

KIC 008939650

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})
008939650-01	OBS	5587.01	1.827661	132.821261	46389.2	3.936	5283.7	4062.6	1.07	6352	37.09	1814.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008939650-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

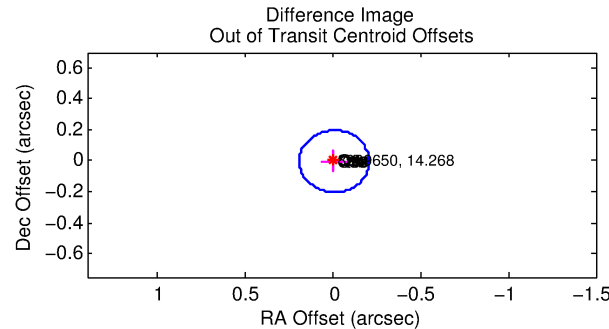
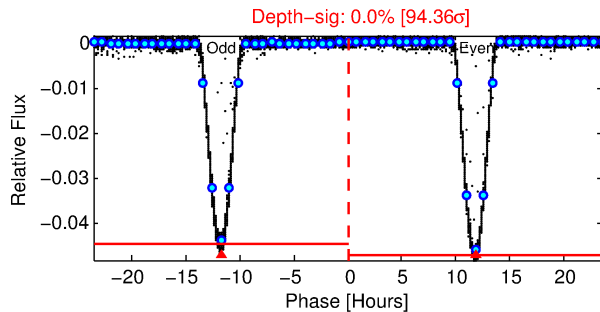
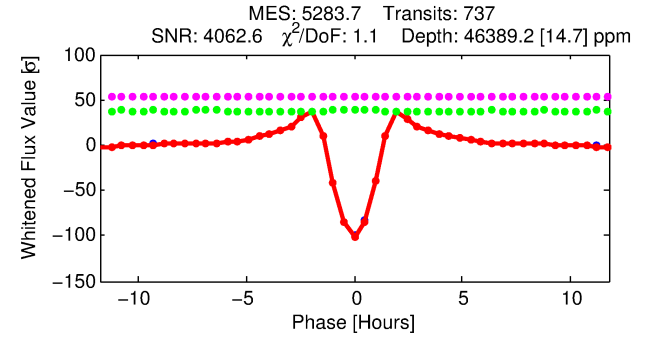
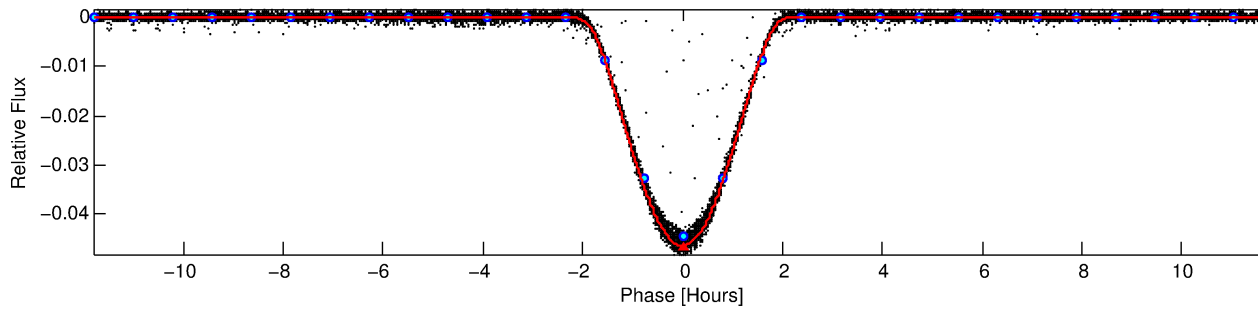
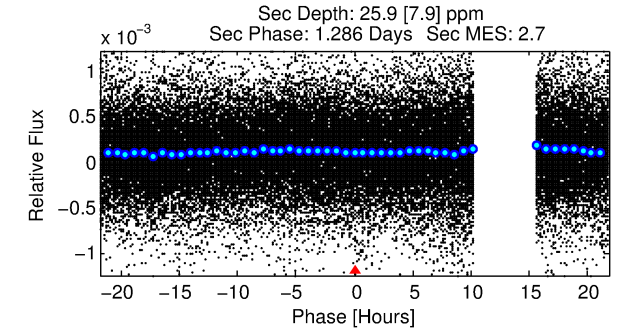
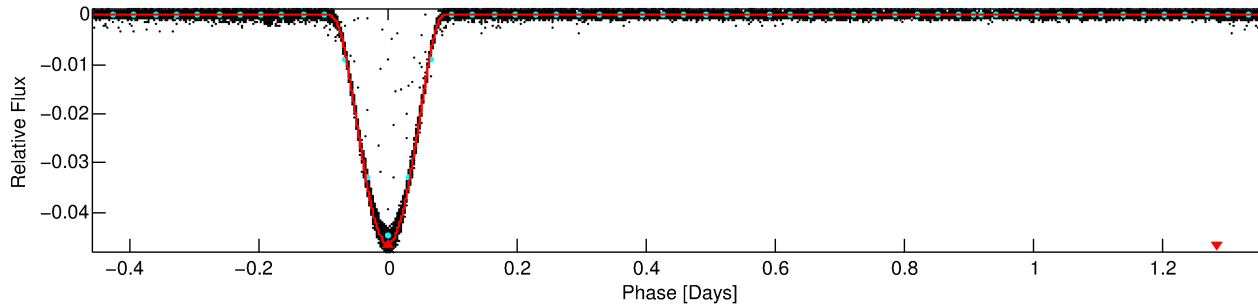
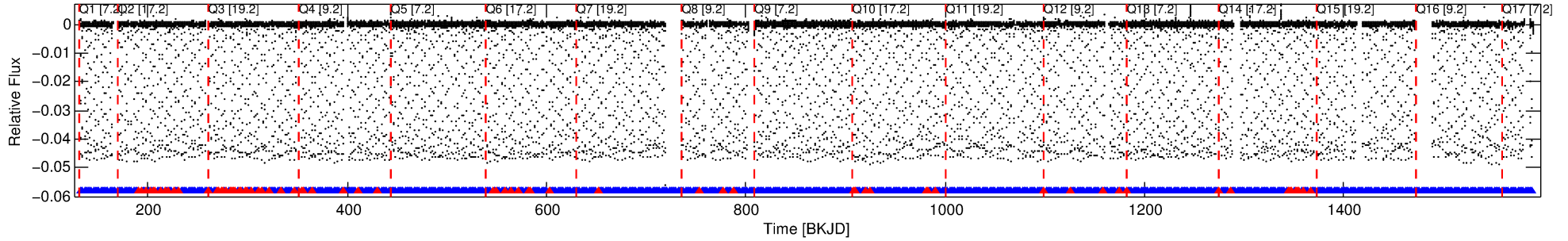
Ephemeris Match Information For 008939650-01

No Significant Match Found

DV One-Page Summary

KIC: 8939650 Candidate: 1 of 1 Period: 1.828 d
KOI: K05587.01 Corr: 0.999

Kp: 14.27 R*: 1.07 Rs Teff: 6352.0 K Logg: 4.43 Fe/H: -0.160



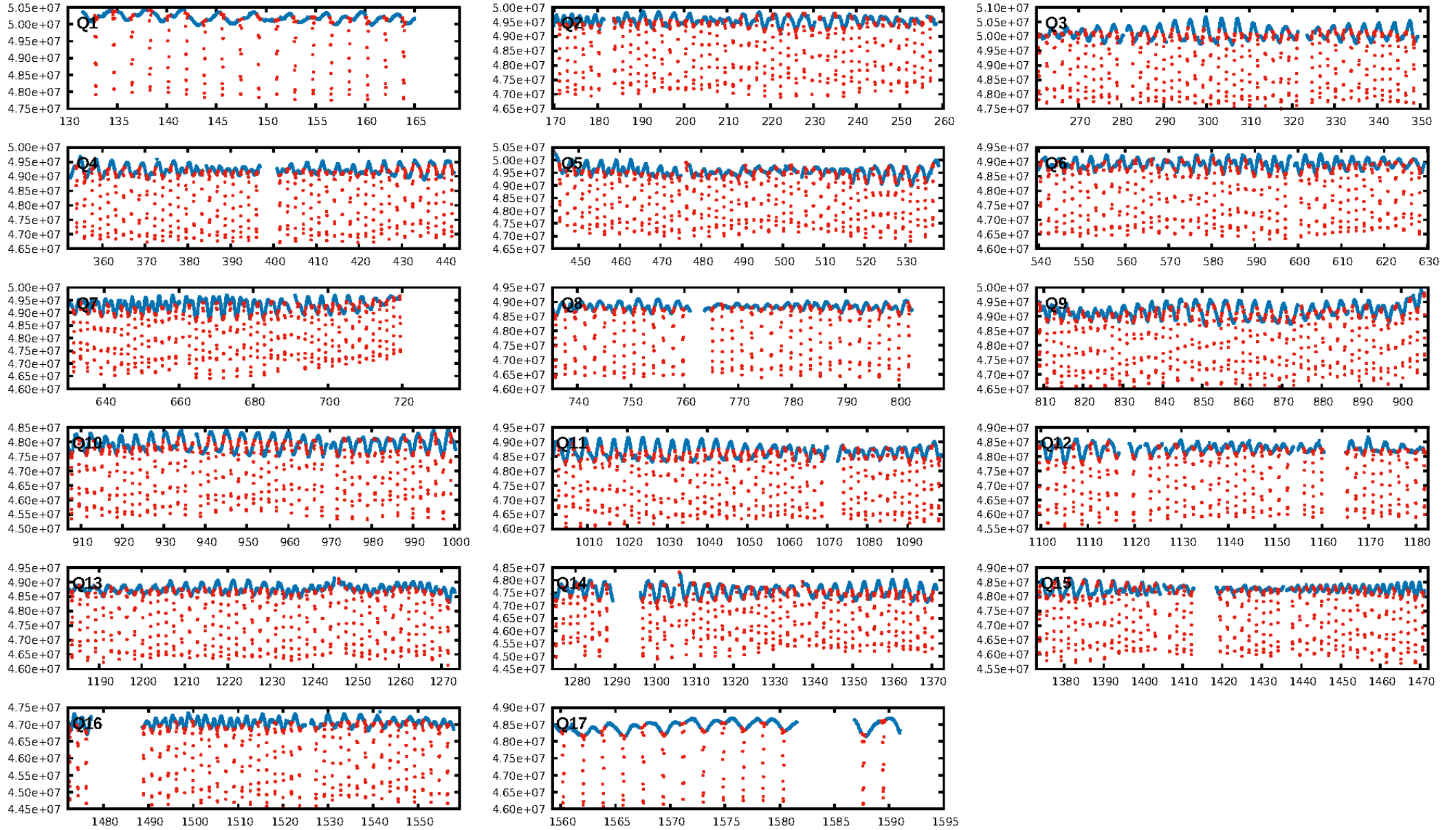
DV Fit Results:

Period = 1.82766 [0.00000] d
Epoch = 132.8213 [0.0000] BKJD
Rp/R* = 0.3170 [0.0035]
a/R* = 3.35 [0.00]
b = 0.97 [0.01]
Seff = 1814.70 [756.70]
Teq = 1664 [173] K
Rp = 37.09 [12.08] Re
a = 0.0304 [0.0083] AU
Ag = 0.01 [0.00] [-206.34σ]
Teffp = 805 [67] K [-4.62σ]

