

KIC 004144576

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})
004144576-01	OBS	2202.01	0.813161	131.829477	132.9	1.526	32.8	30.6	0.89	5237	1.24	1945.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004144576-01	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.

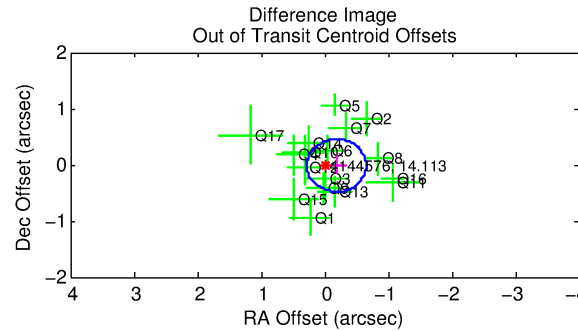
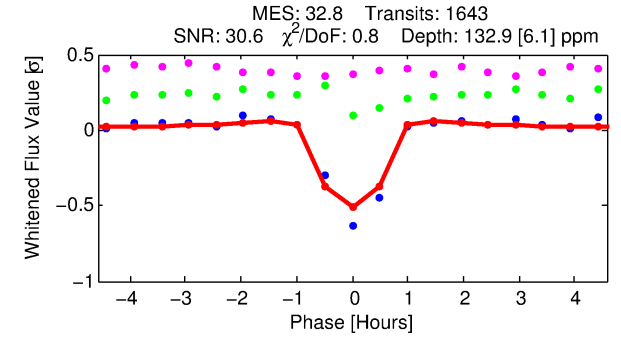
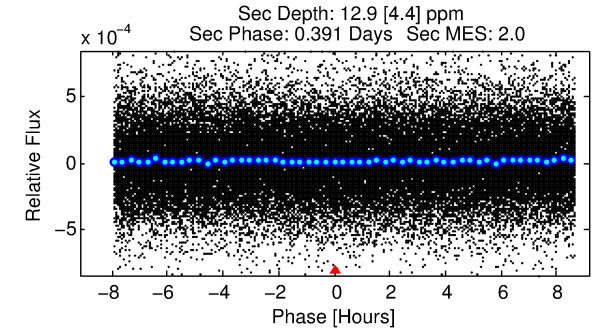
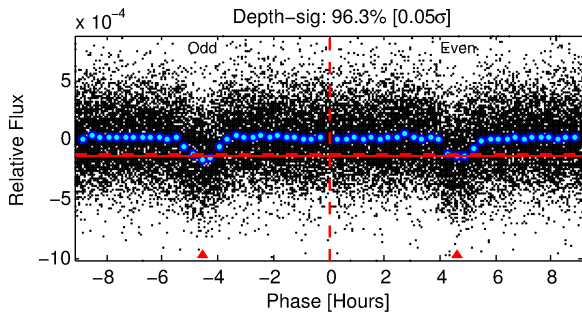
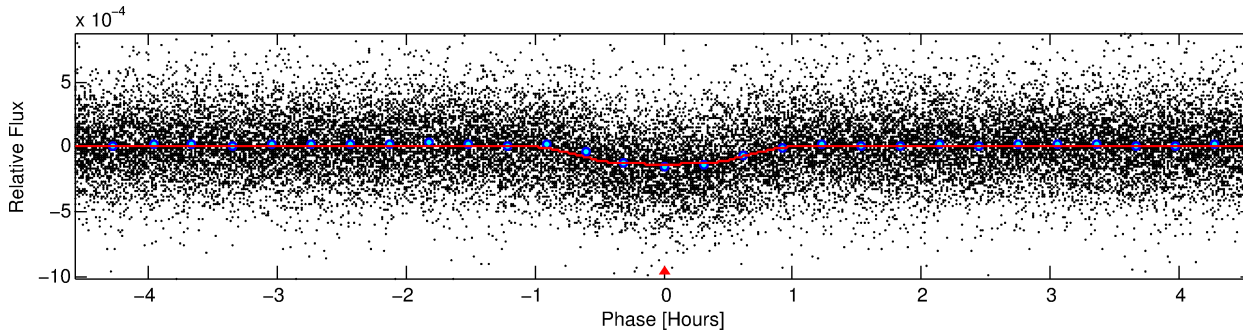
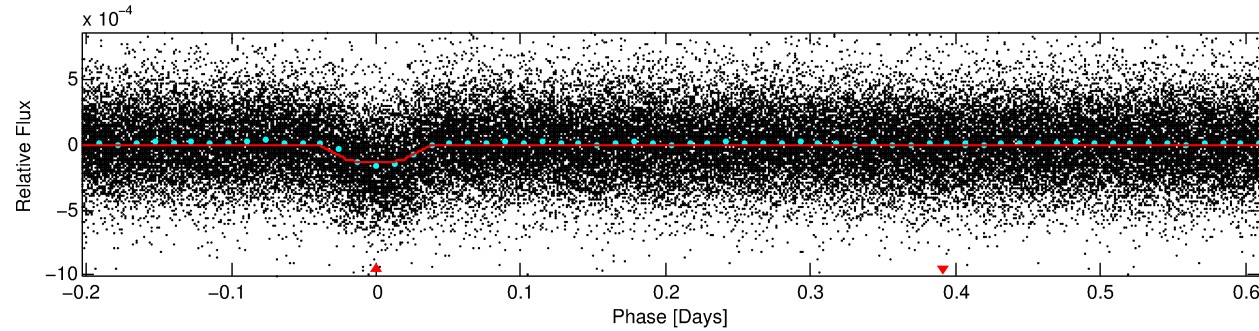
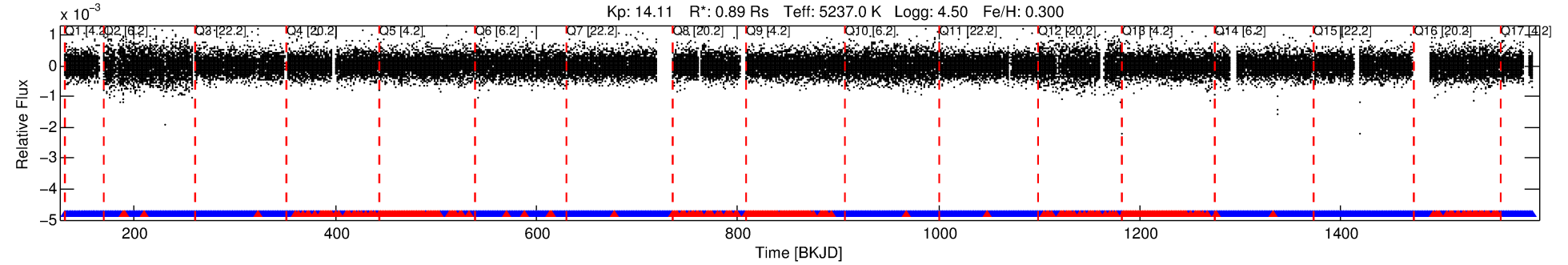
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004144576-01

No Significant Match Found

DV One-Page Summary

KIC: 4144576 Candidate: 1 of 1 Period: 0.813 d
KOI: K02202.01 Corr: 0.952



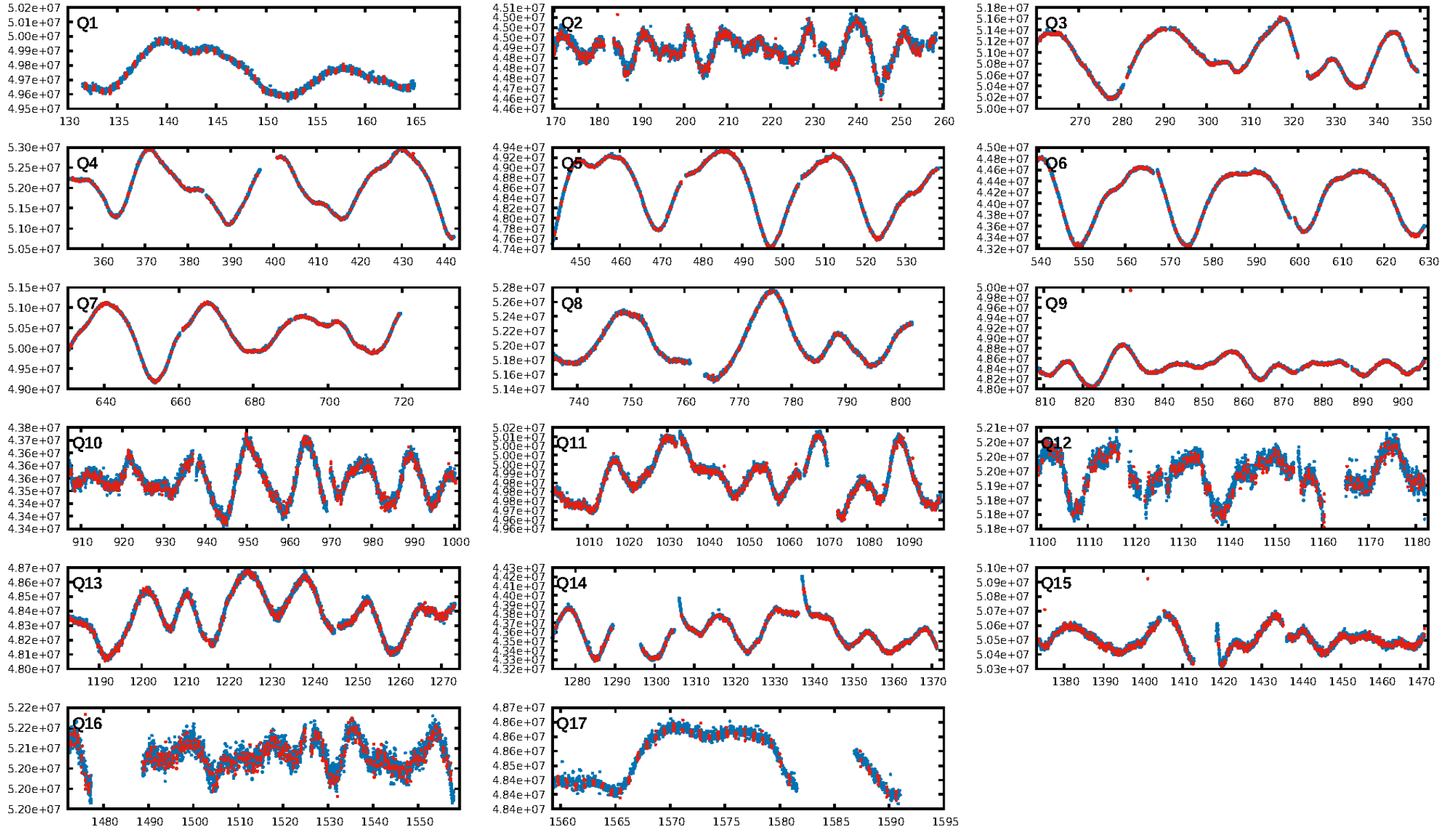
DV Fit Results:

Period = 0.81316 [0.00000] d
Epoch = 131.8295 [0.0007] BKJD
Rp/R* = 0.0129 [0.0037]
a/R* = 2.12 [1.94]
b = 0.90 [0.26]
Seff = 1945.08 [270.52]
Teq = 1693 [59] K
Rp = 1.24 [0.37] Re
a = 0.0165 [0.0013] AU
Ag = 1.25 [0.85] [0.29 σ]
Teffp = 2766 [467] K [2.28 σ]

