

KIC 005859588

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})
005859588-01	OBS	No	280.336145	201.267134	915.9	13.492	7.2	8.2	0.96	5817	3.77	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005859588-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

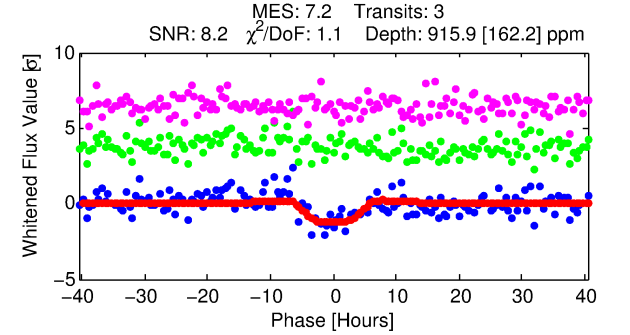
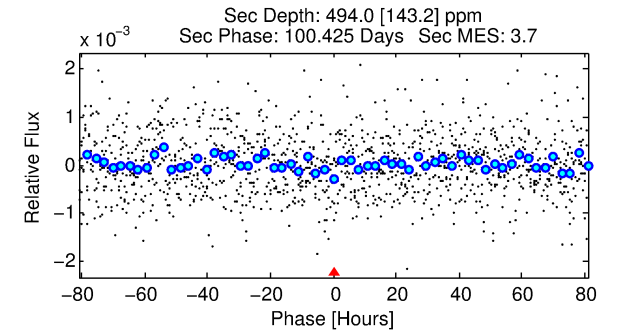
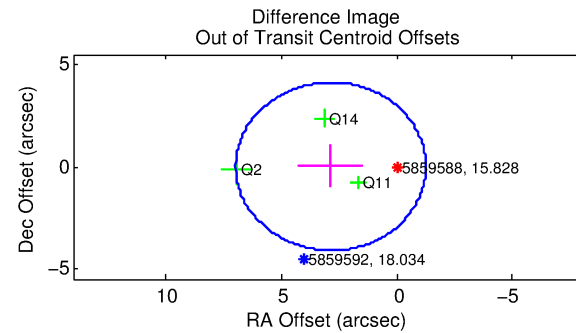
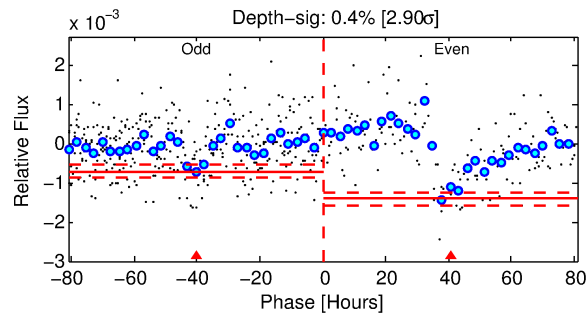
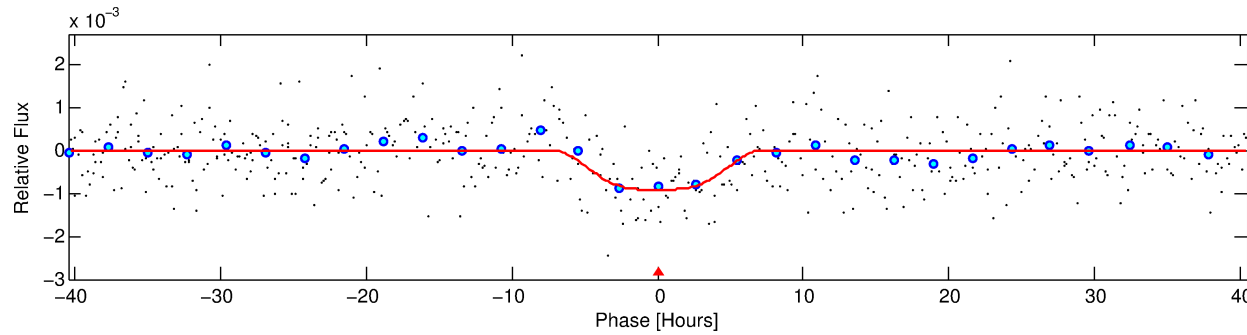
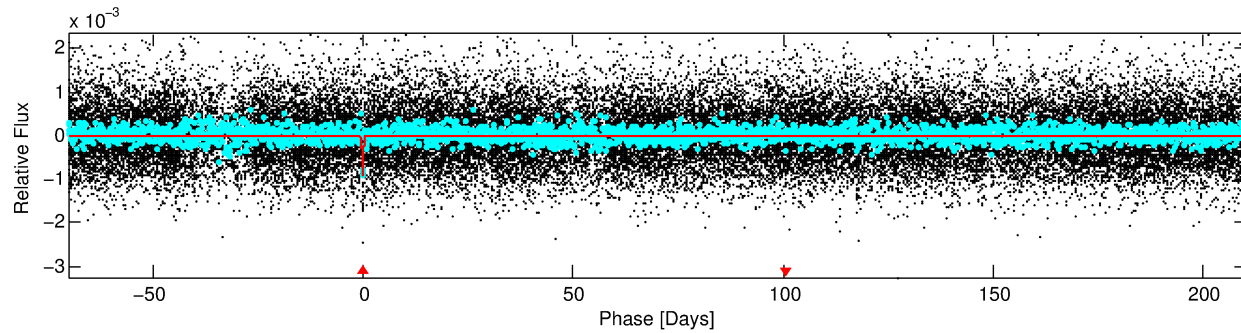
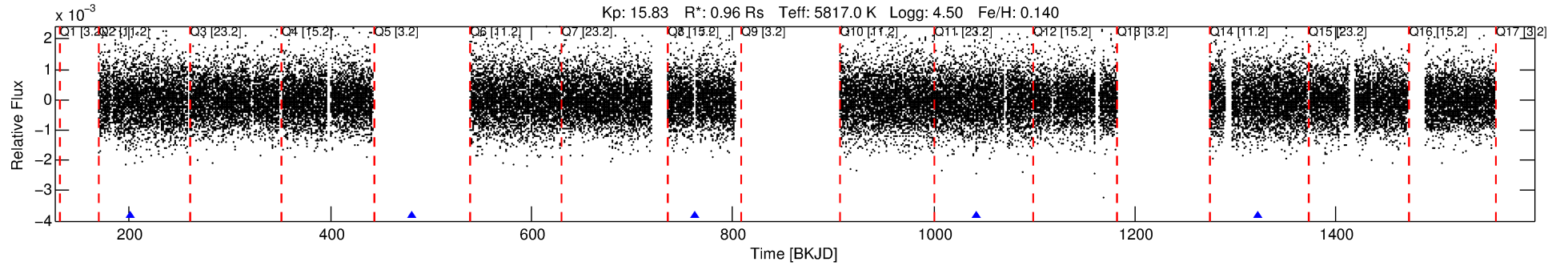
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005859588-01

No Significant Match Found

DV One-Page Summary

KIC: 5859588 Candidate: 1 of 1 Period: 280.336 d



DV Fit Results:

Period = 280.33614 [0.01215] d
Epoch = 201.2671 [0.0331] BKJD
Rp/R* = 0.0359 [0.0050]
a/R* = 62.98 [18.50]
b = 0.96 [0.03]
Seff = 1.30 [0.53]
Teq = 272 [28] K
Rp = 3.77 [1.25] Re
a = 0.8543 [0.2209] AU
Ag = 13942.59 [7745.45] [1.80 σ]
Teffp = 4575 [487] K [8.83 σ]

