

KIC 003745559

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})
003745559-01	OBS	3423.01	30.254091	136.638302	558.2	2.327	18.6	21.0	1.16	6277	3.25	44.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003745559-01	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.

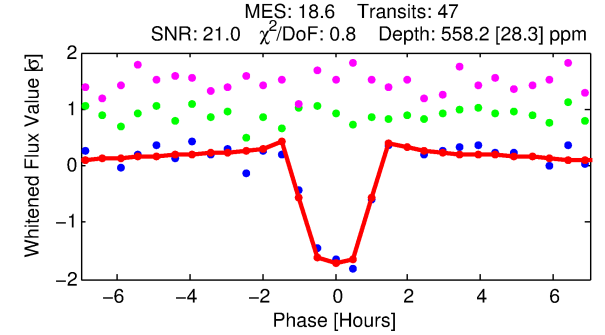
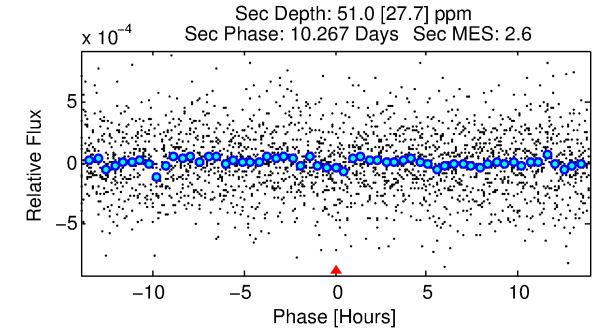
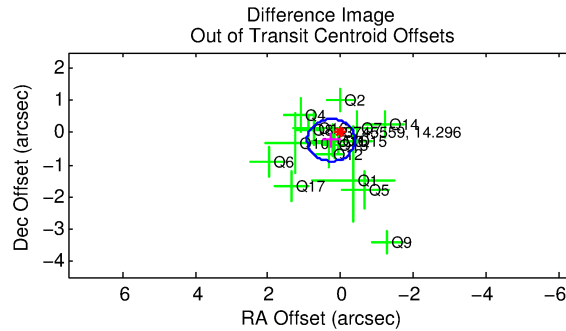
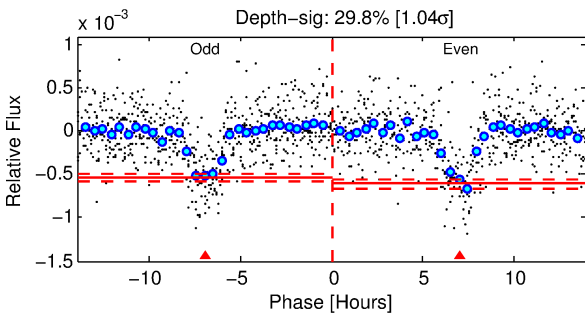
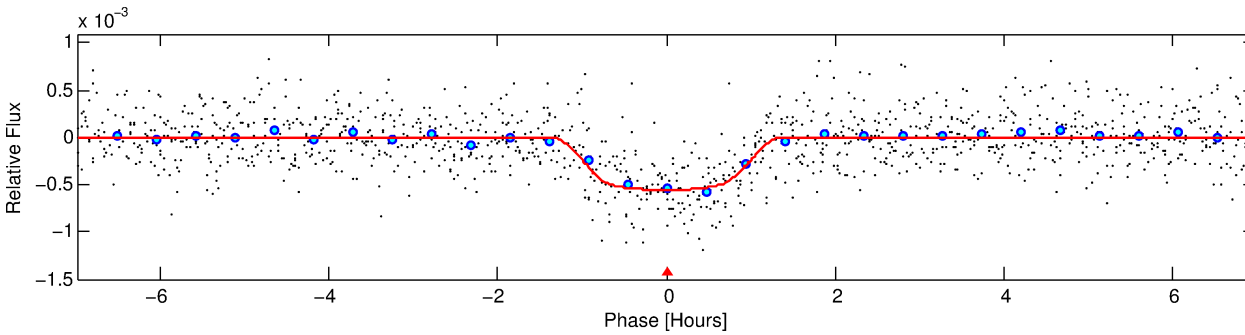
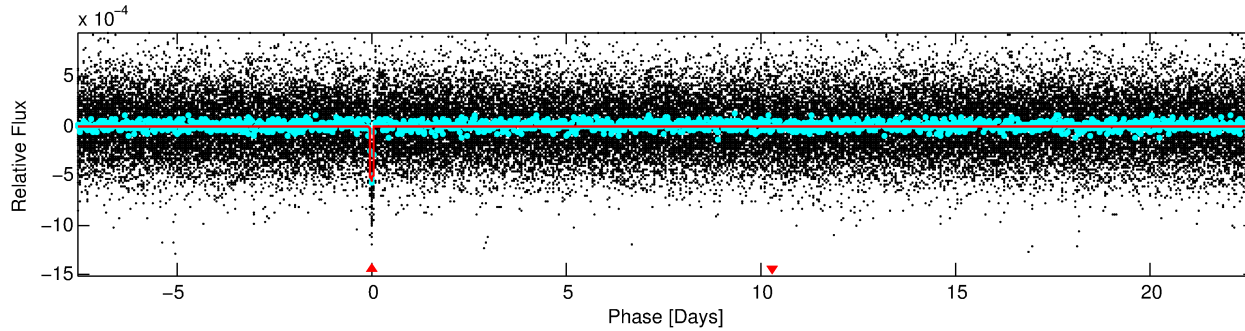
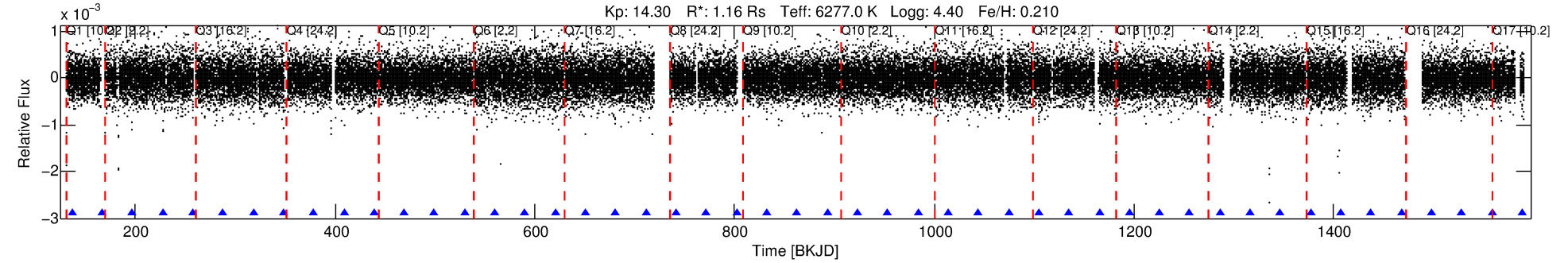
Ephemeris Match Information For 003745559-01

No Significant Match Found

DV One-Page Summary

KIC: 3745559 Candidate: 1 of 1 Period: 30.254 d

KOI: K03423.01 Corr: 0.948



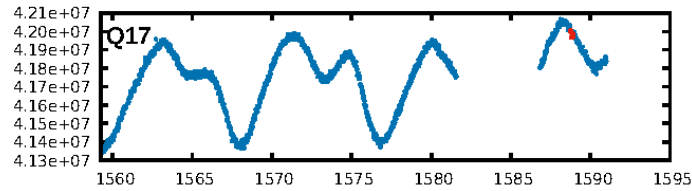
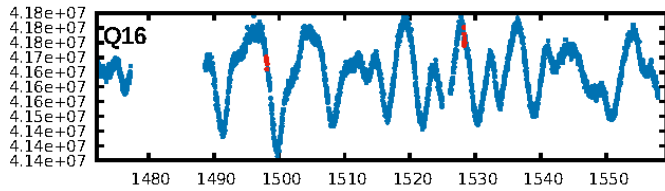
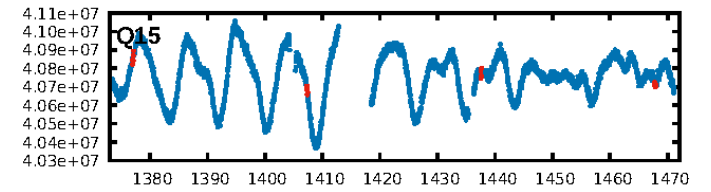
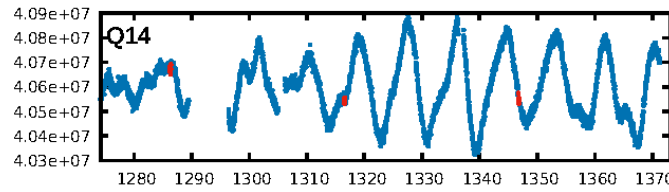
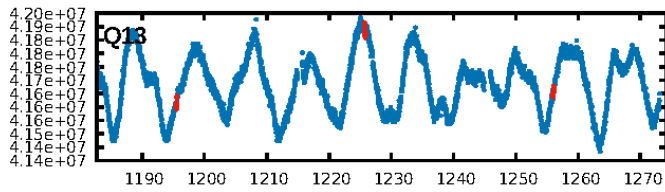
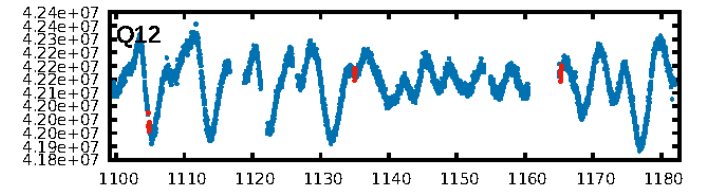
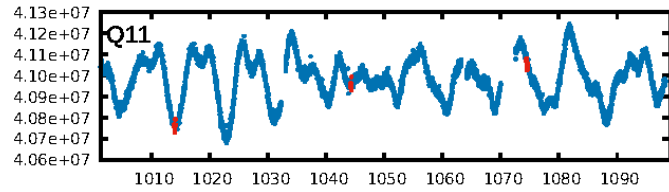
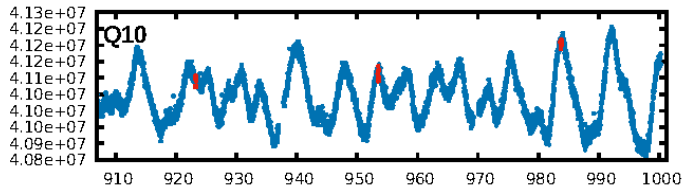
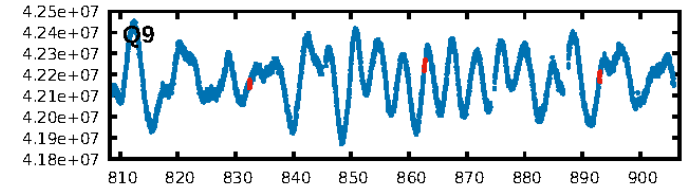
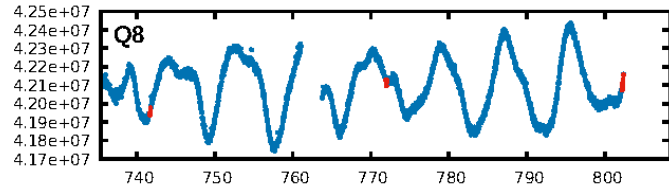
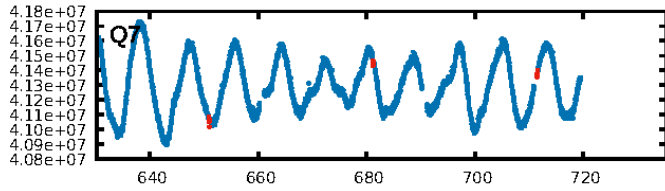
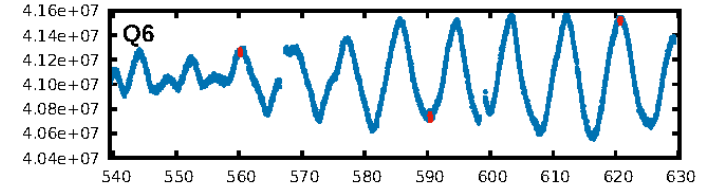
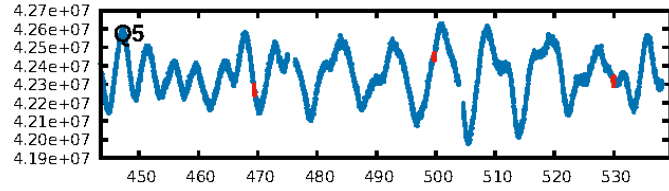
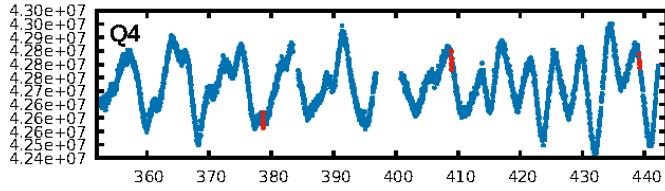
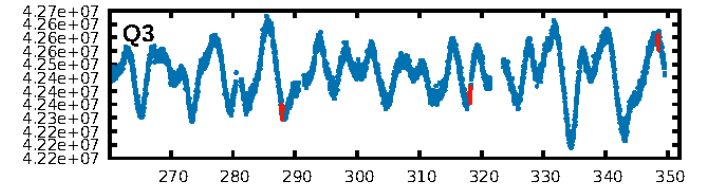
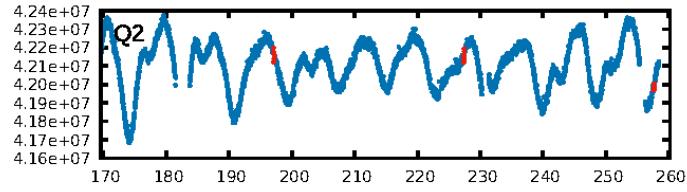
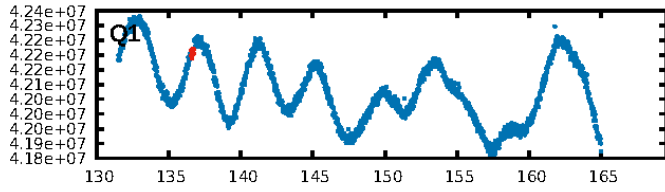
DV Fit Results:

Period = 30.25409 [0.00008] d
Epoch = 136.6383 [0.0024] BKJD
Rp/R* = 0.0257 [0.0031]
a/R* = 47.74 [28.27]
b = 0.91 [0.12]
Seff = 44.95 [19.52]
Teff = 660 [72] K
Rp = 3.25 [1.19] Re
a = 0.2042 [0.0586] AU
Ag = 110.51 [80.13] [1.37 σ]
Teffp = 3310 [505] K [5.20 σ]

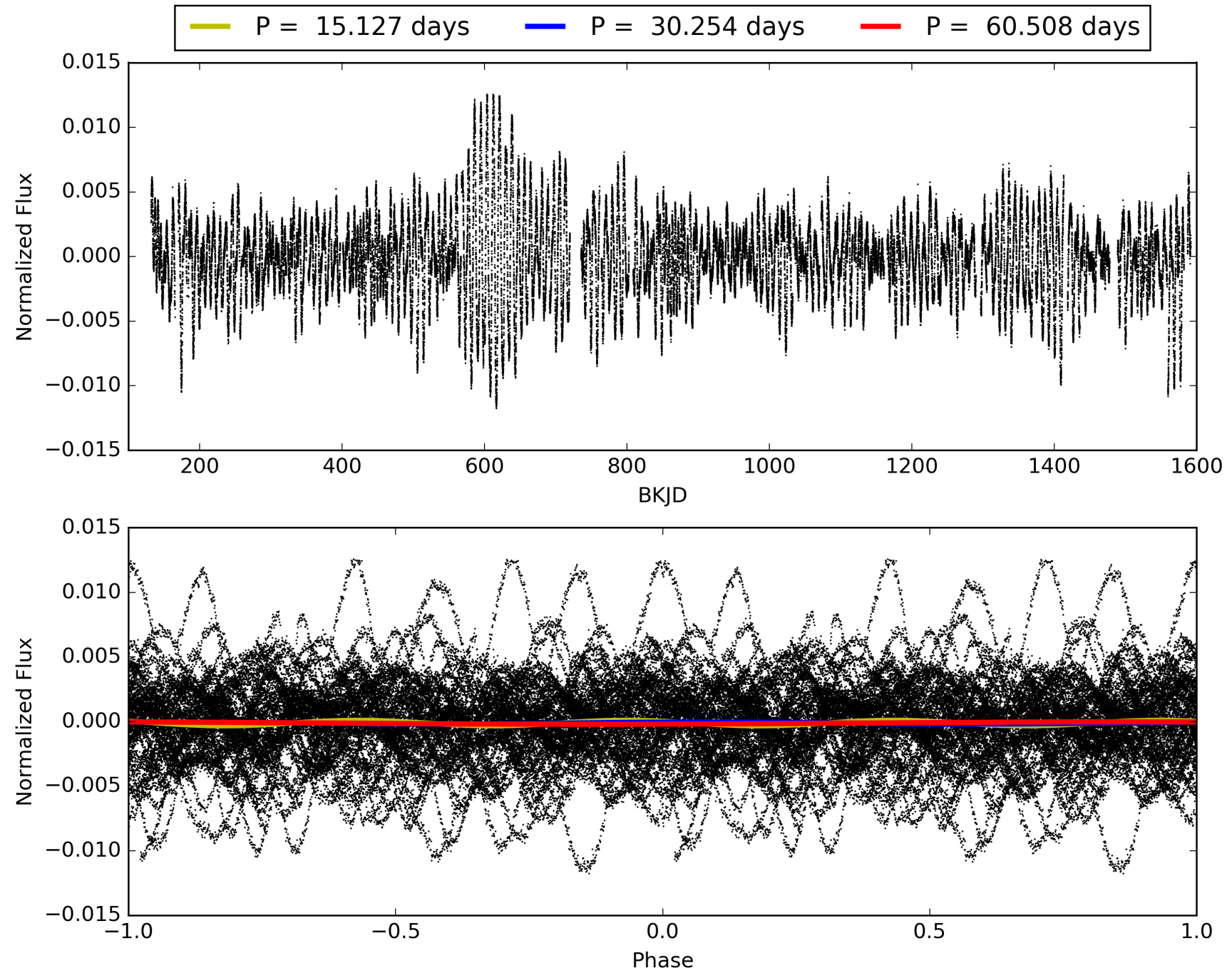
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 89.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.21e-71
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 9.519
Centroid-sig: 0.1%
Centroid-so: 1.474 arcsec [2.30 σ]
OotOffset-rm: 0.355 arcsec [1.62 σ]
KicOffset-rm: 0.330 arcsec [1.47 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 003745559-01, PDC Light Curves

