

KIC 008231667

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})
008231667-01	OBS	3494.01	42.877723	156.064426	1018.3	2.018	12.4	14.2	0.83	5256	2.91	9.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008231667-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

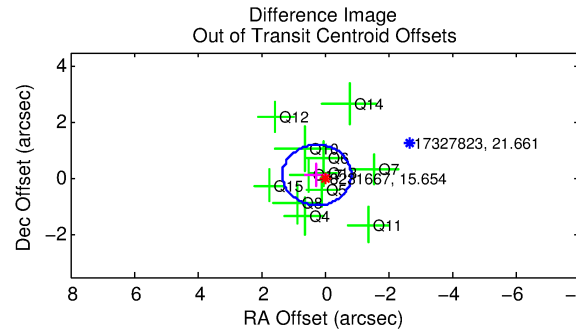
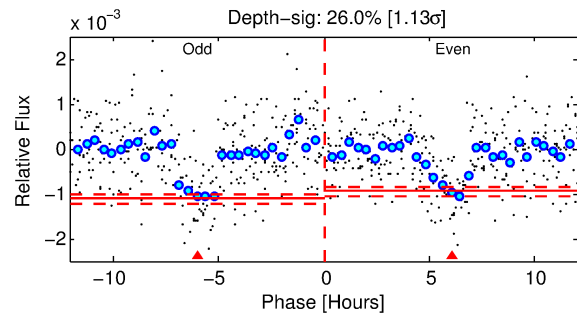
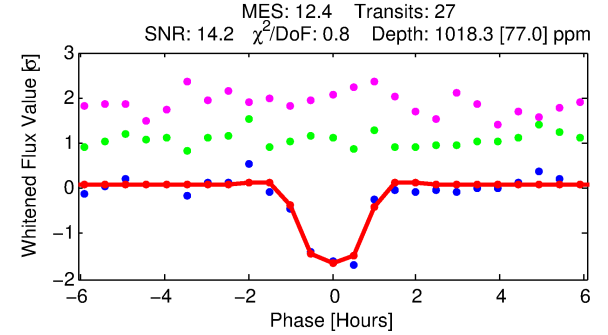
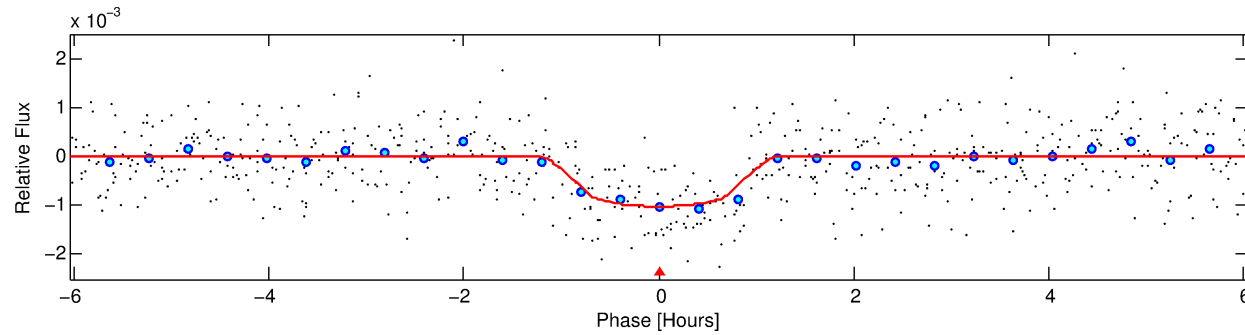
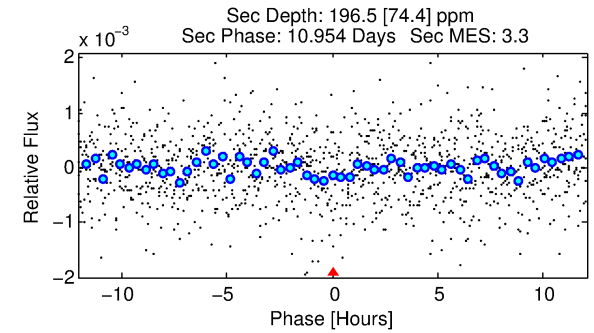
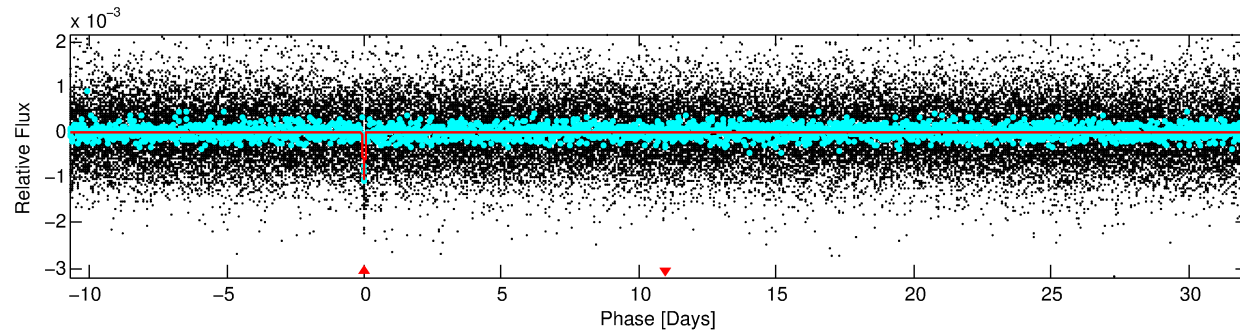
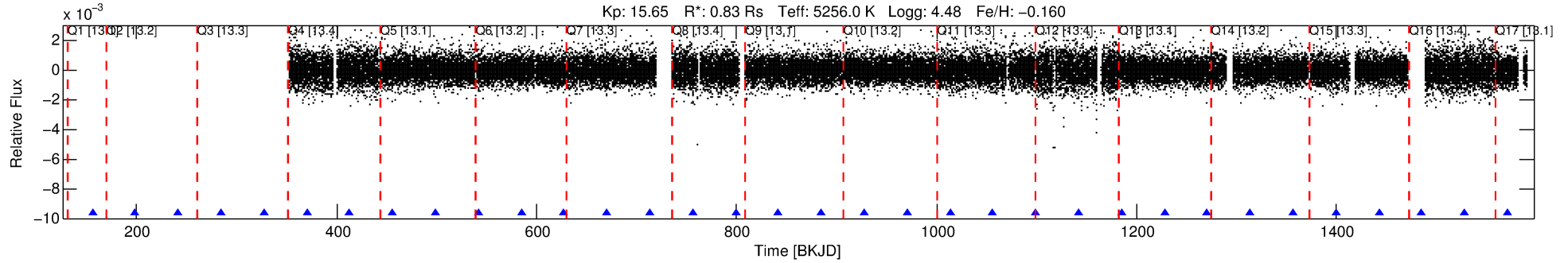
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008231667-01

No Significant Match Found

DV One-Page Summary

KIC: 8231667 Candidate: 1 of 1 Period: 42.878 d
KOI: K03494.01 Corr: 0.967



DV Fit Results:

Period = 42.87772 [0.00023] d
Epoch = 156.0644 [0.0048] BKJD
Rp/R* = 0.0320 [0.0262]
a/R* = 113.49 [352.32]
b = 0.76 [1.78]
Seff = 9.82 [2.57]
Teq = 451 [29] K
Rp = 2.91 [2.42] Re
a = 0.2196 [0.0312] AU
Ag = 616.36 [1042.02] [0.59σ]
Teffp = 3477 [1462] K [2.07σ]

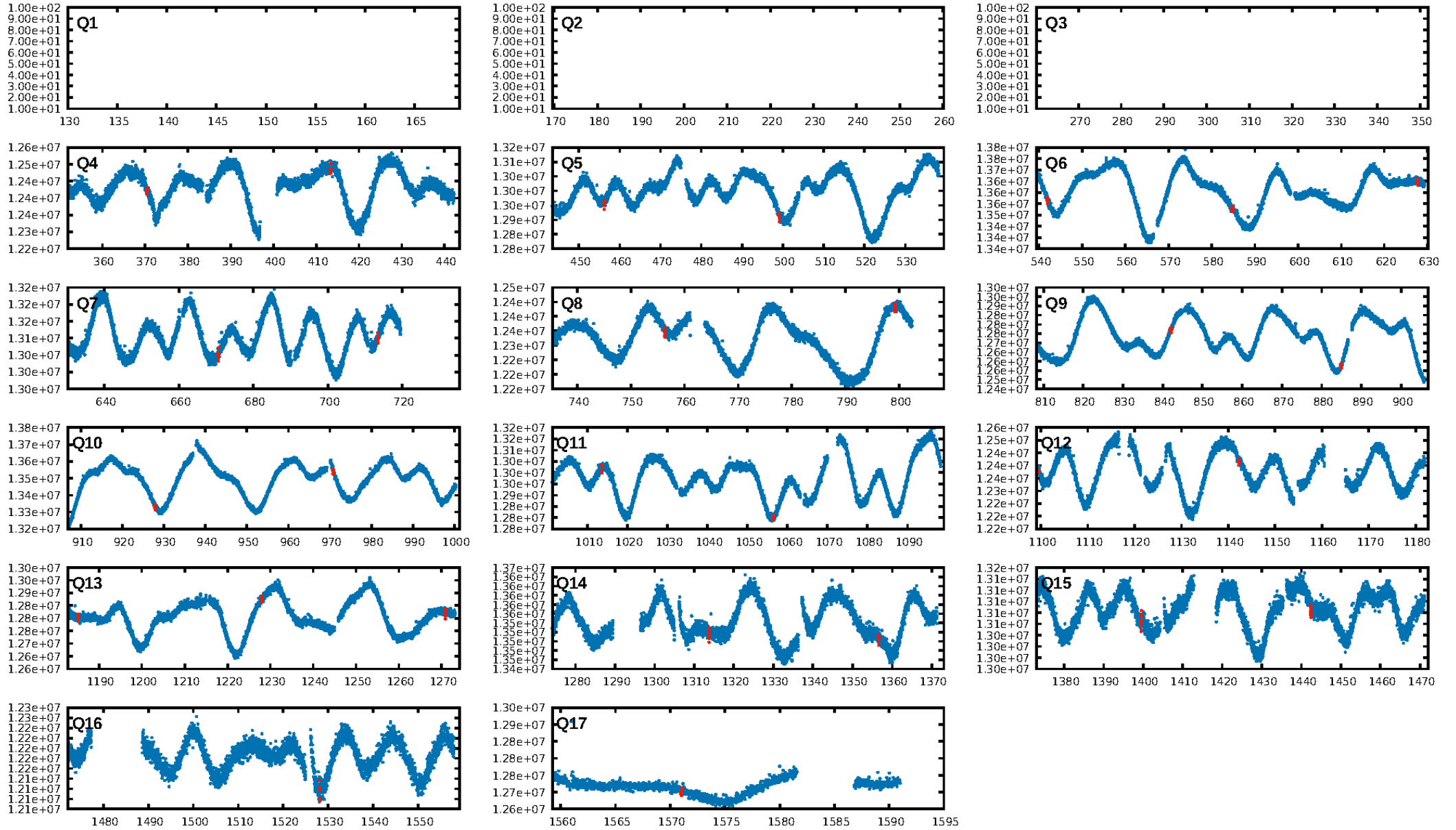
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 90.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.62e-33
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 2.626
Centroid-sig: 12.5%
Centroid-so: 1.583 arcsec [2.08σ]
OotOffset-rm: 0.279 arcsec [0.78σ]
KicOffset-rm: 0.231 arcsec [0.83σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [14/14]

