

KIC 010909127

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})
010909127-01	OBS	2200.01	3.170596	132.678694	323.0	1.718	16.1	19.0	0.84	5431	1.82	321.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010909127-01	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.

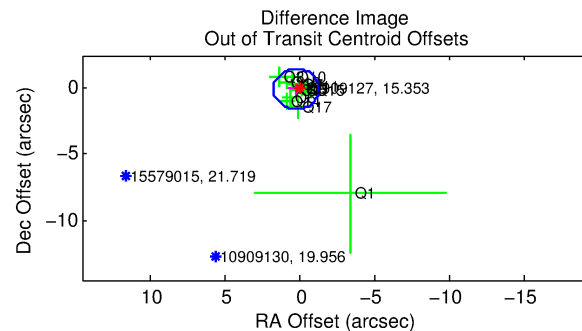
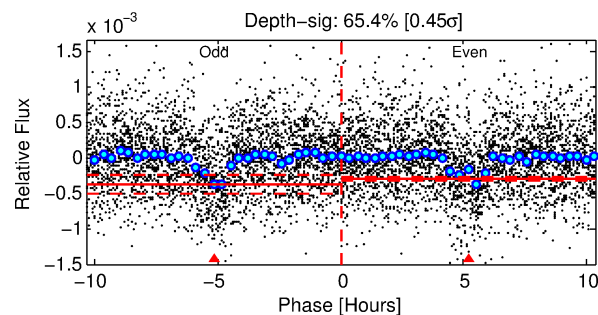
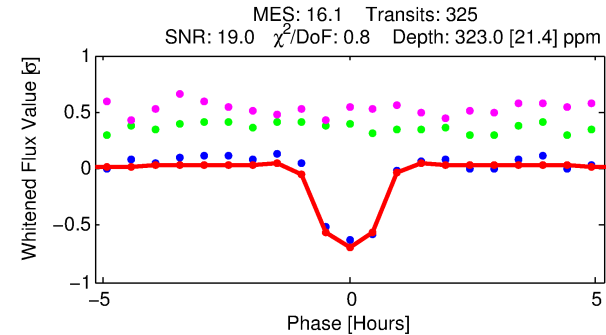
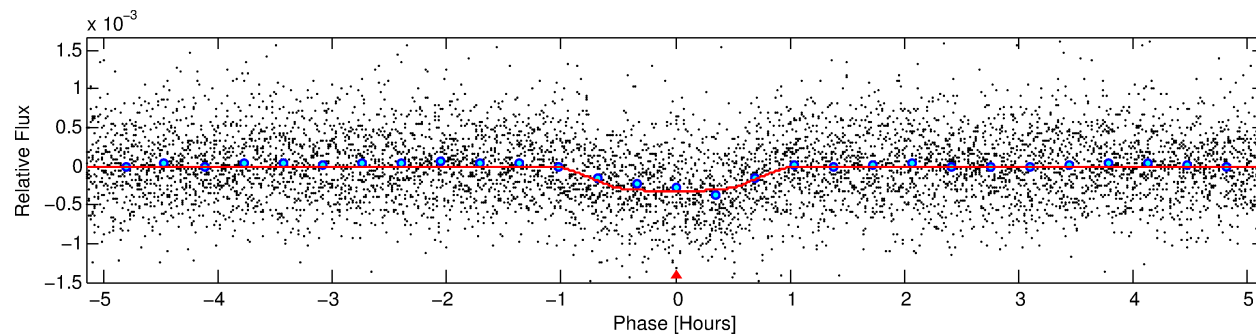
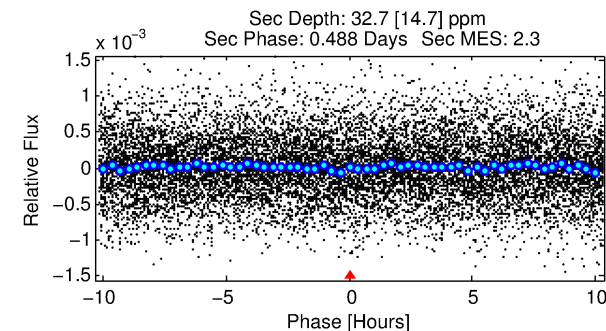
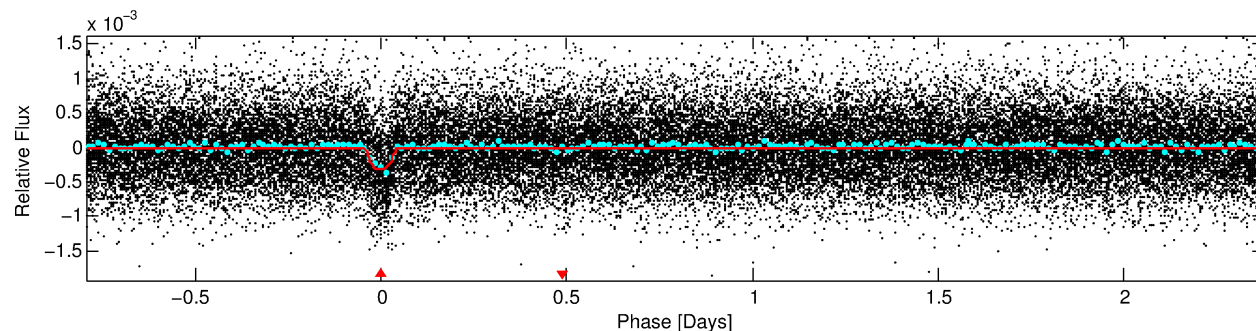
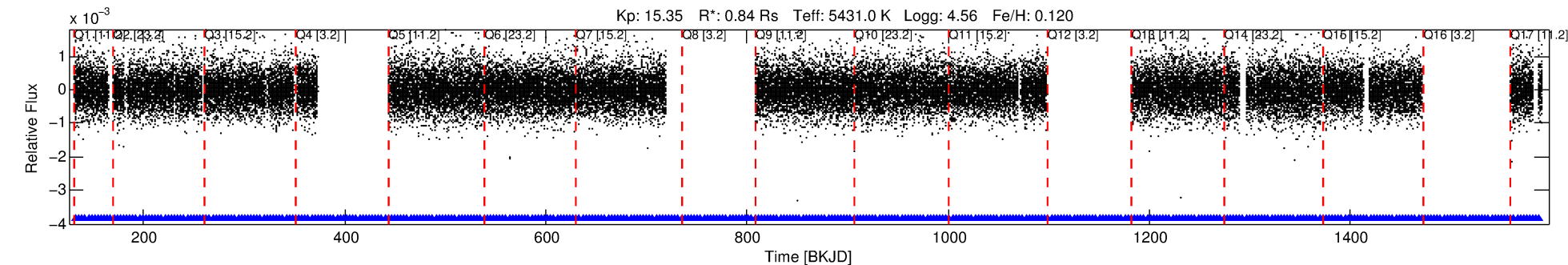
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010909127-01

No Significant Match Found

DV One-Page Summary

KIC: 10909127 Candidate: 1 of 1 Period: 3.171 d
KOI: K02200.01 Corr: 0.959



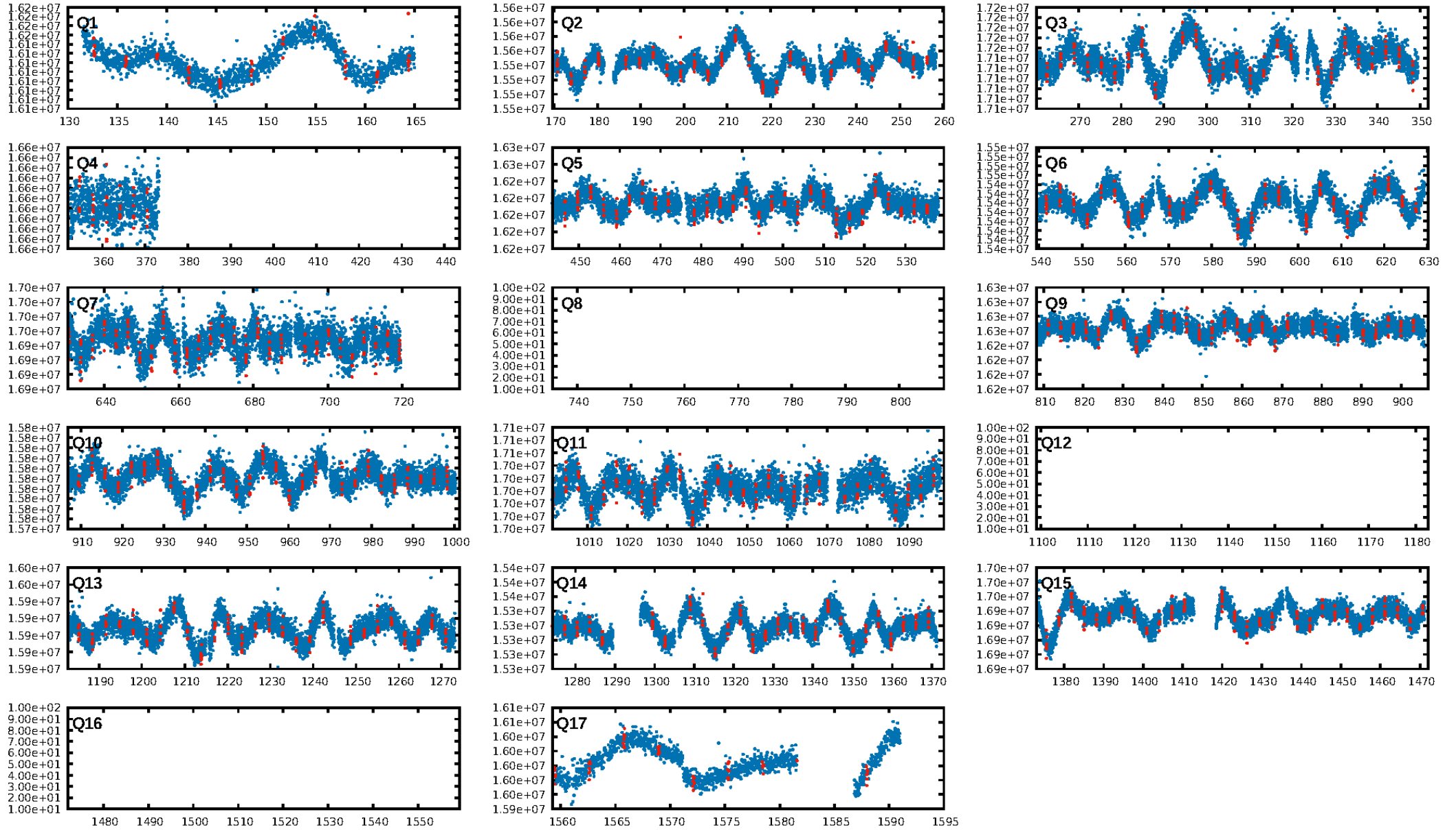
DV Fit Results:

Period = 3.17060 [0.00001] d
Epoch = 132.6787 [0.0016] BKJD
Rp/R* = 0.0198 [0.0089]
a/R* = 6.90 [12.94]
b = 0.90 [0.43]
Seff = 321.69 [52.30]
Teff = 1080 [44] K
Rp = 1.82 [0.84] Re
a = 0.0415 [0.0040] AU
Ag = 9.33 [9.48] [0.88σ]
Teffp = 2918 [734] K [2.50σ]

