

KIC 007207520

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})
007207520-01	OBS	No	2.902552	132.560870	26.8	16.949	7.8	6.9	0.94	5745	0.53	532.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007207520-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

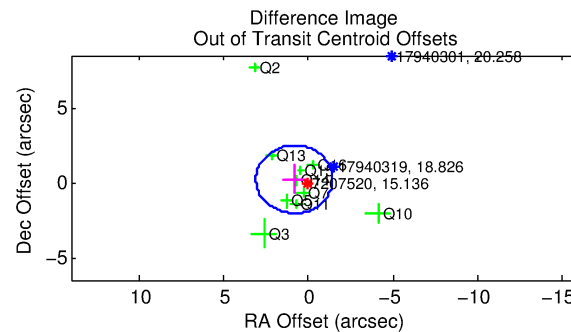
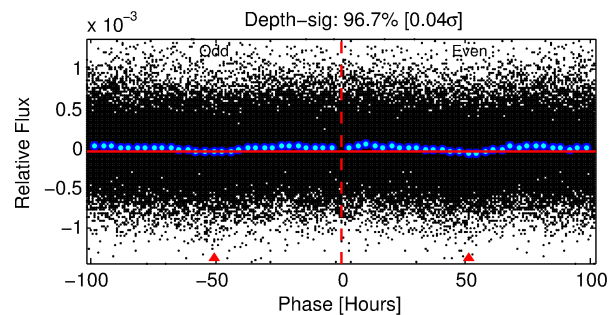
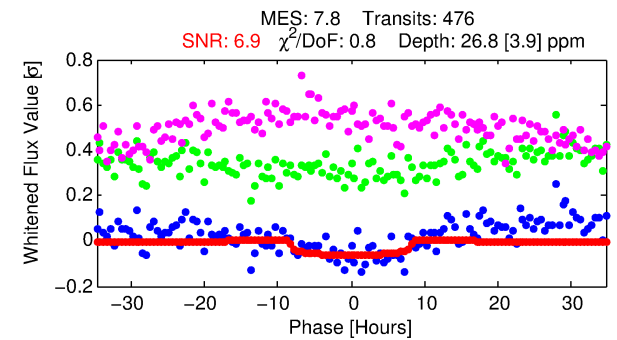
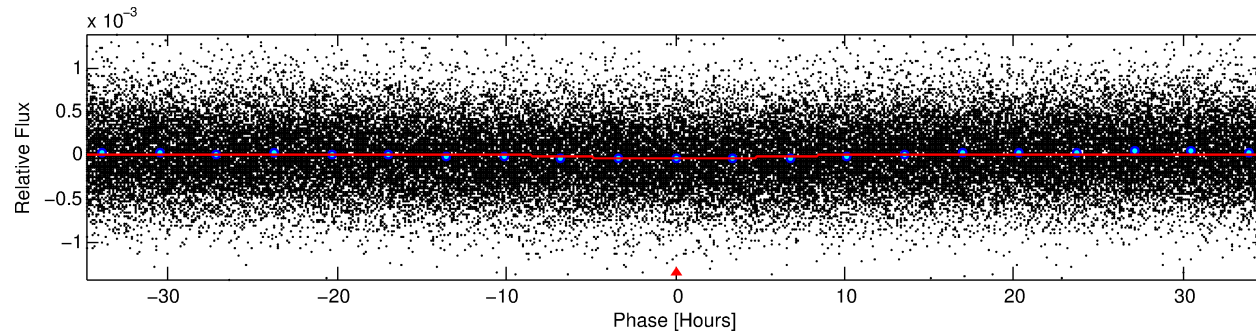
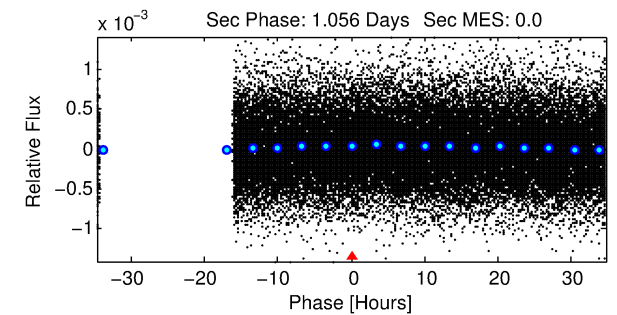
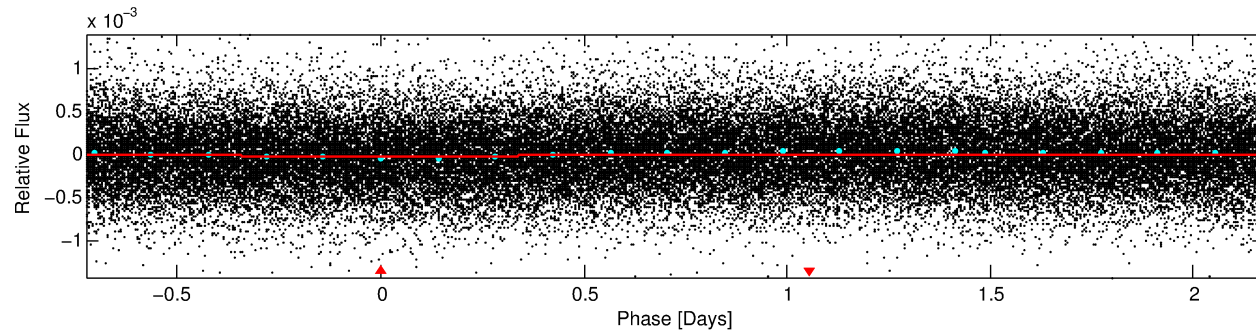
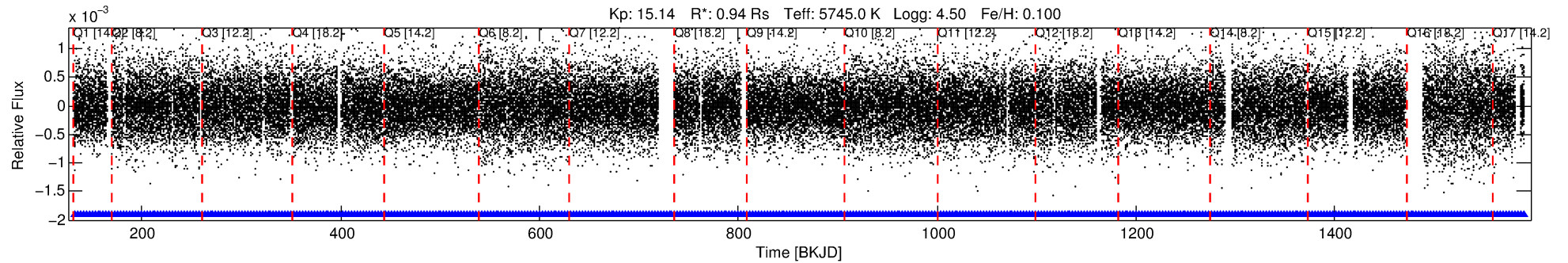
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007207520-01

No Significant Match Found

DV One-Page Summary

KIC: 7207520 Candidate: 1 of 1 Period: 2.903 d



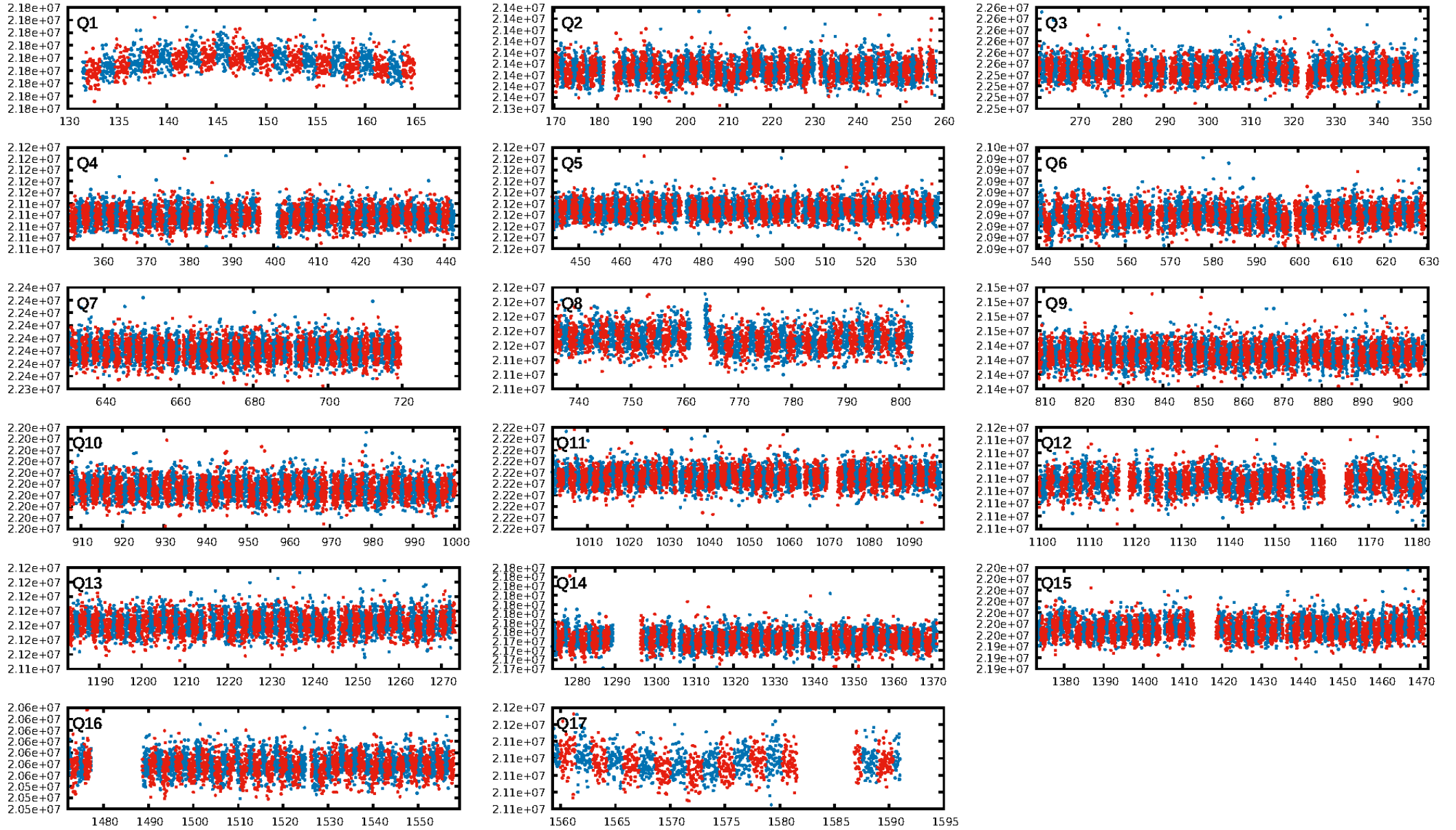
DV Fit Results:

Period = 2.90255 [0.00010] d
Epoch = 132.5609 [0.0216] BKJD
Rp/R* = 0.0052 [0.0039]
a/R* = 1.21 [1.26]
b = 0.77 [1.75]
Seff = 532.76 [213.69]
Teq = 1225 [123] K
Rp = 0.53 [0.42] Re
a = 0.0401 [0.0101] AU
Ag = N/A
Teffp = N/A

