

KIC 012156347

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})
012156347-01	OBS	2588.01	5.779540	136.534250	393.0	2.434	16.7	18.5	0.58	4102	1.40	30.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012156347-01	OBS	PC	1.00	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.

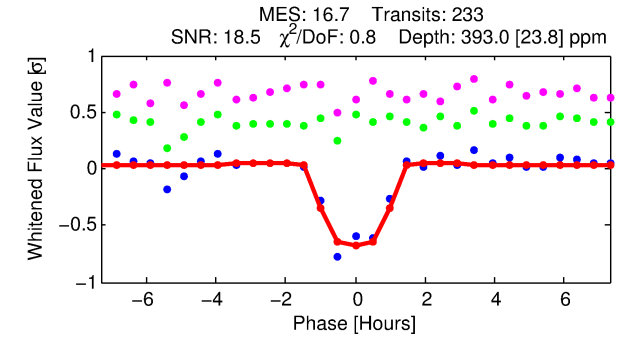
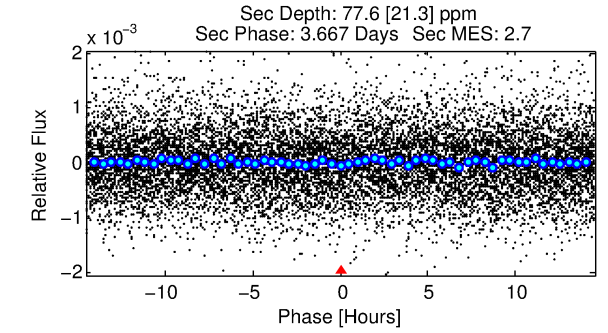
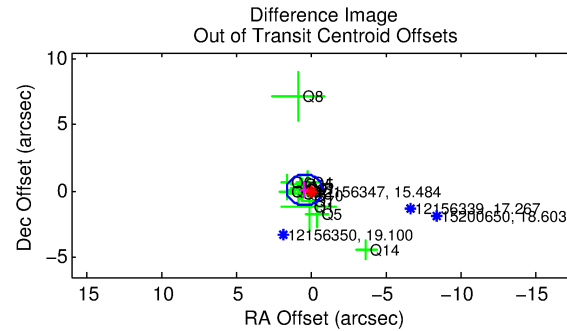
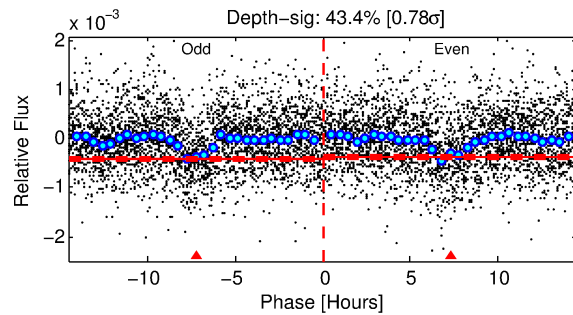
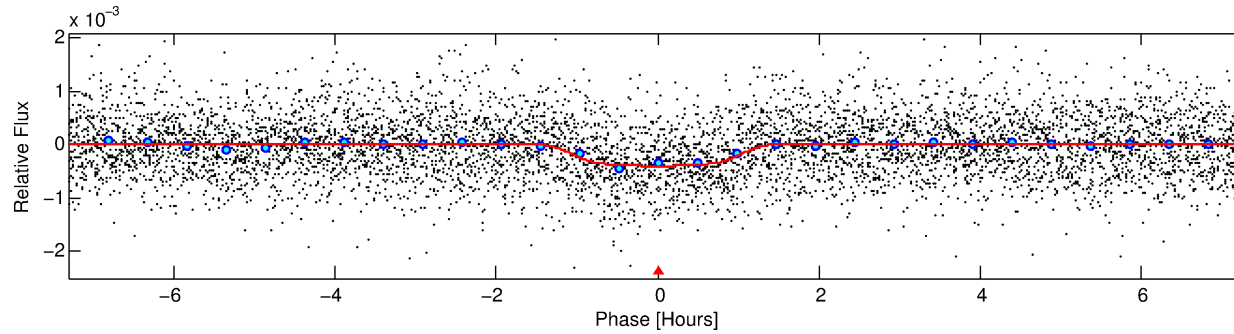
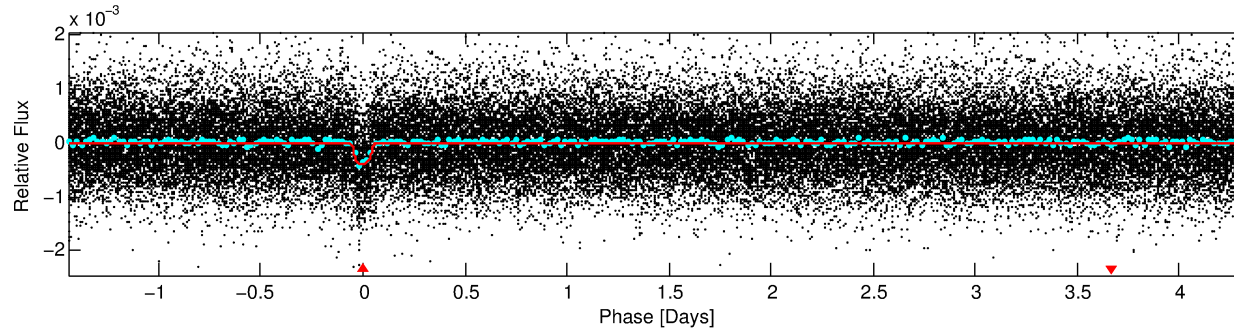
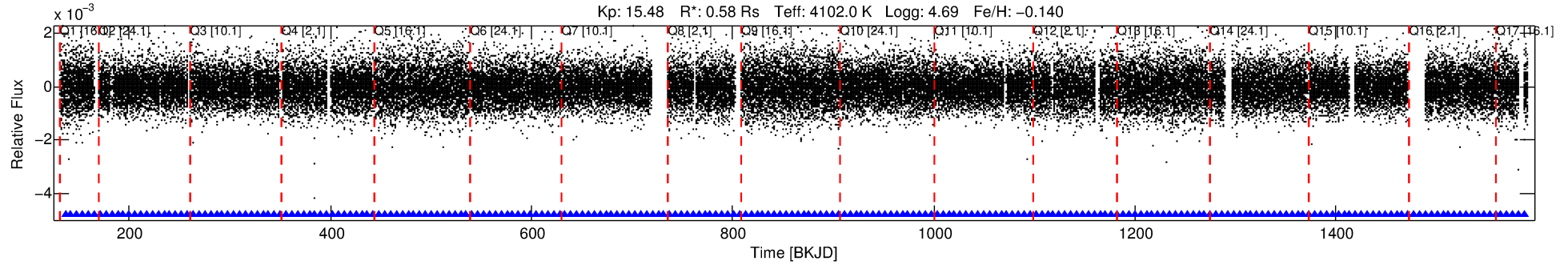
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012156347-01

No Significant Match Found

DV One-Page Summary

KIC: 12156347 Candidate: 1 of 1 Period: 5.780 d
KOI: K02588.01 Corr: 0.948



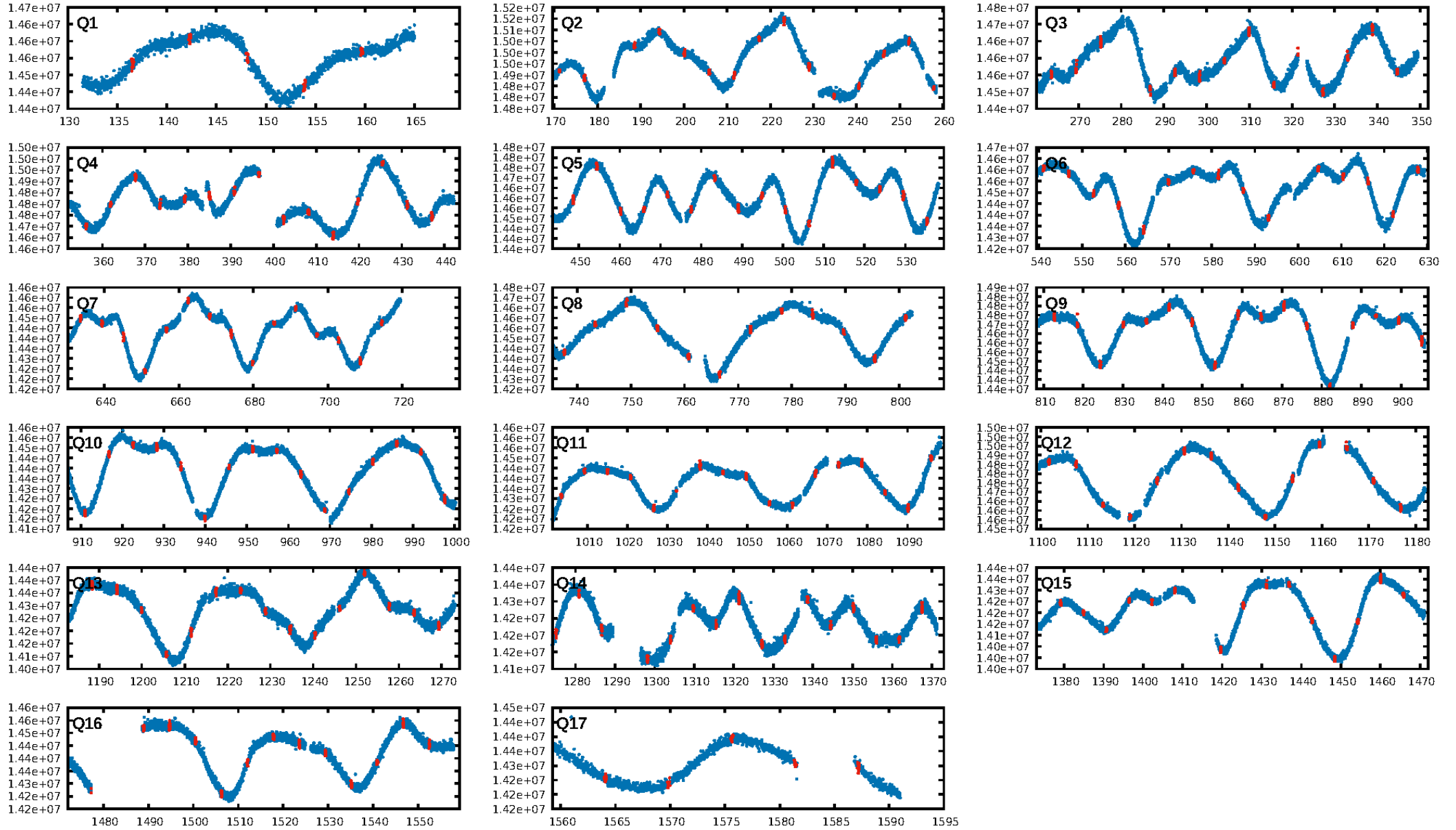
DV Fit Results:

Period = 5.77954 [0.00002] d
Epoch = 136.5342 [0.0025] BKJD
Rp/R* = 0.0220 [0.0058]
a/R* = 8.70 [9.43]
b = 0.90 [0.23]
Seff = 30.33 [2.91]
Teq = 598 [14] K
Rp = 1.40 [0.38] Re
a = 0.0531 [0.0022] AU
Ag = 61.72 [36.82] [1.65 σ]
Teffp = 2593 [389] K [5.13 σ]

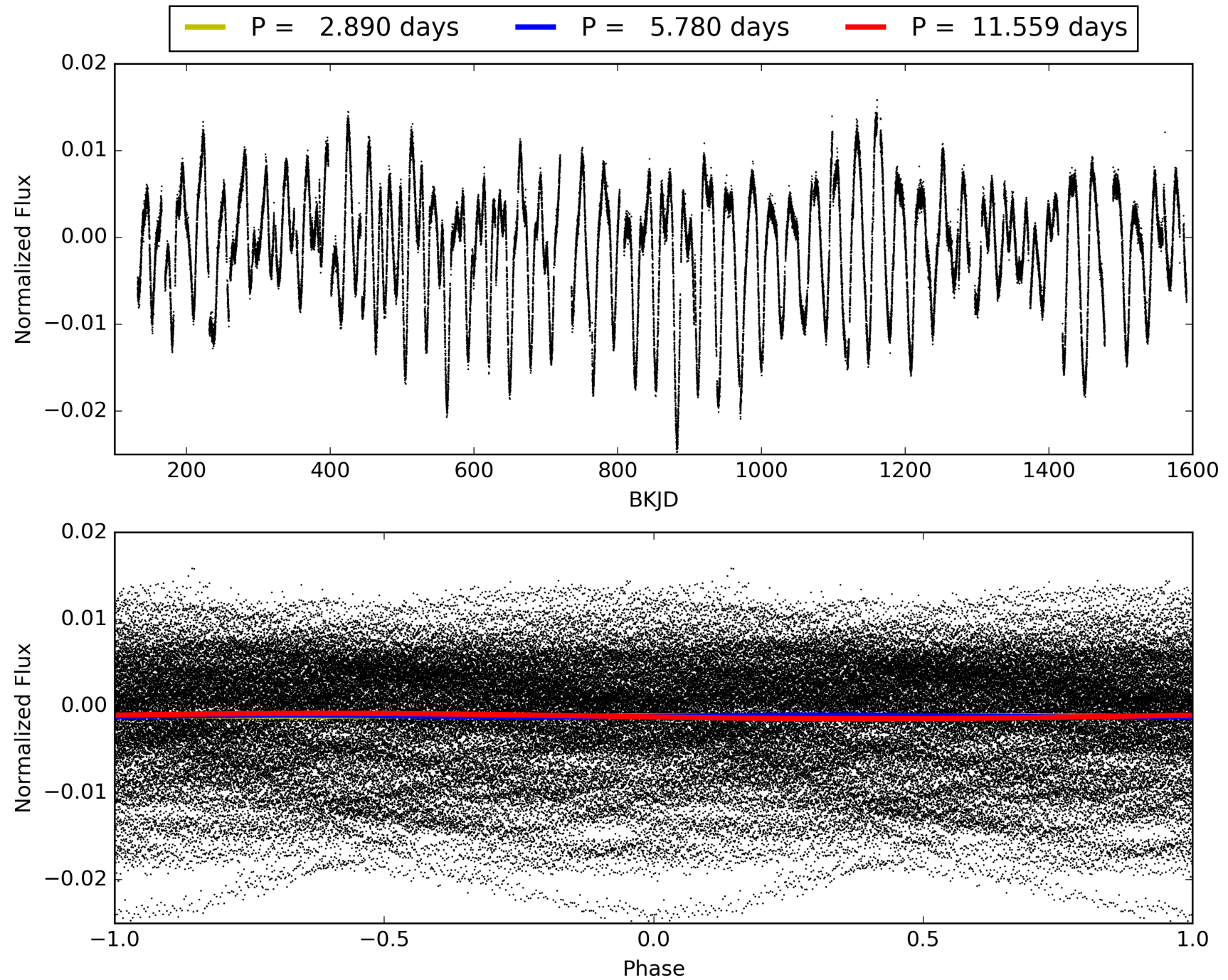
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.10e-62
RollingBand-fgt: 1.00 [223/223]
GhostDiagnostic-chr: 4.203
Centroid-sig: 1.8%
Centroid-so: 1.091 arcsec [1.47 σ]
OotOffset-rm: 0.419 arcsec [1.07 σ]
KicOffset-rm: 0.482 arcsec [0.93 σ]
OotOffset-st: 4/4/3/4 [15]
KicOffset-st: 4/4/3/4 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012156347-01, PDC Light Curves

