

KIC 004079535

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})
004079535-01	OBS	1322.01	17.727238	144.068226	18066.7	4.066	606.2	213.9	1.01	6181	15.03	71.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004079535-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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 004079535-01

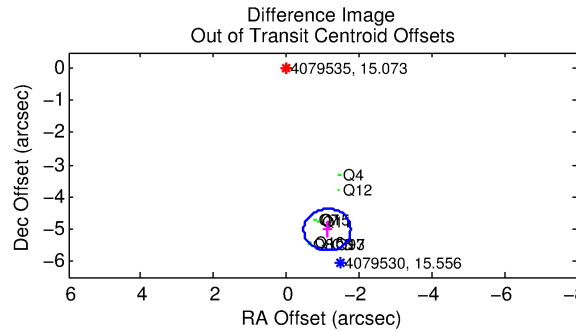
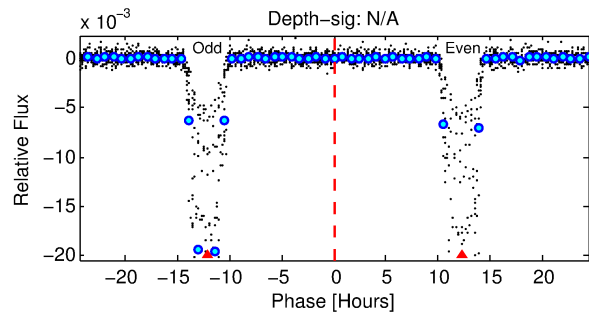
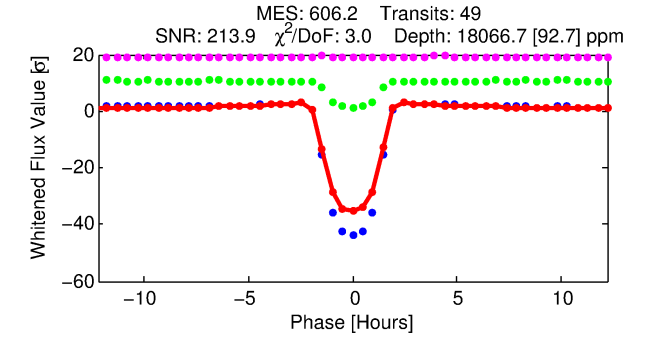
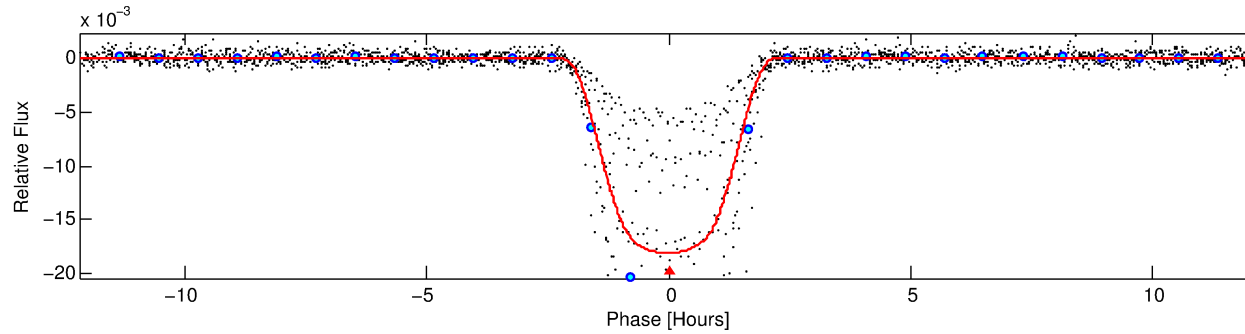
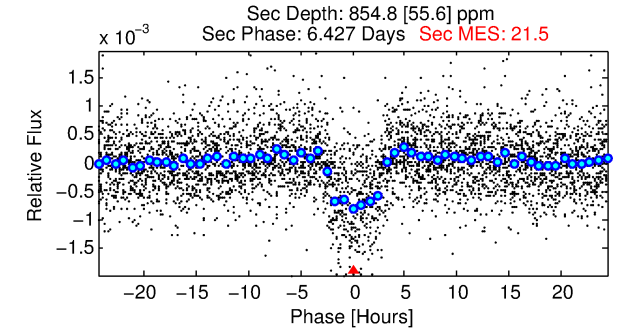
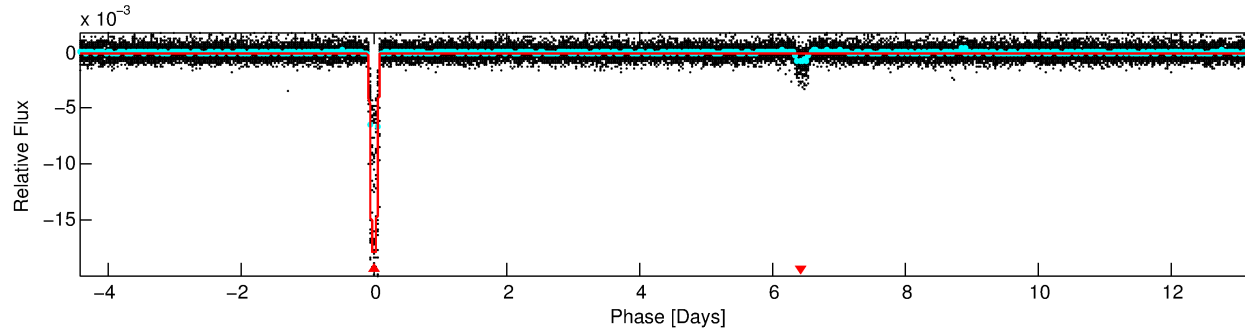
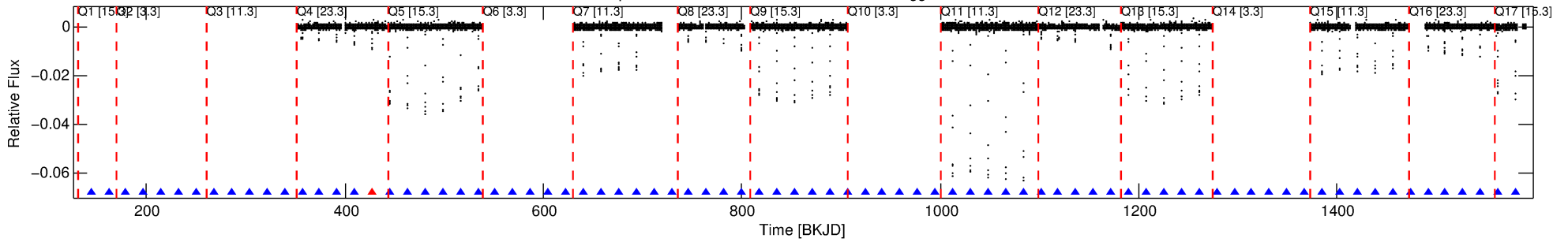
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
004079535-01	4079535	3594.01	4079530	1:1	6.2	1	-1	15.56	15.08	8.98	Direct-PRF	0	0.05	0.01

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 4079535 Candidate: 1 of 1 Period: 17.727 d
KOI: K01322.01 Corr: 0.989

Kp: 15.07 R*: 1.01 Rs Teff: 6181.0 K Logg: 4.46 Fe/H: -0.140



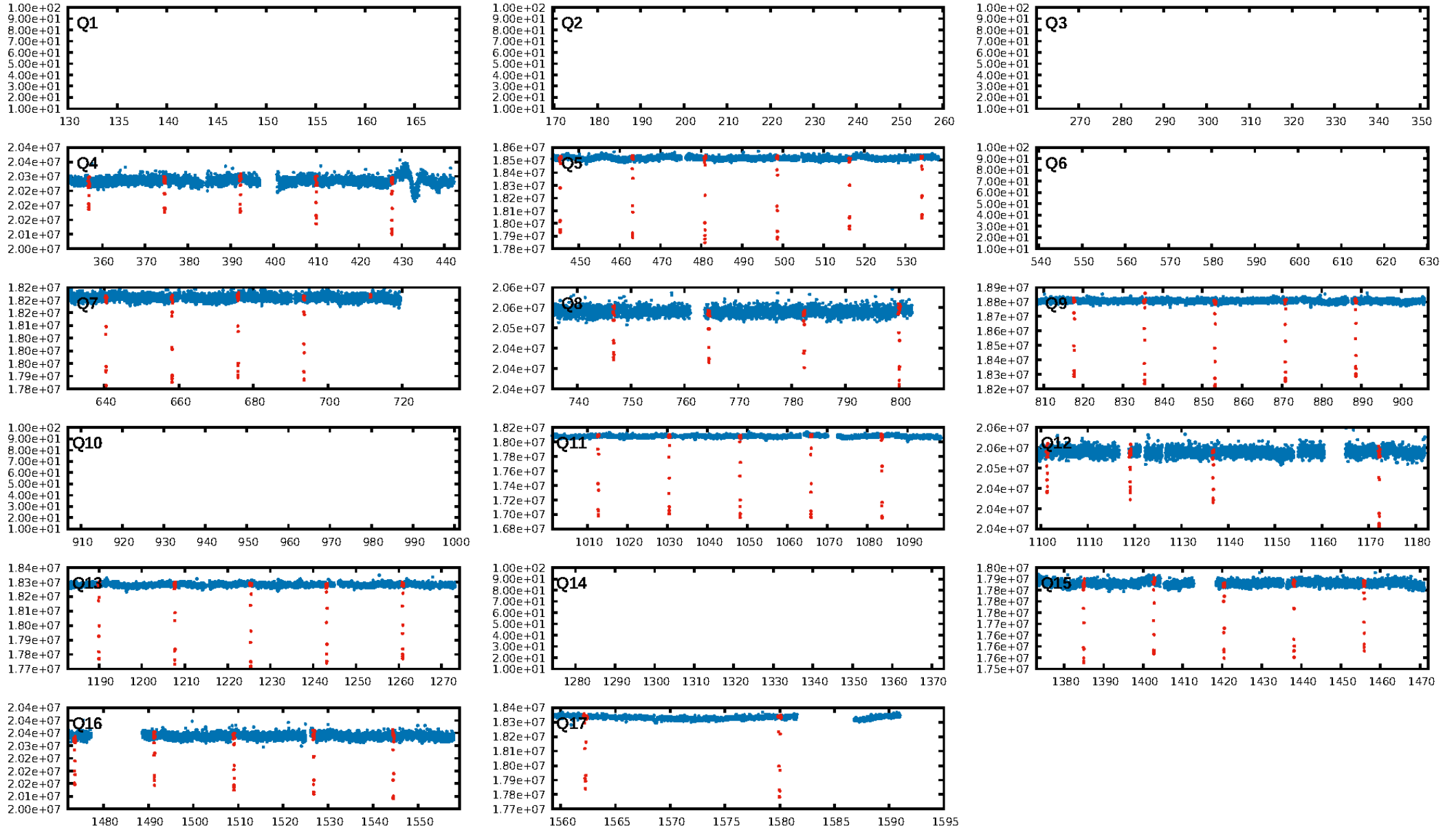
DV Fit Results:

Period = 17.72724 [0.00001] d
Epoch = 144.0682 [0.0005] BKJD
Rp/R* = 0.1369 [0.0006]
a/R* = 27.08 [0.32]
b = 0.79 [0.01]
Seff = 71.23 [31.18]
Teq = 741 [81] K
Rp = 15.03 [5.00] Re
a = 0.1363 [0.0383] AU
Ag = 38.70 [16.04] [2.35σ]
Teffp = 2857 [120] K [14.57σ]

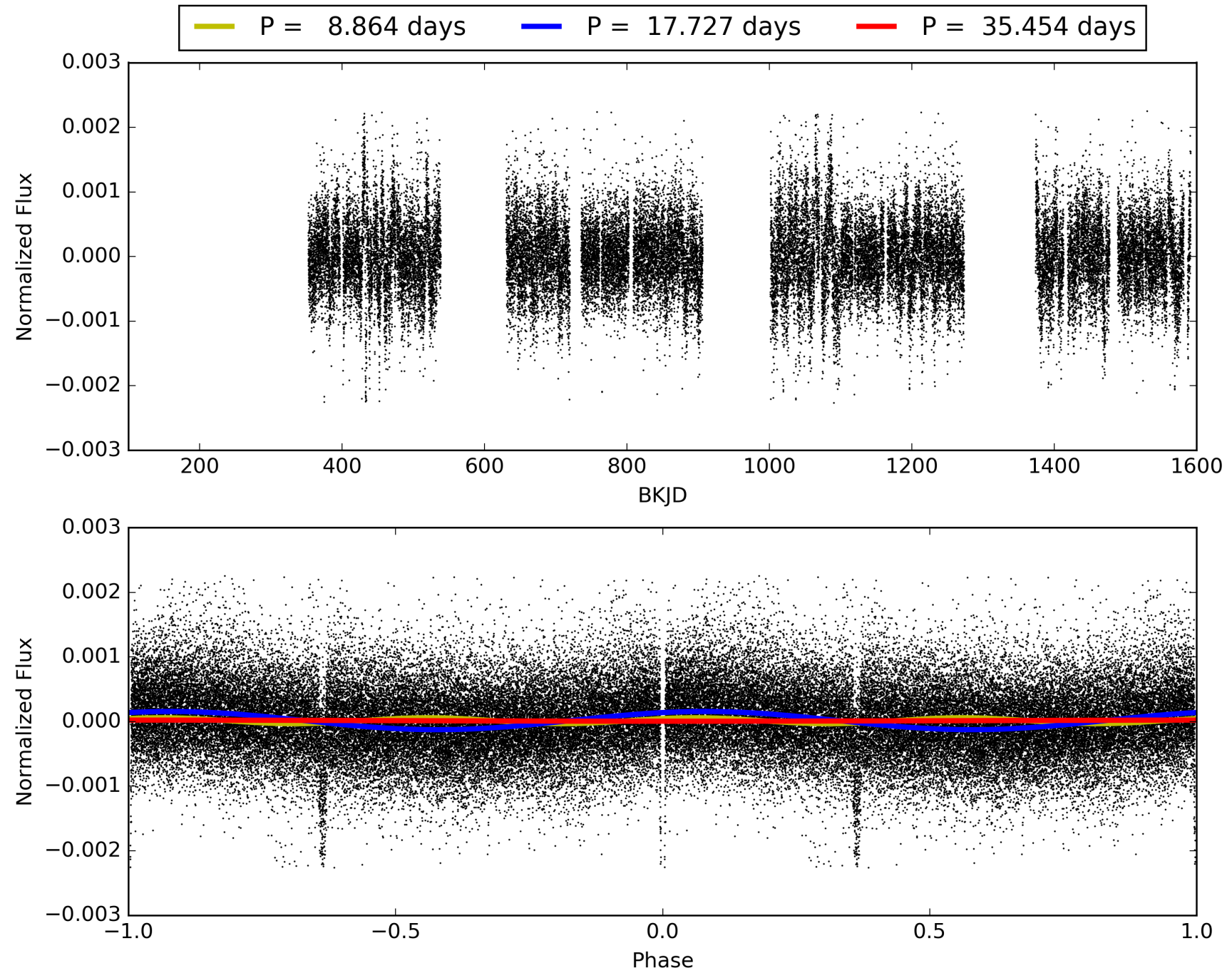
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [46/47]
GhostDiagnostic-chr: -0.07595
Centroid-sig: 0.0%
Centroid-so: 13.347 arcsec [554.55σ]
OotOffset-rm: 5.157 arcsec [23.89σ]
KicOffset-rm: 6.347 arcsec [90.72σ]
OotOffset-st: 0/3/4/4 [11]
KicOffset-st: 0/3/4/4 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [11/11]

