

KIC 009957668

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})
009957668-01	OBS	5744.01	30.695332	155.720745	88423.0	5.941	8449.9	6793.7	1.29	6335	58.59	69.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009957668-01	OBS	FP	0.00	0	1	0	0	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.

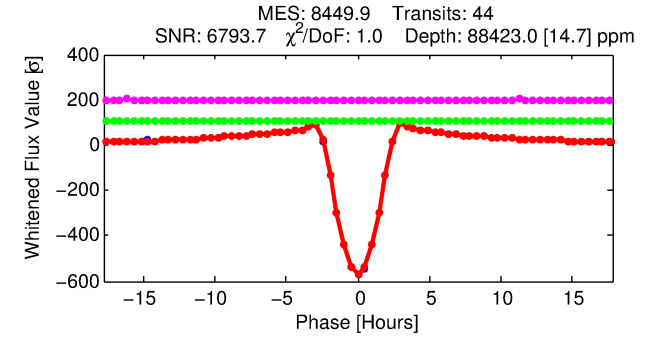
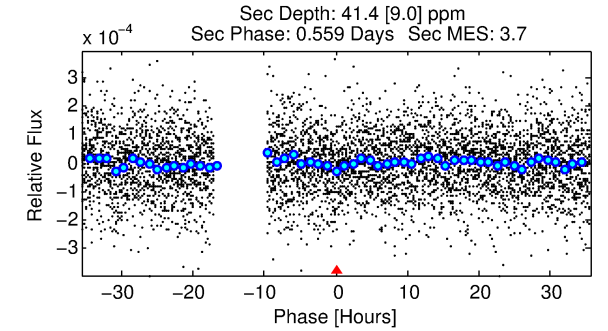
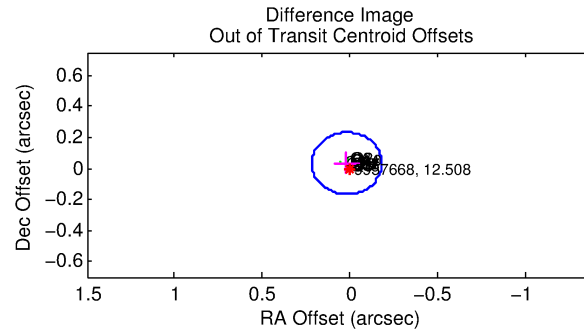
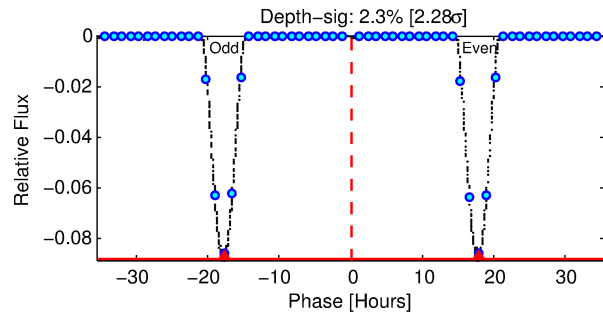
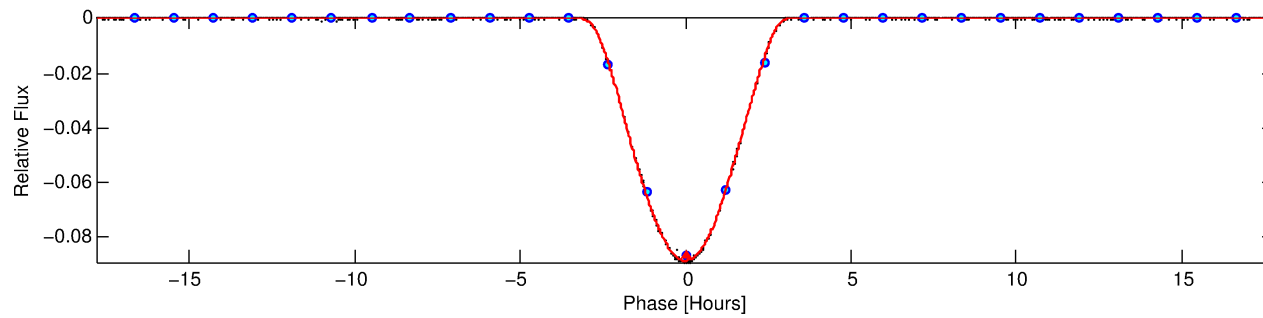
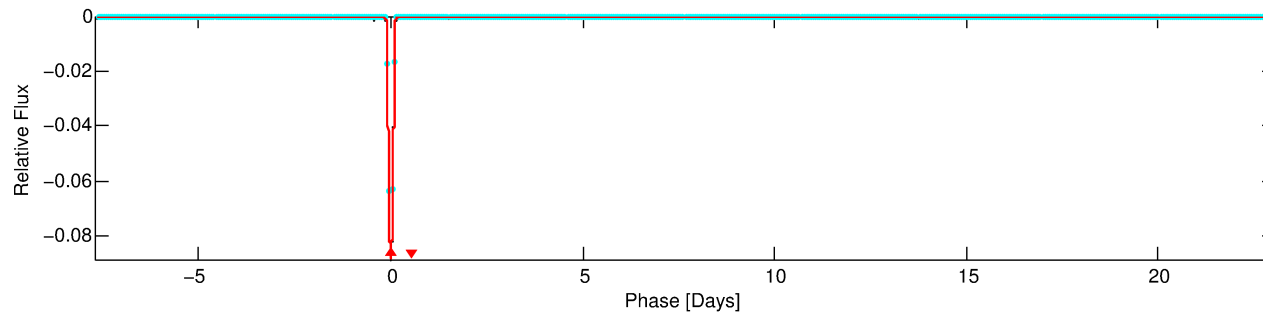
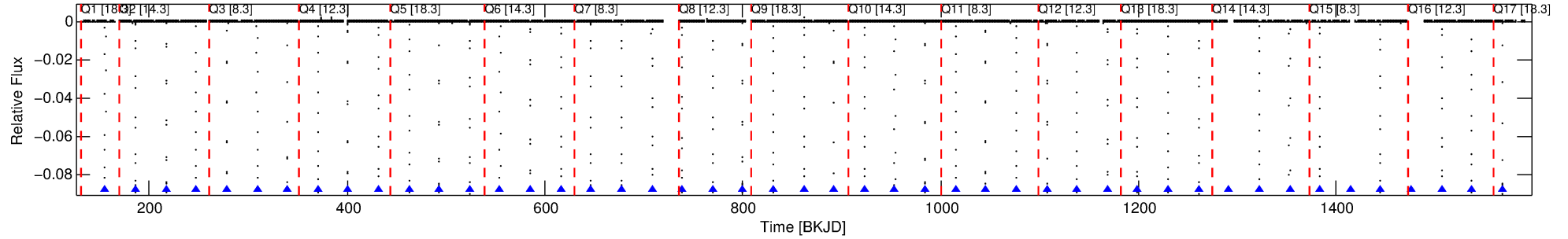
Ephemeris Match Information For 009957668-01

No Significant Match Found

DV One-Page Summary

KIC: 9957668 Candidate: 1 of 1 Period: 30.695 d
KOI: K05744.01 Corr: 0.999

Kp: 12.51 R*: 1.29 Rs Teff: 6335.0 K Logg: 4.17 Fe/H: -0.740



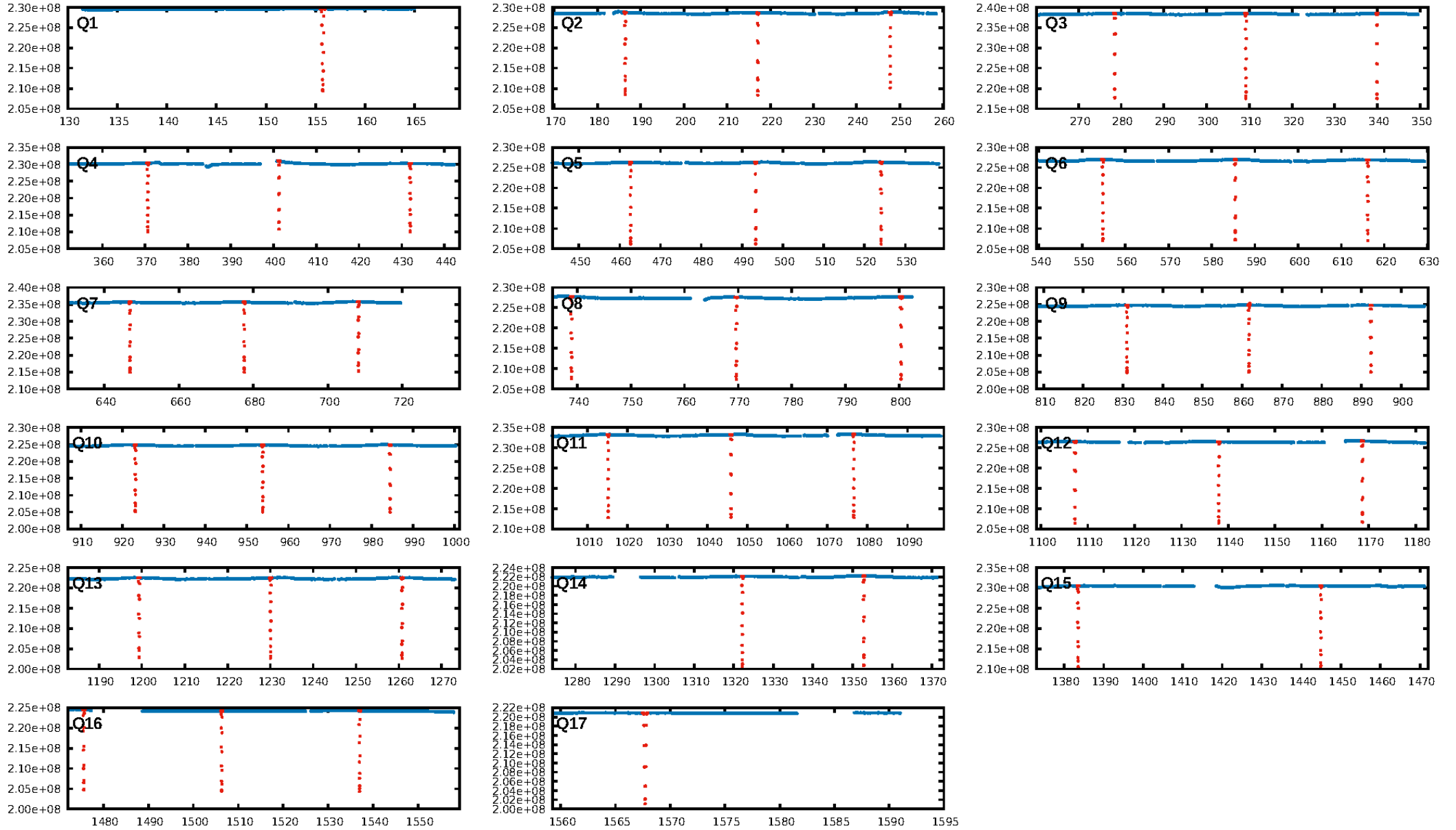
DV Fit Results:

Period = 30.69533 [0.00000] d
Epoch = 155.7207 [0.0000] BKJD
Rp/R* = 0.4175 [0.0045]
a/R* = 41.90 [0.01]
b = 0.94 [0.01]
Seff = 69.81 [28.49]
Teq = 737 [75] K
Rp = 58.59 [14.14] Re
a = 0.1849 [0.0446] AU
Ag = 0.23 [0.10] [-7.56σ]
Teffp = 787 [48] K [0.55σ]