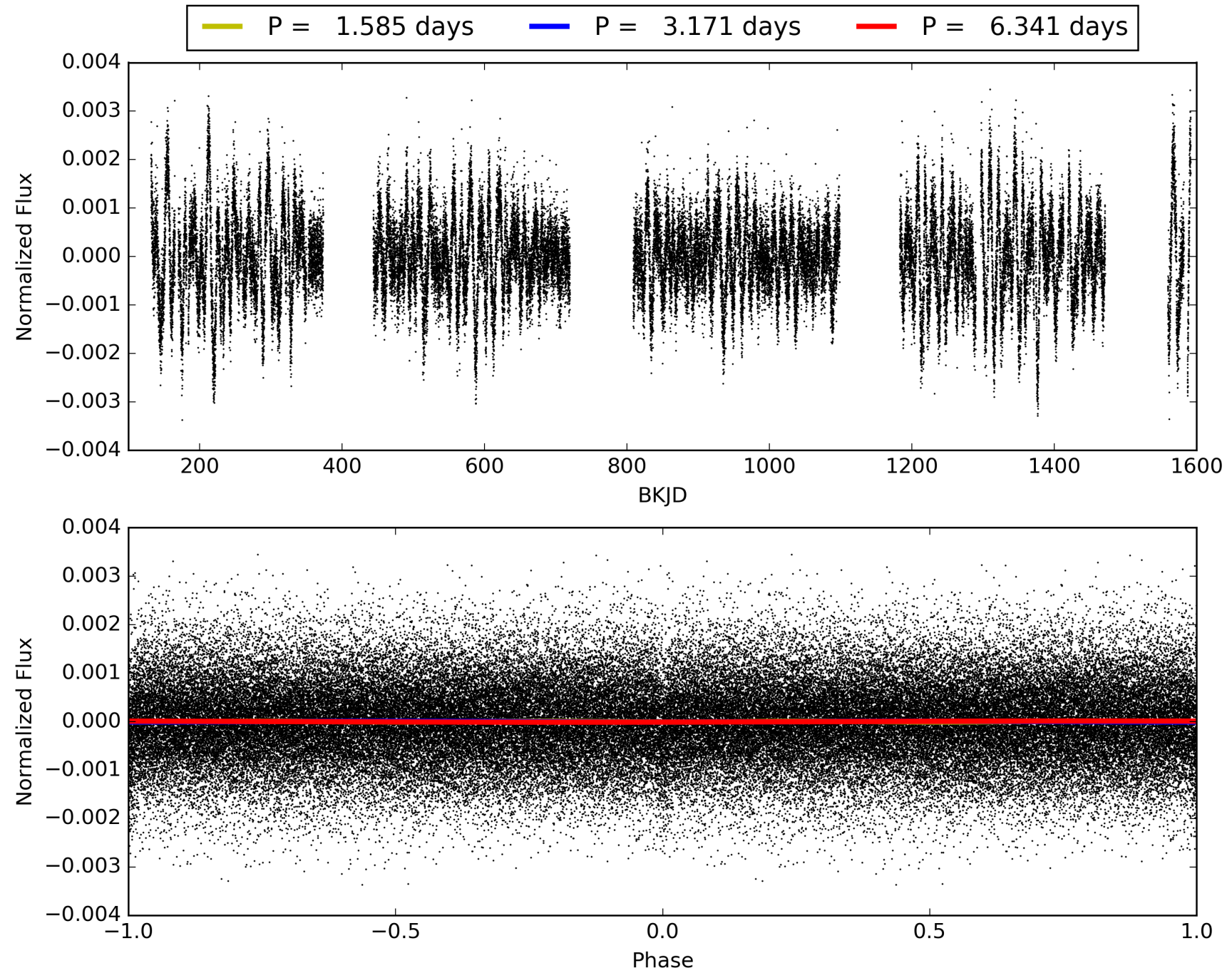
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.57e-56
RollingBand-fgt: 1.00 [300/300]
GhostDiagnostic-chr: -12.12
Centroid-sig: 2.1%
Centroid-so: 1.471 arcsec [2.00σ]
OotOffset-rm: 0.207 arcsec [0.41σ]
KicOffset-rm: 0.328 arcsec [0.64σ]
OotOffset-st: 4/4/0/5 [13]
KicOffset-st: 4/4/0/5 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010909127-01, PDC Light Curves