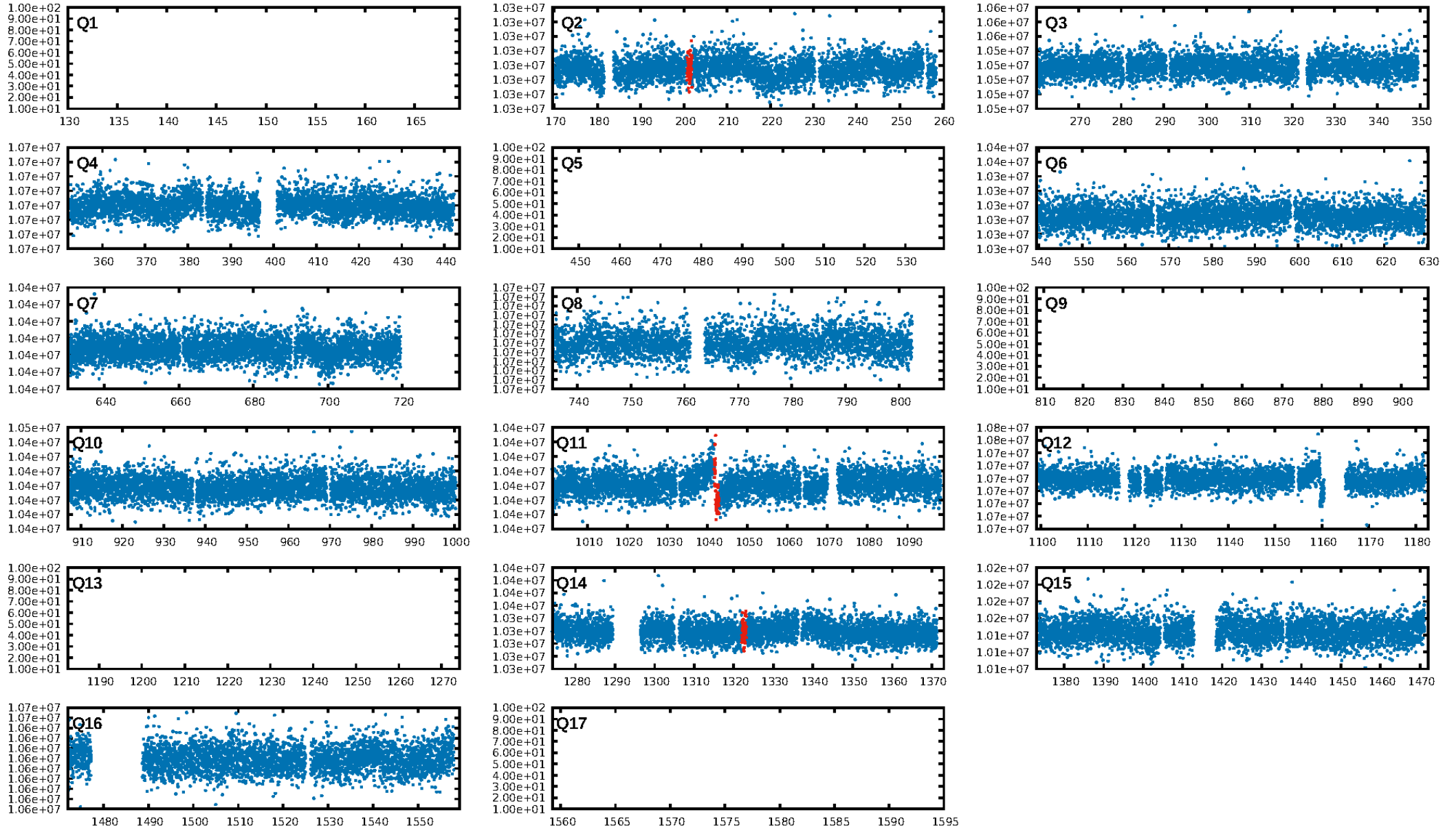
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 97.9%
Bootstrap-pfa: 4.32e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 12.02
Centroid-sig: 6.9%
Centroid-so: 3.066 arcsec [1.94 σ]
OotOffset-rm: 2.858 arcsec [2.09 σ]
KicOffset-rm: 3.041 arcsec [2.35 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

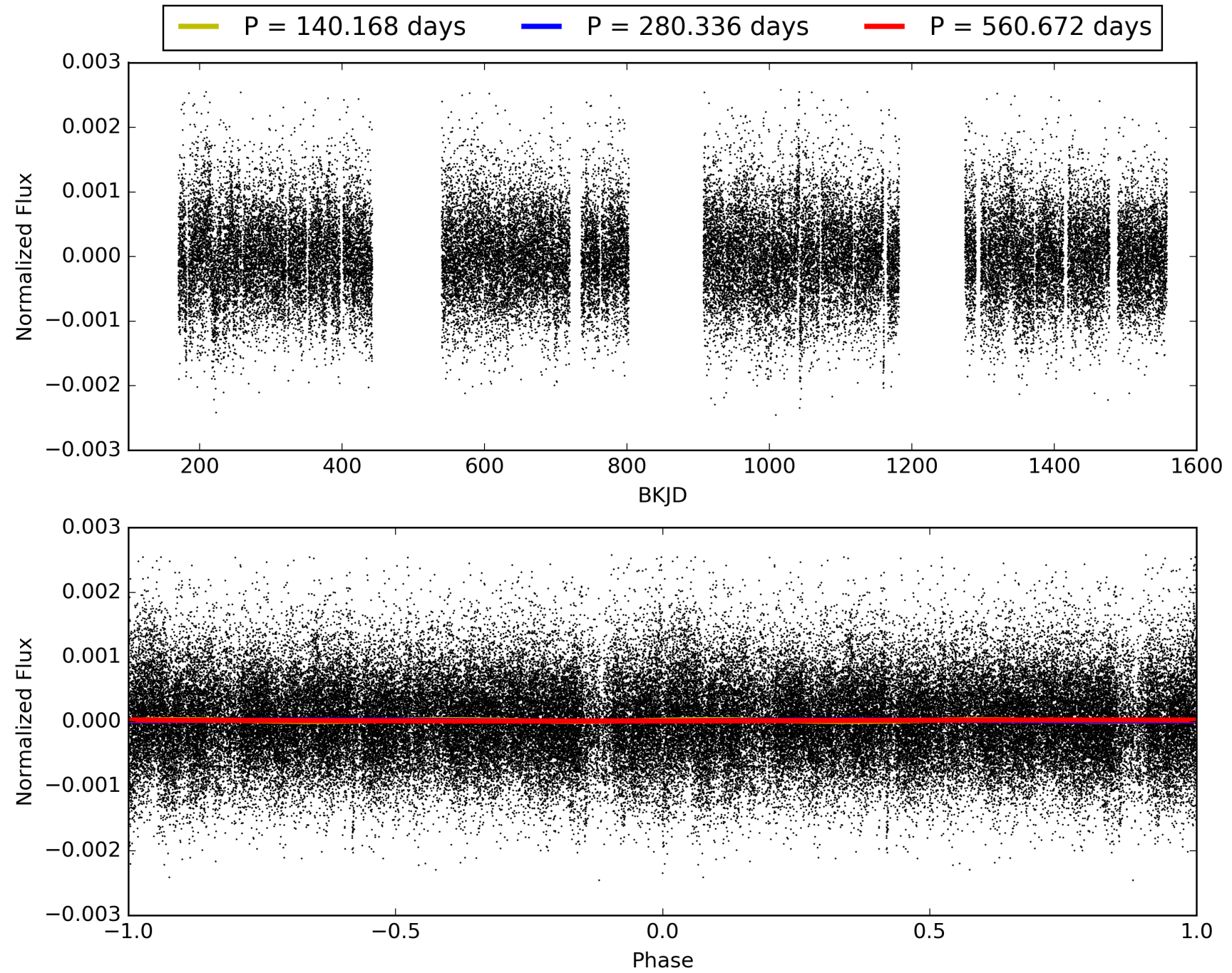
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:08:09 Z