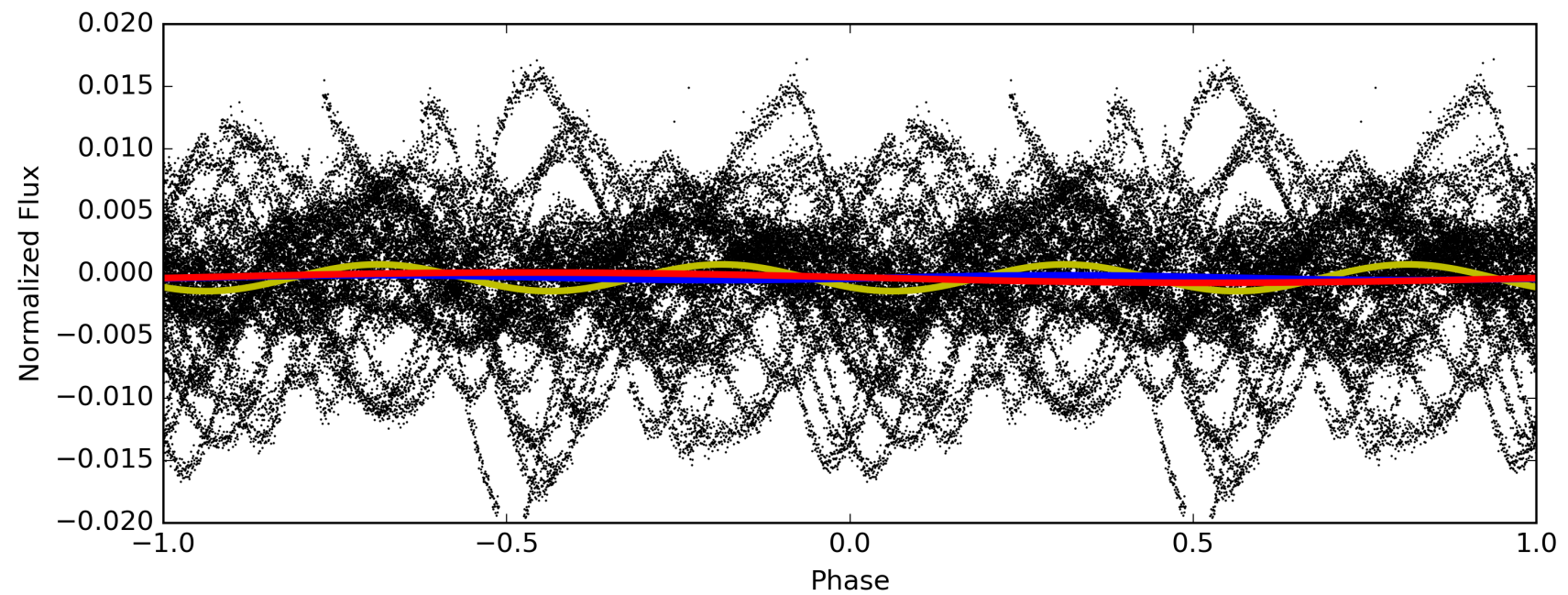
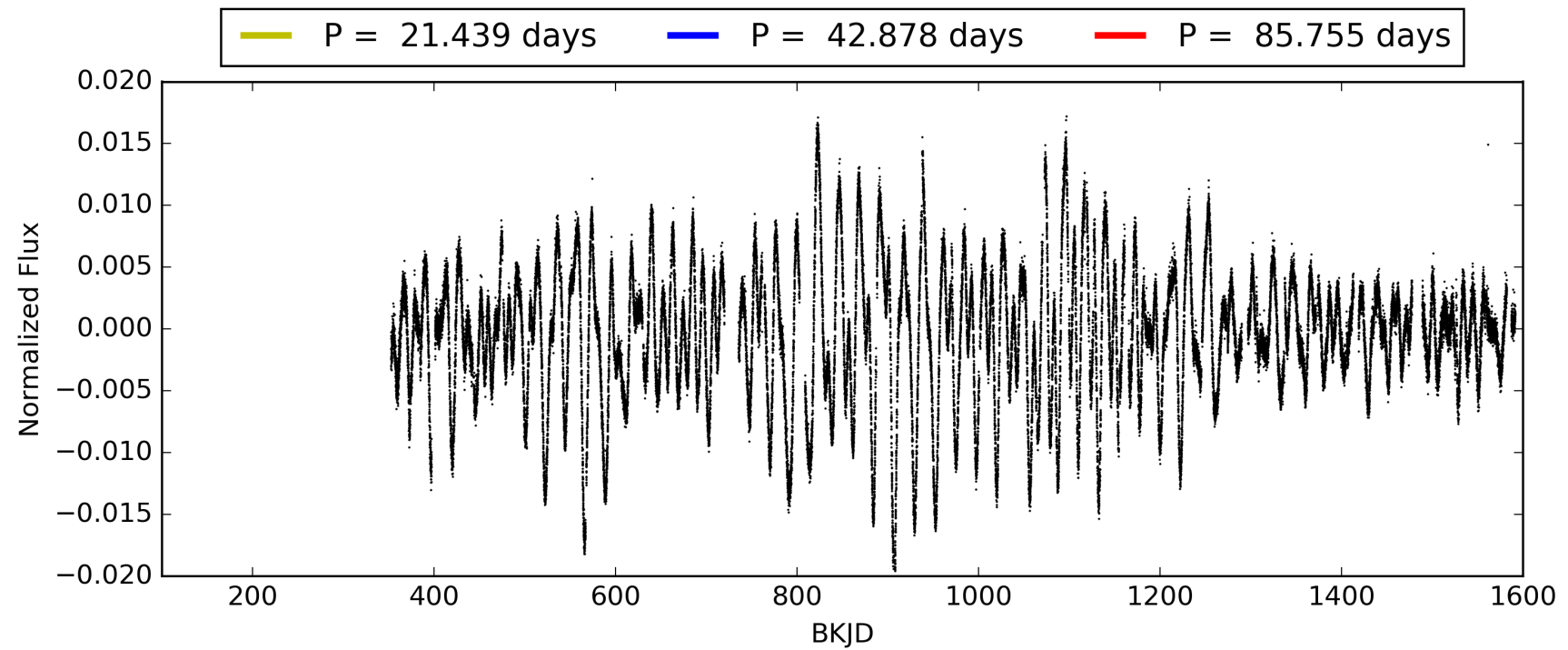
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:40:03 Z

