

KIC 012067960

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})
012067960-01	OBS	7510.01	5.606809	135.845833	150.2	2.707	8.5	9.3	0.85	5699	1.25	186.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012067960-01	OBS	PC	0.97	0	0	0	0	NO_COMMENT

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

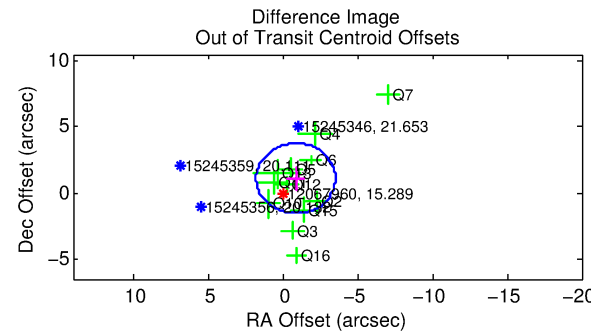
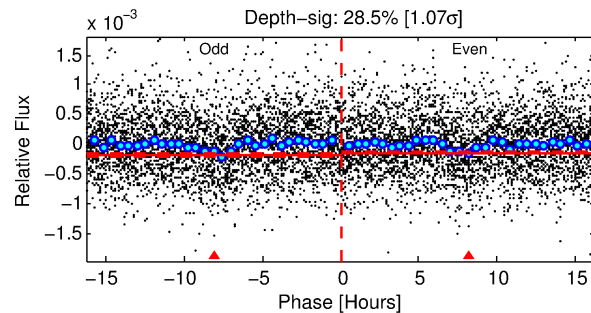
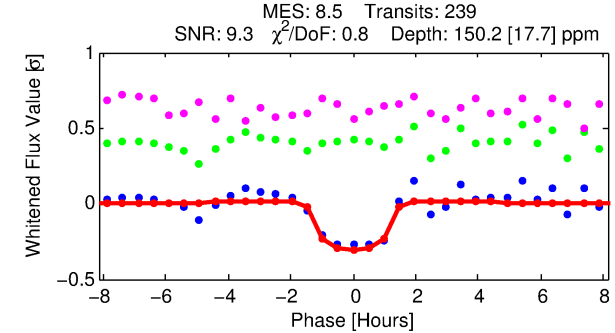
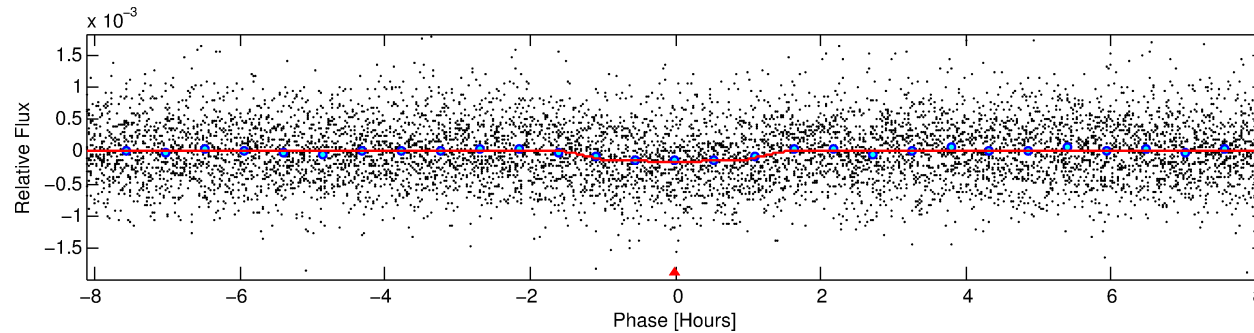
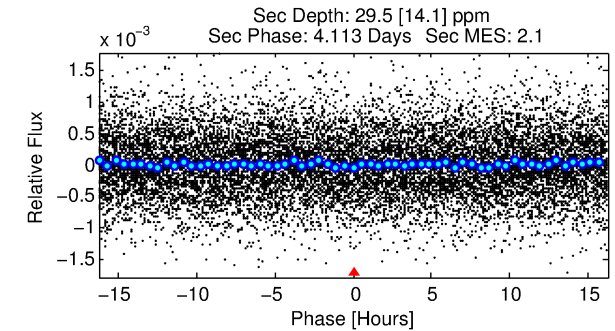
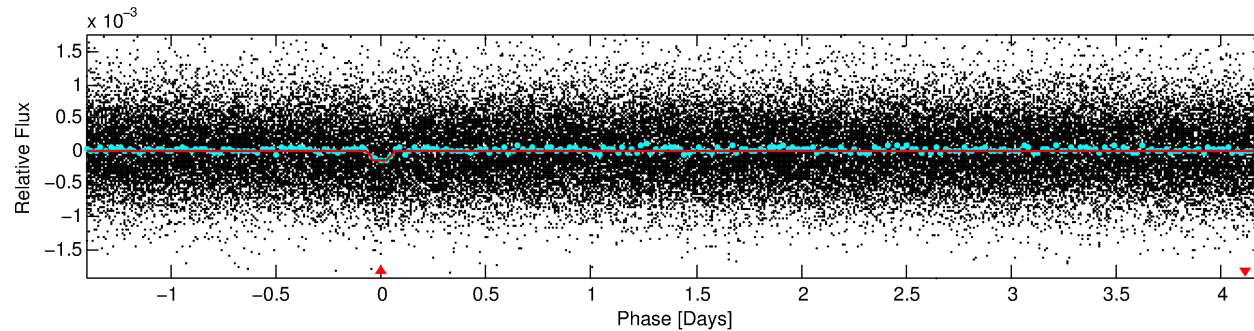
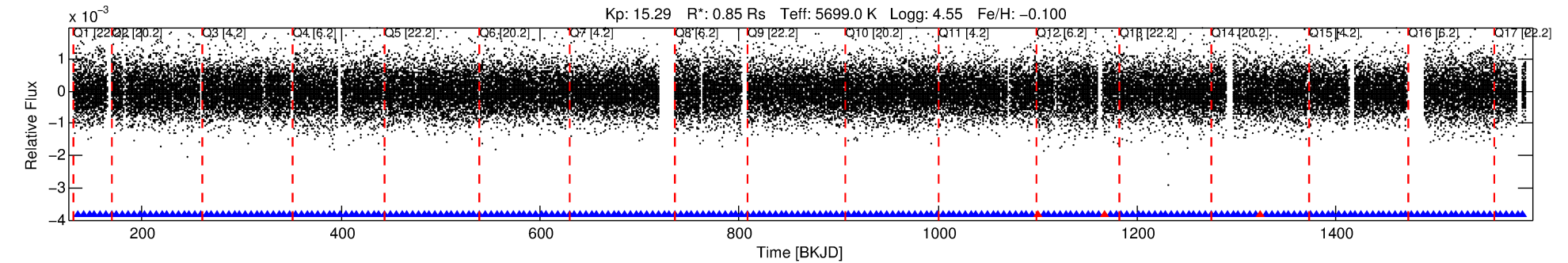
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 012067960-01

No Significant Match Found

KIC: 12067960 Candidate: 1 of 1 Period: 5.607 d
KOI: K07510.01 Corr: 0.967



DV Fit Results:

Period = 5.60681 [0.00004] d
Epoch = 135.8458 [0.0057] BKJD
Rp/R* = 0.0134 [0.0093]
a/R* = 7.42 [24.25]
b = 0.90 [0.71]

Seff = 186.68 [58.19]
Teq = 943 [73] K
Rp = 1.24 [0.91] Re
a = 0.0607 [0.0118] AU

Ag = 38.55 [57.89] [0.65σ]
Teffp = 3631 [1342] K [2.00σ]

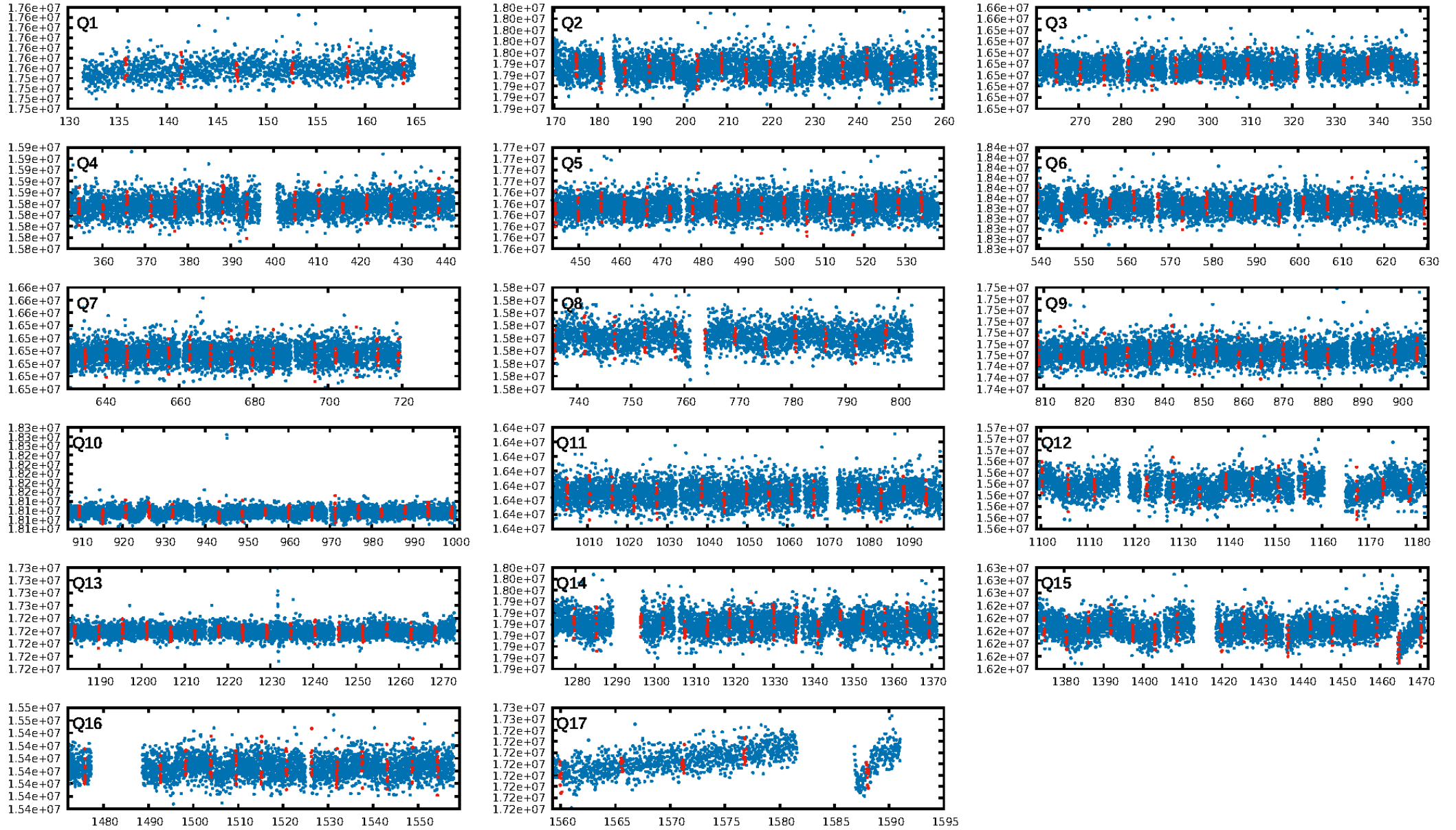
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.11e-17
RollingBand-fgt: 0.99 [225/228]
GhostDiagnostic-chr: -13.26

