

KIC 012505503

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})
012505503-01	OBS	4190.01	3.432776	132.909620	62.9	4.213	12.5	14.1	0.88	5757	0.79	392.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505503-01	OBS	PC	0.93	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.

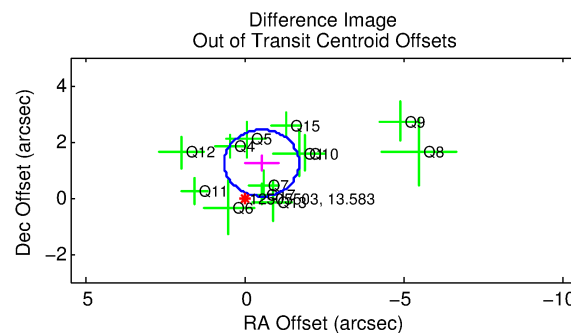
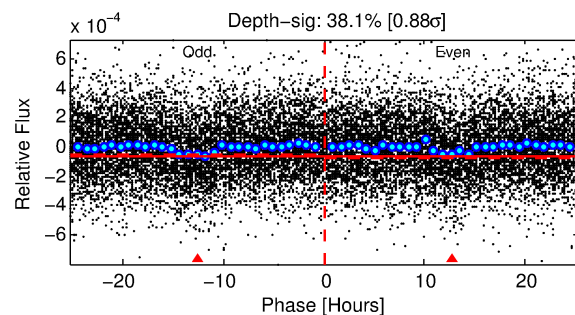
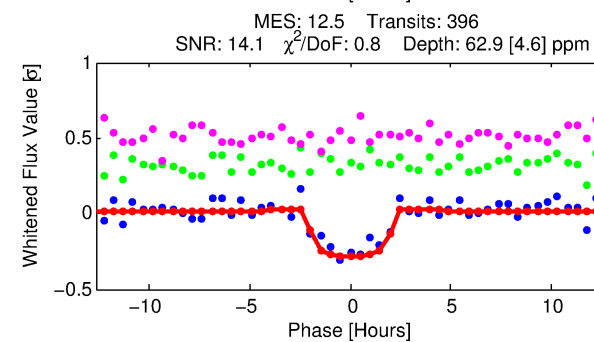
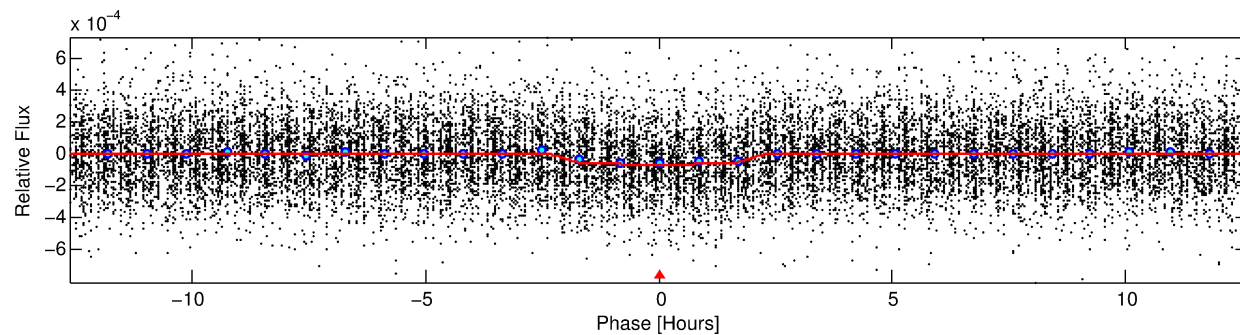
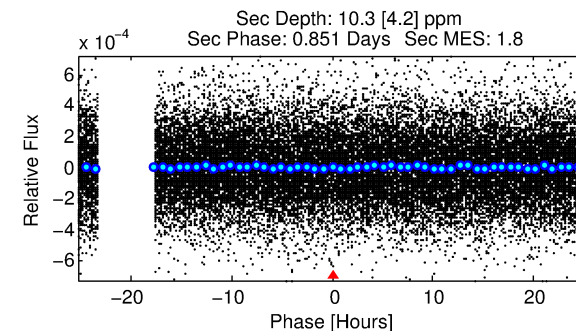
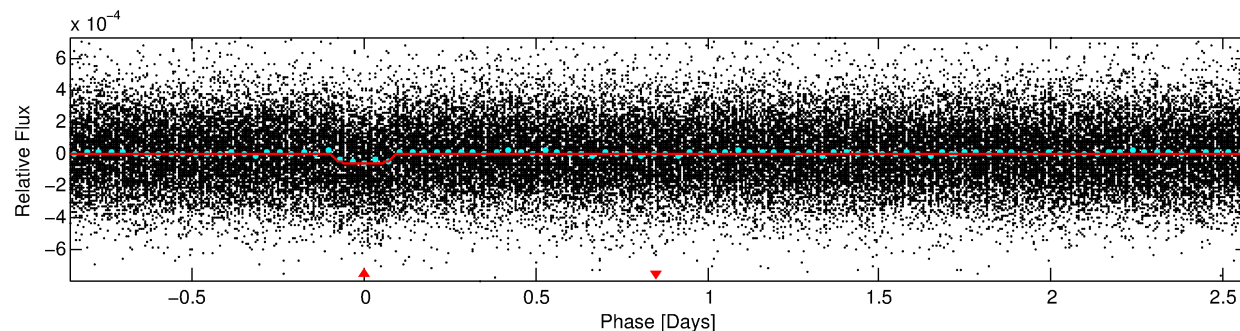
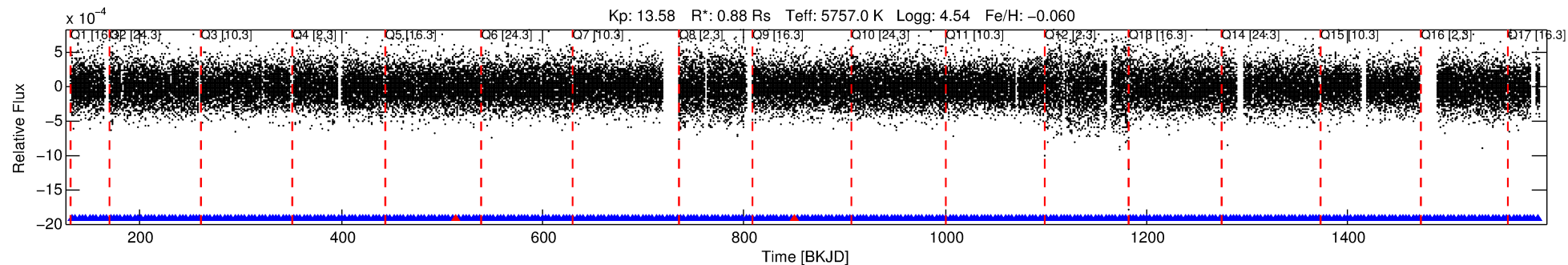
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505503-01

No Significant Match Found

DV One-Page Summary

KIC: 12505503 Candidate: 1 of 1 Period: 3.433 d
KOI: K04190.01 Corr: 0.988



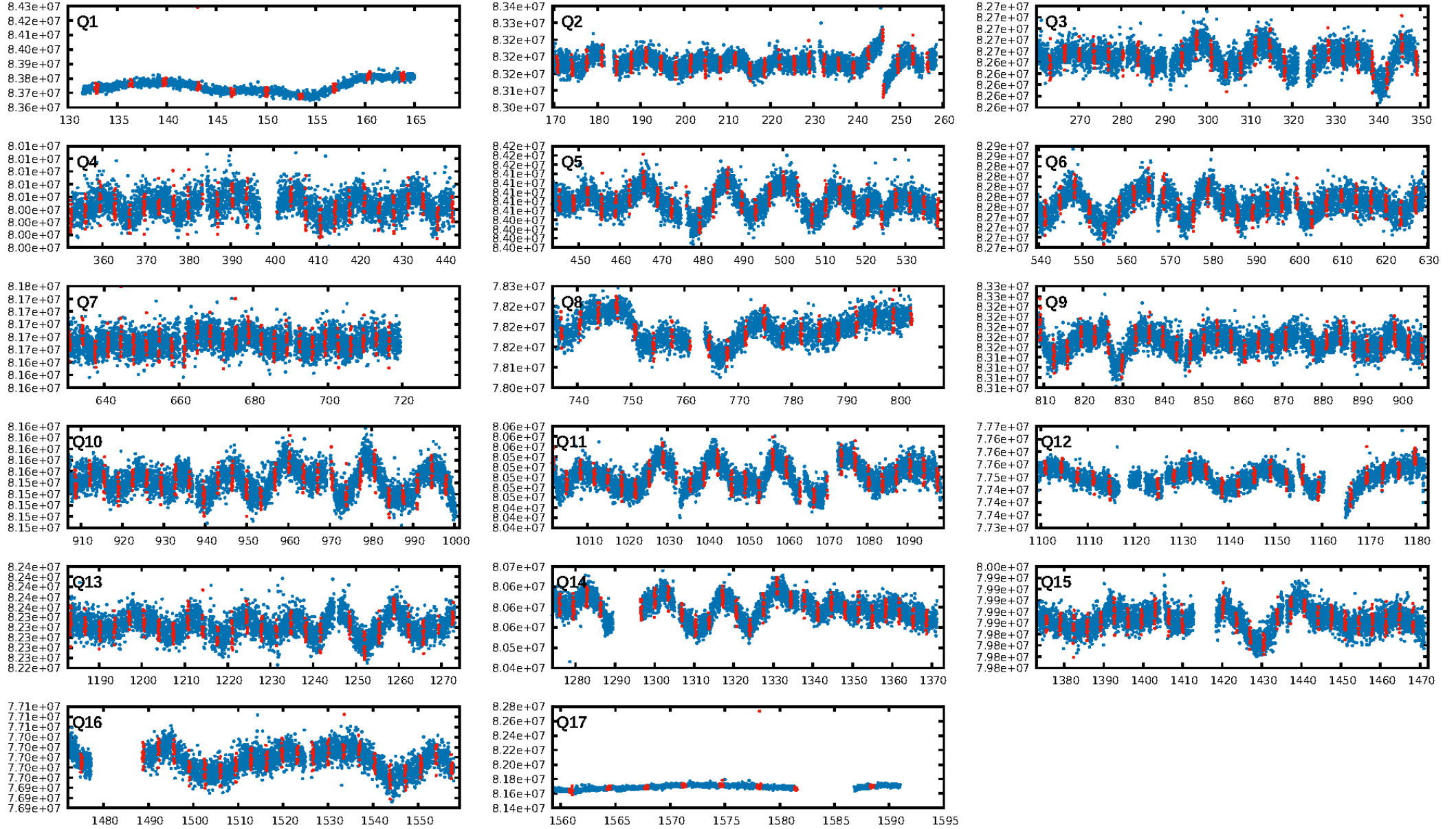
DV Fit Results:

Period = 3.43278 [0.00002] d
Epoch = 132.9096 [0.0040] BKJD
Rp/R* = 0.0082 [0.0040]
a/R* = 3.73 [7.79]
b = 0.82 [0.89]
Seff = 392.17 [151.13]
Teq = 1135 [109] K
Rp = 0.79 [0.45] Re
a = 0.0441 [0.0111] AU
Ag = 17.84 [20.07] [0.84σ]
Teffp = 3606 [963] K [2.55σ]