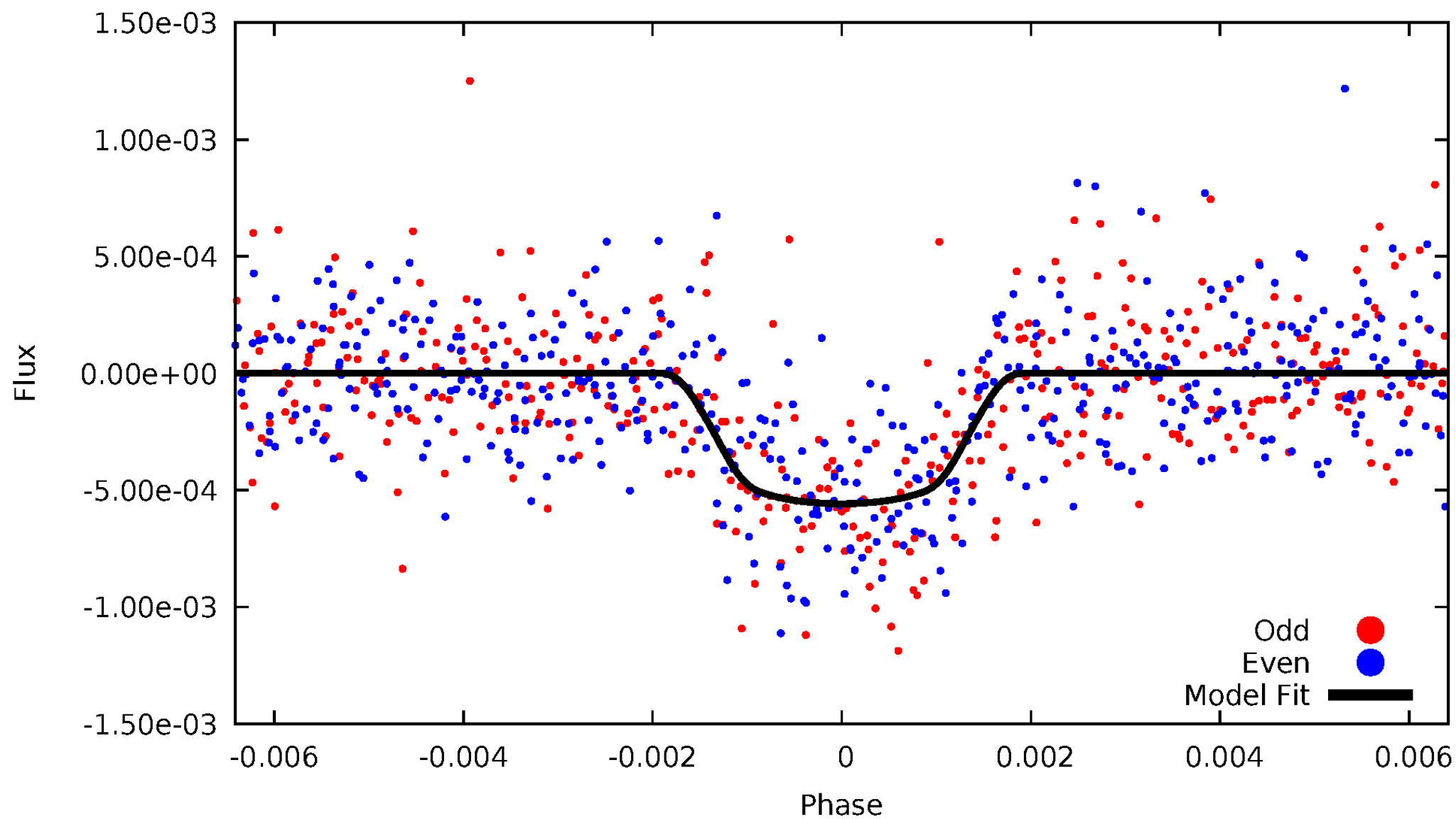


TCE 003745559-01



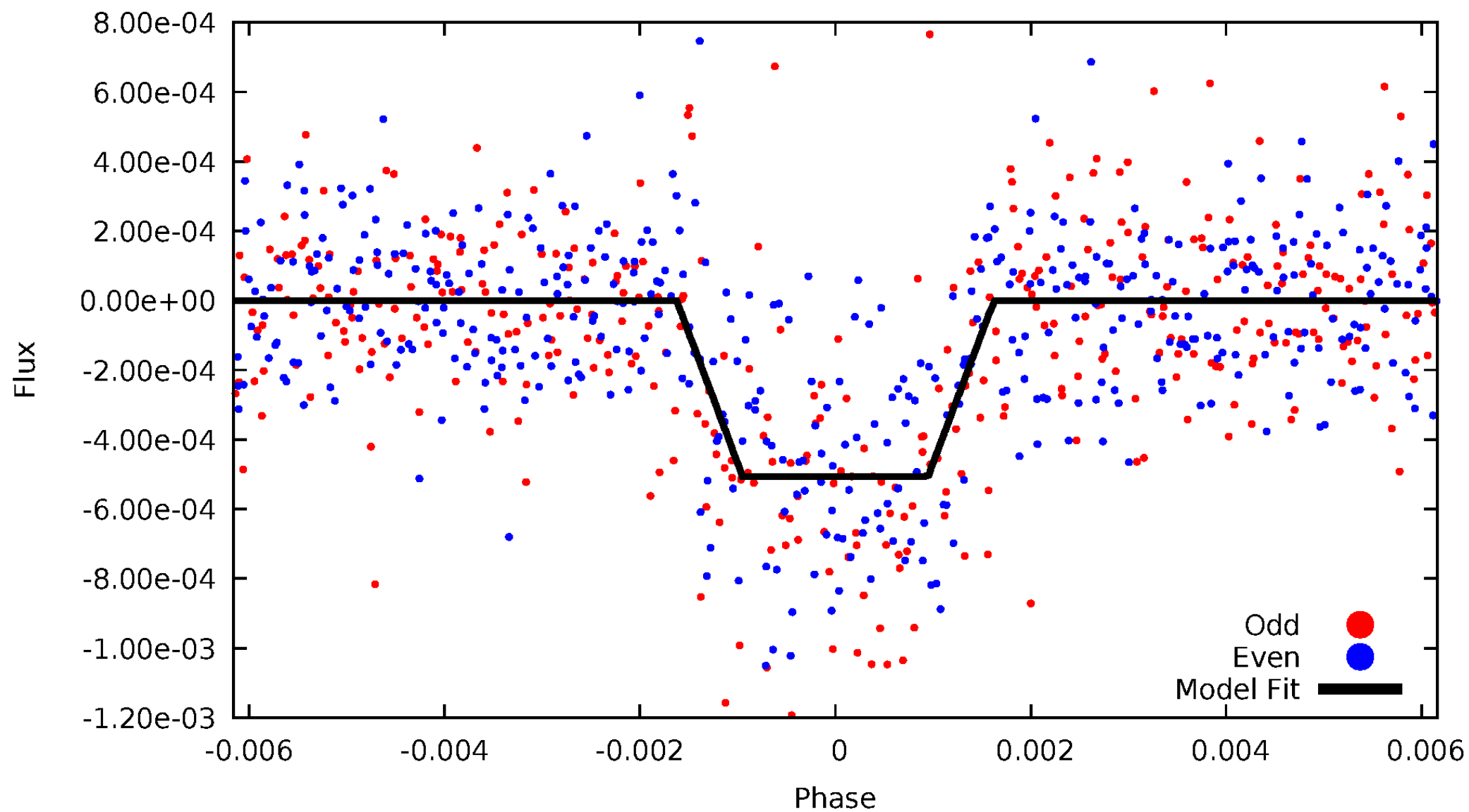
DV Odd/Even

TCE 003745559-01



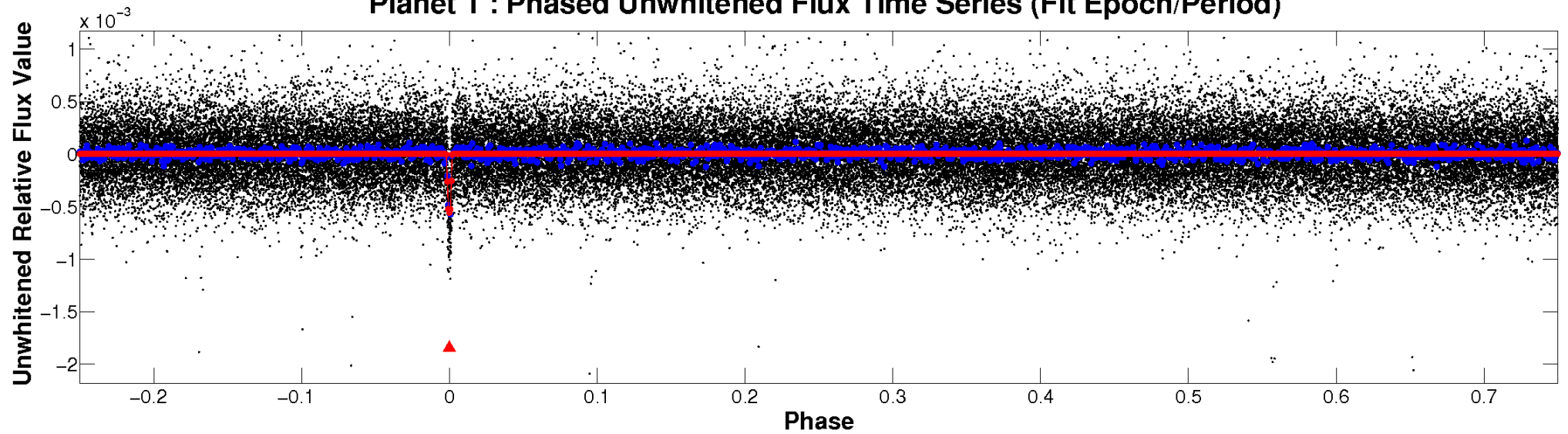
ALT Odd/Even

TCE 003745559-01

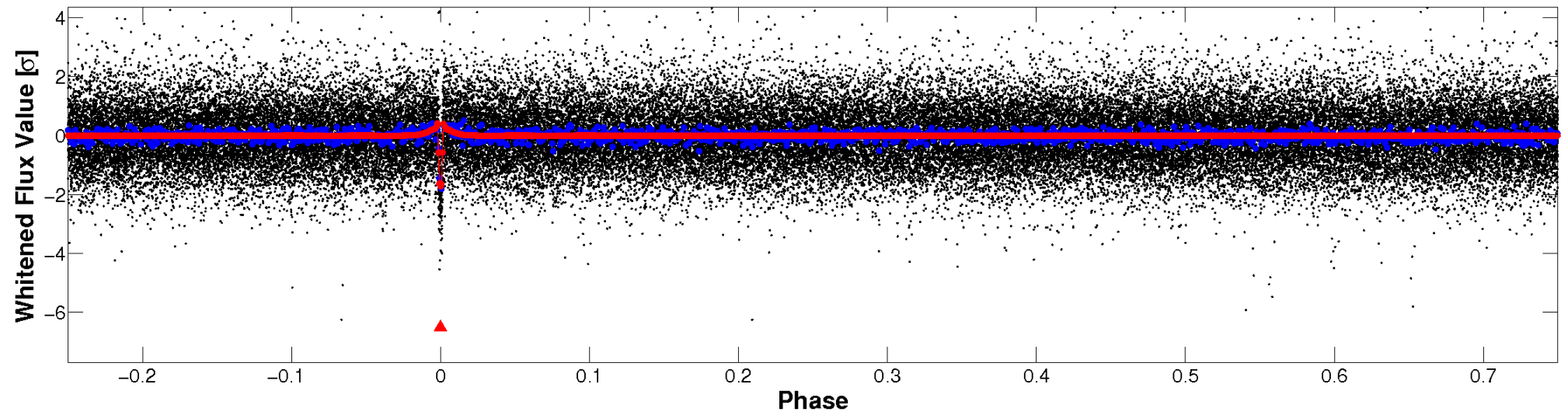


Non-Whitened Vs. Whitened Light Curve

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

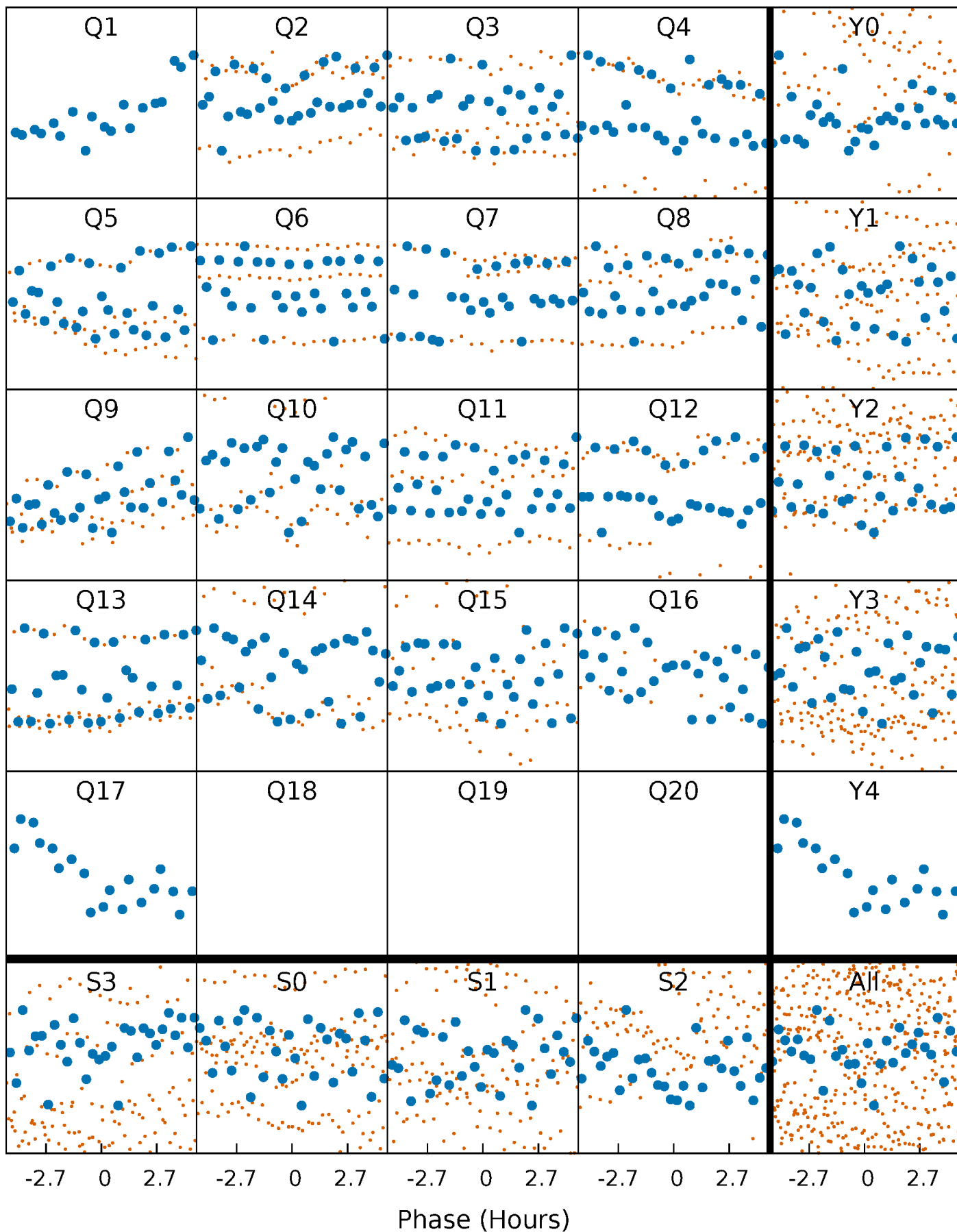


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



