

KIC 004058169

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})
004058169-01	OBS	5034.01	282.536303	241.528789	29010.4	10.257	906.7	740.7	1.41	6401	38.34	3.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004058169-01	OBS	FP	0.00	0	1	0	0	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.

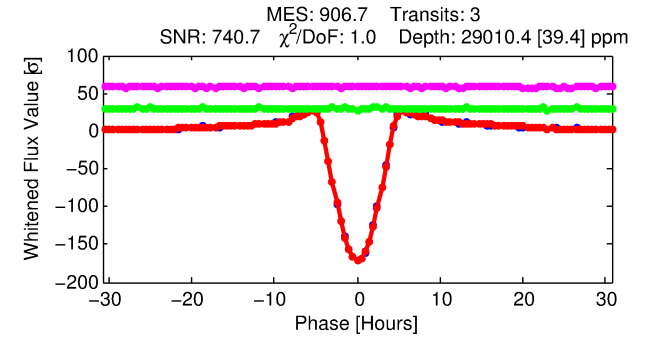
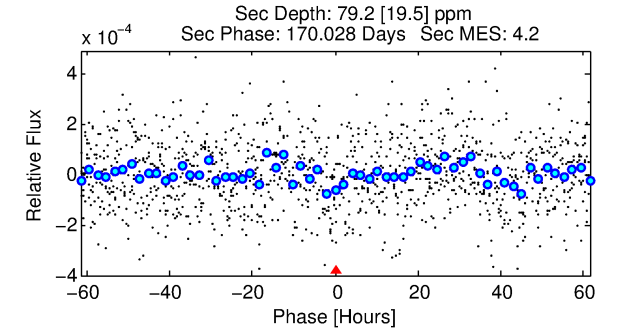
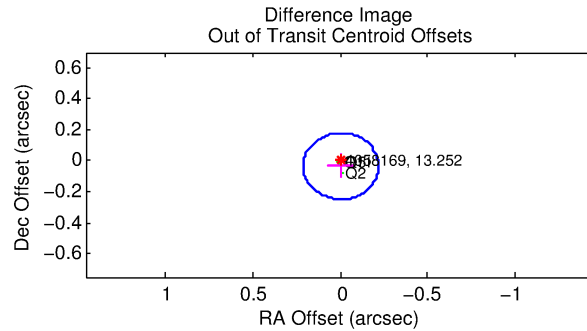
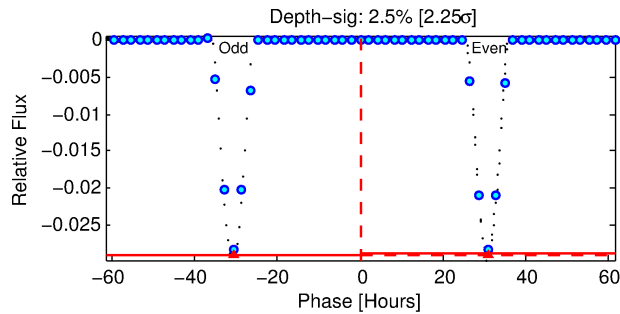
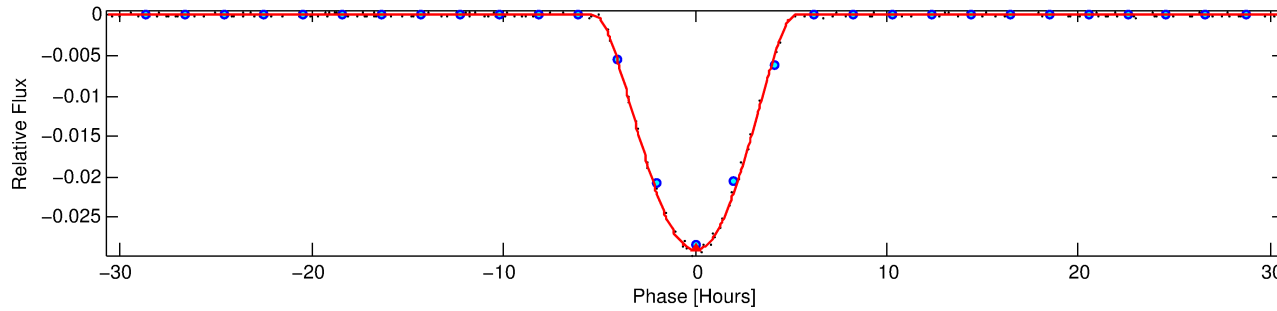
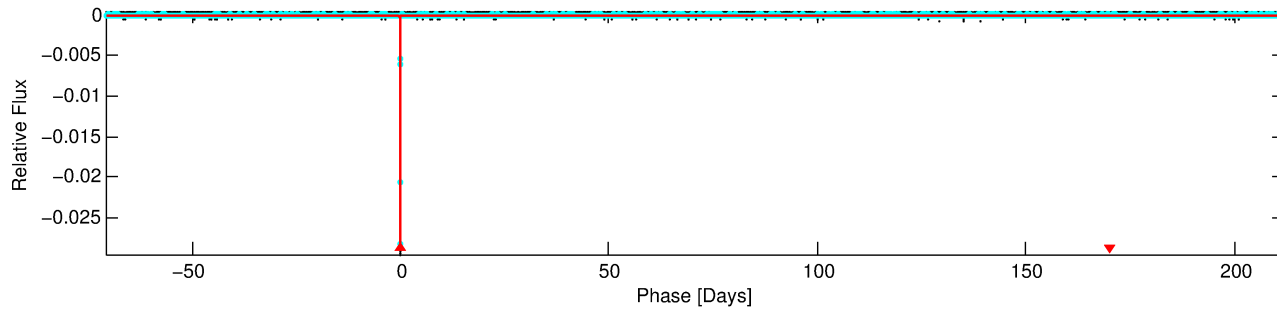
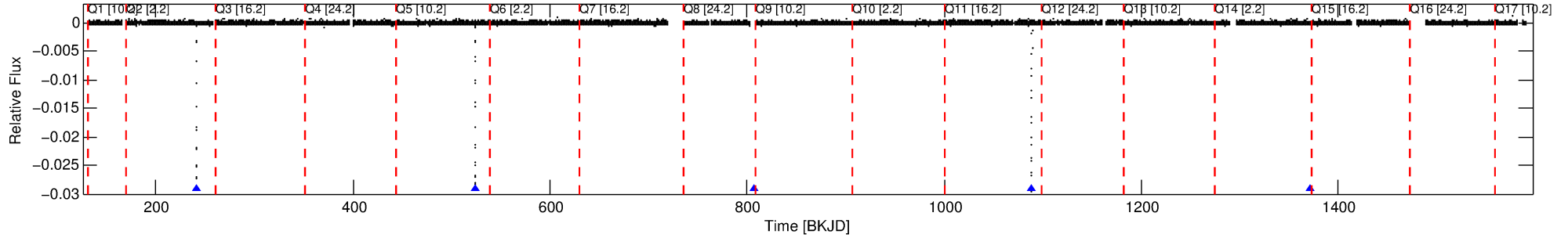
Ephemeris Match Information For 004058169-01

