

KIC 009963667

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})
009963667-01	OBS	No	0.560662	131.588732	25.5	3.287	10.8	12.8	2.35	8431	1.38	87426.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009963667-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

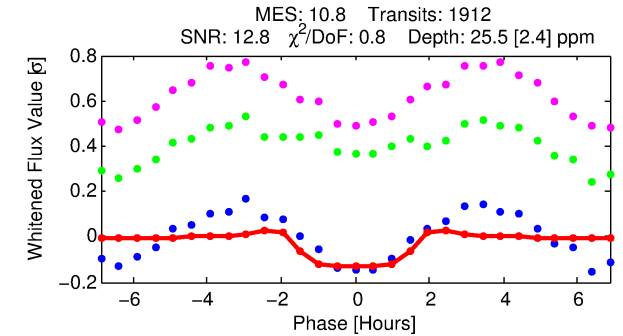
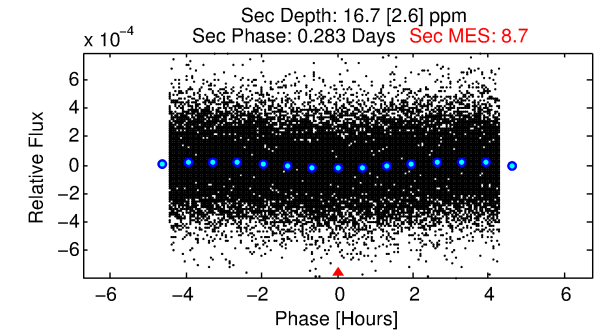
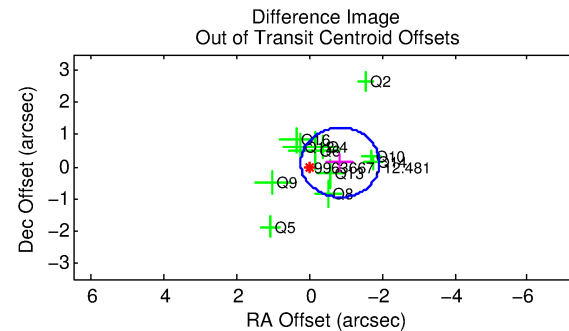
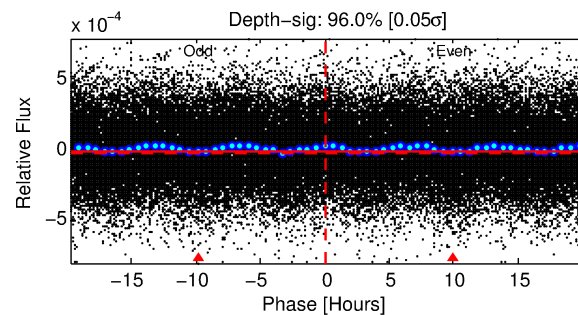
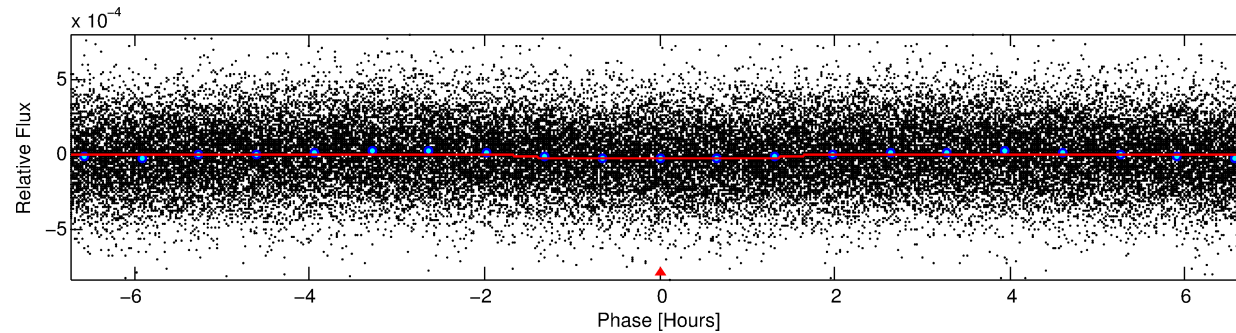
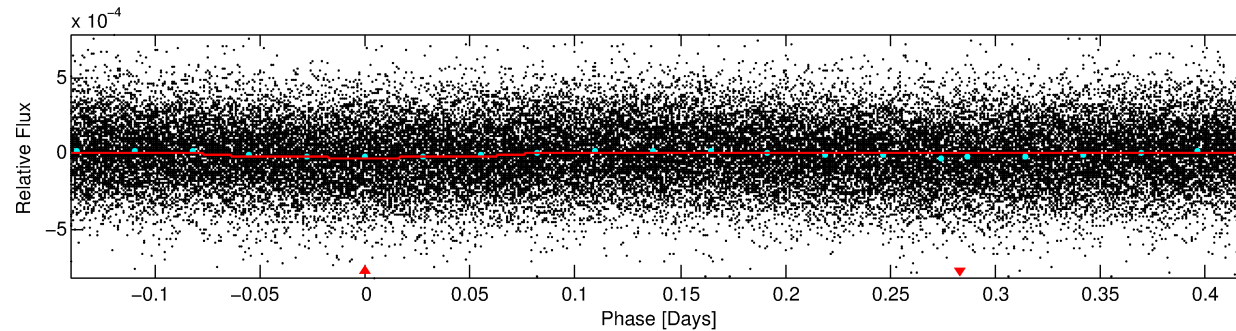
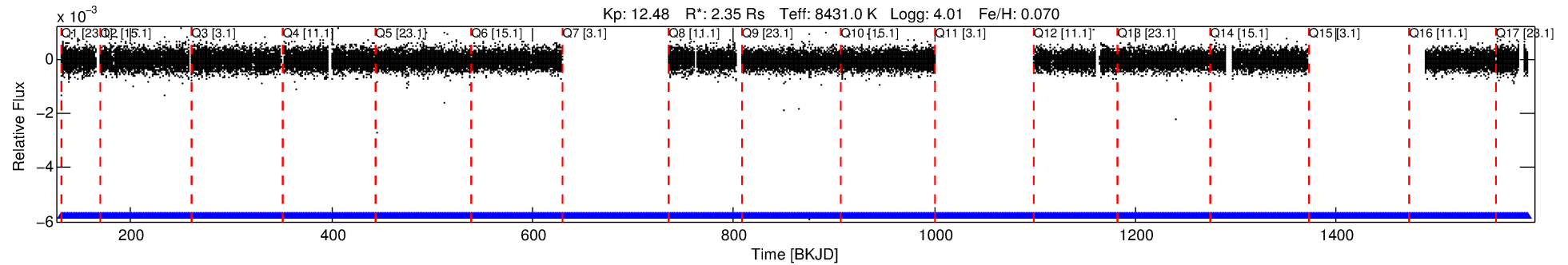
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009963667-01