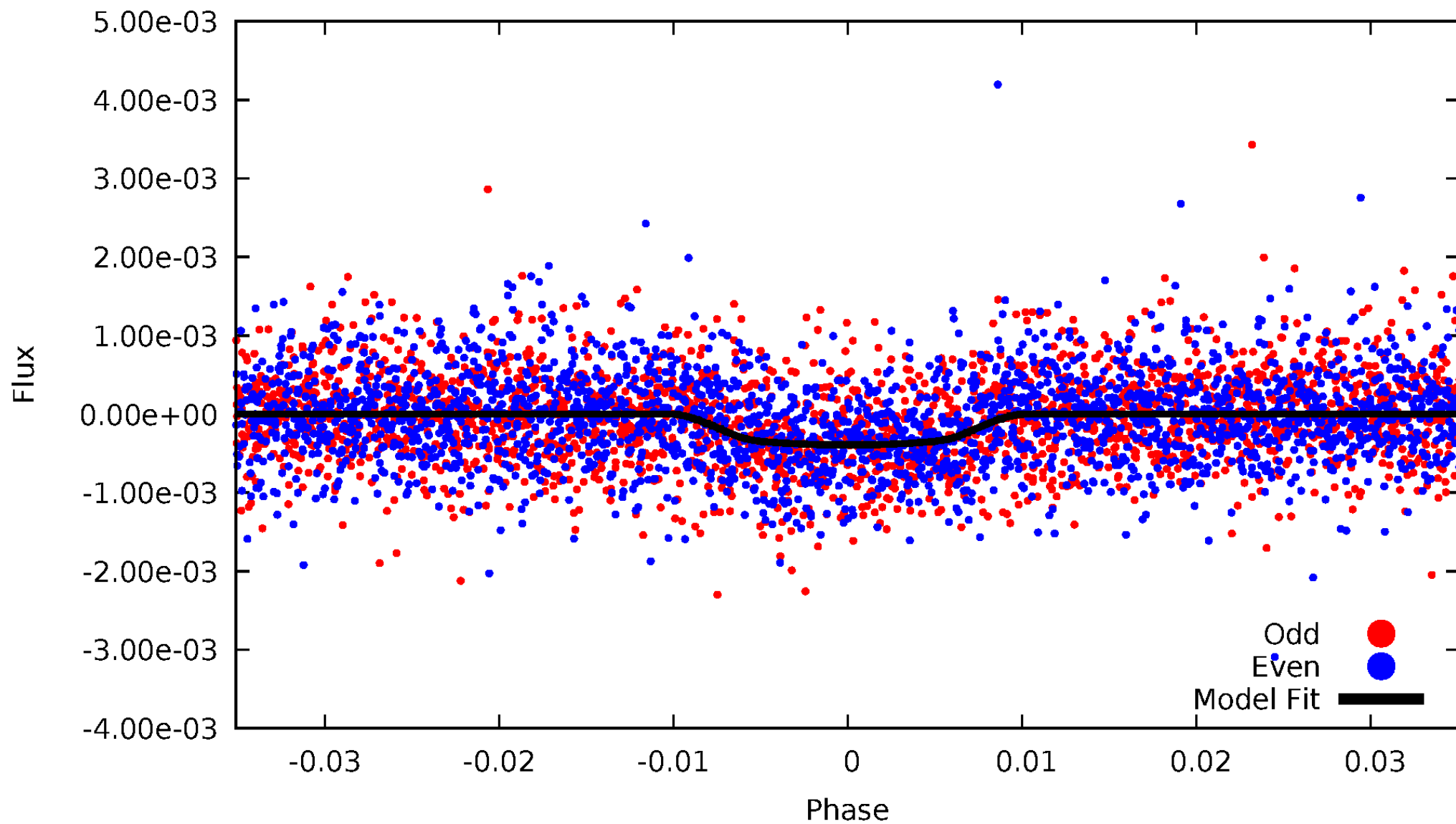


TCE 012156347-01



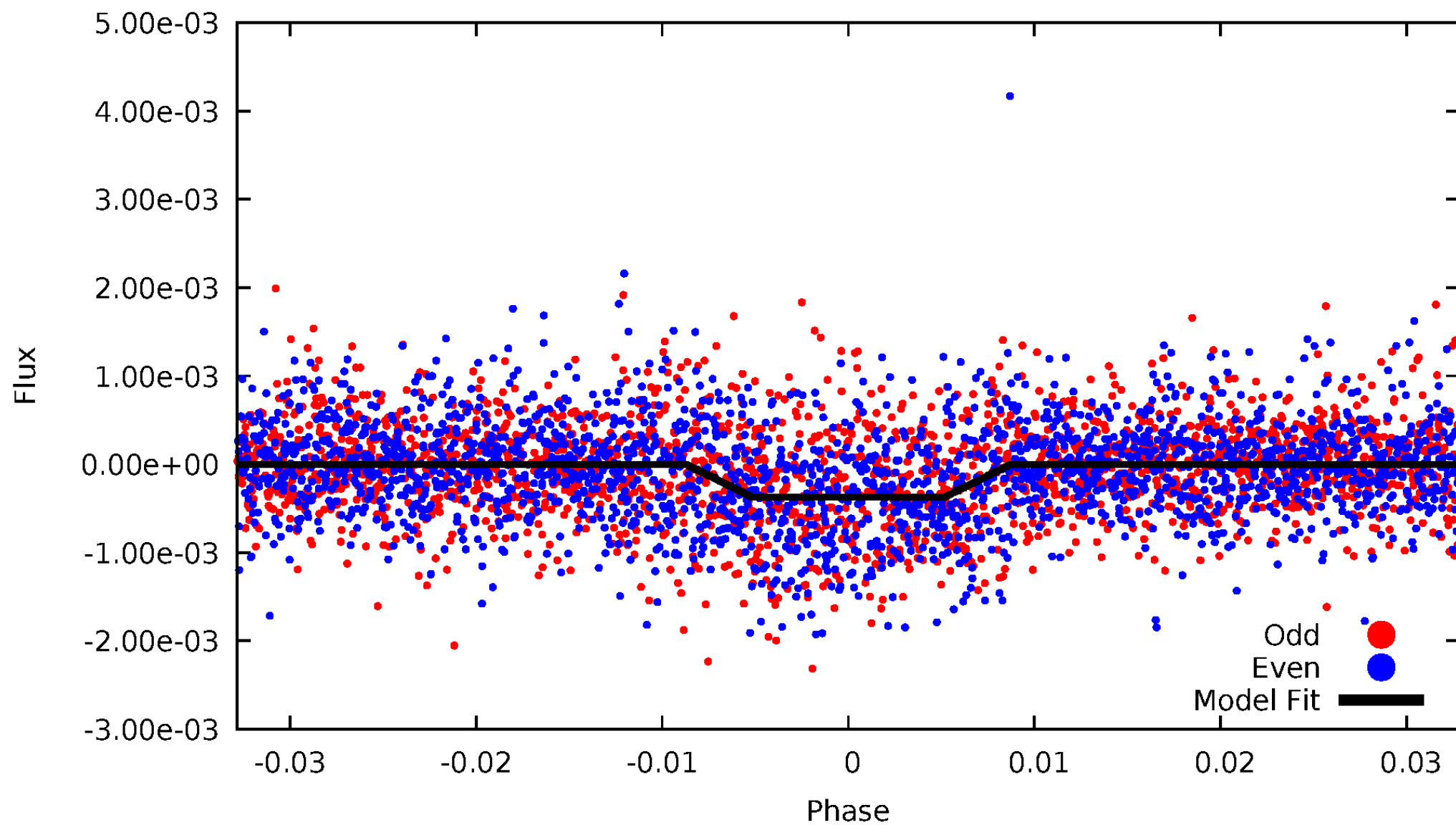
DV Odd/Even

TCE 012156347-01

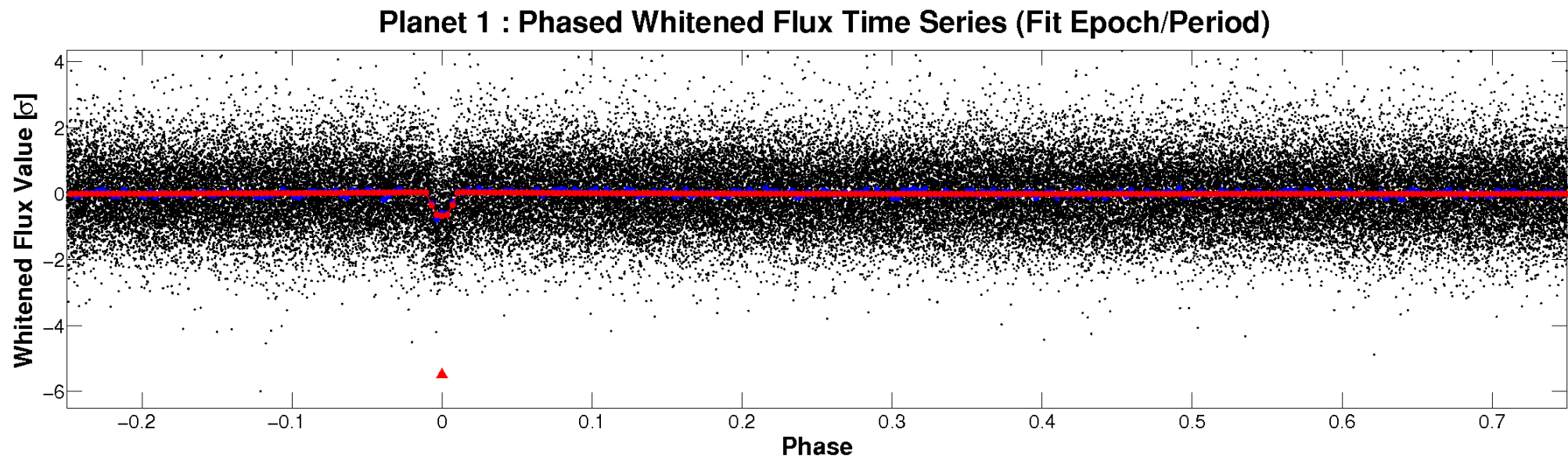
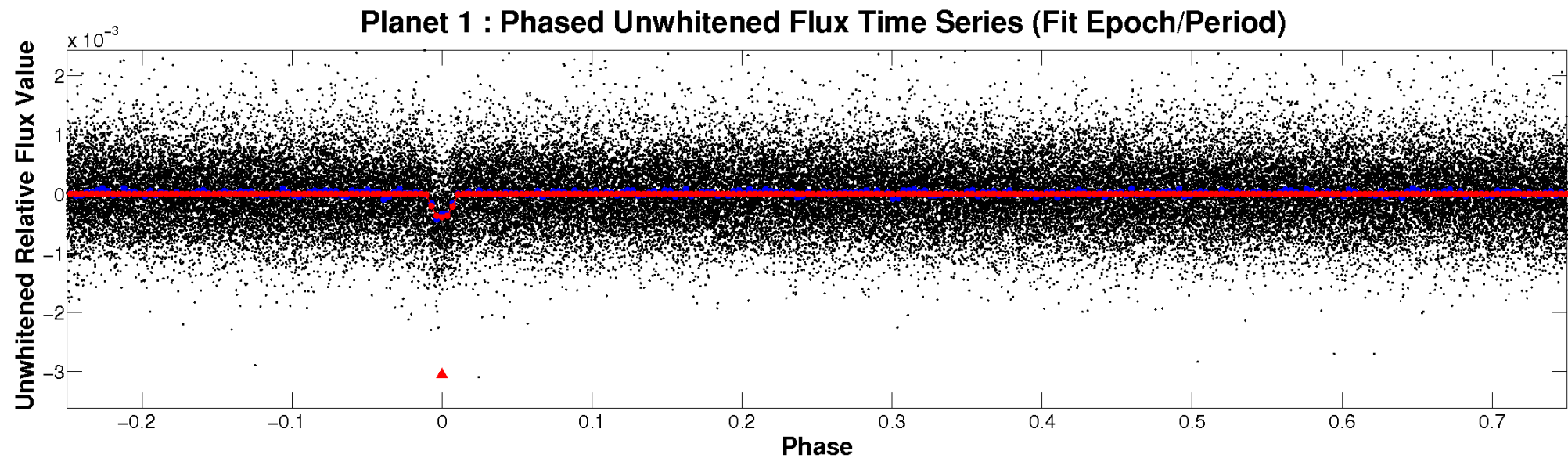