No Significant Match Found

DV One-Page Summary

KIC: 4058169 Candidate: 1 of 1 Period: 282.536 d
KOI: K05034.01 Corr: 1.000

Kp: 13.25 R*: 1.41 Rs Teff: 6401.0 K Logg: 4.17 Fe/H: -0.280



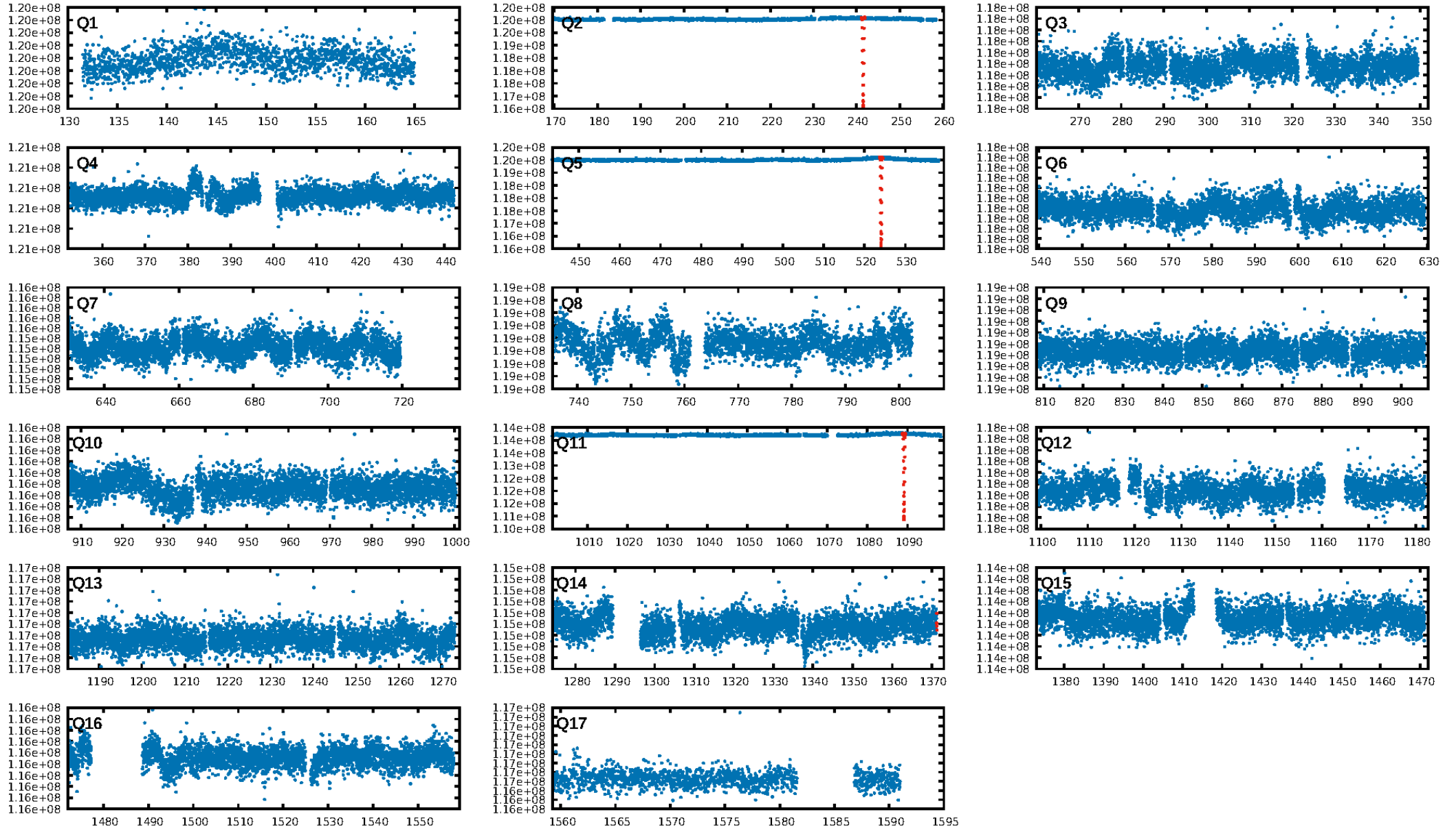
DV Fit Results:

Period = 282.53630 [0.00012] d
Epoch = 241.5288 [0.0002] BKJD
Rp/R* = 0.2492 [0.0135]
a/R* = 165.07 [0.93]
b = 0.97 [0.02]
Seff = 3.99 [1.64]
Teq = 360 [37] K
Rp = 38.34 [11.13] Re
a = 0.8661 [0.2176] AU
Ag = 22.22 [10.34] [2.05σ]
Teff = 1210 [94] K [8.40σ]

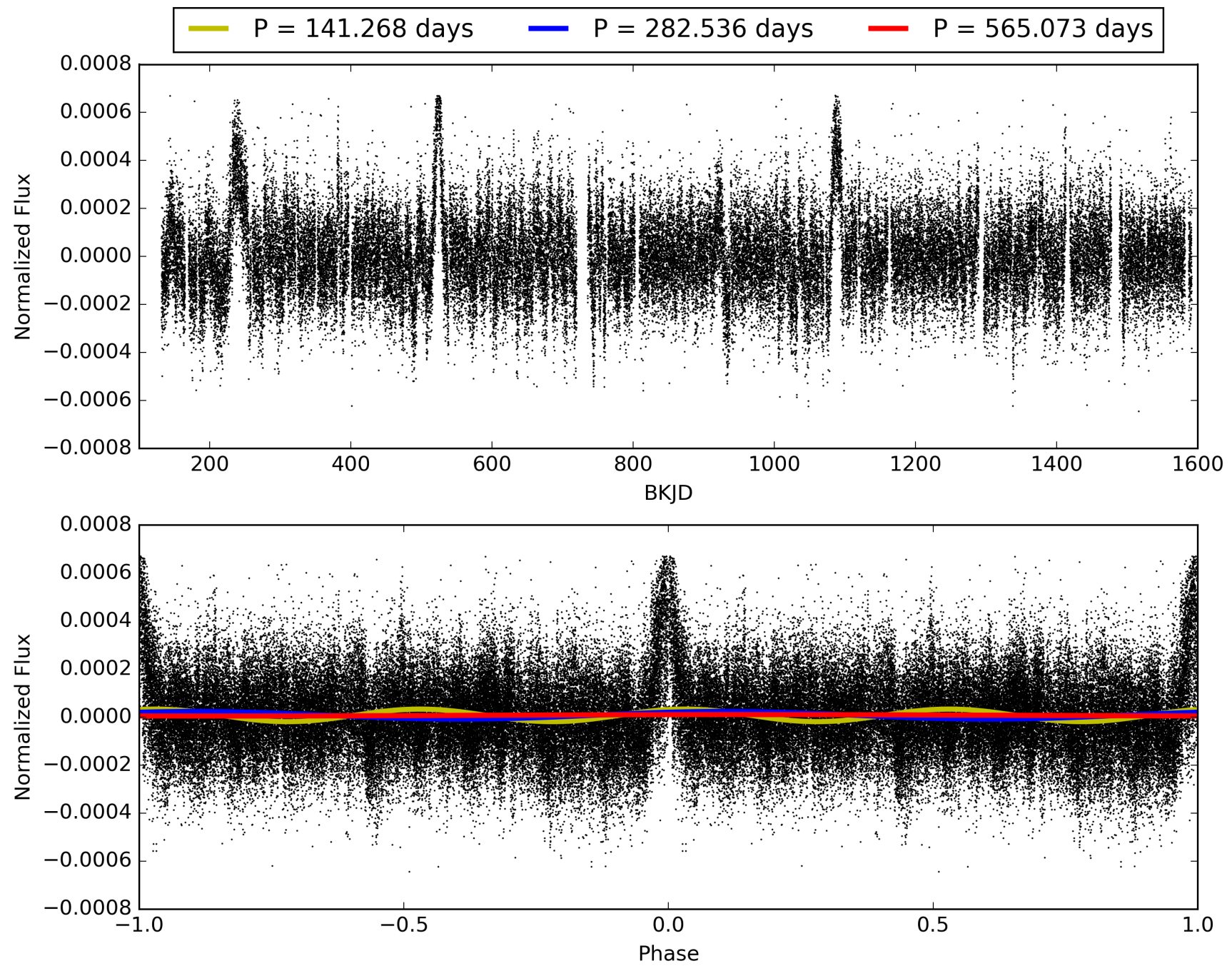
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 65.6%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 5.898
Centroid-sig: 0.0%
Centroid-so: 0.122 arcsec [5.99σ]
OotOffset-rm: 0.035 arcsec [0.49σ]
KicOffset-rm: 0.141 arcsec [1.17σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 004058169-01, PDC Light Curves

