

KIC 005343020

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})
005343020-01	OBS	No	0.716353	131.997545	12.6	3.986	7.8	4.2	1.09	5784	0.38	5107.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005343020-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET

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

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

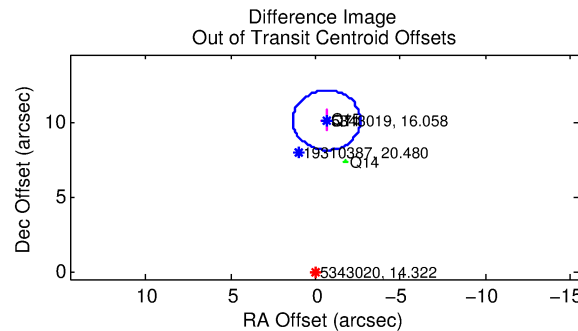
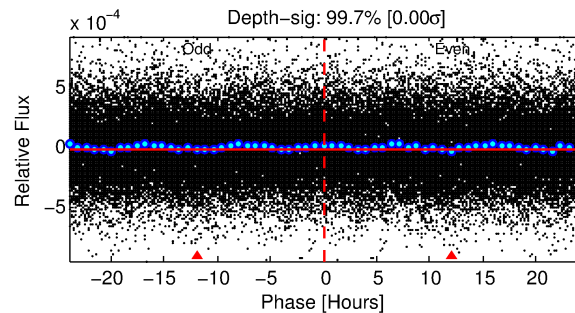
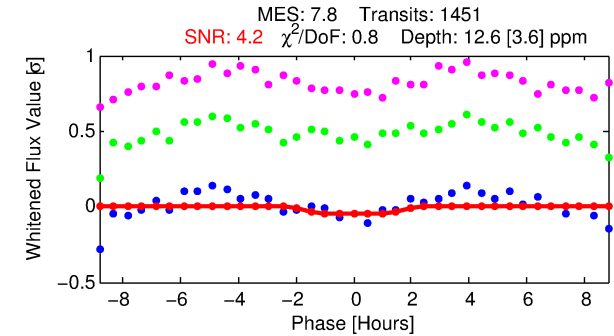
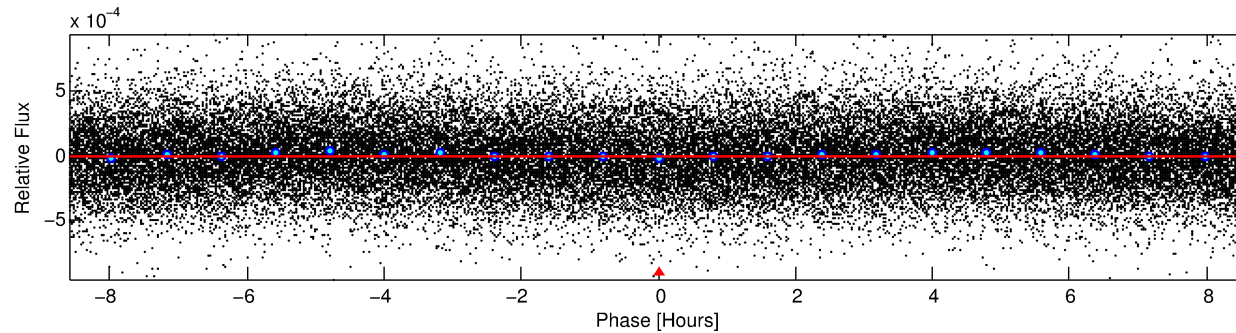
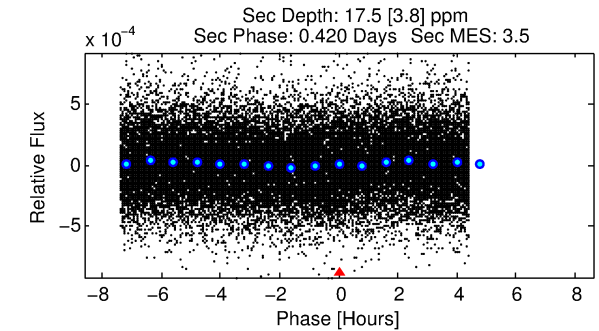
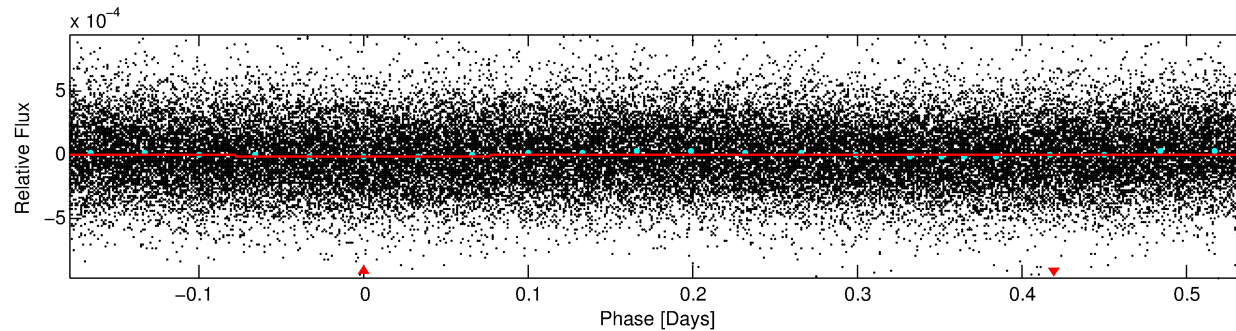
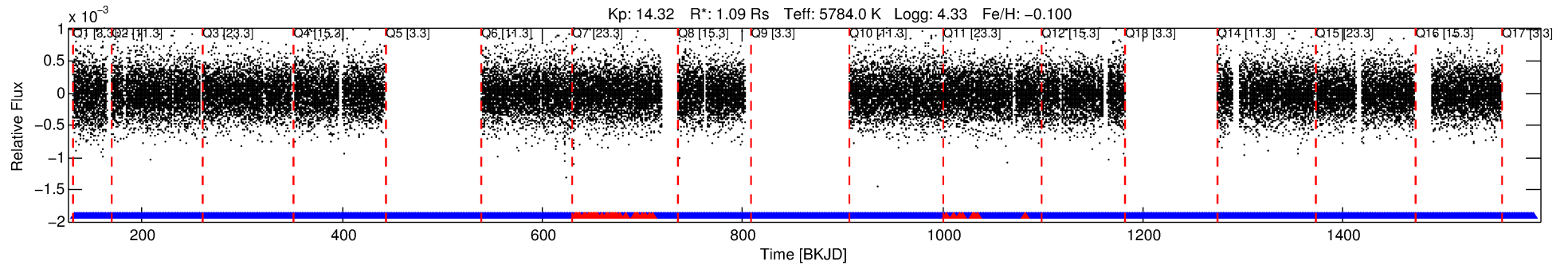
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005343020-01

No Significant Match Found

DV One-Page Summary

KIC: 5343020 Candidate: 1 of 1 Period: 0.716 d



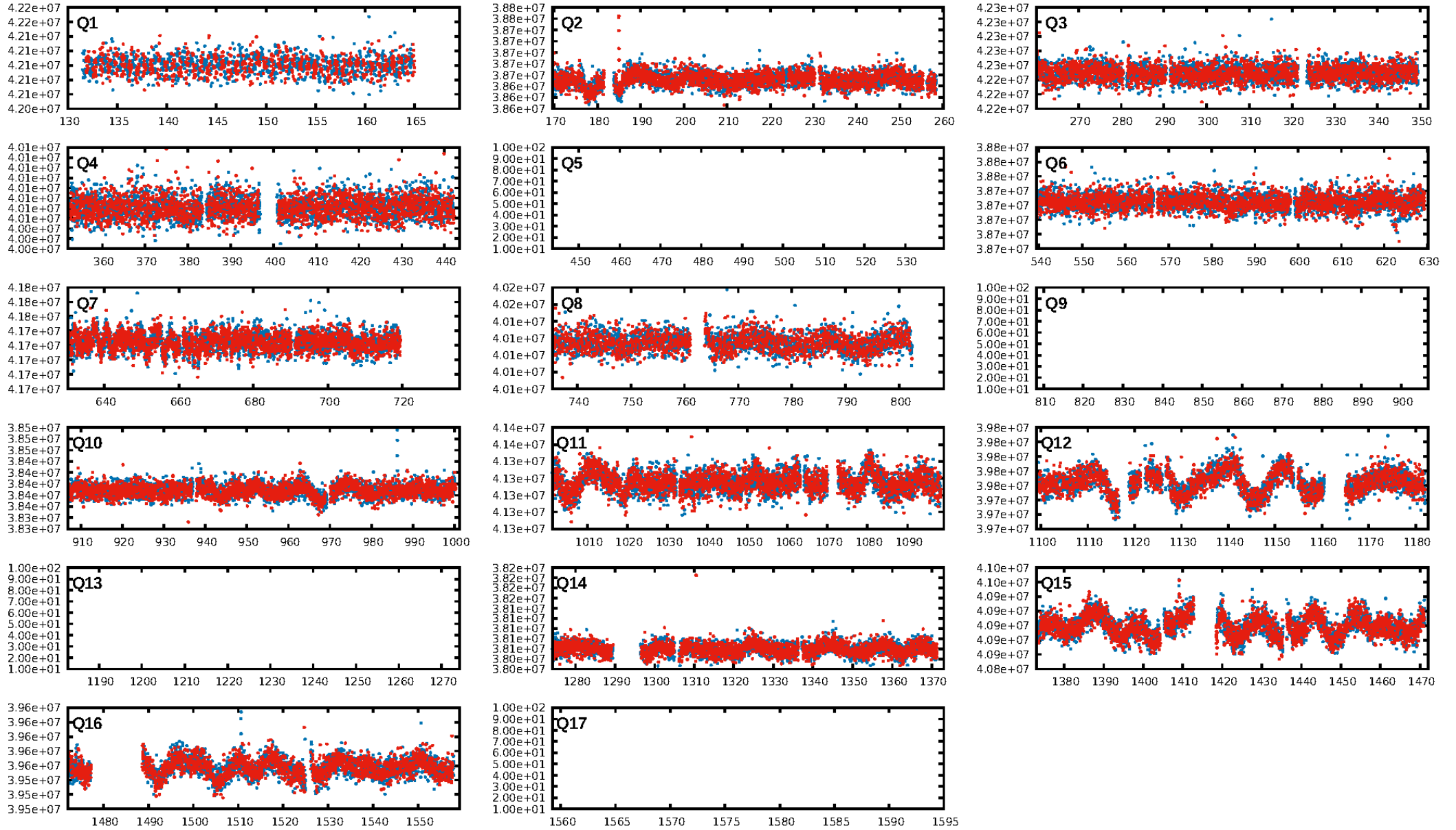
DV Fit Results:

