

KIC 010281221

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})
010281221-01	OBS	3913.01	0.582889	131.627015	322.6	0.906	36.5	52.9	1.01	6263	1.96	7186.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010281221-01	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.

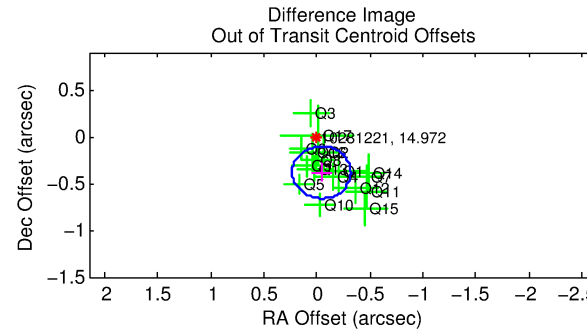
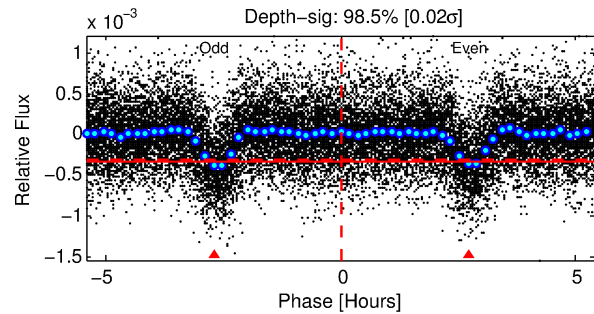
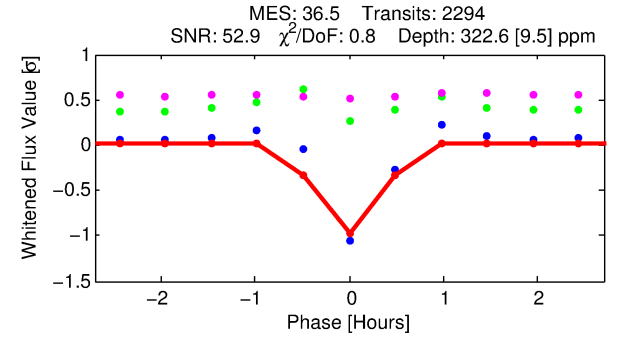
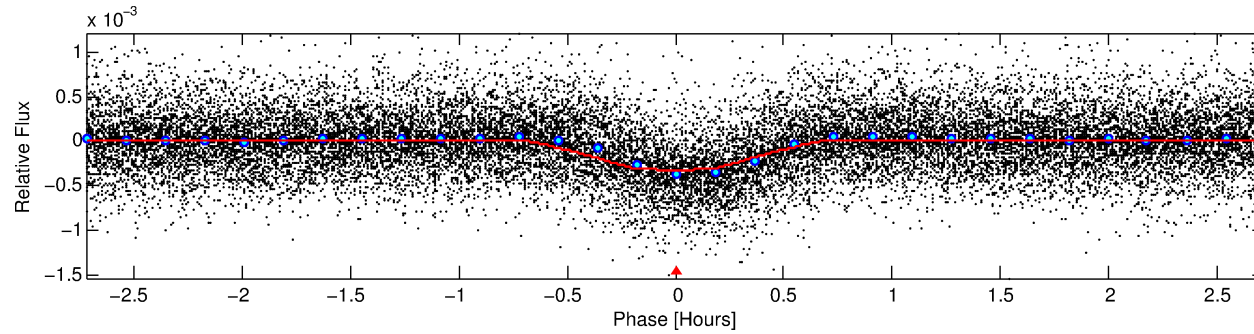
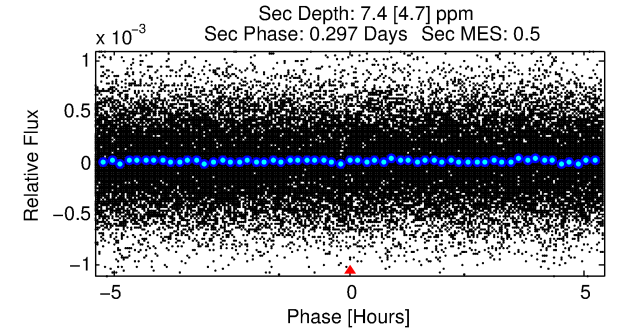
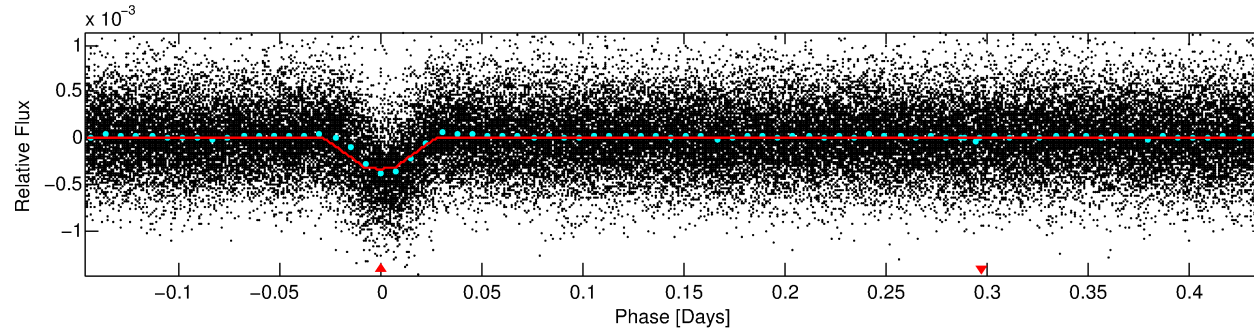
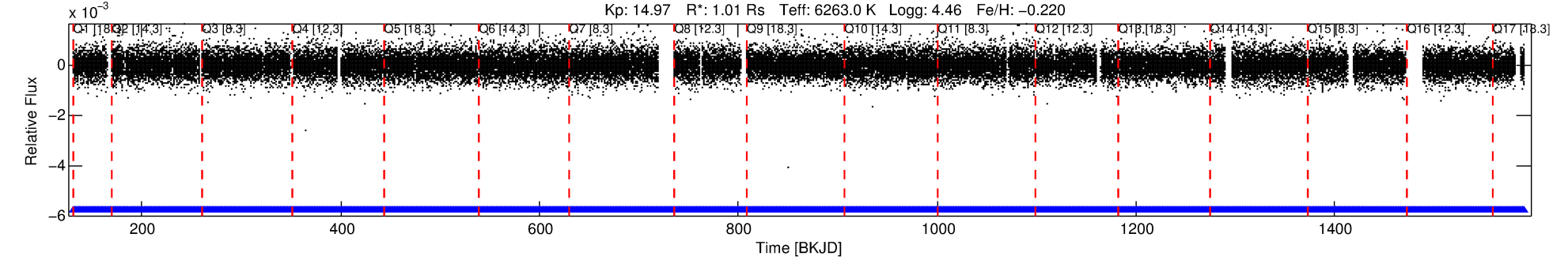
Ephemeris Match Information For 010281221-01

No Significant Match Found

DV One-Page Summary

KIC: 10281221 Candidate: 1 of 1 Period: 0.583 d

KOI: K03913.01 Corr: 0.850



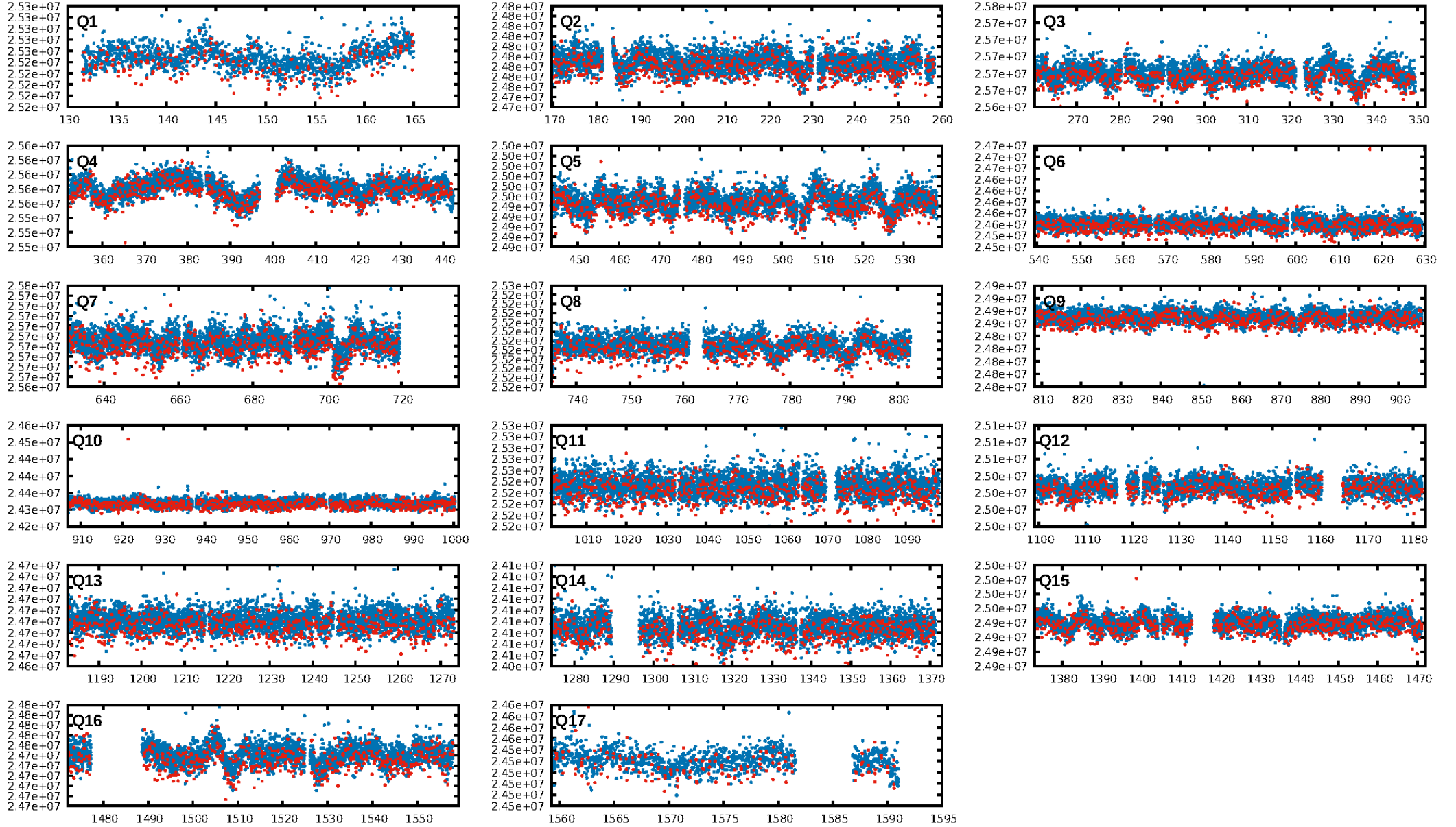
DV Fit Results:

Period = 0.58289 [0.00000] d
Epoch = 131.6270 [0.0003] BKJD
Rp/R* = 0.0178 [0.0017]
a/R* = 3.71 [1.70]
b = 0.70 [0.36]
Seff = 7186.28 [2889.08]
Teff = 2348 [236] K
Rp = 1.96 [0.61] Re
a = 0.0140 [0.0035] AU
Ag = 0.21 [0.16] [-5.05σ]
Teffp = 2450 [412] K [0.21σ]