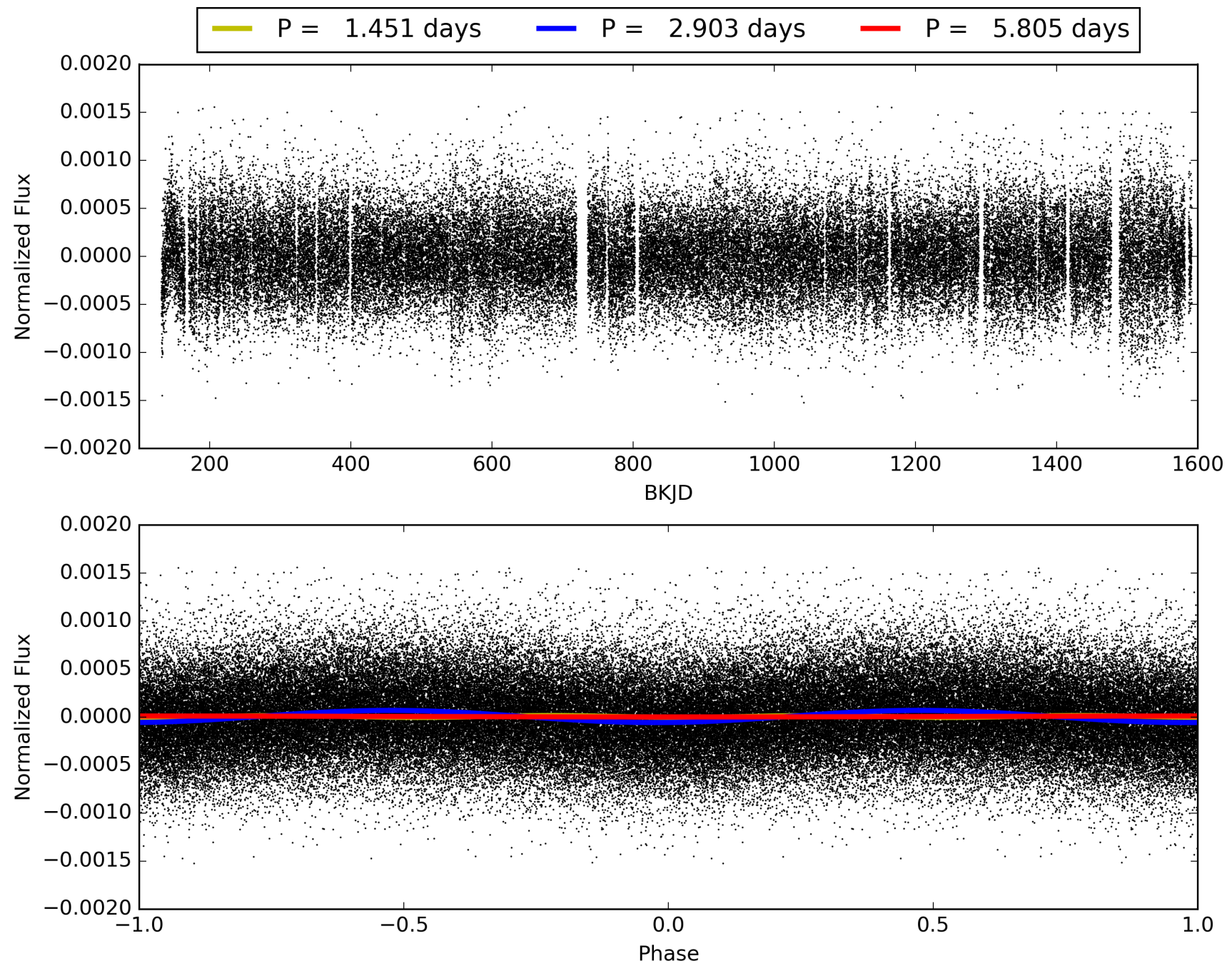
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.36e-15
RollingBand-fgt: 1.00 [454/454]
GhostDiagnostic-chr: 1.824
Centroid-sig: 1.6%
Centroid-so: 4.290 arcsec [1.97 σ]
OotOffset-rm: 0.868 arcsec [1.15 σ]
KicOffset-rm: 0.989 arcsec [1.26 σ]
OotOffset-st: 3/4/1/2 [10]
KicOffset-st: 3/4/1/2 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007207520-01, PDC Light Curves