Period = 0.71635 [0.00003] d
Epoch = 131.9975 [0.0106] BKJD
Rp/R* = 0.0032 [0.0119]
a/R* = 1.50 [13.91]
b = 0.10 [165.69]
Seff = 5107.26 [1897.06]
Teq = 2156 [200] K
Rp = 0.38 [1.42] Re
a = 0.0153 [0.0037] AU
Ag = 15.20 [112.39] [0.13σ]
Teffp = 6581 [12153] K [0.36σ]

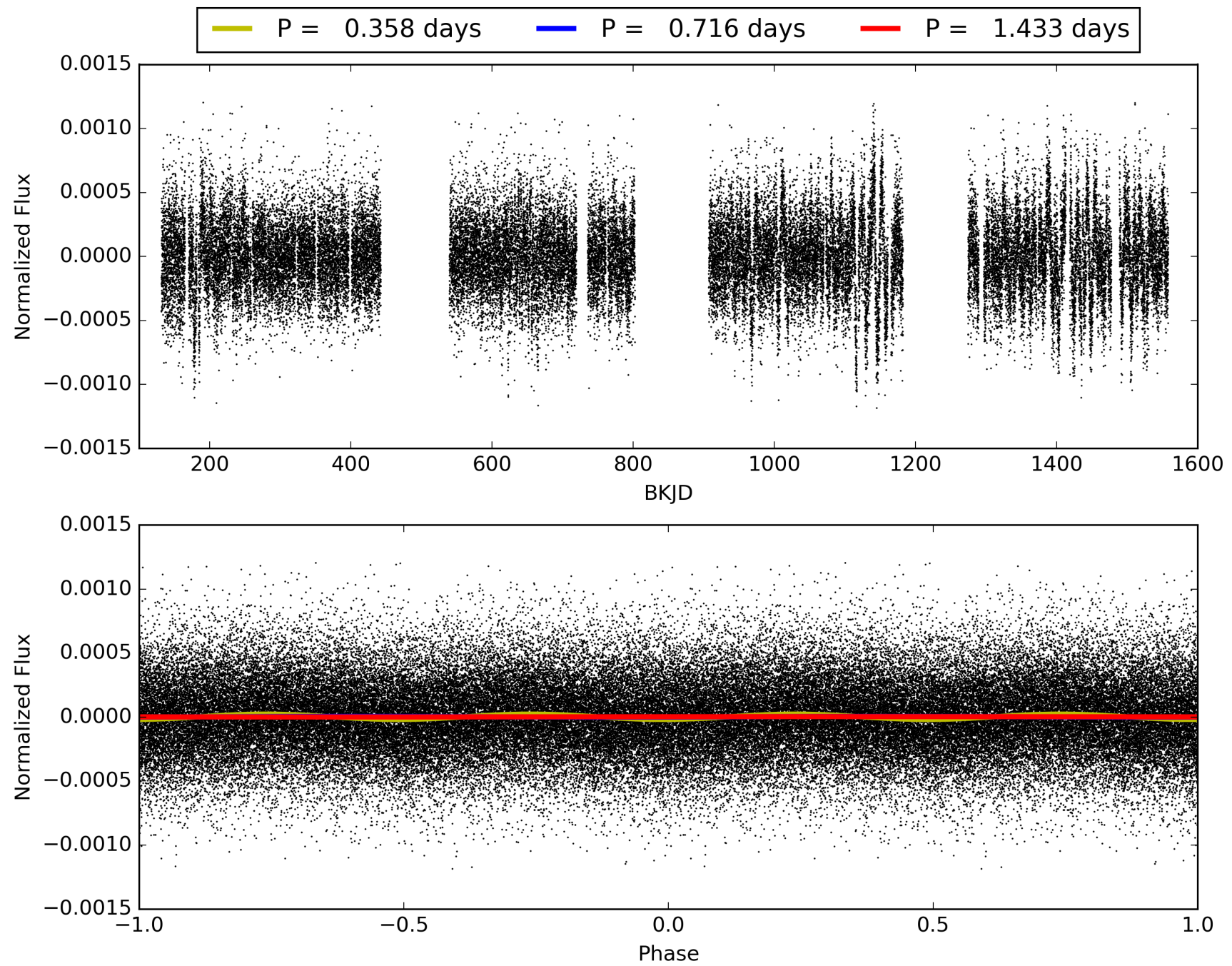
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.83e-10
RollingBand-fgt: 0.97 [1358/1404]
GhostDiagnostic-chr: -0.4501
Centroid-sig: N/A
Centroid-so: 4.791 arcsec [1.15σ]
OotOffset-rm: 10.122 arcsec [15.21σ]
KicOffset-rm: 10.115 arcsec [21.63σ]
OotOffset-st: 1/3/0/0 [4]
KicOffset-st: 1/3/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 005343020-01, PDC Light Curves

