

KIC 007668648

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})
007668648-01	OBS	6899.01	27.817943	158.116001	254951.1	7.666	5967.0	2652.6	0.92	6126	56.32	32.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668648-01	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.

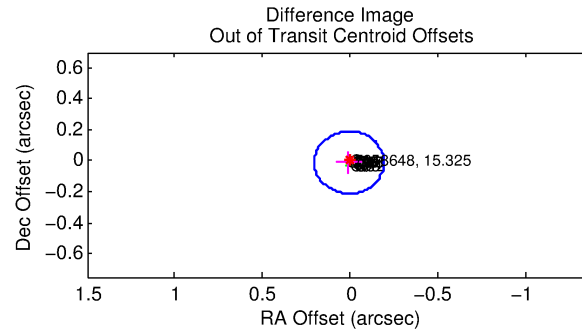
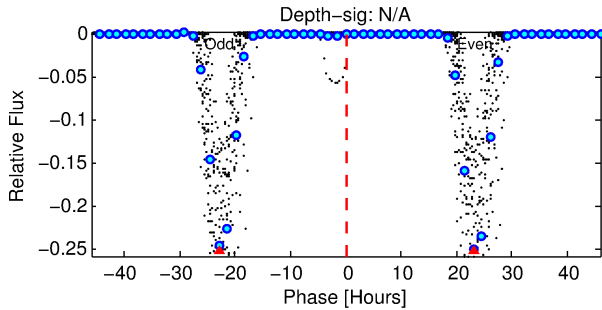
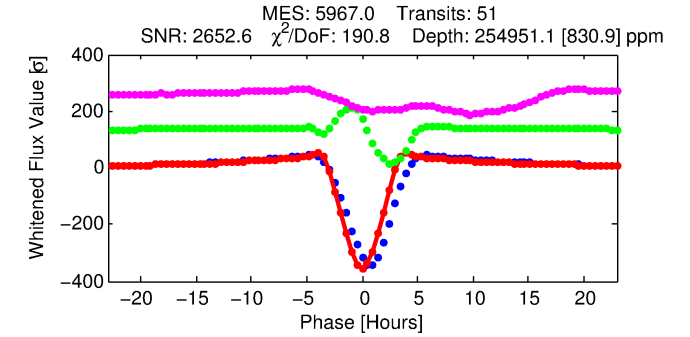
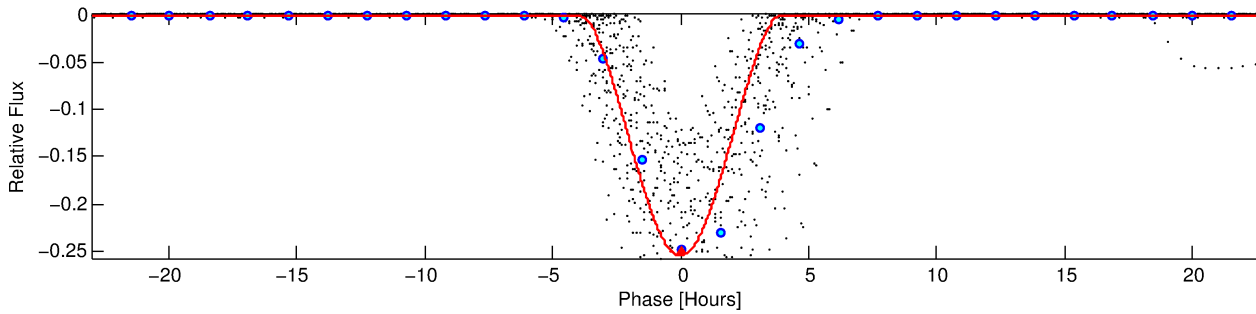
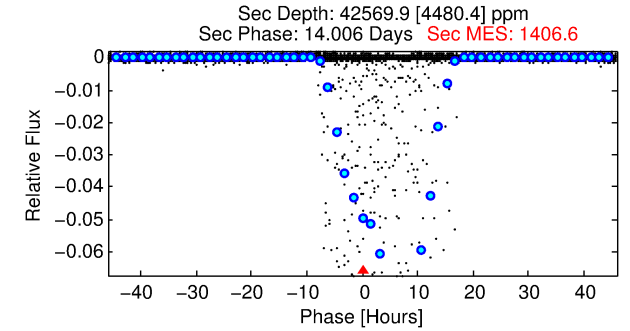
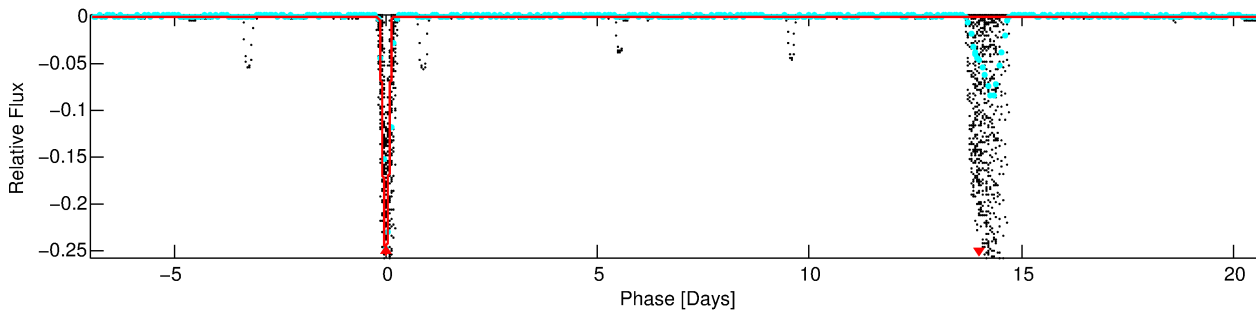
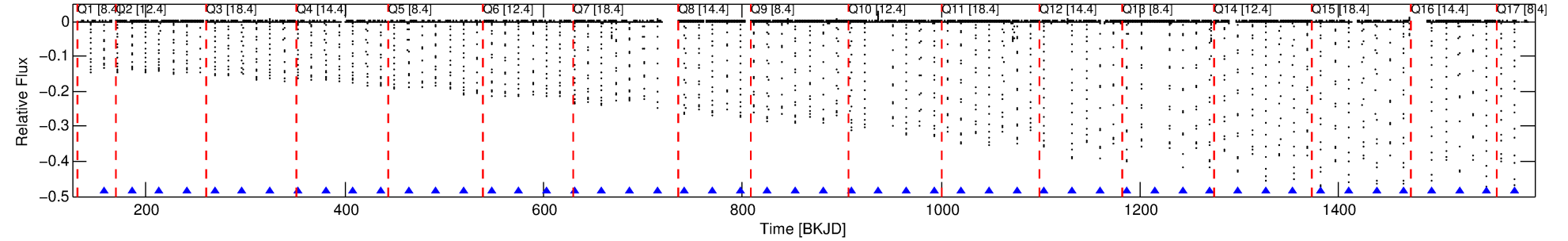
Ephemeris Match Information For 007668648-01

No Significant Match Found

DV One-Page Summary

KIC: 7668648 Candidate: 1 of 1 Period: 27.818 d
KOI: K06899.01 Corr: 0.926

Kp: 15.32 R*: 0.92 Rs Teff: 6126.0 K Logg: 4.51 Fe/H: -0.320



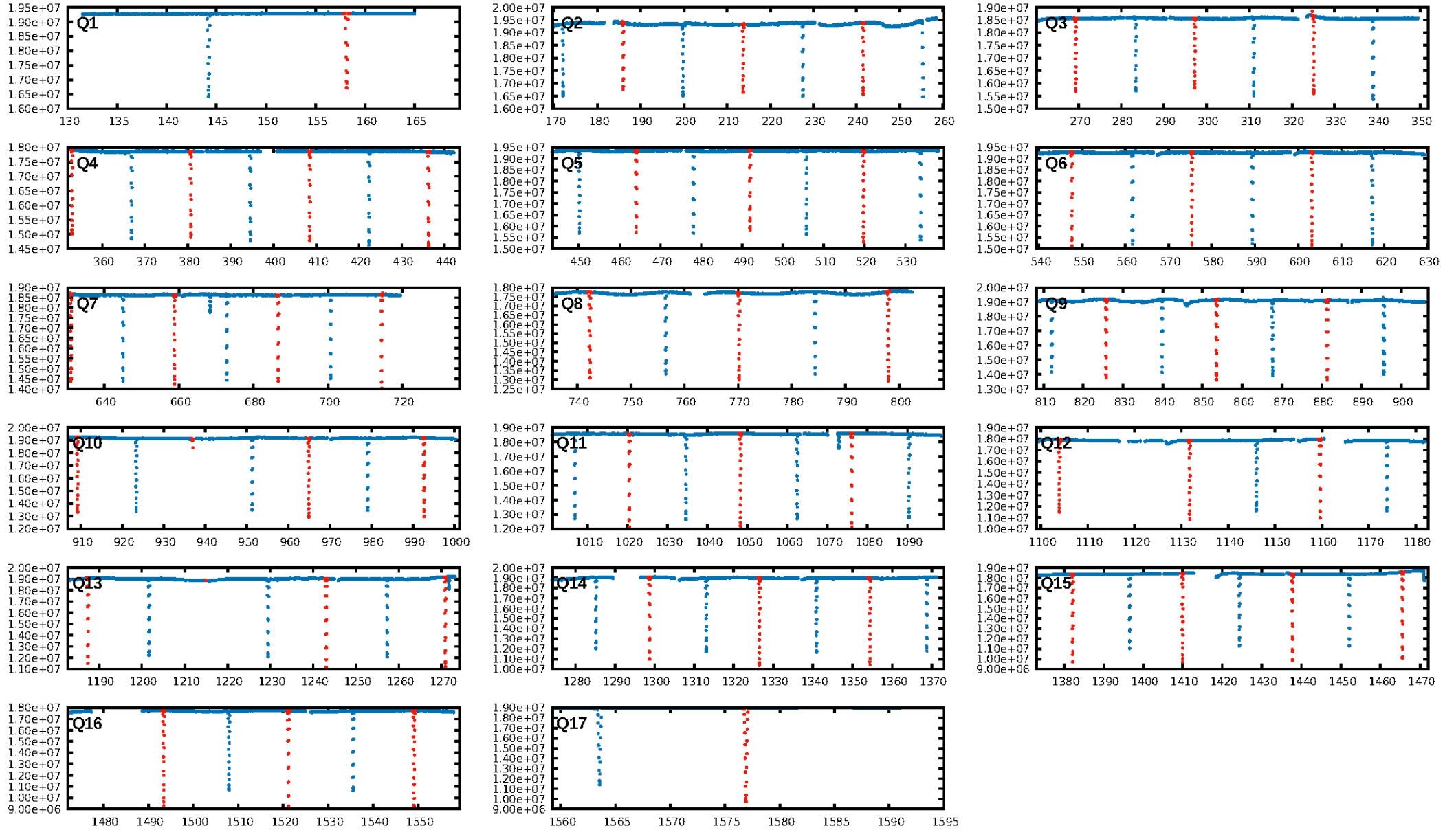
DV Fit Results:

Period = 27.81794 [0.00001] d
Epoch = 158.1160 [0.0004] BKJD
Rp/R* = 0.5641 [0.1176]
a/R* = 38.99 [0.94]
b = 0.69 [0.20]
Seff = 32.82 [13.55]
Teq = 610 [63] K
Rp = 56.32 [21.16] Re
a = 0.1794 [0.0478] AU
Ag = 237.64 [138.19] [1.71σ]
Teffp = 3705 [416] K [7.35σ]