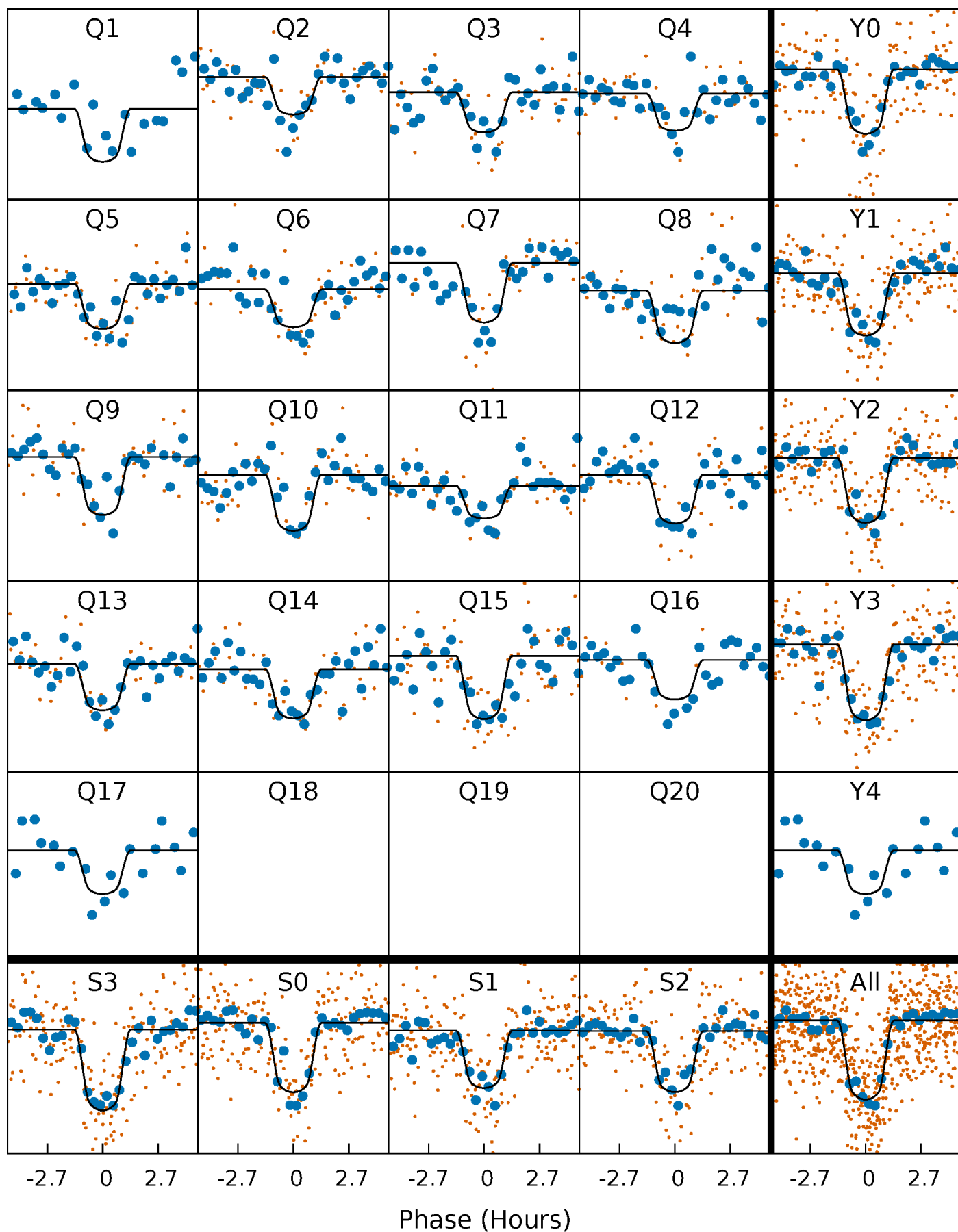
PDC Quarter-Phased Transit Curves

TCE 003745559-01 P= 30.254091 Days $T_0=136.638302$ (BKJD)



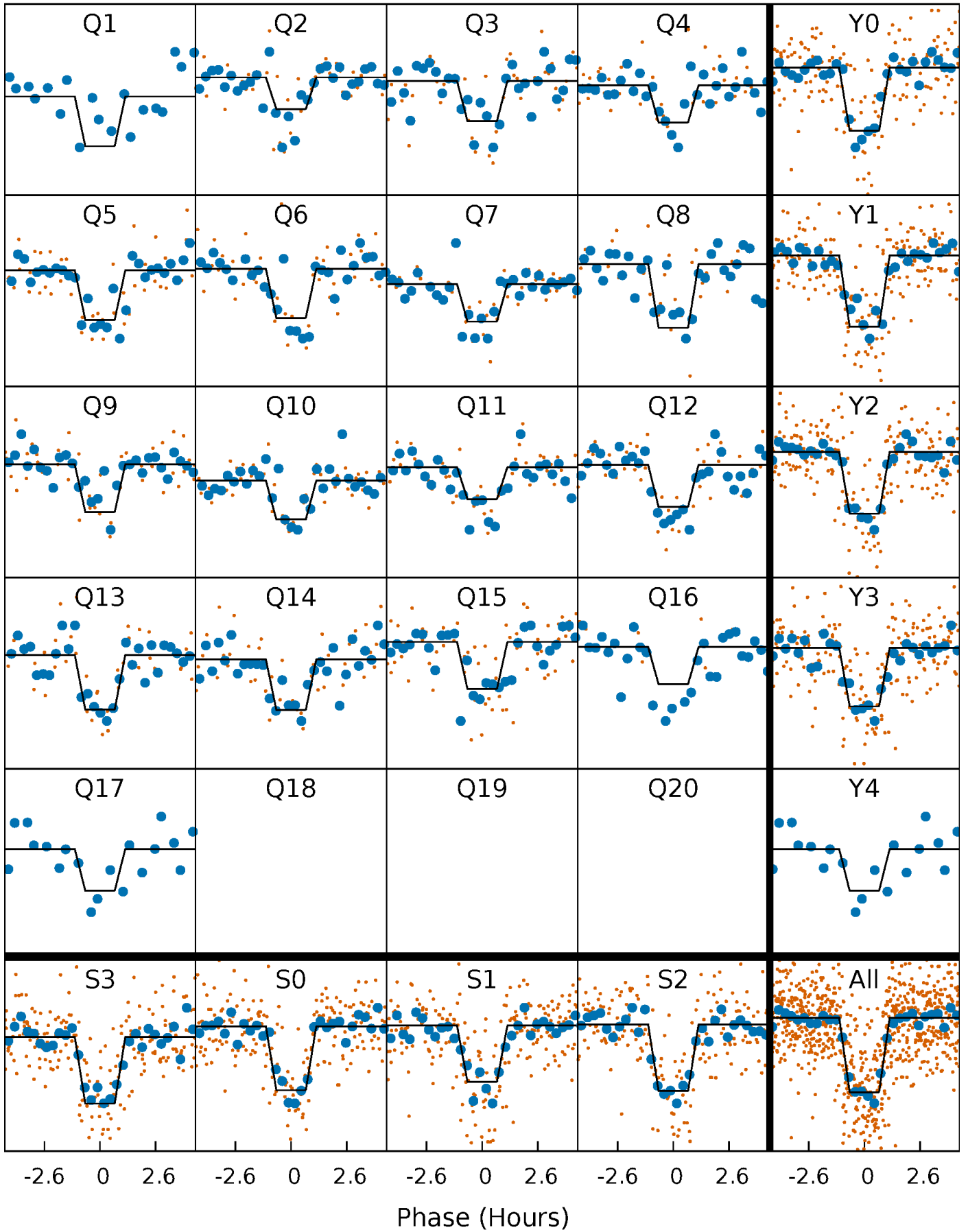
DV Quarter-Phased Transit Curves

TCE 003745559-01 P= 30.254091 Days $T_0=136.638302$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

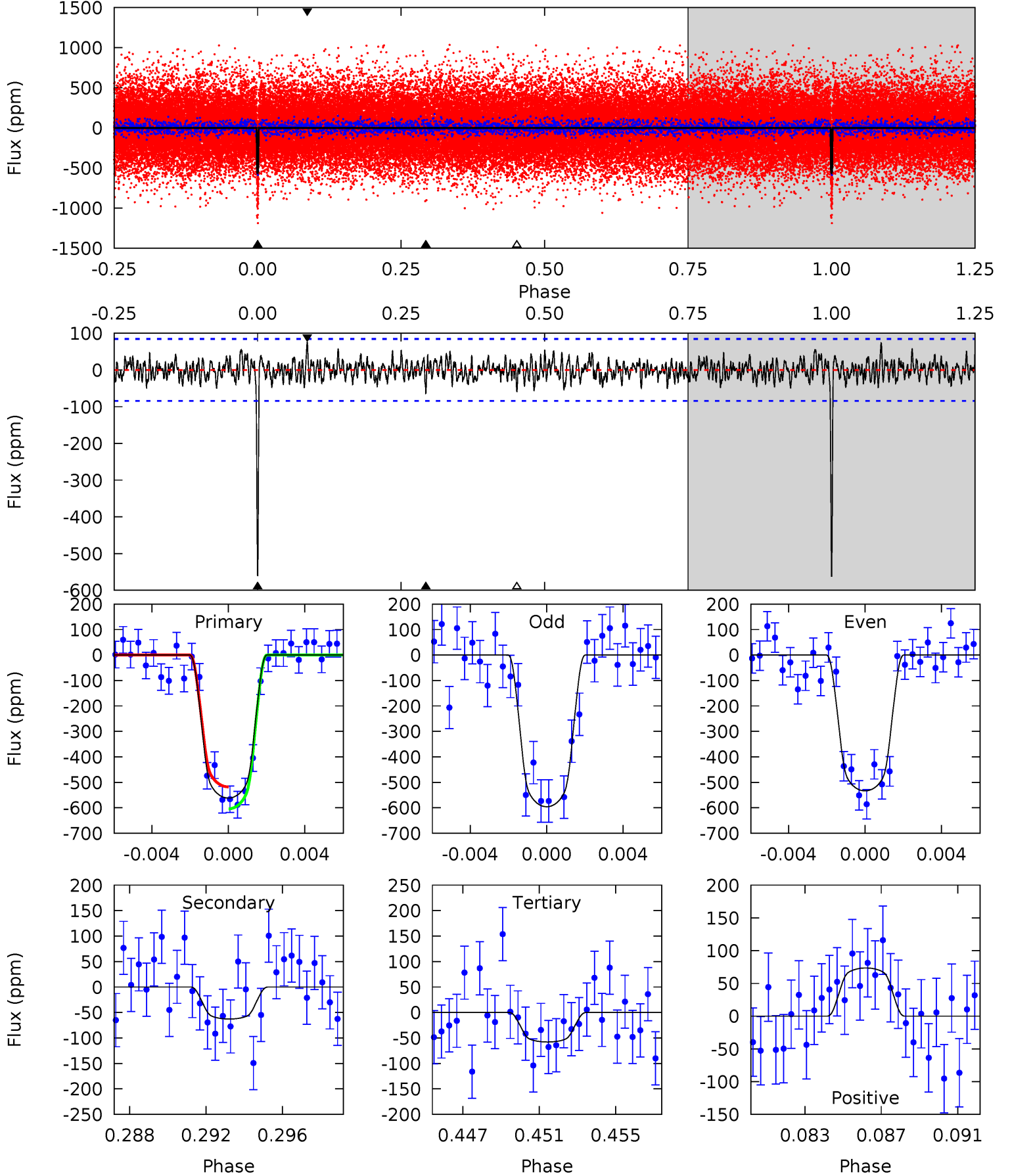
TCE 003745559-01 P= 30.254084 Days $T_0=136.640370$ (BKJD)