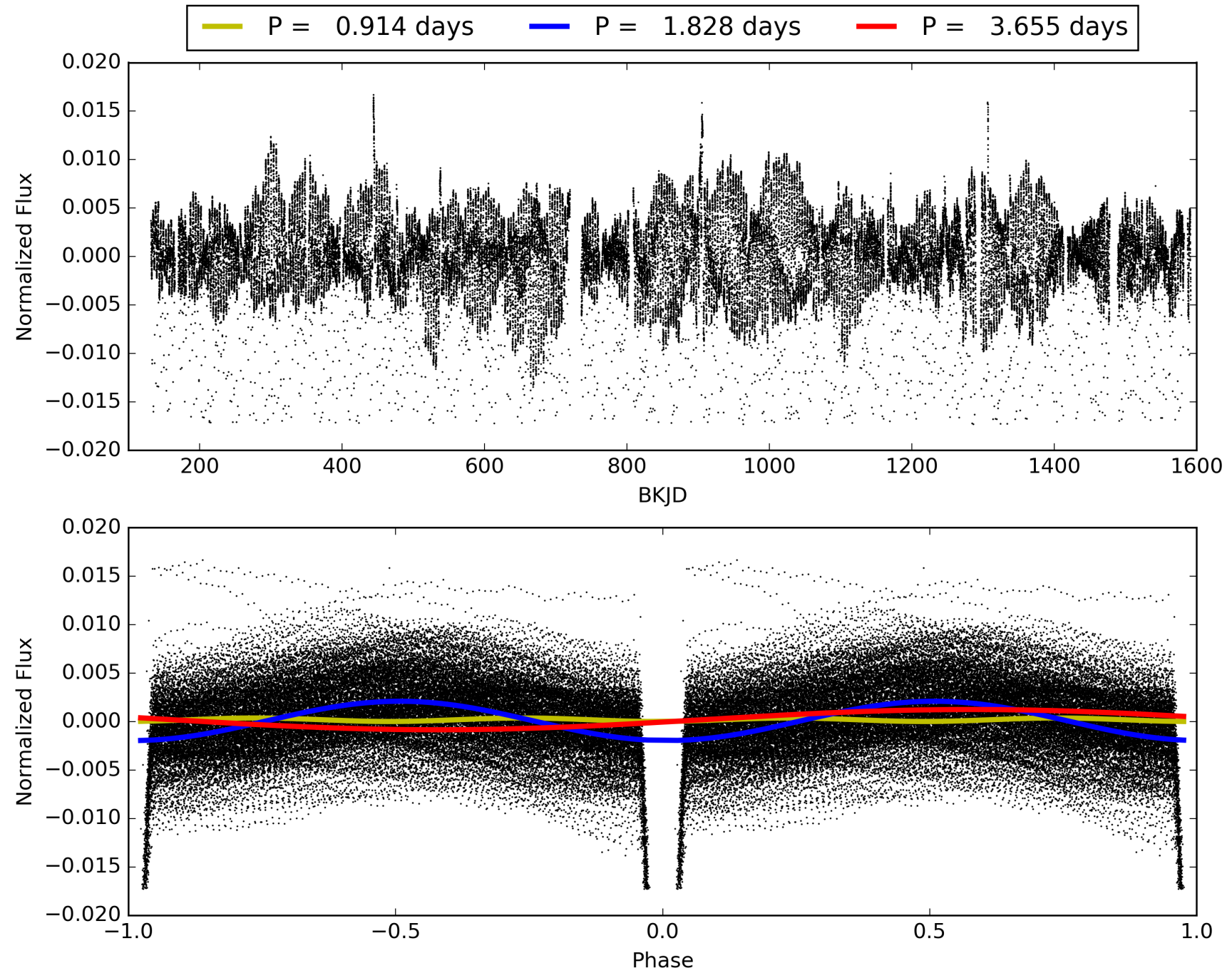
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.90 [634/705]
GhostDiagnostic-chr: 2.264
Centroid-sig: 0.0%
Centroid-so: 0.107 arcsec [77.68σ]
OotOffset-rm: 0.008 arcsec [0.12σ]
KicOffset-rm: 0.122 arcsec [1.82σ]
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 008939650-01, PDC Light Curves