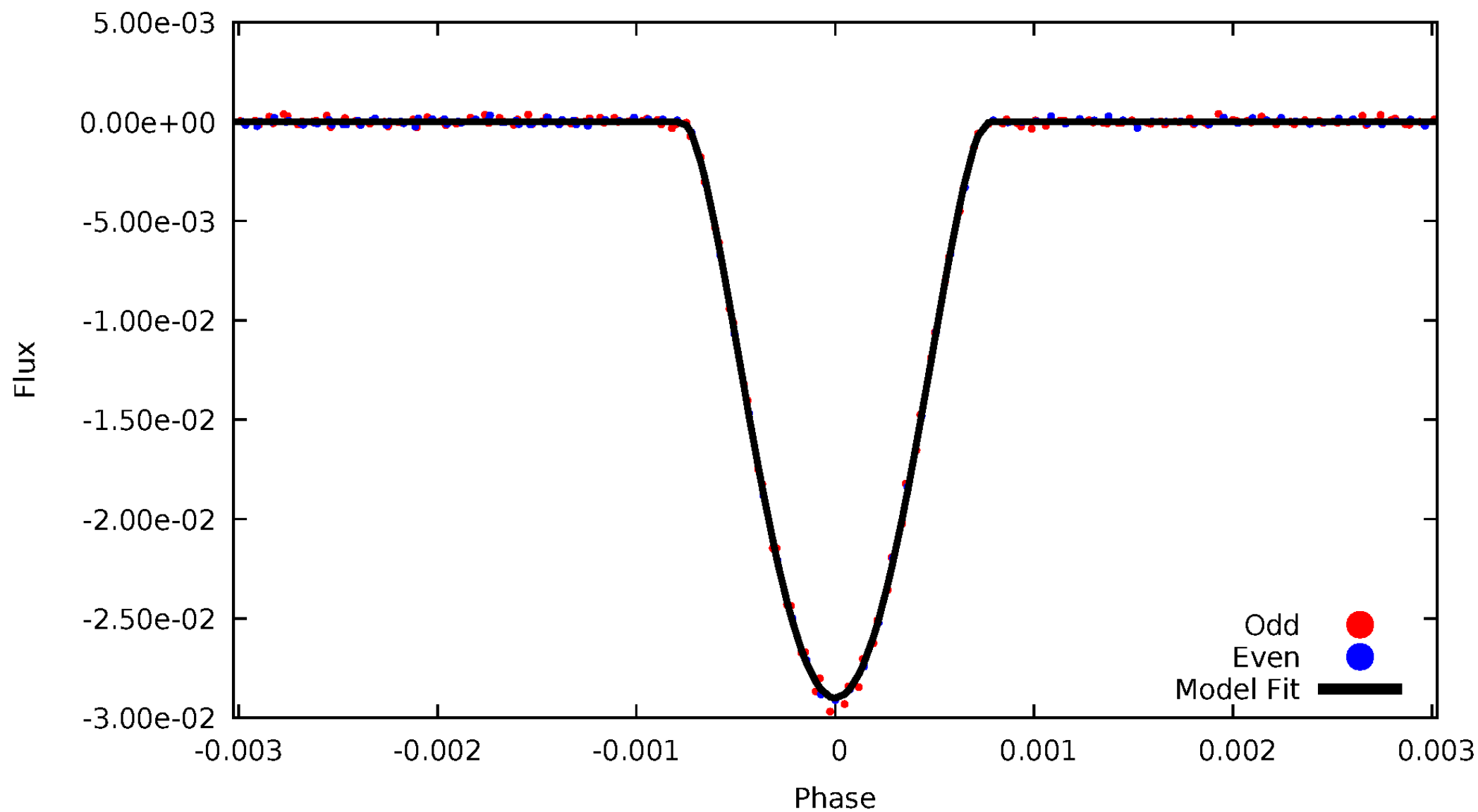


TCE 004058169-01



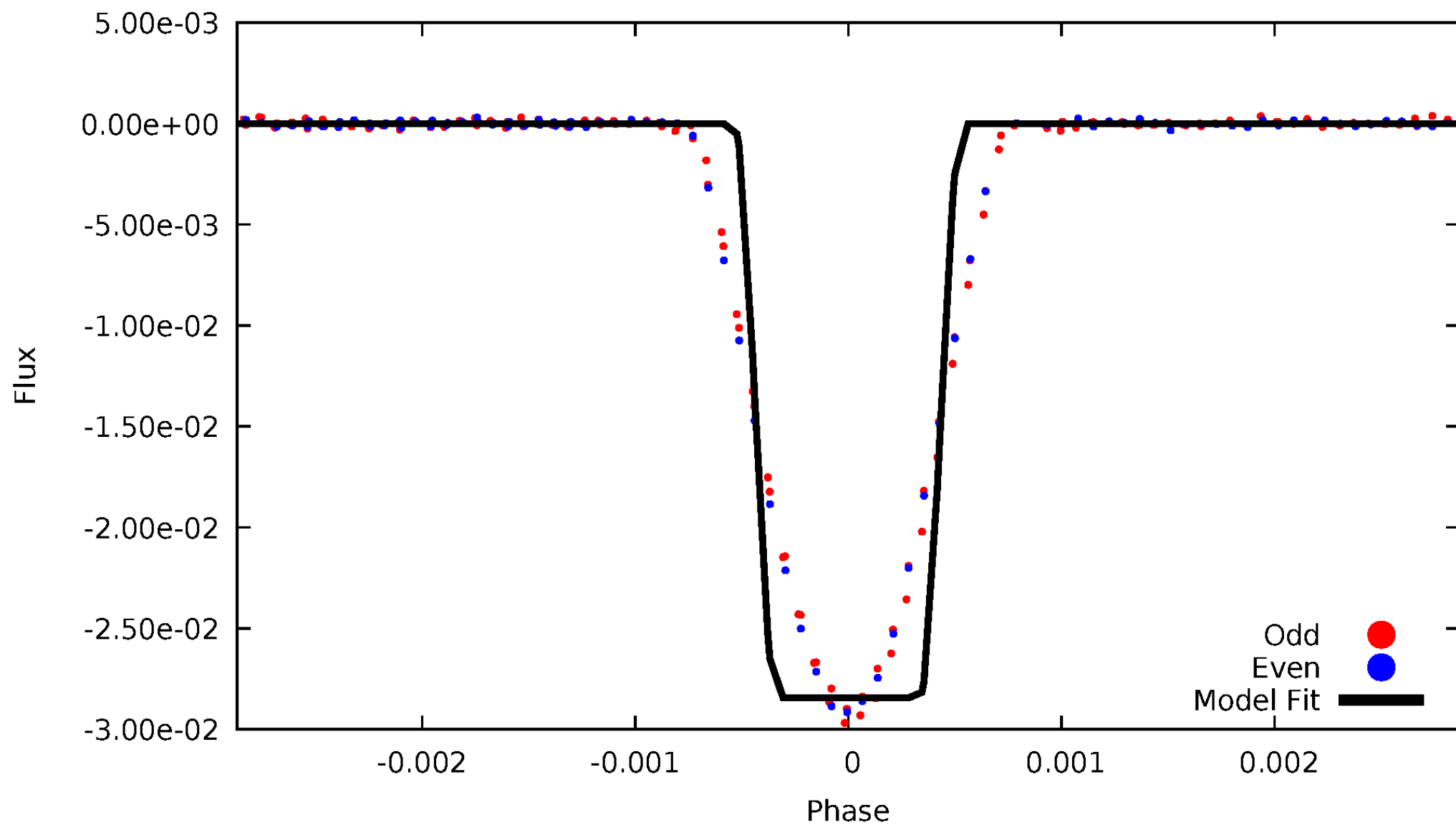
DV Odd/Even

TCE 004058169-01



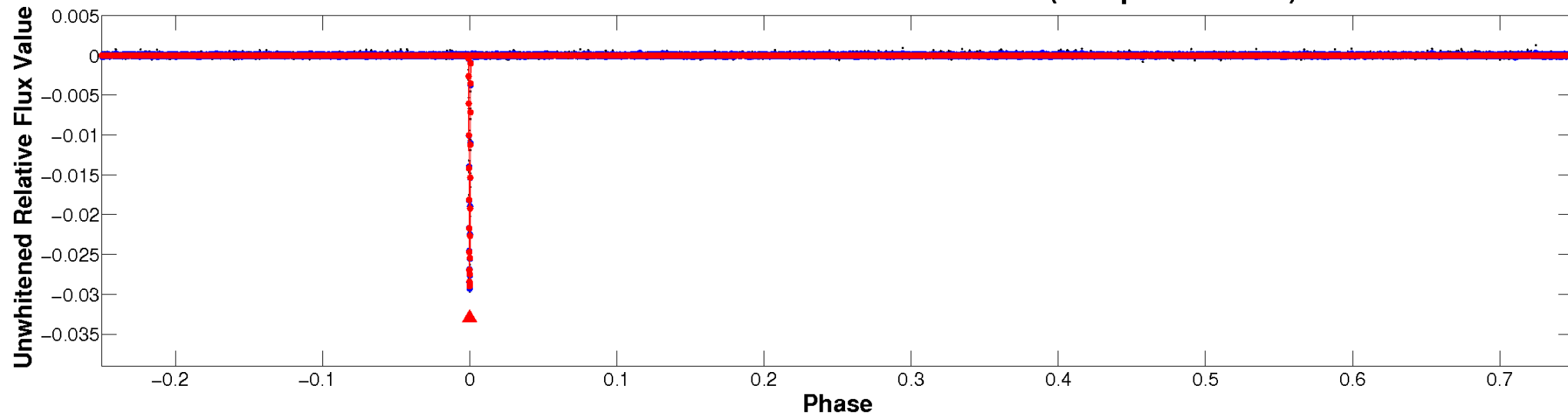
ALT Odd/Even

TCE 004058169-01

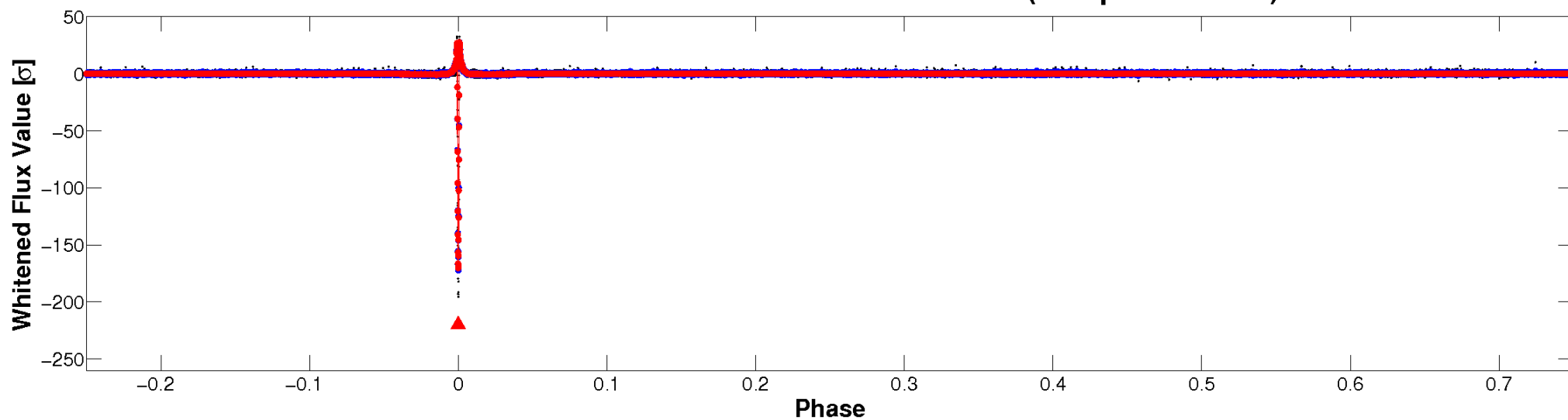