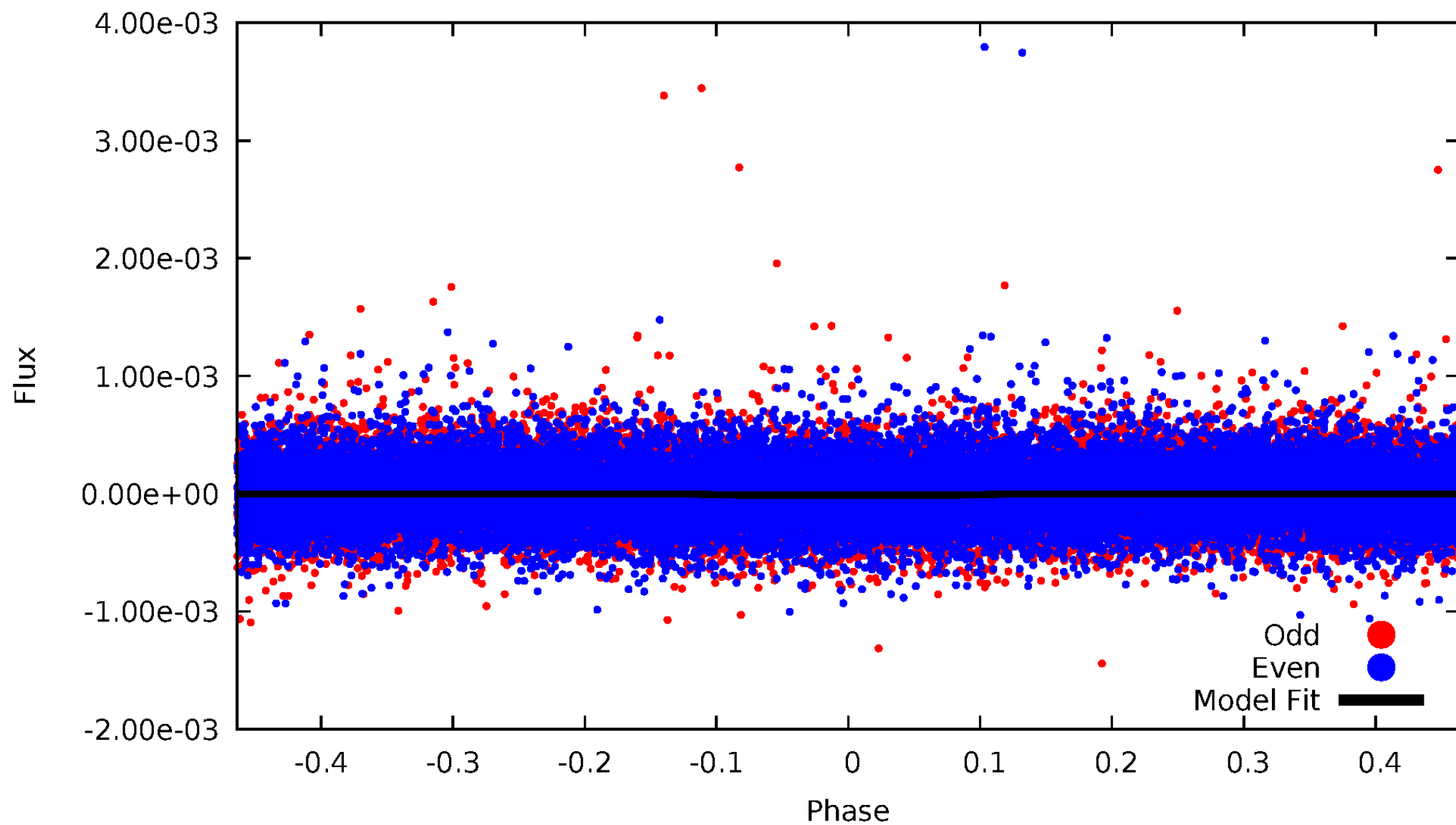


TCE 005343020-01



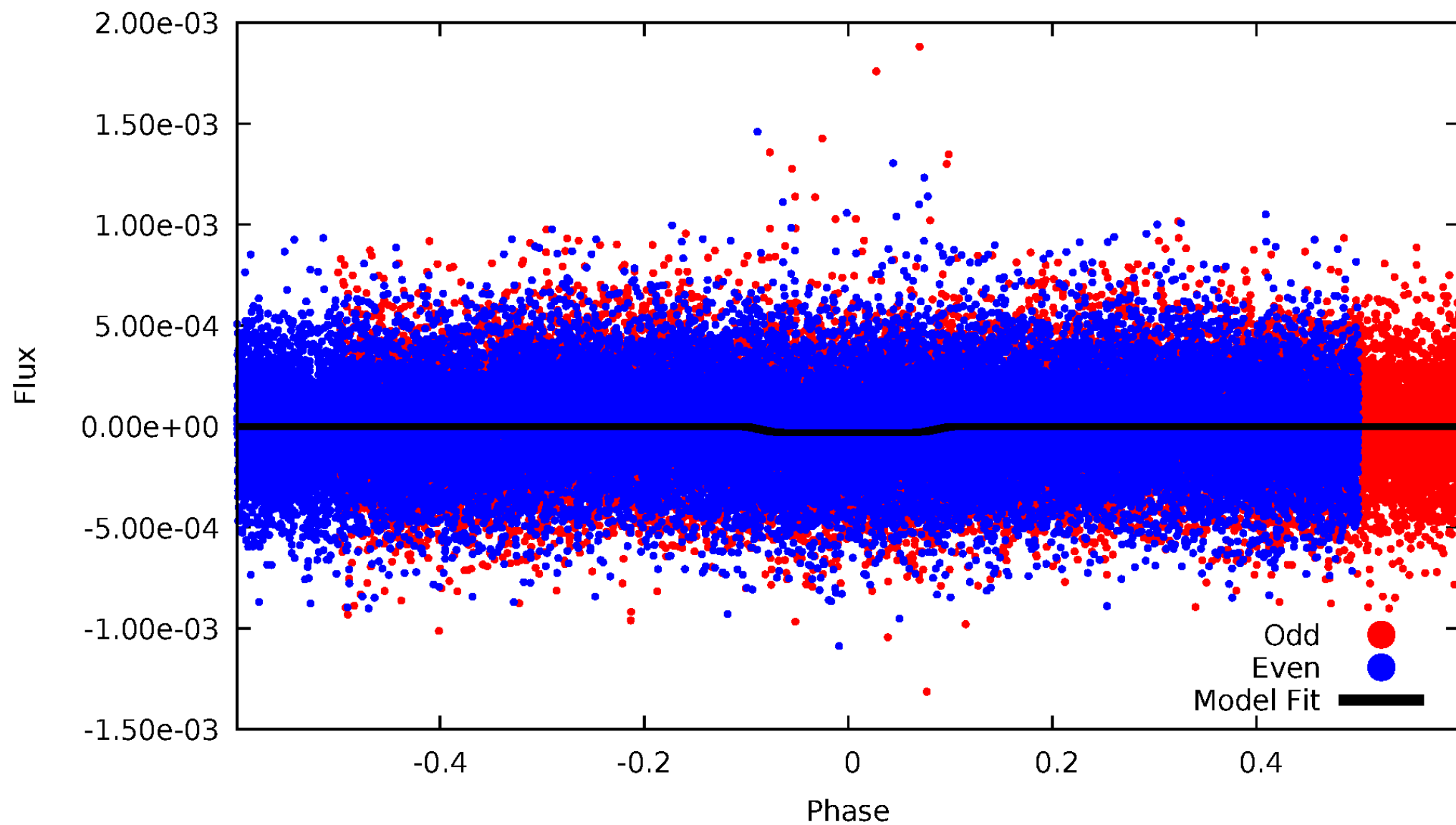
DV Odd/Even

TCE 005343020-01

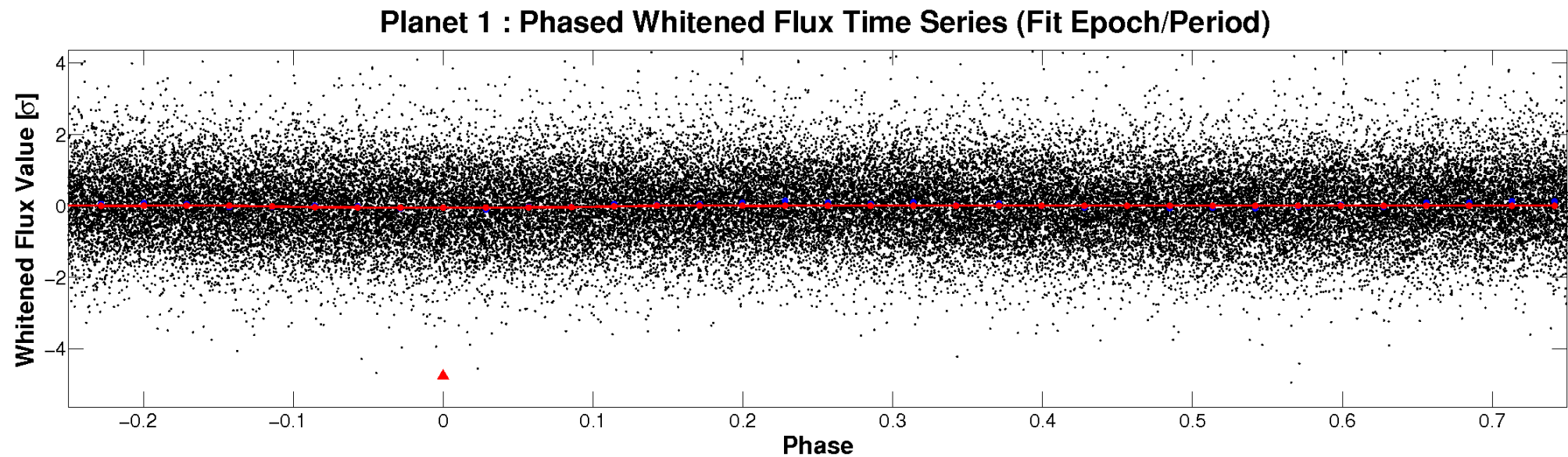
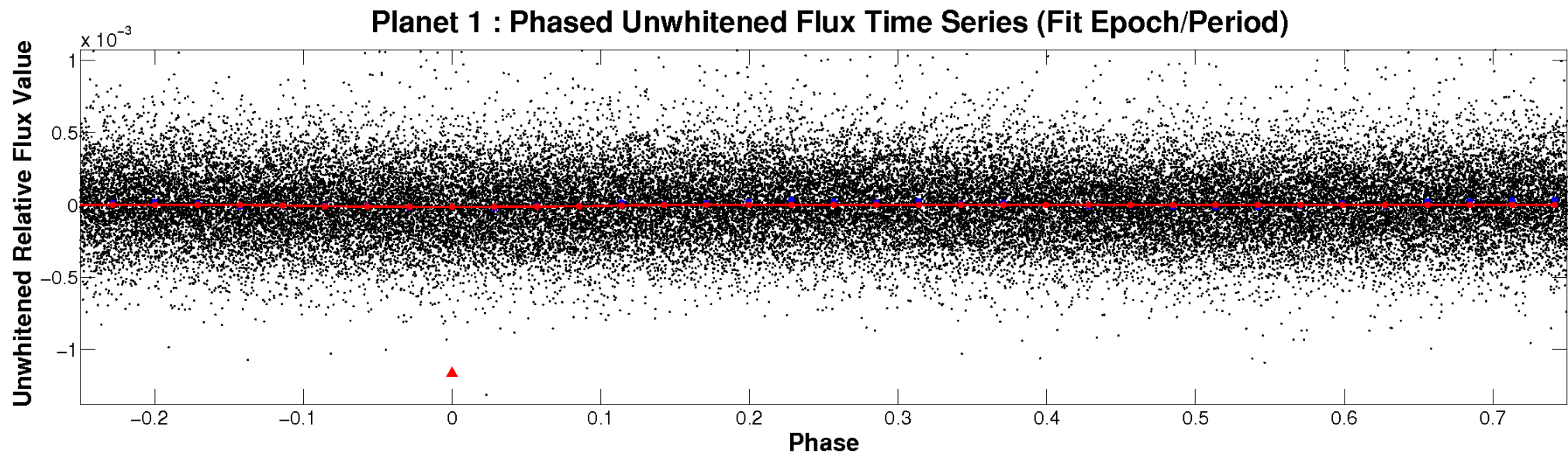