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

TCE 008231667-01, PDC Light Curves

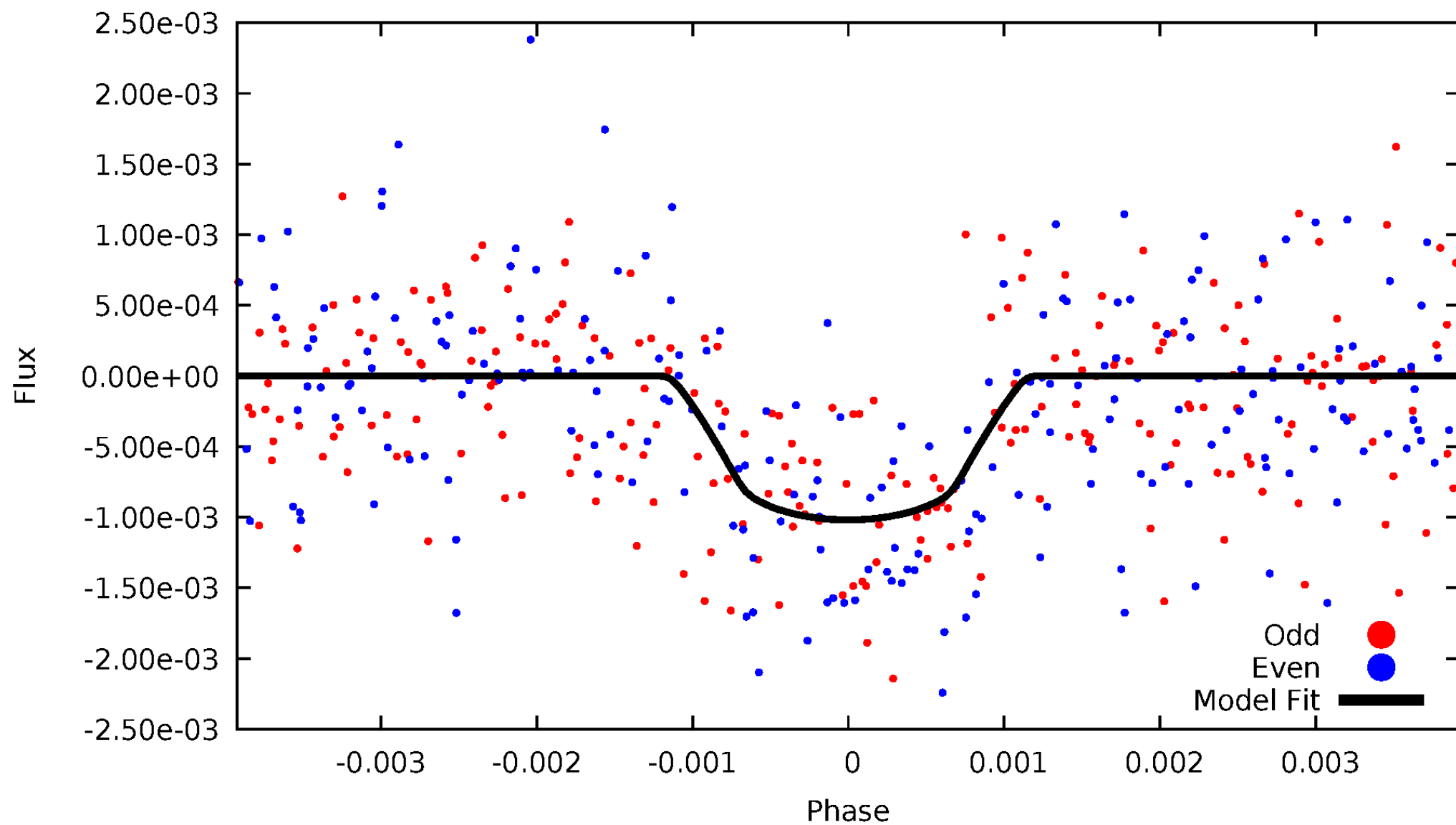


TCE 008231667-01



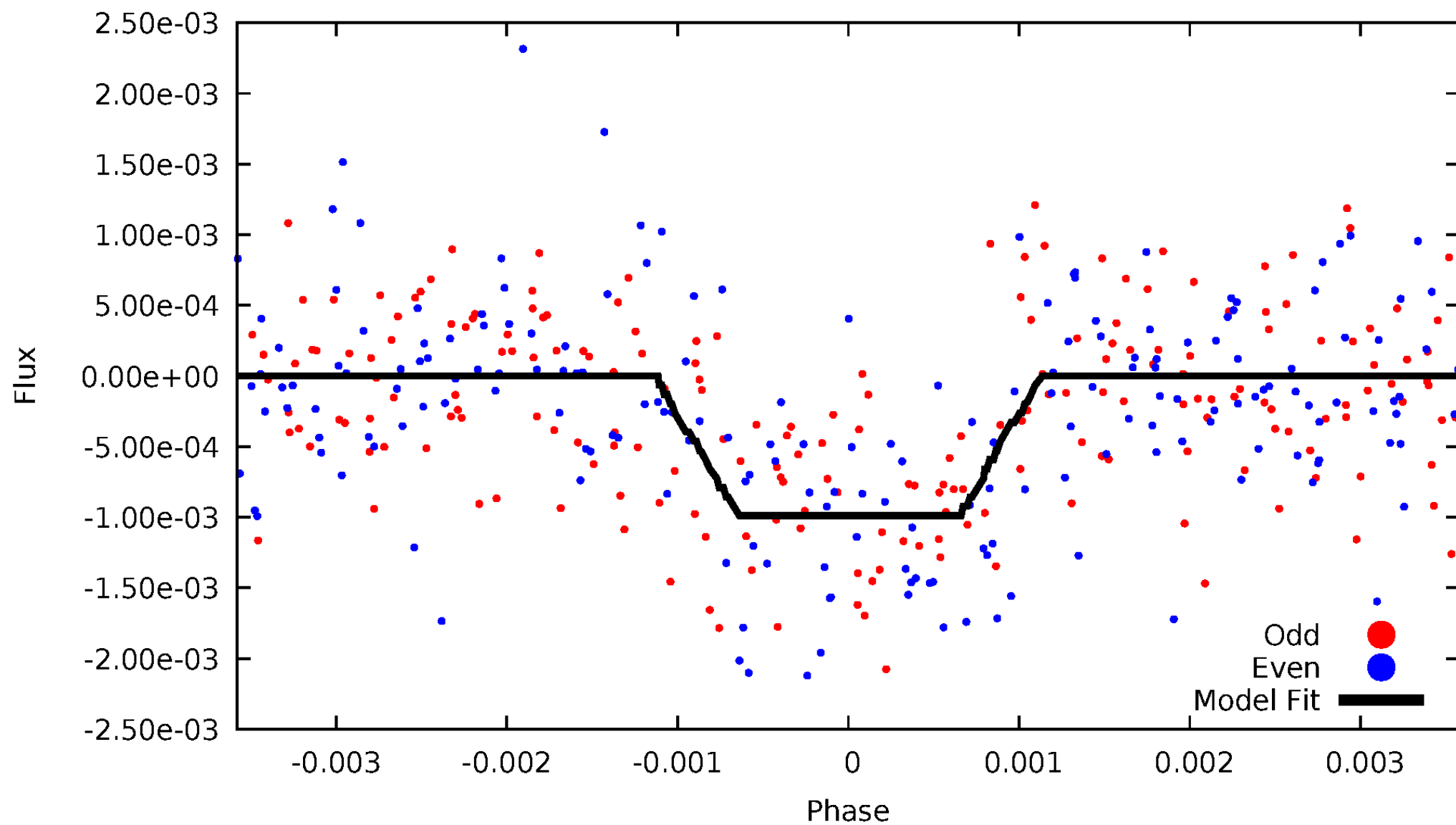
DV Odd/Even

TCE 008231667-01



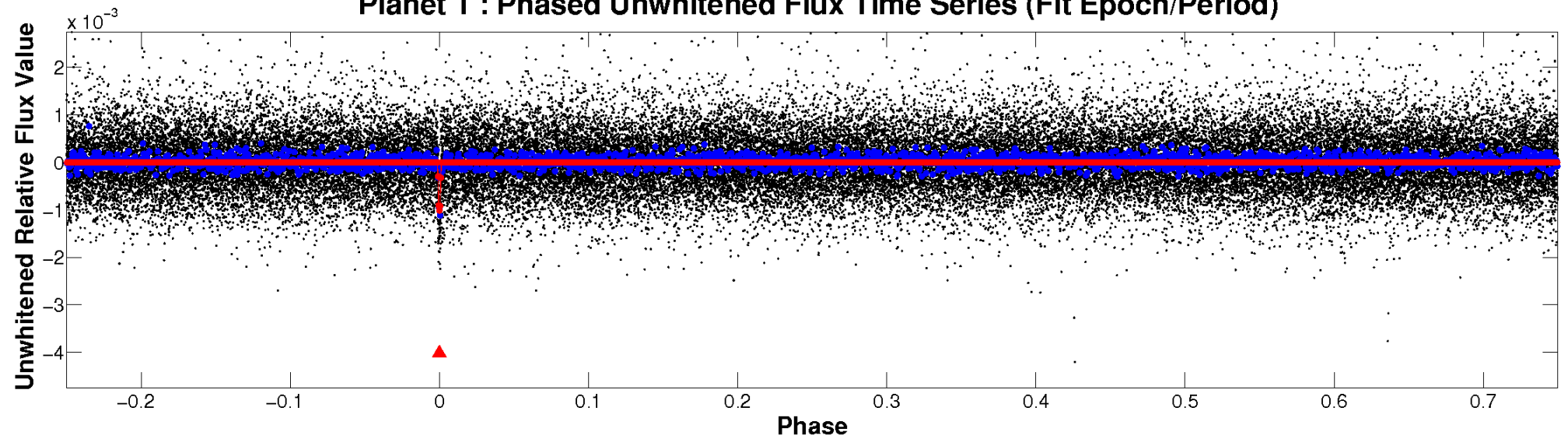
ALT Odd/Even

TCE 008231667-01

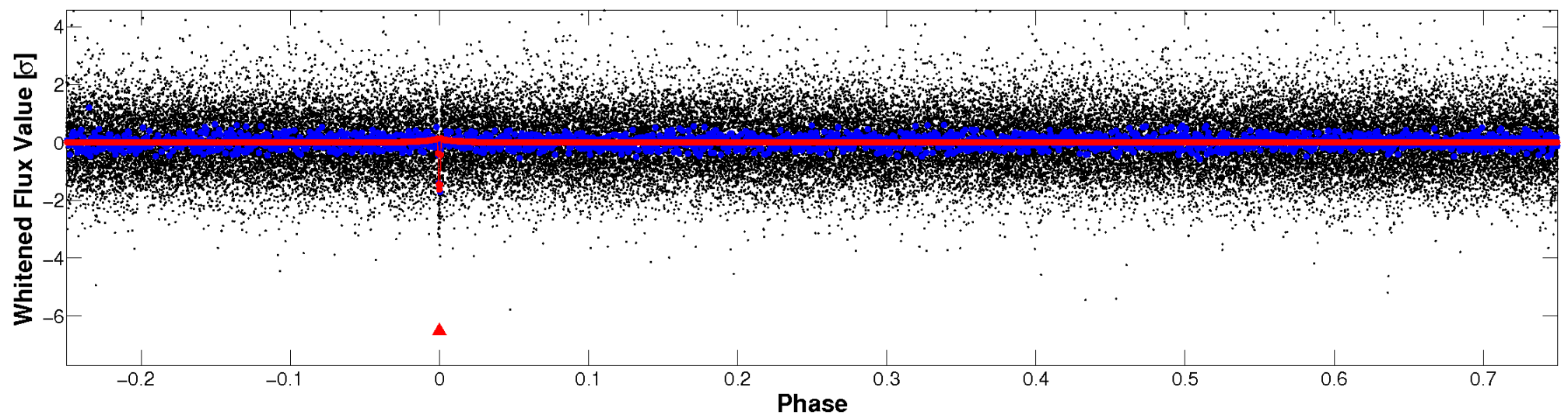