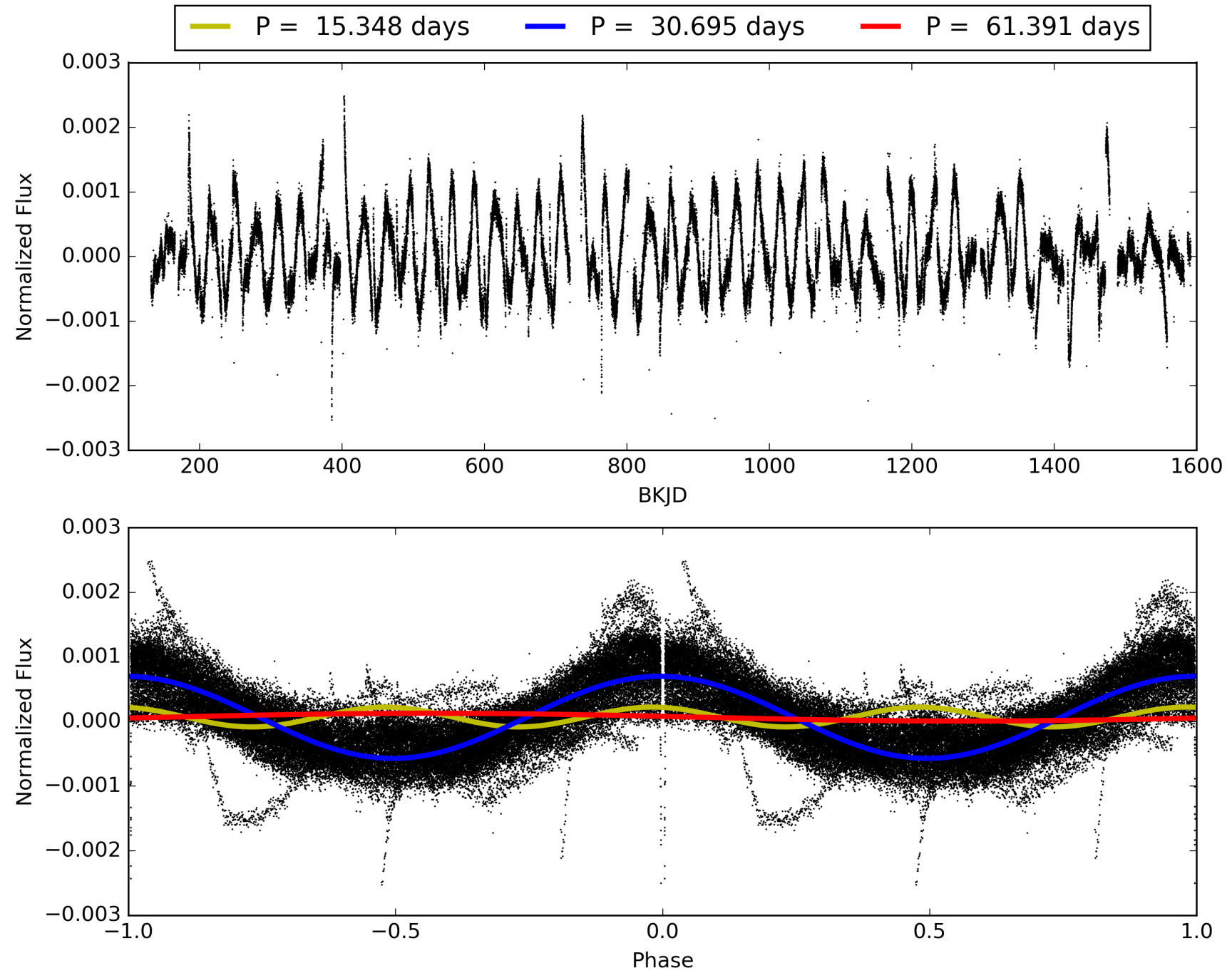
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [42/42]
GhostDiagnostic-chr: 18.18
Centroid-sig: 0.0%
Centroid-so: 0.191 arcsec [208.62σ]
OotOffset-rm: 0.039 arcsec [0.58σ]
KicOffset-rm: 0.179 arcsec [2.64σ]
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 009957668-01, PDC Light Curves