TCE 004079535-01, PDC Light Curves

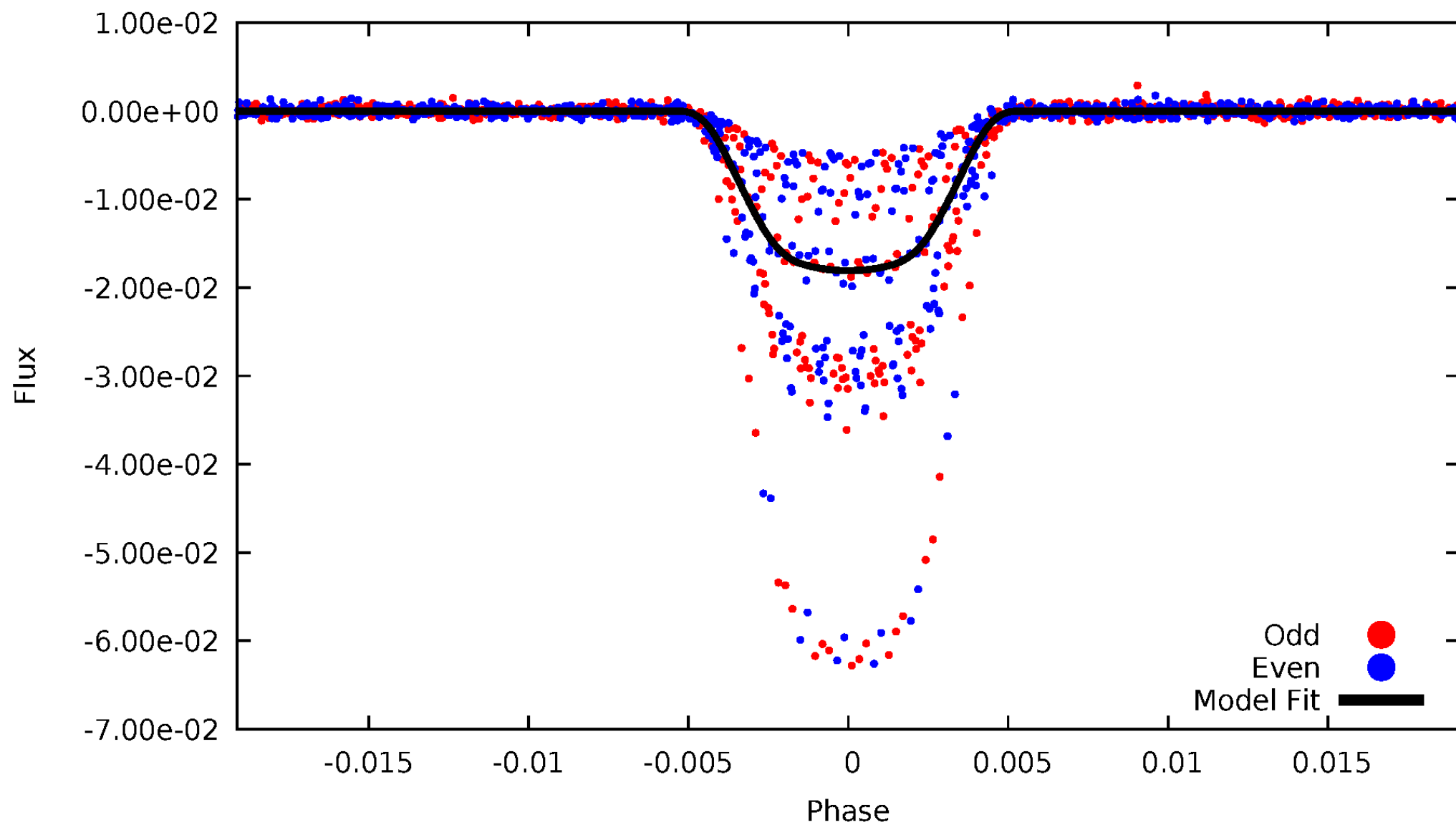


TCE 004079535-01



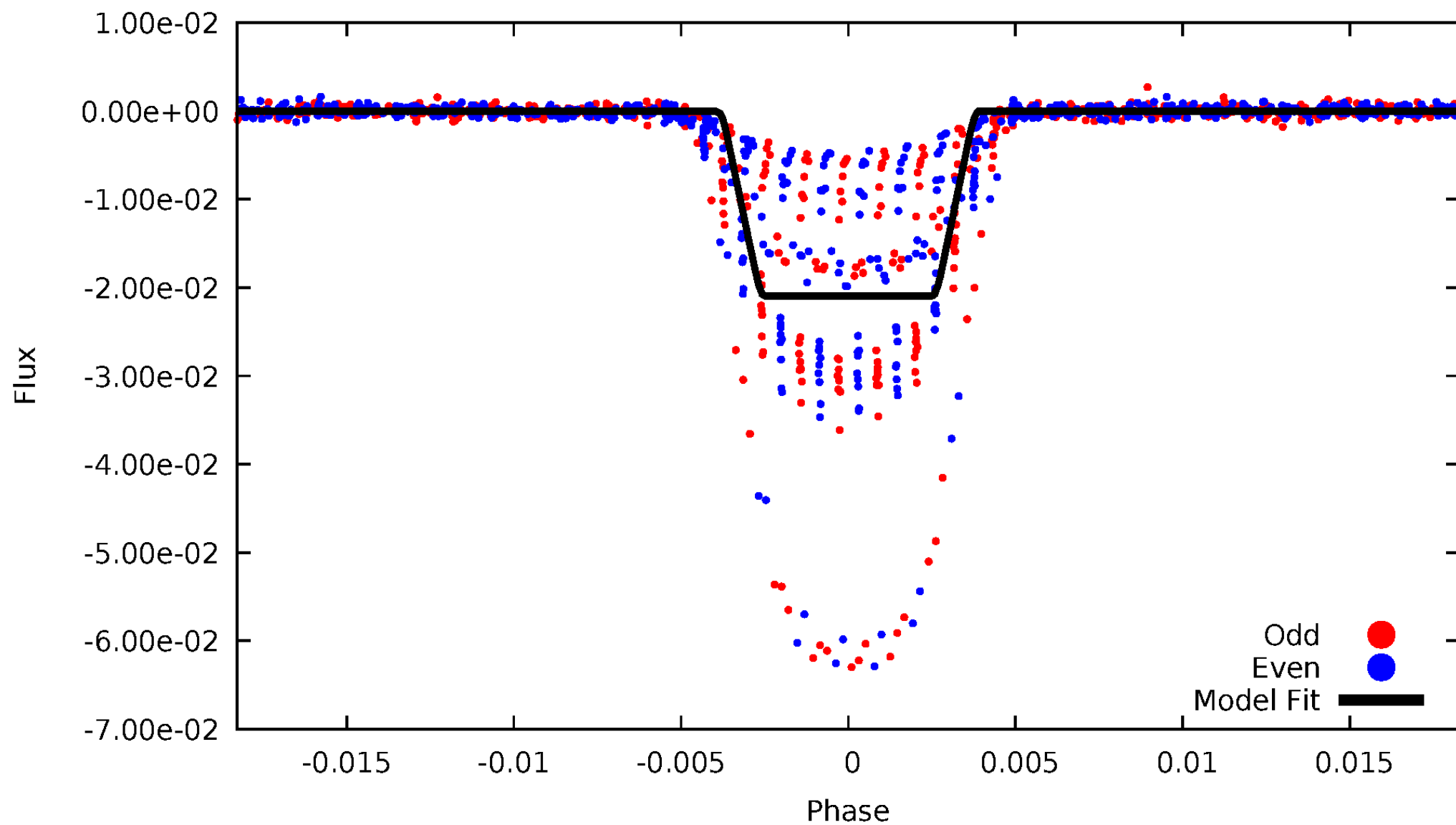
DV Odd/Even

TCE 004079535-01



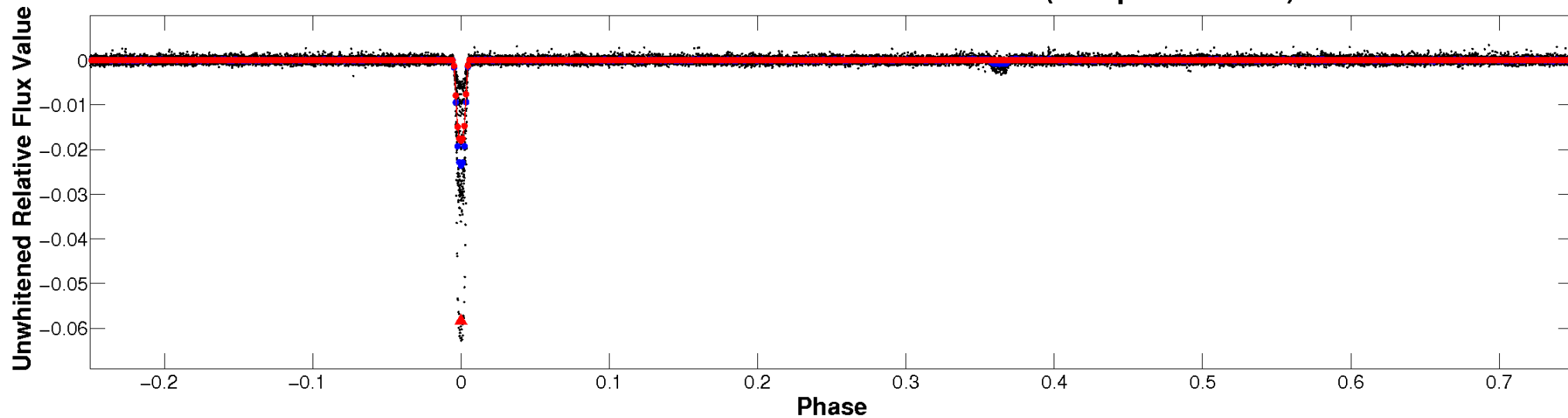
ALT Odd/Even

TCE 004079535-01

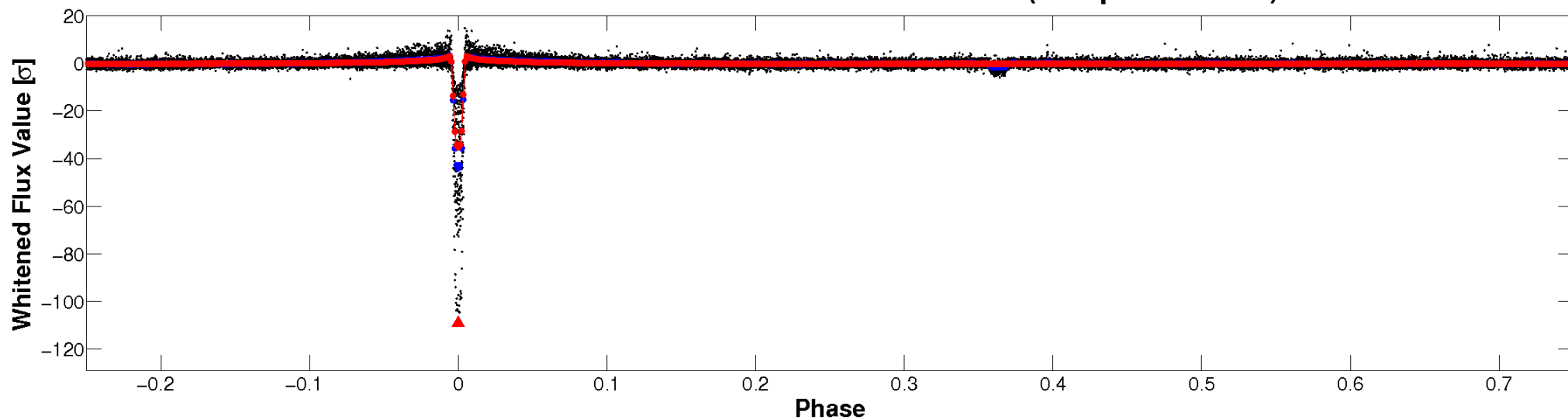


Non-Whitened Vs. Whitened Light Curve

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