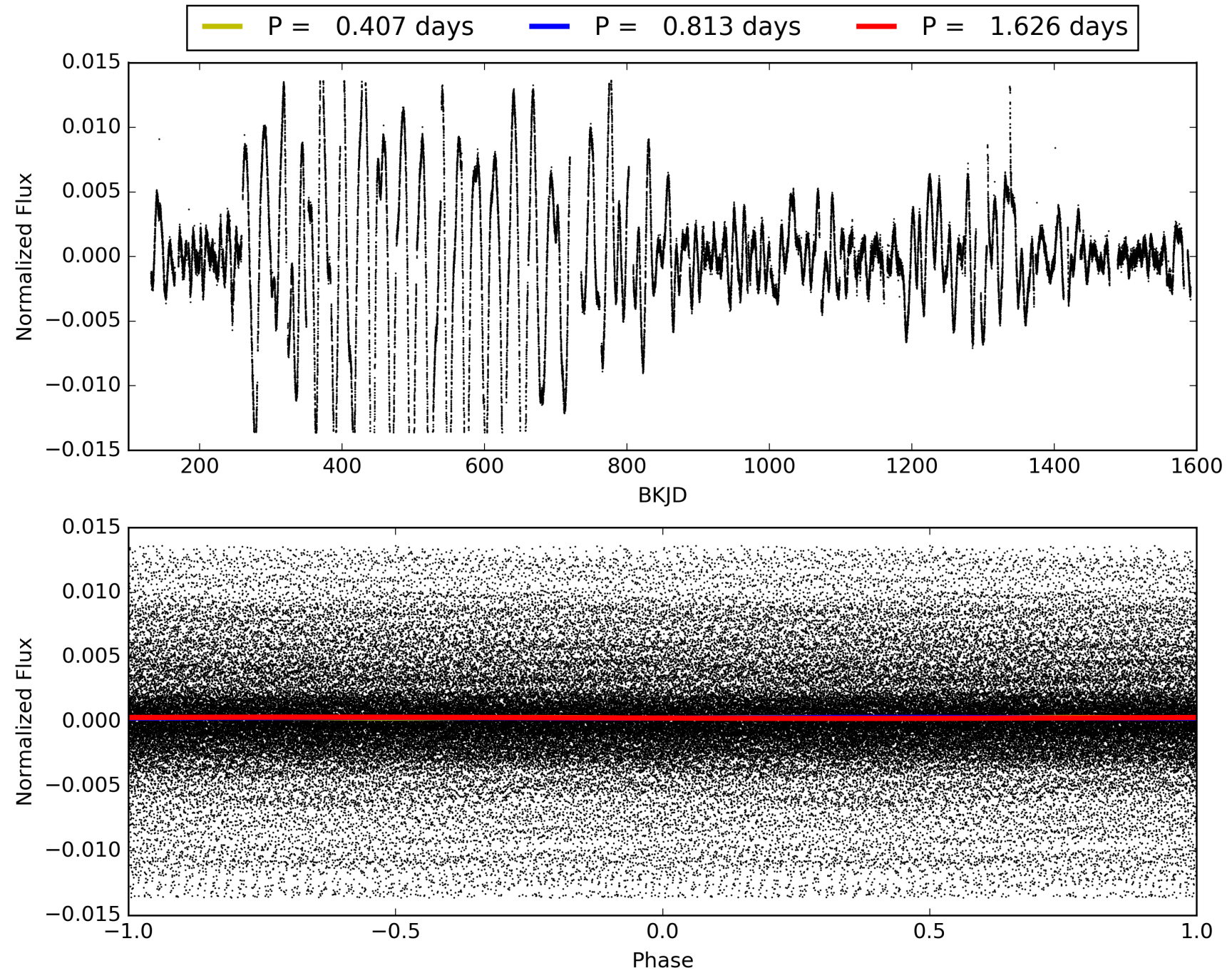
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.10e-217
RollingBand-fgt: 0.76 [1195/1570]
GhostDiagnostic-chr: 4.604
Centroid-sig: 33.8%
Centroid-so: 0.241 arcsec [0.65 σ]
OotOffset-rm: 0.185 arcsec [1.19 σ]
KicOffset-rm: 0.112 arcsec [0.72 σ]
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 004144576-01, PDC Light Curves