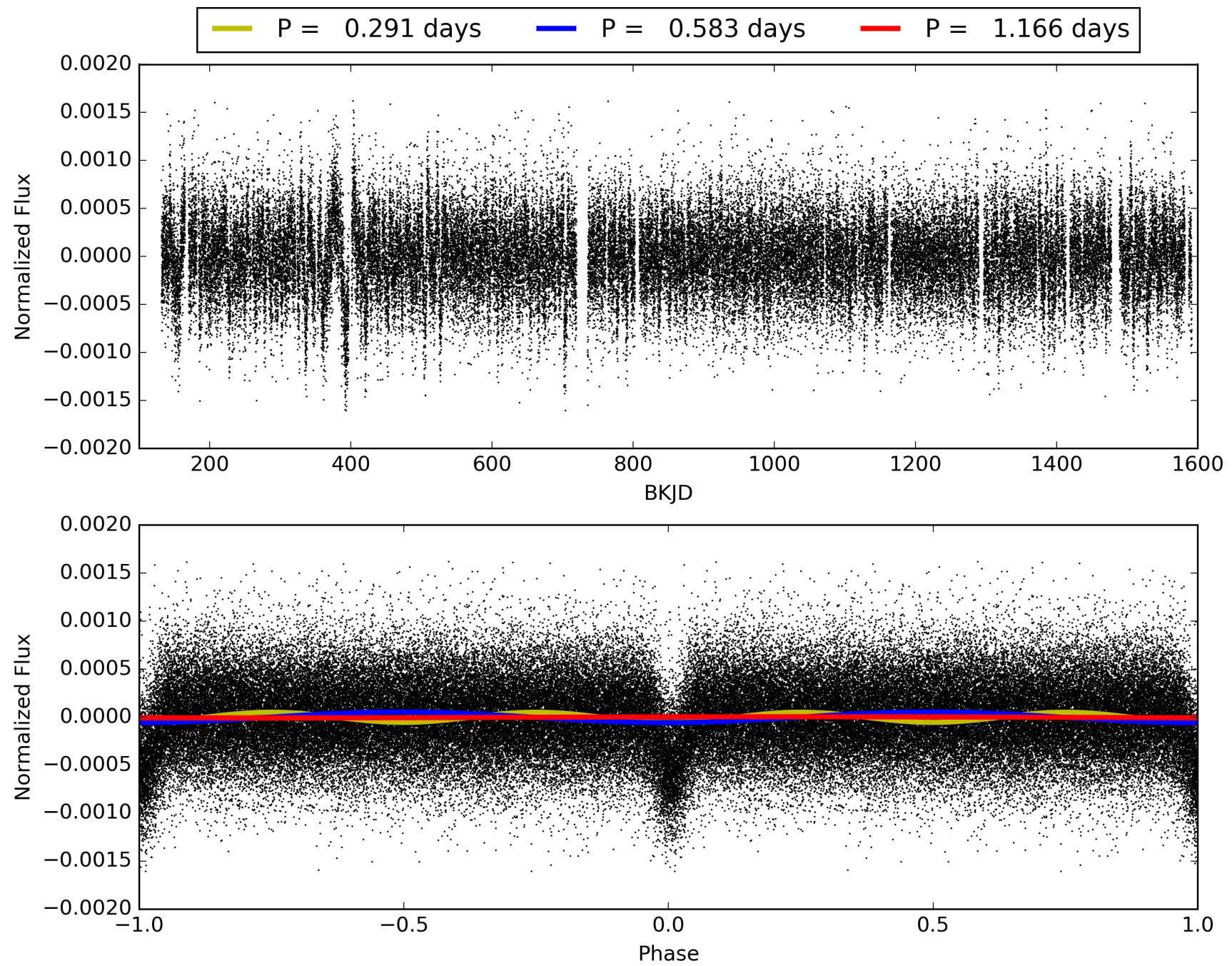
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.86e-253
RollingBand-fgt: 1.00 [2191/2191]
GhostDiagnostic-chr: 6.199
Centroid-sig: 26.8%
Centroid-so: 0.291 arcsec [1.06σ]
OotOffset-rm: 0.386 arcsec [4.17σ]
KicOffset-rm: 0.466 arcsec [5.03σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010281221-01, PDC Light Curves