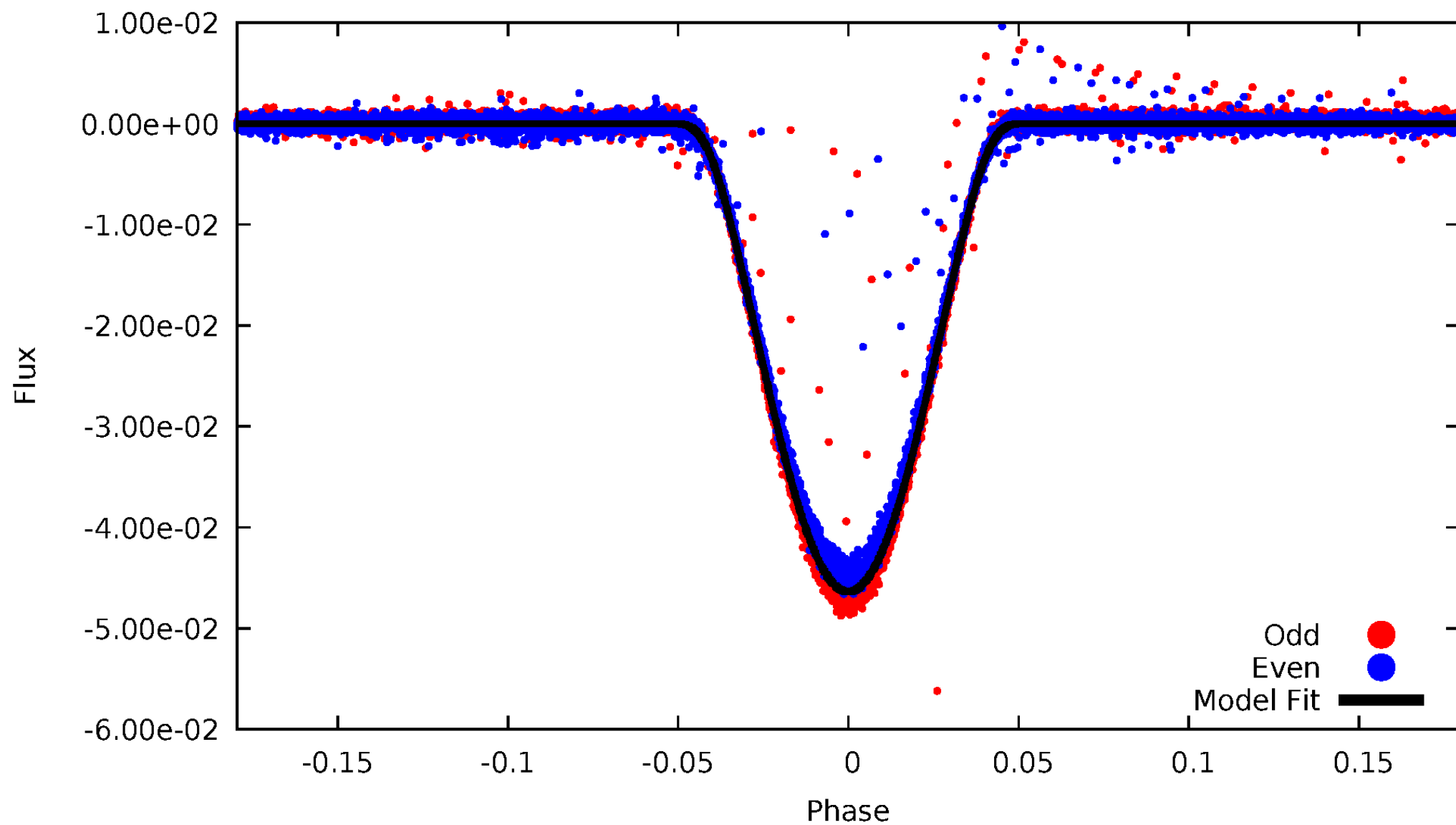


TCE 008939650-01



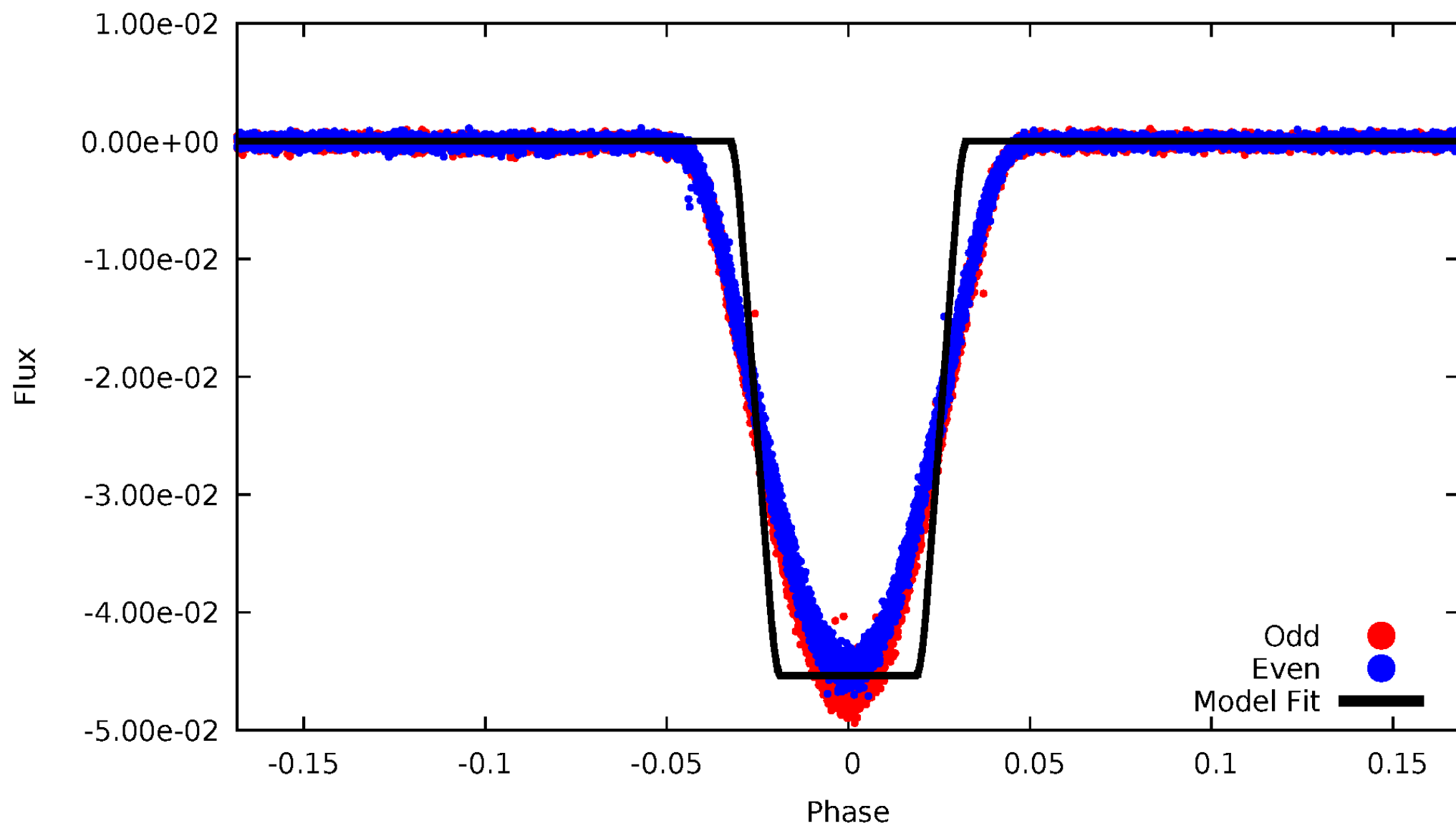
DV Odd/Even

TCE 008939650-01



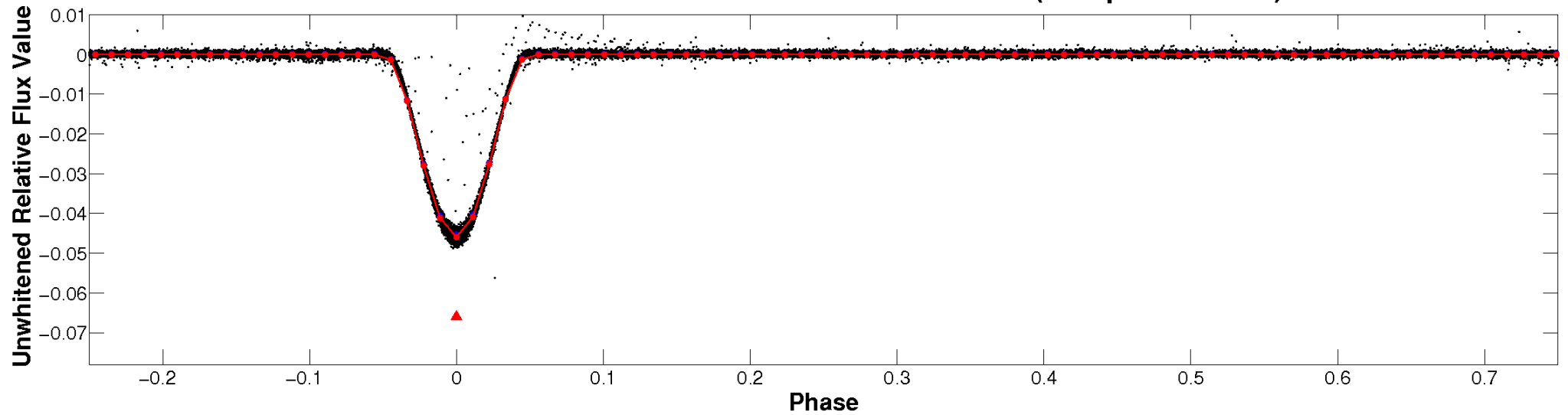
ALT Odd/Even

TCE 008939650-01

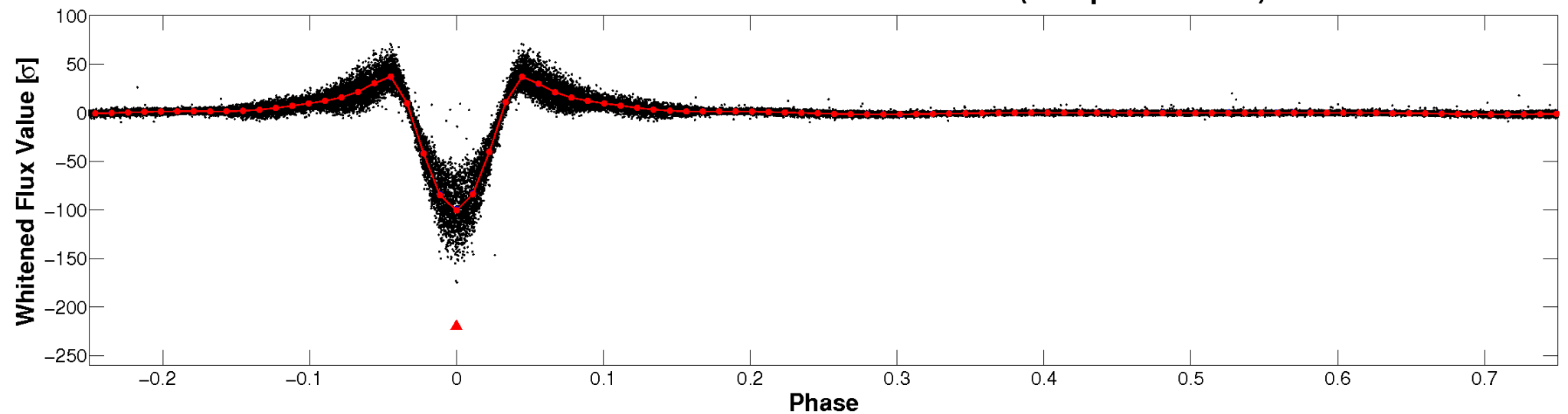


Non-Whitened Vs. Whitened Light Curve

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

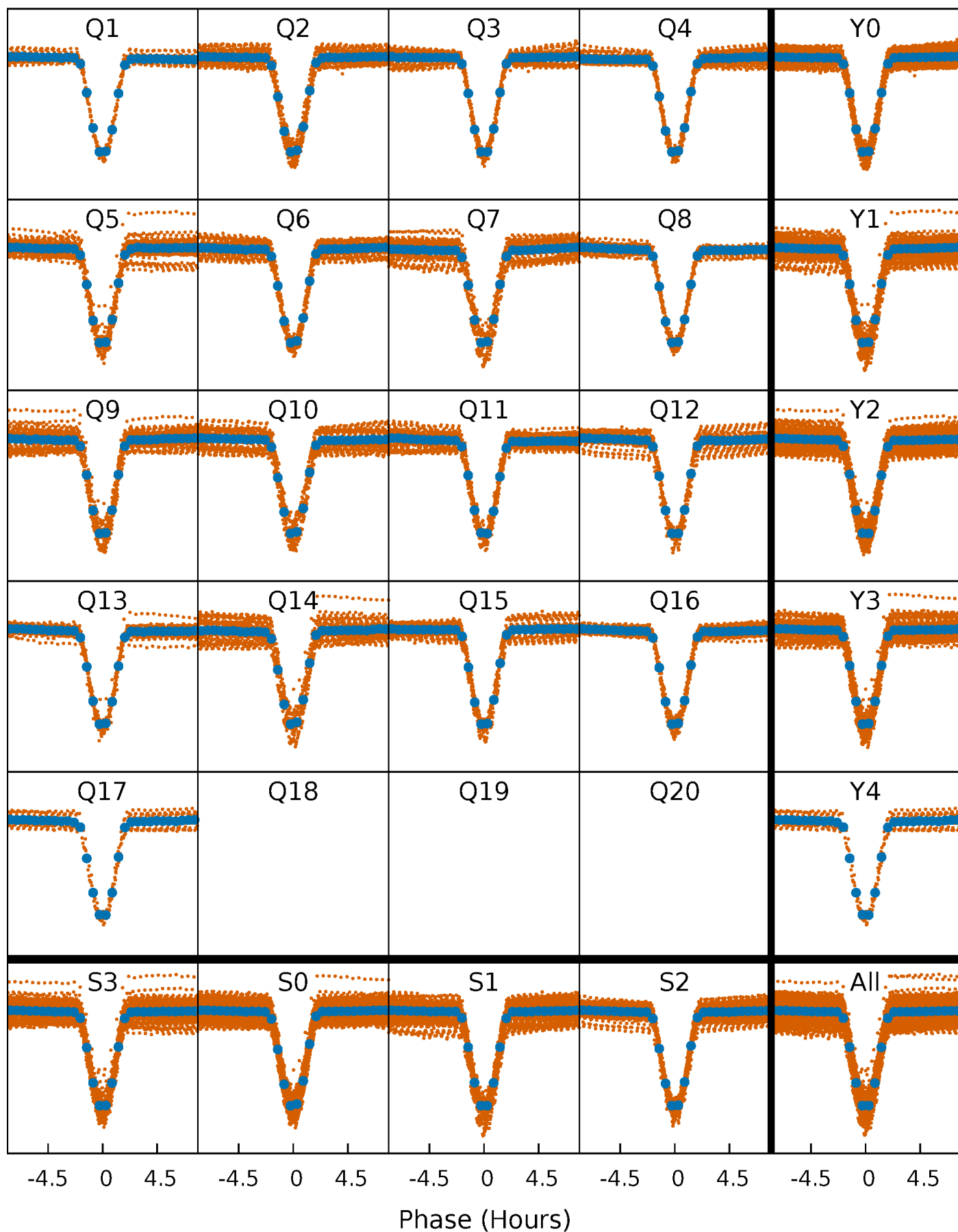


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



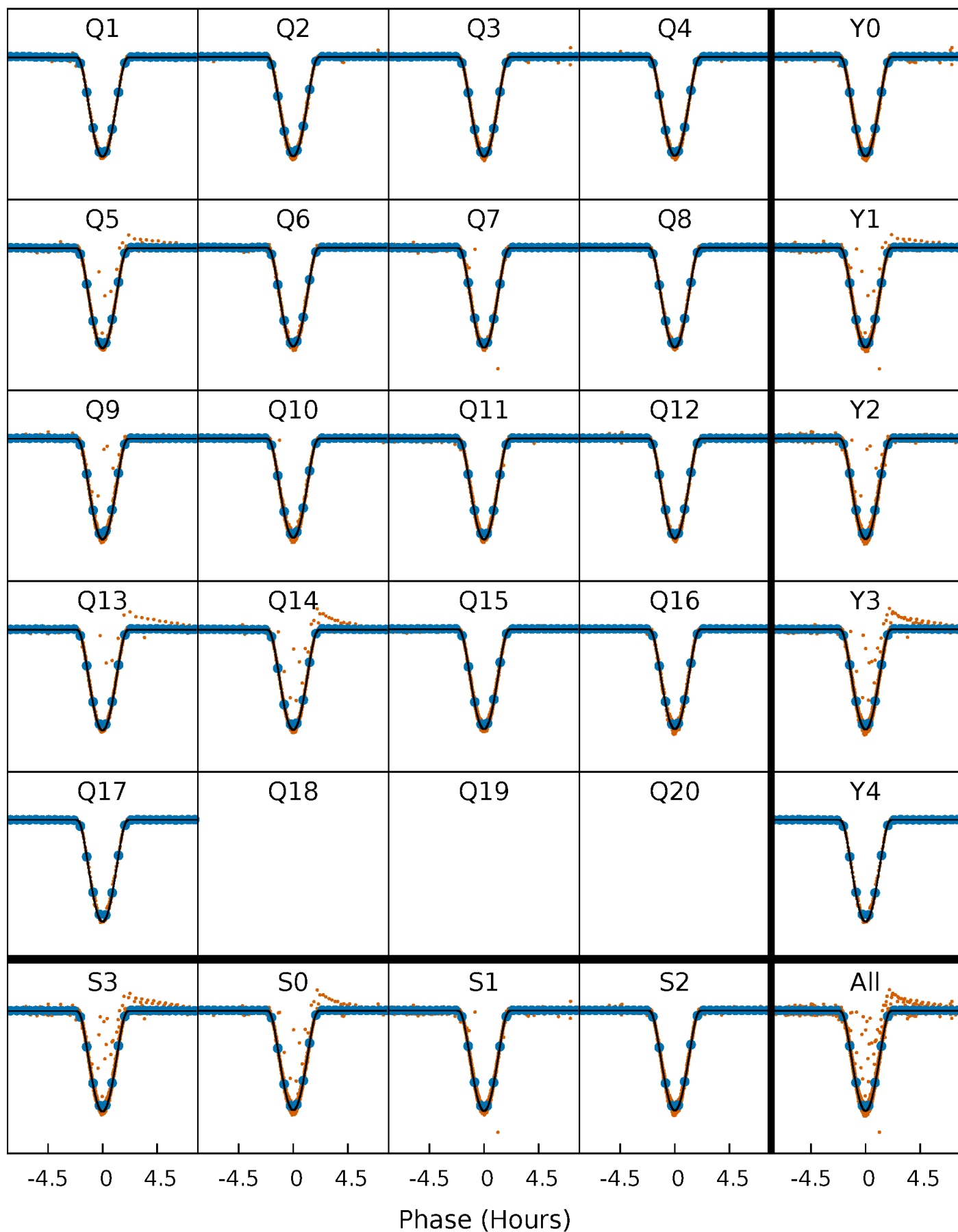
PDC Quarter-Phased Transit Curves

TCE 008939650-01 P= 1.827661 Days $T_0=132.821261$ (BKJD)