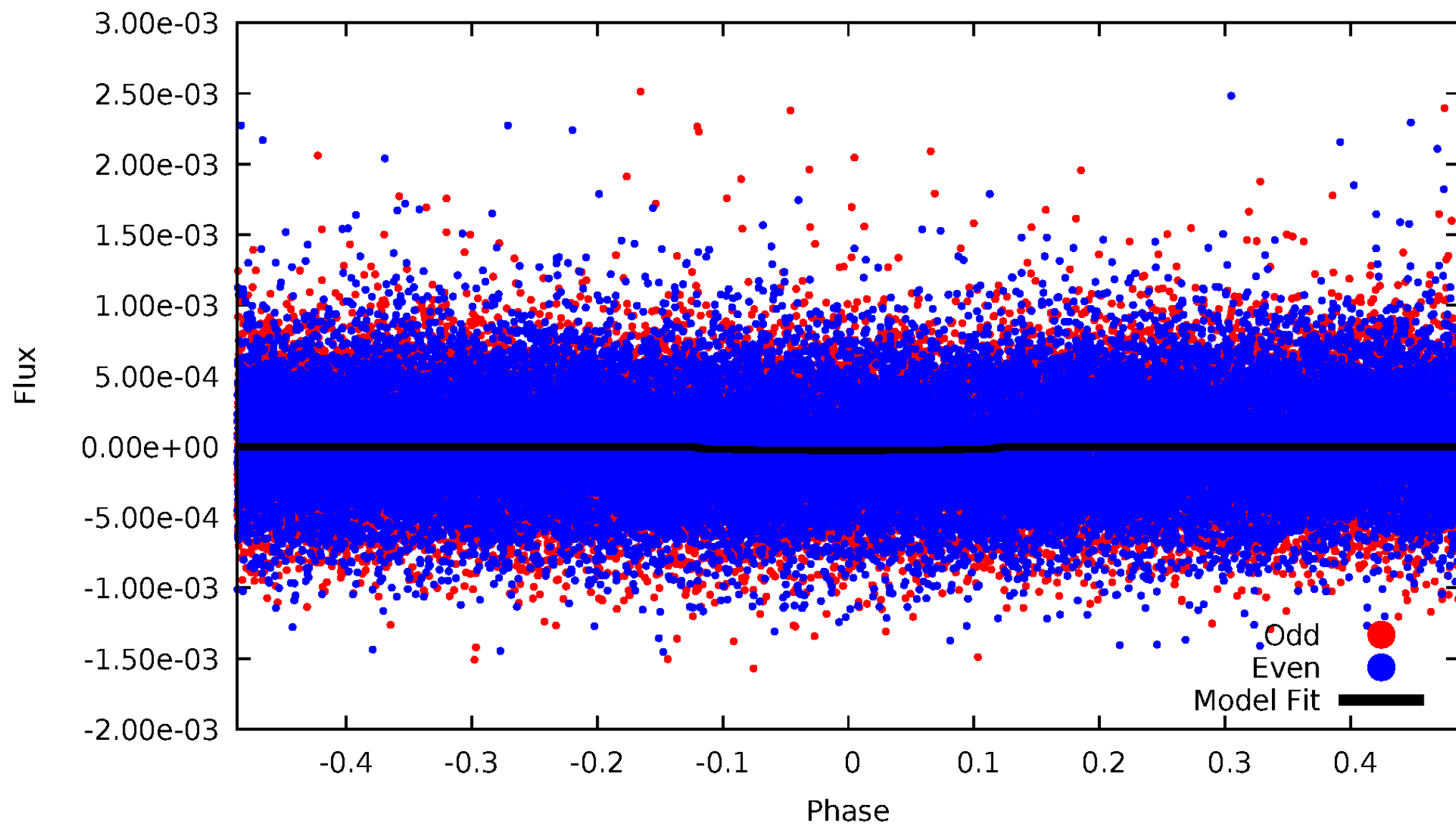


TCE 007207520-01



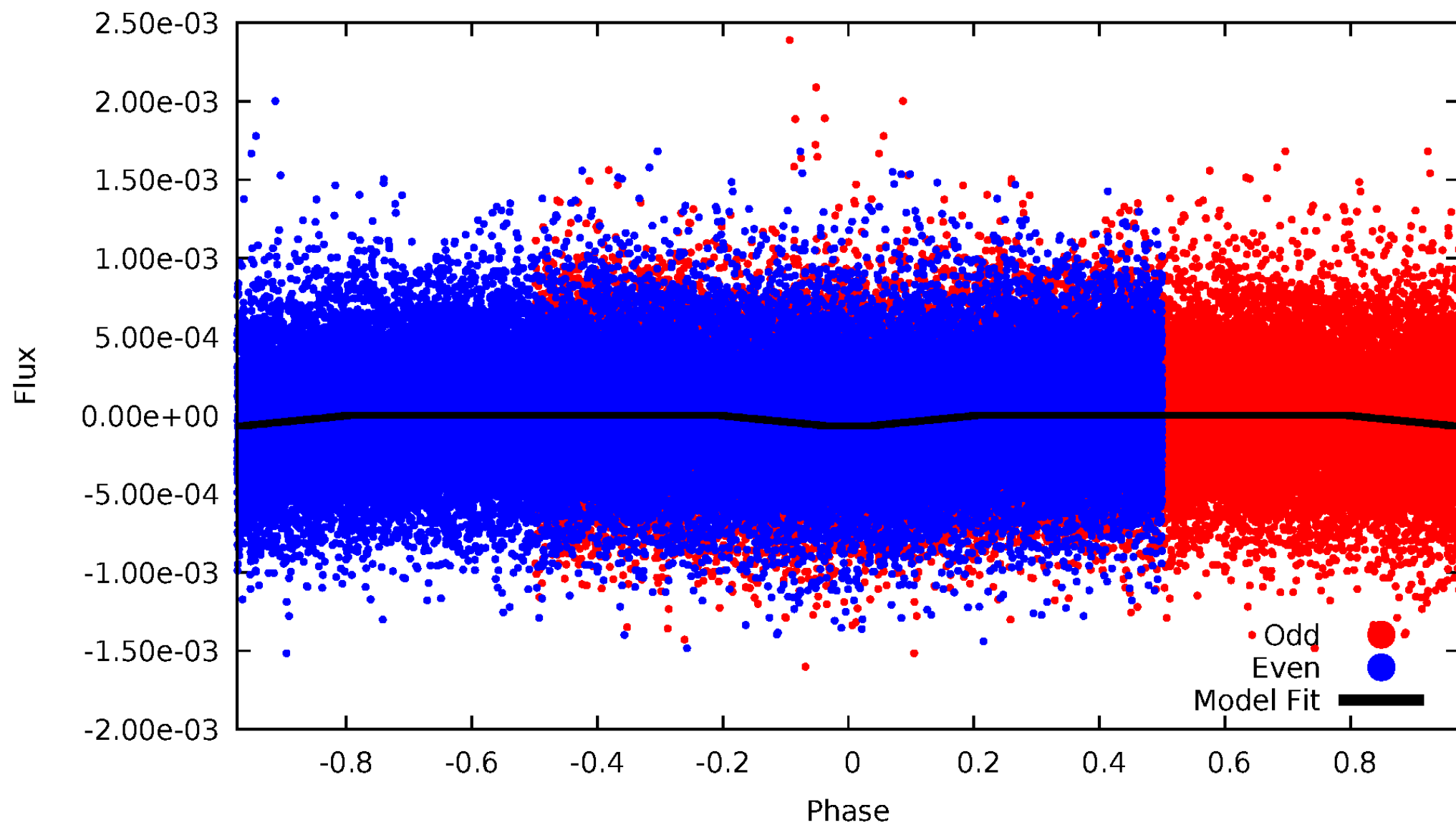
DV Odd/Even

TCE 007207520-01



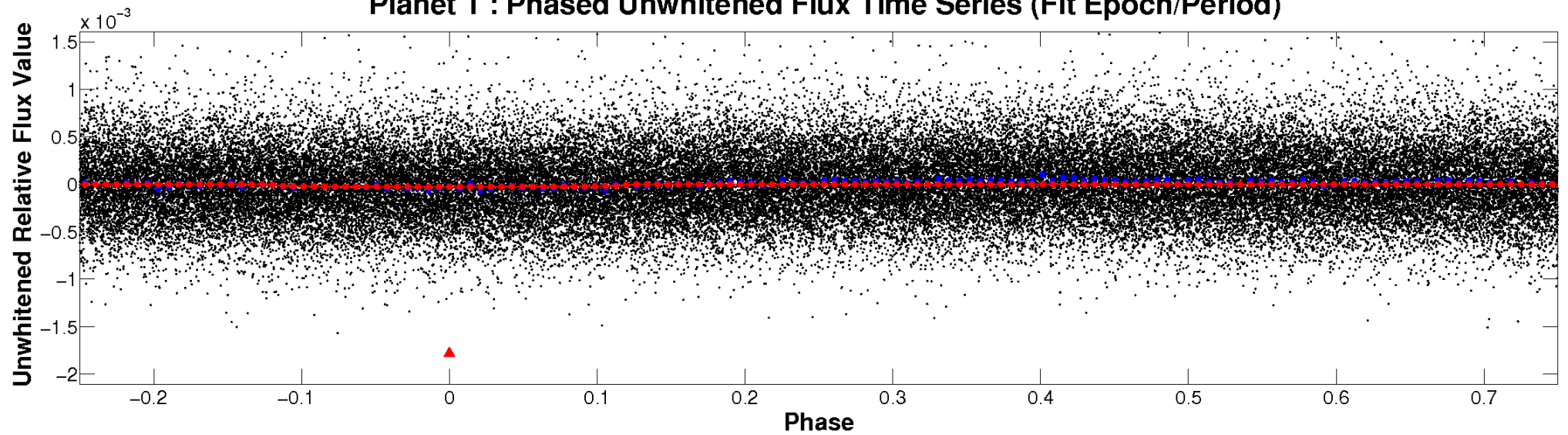
ALT Odd/Even

TCE 007207520-01

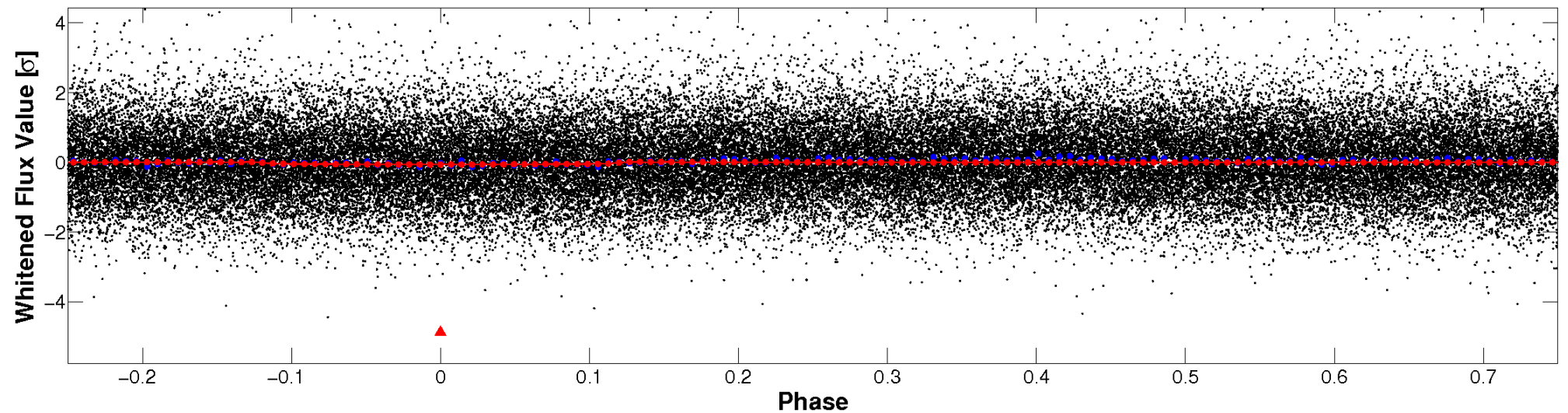


Non-Whitened Vs. Whitened Light Curve

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

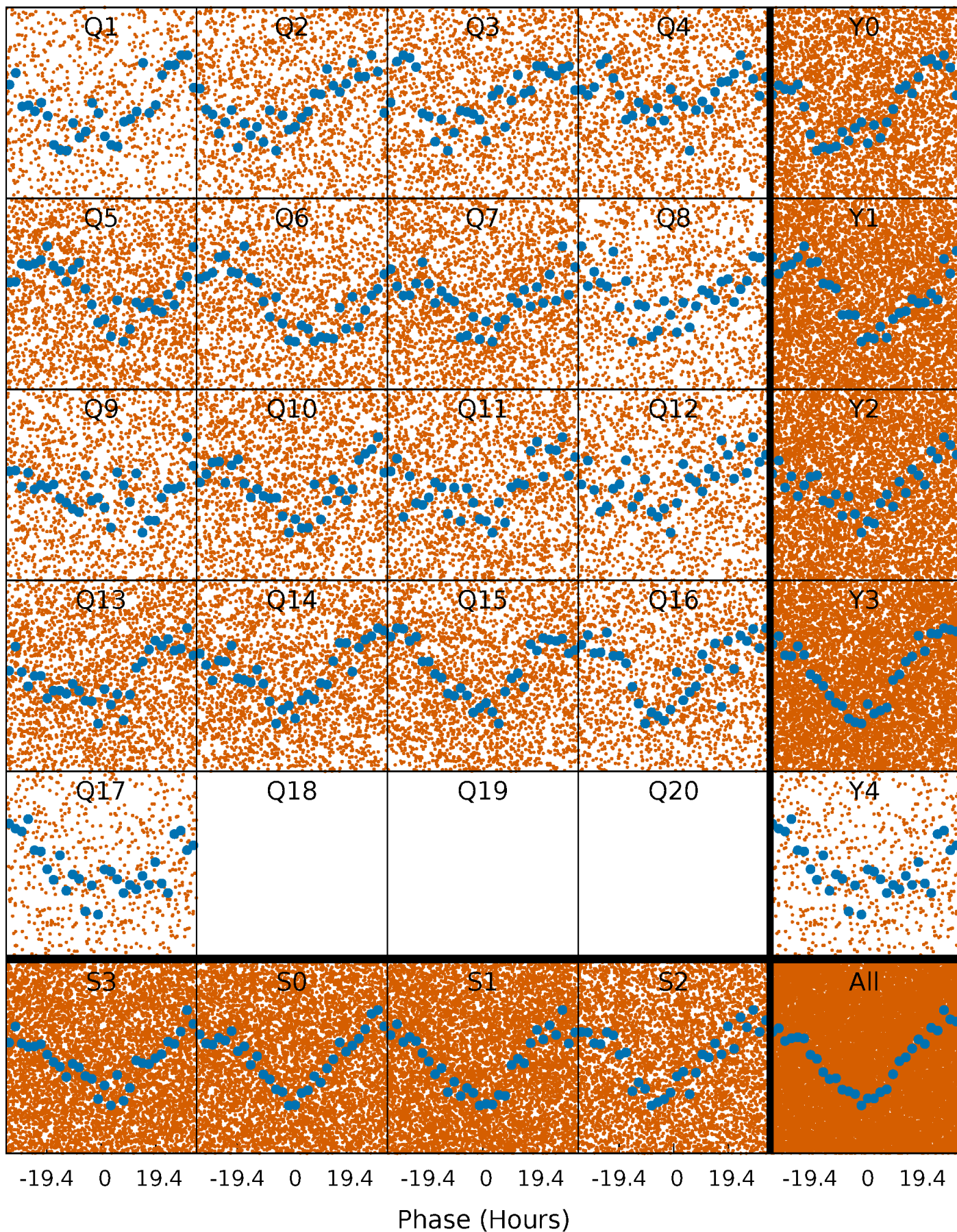


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



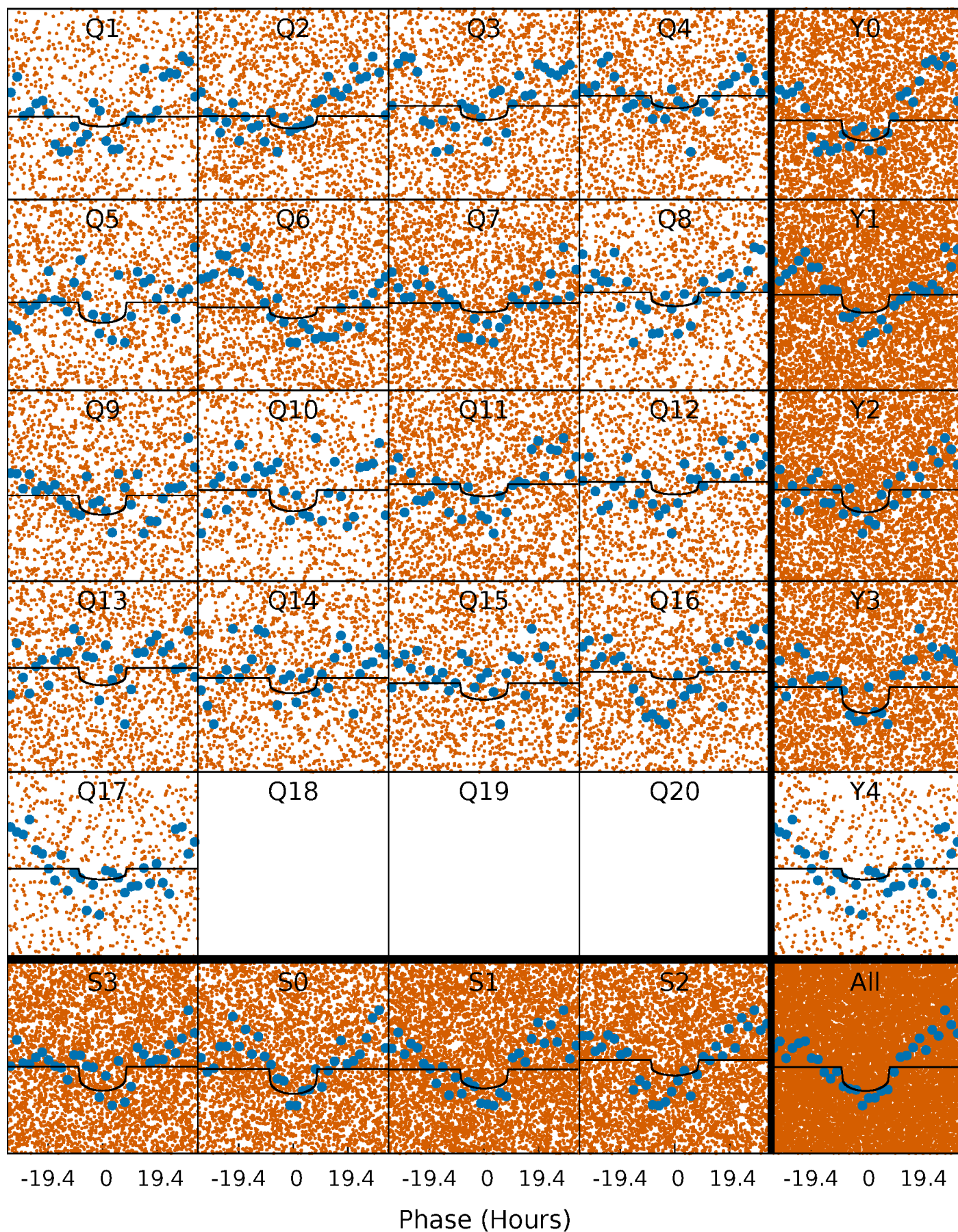
PDC Quarter-Phased Transit Curves

TCE 007207520-01 P= 2.902552 Days $T_0=132.560870$ (BKJD)