ALT Odd/Even

TCE 005343020-01

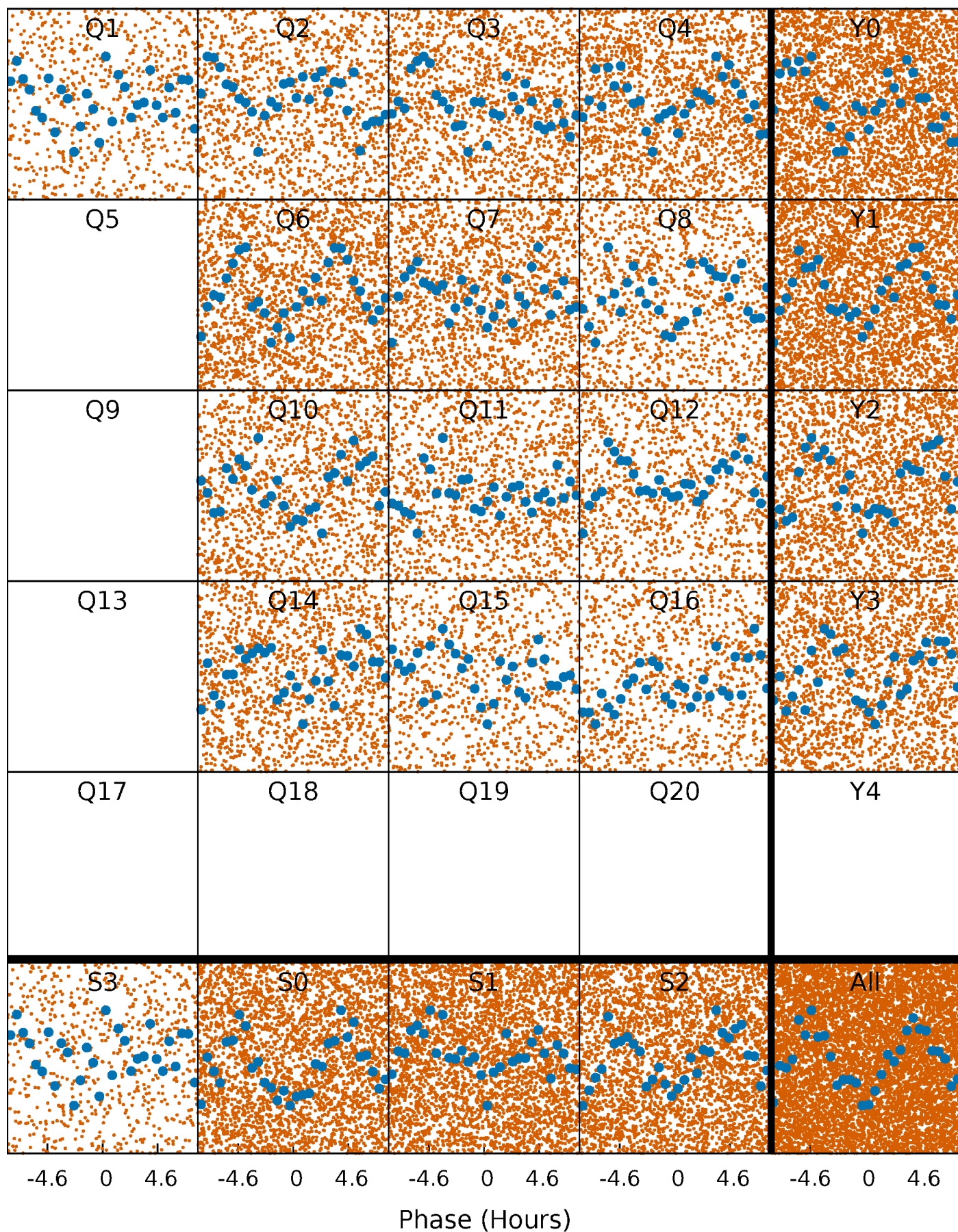


Non-Whitened Vs. Whitened Light Curve



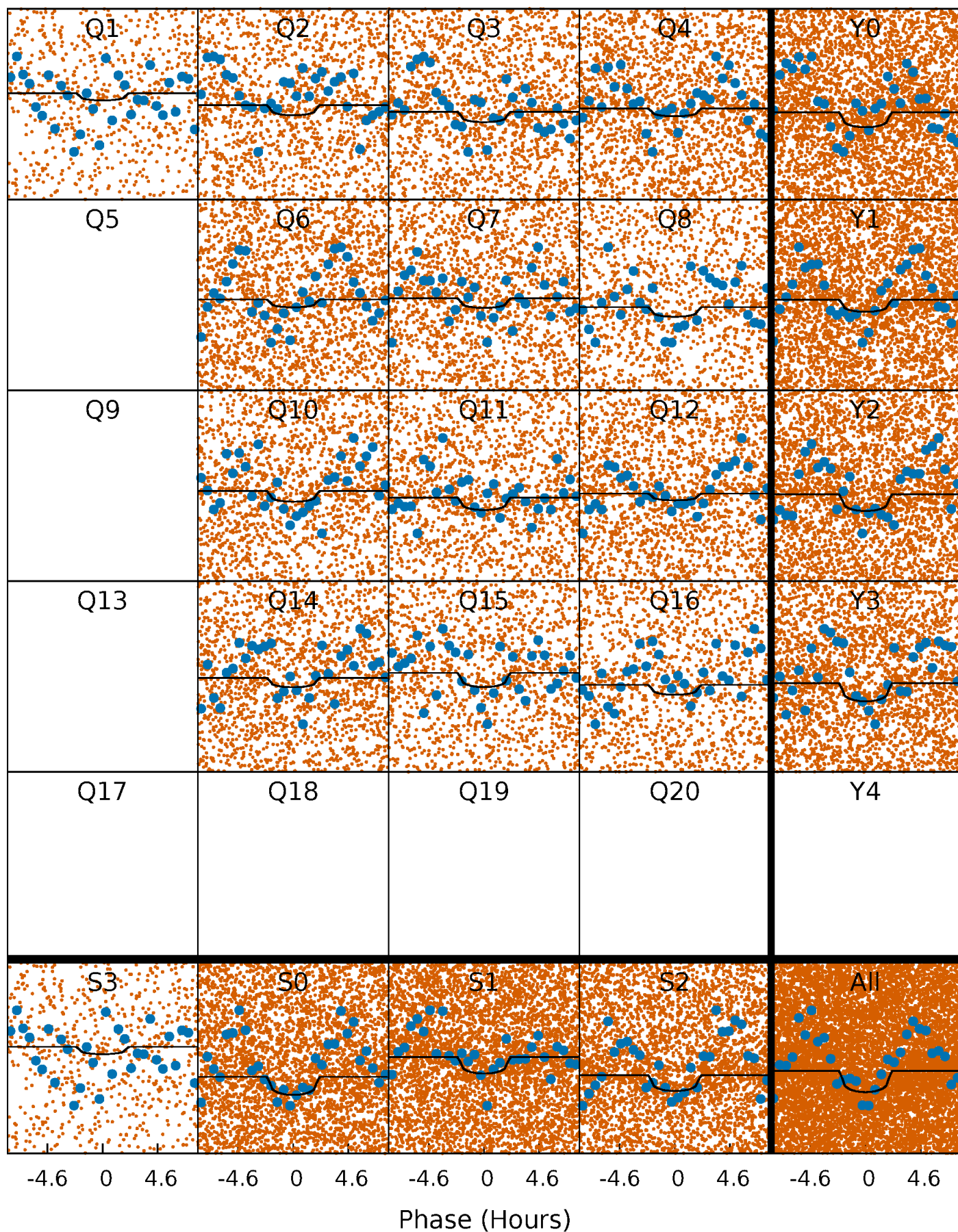
PDC Quarter-Phased Transit Curves

TCE 005343020-01 P= 0.716353 Days $T_0=131.997545$ (BKJD)



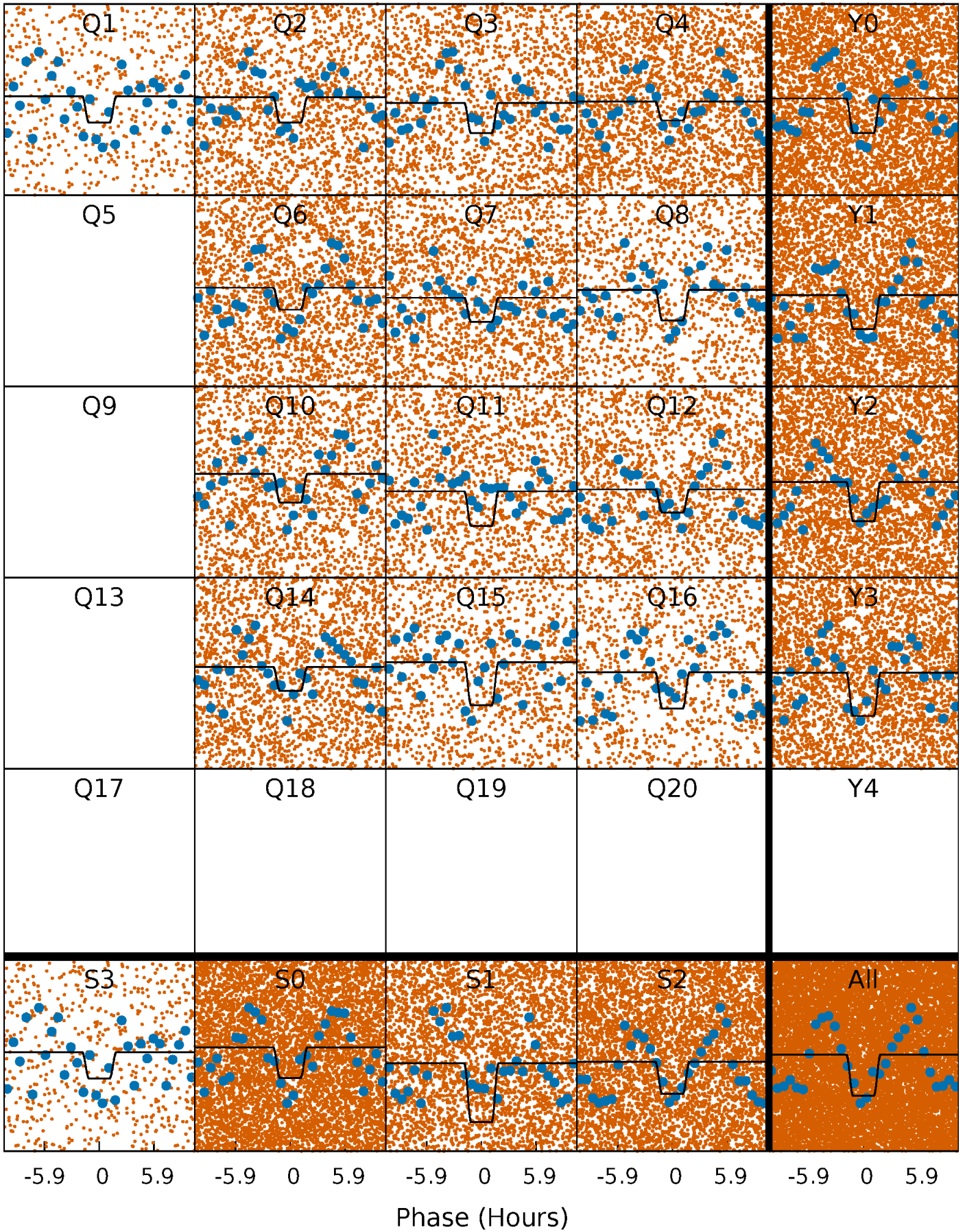
DV Quarter-Phased Transit Curves

TCE 005343020-01 P= 0.716353 Days $T_0=131.997545$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