Non-Whitened Vs. Whitened Light Curve

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

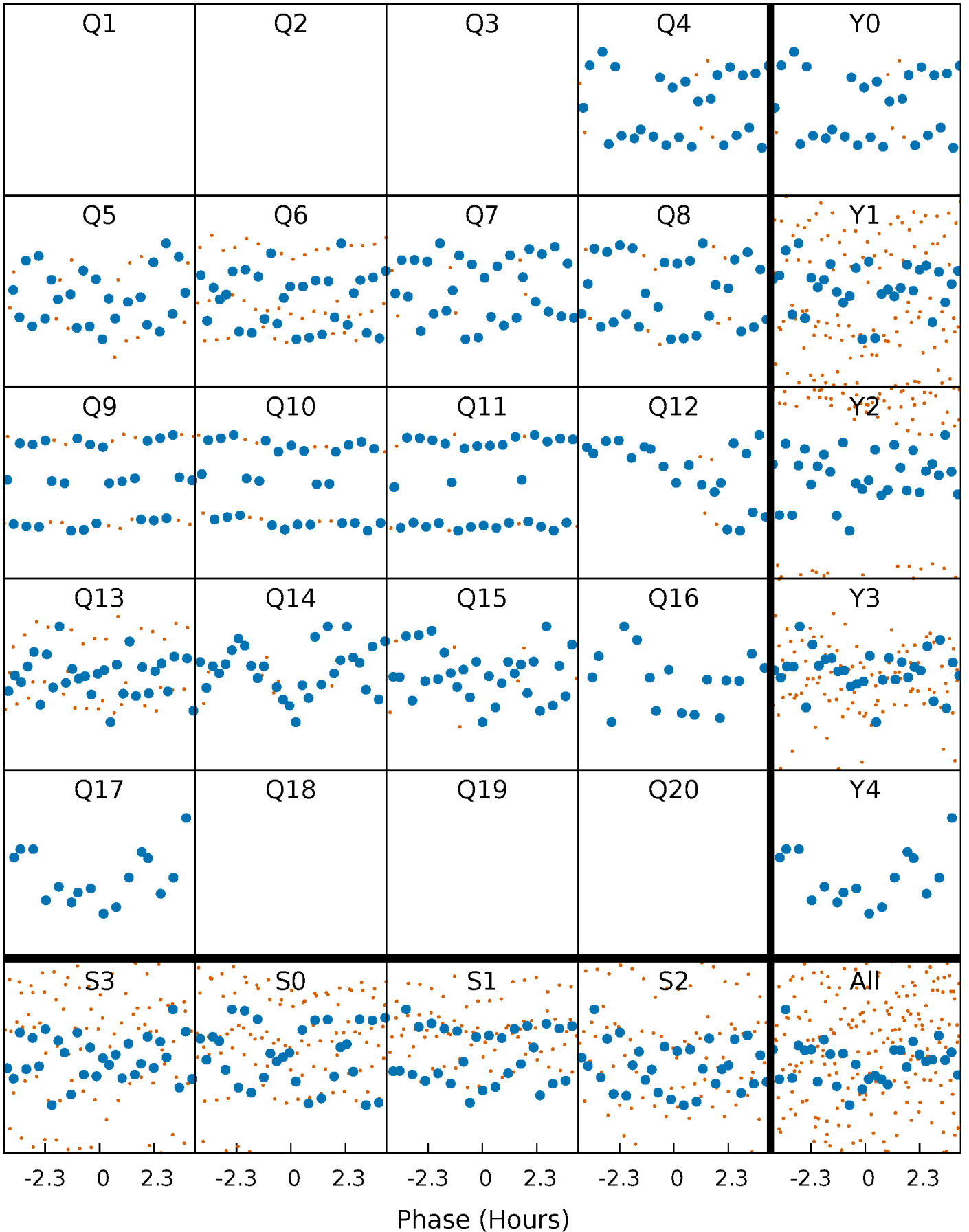


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



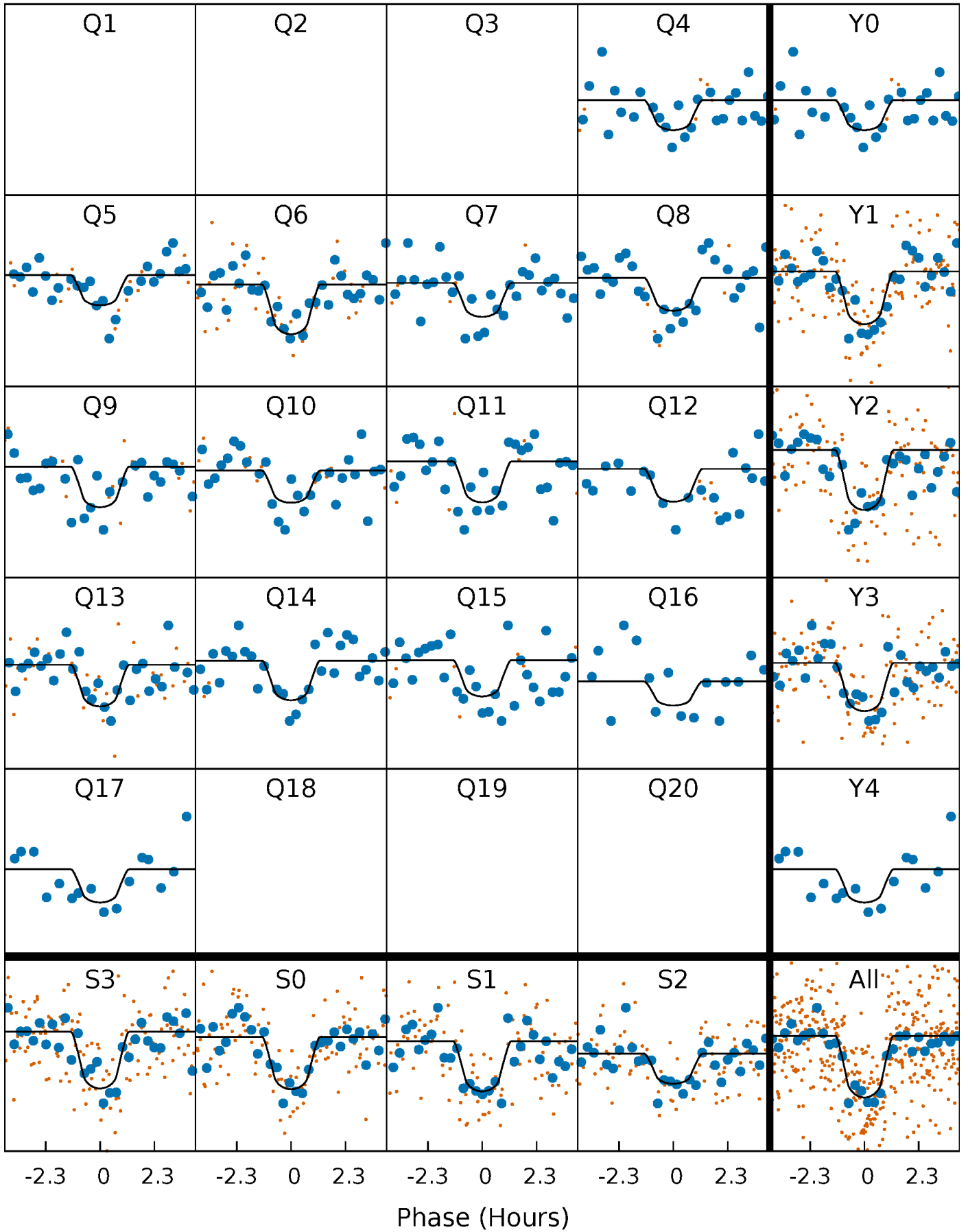
PDC Quarter-Phased Transit Curves

TCE 008231667-01 P= 42.877723 Days $T_0=156.064426$ (BKJD)