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

TCE 005859588-01, PDC Light Curves

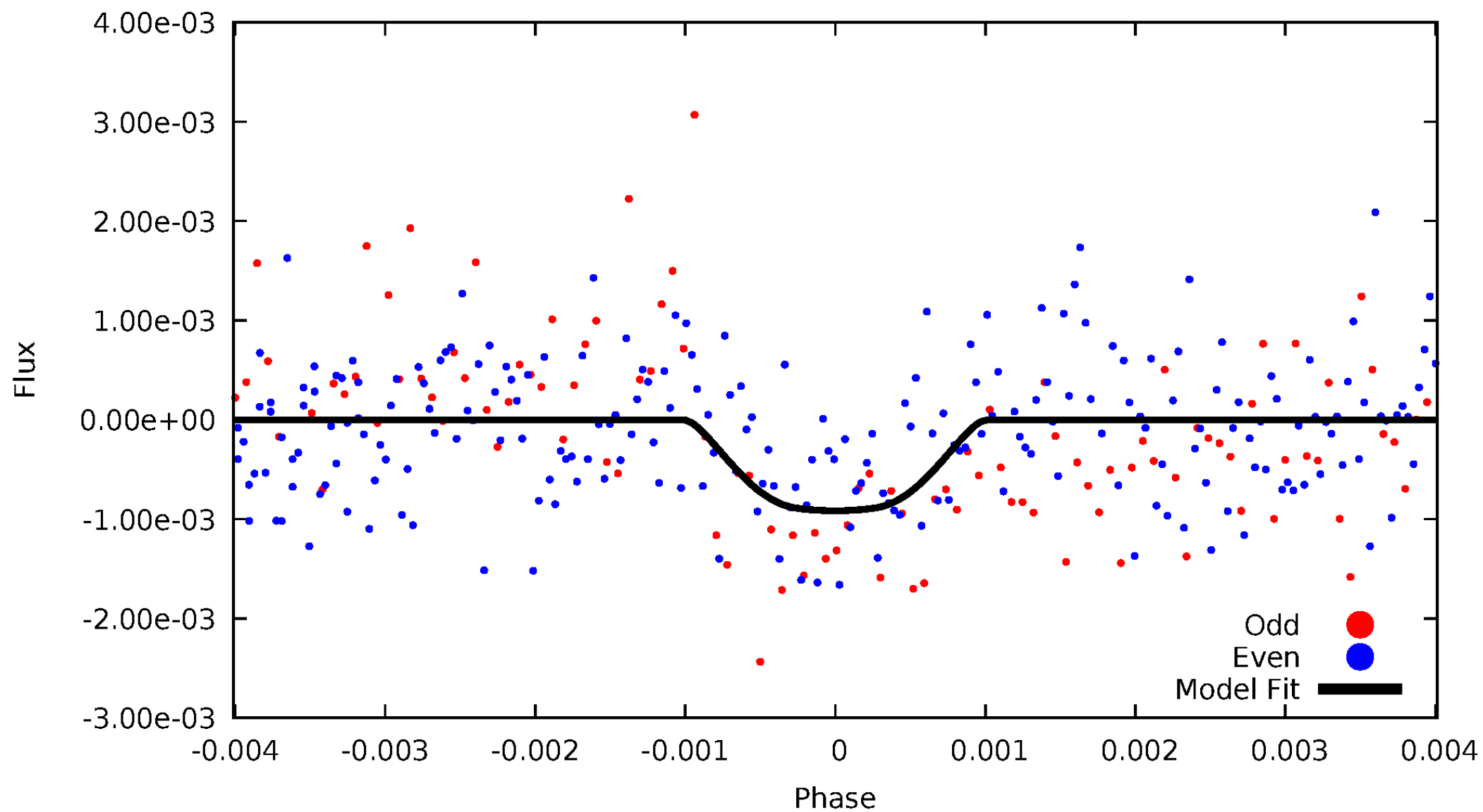


TCE 005859588-01



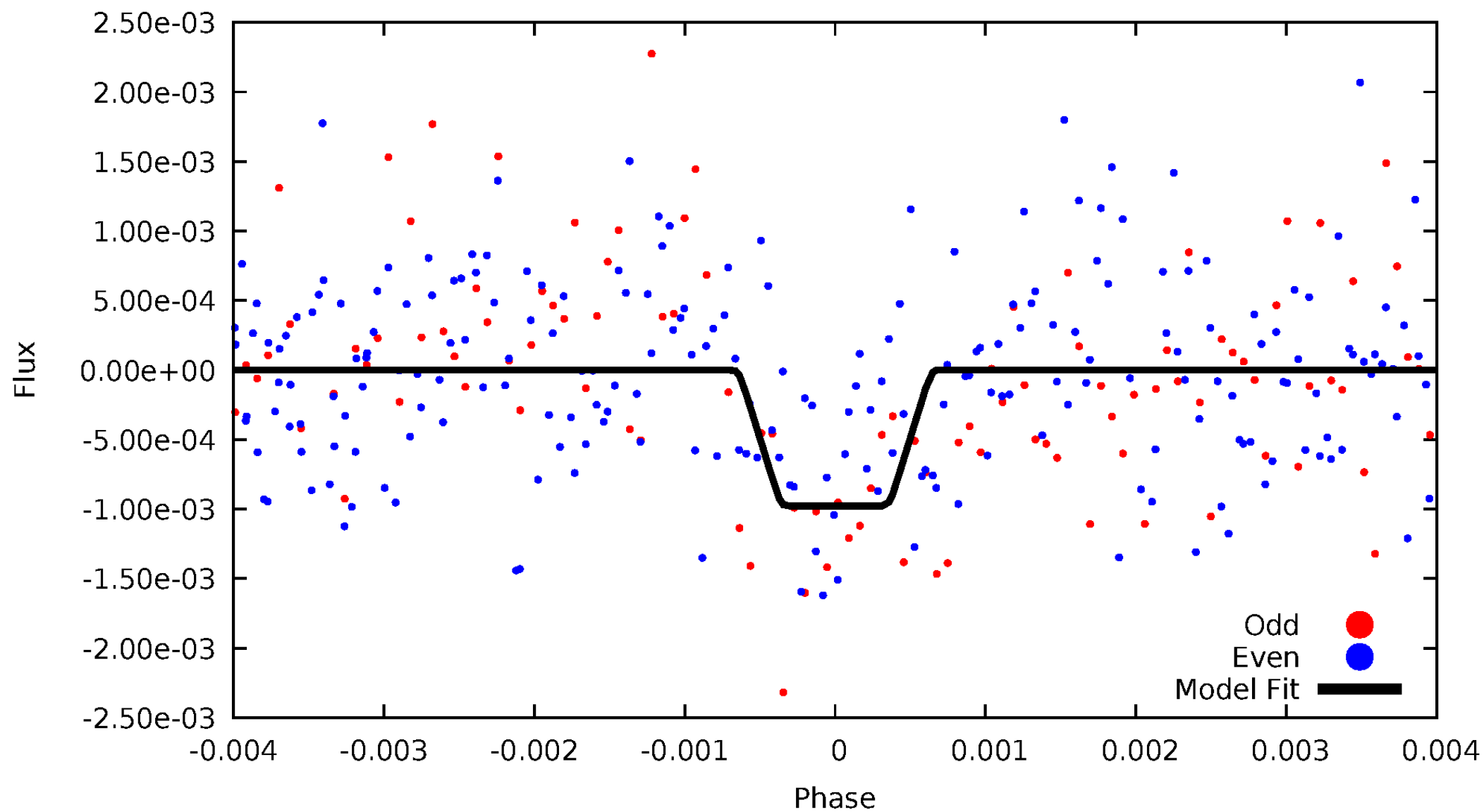
DV Odd/Even

TCE 005859588-01



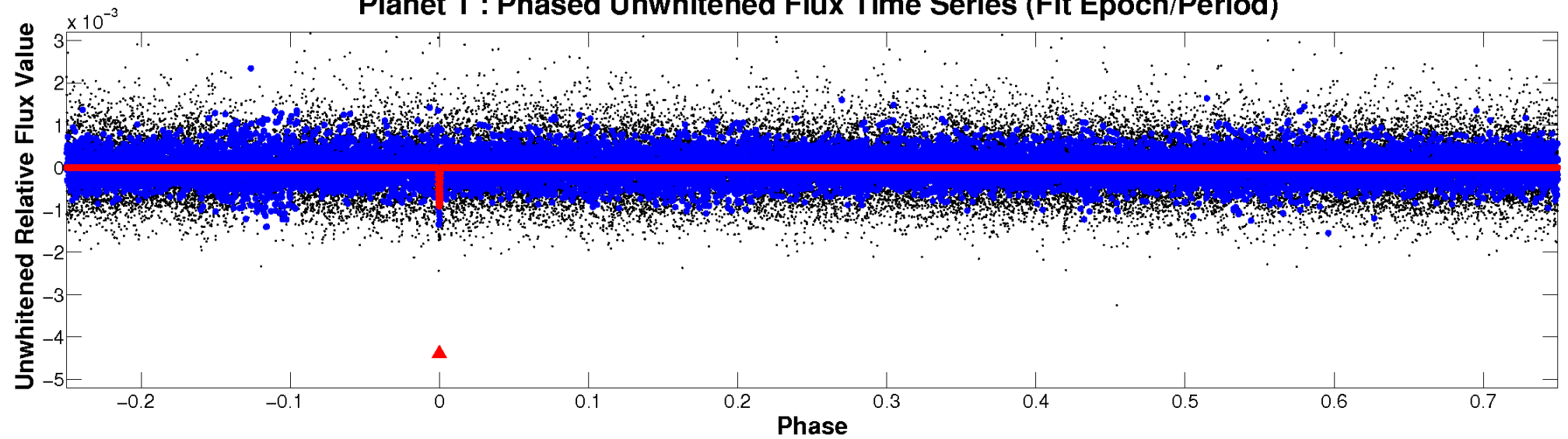
ALT Odd/Even

TCE 005859588-01