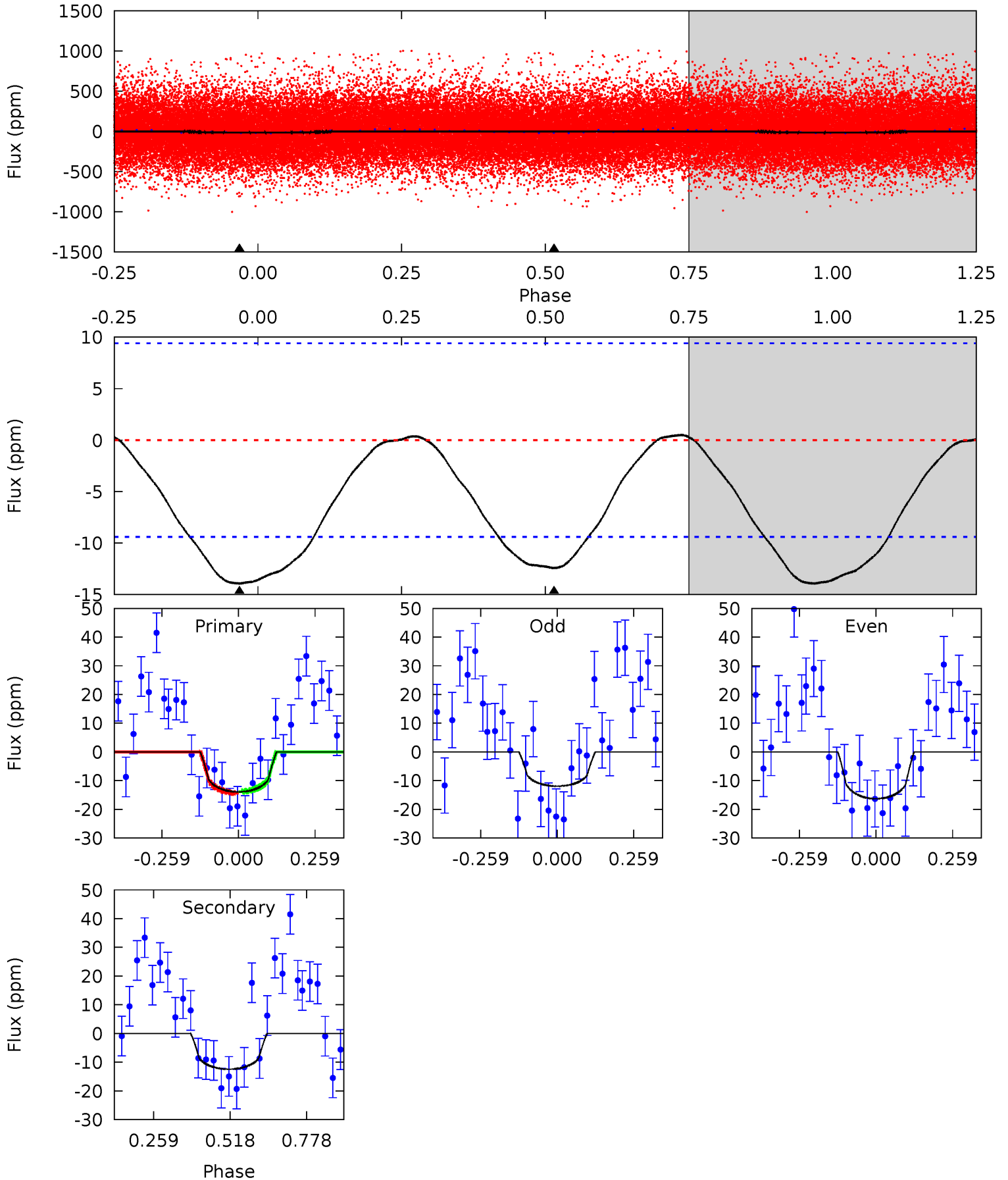
TCE 005343020-01 P= 0.716435 Days $T_0=131.902468$ (BKJD)



DV Model-Shift Uniqueness Test

005343020-01, P = 0.716353 Days, E = 131.281192 Days

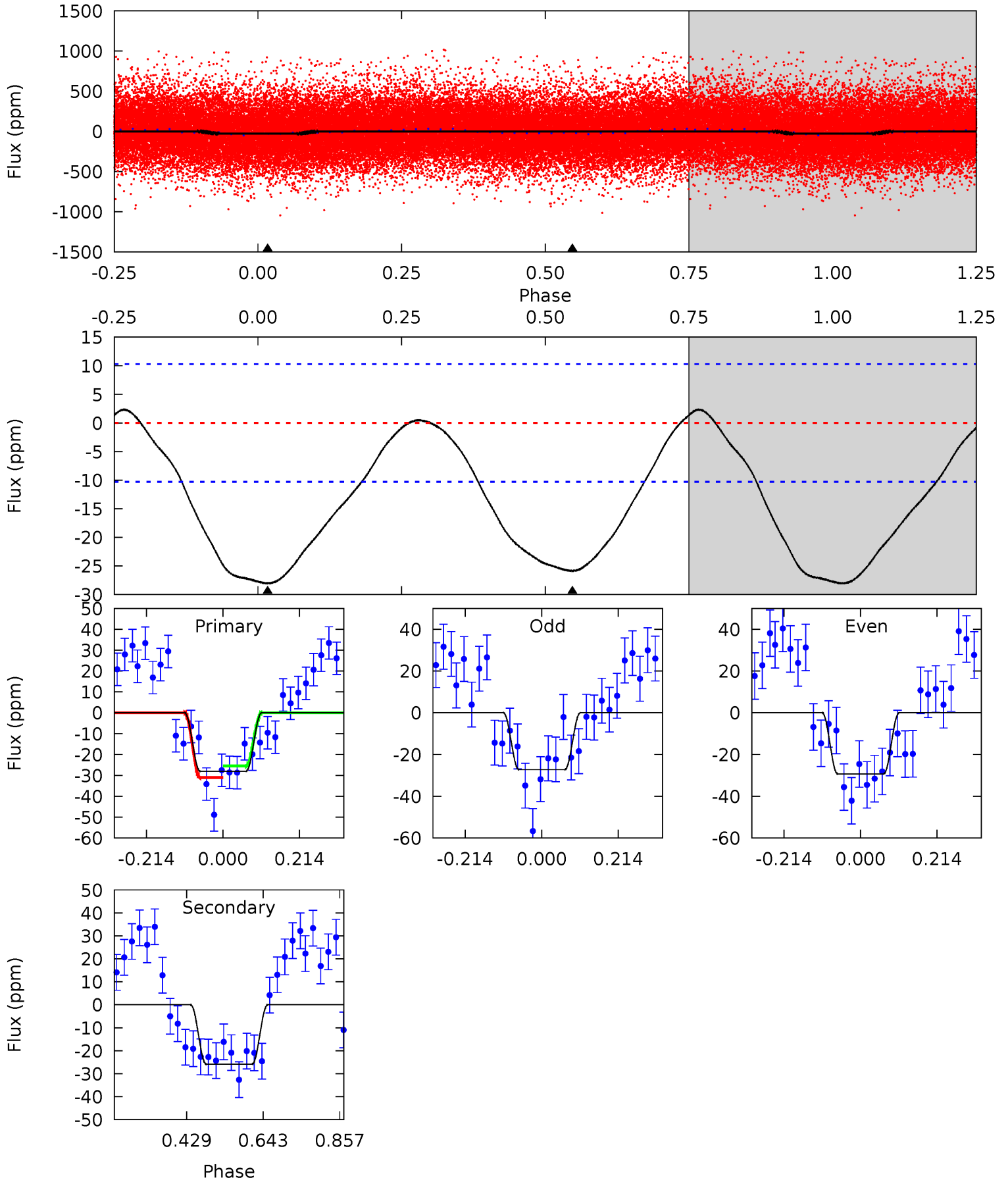
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.47	5.77	0	0	4.36	1.13	0.21	6.47	6.47	5.77	5.77	1.01	0.89	0.03	0.11



Alt Model-Shift Uniqueness Test

005343020-01, P = 0.716435 Days, E = 131.186033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	11.1	0	0	4.40	1.24	0.55	12.0	12.0	11.1	11.1	0.44	1.05	0.08	1.18



Stellar Parameters For KIC 005343020

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5784^{+156}_{-173}	$4.330^{+0.158}_{-0.193}$	$-0.100^{+0.300}_{-0.300}$	$1.091^{+0.310}_{-0.207}$	$0.929^{+0.136}_{-0.091}$	$1.008^{+0.762}_{-0.503}$
	+3%/-3%	+4%/-4%	+300%/-300%	+28%/-19%	+15%/-10%	+76%/-50%
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 005343020-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$1.14^{+1.14}_{-0.72}$	3023^{+237}_{-191}	3667^{+2204}_{-1697}	$1.287^{+8.955}_{-0.980}$
Alt.	-26 ± 2	$1.23^{+1.21}_{-0.81}$	3022^{+233}_{-188}	4153^{+2886}_{-1088}	$2.193^{+17.899}_{-1.625}$

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

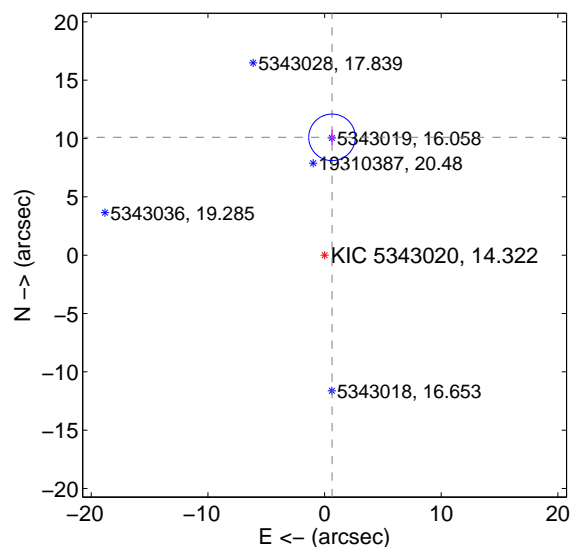
Supplemental centroid analysis for 005343020-01. Kepler magnitude: 14.32. Transit SNR 4.25

