

KIC 010267121

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})
010267121-02	OBS	7609.01	36.132957	137.009395	129.6	24.340	7.9	9.2	1.05	6258	1.39	30.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010267121-02	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_MEAS

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

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

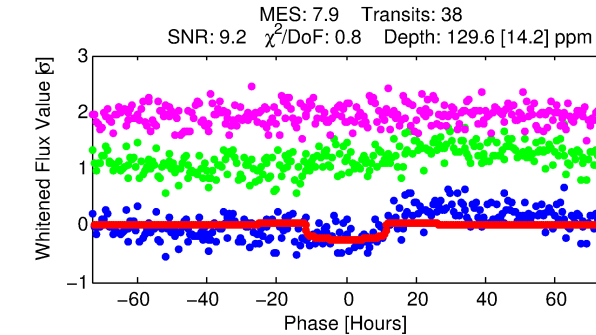
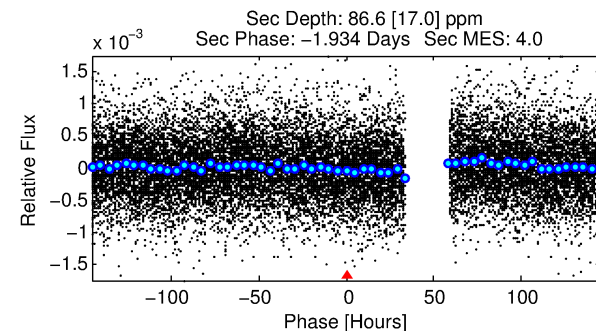
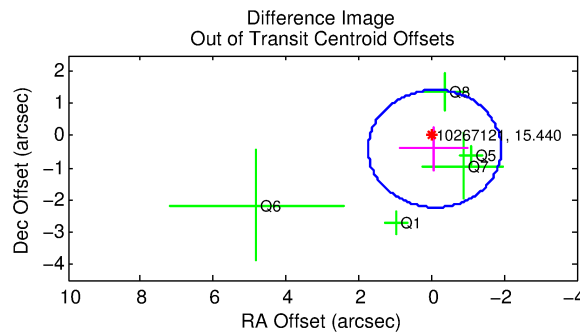
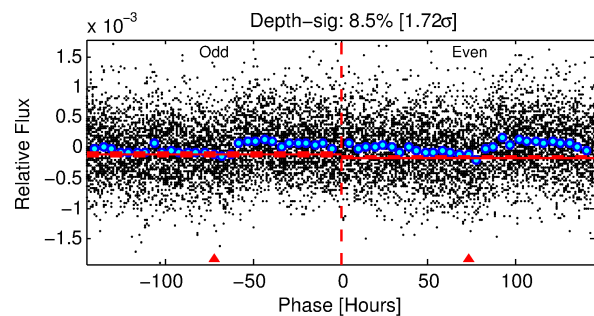
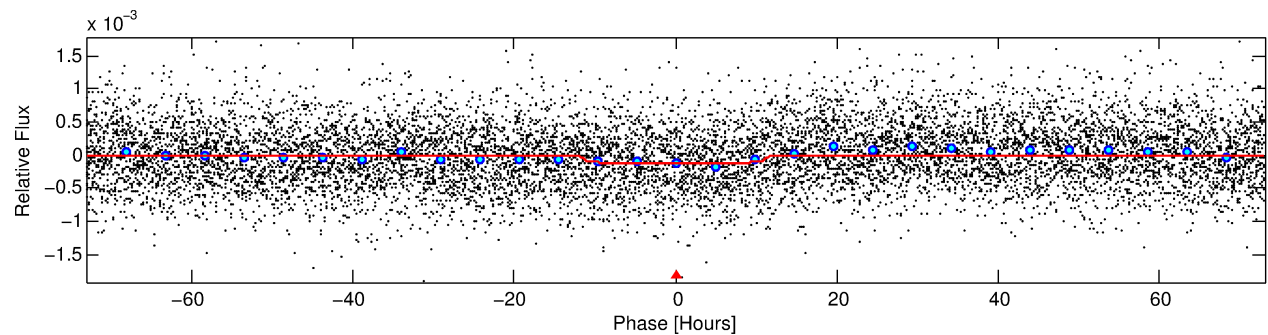
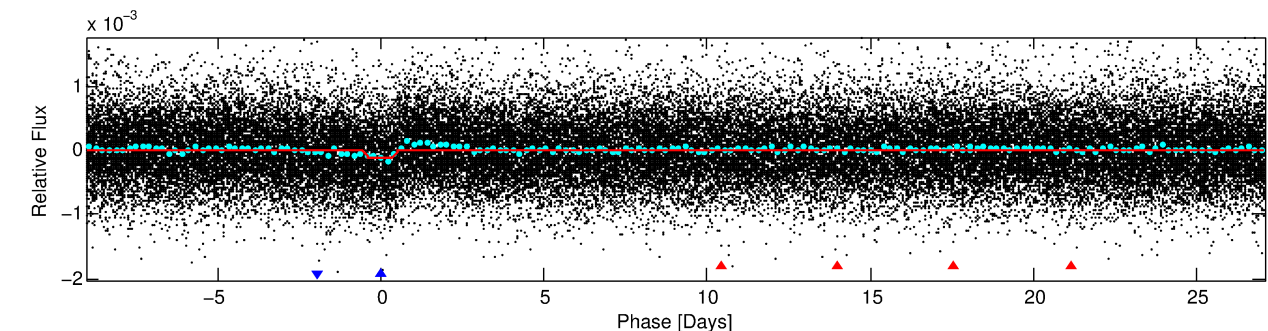
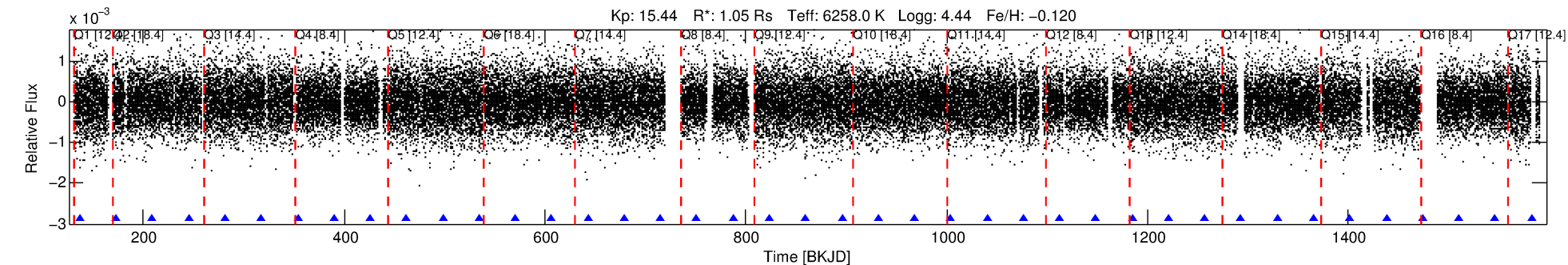
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010267121-02

No Significant Match Found

DV One-Page Summary

KIC: 10267121 Candidate: 2 of 2 Period: 36.133 d
KOI: K07609.01 Corr: 0.861



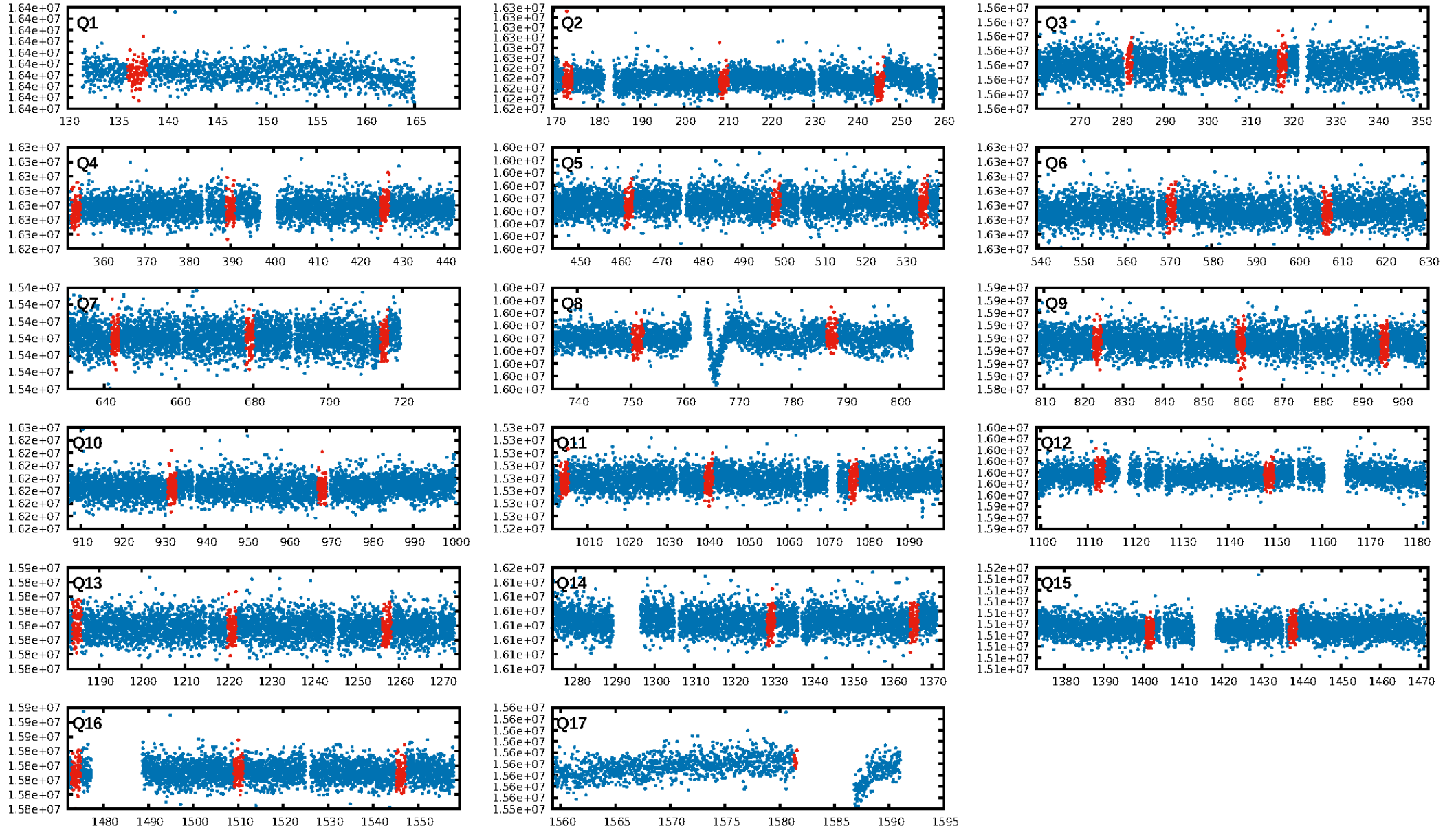
DV Fit Results:

Period = 36.13296 [0.00175] d
Epoch = 137.0094 [0.0390] BKJD
Rp/R* = 0.0122 [0.0017]
a/R* = 5.39 [3.59]
b = 0.90 [0.15]
Seff = 30.75 [12.91]
Teq = 600 [63] K
Rp = 1.39 [0.49] Re
a = 0.2211 [0.0598] AU
Ag = 1199.77 [625.14] [1.92 σ]
Teffp = 5464 [505] K [9.56 σ]