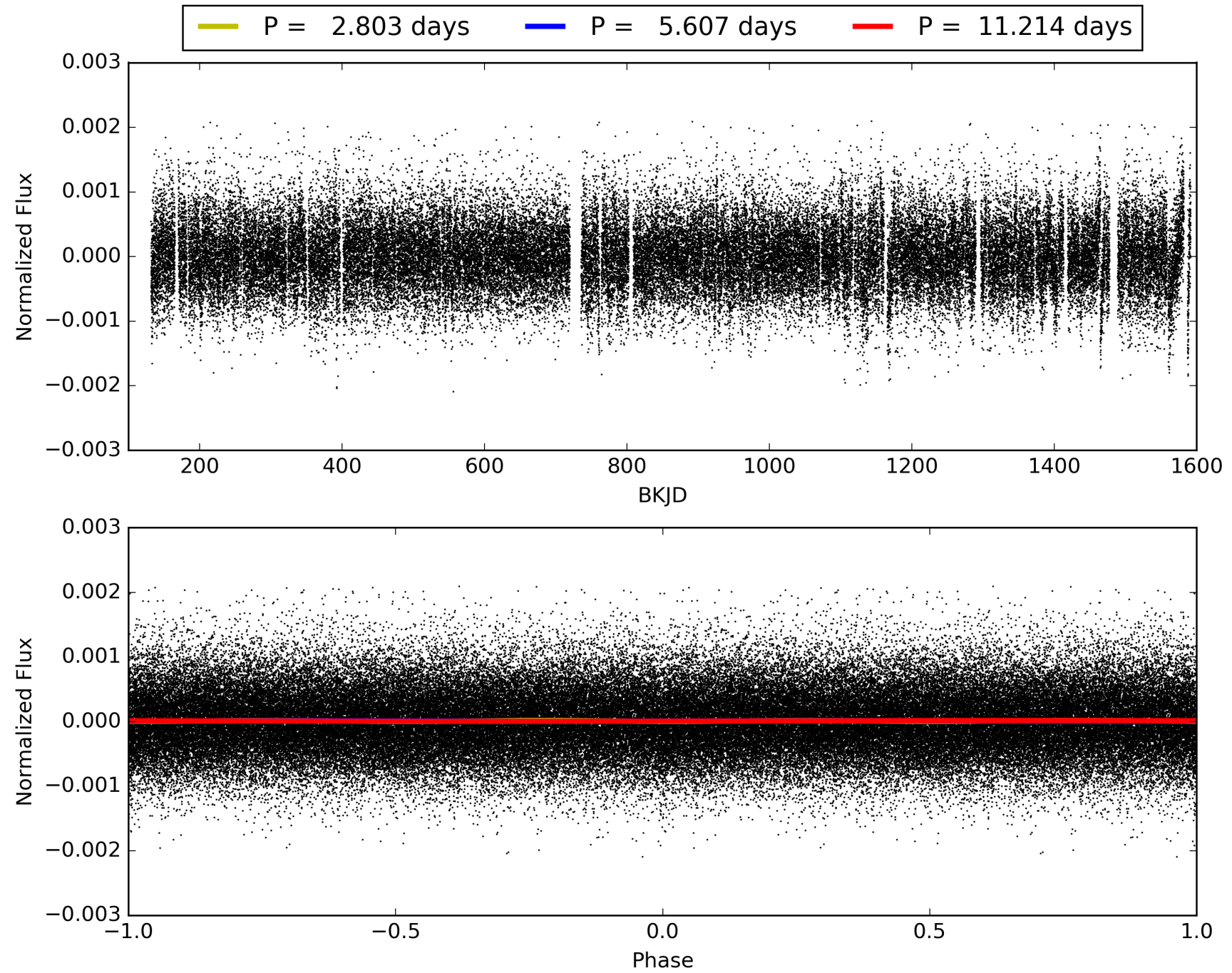
Centroid-sig: 1.7%

Centroid-so: 3.992 arcsec [2.48σ]
OotOffset-rm: 1.414 arcsec [1.60σ]
KicOffset-rm: 1.504 arcsec [1.76σ]
OotOffset-st: 3/4/3/2 [12]
KicOffset-st: 3/4/3/2 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012067960-01, PDC Light Curves