There are 4 quarters with good PRF difference image offsets

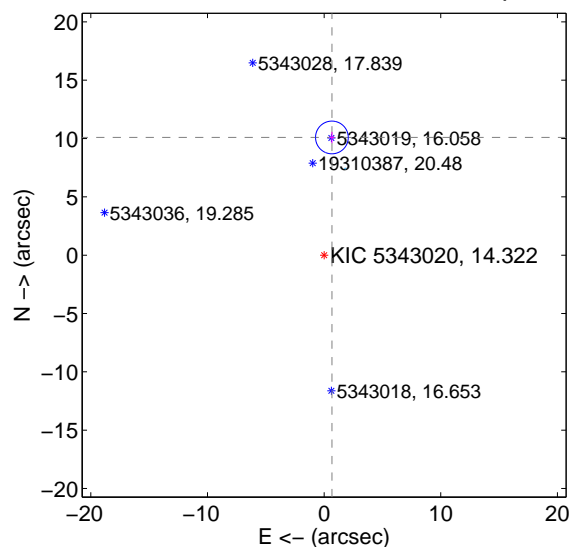
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.122 \pm 0.665	15.21	-0.639 \pm 0.295	10.102 \pm 0.685
PRF-fit source offset from KIC position	10.115 \pm 0.468	21.63	-0.668 \pm 0.224	10.093 \pm 0.483
photometric centroid source offset	4.79 \pm 4.16	1.15	-3.20 \pm 3.11	-3.56 \pm 4.85

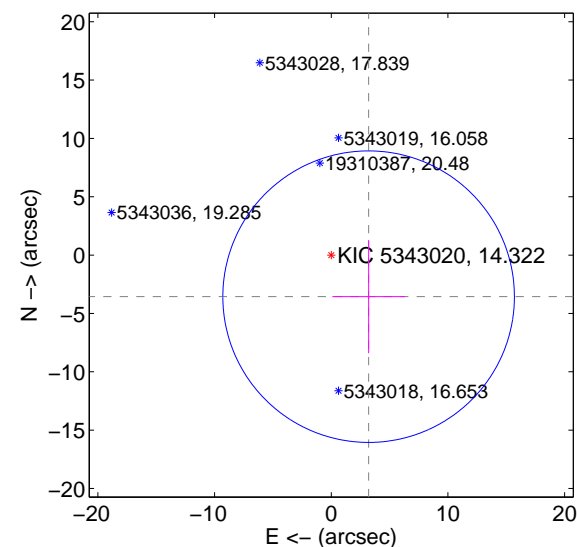
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

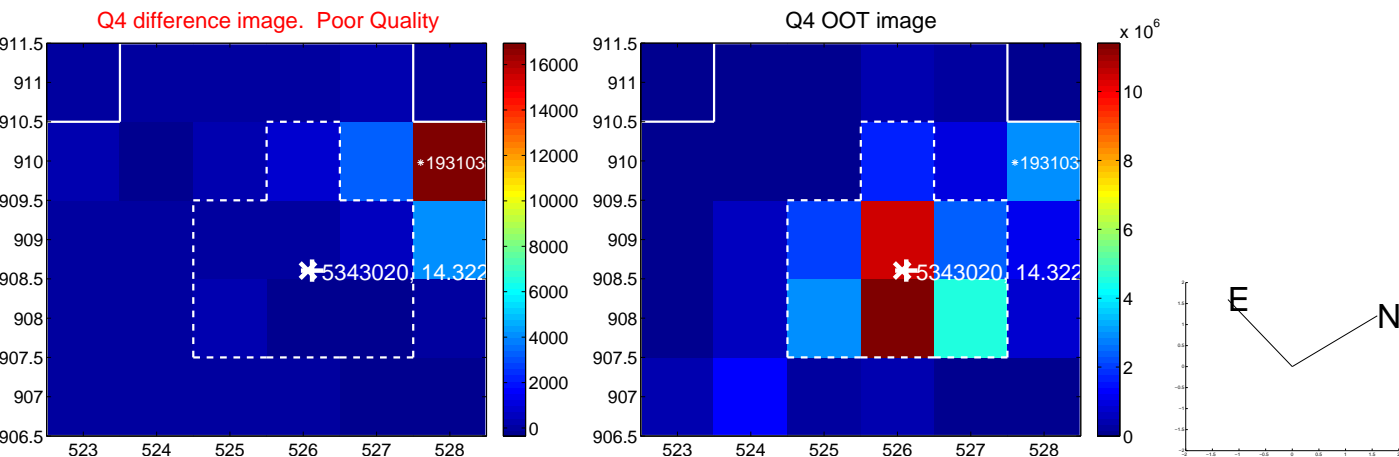
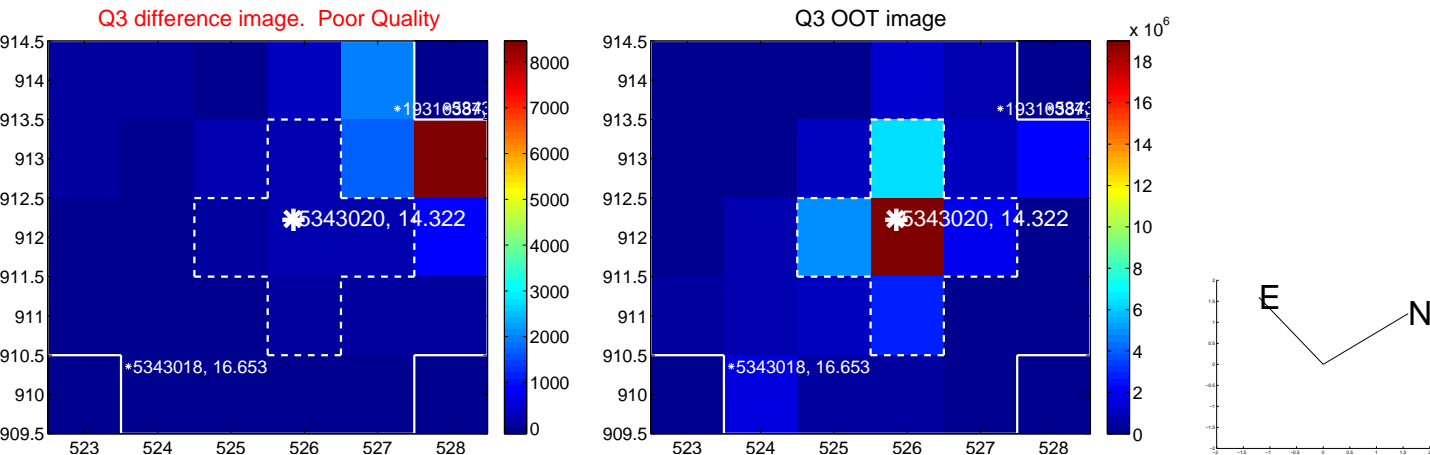
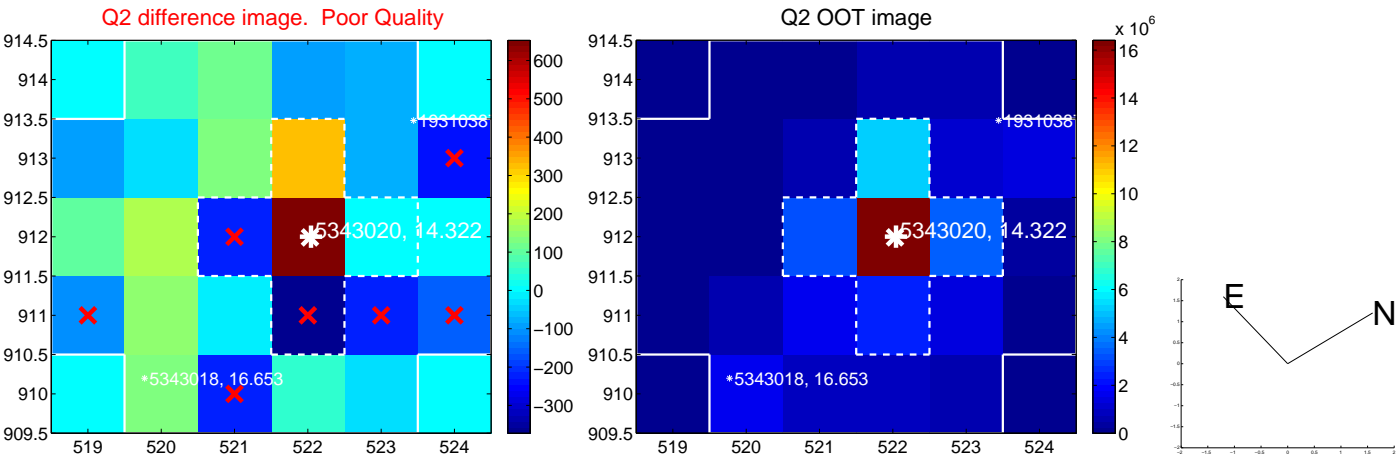
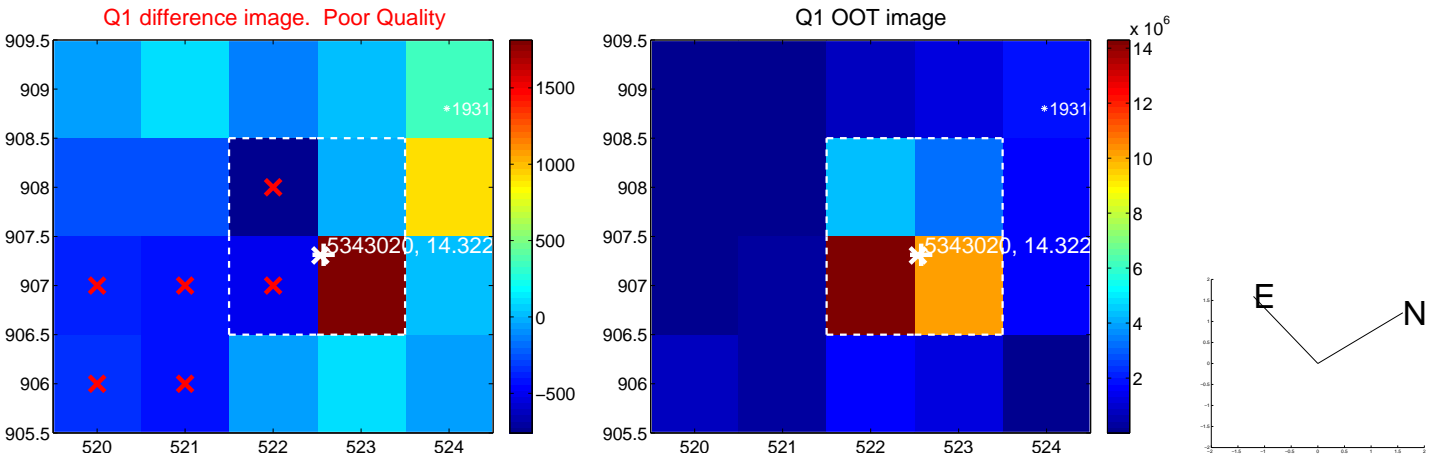


offset from photometric centroids



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.