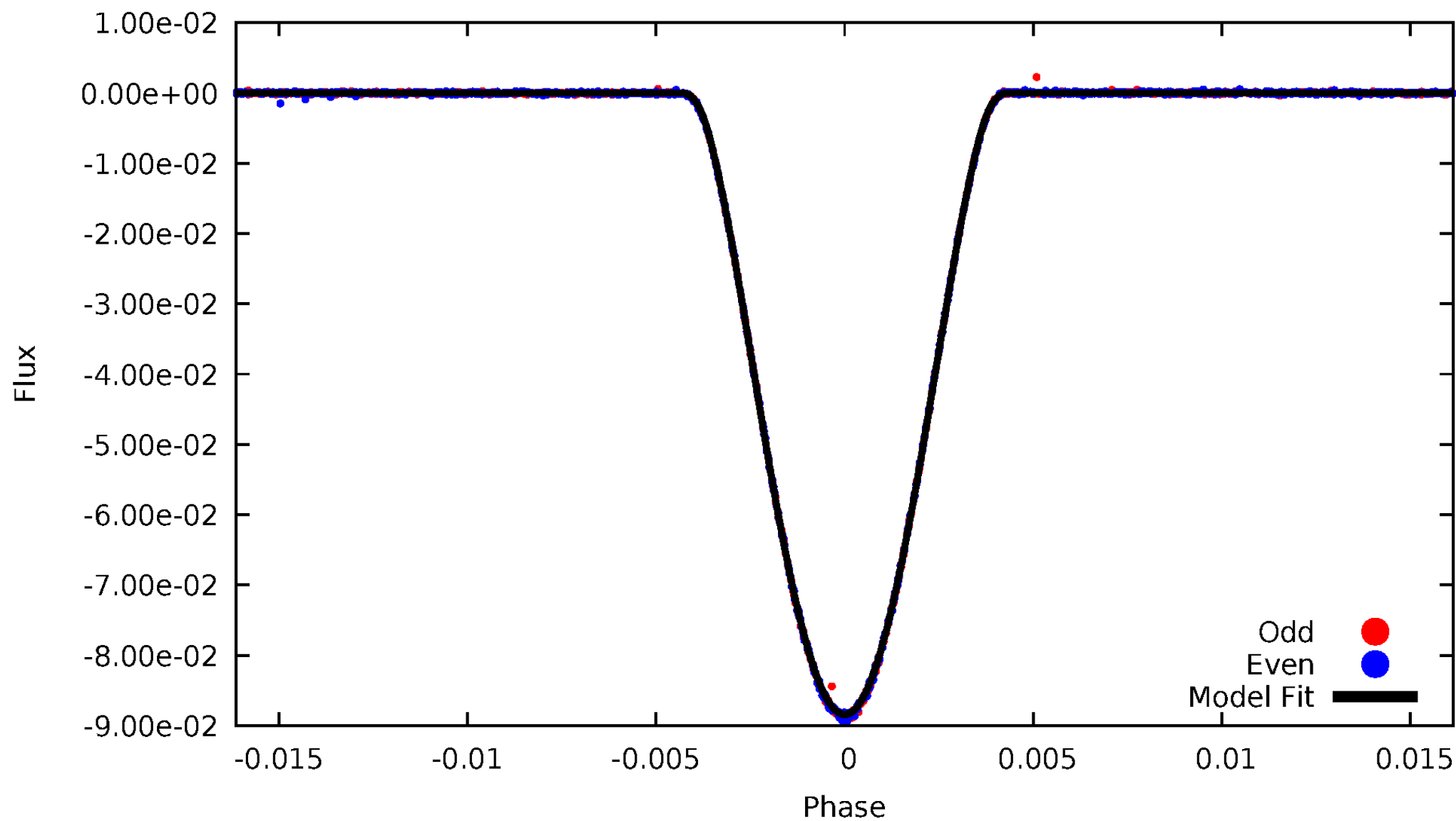


TCE 009957668-01



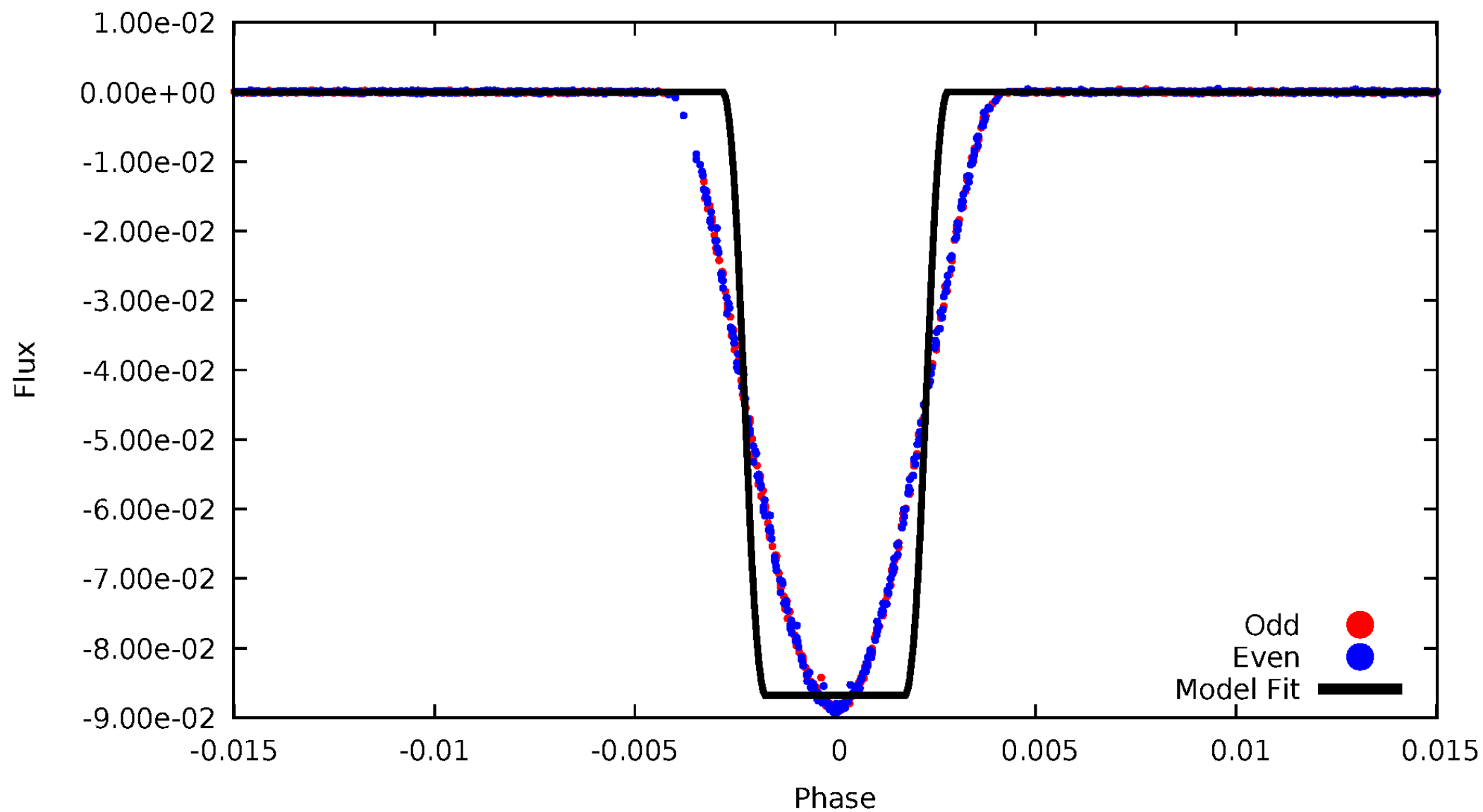
DV Odd/Even

TCE 009957668-01



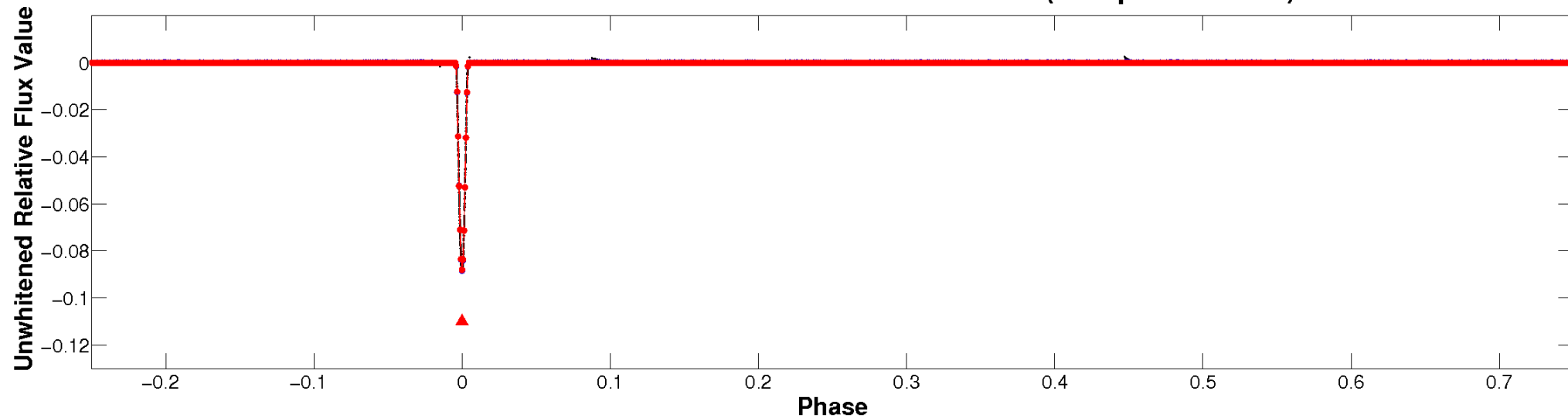
ALT Odd/Even

TCE 009957668-01

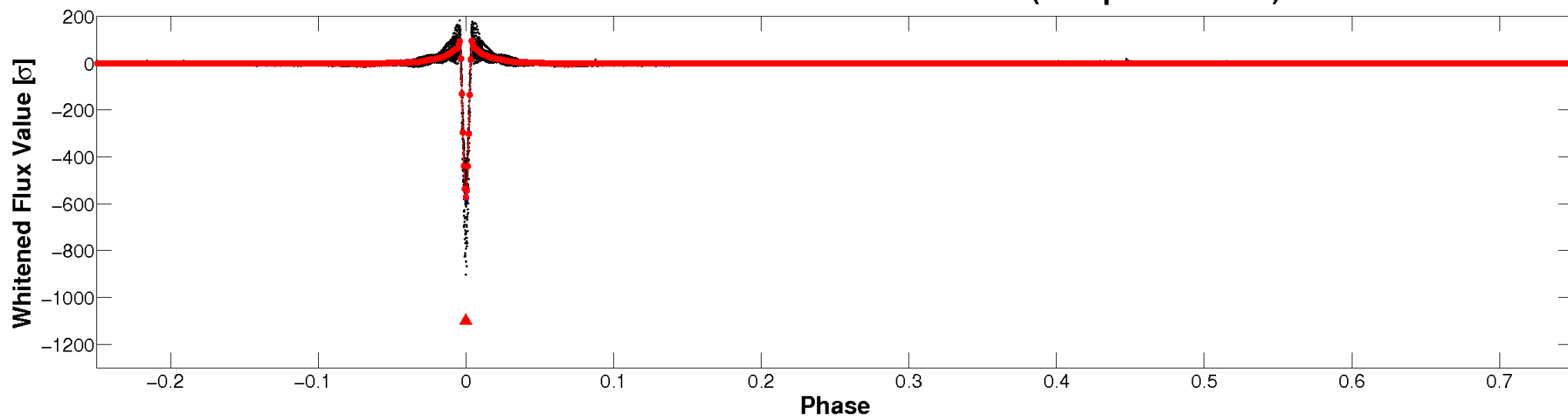


Non-Whitened Vs. Whitened Light Curve

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

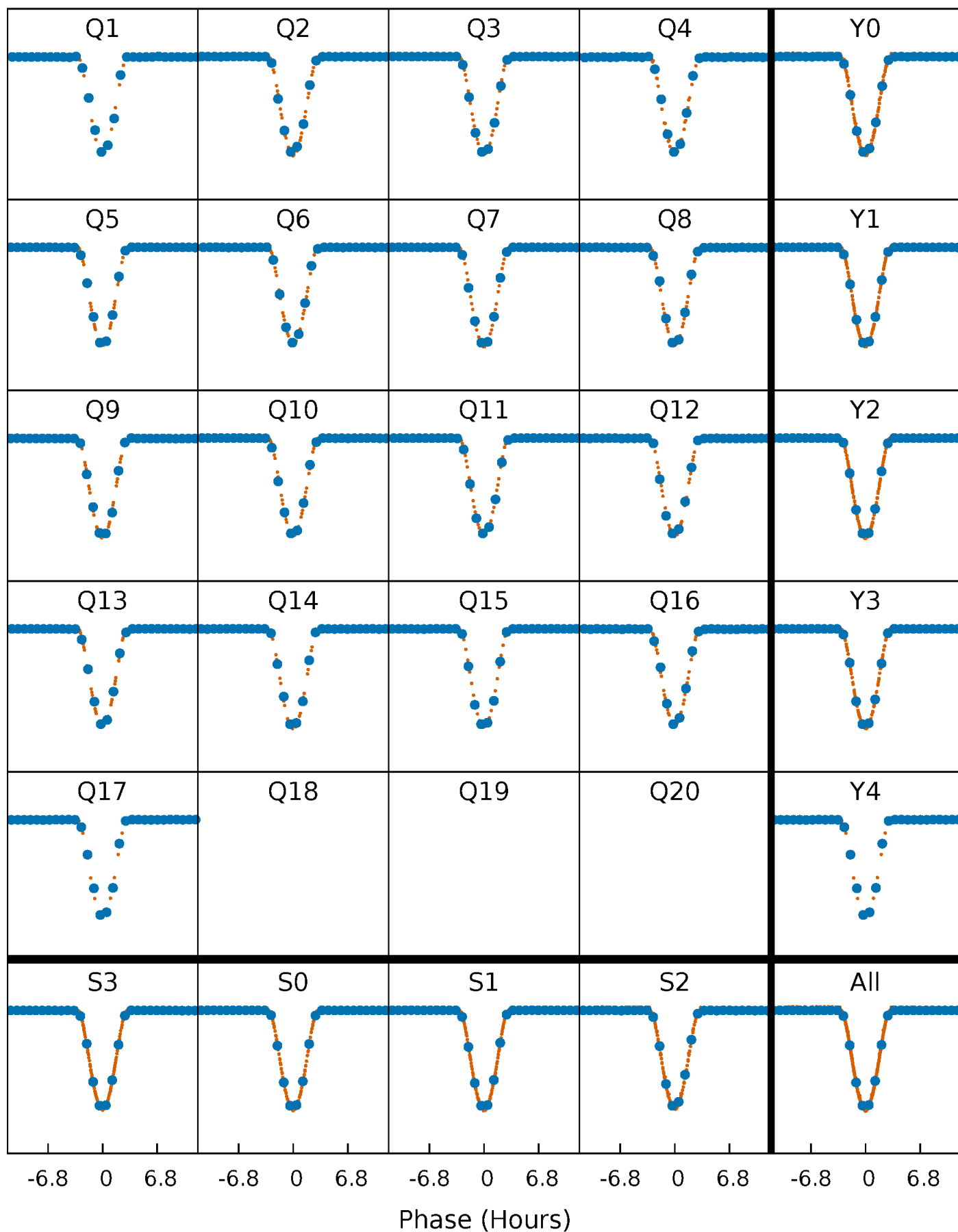


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



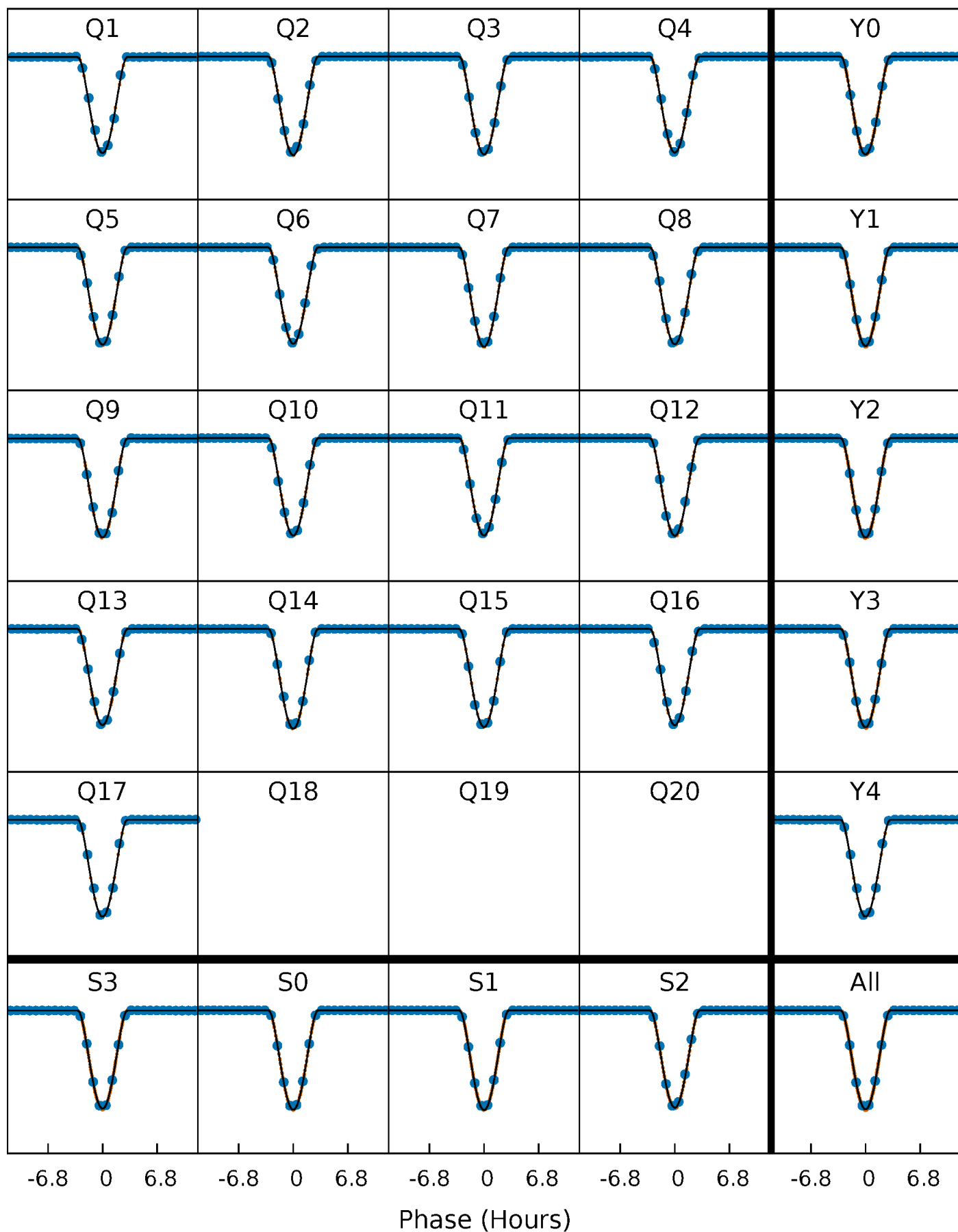
PDC Quarter-Phased Transit Curves

TCE 009957668-01 P= 30.695332 Days $T_0=155.720745$ (BKJD)