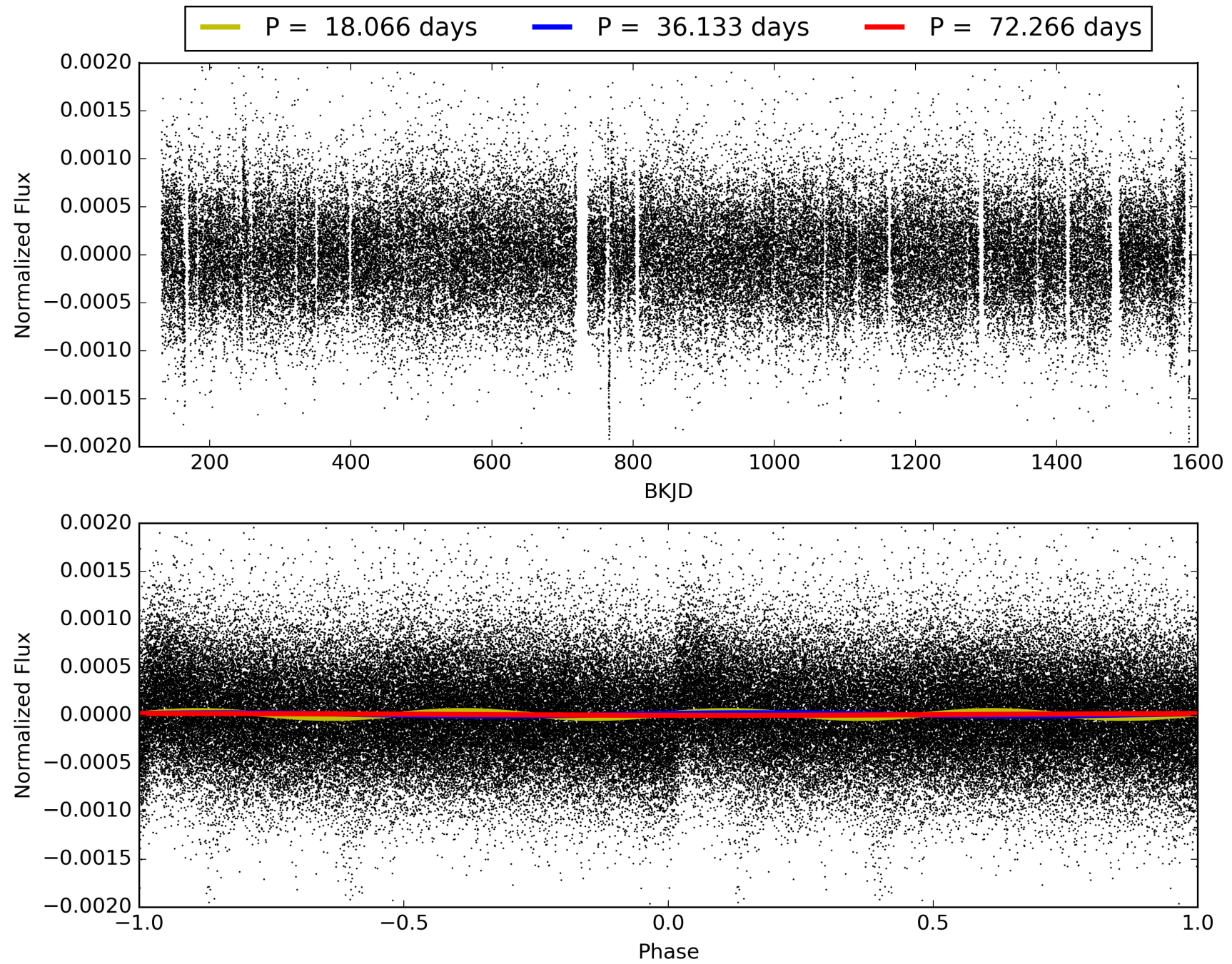
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [174.07 σ]
ModelChiSquare2-sig: 85.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.42e-16
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: 1.843
Centroid-sig: 8.0%
Centroid-so: 2.008 arcsec [1.23 σ]
OotOffset-rm: 0.418 arcsec [0.68 σ]
KicOffset-rm: 0.399 arcsec [0.77 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [15/15]