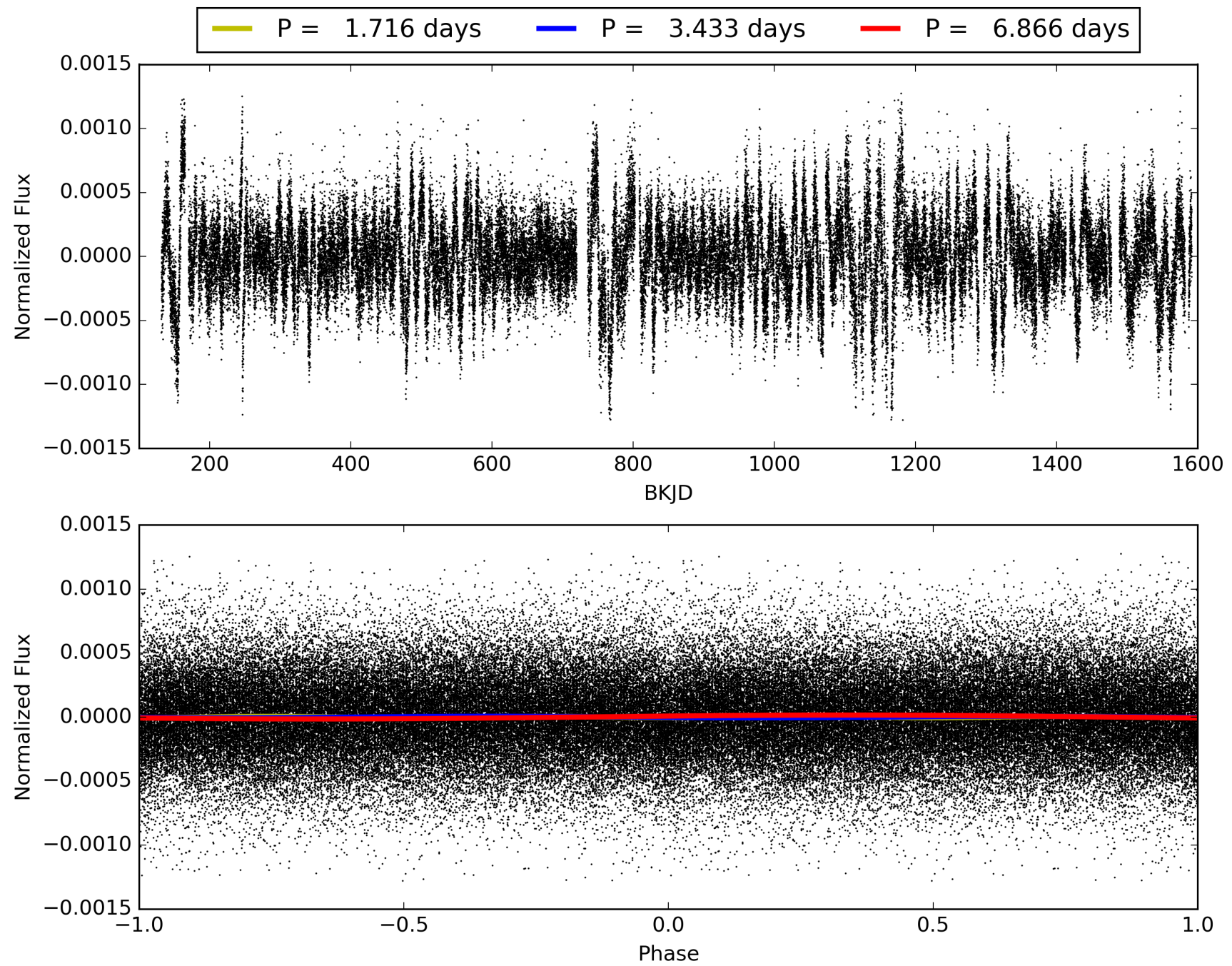
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.14e-35
RollingBand-fgt: 0.99 [376/378]
GhostDiagnostic-chr: 1.63
Centroid-sig: 67.9%
Centroid-so: 0.419 arcsec [0.55σ]
OotOffset-rm: 1.338 arcsec [3.40σ]
KicOffset-rm: 1.444 arcsec [3.79σ]
OotOffset-st: 2/3/3/5 [13]
KicOffset-st: 2/3/3/5 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012505503-01, PDC Light Curves