No Significant Match Found

DV One-Page Summary

KIC: 9963667 Candidate: 1 of 1 Period: 0.561 d



DV Fit Results:

Period = 0.56066 [0.00001] d
Epoch = 131.5887 [0.0027] BKJD
Rp/R* = 0.0054 [0.0026]
a/R* = 1.11 [0.63]
b = 0.90 [0.66]
Seff = 87426.74 [35132.59]
Teq = 4385 [440] K
Rp = 1.38 [0.78] Re
a = 0.0169 [0.0042] AU
Ag = 1.38 [1.43] [0.27 σ]
Teffp = 7349 [1808] K [1.59 σ]

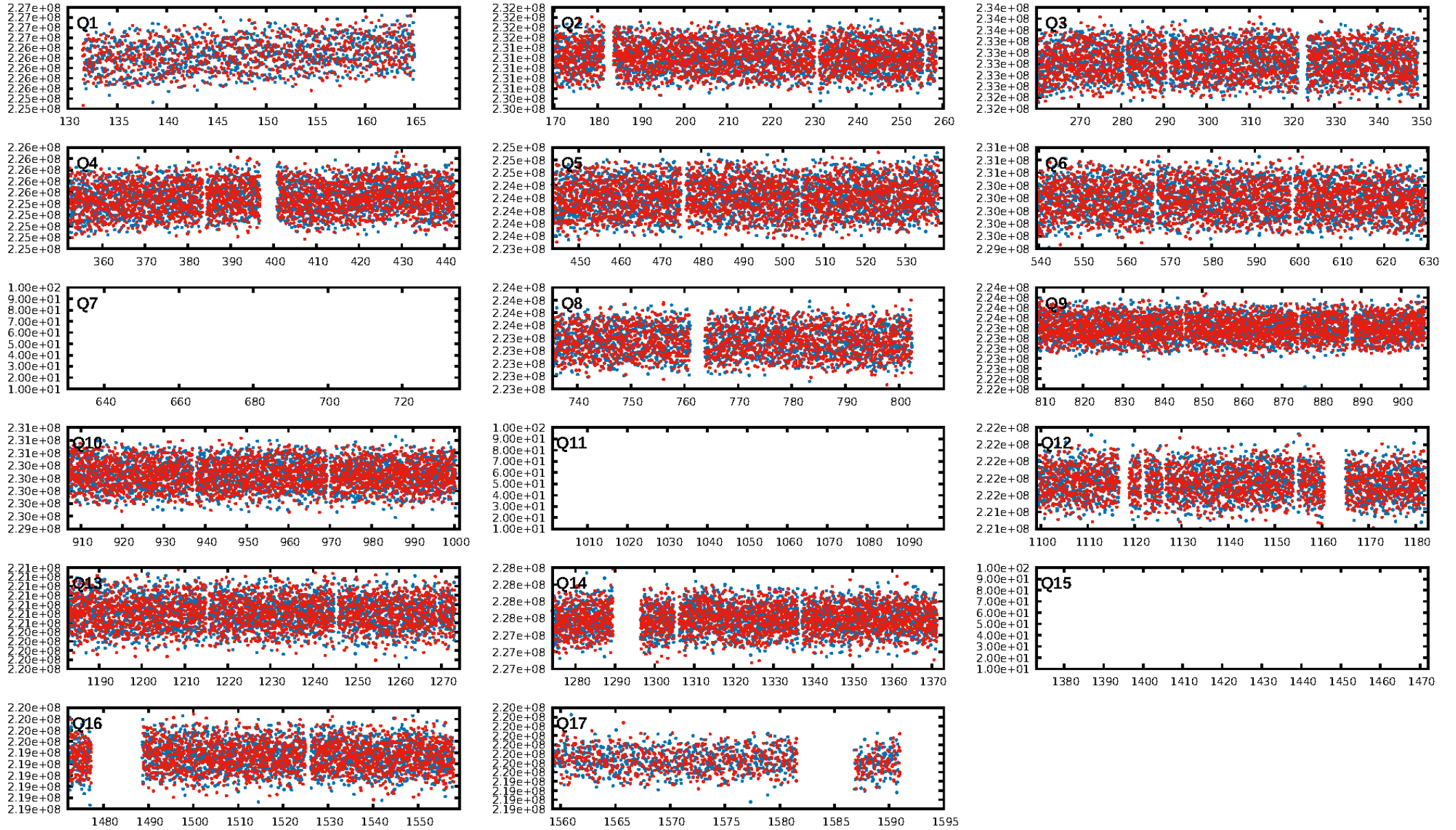
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.90e-12
RollingBand-fgt: 1.00 [1804/1804]
GhostDiagnostic-chr: 2.323
Centroid-sig: 89.3%
Centroid-so: 0.269 arcsec [0.60 σ]
OotOffset-rm: 0.853 arcsec [2.36 σ]
KicOffset-rm: 0.913 arcsec [2.52 σ]
OotOffset-st: 4/0/4/3 [11]
KicOffset-st: 4/0/4/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [14/14]

