

KIC 007204981

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})
007204981-01	OBS	2164.01	5.123302	132.086746	284.3	2.897	21.7	23.9	0.98	5364	1.97	231.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007204981-01	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.

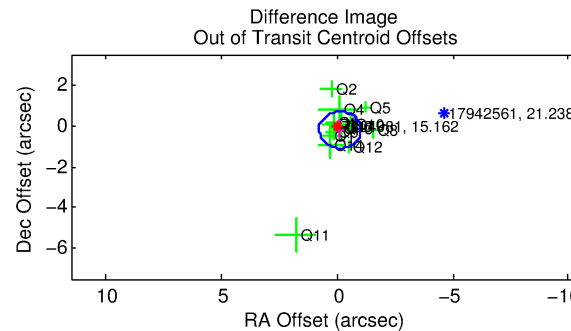
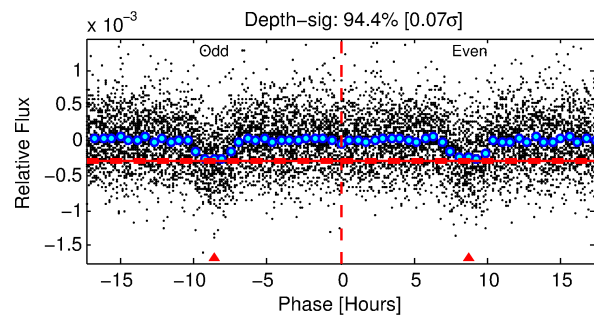
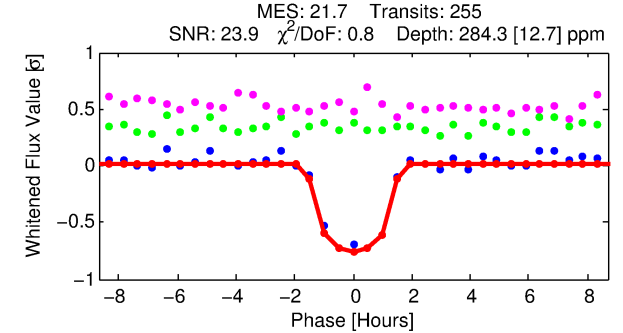
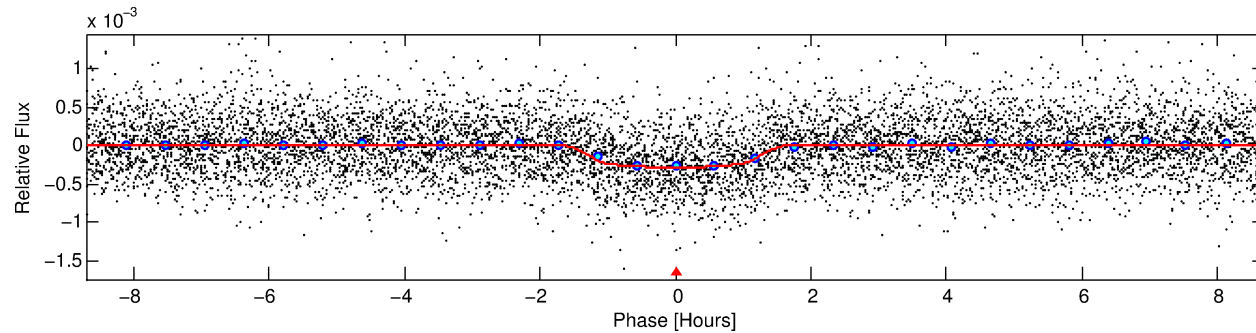
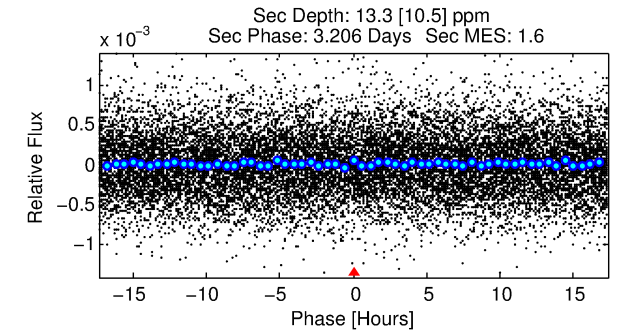
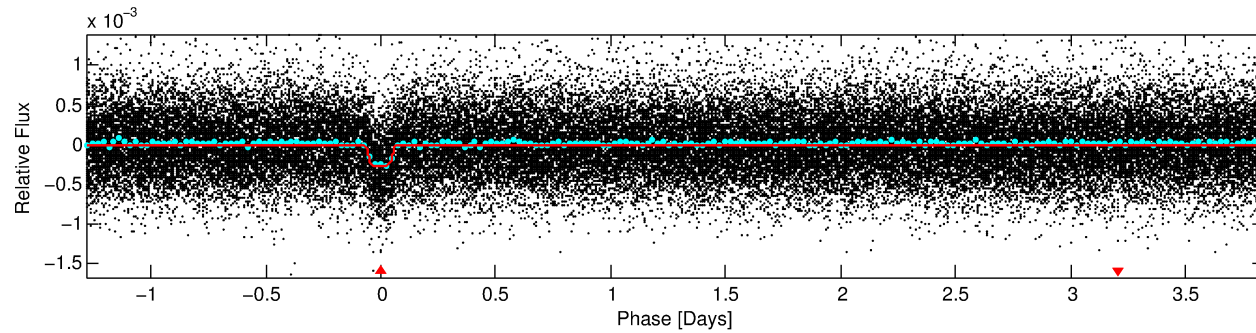
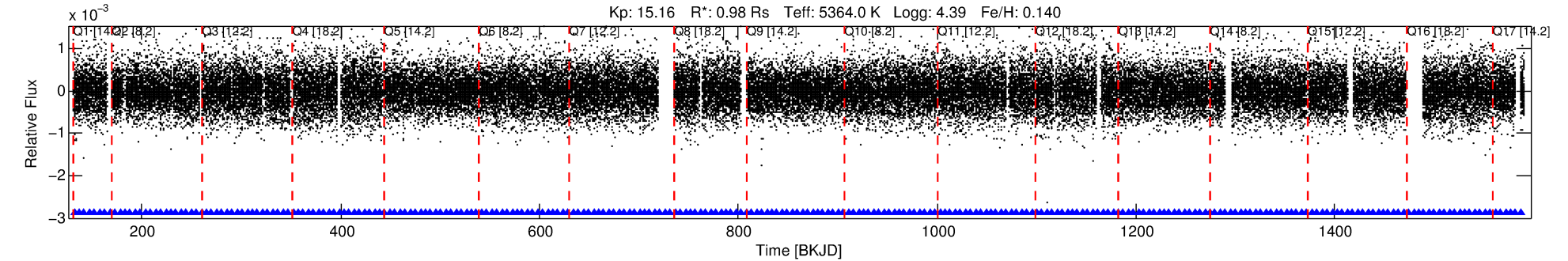
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007204981-01

No Significant Match Found

DV One-Page Summary

KIC: 7204981 Candidate: 1 of 1 Period: 5.123 d
KOI: K02164.01 Corr: 0.983



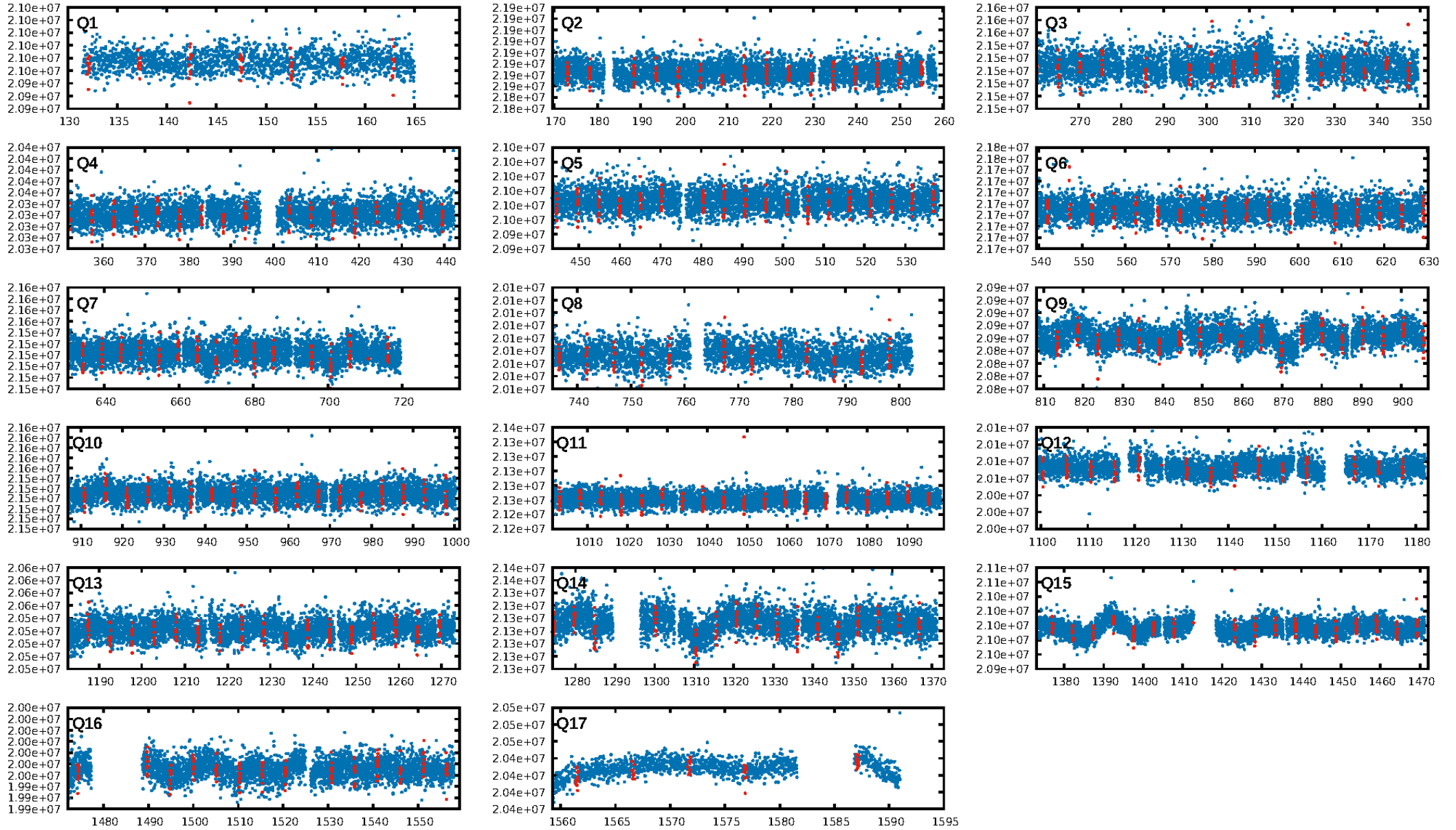
DV Fit Results:

Period = 5.12330 [0.00002] d
Epoch = 132.0867 [0.0023] BKJD
Rp/R* = 0.0184 [0.0052]
a/R* = 6.79 [7.92]
b = 0.89 [0.29]
Seff = 231.66 [46.82]
Teq = 995 [50] K
Rp = 1.97 [0.61] Re
a = 0.0556 [0.0065] AU
Ag = 5.81 [5.76] [0.84σ]
Teffp = 2388 [582] K [2.39σ]

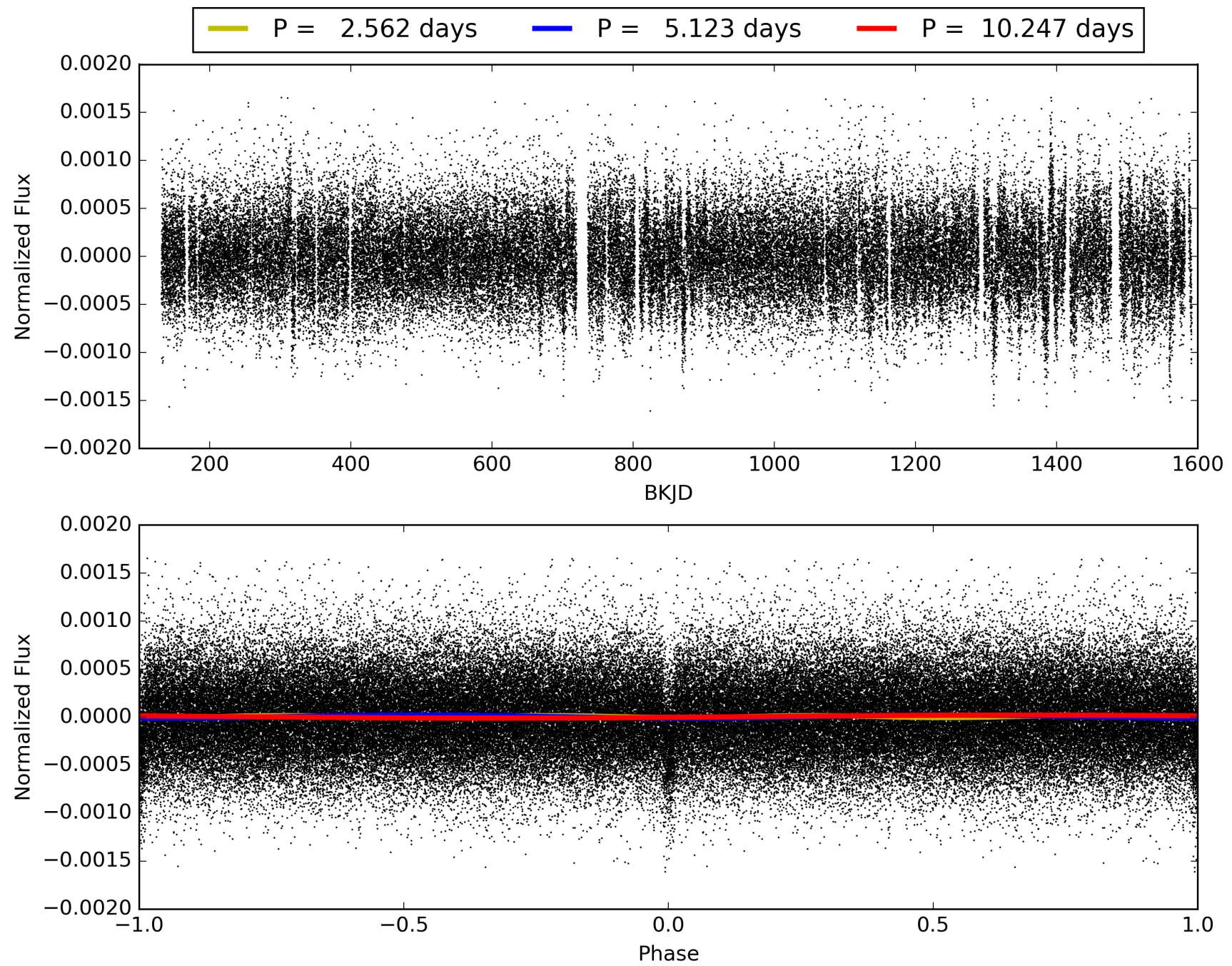
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.37e-104
RollingBand-fgt: 1.00 [243/243]
GhostDiagnostic-chr: 4.467
Centroid-sig: 0.1%
Centroid-so: 0.991 arcsec [1.75σ]
OotOffset-rm: 0.237 arcsec [0.79σ]
KicOffset-rm: 0.544 arcsec [2.07σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007204981-01, PDC Light Curves