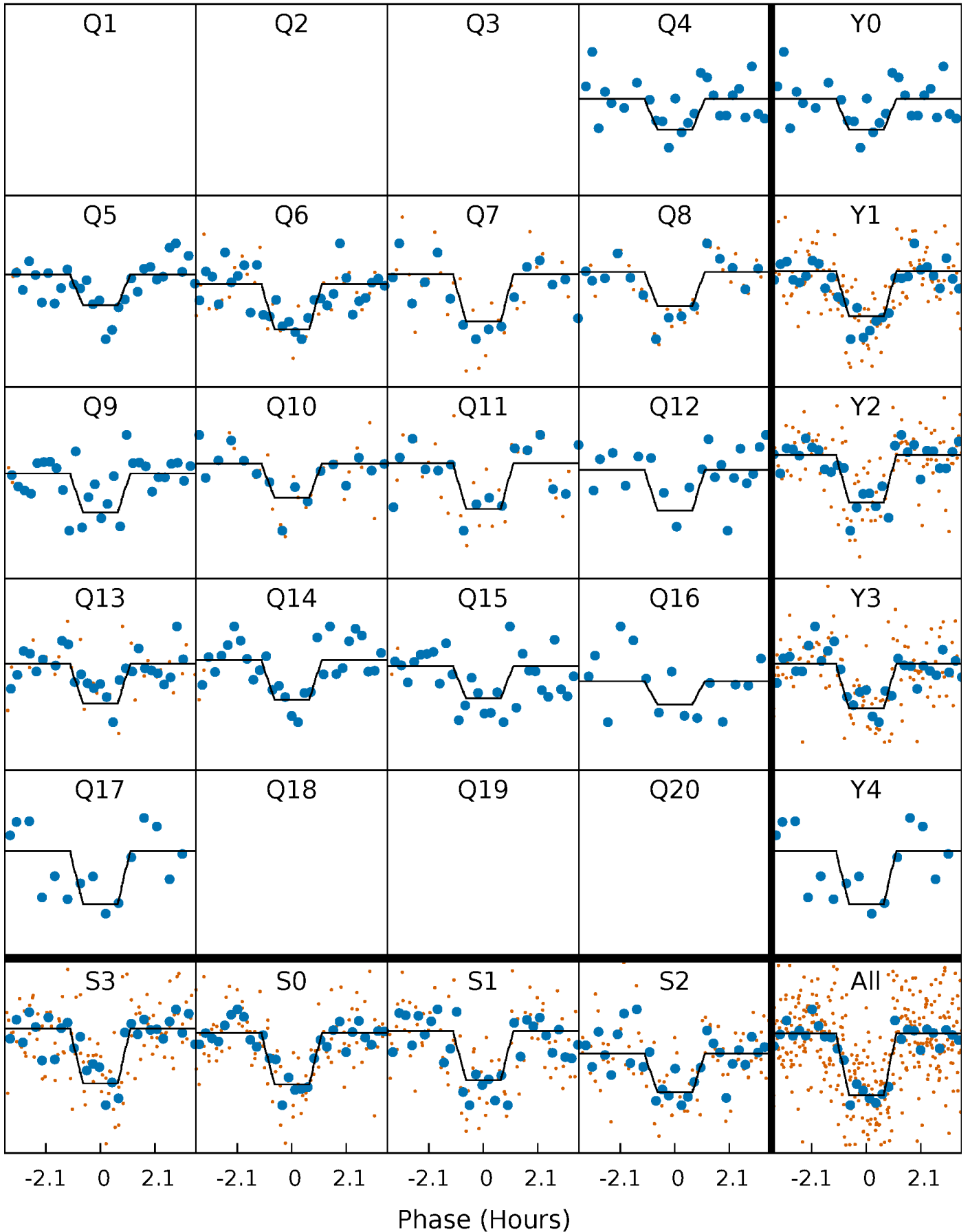
DV Quarter-Phased Transit Curves

TCE 008231667-01 P= 42.877723 Days $T_0=156.064426$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

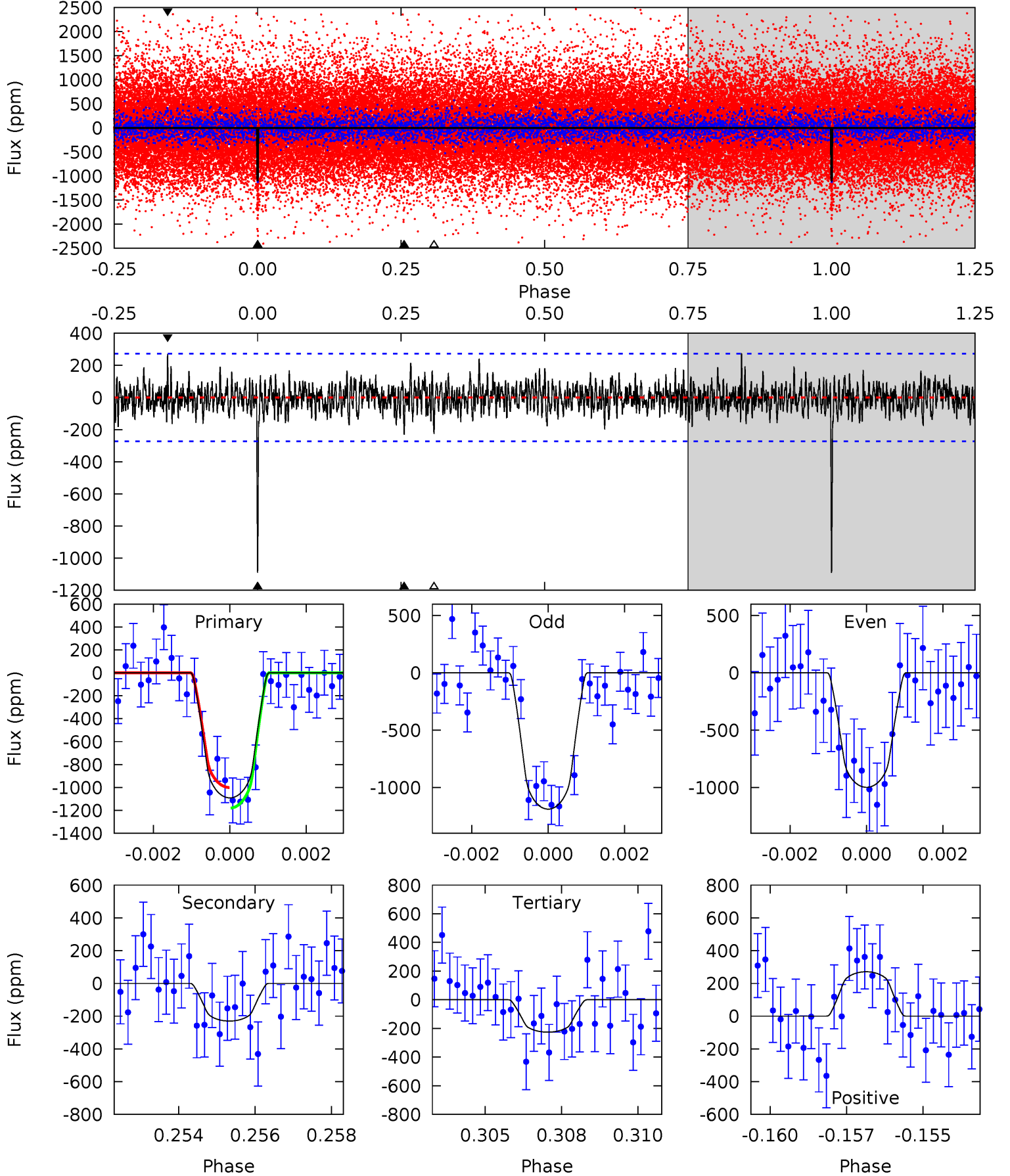
TCE 008231667-01 P= 42.877379 Days $T_0=156.069668$ (BKJD)



DV Model-Shift Uniqueness Test

008231667-01, $P = 42.877723$ Days, $E = 156.064426$ Days

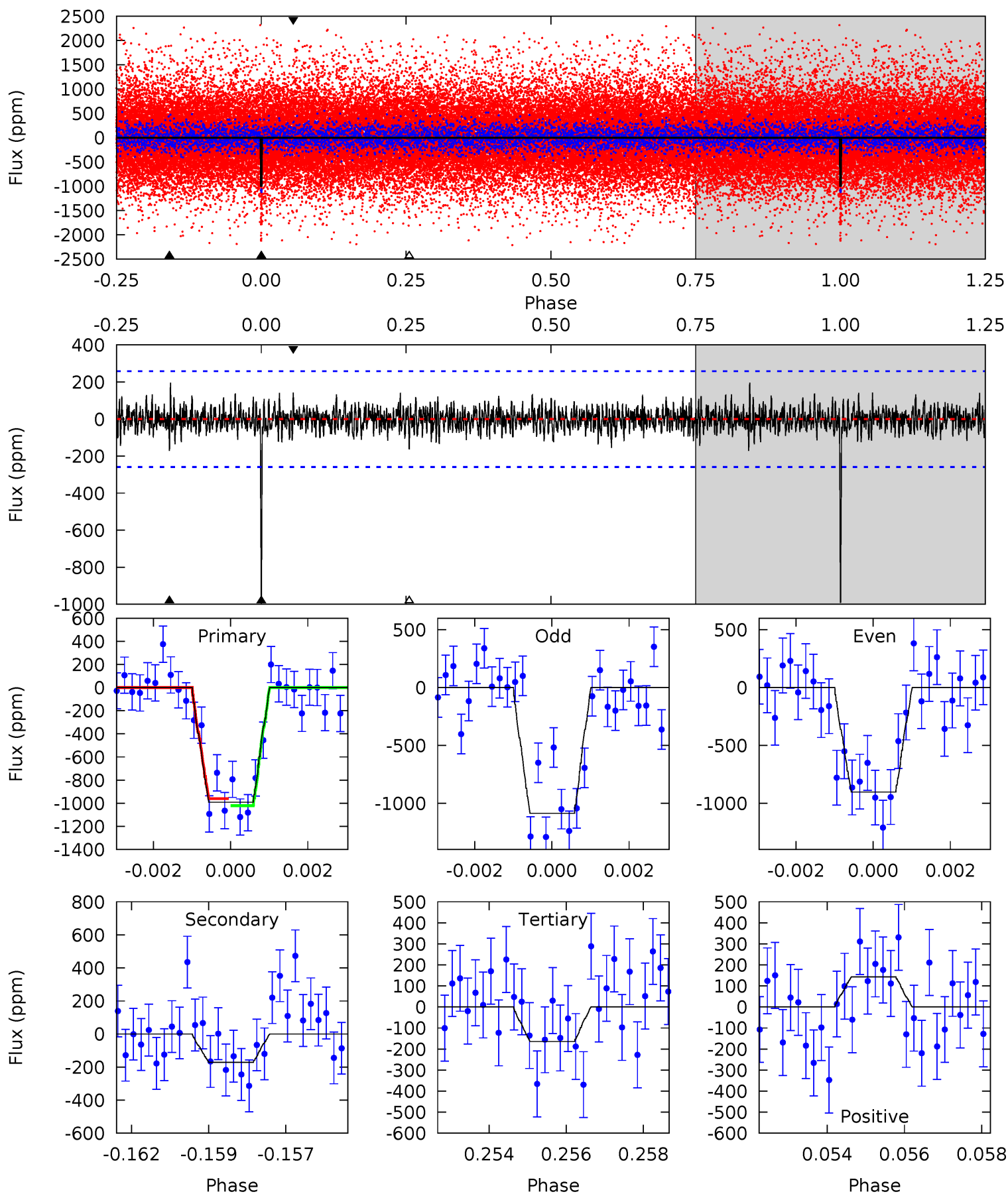
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	4.46	4.38	5.26	5.30	3.04	1.30	16.8	15.9	0.08	-0.79	1.85	1.01	0.20	1.74