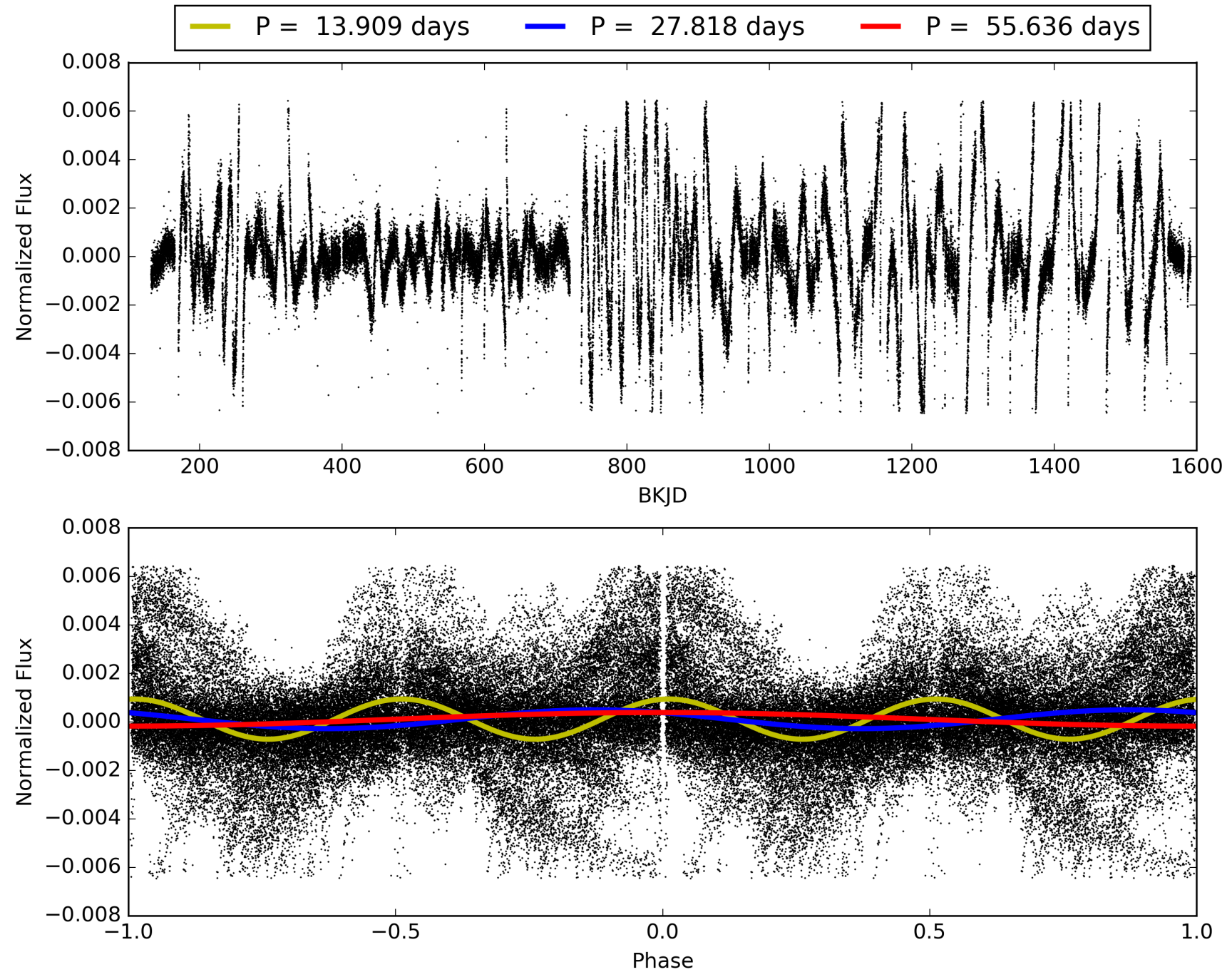
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [49/49]
GhostDiagnostic-chr: 2.54
Centroid-sig: 0.0%
Centroid-so: 0.122 arcsec [82.35σ]
OotOffset-rm: 0.014 arcsec [0.22σ]
KicOffset-rm: 0.156 arcsec [2.33σ]
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 007668648-01, PDC Light Curves