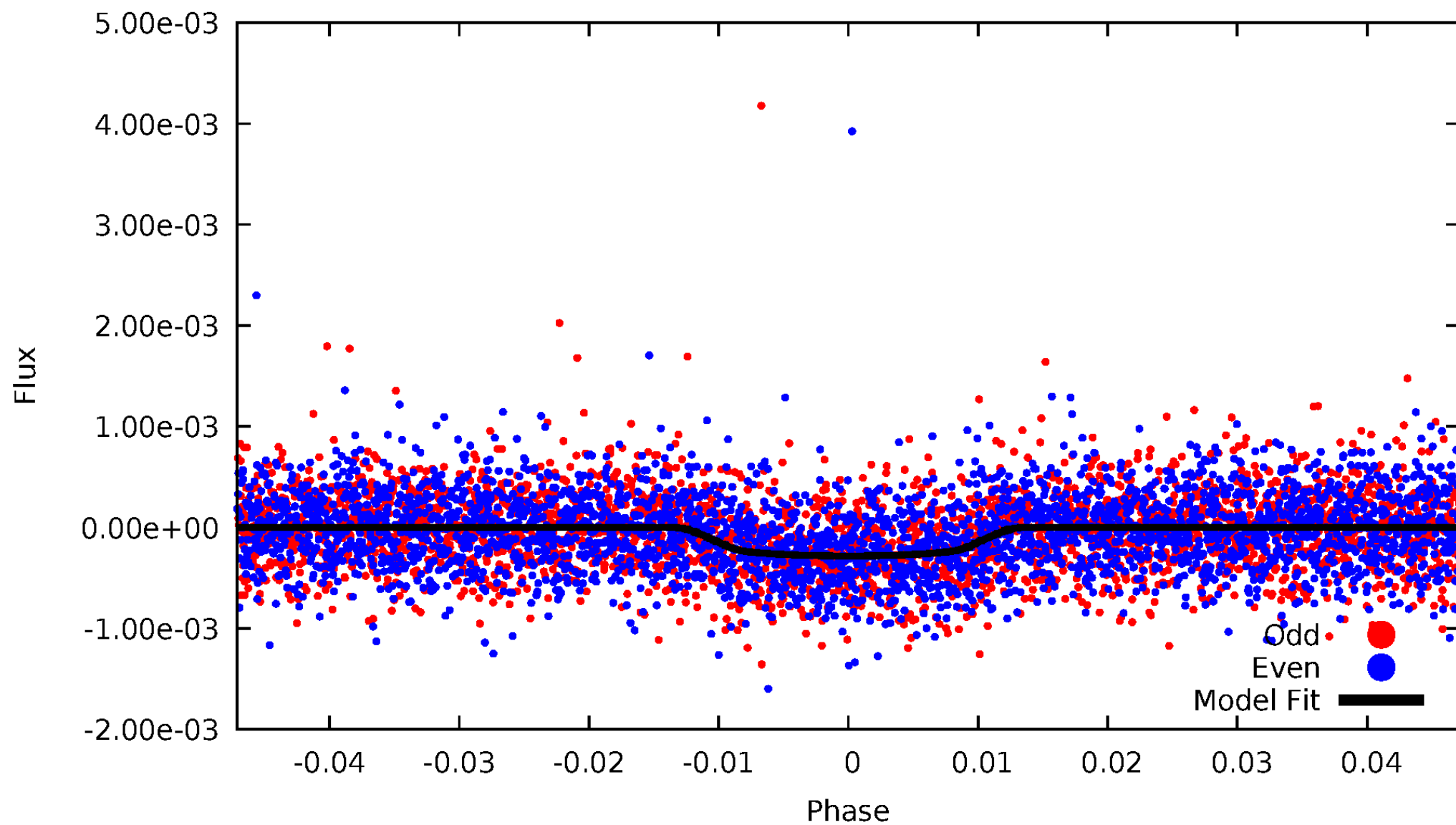


TCE 007204981-01



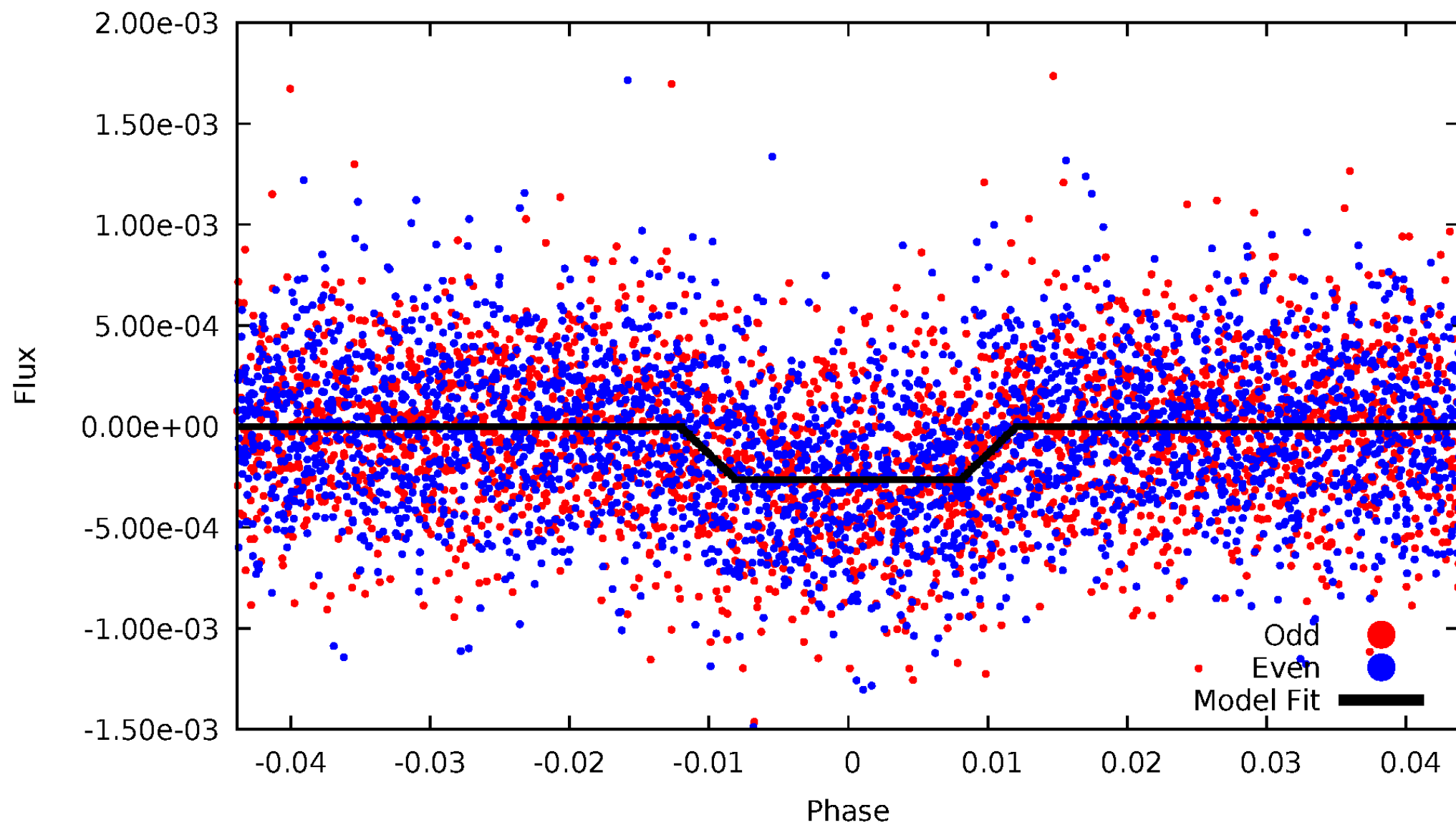
DV Odd/Even

TCE 007204981-01



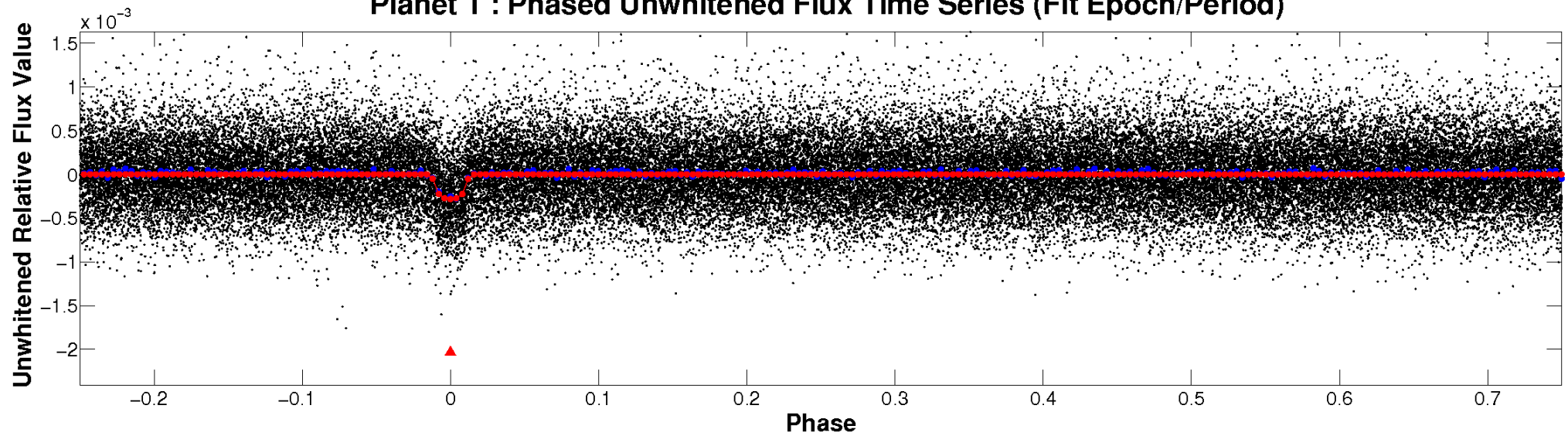
ALT Odd/Even

TCE 007204981-01

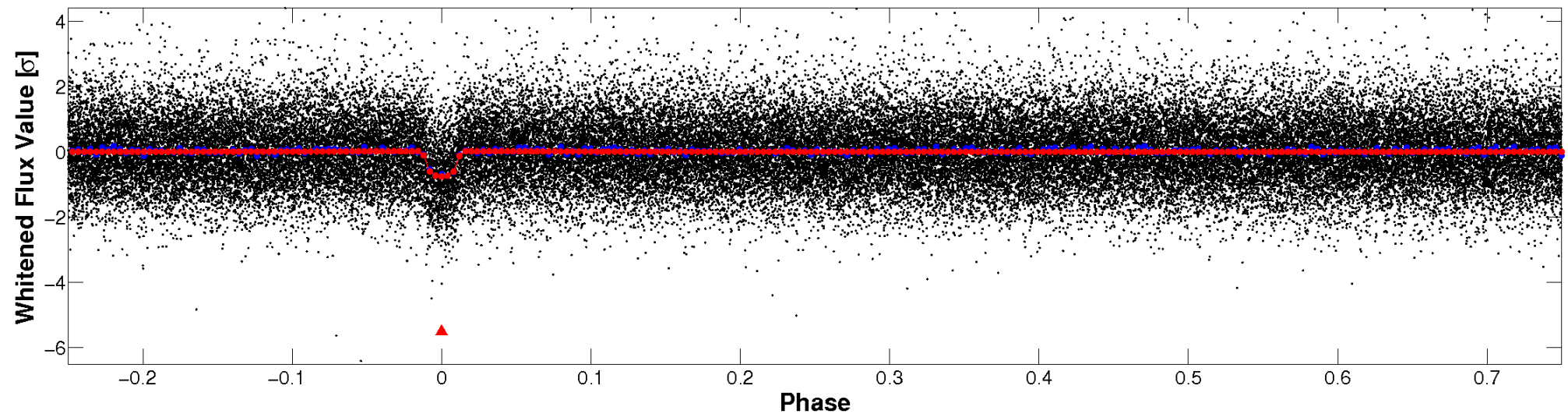


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

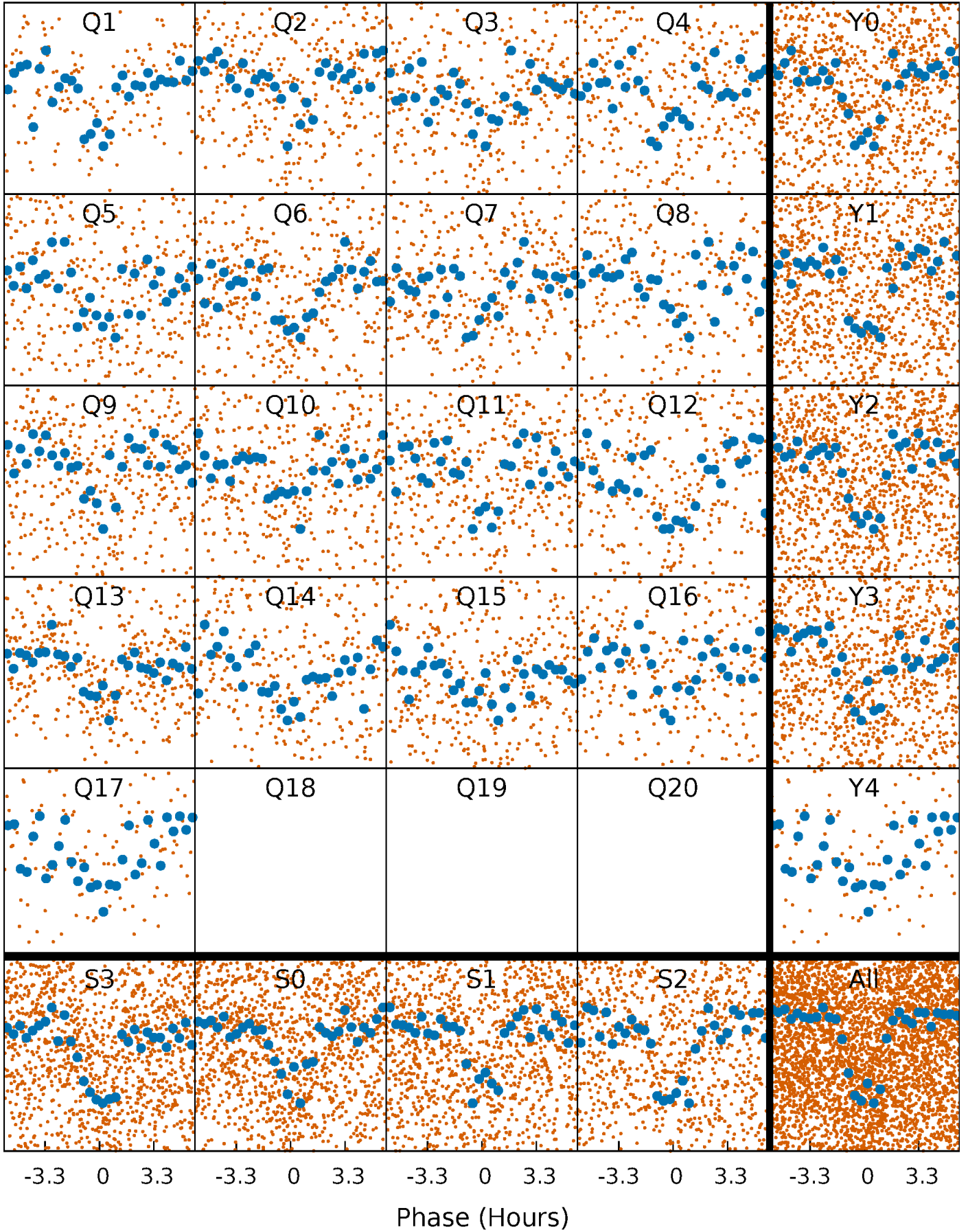


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