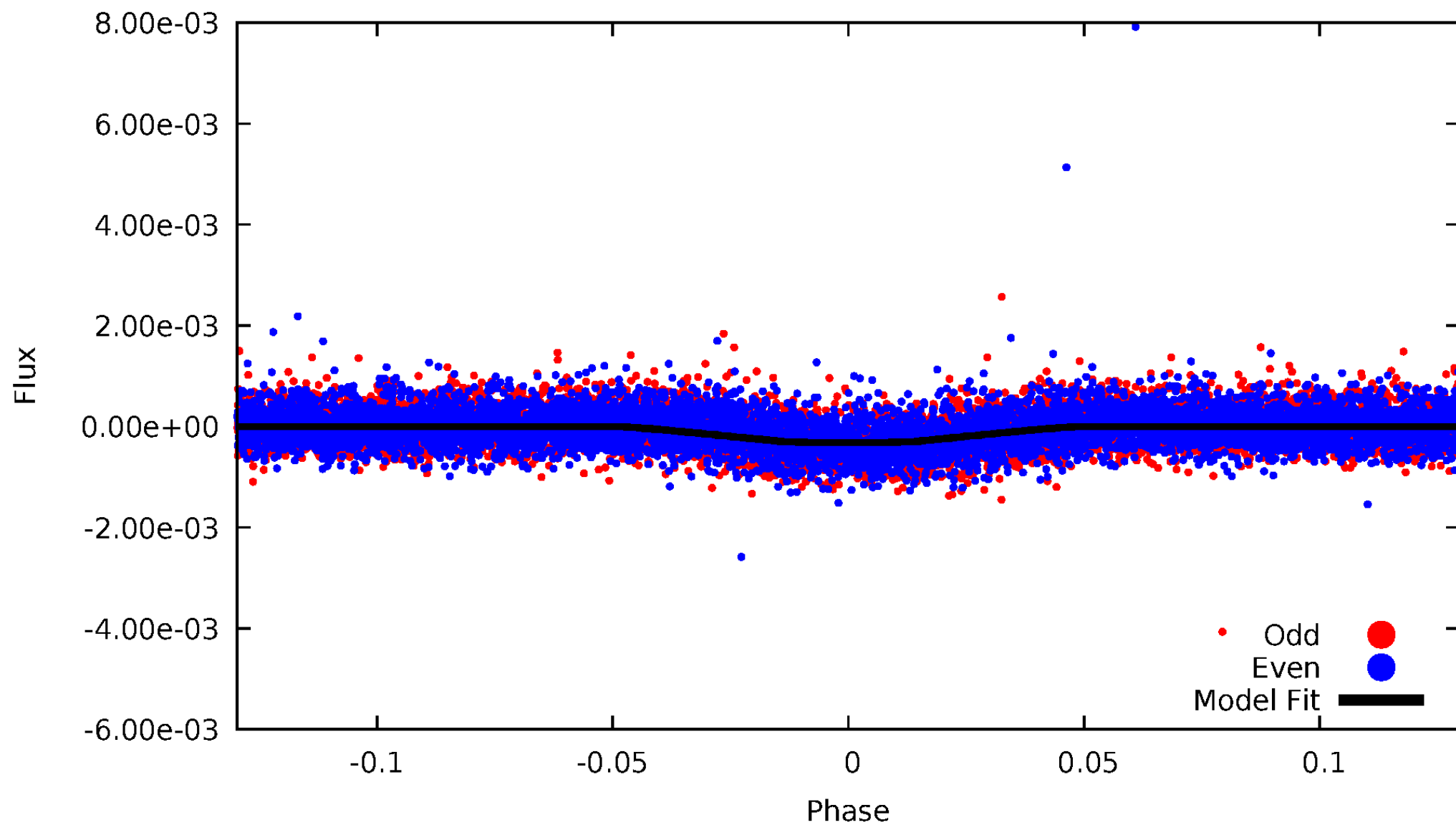


TCE 010281221-01



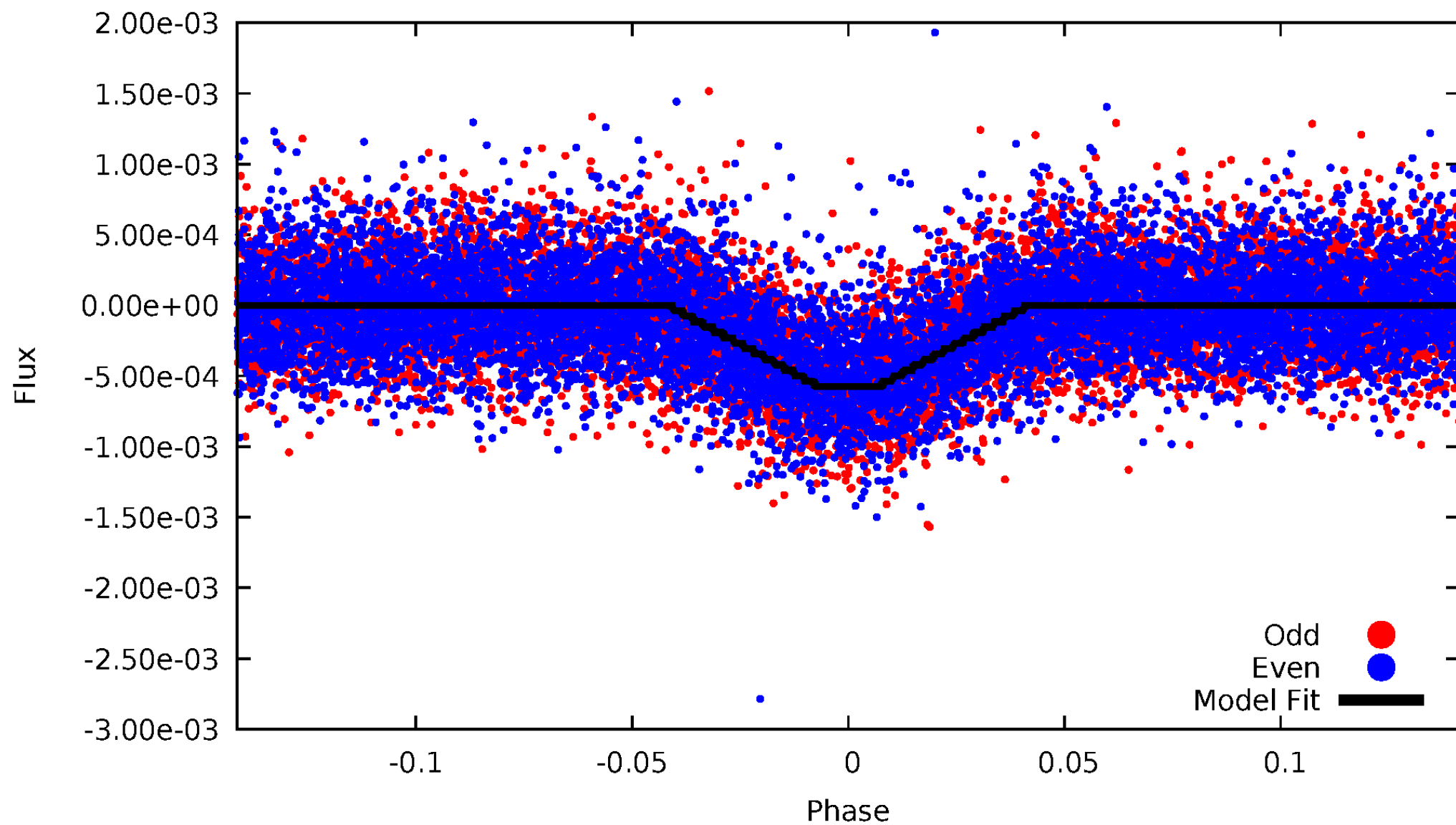
DV Odd/Even

TCE 010281221-01

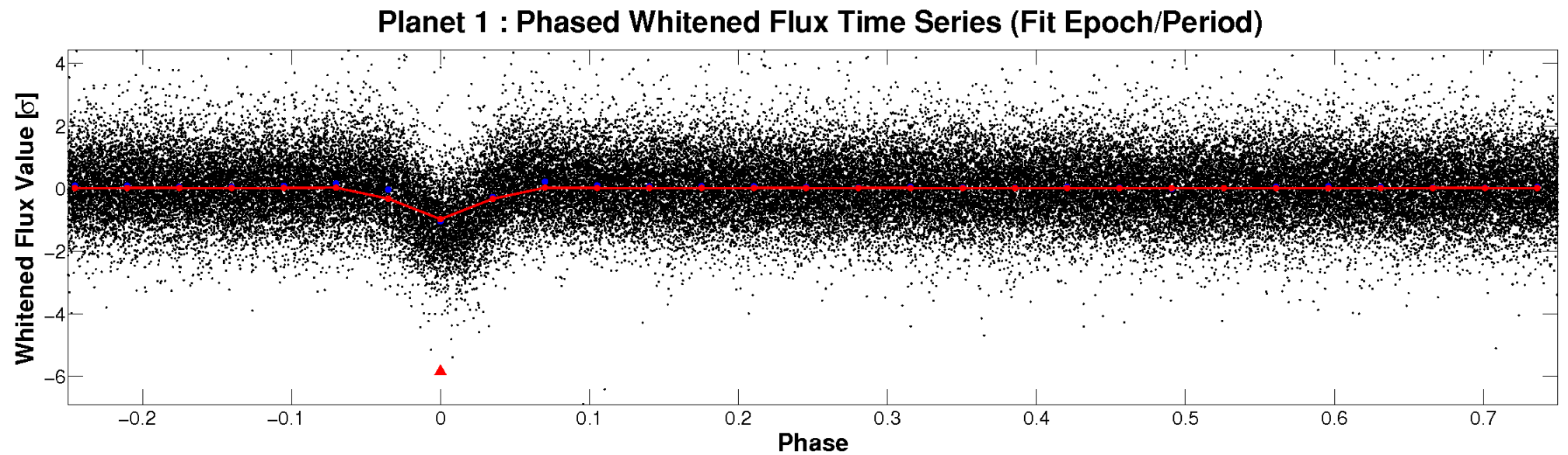
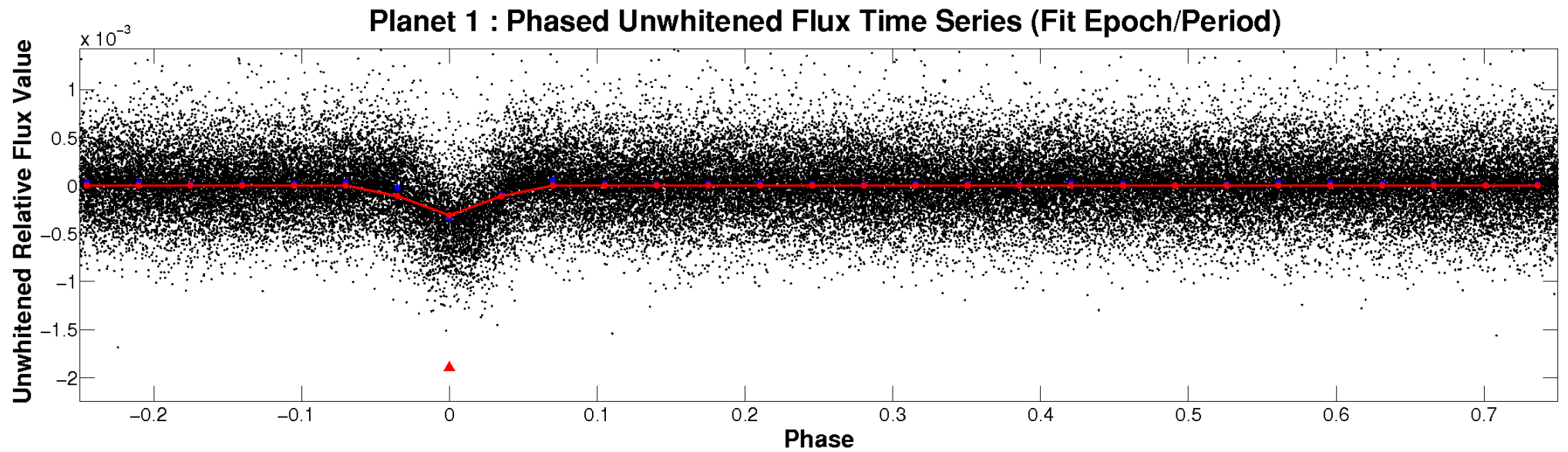


ALT Odd/Even

TCE 010281221-01

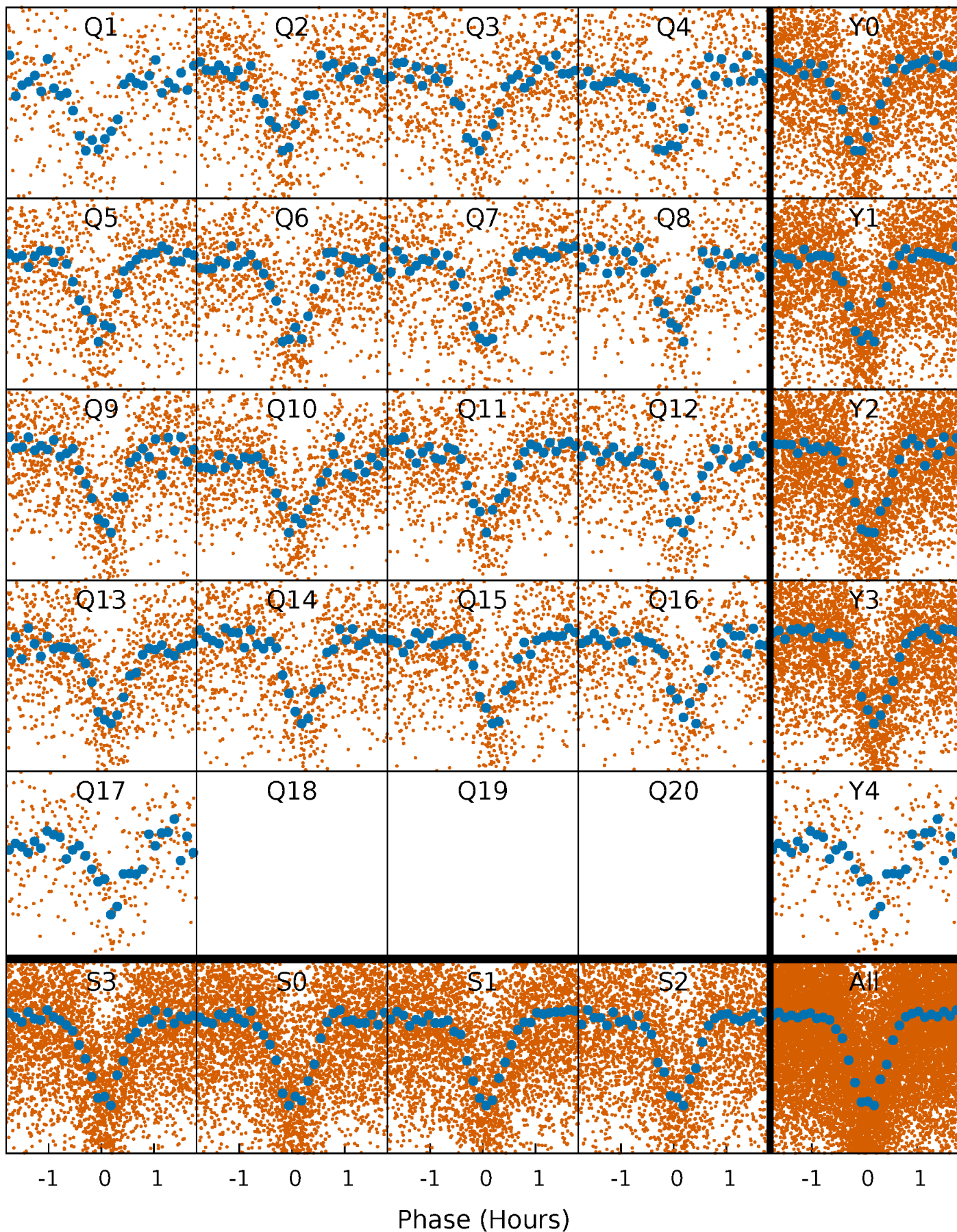


Non-Whitened Vs. Whitened Light Curve



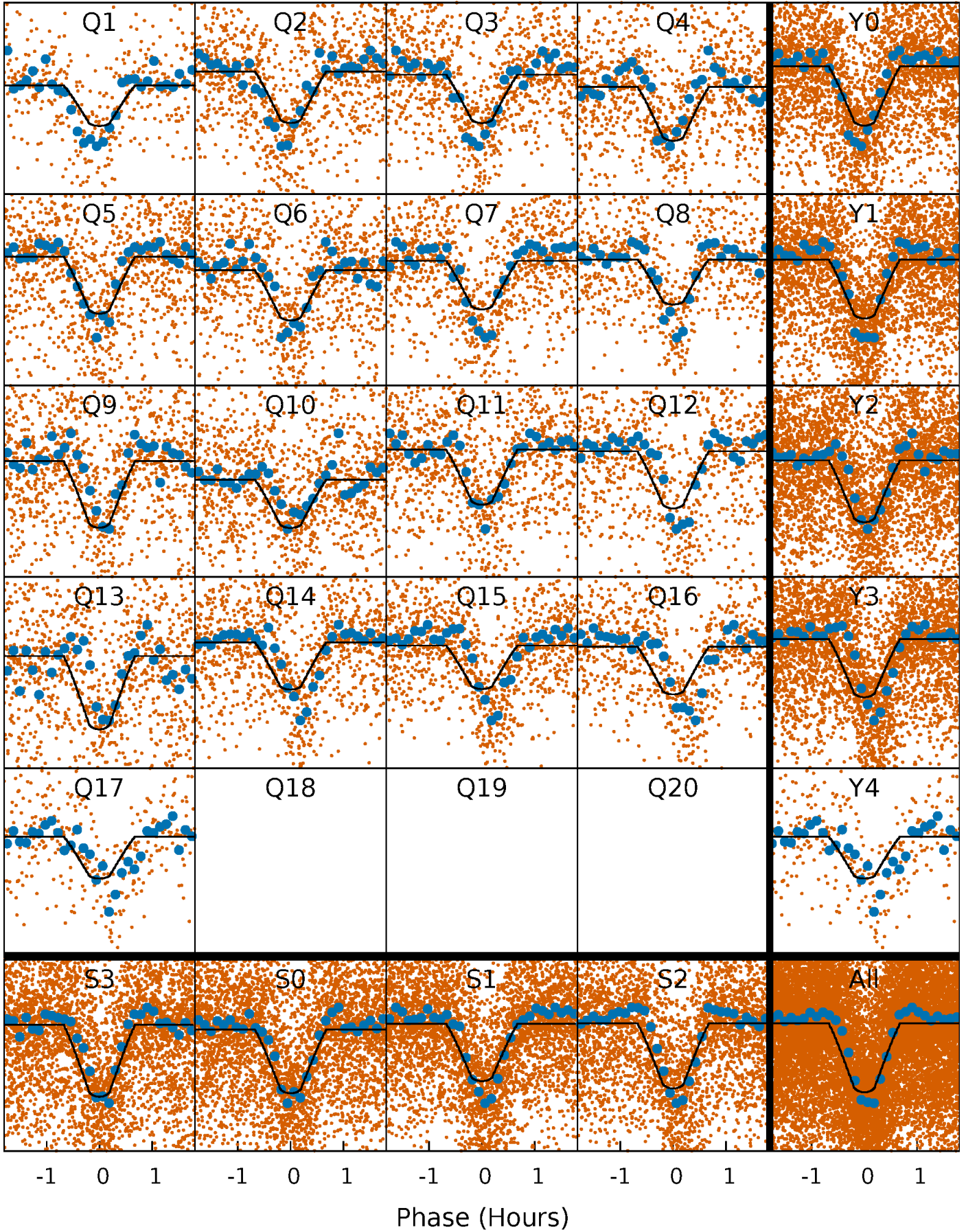
PDC Quarter-Phased Transit Curves

TCE 010281221-01 P= 0.582889 Days $T_0=131.627015$ (BKJD)