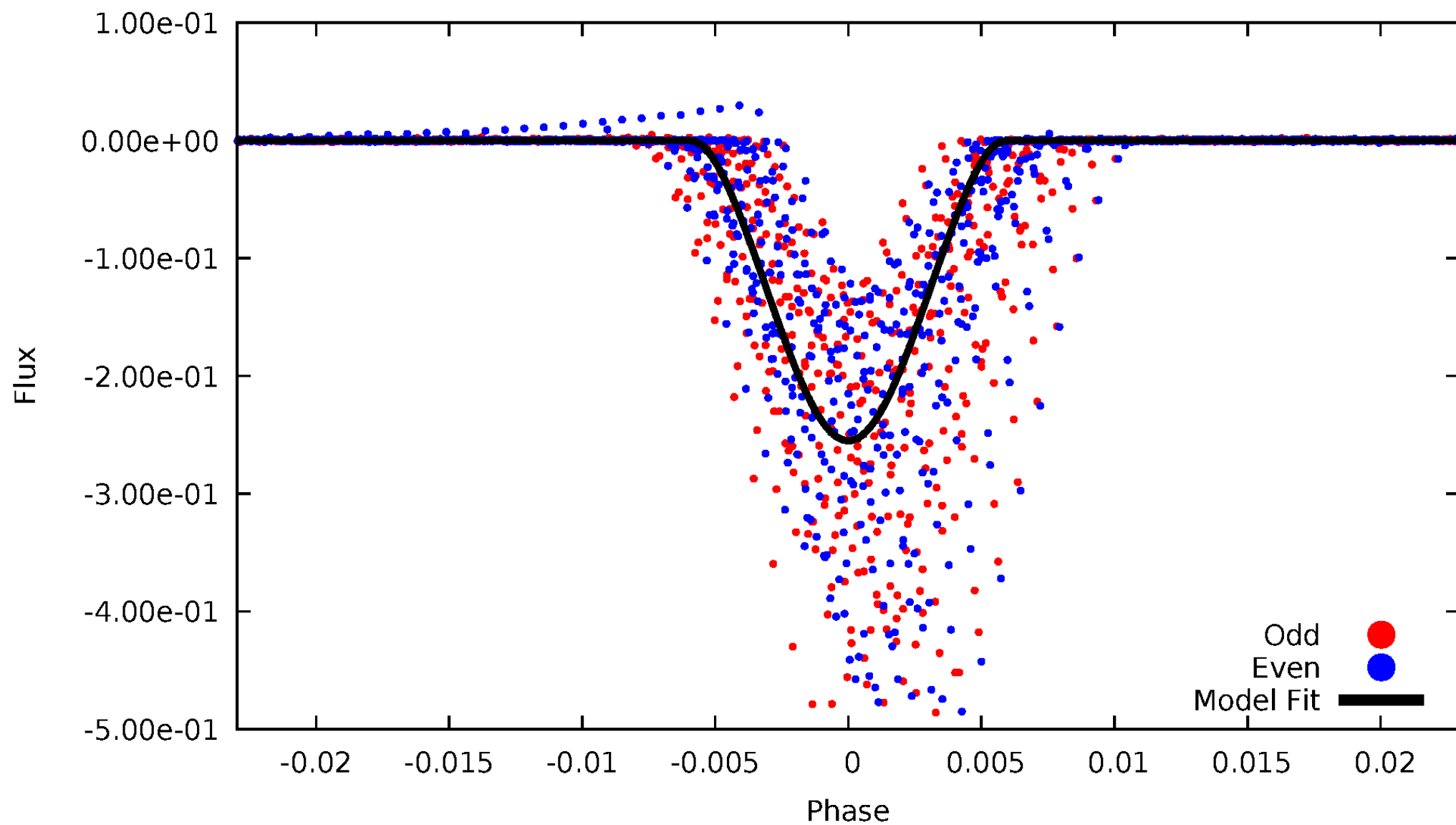


TCE 007668648-01



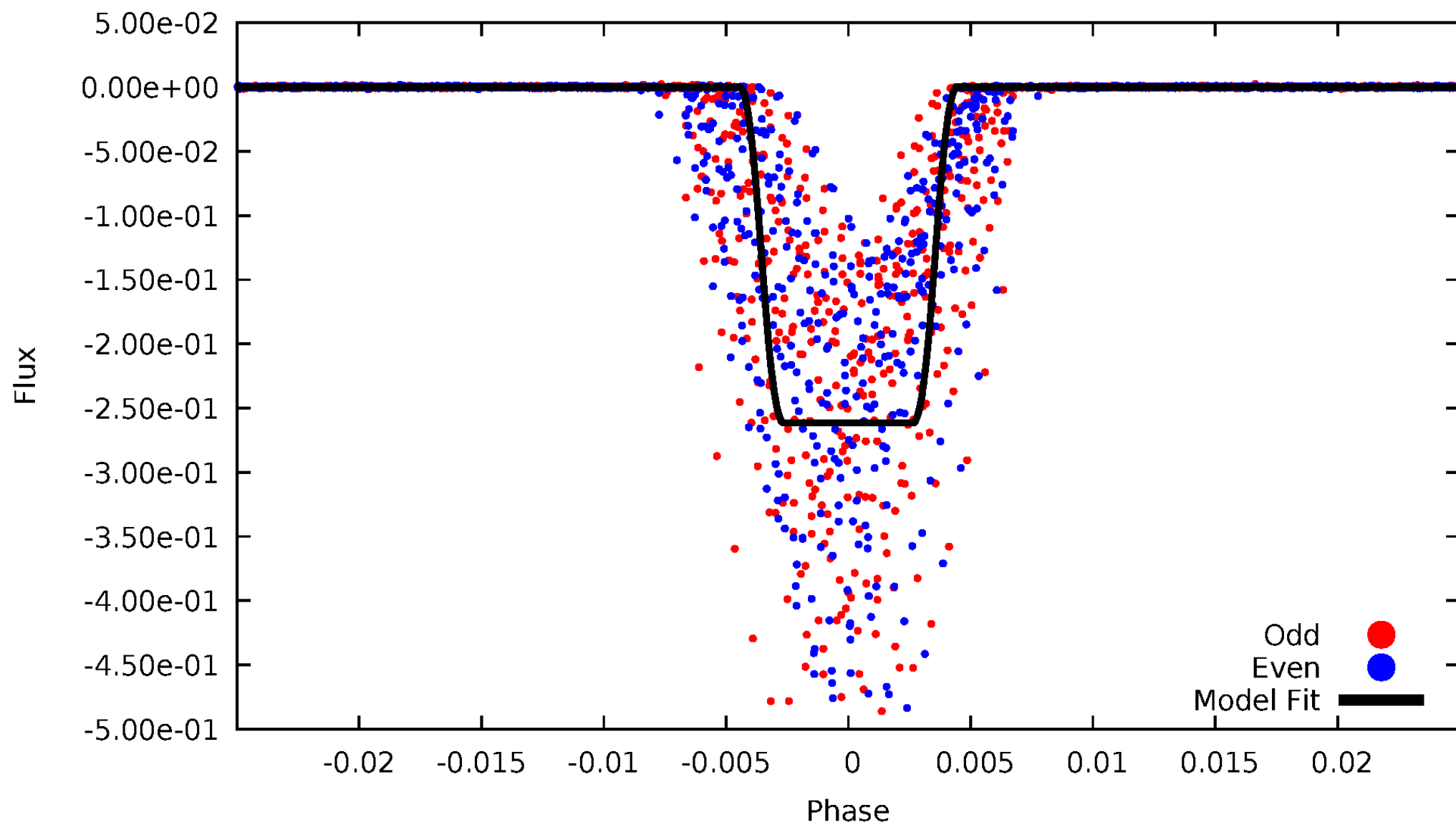
DV Odd/Even

TCE 007668648-01



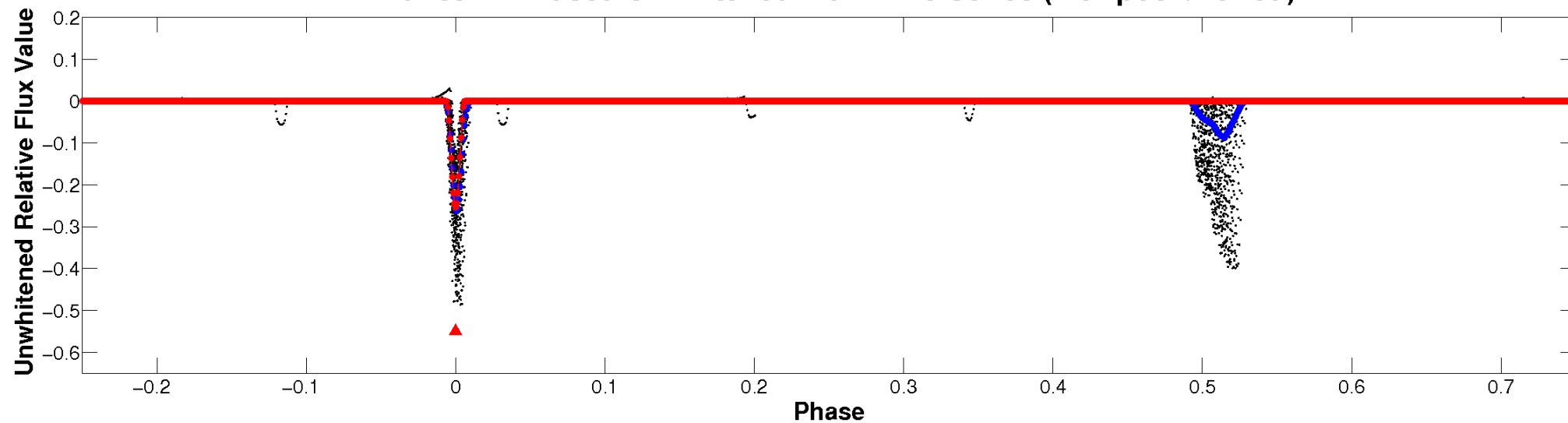
ALT Odd/Even

TCE 007668648-01

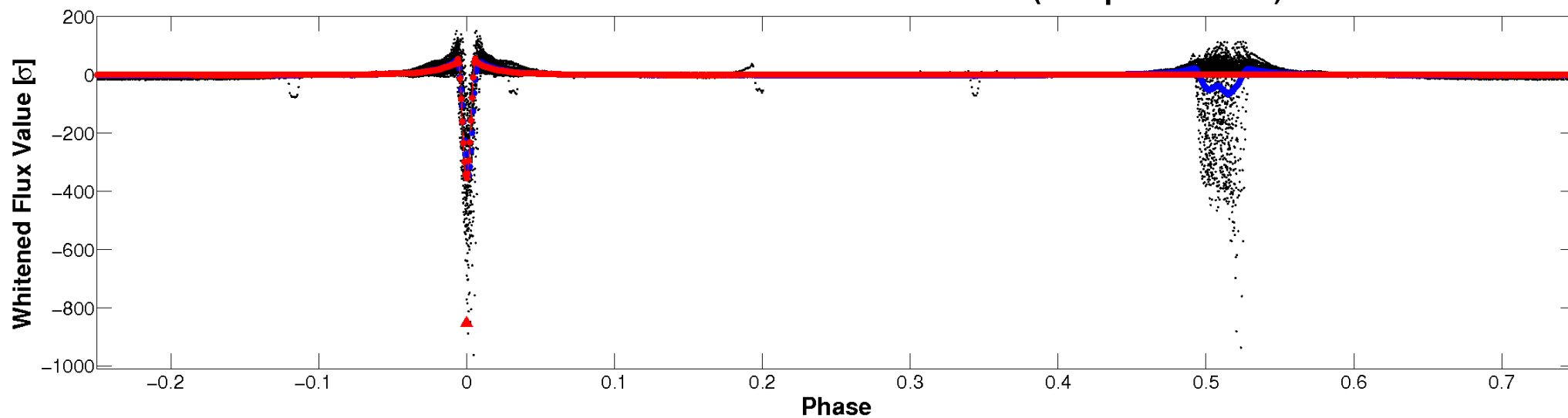


Non-Whitened Vs. Whitened Light Curve

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

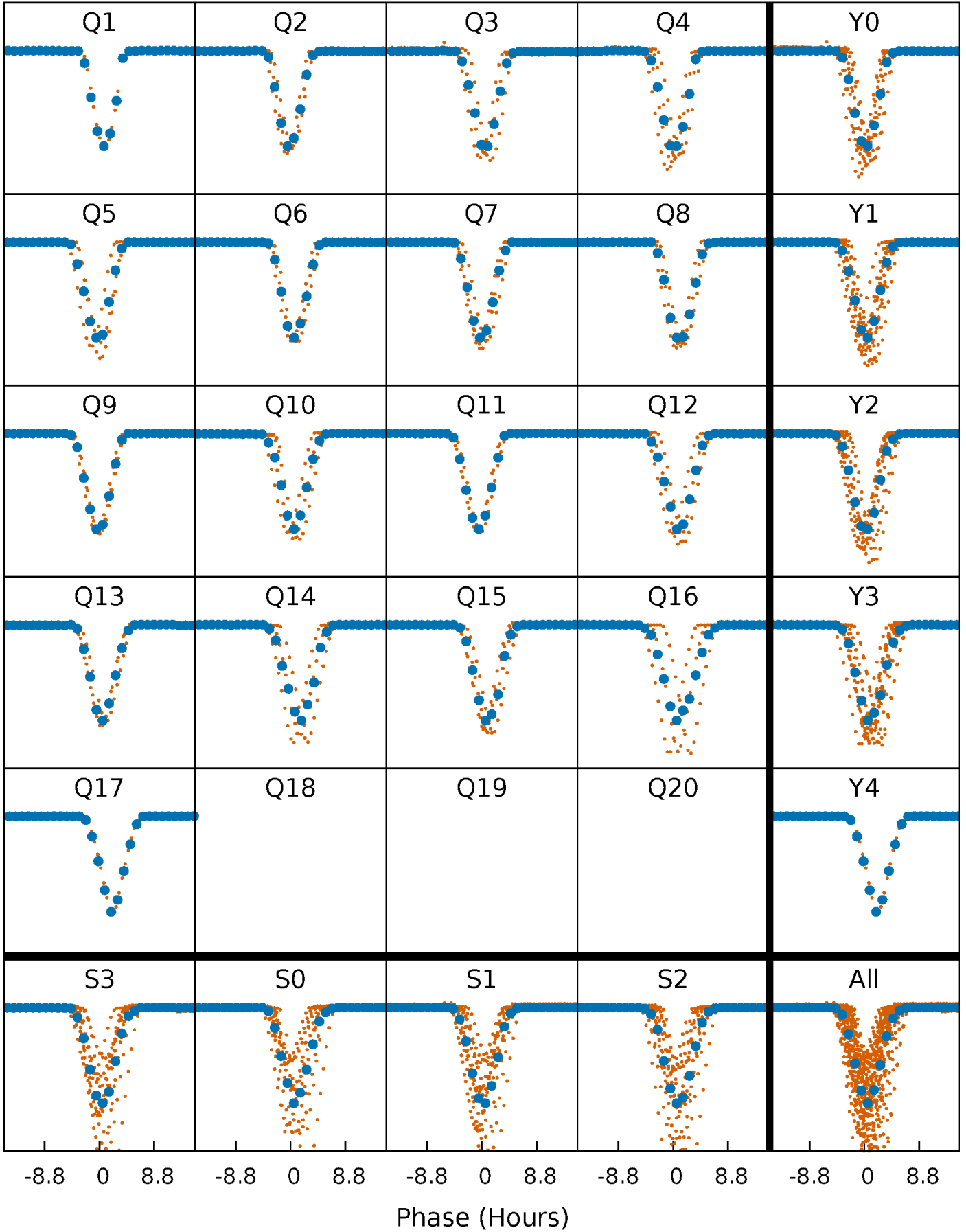


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



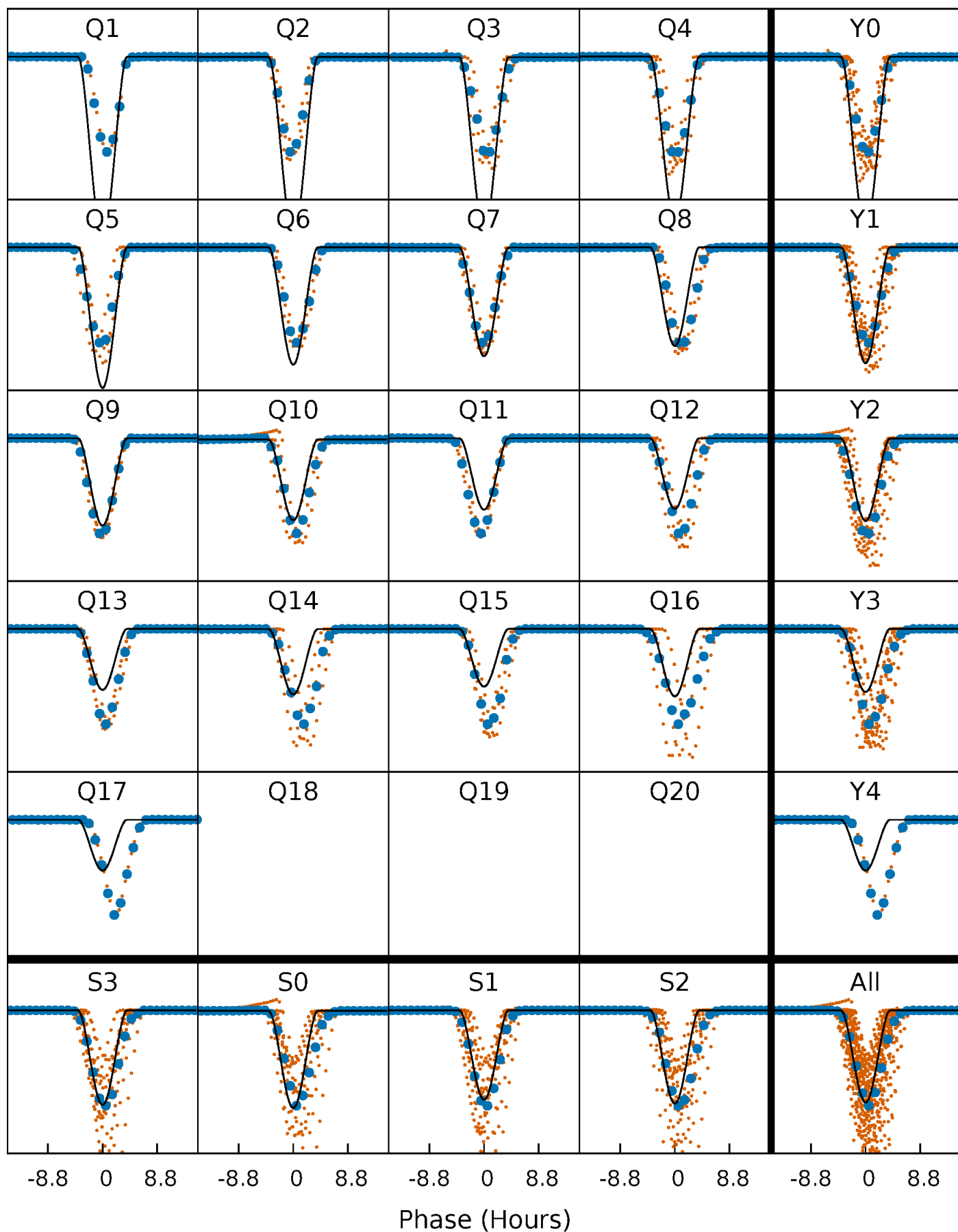
PDC Quarter-Phased Transit Curves

TCE 007668648-01 P= 27.817943 Days $T_0=158.116001$ (BKJD)