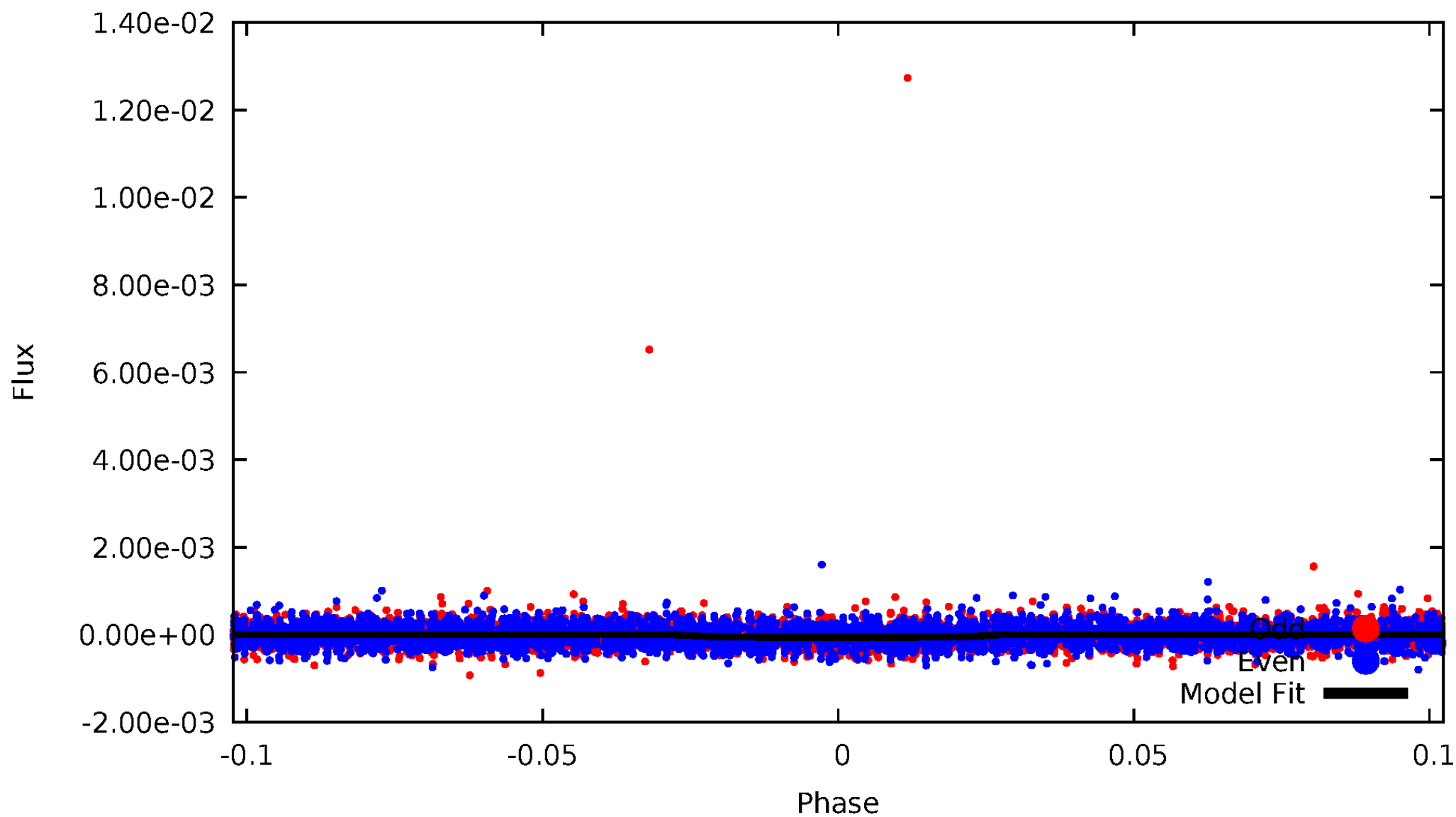


TCE 012505503-01



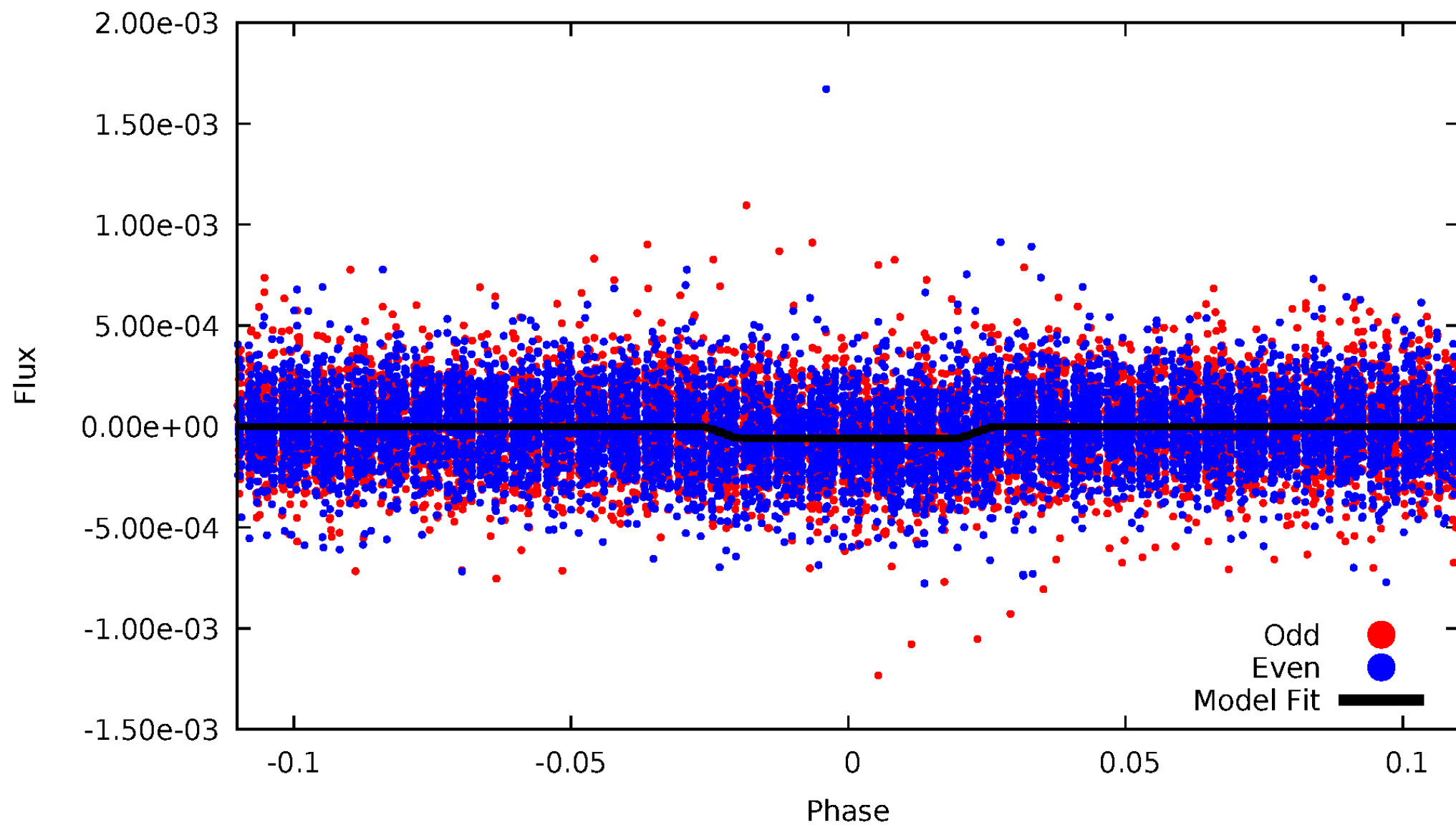
DV Odd/Even

TCE 012505503-01



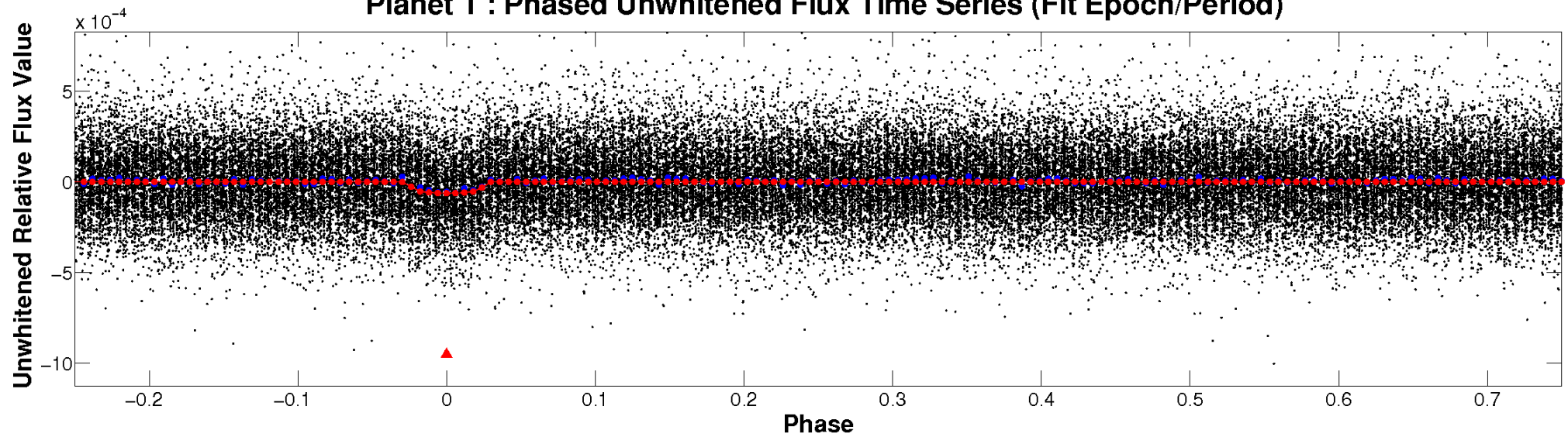
ALT Odd/Even

TCE 012505503-01

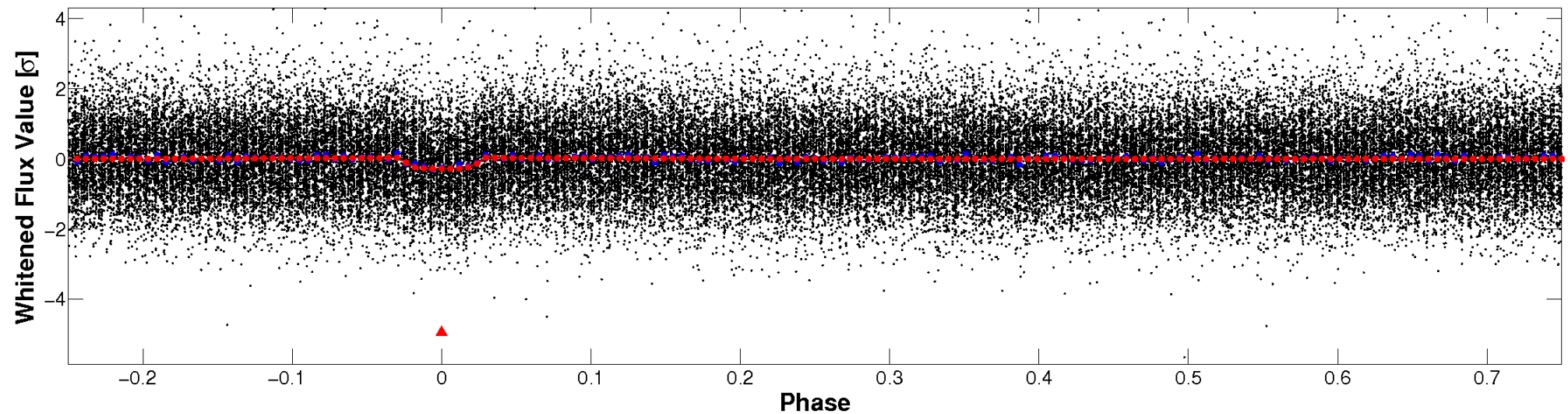


Non-Whitened Vs. Whitened Light Curve

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

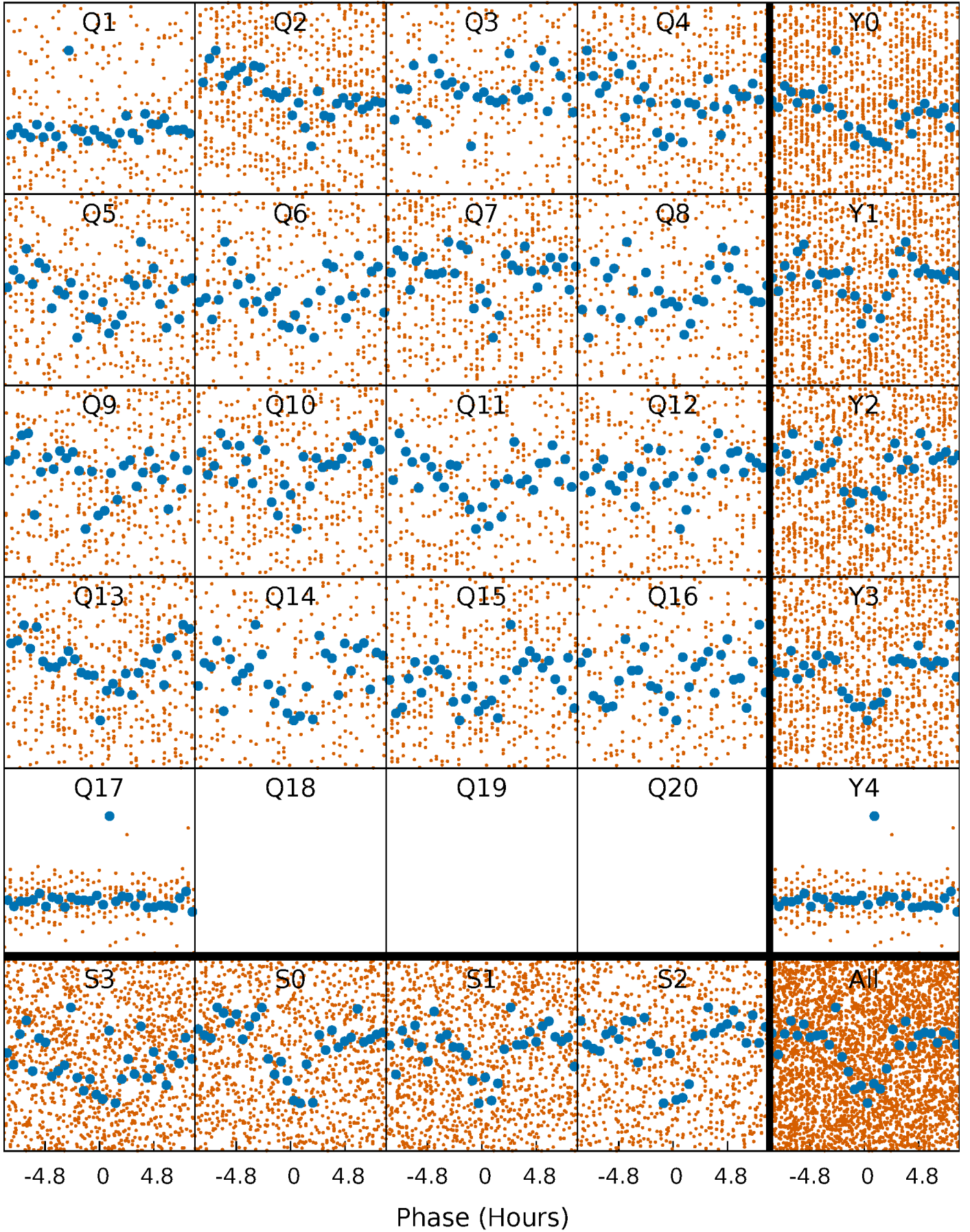


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



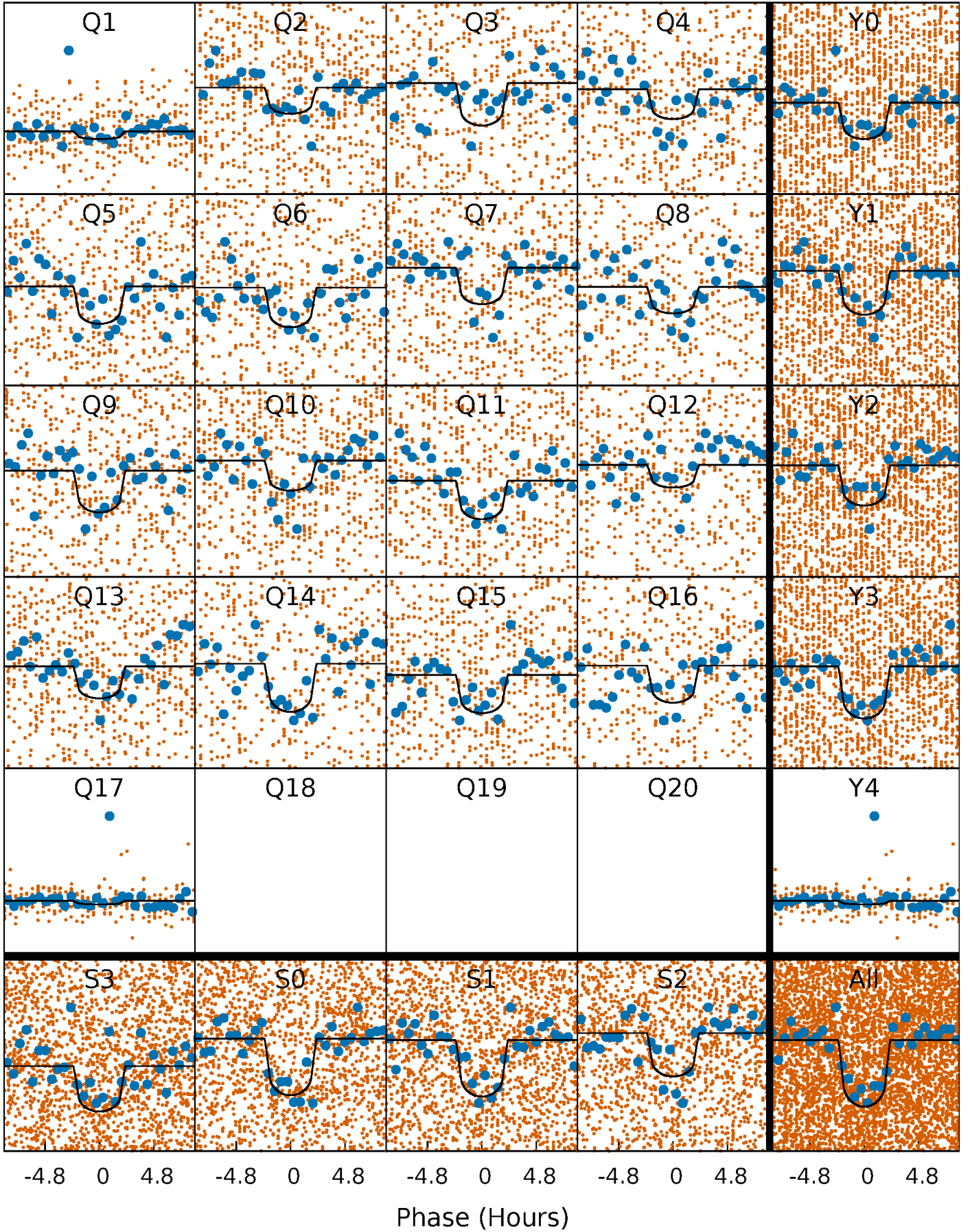
PDC Quarter-Phased Transit Curves

TCE 012505503-01 P= 3.432776 Days $T_0=132.909620$ (BKJD)