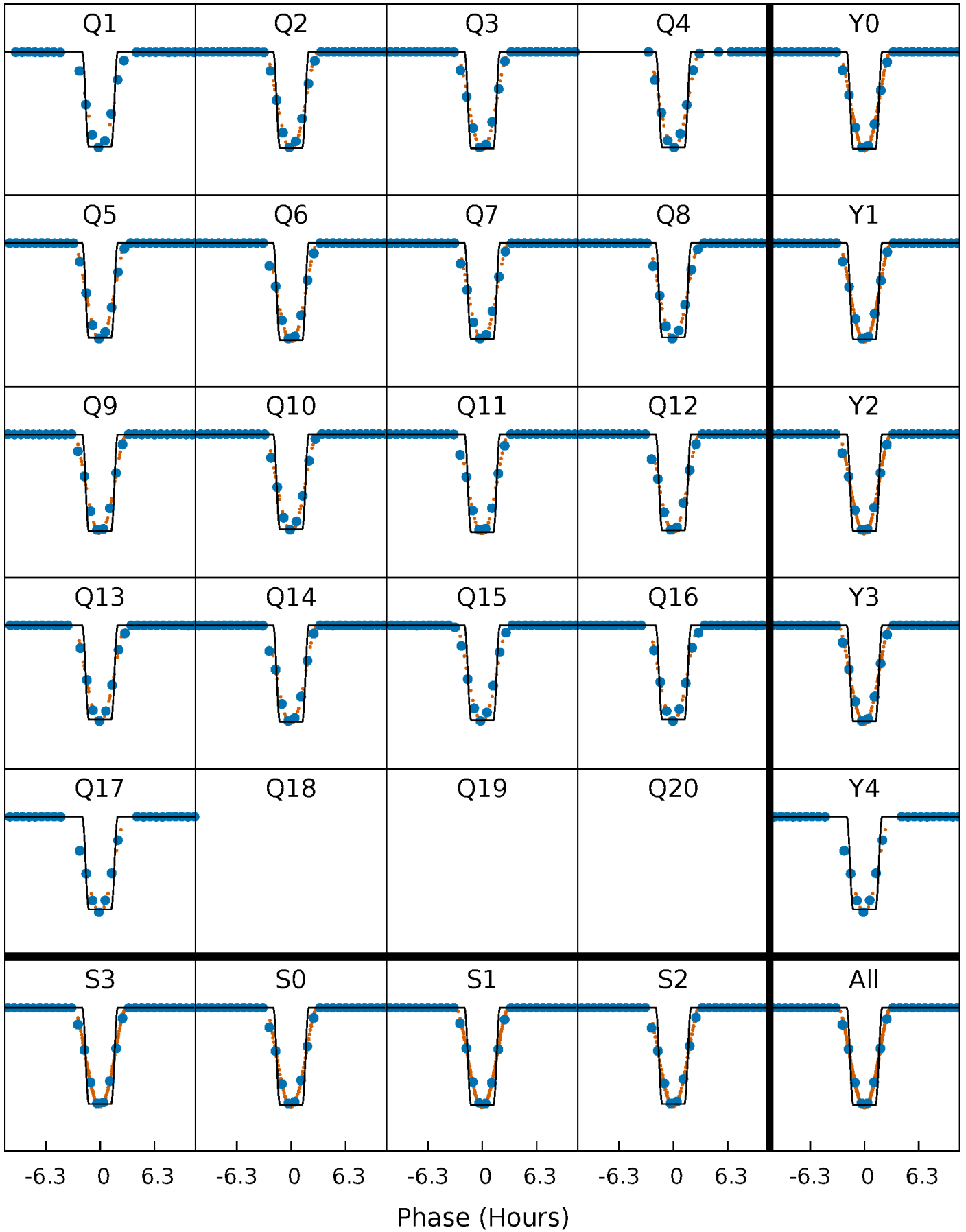
DV Quarter-Phased Transit Curves

TCE 009957668-01 P= 30.695332 Days $T_0=155.720745$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

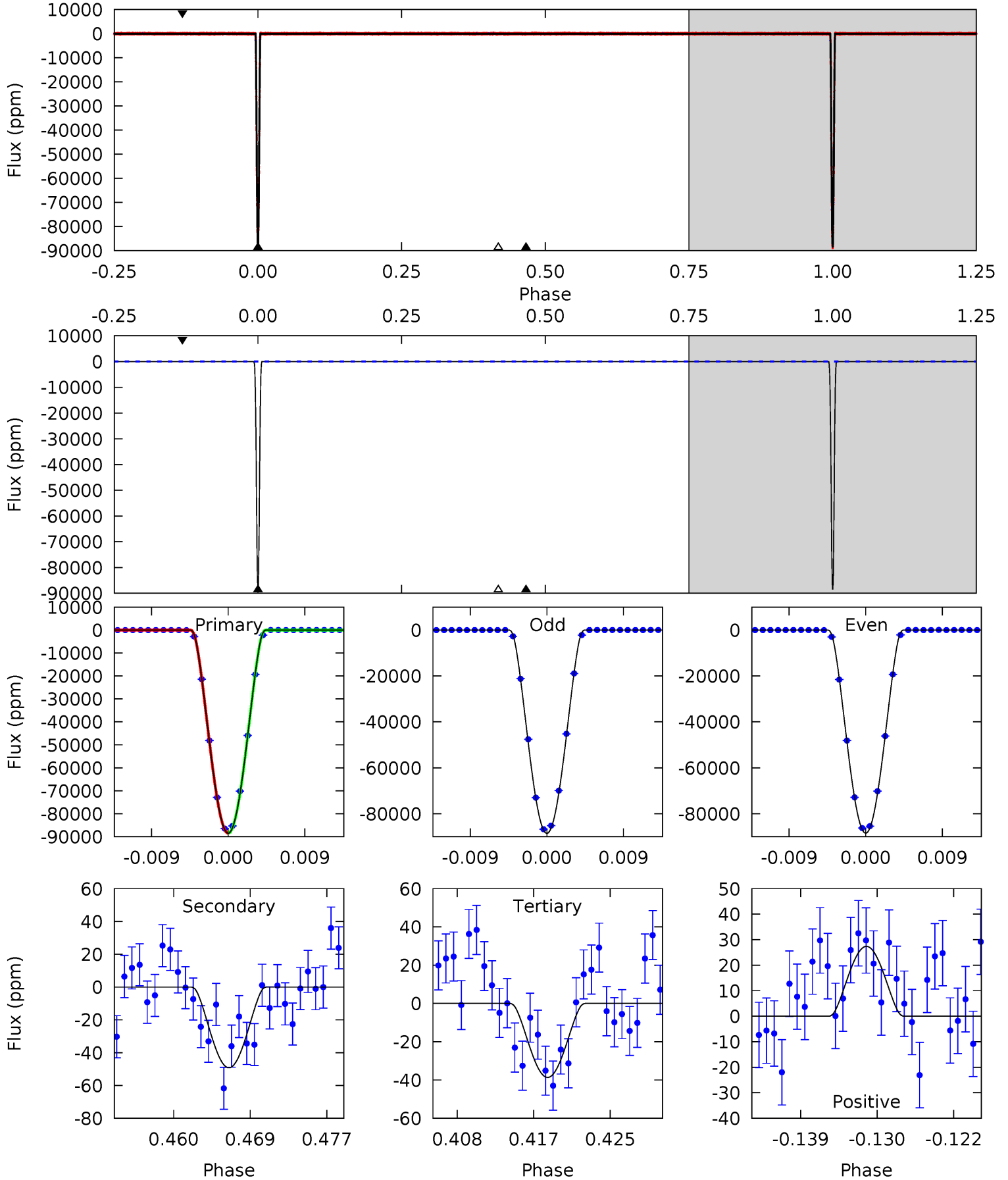
TCE 009957668-01 P= 30.695384 Days $T_0=155.719608$ (BKJD)



DV Model-Shift Uniqueness Test

009957668-01, P = 30.695332 Days, E = 125.025413 Days

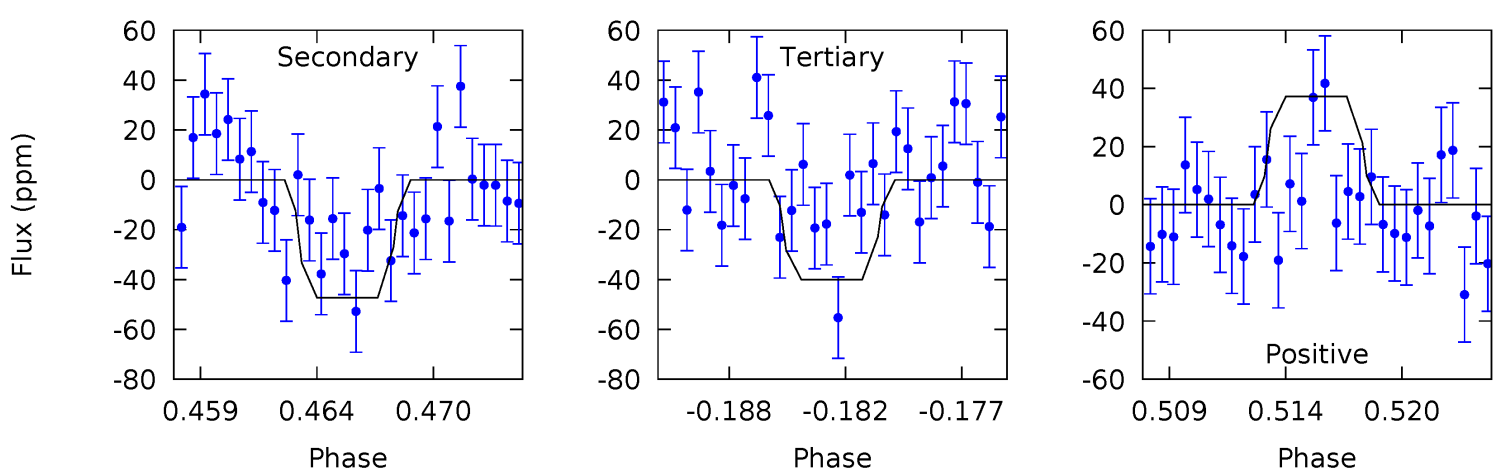
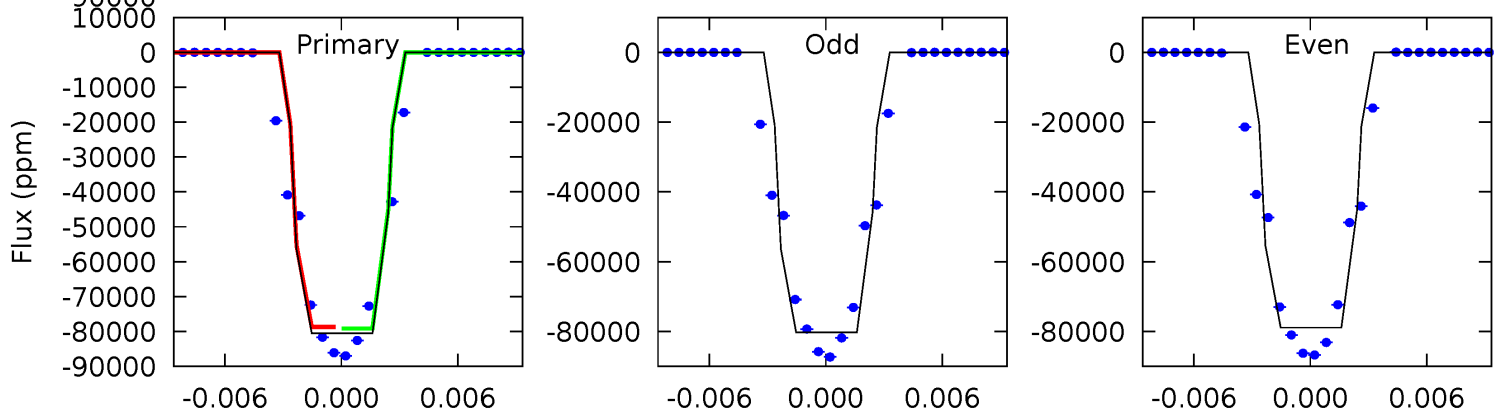
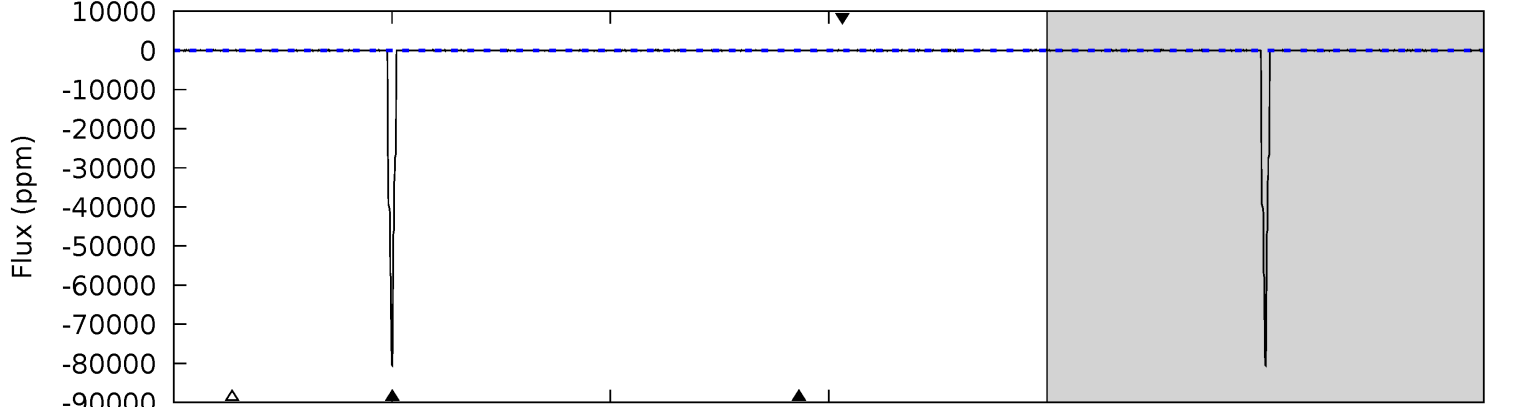
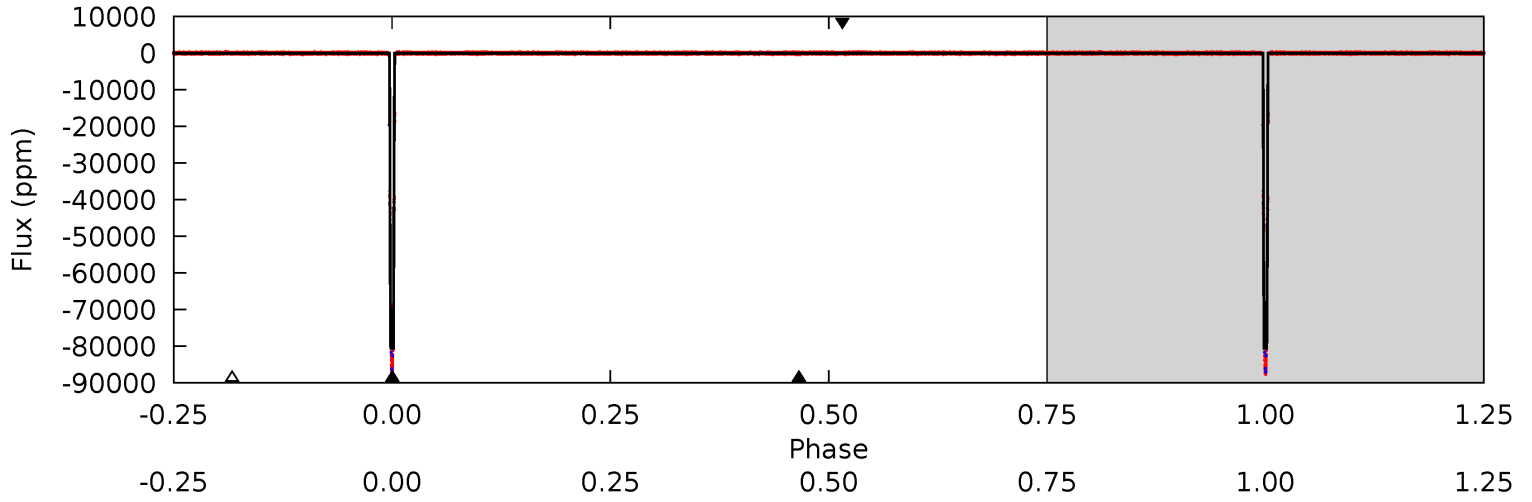
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19507	10.8	8.52	6.03	5.05	2.62	2.48	19499	19501	2.32	4.82	11.8	1.00	0.00	0