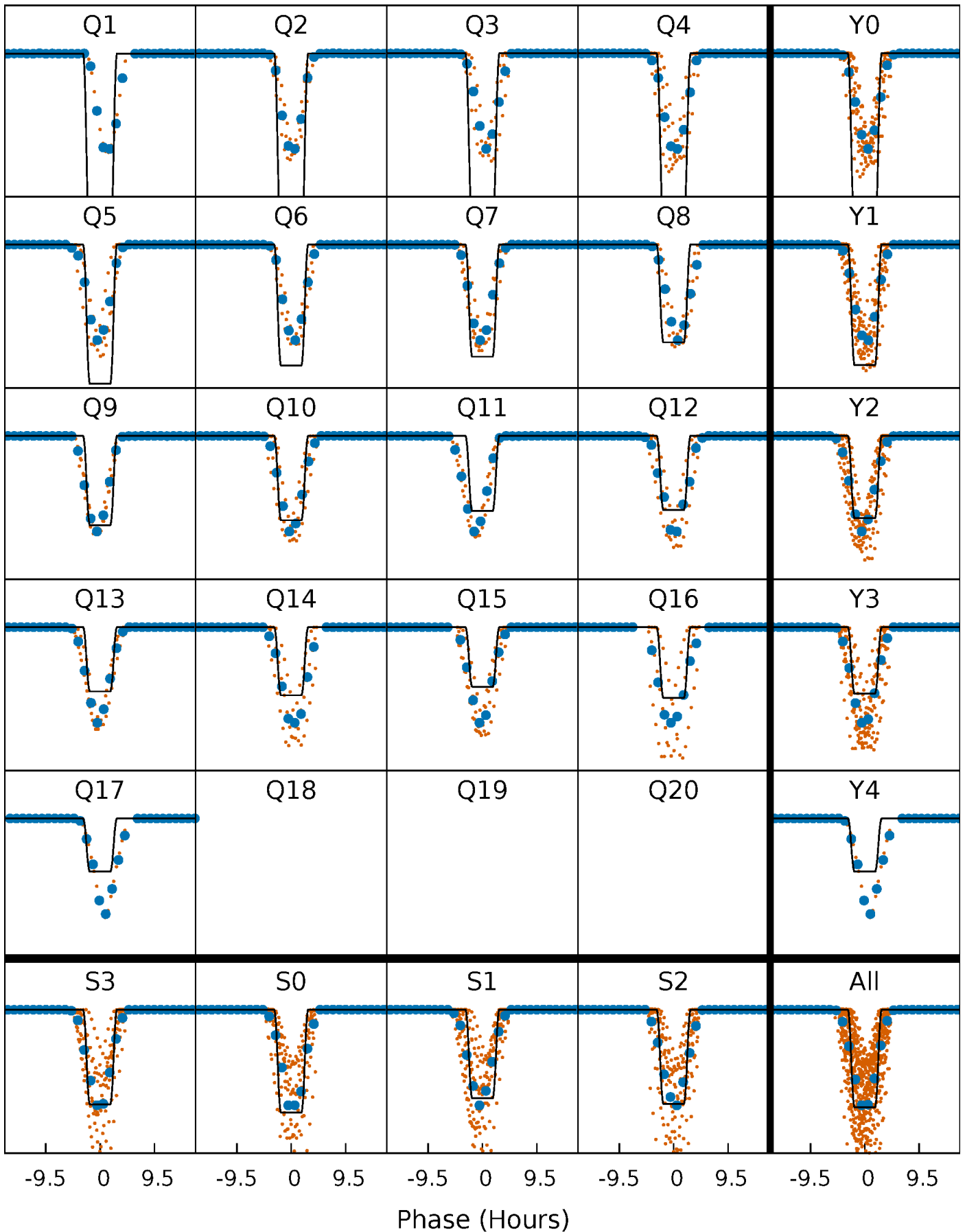
DV Quarter-Phased Transit Curves

TCE 007668648-01 P= 27.817943 Days $T_0=158.116001$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

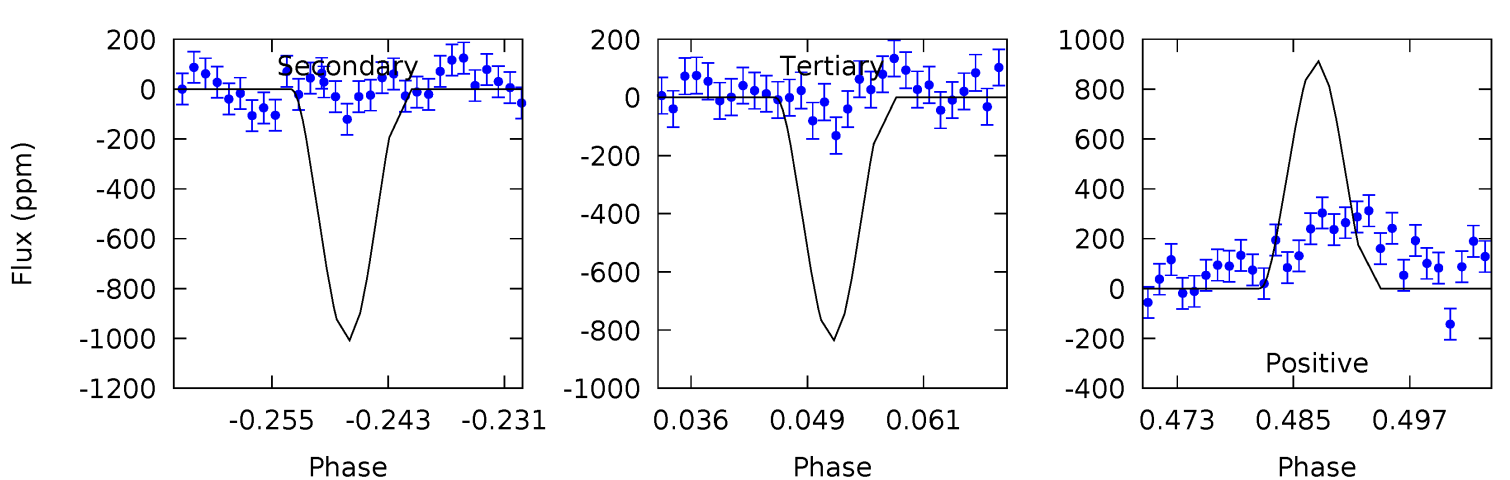
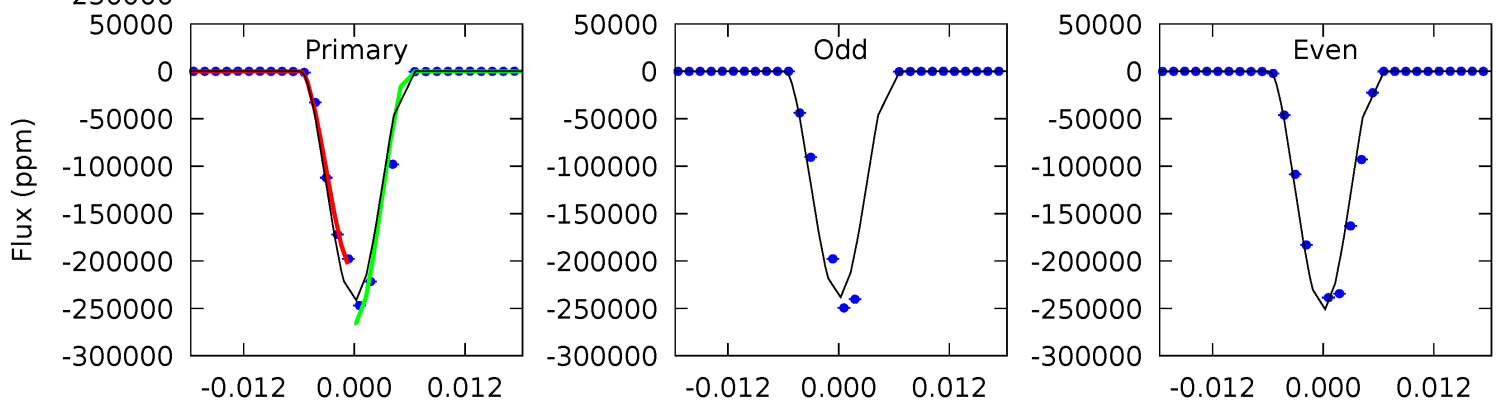
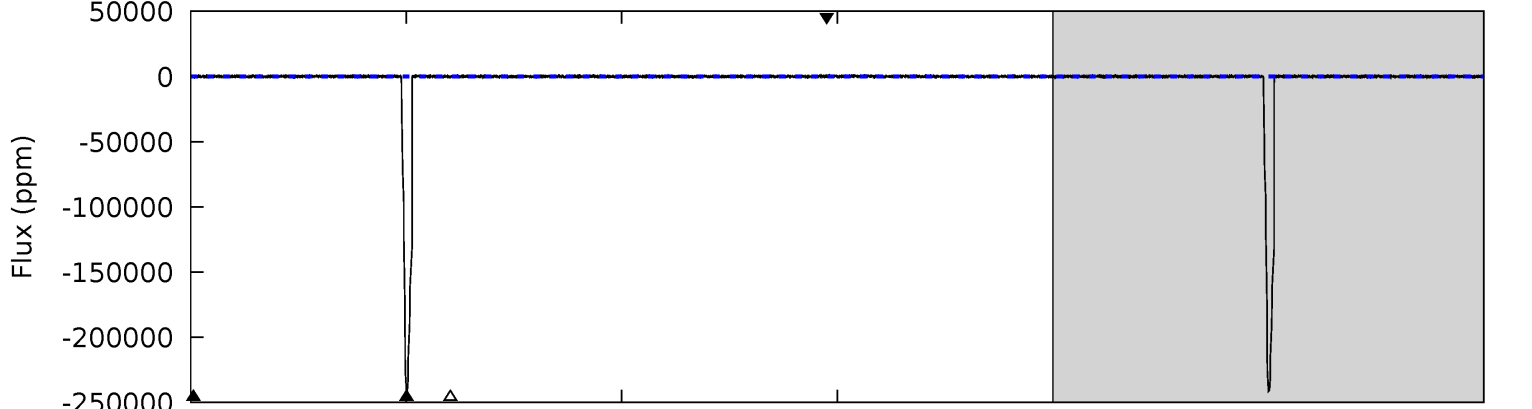
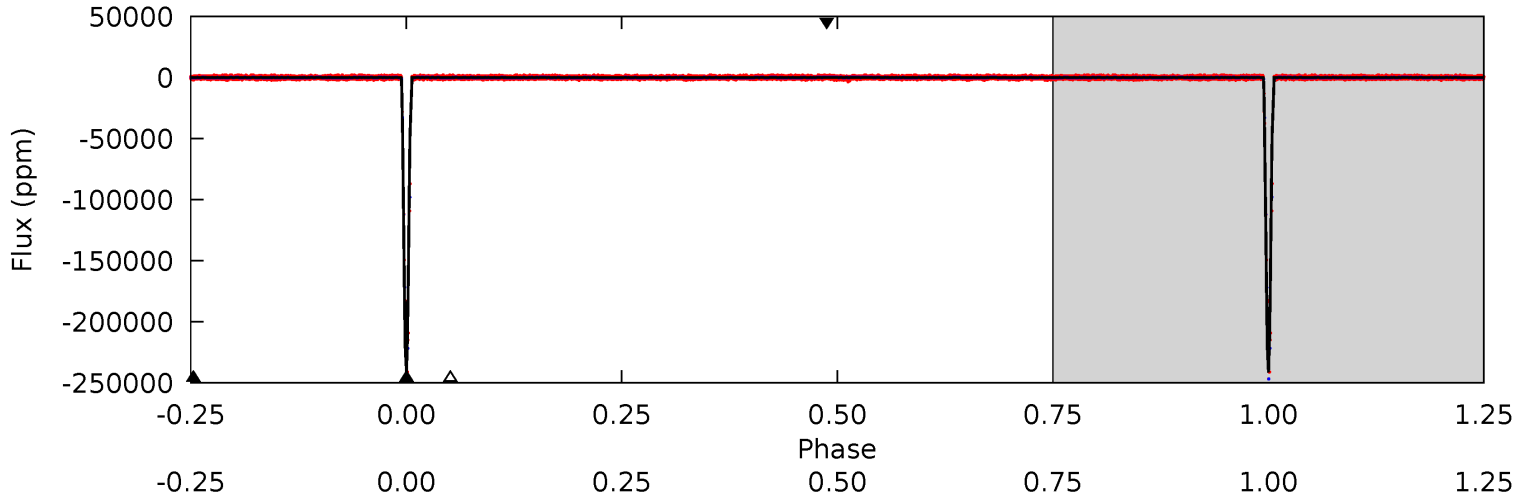
TCE 007668648-01 P= 27.819354 Days $T_0=158.097457$ (BKJD)