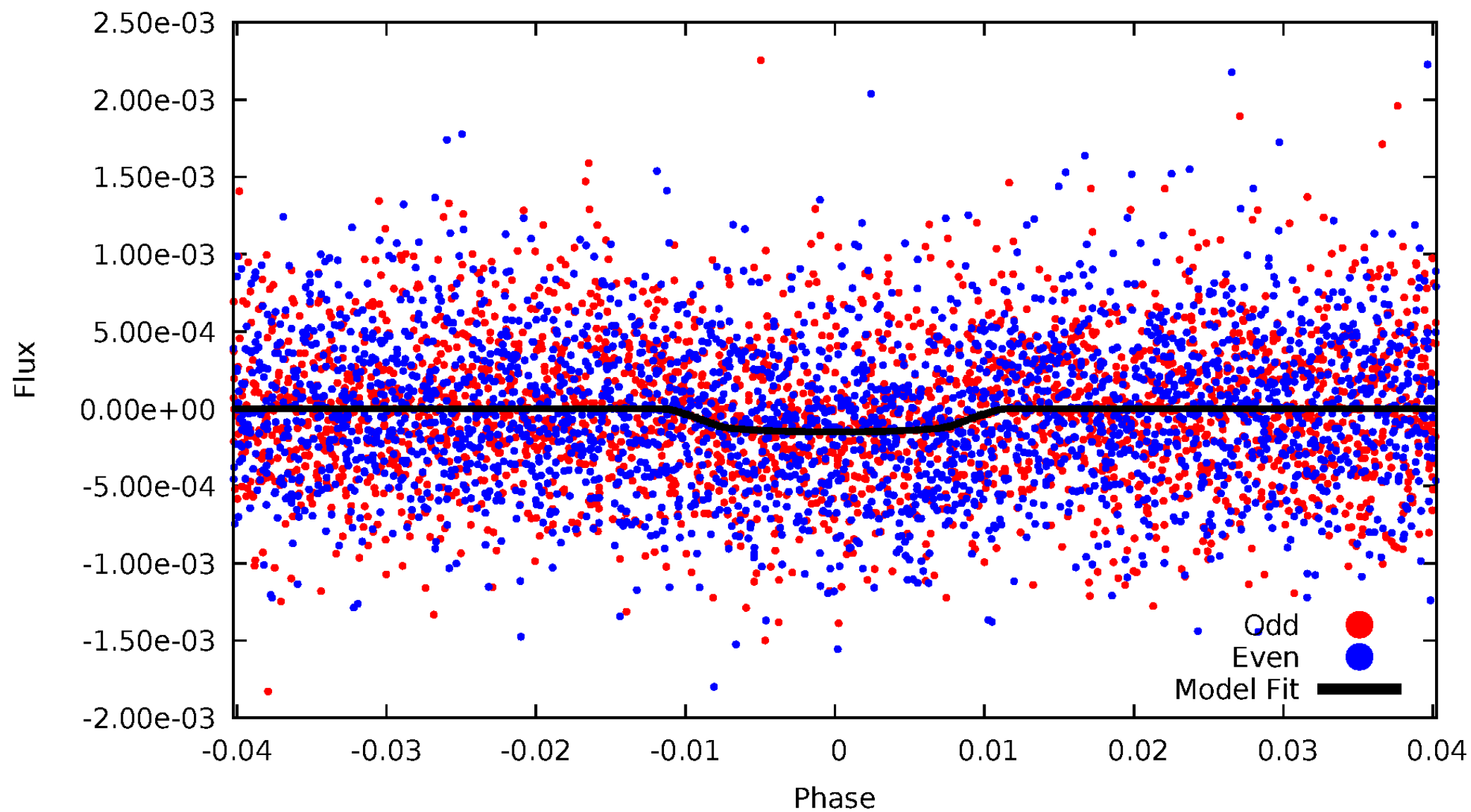


TCE 012067960-01



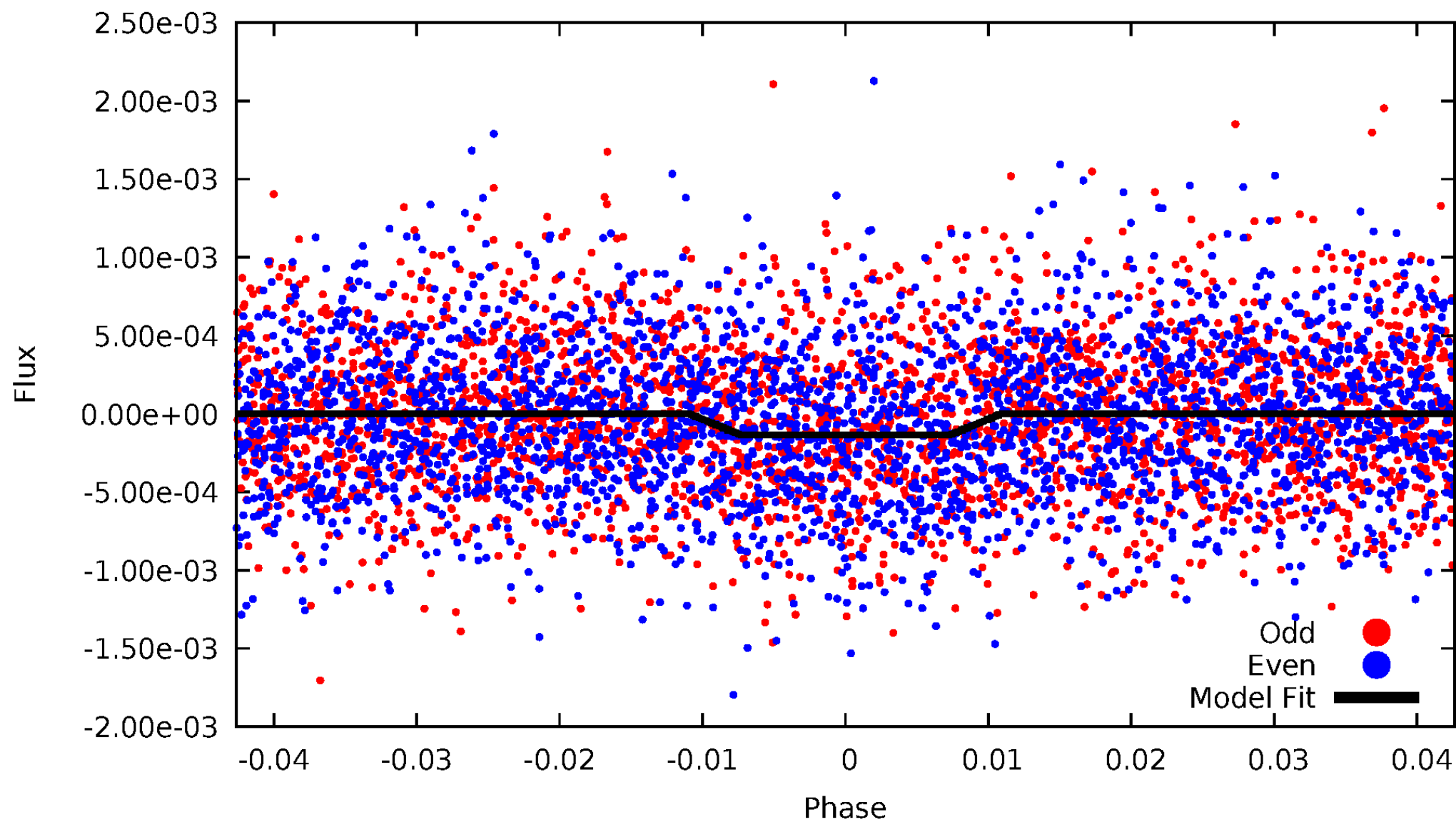
DV Odd/Even

TCE 012067960-01



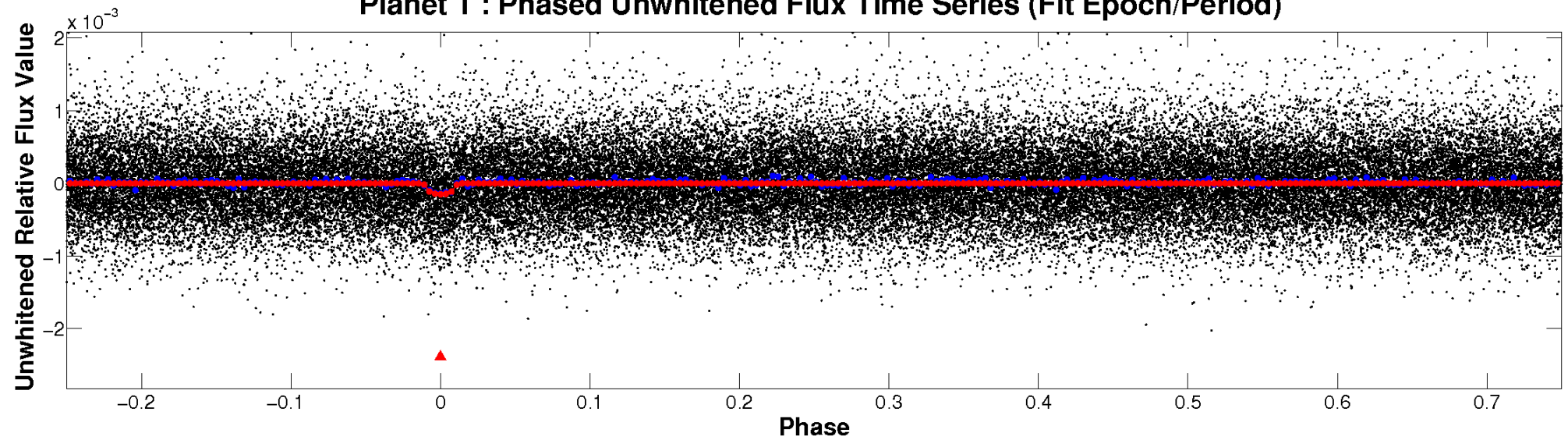
ALT Odd/Even

TCE 012067960-01

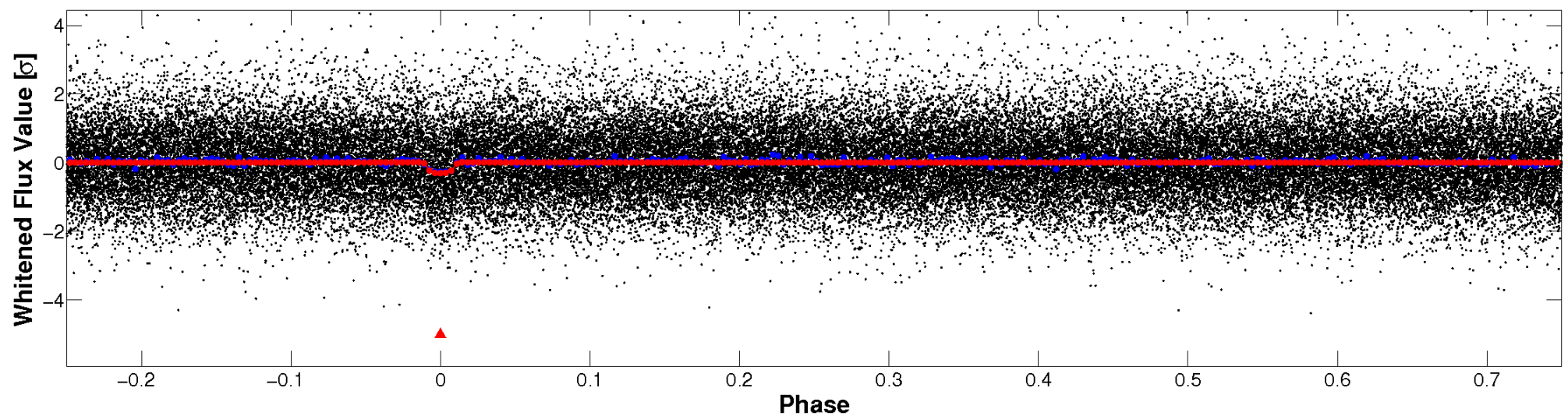


Non-Whitened Vs. Whitened Light Curve

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

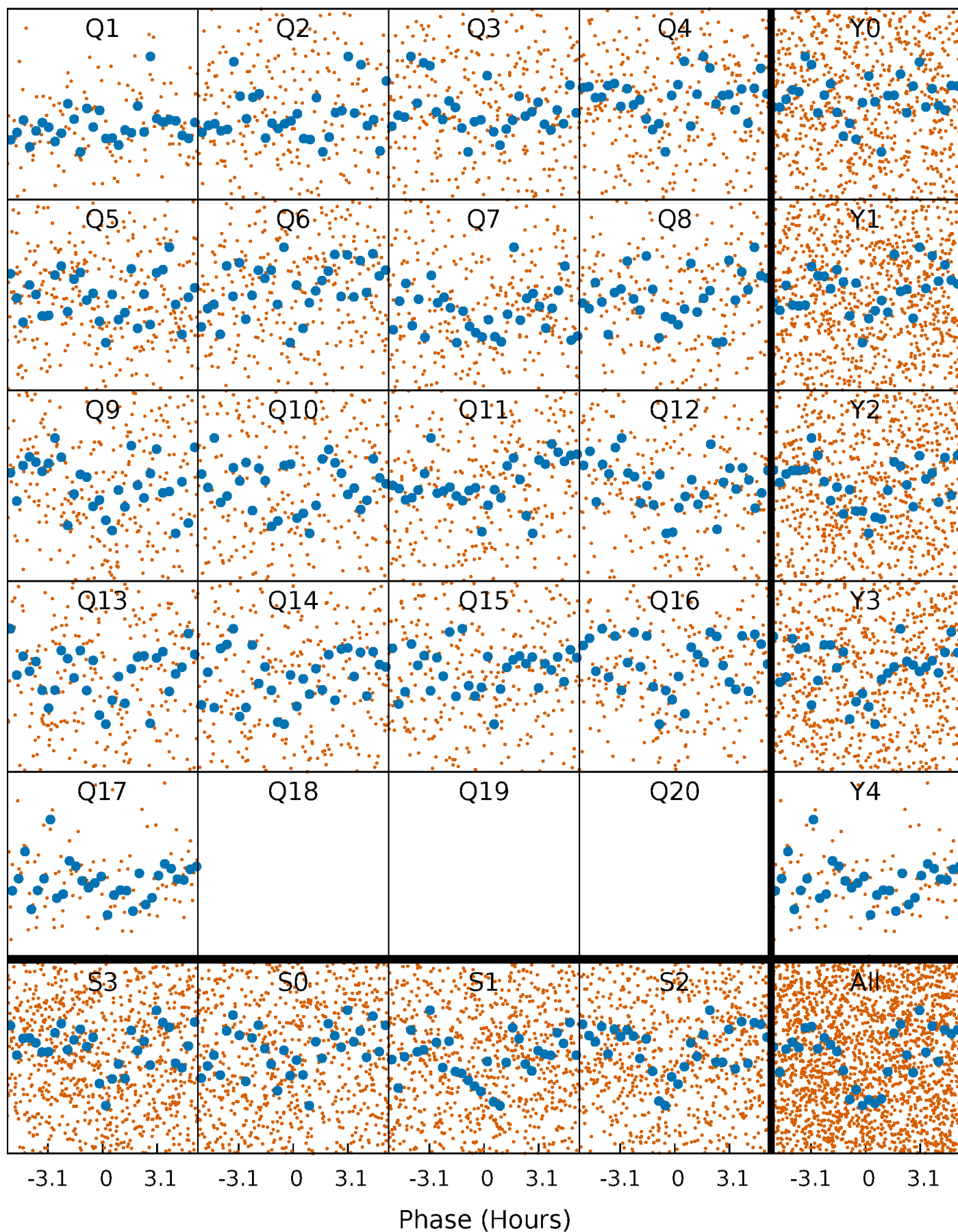


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



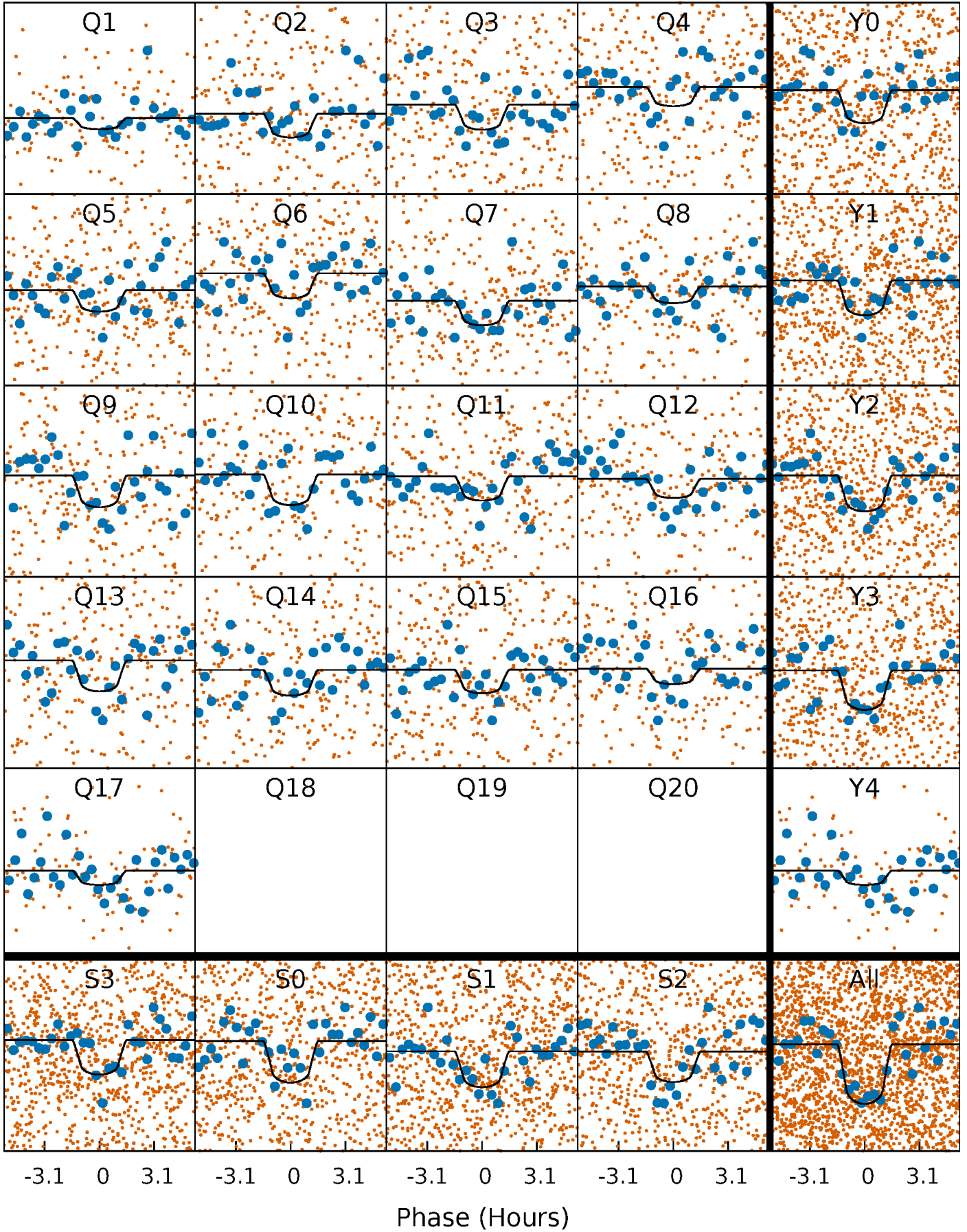
PDC Quarter-Phased Transit Curves

TCE 012067960-01 P= 5.606809 Days $T_0=135.845833$ (BKJD)