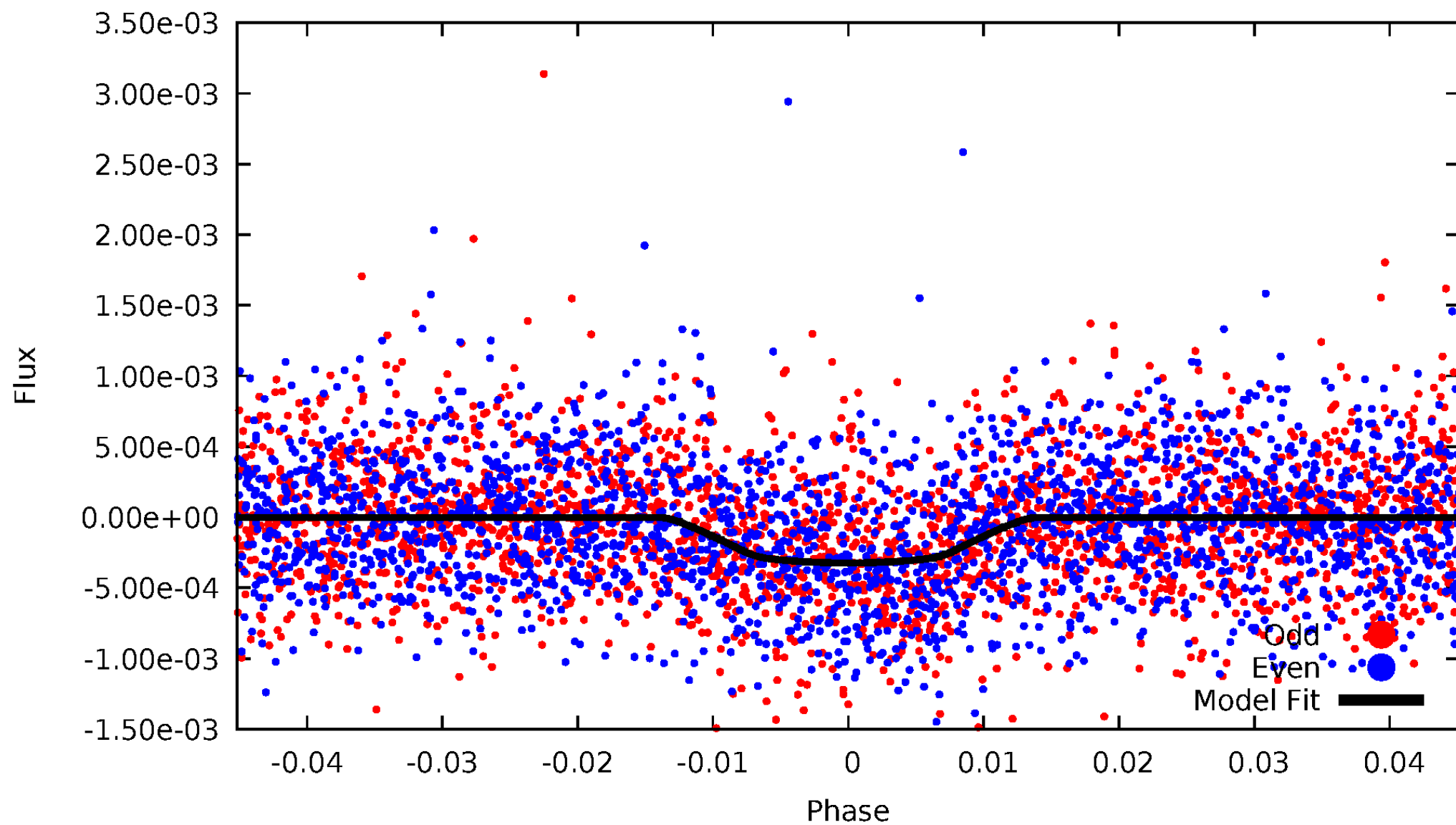


TCE 010909127-01



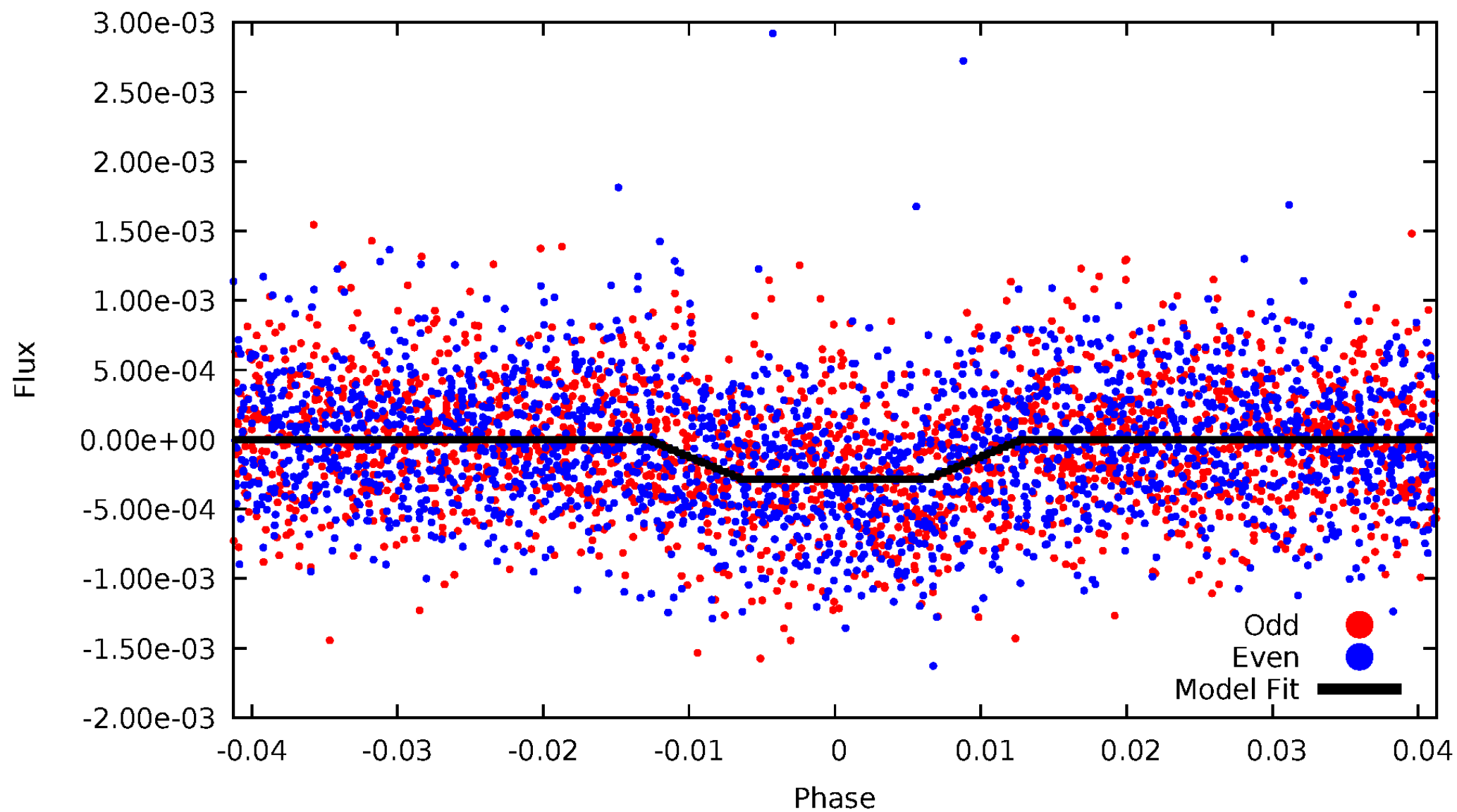
DV Odd/Even

TCE 010909127-01

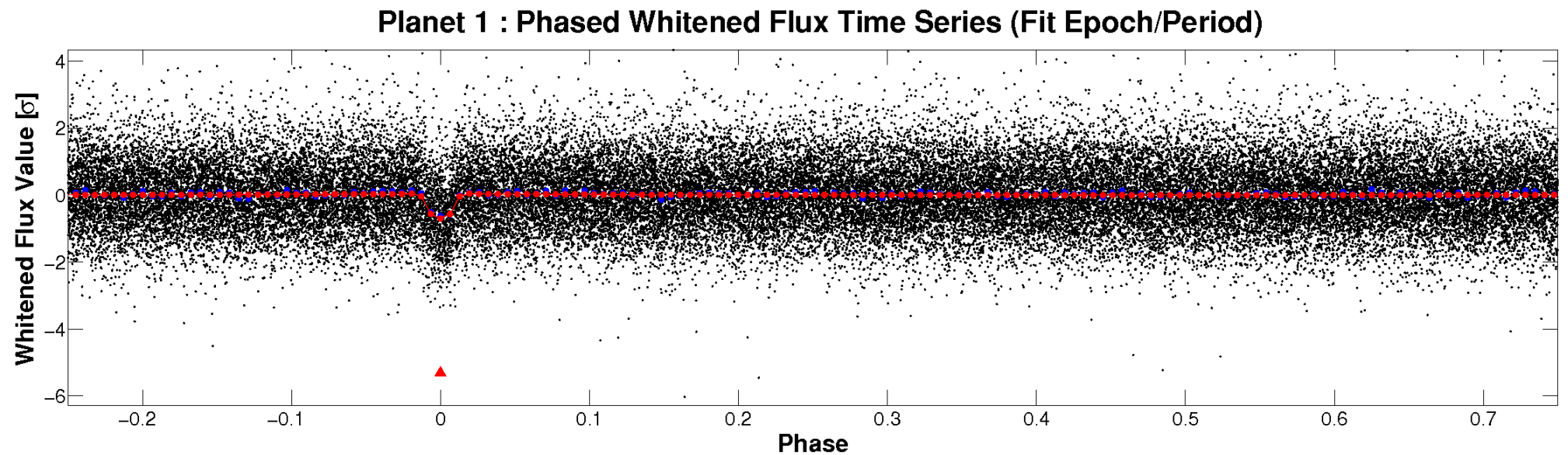
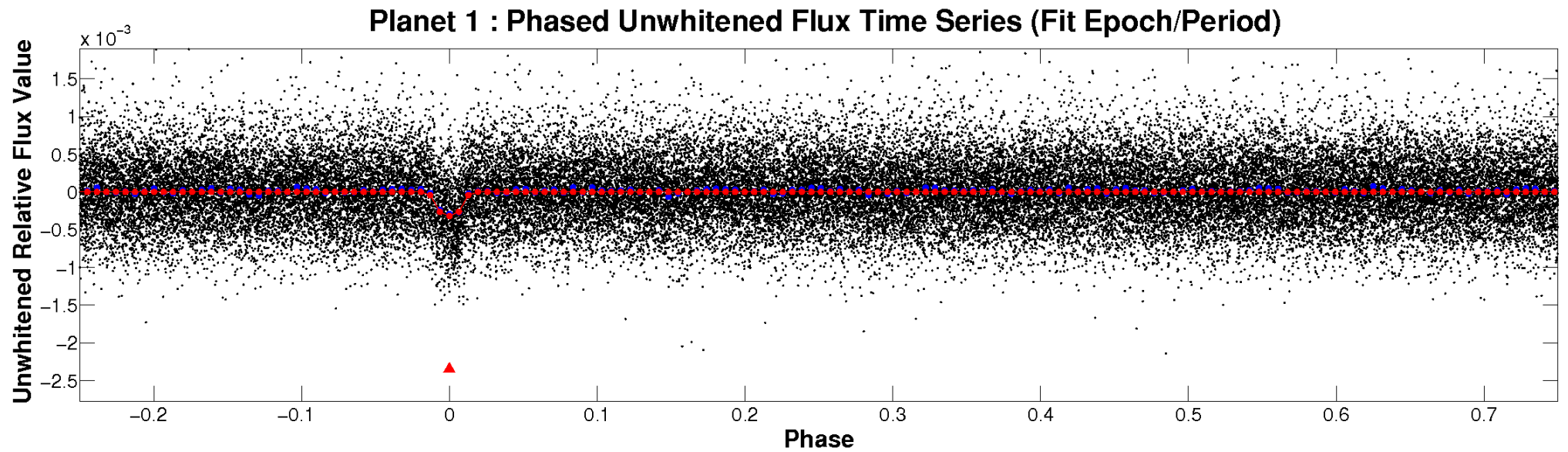