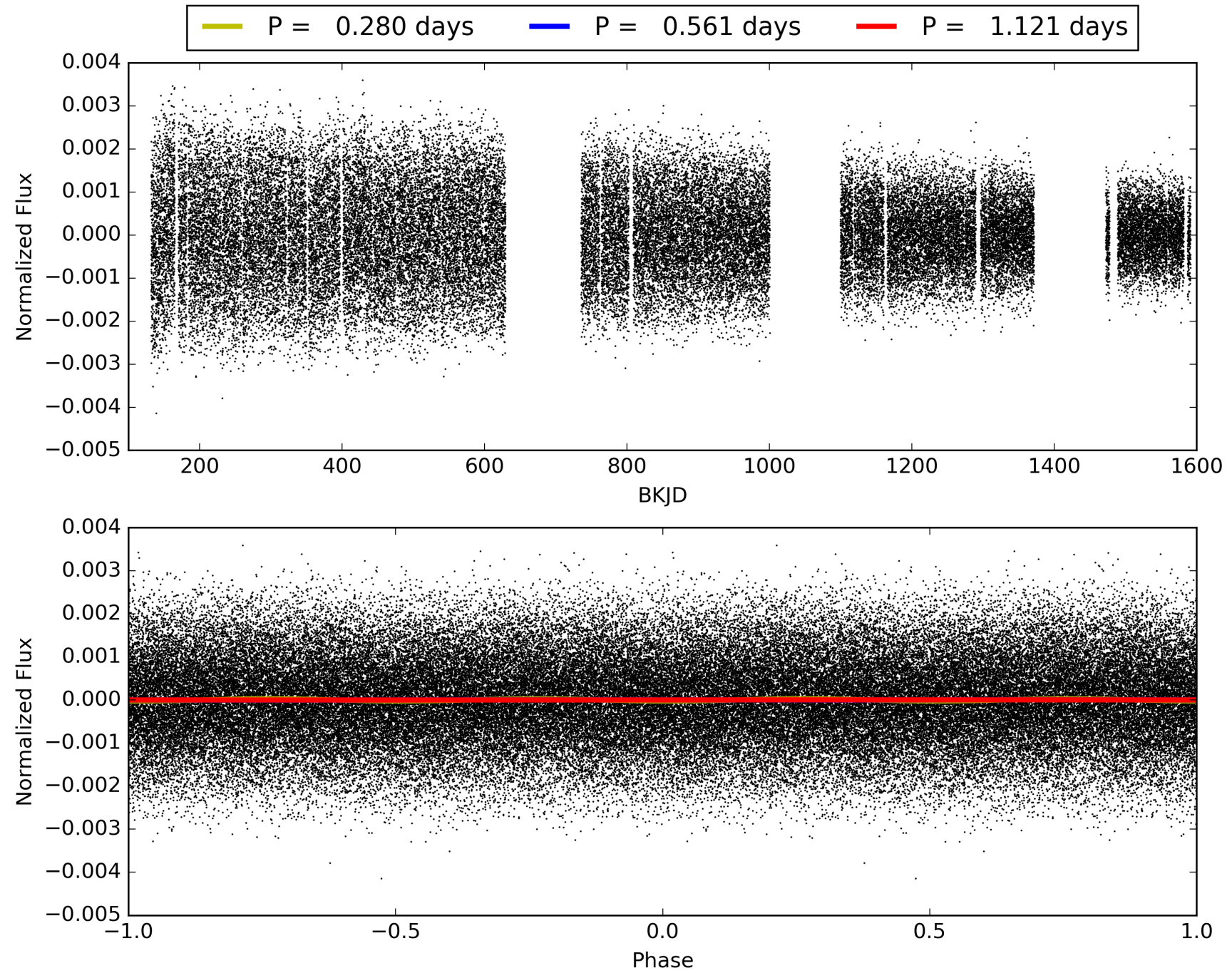
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:31:16 Z