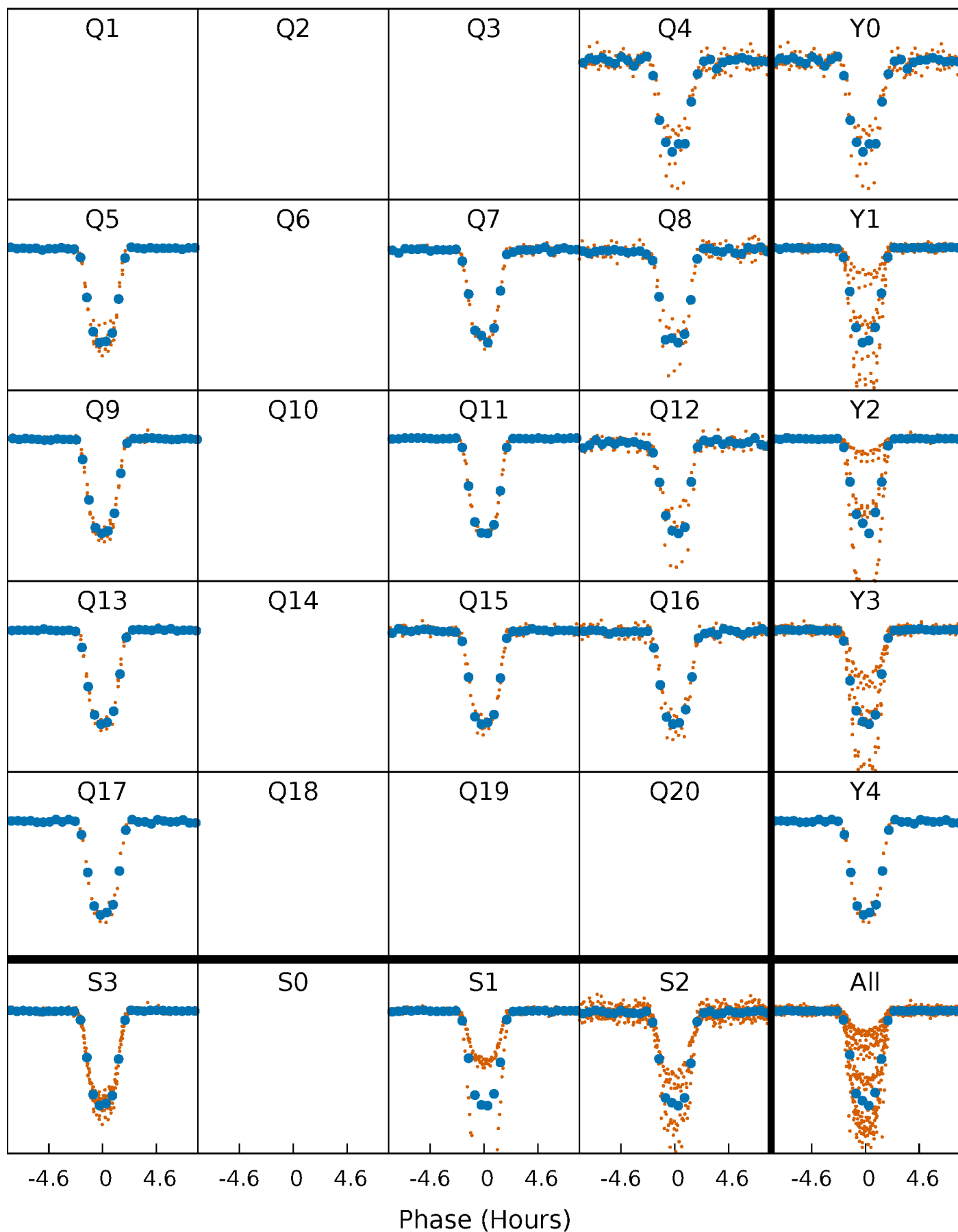


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



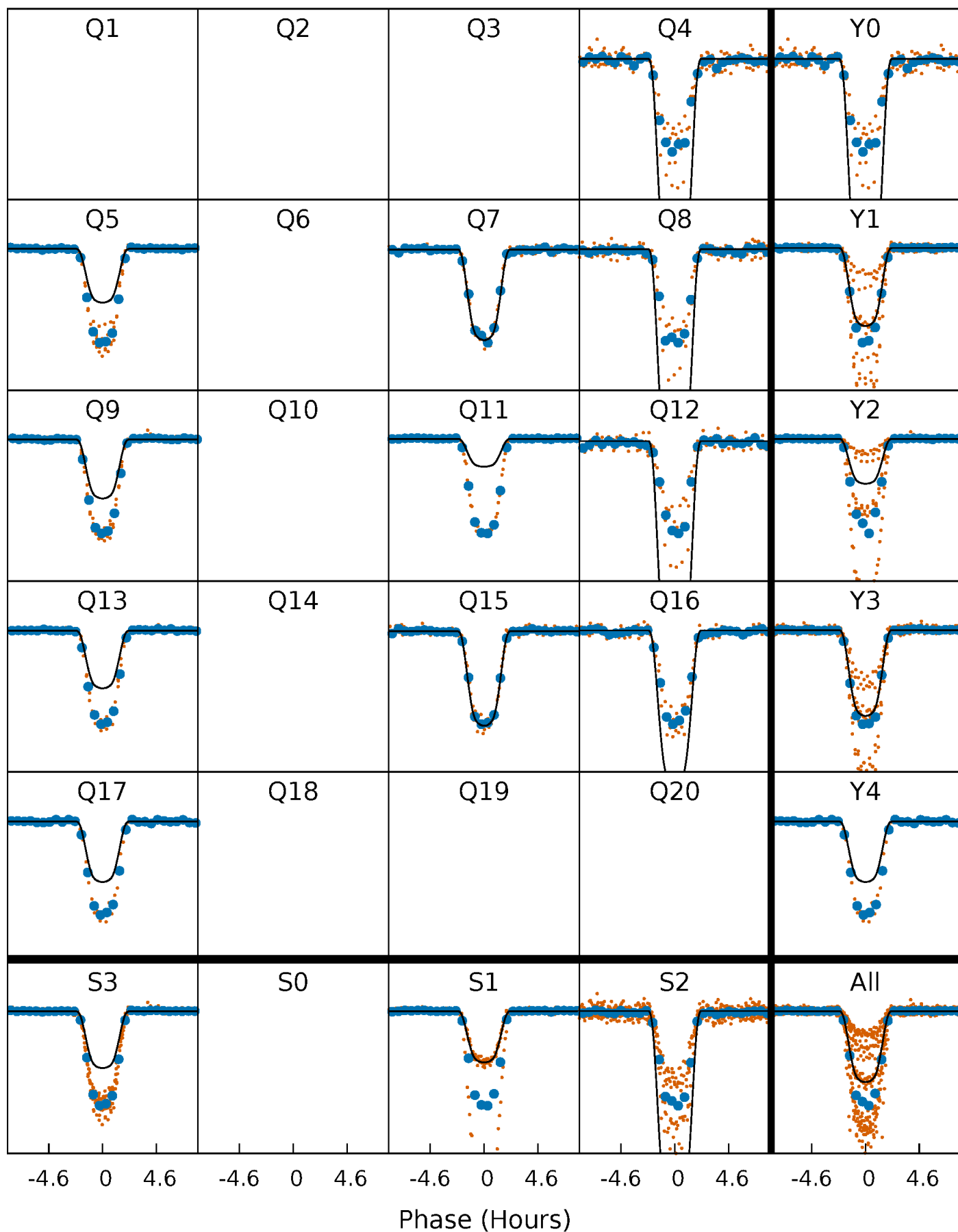
PDC Quarter-Phased Transit Curves

TCE 004079535-01 P= 17.727238 Days $T_0=144.068226$ (BKJD)



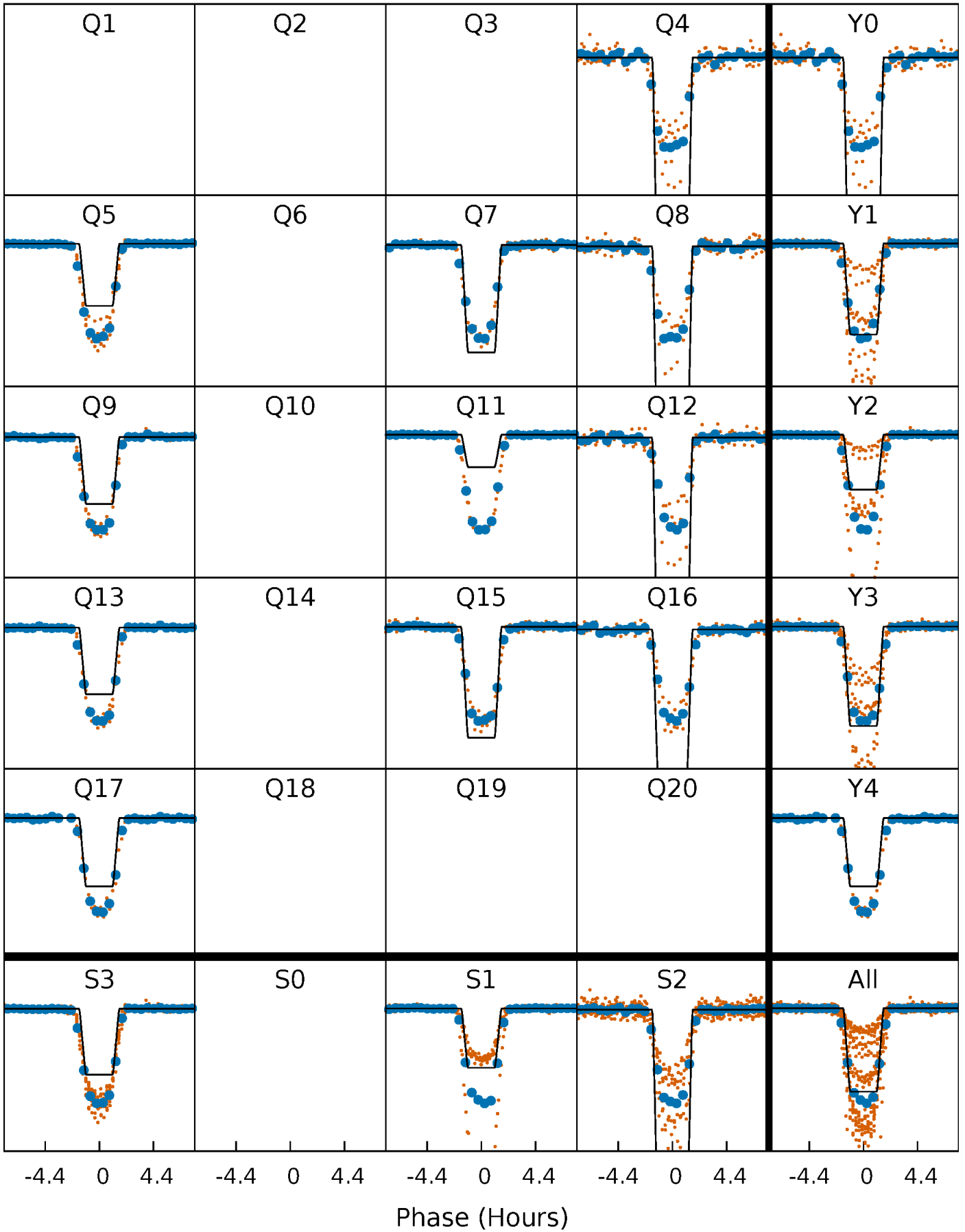
DV Quarter-Phased Transit Curves

TCE 004079535-01 P= 17.727238 Days $T_0=144.068226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