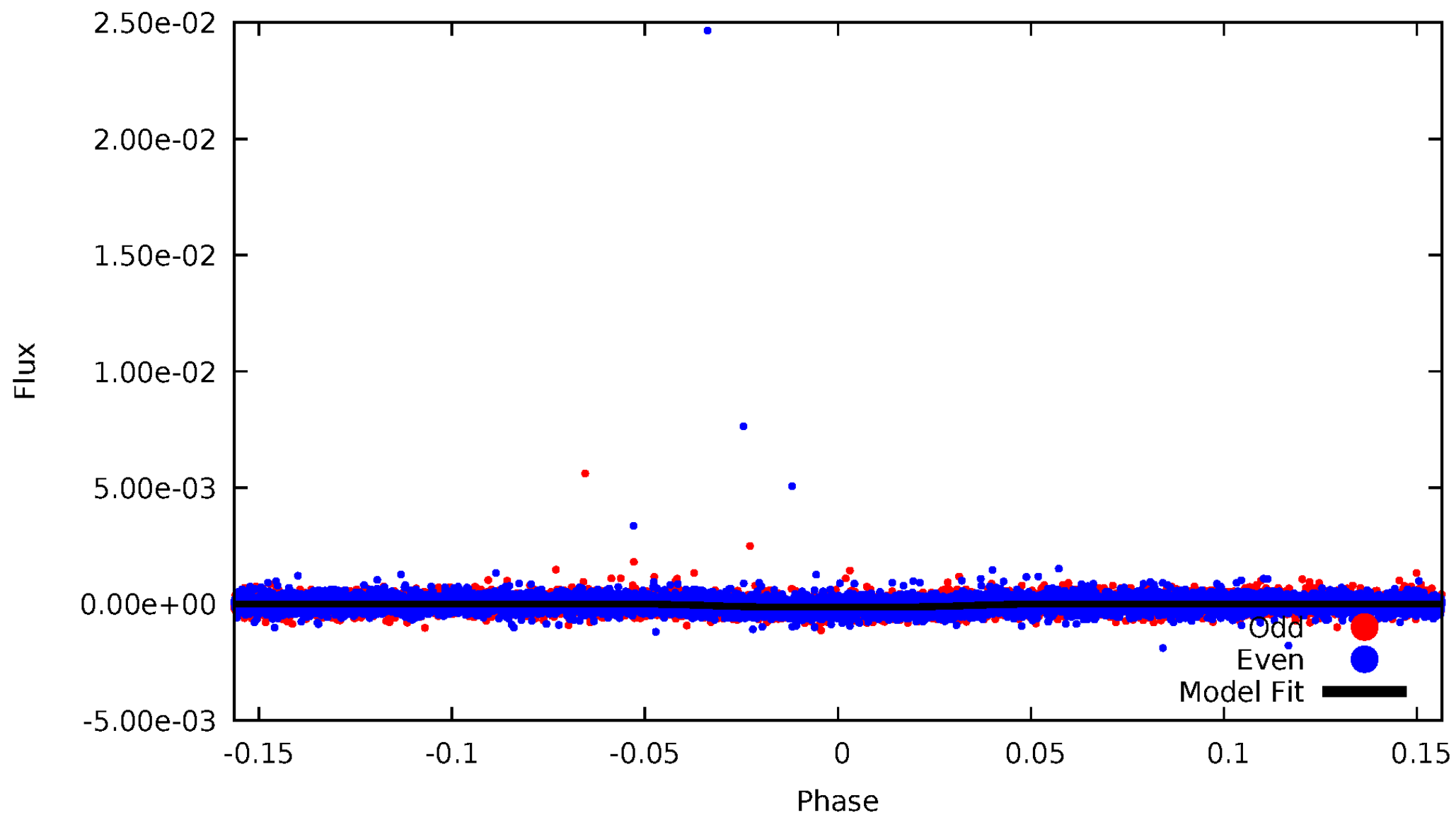


TCE 004144576-01



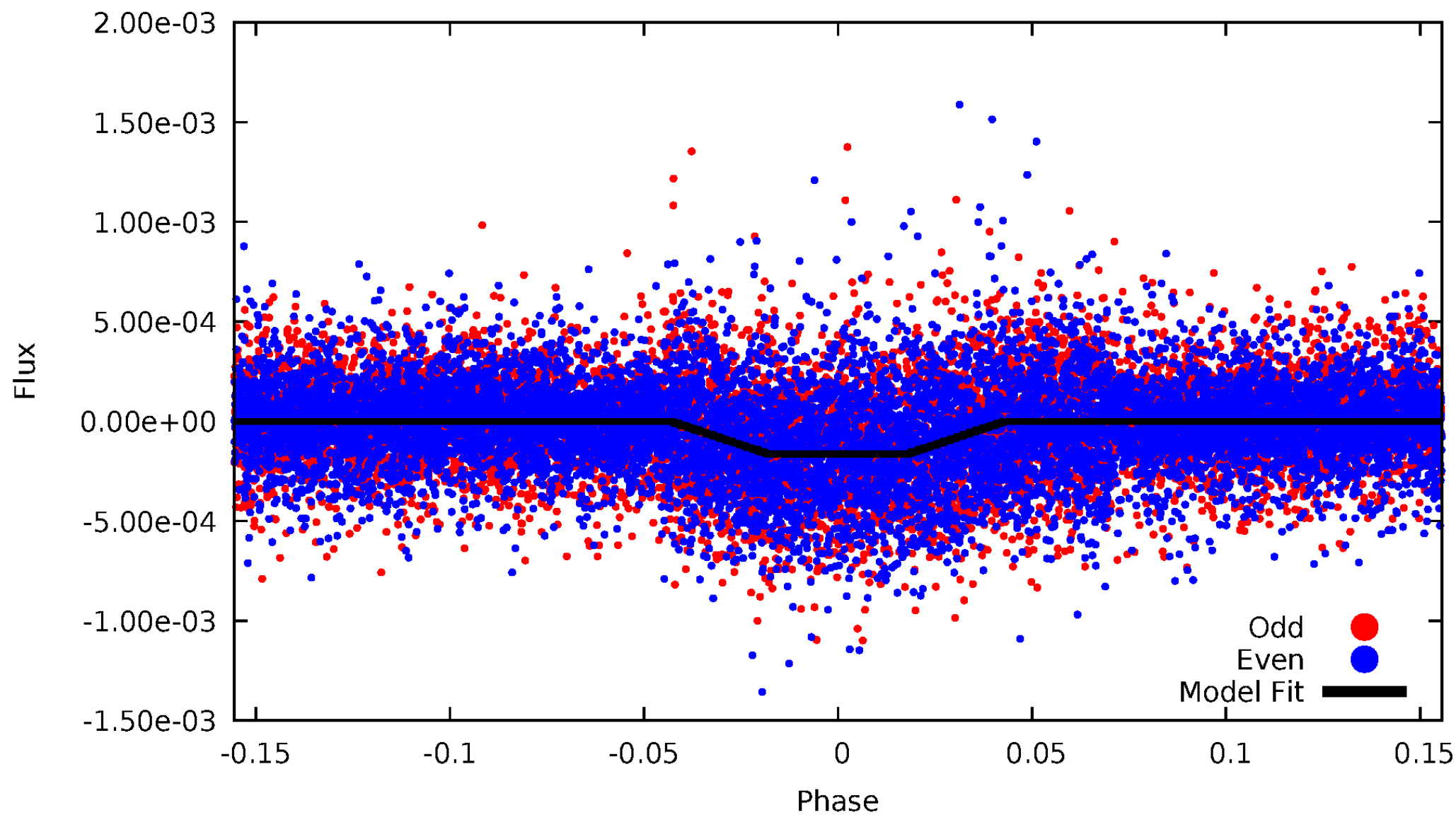
DV Odd/Even

TCE 004144576-01



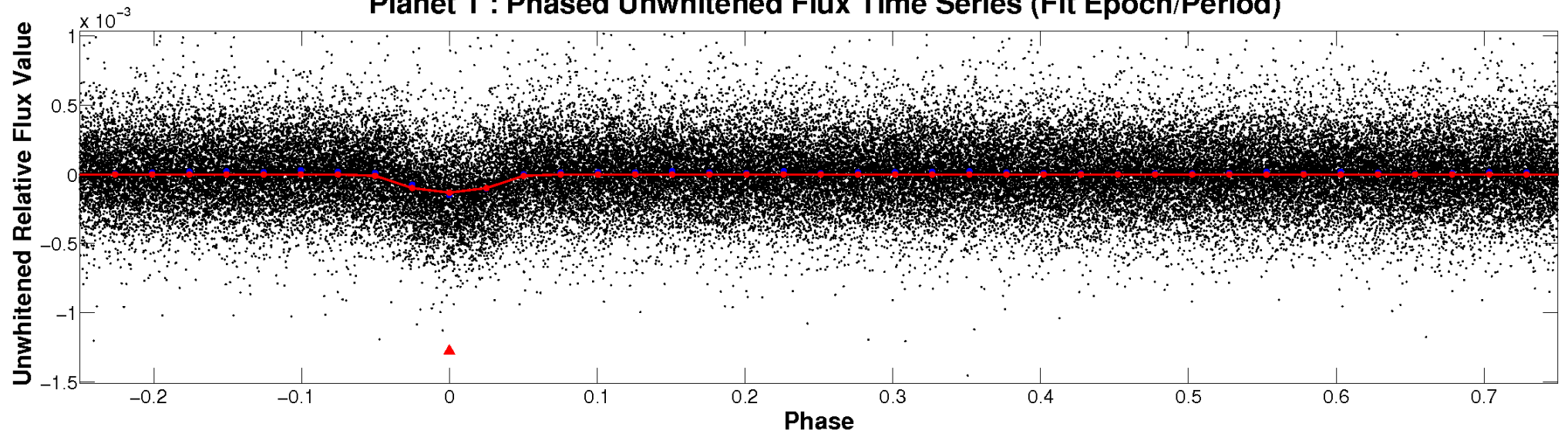
ALT Odd/Even

TCE 004144576-01

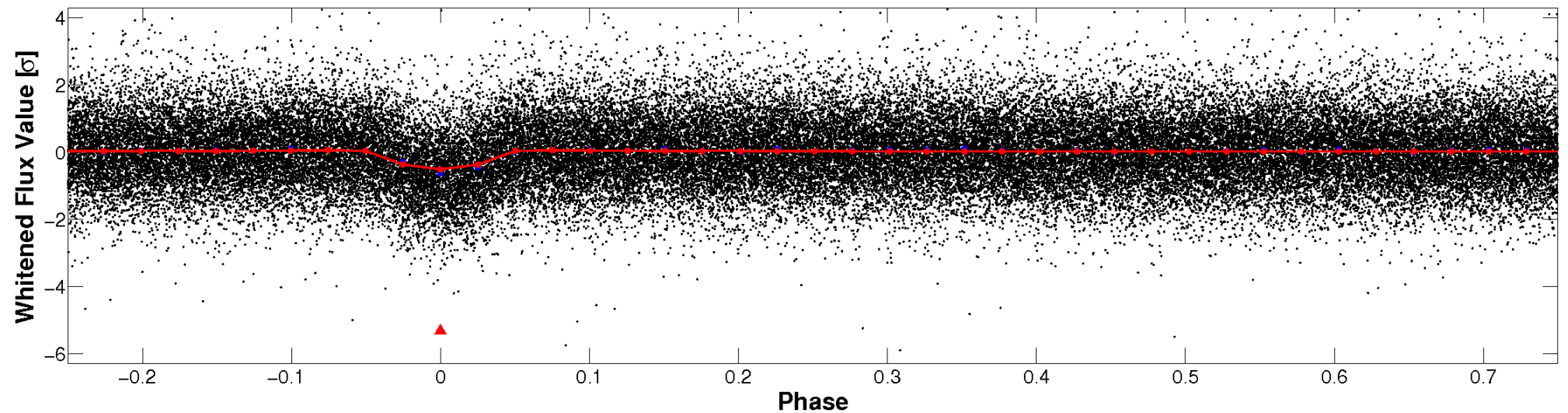


Non-Whitened Vs. Whitened Light Curve

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

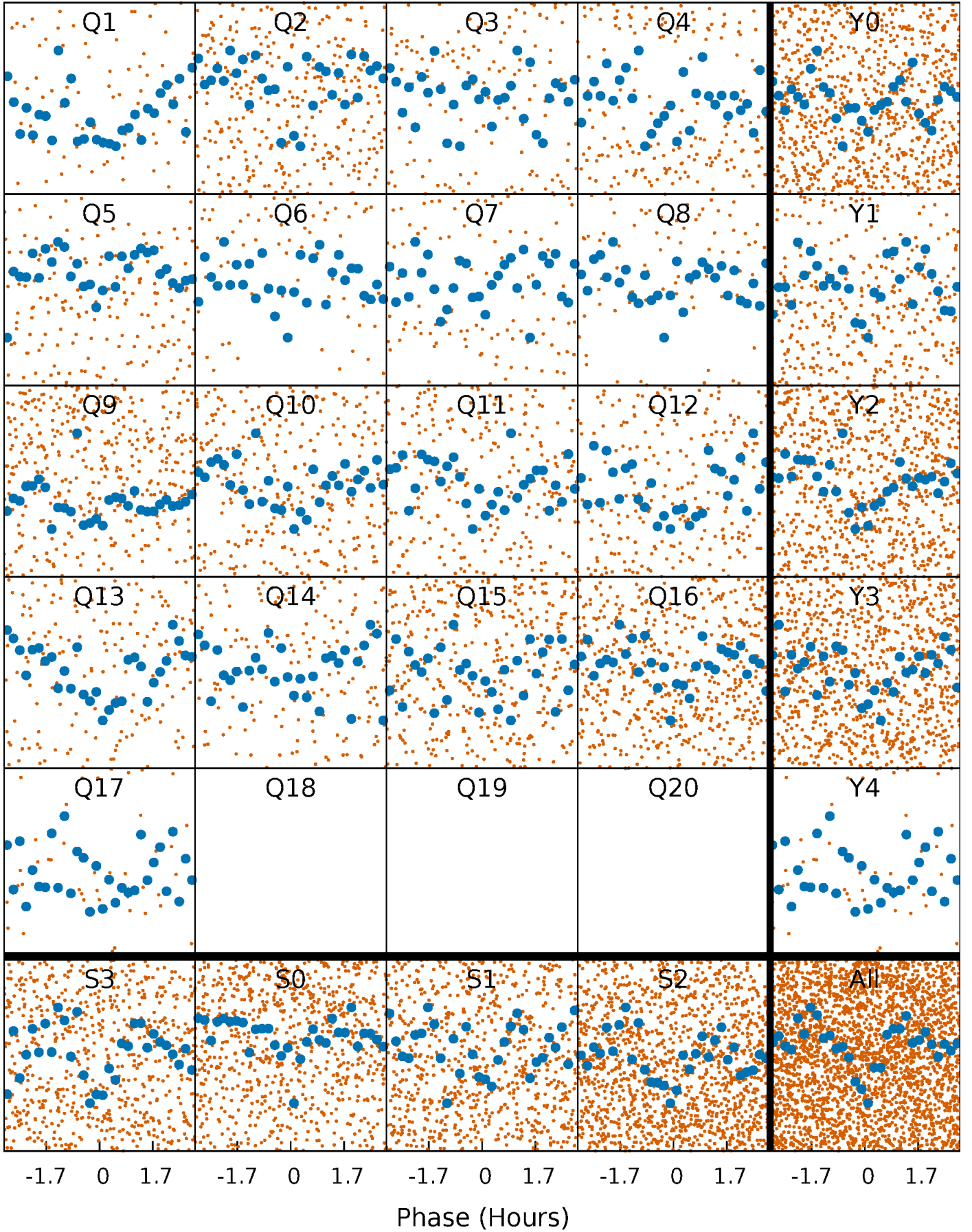


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



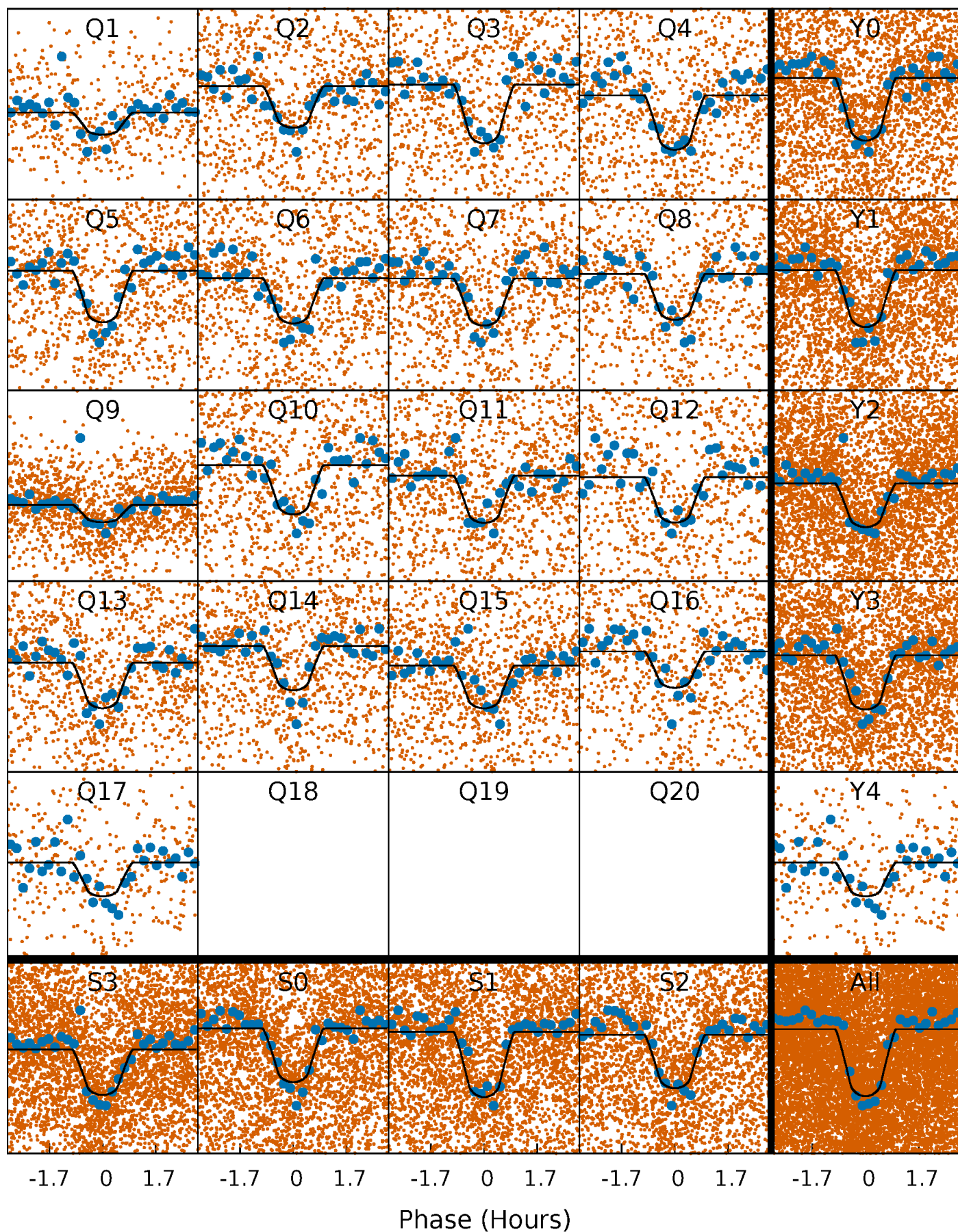
PDC Quarter-Phased Transit Curves

TCE 004144576-01 P= 0.813161 Days $T_0=131.829477$ (BKJD)



