

KIC 005020034

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})
005020034-01	OBS	3688.01	2.119099	132.594457	117116.8	5.874	1967.3	1207.3	1.42	6381	57.56	2782.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005020034-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—DEEP_V_SHAPED—CENT_KIC_POS

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.

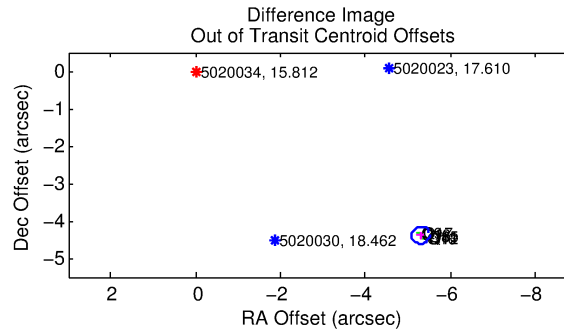
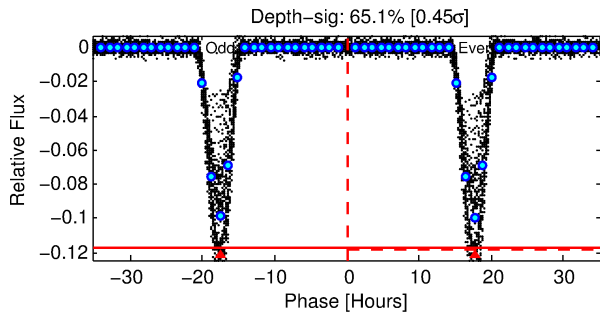
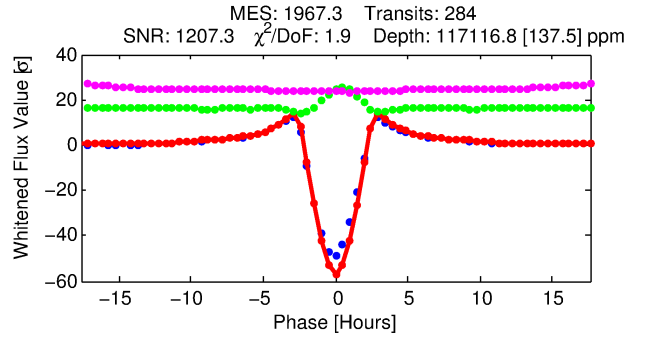
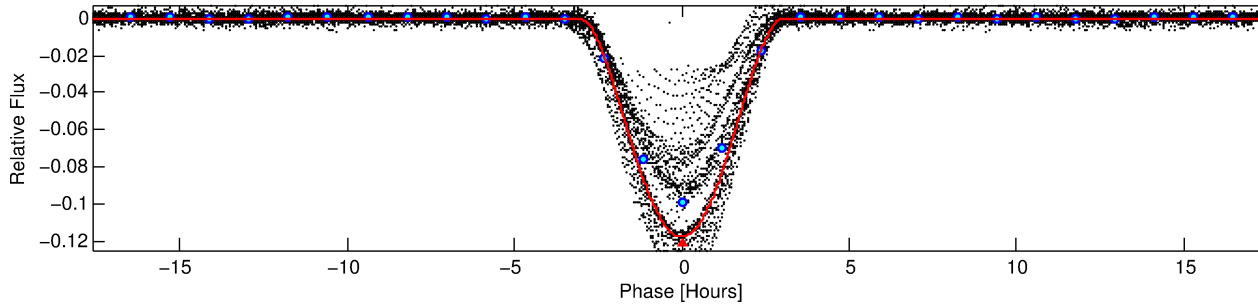
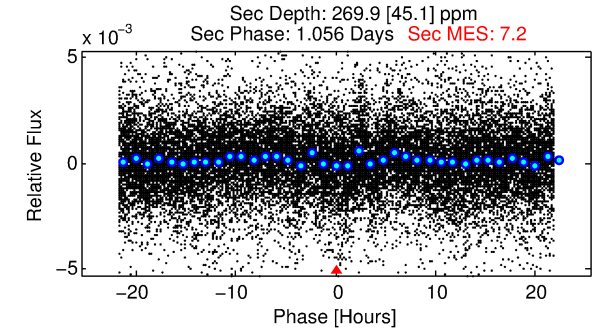
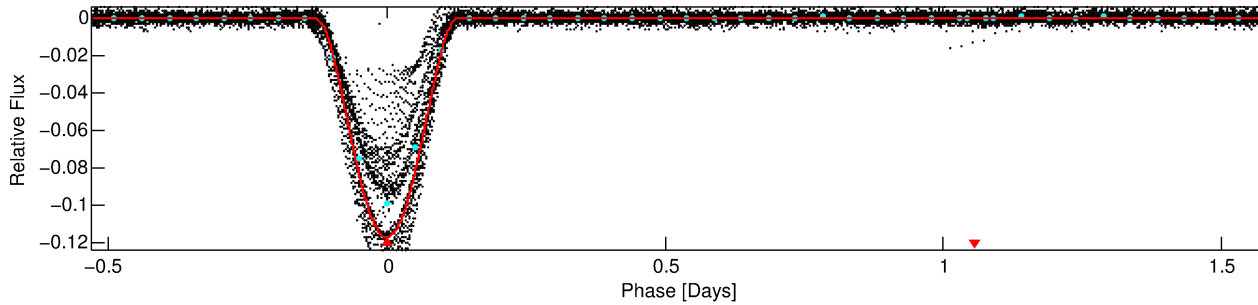
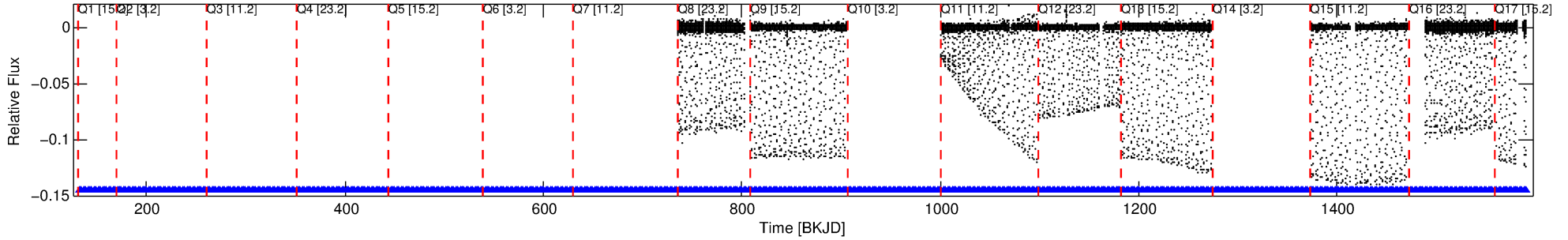
Ephemeris Match Information For 005020034-01

No Significant Match Found

DV One-Page Summary

KIC: 5020034 Candidate: 1 of 1 Period: 2.119 d
KOI: K03688.01 Corr: 0.986

Kp: 15.81 R*: 1.42 Rs Teff: 6381.0 K Logg: 4.16 Fe/H: -0.360



DV Fit Results:

Period = 2.11910 [0.00000] d
Epoch = 132.5945 [0.0001] BKJD
Rp/R* = 0.3707 [0.0025]
a/R* = 3.32 [0.00]
b = 0.75 [0.01]
Seff = 2782.17 [1244.43]
Teff = 1852 [207] K
Rp = 57.57 [15.94] Re
a = 0.0329 [0.0087] AU
Ag = 0.05 [0.02] [-43.41σ]
Teffp = 1343 [76] K [-2.30σ]

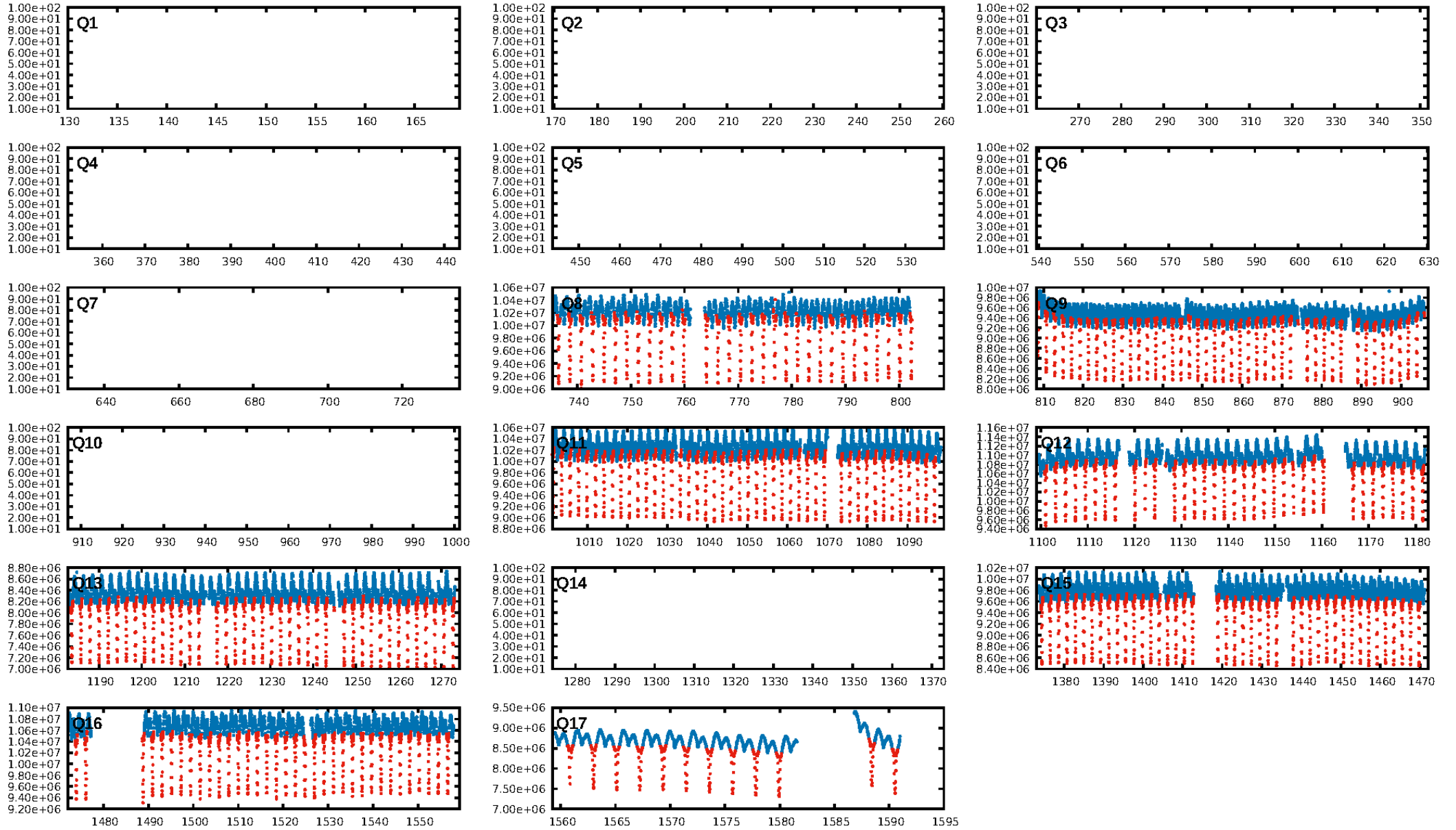
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [272/272]
GhostDiagnostic-chr: 0.2678
Centroid-sig: 0.0%
Centroid-so: 3.140 arcsec [1997.23σ]
OotOffset-rm: 6.878 arcsec [92.26σ]
OotOffset-st: 0.2/3/3 [8]
KicOffset-rm: 0.195 arcsec [2.85σ]
KicOffset-st: 0.2/3/3 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