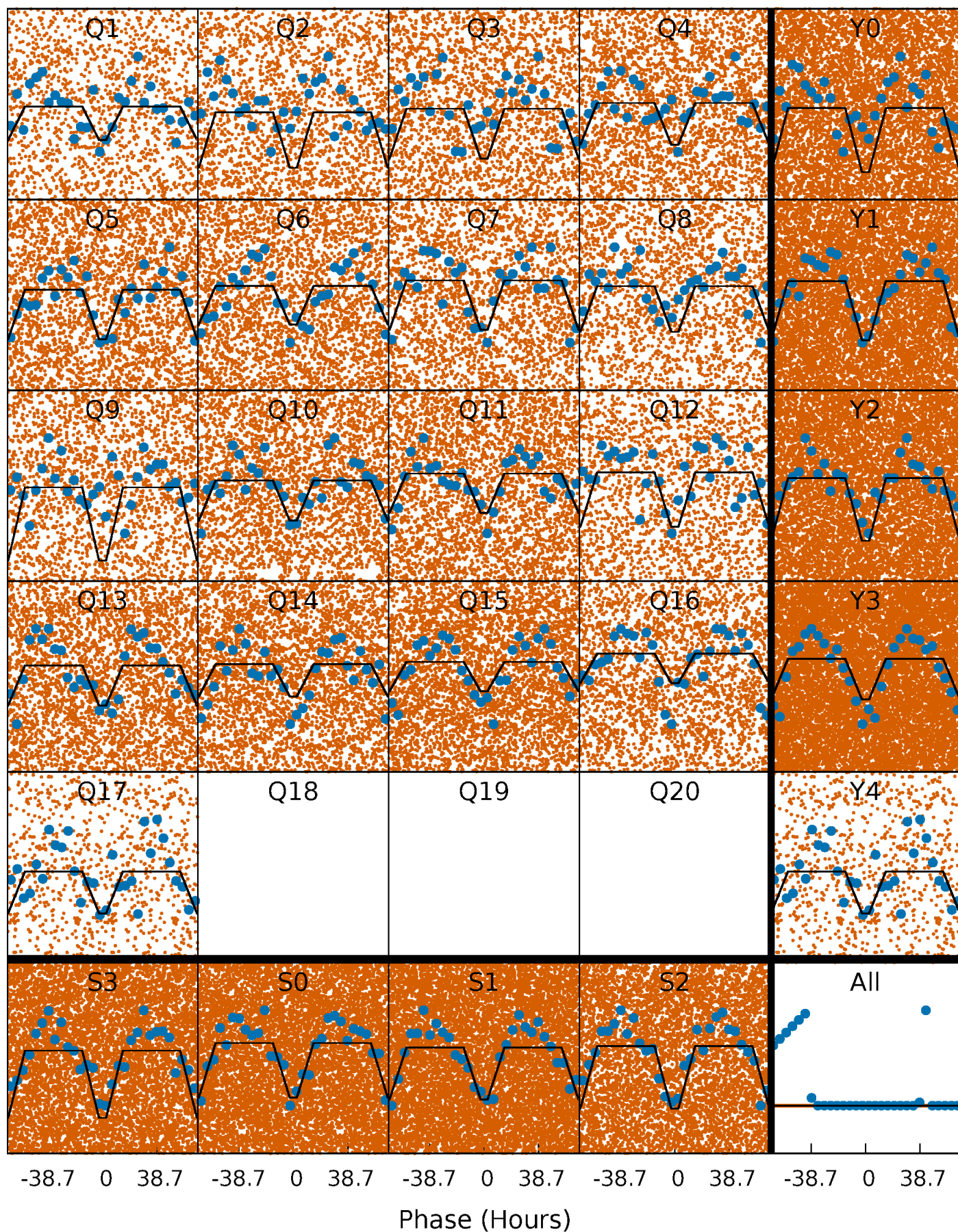
DV Quarter-Phased Transit Curves

TCE 007207520-01 P= 2.902552 Days $T_0=132.560870$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

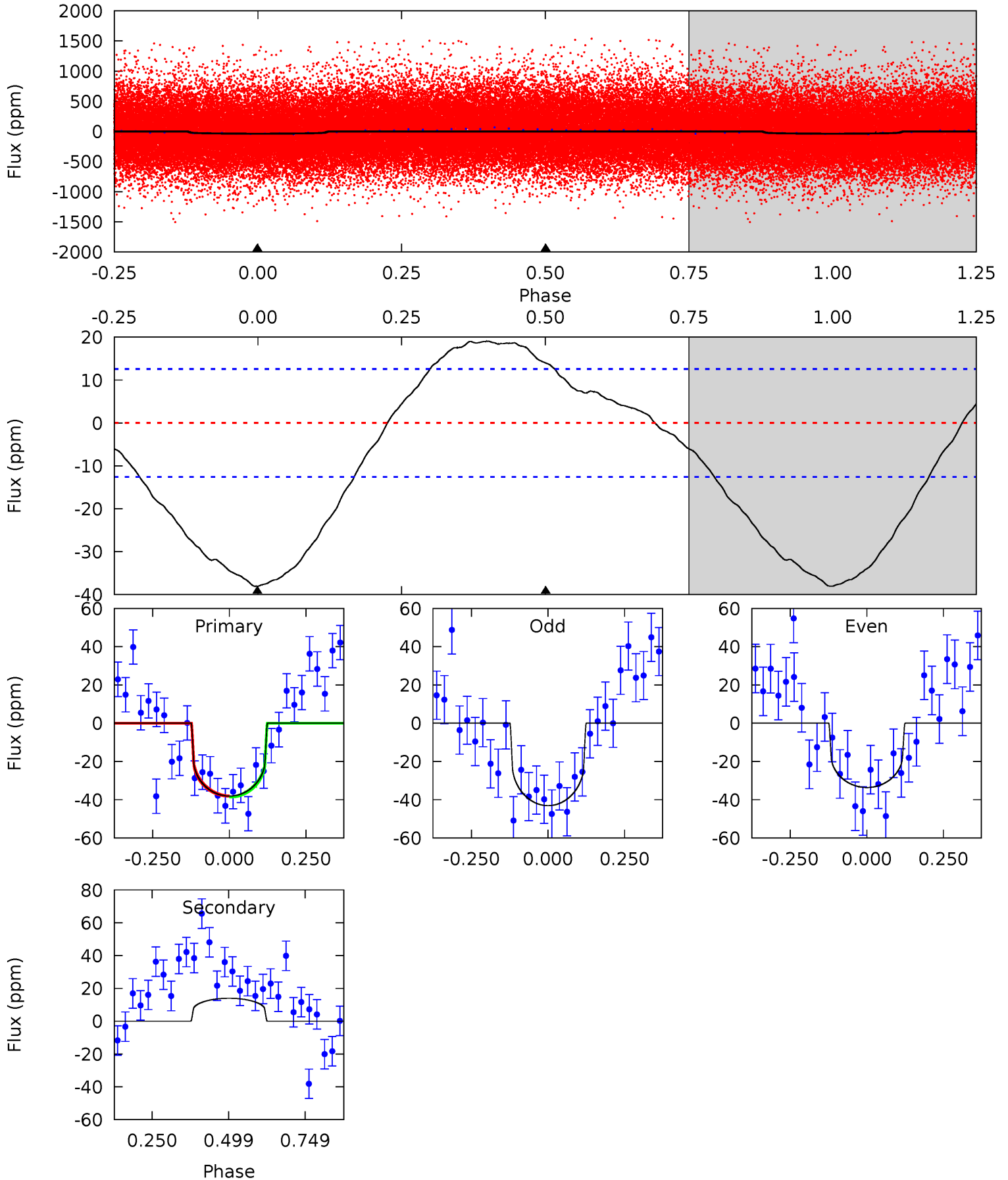
TCE 007207520-01 P= 2.901928 Days $T_0=132.751024$ (BKJD)



DV Model-Shift Uniqueness Test

007207520-01, P = 2.902552 Days, E = 129.658318 Days

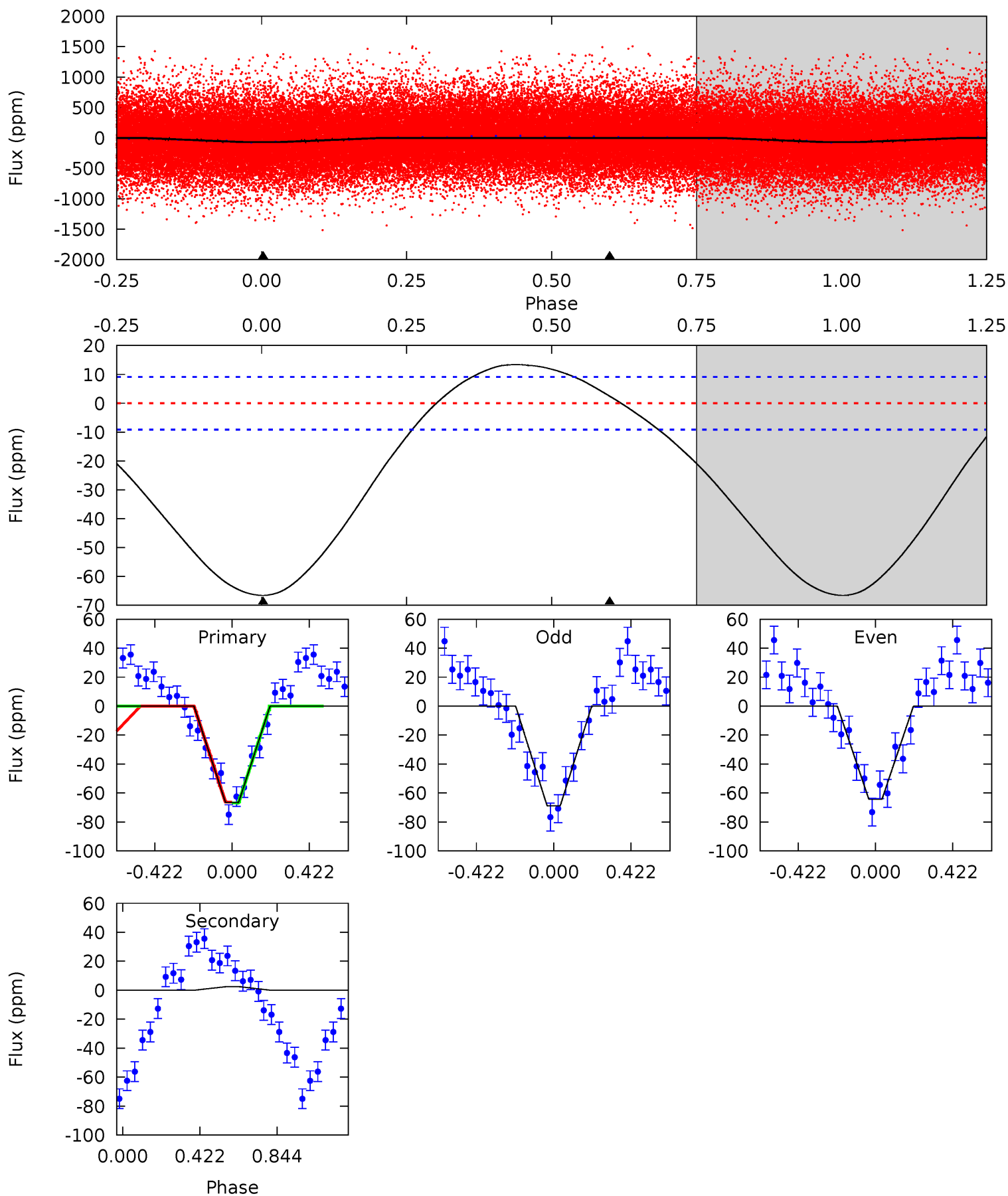
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	-4.85	0	0	4.37	1.15	1.92	13.2	13.2	-4.85	-4.85	1.64	1.07	0.33	0.09