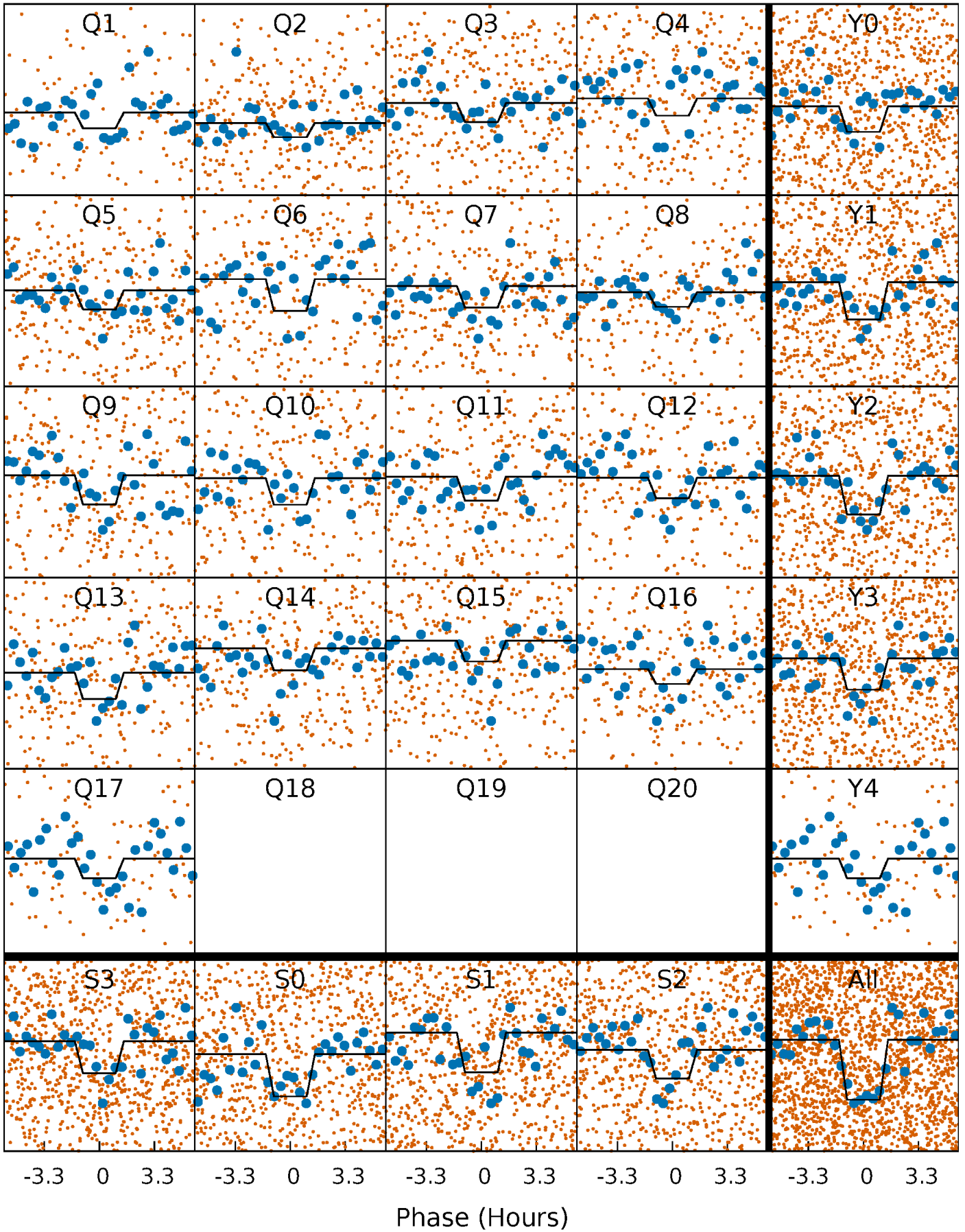
DV Quarter-Phased Transit Curves

TCE 012067960-01 P= 5.606809 Days $T_0=135.845833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

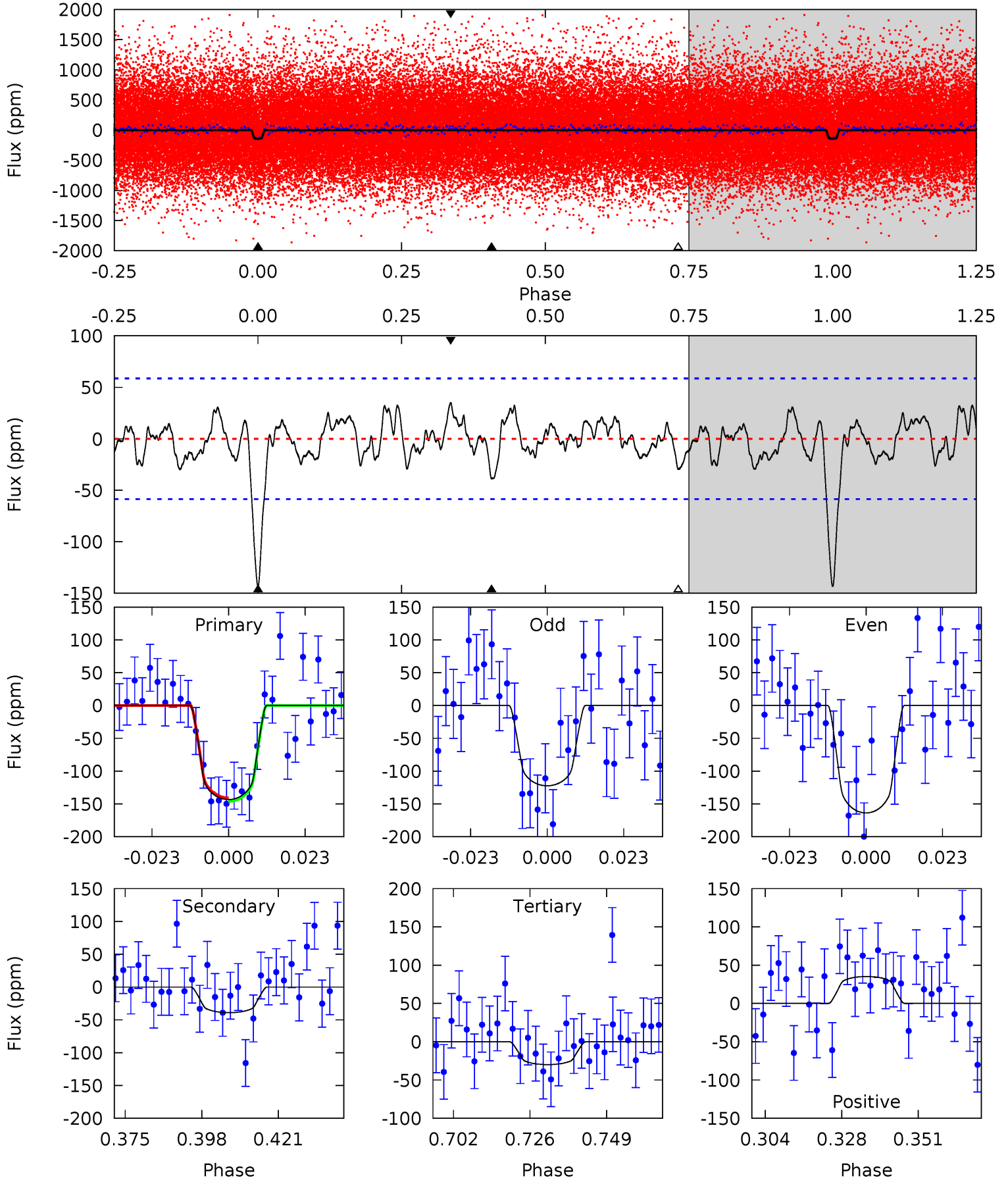
TCE 012067960-01 P= 5.606828 Days $T_0=135.843524$ (BKJD)



DV Model-Shift Uniqueness Test

012067960-01, P = 5.606809 Days, E = 130.239024 Days

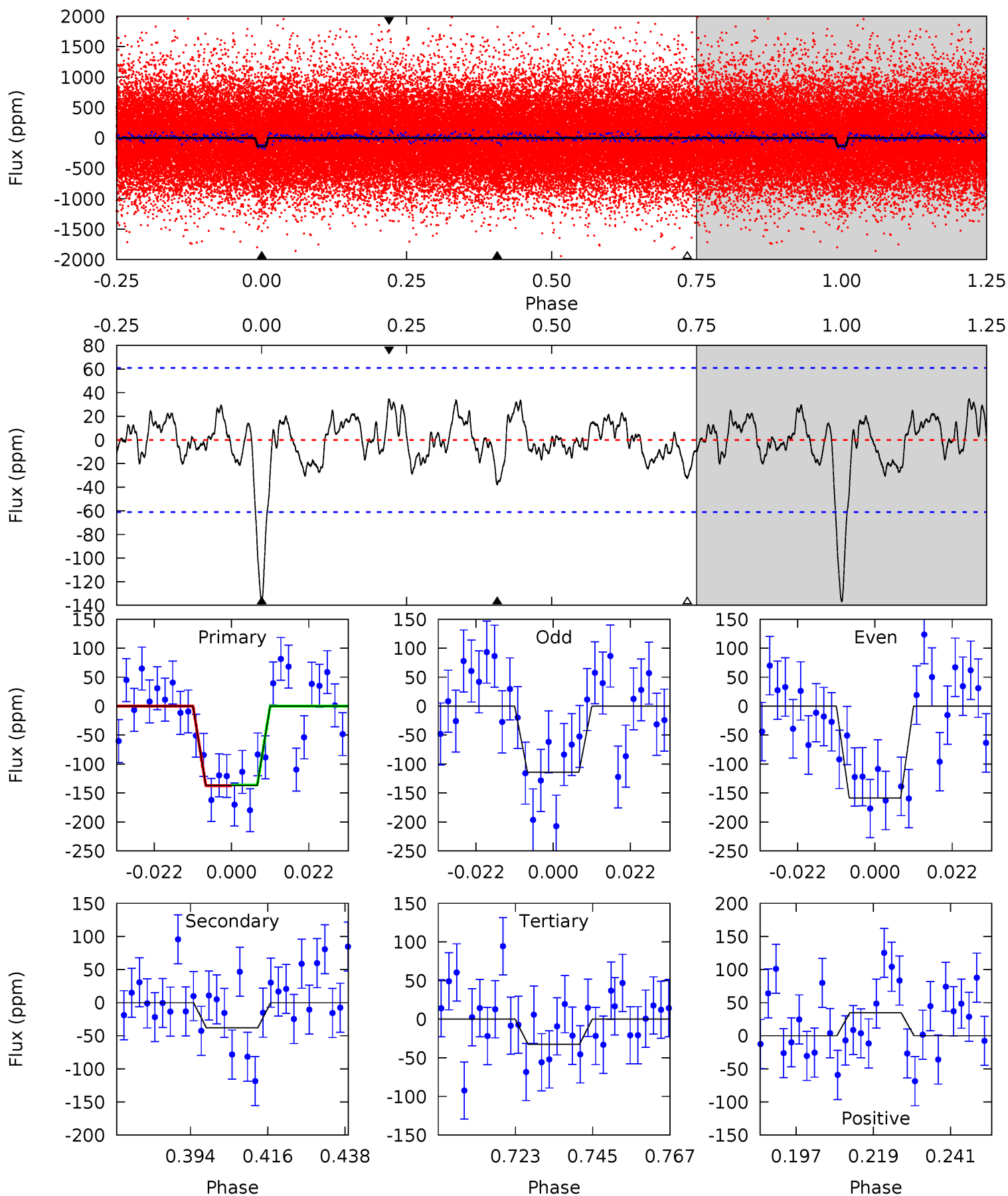
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	3.23	2.47	2.92	4.86	2.27	1.20	9.41	8.96	0.76	0.31	1.72	1.09	0.20	0.21