ALT Odd/Even

TCE 012156347-01

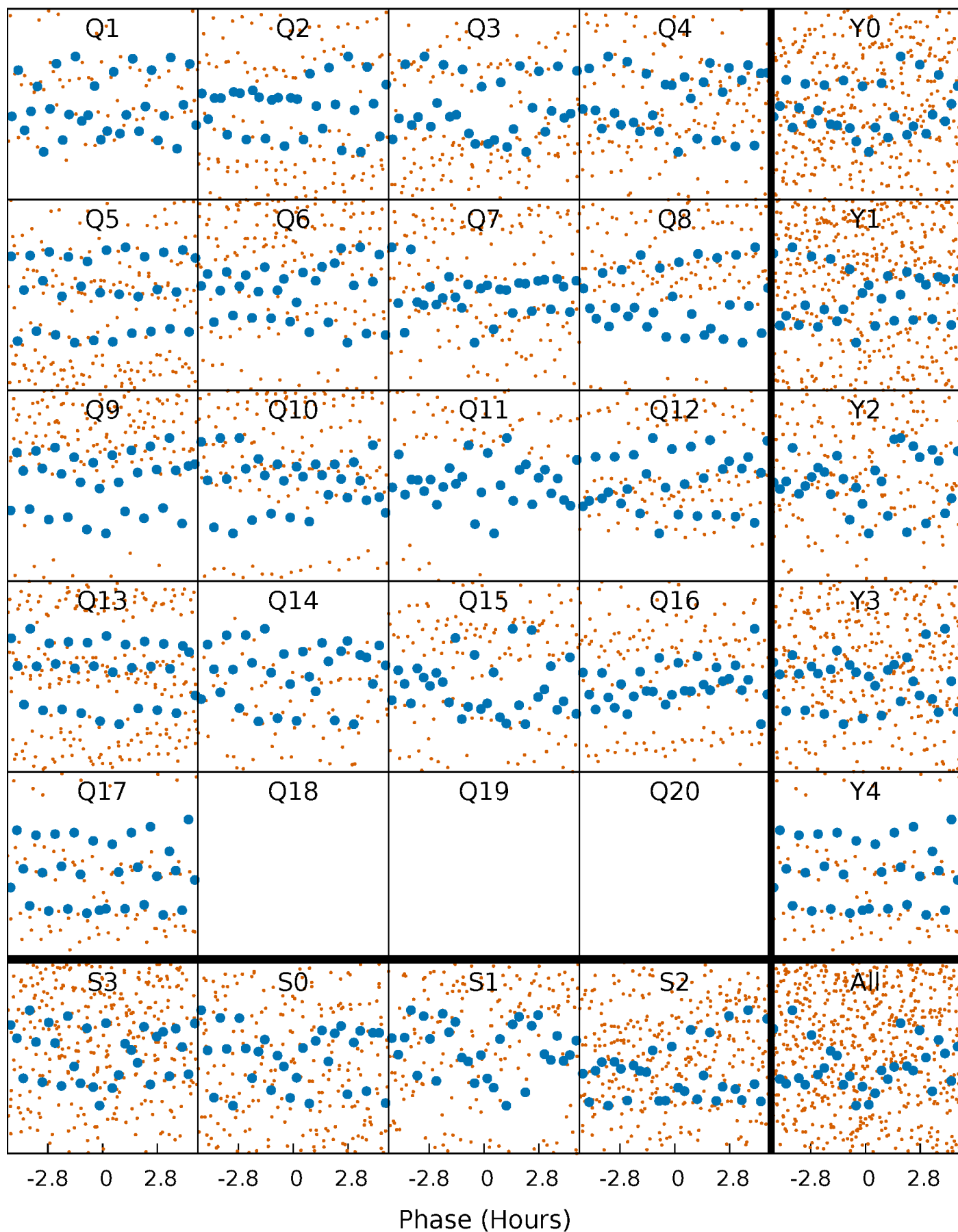


Non-Whitened Vs. Whitened Light Curve



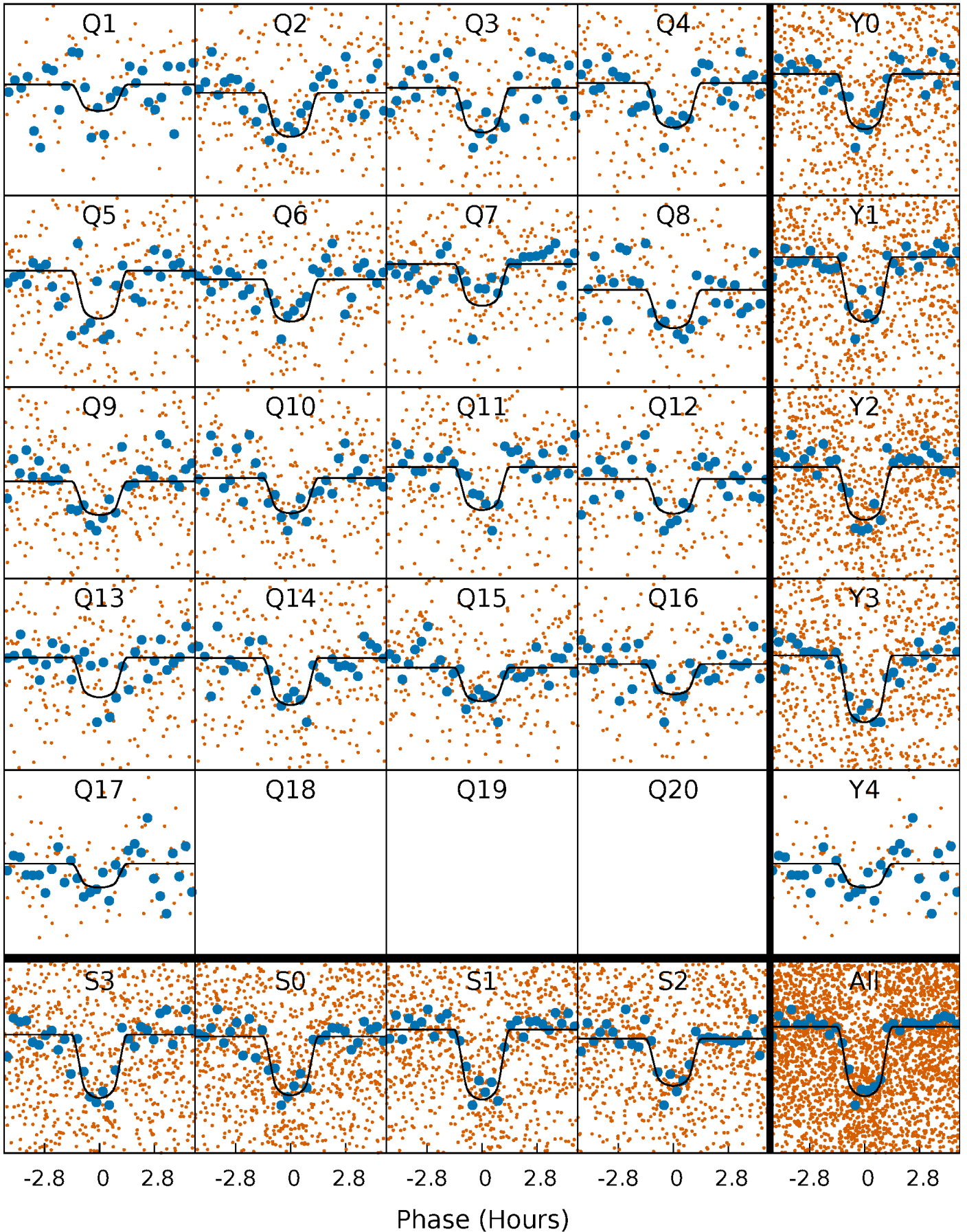
PDC Quarter-Phased Transit Curves

TCE 012156347-01 P= 5.779540 Days $T_0=136.534250$ (BKJD)



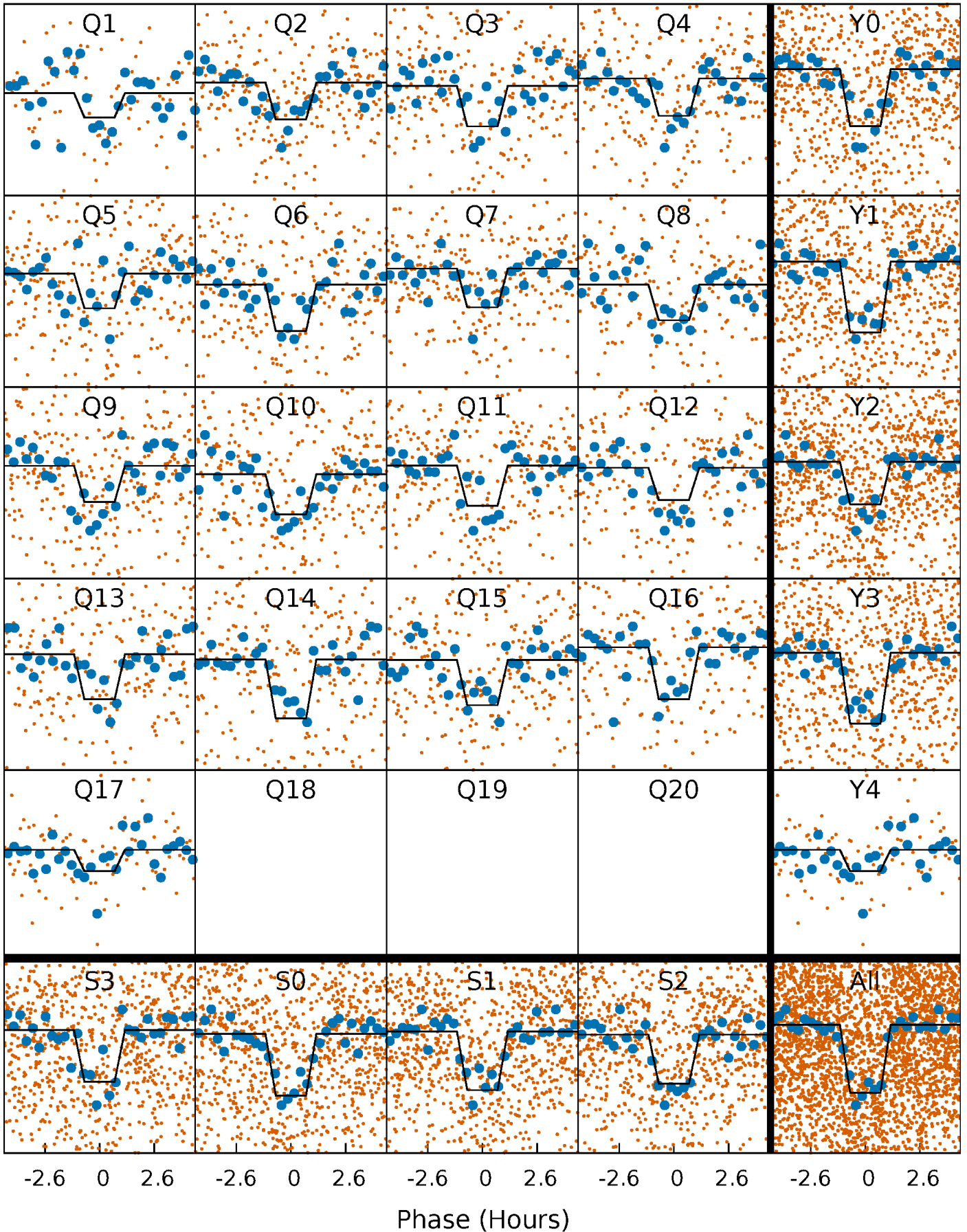
DV Quarter-Phased Transit Curves

TCE 012156347-01 P= 5.779540 Days $T_0=136.534250$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