DV Model-Shift Uniqueness Test

007668648-01, P = 27.817943 Days, E = 130.298058 Days

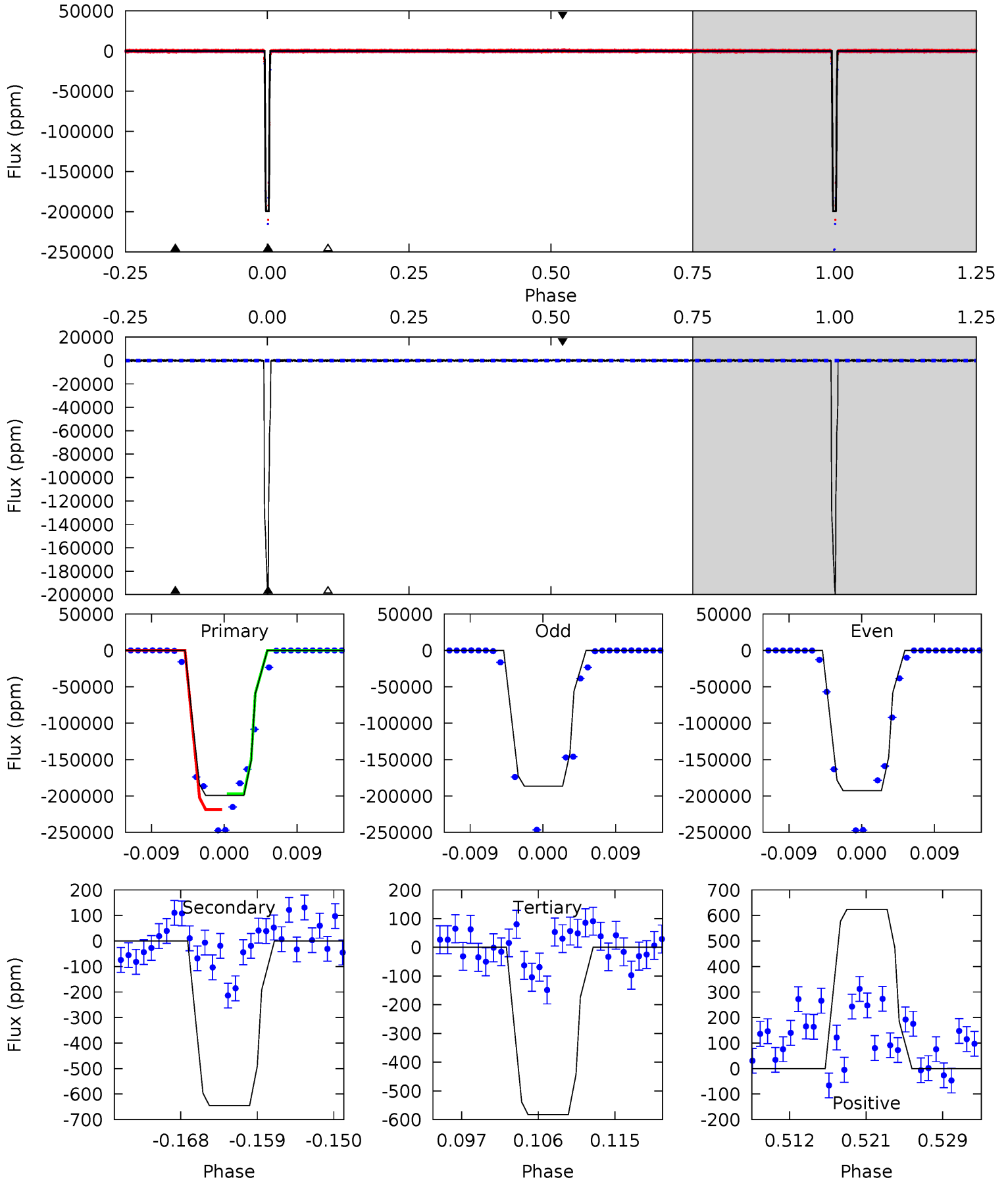
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2625	11.0	9.08	9.91	4.99	2.51	2.32	2616	2615	1.88	1.05	79.3	1.05	0.00	0



Alt Model-Shift Uniqueness Test

007668648-01, P = 27.819354 Days, E = 130.278103 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1517	4.91	4.44	4.75	5.05	2.62	1.13	1512	1512	0.47	0.16	25.8	1.00	0.00	0



Stellar Parameters For KIC 007668648

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6126^{+165}_{-201}	$4.513^{+0.054}_{-0.216}$	$-0.320^{+0.300}_{-0.300}$	$0.915^{+0.286}_{-0.095}$	$0.994^{+0.128}_{-0.128}$	$1.830^{+0.387}_{-0.976}$
	+3%/-3%	+1%/-5%	+94%/-94%	+31%/-10%	+13%/-13%	+21%/-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 007668648-01 / KOI 6899.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1008 ± 92	$58.08^{+13.89}_{-12.59}$	868^{+63}_{-42}	2348^{+141}_{-121}	$5.165^{+3.222}_{-1.786}$
Alt.	-645 ± 131	$53.15^{+14.91}_{-12.64}$	869^{+63}_{-44}	2263^{+176}_{-131}	$3.831^{+3.318}_{-1.544}$

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

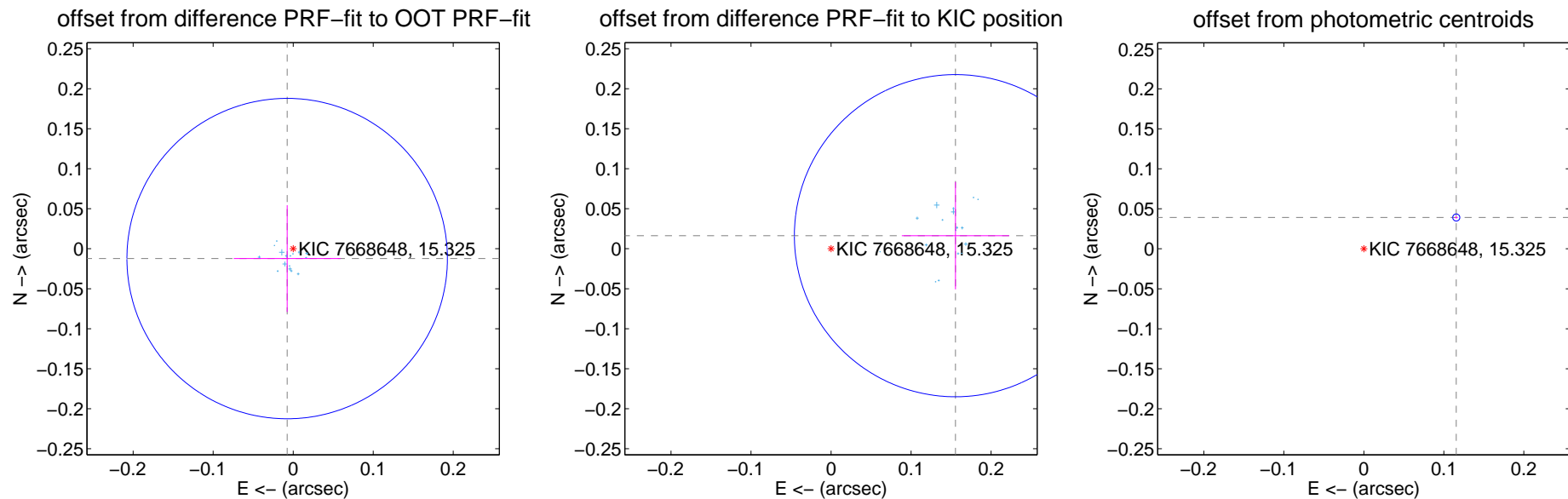
DV Centroid Data

Supplemental centroid analysis for 007668648-01. Kepler magnitude: 15.32. Transit SNR 2652.57