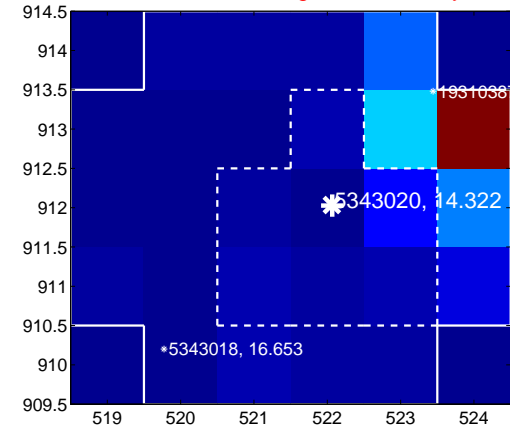
Q5 no difference image



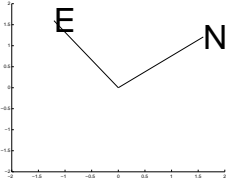
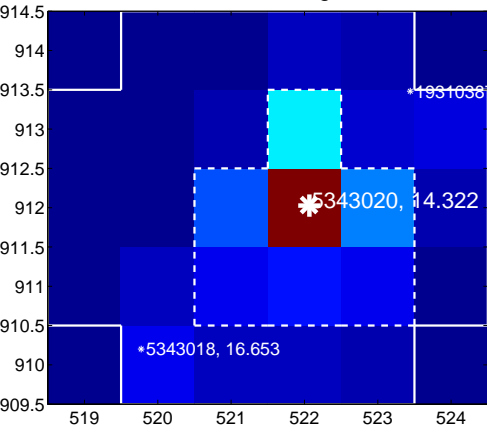
Q5 no OOT image



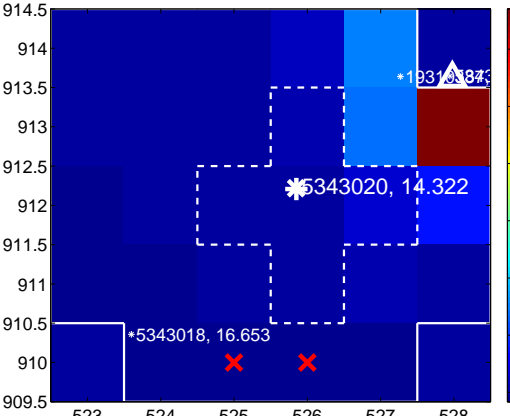
Q6 difference image. Poor Quality



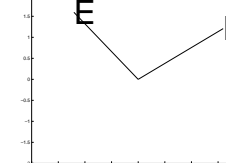
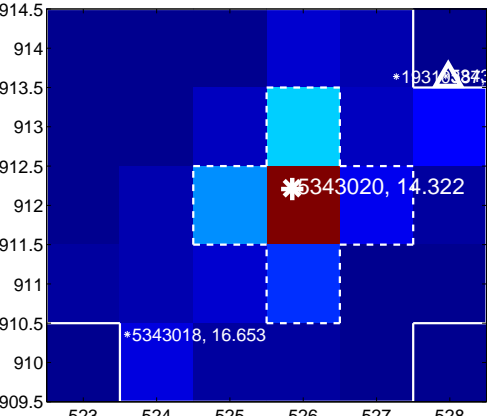
Q6 OOT image



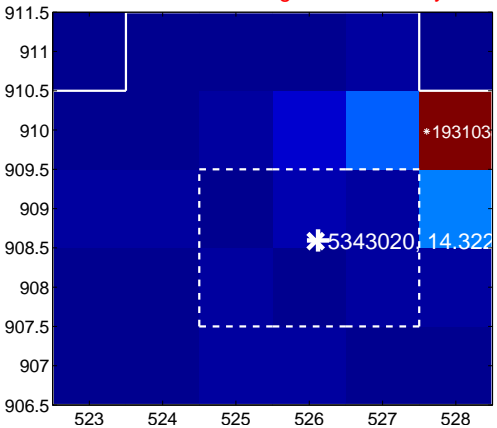
Q7 difference image



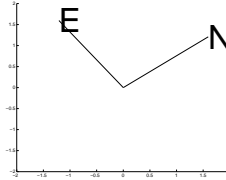
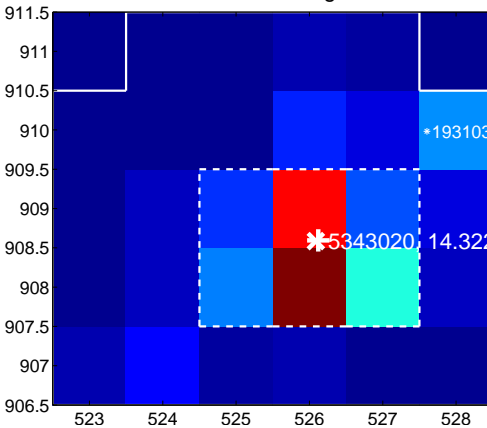
Q7 OOT image



Q8 difference image. Poor Quality



Q8 OOT image



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

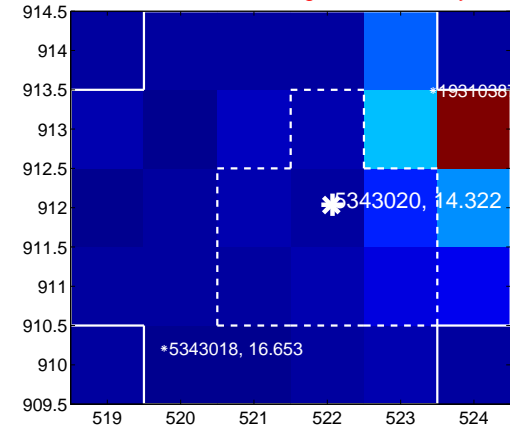
Q9 no difference image



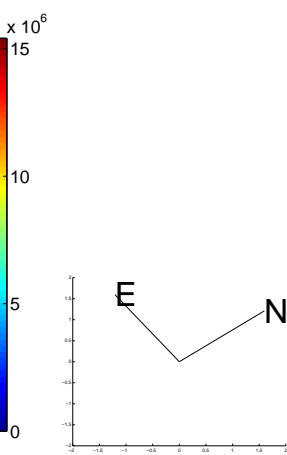
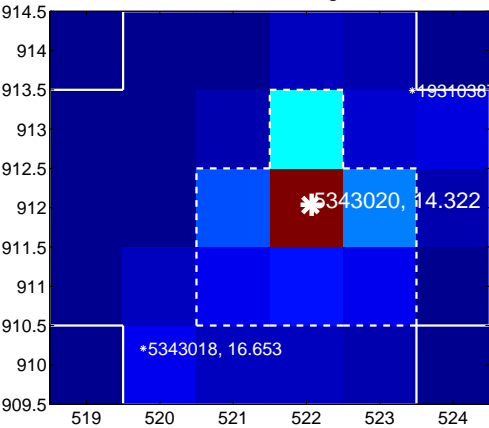
Q9 no OOT image



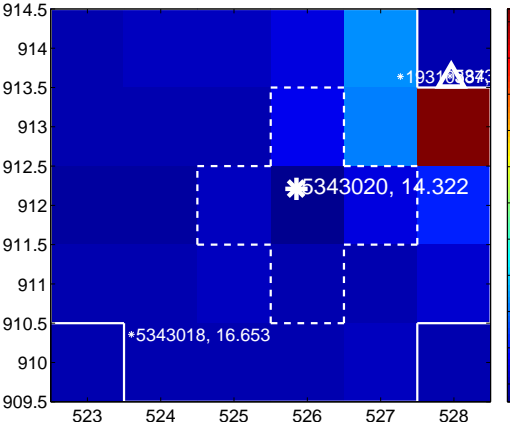
Q10 difference image. Poor Quality



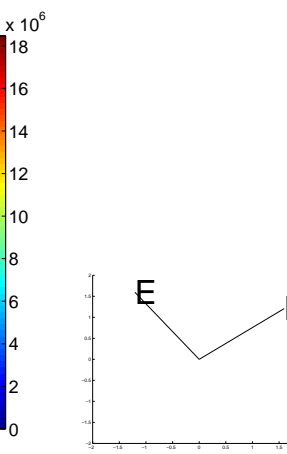
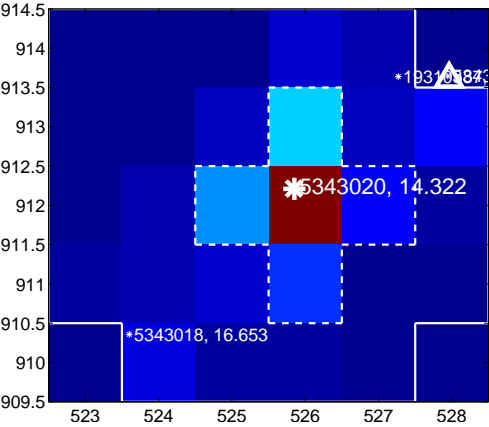
Q10 OOT image