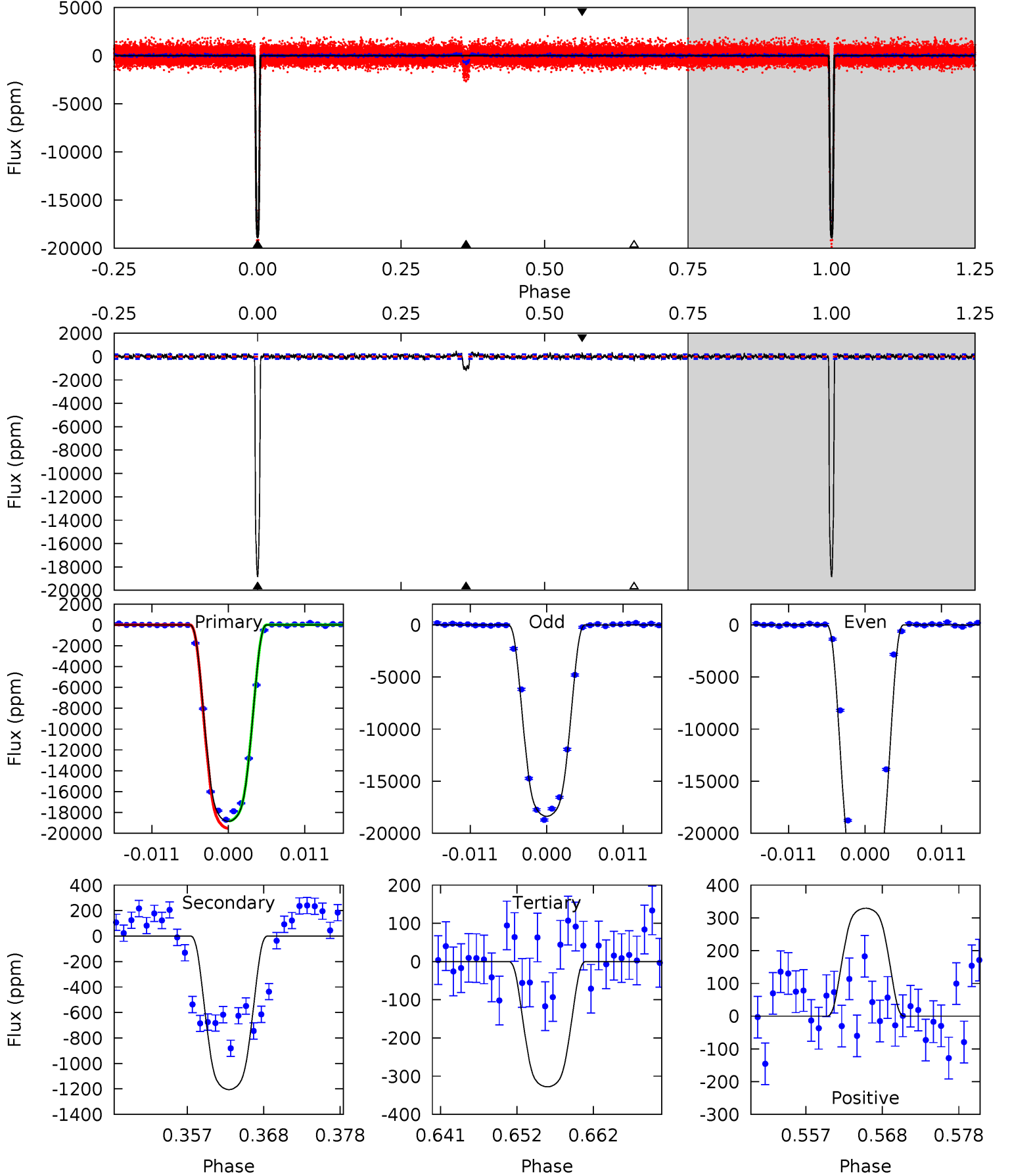
TCE 004079535-01 P= 17.727138 Days $T_0=144.073828$ (BKJD)



DV Model-Shift Uniqueness Test

004079535-01, P = 17.727238 Days, E = 144.068226 Days

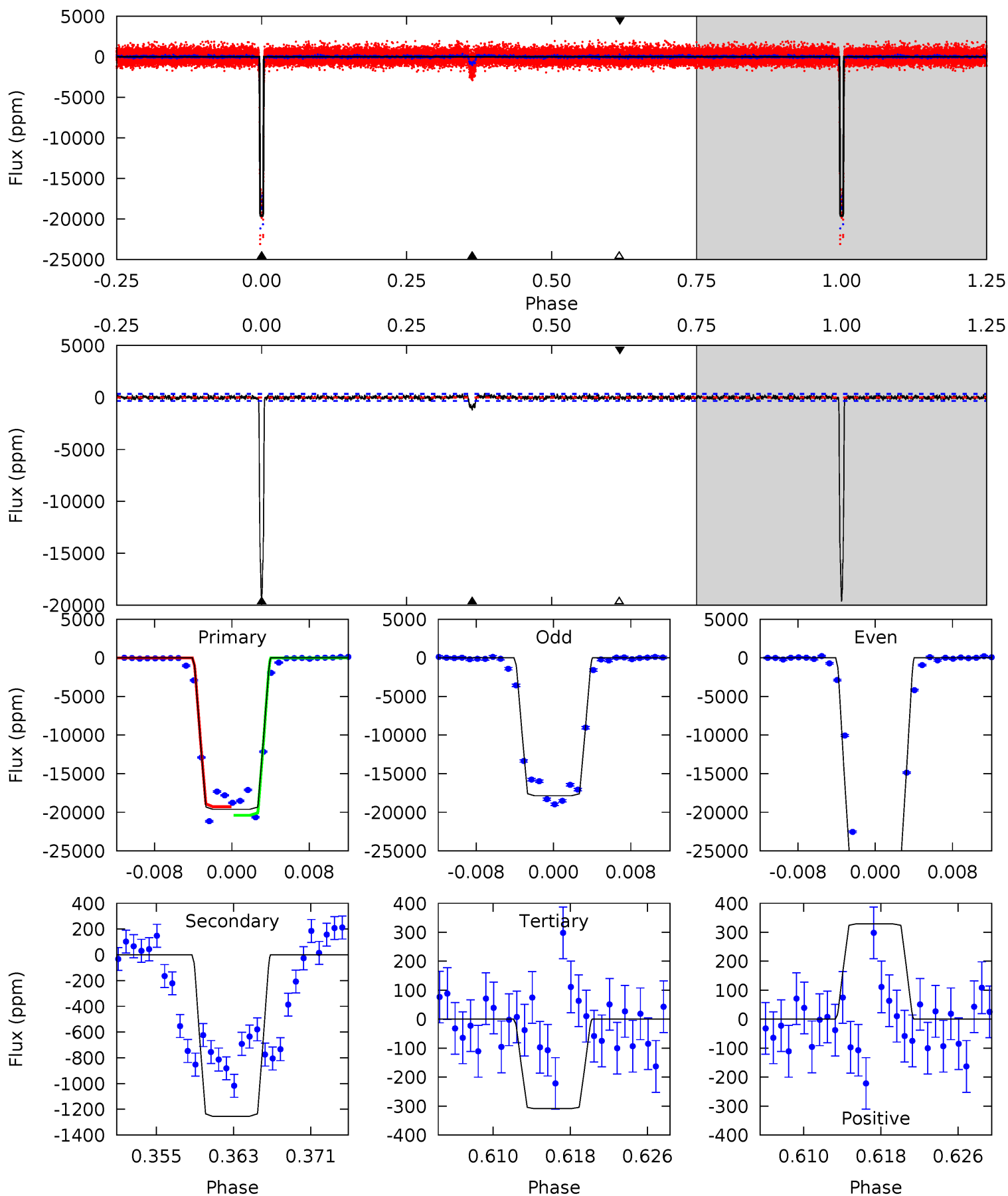
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
477.8	30.5	8.31	8.35	5.02	2.56	2.36	469.5	469.5	22.2	22.2	111.2	1.25	0.02	0



Alt Model-Shift Uniqueness Test

004079535-01, P = 17.727138 Days, E = 144.073828 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
293.8	18.8	4.63	4.93	5.08	2.66	1.33	289.2	288.9	14.2	13.9	60.4	1.23	0.02	8.16



Stellar Parameters For KIC 004079535

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6181^{+197}_{-240}	$4.464^{+0.056}_{-0.224}$	$-0.140^{+0.250}_{-0.350}$	$1.006^{+0.335}_{-0.112}$	$1.074^{+0.144}_{-0.144}$	$1.488^{+0.445}_{-0.812}$
	+3%/-4%	+1%/-5%	+179%/-250%	+33%/-11%	+13%/-13%	+30%/-55%
Source	KIC0	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 004079535-01 / KOI 1322.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1205 ± 39	$15.39^{+2.91}_{-1.17}$	1058^{+86}_{-59}	3572^{+79}_{-93}	51^{+8}_{-13}
Alt.	-1254 ± 67	$16.02^{+3.01}_{-1.03}$	1053^{+79}_{-55}	3524^{+73}_{-95}	47^{+8}_{-12}

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

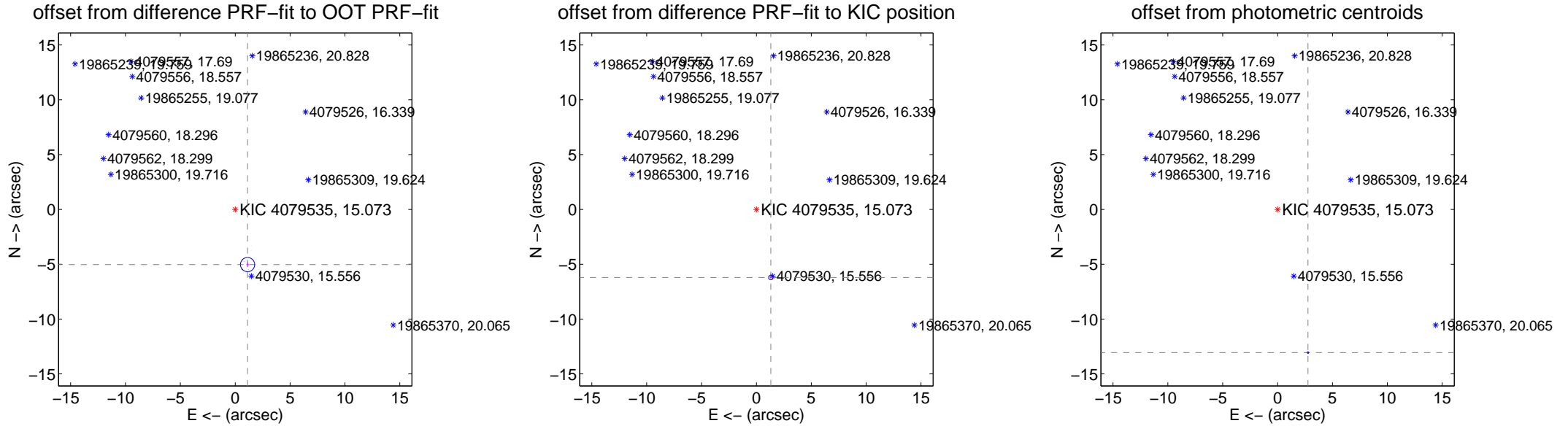
DV Centroid Data

Supplemental centroid analysis for 004079535-01. Kepler magnitude: 15.07. Transit SNR 213.87

There are 11 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.71 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.157 ± 0.216	23.89	-1.125 ± 0.118	-5.032 ± 0.230
PRF-fit source offset from KIC position	6.347 ± 0.070	90.72	-1.315 ± 0.075	-6.210 ± 0.070
photometric centroid source offset	13.35 ± 0.02	554.55	-2.77 ± 0.02	-13.06 ± 0.02



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.

