

KIC 007678385

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})
007678385-01	OBS	No	1.880967	132.880705	55.2	18.066	10.0	16.1	2.25	8050	1.70	14328.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007678385-01	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.

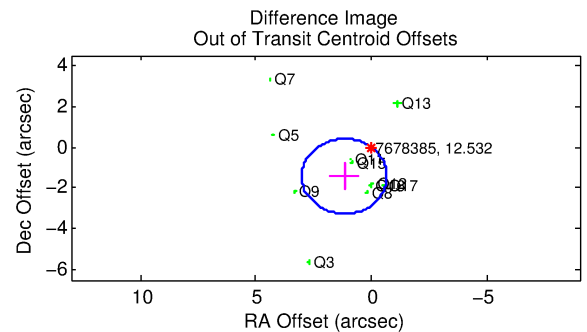
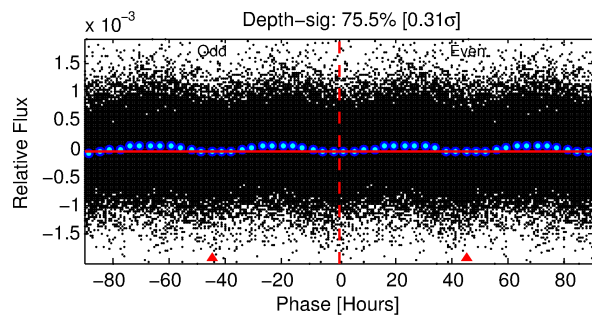
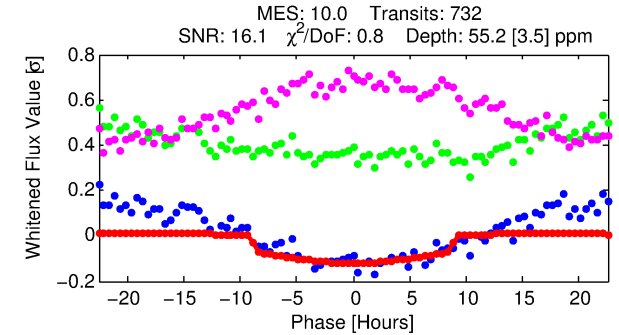
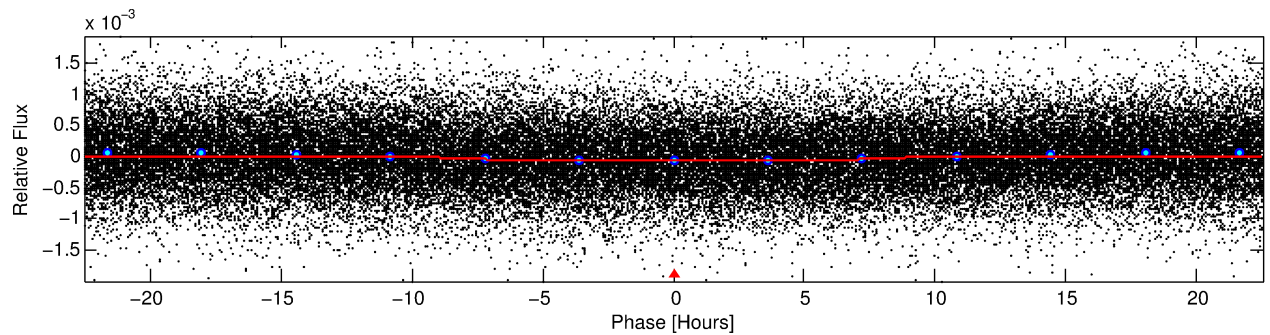
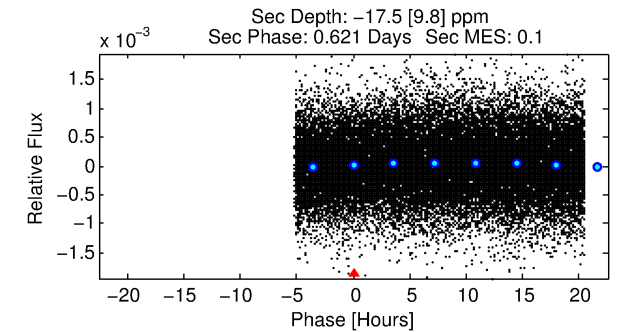
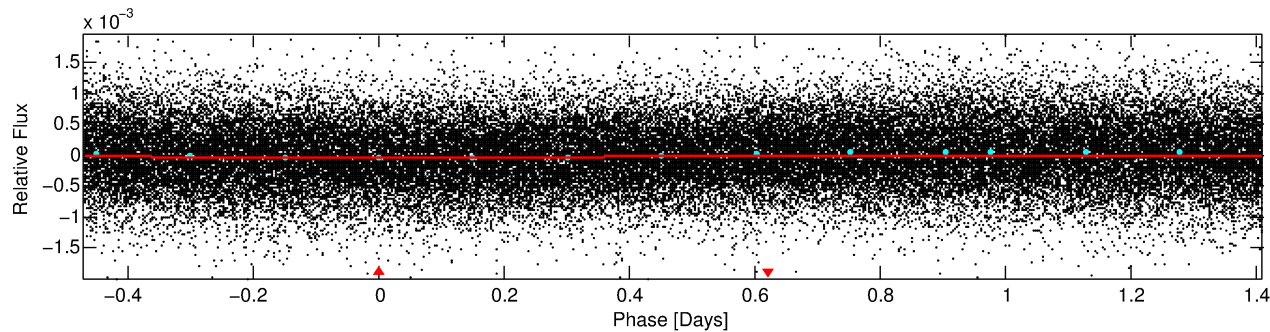
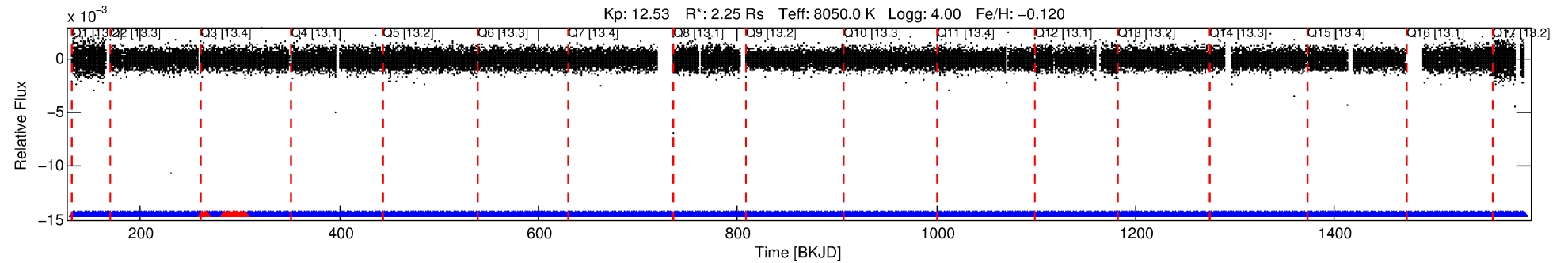
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007678385-01

No Significant Match Found

DV One-Page Summary

KIC: 7678385 Candidate: 1 of 1 Period: 1.881 d



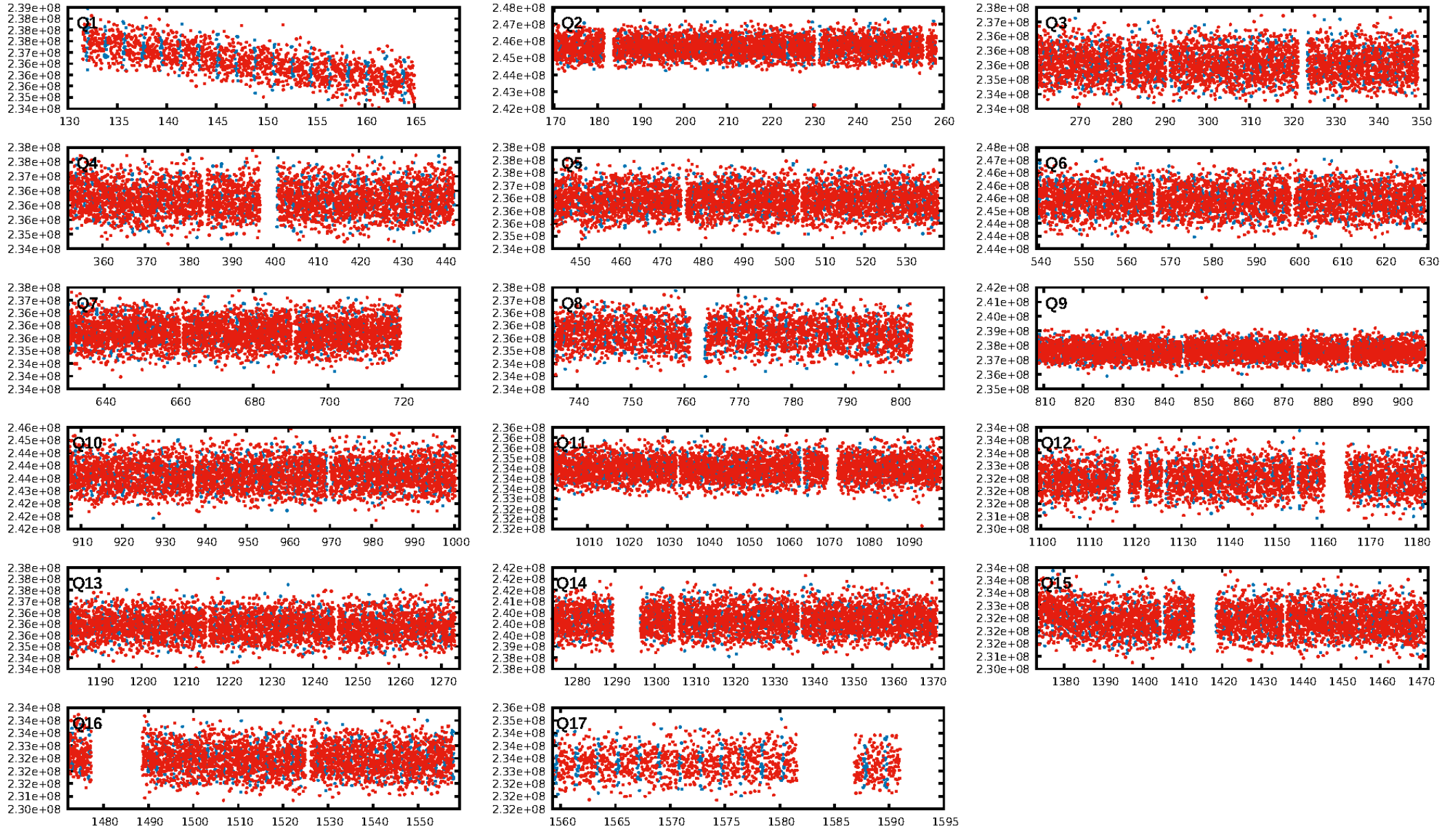
DV Fit Results:

Period = 1.88097 [0.00003] d
Epoch = 132.8807 [0.0103] BKJD
Rp/R* = 0.0069 [0.0048]
a/R* = 1.06 [0.44]
b = 0.16 [24.14]
Seff = 14328.66 [6108.61]
Teq = 2790 [297] K
Rp = 1.70 [1.28] Re
a = 0.0365 [0.0095] AU
Ag = N/A
Teffp = N/A

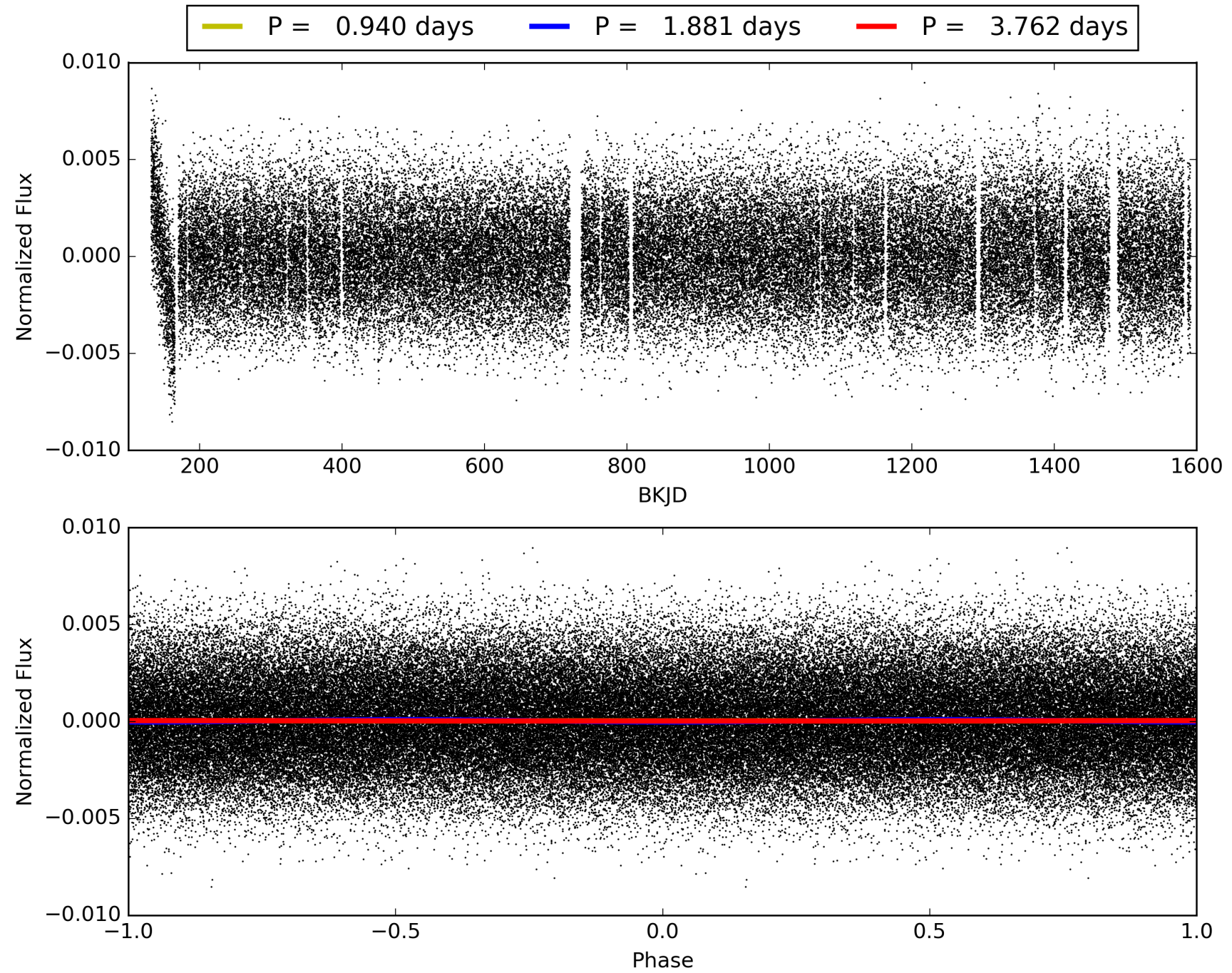
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [686/699]
GhostDiagnostic-chr: 2.401
Centroid-sig: 0.4%
Centroid-so: 0.422 arcsec [2.08σ]
OotOffset-rm: 1.855 arcsec [3.03σ]
KicOffset-rm: 1.914 arcsec [3.30σ]
OotOffset-st: 0/4/3/4 [11]
KicOffset-st: 0/4/3/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007678385-01, PDC Light Curves