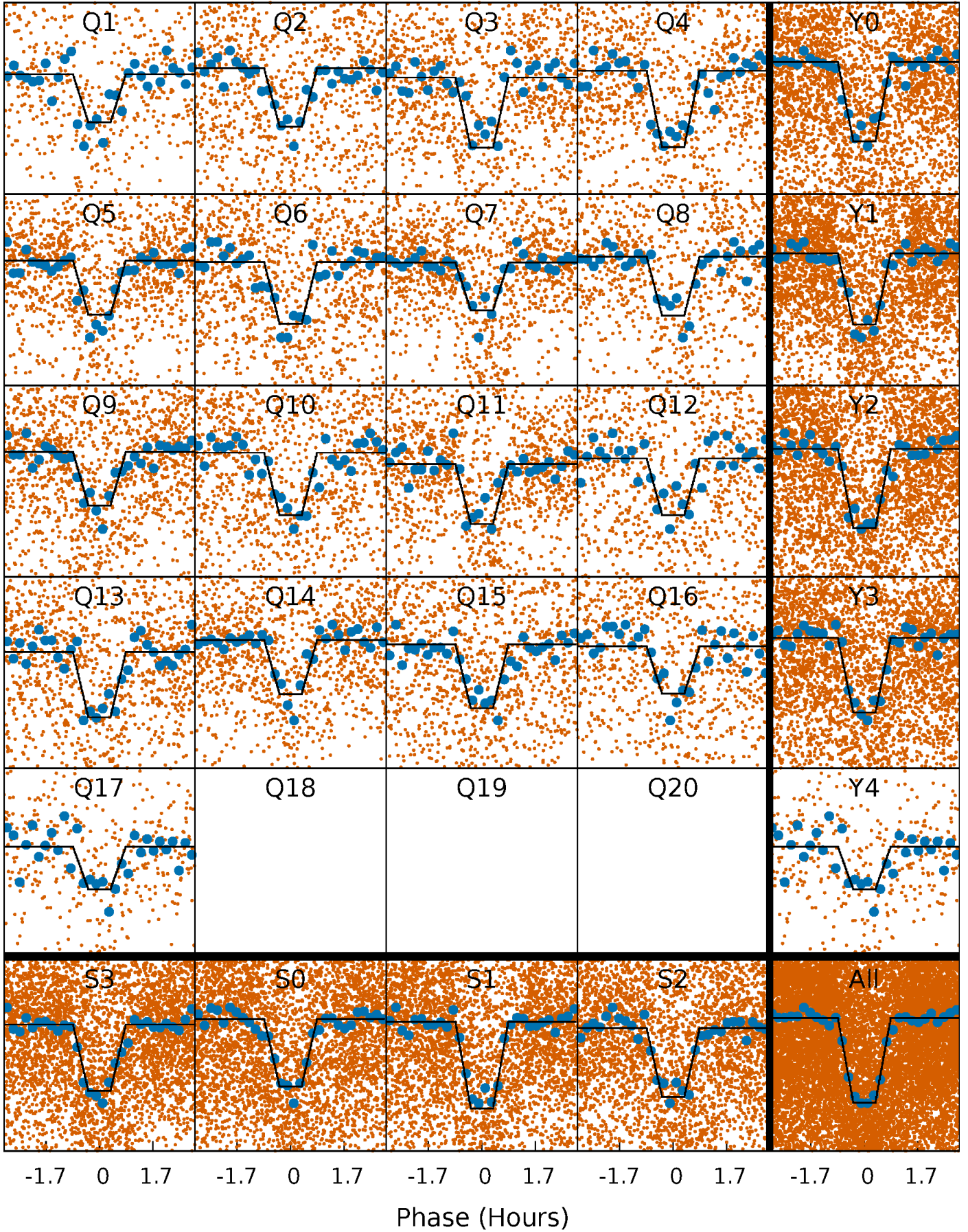
DV Quarter-Phased Transit Curves

TCE 004144576-01 P= 0.813161 Days $T_0=131.829477$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

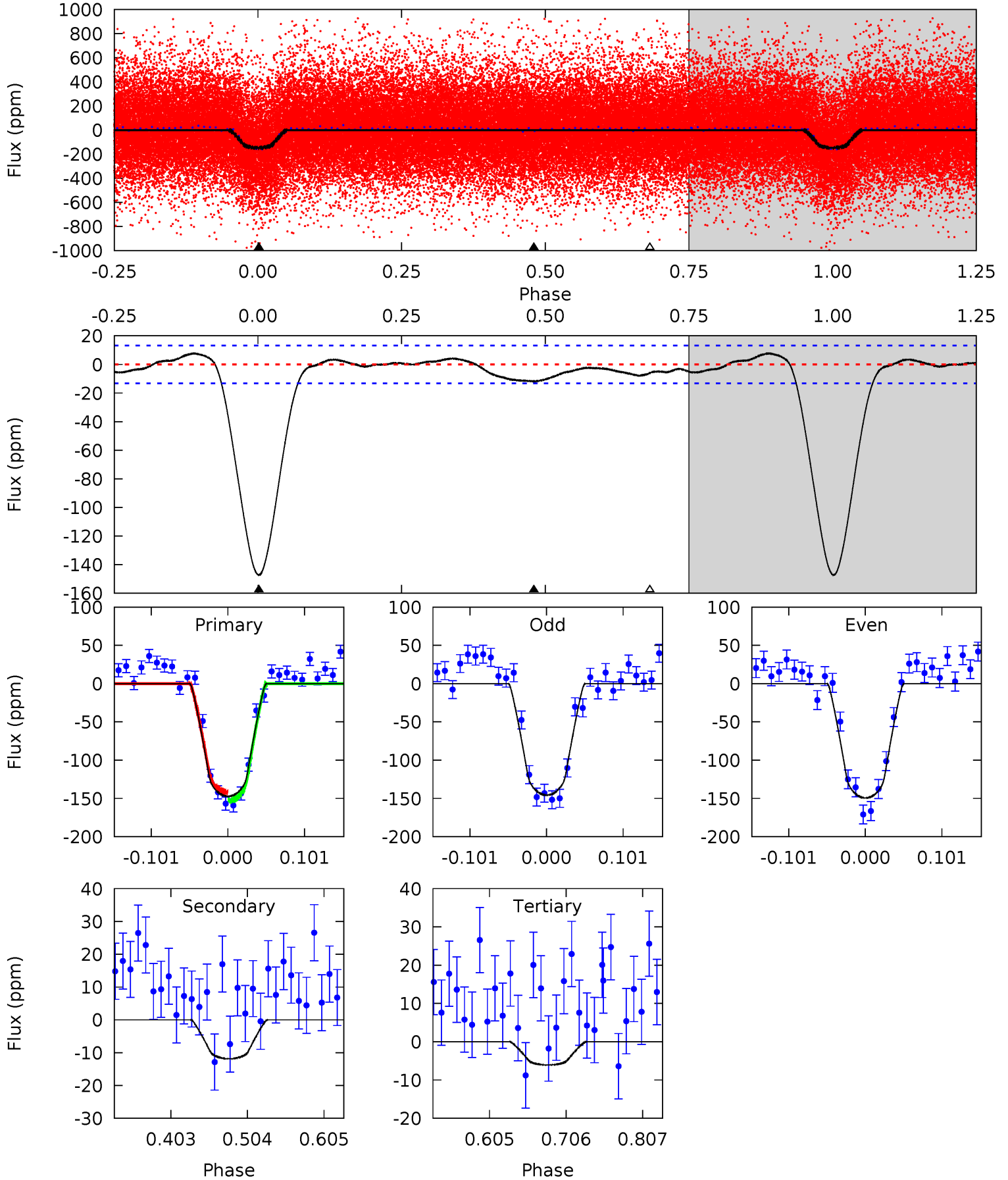
TCE 004144576-01 P= 0.813162 Days $T_0=131.829444$ (BKJD)



DV Model-Shift Uniqueness Test

004144576-01, P = 0.813161 Days, E = 131.016316 Days

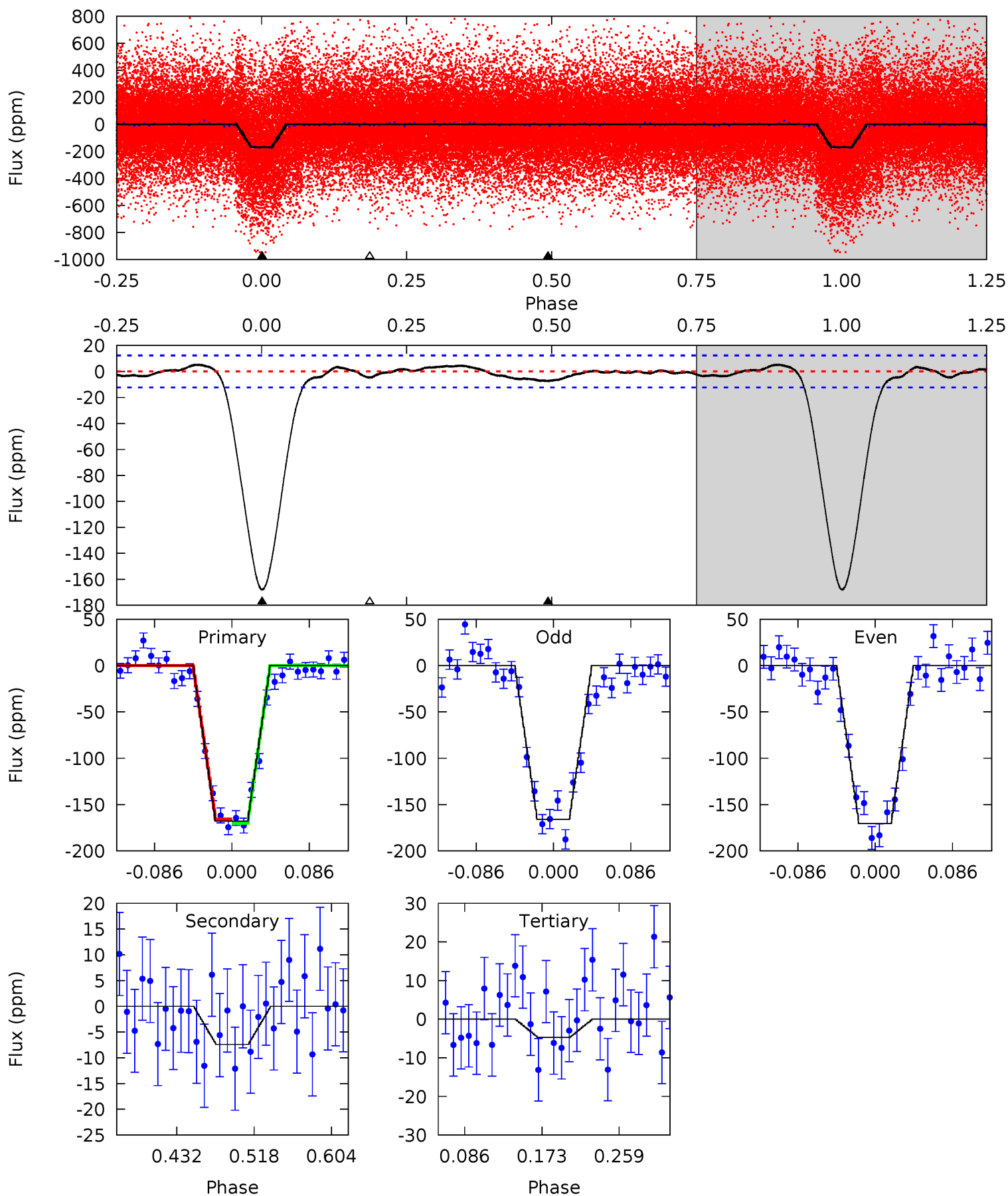
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.7	4.09	2.09	0	4.56	1.64	1.30	48.6	50.7	1.99	4.09	0.62	0.93	0.05	1.89