TCE 010267121-02, PDC Light Curves

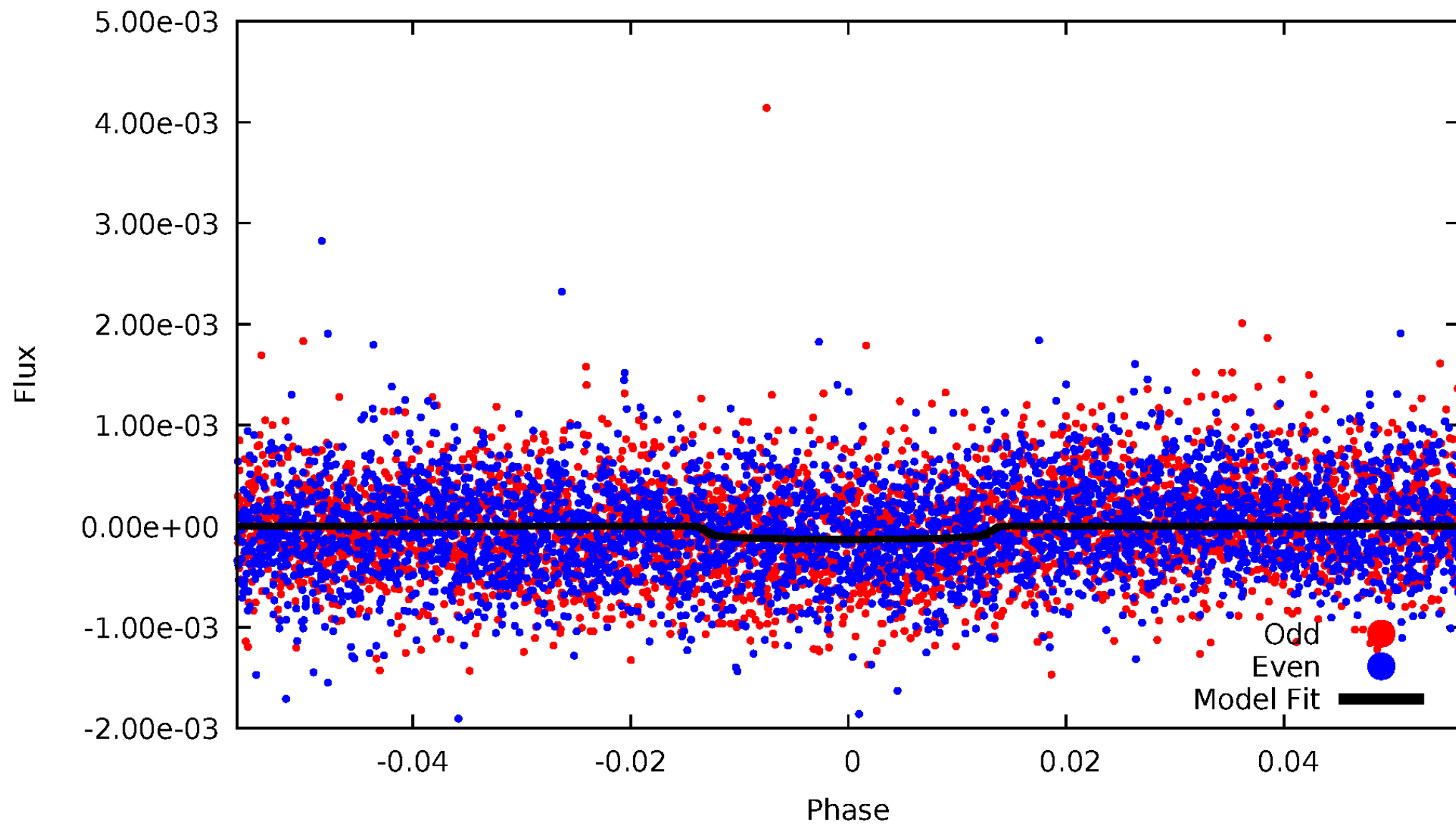


TCE 010267121-02



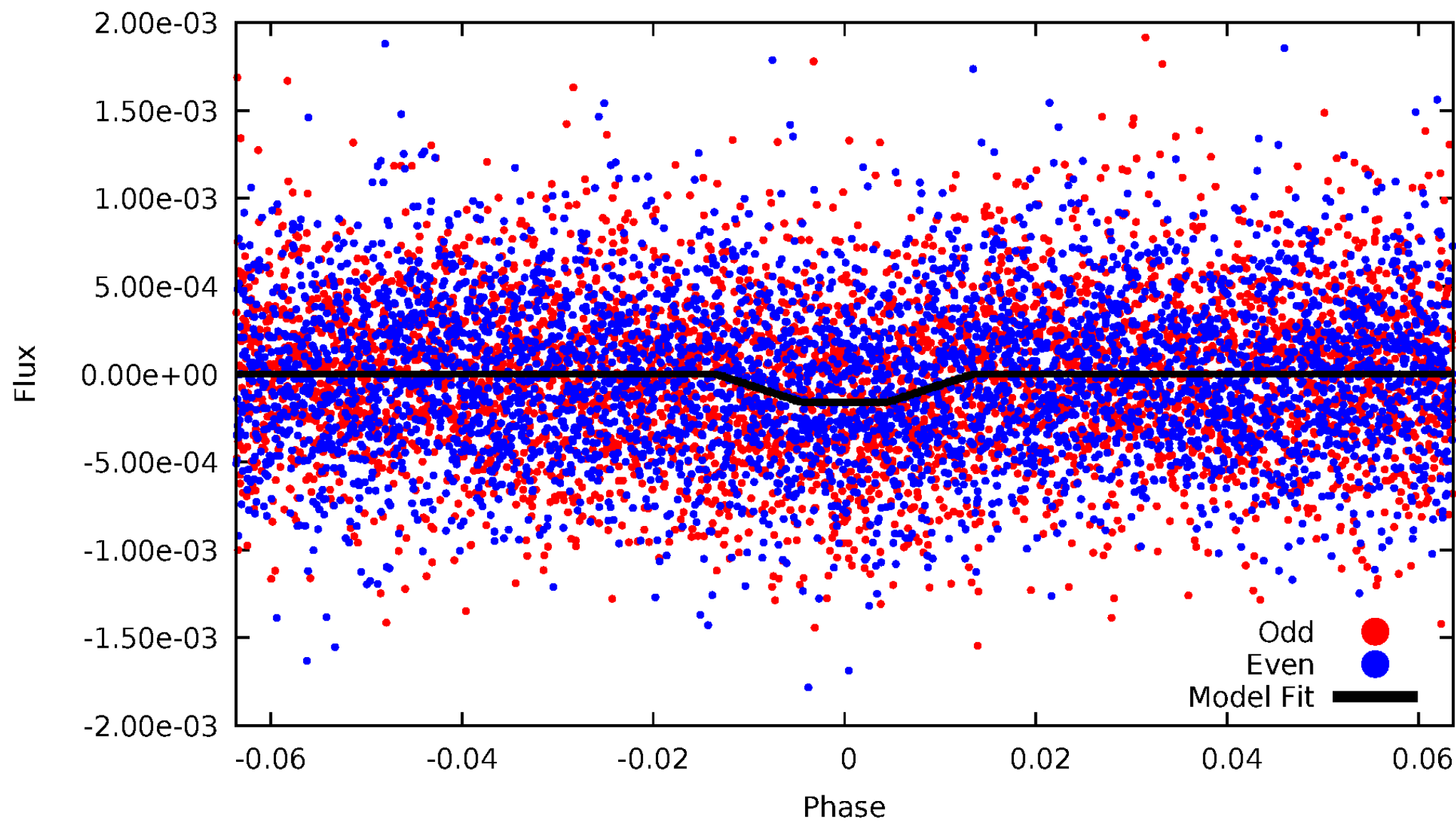
DV Odd/Even

TCE 010267121-02



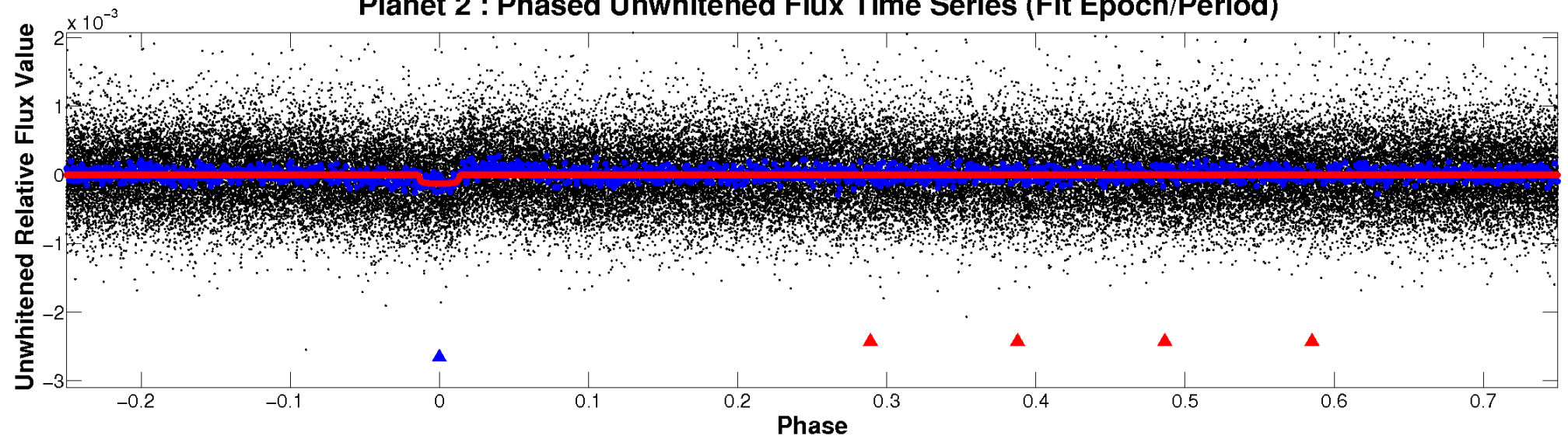
ALT Odd/Even

TCE 010267121-02

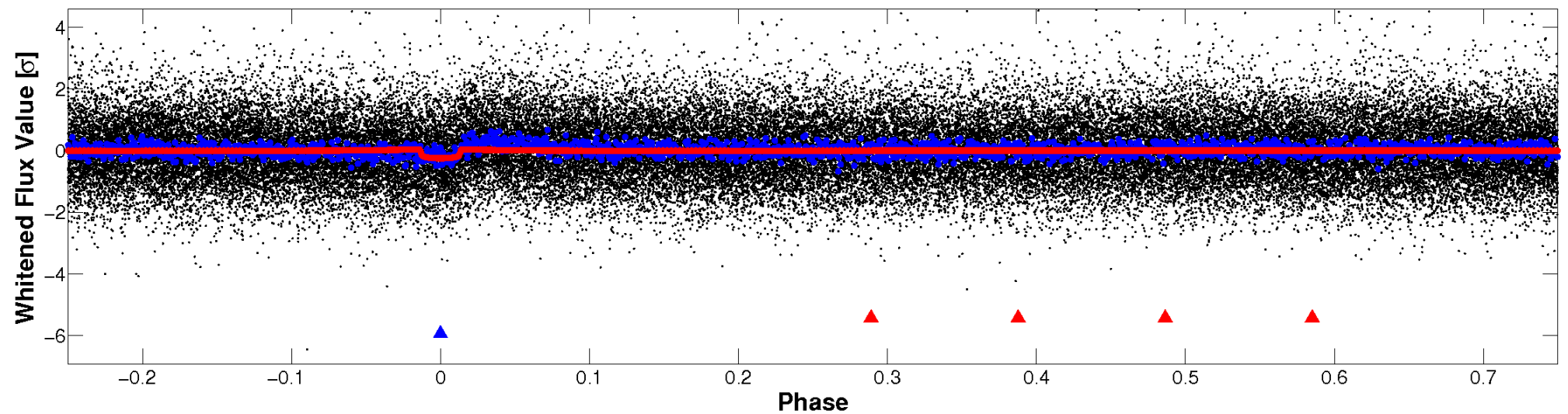


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

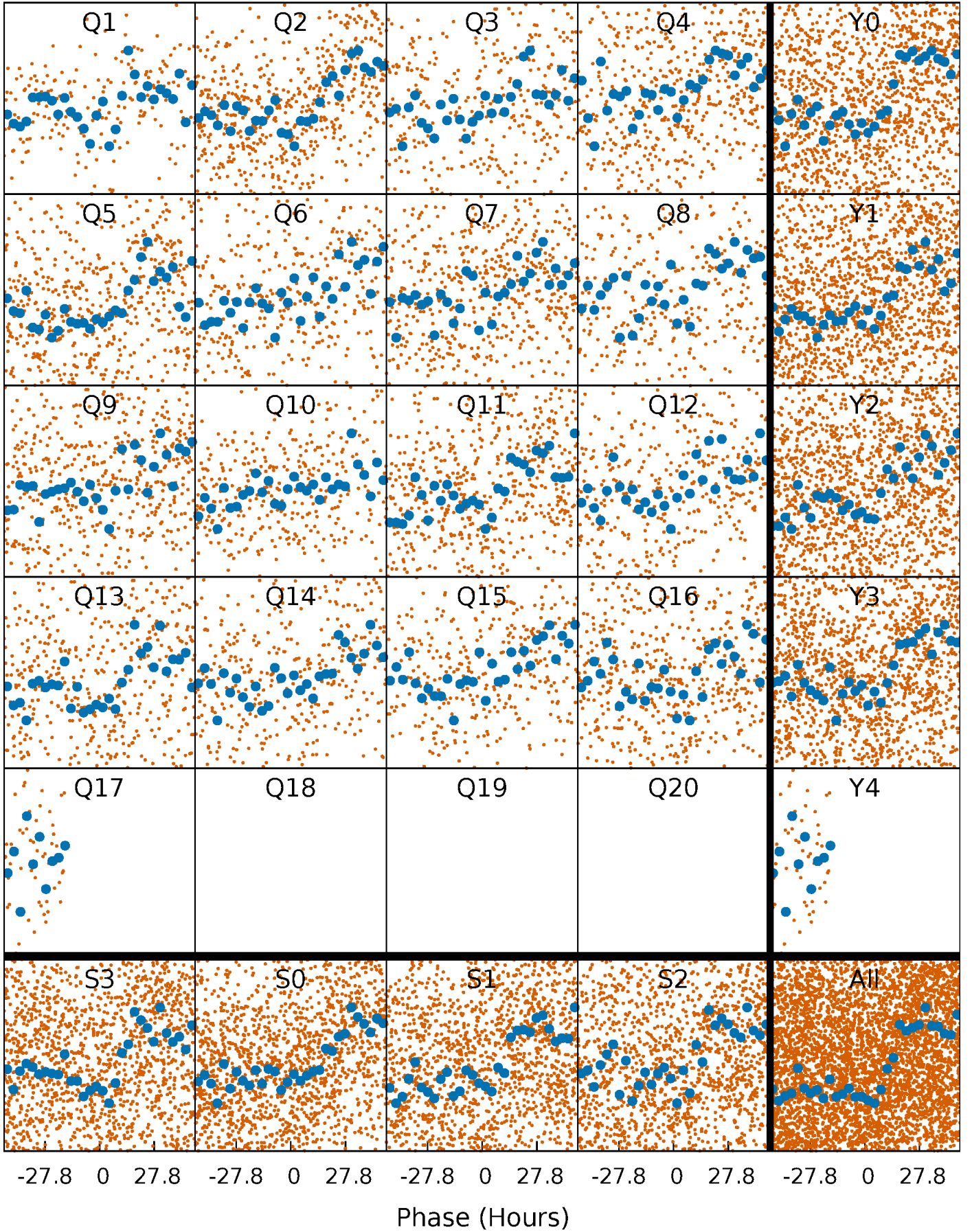


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