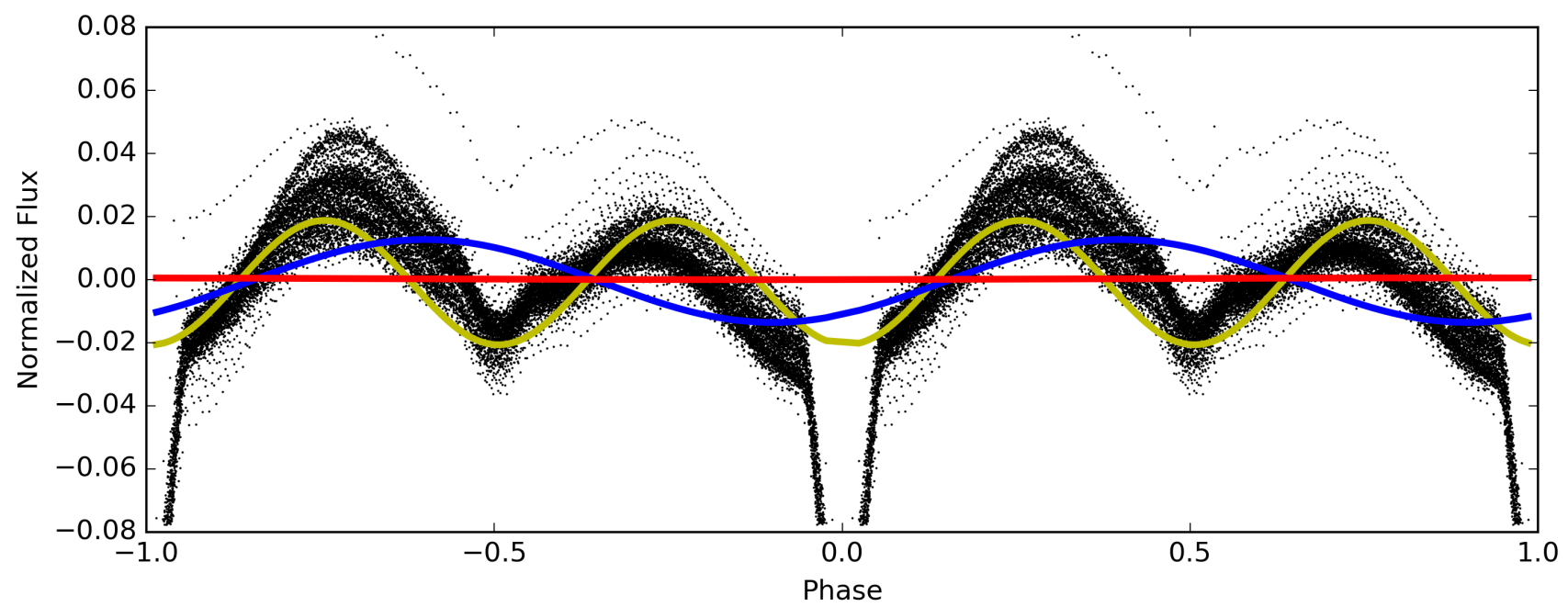
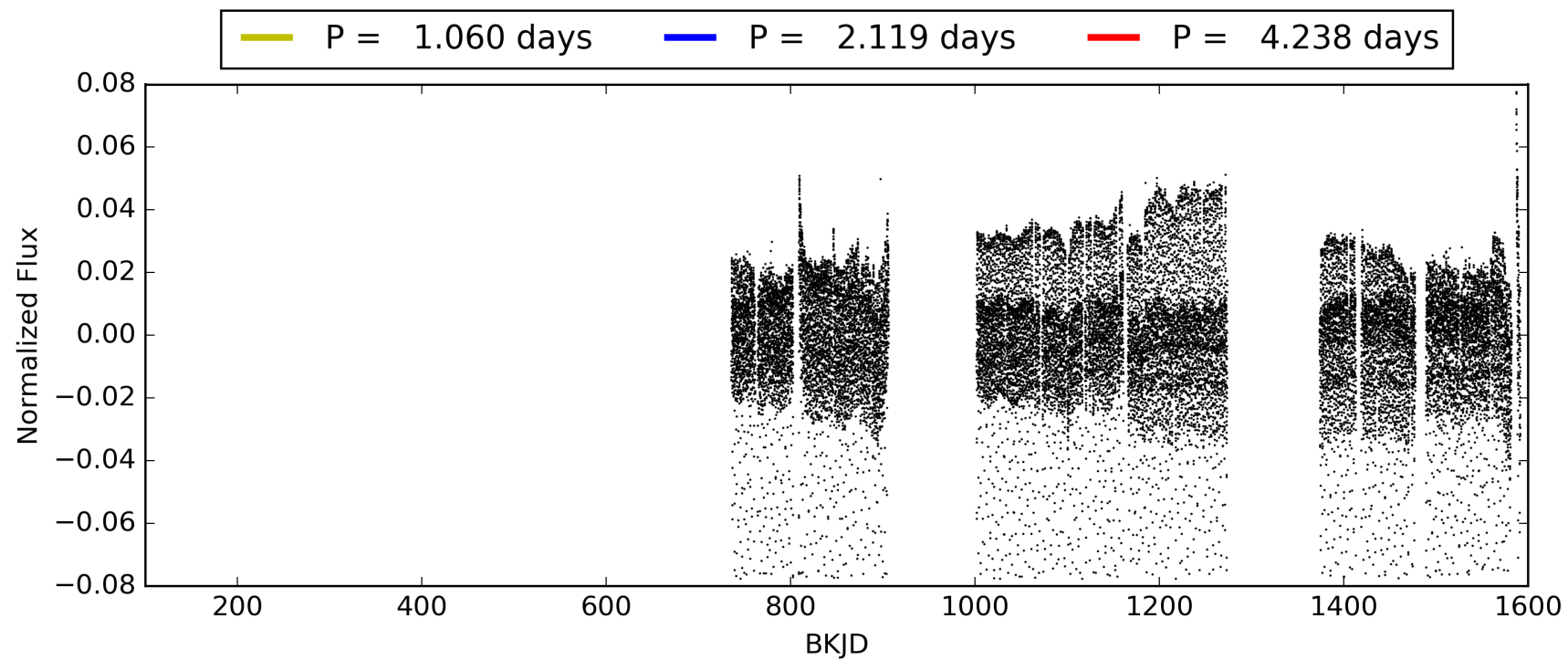
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:01:51 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005020034-01, PDC Light Curves