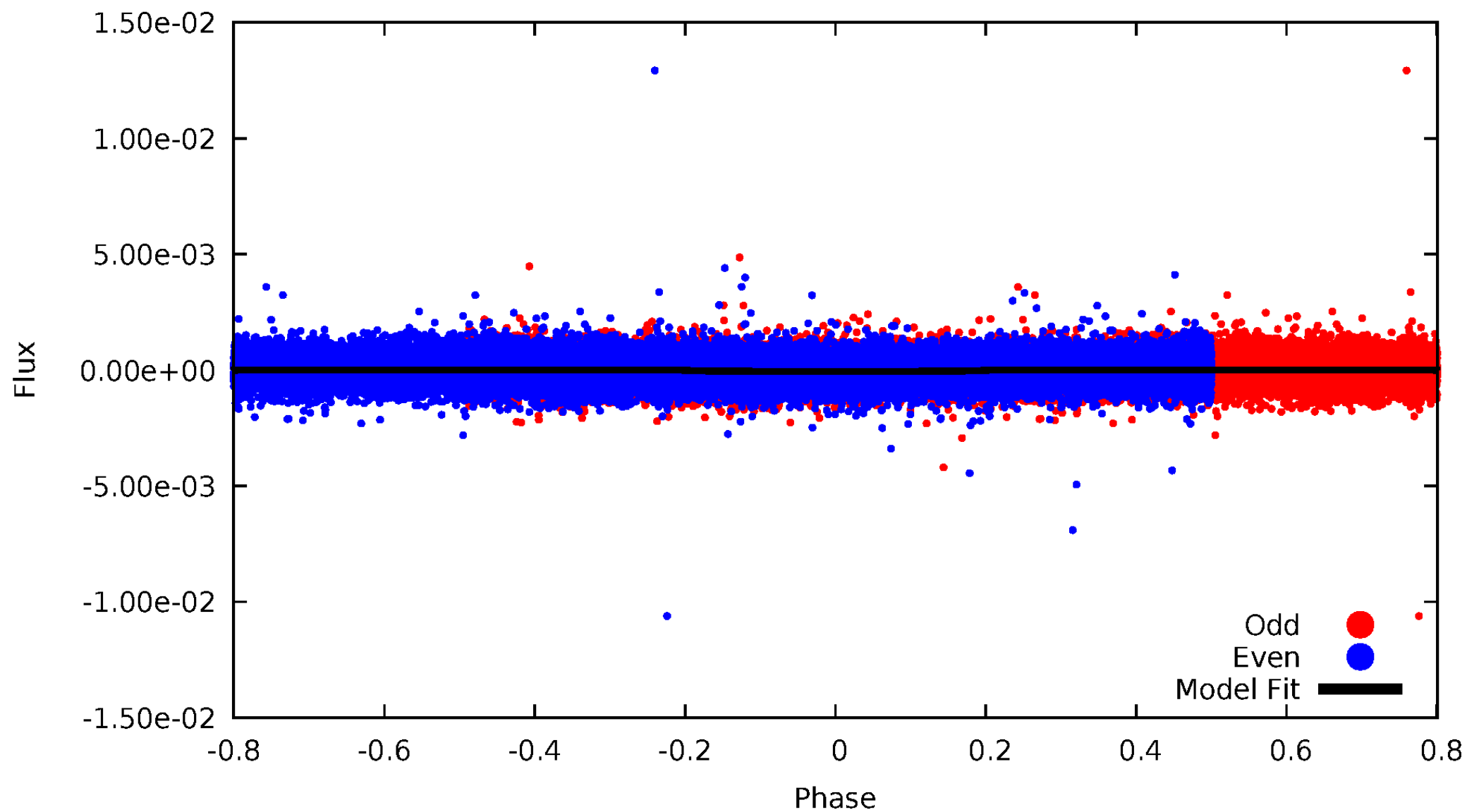


TCE 007678385-01



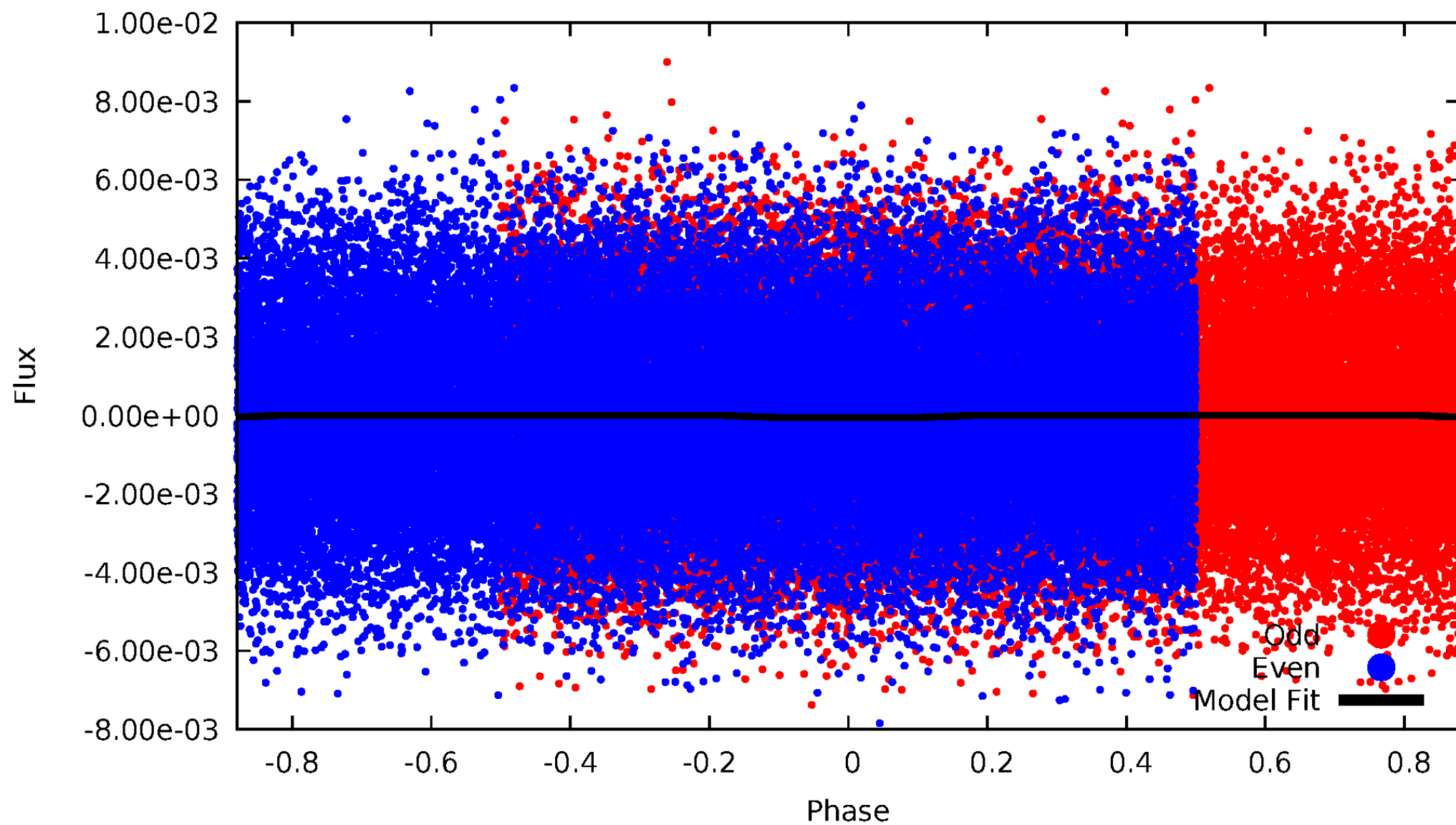
DV Odd/Even

TCE 007678385-01



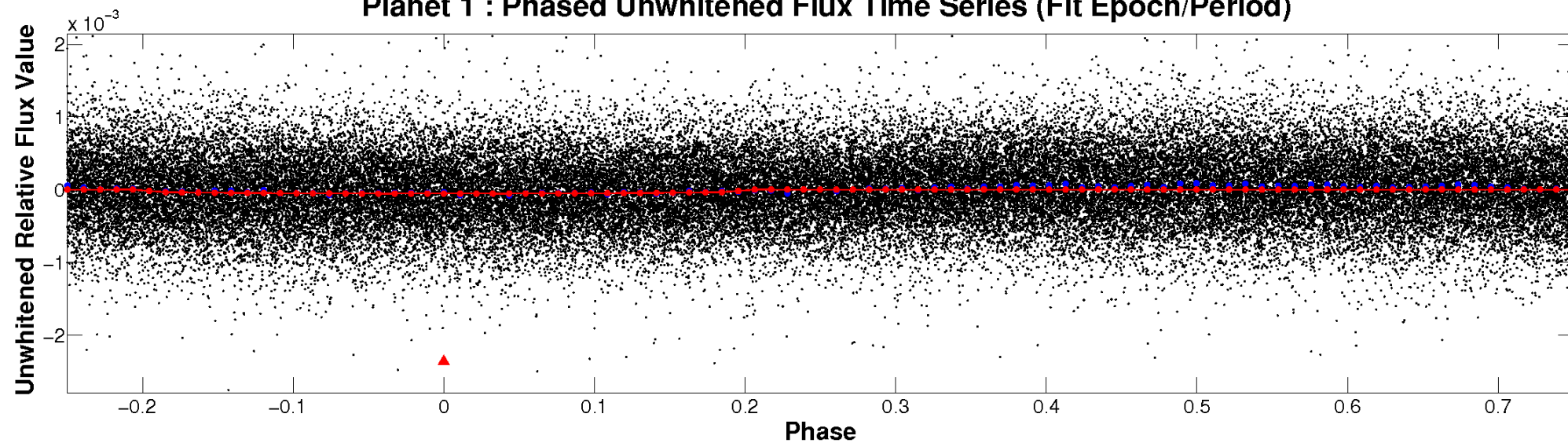
ALT Odd/Even

TCE 007678385-01

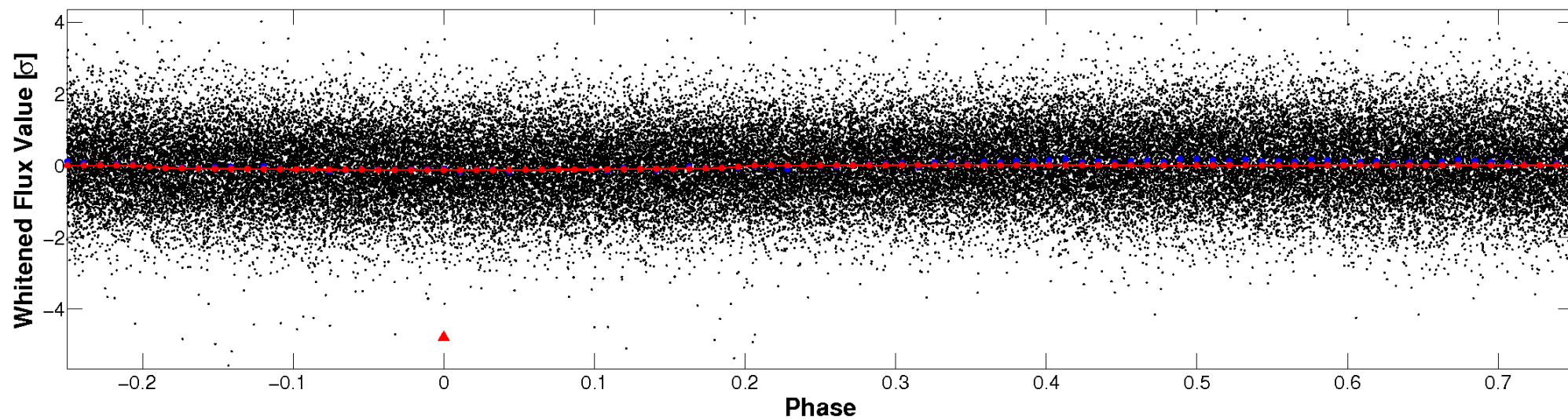


Non-Whitened Vs. Whitened Light Curve

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

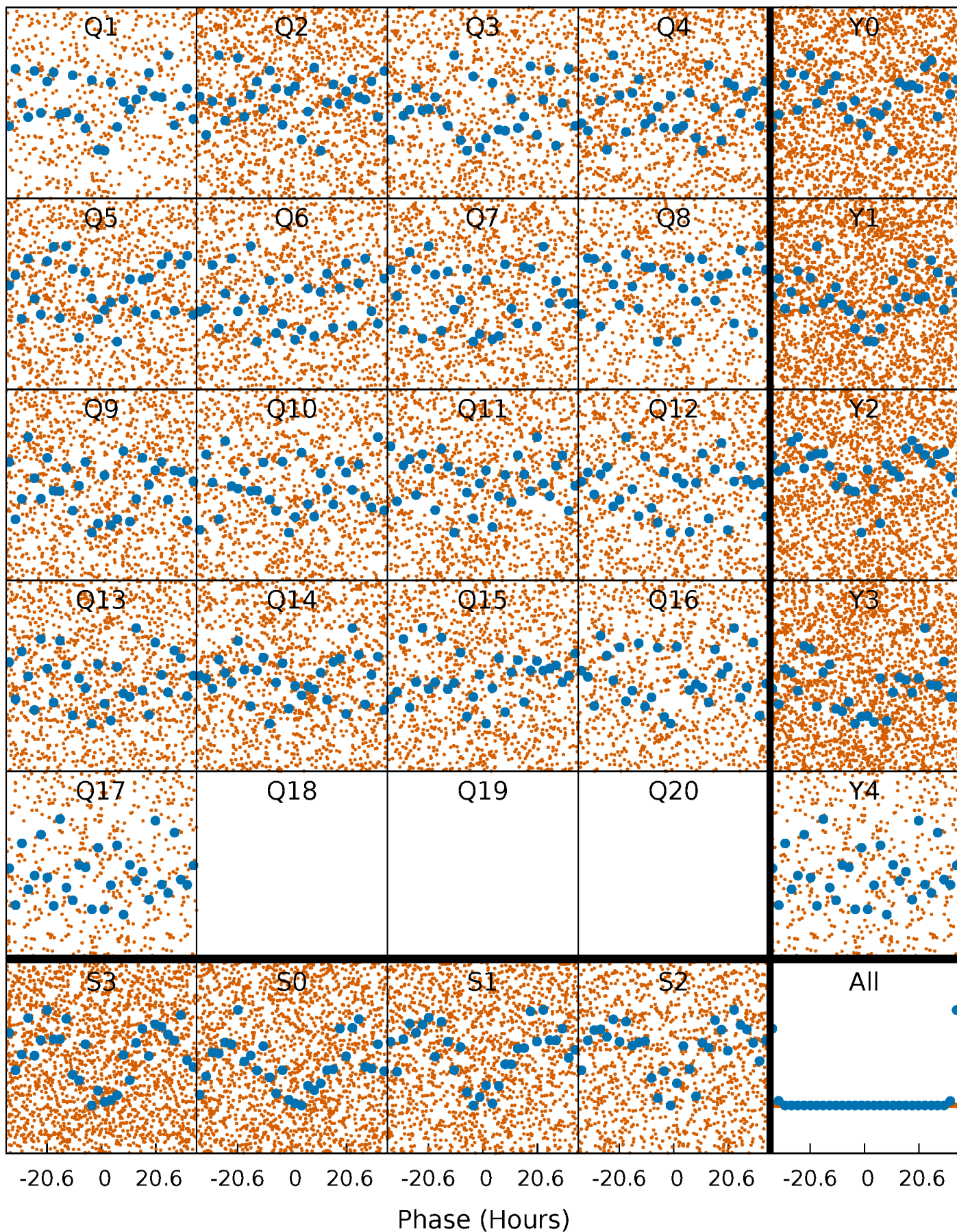


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