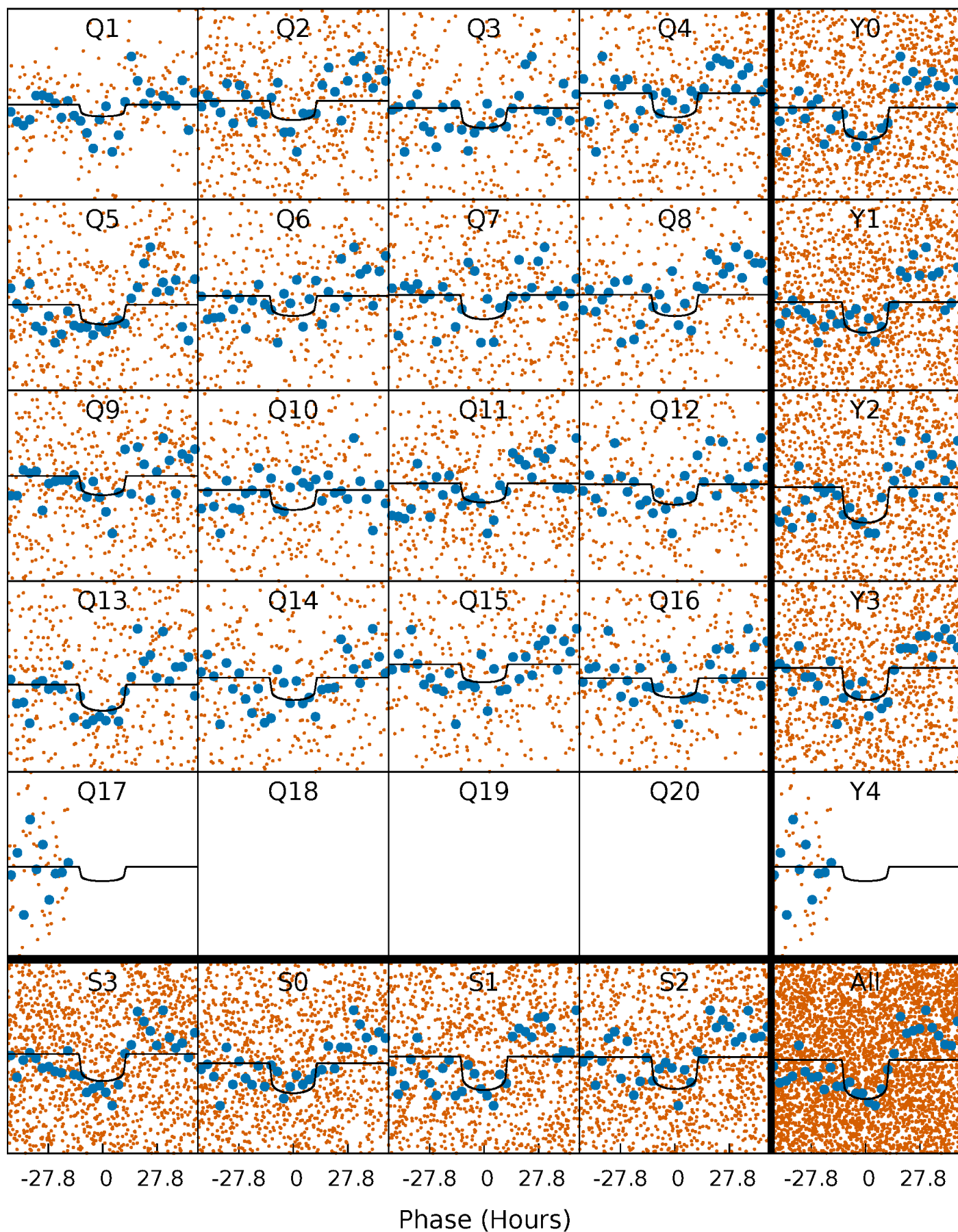
PDC Quarter-Phased Transit Curves

TCE 010267121-02 P= 36.132957 Days $T_0=137.009395$ (BKJD)



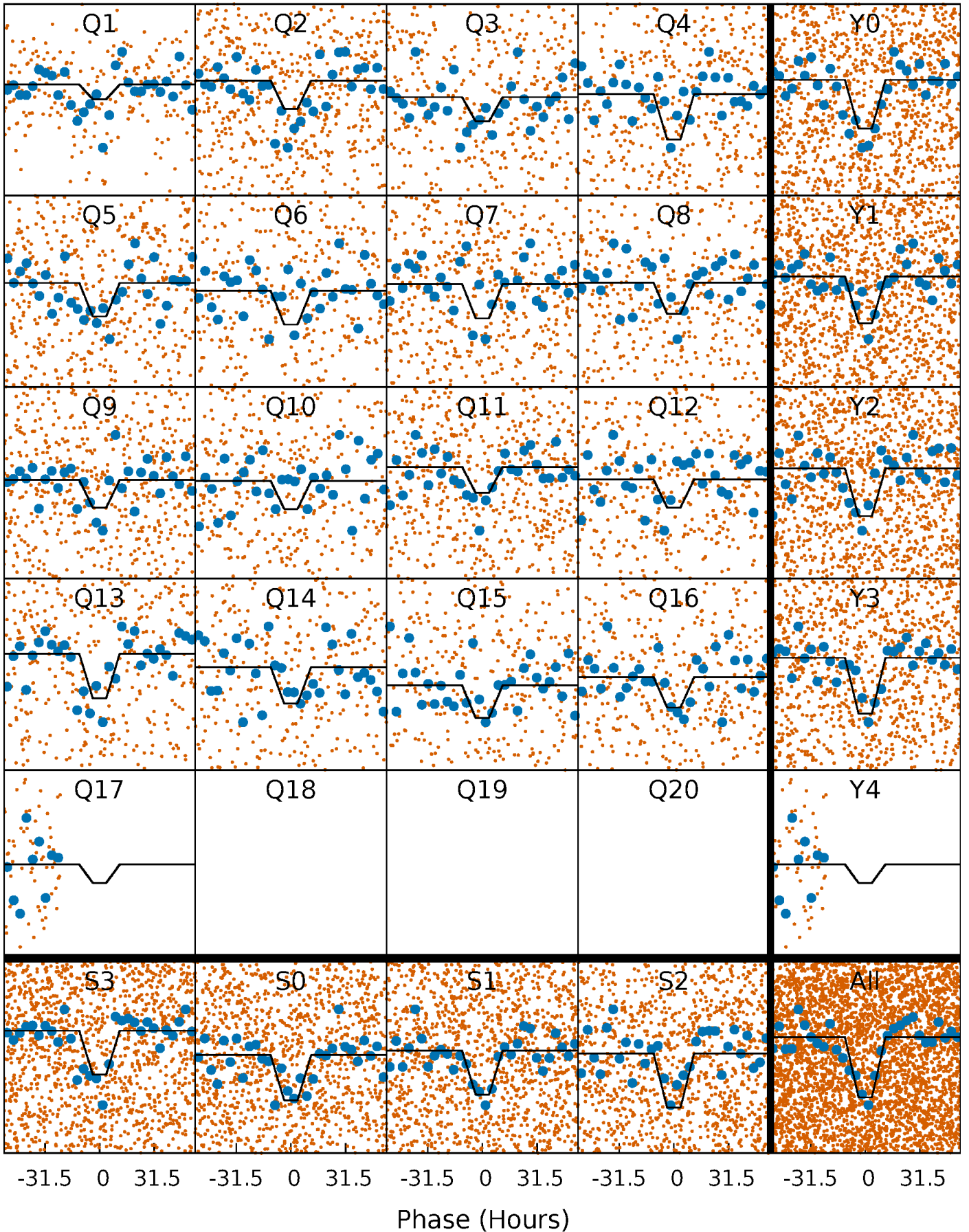
DV Quarter-Phased Transit Curves

TCE 010267121-02 P= 36.132957 Days $T_0=137.009395$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

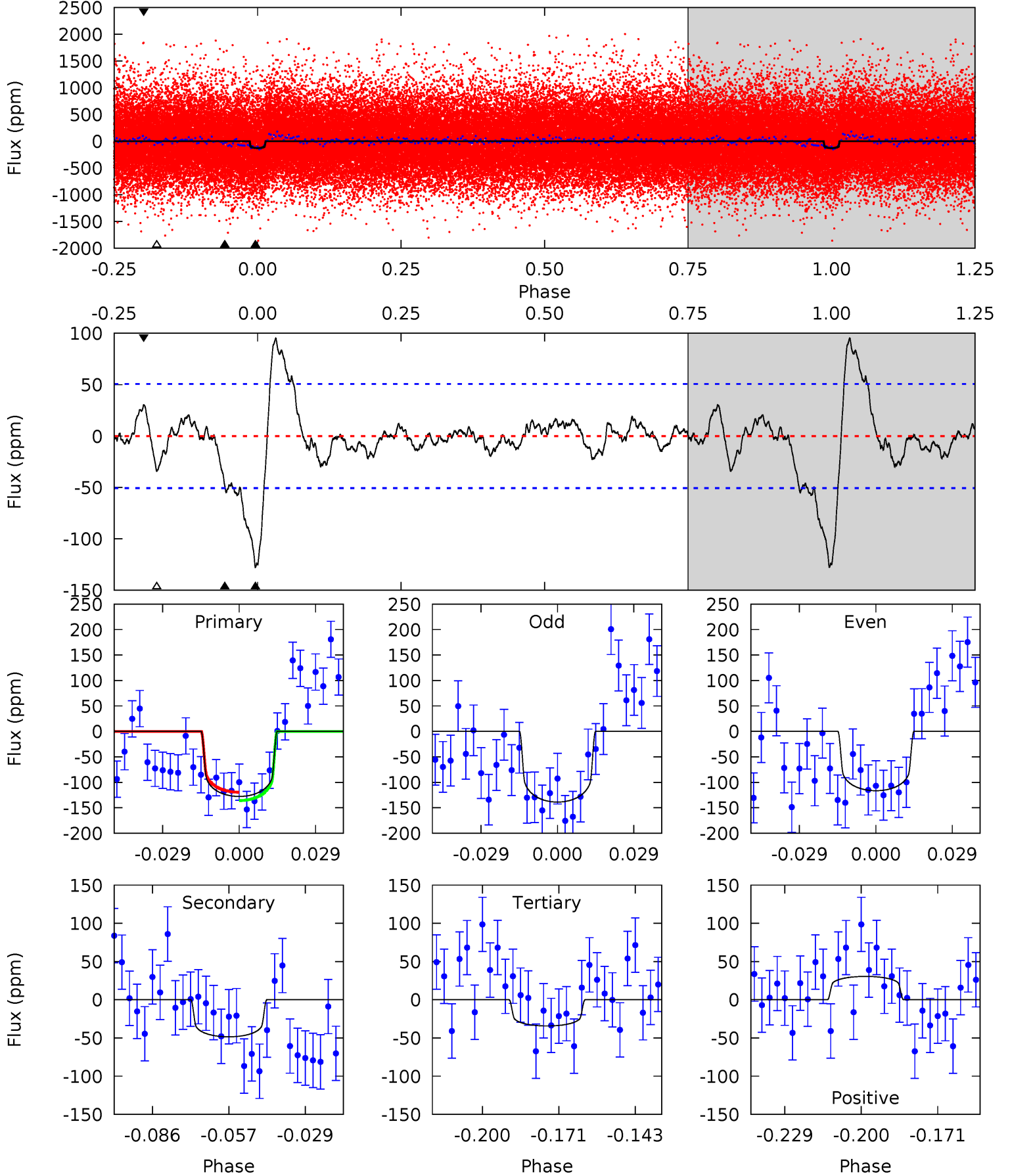
TCE 010267121-02 P= 36.134211 Days $T_0=137.156747$ (BKJD)