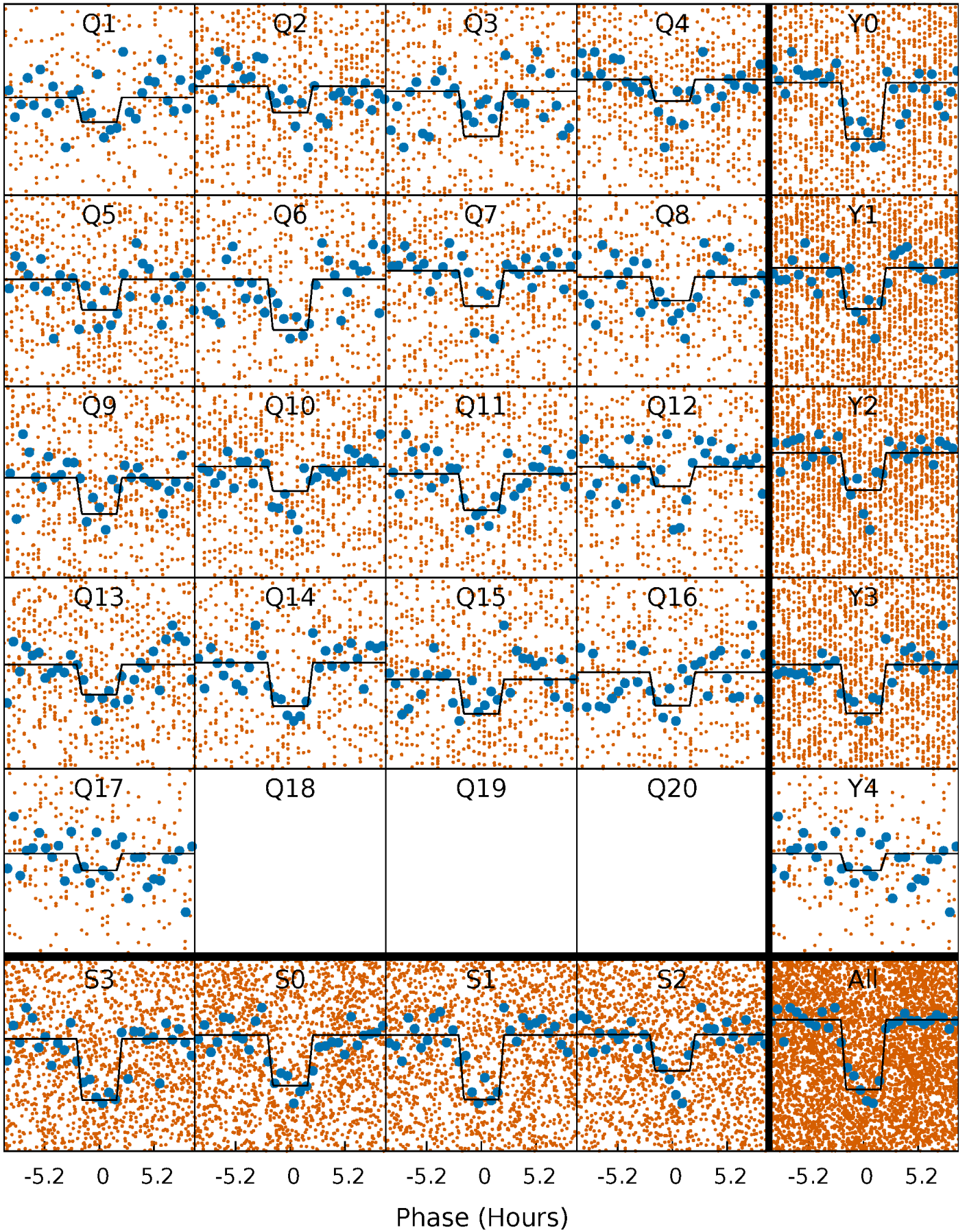
DV Quarter-Phased Transit Curves

TCE 012505503-01 P= 3.432776 Days $T_0=132.909620$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

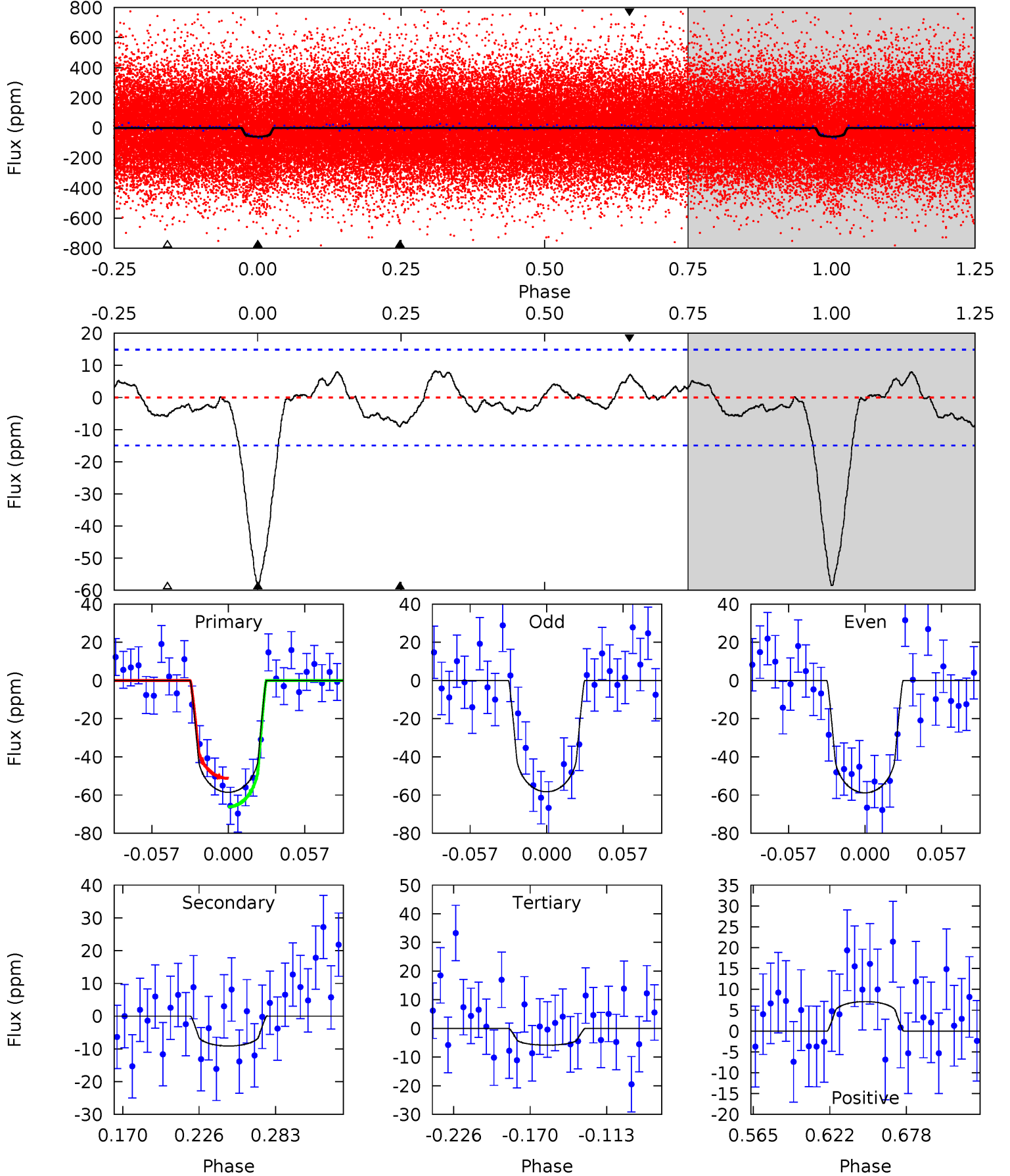
TCE 012505503-01 P= 3.432801 Days $T_0=132.906063$ (BKJD)



DV Model-Shift Uniqueness Test

012505503-01, P = 3.432776 Days, E = 129.476844 Days

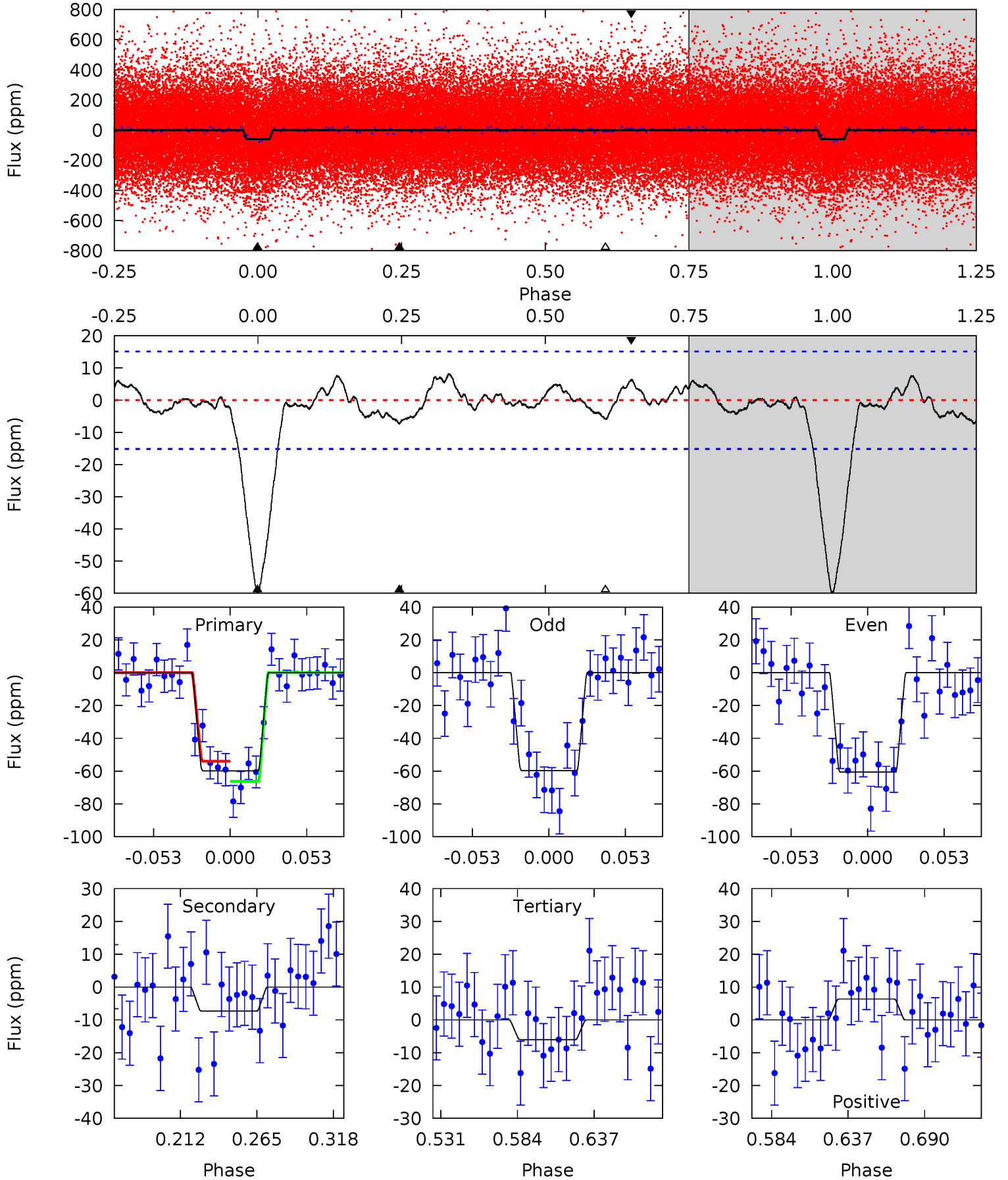
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	2.86	1.83	2.22	4.68	1.91	1.14	16.5	16.2	1.03	0.65	0.09	0.90	0.13	2.34