Non-Whitened Vs. Whitened Light Curve

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

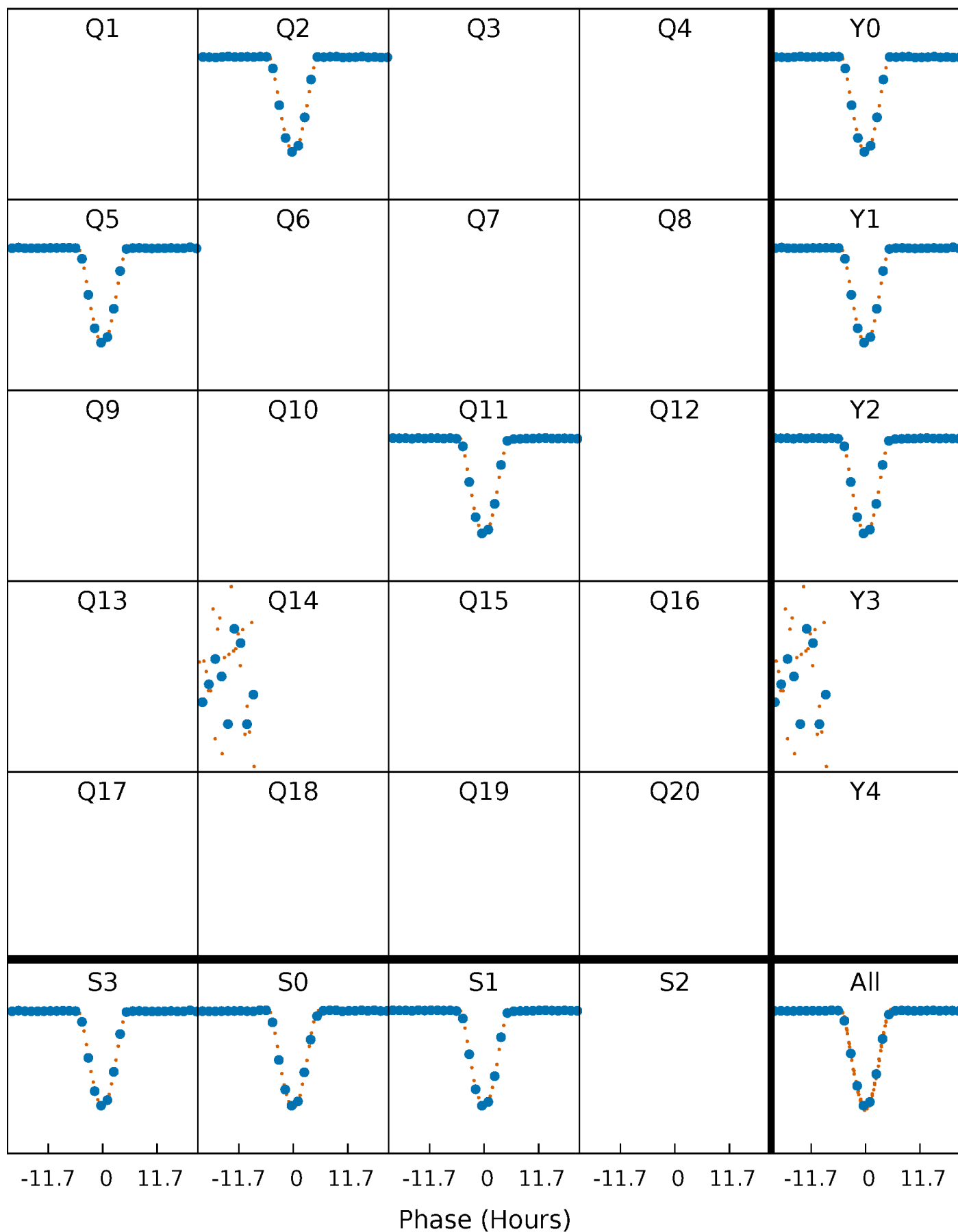


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



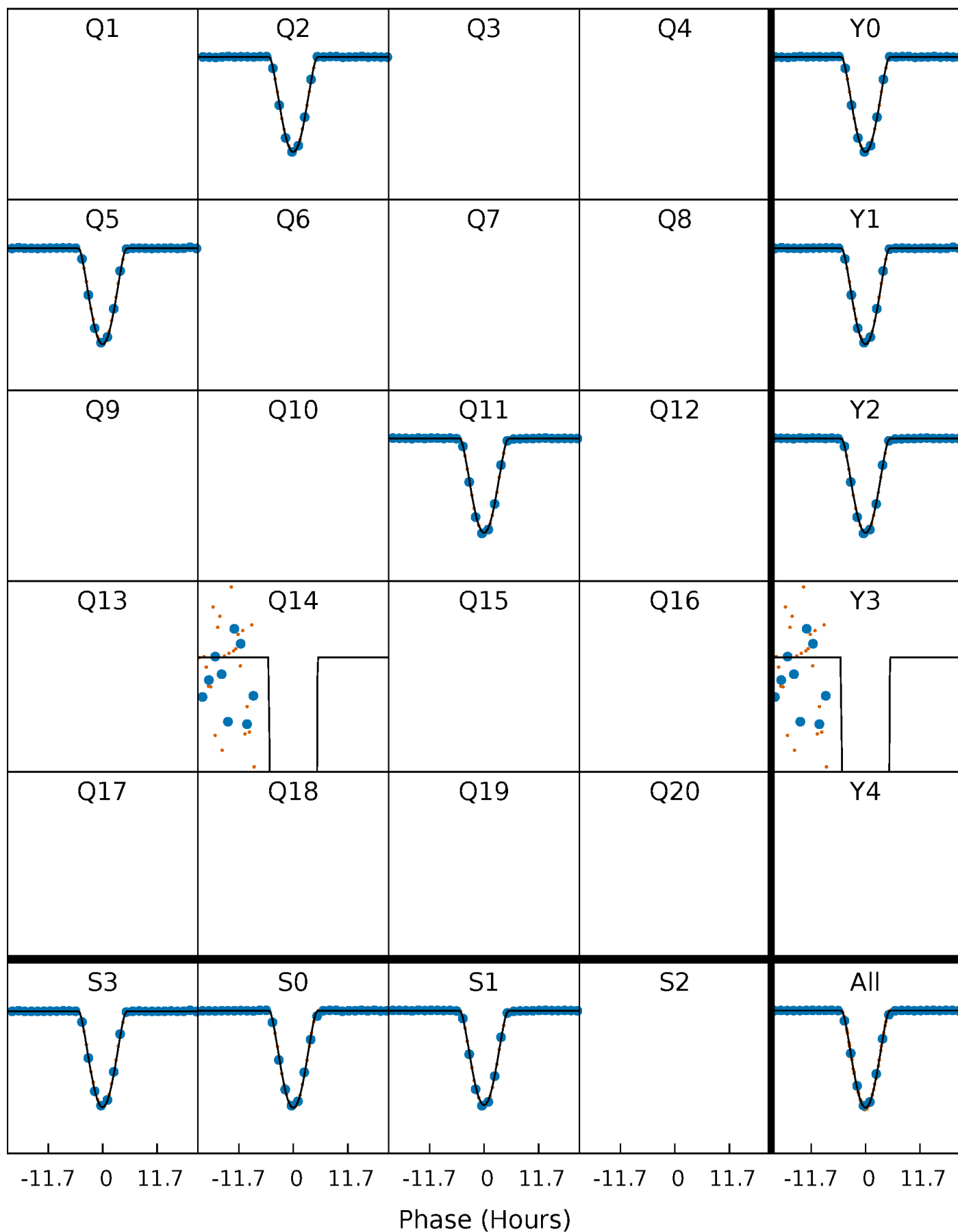
PDC Quarter-Phased Transit Curves