DV Model-Shift Uniqueness Test

003745559-01, P = 30.254091 Days, E = 106.384211 Days

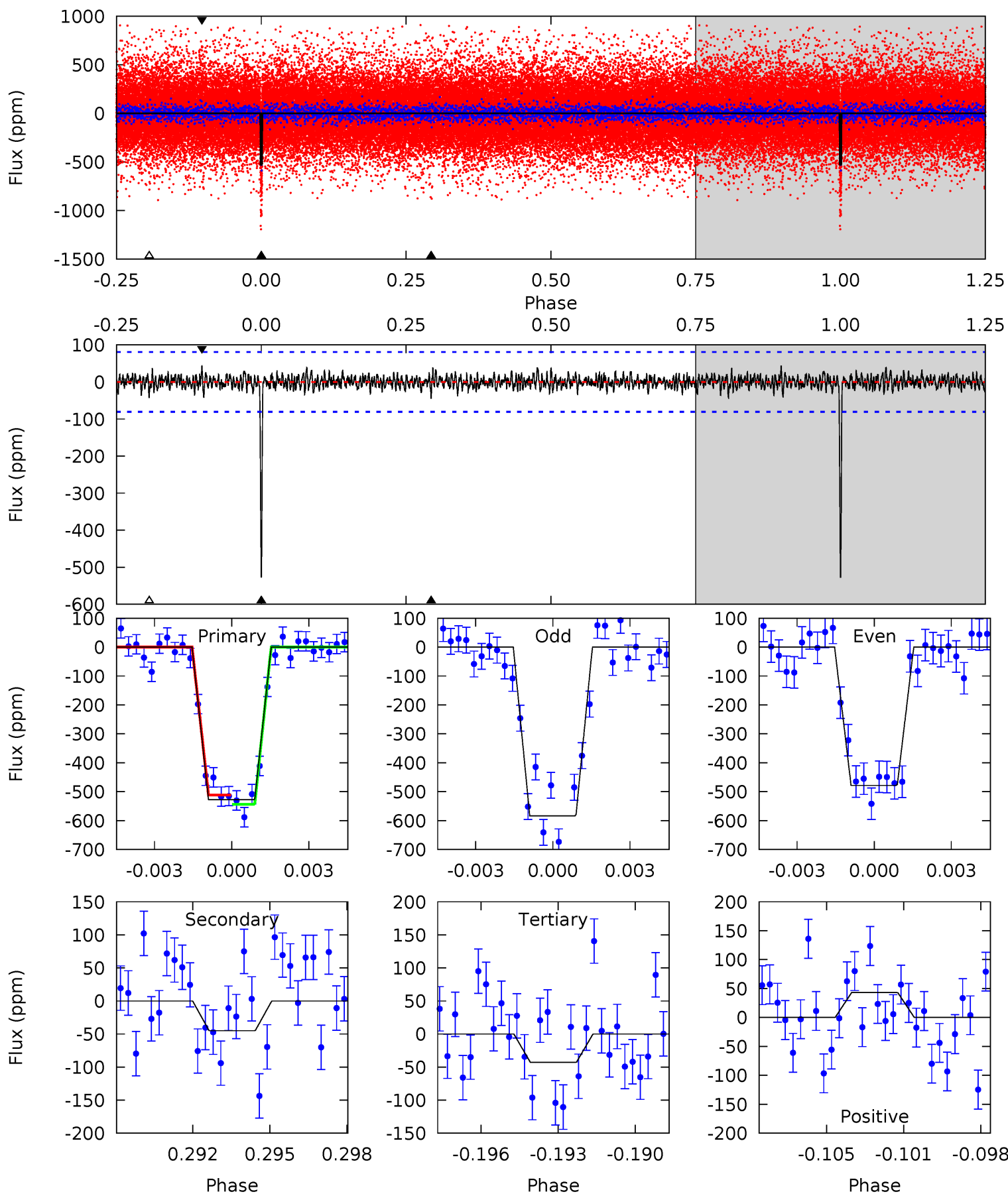
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	3.89	3.58	4.55	5.21	2.89	1.26	31.2	30.2	0.31	-0.66	1.93	1.04	0.12	2.68



Alt Model-Shift Uniqueness Test

003745559-01, P = 30.254084 Days, E = 106.386286 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.3	2.92	2.77	2.79	5.24	2.95	0.82	31.5	31.5	0.14	0.13	3.42	1.07	0.08	1.04



Stellar Parameters For KIC 003745559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6277^{+170}_{-208}	$4.402^{+0.056}_{-0.224}$	$0.210^{+0.200}_{-0.300}$	$1.161^{+0.400}_{-0.133}$	$1.239^{+0.168}_{-0.168}$	$1.116^{+0.261}_{-0.607}$
	+3%/-3%	+1%/-5%	+95%/-143%	+34%/-11%	+14%/-14%	+23%/-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 003745559-01 / KOI 3423.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-63 ± 16	$3.44^{+0.70}_{-0.54}$	946^{+71}_{-48}	3832^{+267}_{-238}	118^{+56}_{-43}
Alt.	-45 ± 15	$2.98^{+0.62}_{-0.55}$	941^{+68}_{-47}	3782^{+309}_{-312}	111^{+68}_{-48}

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

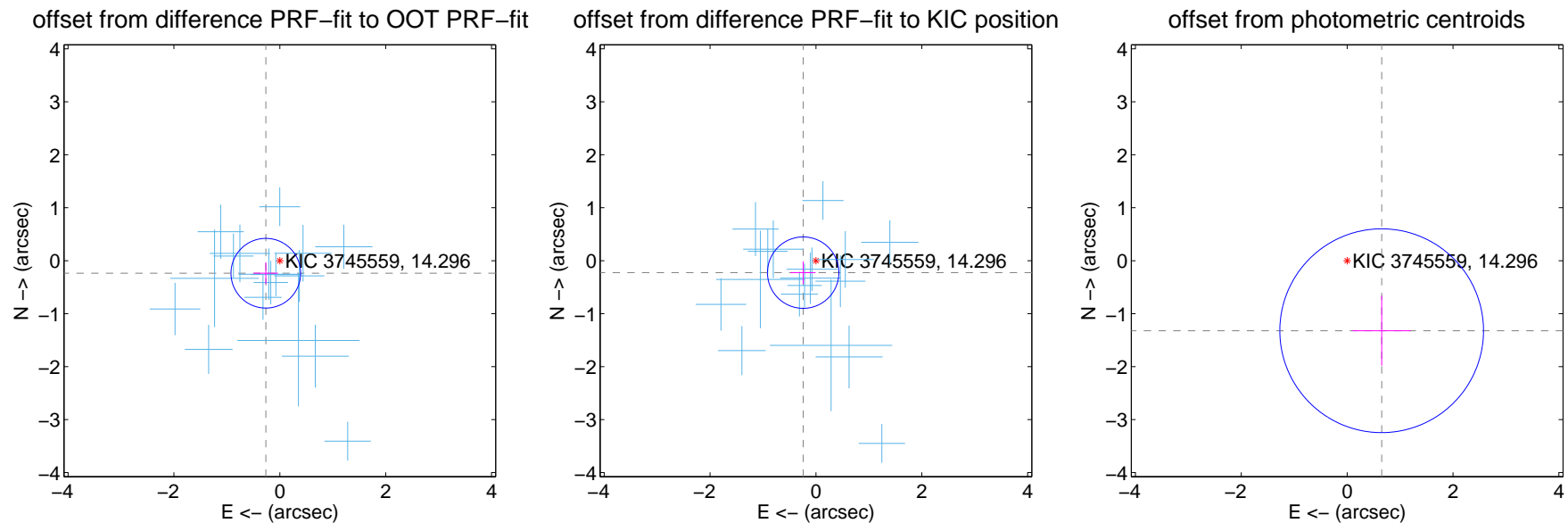
DV Centroid Data

Supplemental centroid analysis for 003745559-01. Kepler magnitude: 14.30. Transit SNR 21.03

There are 17 quarters with good PRF difference image offsets

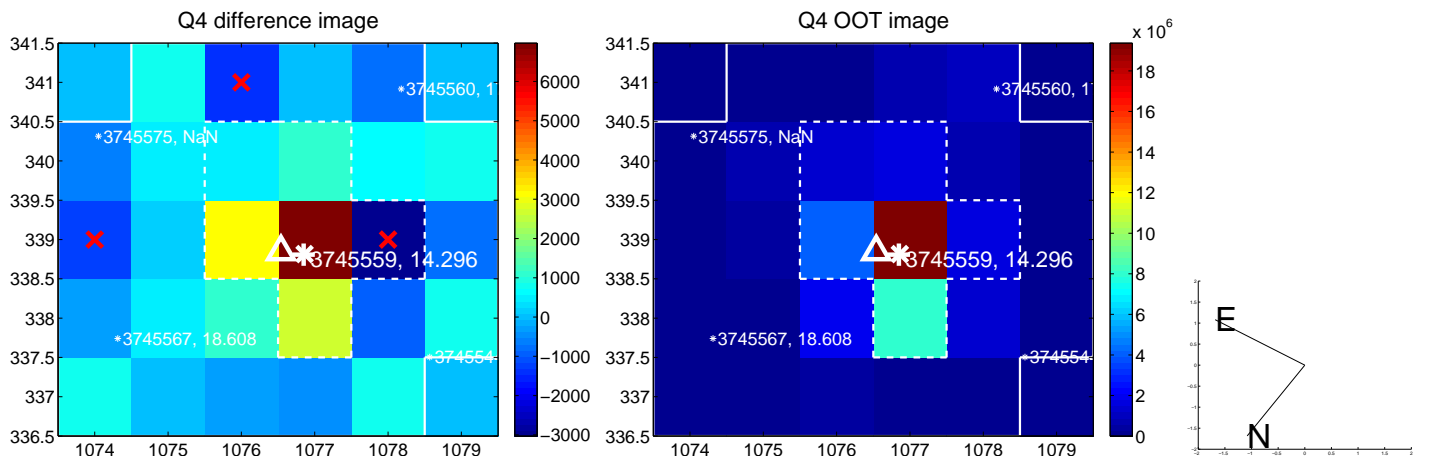
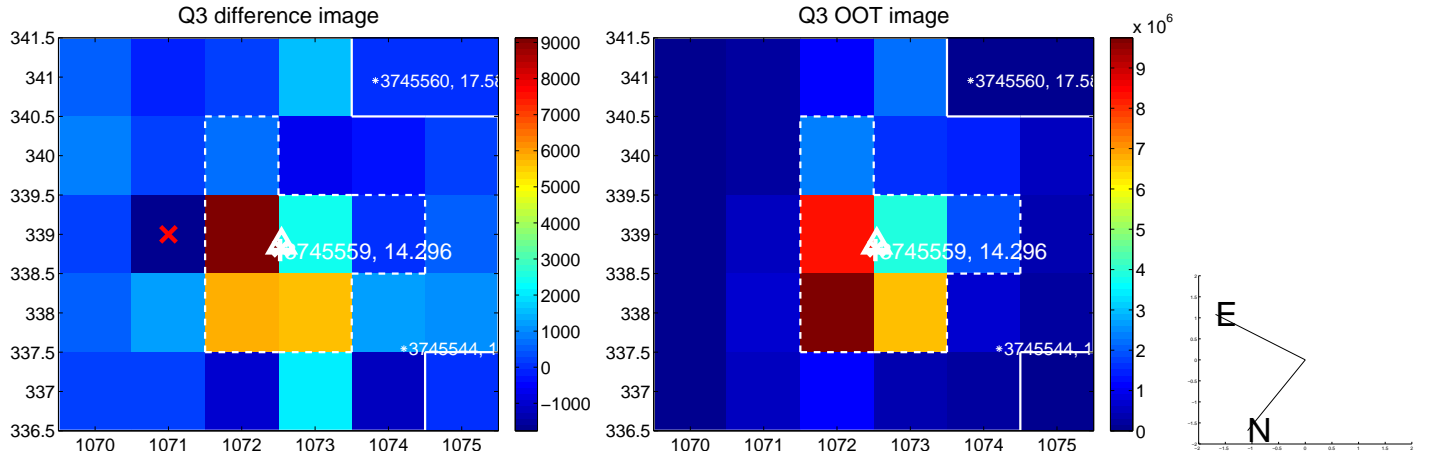
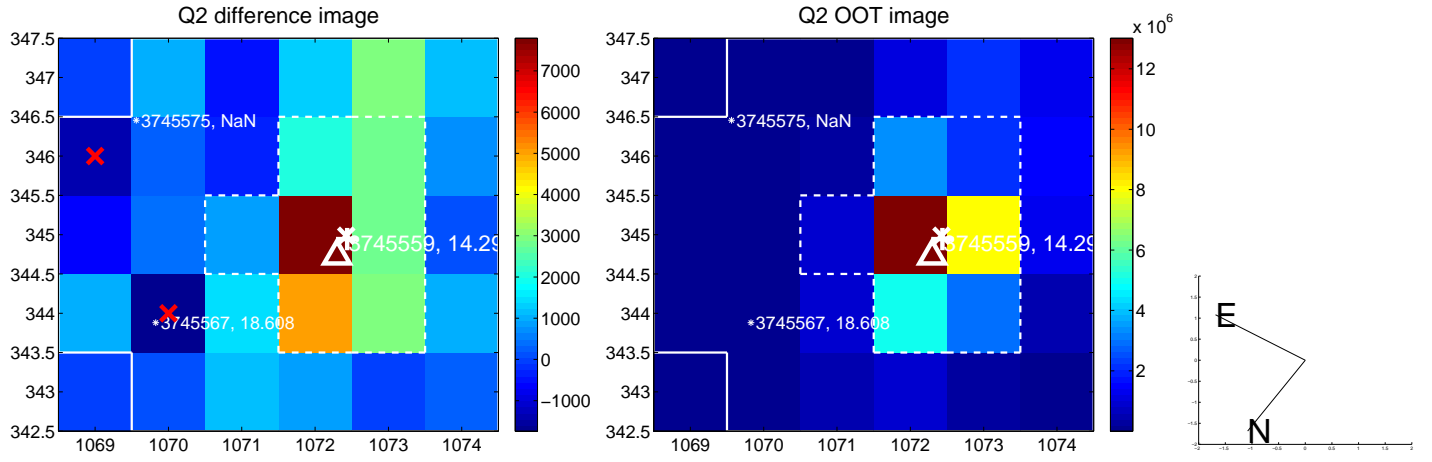
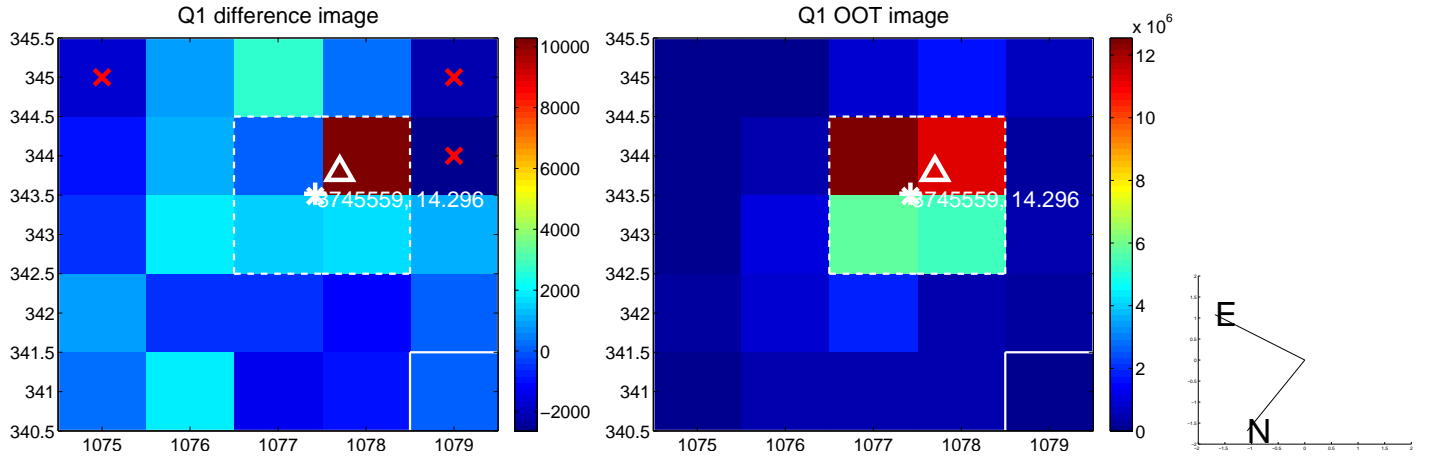
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.355 ± 0.219	1.62	0.264 ± 0.230	-0.237 ± 0.206
PRF-fit source offset from KIC position	0.330 ± 0.225	1.47	0.241 ± 0.235	-0.225 ± 0.213
photometric centroid source offset	1.47 ± 0.64	2.30	-0.65 ± 0.55	-1.32 ± 0.66