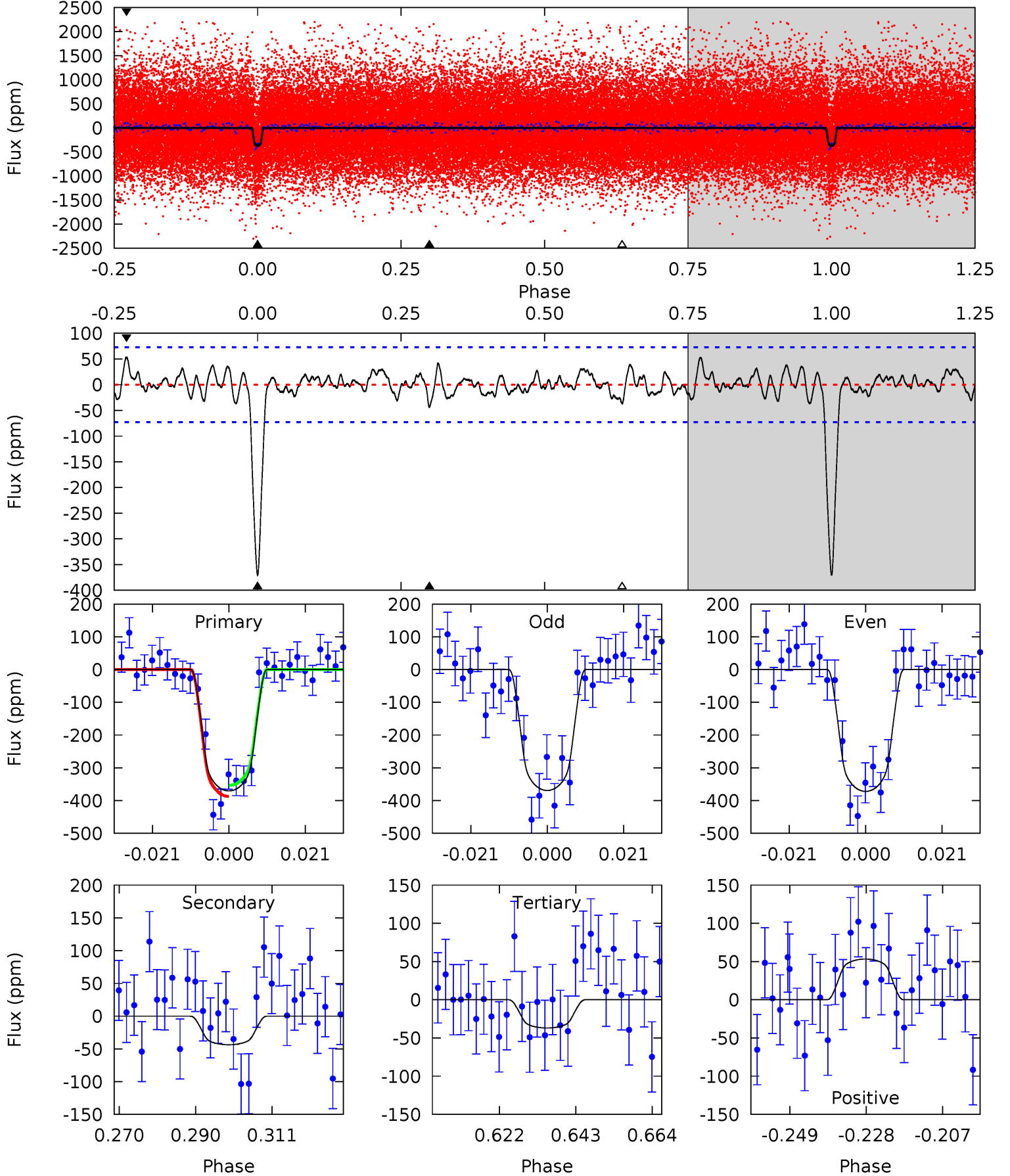
TCE 012156347-01 P= 5.779589 Days $T_0=136.528101$ (BKJD)



DV Model-Shift Uniqueness Test

012156347-01, P = 5.779540 Days, E = 130.754710 Days

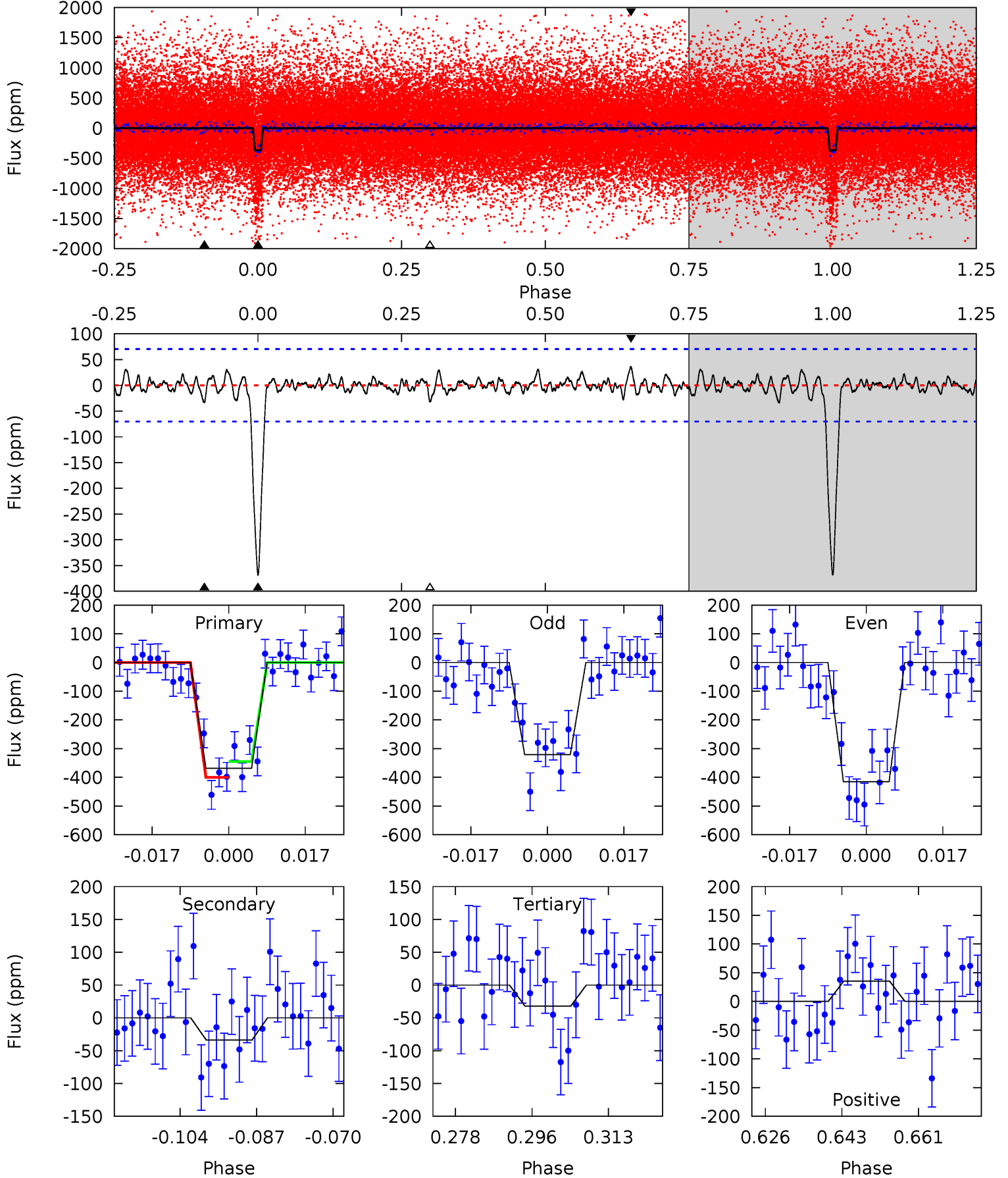
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	2.93	2.48	3.57	4.88	2.31	1.07	22.4	21.3	0.45	-0.65	0.10	1.06	0.13	1.13



Alt Model-Shift Uniqueness Test

012156347-01, P = 5.779589 Days, E = 130.748512 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	2.37	2.25	2.49	4.92	2.38	0.75	23.5	23.3	0.12	-0.13	3.32	1.13	0.09	1.93



Stellar Parameters For KIC 012156347

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4102^{+81}_{-81}	$4.687^{+0.022}_{-0.027}$	$-0.140^{+0.150}_{-0.150}$	$0.581^{+0.031}_{-0.031}$	$0.599^{+0.030}_{-0.036}$	$4.309^{+0.469}_{-0.423}$
	+2%/-2%	+0%/-1%	+107%/-107%	+5%/-5%	+5%/-6%	+11%/-10%
Source	SPE60	SPE60	SPE60	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012156347-01 / KOI 2588.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-44 ± 15	$1.39^{+0.37}_{-0.37}$	837^{+18}_{-20}	2810^{+293}_{-220}	34^{+34}_{-15}
Alt.	-34 ± 14	$1.23^{+0.36}_{-0.39}$	837^{+19}_{-16}	2813^{+353}_{-238}	34^{+43}_{-17}