ALT Odd/Even

TCE 010909127-01

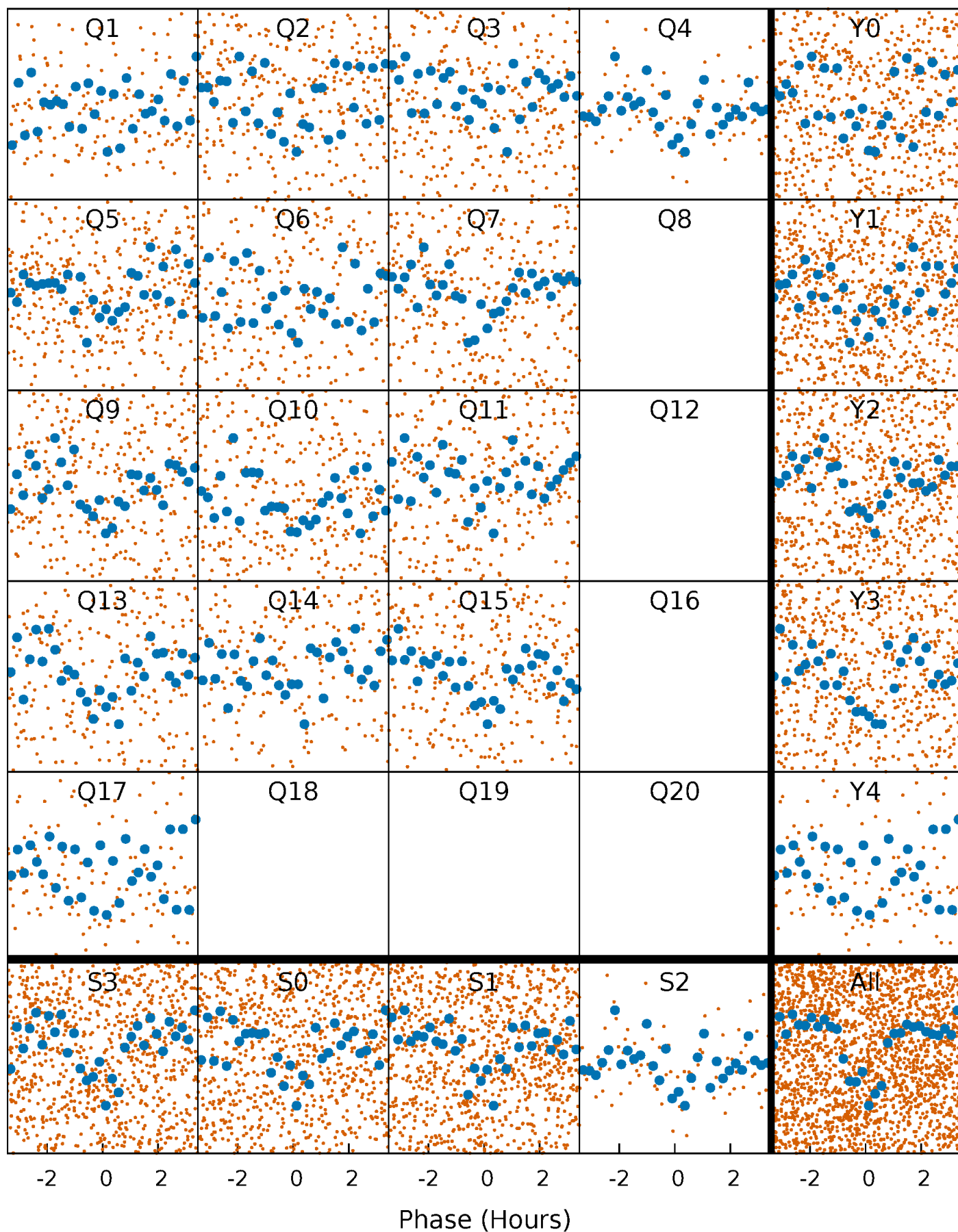


Non-Whitened Vs. Whitened Light Curve



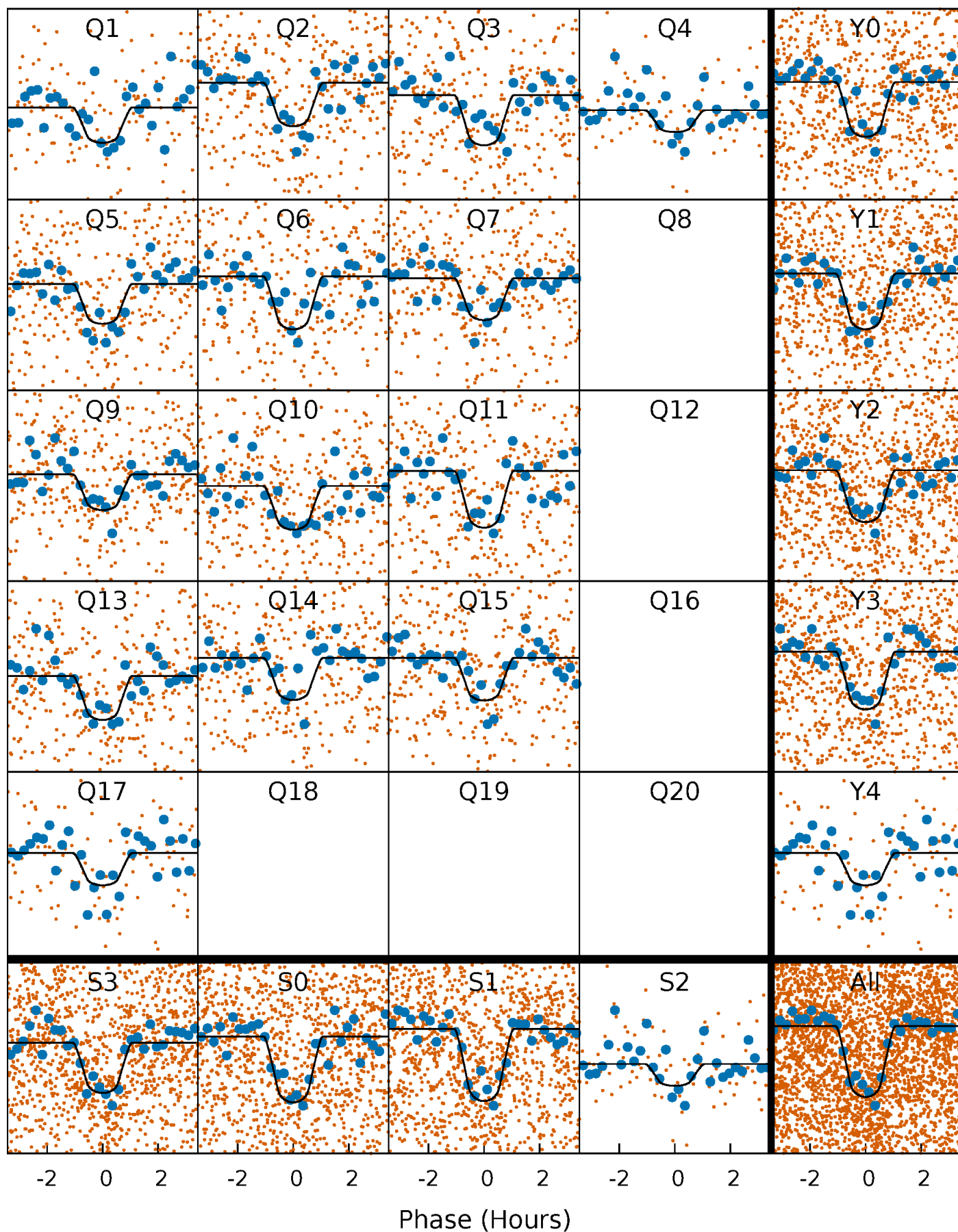
PDC Quarter-Phased Transit Curves

TCE 010909127-01 P= 3.170596 Days $T_0=132.678694$ (BKJD)



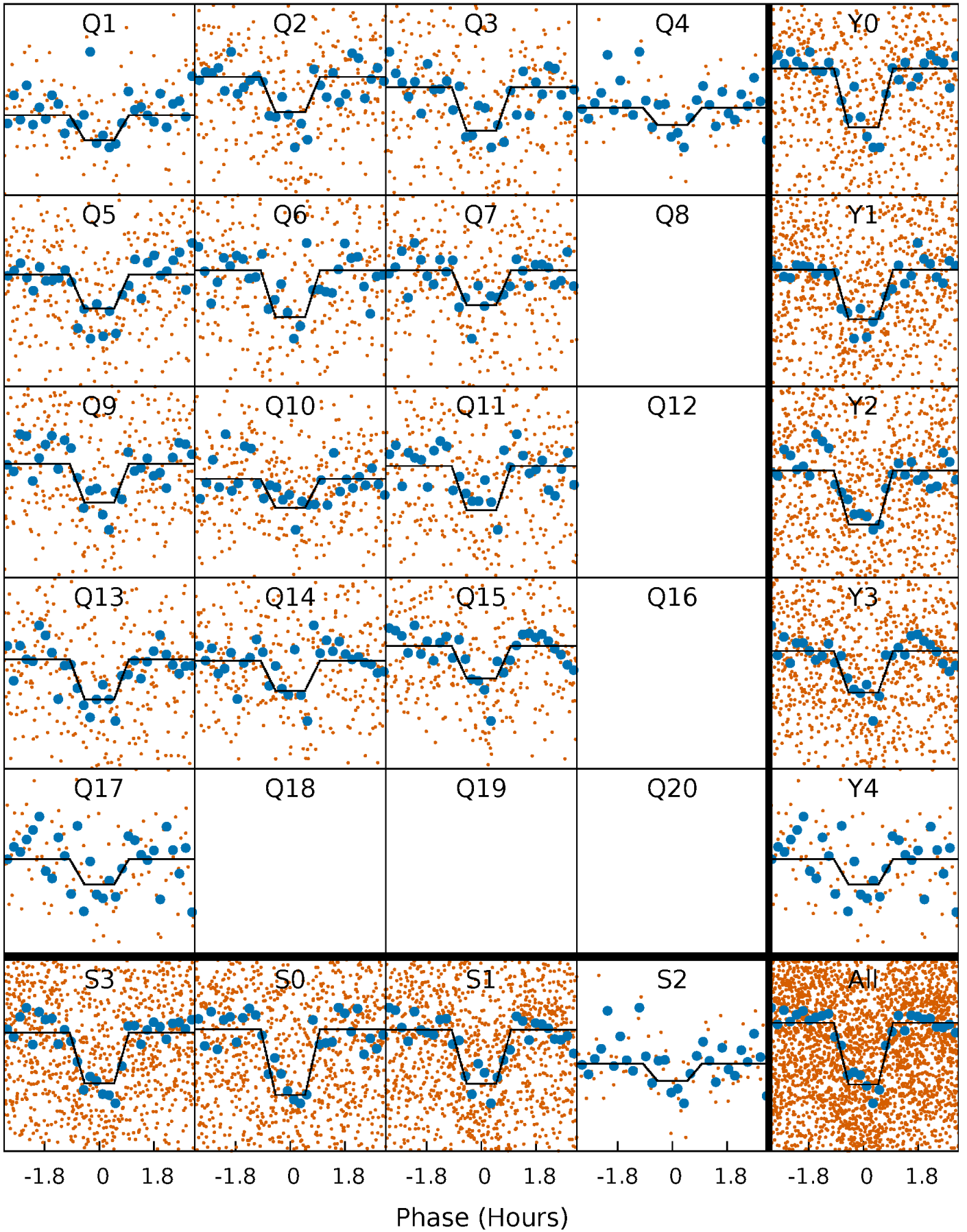
DV Quarter-Phased Transit Curves

TCE 010909127-01 $P = 3.170596$ Days $T_0 = 132.678694$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

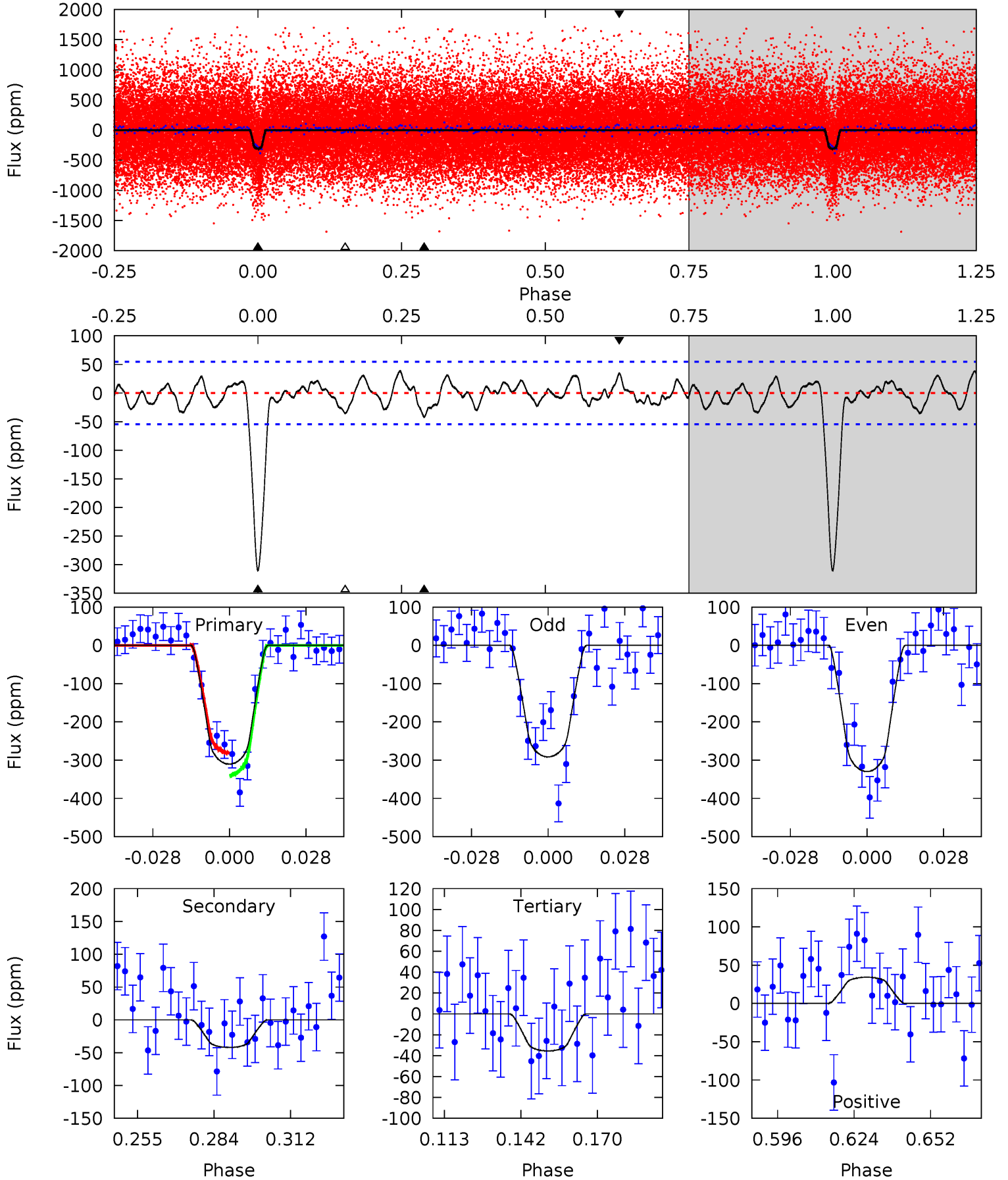
TCE 010909127-01 P= 3.170594 Days $T_0=132.678086$ (BKJD)