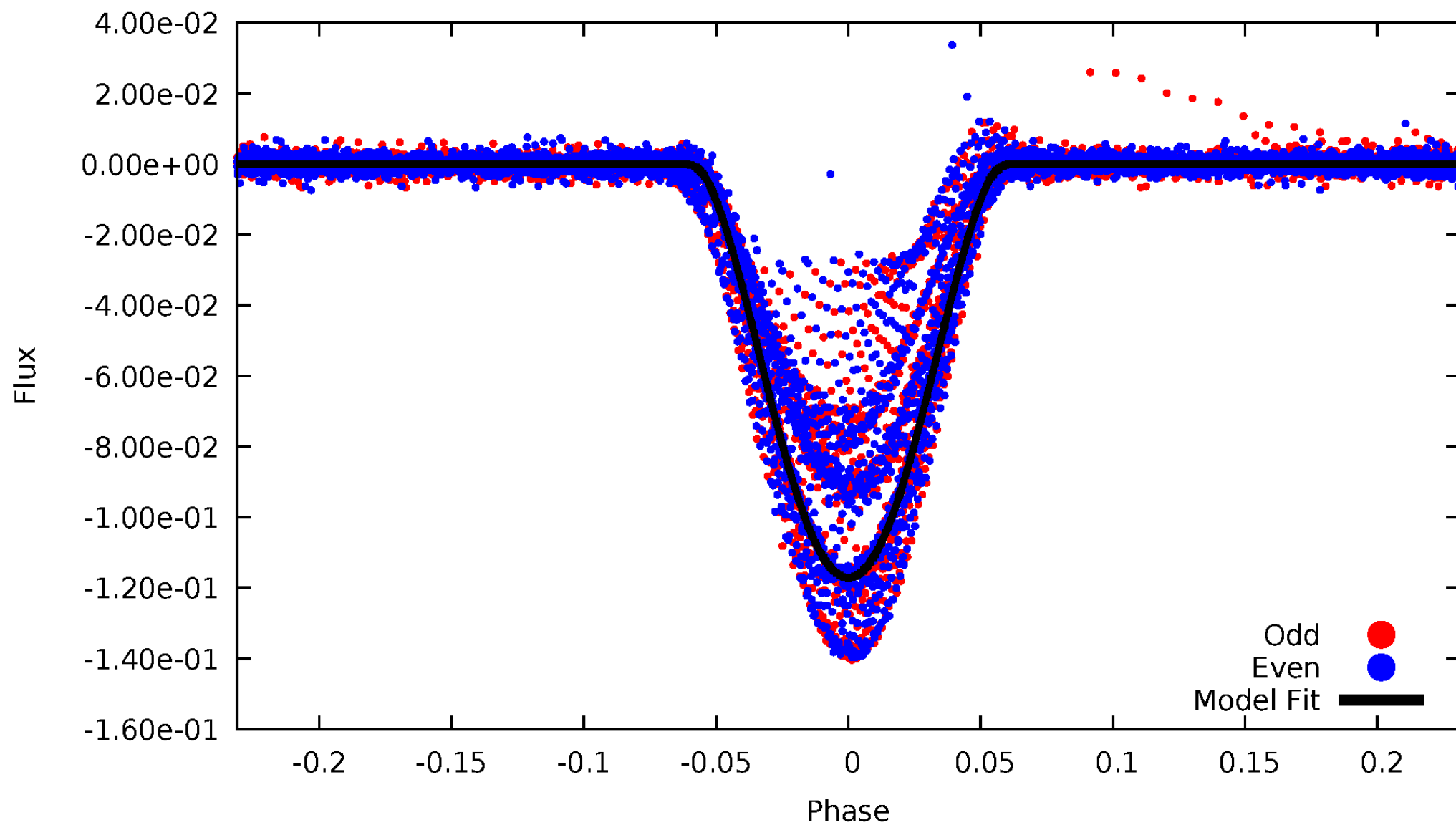


TCE 005020034-01



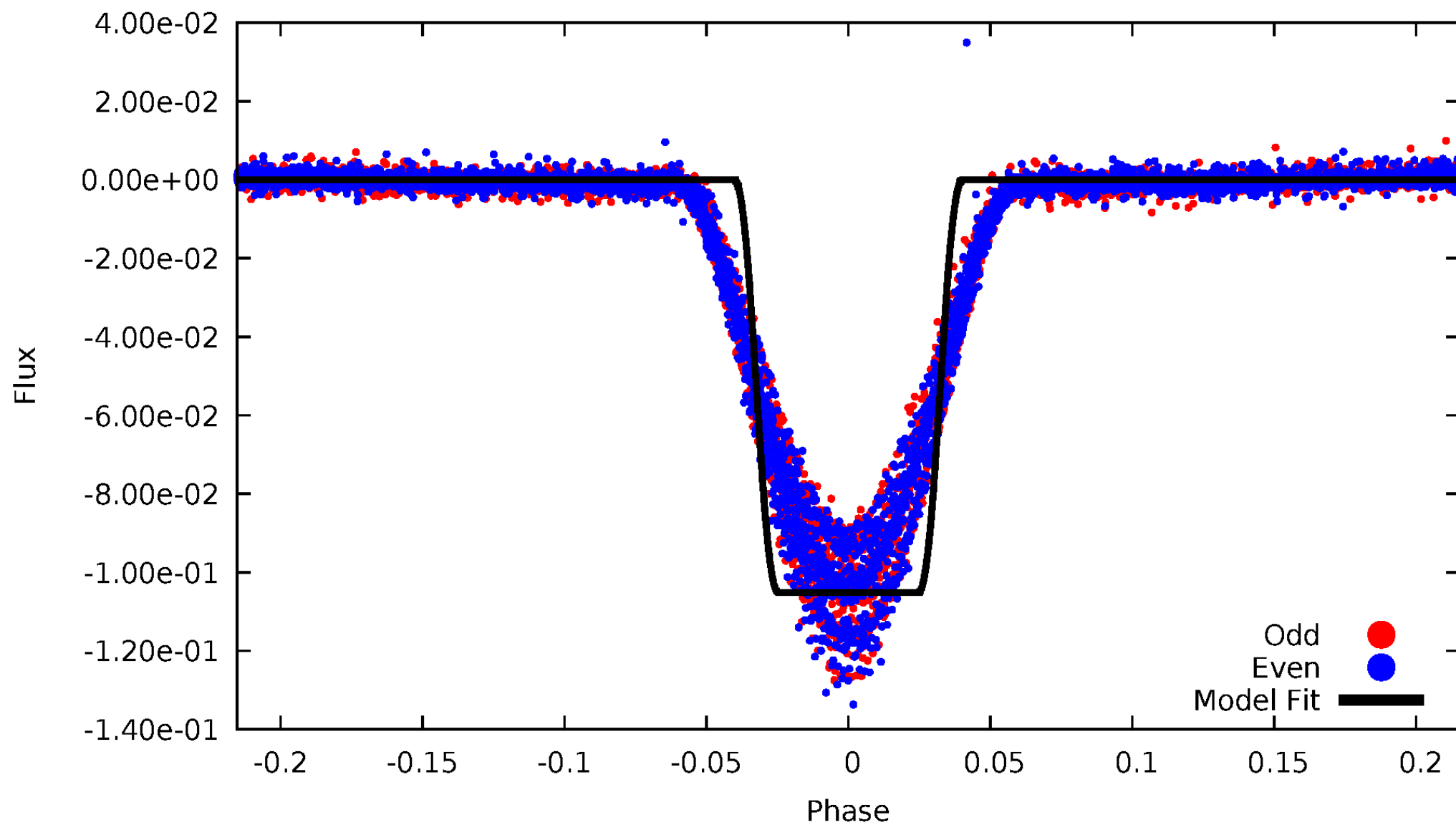
DV Odd/Even

TCE 005020034-01



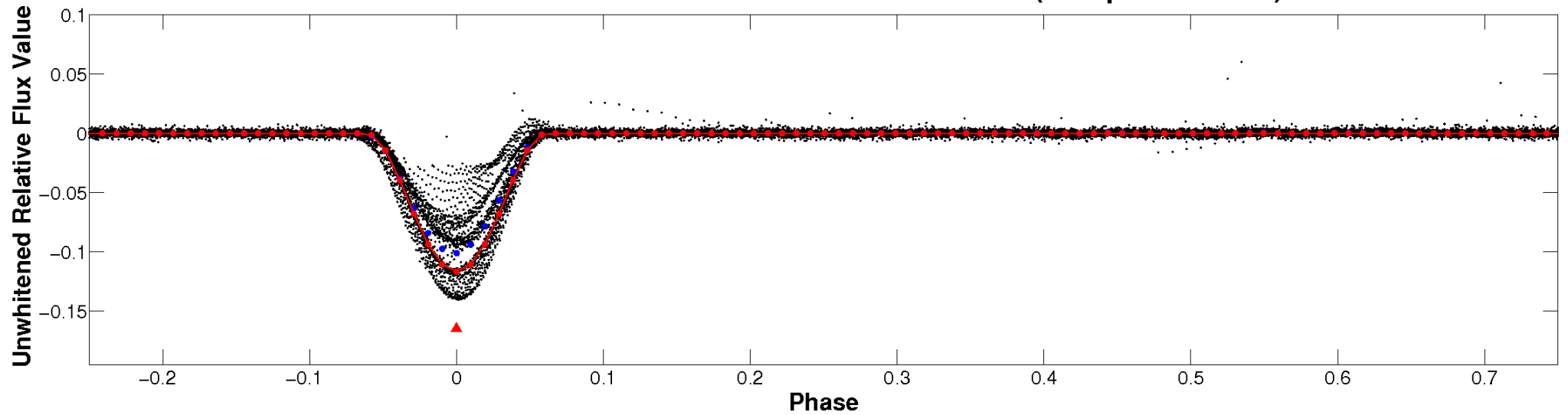
ALT Odd/Even

TCE 005020034-01

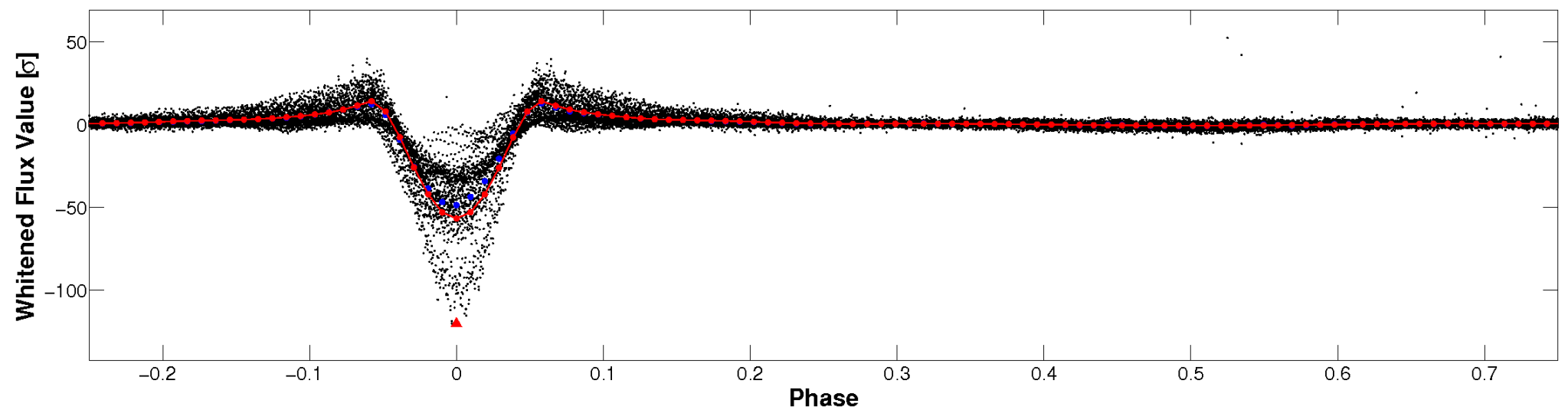


Non-Whitened Vs. Whitened Light Curve

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

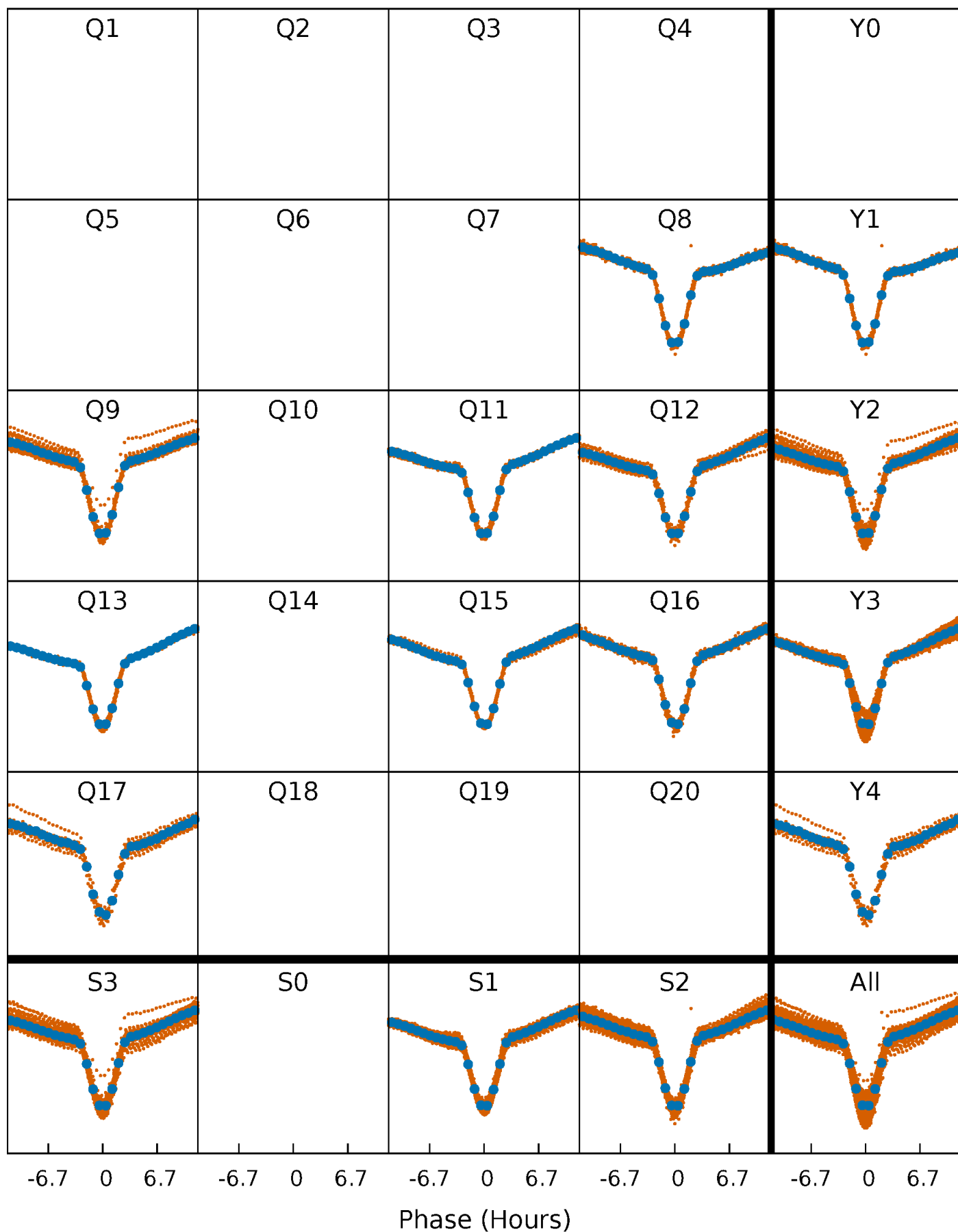