Alt Model-Shift Uniqueness Test

007207520-01, P = 2.901928 Days, E = 129.849096 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.0	-1.14	0	0	4.25	0.80	2.66	31.0	31.0	-1.14	-1.14	1.06	0.73	0.17	0.14



Stellar Parameters For KIC 007207520

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5745^{+171}_{-206}	$4.503^{+0.052}_{-0.208}$	$0.100^{+0.250}_{-0.300}$	$0.936^{+0.275}_{-0.098}$	$1.017^{+0.110}_{-0.122}$	$1.745^{+0.371}_{-0.947}$
	+3%/-4%	+1%/-5%	+250%/-300%	+29%/-10%	+11%/-12%	+21%/-54%
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 007207520-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	14 ± 3	$0.61^{+0.39}_{-0.35}$	1754^{+129}_{-88}	-4817^{+885}_{-2502}	$-34.037^{+22.672}_{-145.423}$
Alt.	2 ± 2	$0.89^{+0.43}_{-0.39}$	1751^{+119}_{-96}	-3113^{+521}_{-712}	$-2.355^{+1.936}_{-7.678}$

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

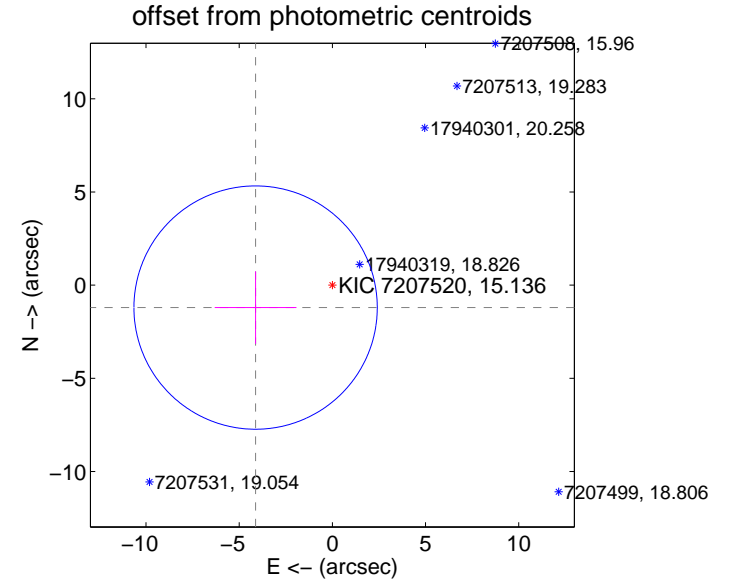
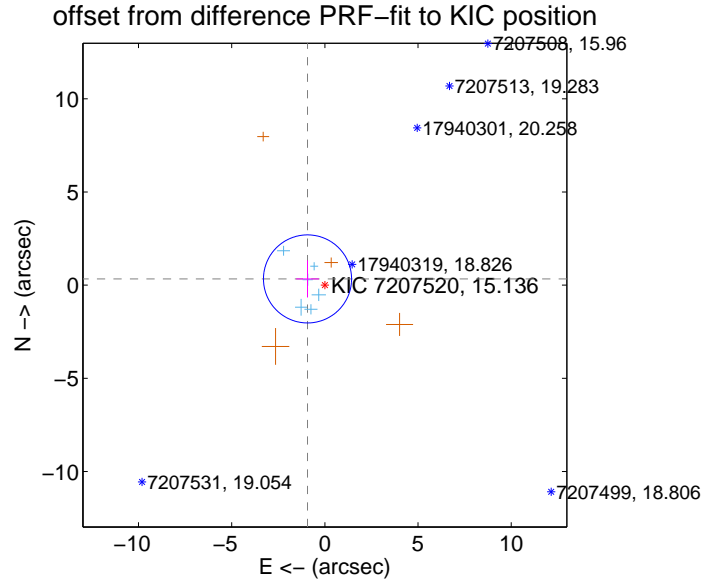
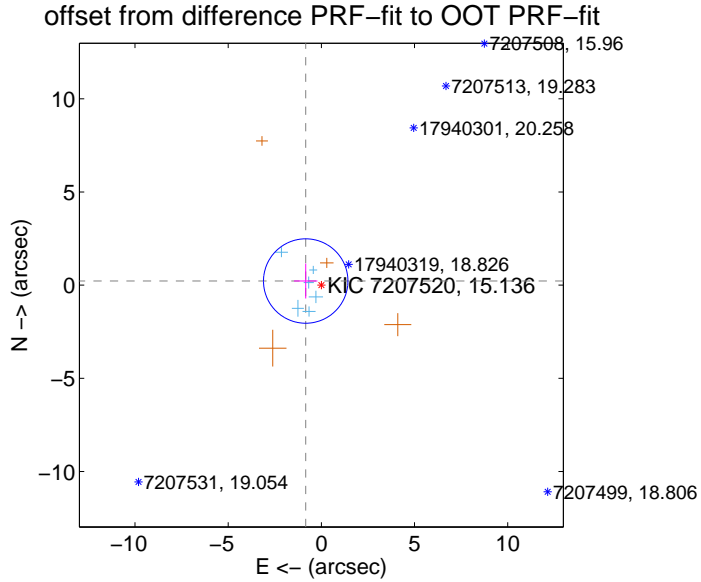
DV Centroid Data

Supplemental centroid analysis for 007207520-01. Kepler magnitude: 15.14. Transit SNR 6.93

There are 6 quarters with good PRF difference image offsets

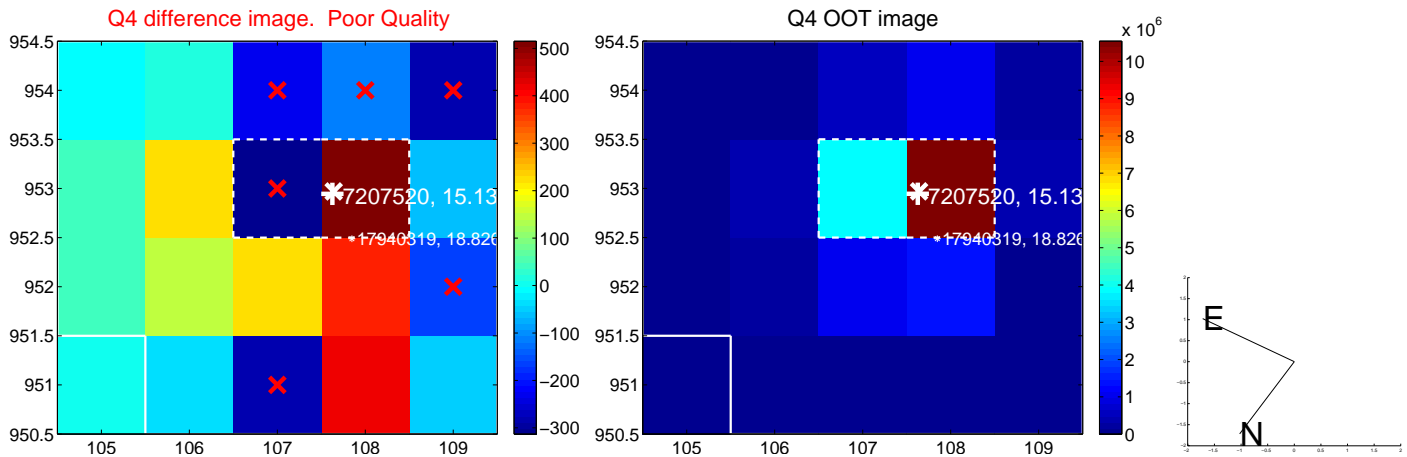
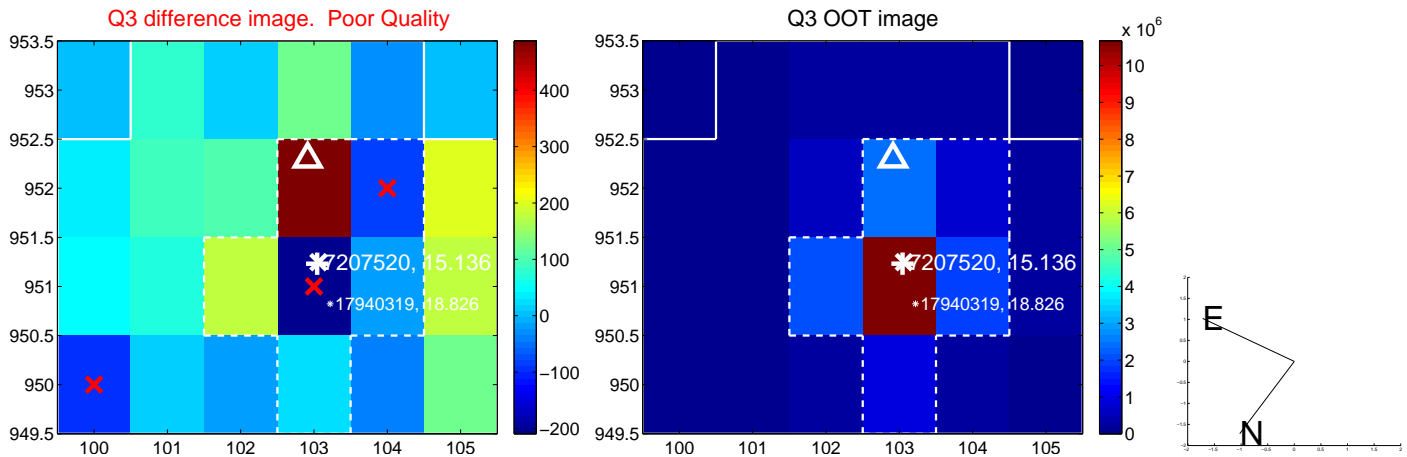
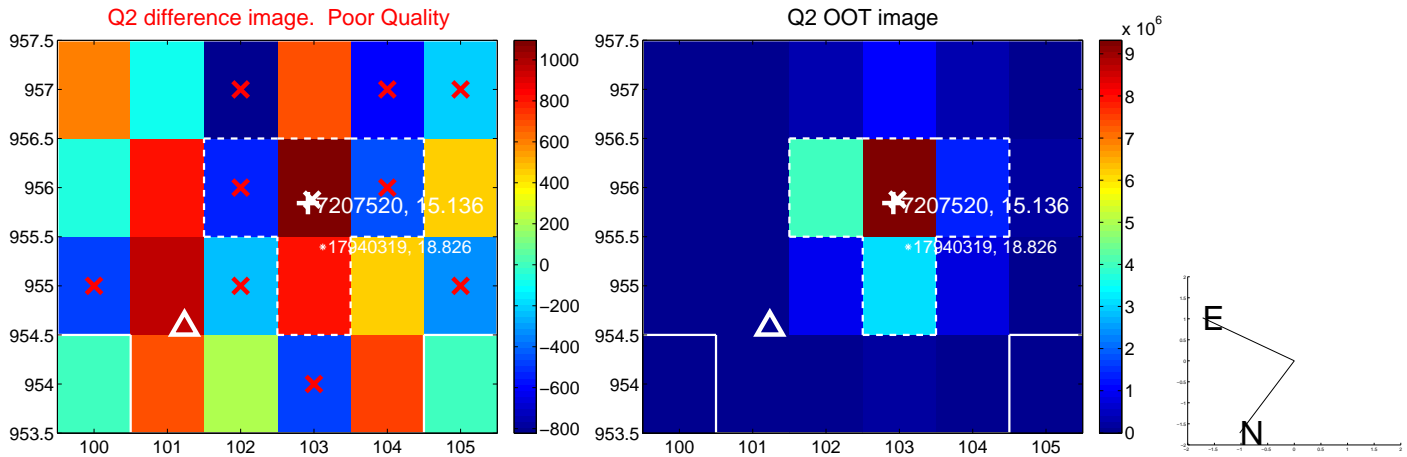
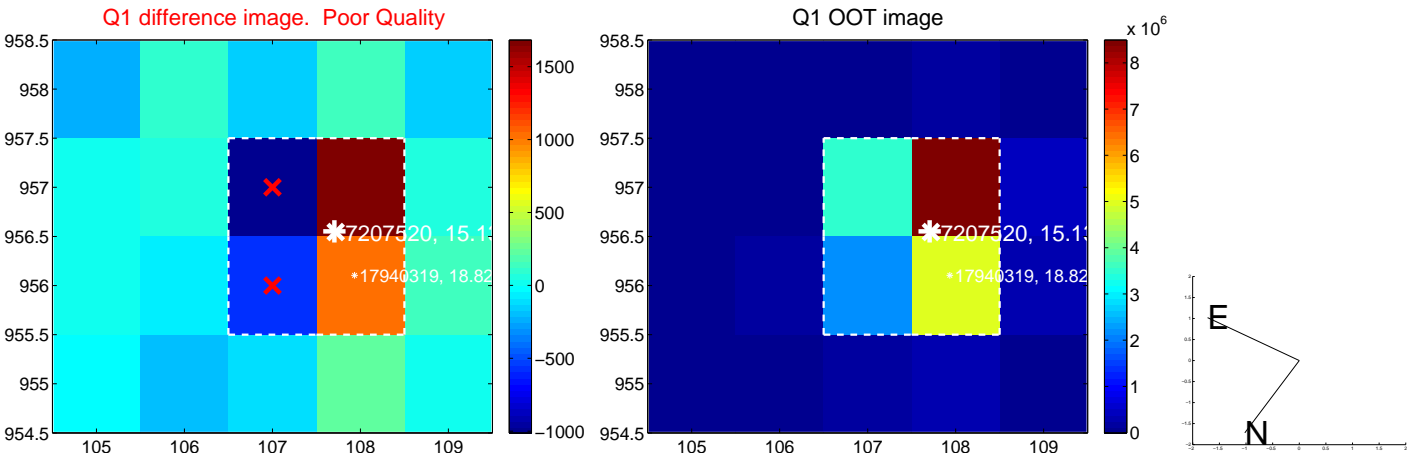
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.868 ± 0.755	1.15	0.839 ± 0.627	0.222 ± 0.938
PRF-fit source offset from KIC position	0.989 ± 0.788	1.26	0.930 ± 0.615	0.335 ± 0.995
photometric centroid source offset	4.29 ± 2.18	1.97	4.12 ± 2.19	-1.20 ± 1.94