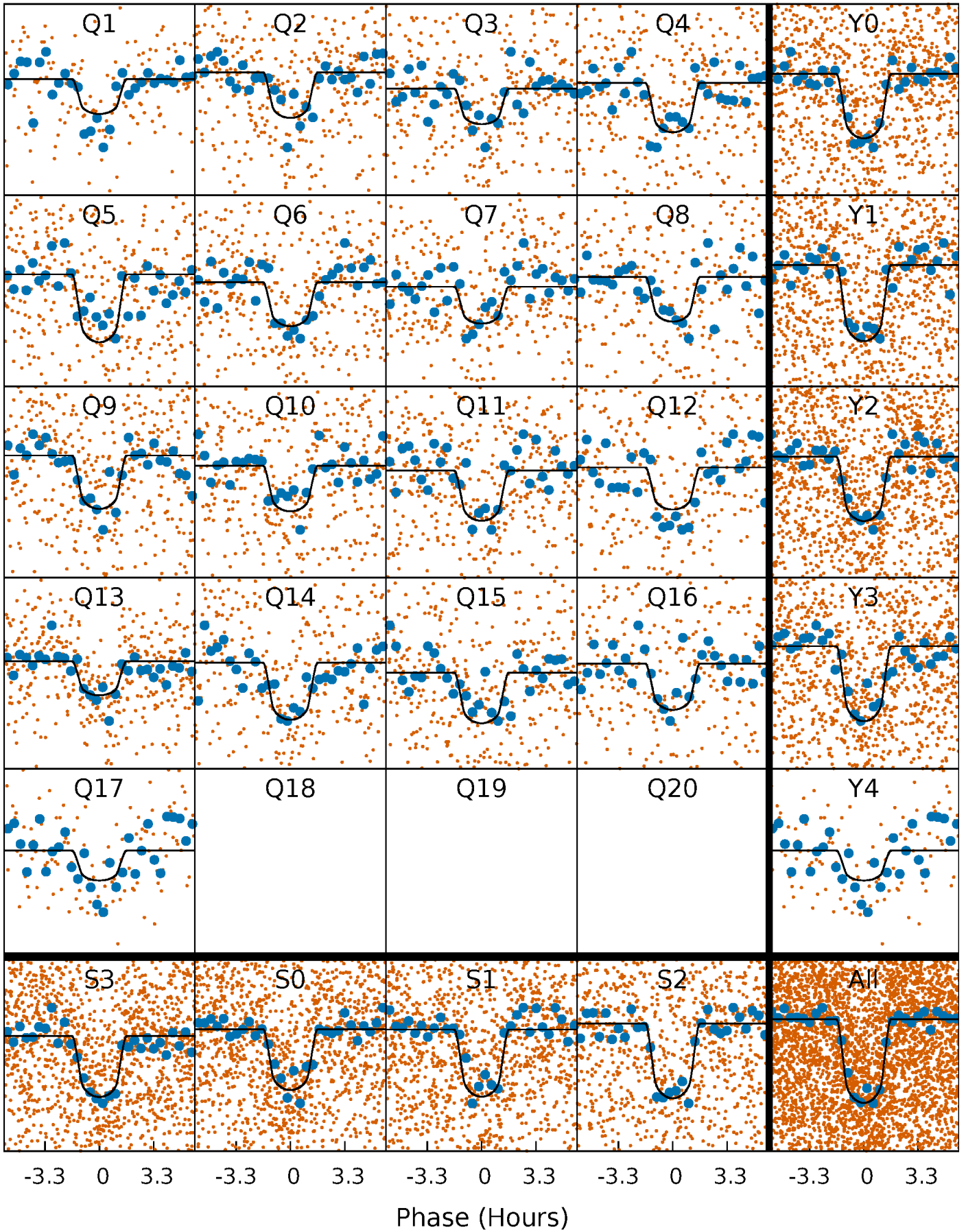
PDC Quarter-Phased Transit Curves

TCE 007204981-01 P= 5.123302 Days $T_0=132.086746$ (BKJD)



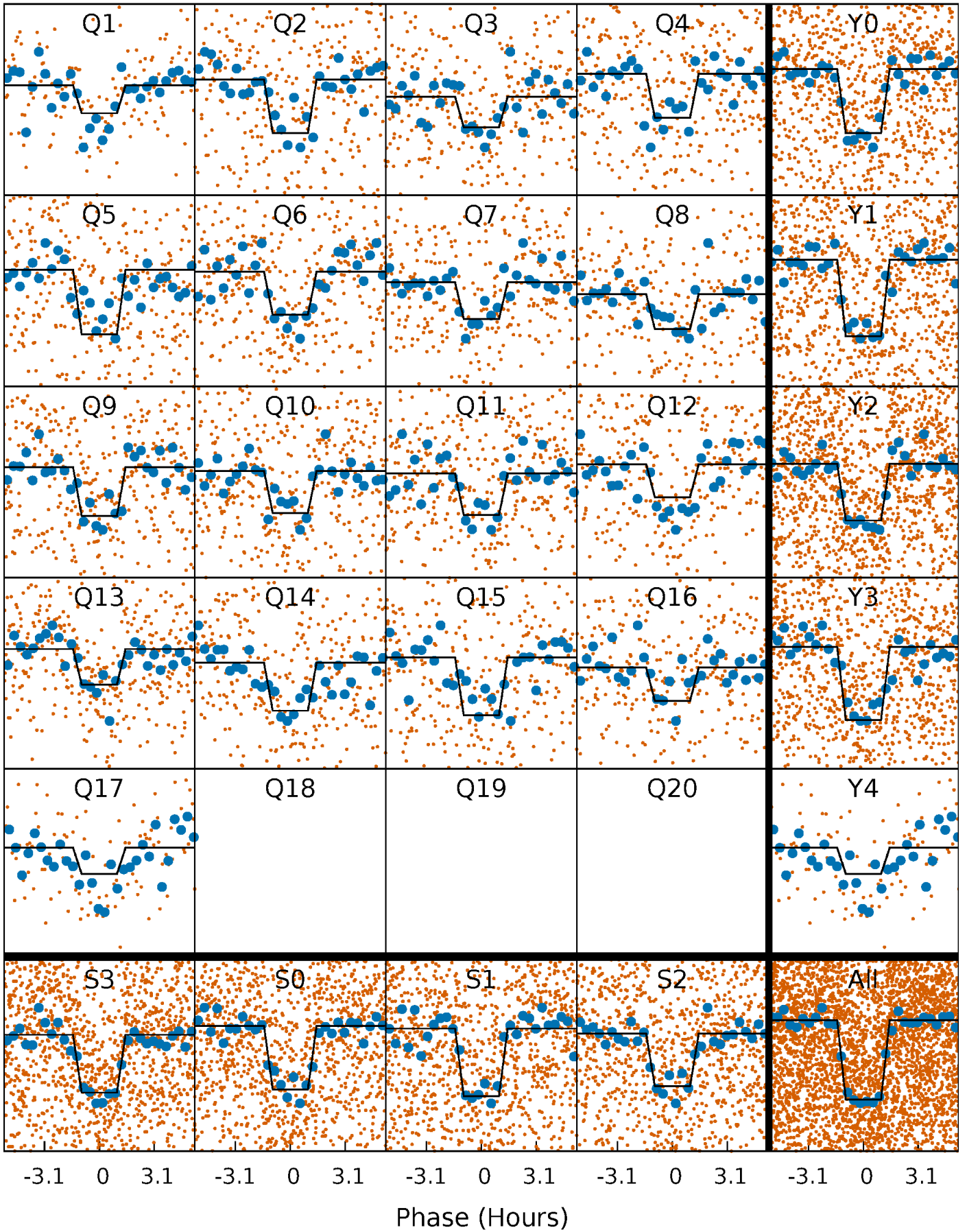
DV Quarter-Phased Transit Curves

TCE 007204981-01 P= 5.123302 Days $T_0=132.086746$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

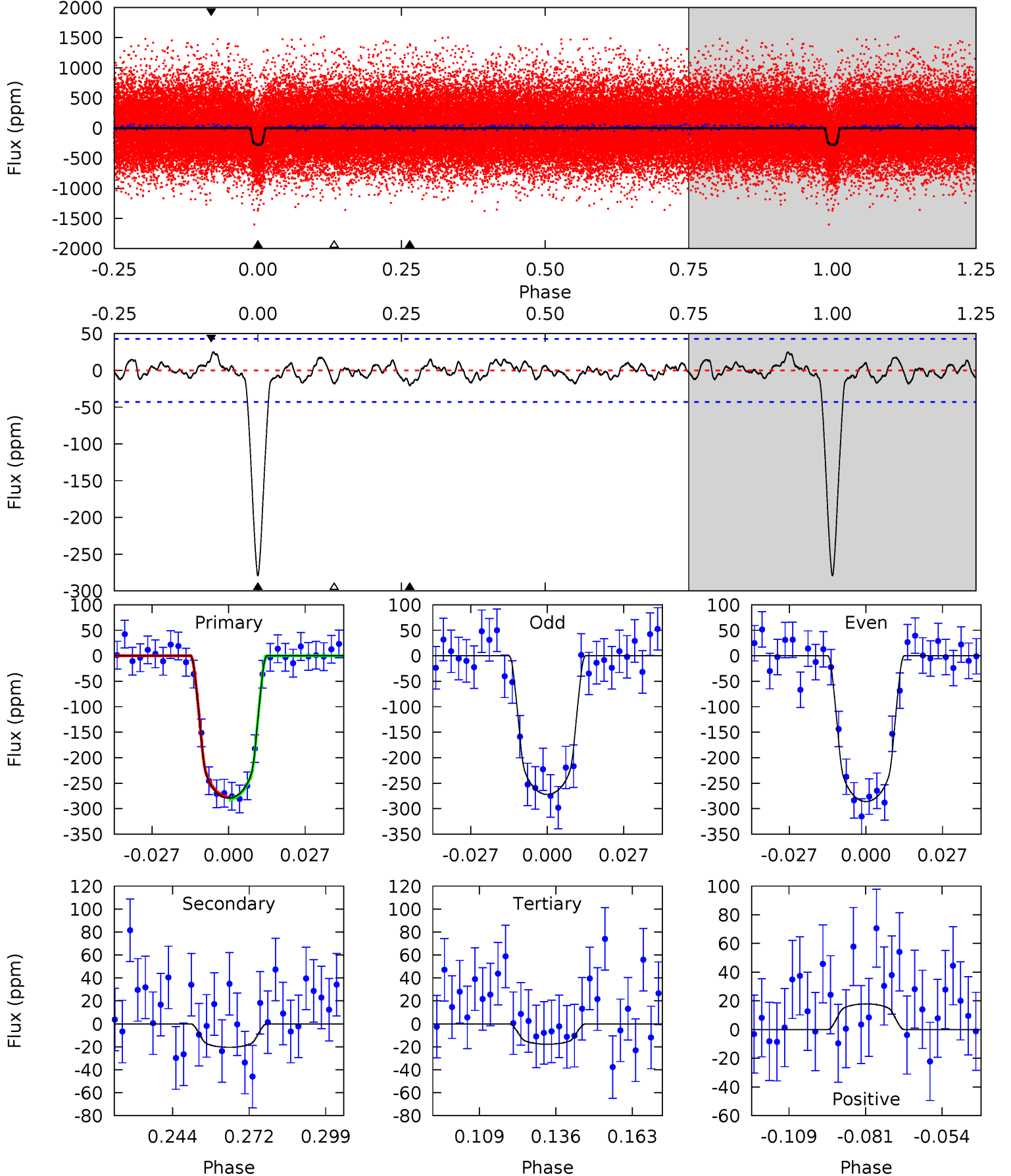
TCE 007204981-01 P= 5.123281 Days $T_0=132.089969$ (BKJD)