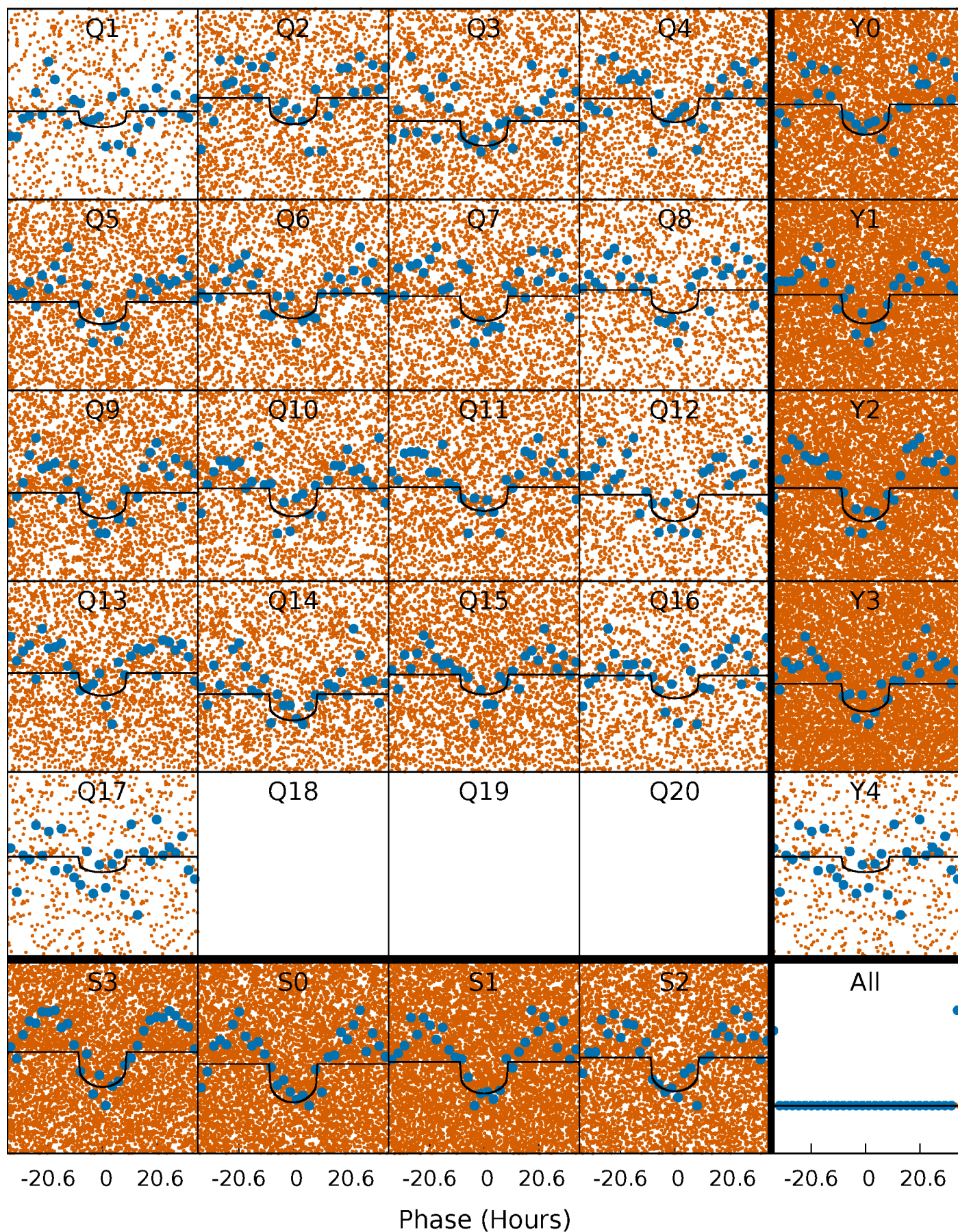
PDC Quarter-Phased Transit Curves

TCE 007678385-01 P= 1.880967 Days $T_0=132.880706$ (BKJD)



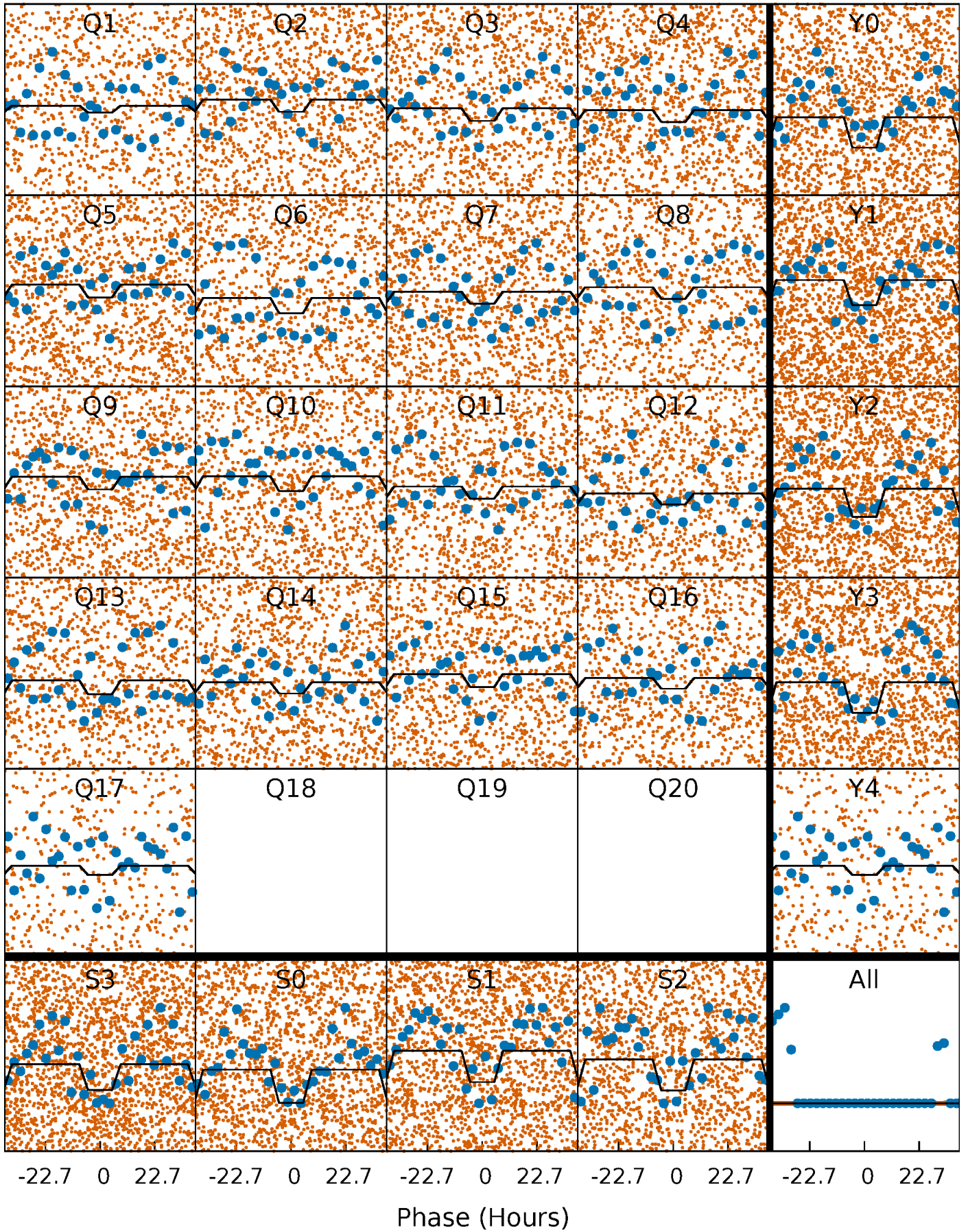
DV Quarter-Phased Transit Curves

TCE 007678385-01 P= 1.880967 Days $T_0=132.880706$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

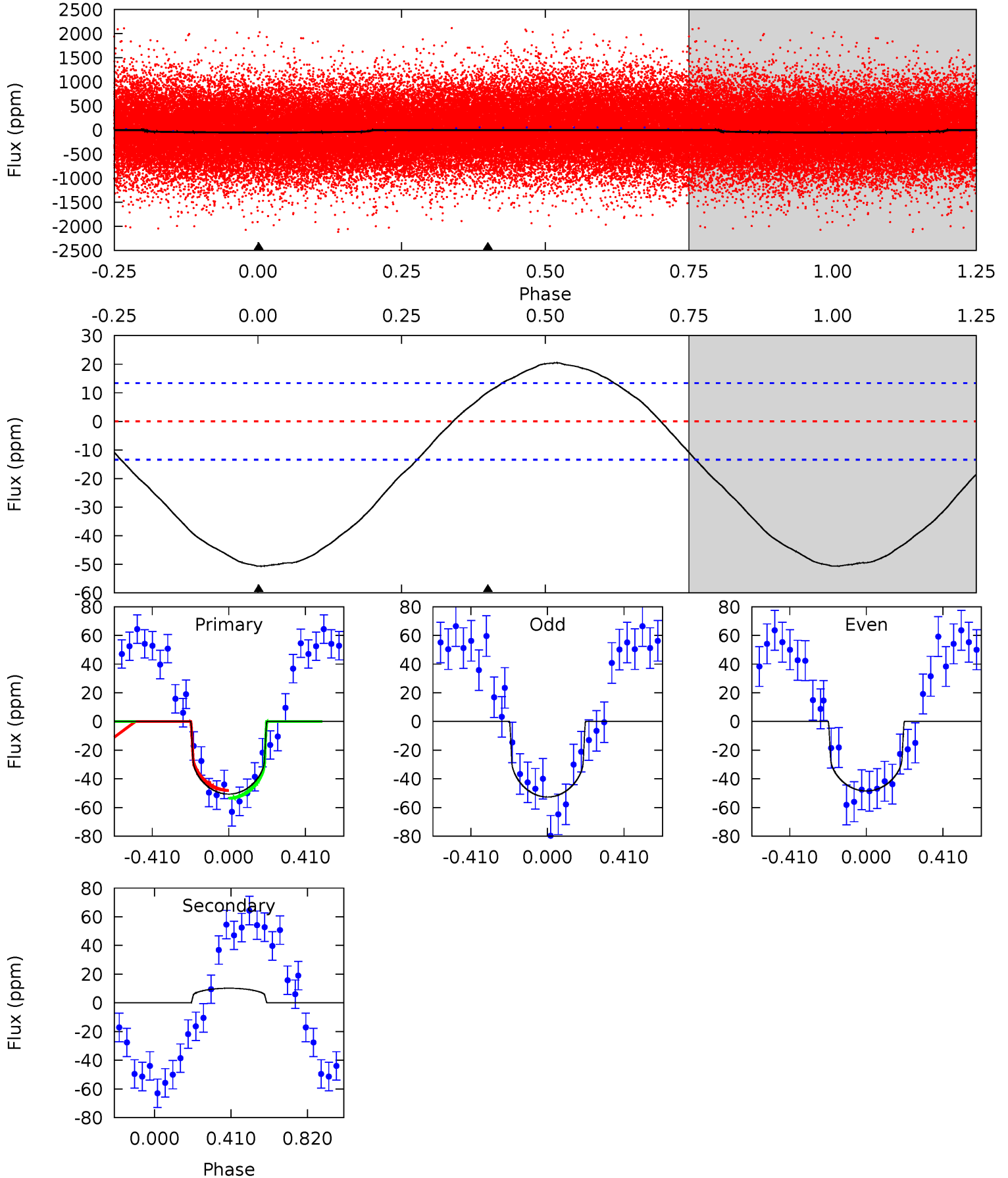
TCE 007678385-01 P= 1.881030 Days $T_0=132.876912$ (BKJD)