Alt Model-Shift Uniqueness Test

009957668-01, P = 30.695384 Days, E = 125.024224 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8698	5.11	4.33	4.03	5.14	2.77	2.12	8694	8694	0.78	1.08	84.7	1.00	0.00	0



Stellar Parameters For KIC 009957668

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6335^{+171}_{-171}	$4.171^{+0.234}_{-0.126}$	$-0.740^{+0.350}_{-0.250}$	$1.286^{+0.253}_{-0.310}$	$0.894^{+0.130}_{-0.076}$	$0.592^{+0.754}_{-0.211}$
	+3%/-3%	+6%/-3%	+47%/-34%	+20%/-24%	+15%/-9%	+127%/-36%
Source	PHO1	FLK73	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 009957668-01 / KOI 5744.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-49 ± 5	$58.07^{+6.99}_{-8.32}$	1017^{+64}_{-76}	-1461^{+3071}_{-224}	$0.282^{+0.097}_{-0.064}$
Alt.	-47 ± 9	$41.16^{+4.84}_{-5.40}$	1020^{+63}_{-67}	1817^{+83}_{-133}	$0.528^{+0.203}_{-0.139}$

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

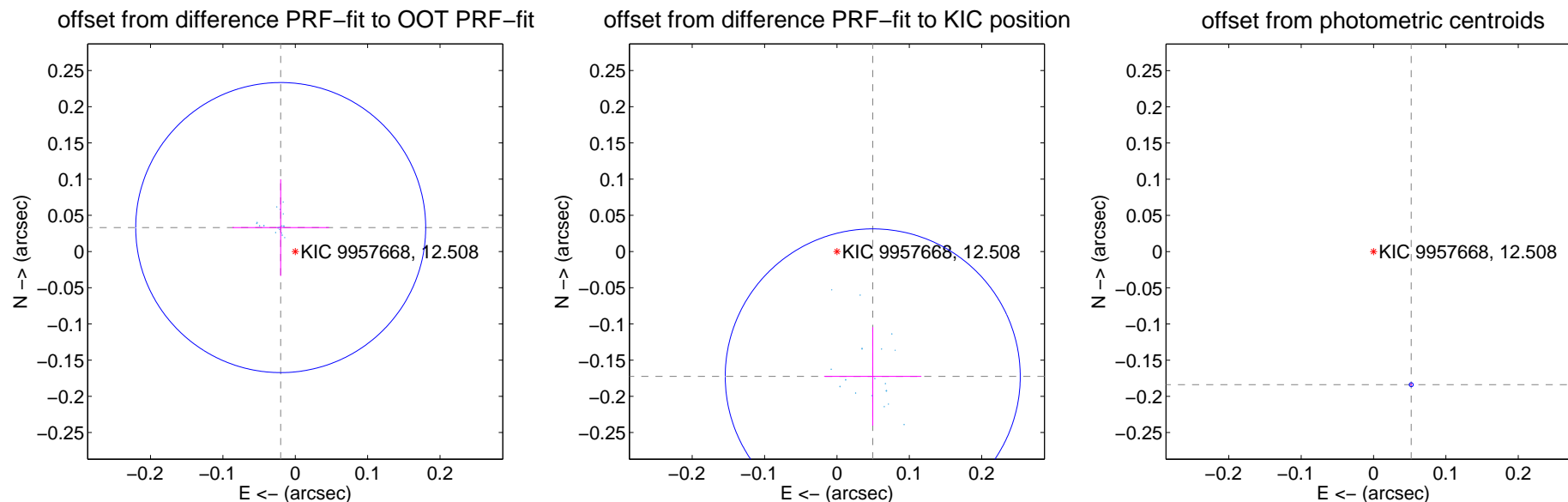
DV Centroid Data

Supplemental centroid analysis for 009957668-01. Kepler magnitude: 12.51. Transit SNR 6793.69