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



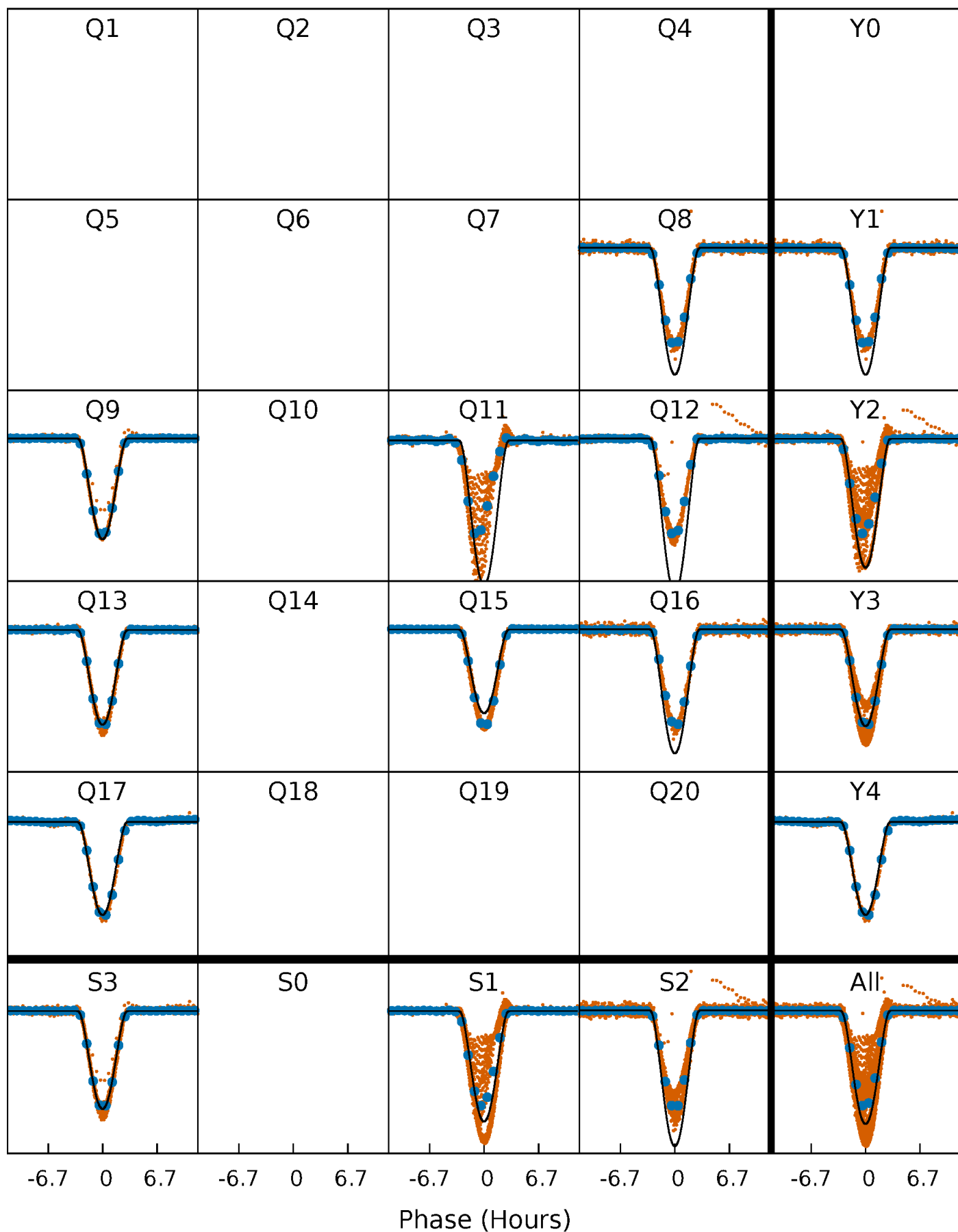
PDC Quarter-Phased Transit Curves

TCE 005020034-01 P= 2.119099 Days $T_0=132.594457$ (BKJD)



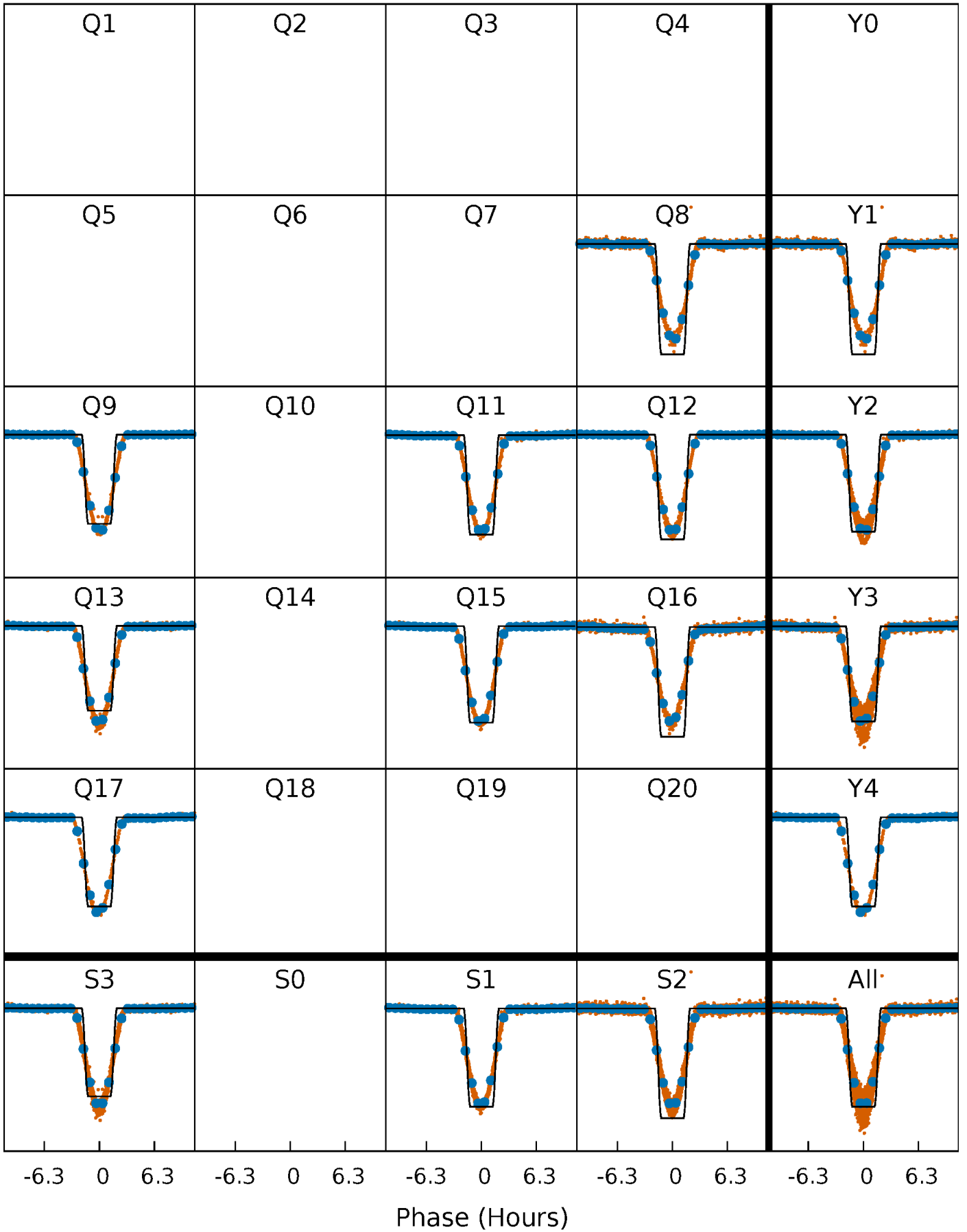
DV Quarter-Phased Transit Curves

TCE 005020034-01 P= 2.119099 Days $T_0=132.594457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