Alt Model-Shift Uniqueness Test

008231667-01, $P = 42.877379$ Days, $E = 156.069668$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	3.51	3.37	2.93	5.31	3.06	0.96	17.0	17.4	0.14	0.58	1.89	0.96	0.16	0.63



Stellar Parameters For KIC 008231667

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5256^{+184}_{-184}	$4.483^{+0.104}_{-0.127}$	$-0.160^{+0.350}_{-0.300}$	$0.832^{+0.129}_{-0.105}$	$0.768^{+0.114}_{-0.057}$	$1.877^{+0.883}_{-0.645}$
	+4%/-4%	+2%/-3%	+219%/-188%	+16%/-13%	+15%/-7%	+47%/-34%
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 008231667-01 / KOI 3494.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-230 ± 52	$3.22^{+2.19}_{-1.86}$	636^{+34}_{-35}	3778^{+1577}_{-581}	575^{+2914}_{-382}
Alt.	-171 ± 49	$3.12^{+2.44}_{-2.00}$	631^{+37}_{-31}	3639^{+1643}_{-587}	456^{+3130}_{-310}

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 $A_{obs} \gg 1.0$

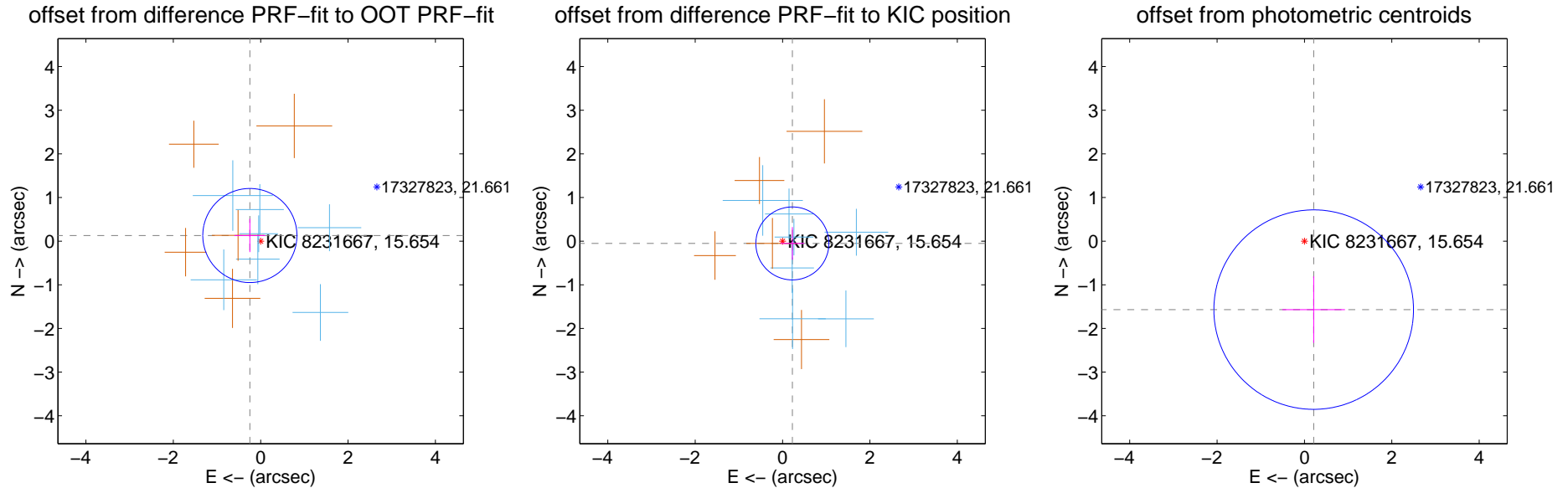
DV Centroid Data

Supplemental centroid analysis for 008231667-01. Kepler magnitude: 15.65. Transit SNR 14.23

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.279 ± 0.359	0.78	0.247 ± 0.353	0.129 ± 0.381
PRF-fit source offset from KIC position	0.231 ± 0.279	0.83	-0.225 ± 0.270	-0.052 ± 0.374
photometric centroid source offset	1.58 ± 0.76	2.08	-0.21 ± 0.72	-1.57 ± 0.76