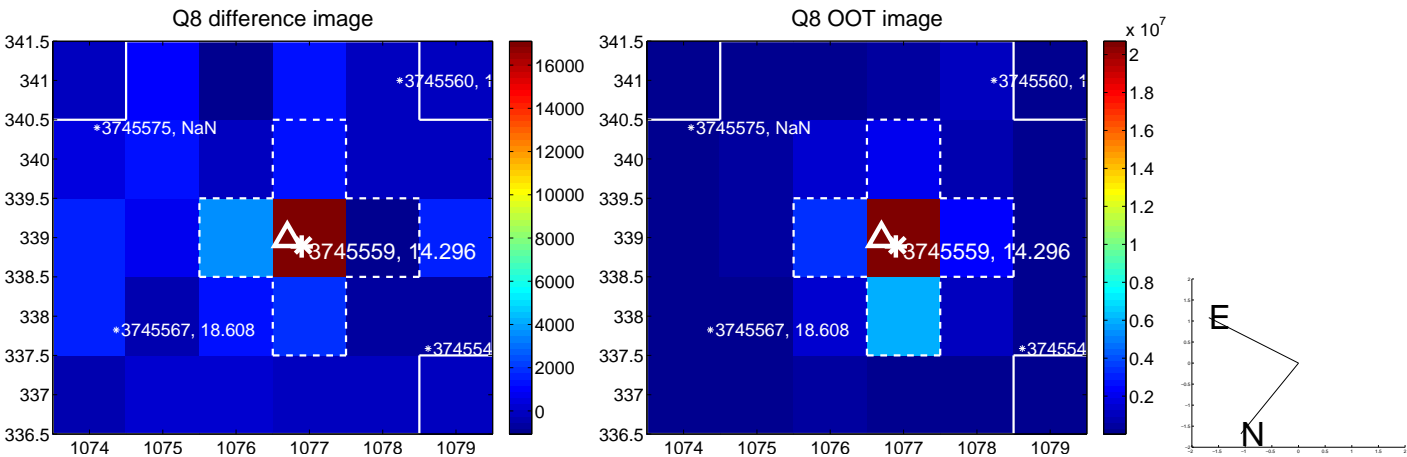
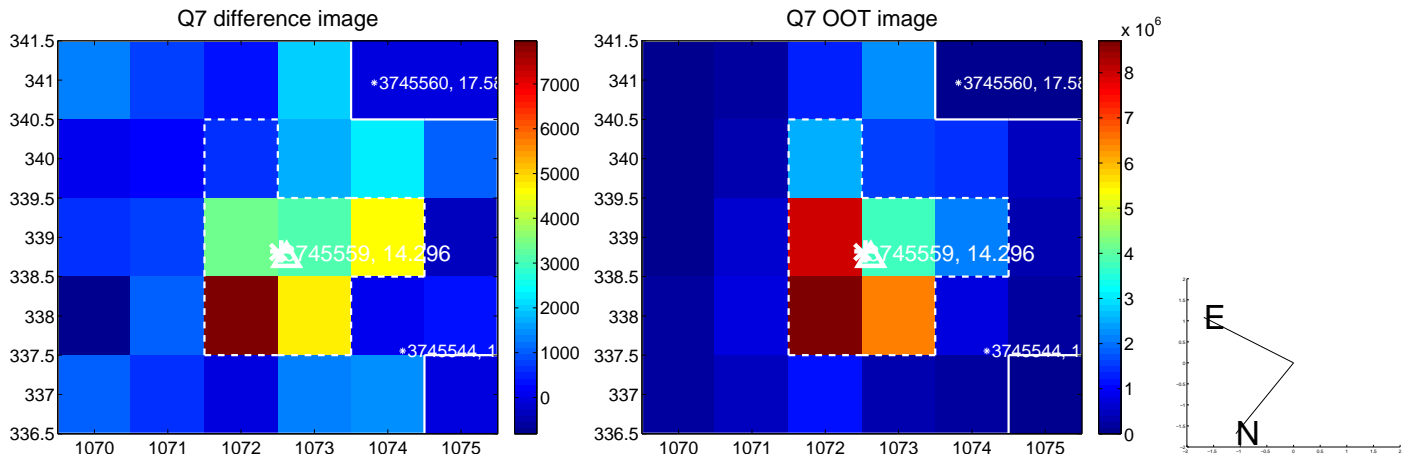
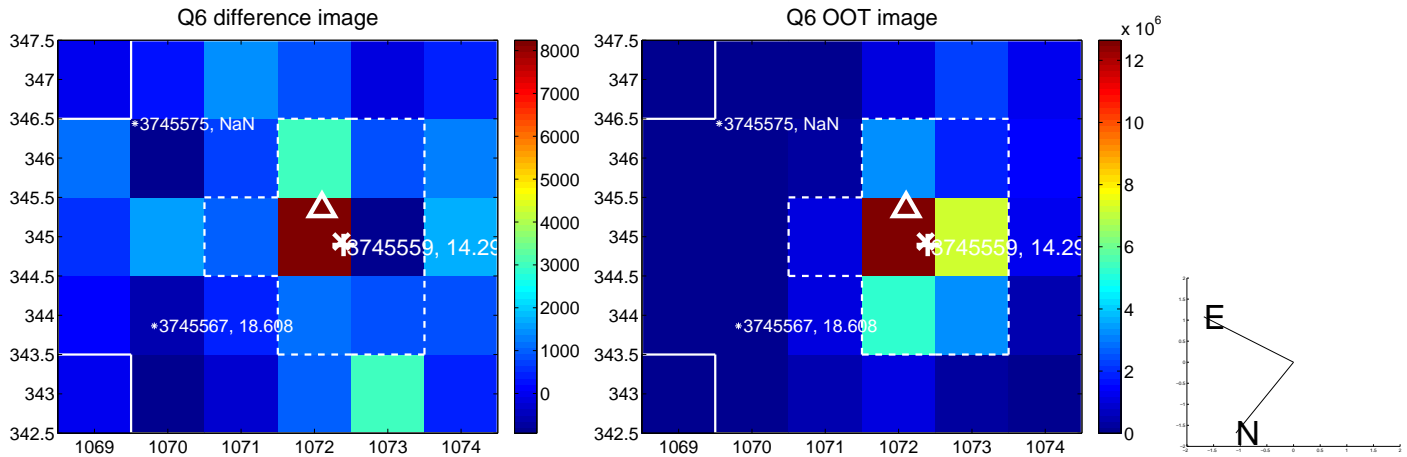
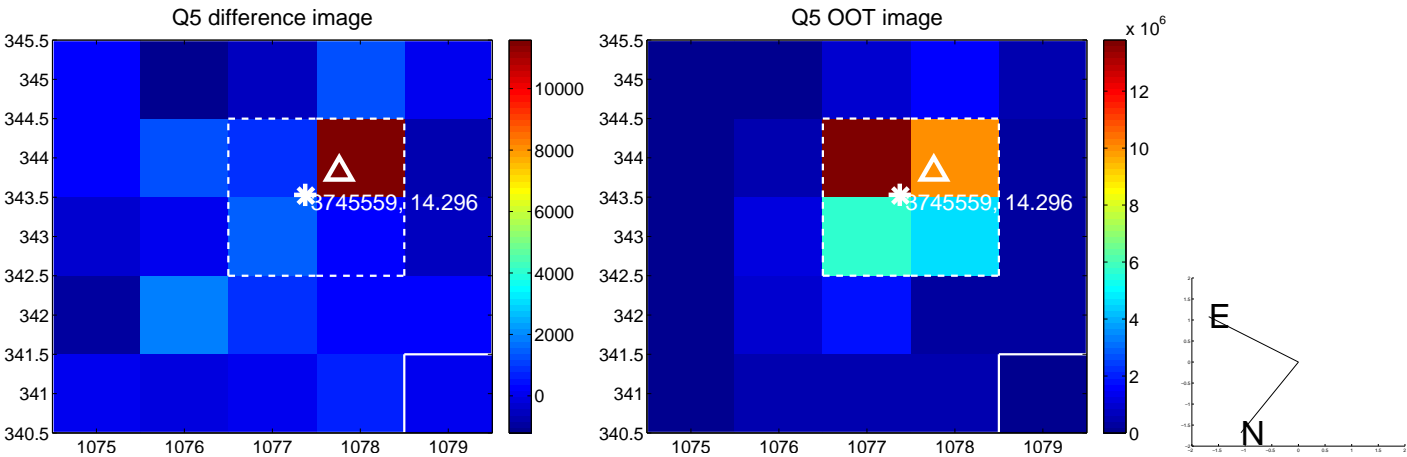