Alt Model-Shift Uniqueness Test

012067960-01, P = 5.606828 Days, E = 130.236696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	3.03	2.60	2.76	4.87	2.29	1.15	8.32	8.15	0.44	0.27	1.79	0.96	0.20	0.04



Stellar Parameters For KIC 012067960

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5699^{+152}_{-169}	$4.553^{+0.040}_{-0.160}$	$-0.100^{+0.300}_{-0.300}$	$0.853^{+0.193}_{-0.069}$	$0.950^{+0.094}_{-0.115}$	$2.159^{+0.433}_{-0.909}$
	+3%/-3%	+1%/-4%	+300%/-300%	+23%/-8%	+10%/-12%	+20%/-42%
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 012067960-01 / KOI 7510.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-39 ± 12	$1.33^{+0.88}_{-0.80}$	1342^{+72}_{-55}	4041^{+1920}_{-616}	40^{+194}_{-25}
Alt.	-38 ± 13	$1.21^{+0.79}_{-0.72}$	1340^{+71}_{-56}	4210^{+2058}_{-710}	50^{+255}_{-34}

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

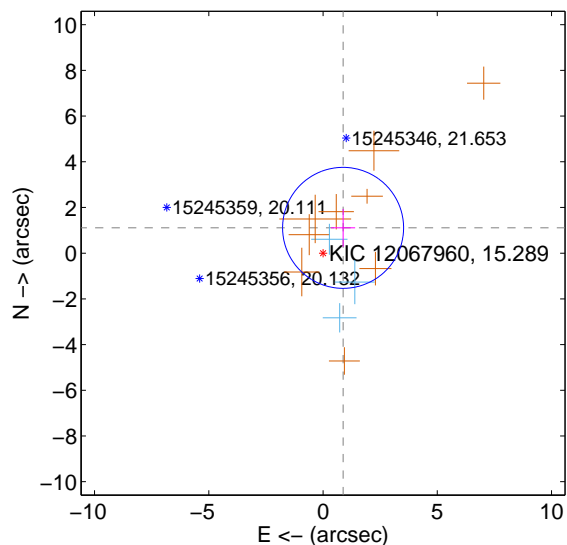
Supplemental centroid analysis for 012067960-01. Kepler magnitude: 15.29. Transit SNR 9.34

There are 3 quarters with good PRF difference image offsets

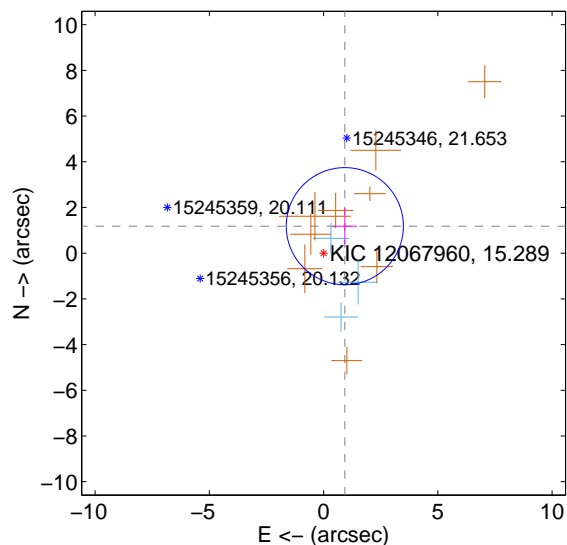
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.414 ± 0.882	1.60	-0.877 ± 0.527	1.108 ± 0.828
PRF-fit source offset from KIC position	1.504 ± 0.854	1.76	-0.930 ± 0.536	1.182 ± 0.802
photometric centroid source offset	3.99 ± 1.61	2.48	3.98 ± 1.61	-0.32 ± 1.75

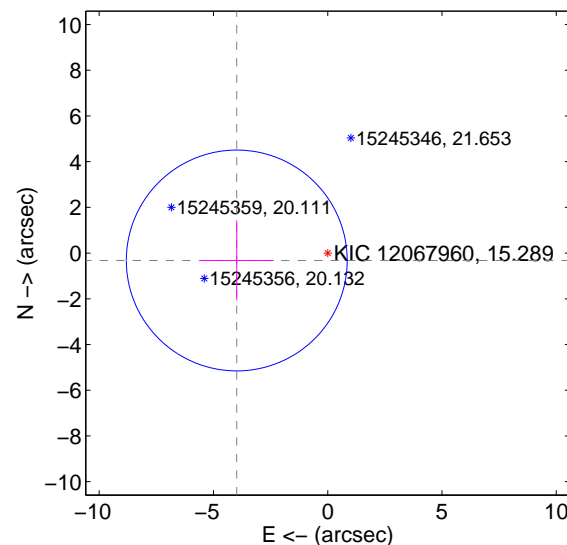
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

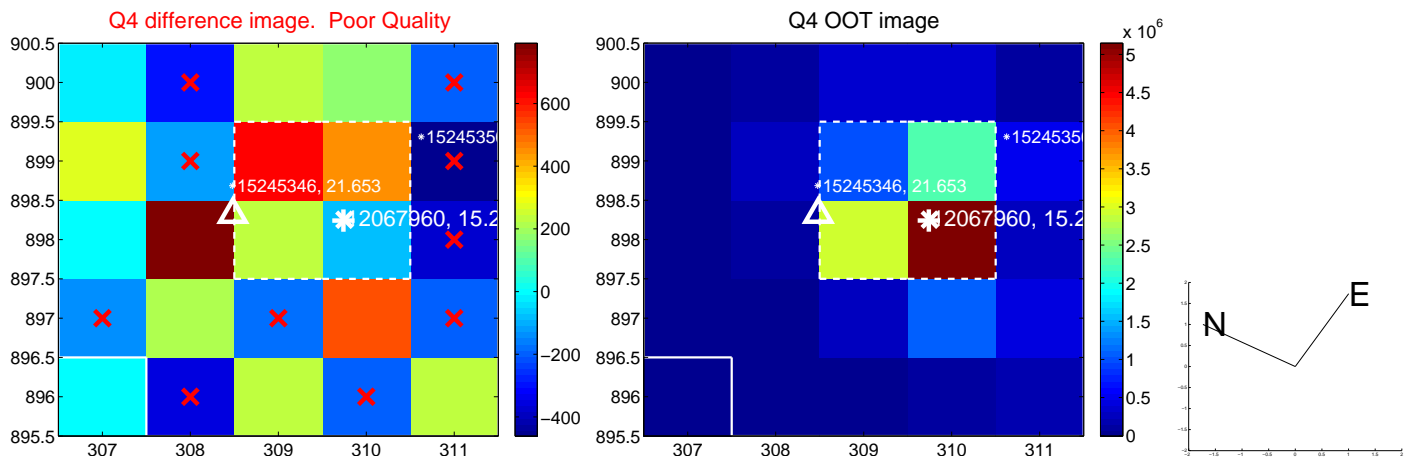
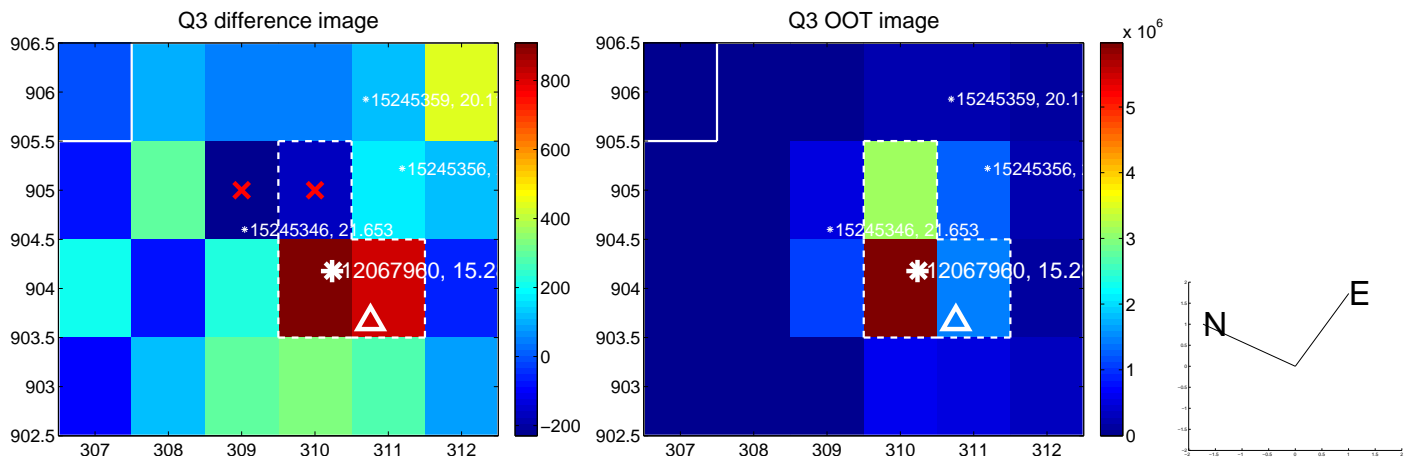
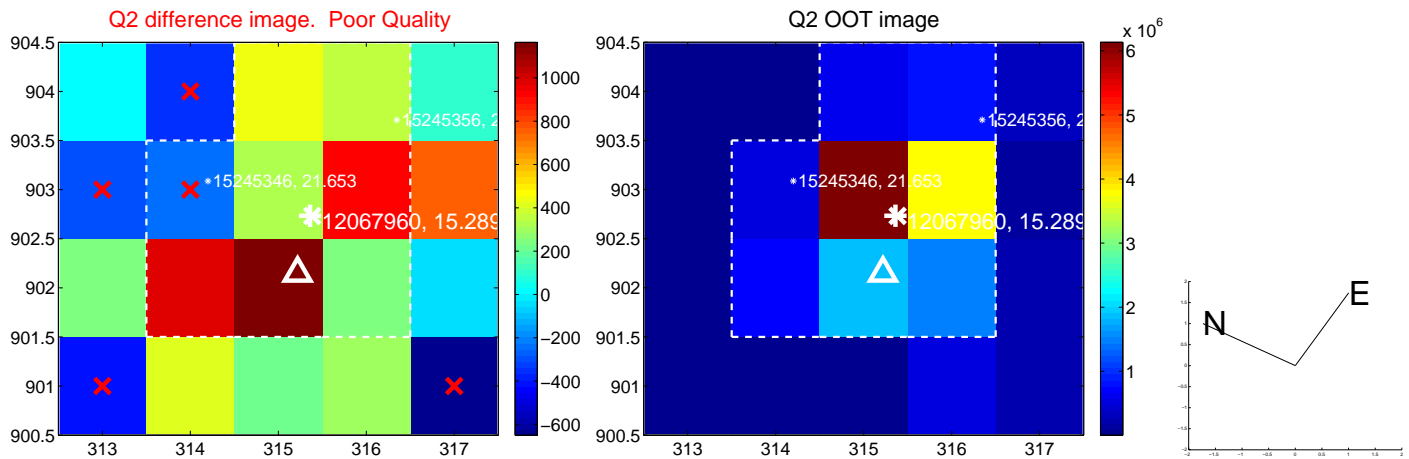
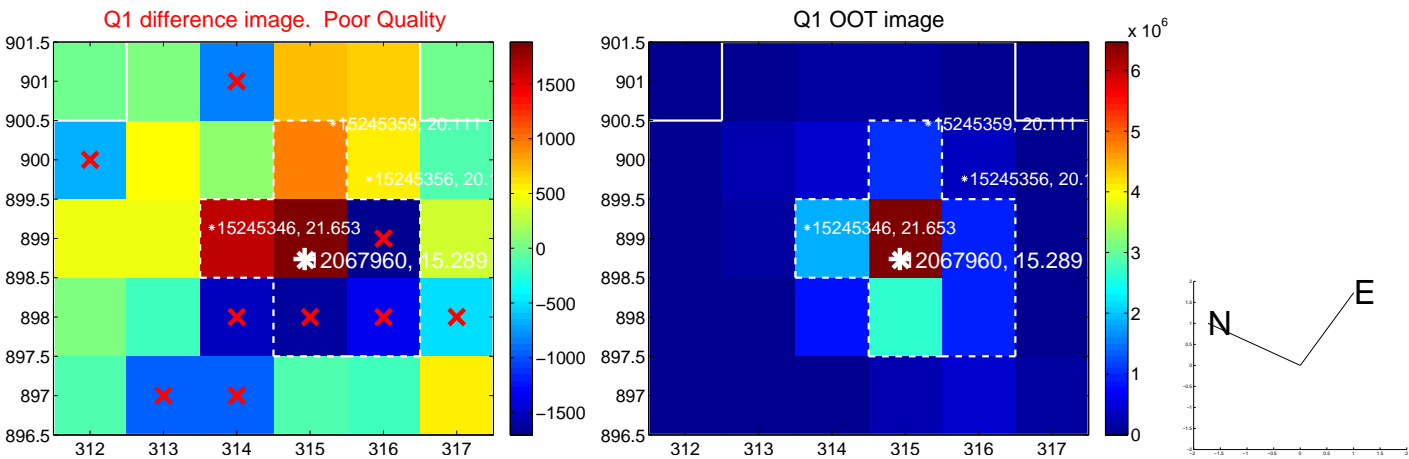