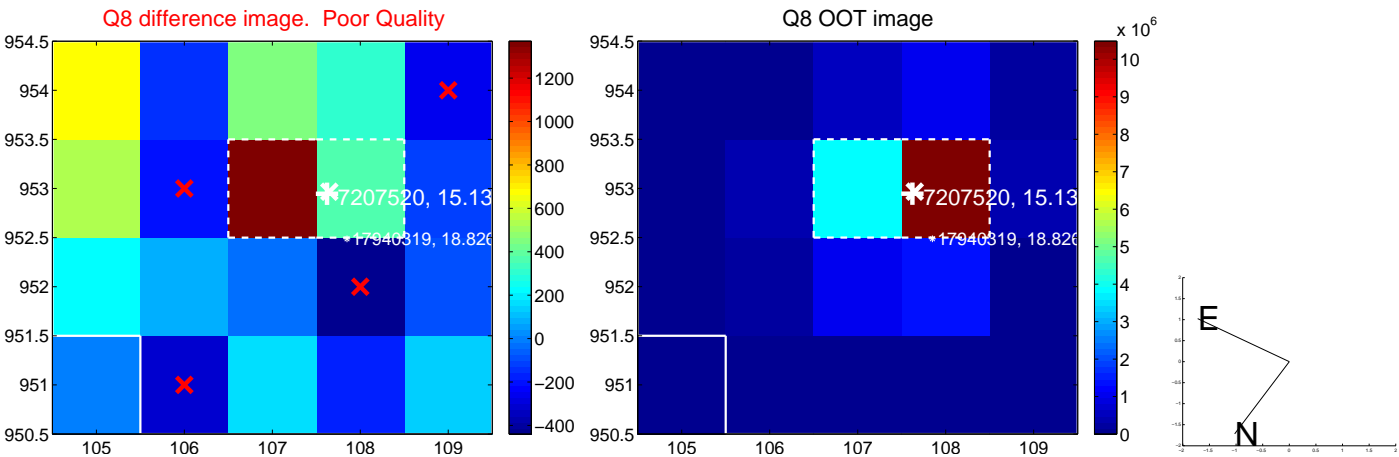
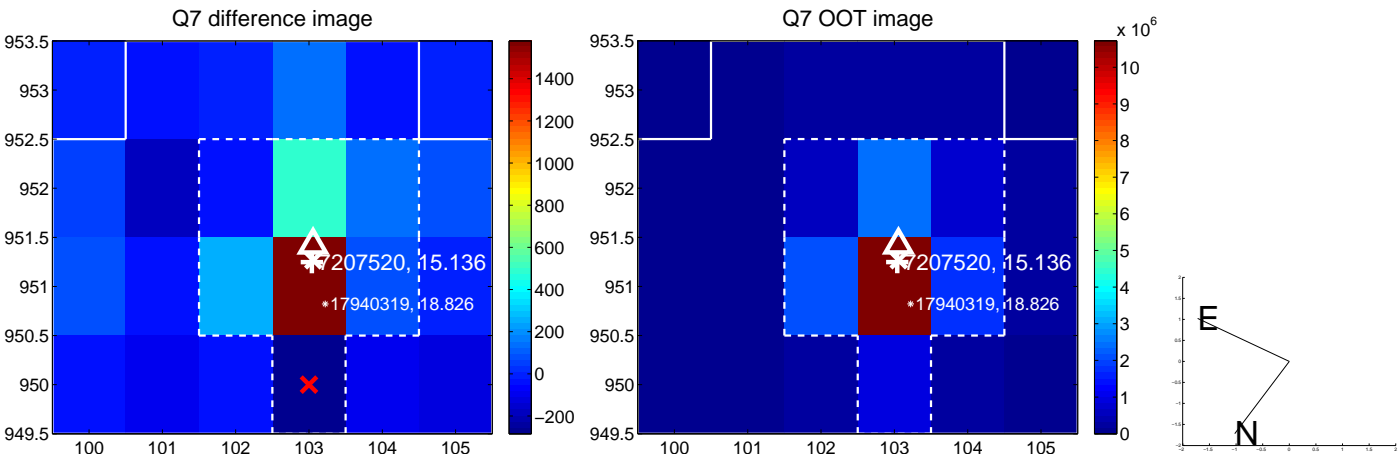
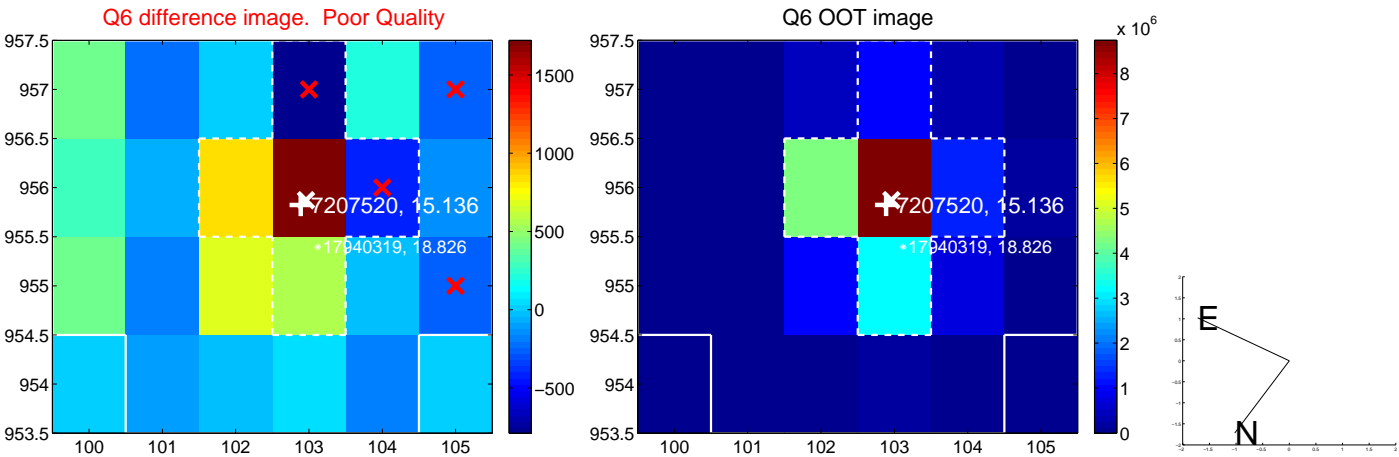
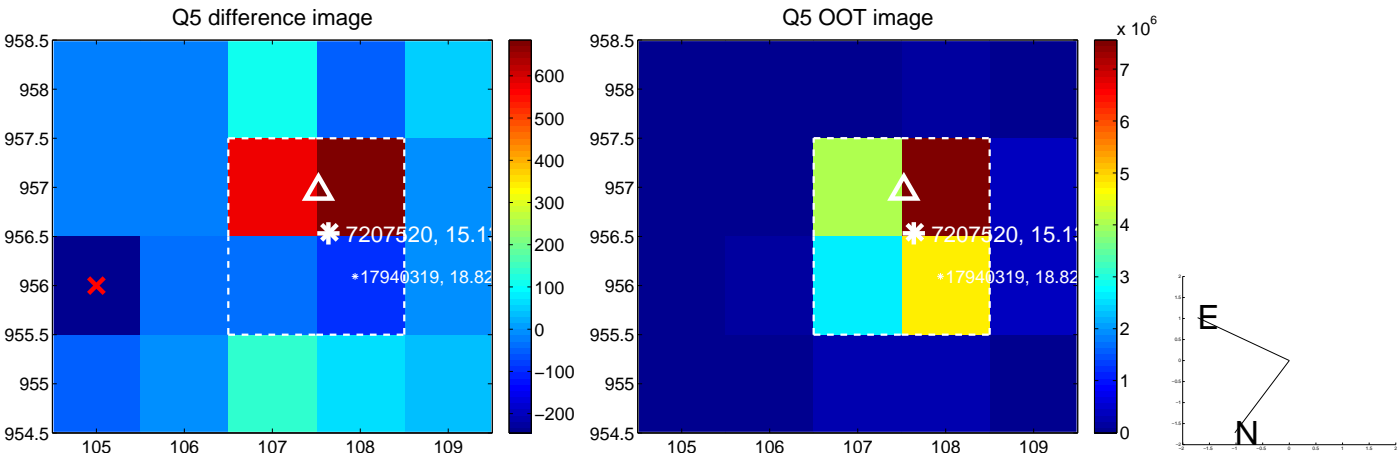