Alt Model-Shift Uniqueness Test

012505503-01, P = 3.432801 Days, E = 129.473262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	2.28	1.86	1.97	4.70	1.93	0.96	16.7	16.6	0.41	0.31	0.16	1.07	0.12	1.91



Stellar Parameters For KIC 012505503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5757^{+138}_{-156}	$4.536^{+0.036}_{-0.204}$	$-0.060^{+0.250}_{-0.300}$	$0.881^{+0.260}_{-0.081}$	$0.974^{+0.102}_{-0.114}$	$2.003^{+0.402}_{-1.046}$
	+2%/-3%	+1%/-4%	+417%/-500%	+30%/-9%	+10%/-12%	+20%/-52%
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 012505503-01 / KOI 4190.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$0.84^{+0.41}_{-0.40}$	1619^{+111}_{-68}	3816^{+1114}_{-555}	14^{+37}_{-9}
Alt.	-7 ± 3	$0.77^{+0.41}_{-0.39}$	1620^{+116}_{-65}	3770^{+1171}_{-608}	12^{+40}_{-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 $A_{obs} \gg 1.0$

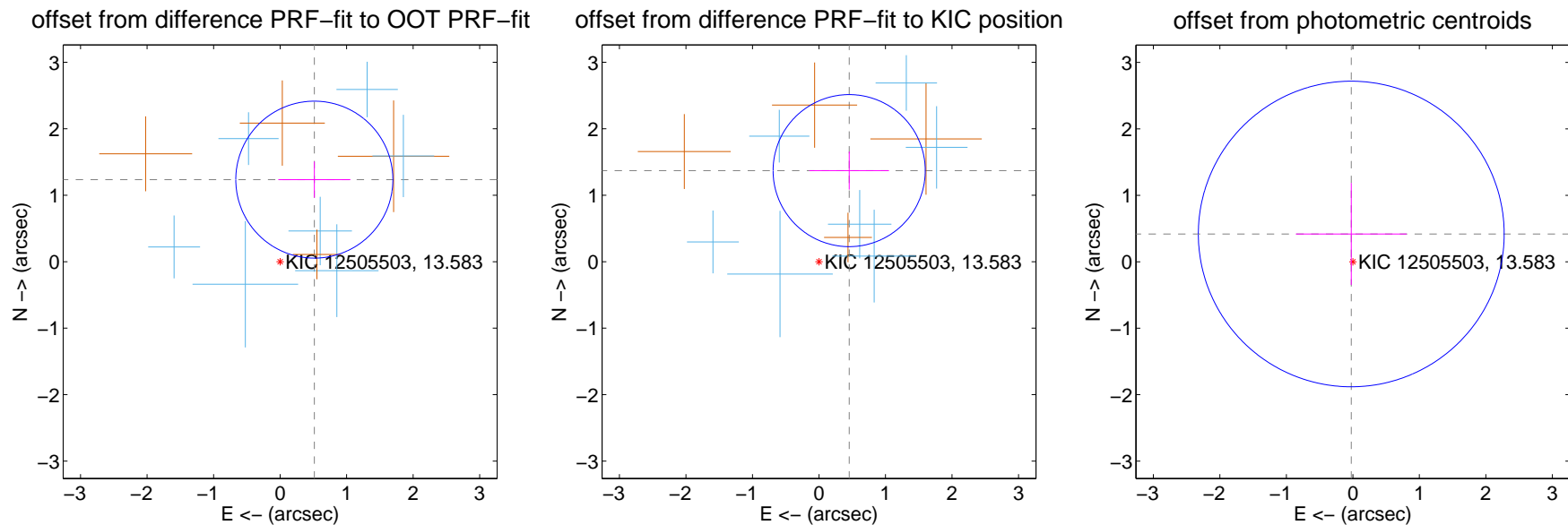
DV Centroid Data

Supplemental centroid analysis for 012505503-01. Kepler magnitude: 13.58. Transit SNR 14.13

There are 7 quarters with good PRF difference image offsets

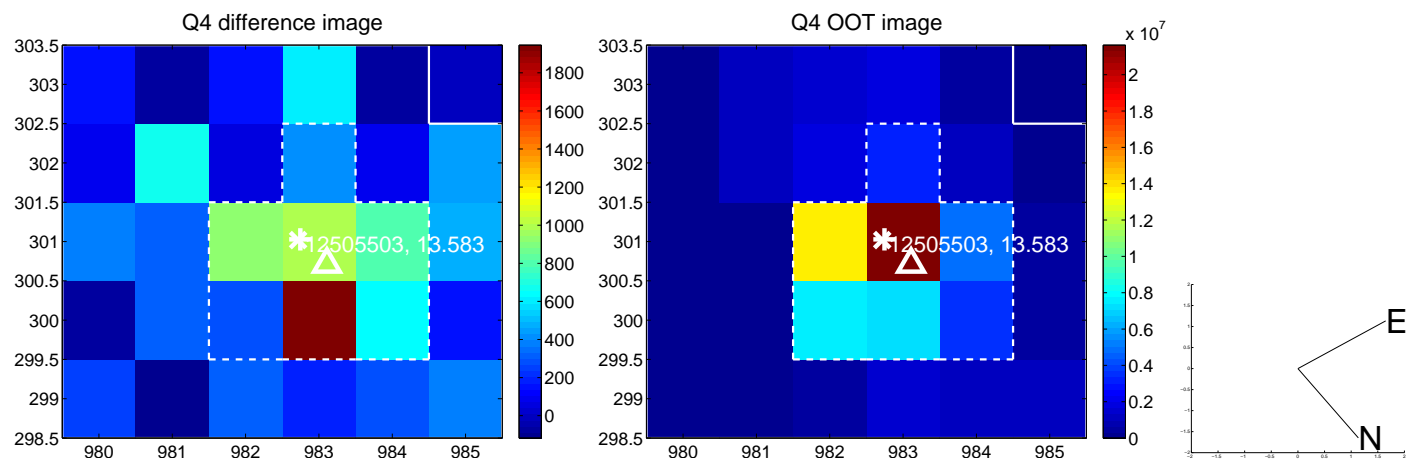
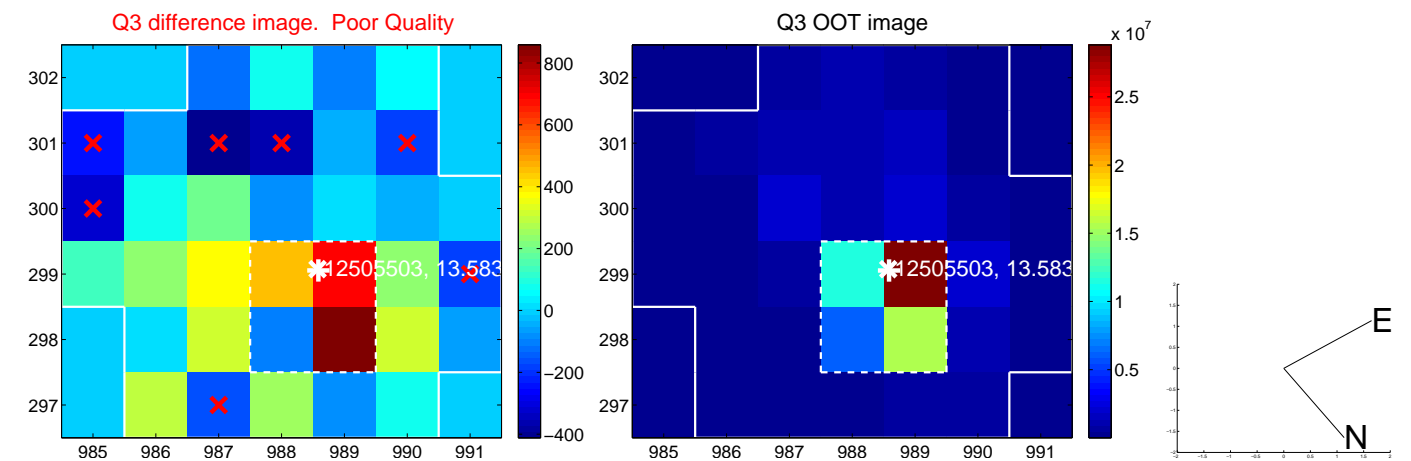
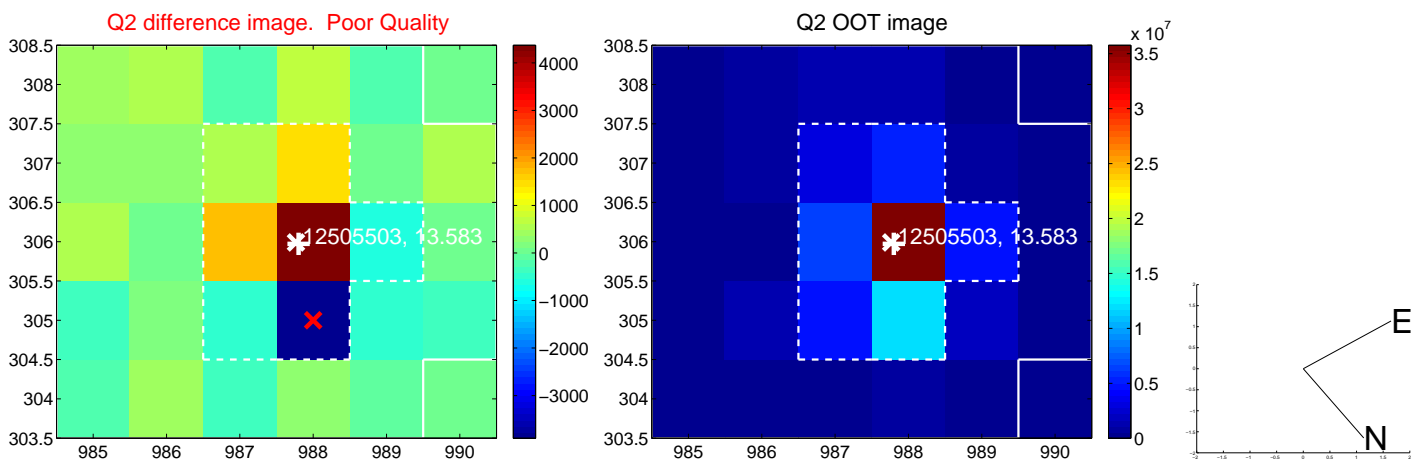
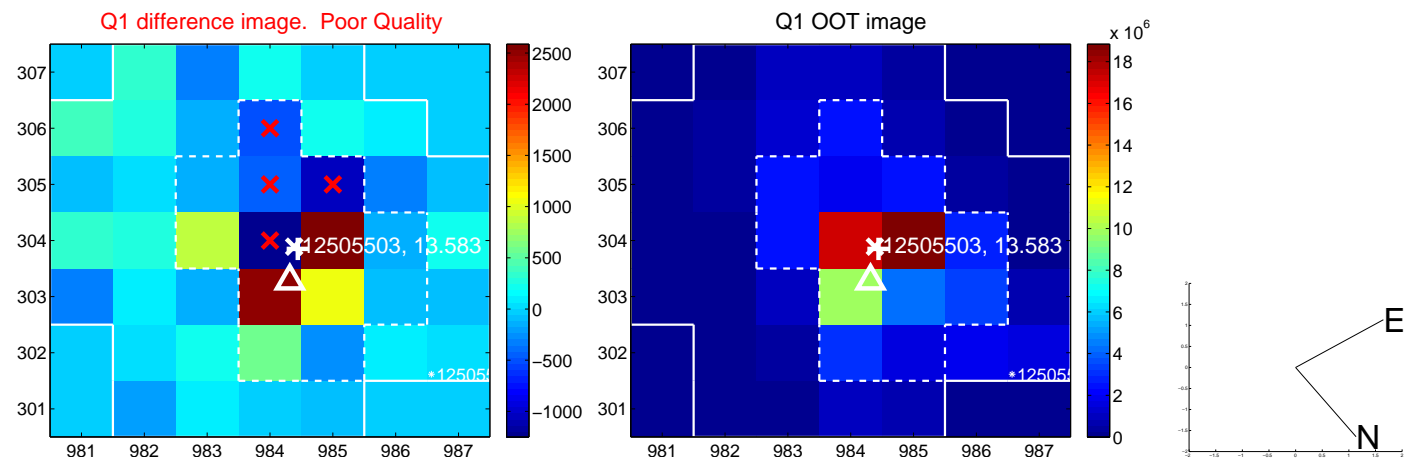
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.338 ± 0.394	3.40	-0.515 ± 0.542	1.235 ± 0.272
PRF-fit source offset from KIC position	1.444 ± 0.381	3.79	-0.454 ± 0.598	1.370 ± 0.285
photometric centroid source offset	0.42 ± 0.77	0.55	0.02 ± 0.83	0.42 ± 0.77