DV Model-Shift Uniqueness Test

007678385-01, P = 1.880967 Days, E = 130.999739 Days

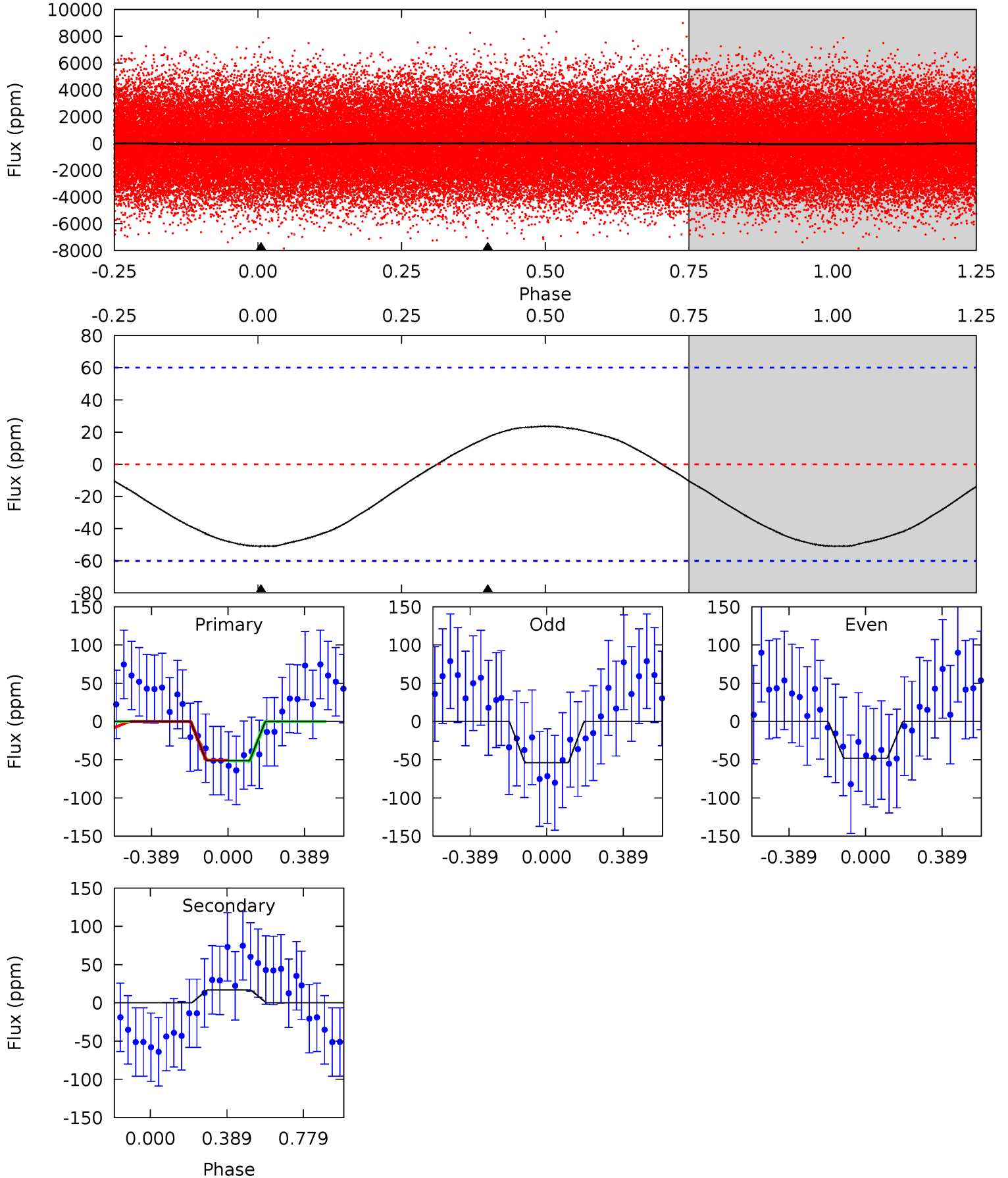
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	-3.25	0	0	4.26	0.82	1.94	16.1	16.1	-3.25	-3.25	0.67	0.99	0.29	0.91



Alt Model-Shift Uniqueness Test

007678385-01, P = 1.881030 Days, E = 130.995882 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.63	-1.19	0	0	4.27	0.86	0.45	3.63	3.63	-1.19	-1.19	0.20	0.39	0.32	0.03



Stellar Parameters For KIC 007678385

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8050^{+225}_{-338}	$3.996^{+0.221}_{-0.136}$	$-0.120^{+0.200}_{-0.350}$	$2.254^{+0.442}_{-0.663}$	$1.835^{+0.119}_{-0.332}$	$0.226^{+0.266}_{-0.092}$
	$+3\%/-4\%$	$+6\%/-3\%$	$+167\%/-292\%$	$+20\%/-29\%$	$+6\%/-18\%$	$+118\%/-41\%$
Source	KIC0	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 007678385-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	10 ± 3	$1.68^{+1.16}_{-0.92}$	3861^{+257}_{-266}	-5368^{+896}_{-2591}	$-2.526^{+1.702}_{-10.267}$
Alt.	17 ± 14	$1.86^{+1.02}_{-0.99}$	3853^{+258}_{-302}	-5691^{+1489}_{-2791}	$-3.260^{+2.801}_{-13.585}$

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

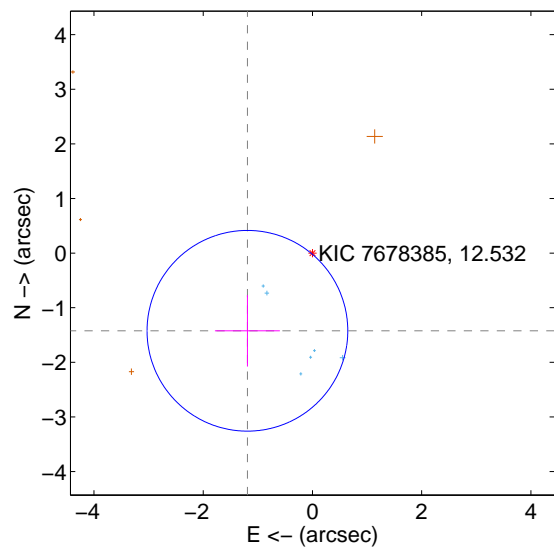
Supplemental centroid analysis for 007678385-01. Kepler magnitude: 12.53. Transit SNR 16.07

There are 6 quarters with good PRF difference image offsets

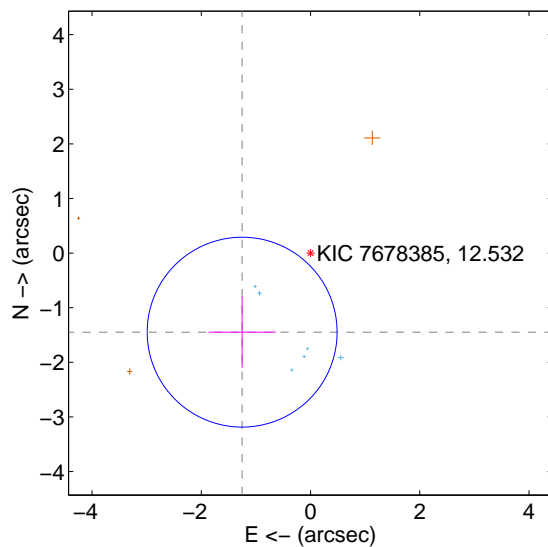
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.855 ± 0.613	3.03	1.191 ± 0.594	-1.423 ± 0.654
PRF-fit source offset from KIC position	1.914 ± 0.580	3.30	1.252 ± 0.613	-1.447 ± 0.655
photometric centroid source offset	0.42 ± 0.20	2.08	0.21 ± 0.20	0.37 ± 0.20

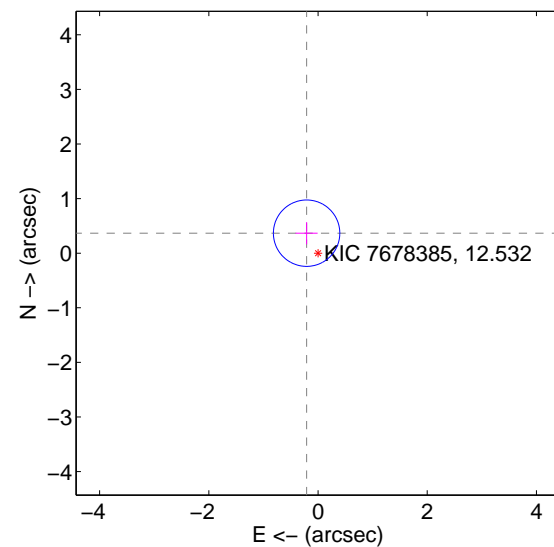
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