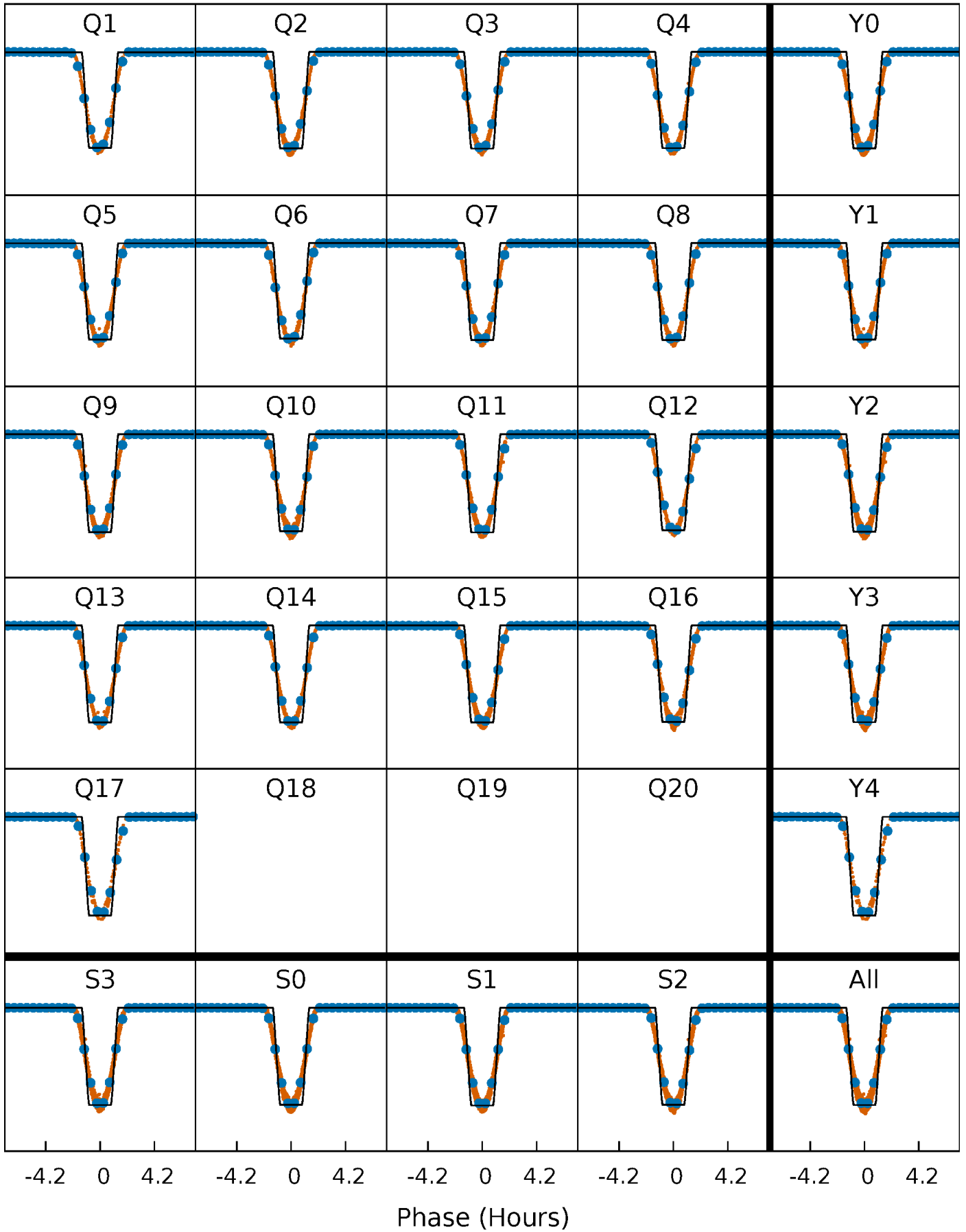
DV Quarter-Phased Transit Curves

TCE 008939650-01 P= 1.827661 Days $T_0=132.821261$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

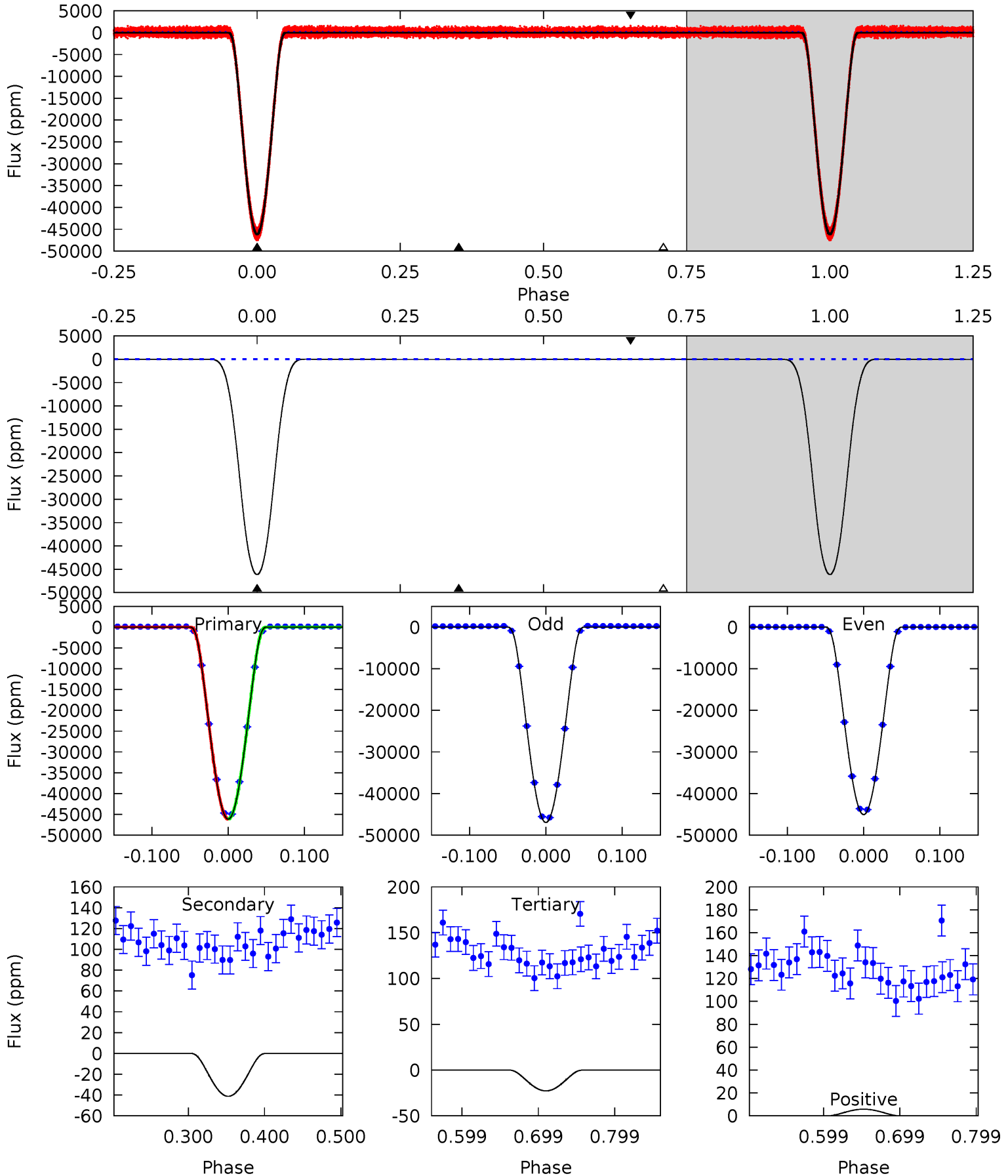
TCE 008939650-01 P= 1.827655 Days $T_0=132.823501$ (BKJD)



DV Model-Shift Uniqueness Test

008939650-01, P = 1.827661 Days, E = 130.993600 Days

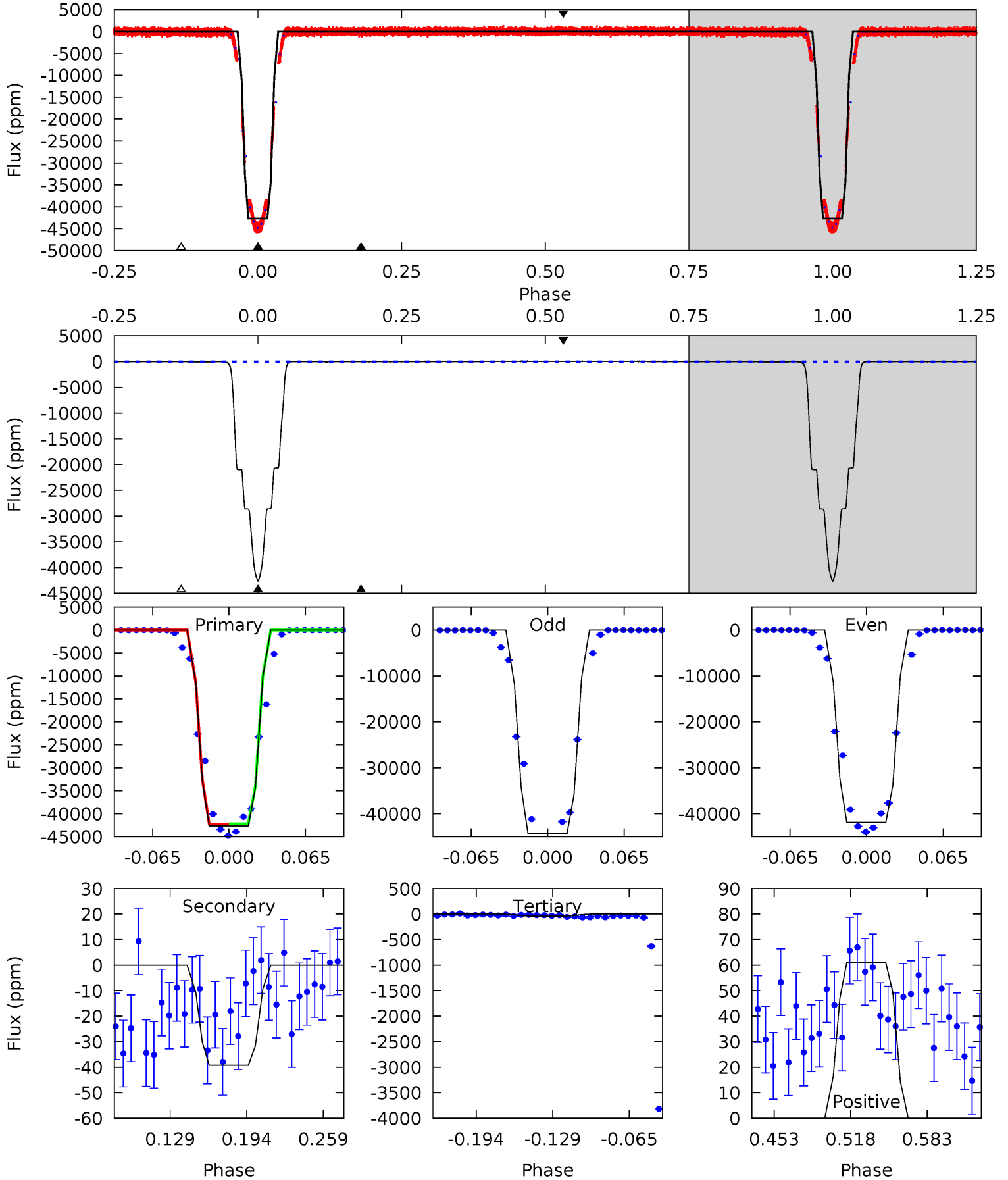
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9381	8.39	4.63	1.17	4.56	1.65	2.75	9377	9380	3.76	7.22	200.7	0.99	0.00	0.30