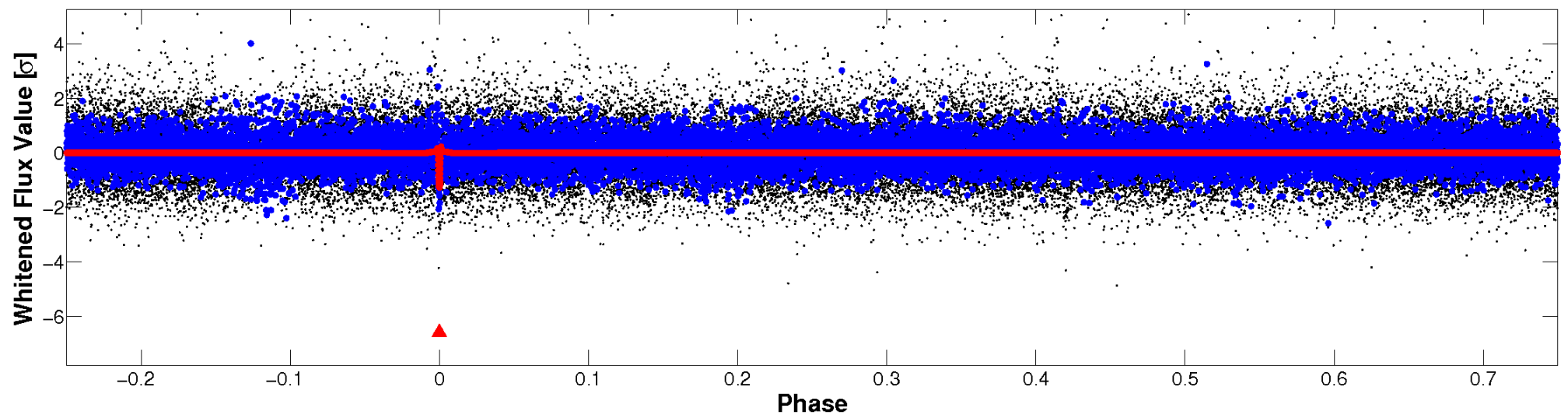


Non-Whitened Vs. Whitened Light Curve

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

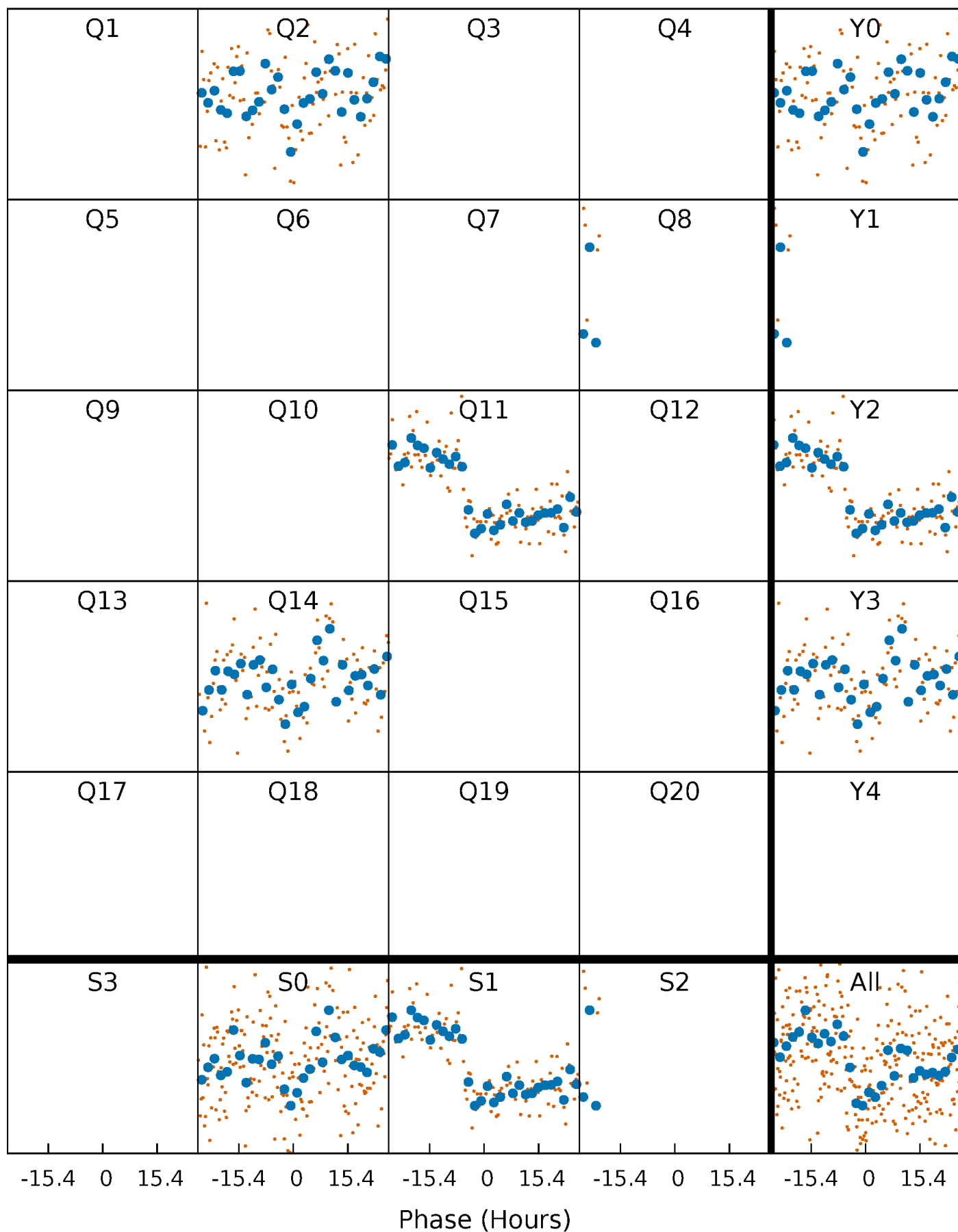


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



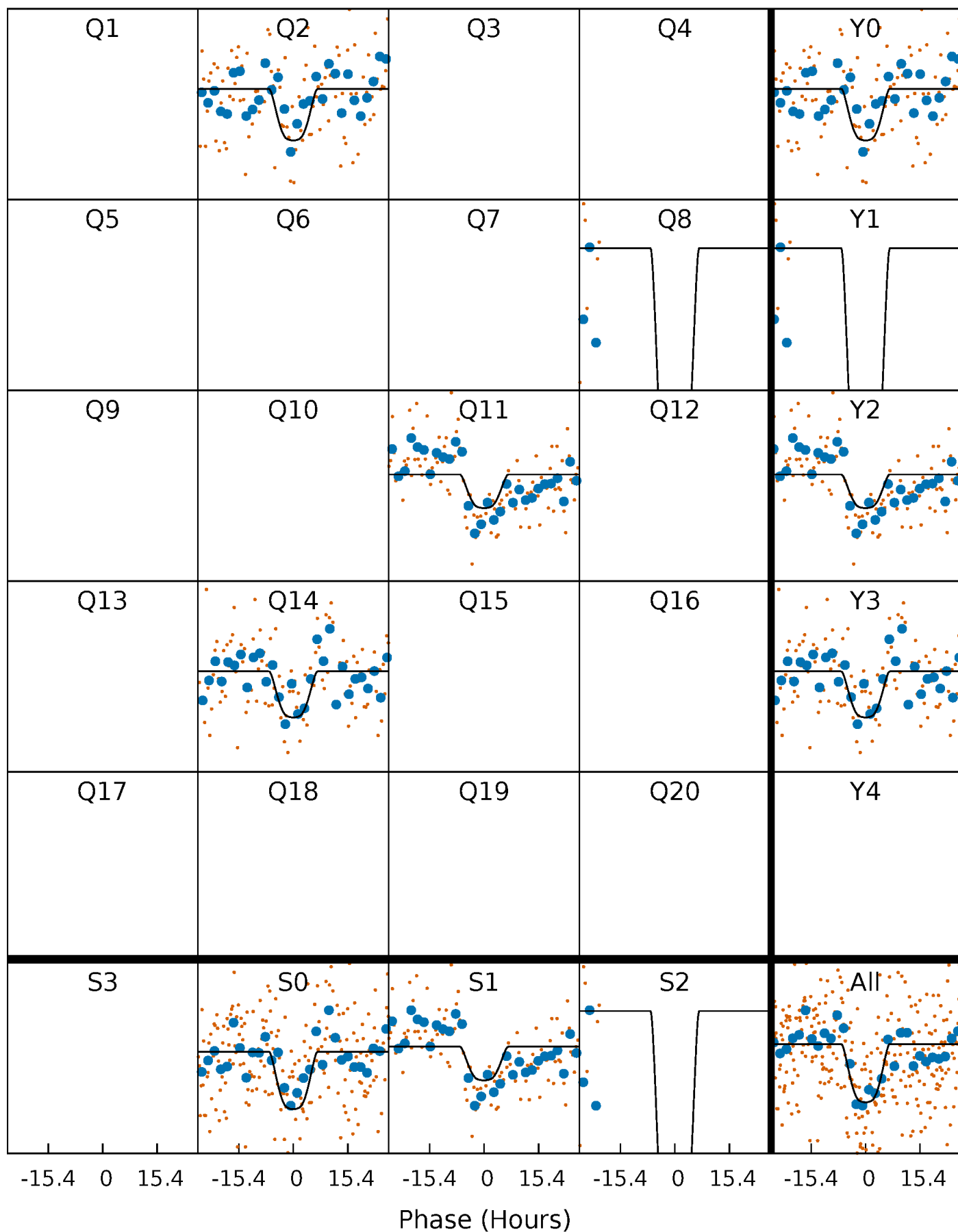
PDC Quarter-Phased Transit Curves