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



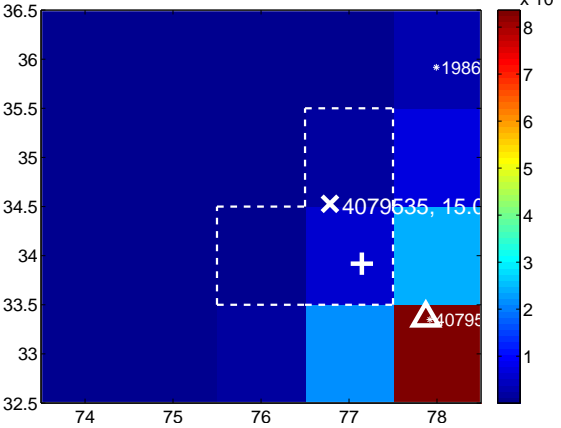
Q3 no difference image



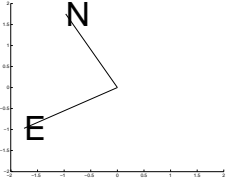
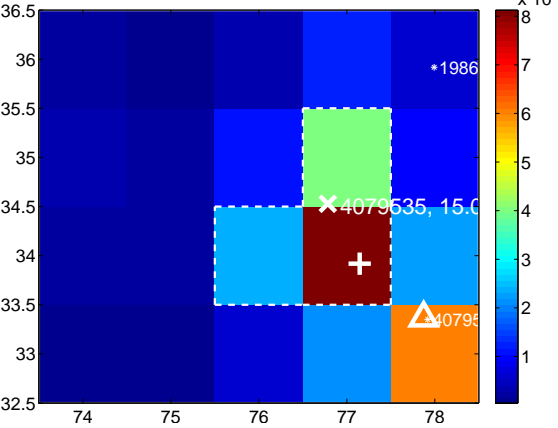
Q3 no OOT image



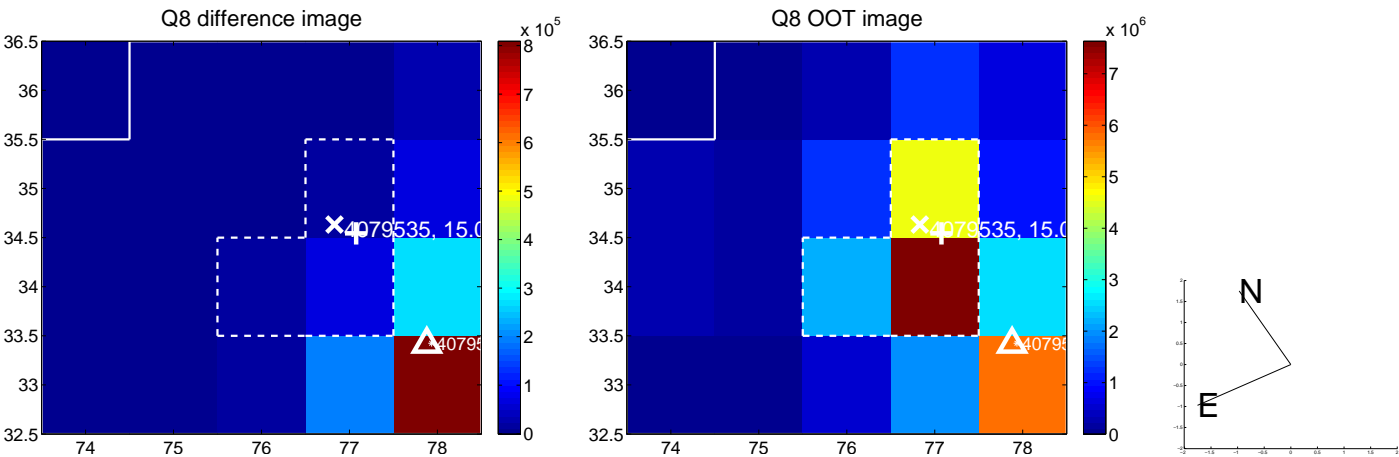
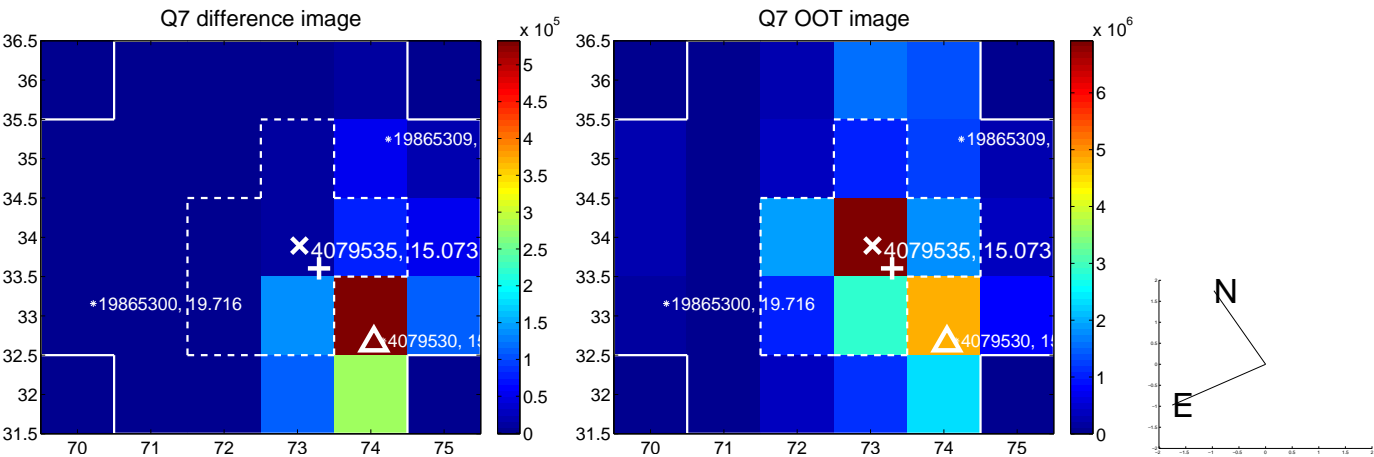
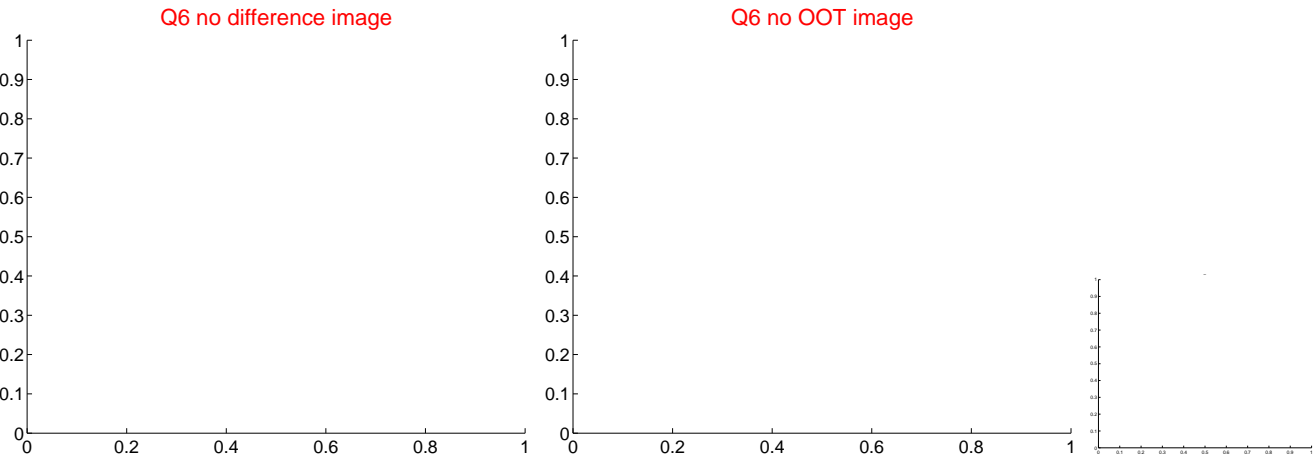
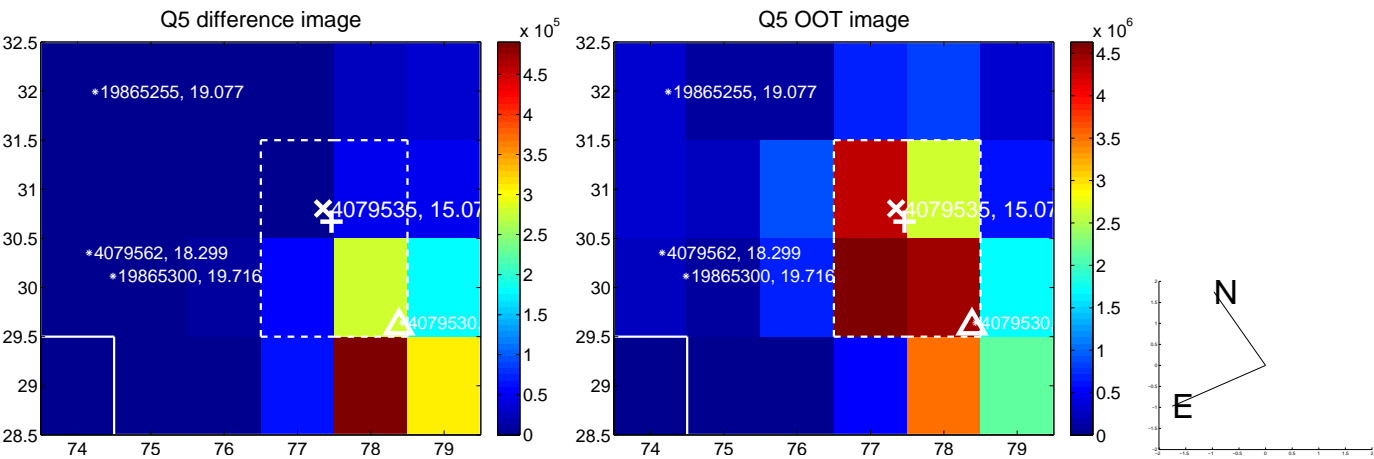
Q4 difference image