DV Model-Shift Uniqueness Test

010267121-02, P = 36.132957 Days, E = 100.876438 Days

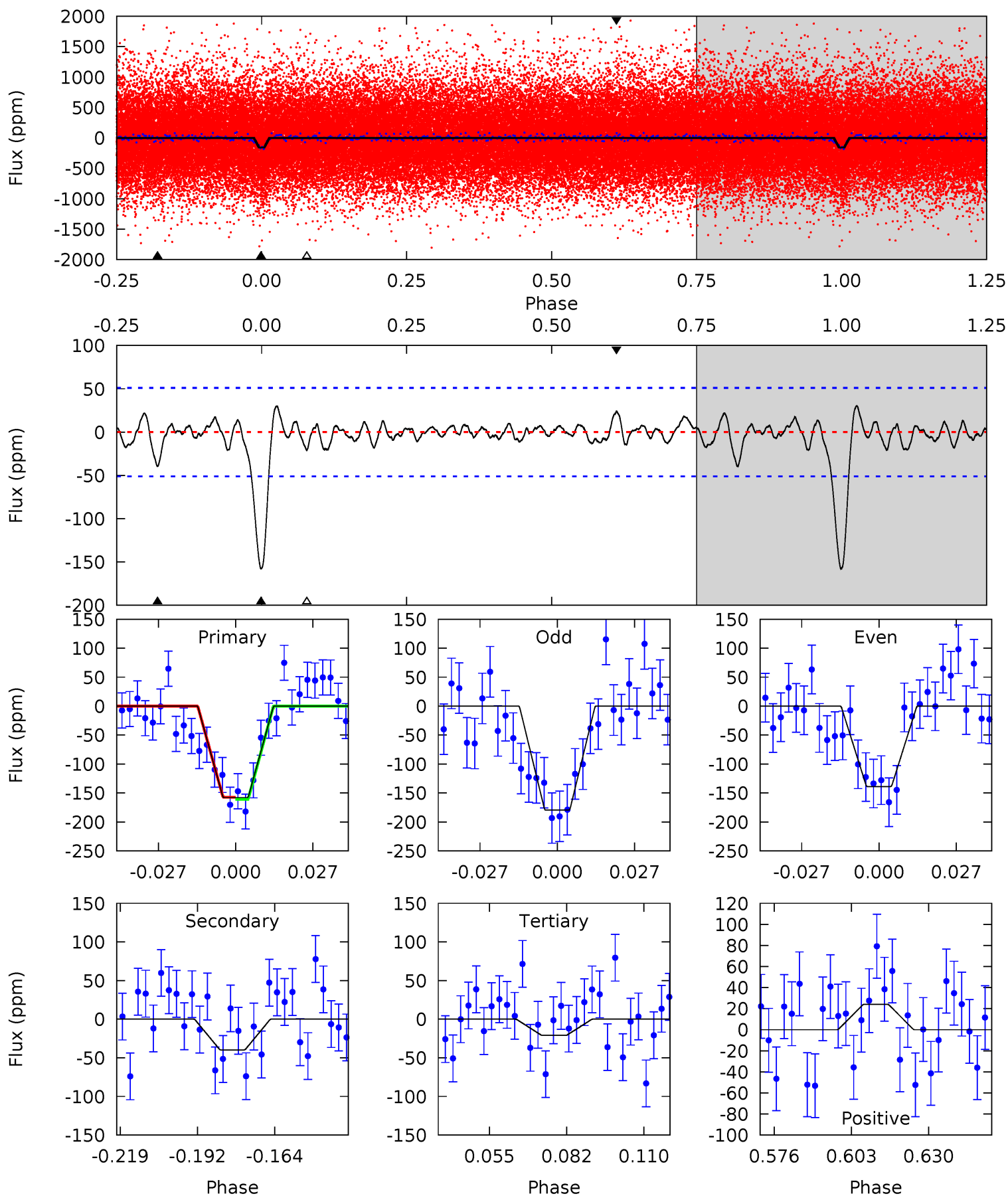
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	4.62	3.26	2.90	4.82	2.19	1.83	8.89	9.25	1.35	1.71	1.07	1.04	0.43	0.78



Alt Model-Shift Uniqueness Test

010267121-02, P = 36.134211 Days, E = 101.022536 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	3.76	1.98	2.28	4.83	2.21	0.80	13.0	12.7	1.78	1.48	1.92	1.05	0.16	0.17



Stellar Parameters For KIC 010267121

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6258^{+169}_{-225}	$4.442^{+0.054}_{-0.216}$	$-0.120^{+0.250}_{-0.300}$	$1.046^{+0.335}_{-0.112}$	$1.102^{+0.144}_{-0.158}$	$1.357^{+0.400}_{-0.738}$
	+3%/-4%	+1%/-5%	+208%/-250%	+32%/-11%	+13%/-14%	+29%/-54%
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 010267121-02 / KOI 7609.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 11	$1.46^{+0.32}_{-0.24}$	855^{+62}_{-42}	4802^{+407}_{-344}	578^{+302}_{-197}
Alt.	-40 ± 11	$1.50^{+0.32}_{-0.26}$	855^{+65}_{-42}	4540^{+394}_{-339}	448^{+245}_{-164}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

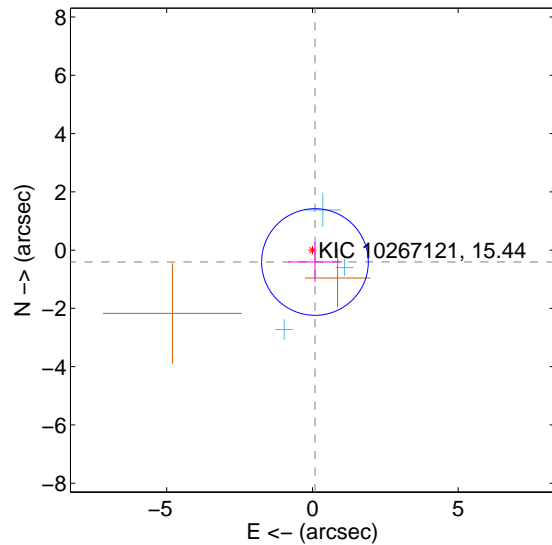
Supplemental centroid analysis for 010267121-02. Kepler magnitude: 15.44. Transit SNR 9.15

There are 3 quarters with good PRF difference image offsets

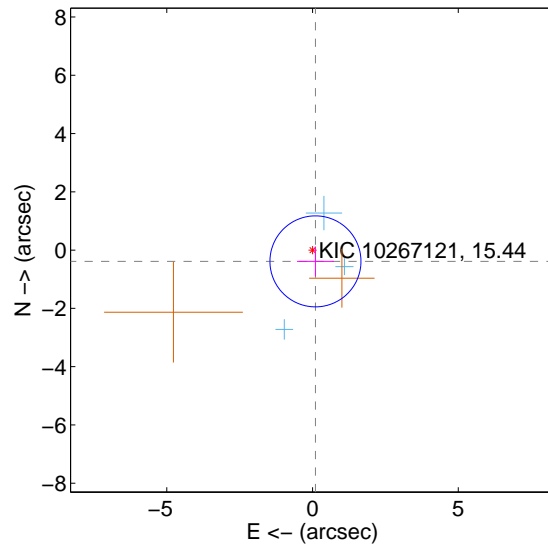
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.418 ± 0.610	0.68	-0.087 ± 0.925	-0.409 ± 0.689
PRF-fit source offset from KIC position	0.399 ± 0.520	0.77	-0.100 ± 0.633	-0.387 ± 0.512
photometric centroid source offset	2.01 ± 1.64	1.23	-0.59 ± 1.73	-1.92 ± 1.63

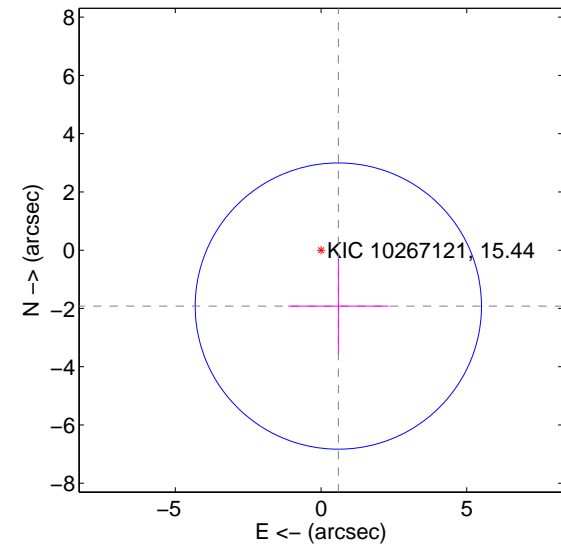
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