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



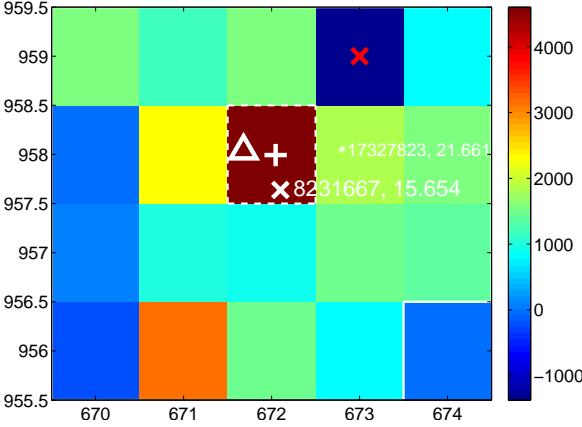
Q3 no difference image



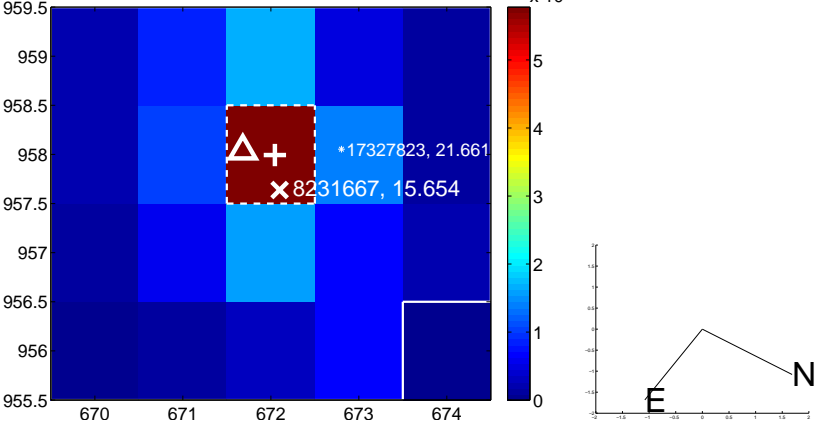
Q3 no OOT image



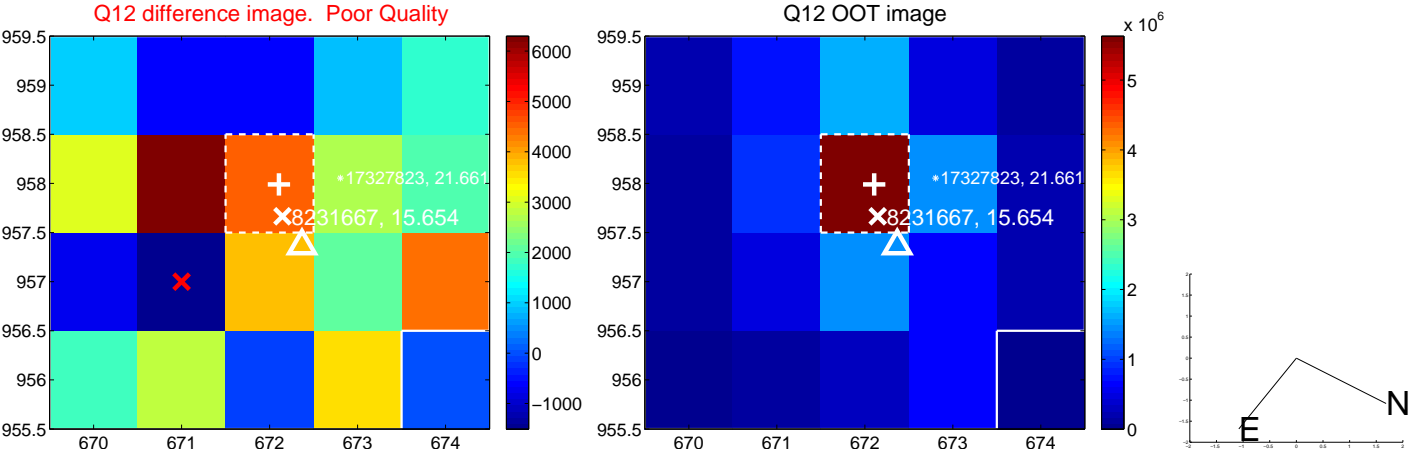
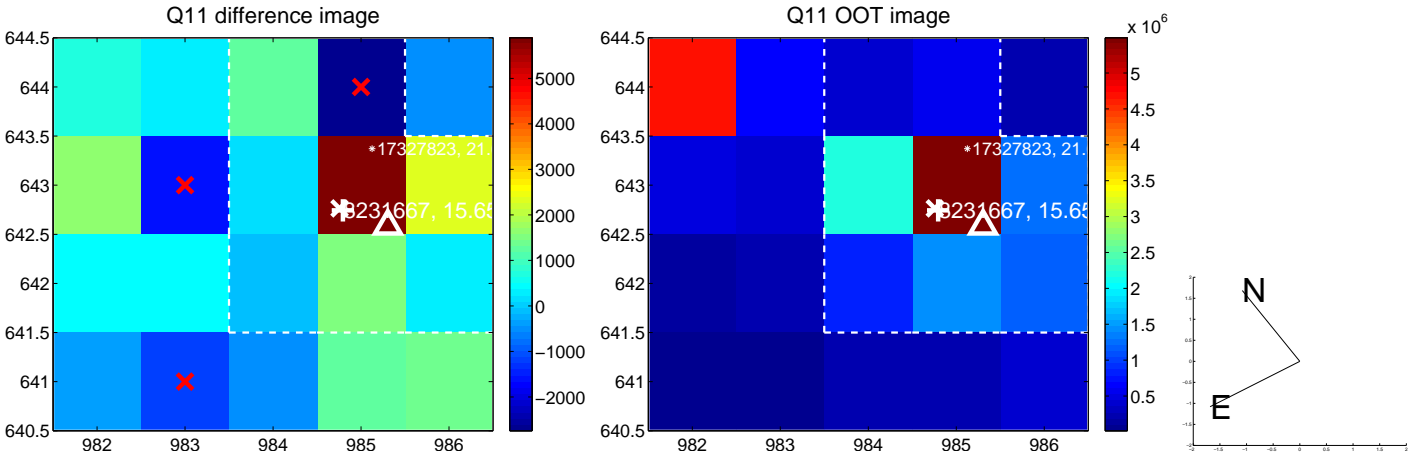
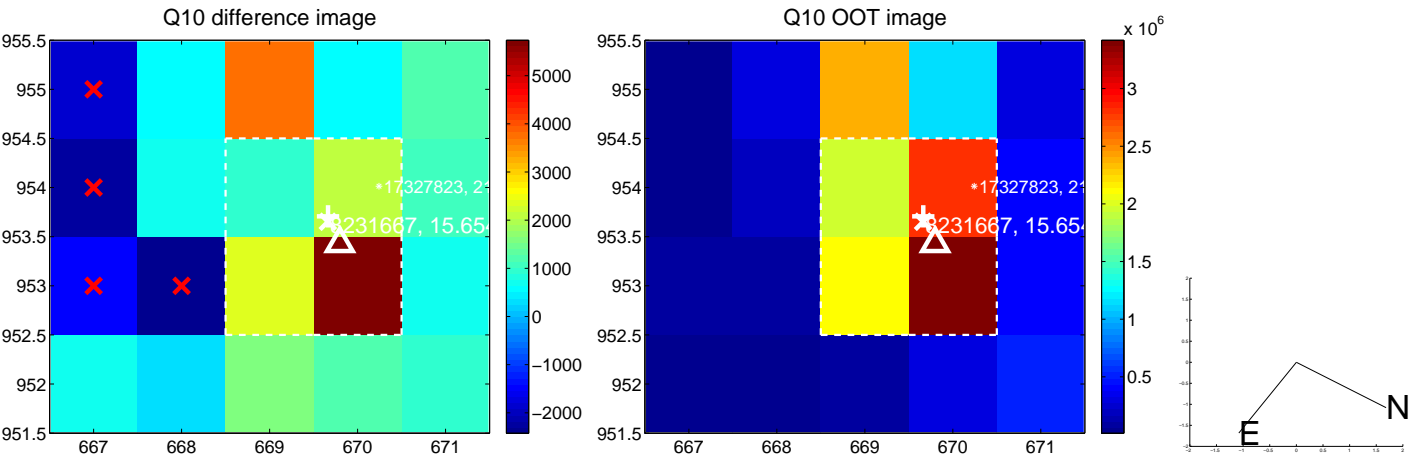
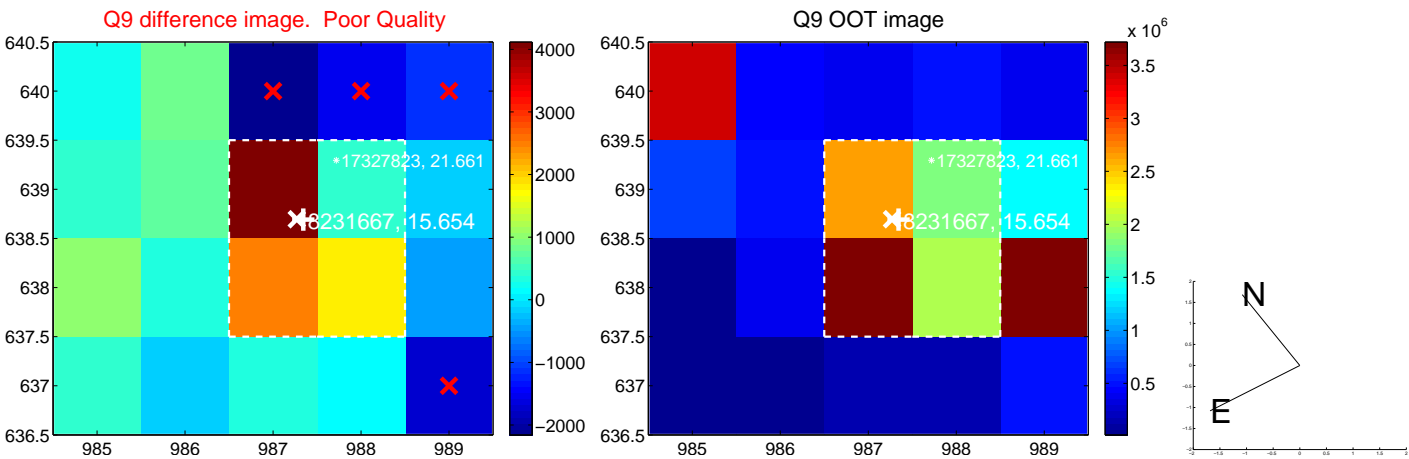
Q4 difference image. Poor Quality



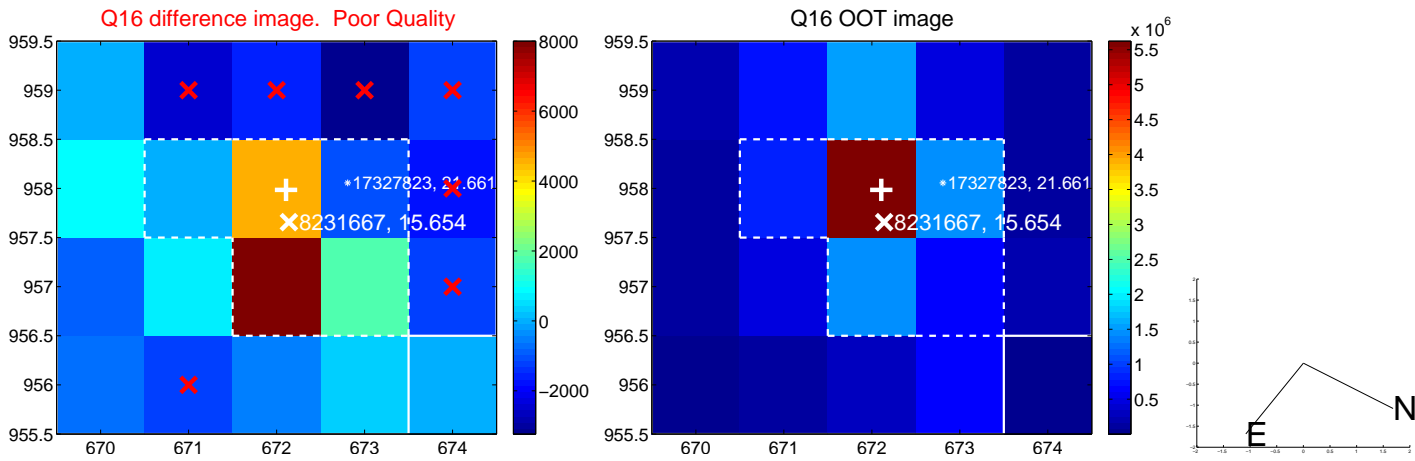
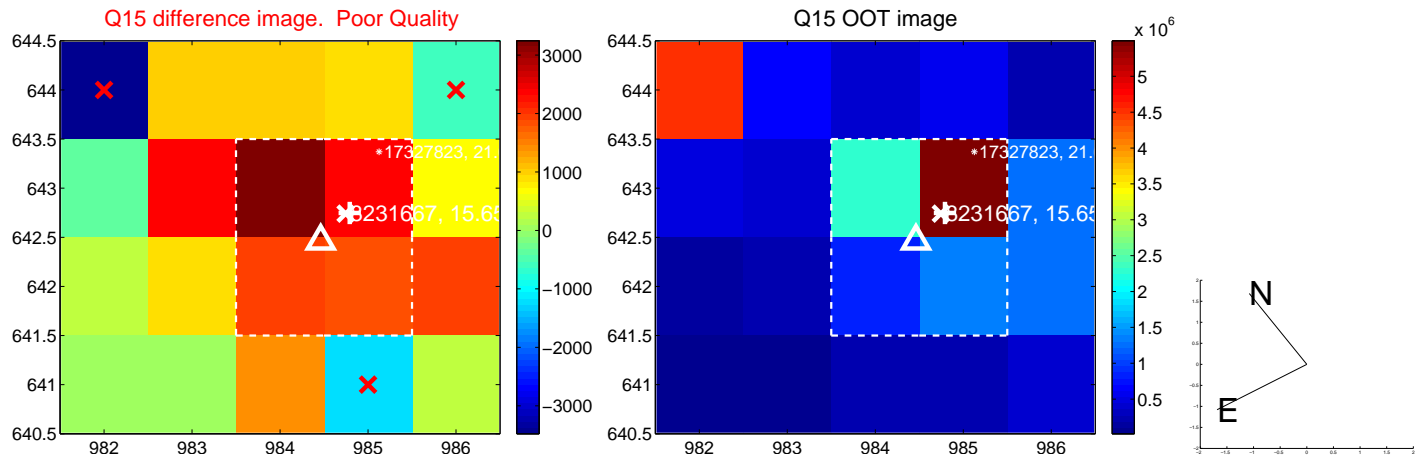
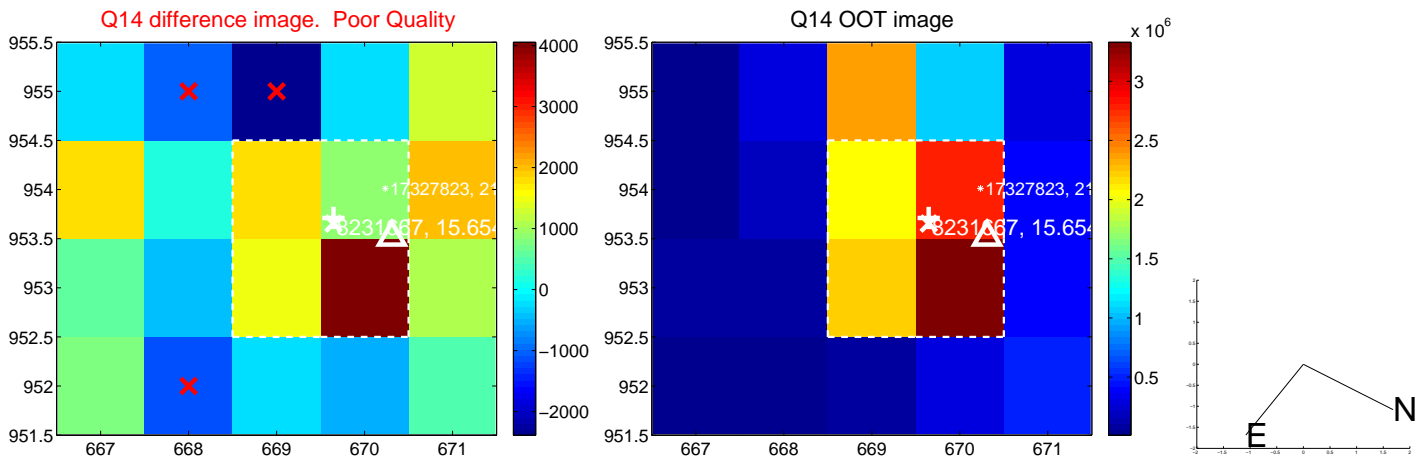
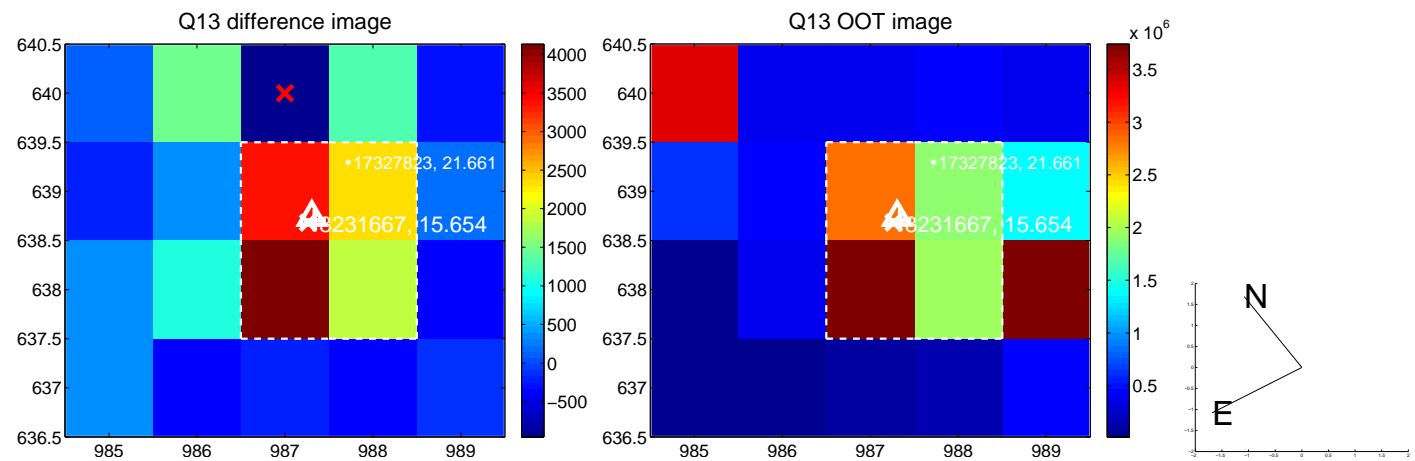
Q4 OOT image