There are 17 quarters with good PRF difference image offsets

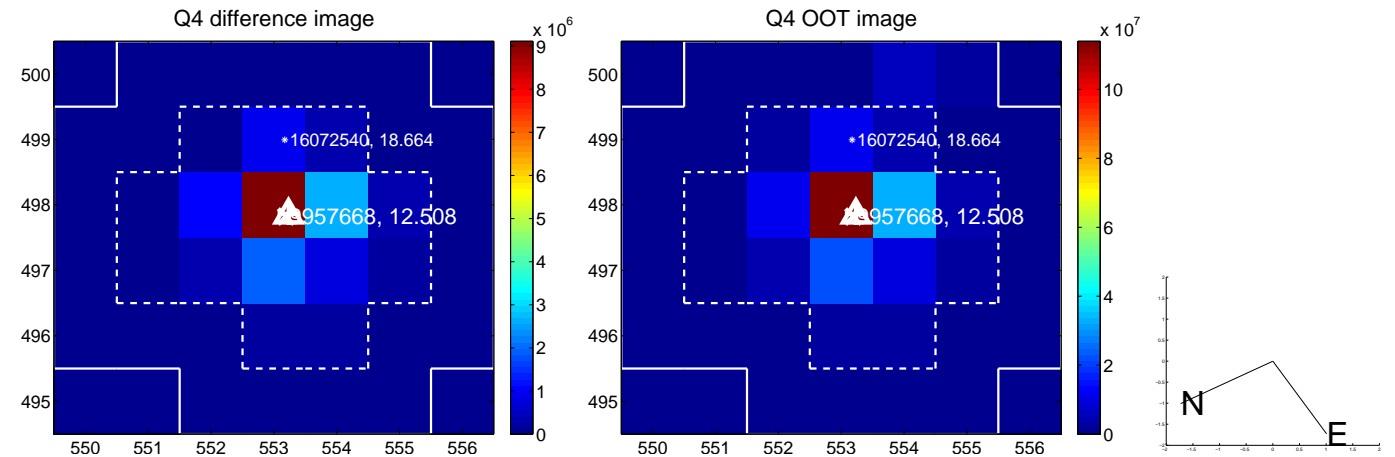
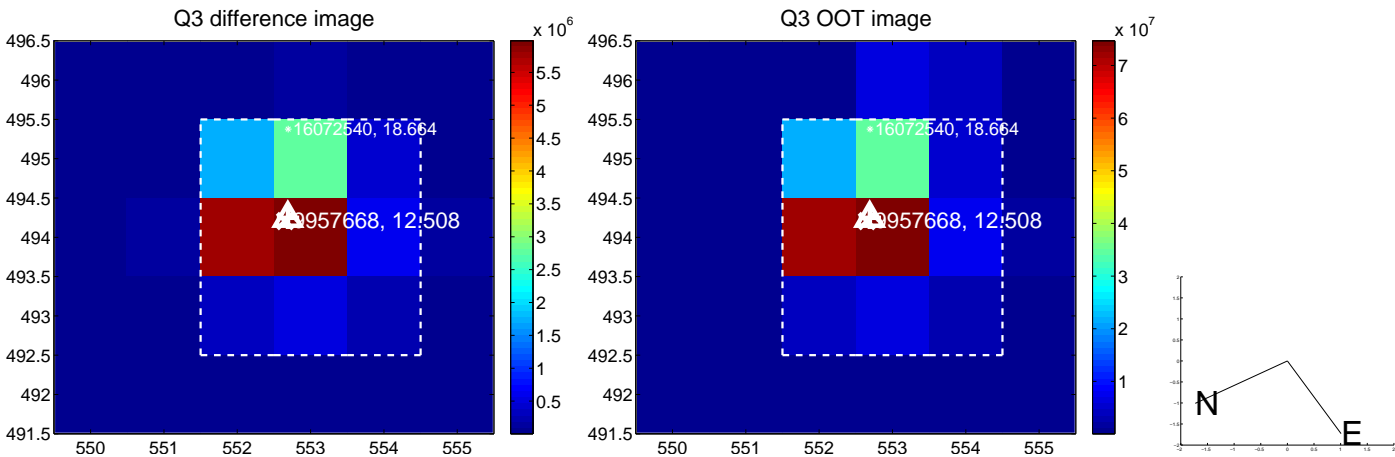
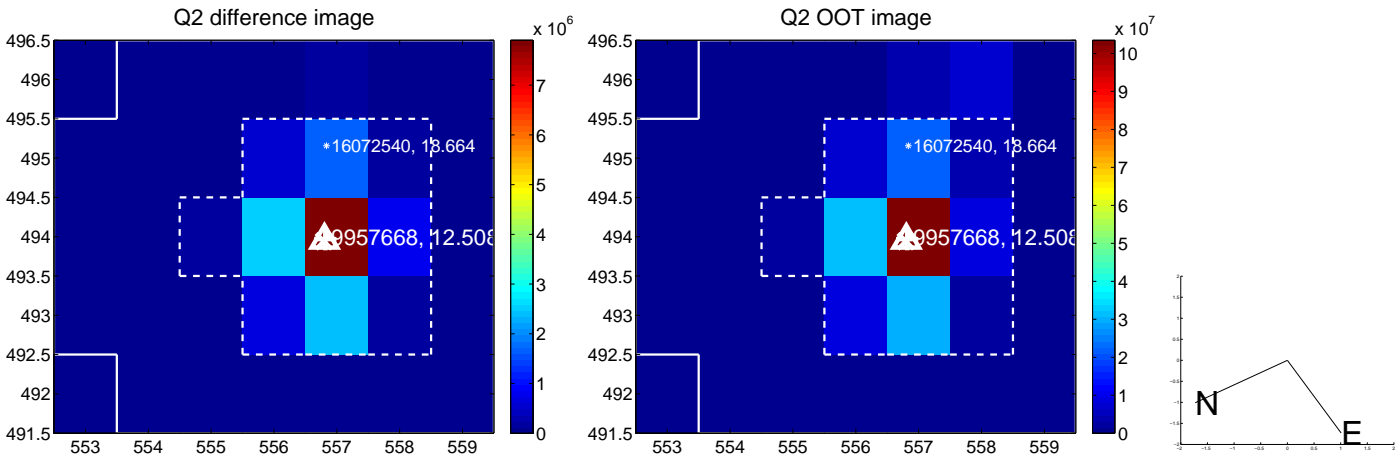
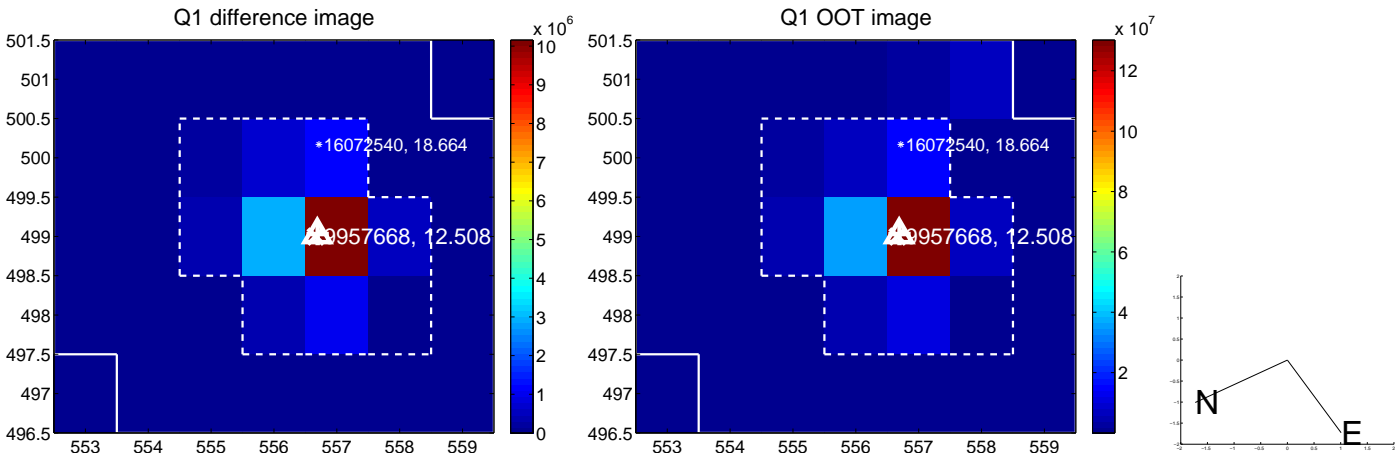
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.039 ± 0.067	0.58	0.020 ± 0.067	0.033 ± 0.067
PRF-fit source offset from KIC position	0.179 ± 0.068	2.64	-0.049 ± 0.067	-0.173 ± 0.068
photometric centroid source offset	0.19 ± 0.00	208.62	-0.05 ± 0.00	-0.18 ± 0.00

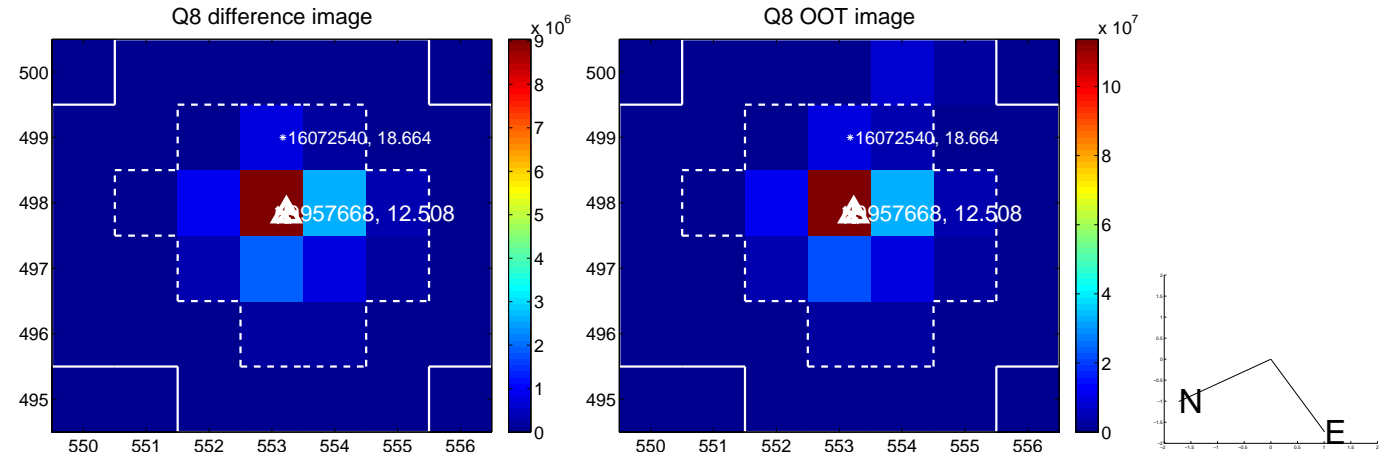
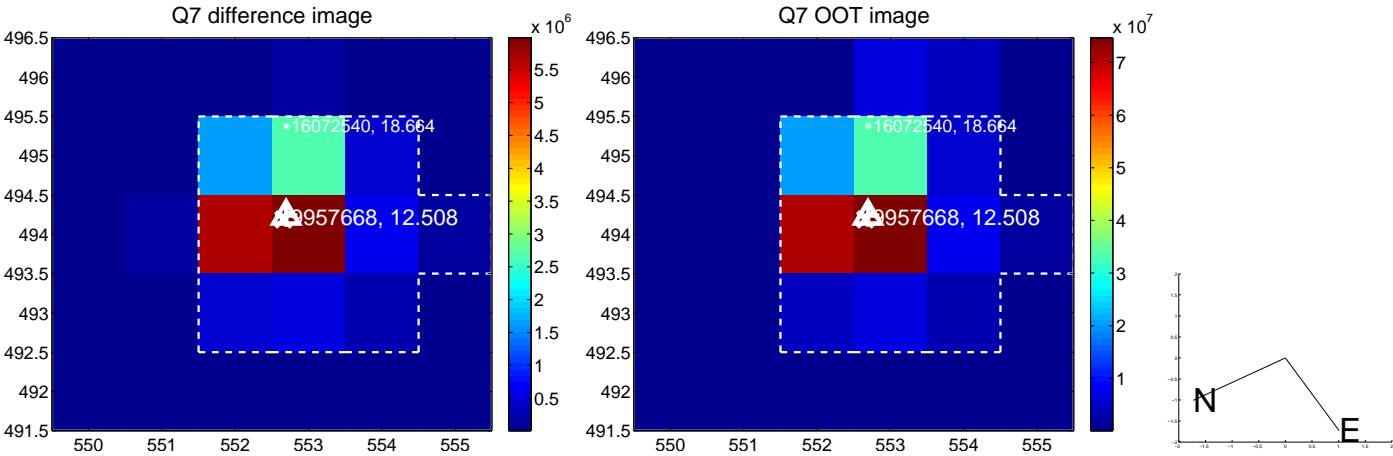
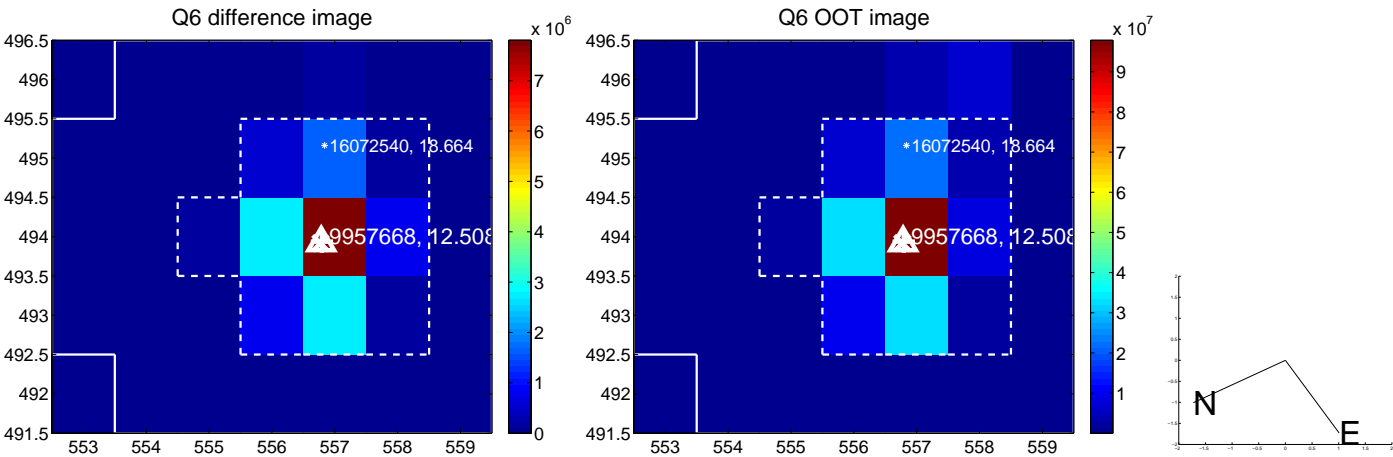
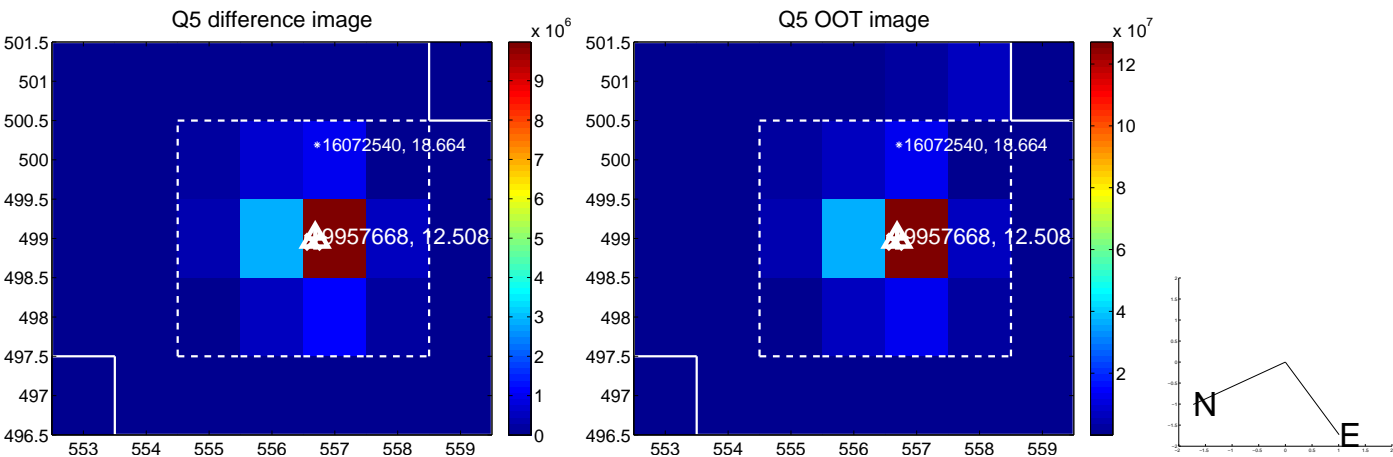