TCE 004058169-01 P=282.536302 Days $T_0=241.528789$ (BKJD)



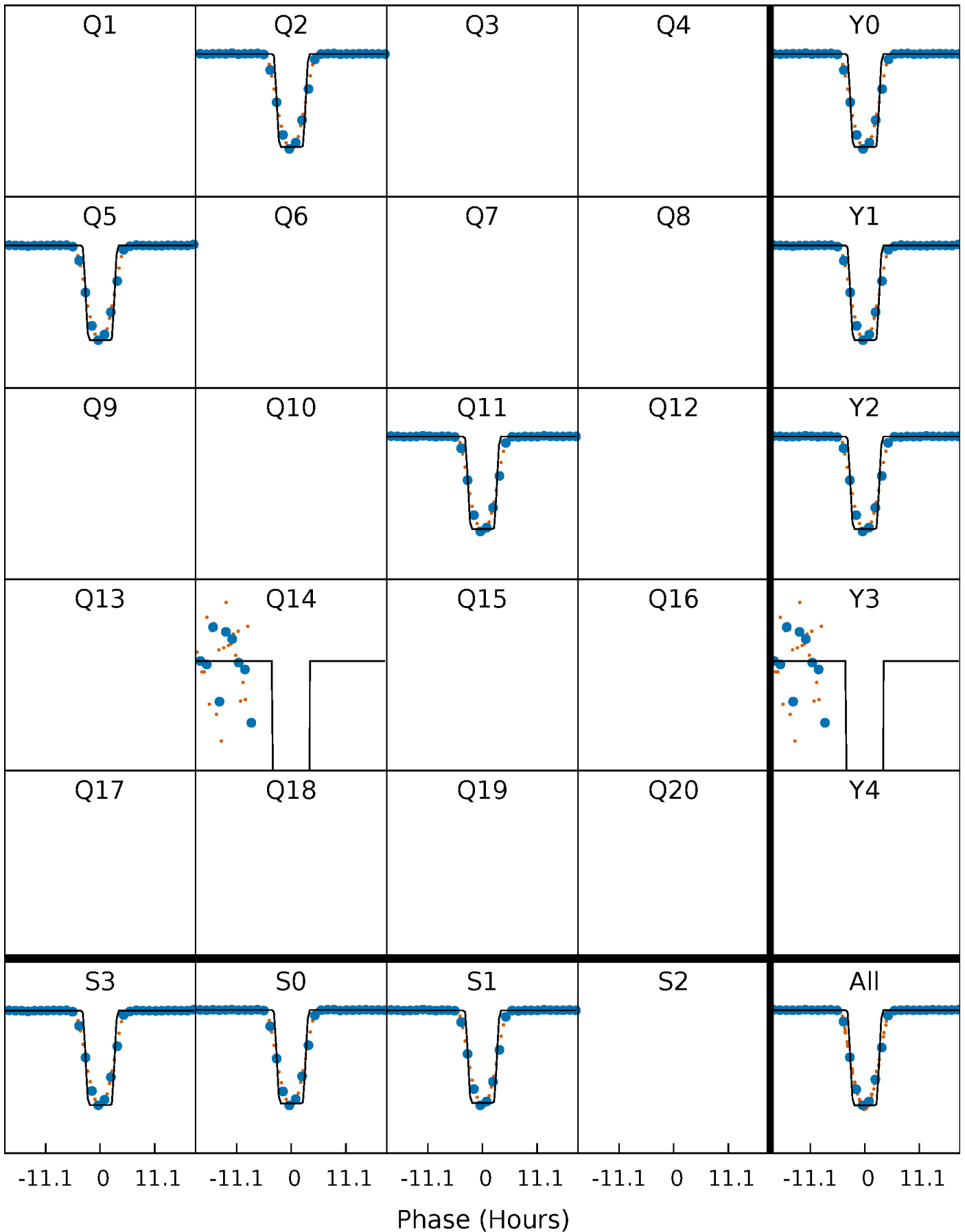
DV Quarter-Phased Transit Curves

TCE 004058169-01 P=282.536302 Days $T_0=241.528789$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