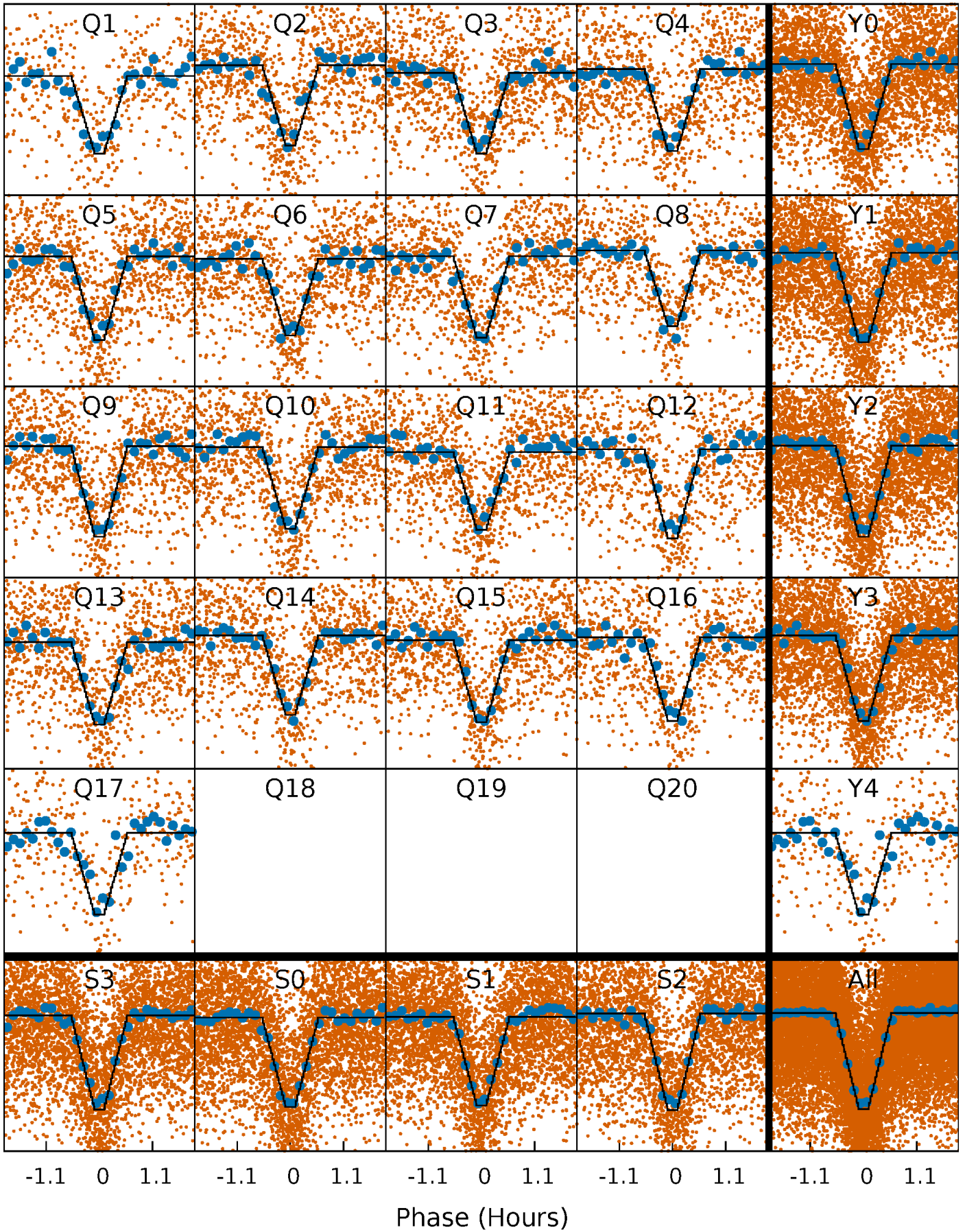
DV Quarter-Phased Transit Curves

TCE 010281221-01 P= 0.582889 Days $T_0=131.627015$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

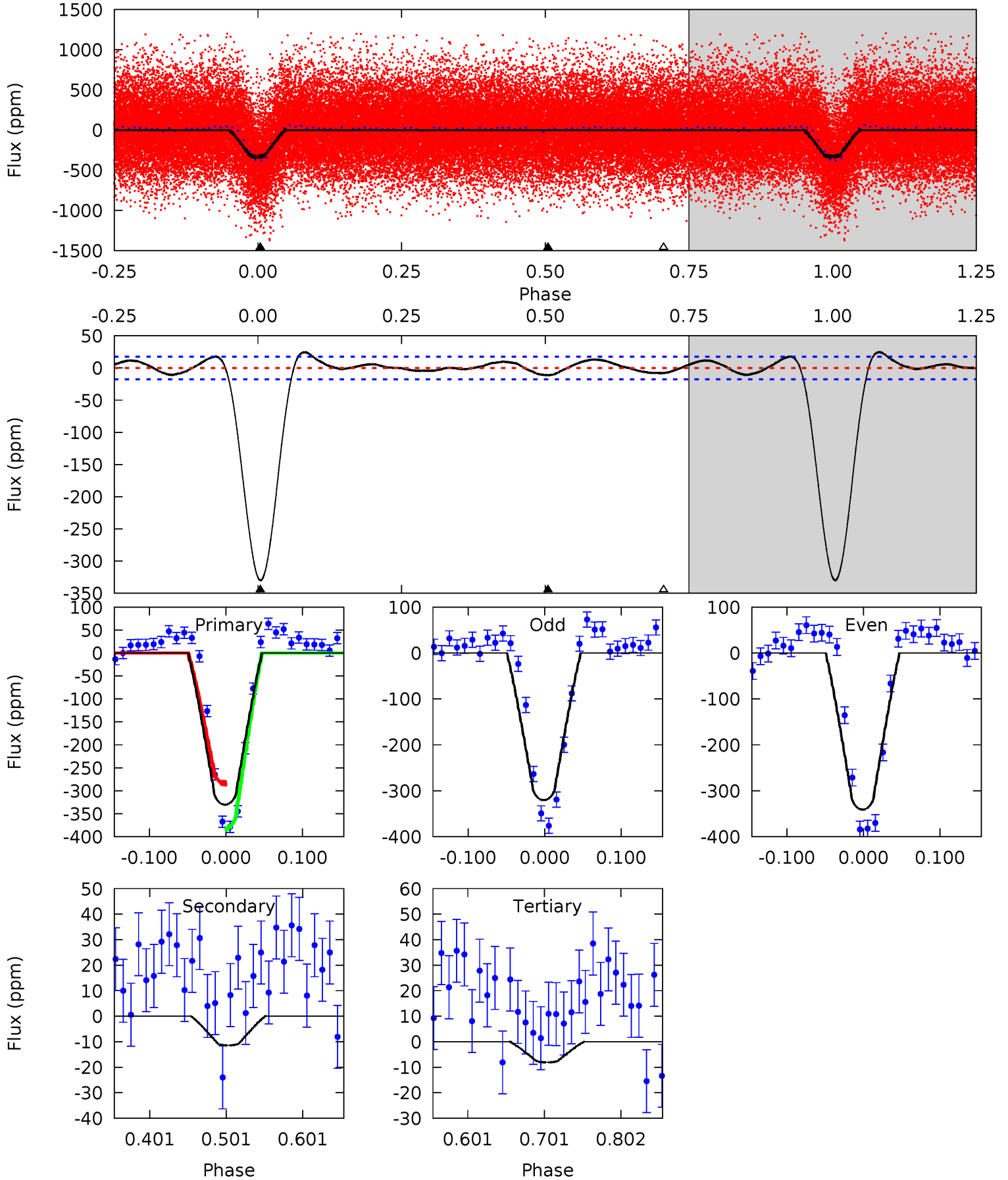
TCE 010281221-01 P= 0.582893 Days $T_0=131.623749$ (BKJD)



DV Model-Shift Uniqueness Test

010281221-01, P = 0.582889 Days, E = 131.044126 Days

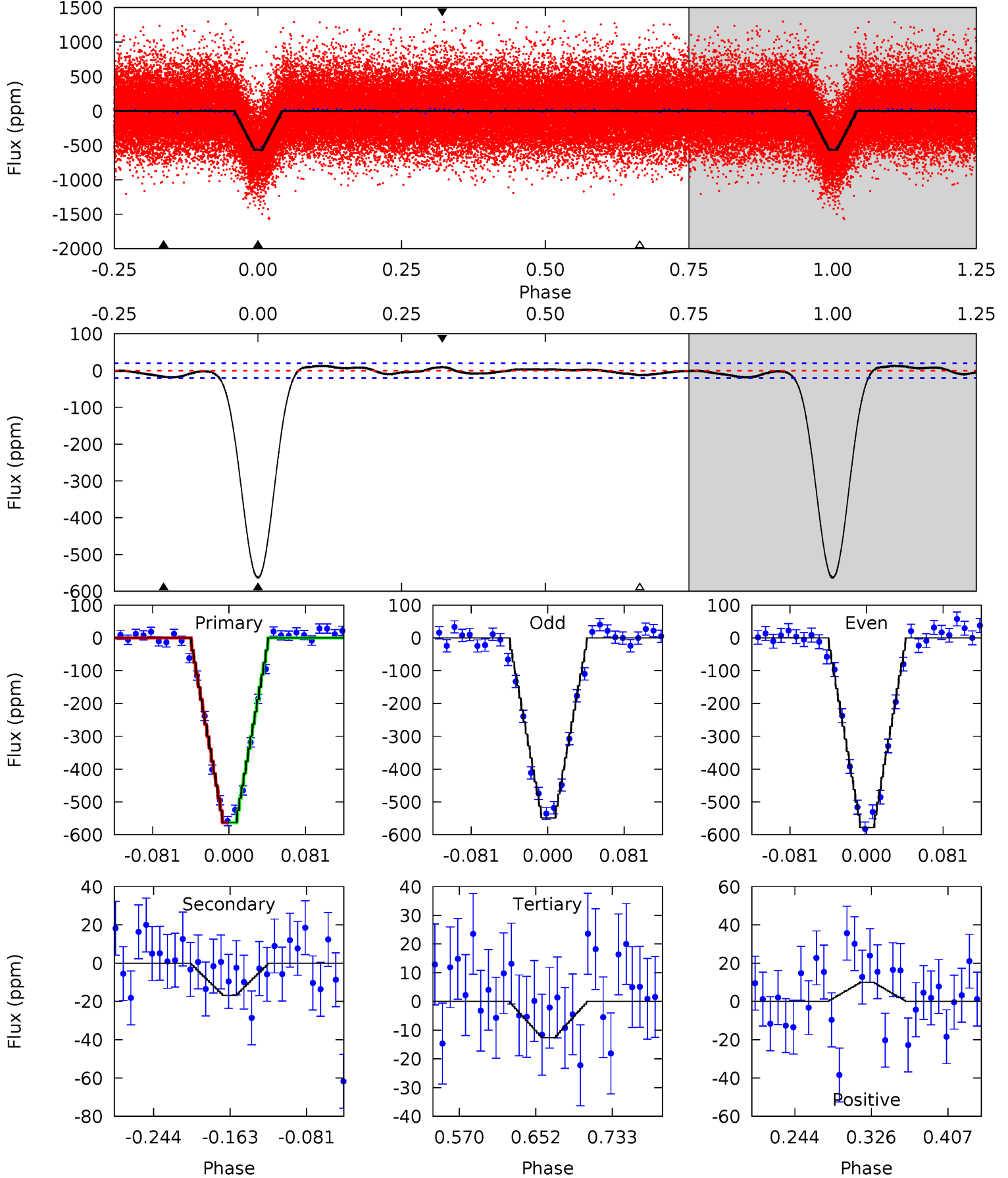
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
85.2	2.96	2.09	0	4.56	1.64	1.40	83.1	85.2	0.87	2.96	2.68	0.98	0.07	12.8