DV Model-Shift Uniqueness Test

007204981-01, P = 5.123302 Days, E = 126.963444 Days

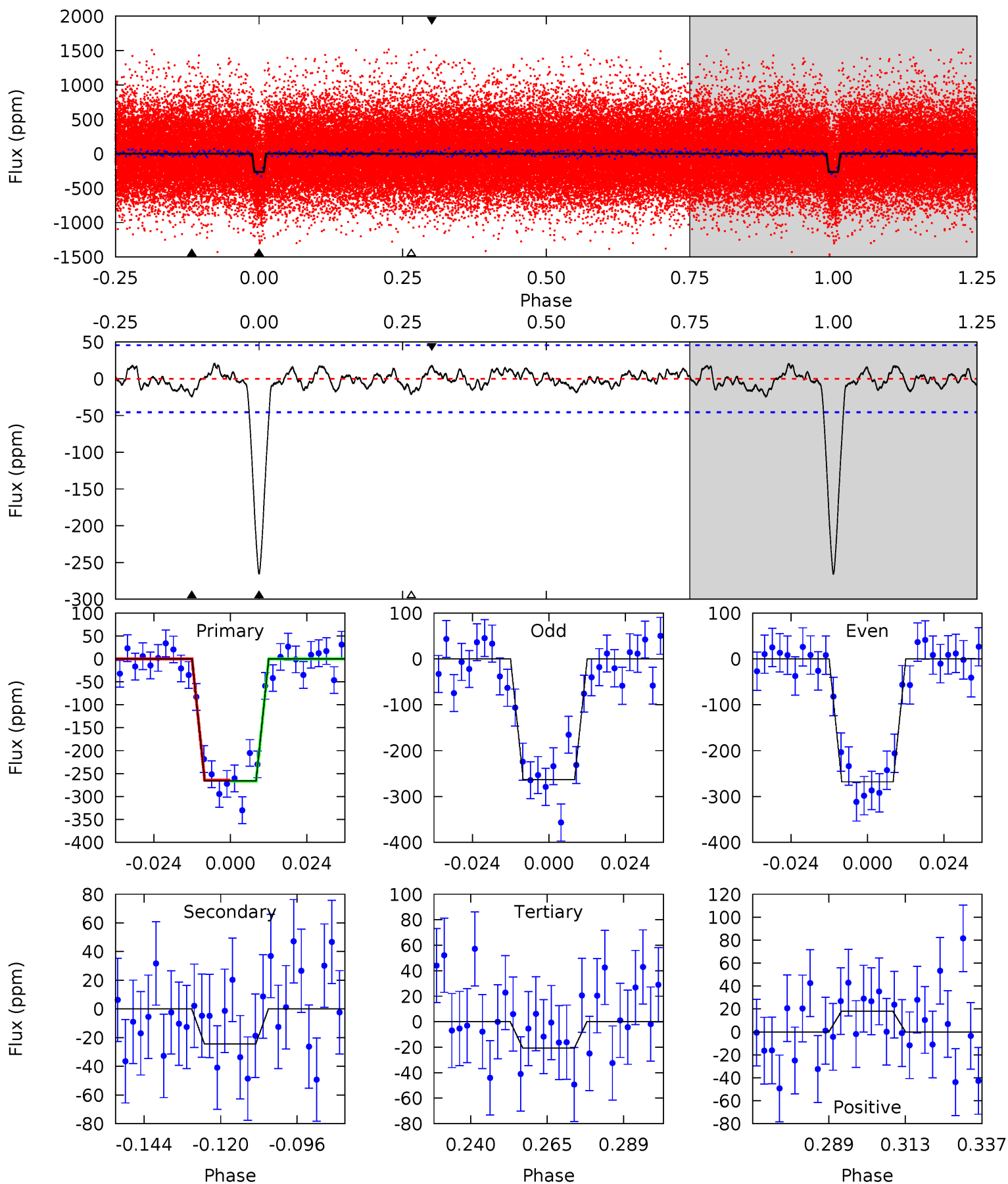
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	2.30	2.00	2.01	4.83	2.21	0.91	29.4	29.4	0.31	0.29	0.78	0.94	0.08	0.18



Alt Model-Shift Uniqueness Test

007204981-01, P = 5.123281 Days, E = 126.966688 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	2.59	2.21	1.91	4.86	2.26	0.91	26.0	26.3	0.38	0.68	0.25	0.98	0.07	0.14



Stellar Parameters For KIC 007204981

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5364^{+85}_{-75}	$4.394^{+0.114}_{-0.076}$	$0.140^{+0.150}_{-0.150}$	$0.982^{+0.105}_{-0.116}$	$0.872^{+0.064}_{-0.032}$	$1.296^{+0.633}_{-0.301}$
	+2%/-1%	+3%/-2%	+107%/-107%	+11%/-12%	+7%/-4%	+49%/-23%
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 007204981-01 / KOI 2164.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 9	$1.98^{+0.54}_{-0.61}$	1385^{+46}_{-52}	3181^{+445}_{-327}	$8.713^{+11.203}_{-4.599}$
Alt.	-24 ± 9	$1.76^{+0.58}_{-0.55}$	1387^{+45}_{-54}	3395^{+510}_{-340}	13^{+16}_{-6}

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 $A_{\text{obs}} \gg 1.0$

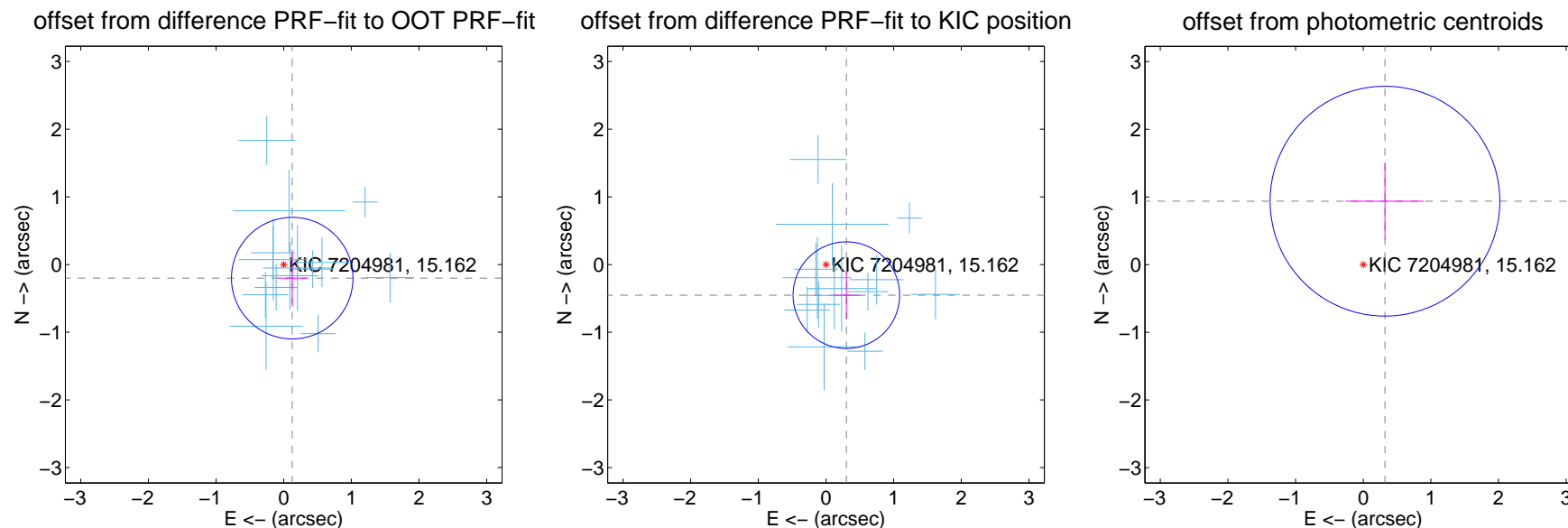
DV Centroid Data

Supplemental centroid analysis for 007204981-01. Kepler magnitude: 15.16. Transit SNR 23.94