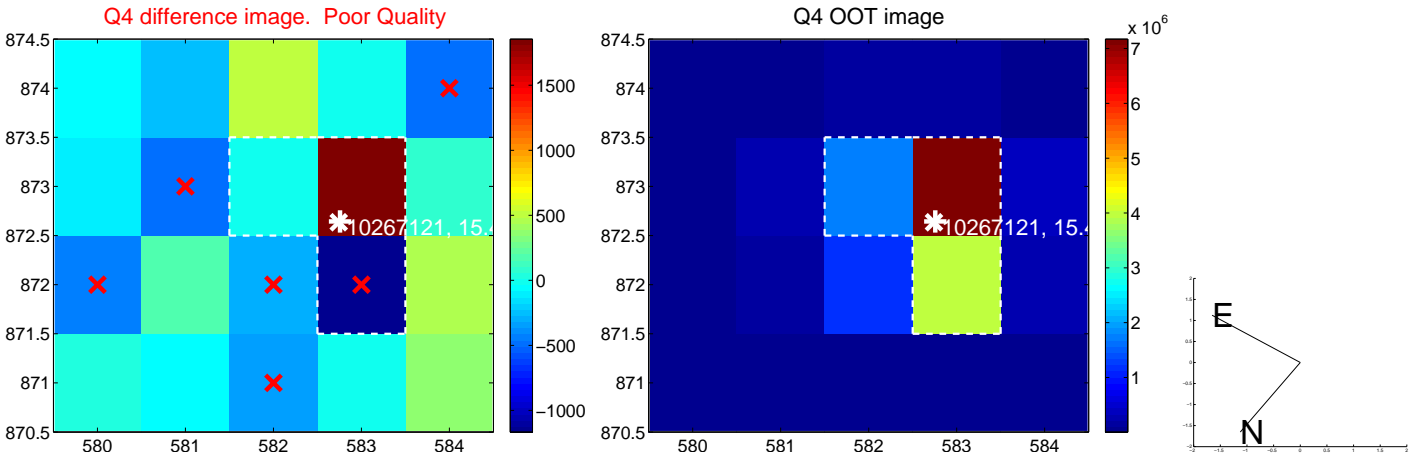
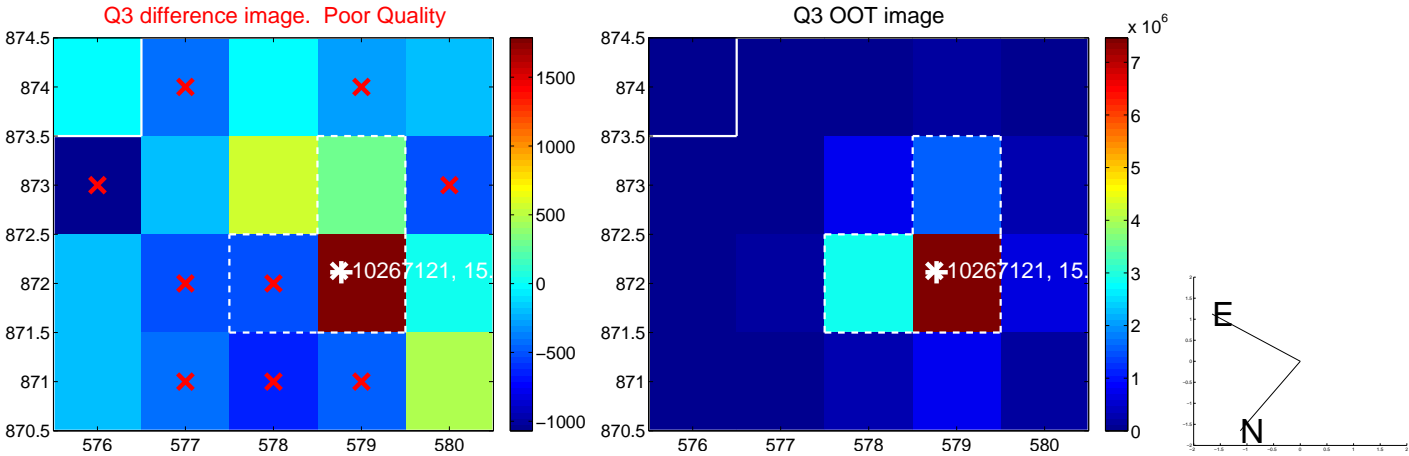
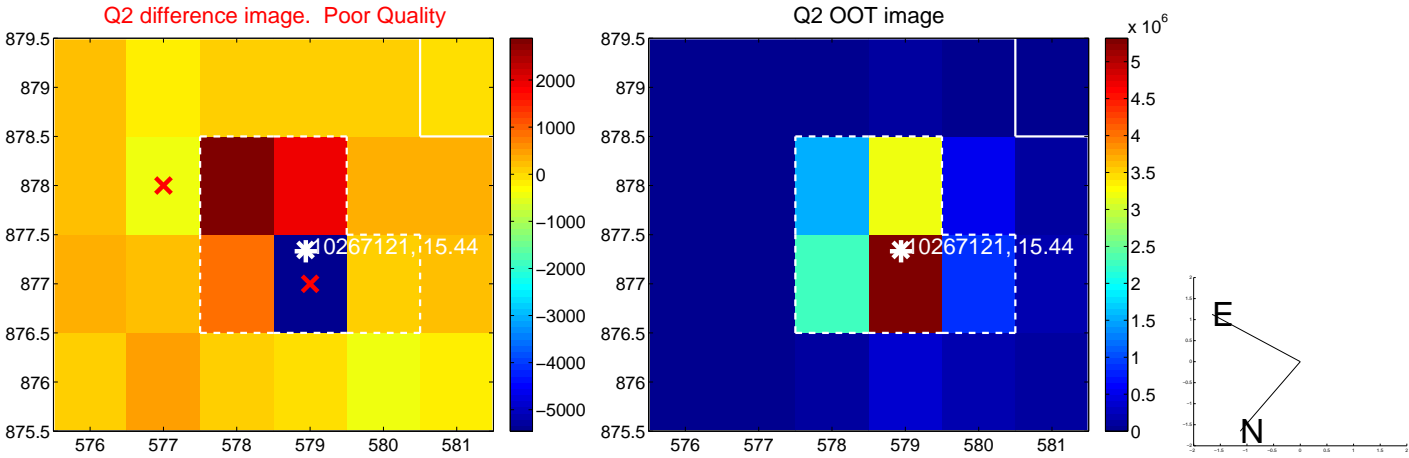
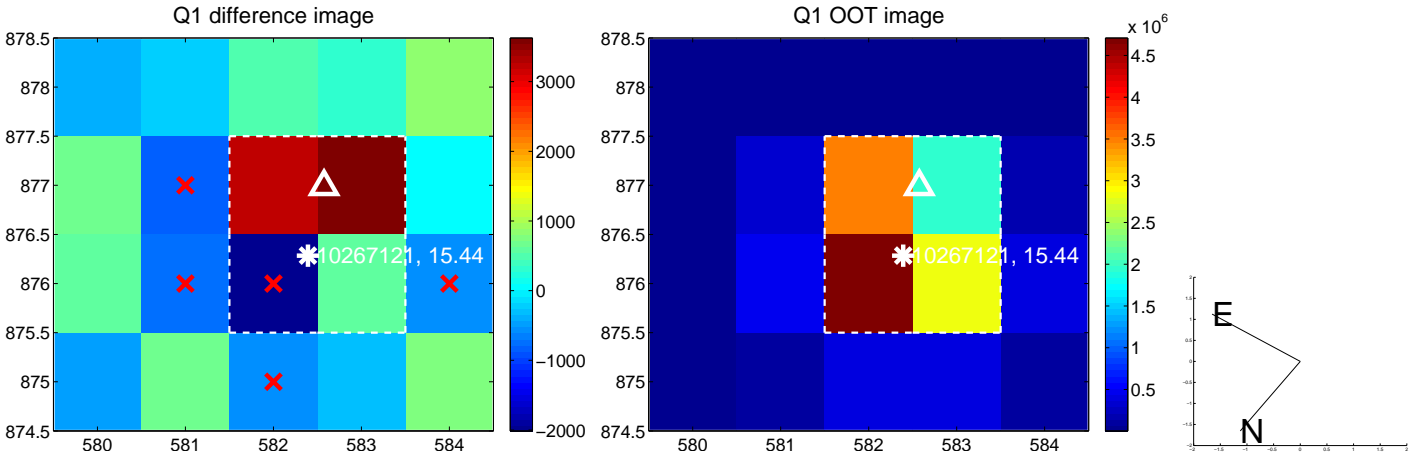


offset from photometric centroids

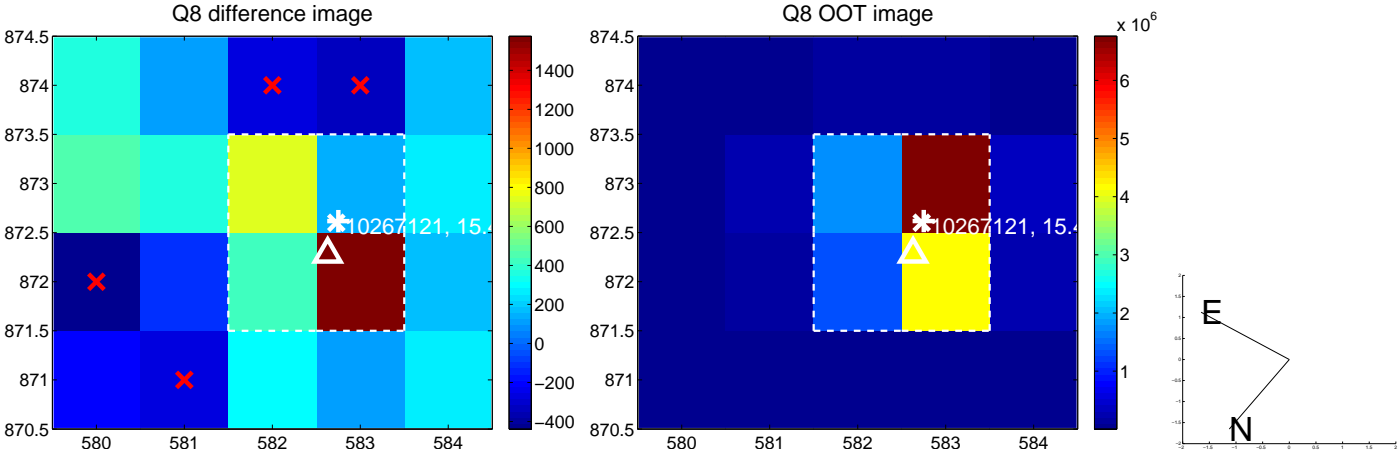
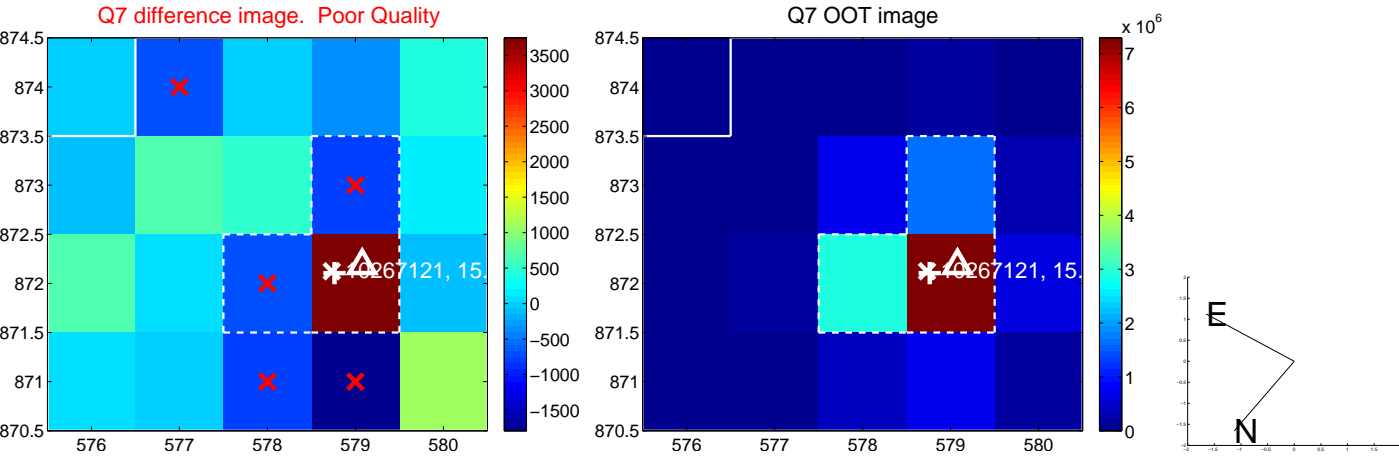
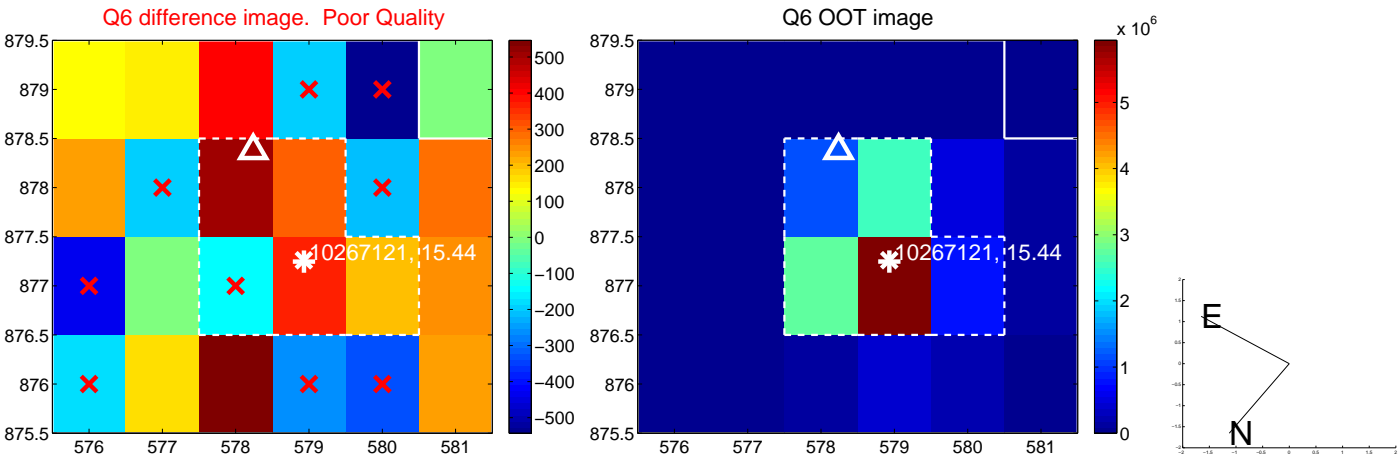
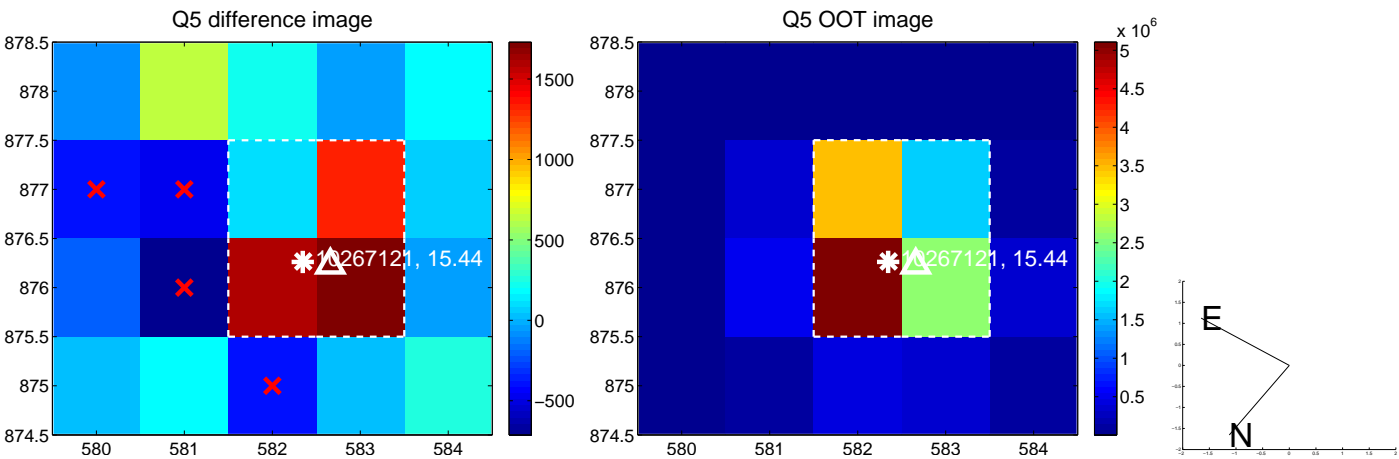