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

TCE 009963667-01, PDC Light Curves

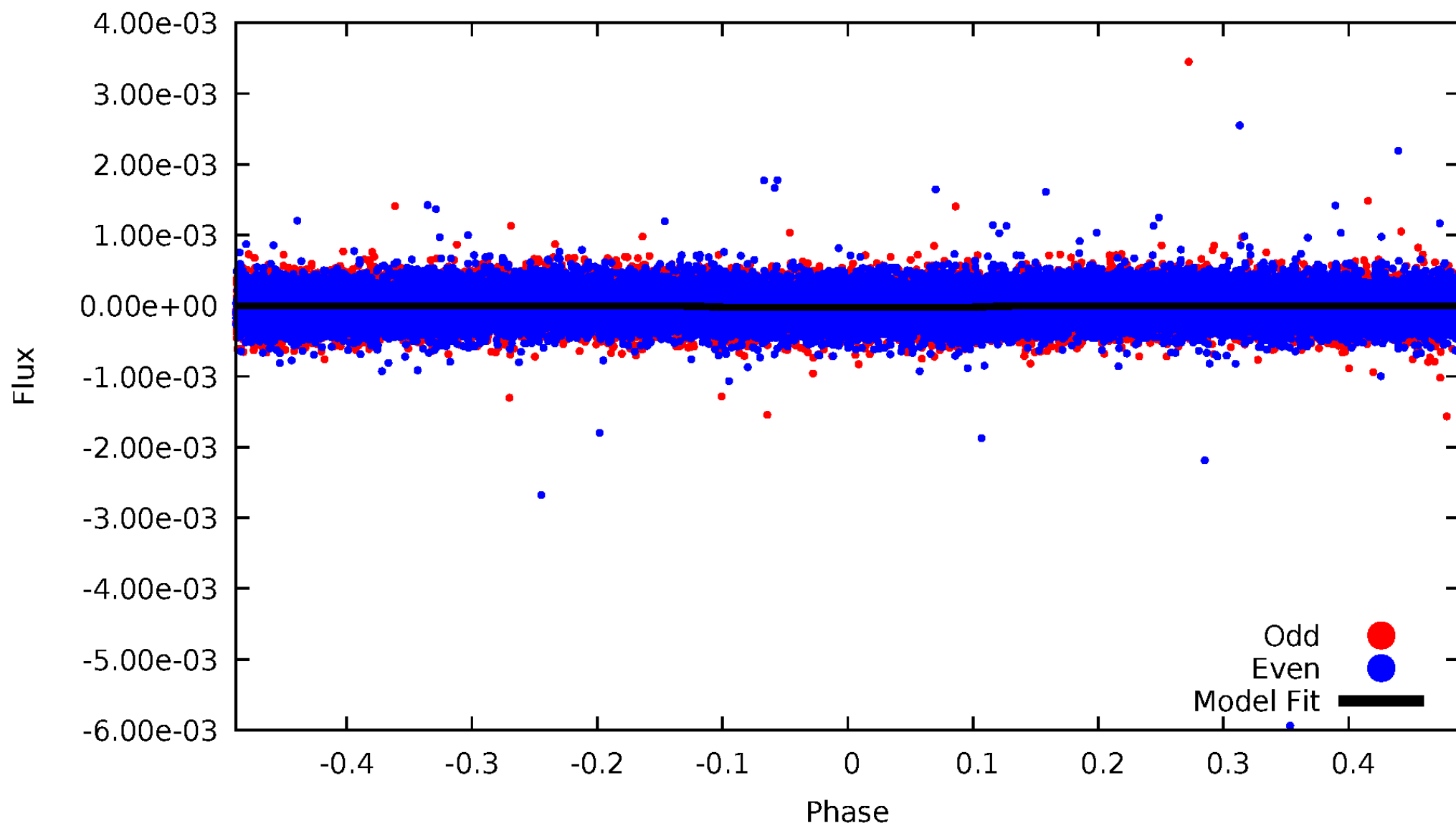


TCE 009963667-01



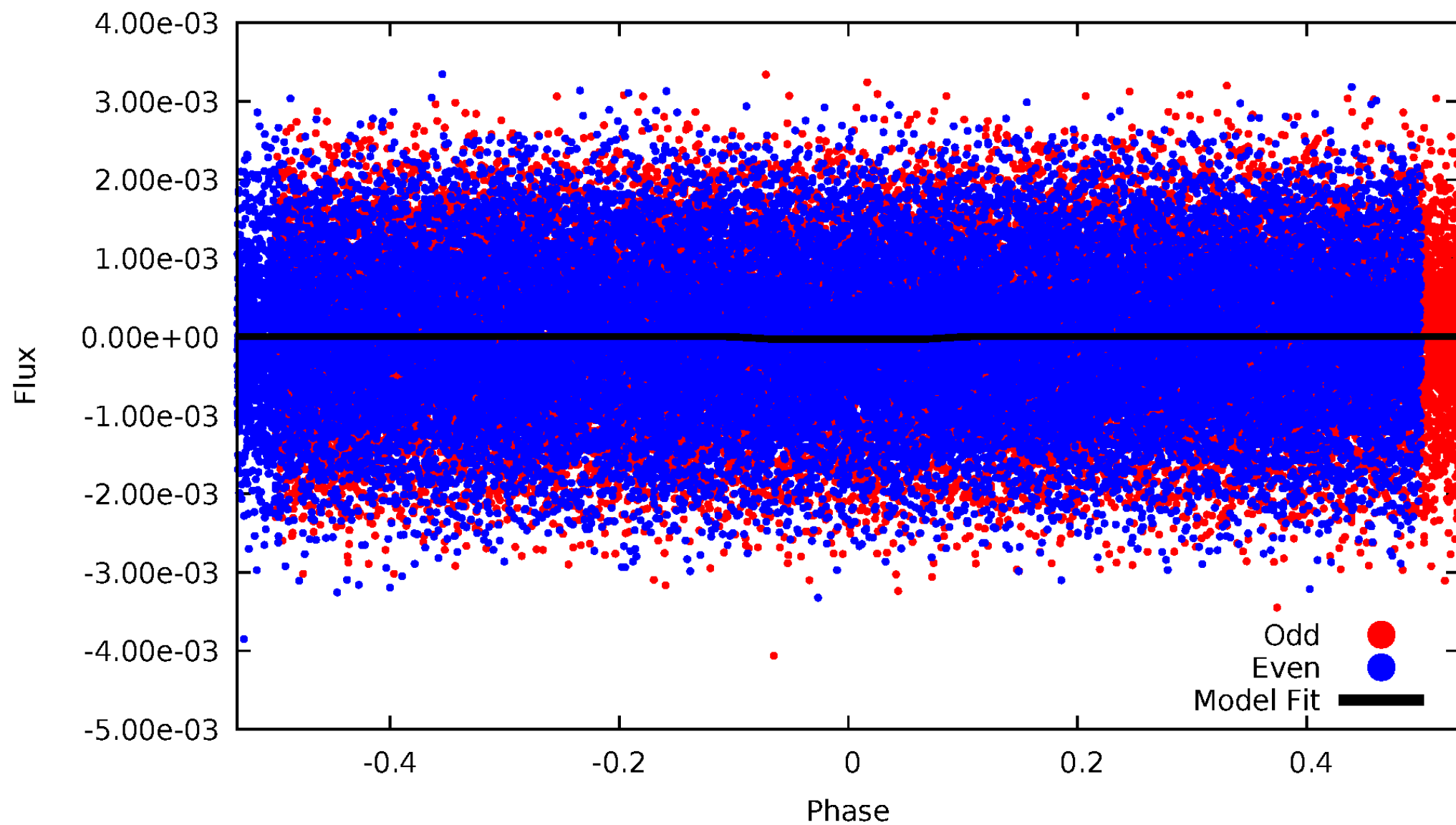
DV Odd/Even