Alt Model-Shift Uniqueness Test

008939650-01, P = 1.827655 Days, E = 130.995846 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5679	5.22	5.03	8.12	4.66	1.85	4.12	5674	5671	0.19	-2.90	182.9	1.00	0.00	0



Stellar Parameters For KIC 008939650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6352^{+150}_{-206}	$4.427^{+0.054}_{-0.216}$	$-0.160^{+0.250}_{-0.300}$	$1.072^{+0.349}_{-0.116}$	$1.118^{+0.154}_{-0.154}$	$1.278^{+0.368}_{-0.673}$
	+2%/-3%	+1%/-5%	+156%/-188%	+33%/-11%	+14%/-14%	+29%/-53%
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 008939650-01 / KOI 5587.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-41 ± 5	$37.89^{+7.25}_{-2.91}$	2377^{+178}_{-119}	-2705^{+73}_{-108}	$0.014^{+0.003}_{-0.004}$
Alt.	-39 ± 8	$25.54^{+4.20}_{-2.12}$	2368^{+180}_{-117}	-2681^{+74}_{-113}	$0.029^{+0.008}_{-0.009}$

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

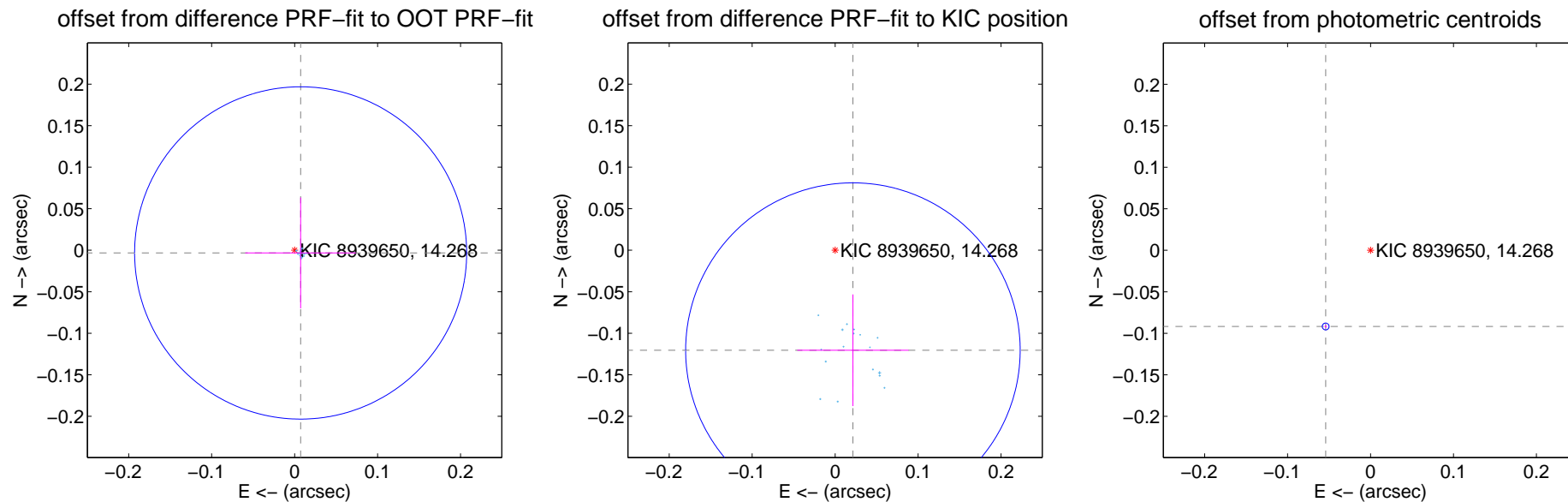
DV Centroid Data

Supplemental centroid analysis for 008939650-01. Kepler magnitude: 14.27. Transit SNR 4062.61

There are 17 quarters with good PRF difference image offsets

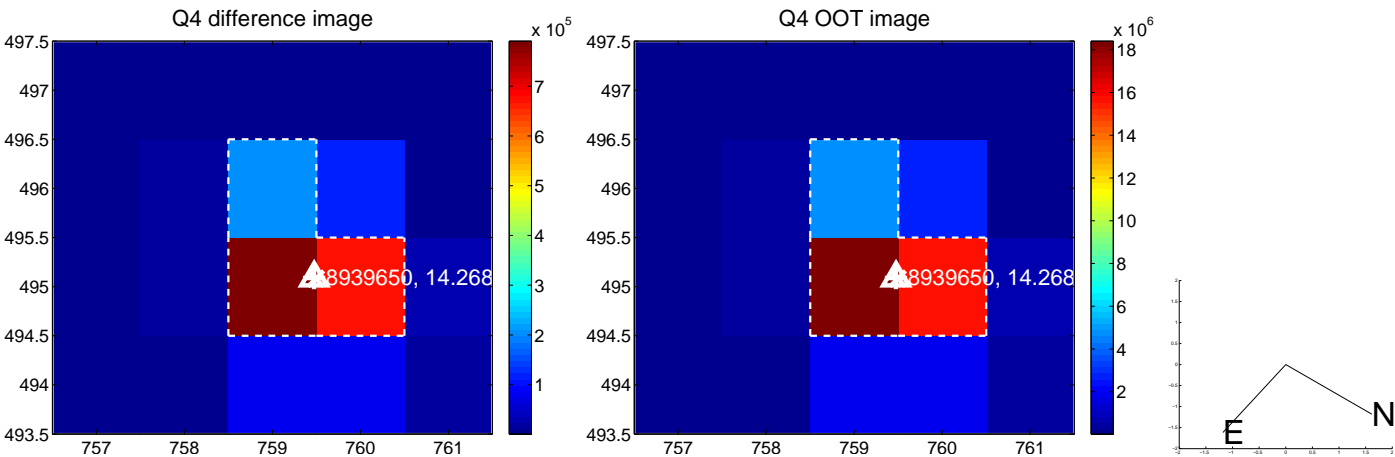
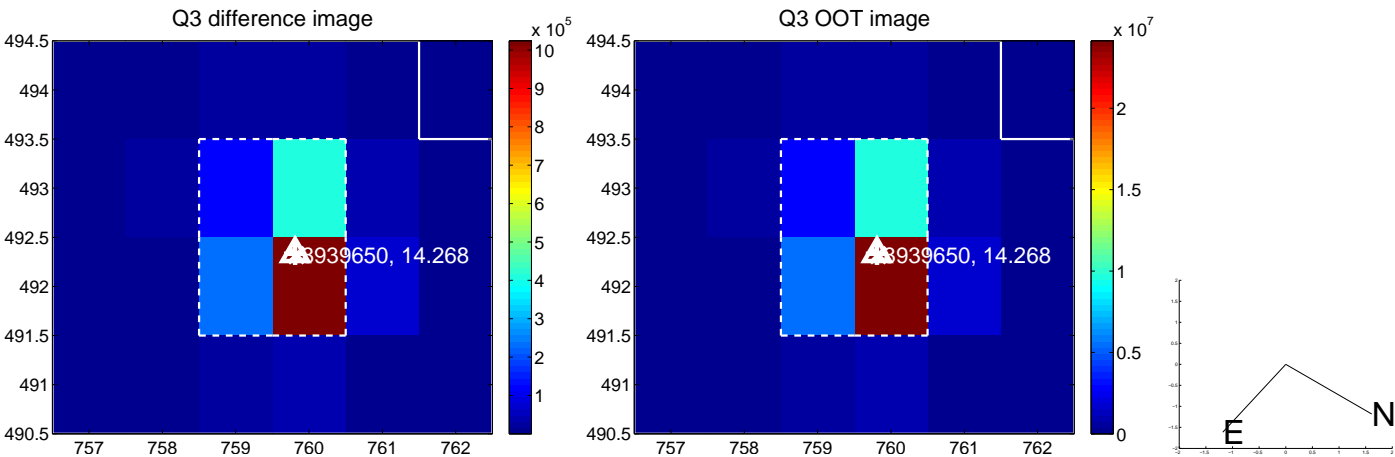
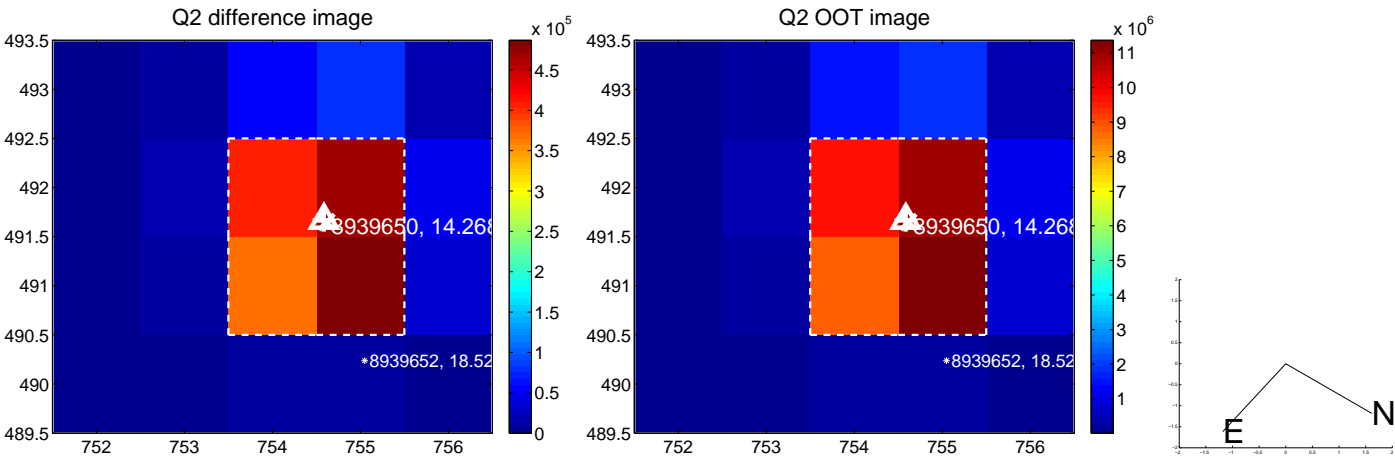
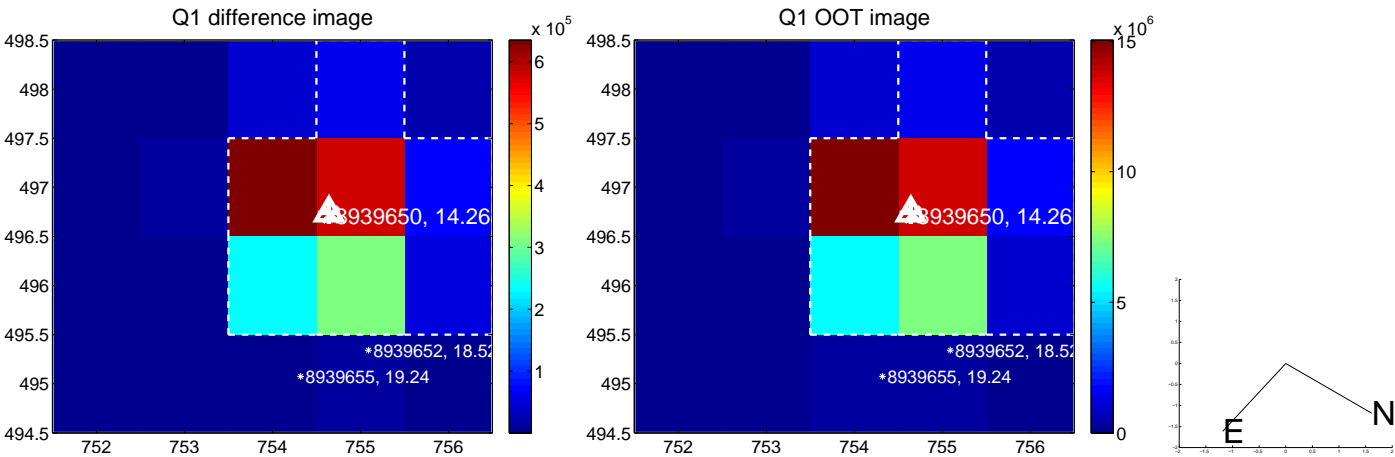
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.008 ± 0.067	0.12	-0.007 ± 0.067	-0.003 ± 0.067
PRF-fit source offset from KIC position	0.122 ± 0.067	1.82	-0.021 ± 0.067	-0.120 ± 0.067
photometric centroid source offset	0.11 ± 0.00	77.68	0.05 ± 0.00	-0.09 ± 0.00

