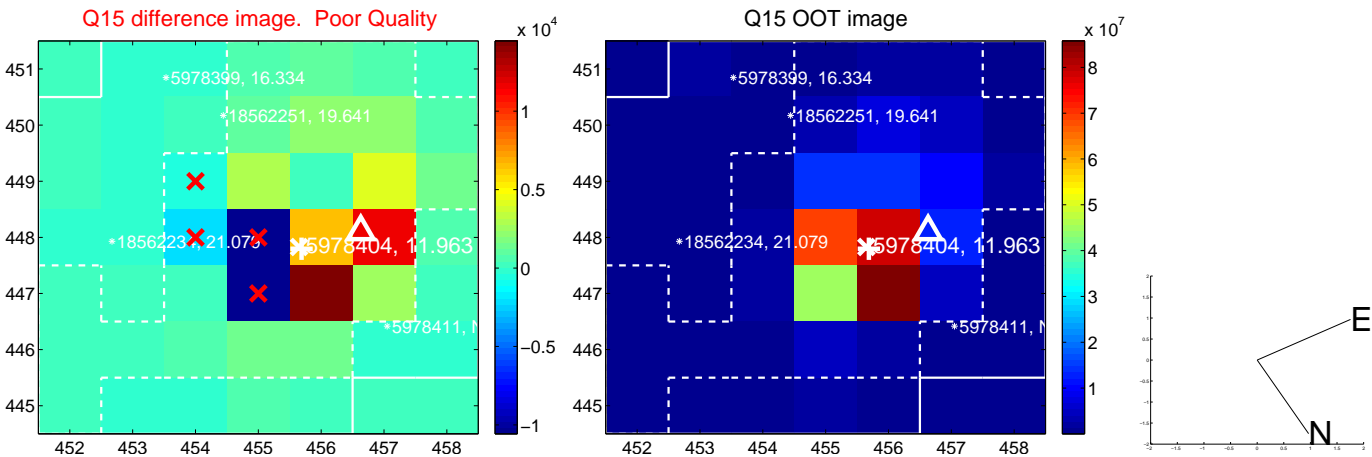
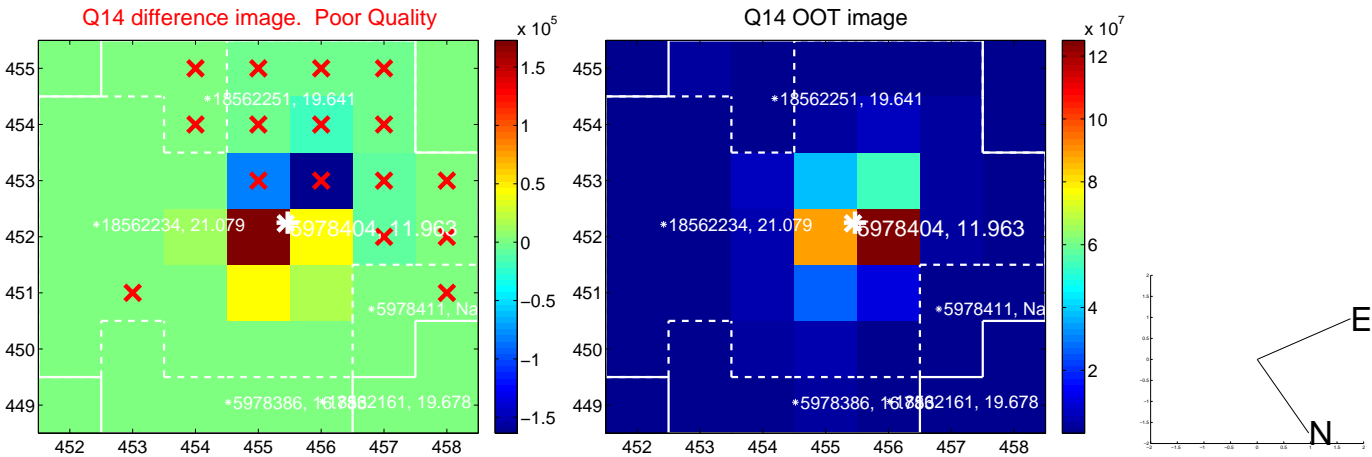
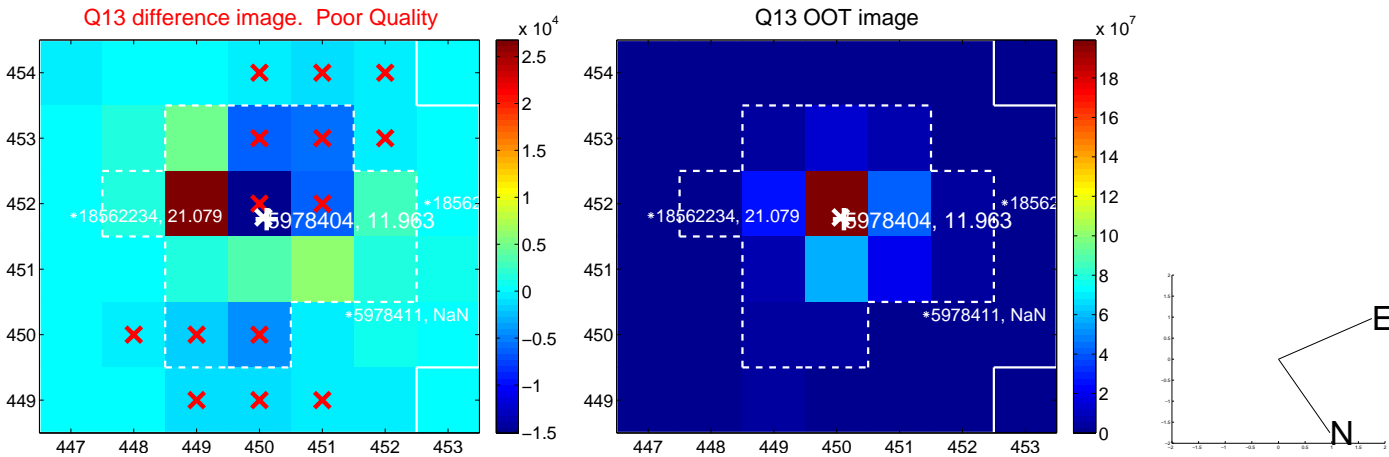