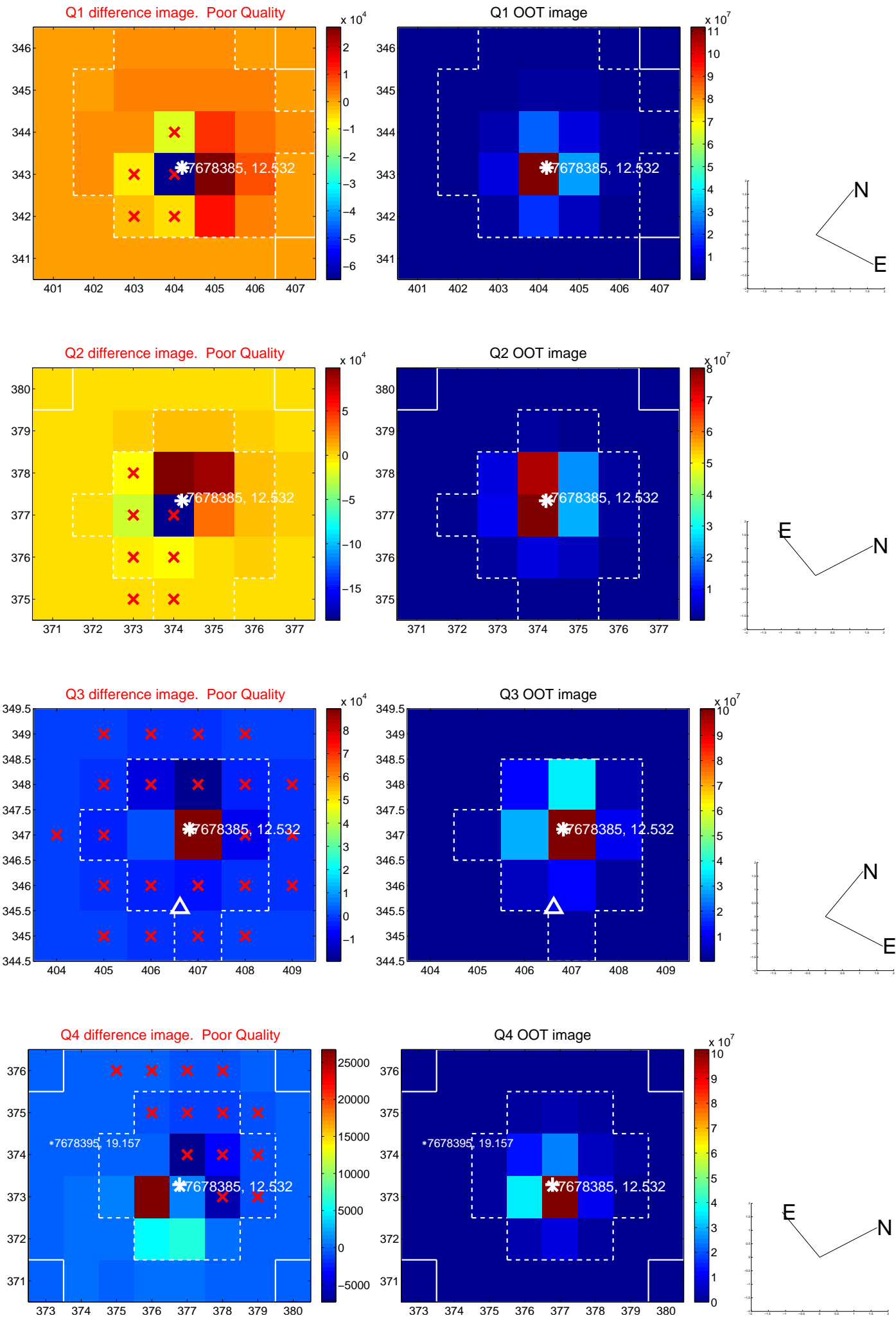


offset from photometric centroids

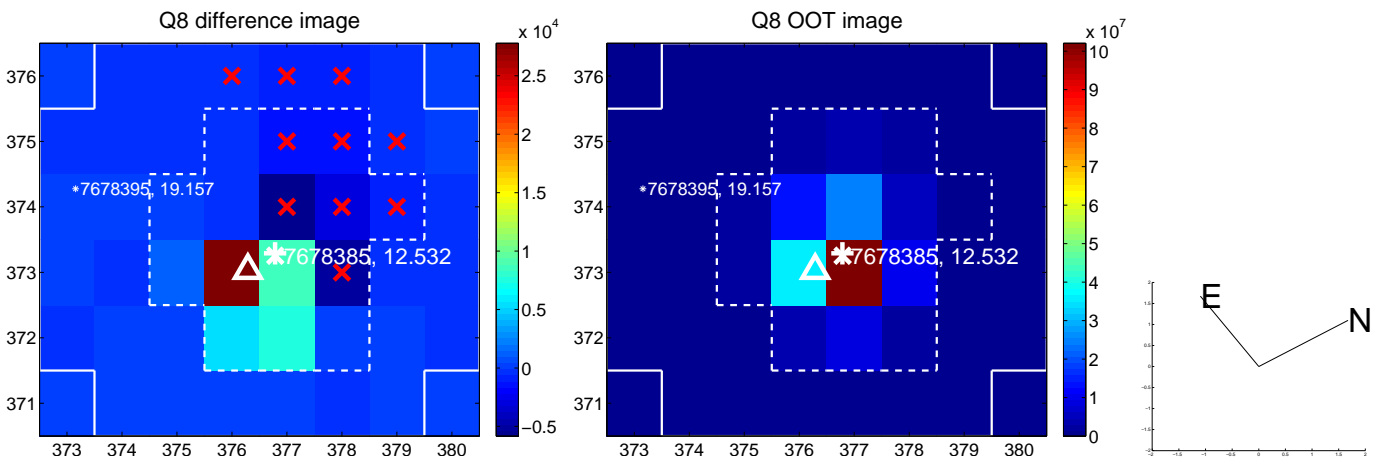
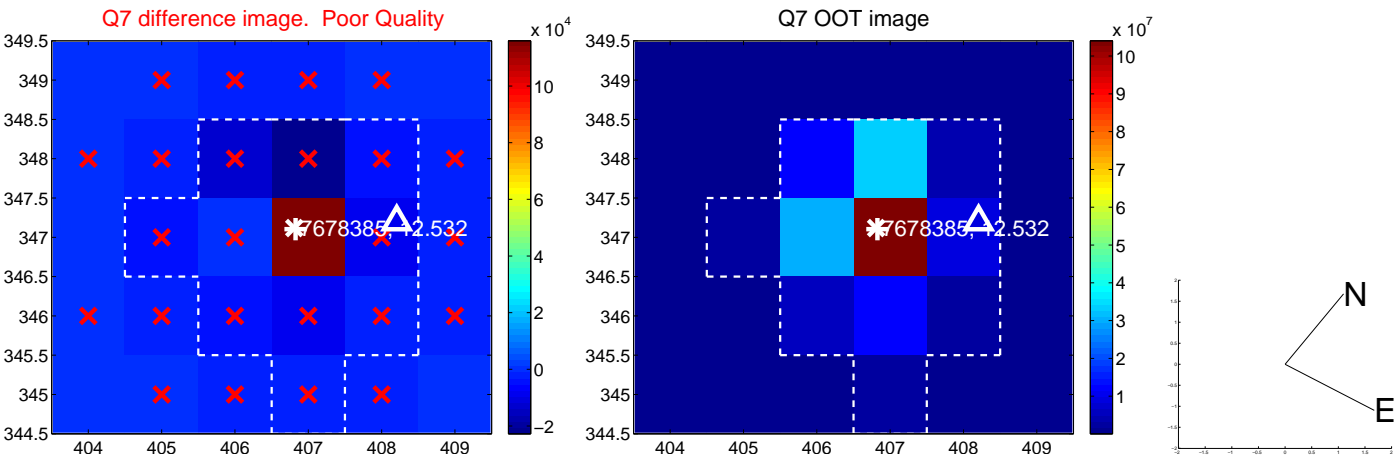
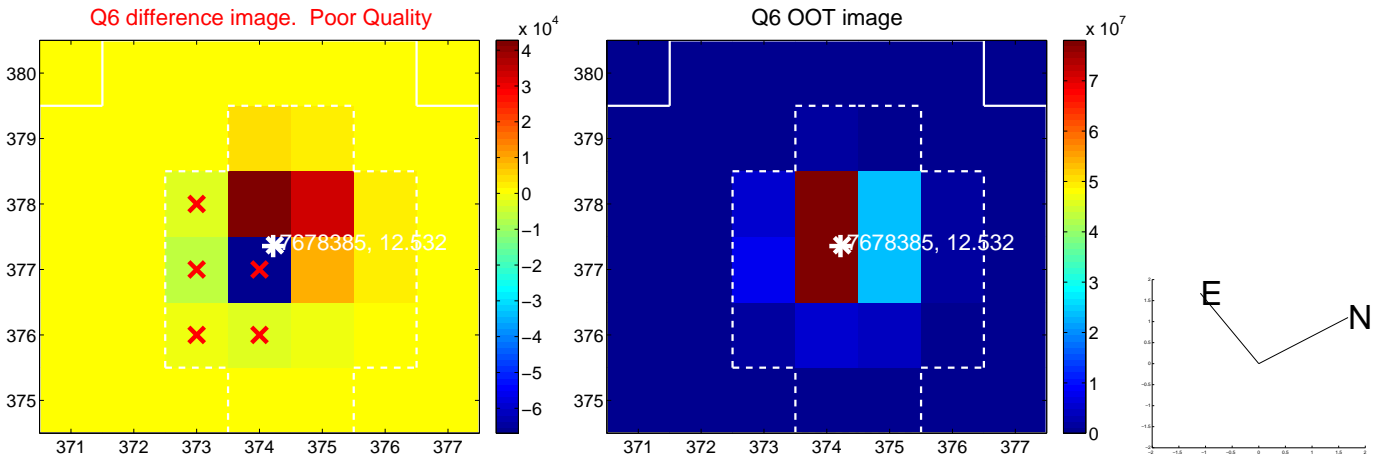
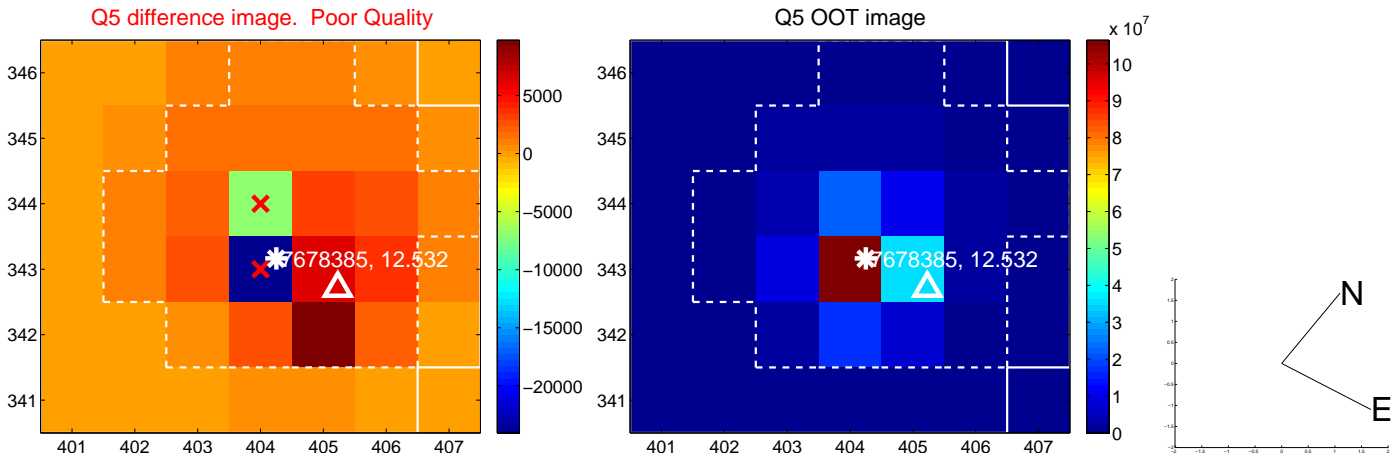