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

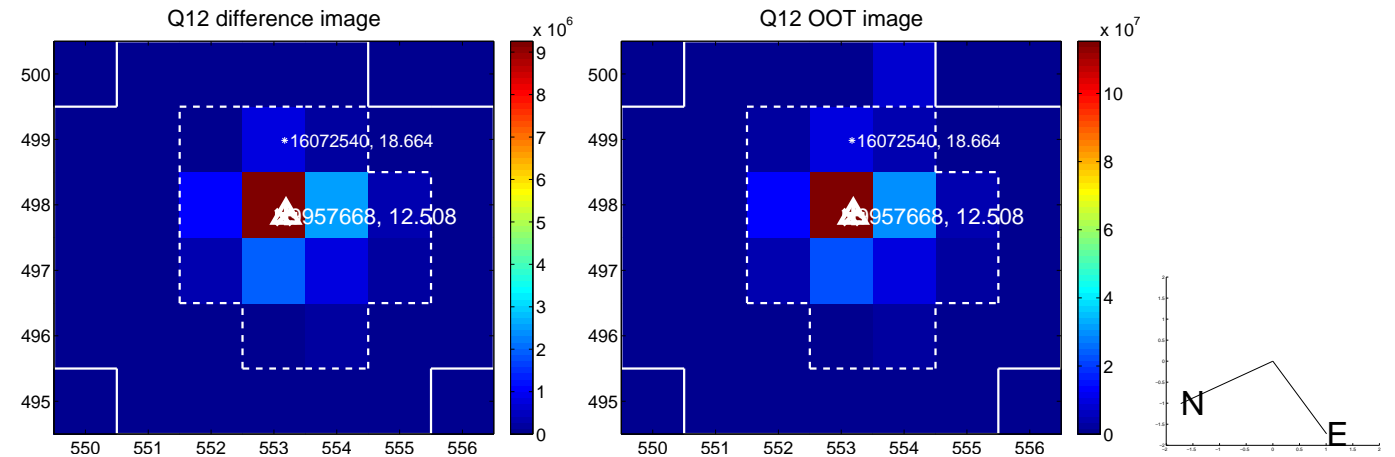
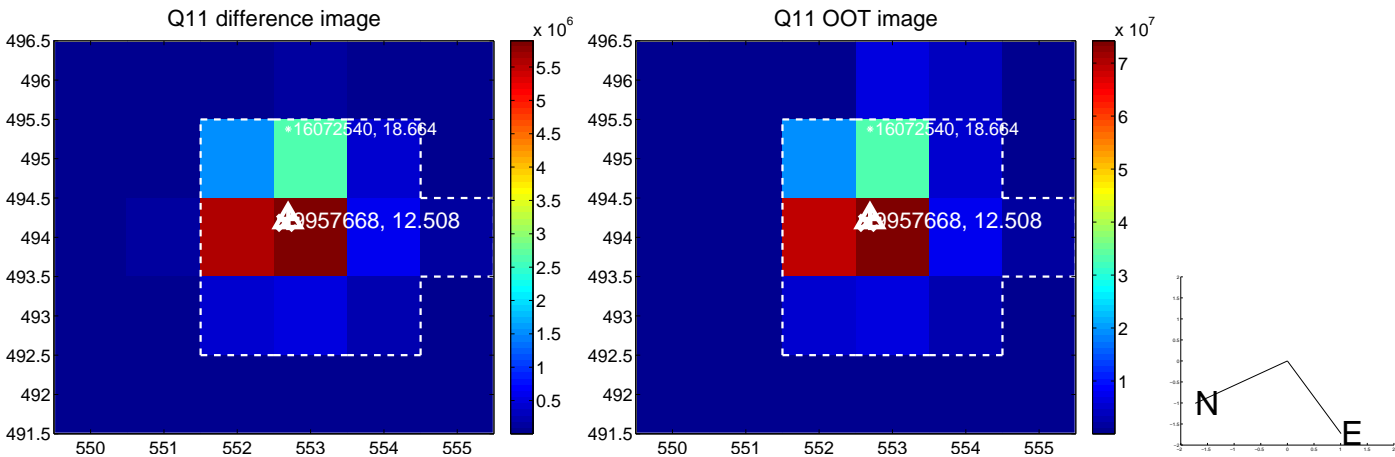
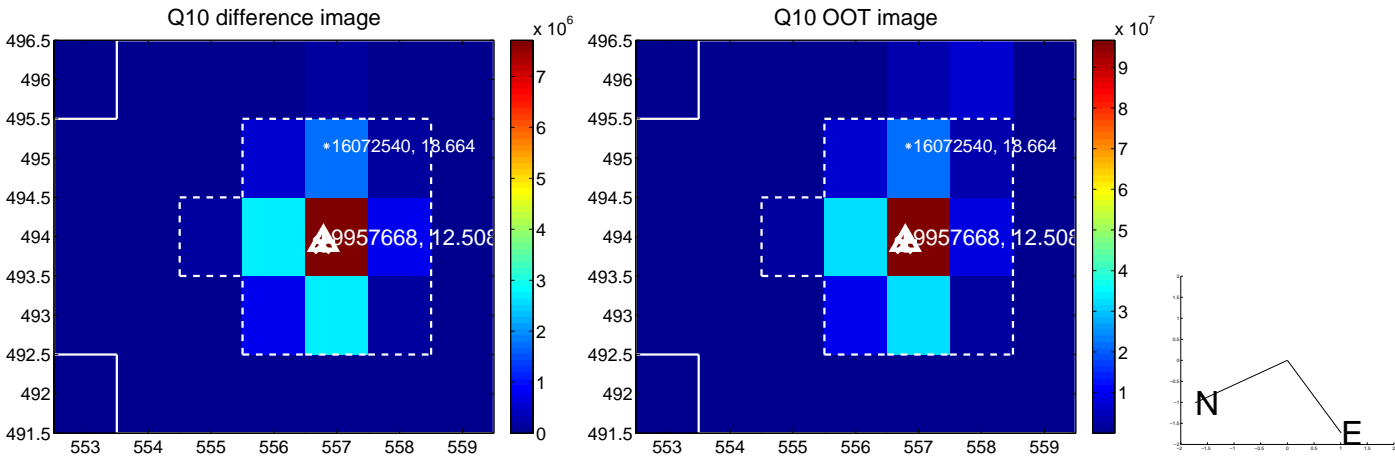
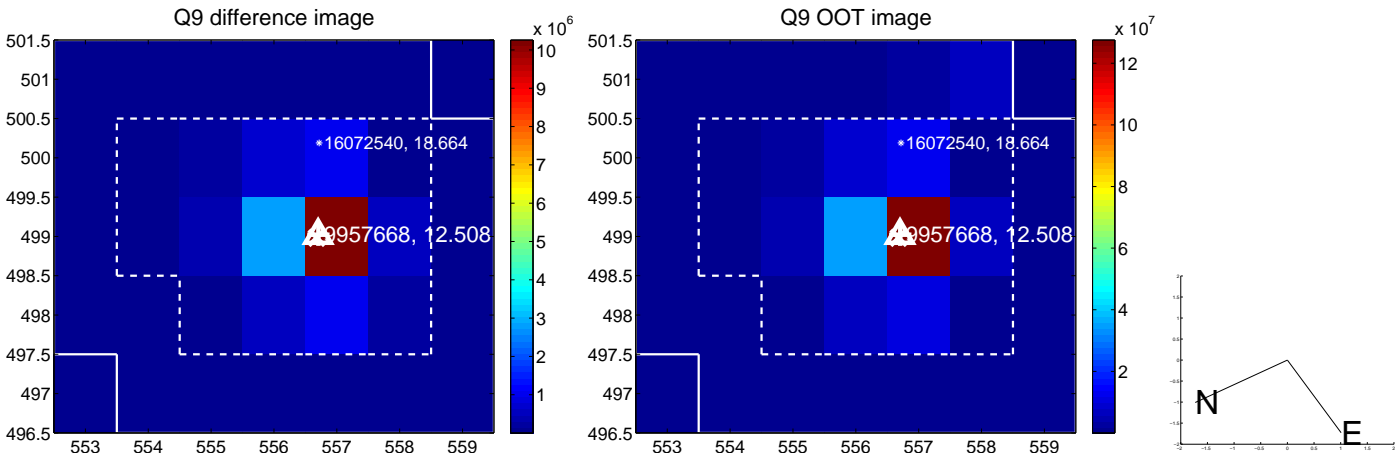
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