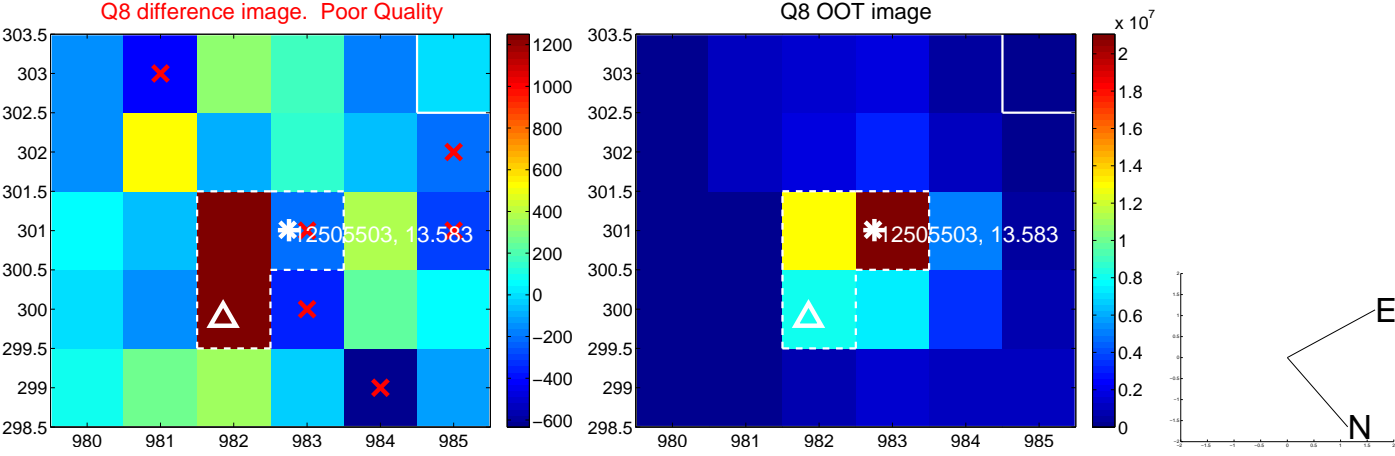
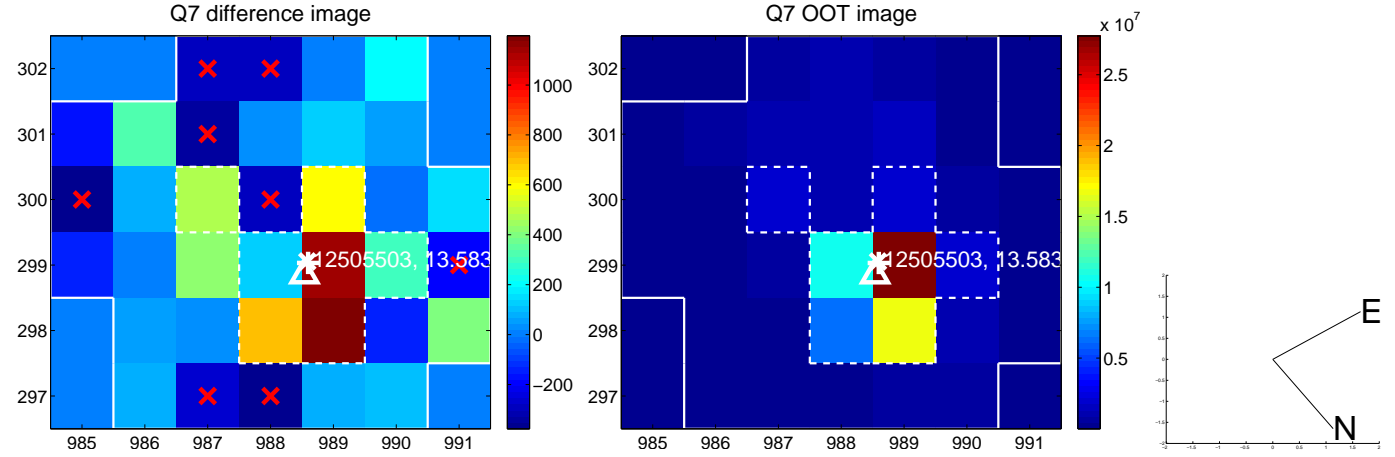
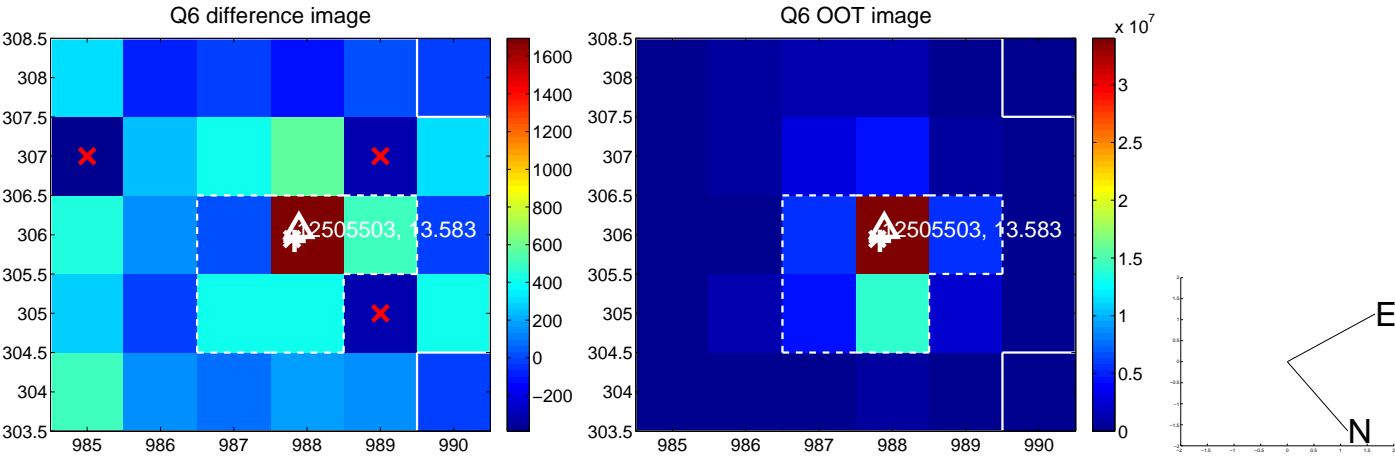
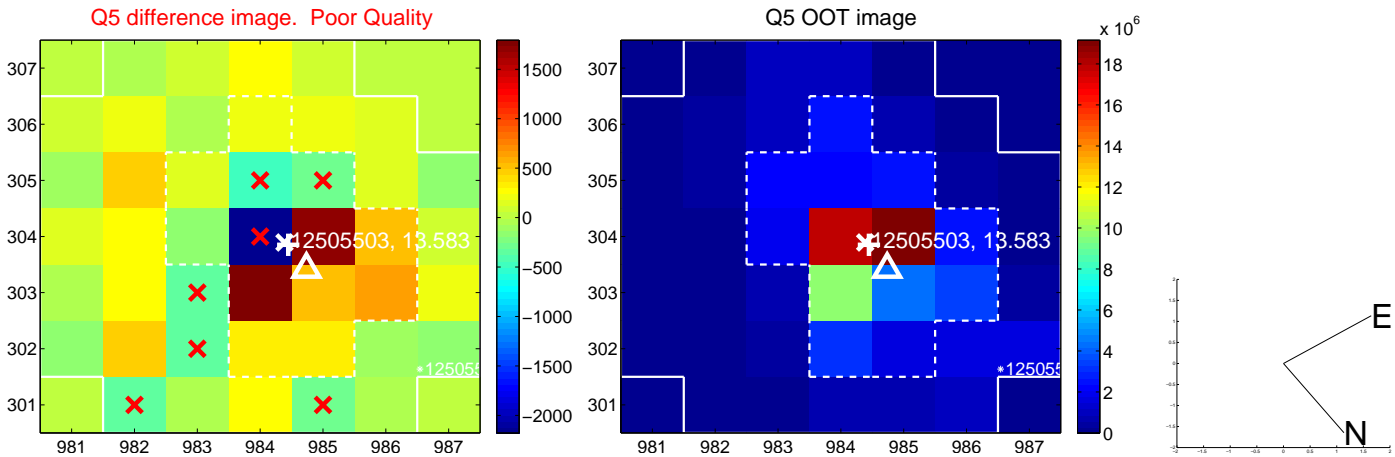