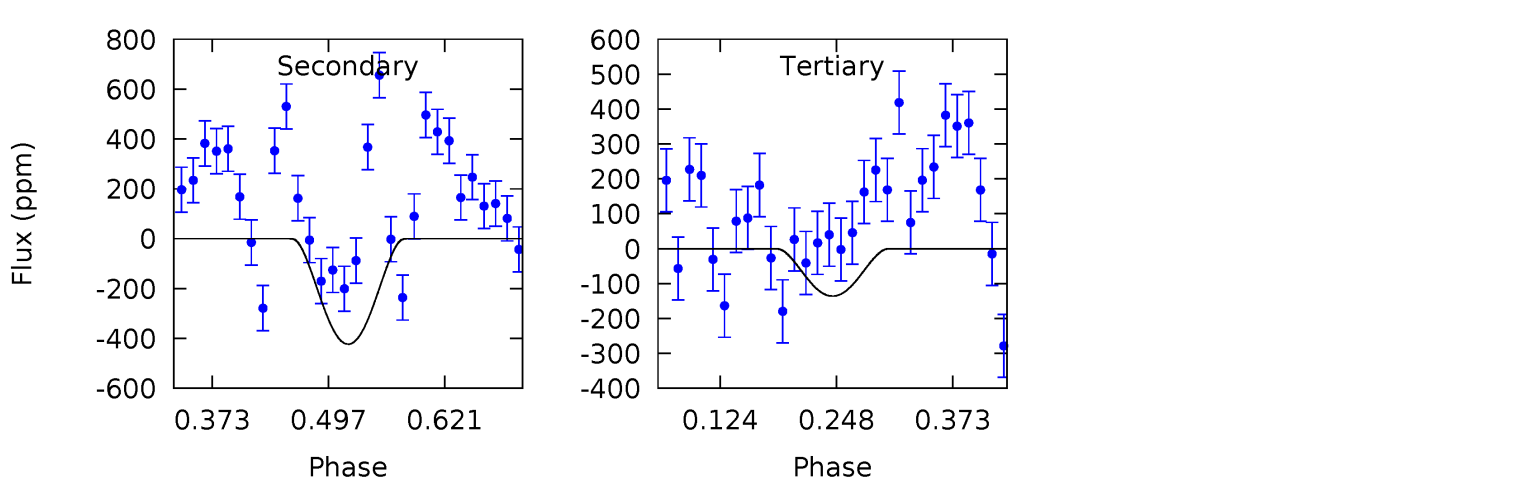
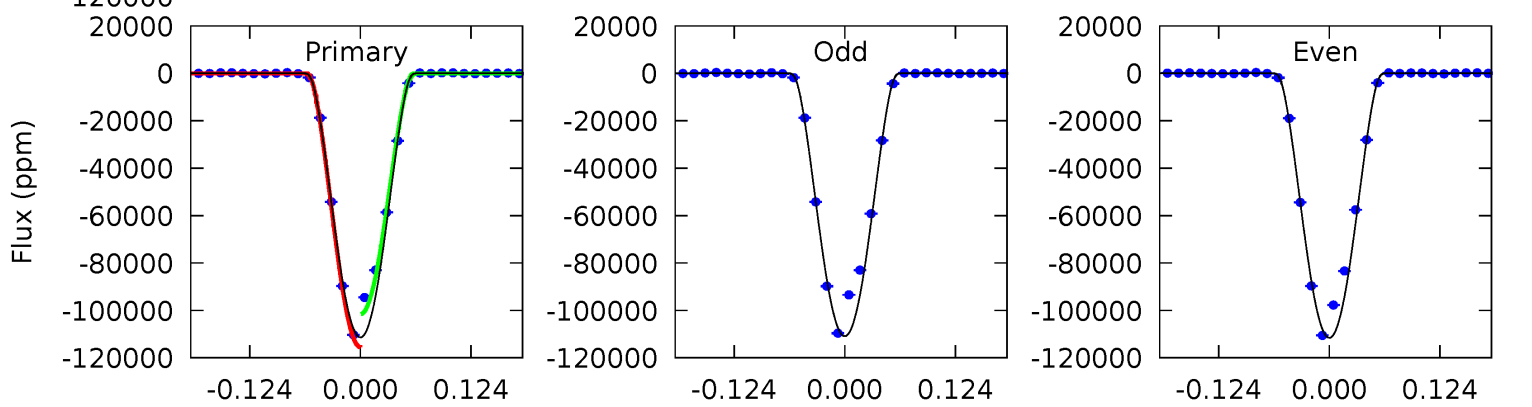
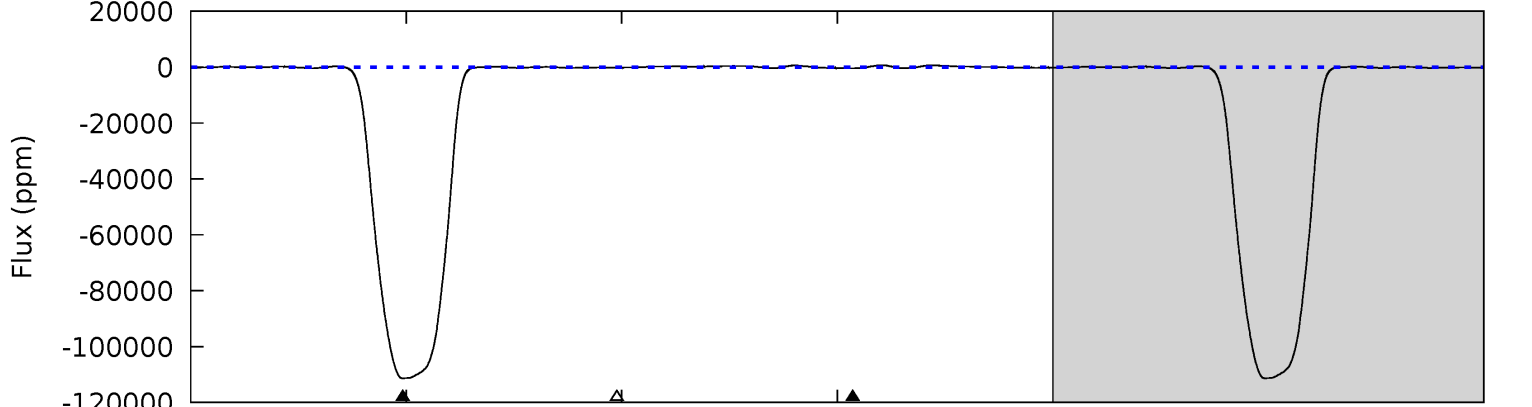
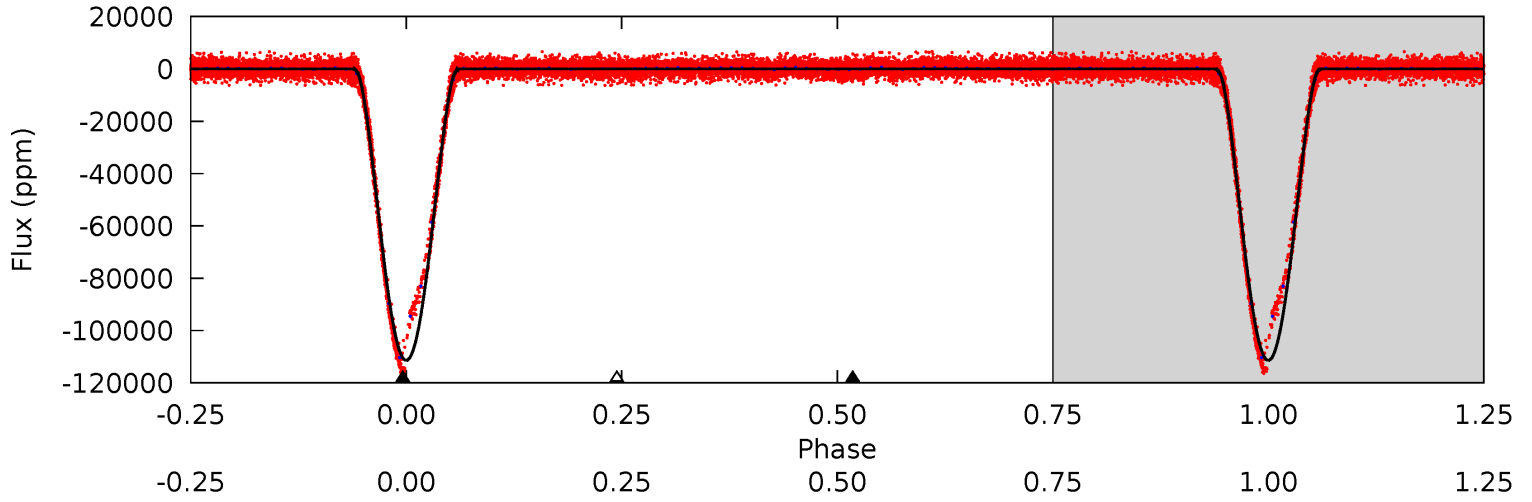
TCE 005020034-01 P= 2.119136 Days $T_0=132.577895$ (BKJD)