There are 14 quarters with good PRF difference image offsets

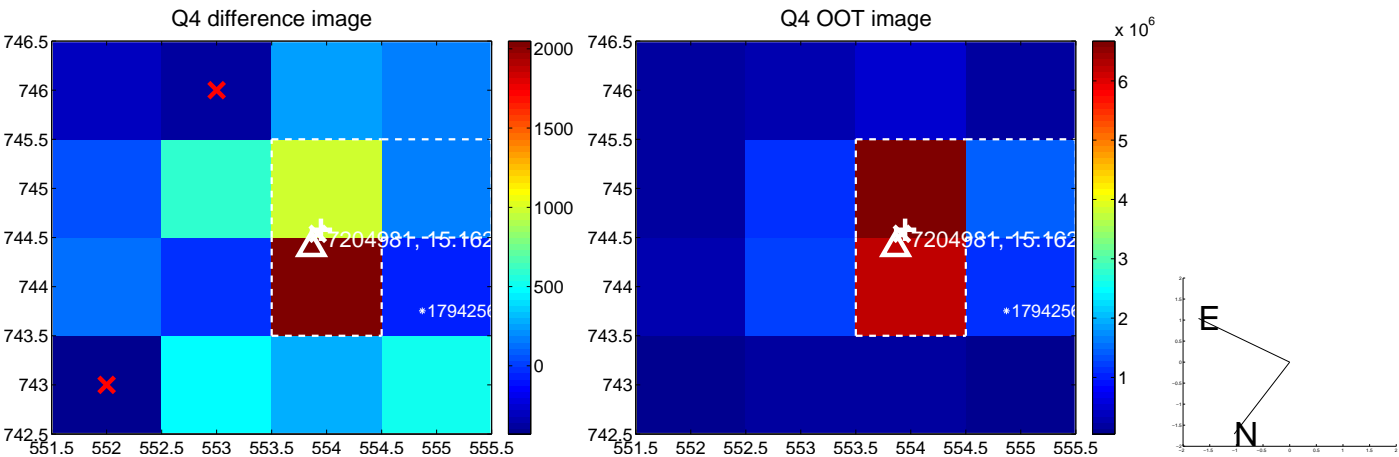
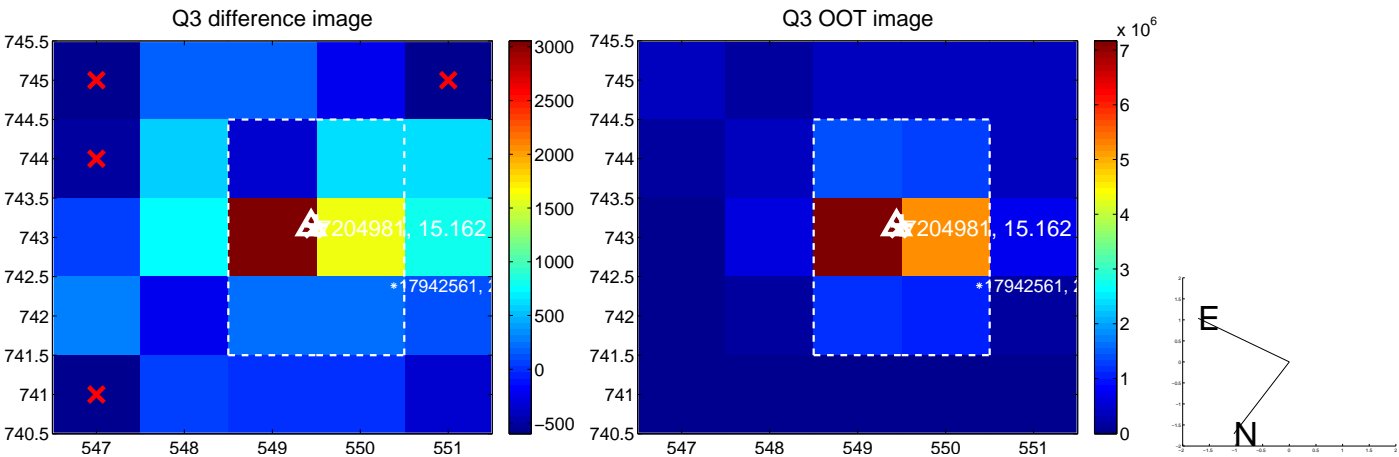
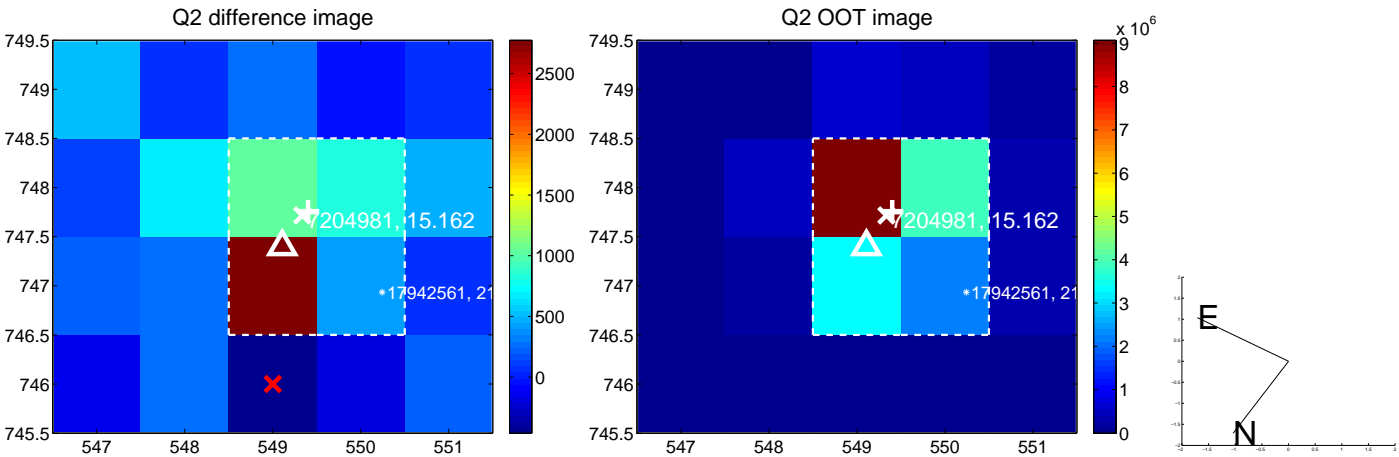
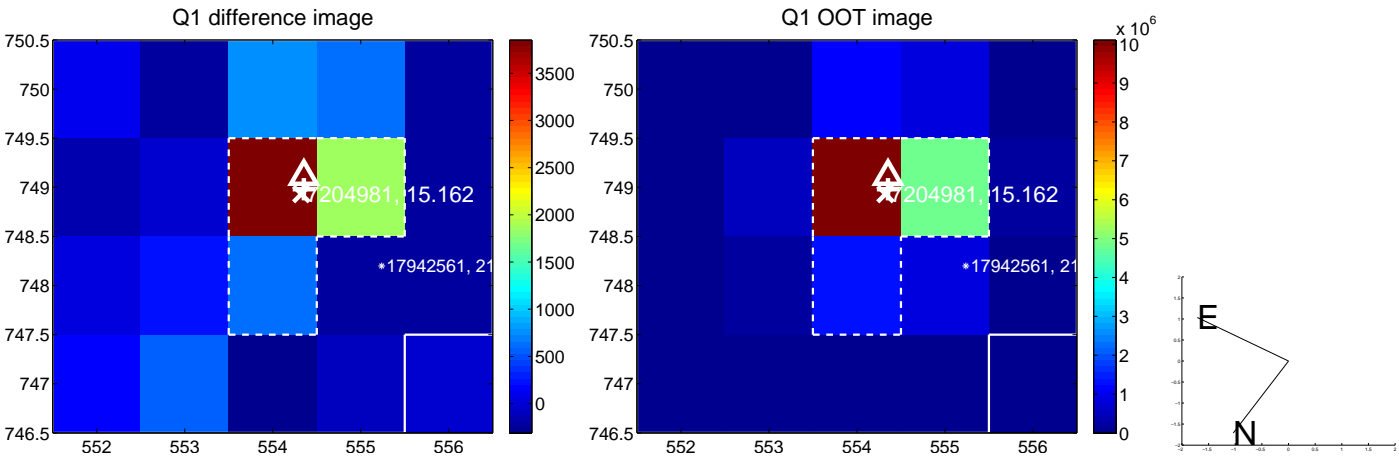
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.237 ± 0.299	0.79	-0.126 ± 0.210	-0.201 ± 0.416
PRF-fit source offset from KIC position	0.544 ± 0.263	2.07	-0.301 ± 0.184	-0.452 ± 0.350
photometric centroid source offset	0.99 ± 0.57	1.75	-0.32 ± 0.58	0.94 ± 0.56