TCE 005859588-01 P=280.336145 Days $T_0=201.267134$ (BKJD)



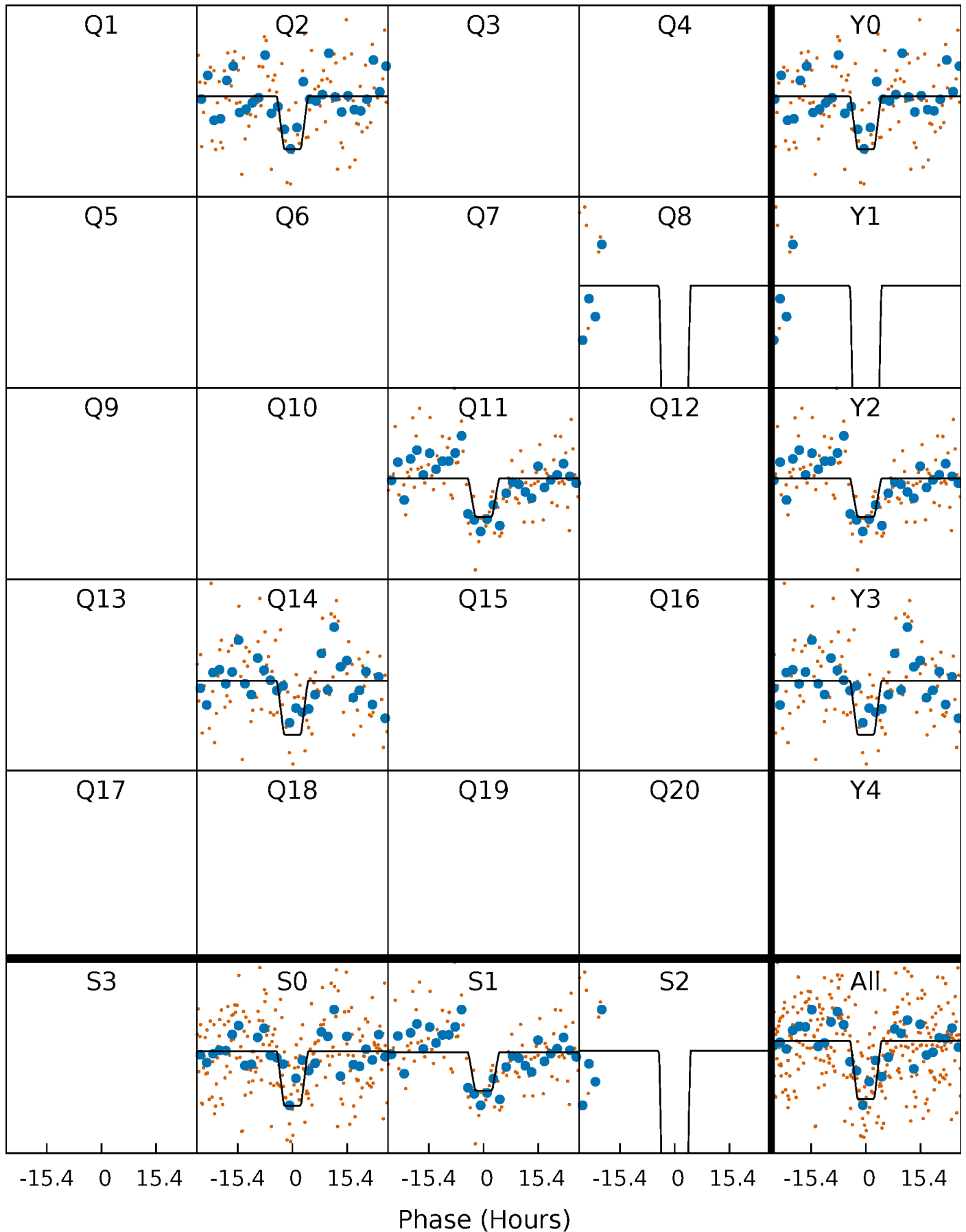
DV Quarter-Phased Transit Curves

TCE 005859588-01 P=280.336145 Days $T_0=201.267134$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

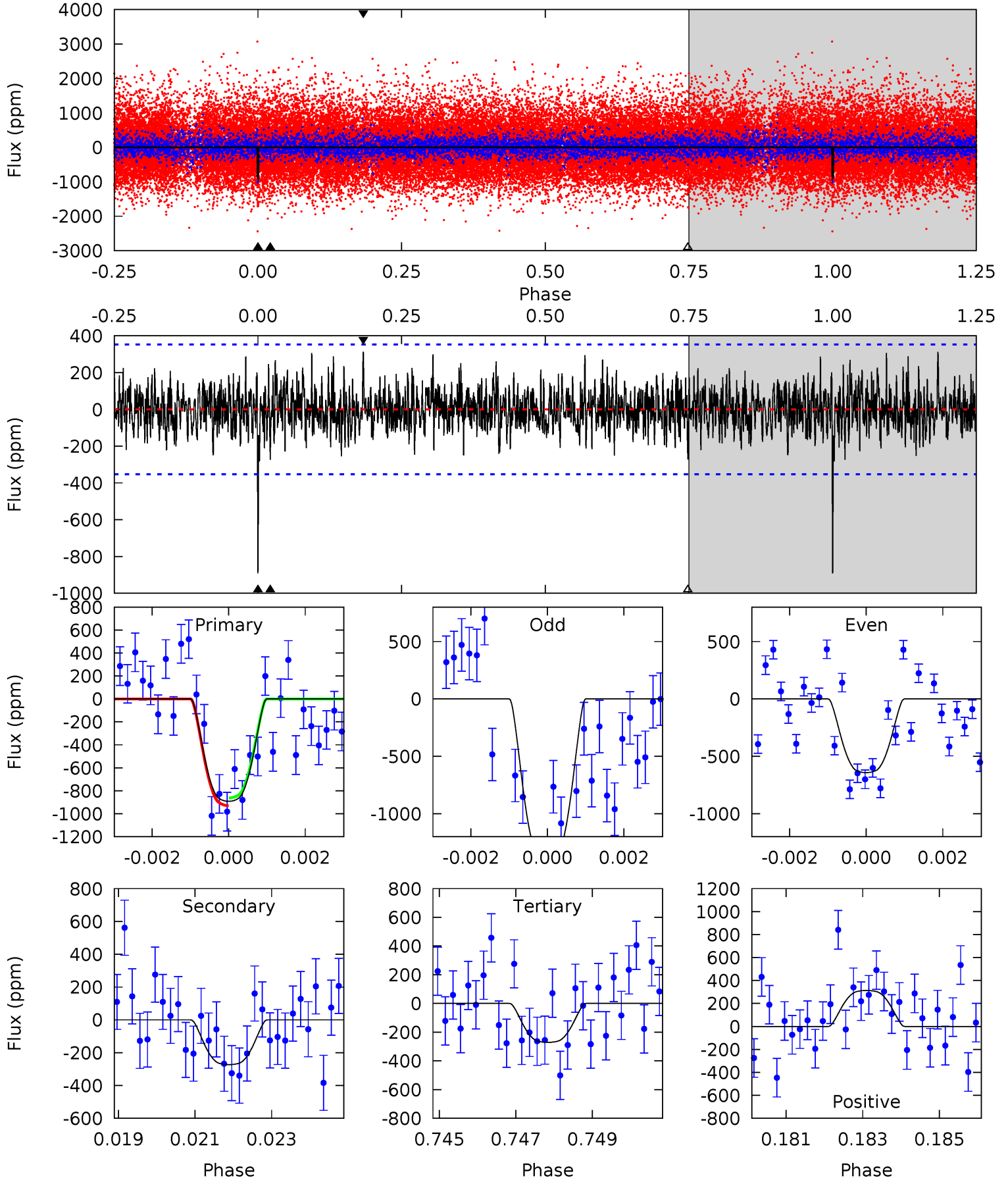
TCE 005859588-01 P=280.311500 Days $T_0=201.297137$ (BKJD)