DV Model-Shift Uniqueness Test

005020034-01, P = 2.119099 Days, E = 132.594457 Days

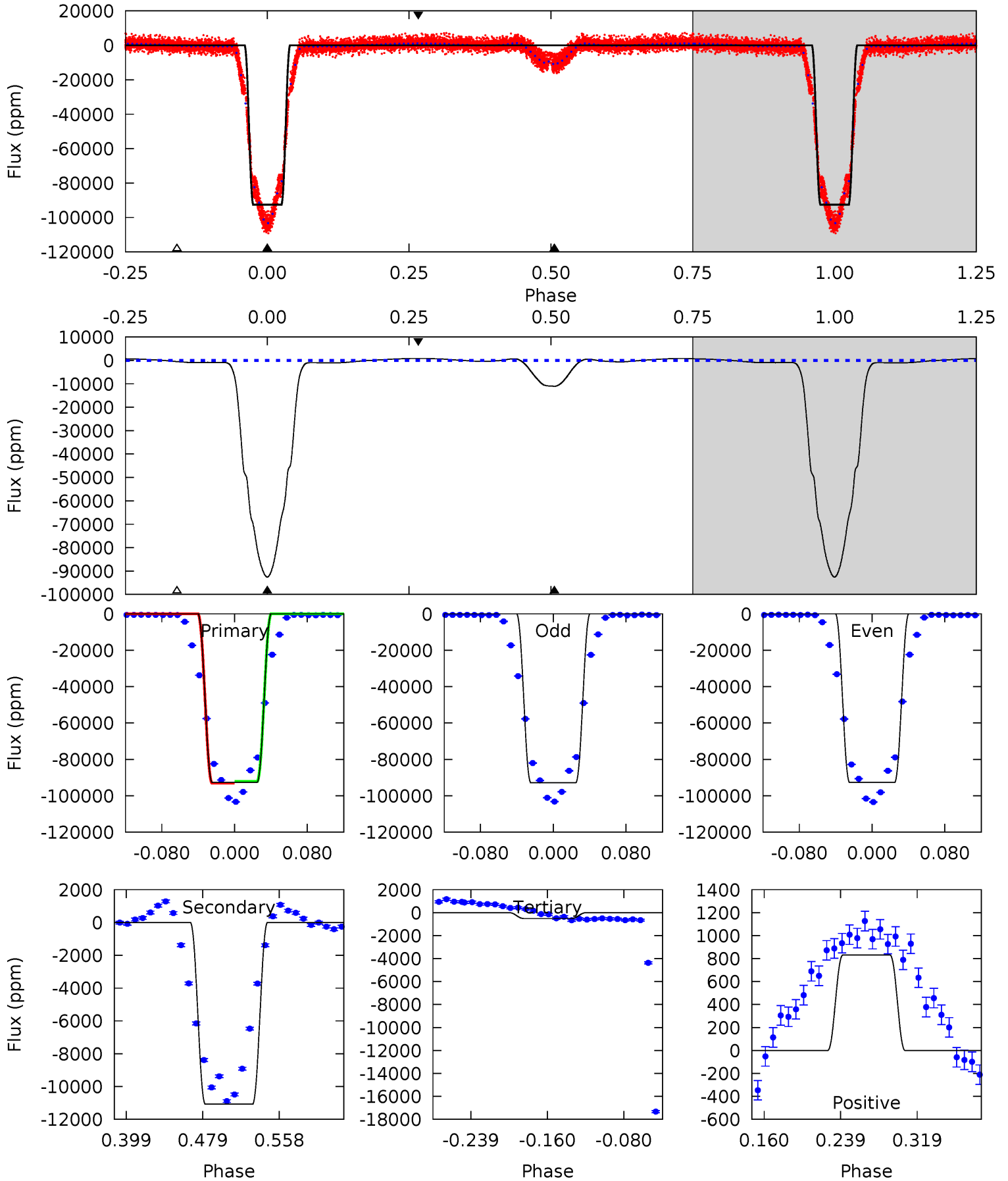
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2884	11.0	3.52	0	4.52	1.54	4.91	2880	2884	7.44	11.0	8.89	1.01	0.01	0



Alt Model-Shift Uniqueness Test

005020034-01, P = 2.119136 Days, E = 132.577895 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2005	239.7	11.1	18.0	4.61	1.75	13.2	1994	1987	228.6	221.7	1.17	1.01	0.01	0



Stellar Parameters For KIC 005020034

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6381^{+177}_{-244}	$4.155^{+0.246}_{-0.164}$	$-0.360^{+0.300}_{-0.300}$	$1.423^{+0.394}_{-0.394}$	$1.055^{+0.167}_{-0.152}$	$0.516^{+0.758}_{-0.235}$
	+3%/-4%	+6%/-4%	+83%/-83%	+28%/-28%	+16%/-14%	+147%/-46%
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 005020034-01 / KOI 3688.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-423 ± 39	$57.41^{+9.10}_{-8.90}$	2553^{+207}_{-201}	-2722^{+155}_{-136}	$0.077^{+0.028}_{-0.019}$
Alt.	-11070 ± 46	$49.69^{+7.86}_{-8.07}$	2545^{+209}_{-201}	3888^{+76}_{-111}	$2.727^{+0.987}_{-0.665}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

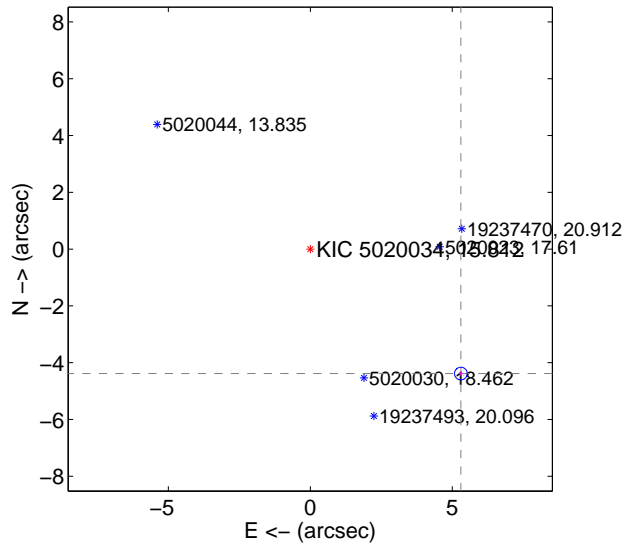
Supplemental centroid analysis for 005020034-01. Kepler magnitude: 15.81. Transit SNR 1207.28

There are 8 quarters with good PRF difference image offsets

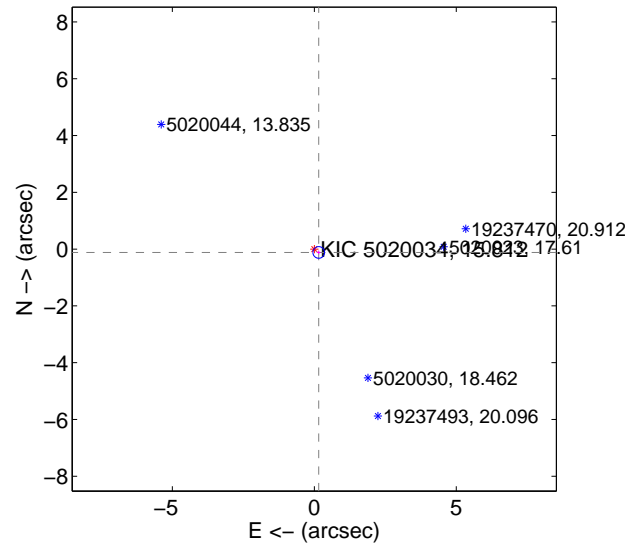
The OOT PRF centroid is offset from the target star catalog position by about 6.63 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.878 ± 0.075	92.26	-5.301 ± 0.073	-4.382 ± 0.069
PRF-fit source offset from KIC position	0.195 ± 0.068	2.85	-0.156 ± 0.068	-0.117 ± 0.067
photometric centroid source offset	3.14 ± 0.00	1997.23	2.34 ± 0.00	2.09 ± 0.00

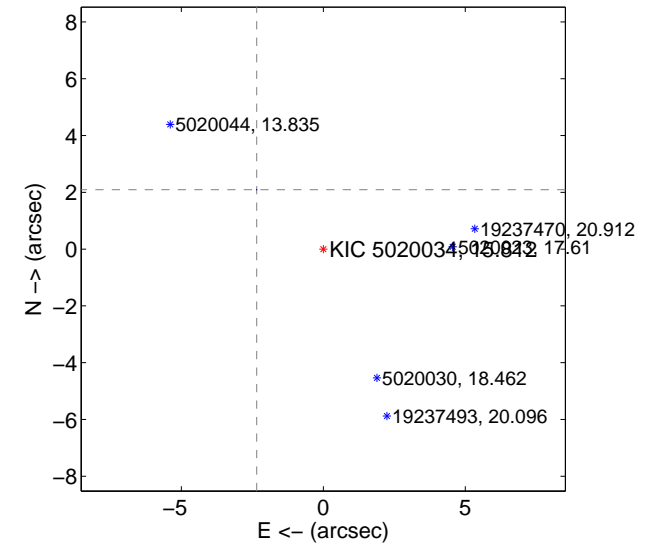
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