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

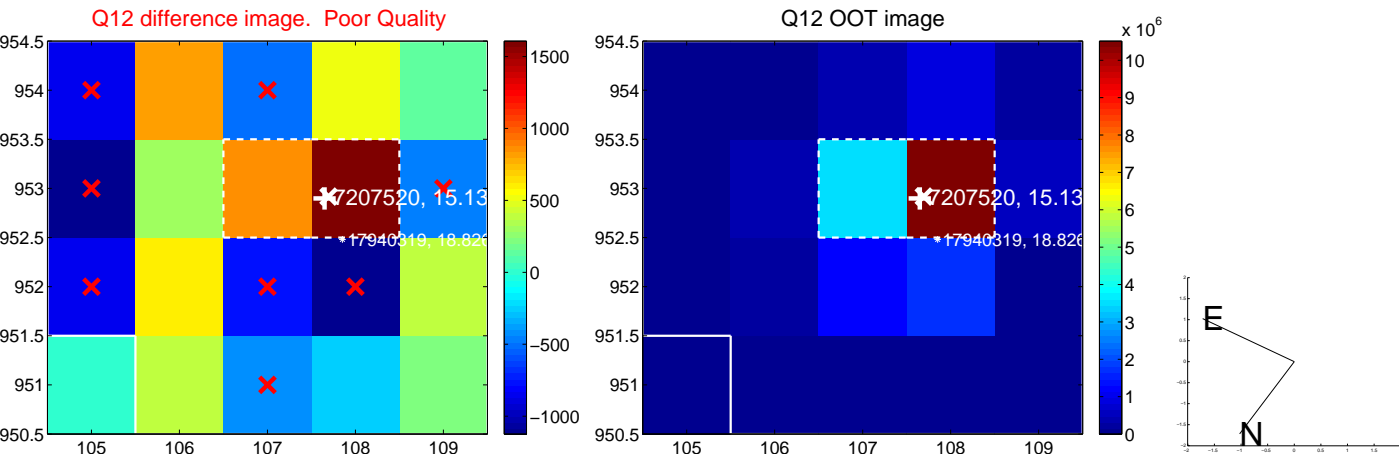
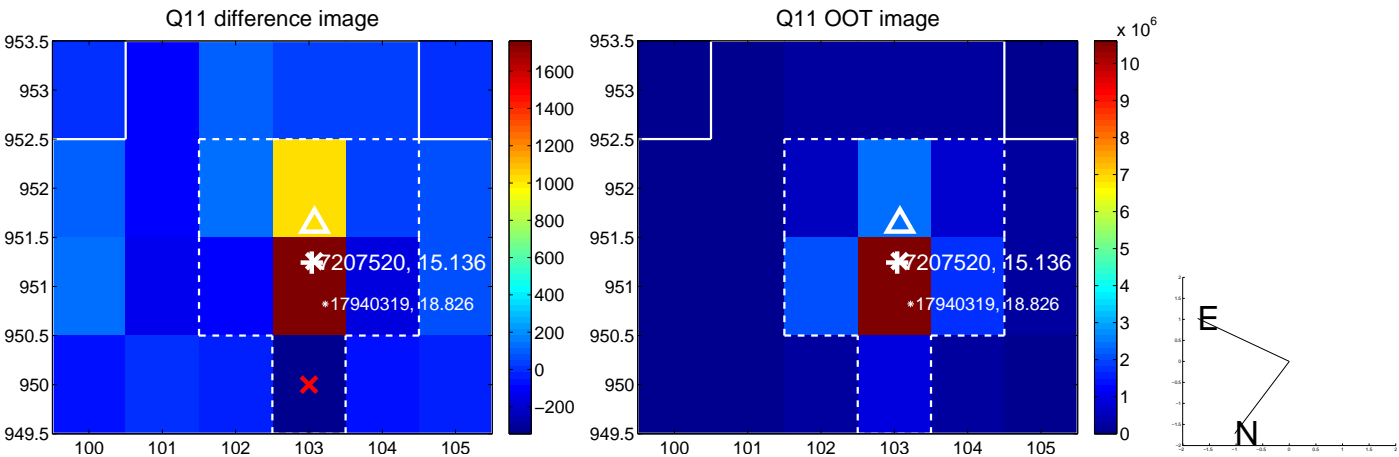
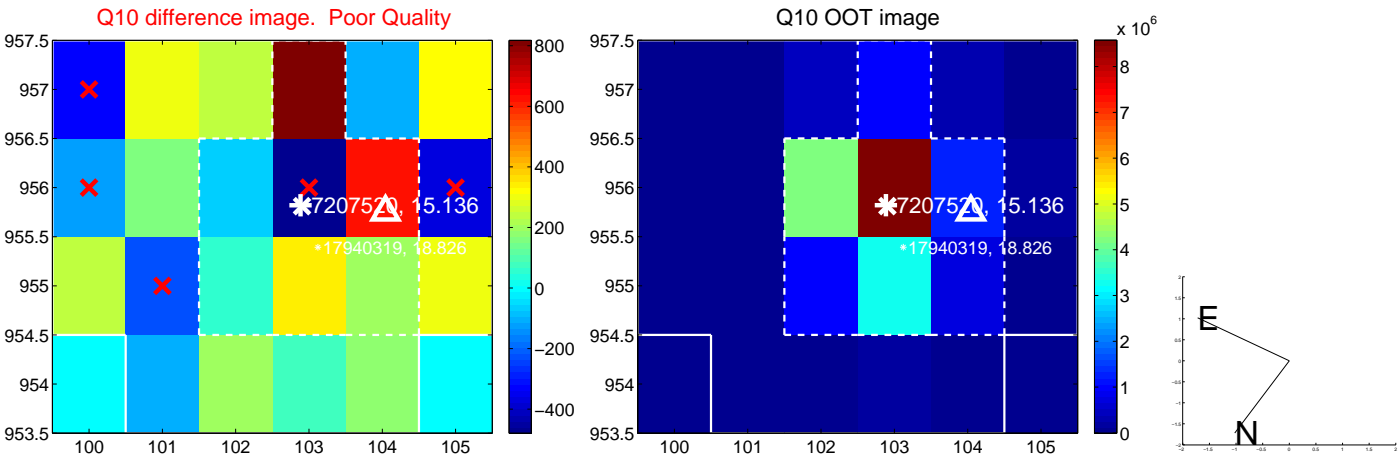
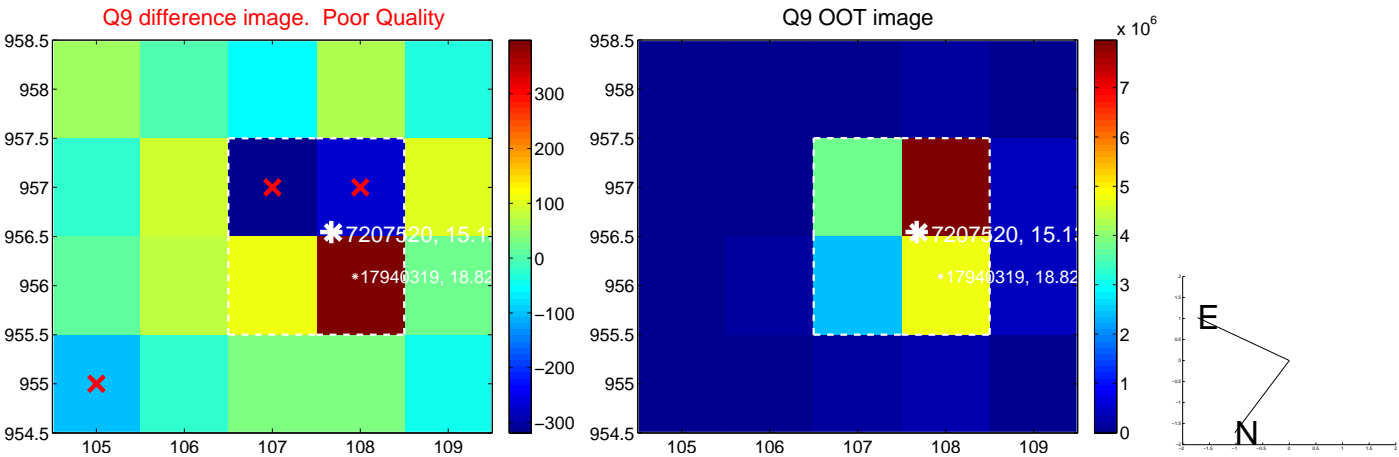
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