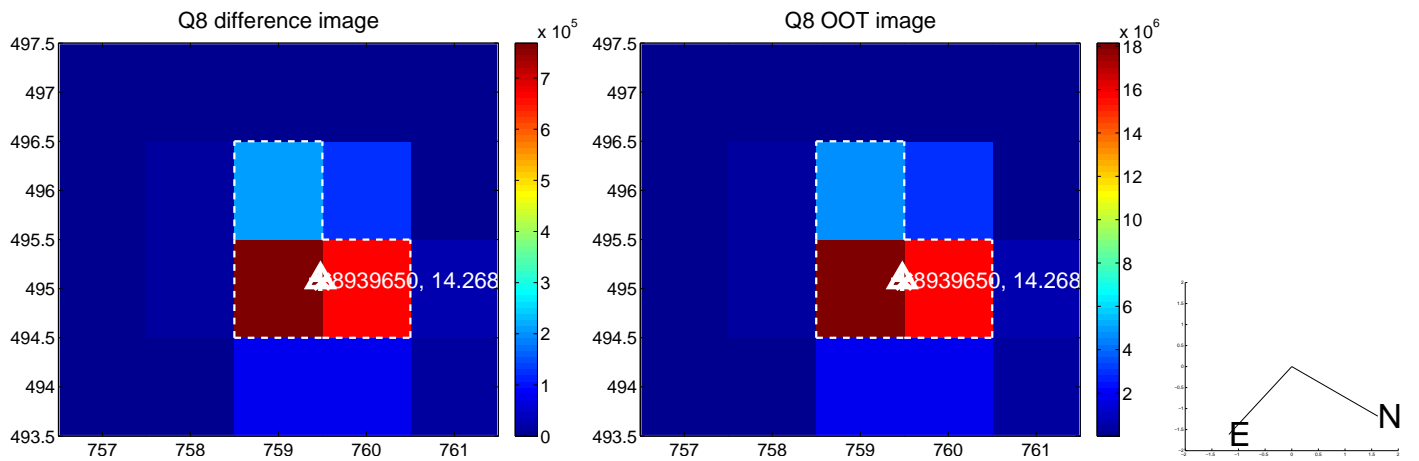
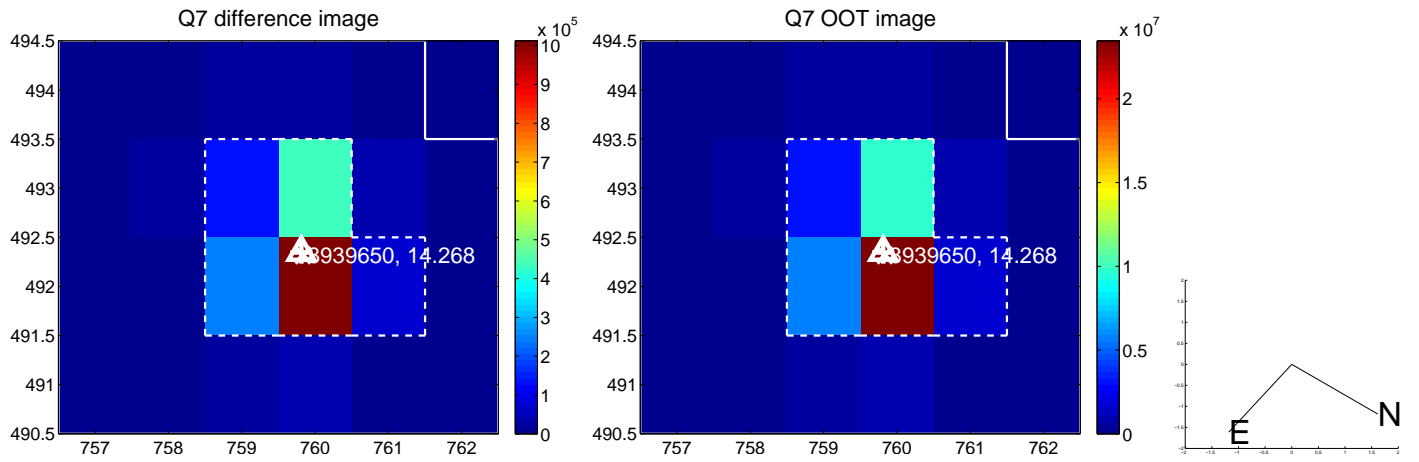
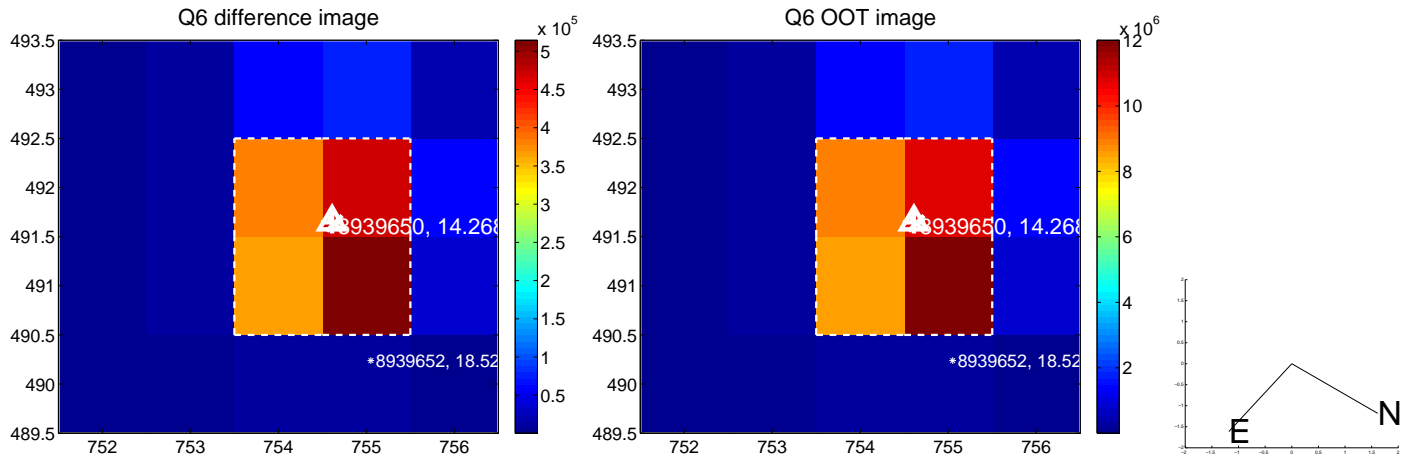
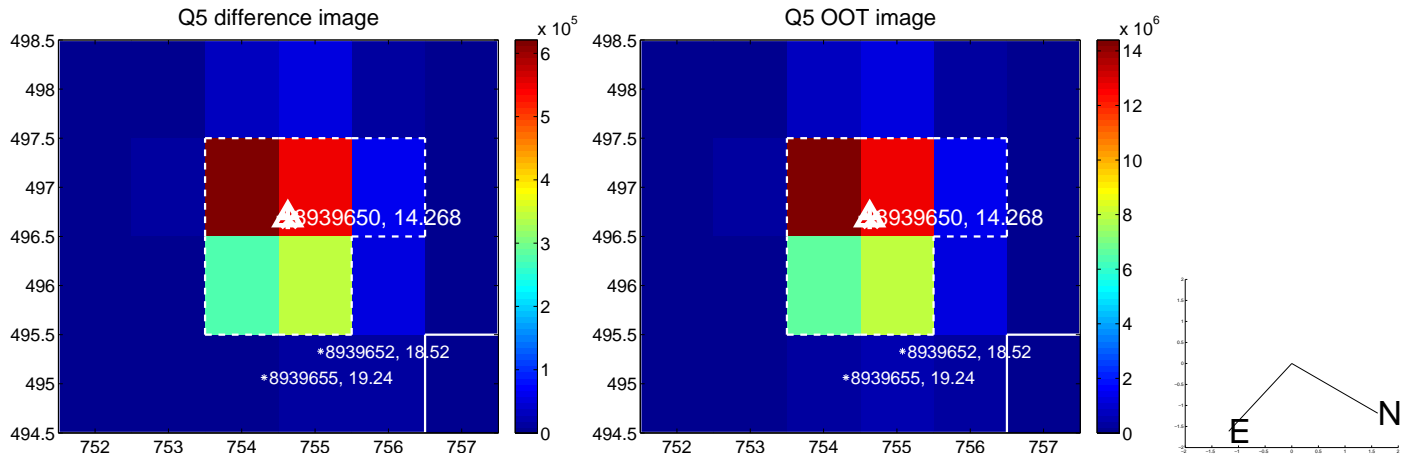