Alt Model-Shift Uniqueness Test

004144576-01, P = 0.813162 Days, E = 131.016282 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.9	2.77	1.75	0	4.60	1.72	0.94	61.1	62.9	1.02	2.77	0.86	0.99	0.03	0.83



Stellar Parameters For KIC 004144576

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5237^{+73}_{-84}	$4.500^{+0.048}_{-0.072}$	$0.300^{+0.150}_{-0.150}$	$0.887^{+0.073}_{-0.049}$	$0.907^{+0.035}_{-0.043}$	$1.830^{+0.327}_{-0.400}$
	+1%/-2%	+1%/-2%	+50%/-50%	+8%/-6%	+4%/-5%	+18%/-22%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004144576-01 / KOI 2202.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 3	$1.23^{+0.37}_{-0.35}$	2368^{+64}_{-54}	3114^{+442}_{-367}	$1.149^{+1.142}_{-0.506}$
Alt.	-7 ± 3	$1.21^{+0.39}_{-0.35}$	2370^{+62}_{-56}	2851^{+452}_{-651}	$0.751^{+0.788}_{-0.399}$

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

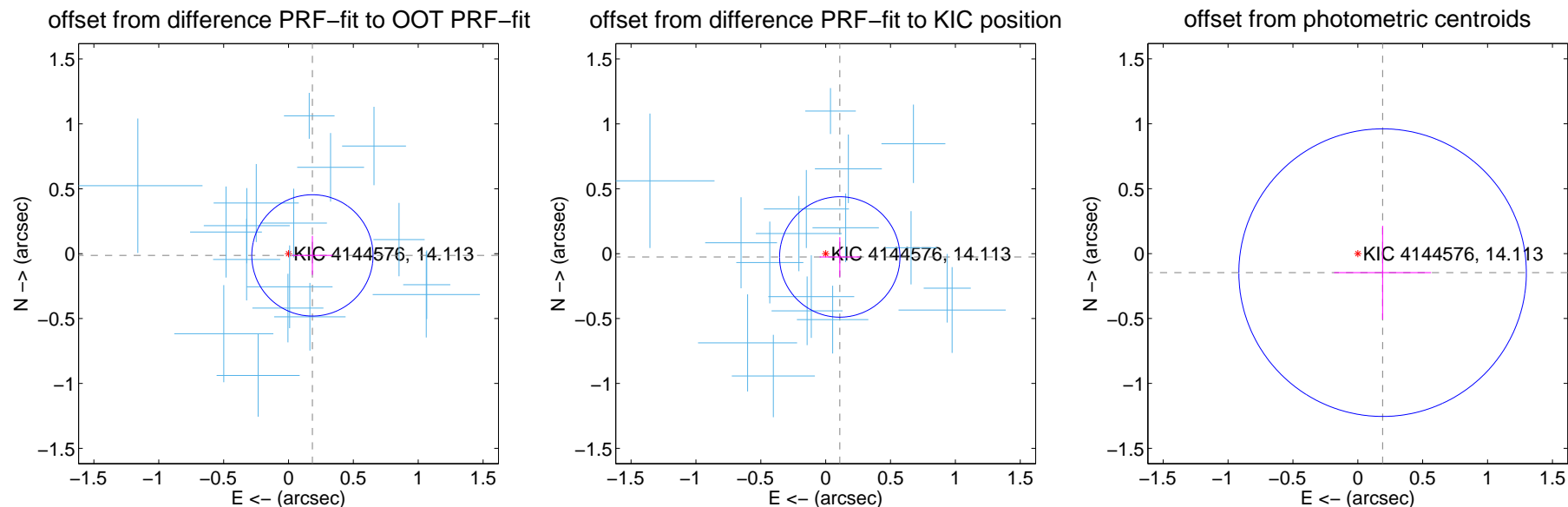
DV Centroid Data

Supplemental centroid analysis for 004144576-01. Kepler magnitude: 14.11. Transit SNR 30.57

There are 17 quarters with good PRF difference image offsets

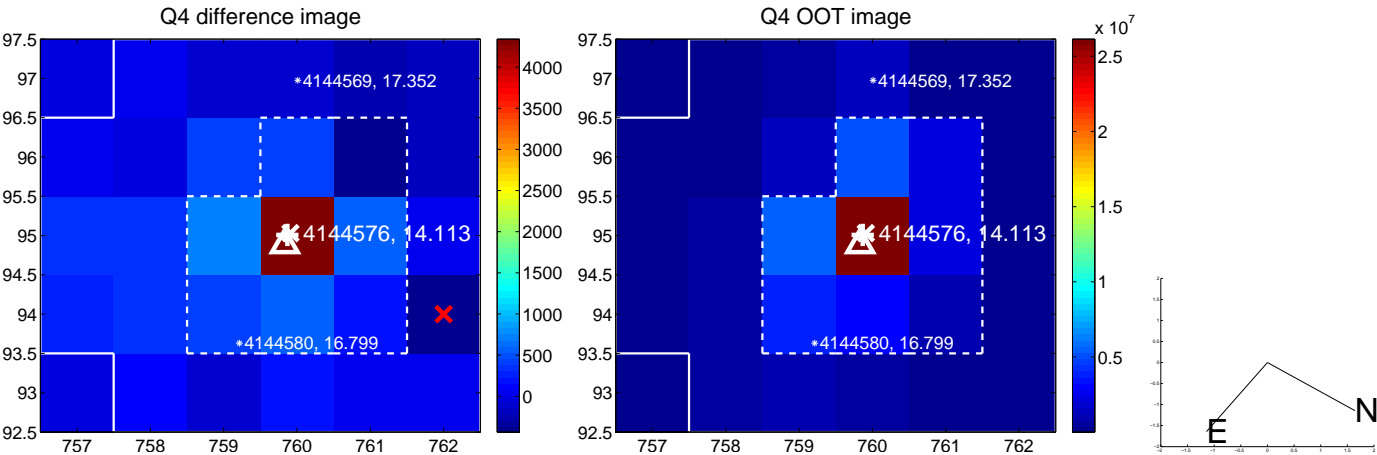
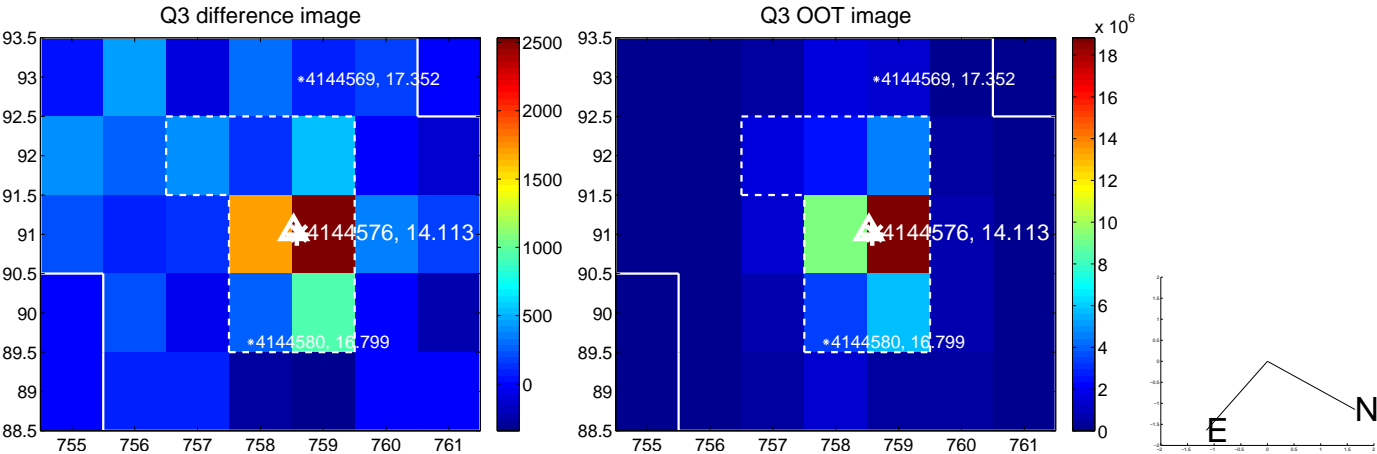
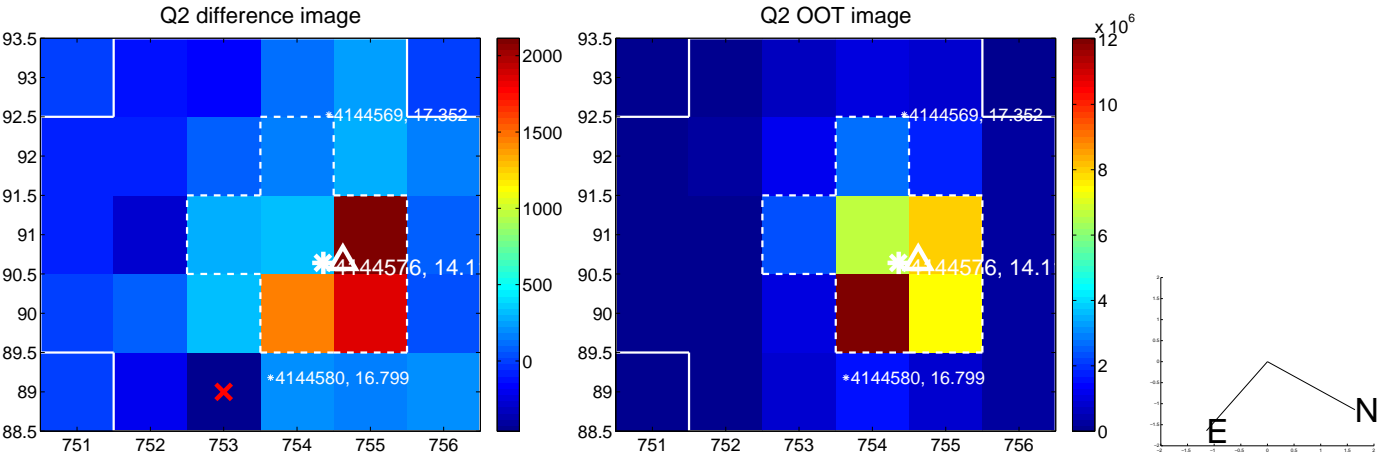
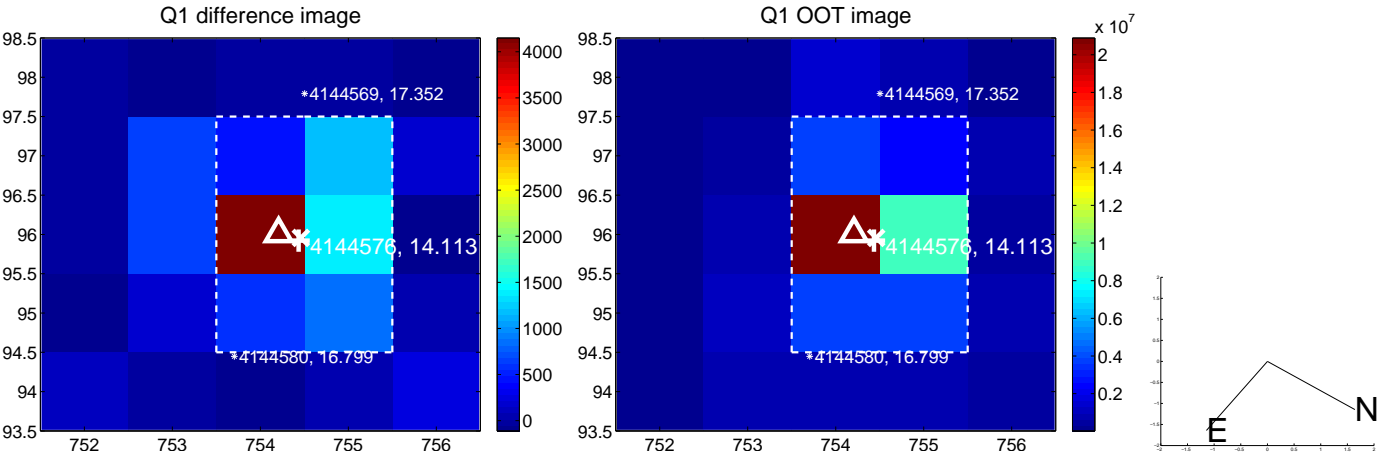
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.156	1.19	-0.184 ± 0.156	-0.013 ± 0.150
PRF-fit source offset from KIC position	0.112 ± 0.155	0.72	-0.109 ± 0.155	-0.025 ± 0.152
photometric centroid source offset	0.24 ± 0.37	0.65	-0.19 ± 0.37	-0.15 ± 0.36