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

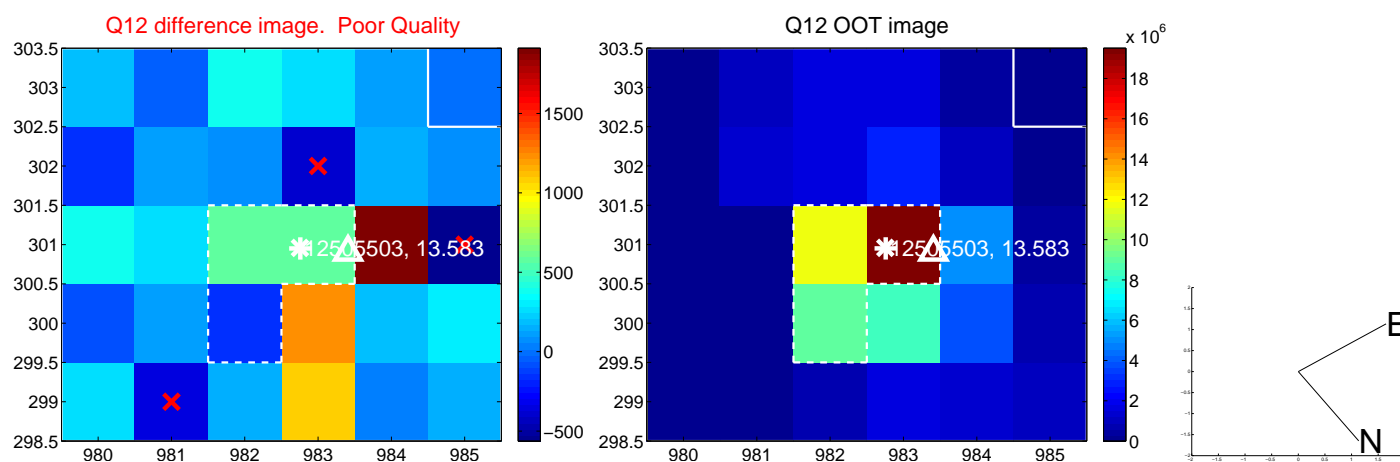
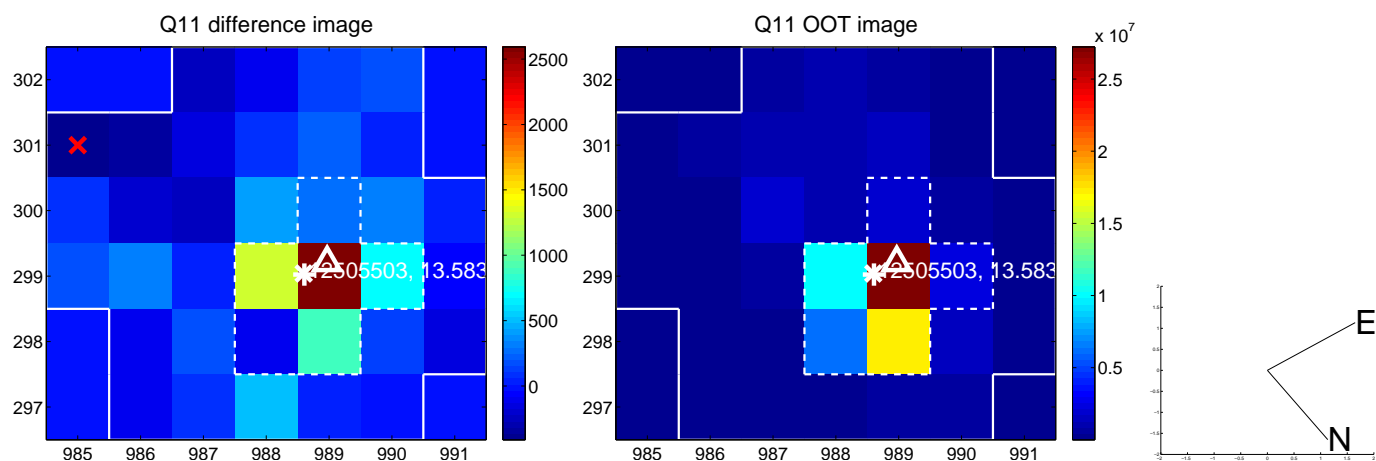
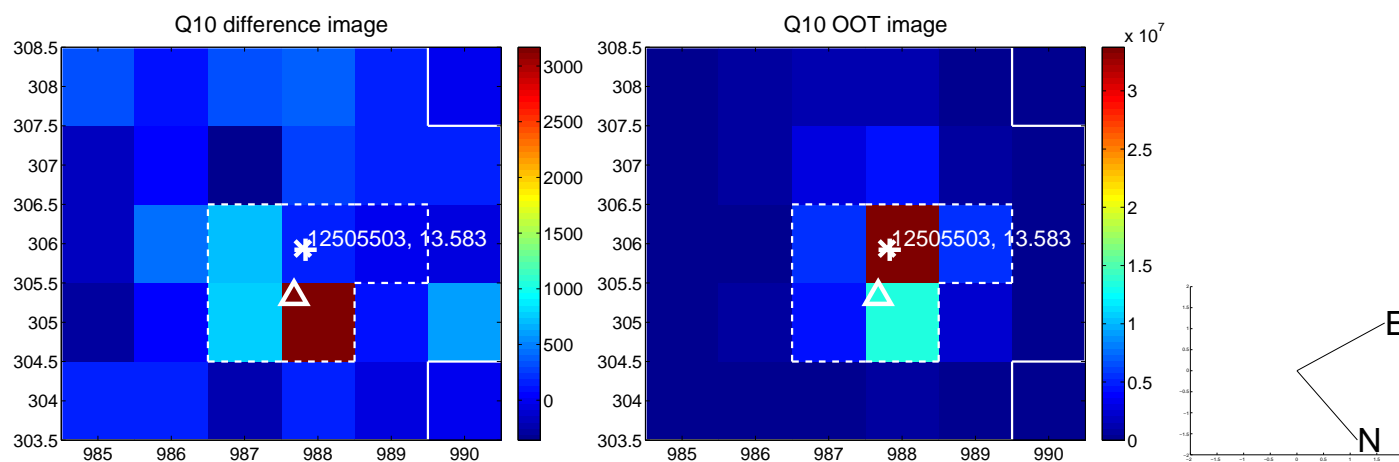
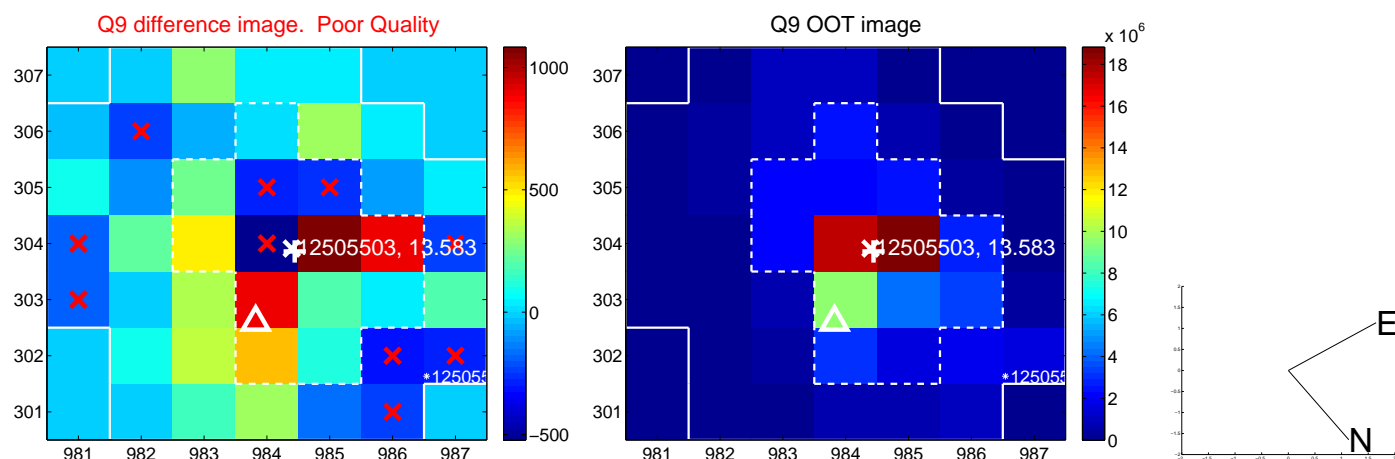
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