TCE 009963667-01

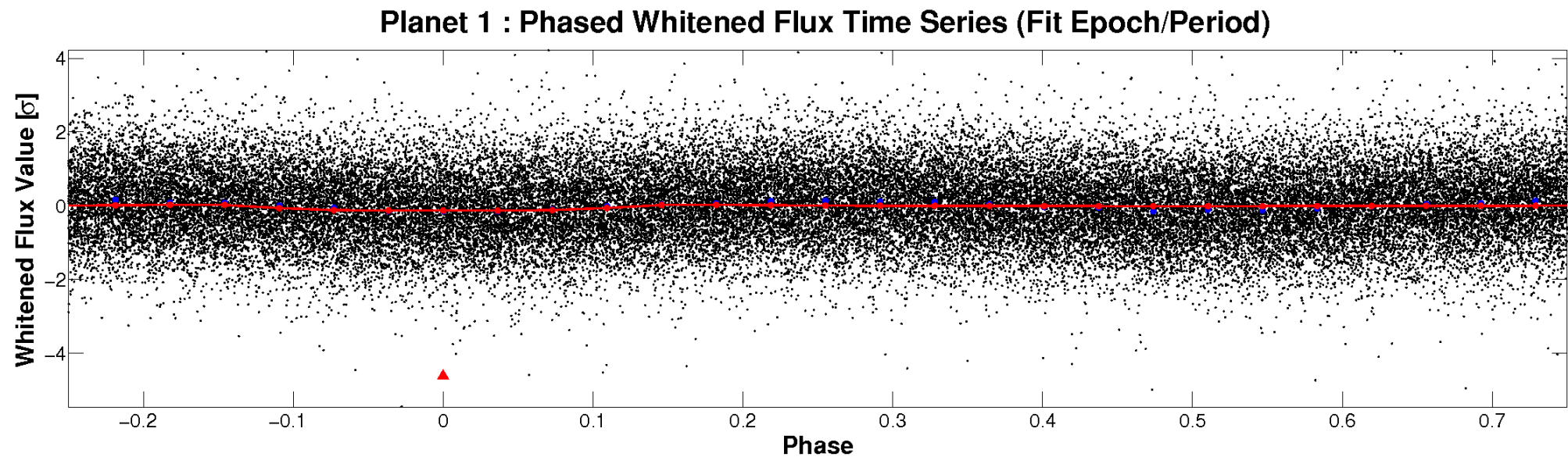
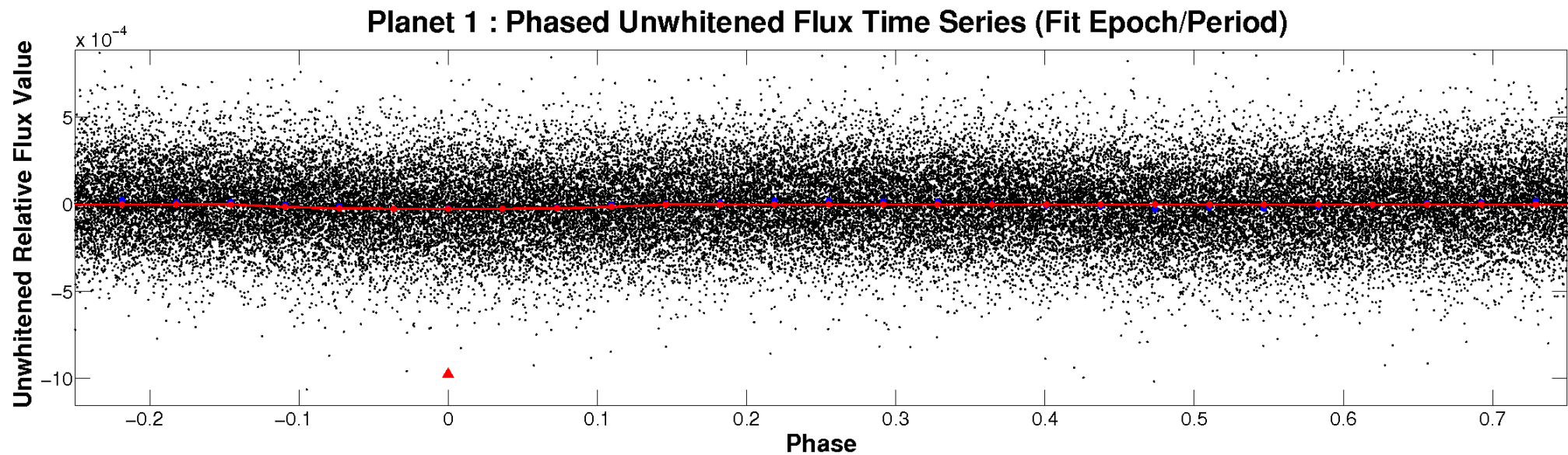