Alt Model-Shift Uniqueness Test

010281221-01, P = 0.582893 Days, E = 131.040856 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
127.9	3.83	2.86	2.28	4.61	1.74	1.45	125.1	125.7	0.97	1.55	3.31	0.97	0.02	0.05



Stellar Parameters For KIC 010281221

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6263^{+169}_{-225}	$4.460^{+0.065}_{-0.208}$	$-0.220^{+0.250}_{-0.300}$	$1.009^{+0.299}_{-0.128}$	$1.068^{+0.144}_{-0.144}$	$1.462^{+0.419}_{-0.782}$
	+3%/-4%	+1%/-5%	+114%/-136%	+30%/-13%	+13%/-13%	+29%/-53%
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 010281221-01 / KOI 3913.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-11 ± 4	$2.03^{+0.36}_{-0.25}$	3338^{+251}_{-167}	-2317^{+5193}_{-631}	$0.280^{+0.141}_{-0.104}$
Alt.	-17 ± 4	$2.73^{+0.45}_{-0.30}$	3347^{+247}_{-168}	-2677^{+5044}_{-356}	$0.231^{+0.097}_{-0.075}$

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 $A_{obs} \gg 1.0$

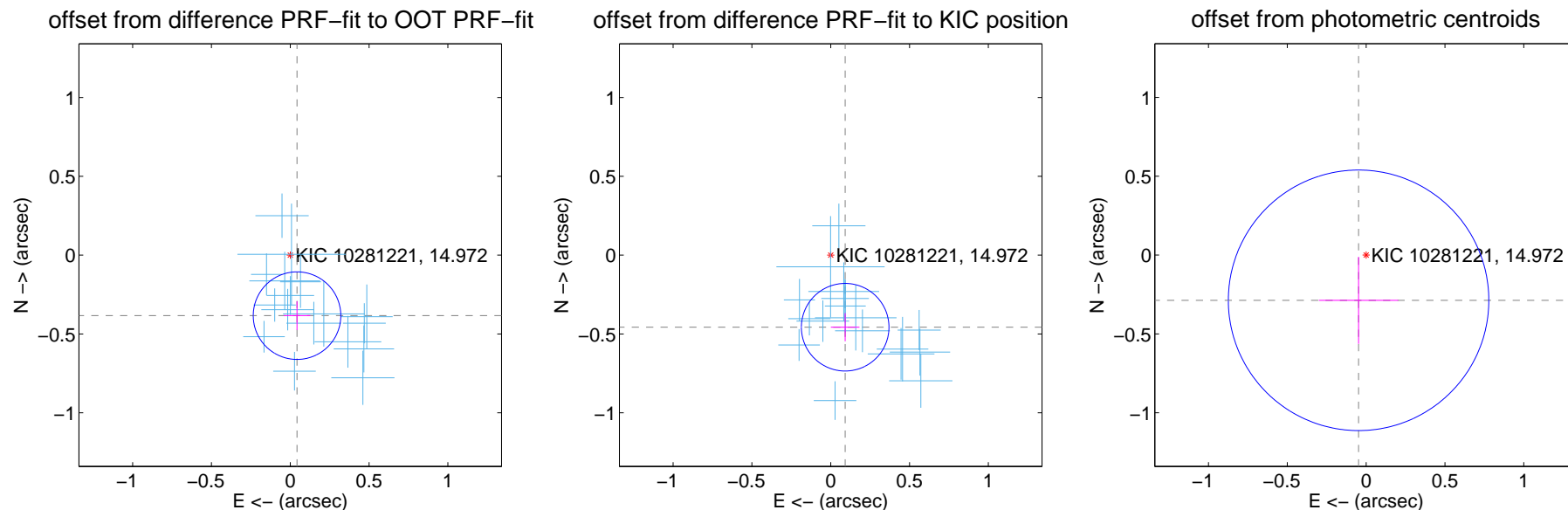
DV Centroid Data

Supplemental centroid analysis for 010281221-01. Kepler magnitude: 14.97. Transit SNR 52.91

There are 17 quarters with good PRF difference image offsets

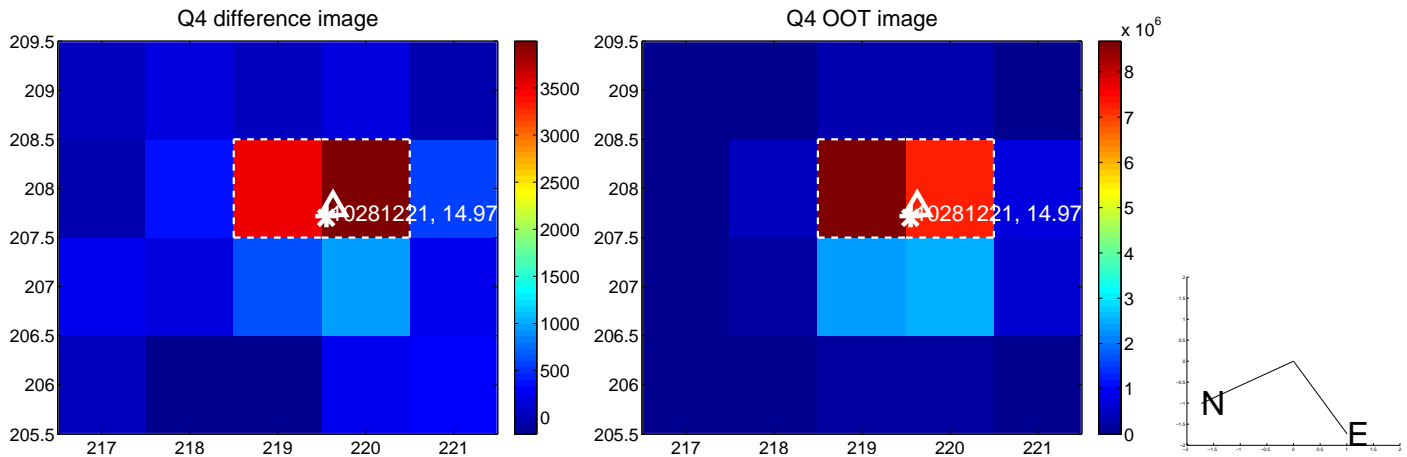
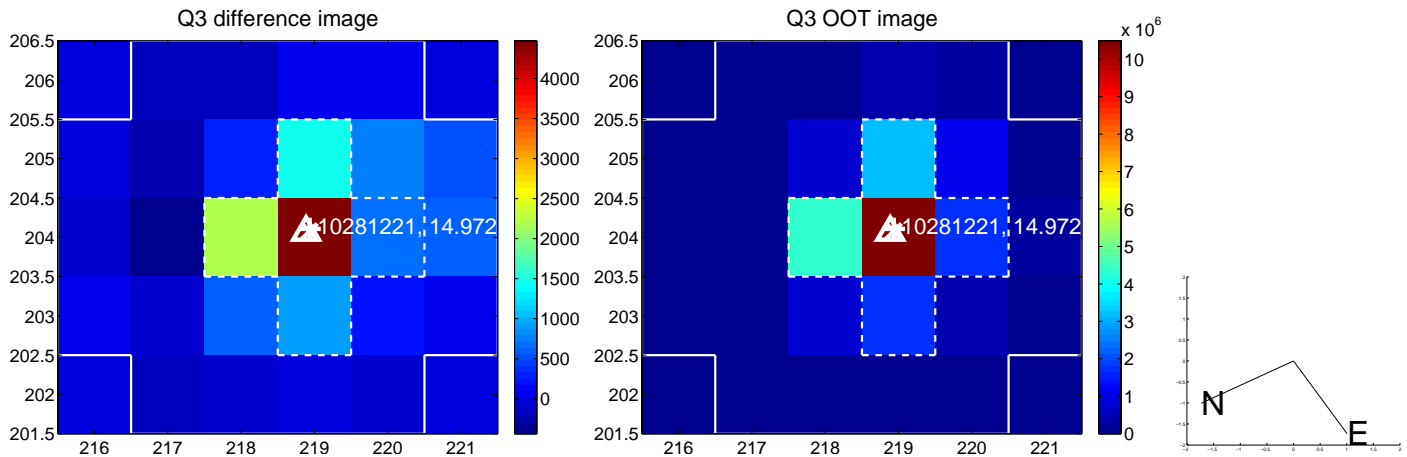
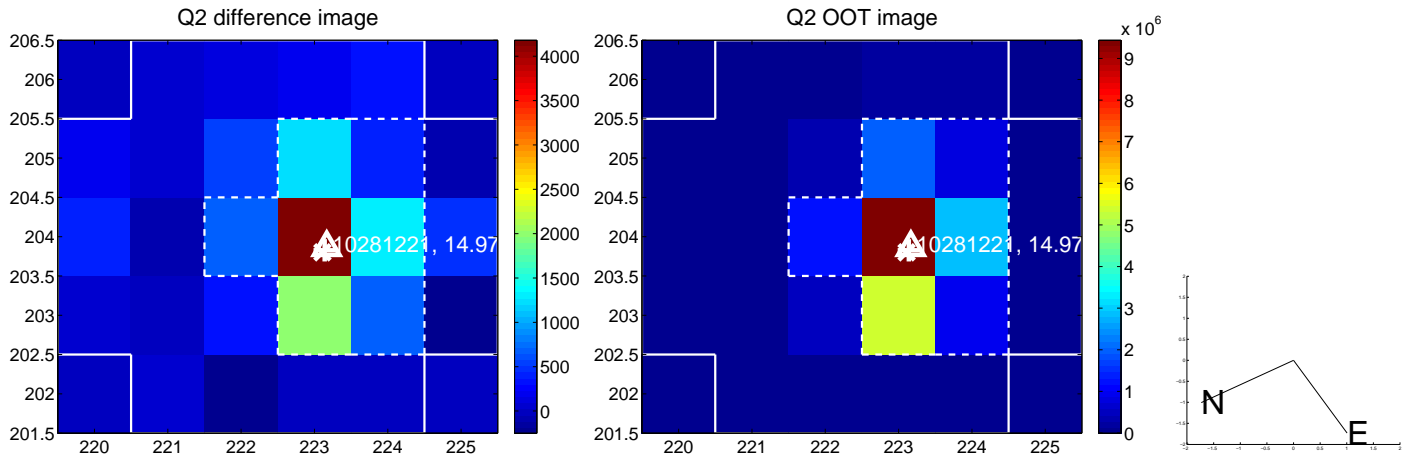
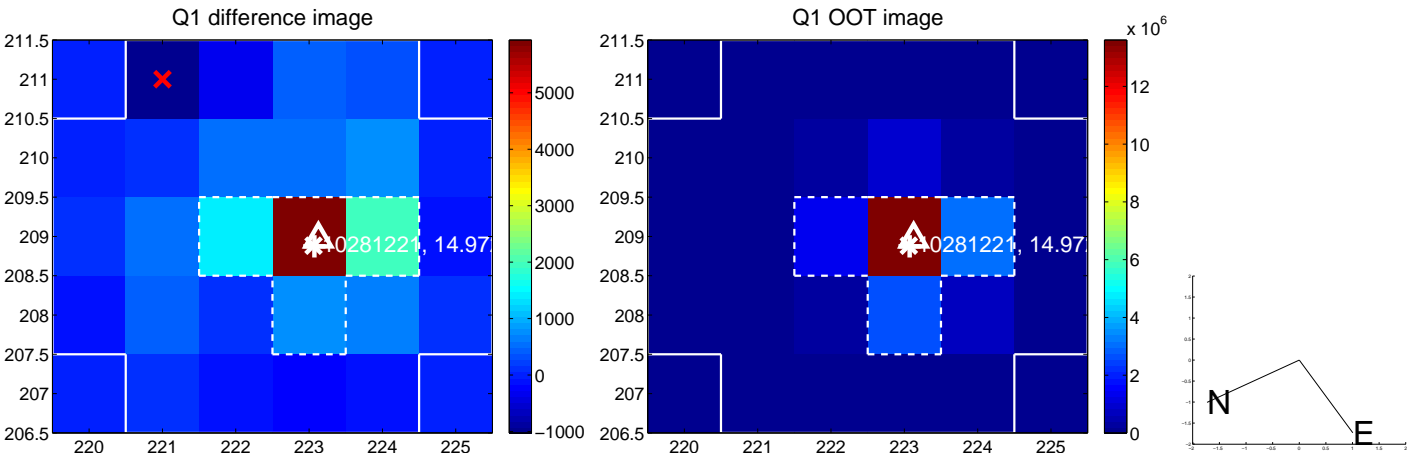
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.386 ± 0.093	4.17	-0.043 ± 0.084	-0.384 ± 0.091
PRF-fit source offset from KIC position	0.466 ± 0.093	5.03	-0.092 ± 0.091	-0.457 ± 0.089
photometric centroid source offset	0.29 ± 0.28	1.06	0.05 ± 0.25	-0.29 ± 0.28