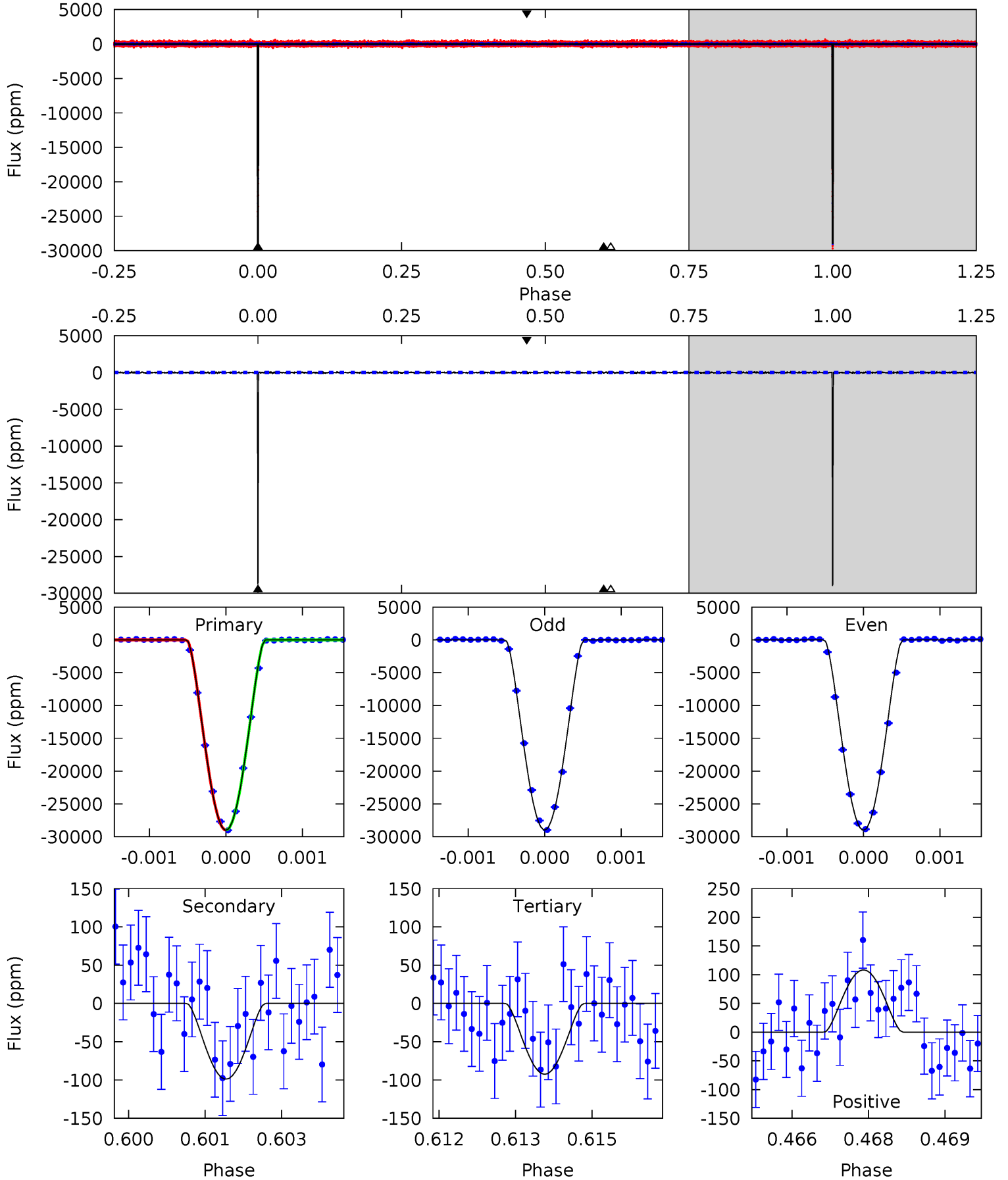
TCE 004058169-01 P=282.534834 Days $T_0=241.530615$ (BKJD)



DV Model-Shift Uniqueness Test

004058169-01, P = 282.536302 Days, E = 241.528789 Days

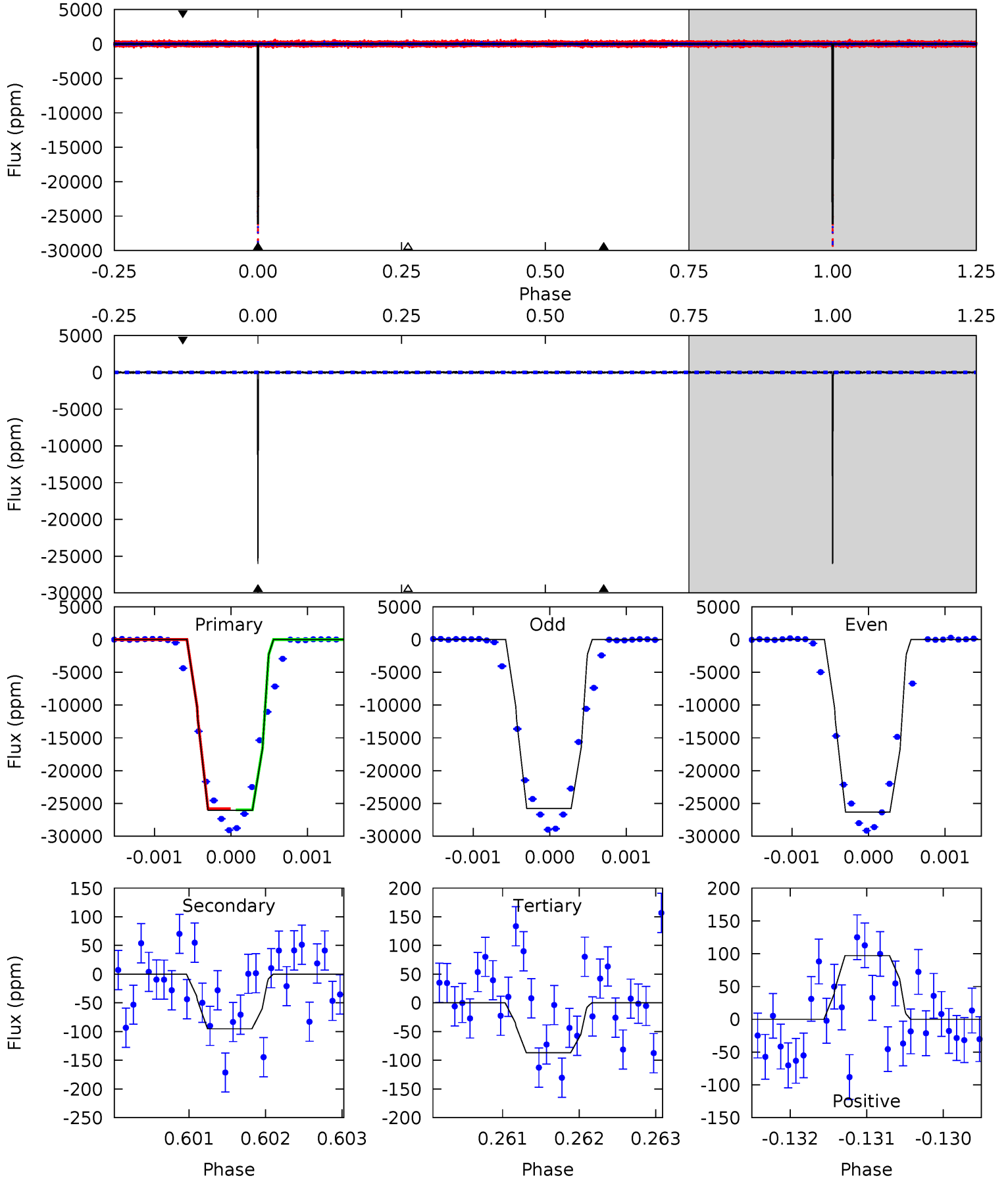
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1690	5.76	5.39	6.32	5.38	3.17	1.61	1684	1683	0.37	-0.56	0.81	1.00	0.00	0.25



Alt Model-Shift Uniqueness Test

004058169-01, P = 282.534834 Days, E = 241.530615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1131	4.13	3.76	4.21	5.45	3.29	1.14	1127	1126	0.37	-0.08	10.5	1.00	0.00	3.40