ALT Odd/Even

TCE 009963667-01

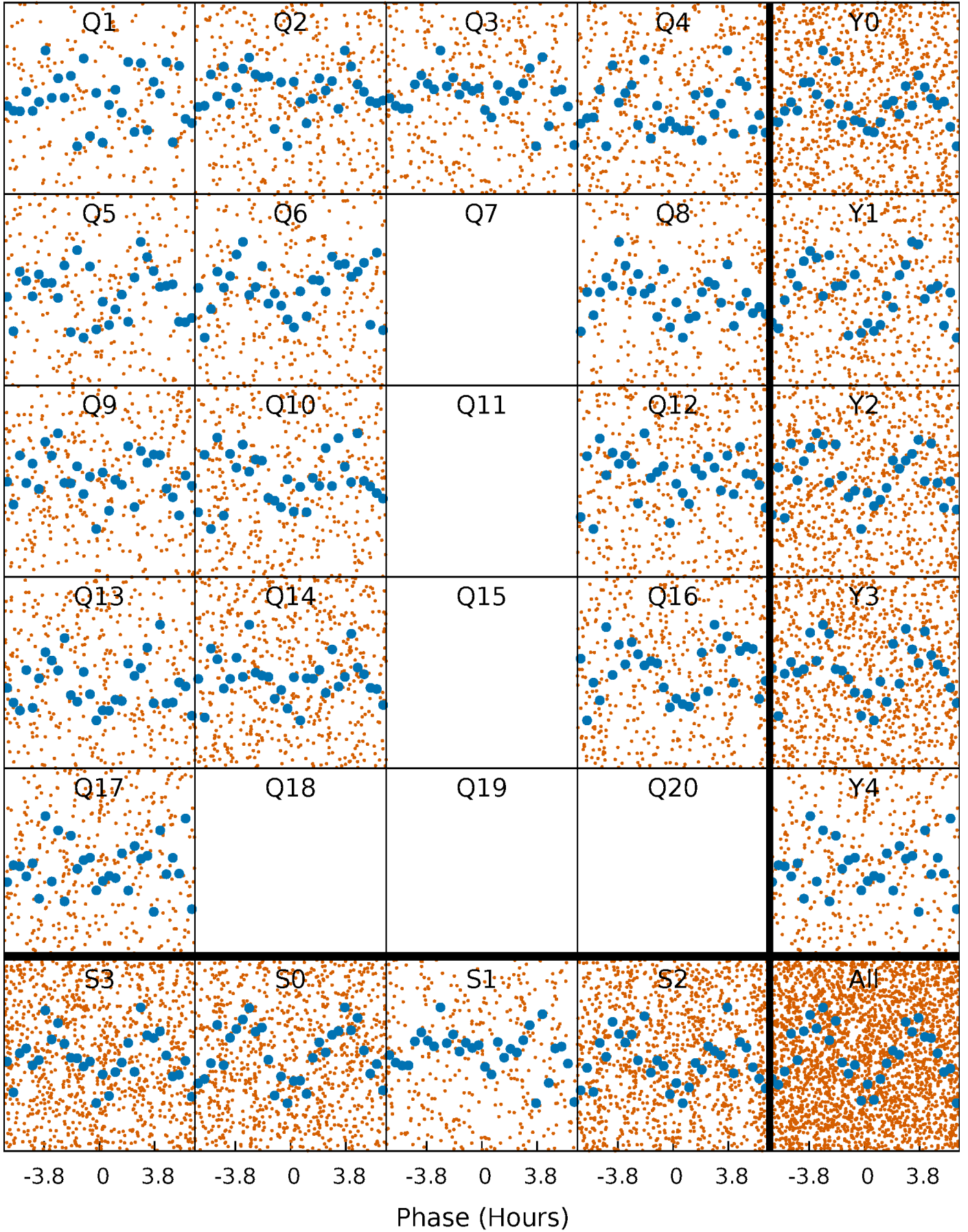


Non-Whitened Vs. Whitened Light Curve