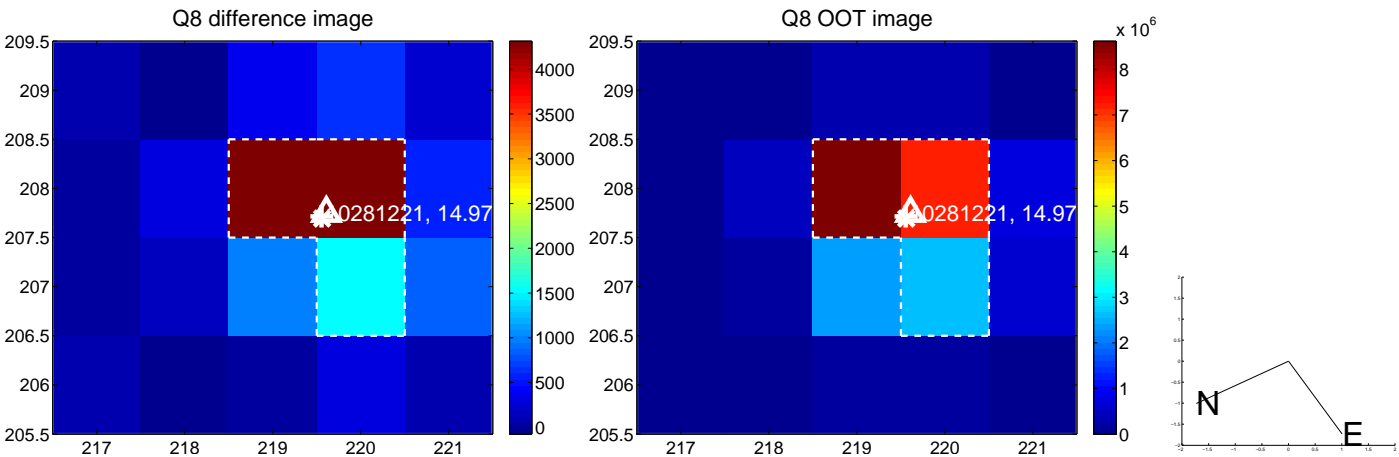
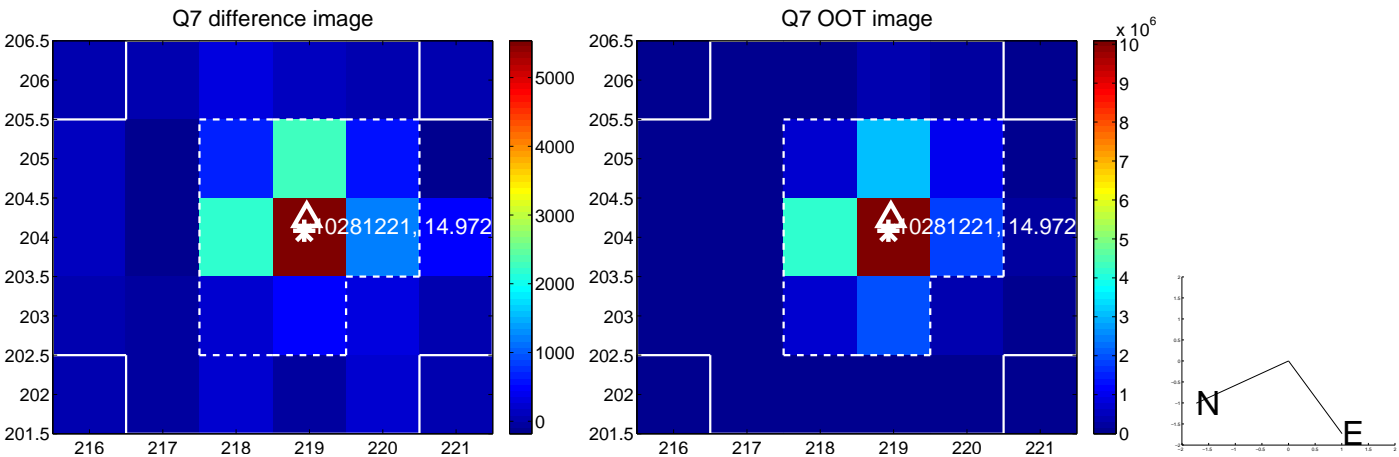
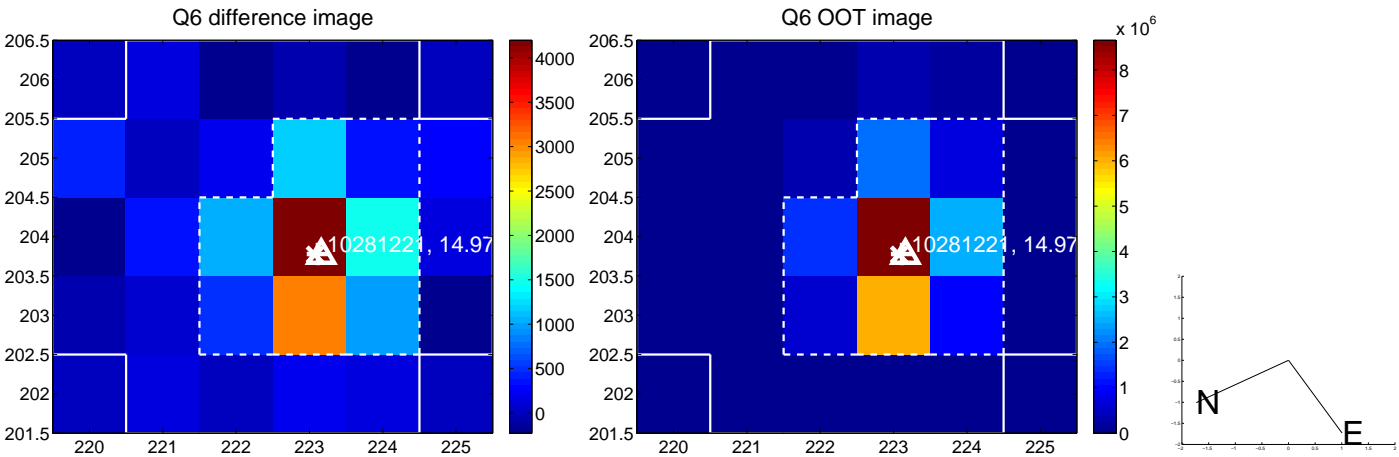
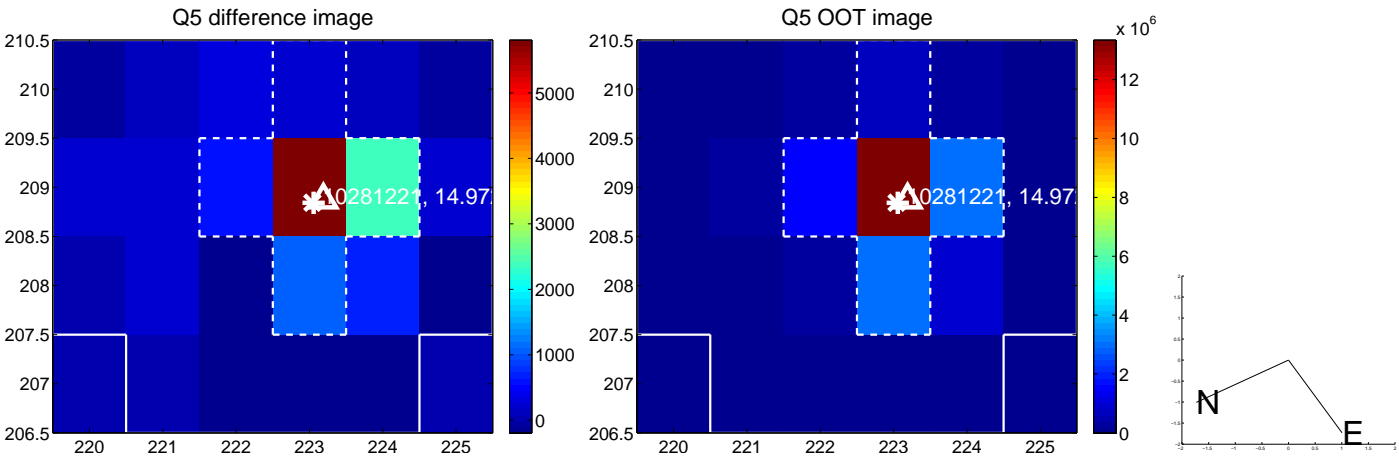