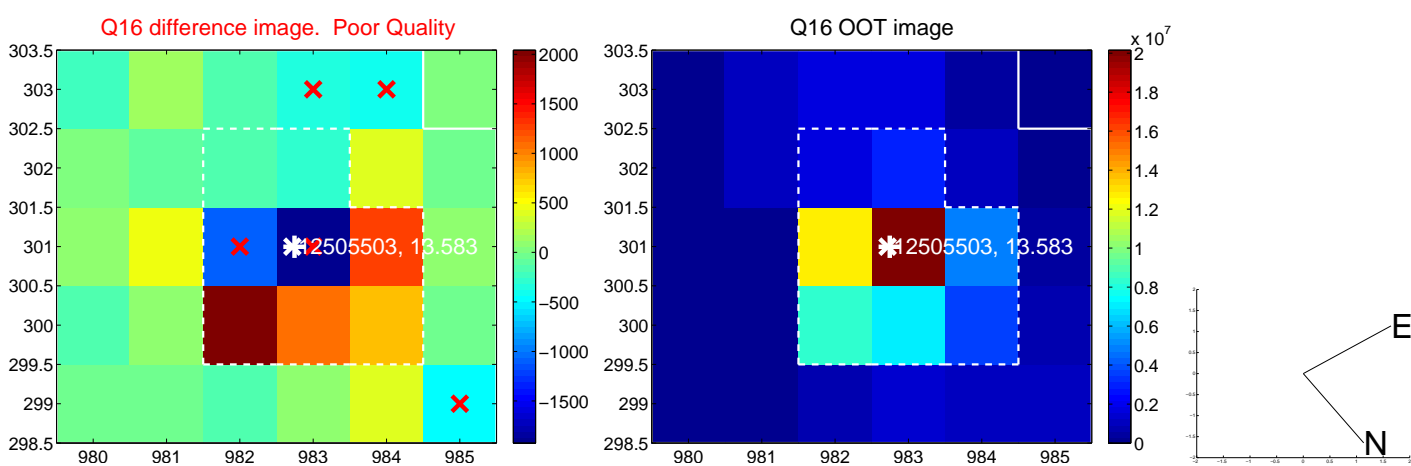
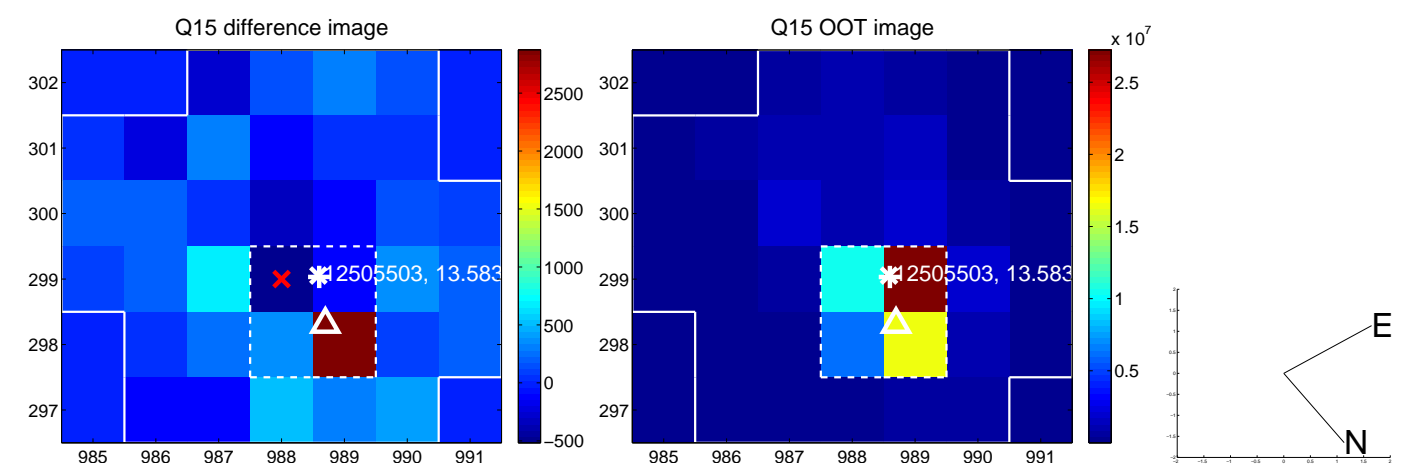
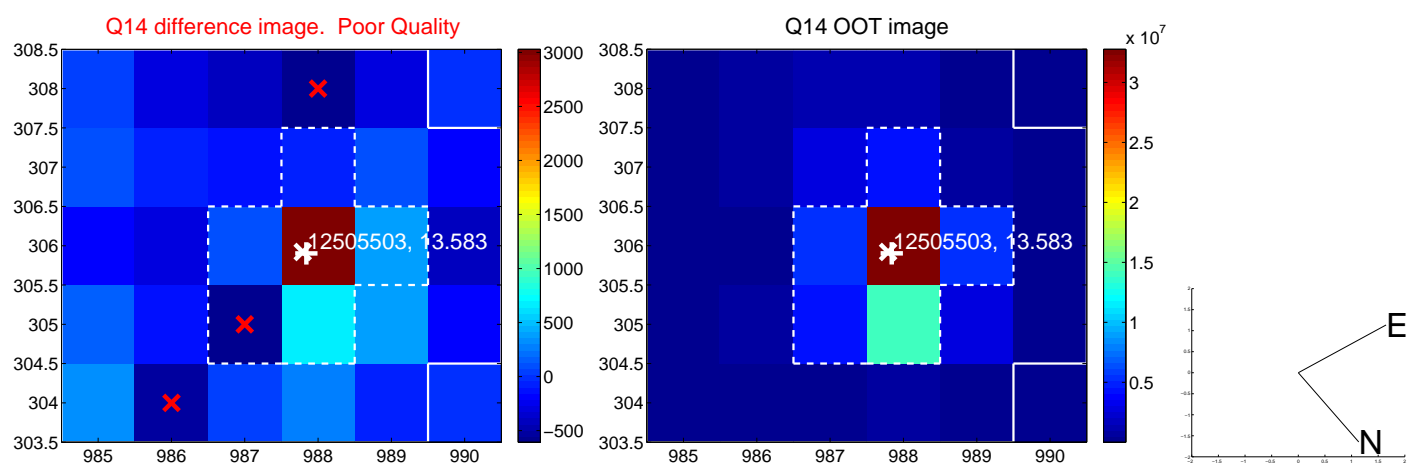
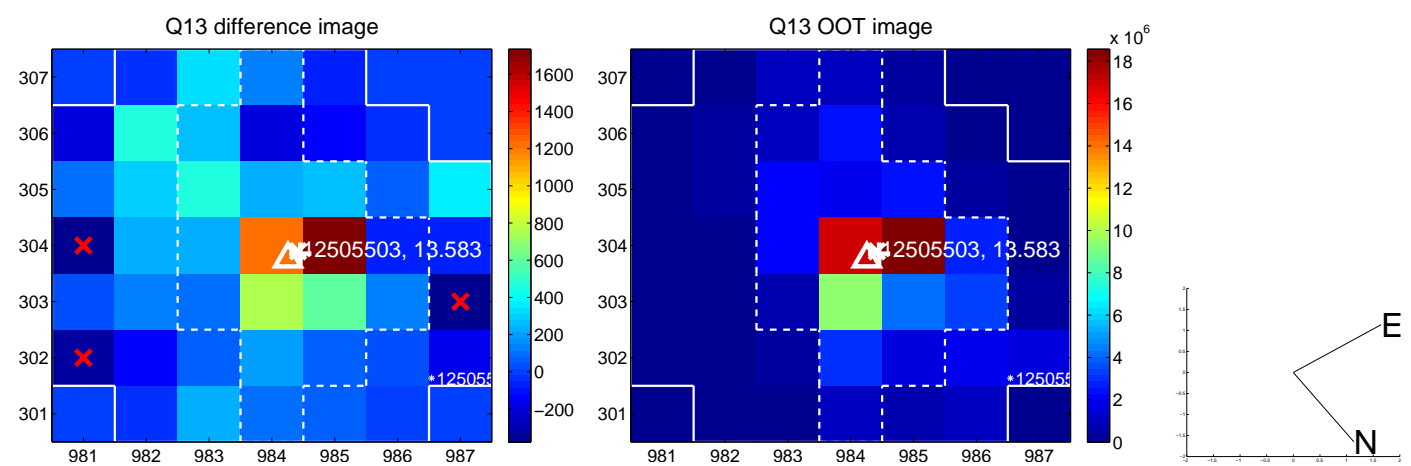
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



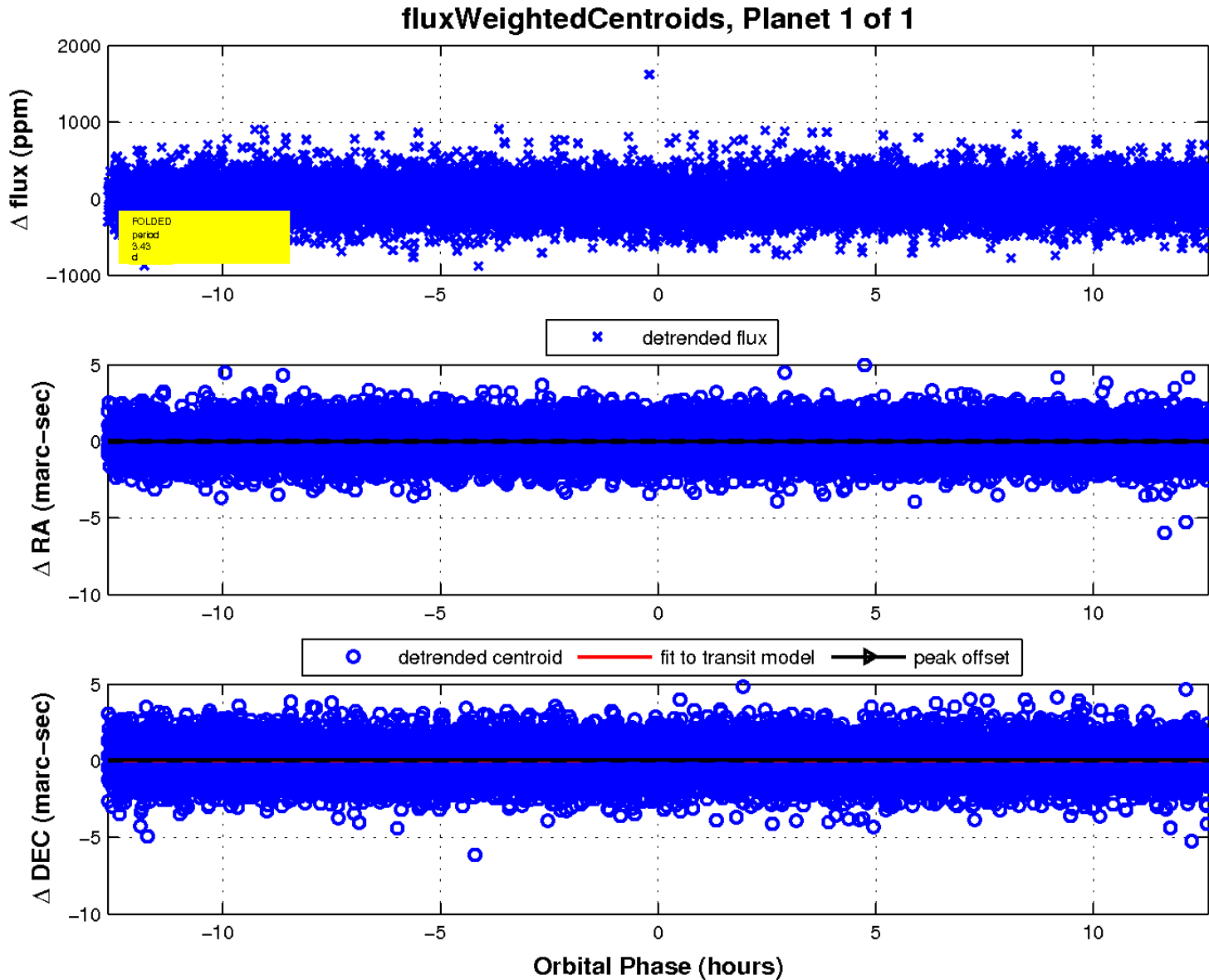
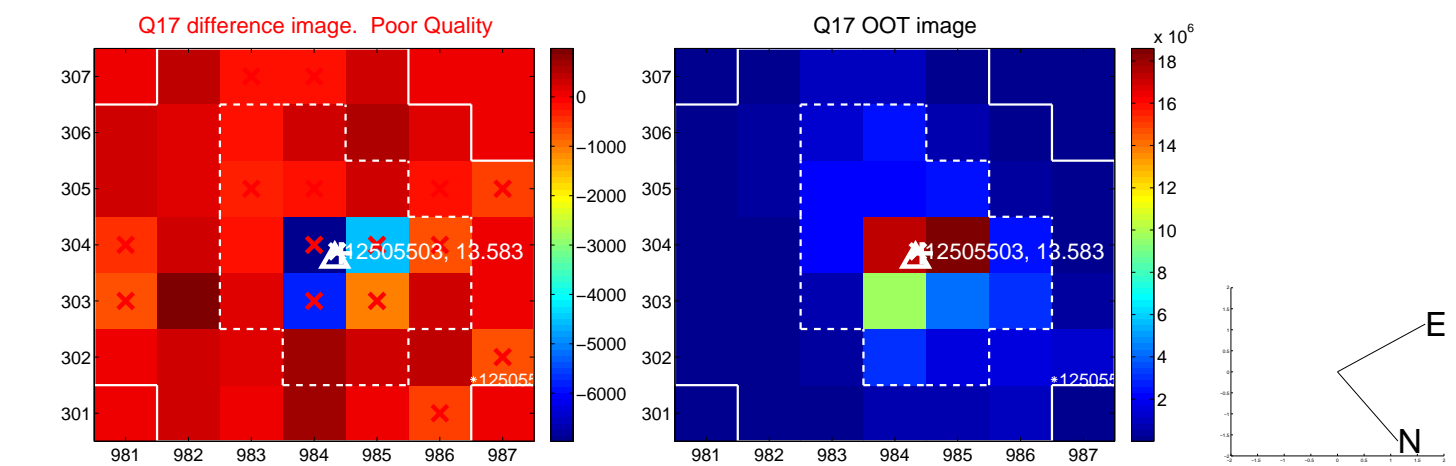
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UKIRT Image

Declination