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

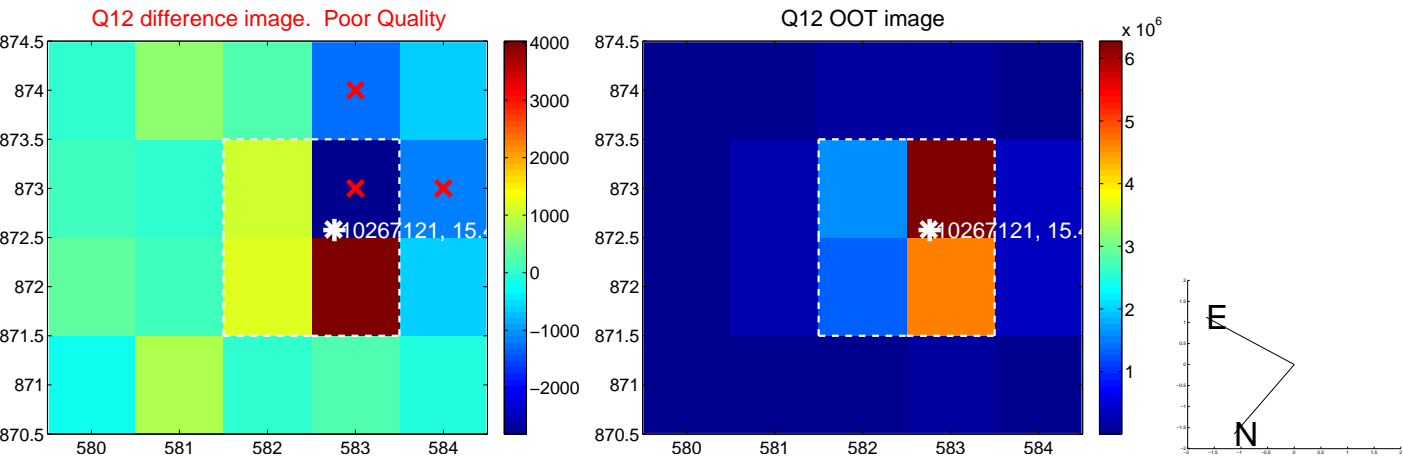
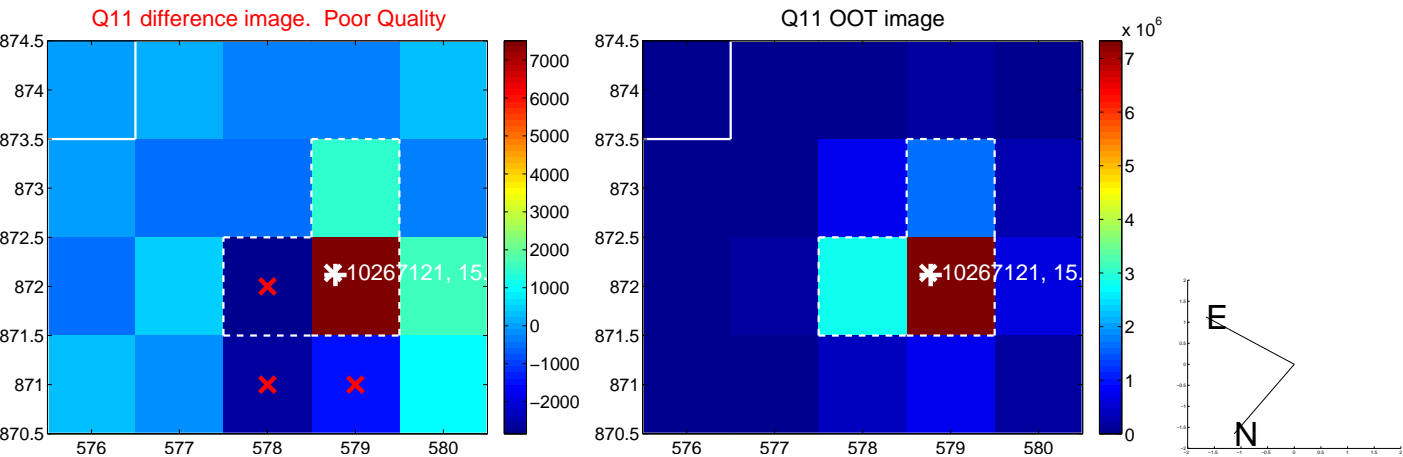
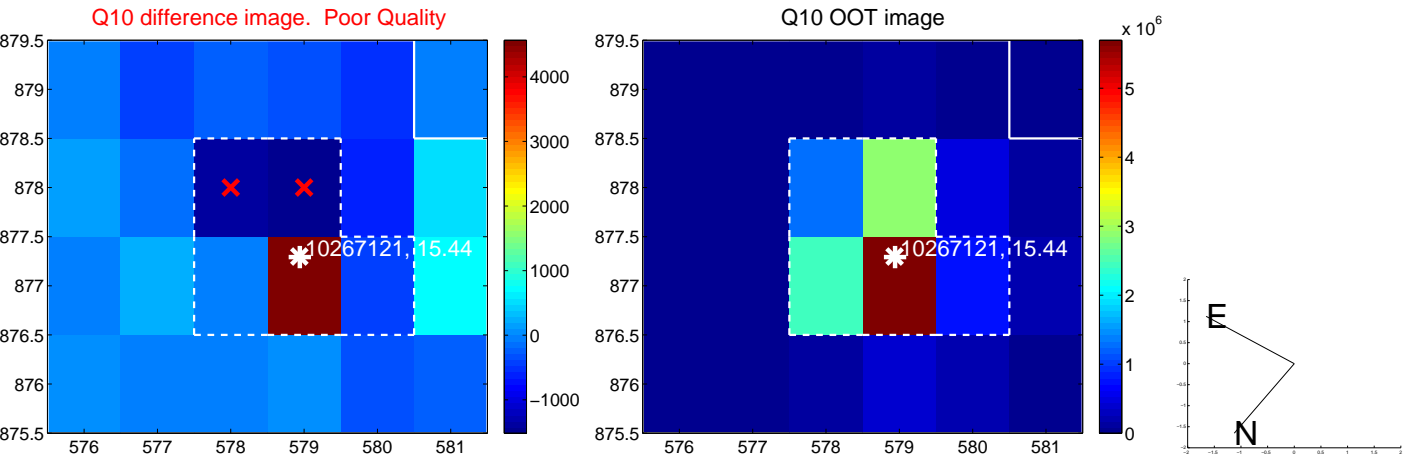
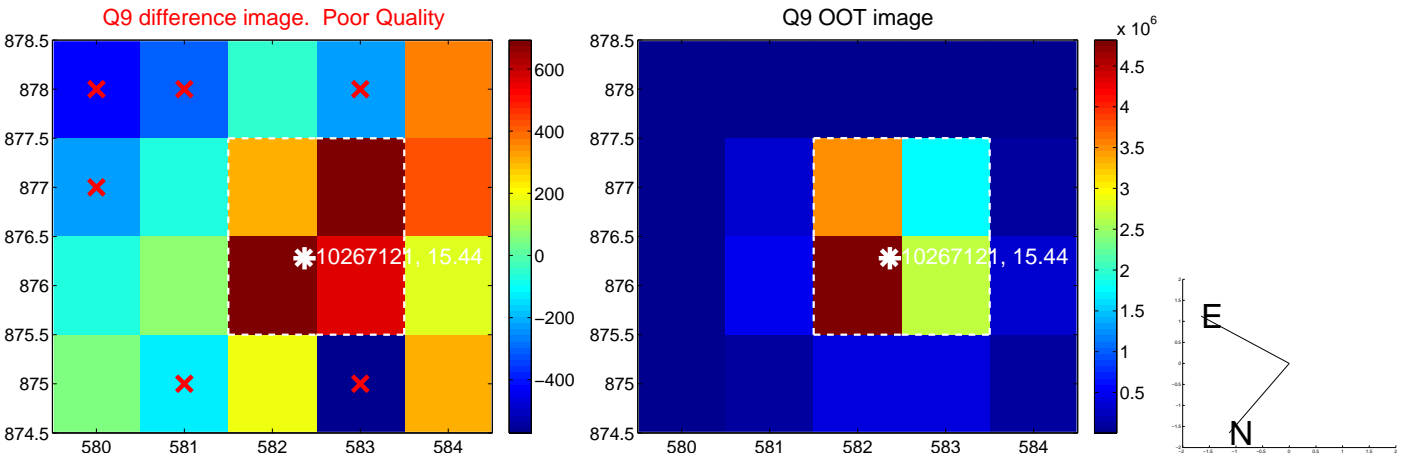
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