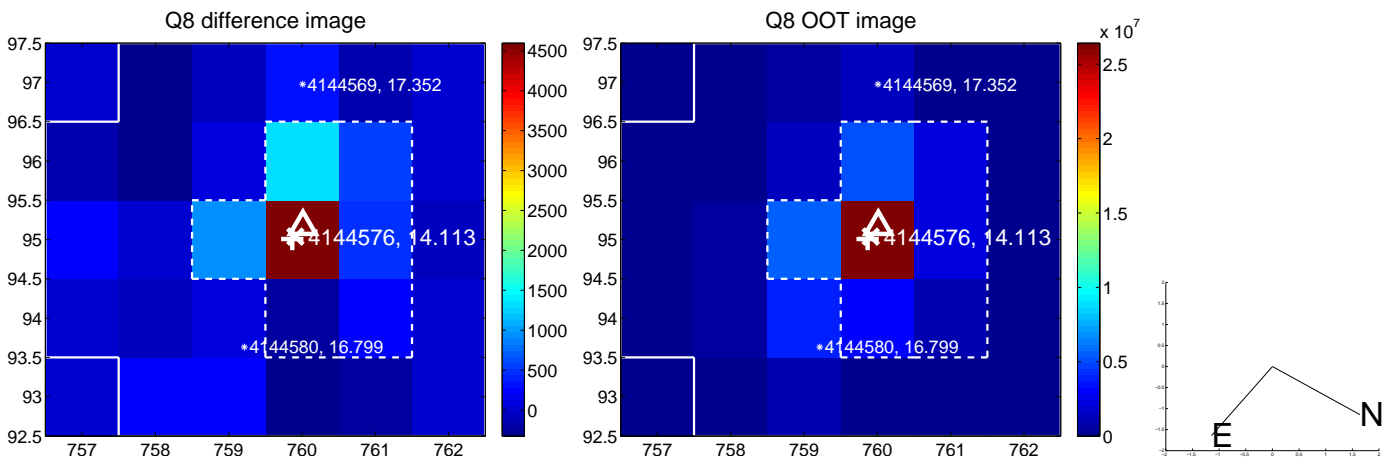
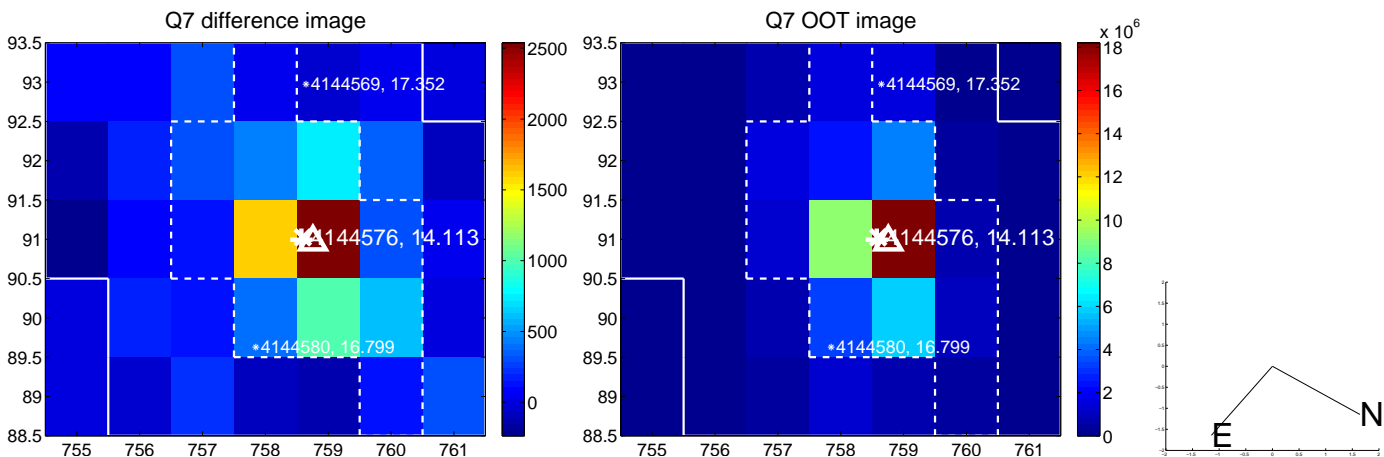
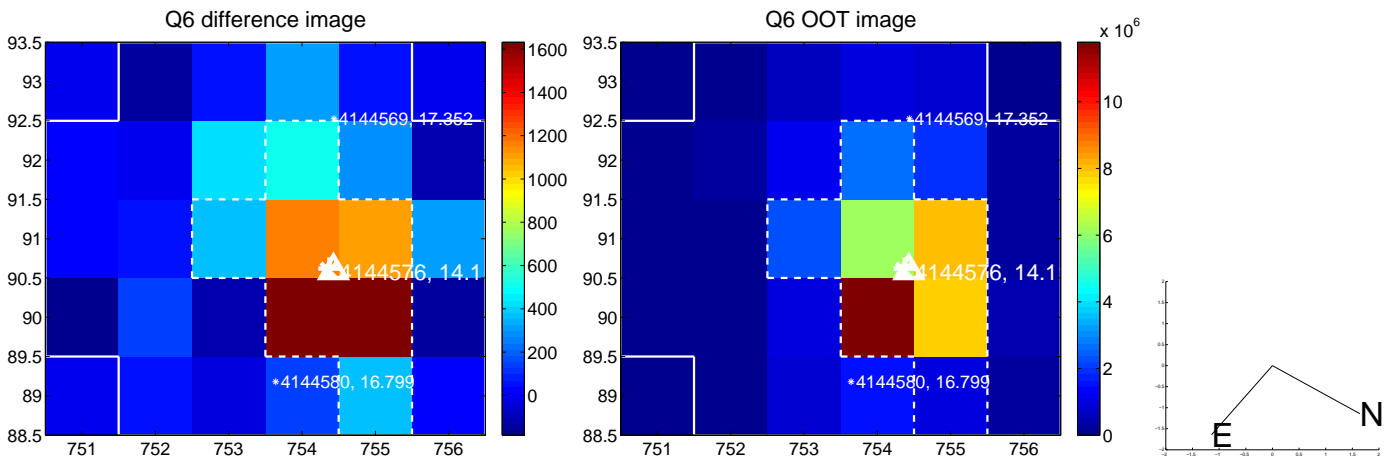
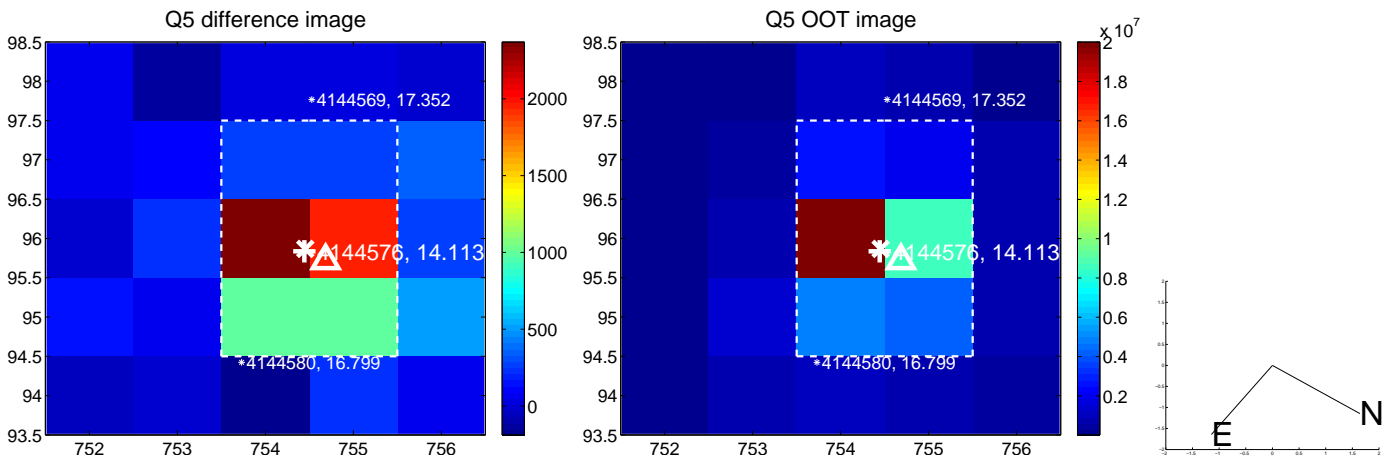