DV Model-Shift Uniqueness Test

010909127-01, P = 3.170596 Days, E = 129.508098 Days

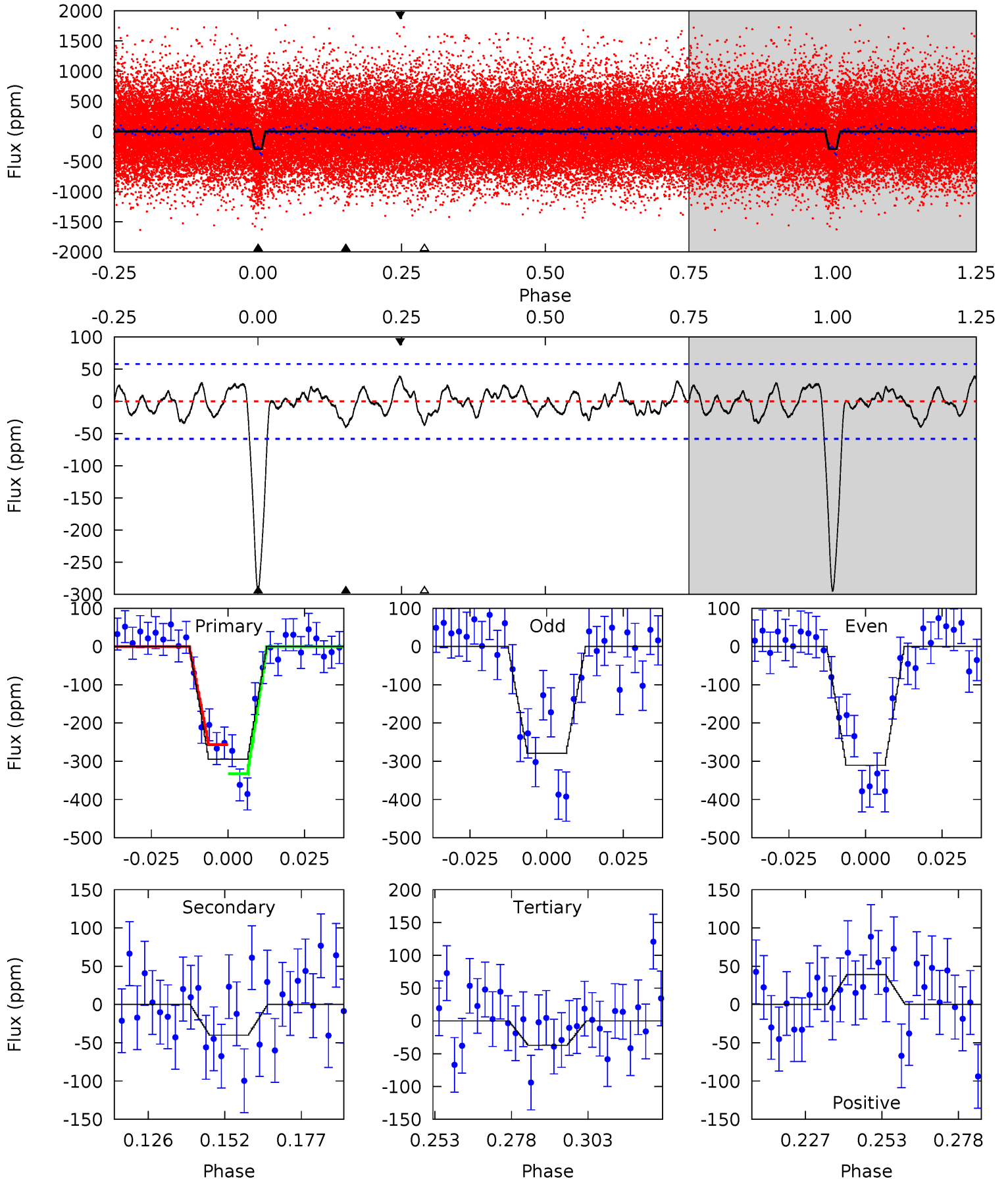
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	3.71	3.13	3.02	4.82	2.19	1.38	24.2	24.4	0.57	0.69	1.69	0.92	0.11	2.57



Alt Model-Shift Uniqueness Test

010909127-01, P = 3.170594 Days, E = 129.507492 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.6	3.34	3.11	3.24	4.85	2.24	1.26	21.5	21.3	0.23	0.10	1.31	0.94	0.12	3.18



Stellar Parameters For KIC 010909127

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5431^{+81}_{-81}	$4.563^{+0.011}_{-0.088}$	$0.120^{+0.150}_{-0.150}$	$0.843^{+0.086}_{-0.033}$	$0.945^{+0.037}_{-0.065}$	$2.223^{+0.170}_{-0.567}$
	+1%/-1%	+0%/-2%	+125%/-125%	+10%/-4%	+4%/-7%	+8%/-25%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010909127-01 / KOI 2200.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 11	$1.89^{+0.88}_{-0.79}$	1526^{+43}_{-31}	3509^{+757}_{-419}	10^{+23}_{-6}
Alt.	-40 ± 12	$1.64^{+0.89}_{-0.82}$	1530^{+39}_{-32}	3642^{+1035}_{-495}	13^{+38}_{-8}

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

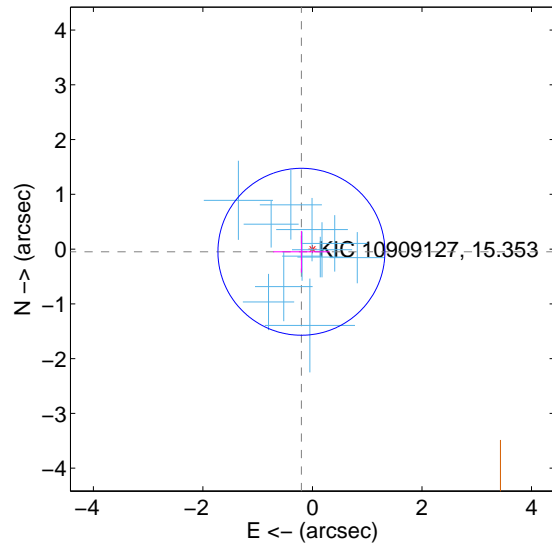
Supplemental centroid analysis for 010909127-01. Kepler magnitude: 15.35. Transit SNR 19.05

There are 12 quarters with good PRF difference image offsets

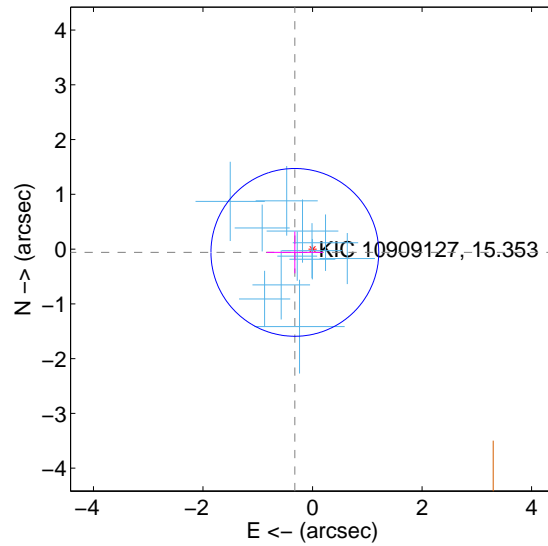
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.207 ± 0.508	0.41	0.201 ± 0.514	-0.049 ± 0.381
PRF-fit source offset from KIC position	0.328 ± 0.511	0.64	0.323 ± 0.514	-0.060 ± 0.381
photometric centroid source offset	1.47 ± 0.74	2.00	1.10 ± 0.77	-0.98 ± 0.69

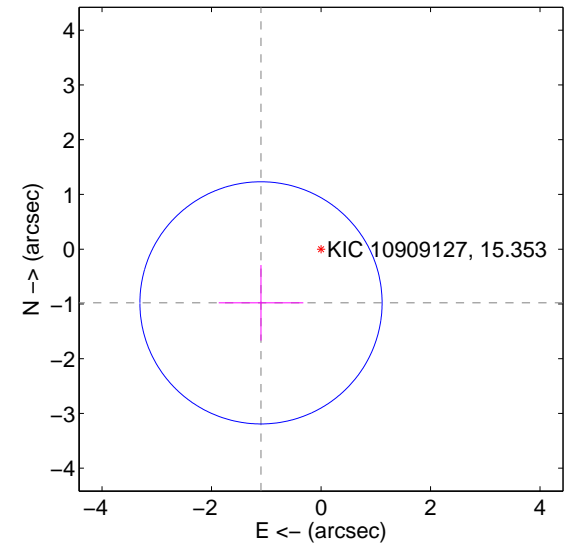
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