offset from photometric centroids

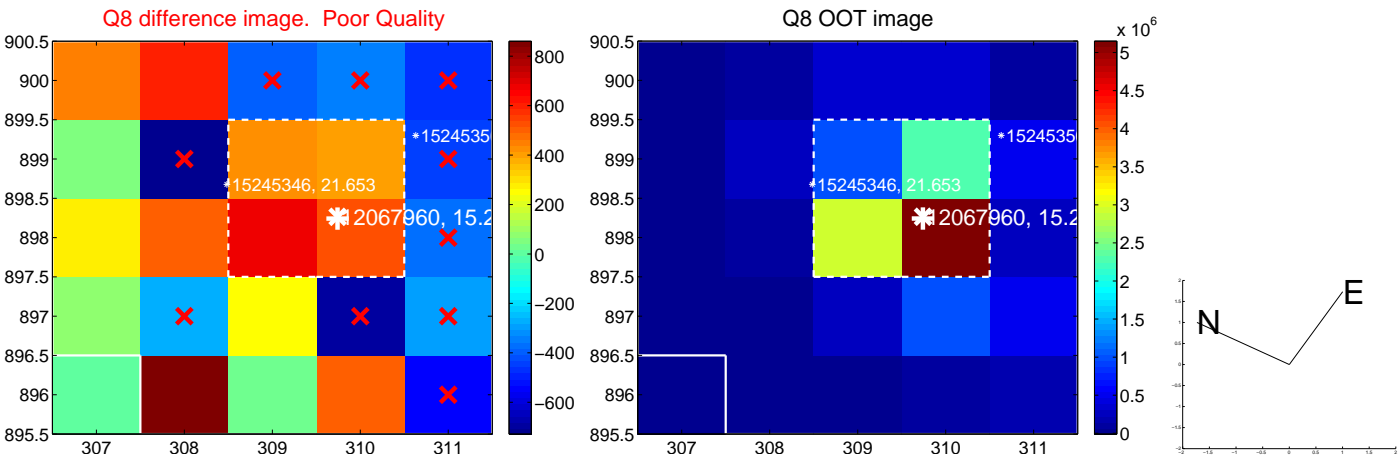
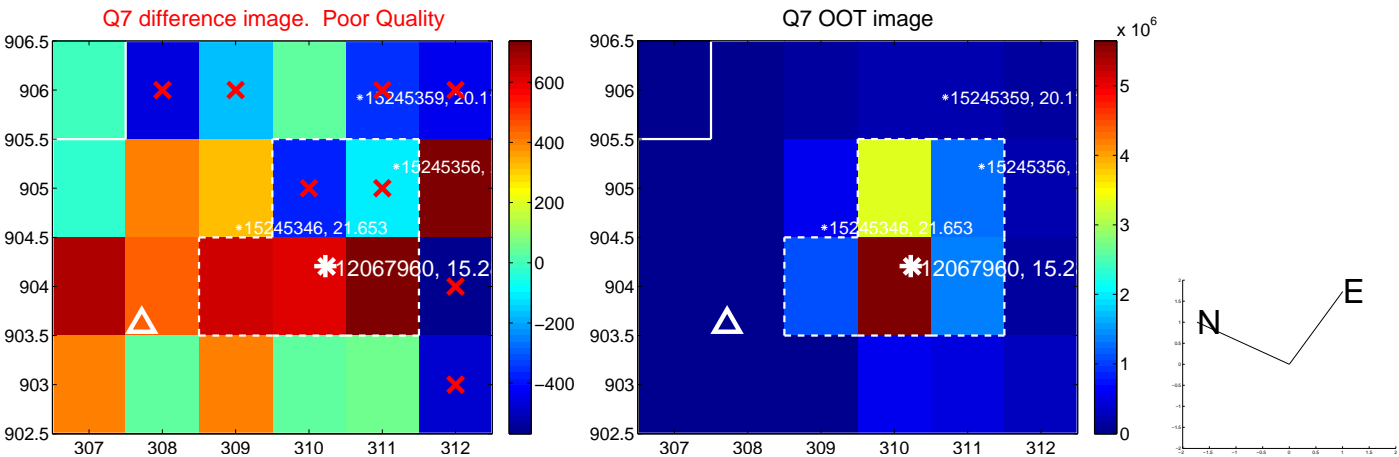
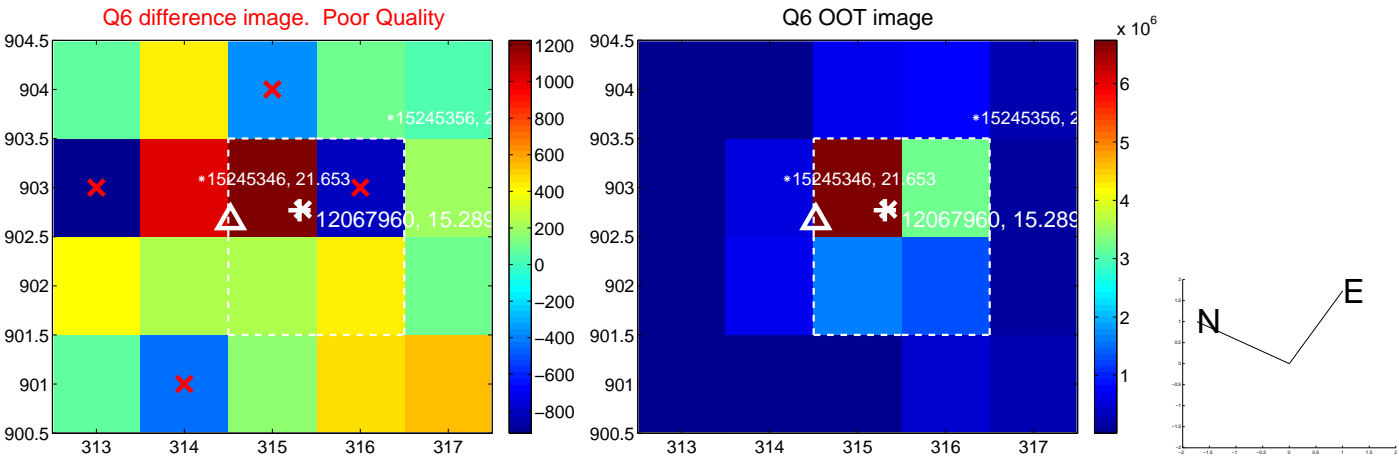
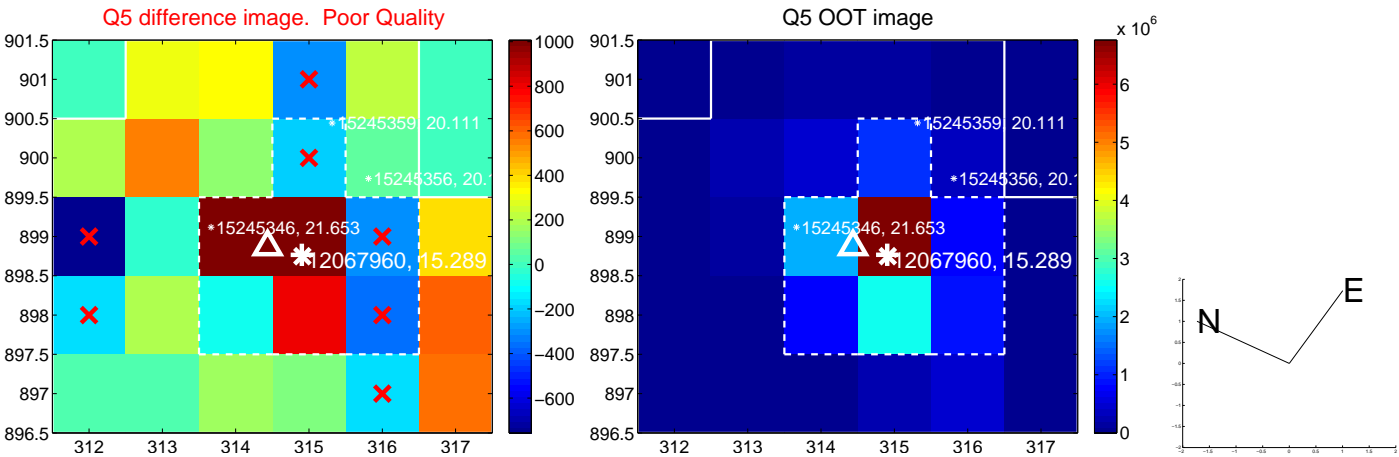