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 $A_{obs} \gg 1.0$

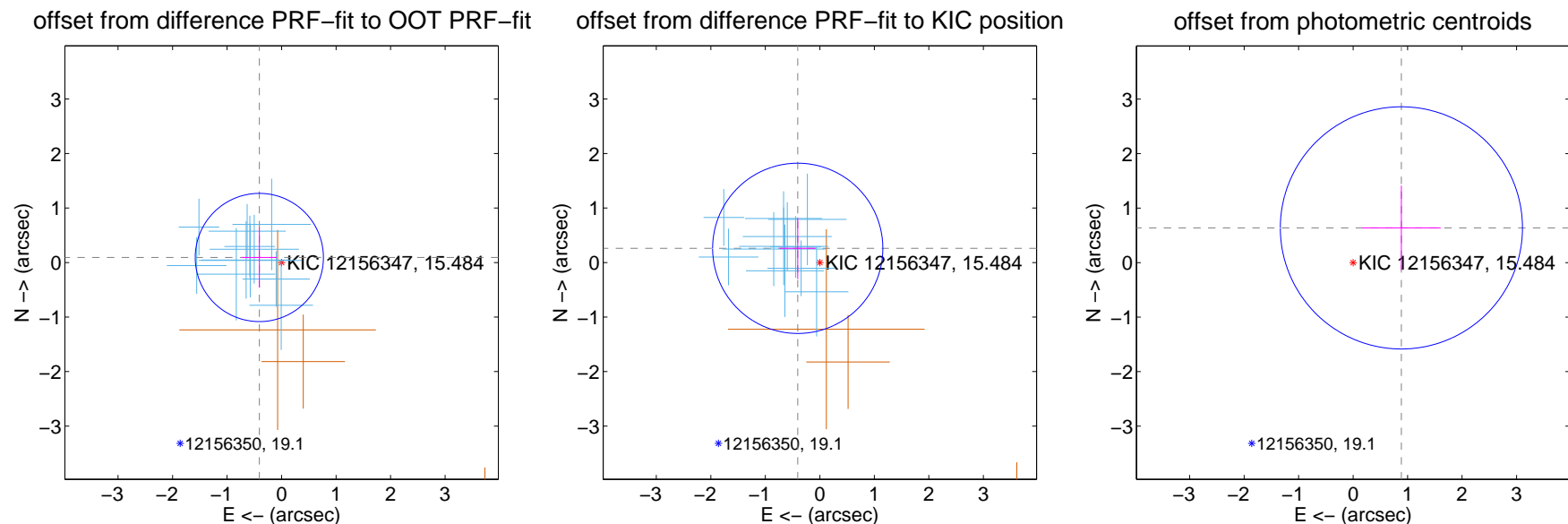
DV Centroid Data

Supplemental centroid analysis for 012156347-01. Kepler magnitude: 15.48. Transit SNR 18.54

There are 11 quarters with good PRF difference image offsets

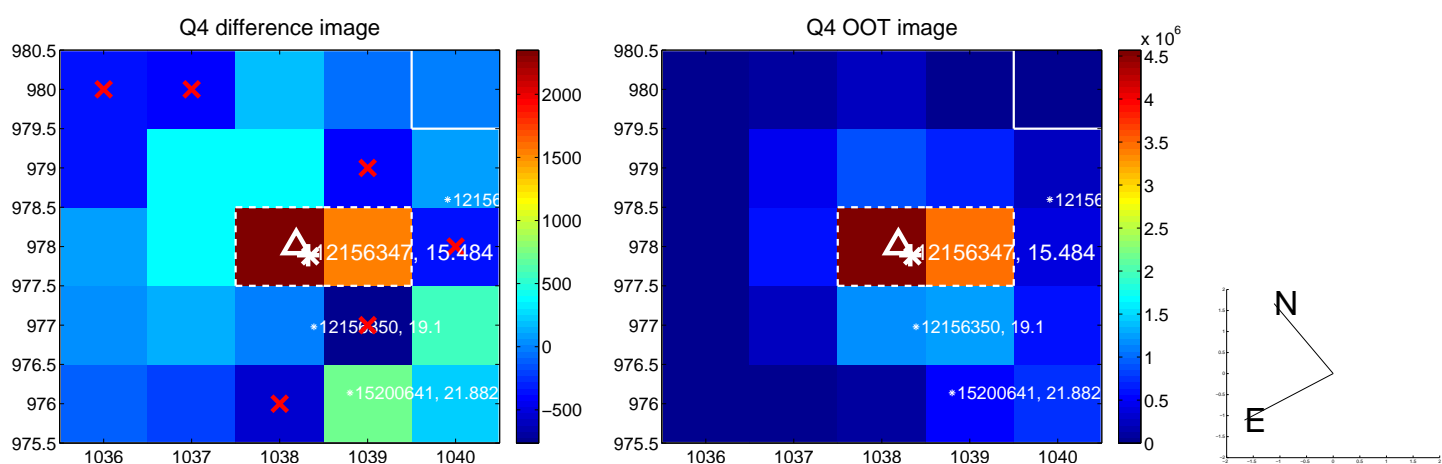
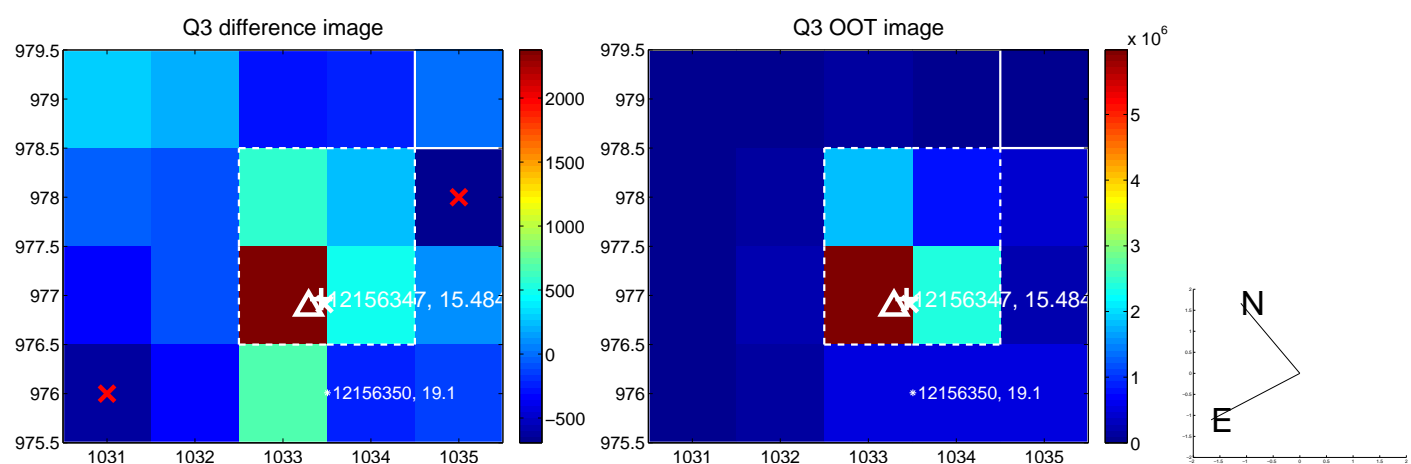
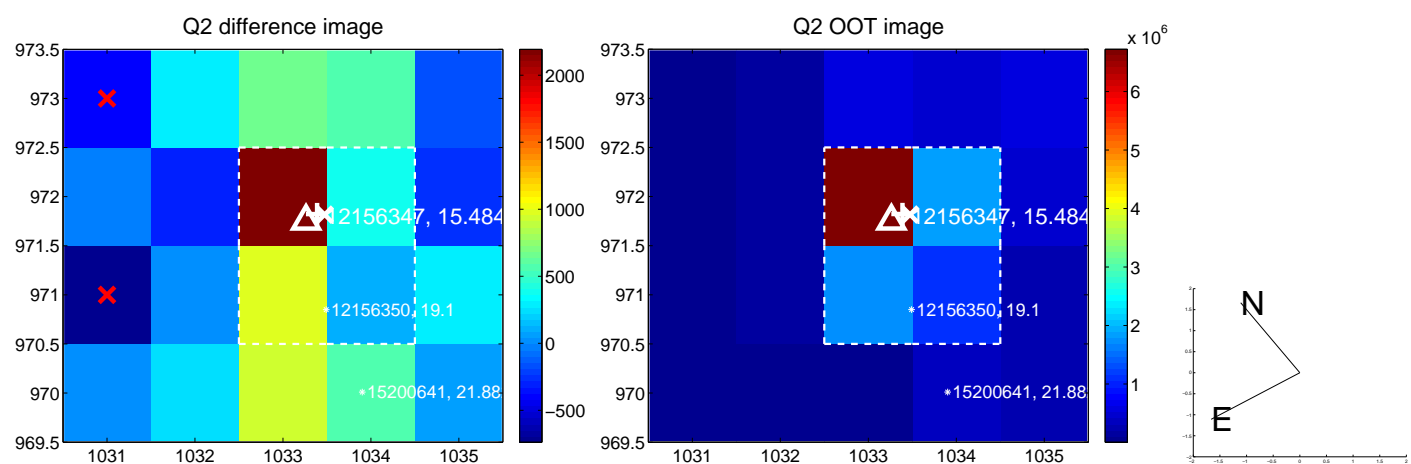
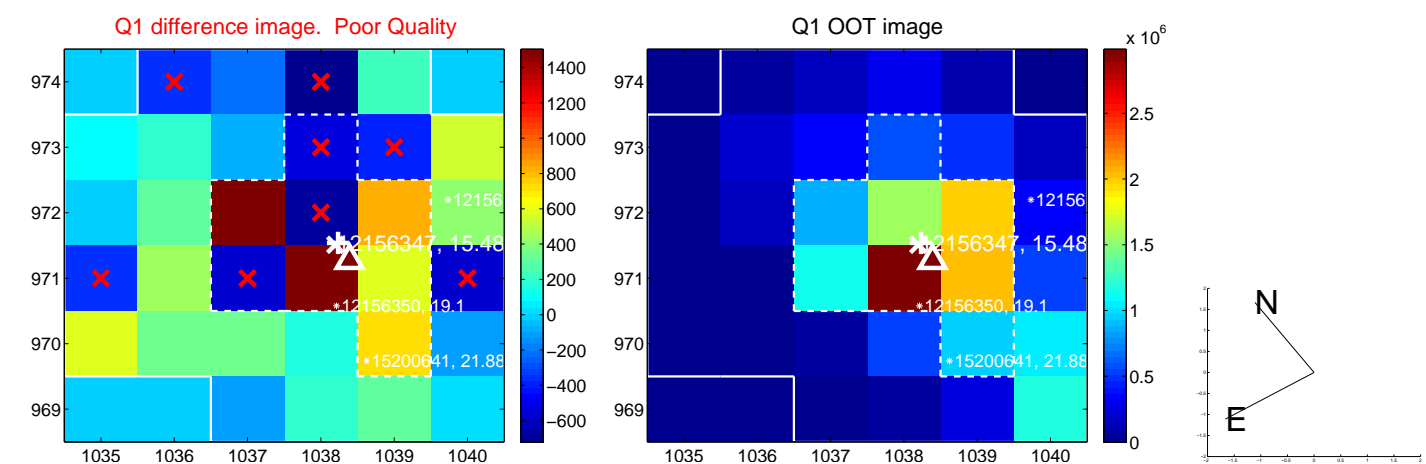
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.419 ± 0.392	1.07	0.408 ± 0.321	0.093 ± 0.550
PRF-fit source offset from KIC position	0.482 ± 0.520	0.93	0.406 ± 0.330	0.260 ± 0.563
photometric centroid source offset	1.09 ± 0.74	1.47	-0.89 ± 0.72	0.64 ± 0.78