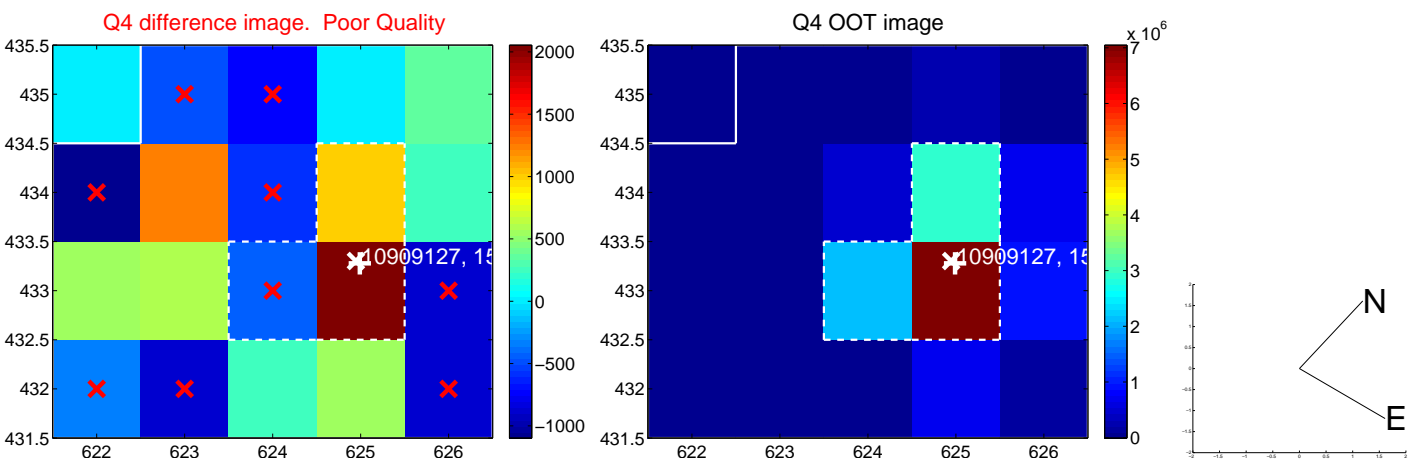
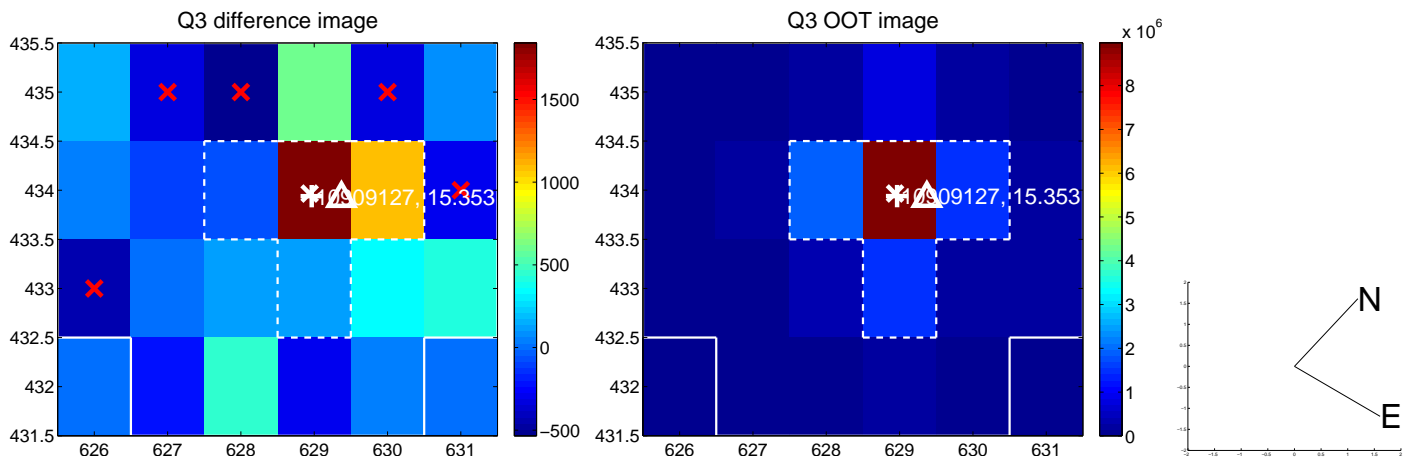
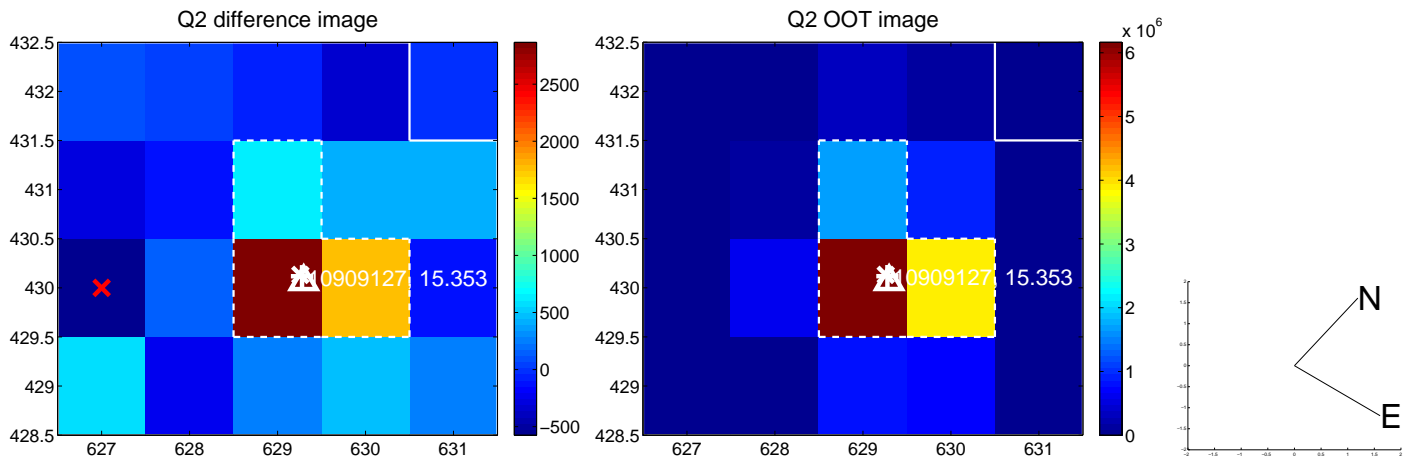
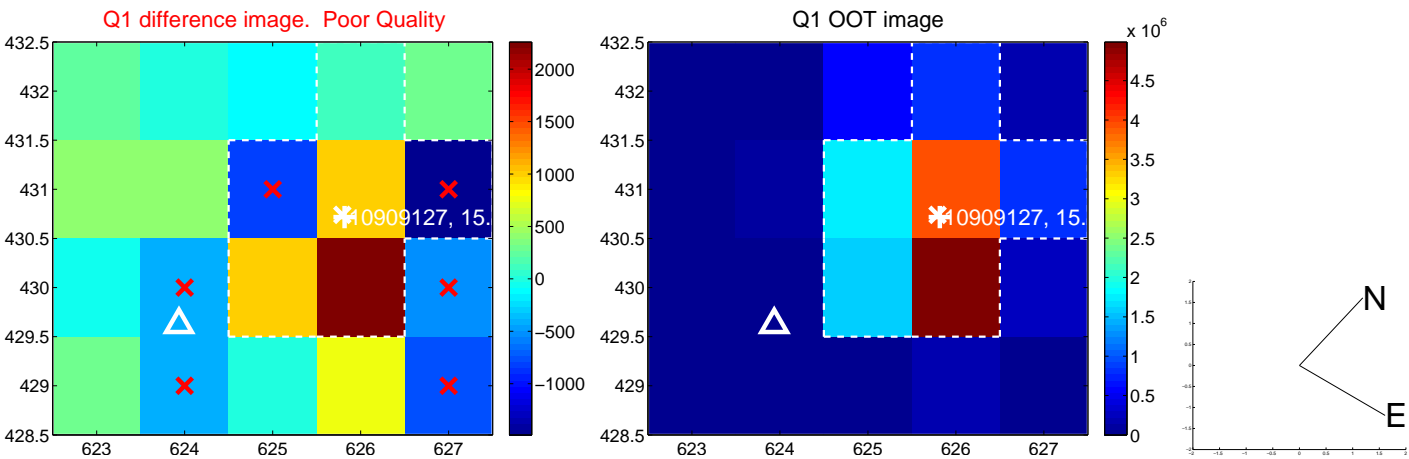


offset from photometric centroids

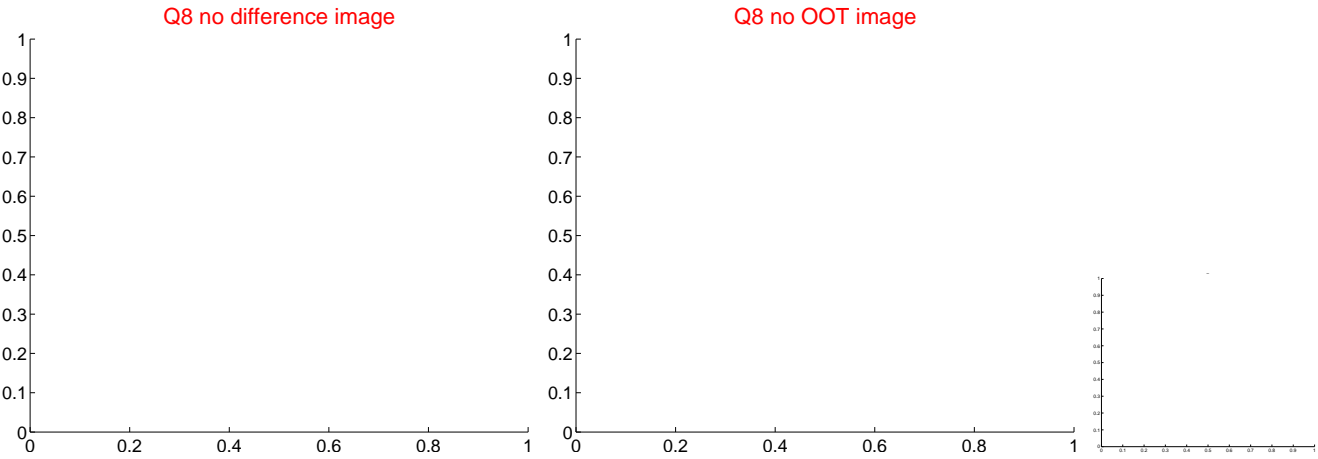
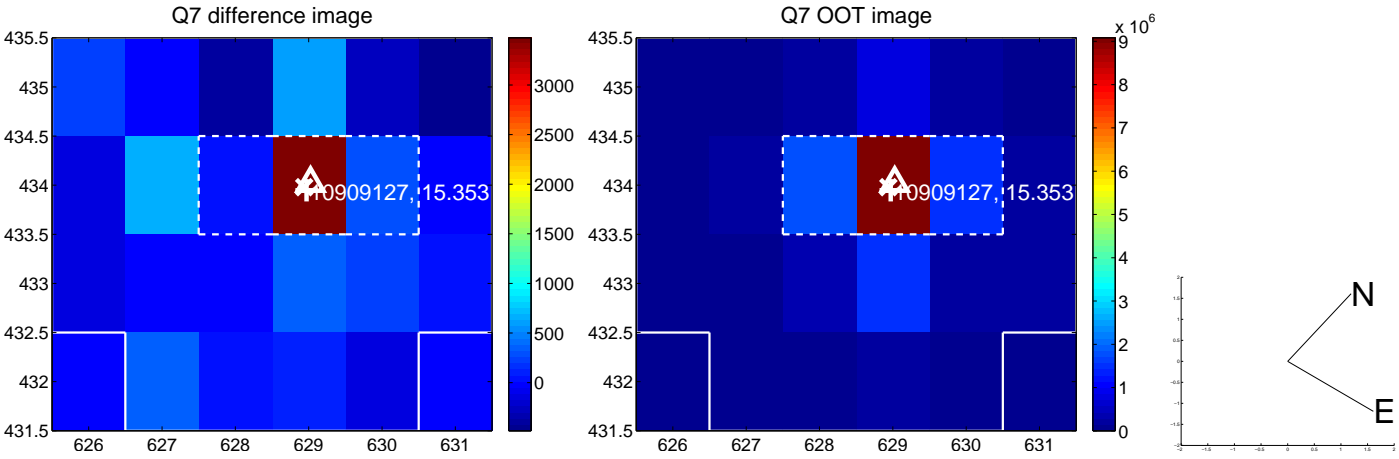
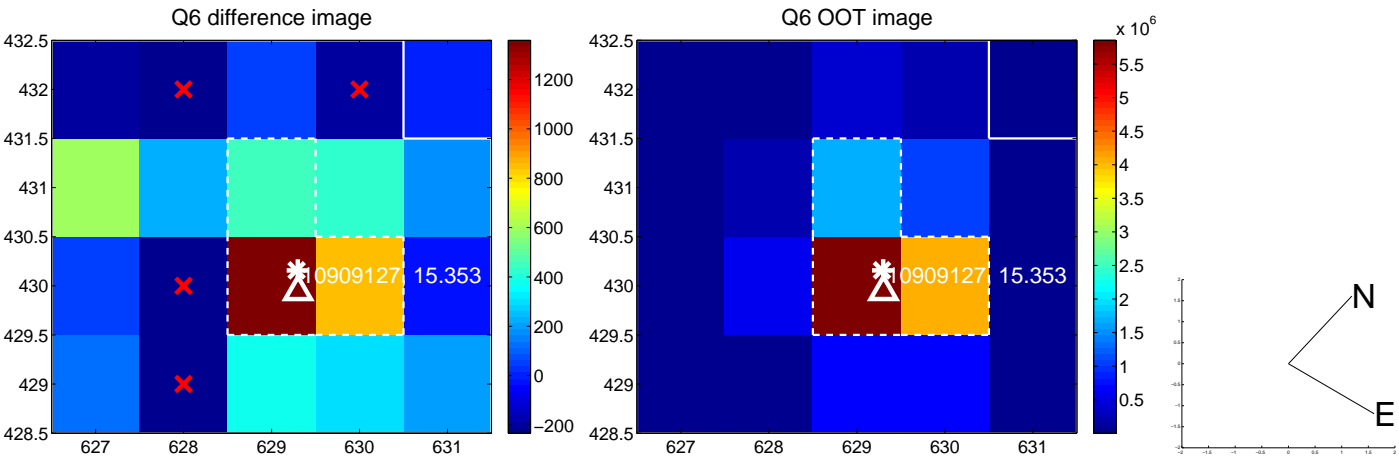
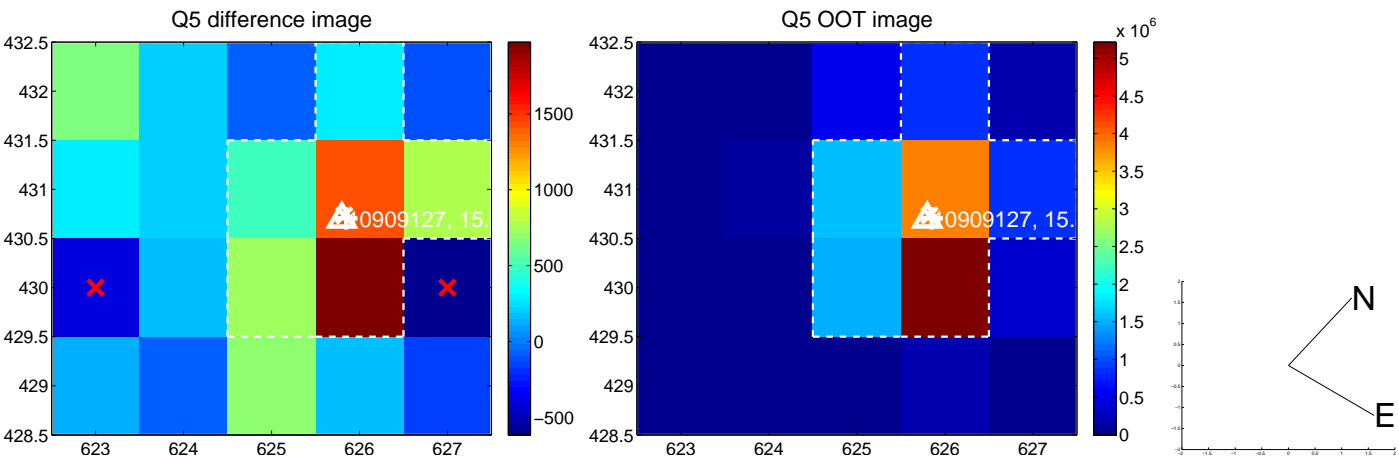