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

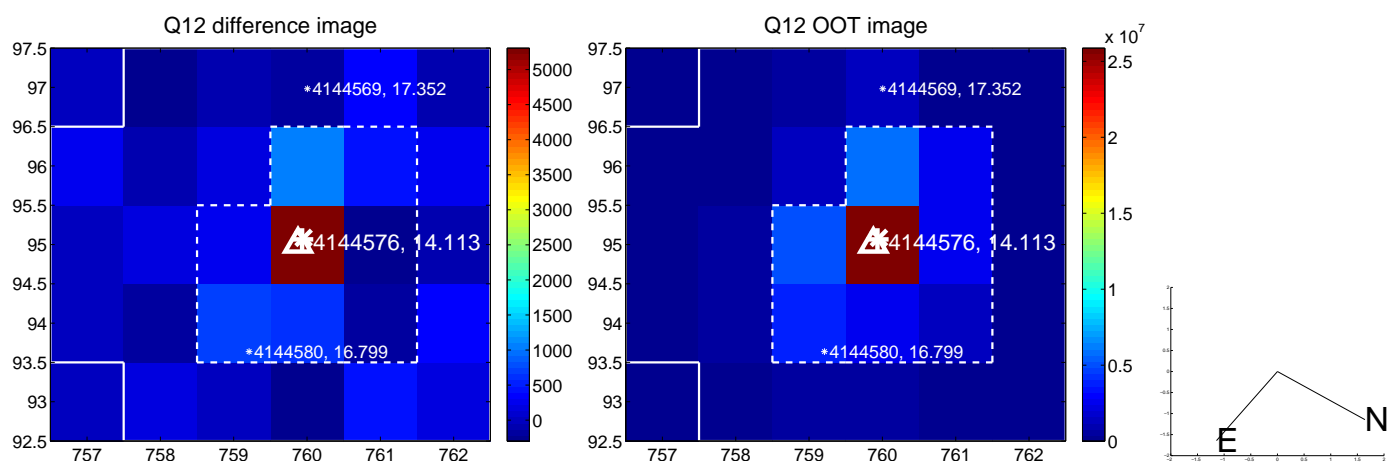
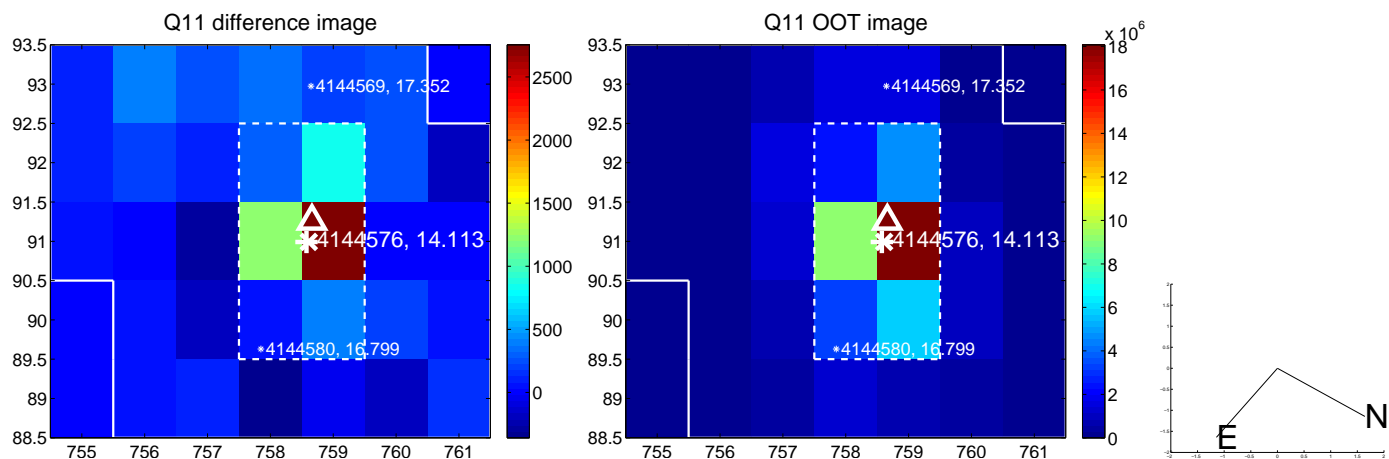
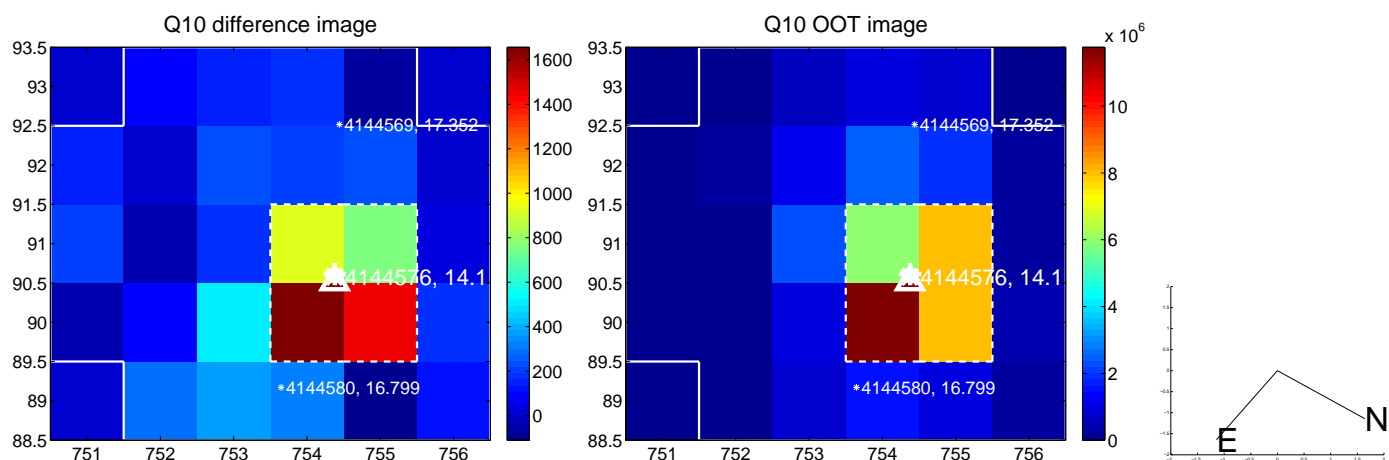
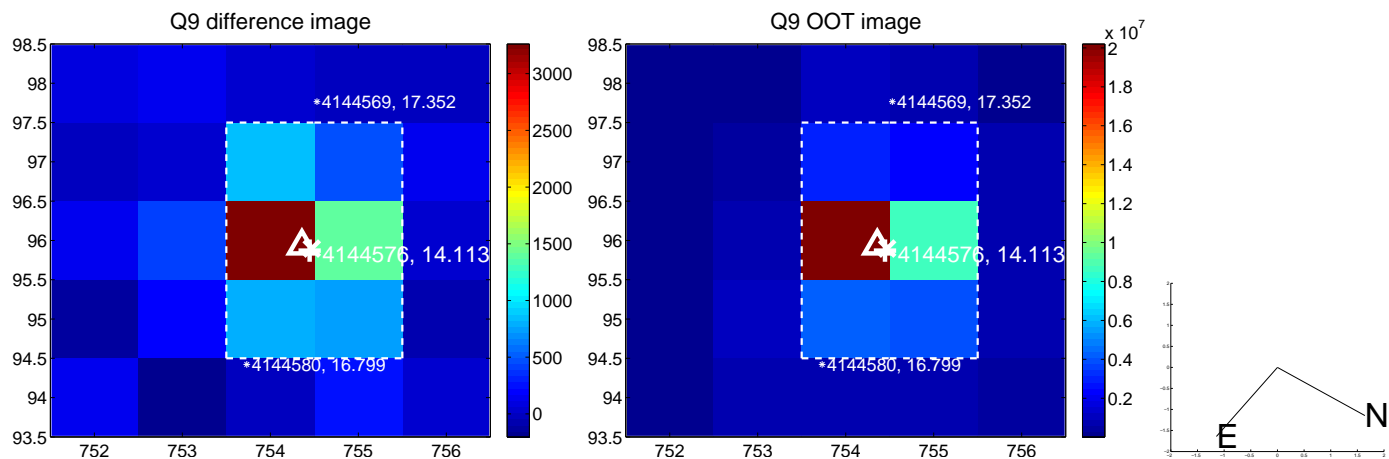
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