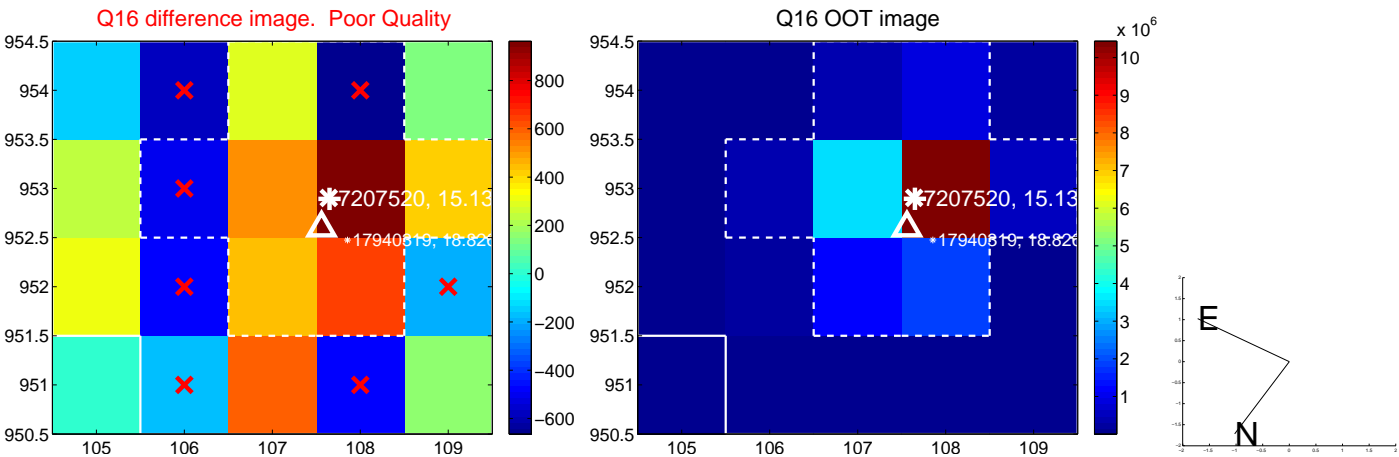
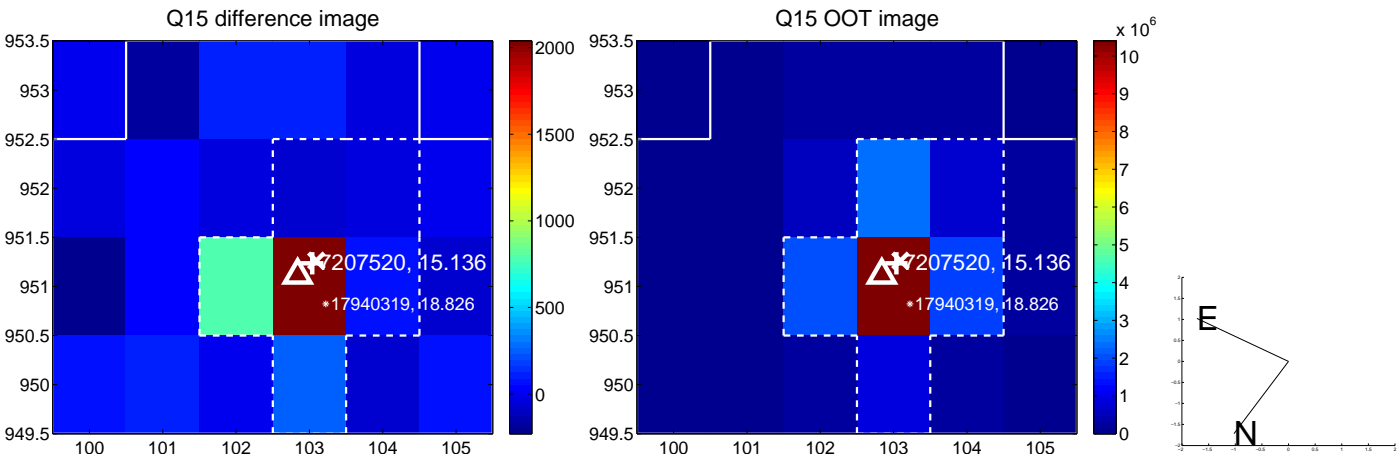
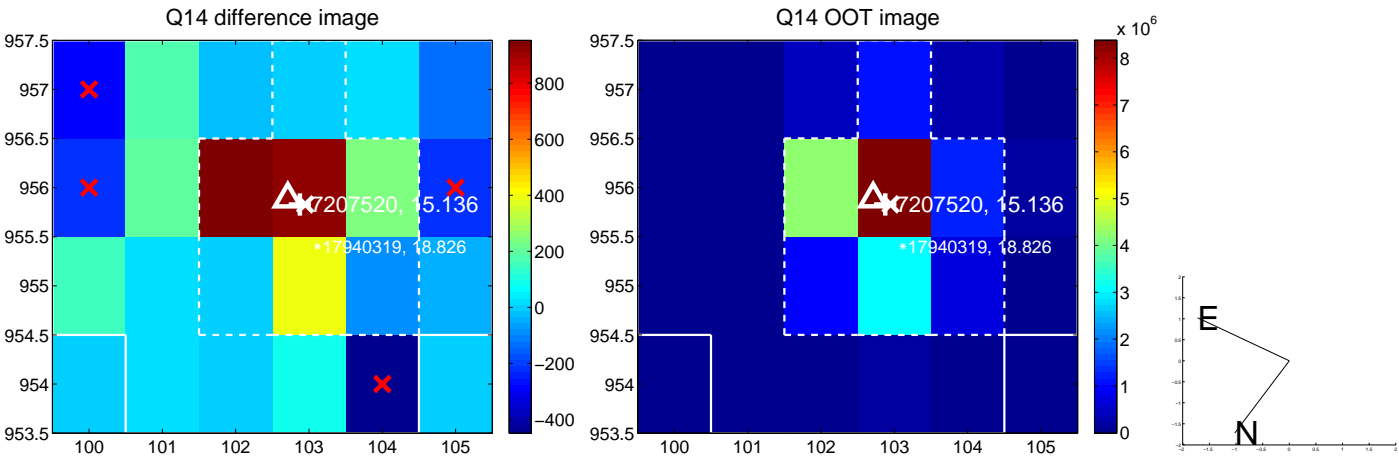
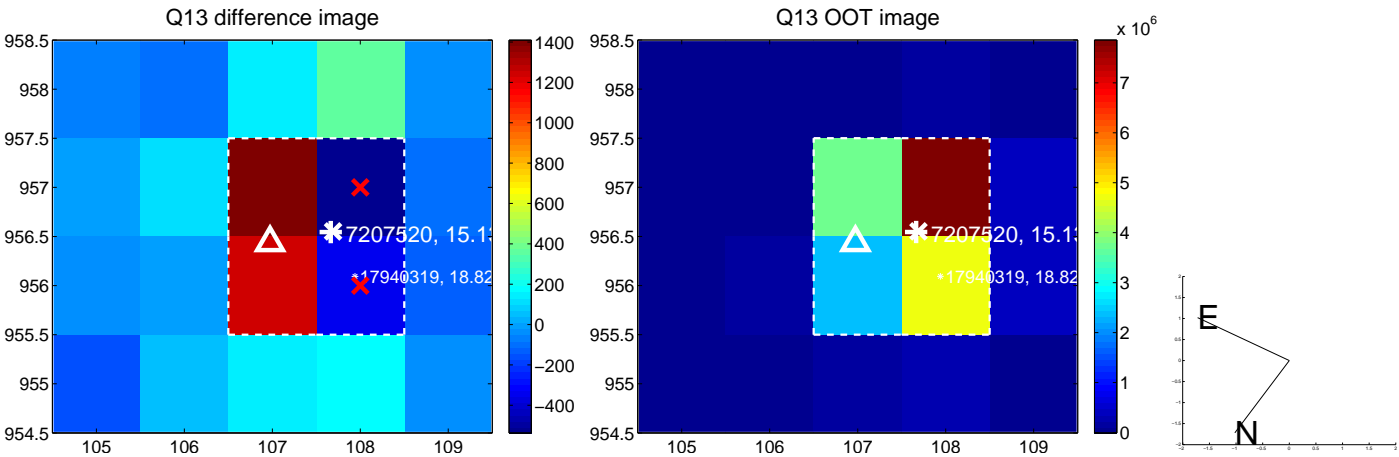
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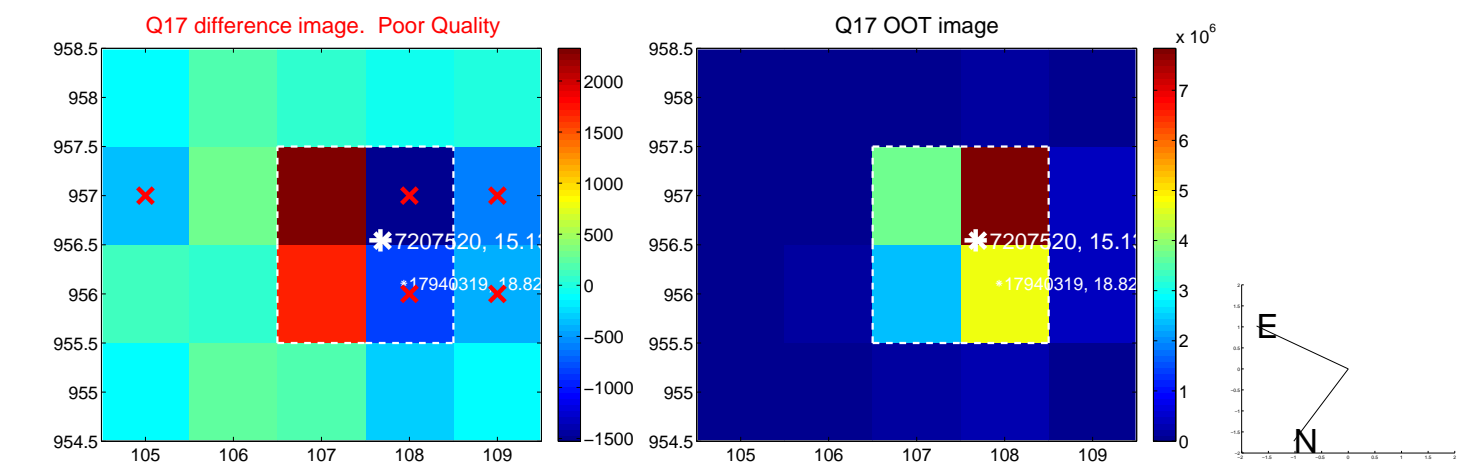
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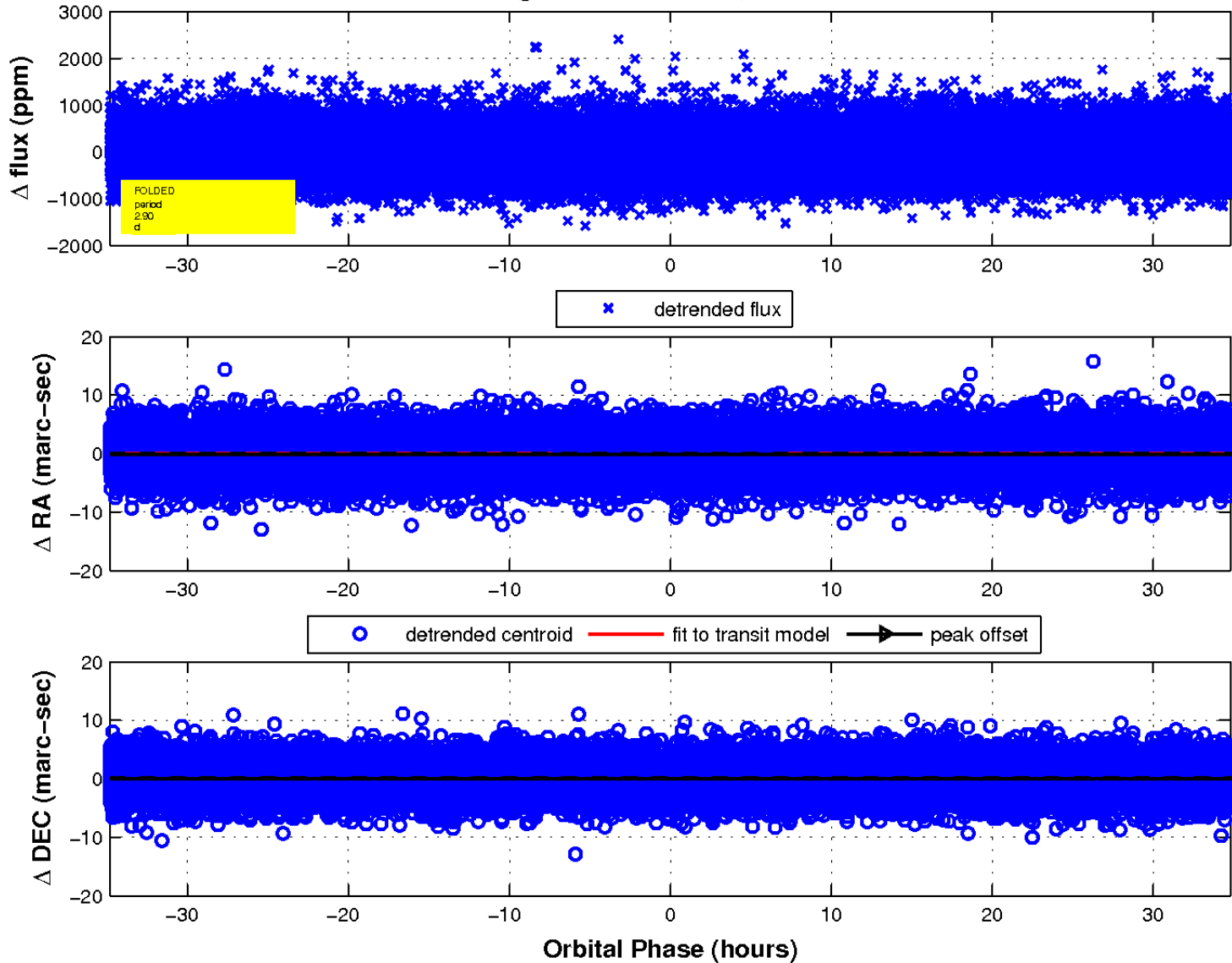
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