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

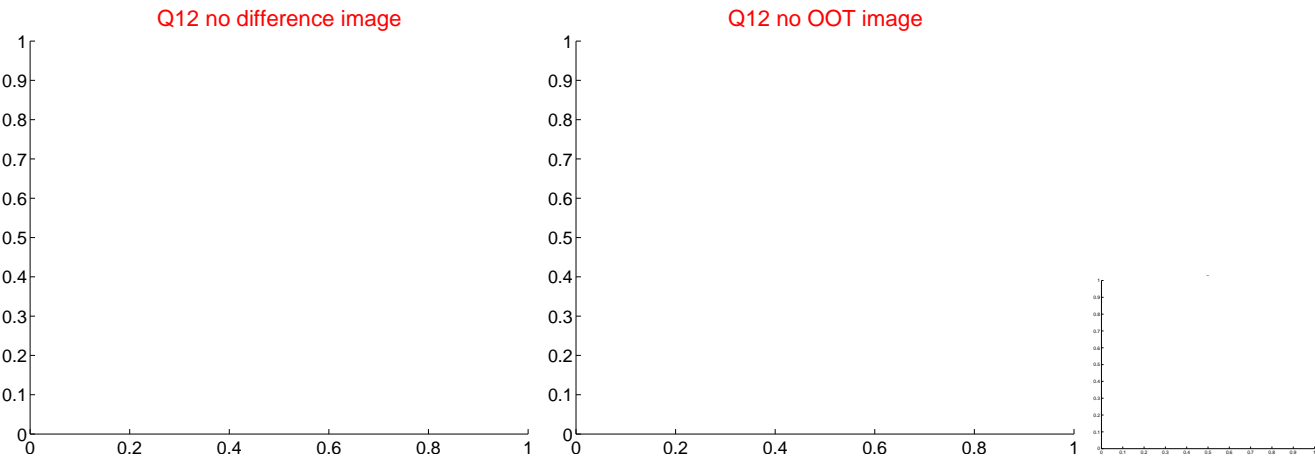
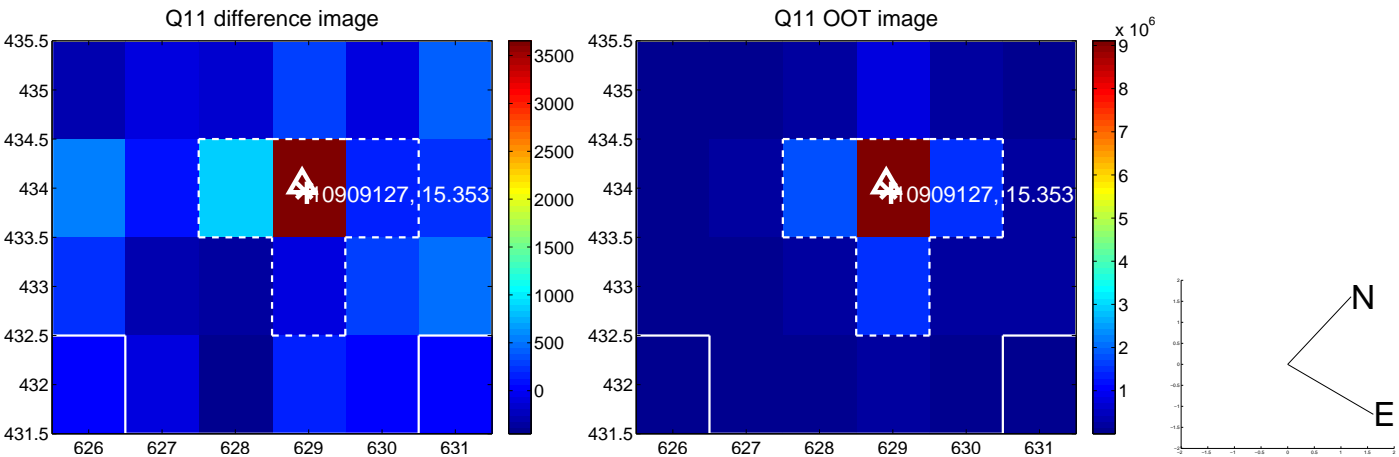
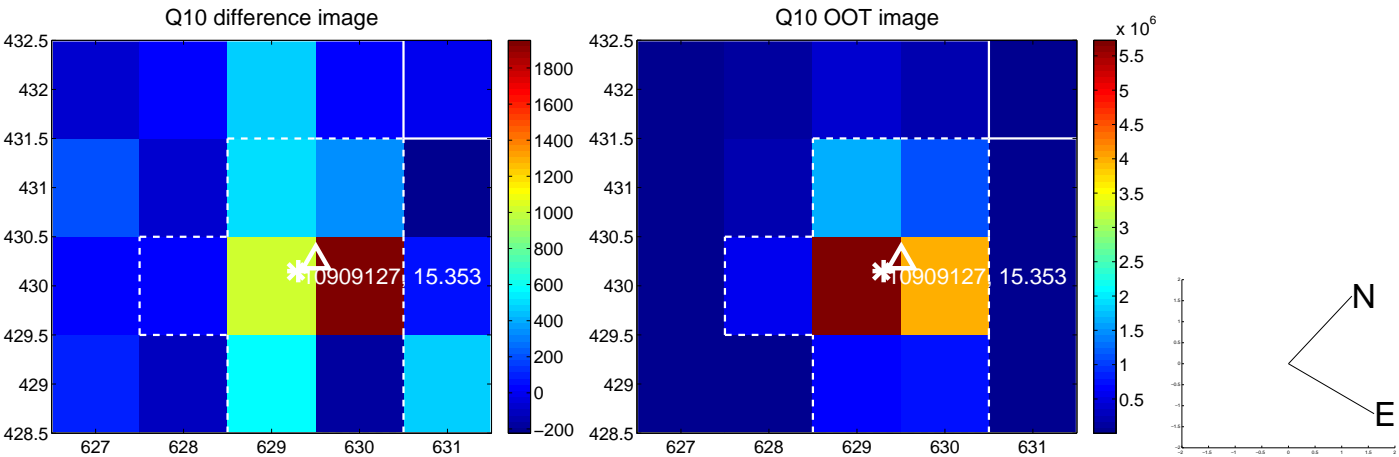
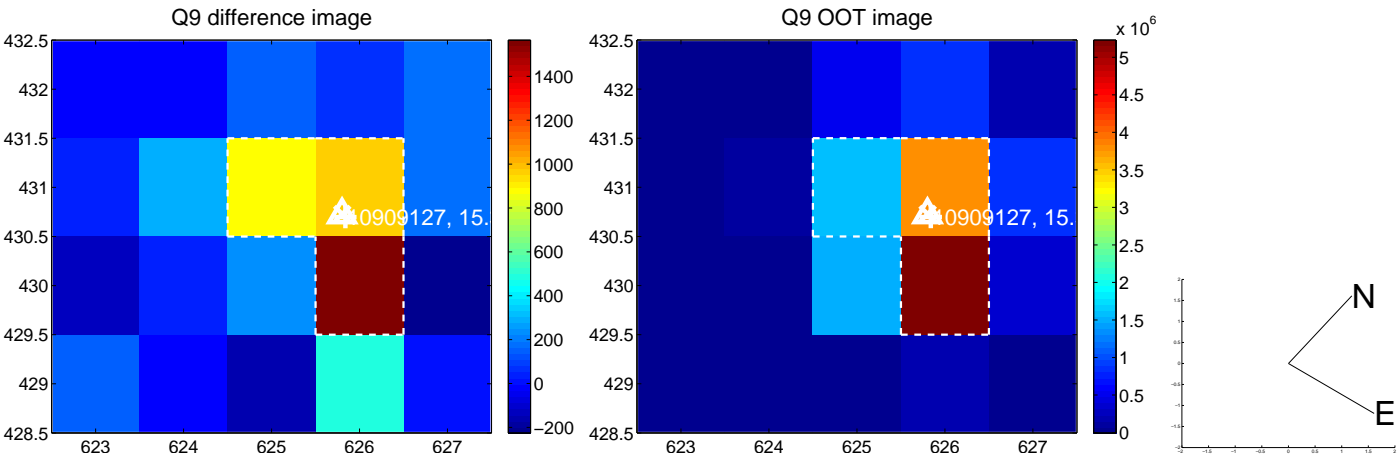
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