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

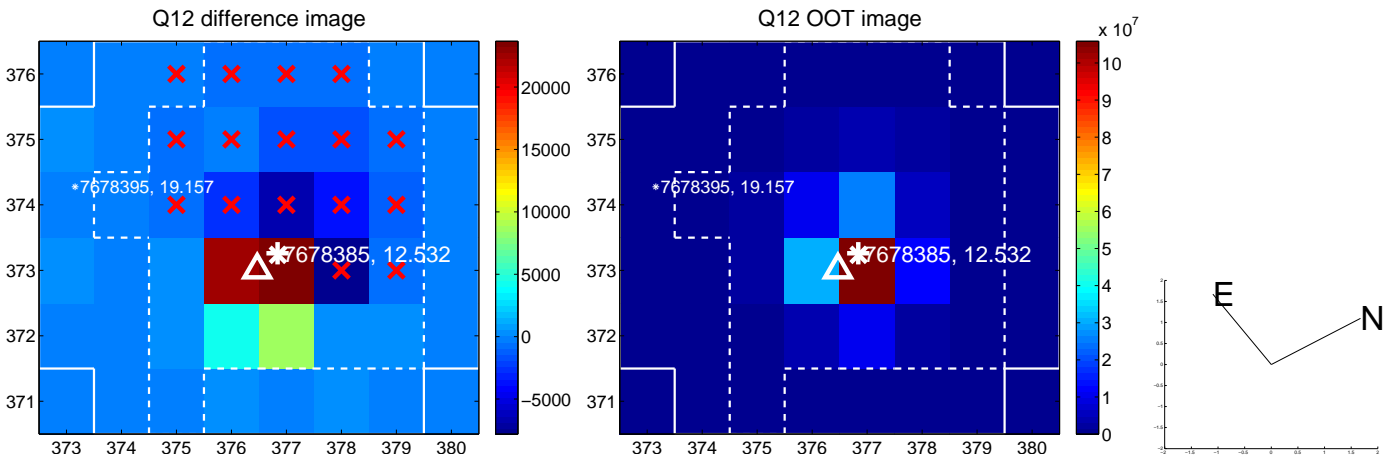
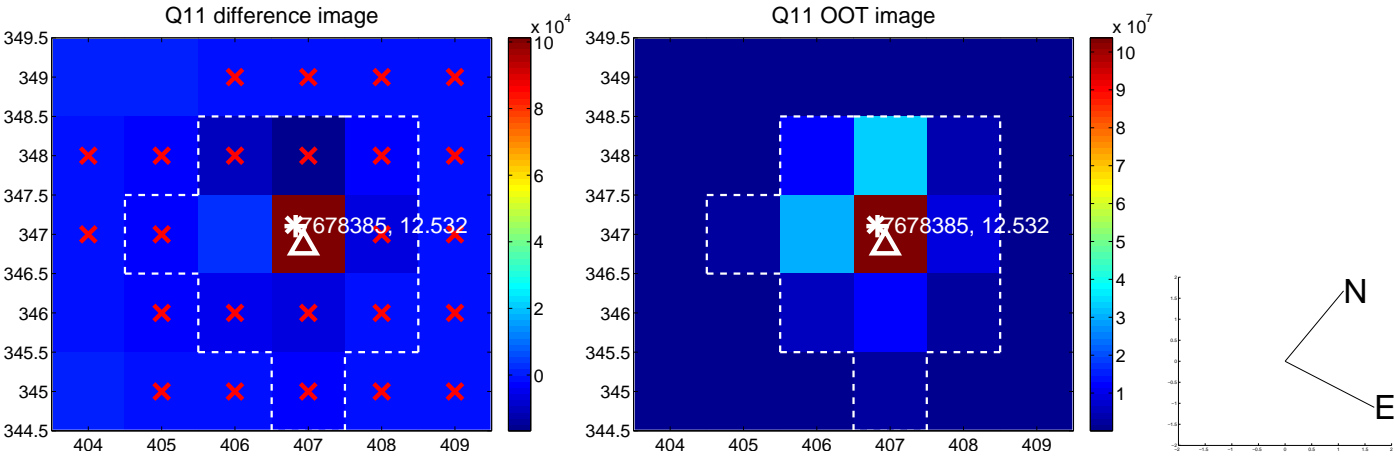
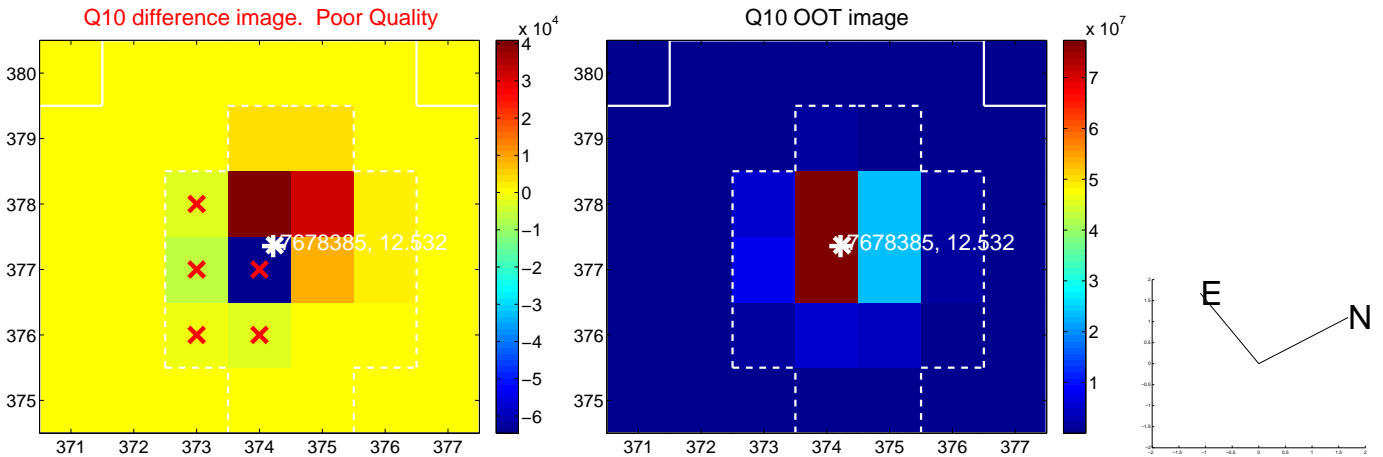
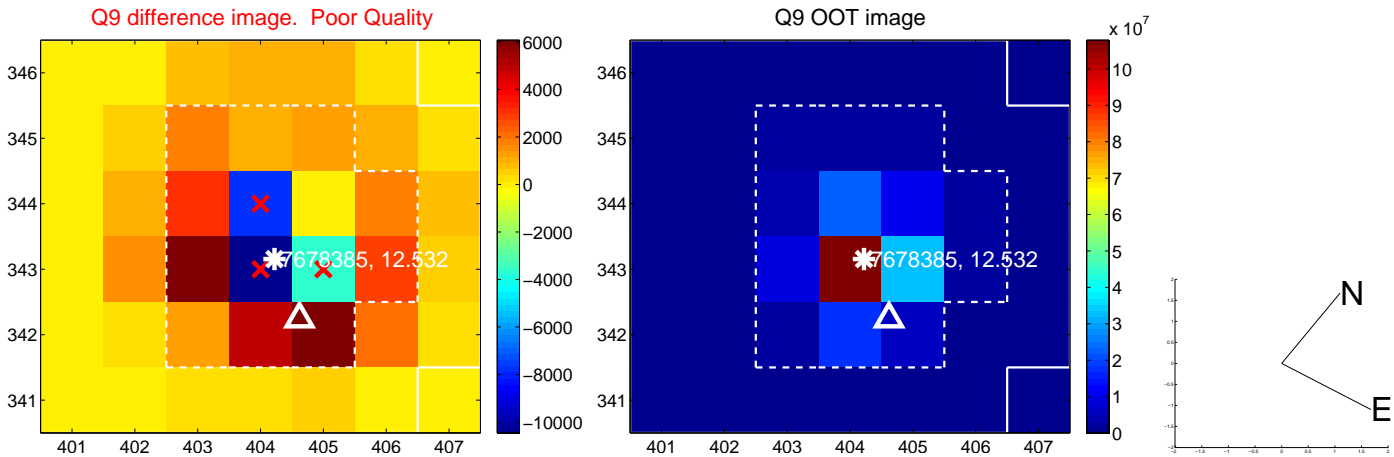
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