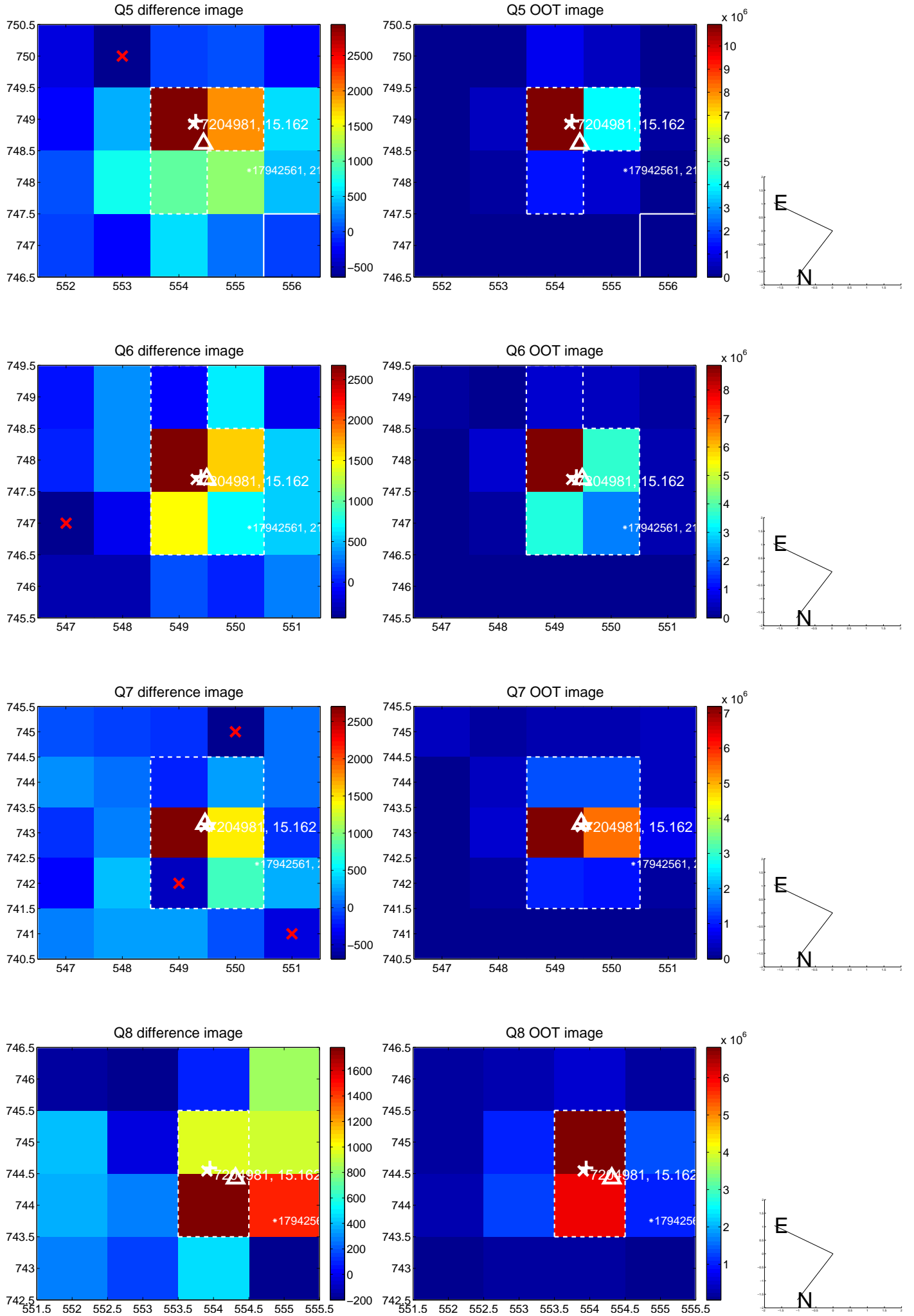


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

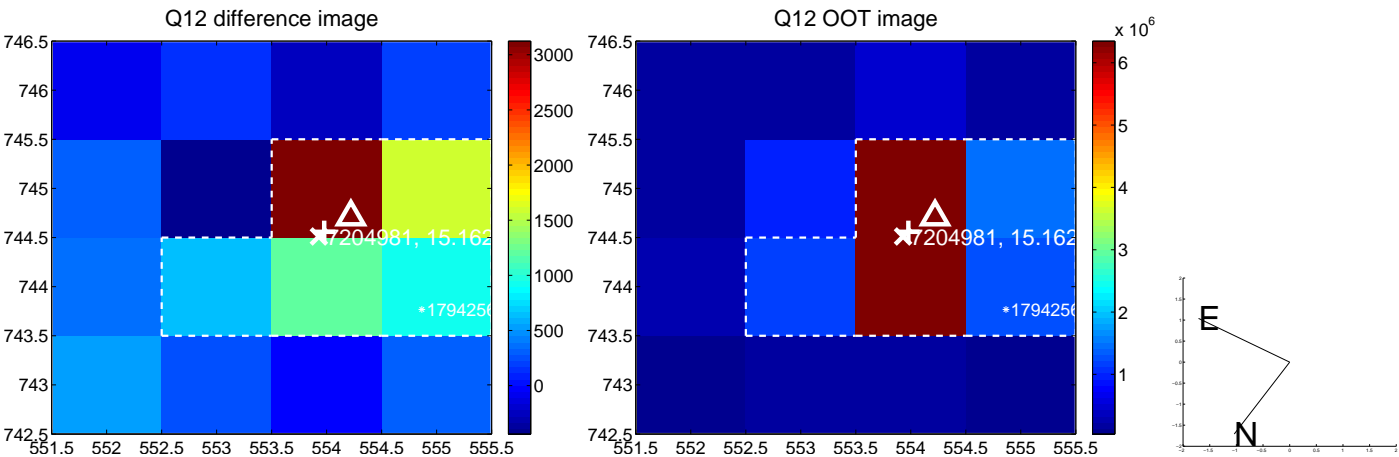
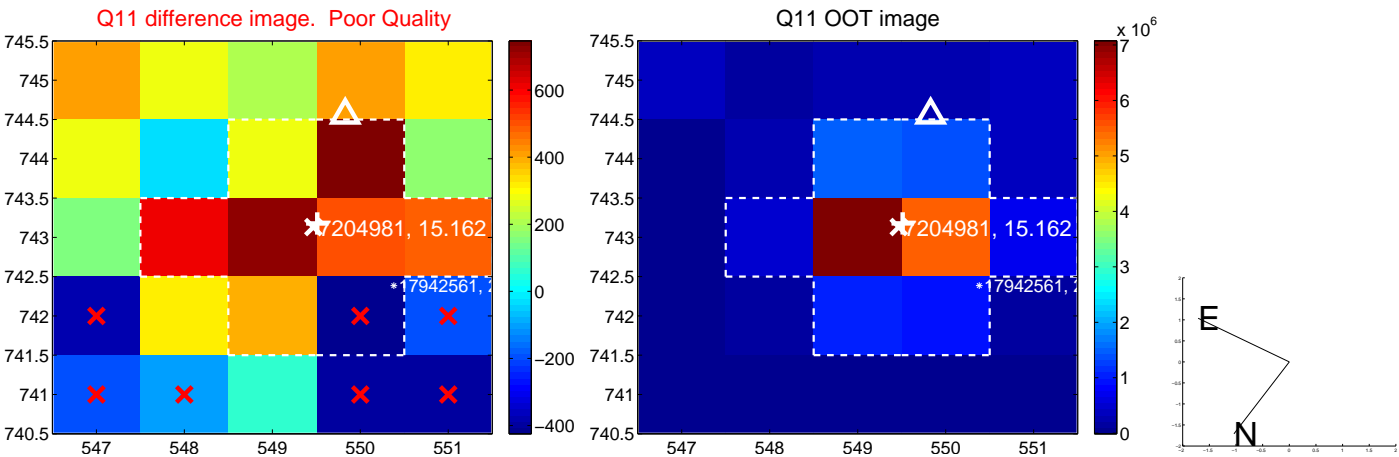
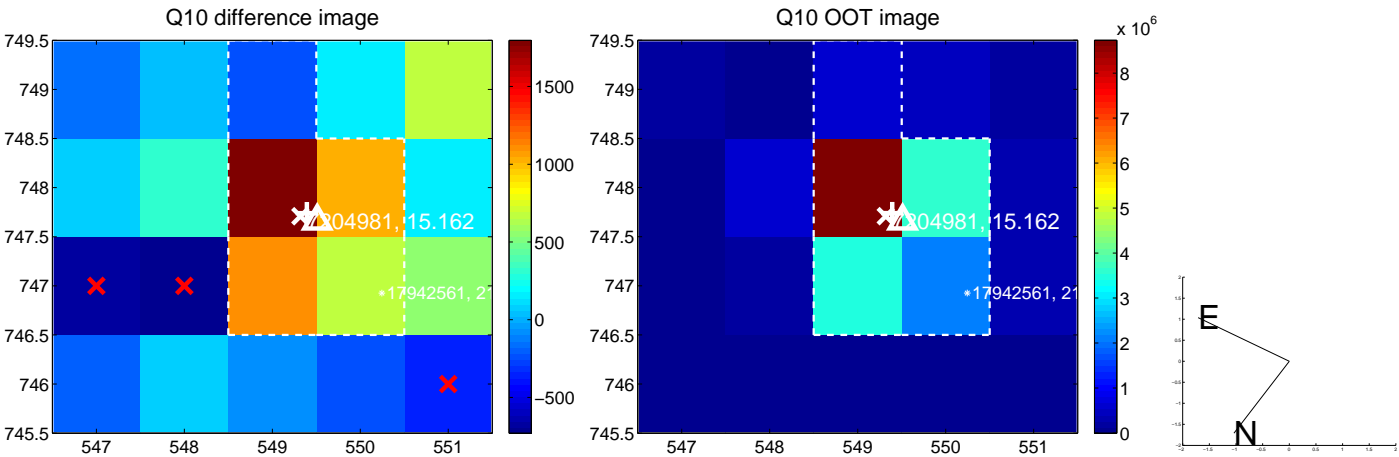
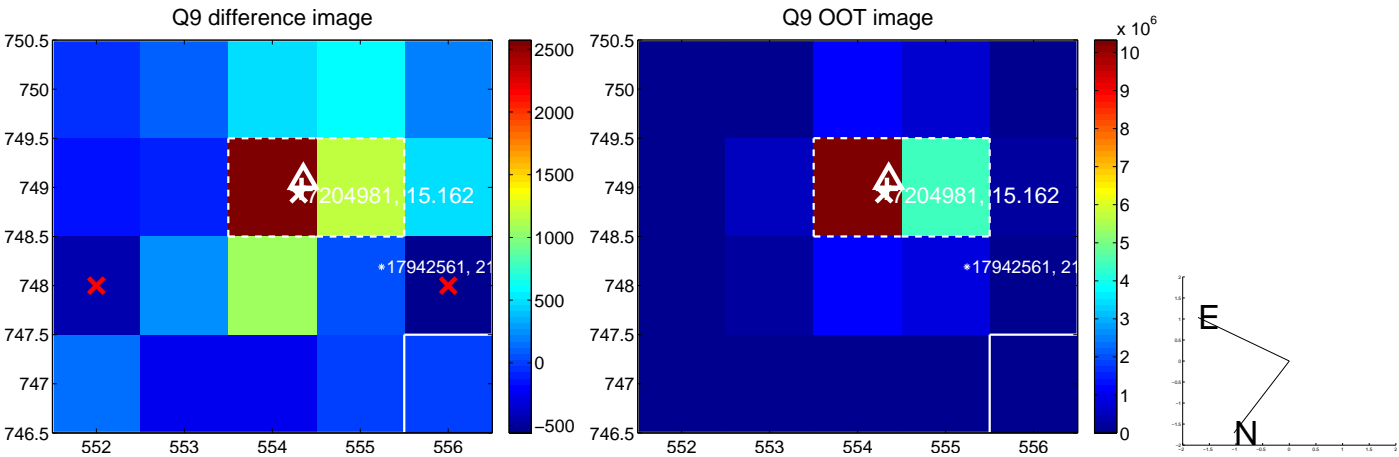
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