DV Model-Shift Uniqueness Test

005859588-01, P = 280.336145 Days, E = 201.267134 Days

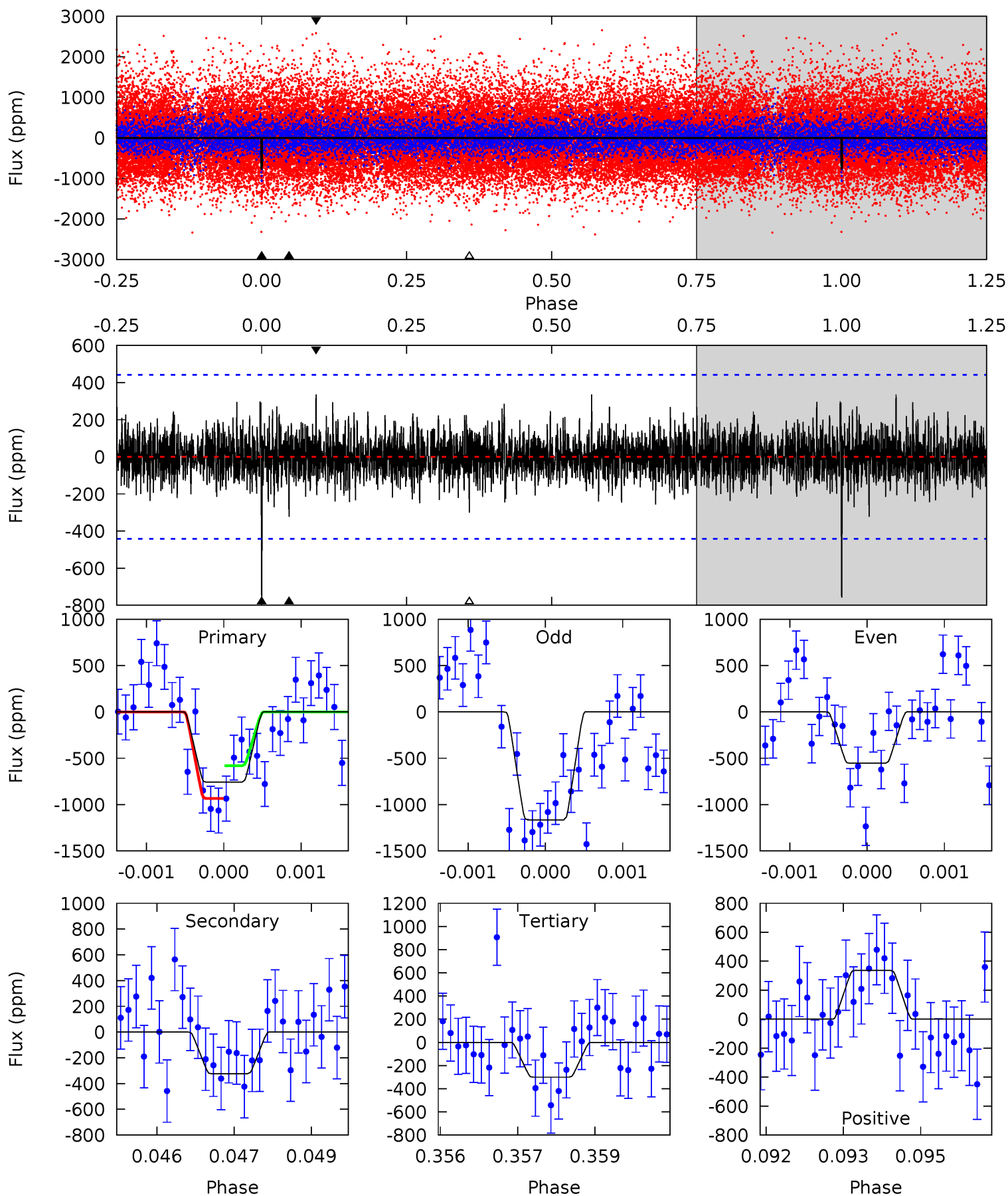
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	4.12	4.09	4.72	5.32	3.08	1.34	9.37	8.74	0.03	-0.60	5.35	1.25	0.26	0.51



Alt Model-Shift Uniqueness Test

005859588-01, P = 280.311500 Days, E = 201.297137 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.27	3.96	3.67	4.12	5.40	3.21	1.05	5.60	5.16	0.29	-0.16	3.53	1.30	0.31	2.16



Stellar Parameters For KIC 005859588

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5817^{+162}_{-203}	$4.496^{+0.037}_{-0.213}$	$0.140^{+0.200}_{-0.300}$	$0.962^{+0.289}_{-0.096}$	$1.057^{+0.112}_{-0.137}$	$1.672^{+0.350}_{-0.845}$
	+3%/-3%	+1%/-5%	+143%/-214%	+30%/-10%	+11%/-13%	+21%/-51%
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 005859588-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-273 ± 66	$3.95^{+0.85}_{-0.66}$	391^{+27}_{-19}	4184^{+363}_{-269}	6715^{+3852}_{-2437}
Alt.	-323 ± 82	$3.41^{+0.85}_{-0.60}$	390^{+31}_{-20}	4541^{+501}_{-367}	10657^{+6362}_{-4564}

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

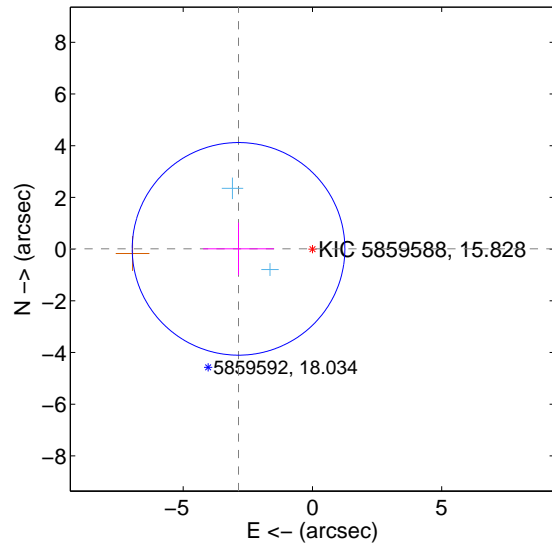
Supplemental centroid analysis for 005859588-01. Kepler magnitude: 15.83. Transit SNR 8.22

There are 2 quarters with good PRF difference image offsets

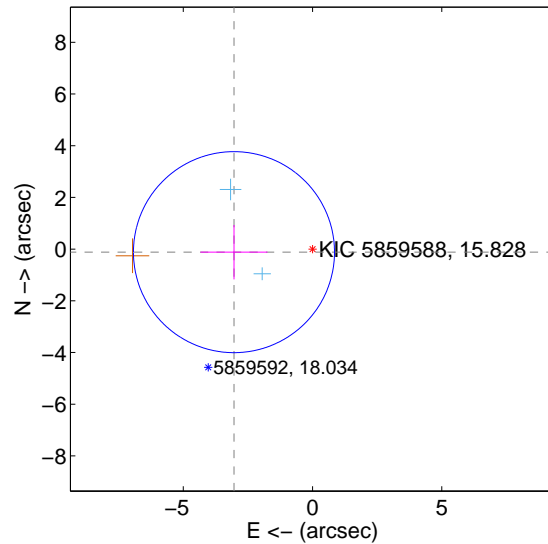
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.858 ± 1.371	2.09	2.858 ± 1.371	0.009 ± 1.015
PRF-fit source offset from KIC position	3.041 ± 1.296	2.35	3.038 ± 1.296	-0.118 ± 1.052
photometric centroid source offset	3.07 ± 1.58	1.94	3.05 ± 1.58	0.33 ± 1.73