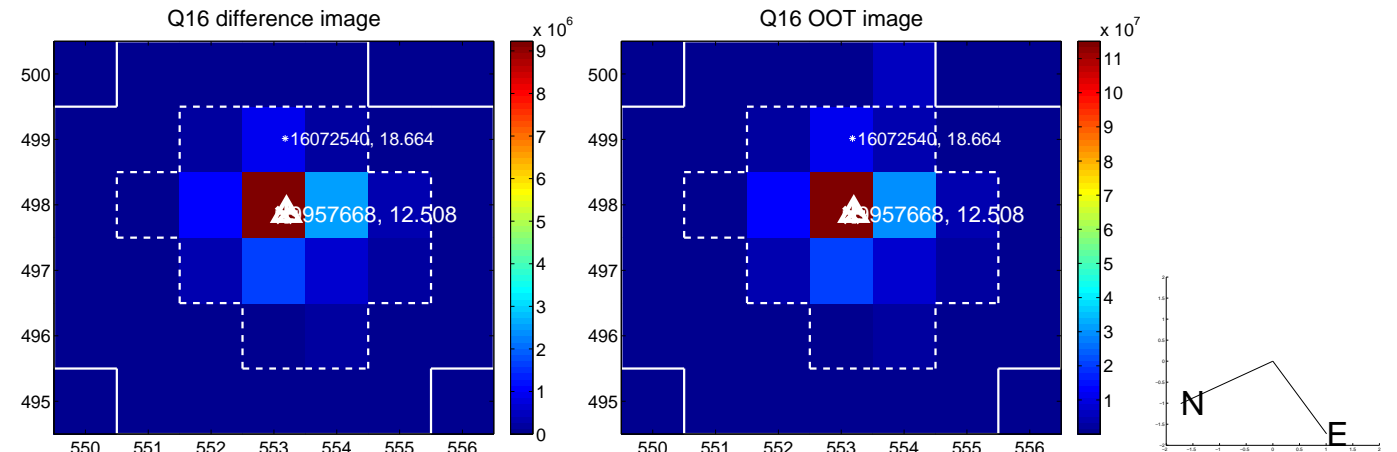
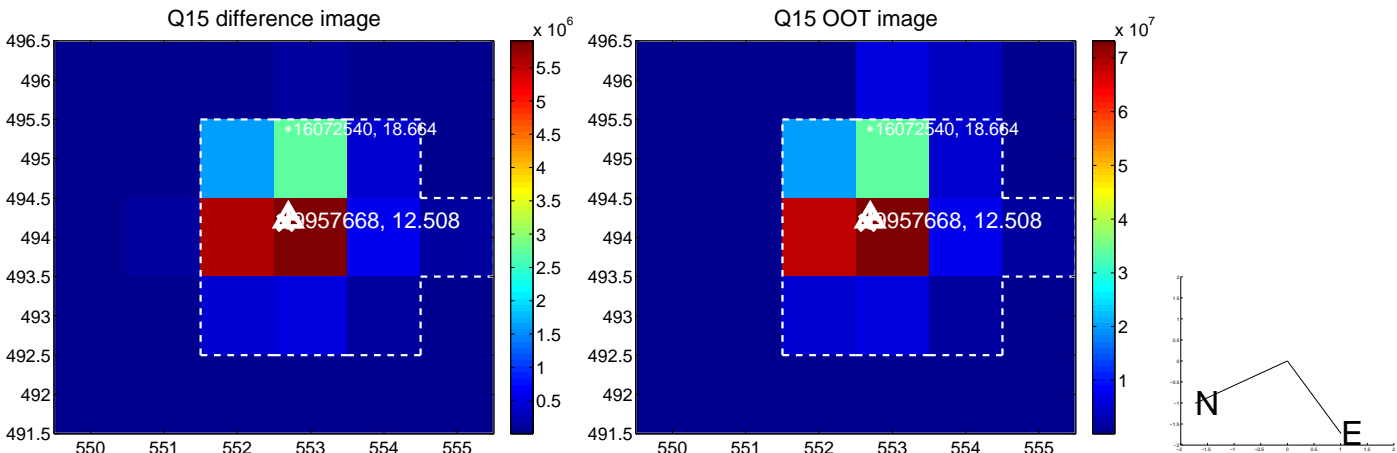
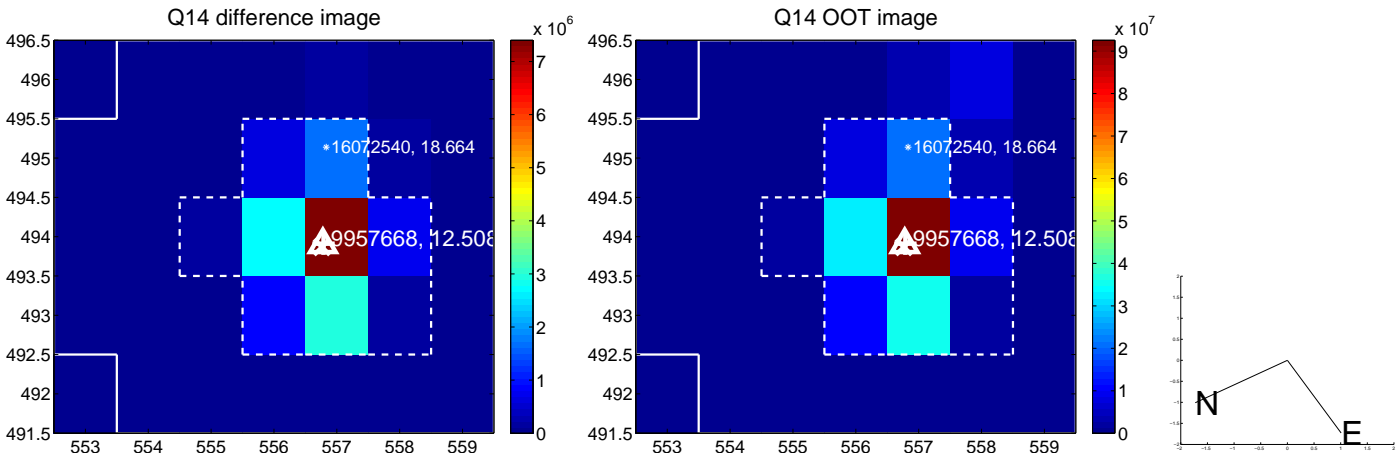
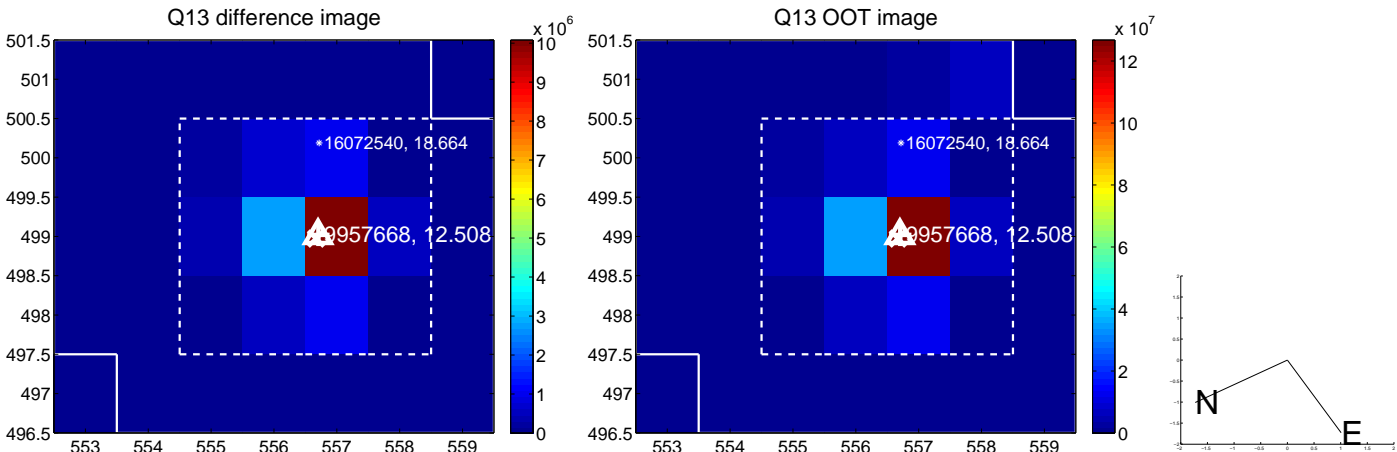
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



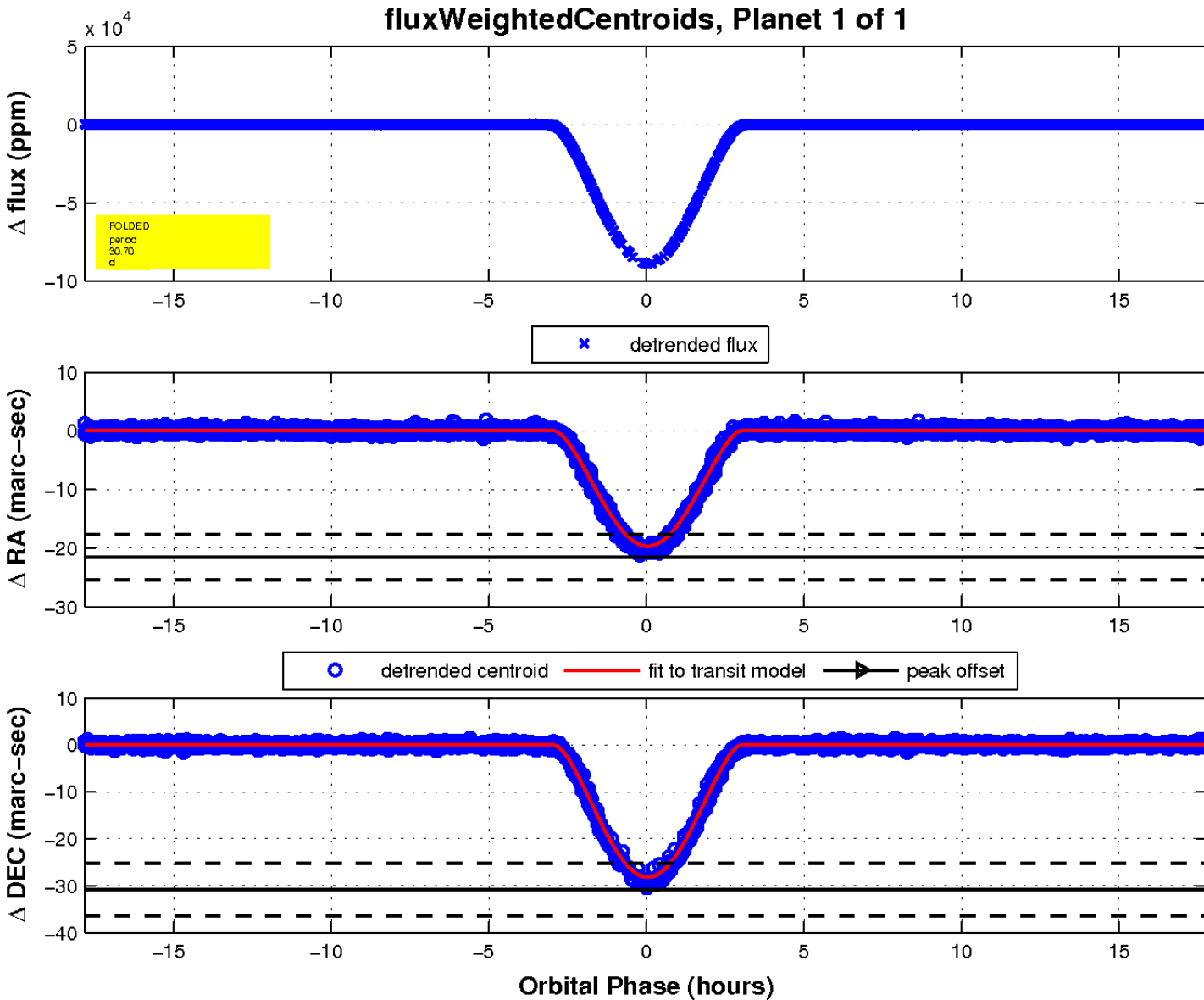
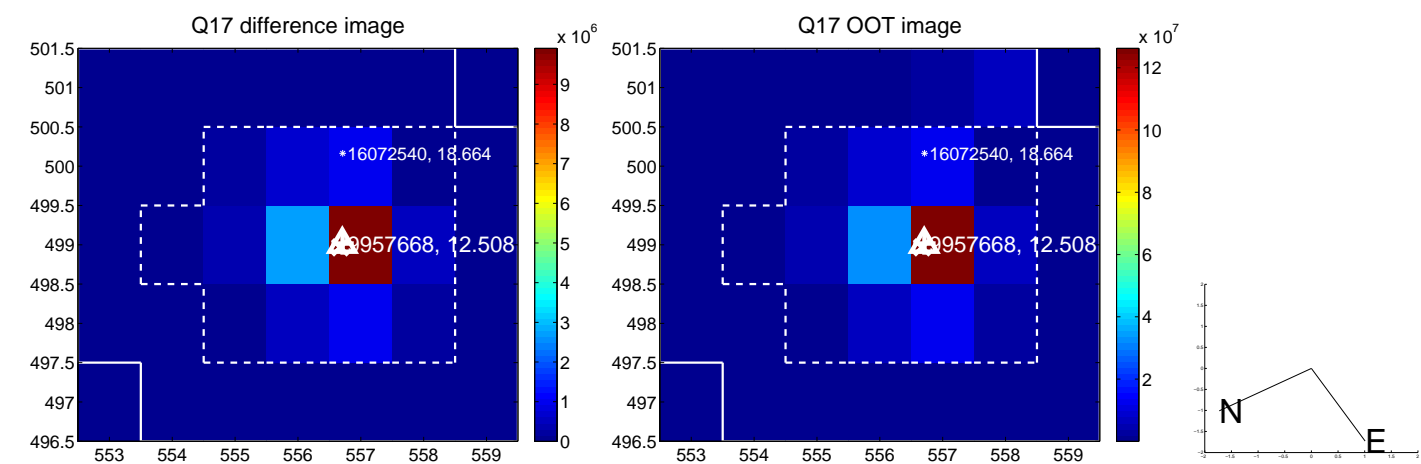
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UKIRT Image

Declination