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

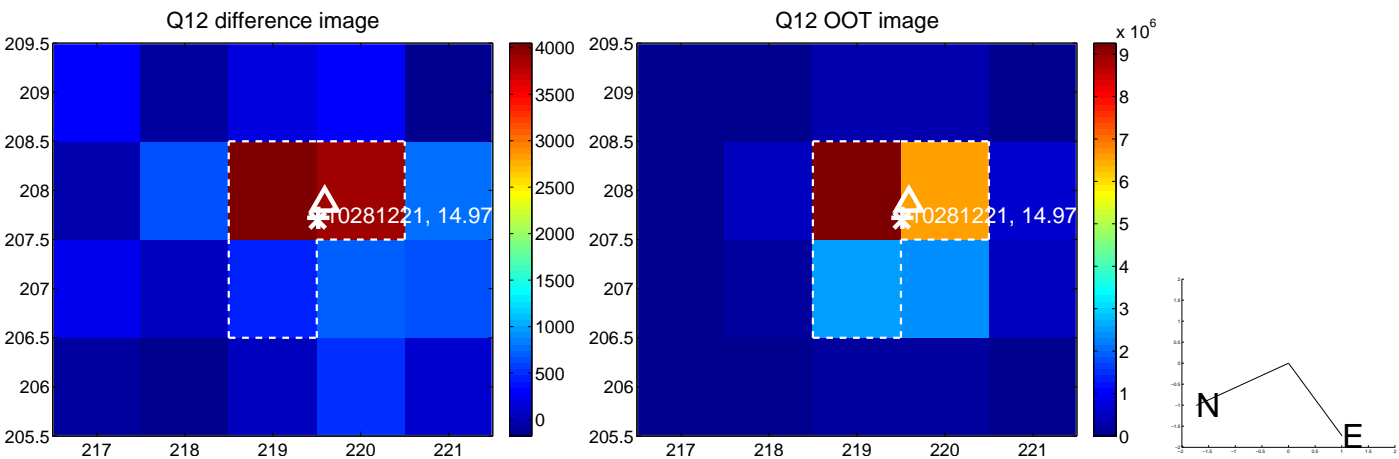
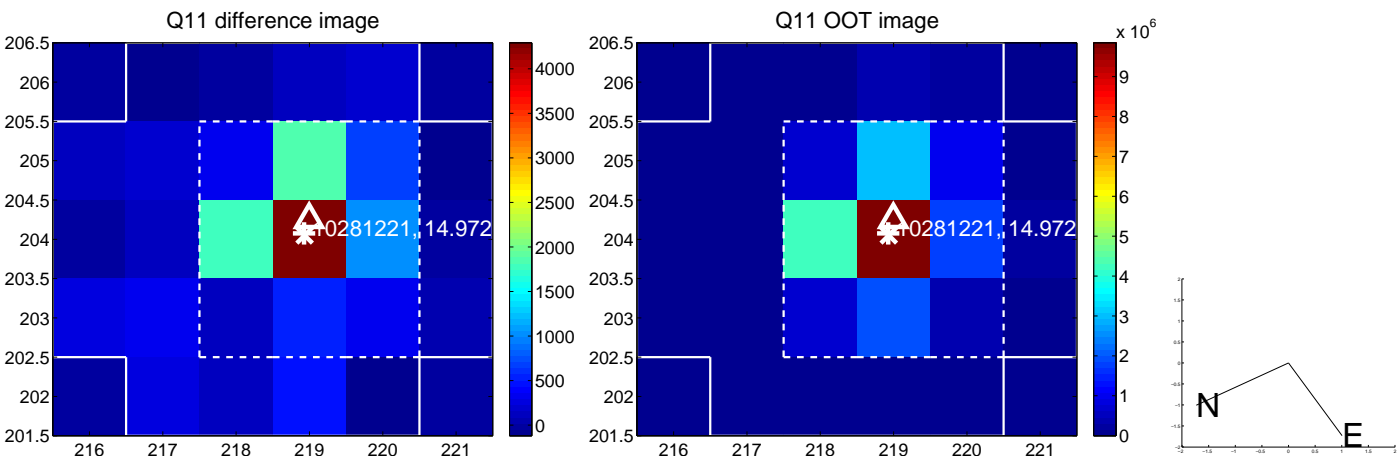
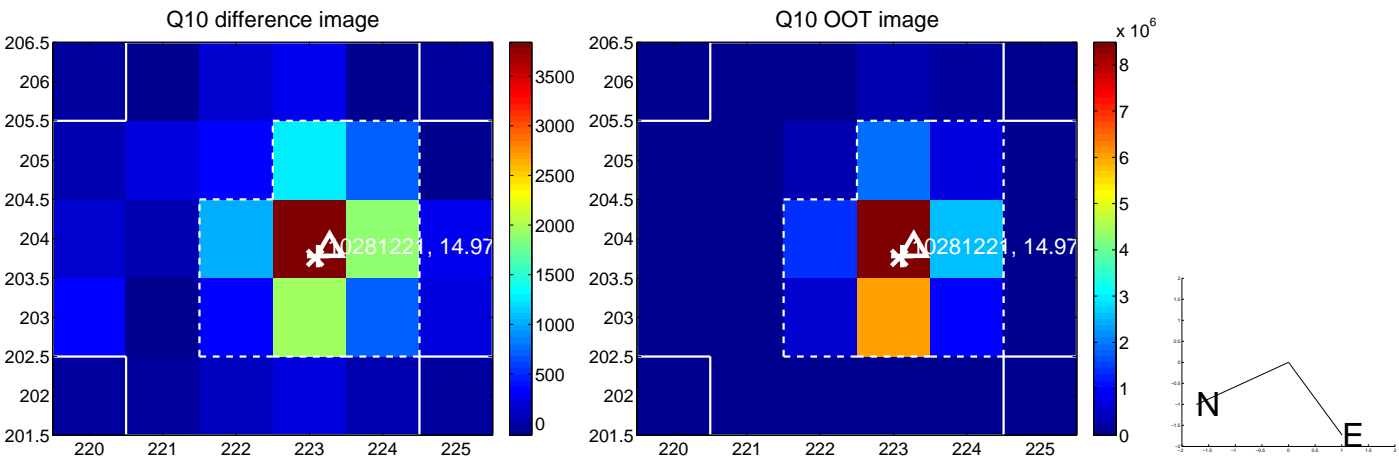
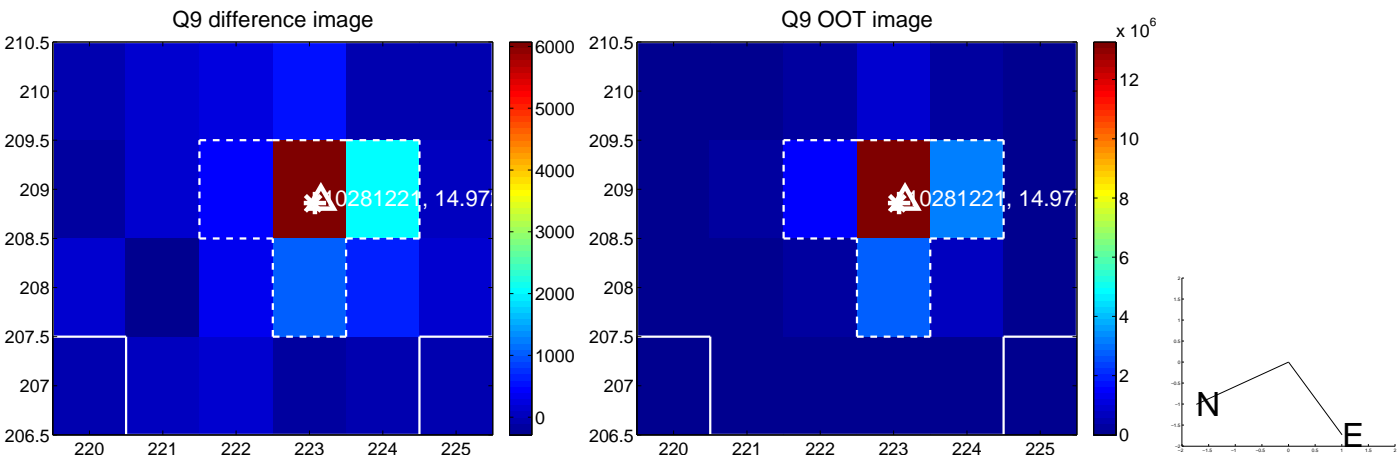
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