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

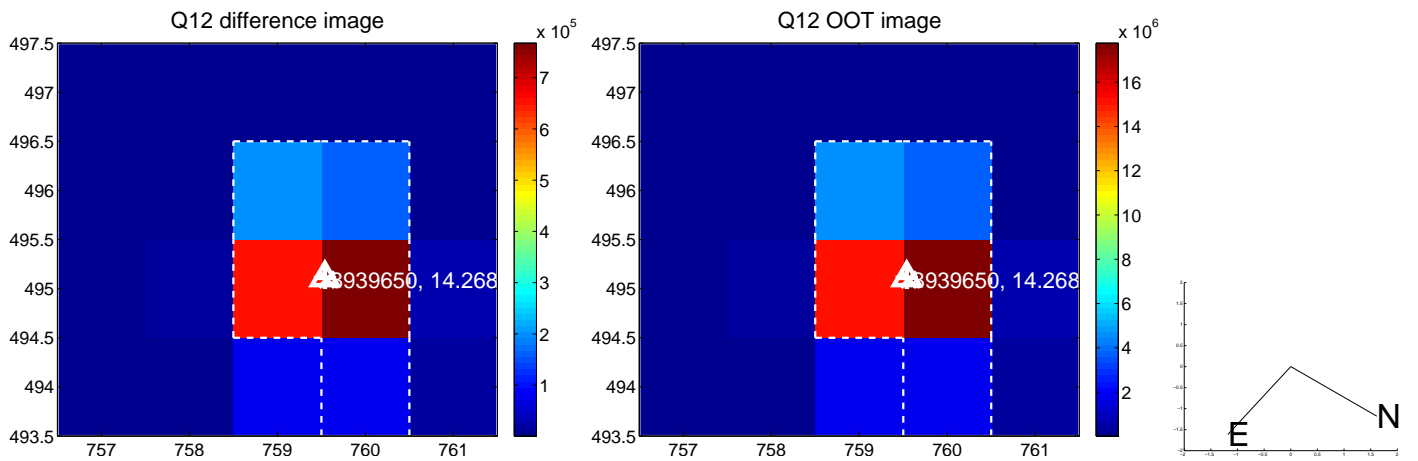
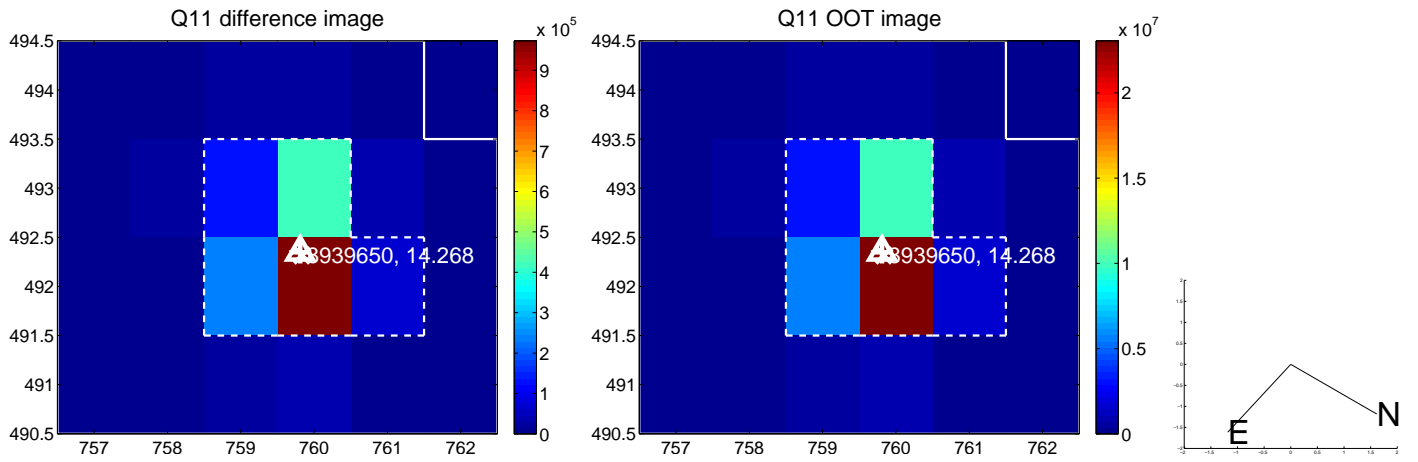
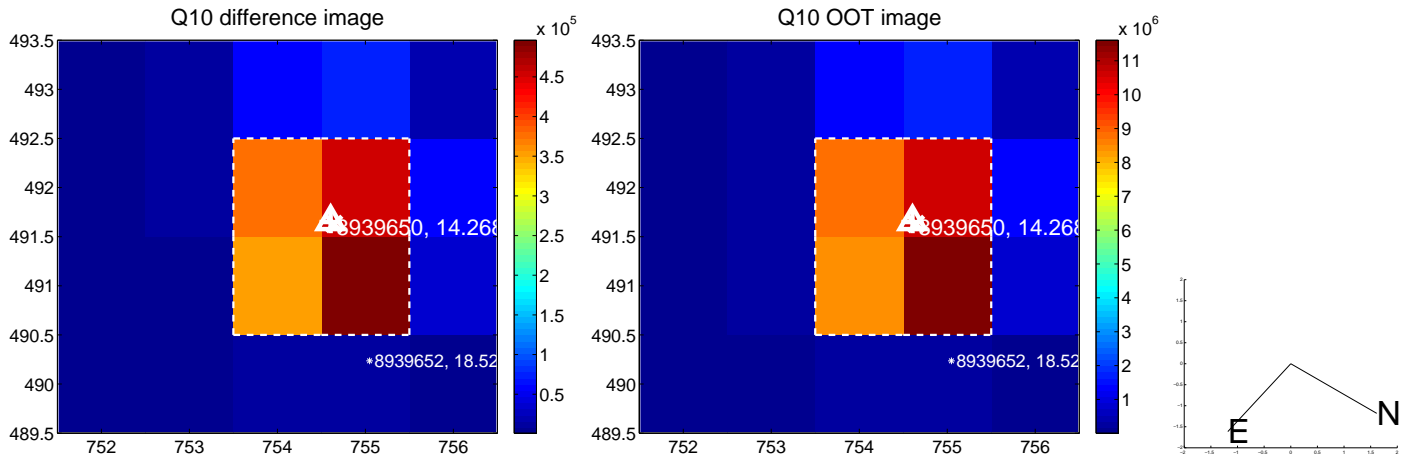
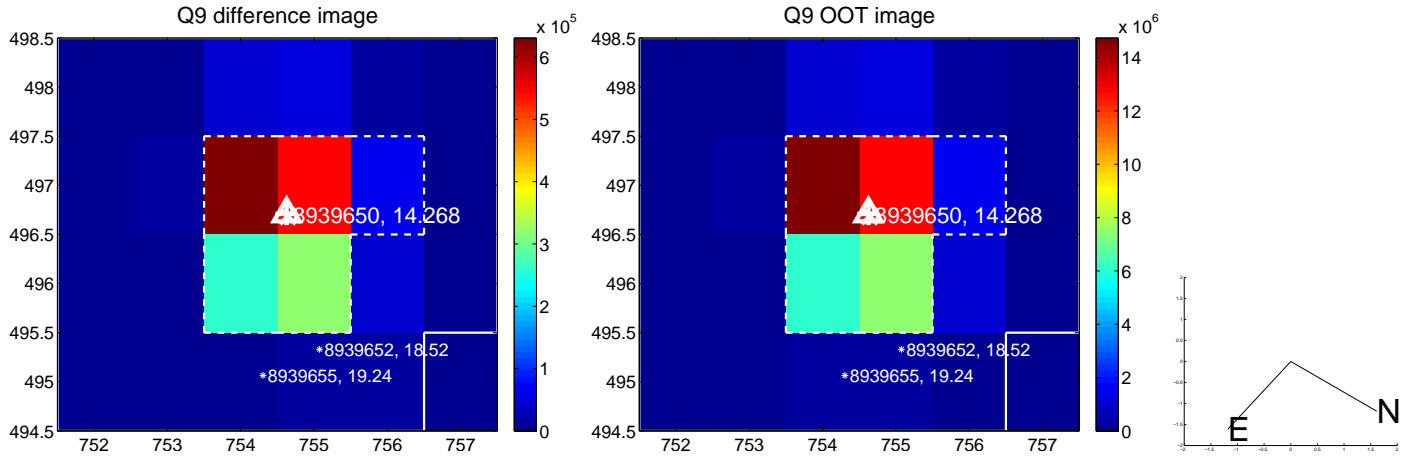
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