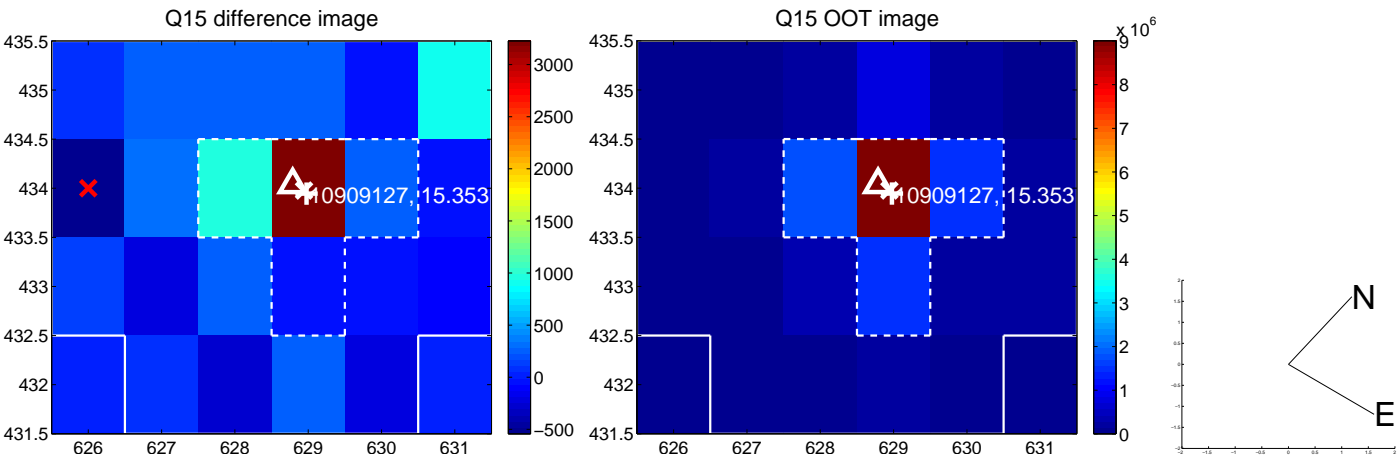
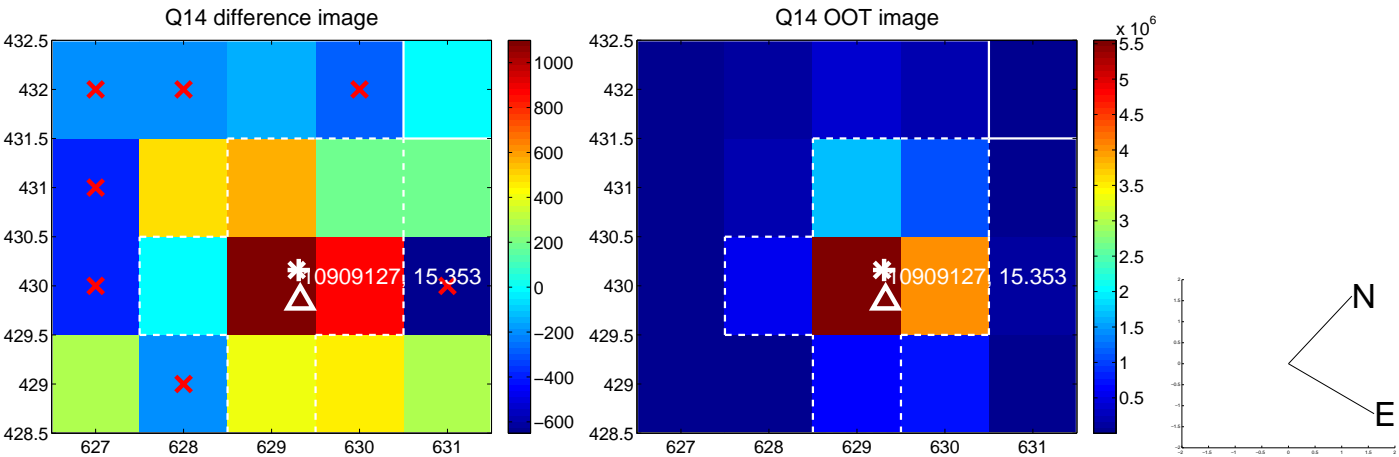
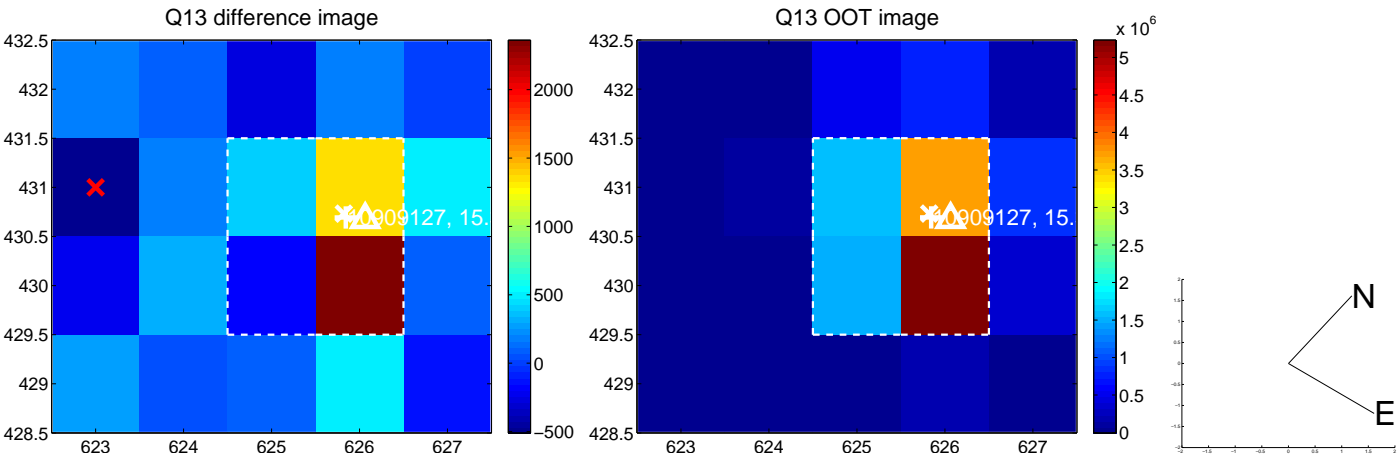
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



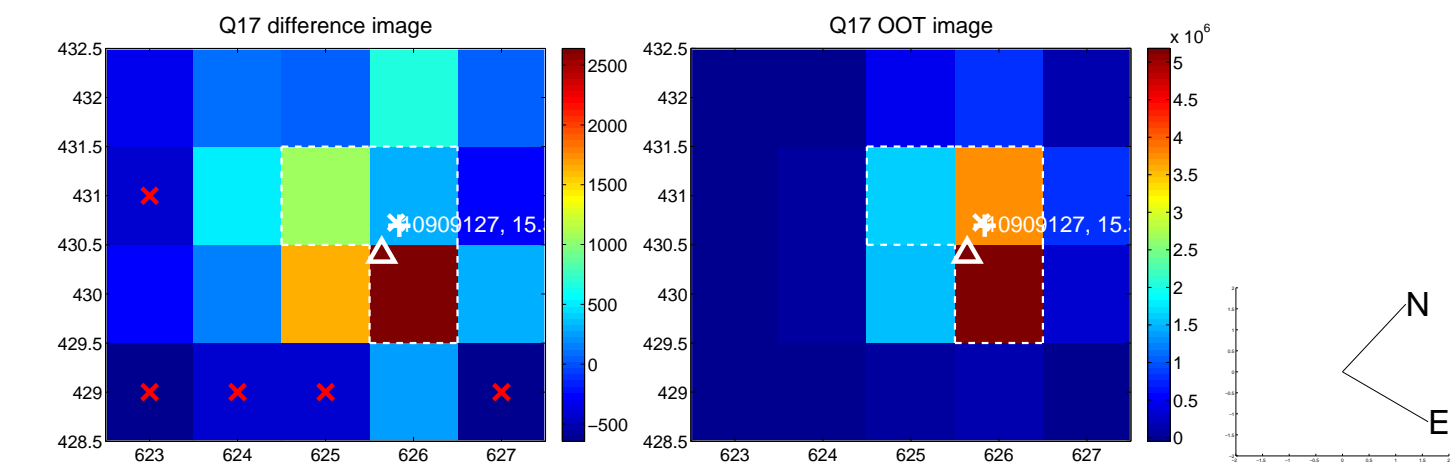
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



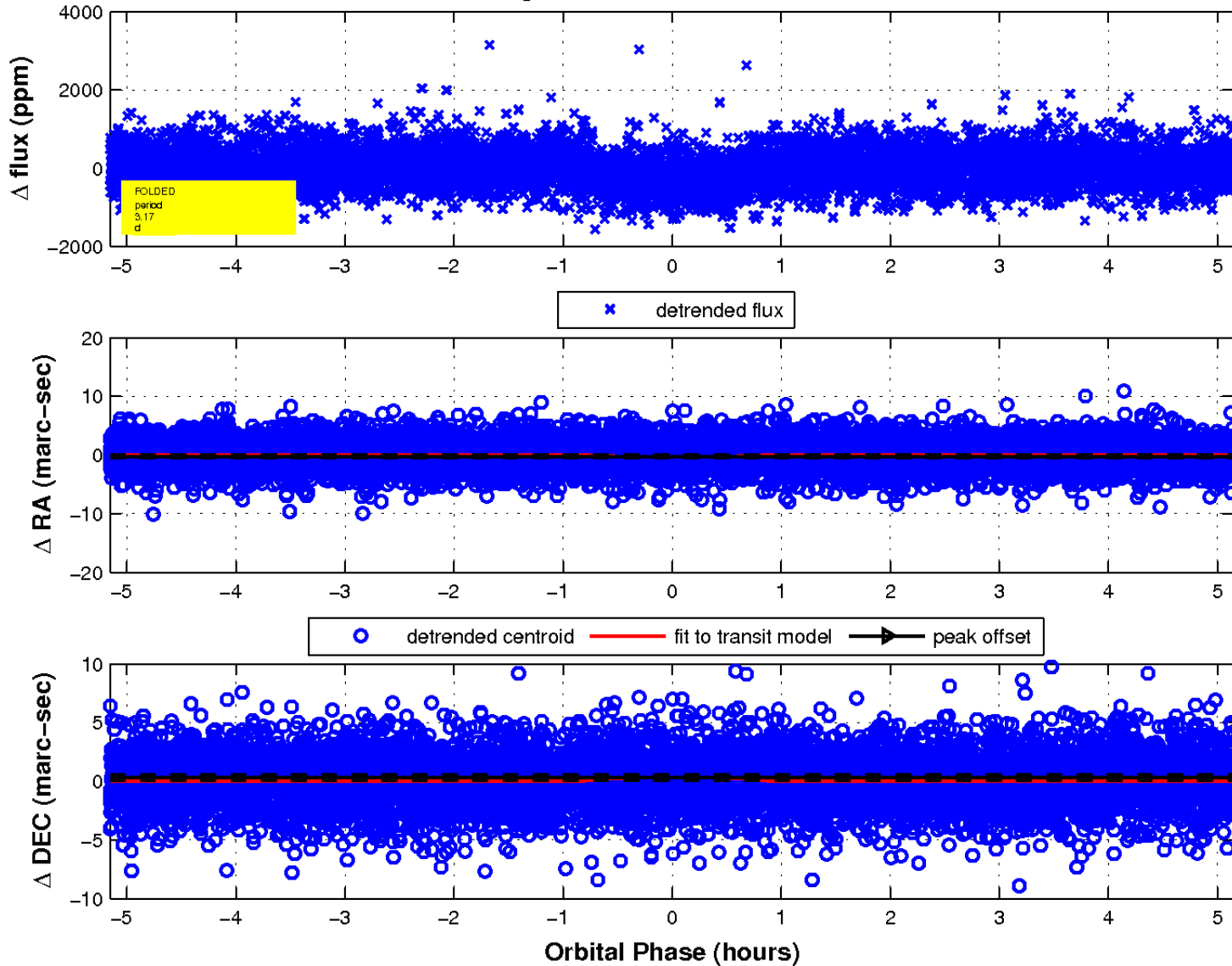
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