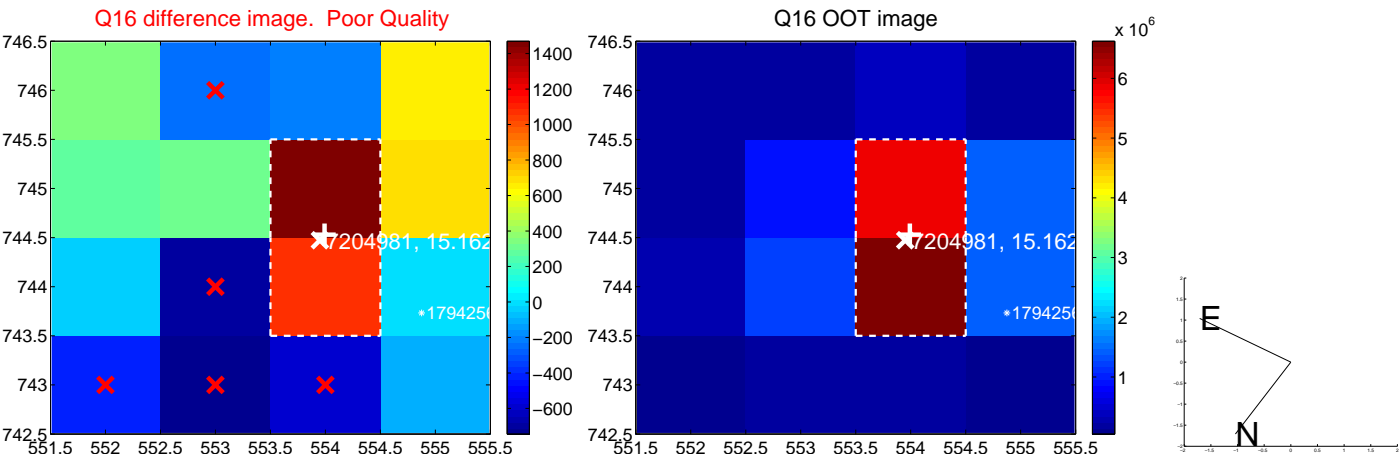
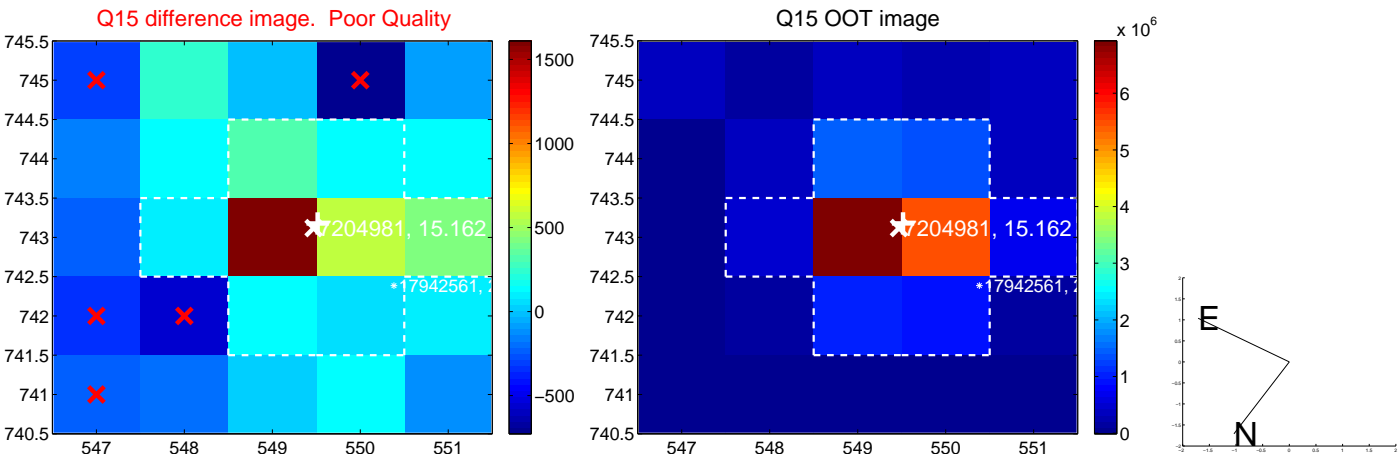
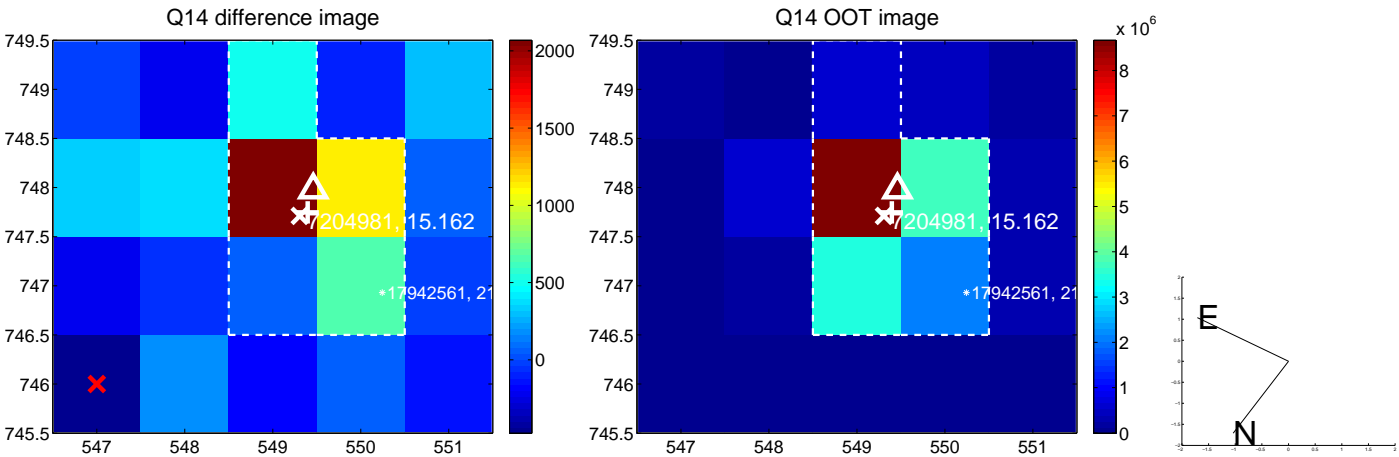
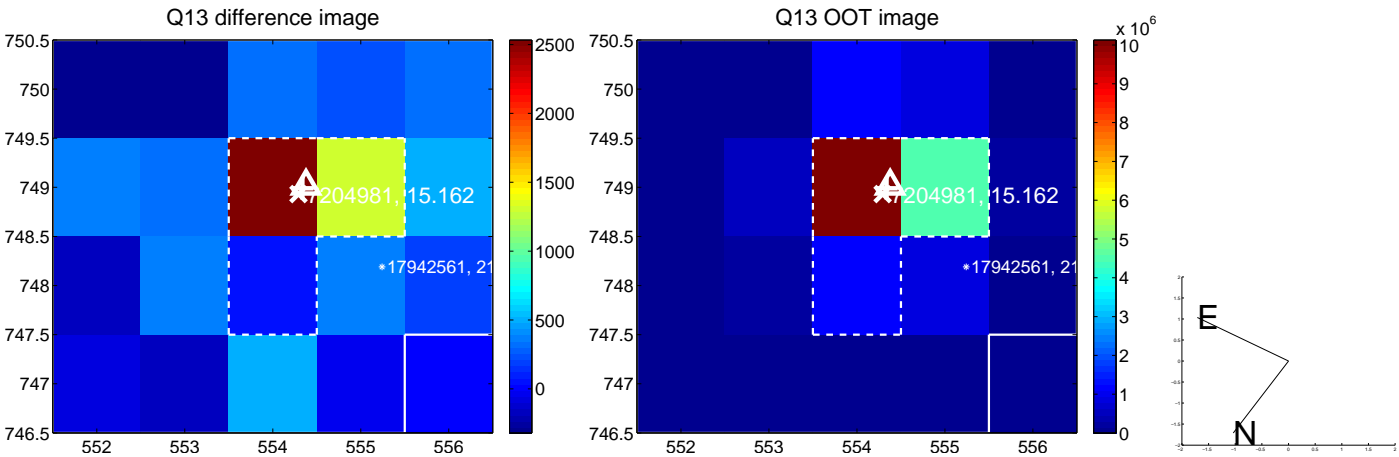
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



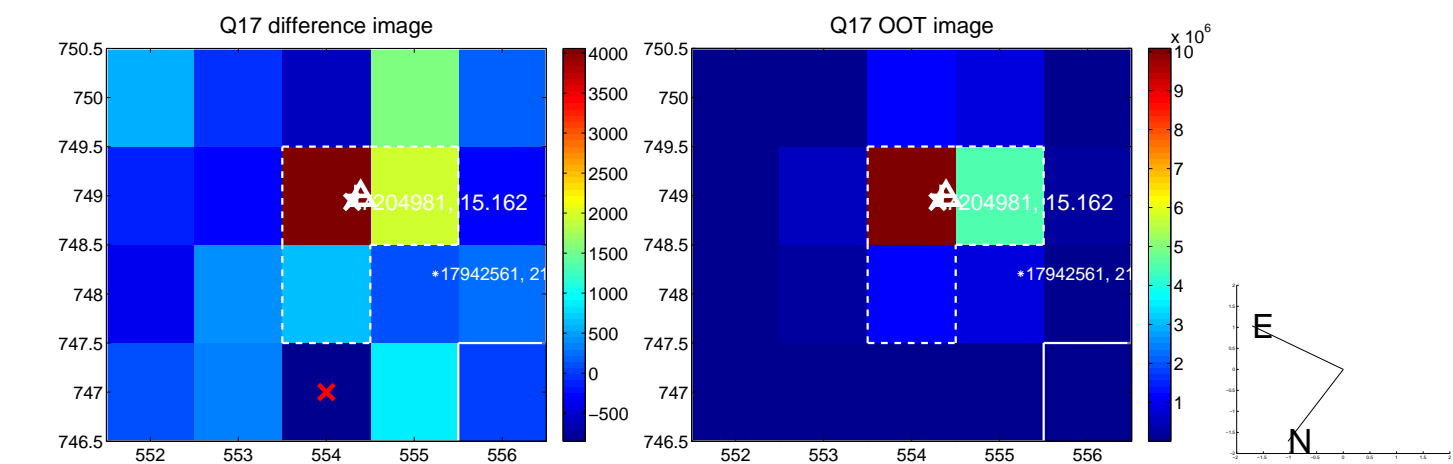
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



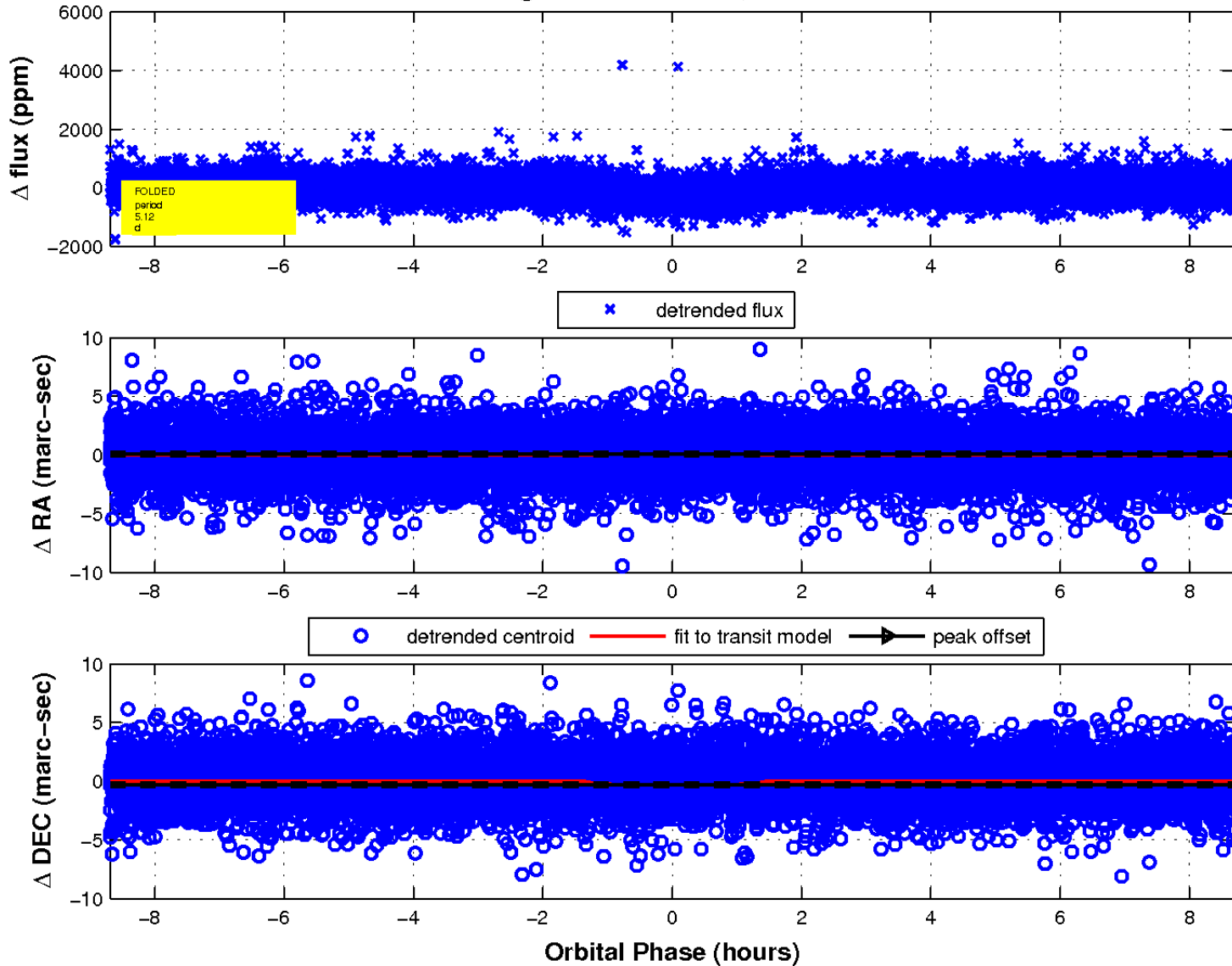
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