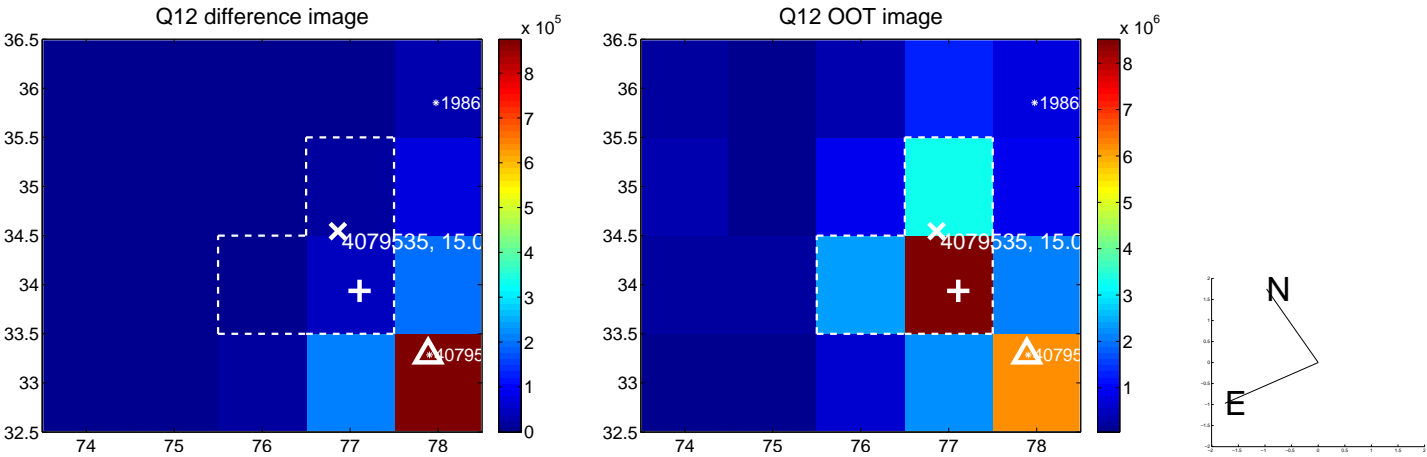
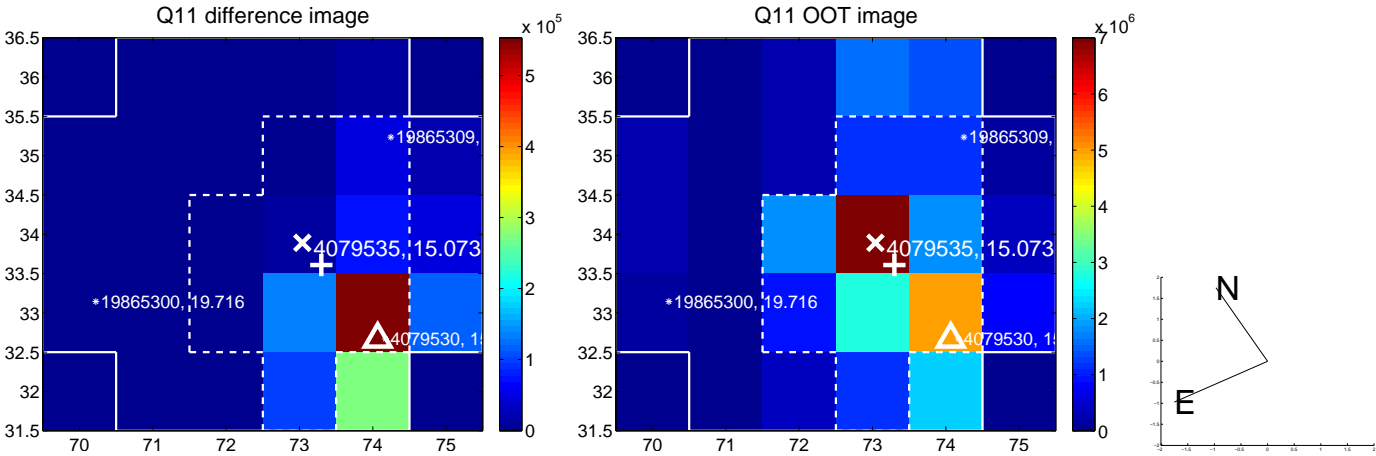
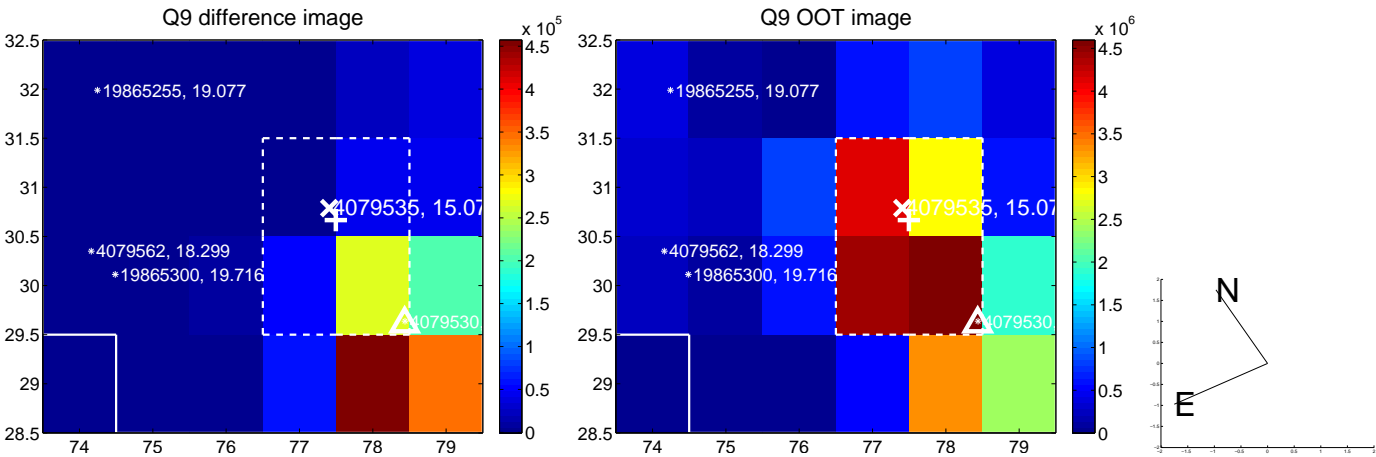
Q4 OOT image