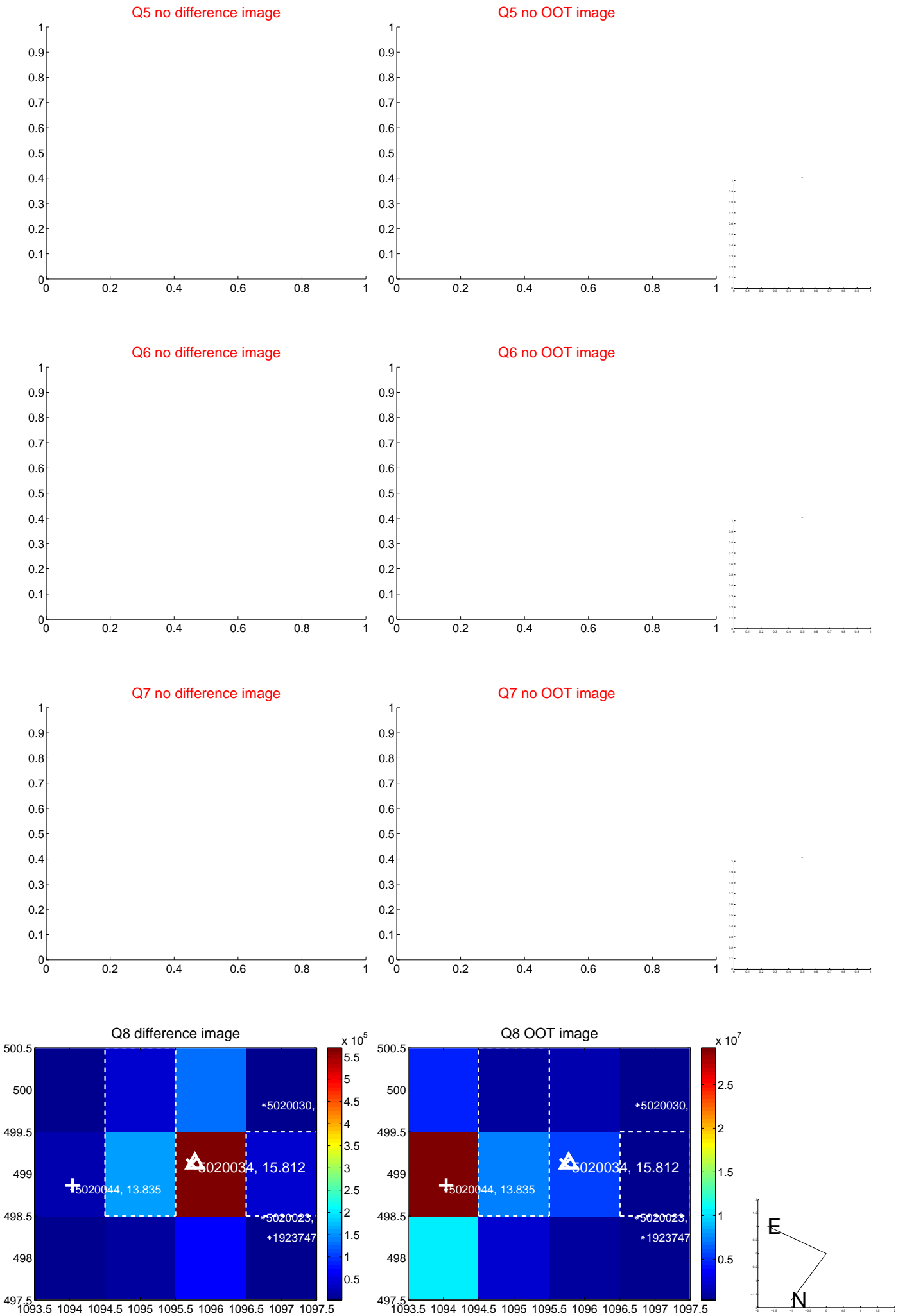


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

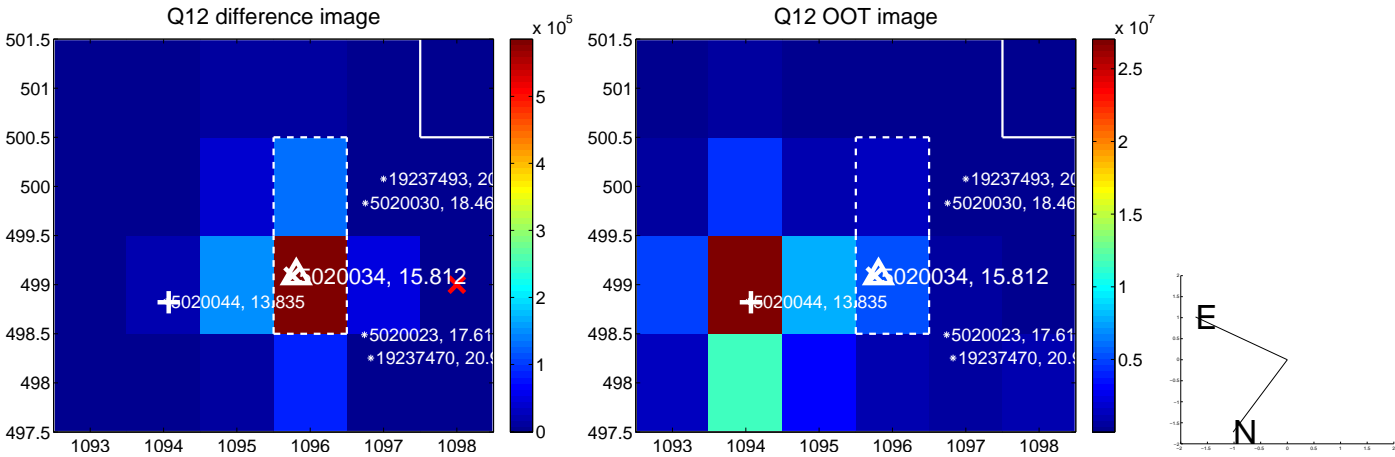
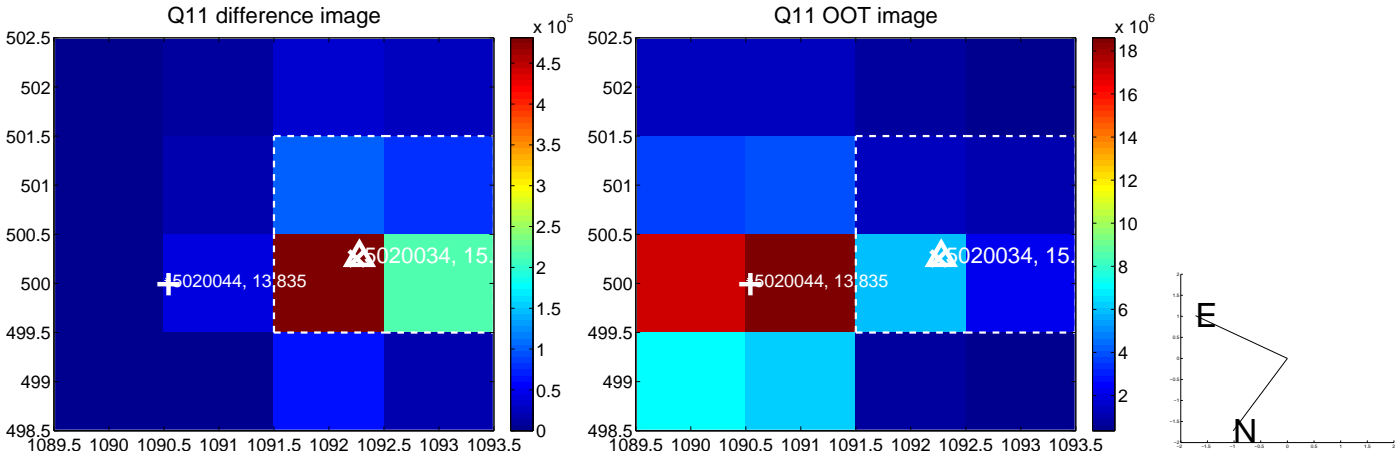
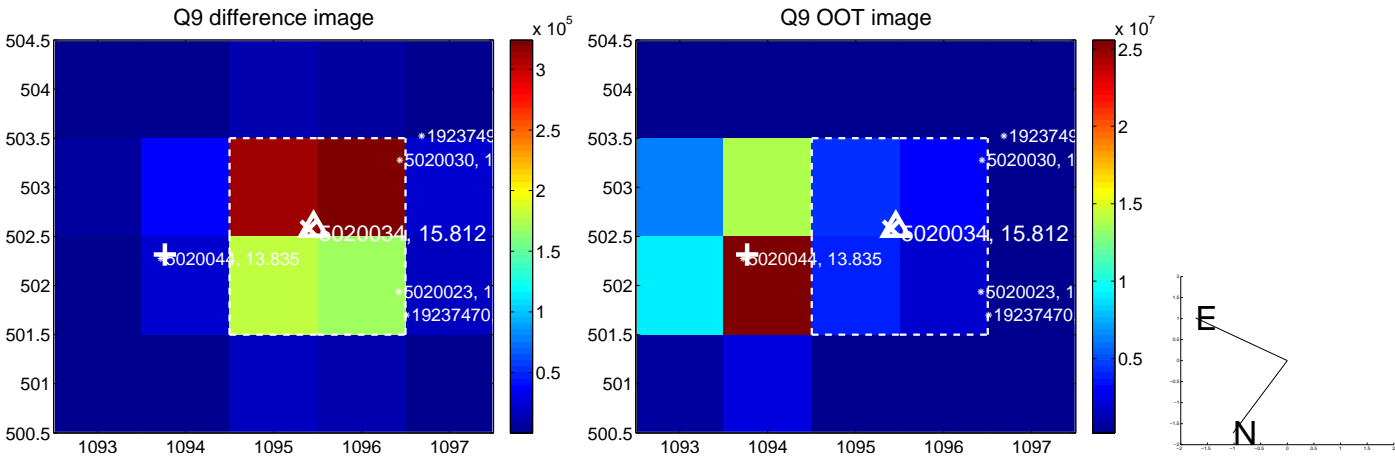
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