Stellar Parameters For KIC 004058169

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6401^{+181}_{-250}	$4.175^{+0.214}_{-0.175}$	$-0.280^{+0.250}_{-0.300}$	$1.410^{+0.402}_{-0.329}$	$1.084^{+0.177}_{-0.145}$	$0.544^{+0.656}_{-0.261}$
	+3%/-4%	+5%/-4%	+89%/-107%	+29%/-23%	+16%/-13%	+120%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 004058169-01 / KOI 5034.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-99±17	$38.12^{+6.19}_{-5.14}$	500^{+36}_{-36}	2217^{+57}_{-61}	28^{+10}_{-8}
Alt.	-95±23	$25.76^{+4.67}_{-4.06}$	501^{+42}_{-43}	2406^{+94}_{-96}	57^{+28}_{-19}

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

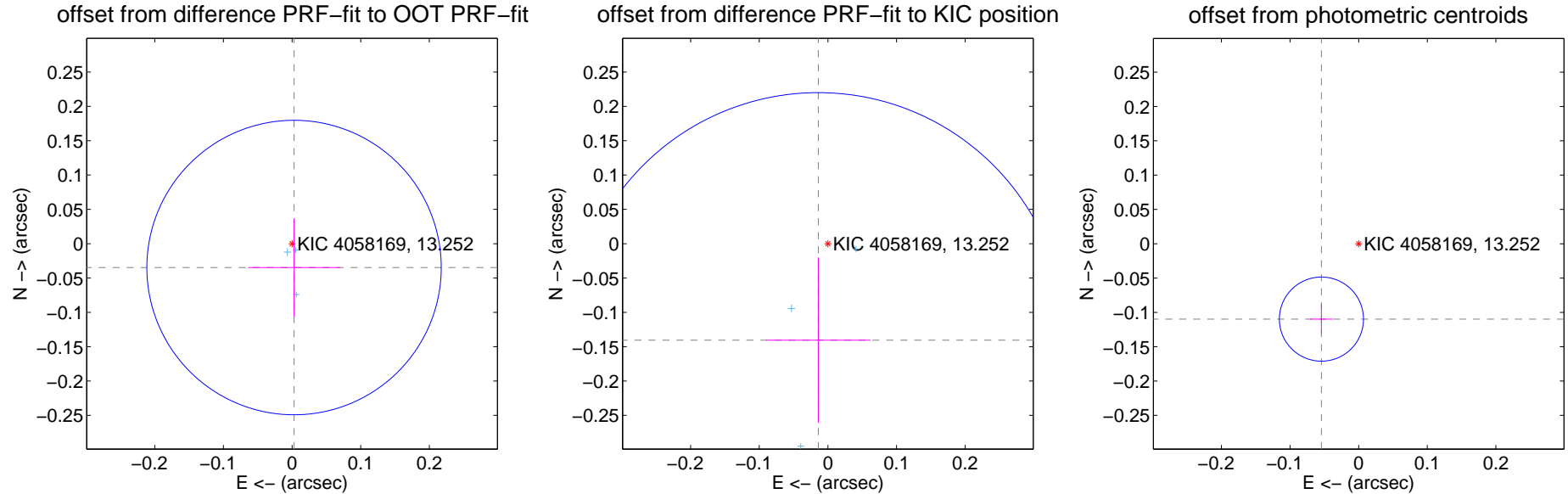
DV Centroid Data

Supplemental centroid analysis for 004058169-01. Kepler magnitude: 13.25. Transit SNR 740.67

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.071	0.49	-0.003 ± 0.067	-0.035 ± 0.072
PRF-fit source offset from KIC position	0.141 ± 0.120	1.17	0.014 ± 0.076	-0.140 ± 0.121
photometric centroid source offset	0.12 ± 0.02	5.99	0.05 ± 0.02	-0.11 ± 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.