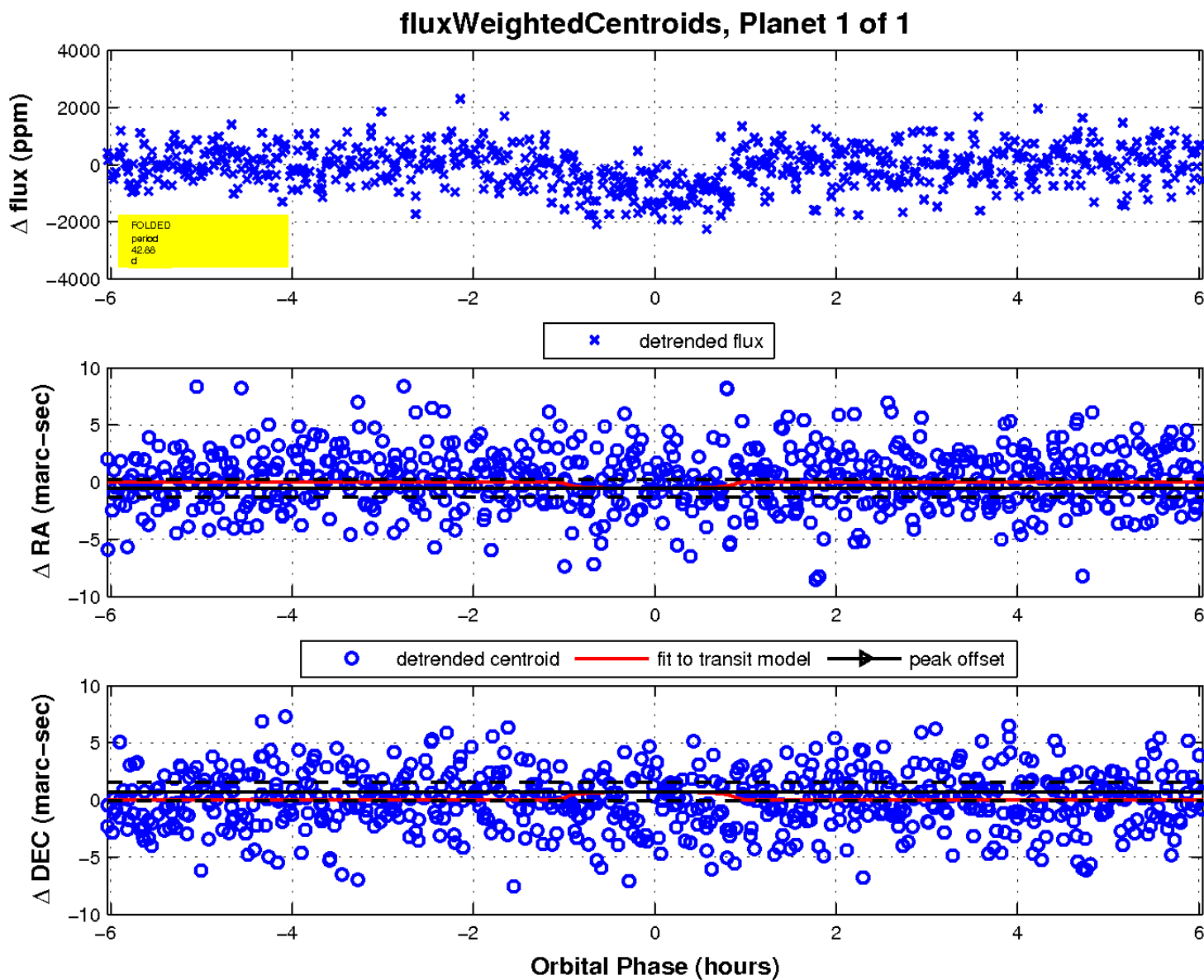
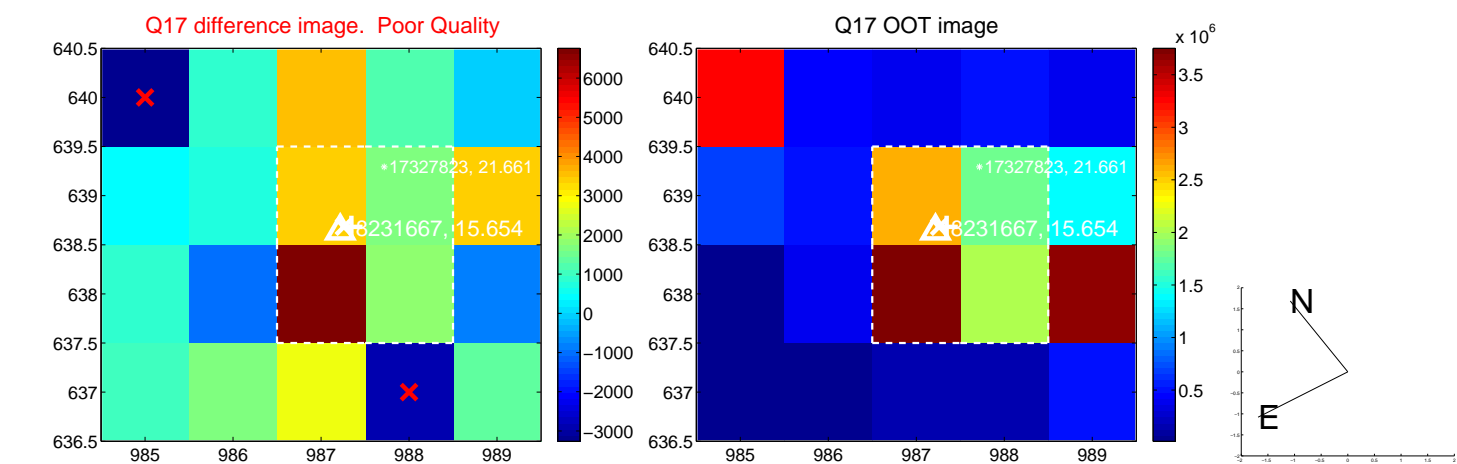
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