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

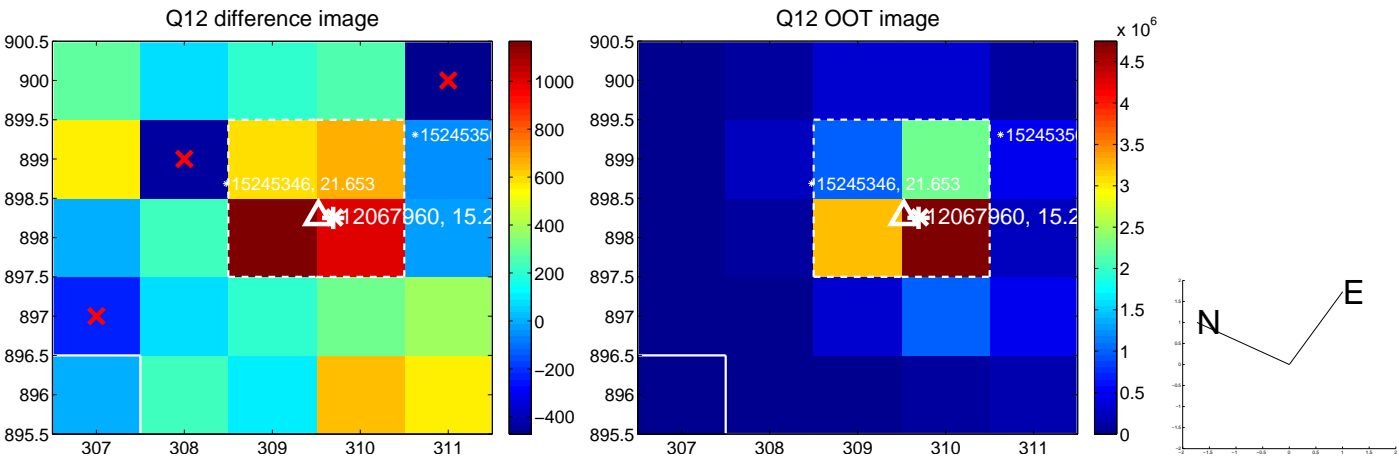
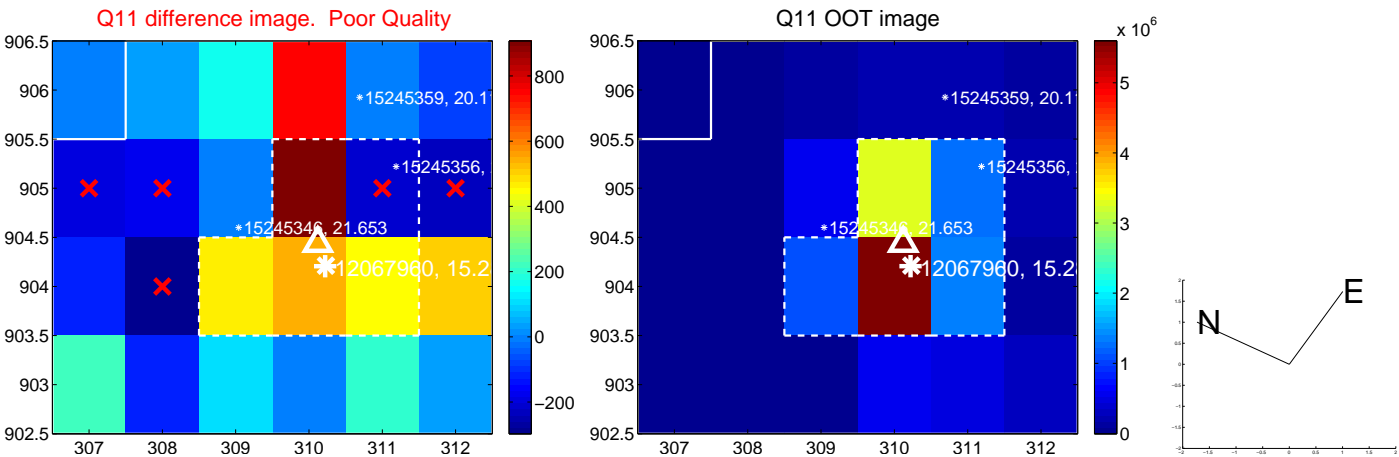
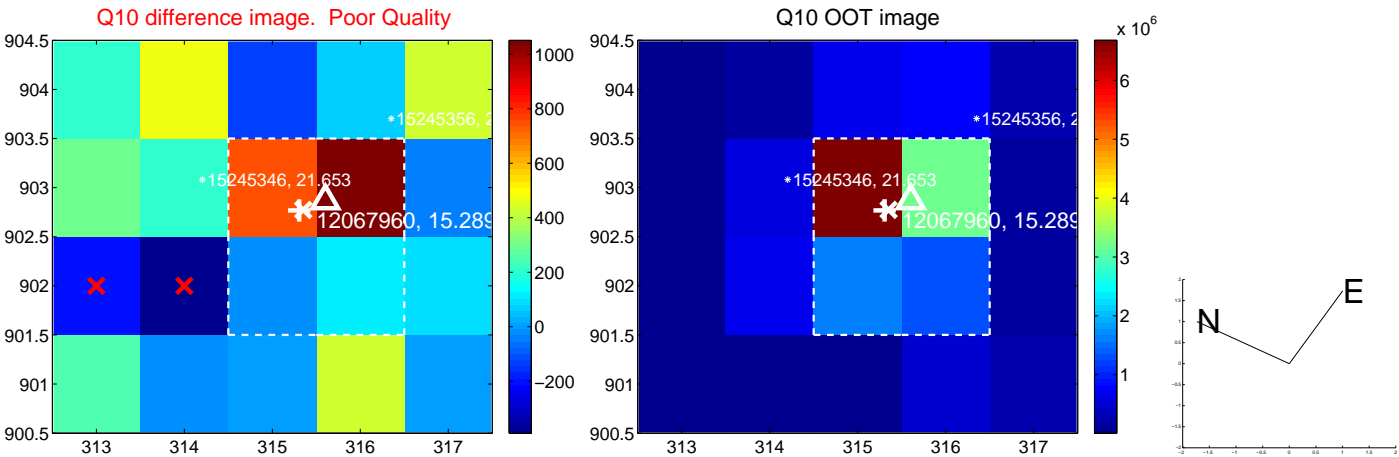
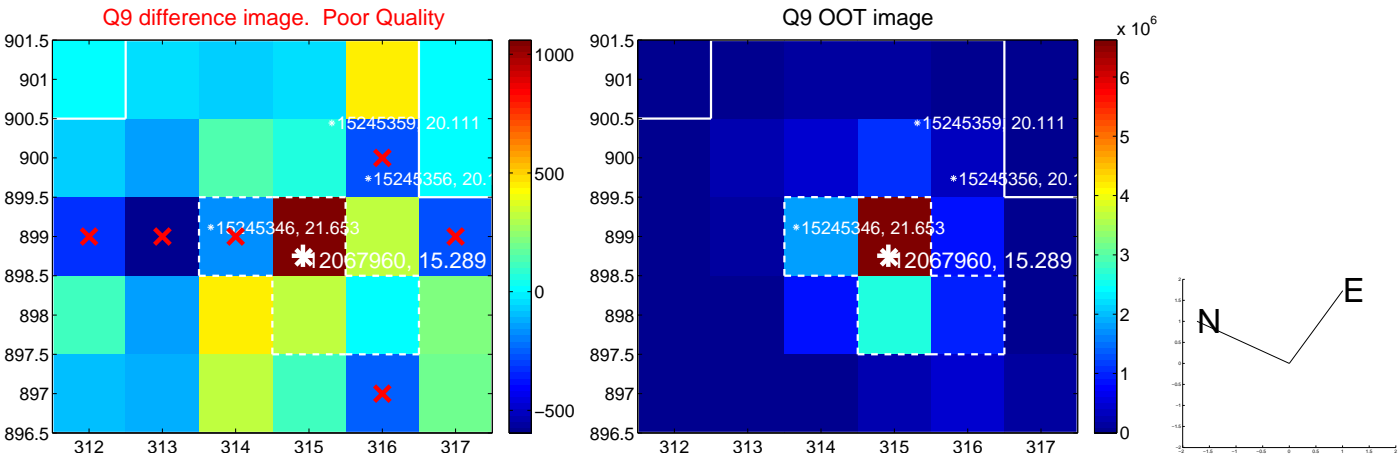
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