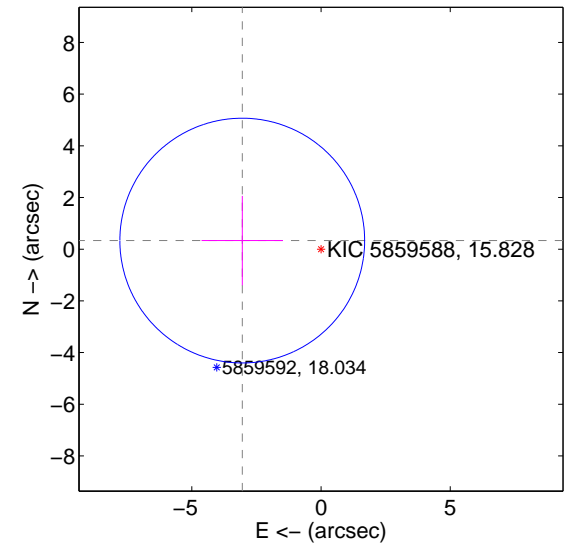
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

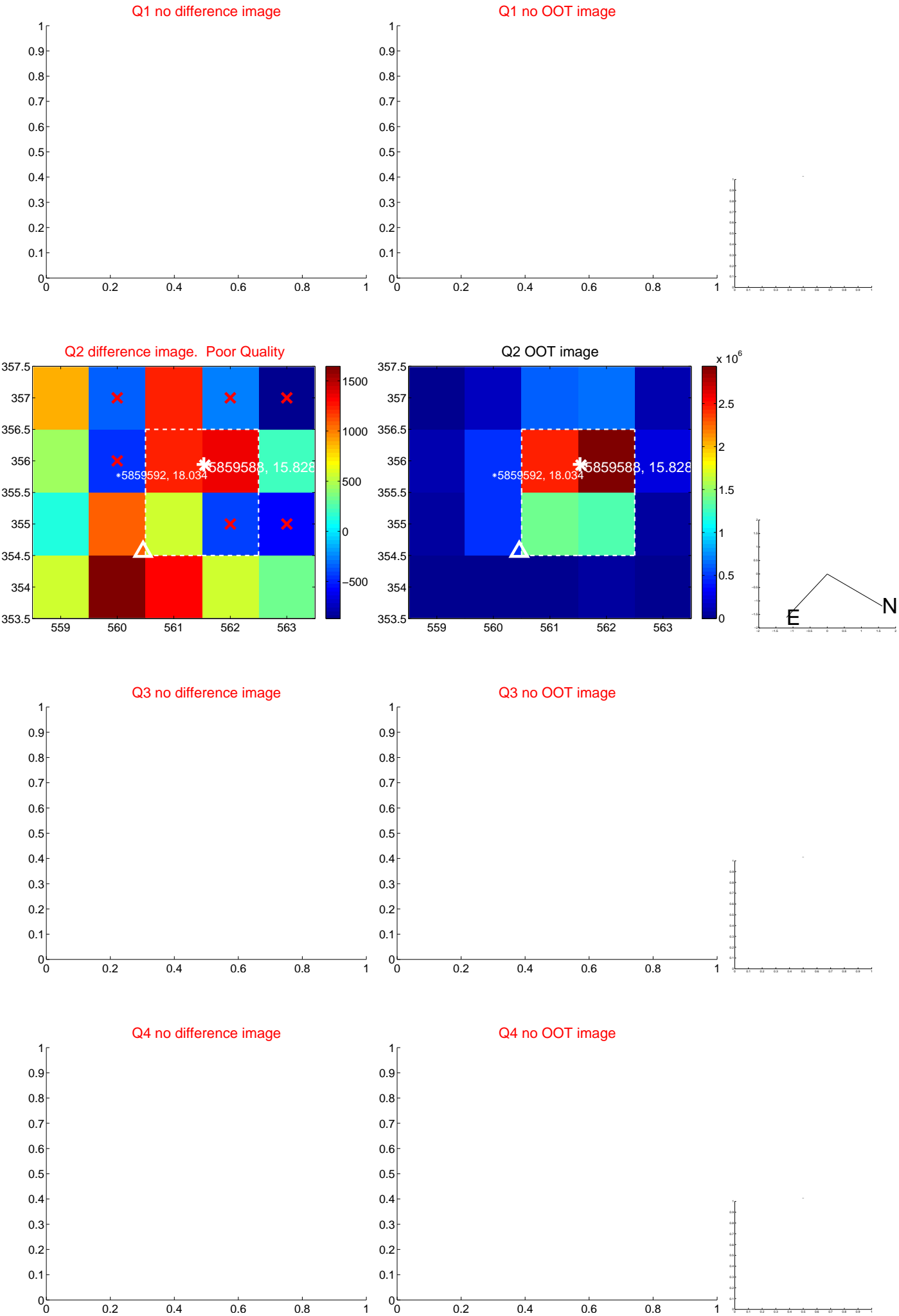


offset from photometric centroids



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.

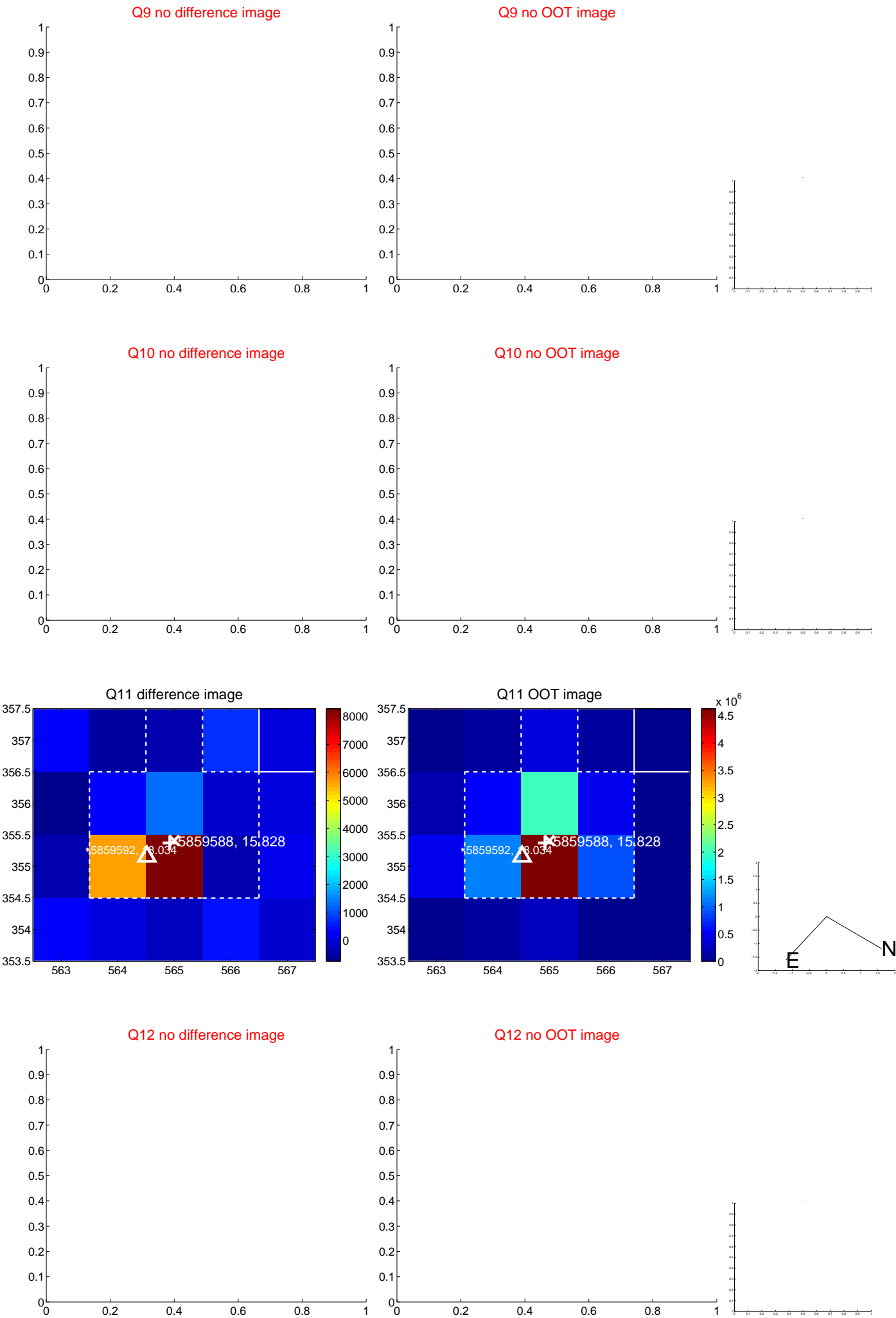
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