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



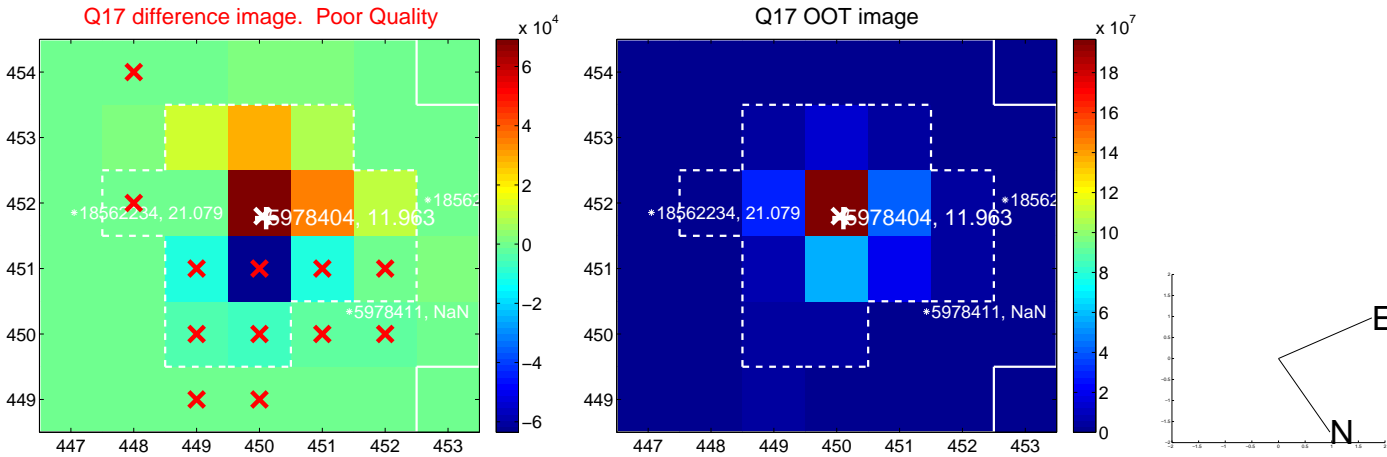
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