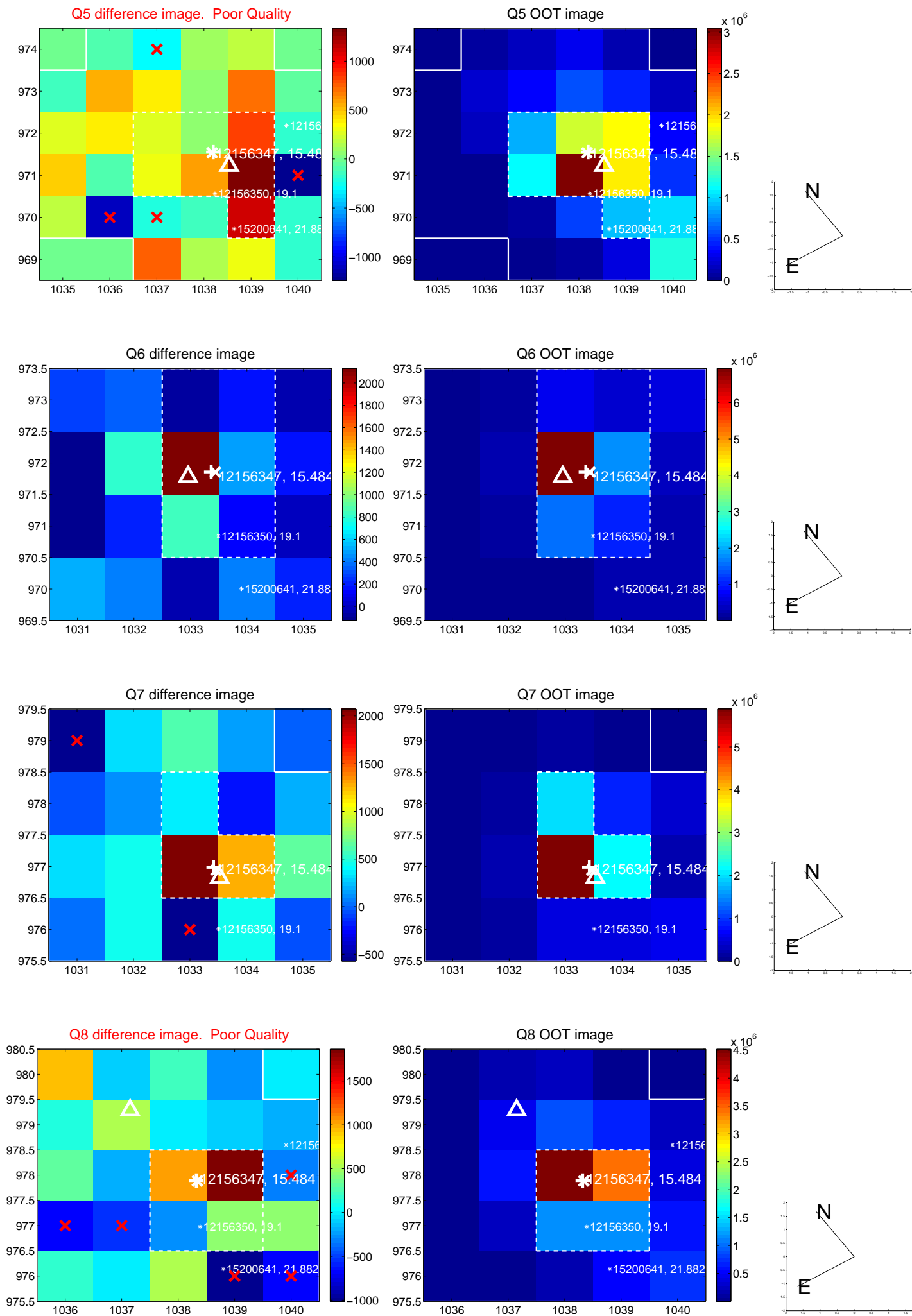


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

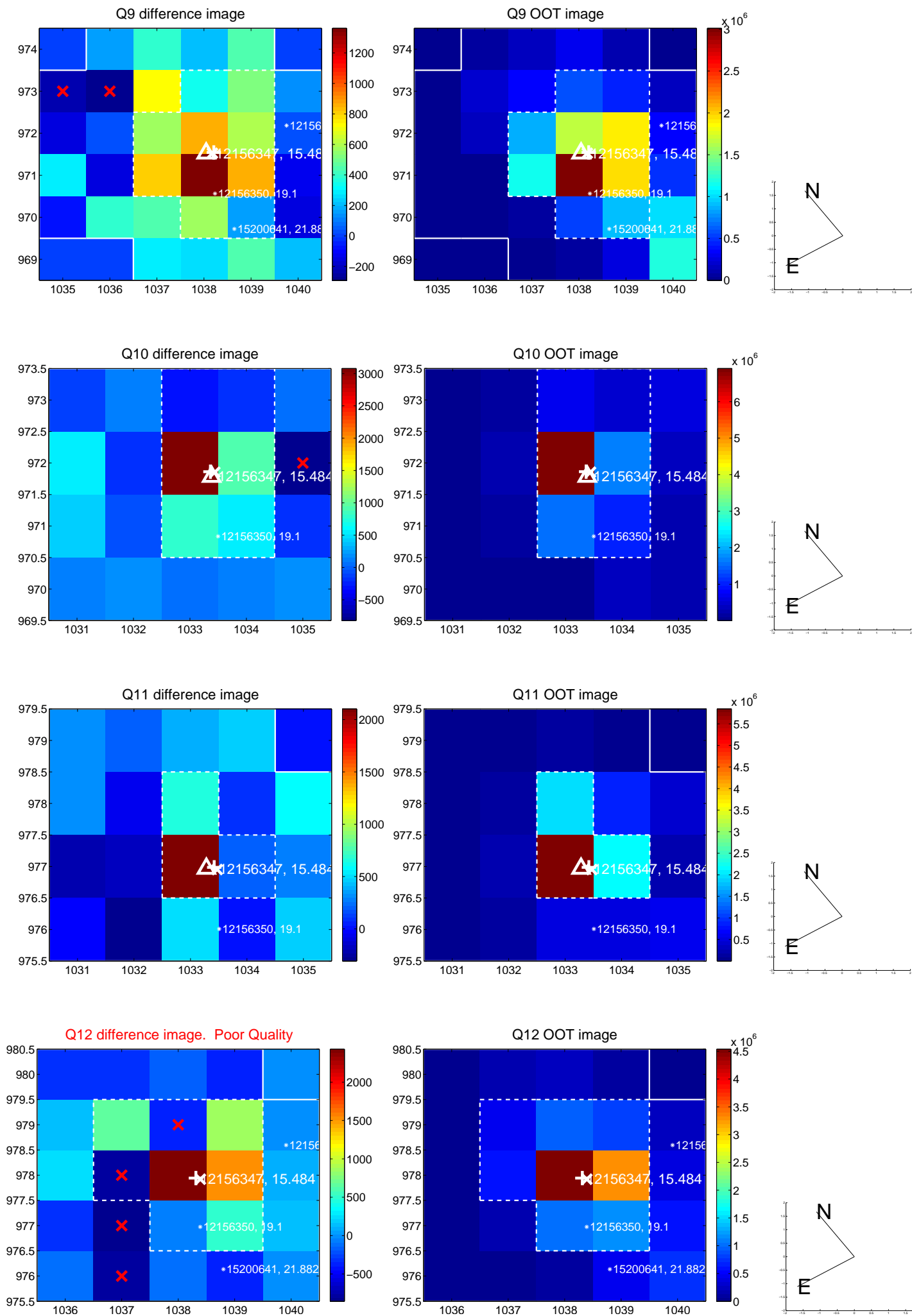
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