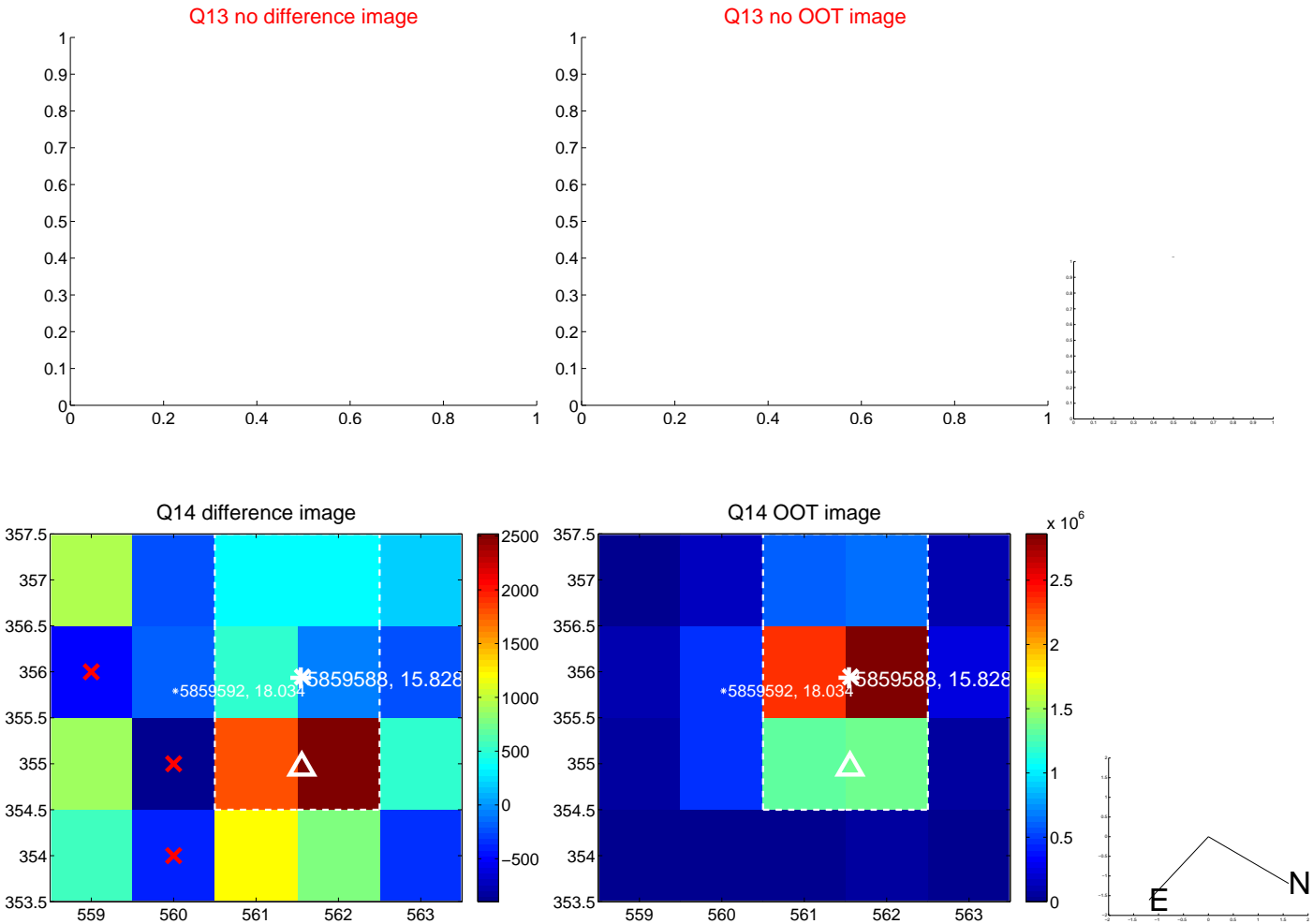
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



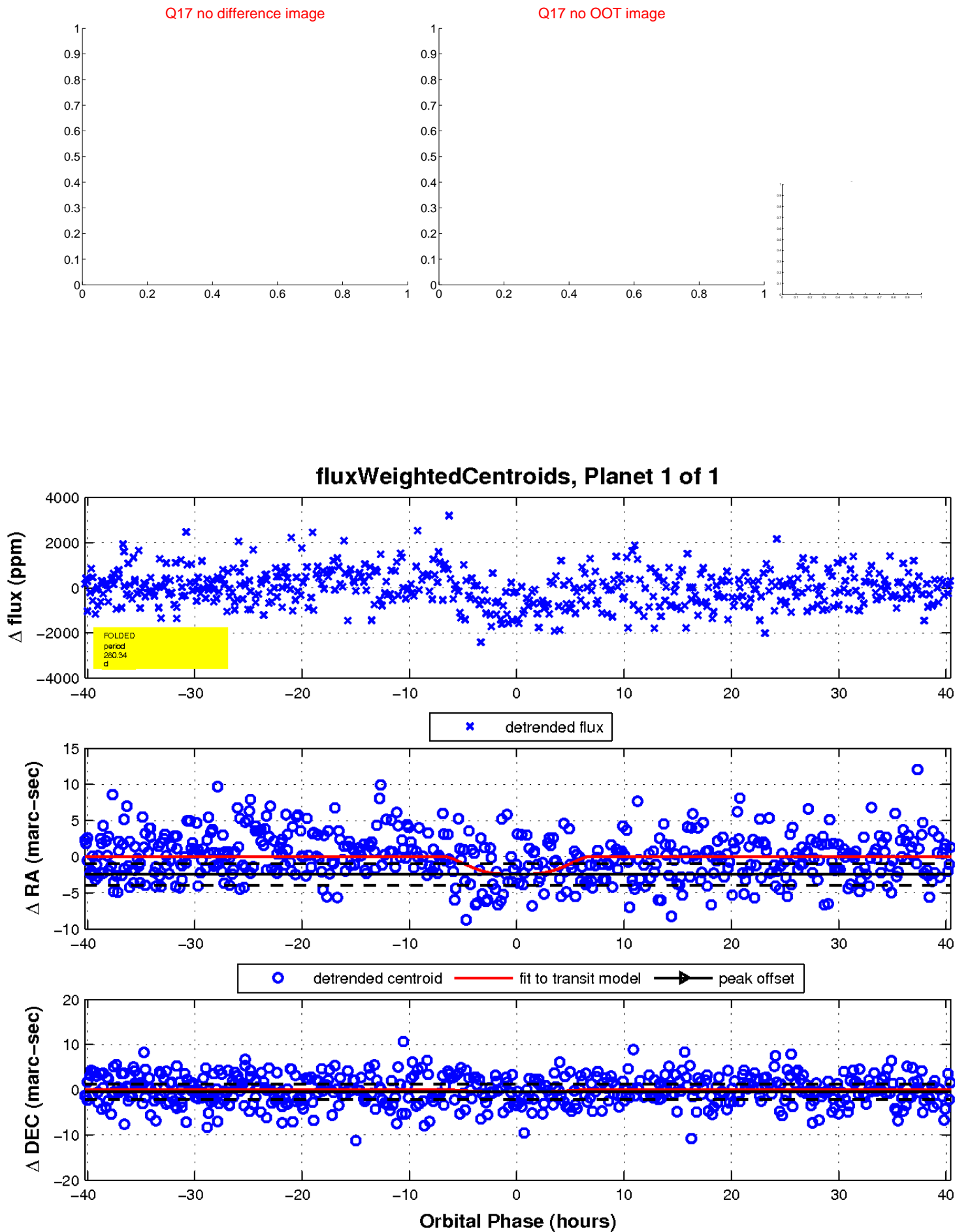
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