There are 17 quarters with good PRF difference image offsets

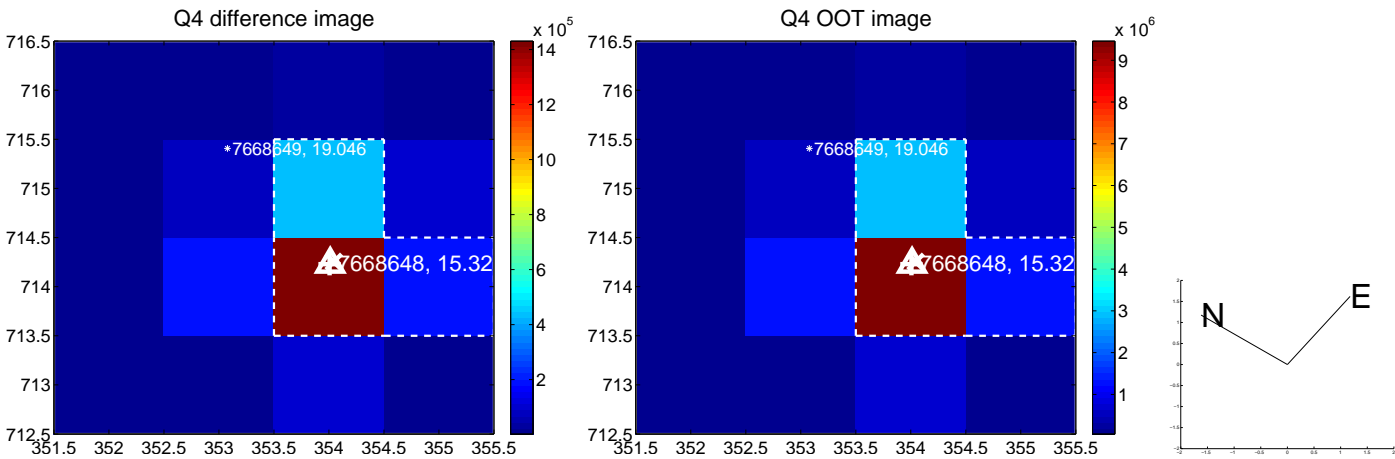
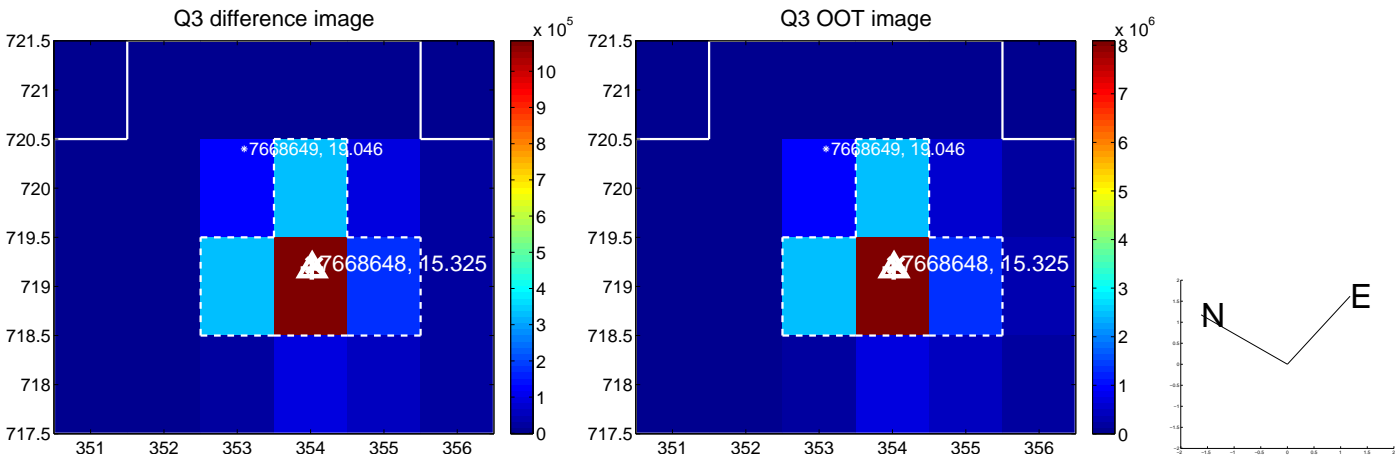
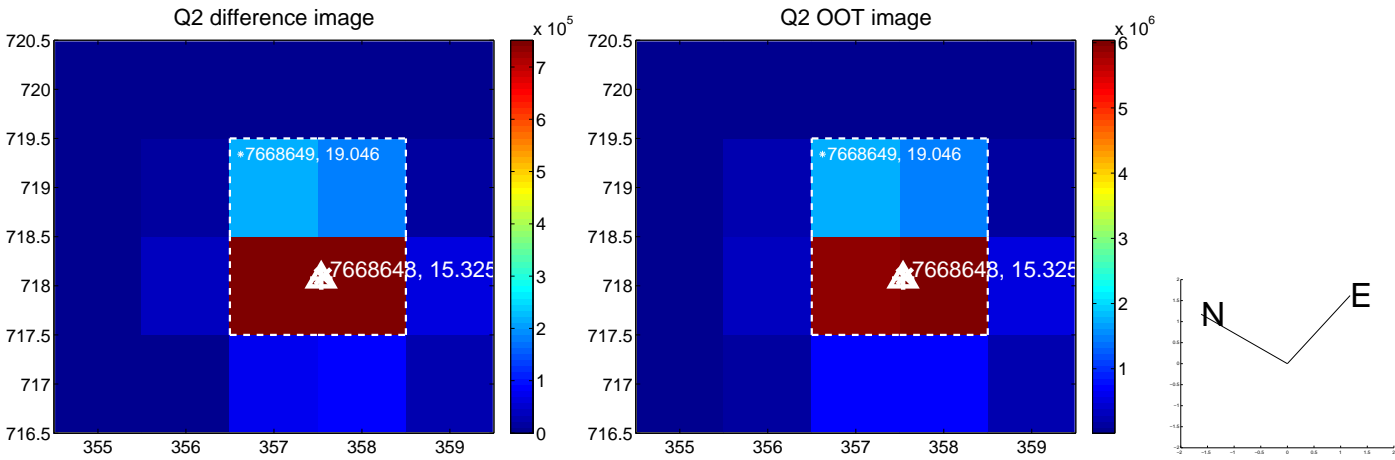
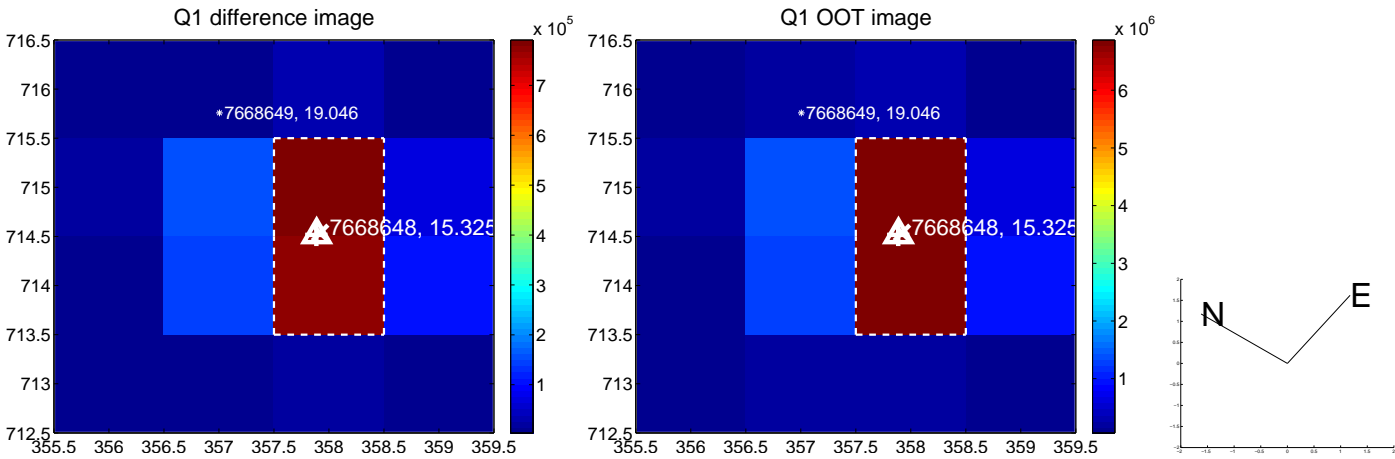
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.22	0.008 ± 0.067	-0.012 ± 0.067
PRF-fit source offset from KIC position	0.156 ± 0.067	2.33	-0.156 ± 0.067	0.016 ± 0.067
photometric centroid source offset	0.12 ± 0.00	82.35	-0.12 ± 0.00	0.04 ± 0.00

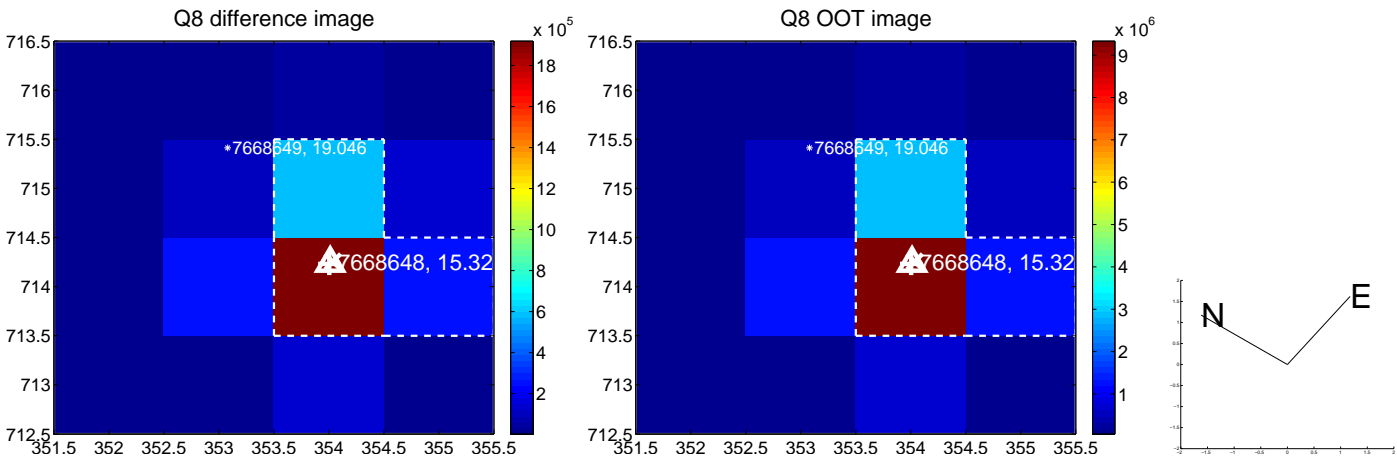
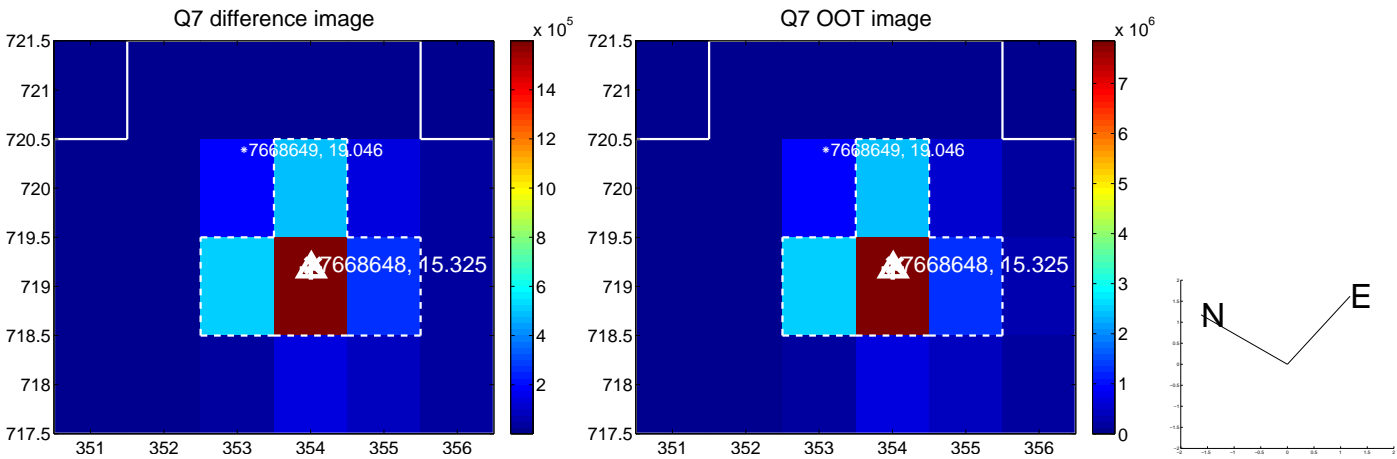
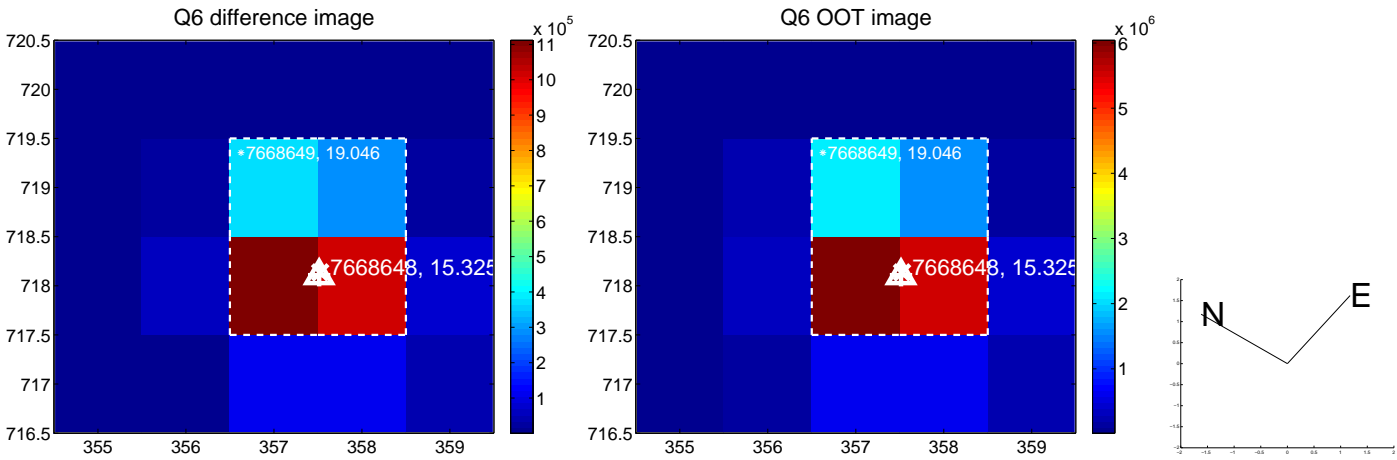
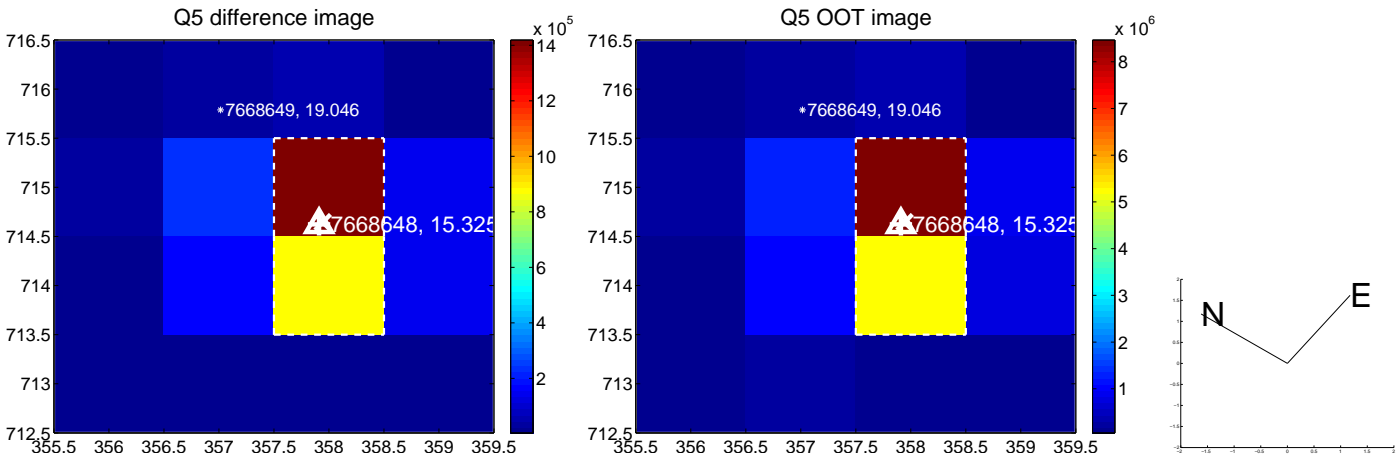