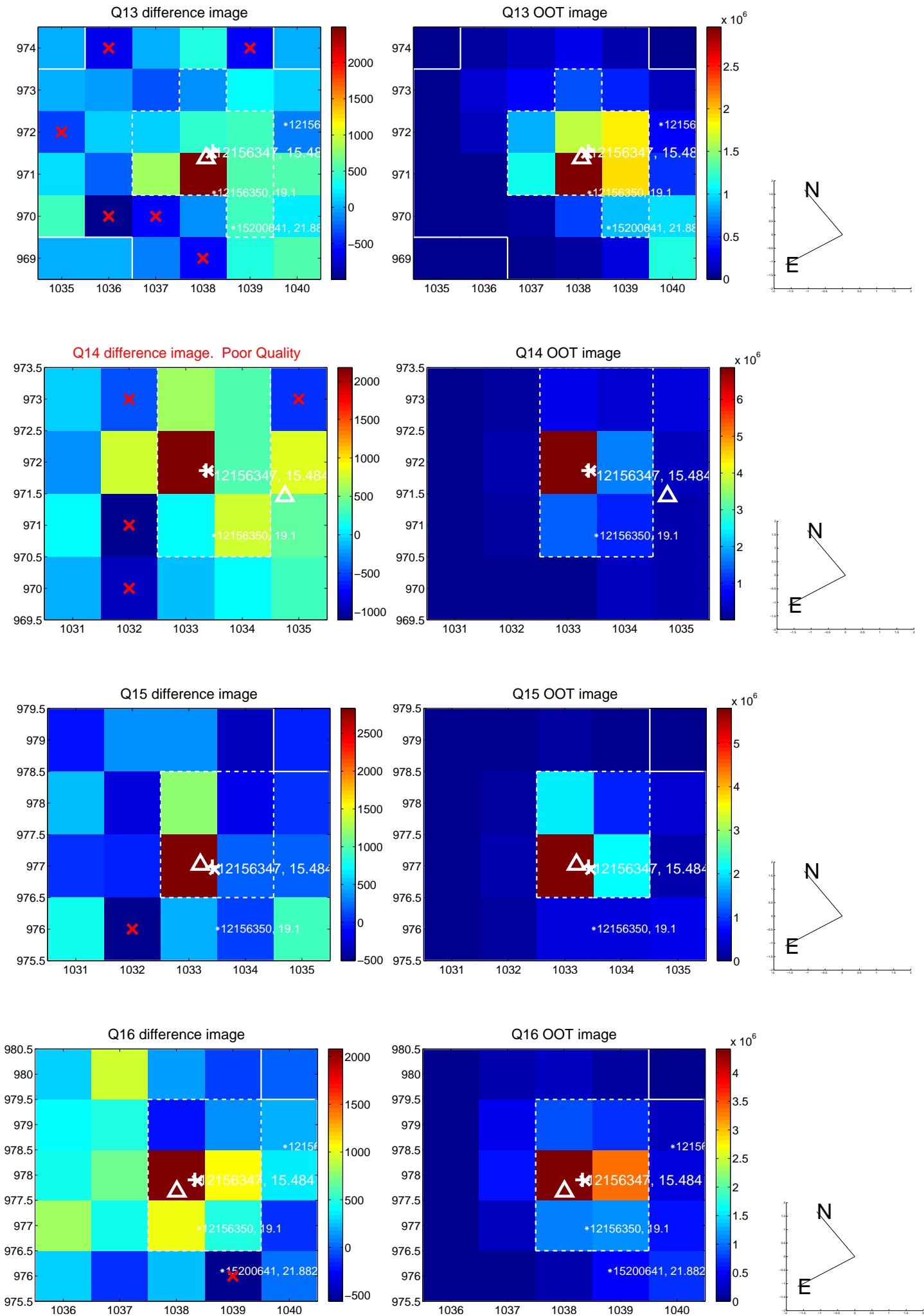
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



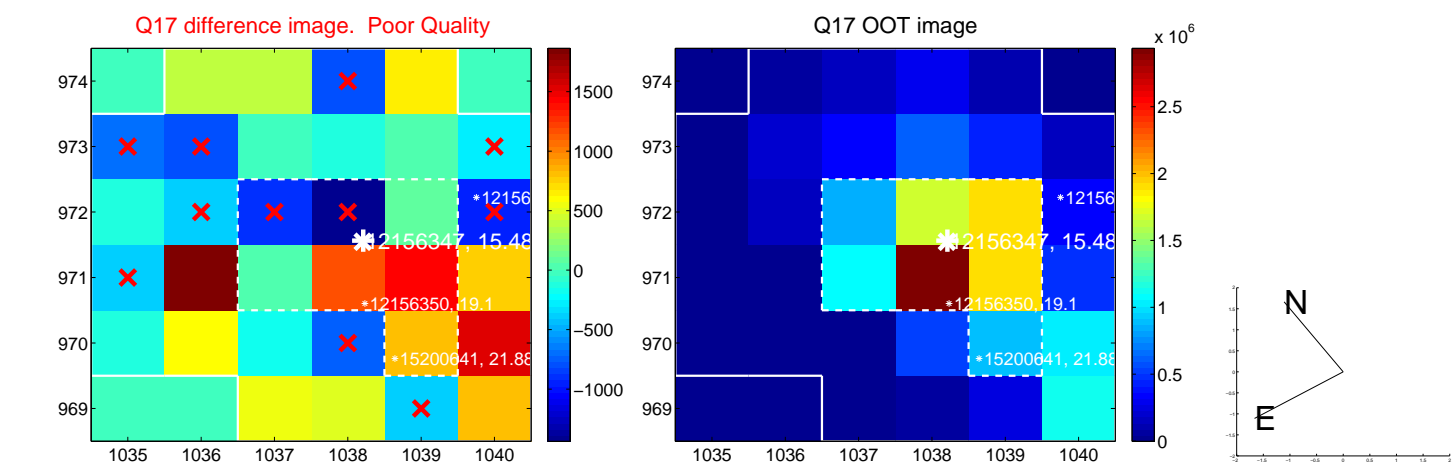
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



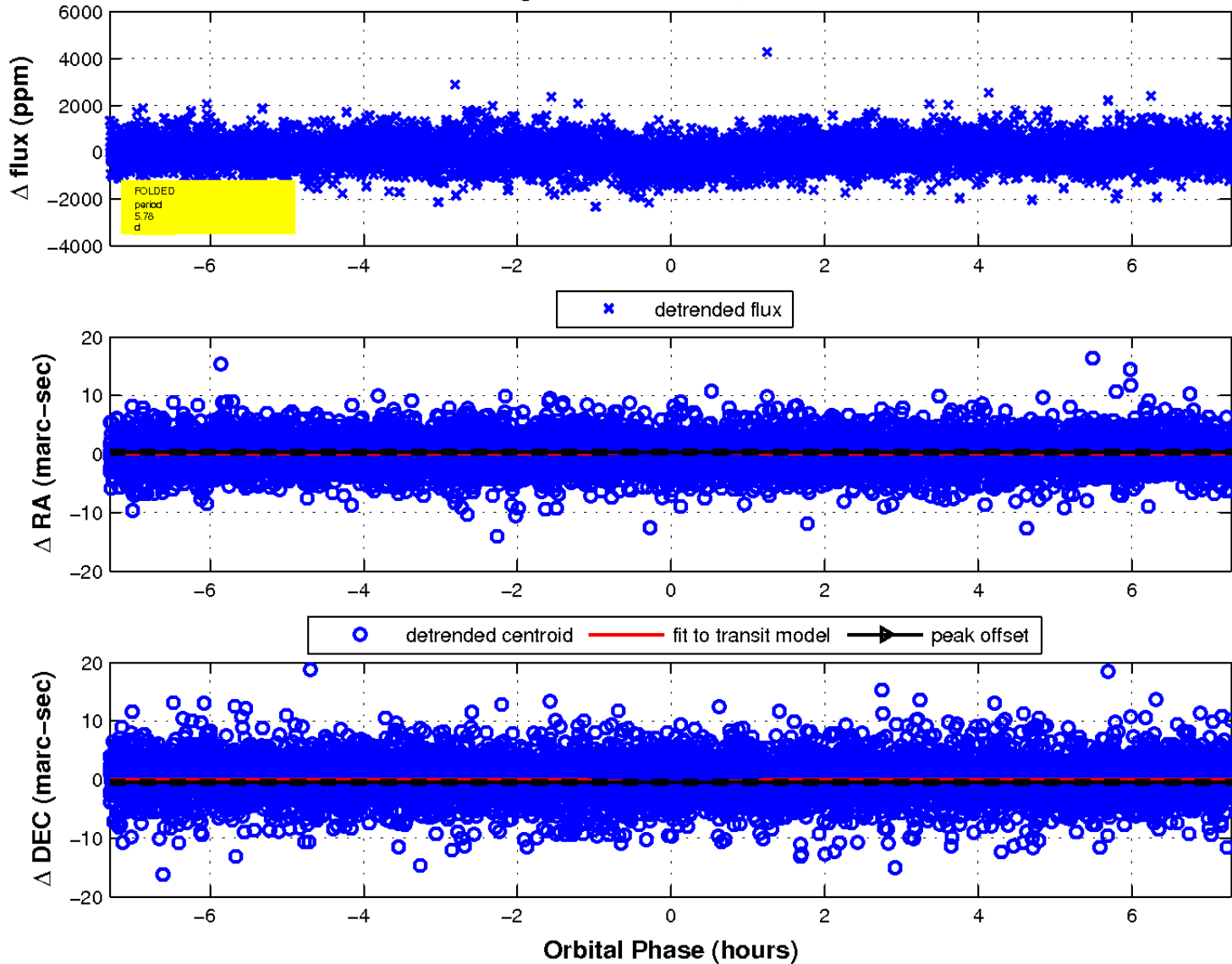
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