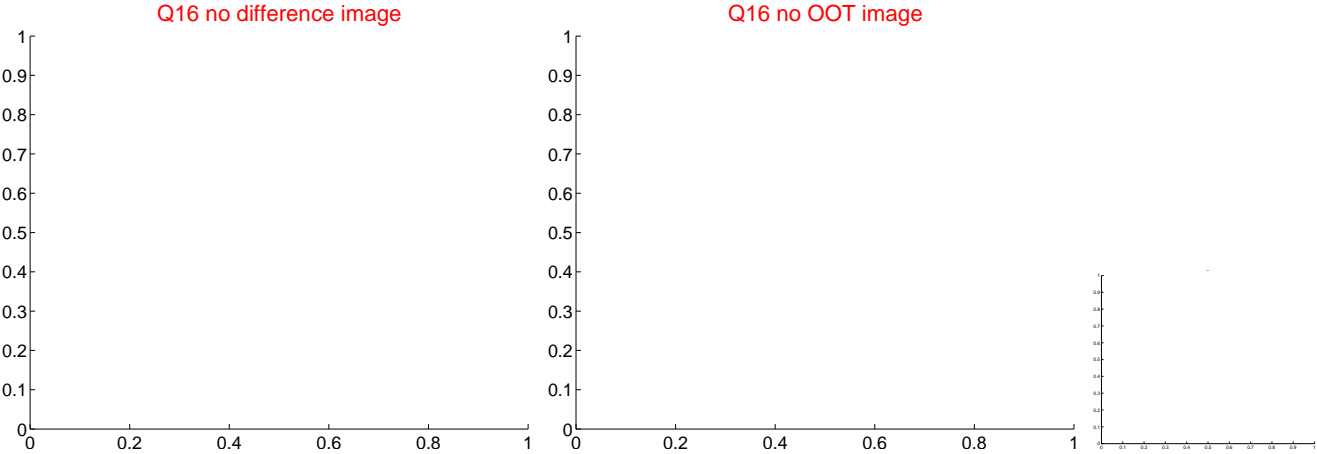
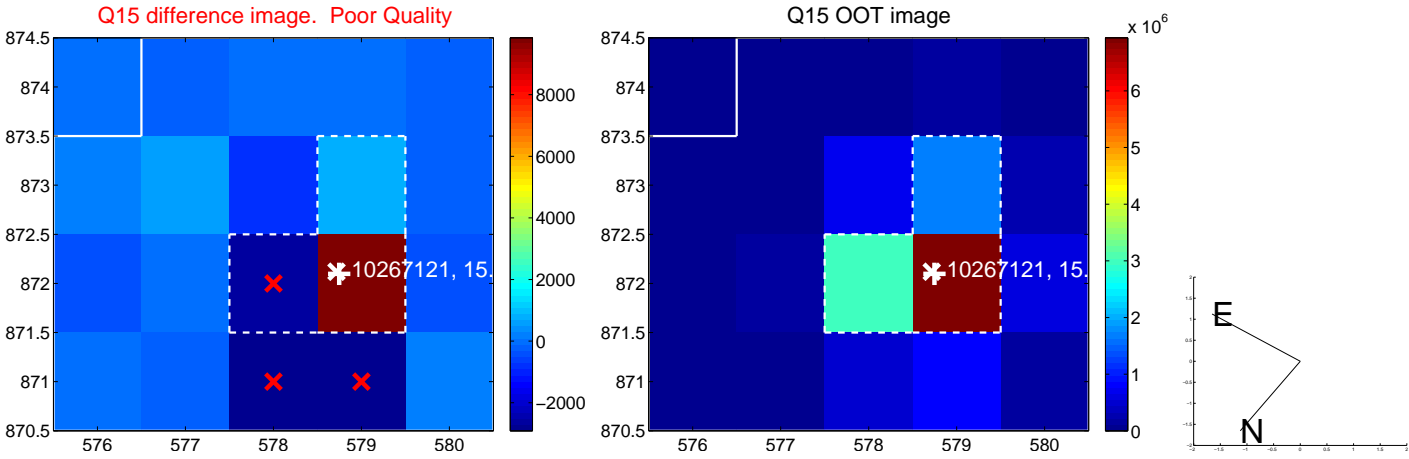
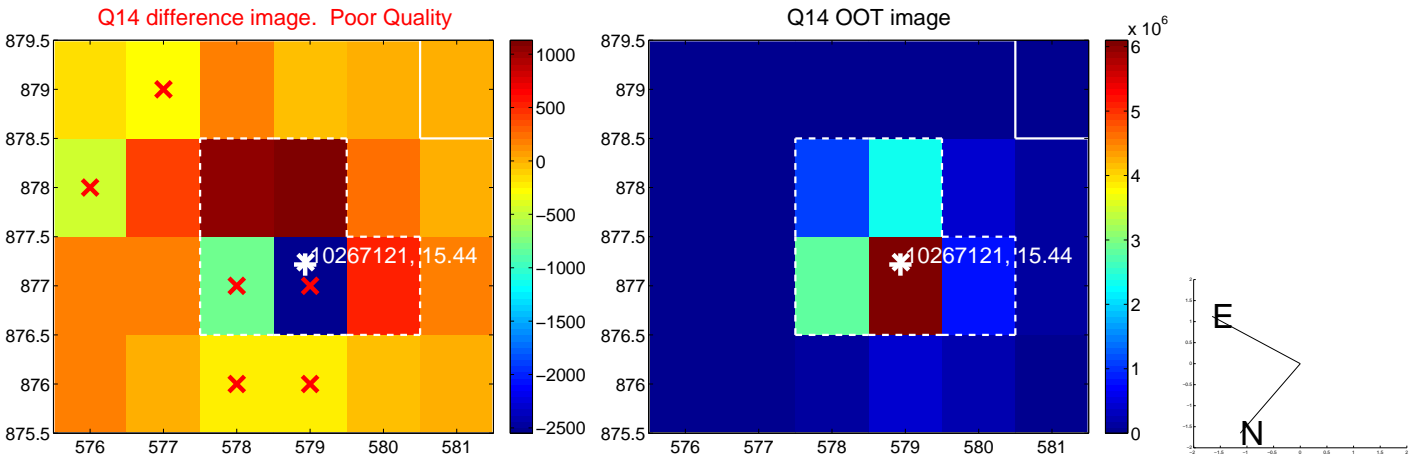
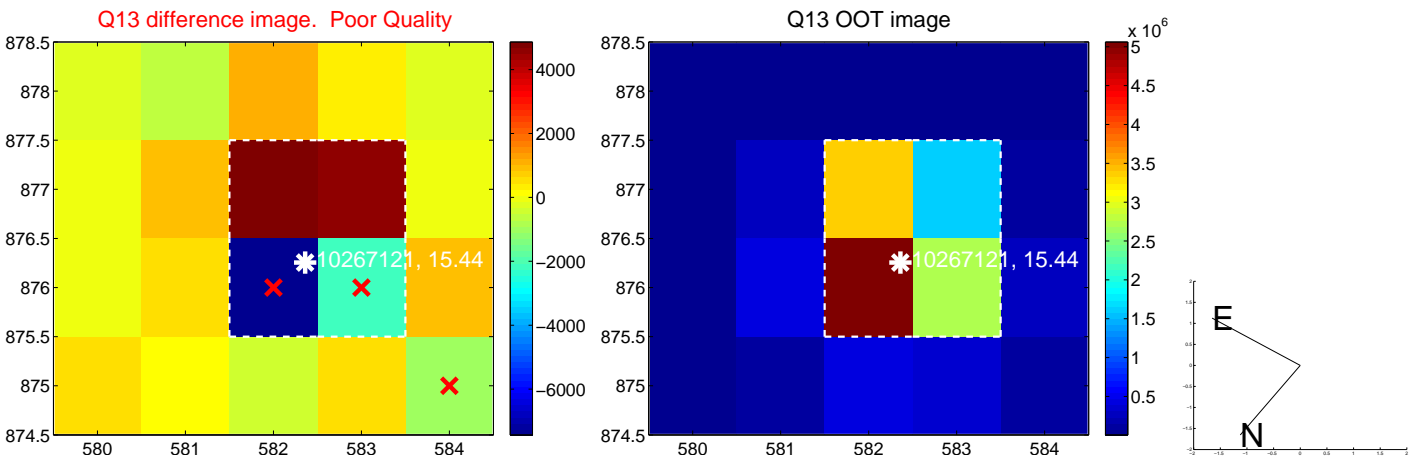
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



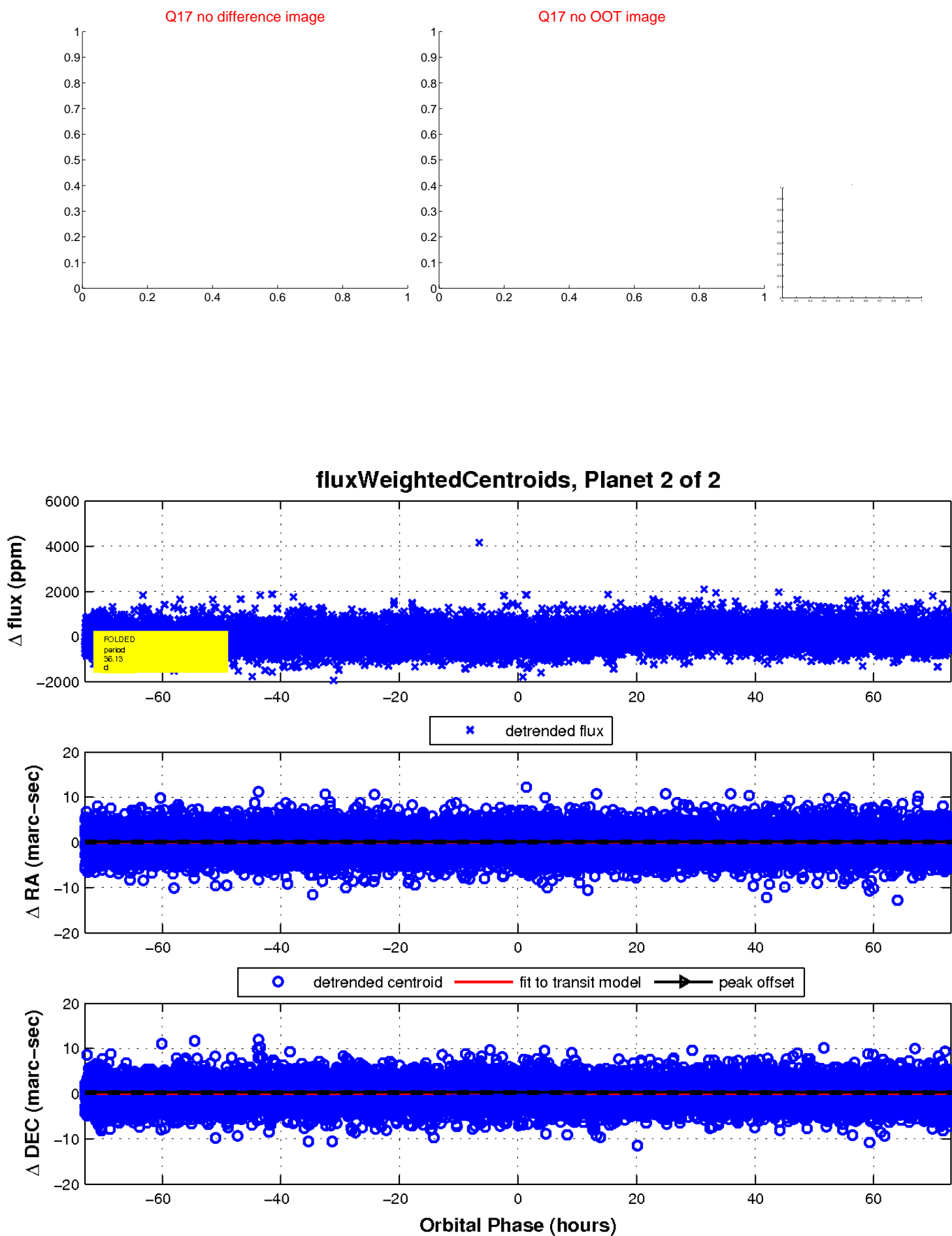
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