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

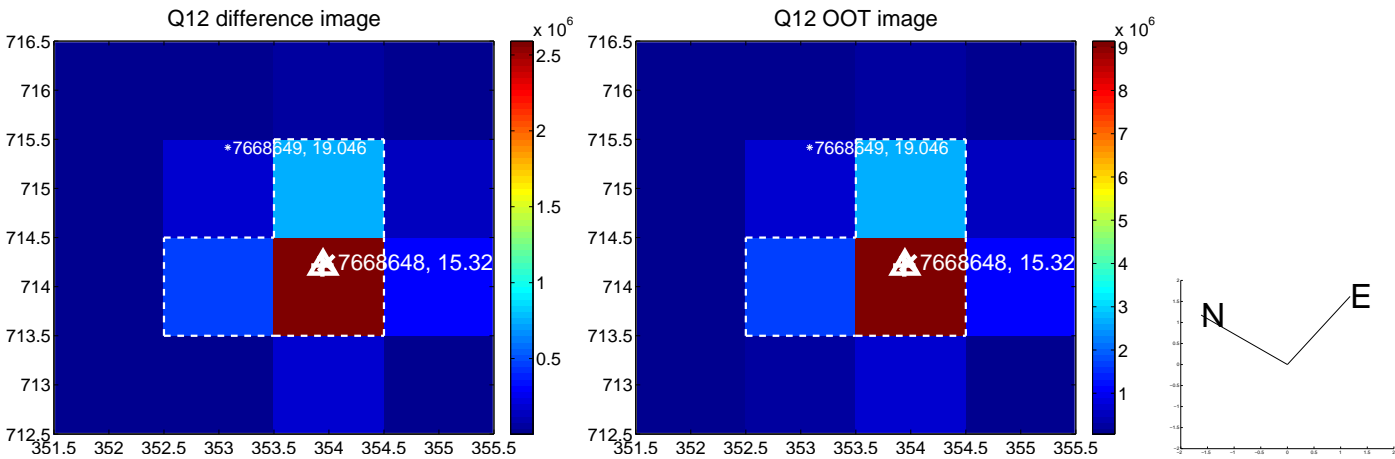
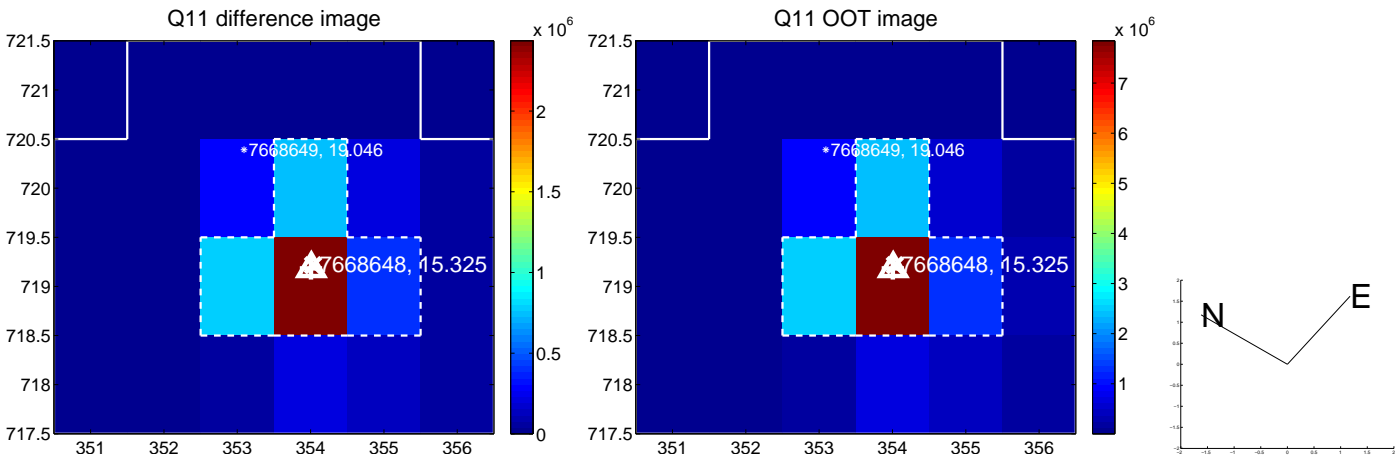
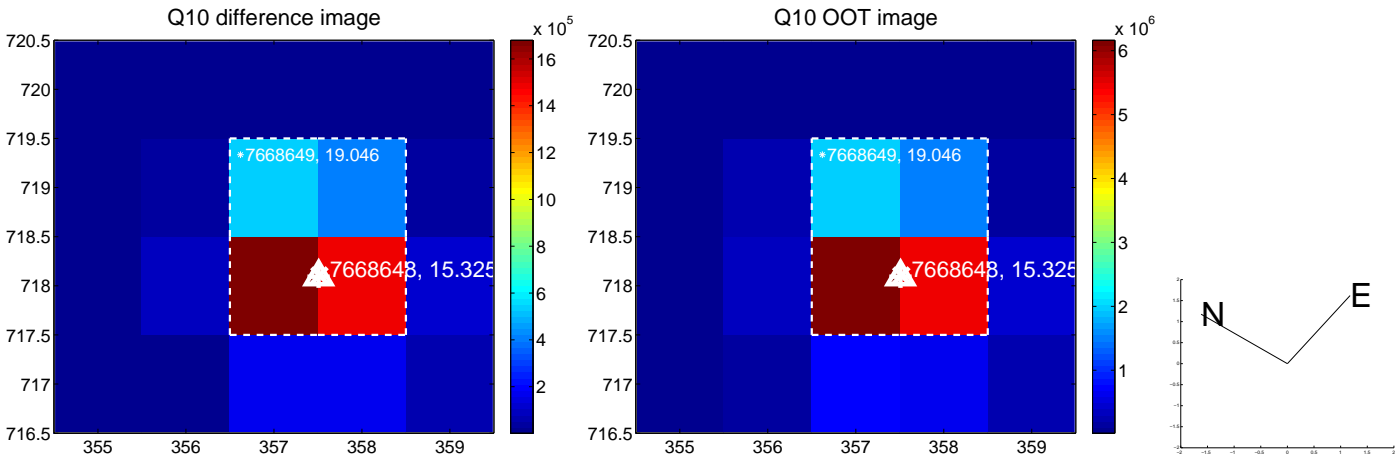
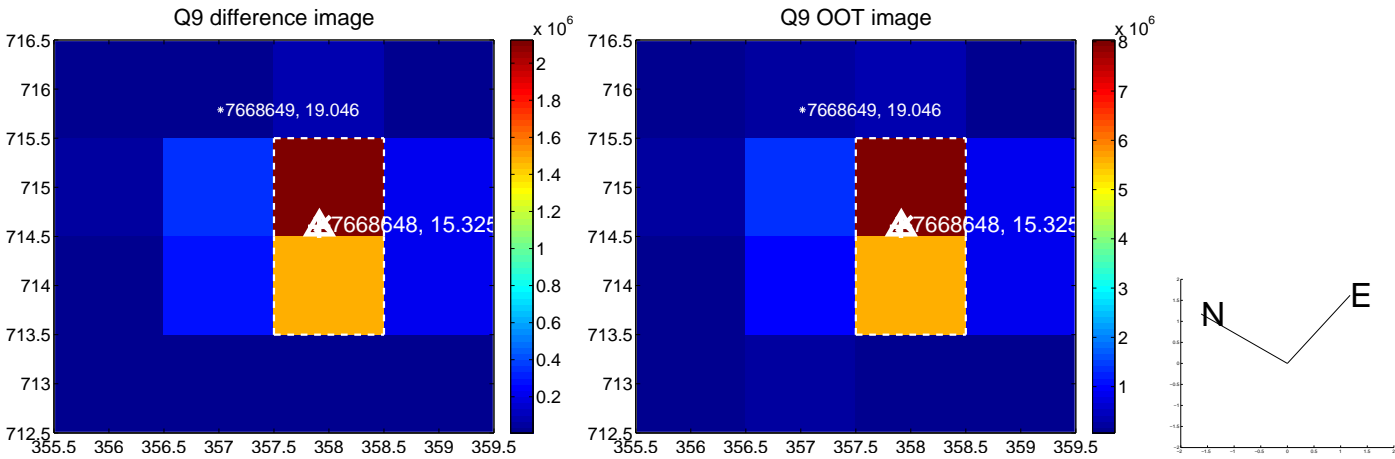
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