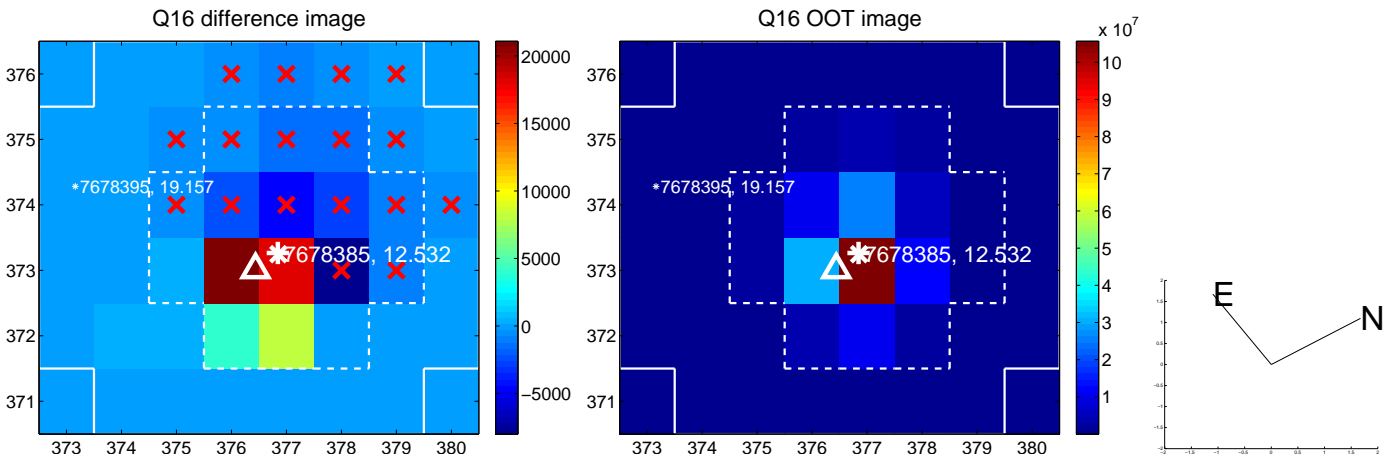
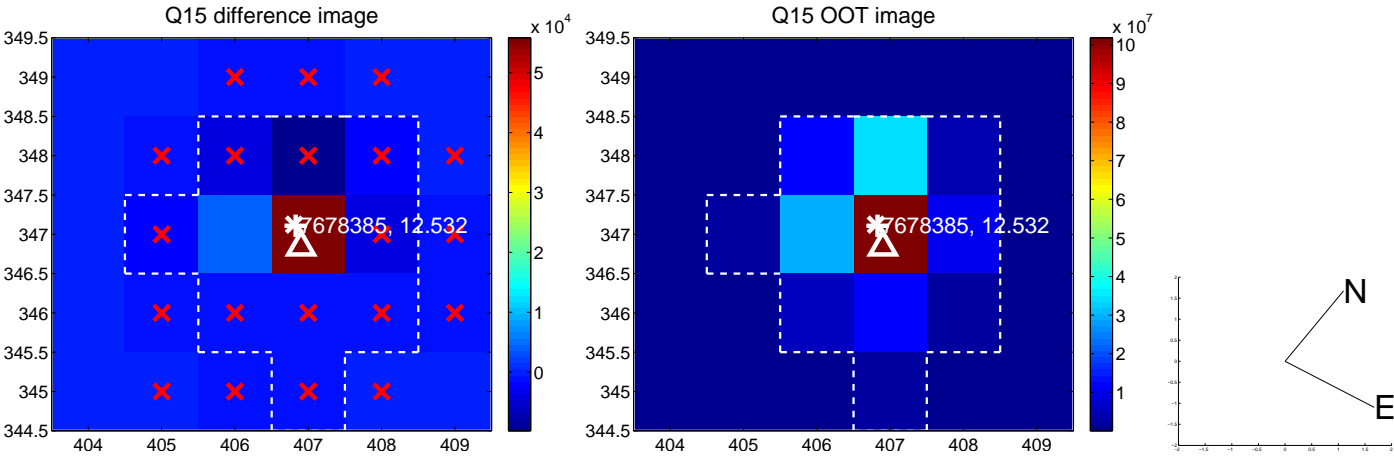
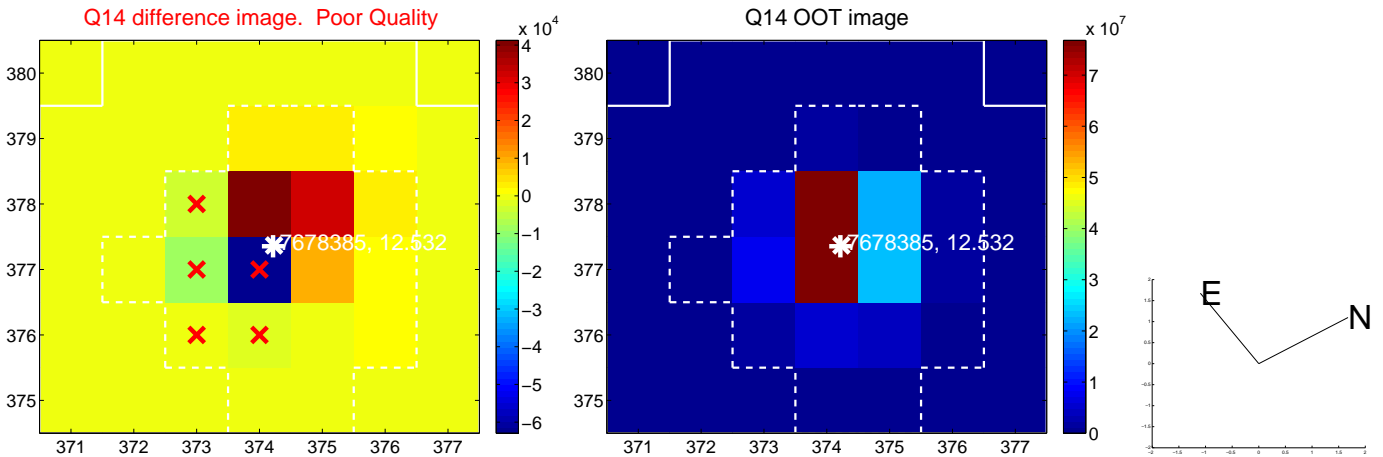
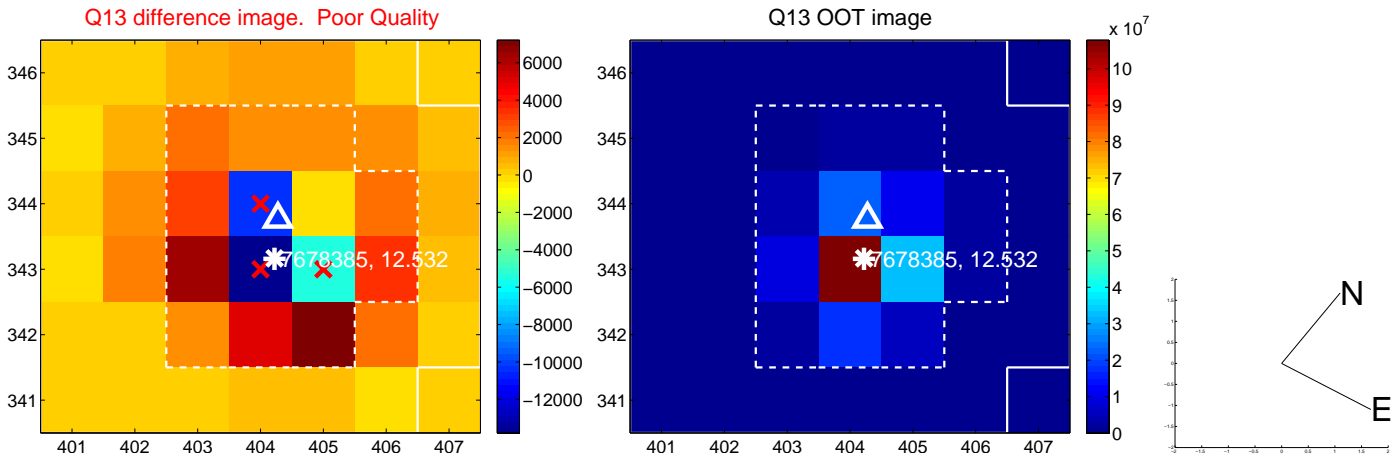
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



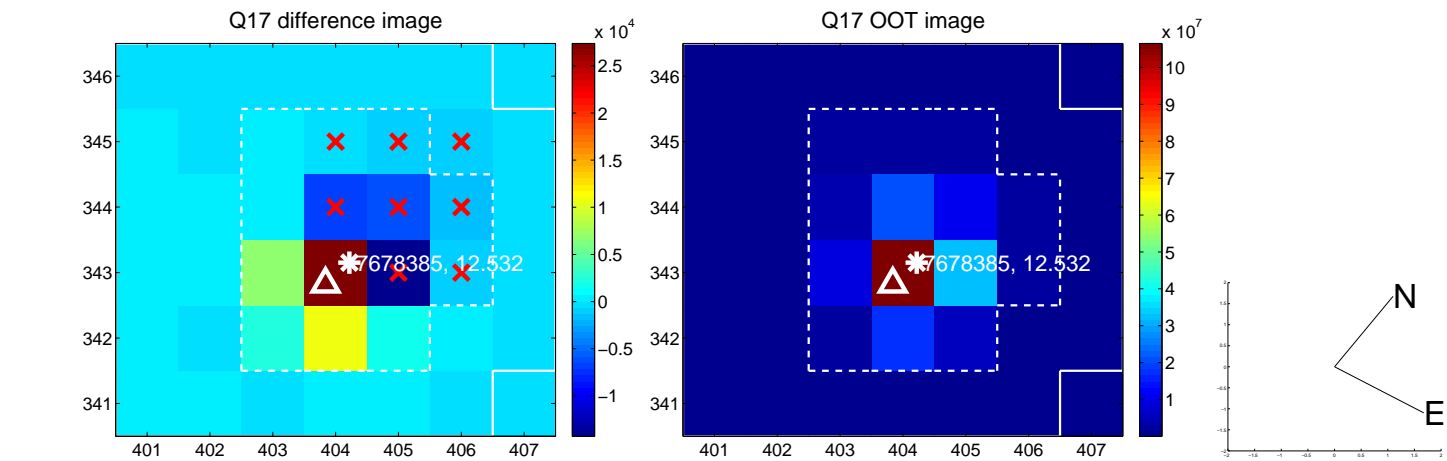
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



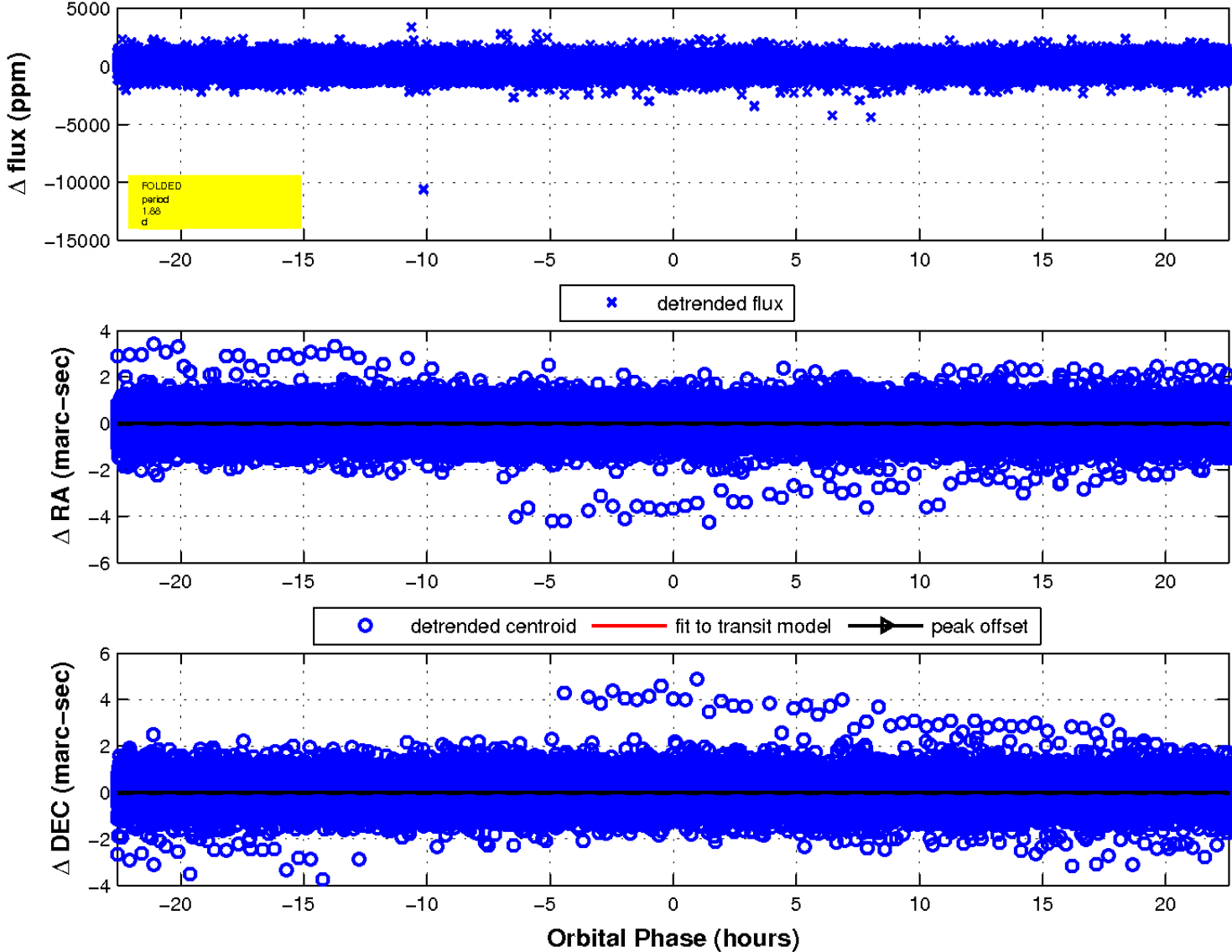
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