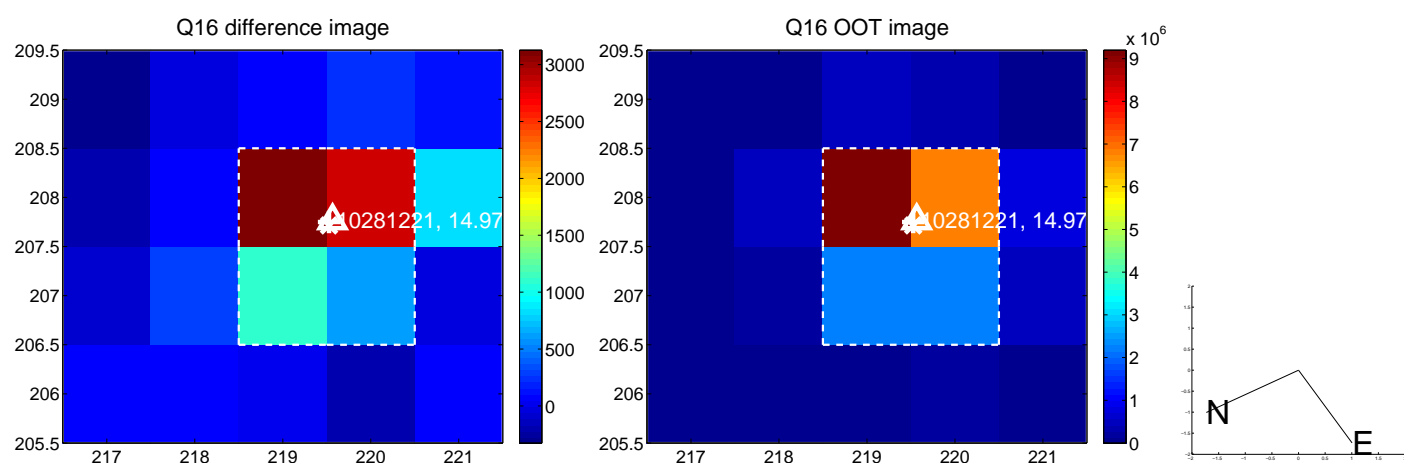
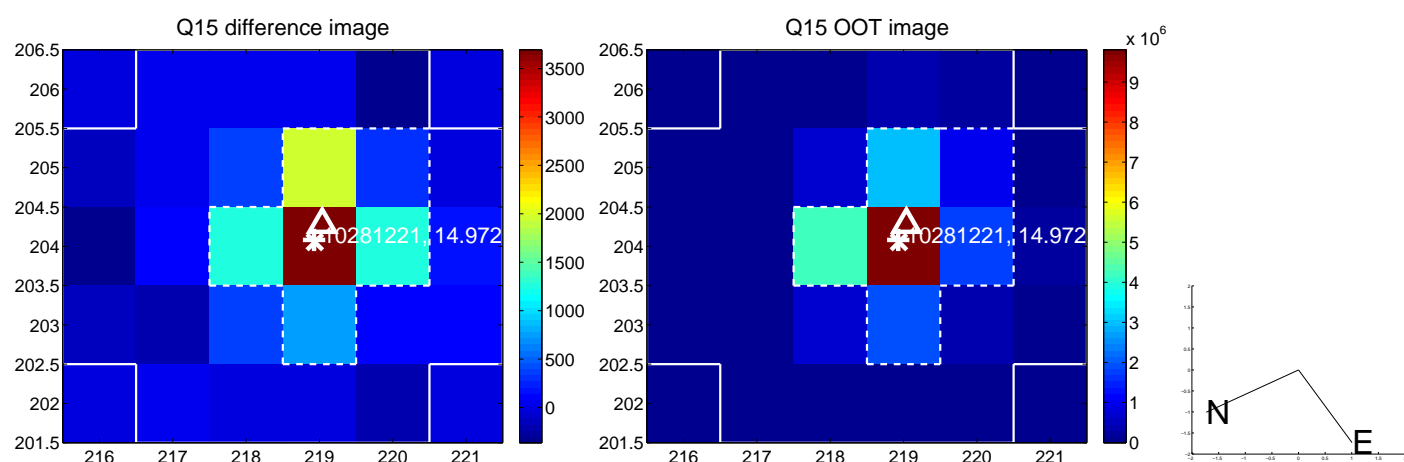
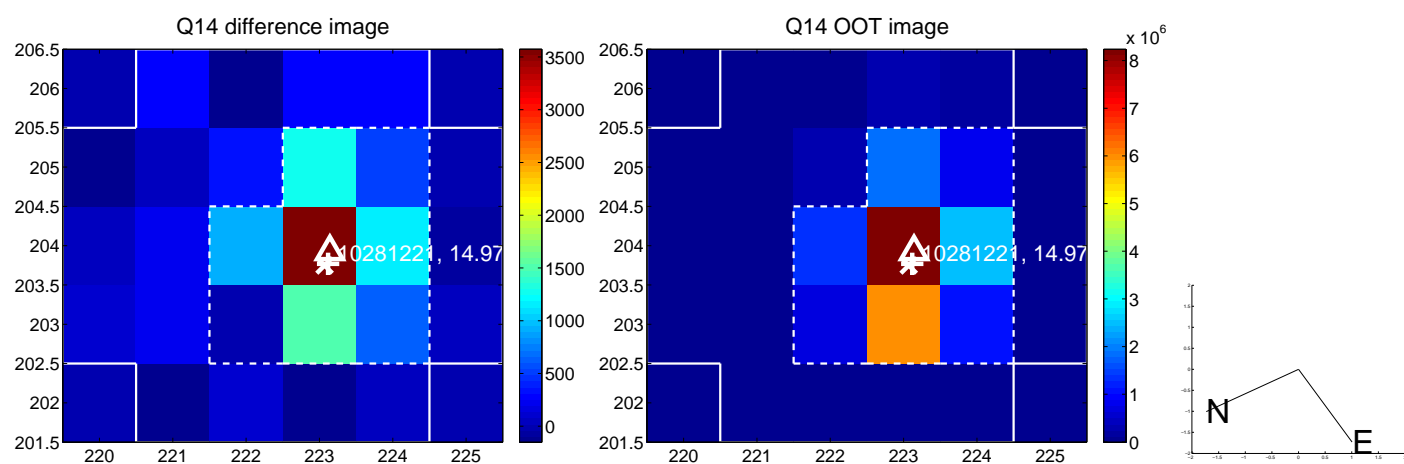
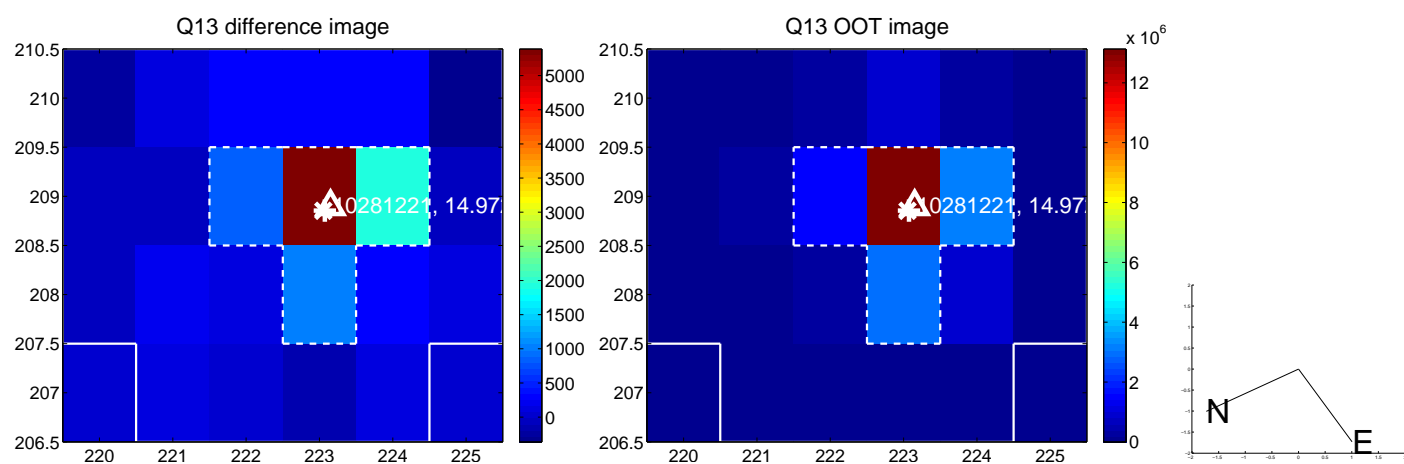
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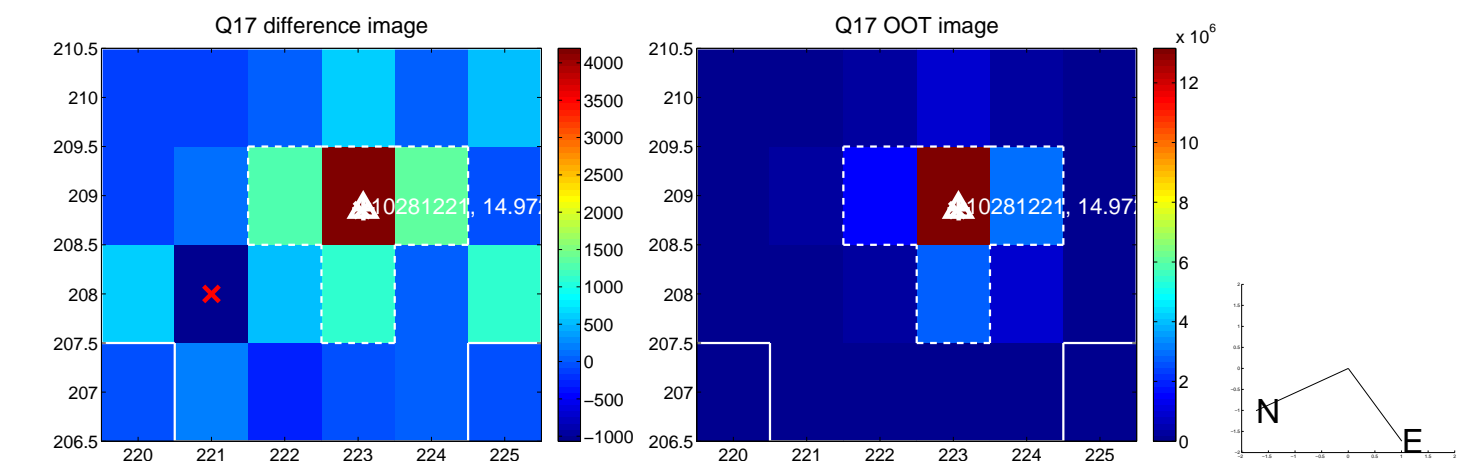
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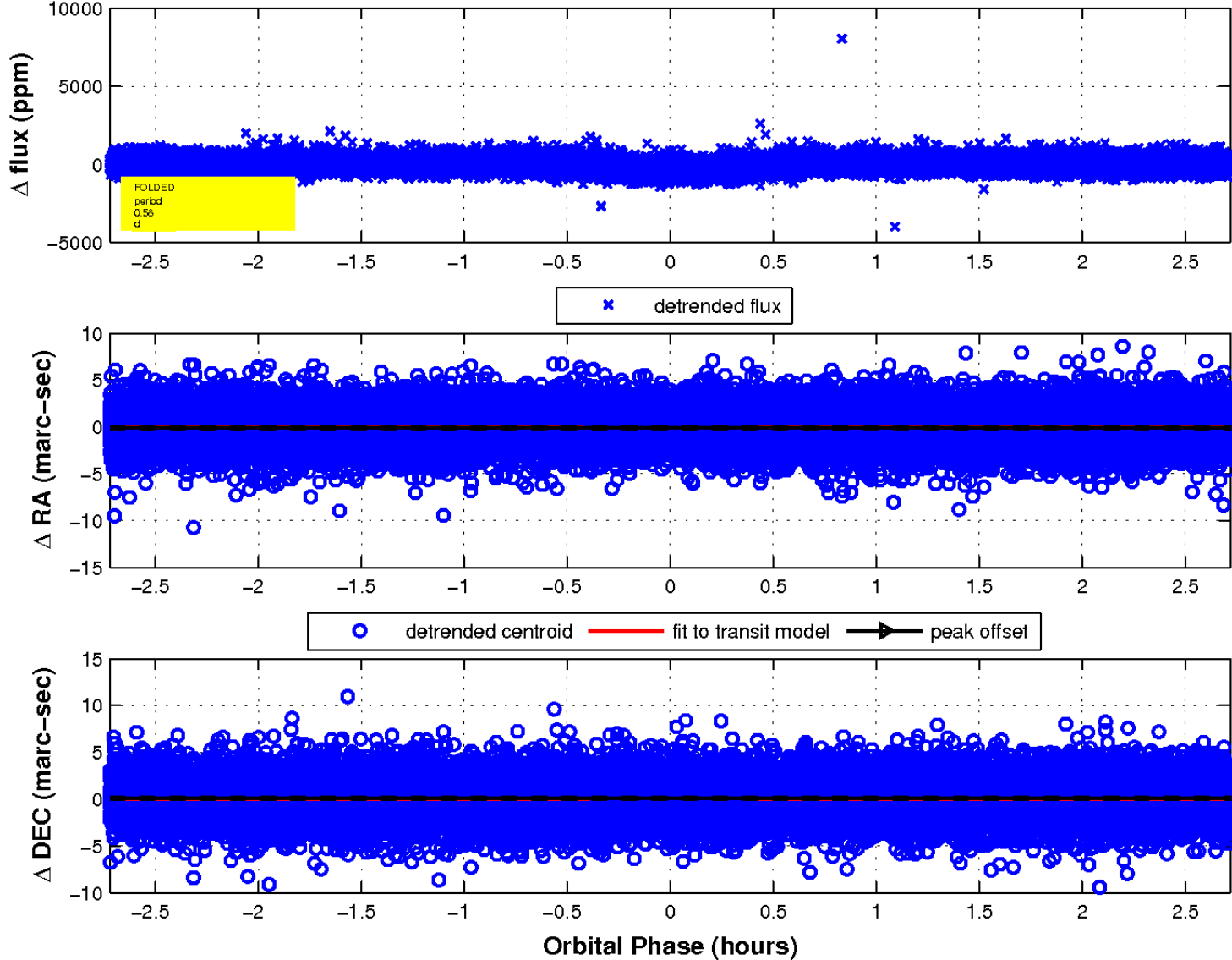
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