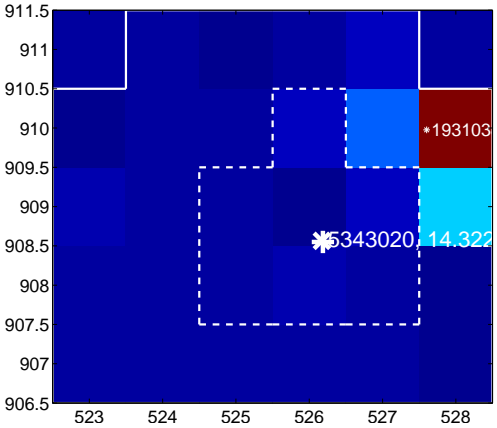
Q11 difference image



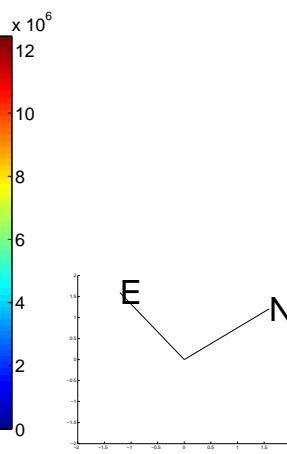
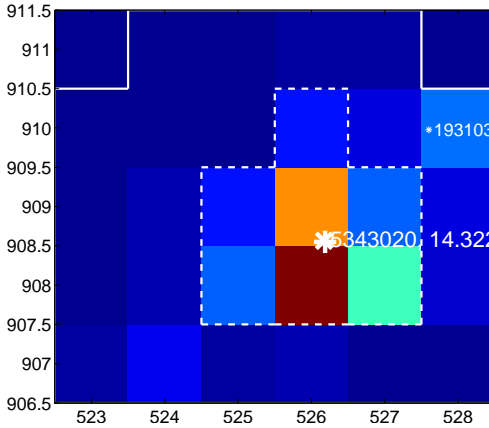
Q11 OOT image



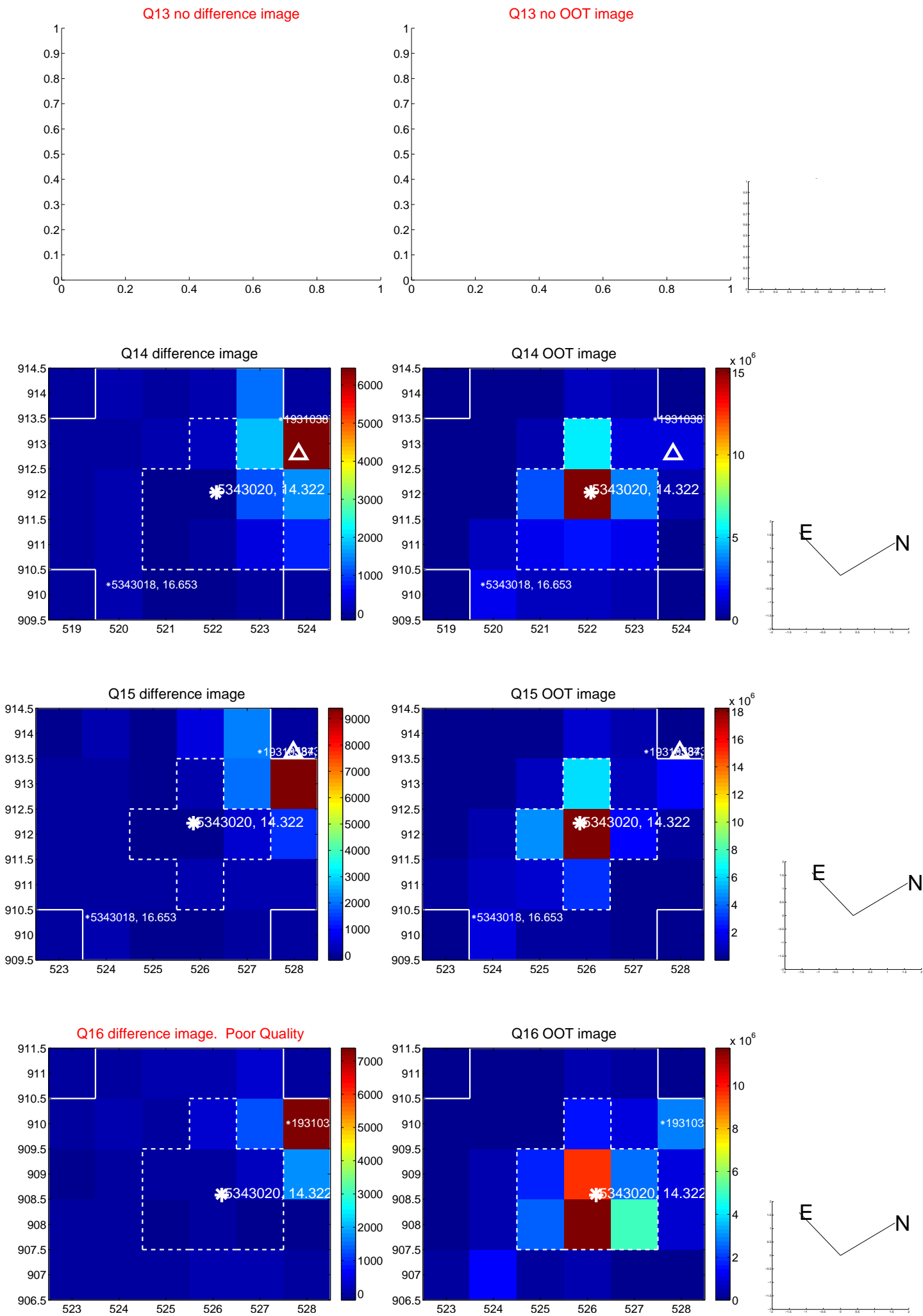
Q12 difference image. Poor Quality



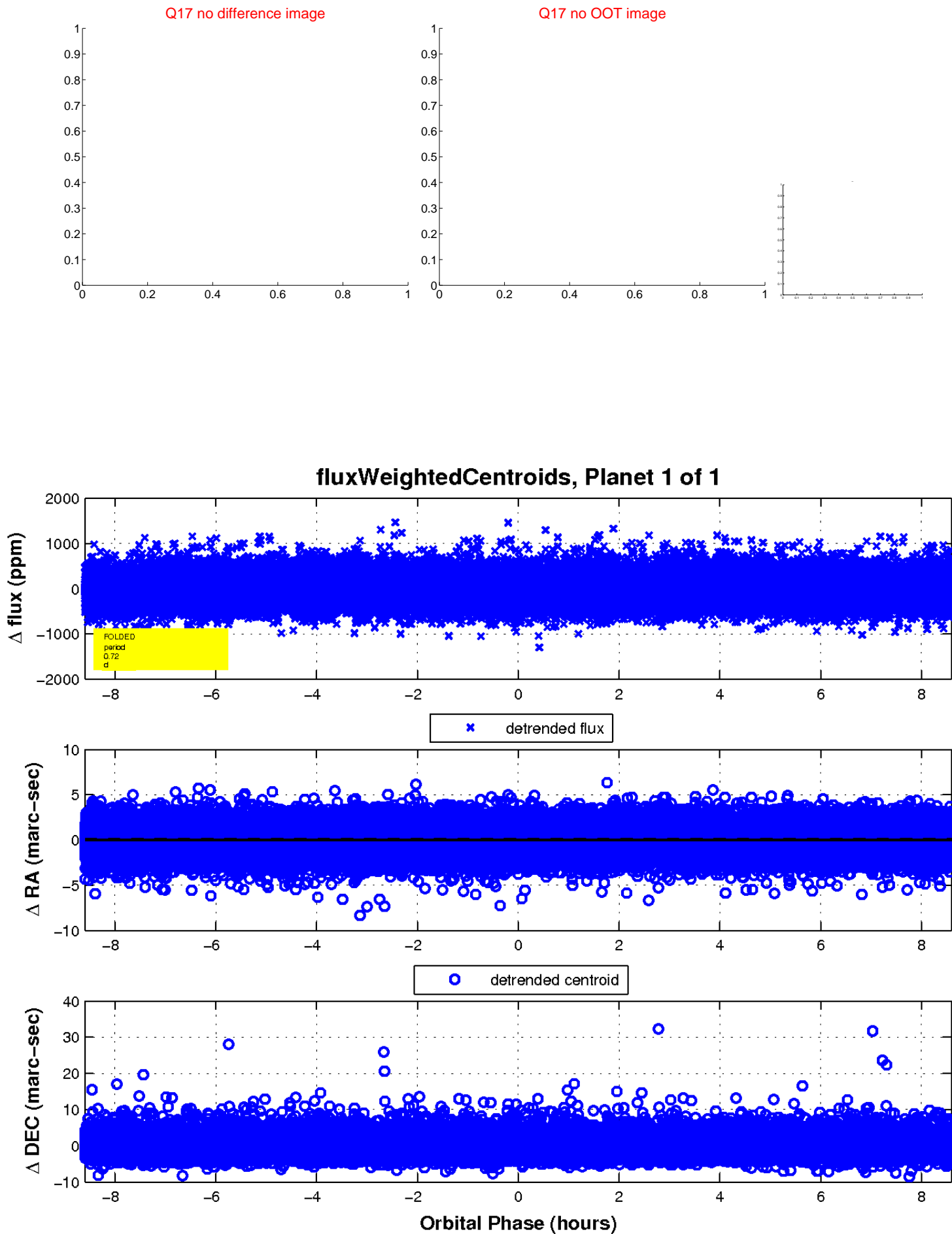
Q12 OOT image



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.



UKIRT Image

Declination