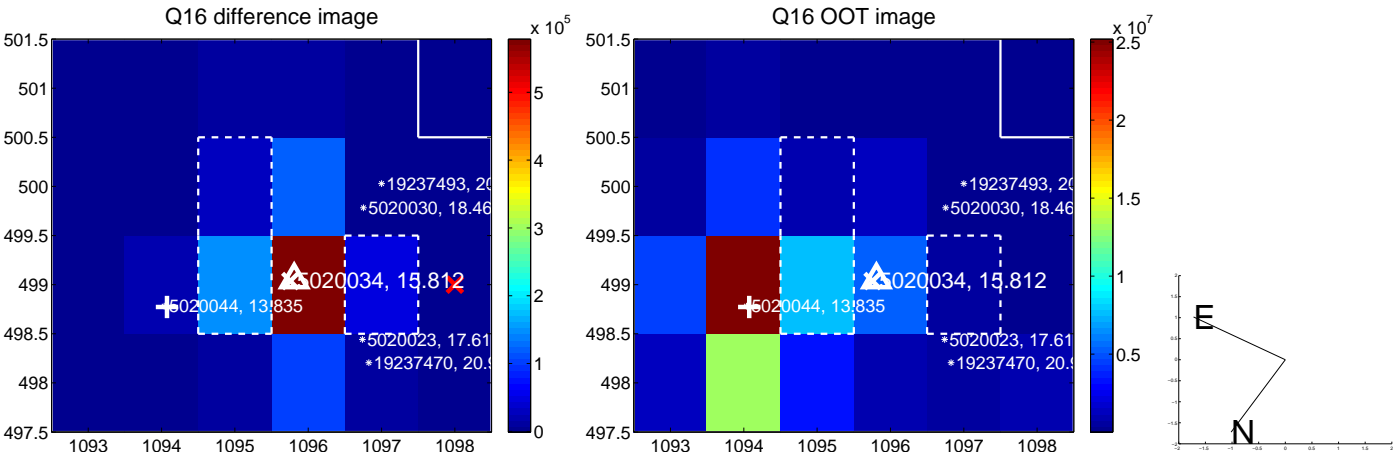
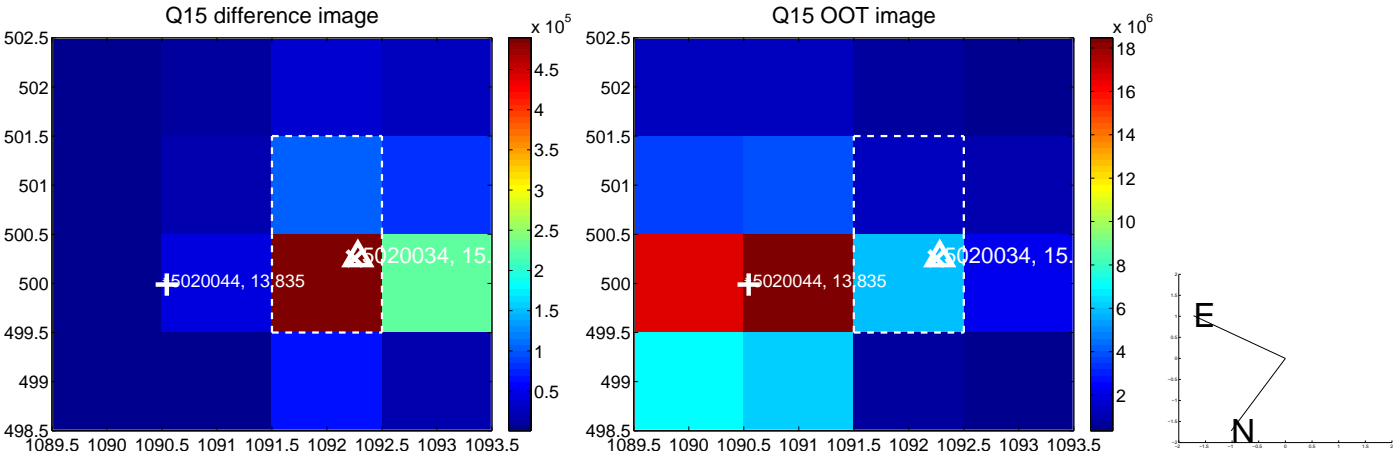
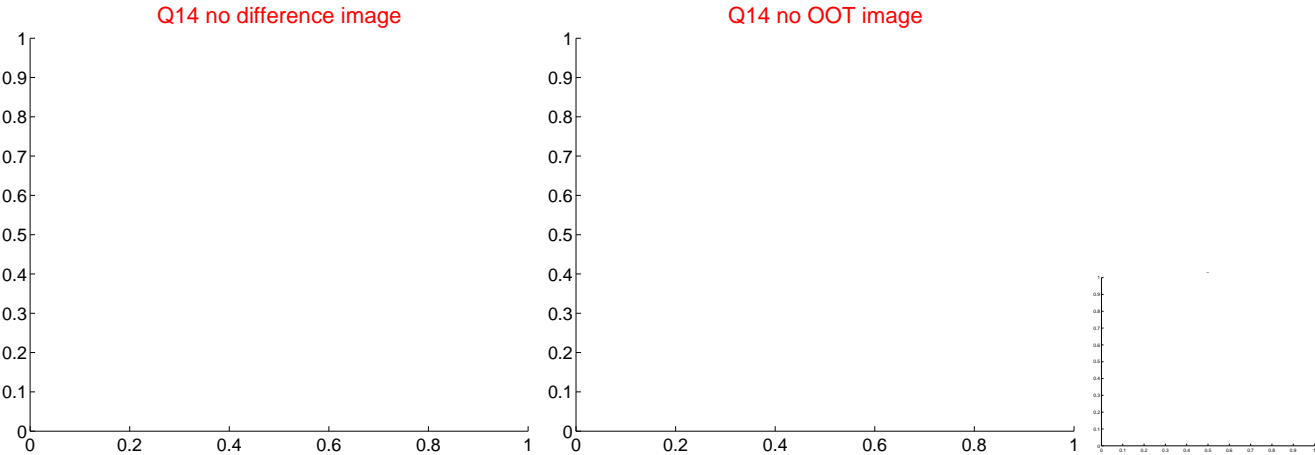
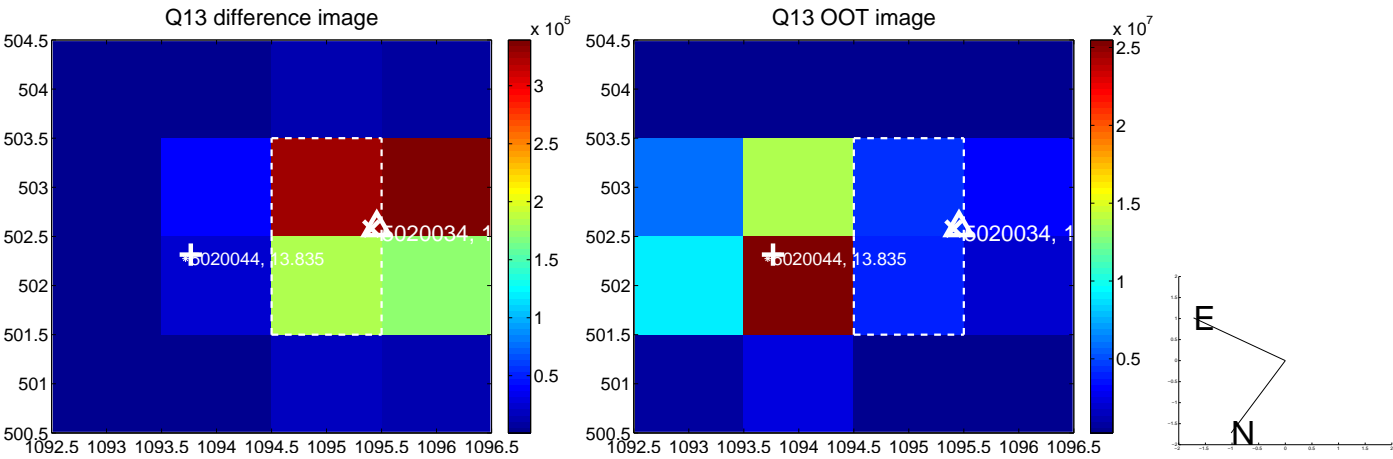
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



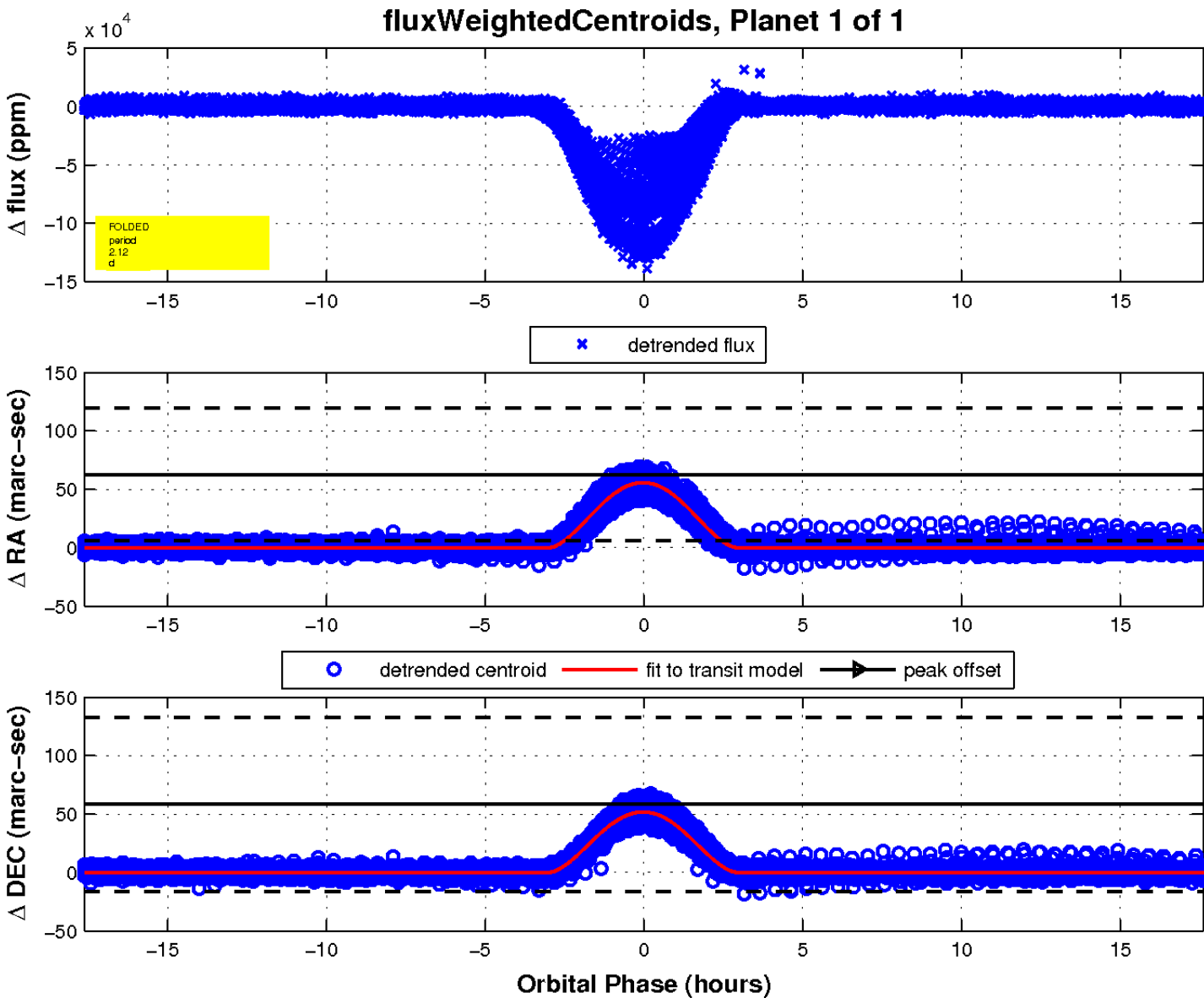
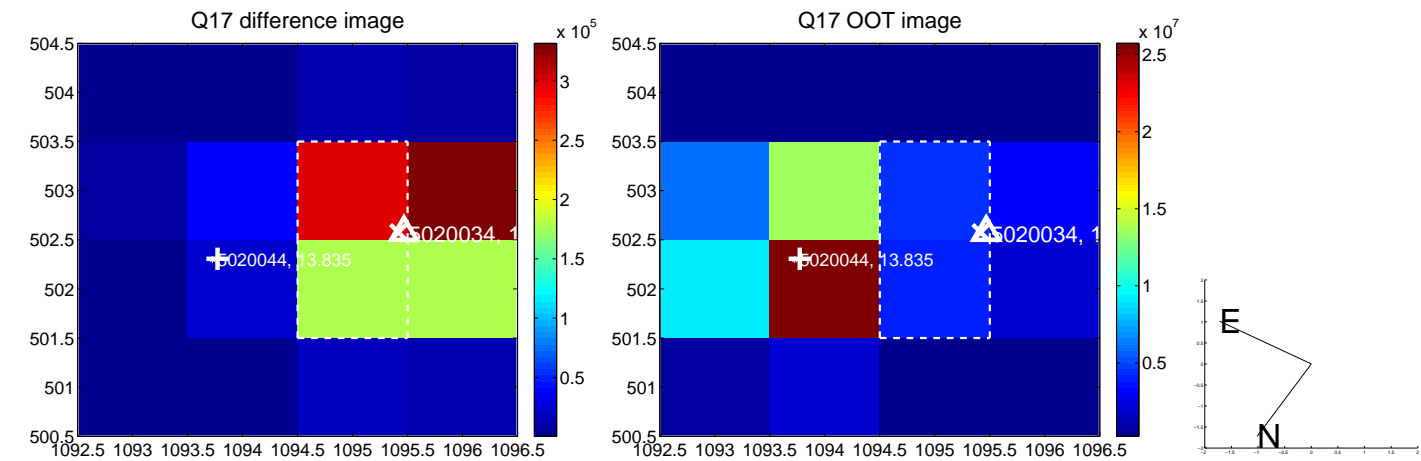
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UKIRT Image

Declination