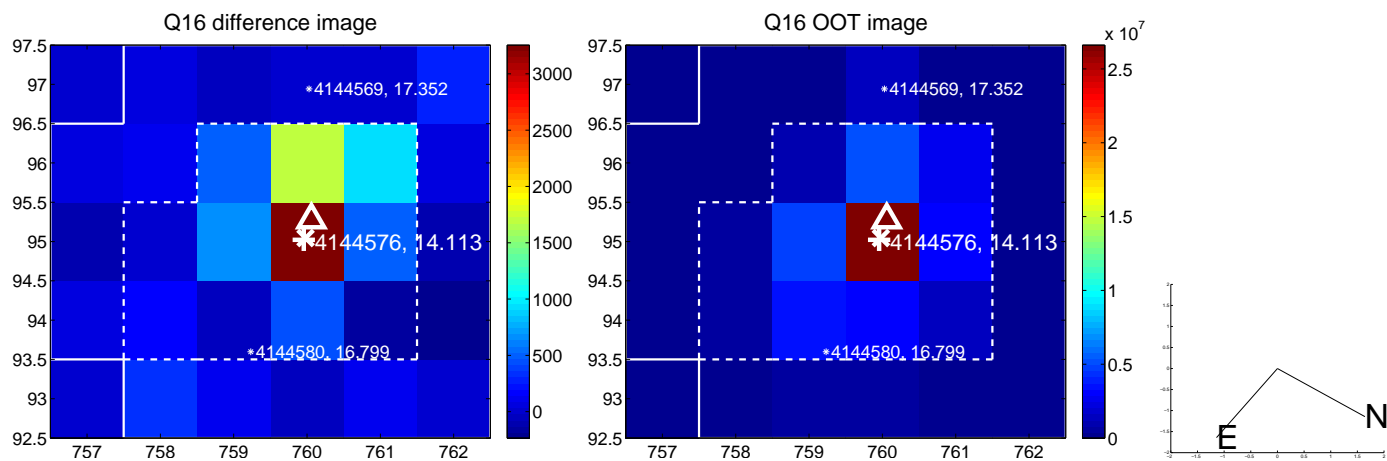
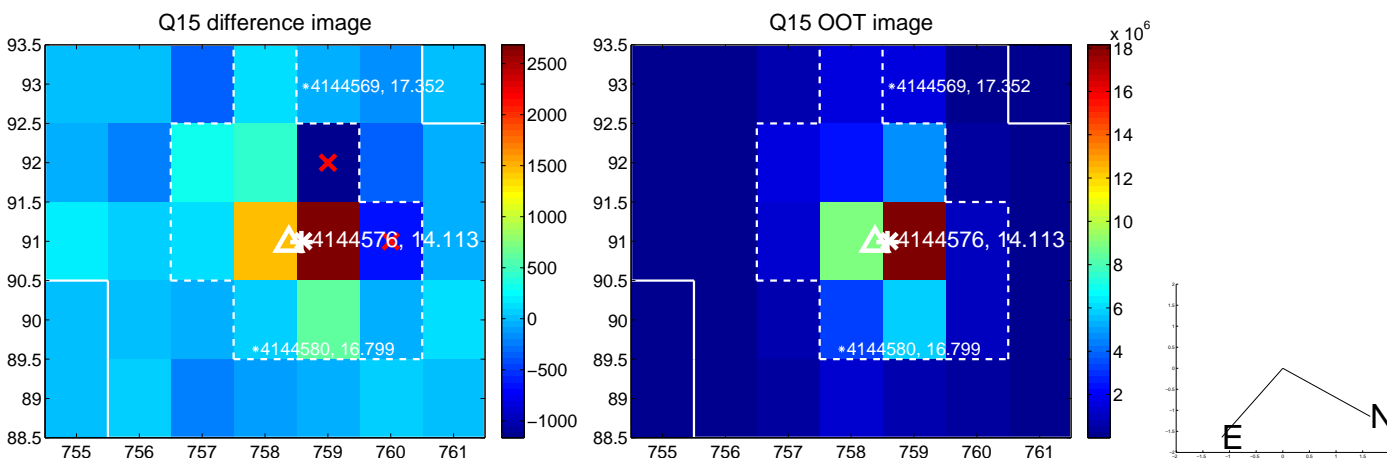
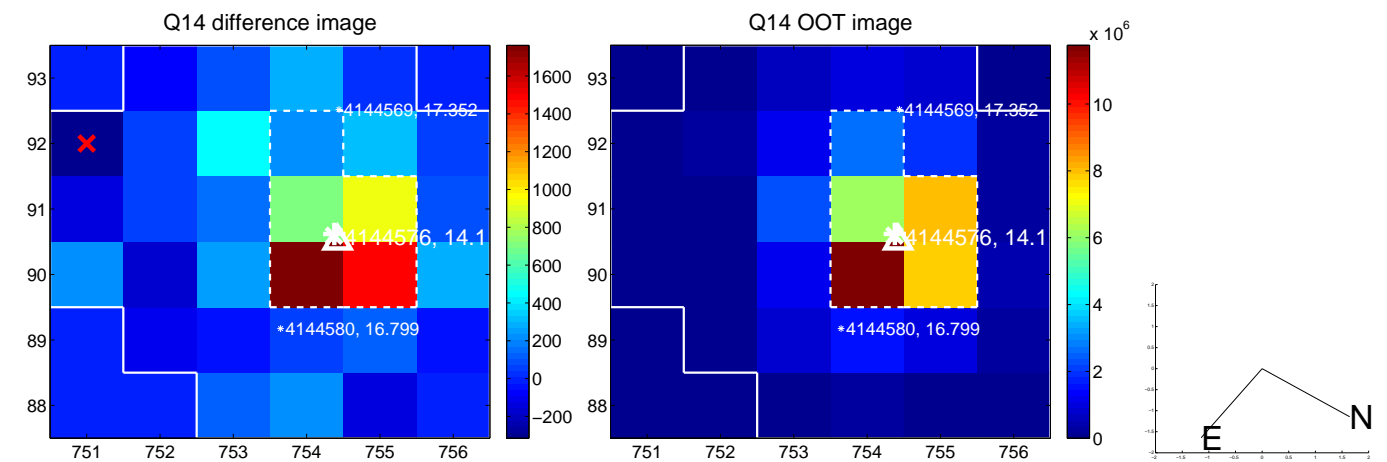
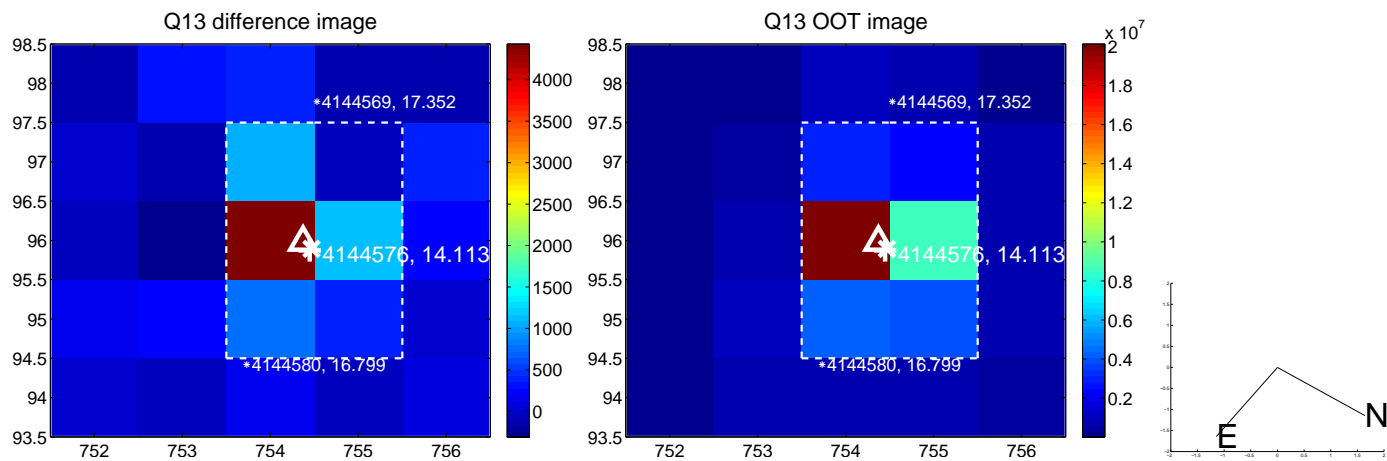
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



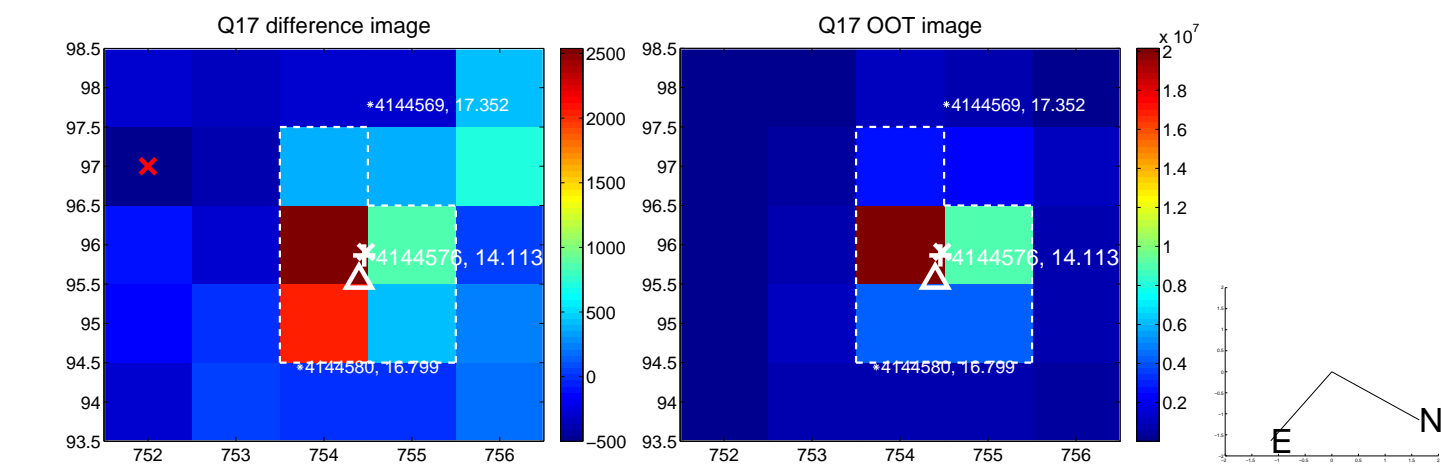
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



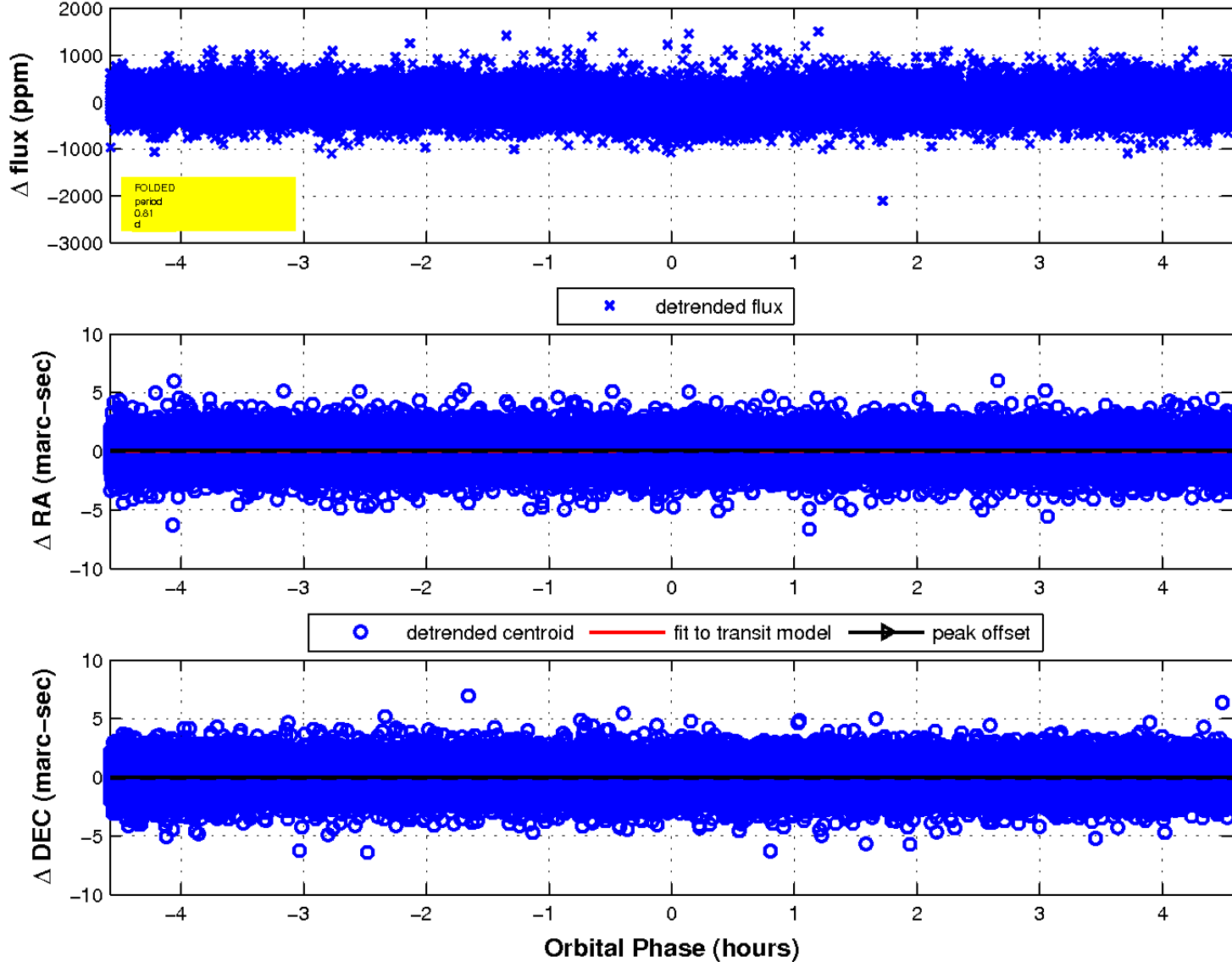
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