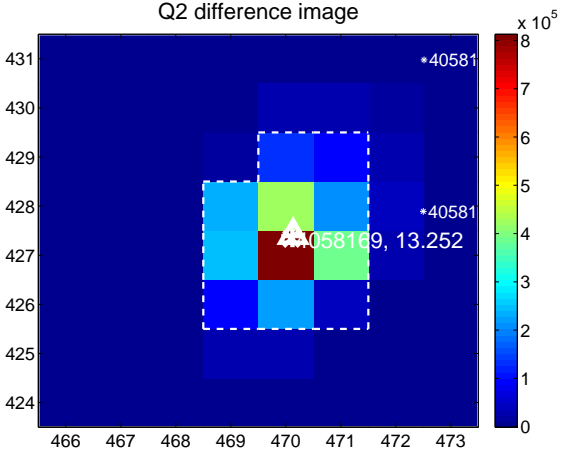
Q1 no difference image



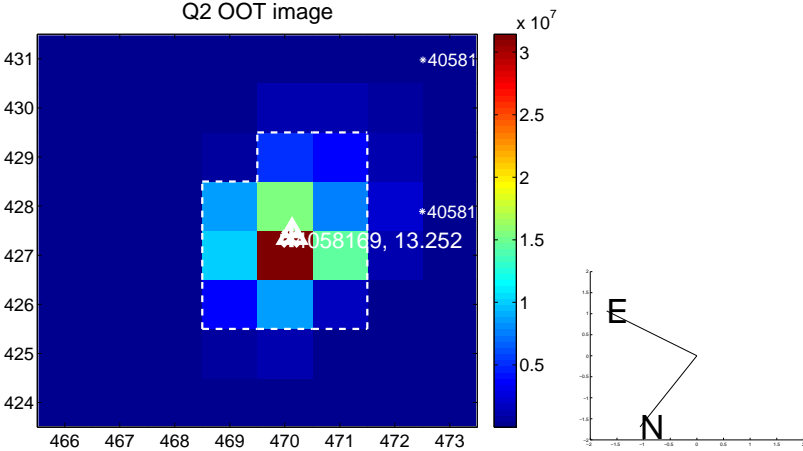
Q1 no OOT image



Q2 difference image



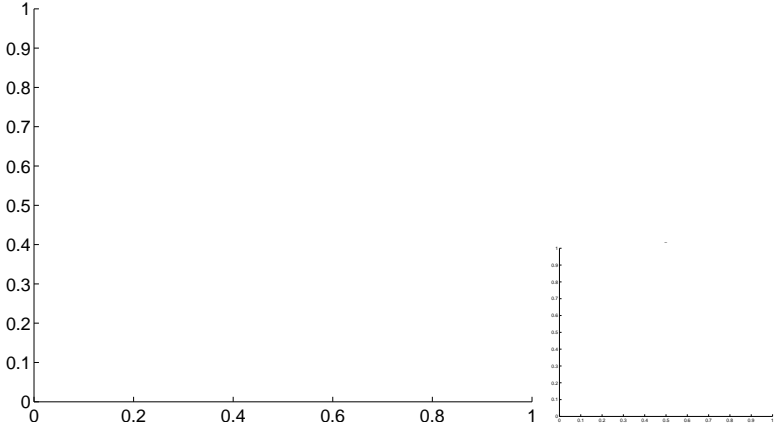
Q2 OOT image



Q3 no difference image



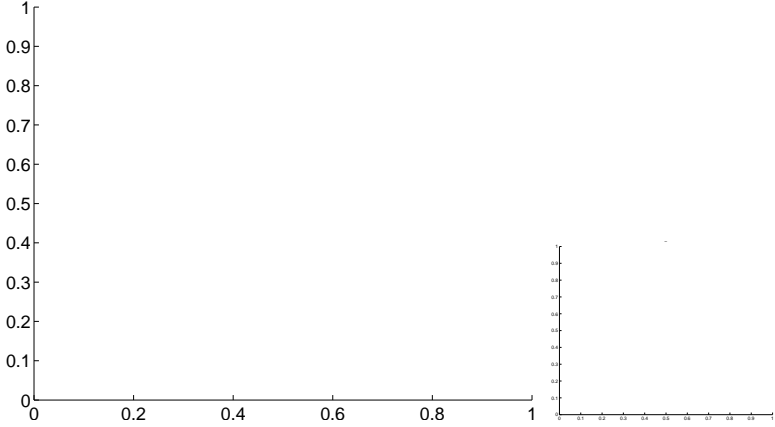
Q3 no OOT image



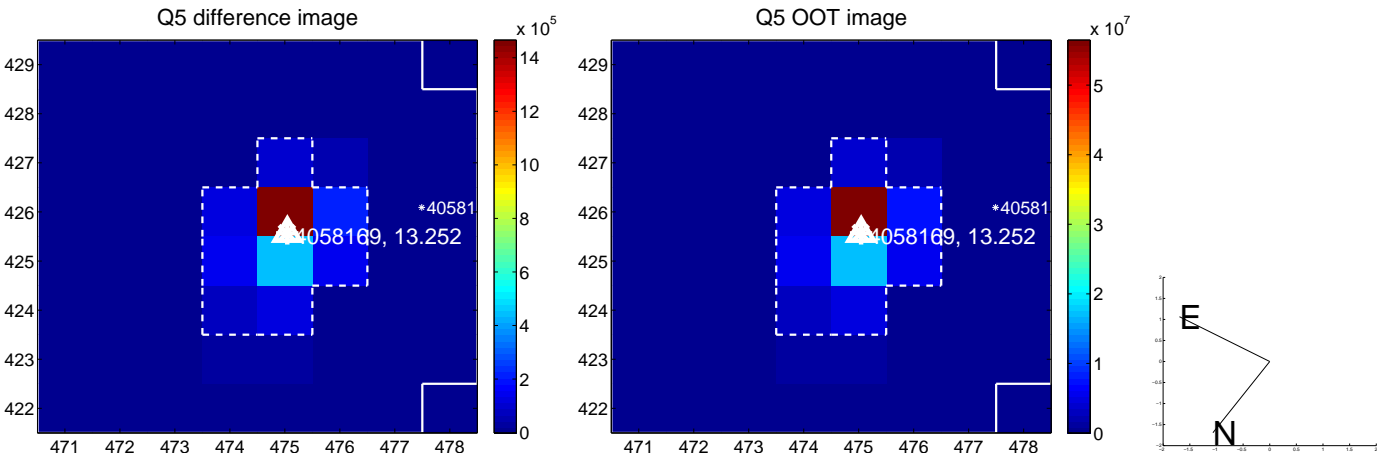
Q4 no difference image



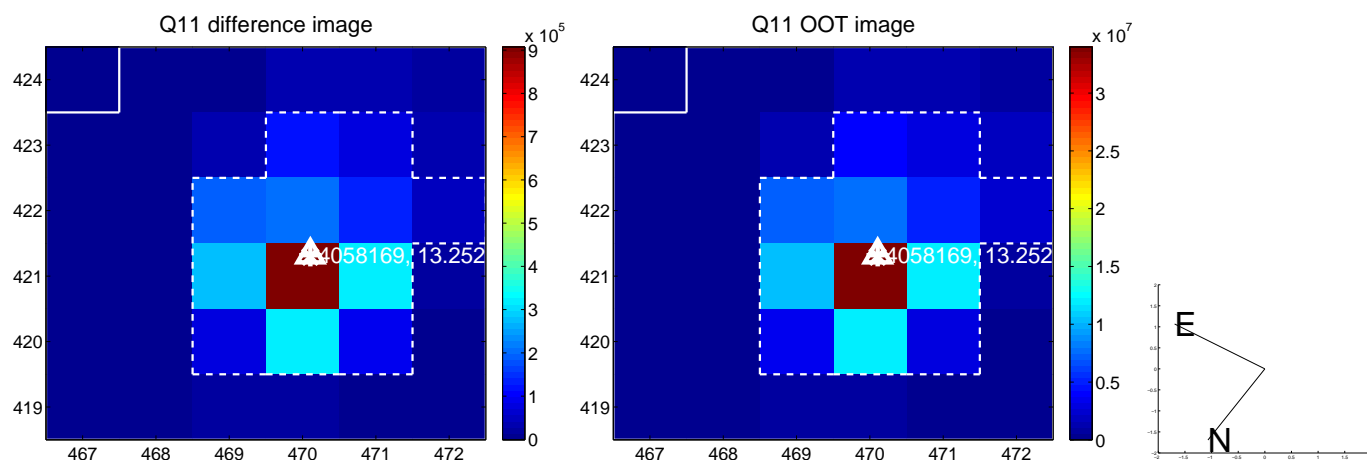
Q4 no OOT image



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



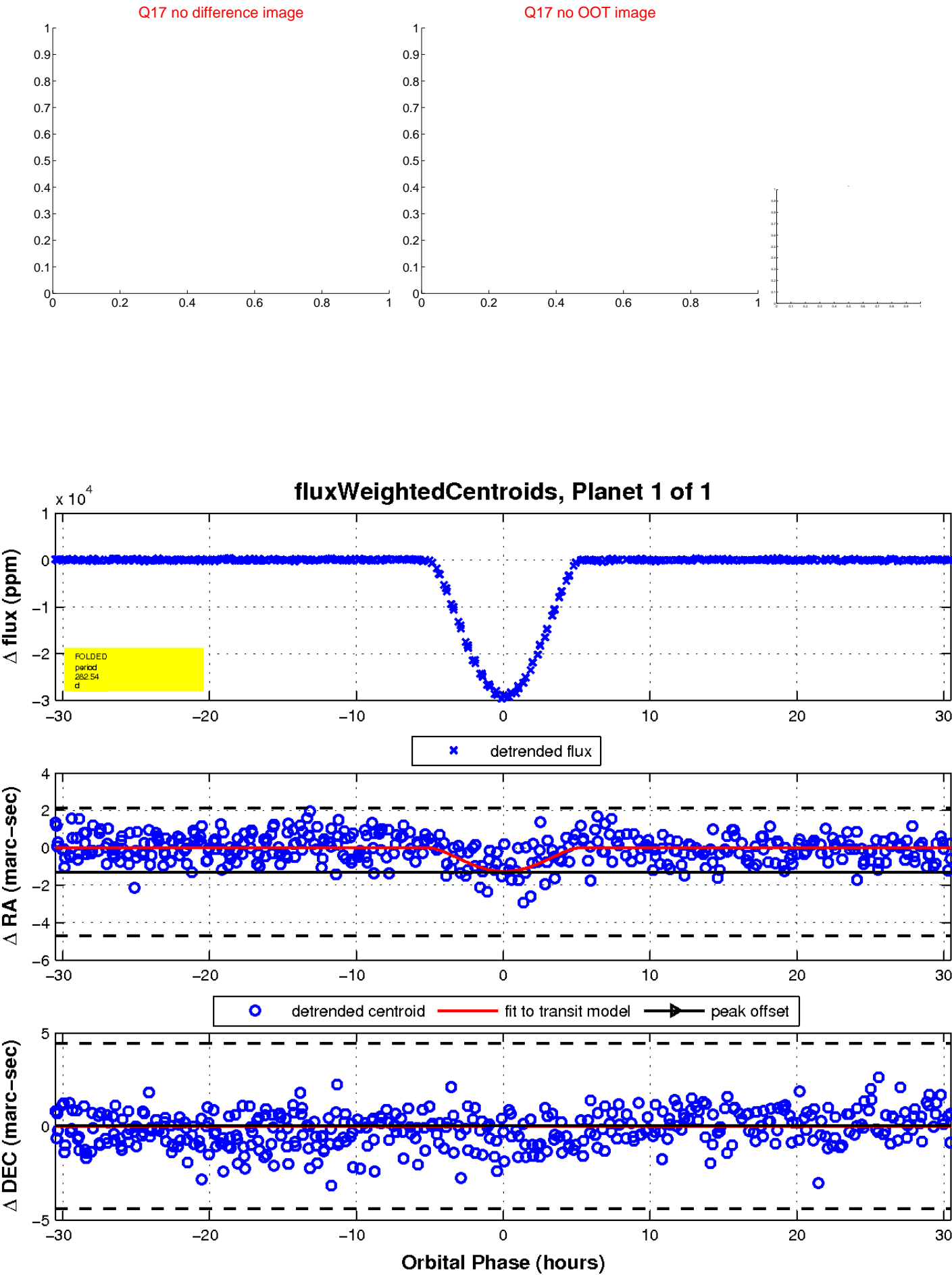
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