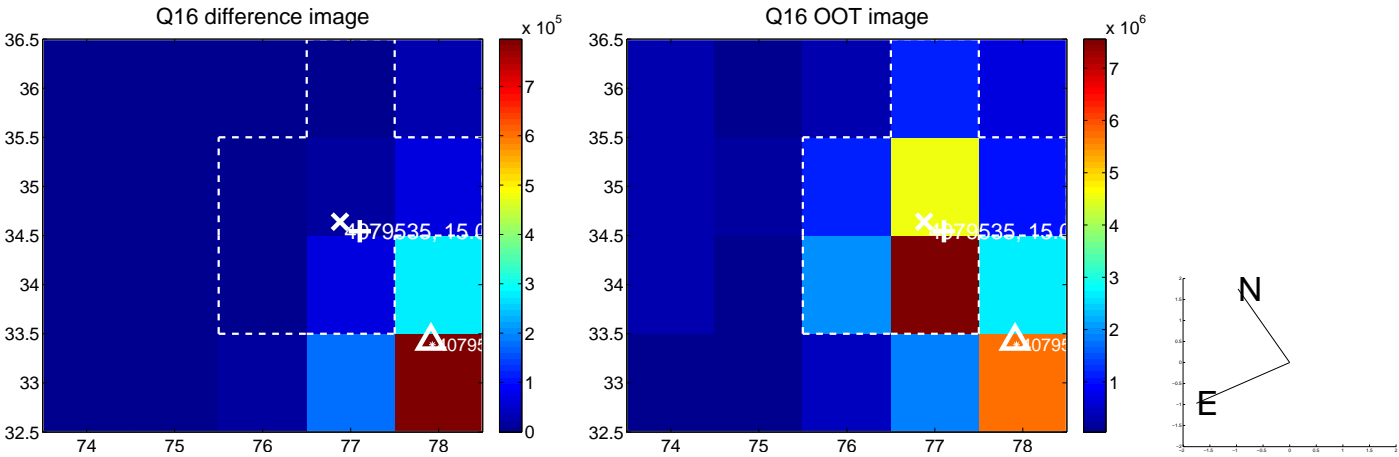
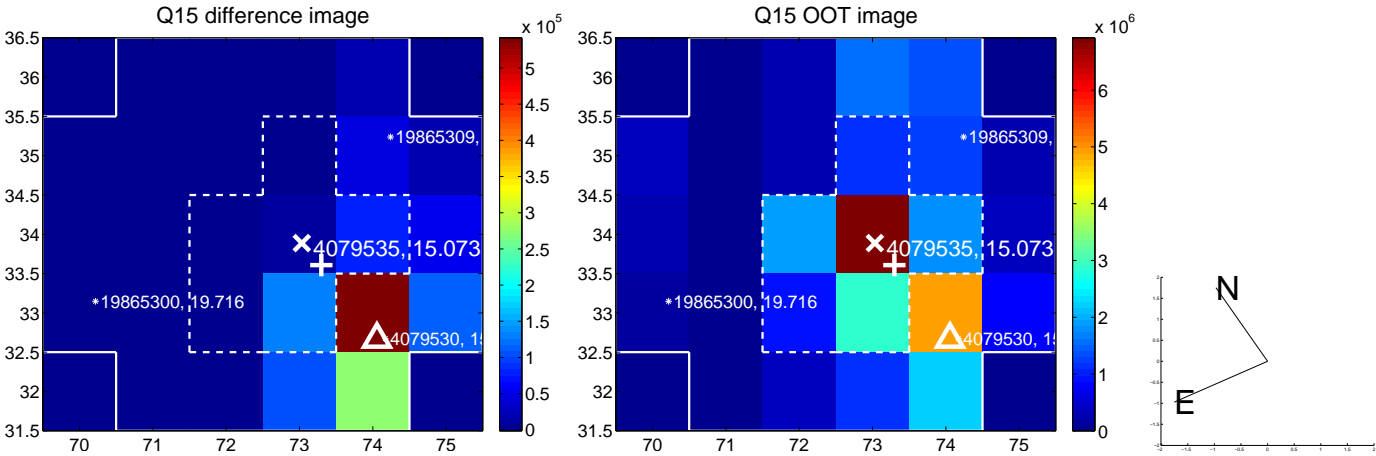
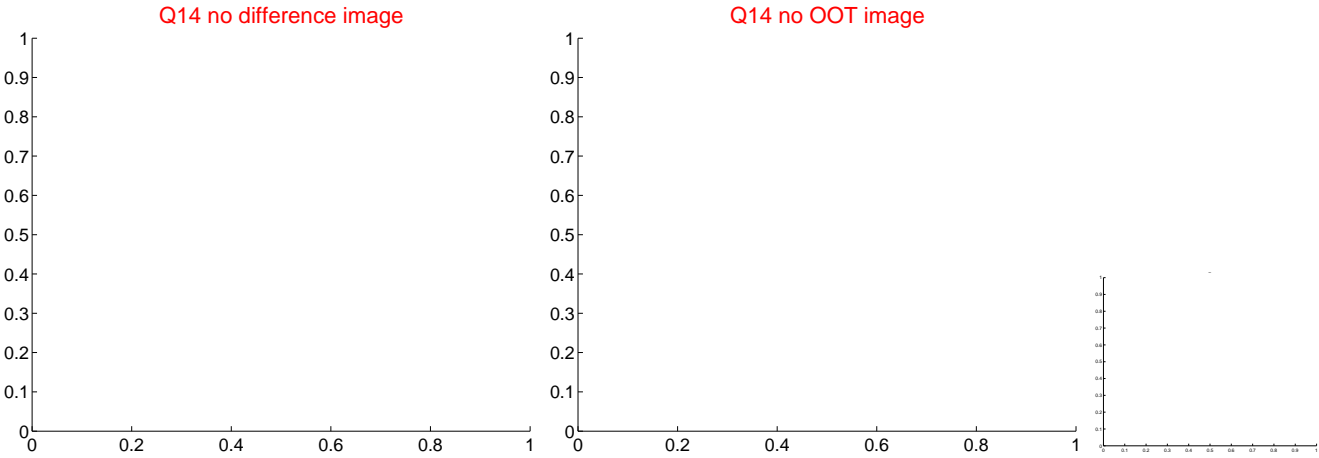
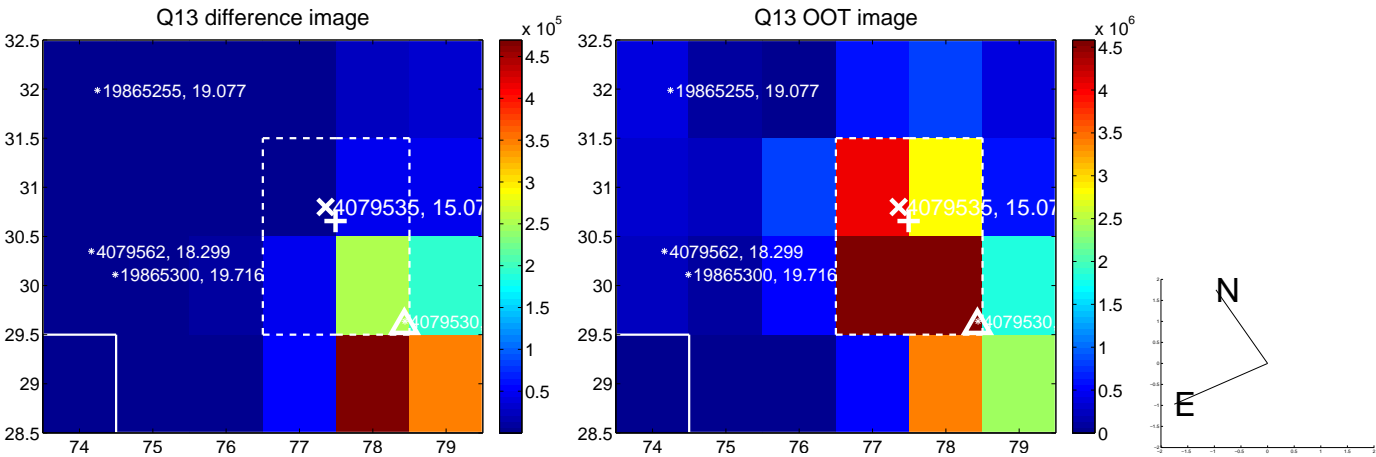
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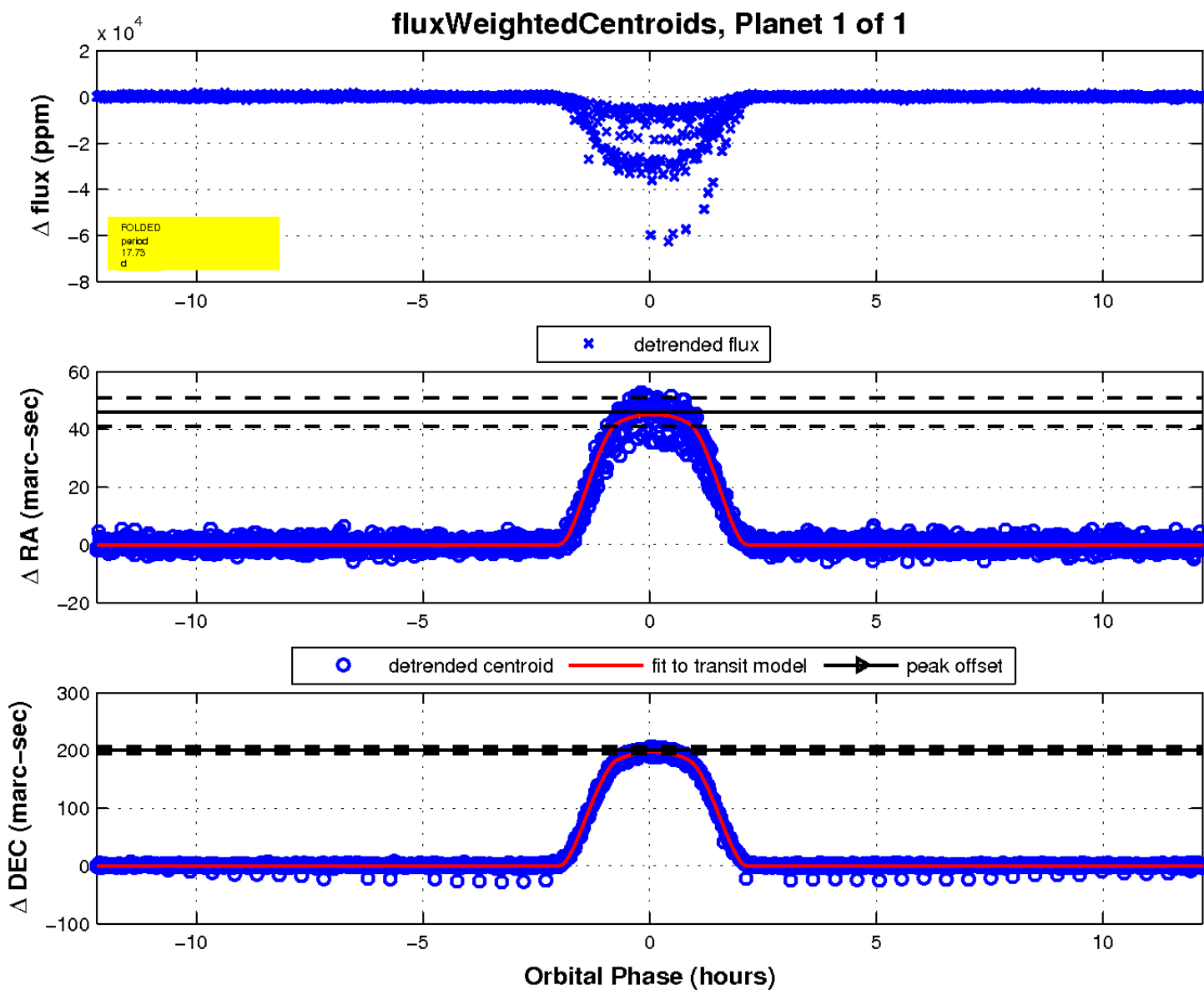
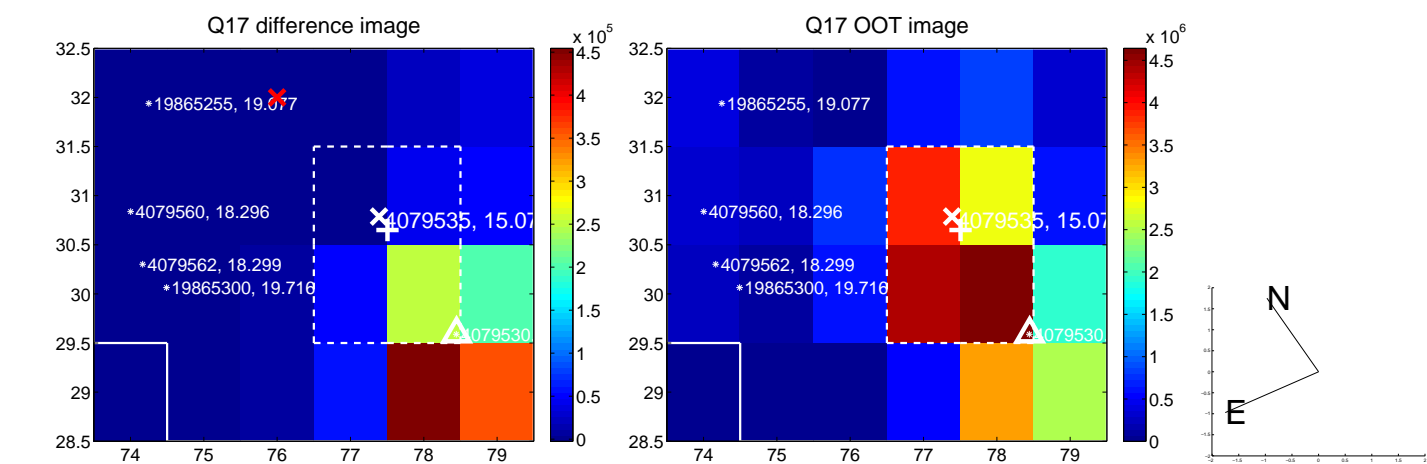
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UKIRT Image