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

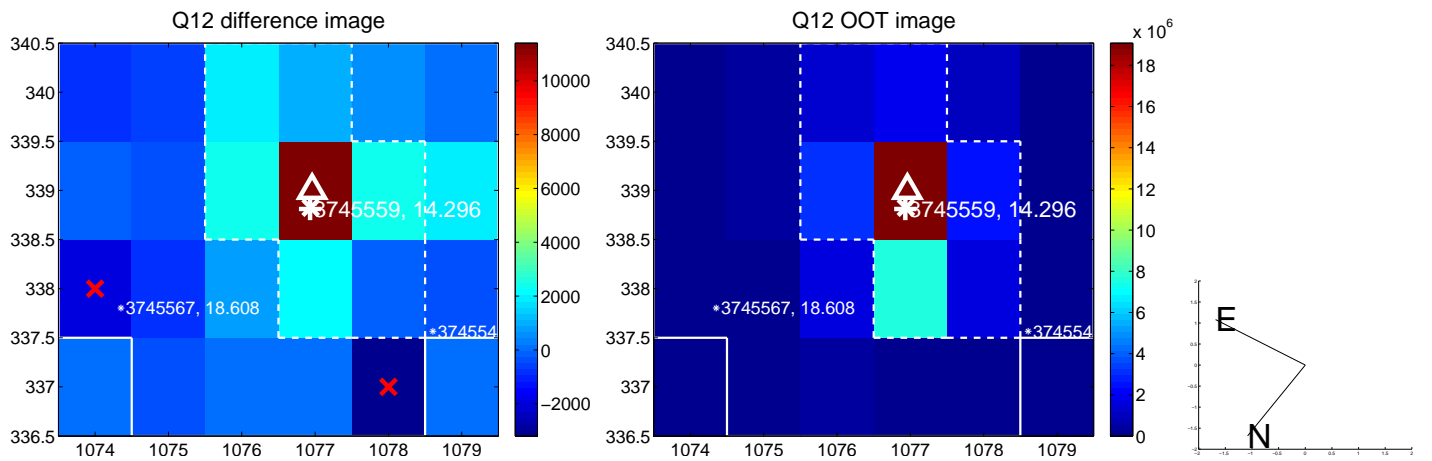
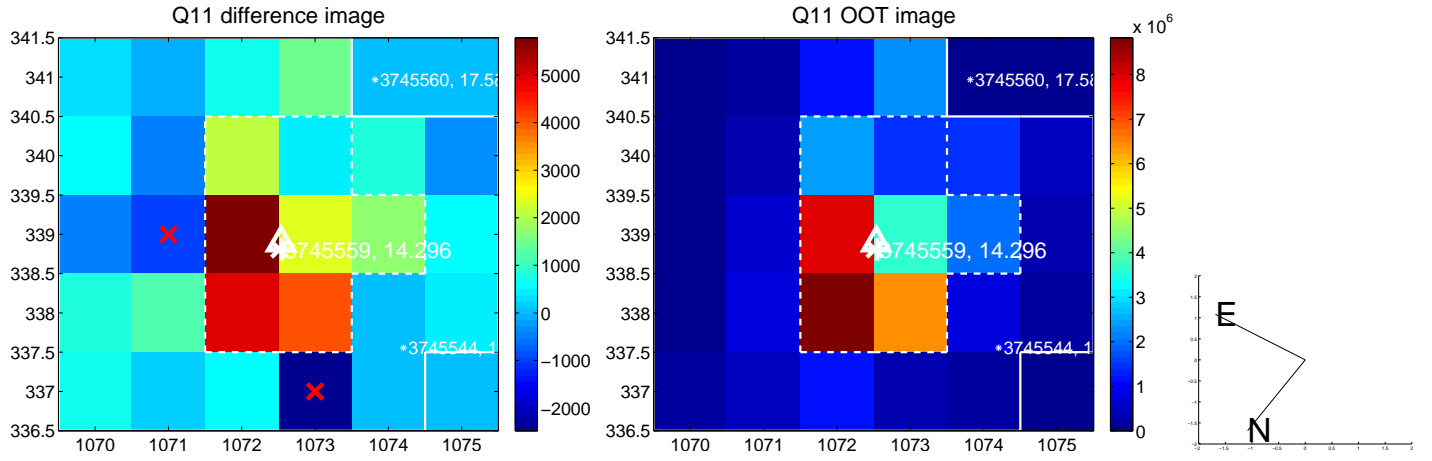
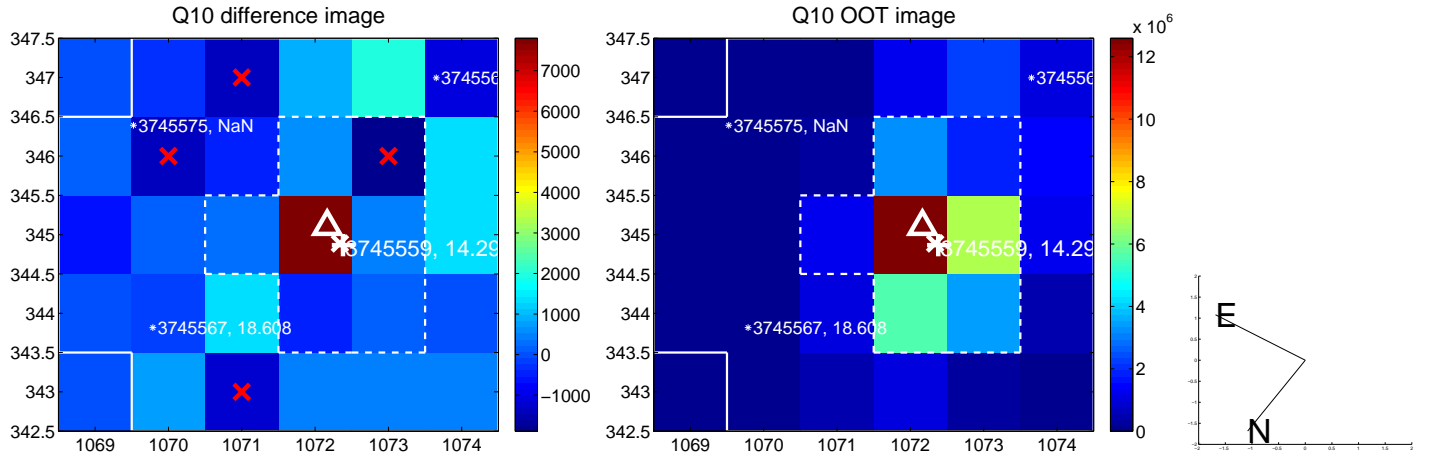
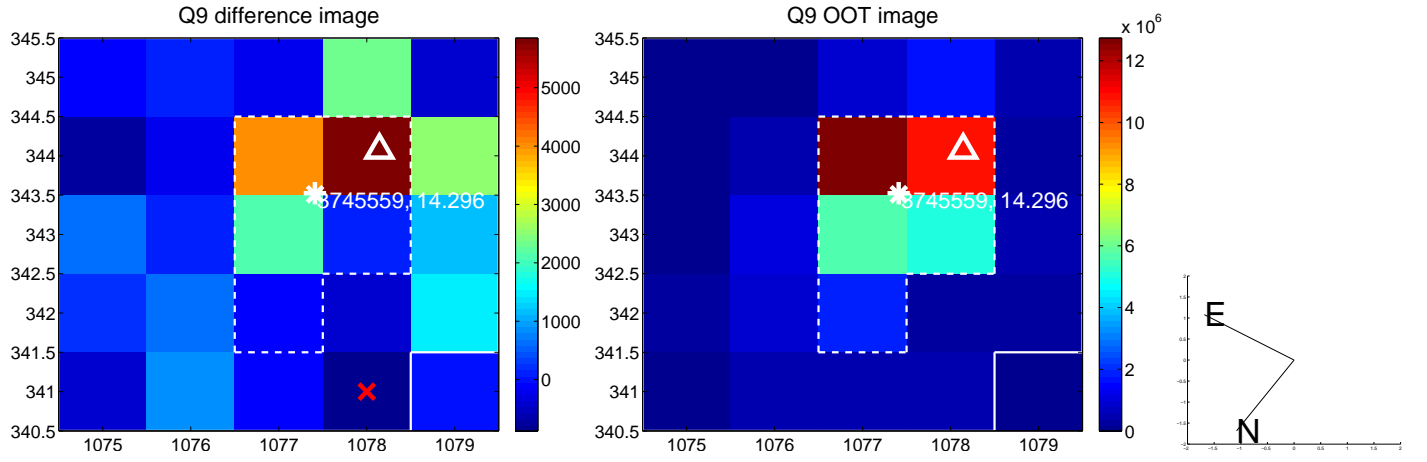
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