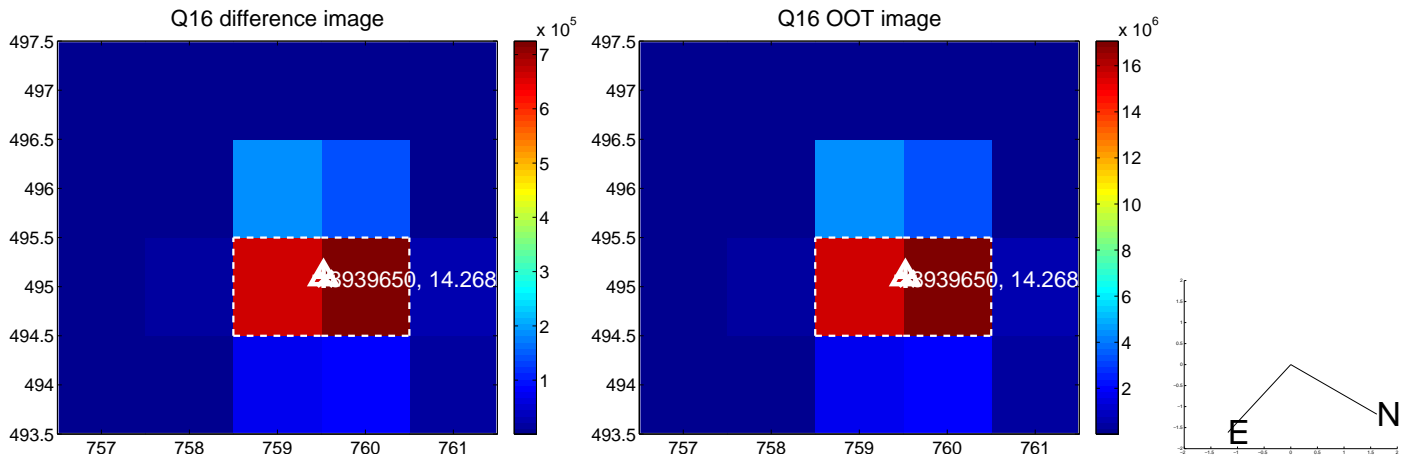
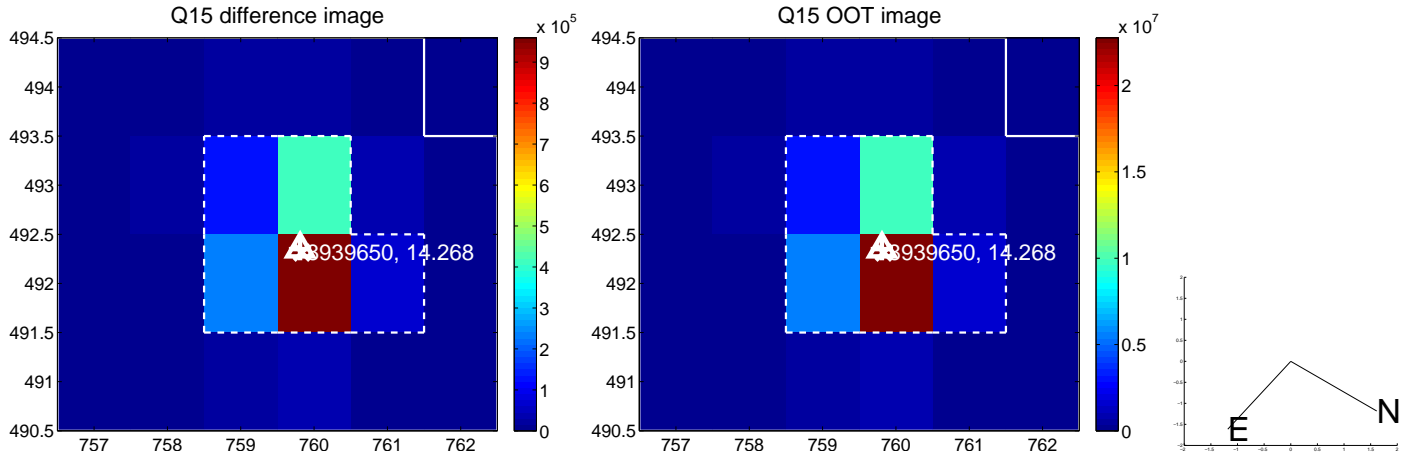
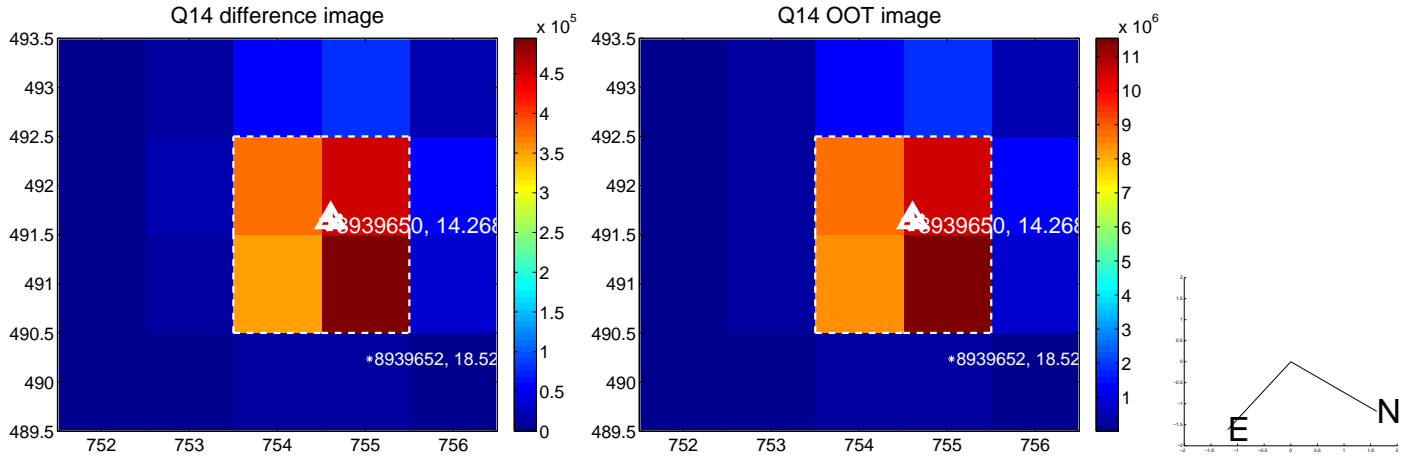
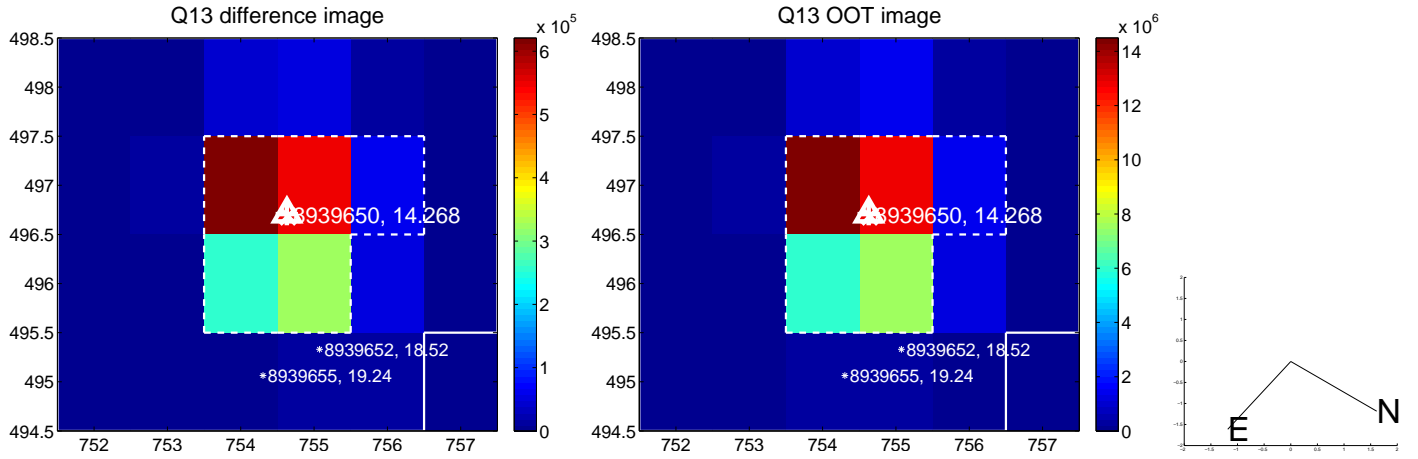
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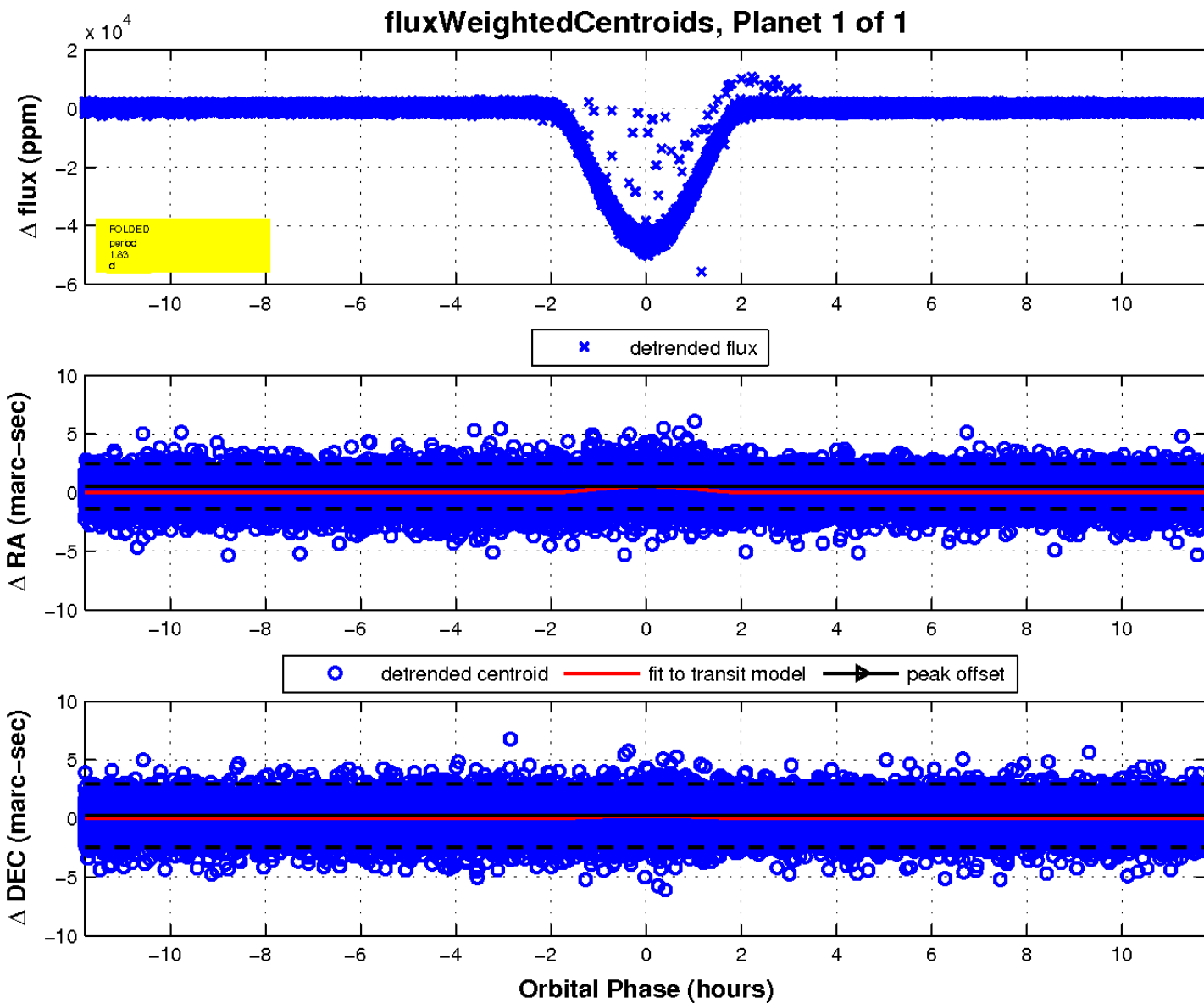
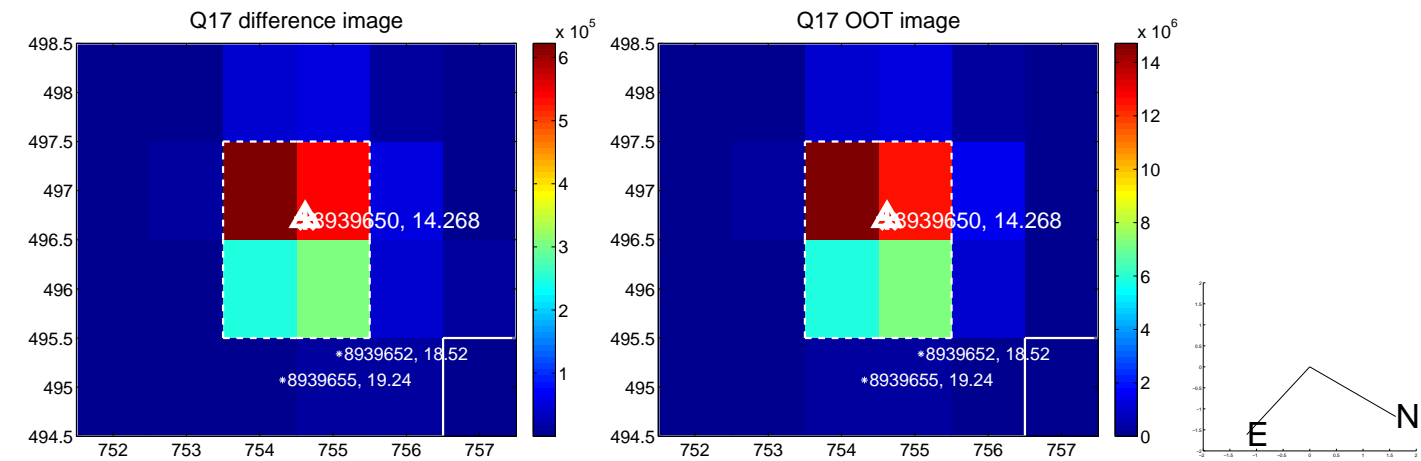
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UKIRT Image

Declination