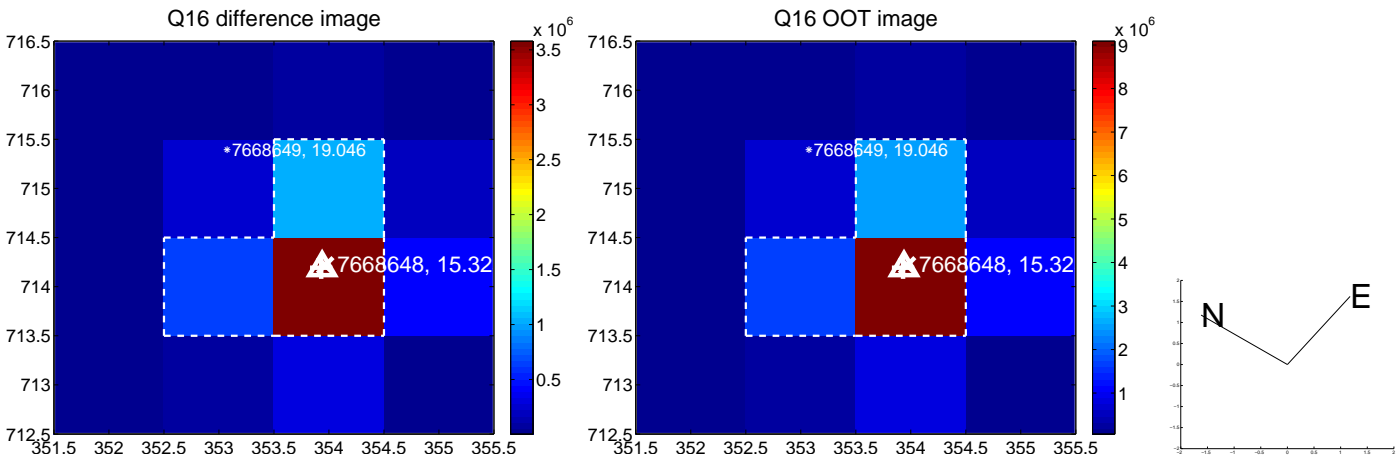
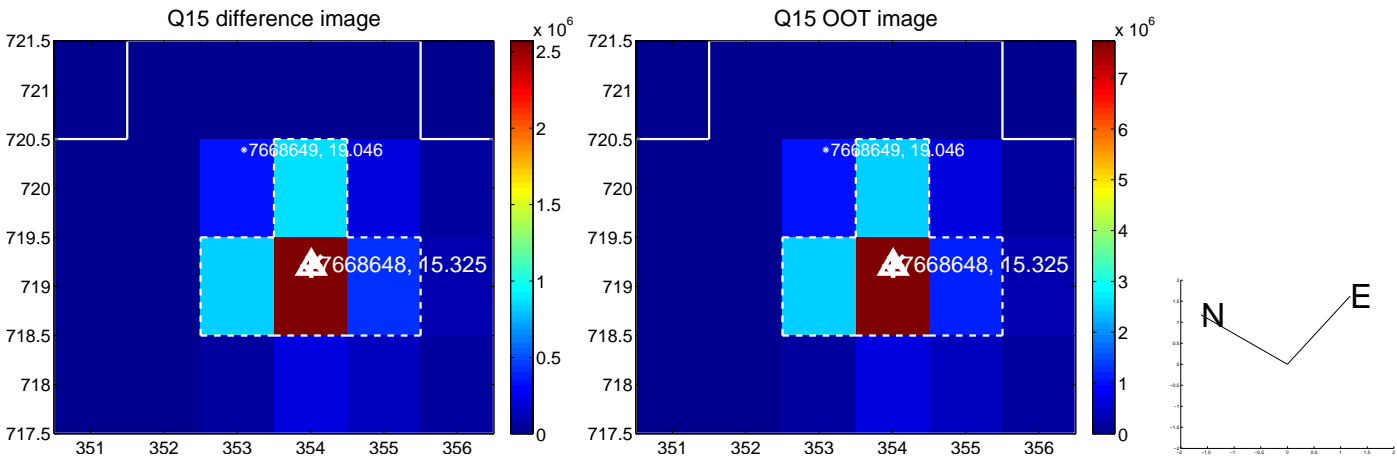
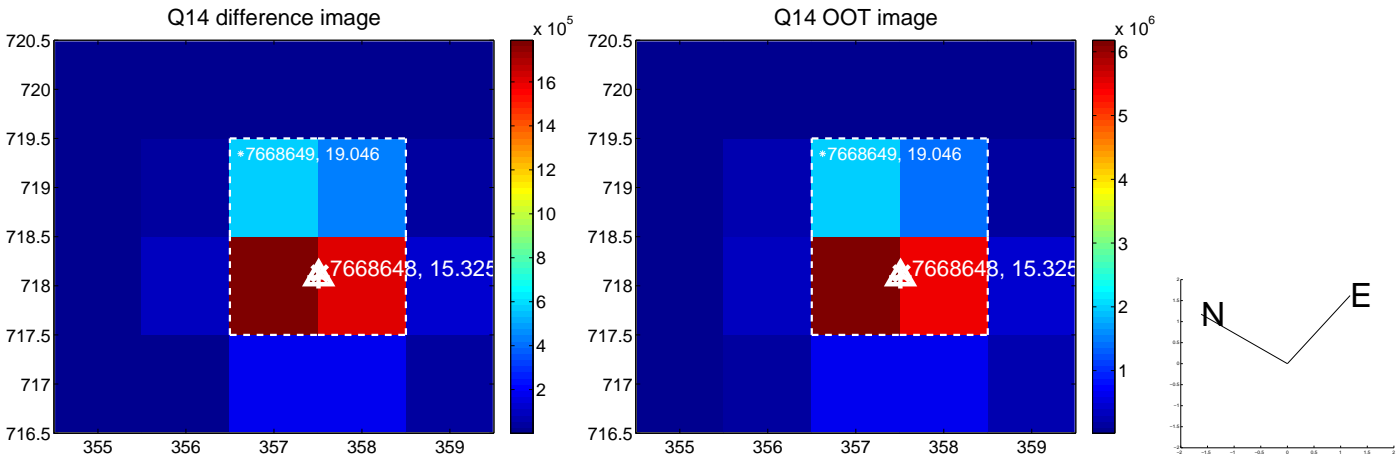
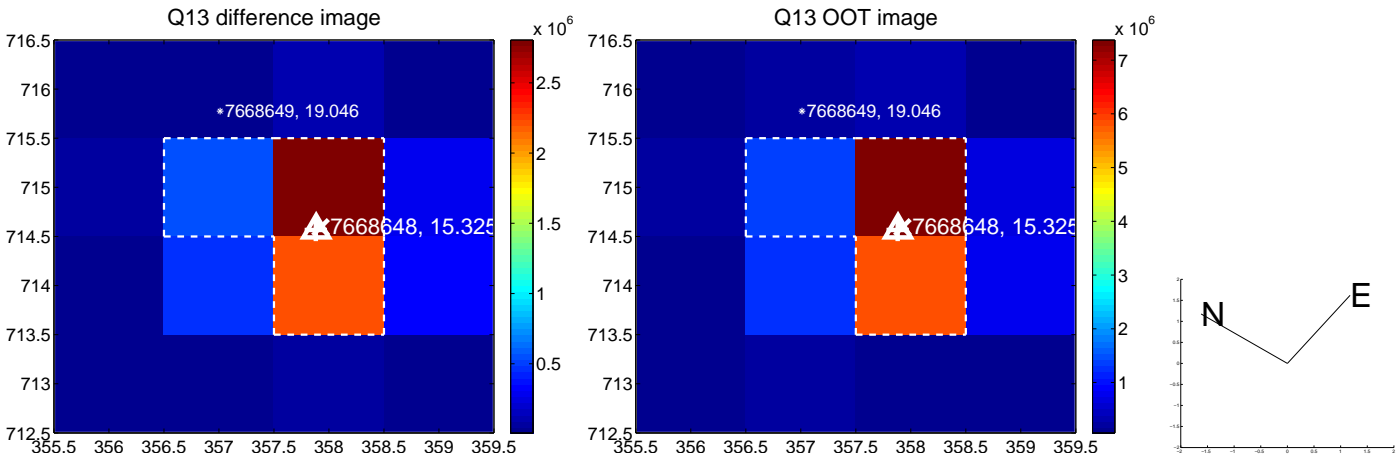
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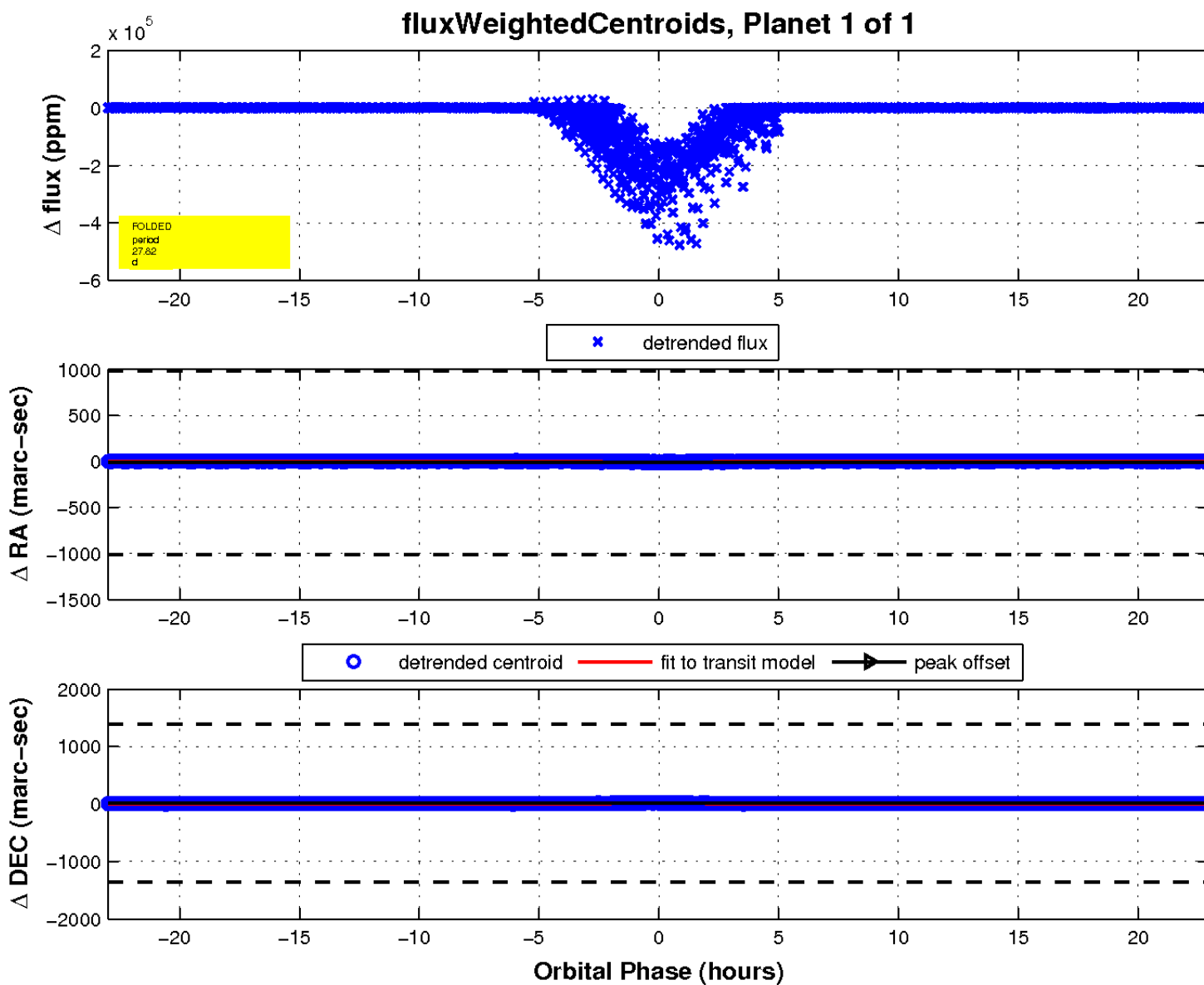
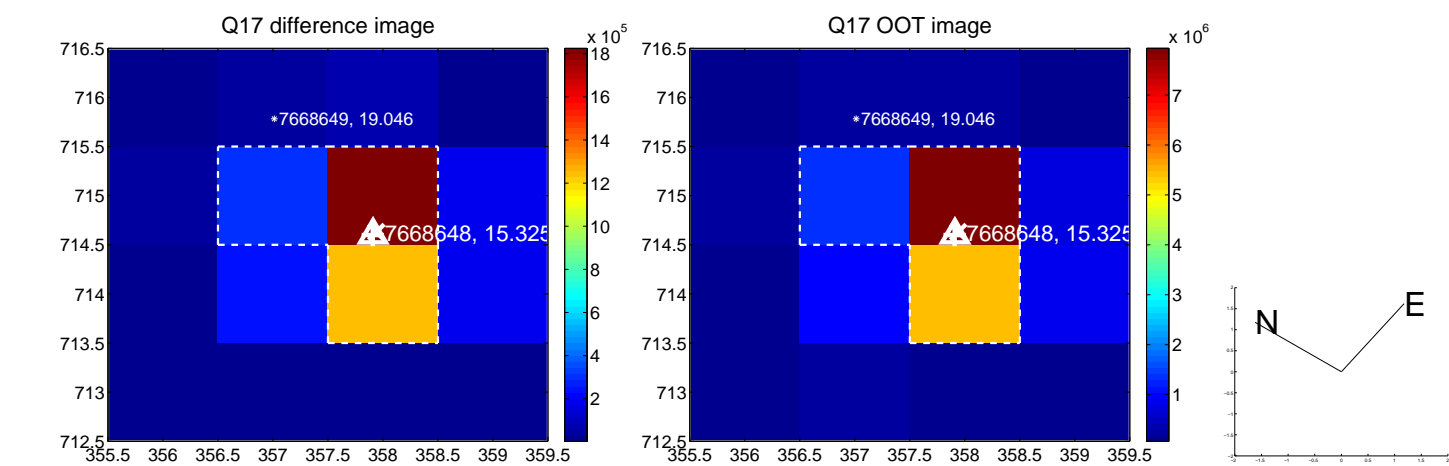
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UKIRT Image

Declination