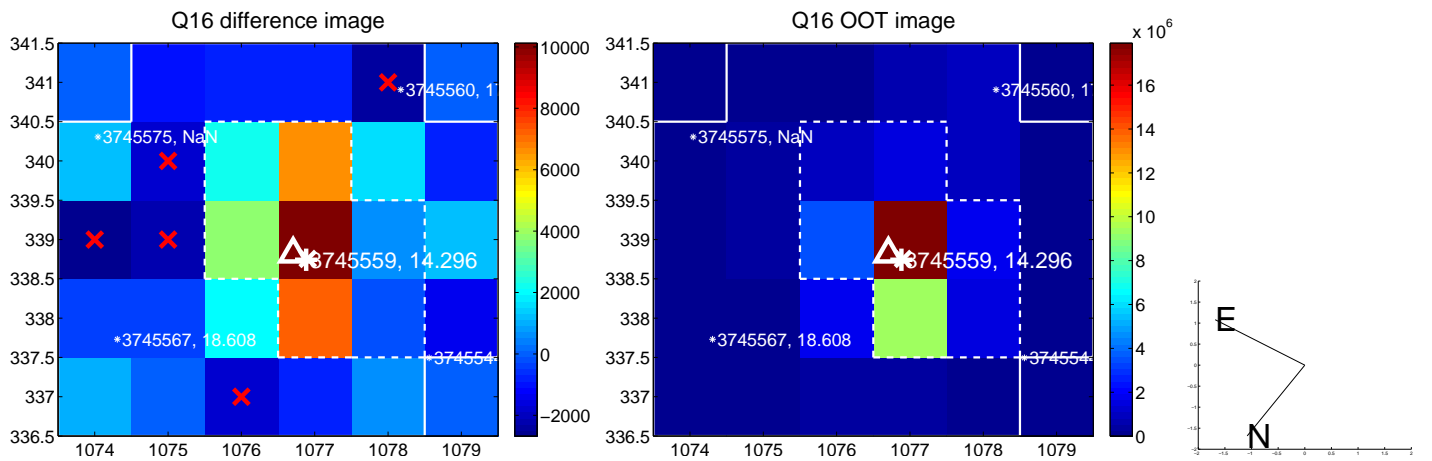
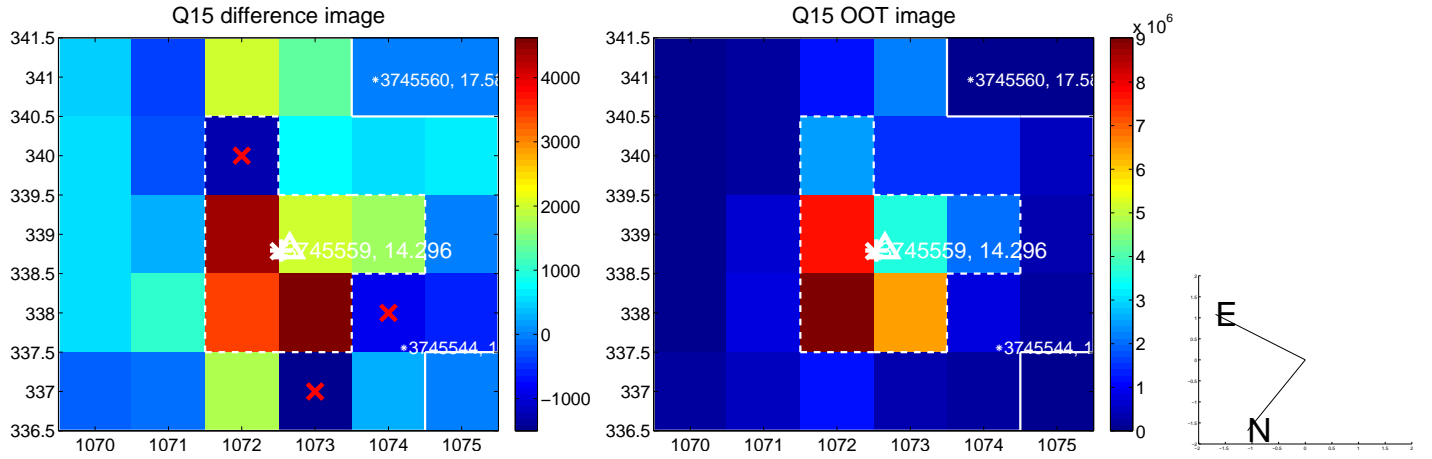
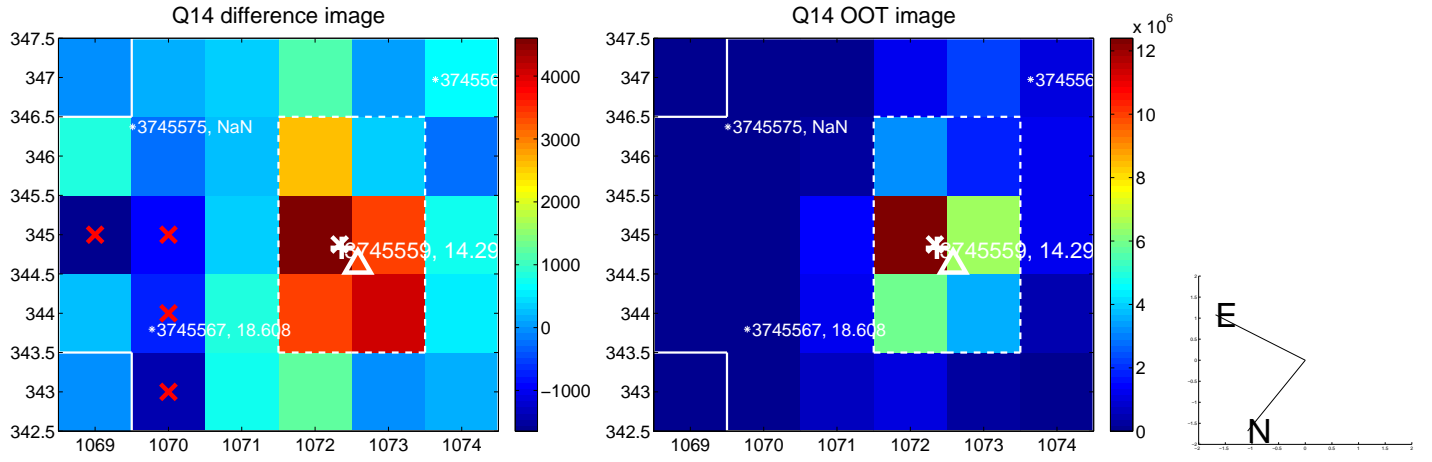
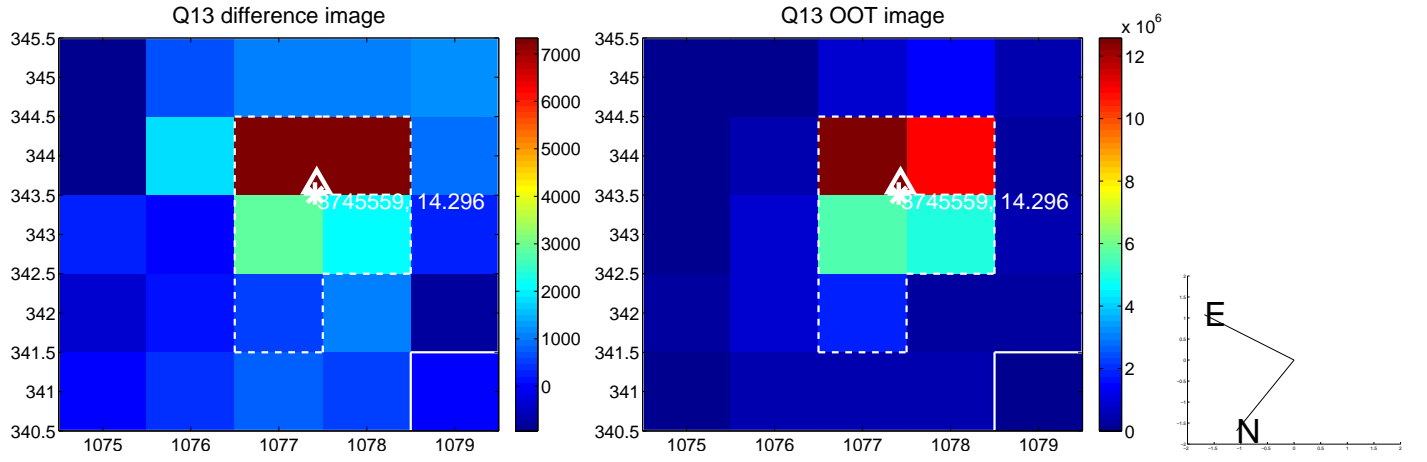
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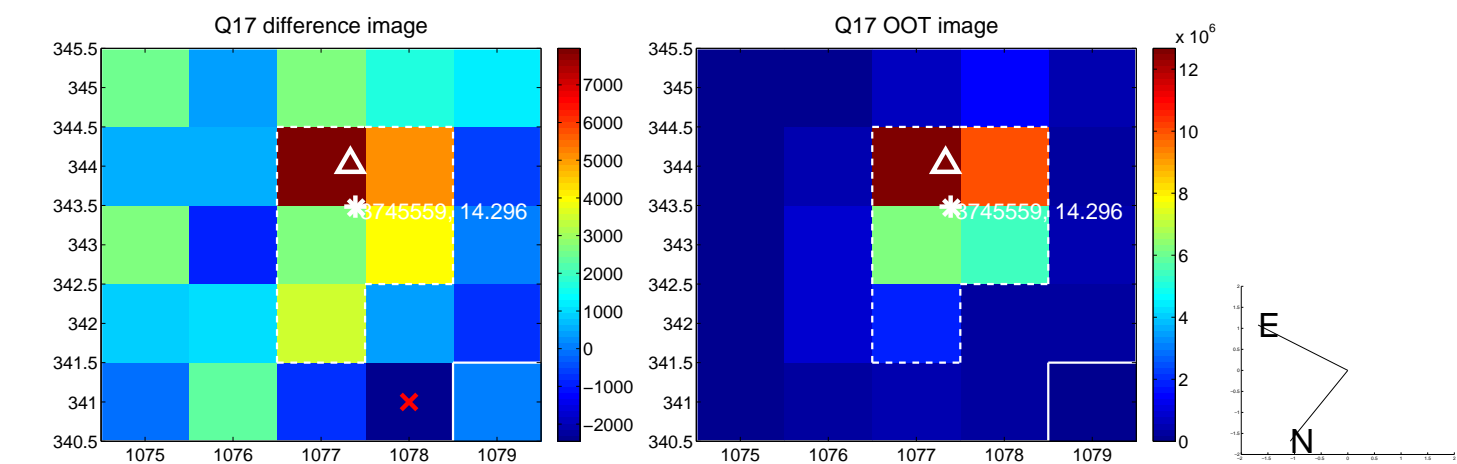
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



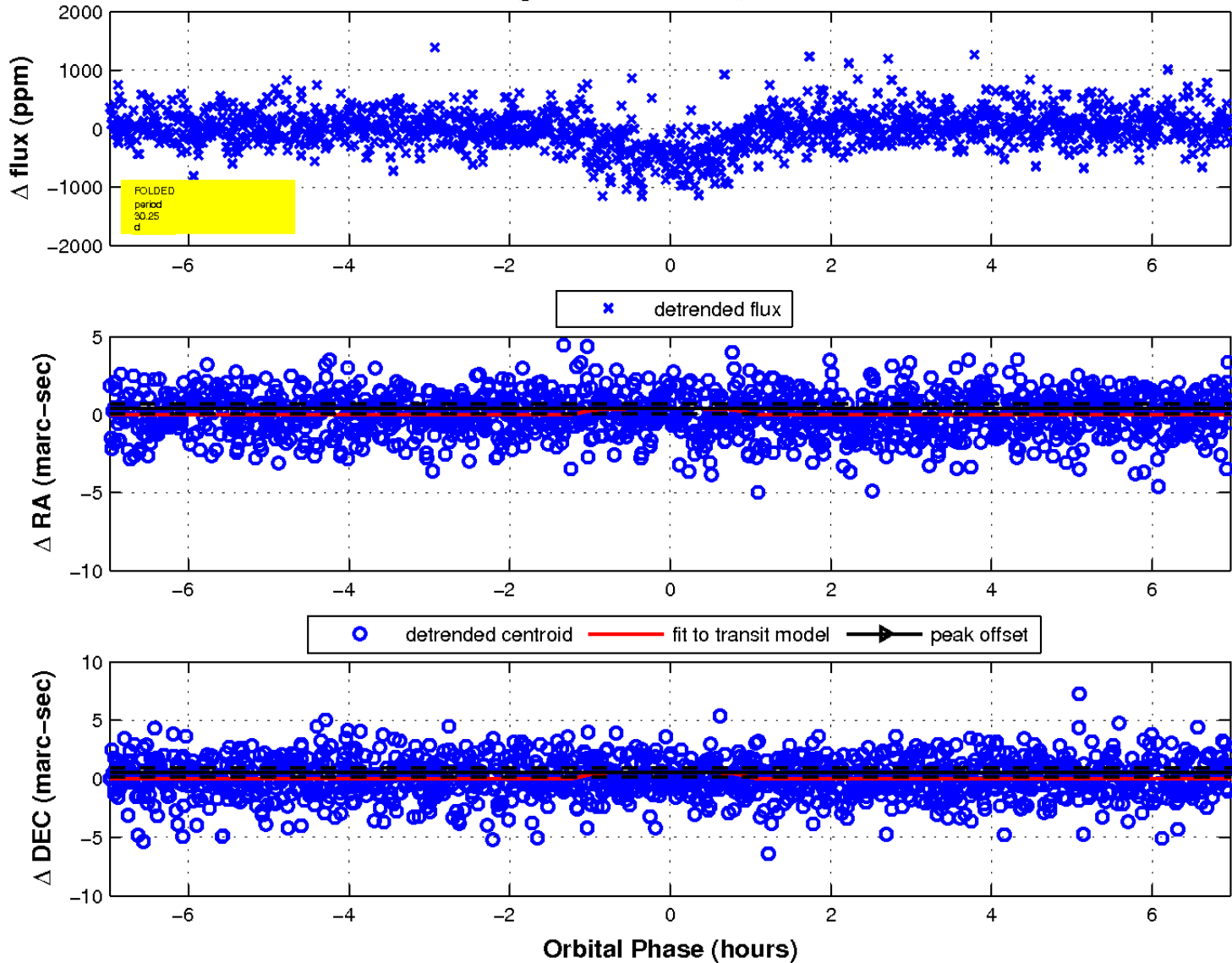
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