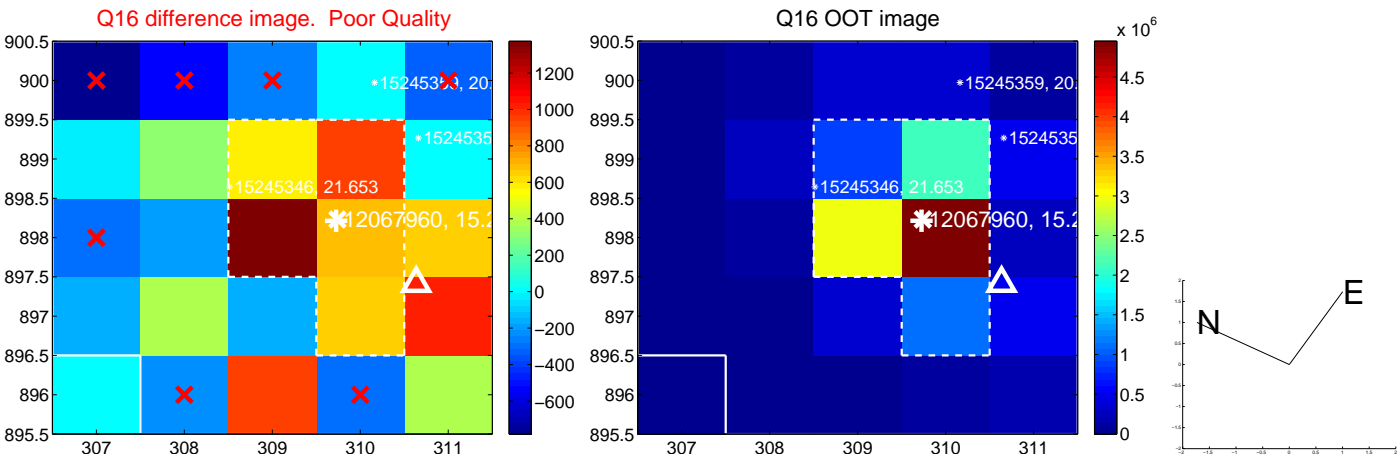
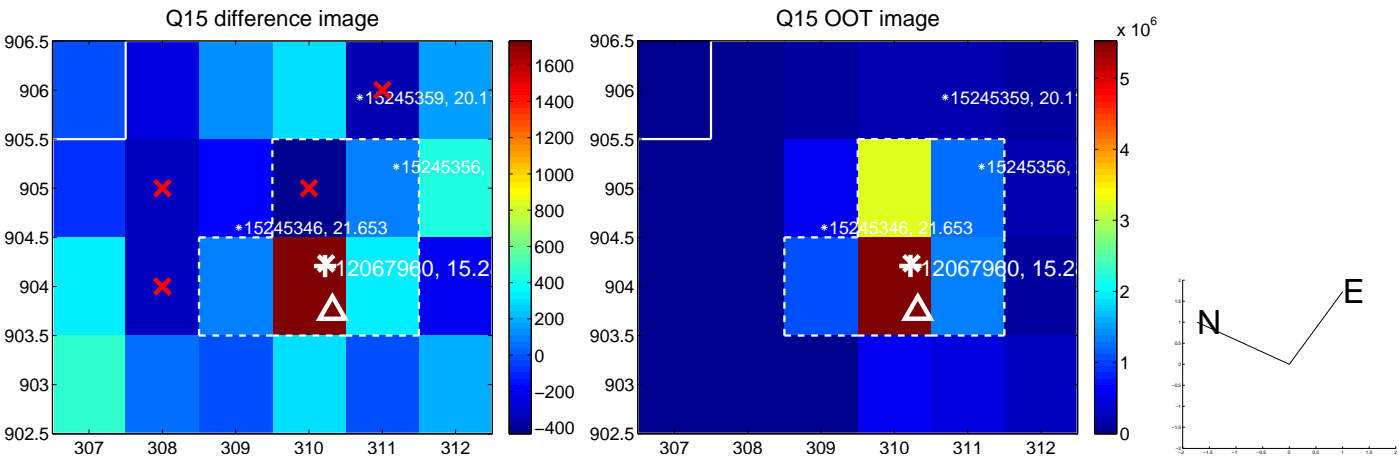
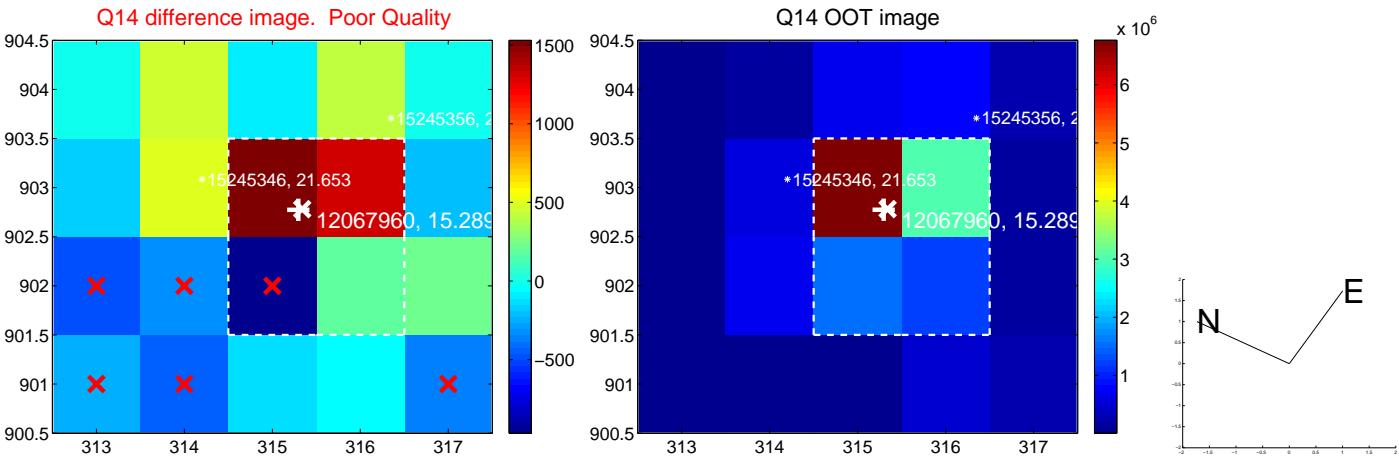
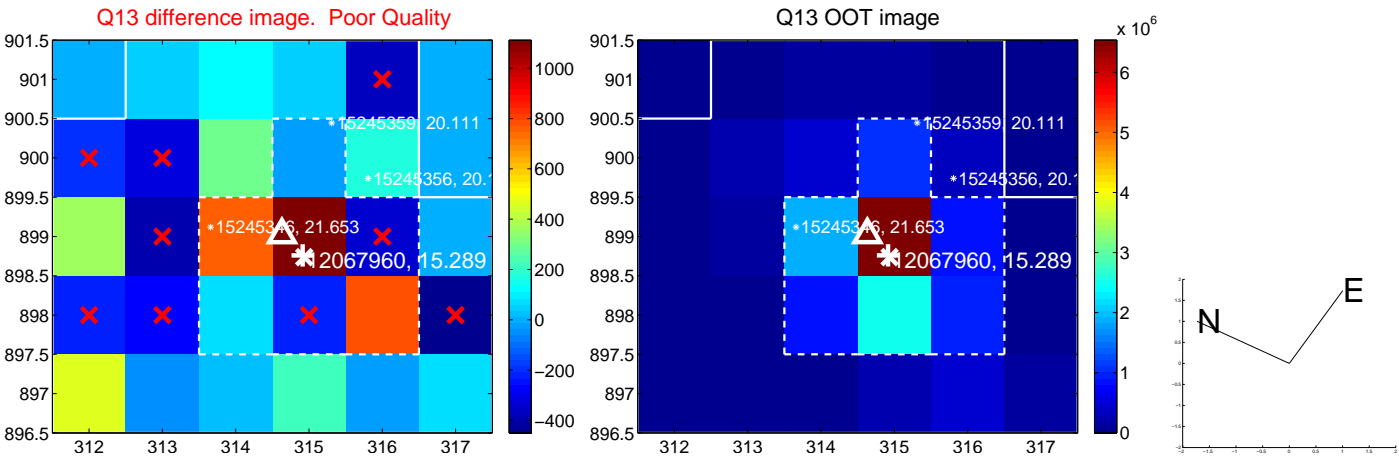
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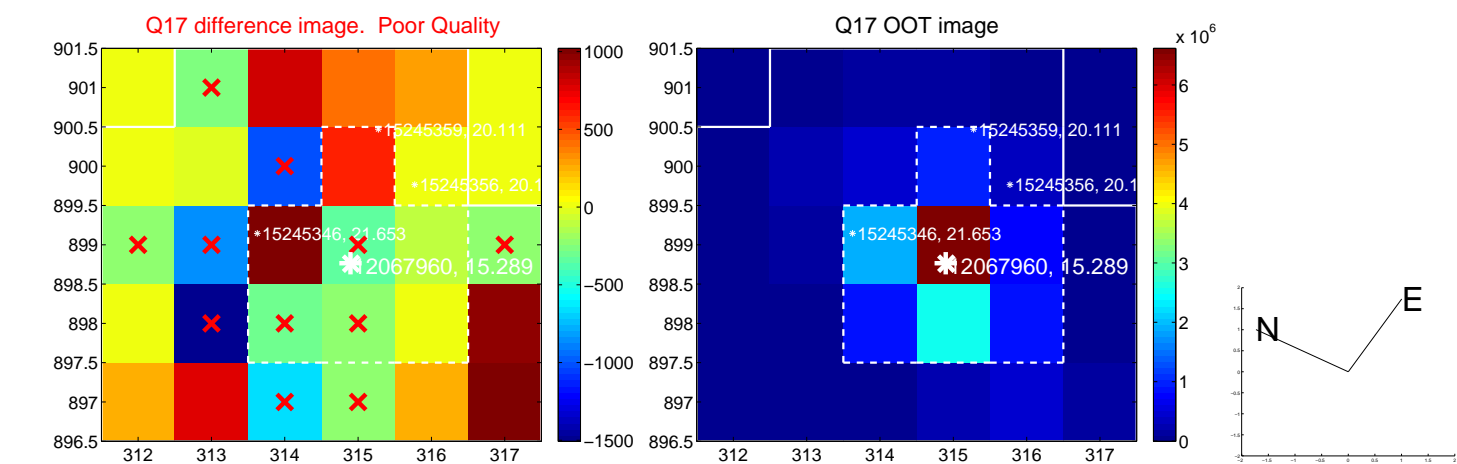
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



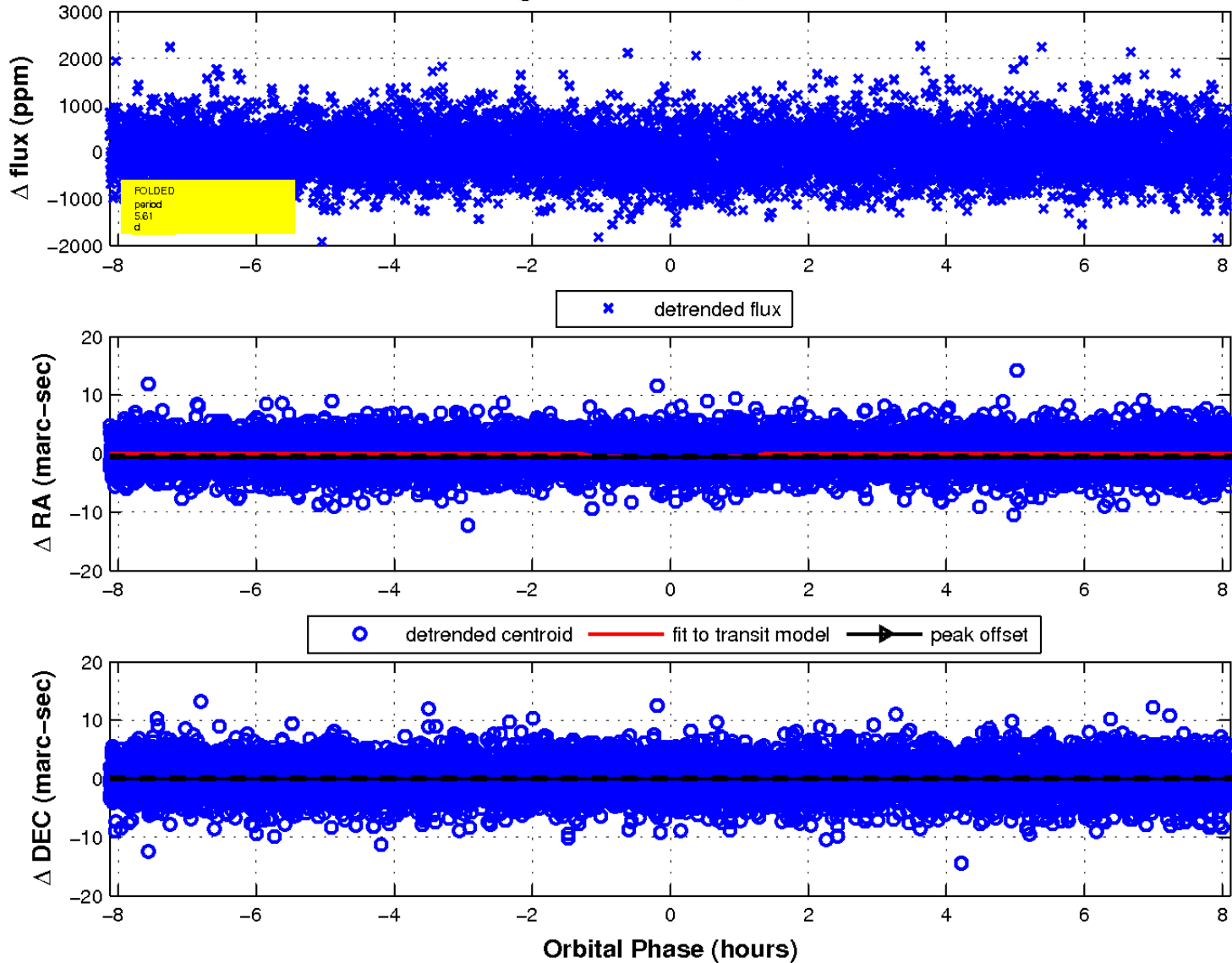
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