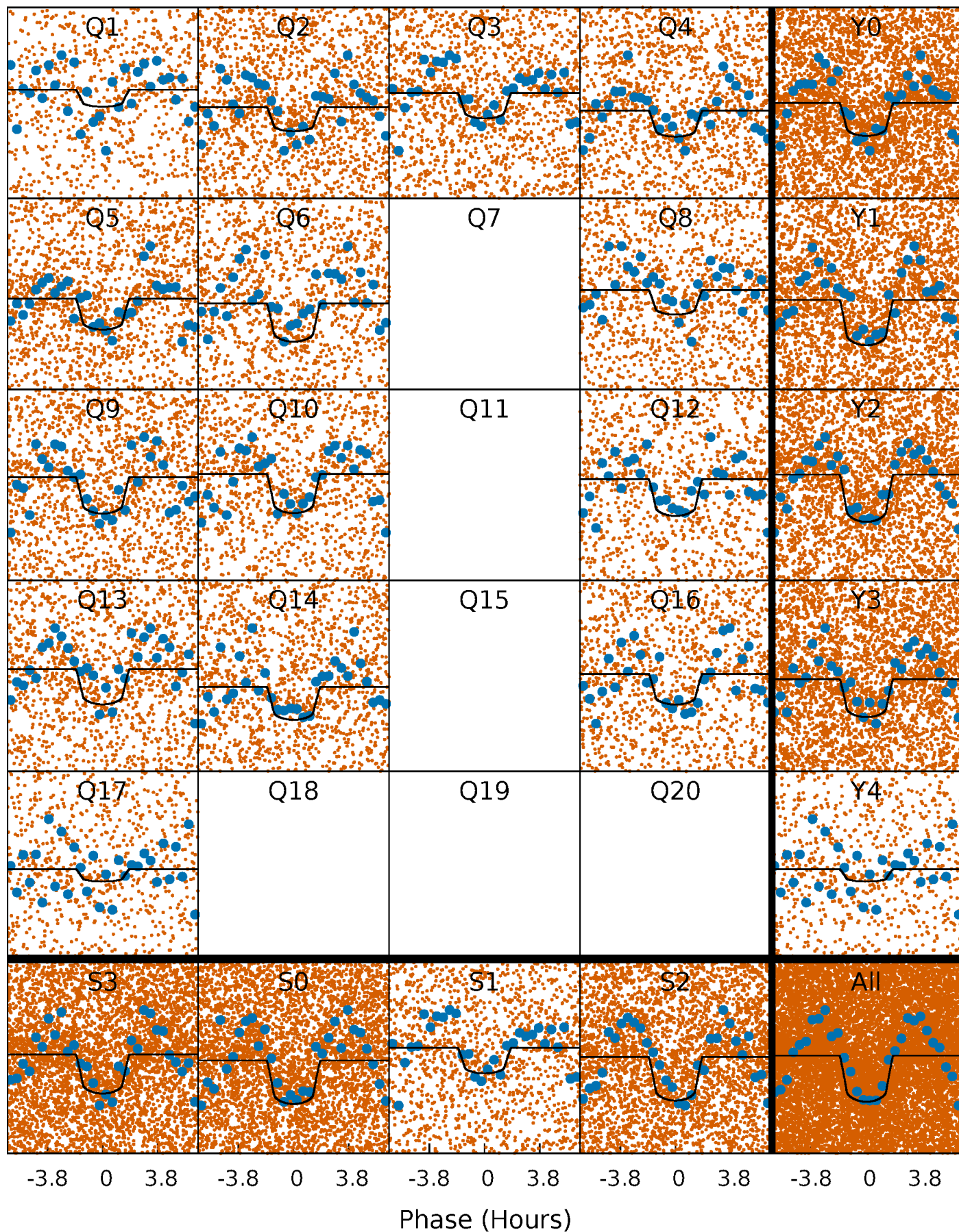
PDC Quarter-Phased Transit Curves

TCE 009963667-01 P= 0.560662 Days $T_0=131.588731$ (BKJD)



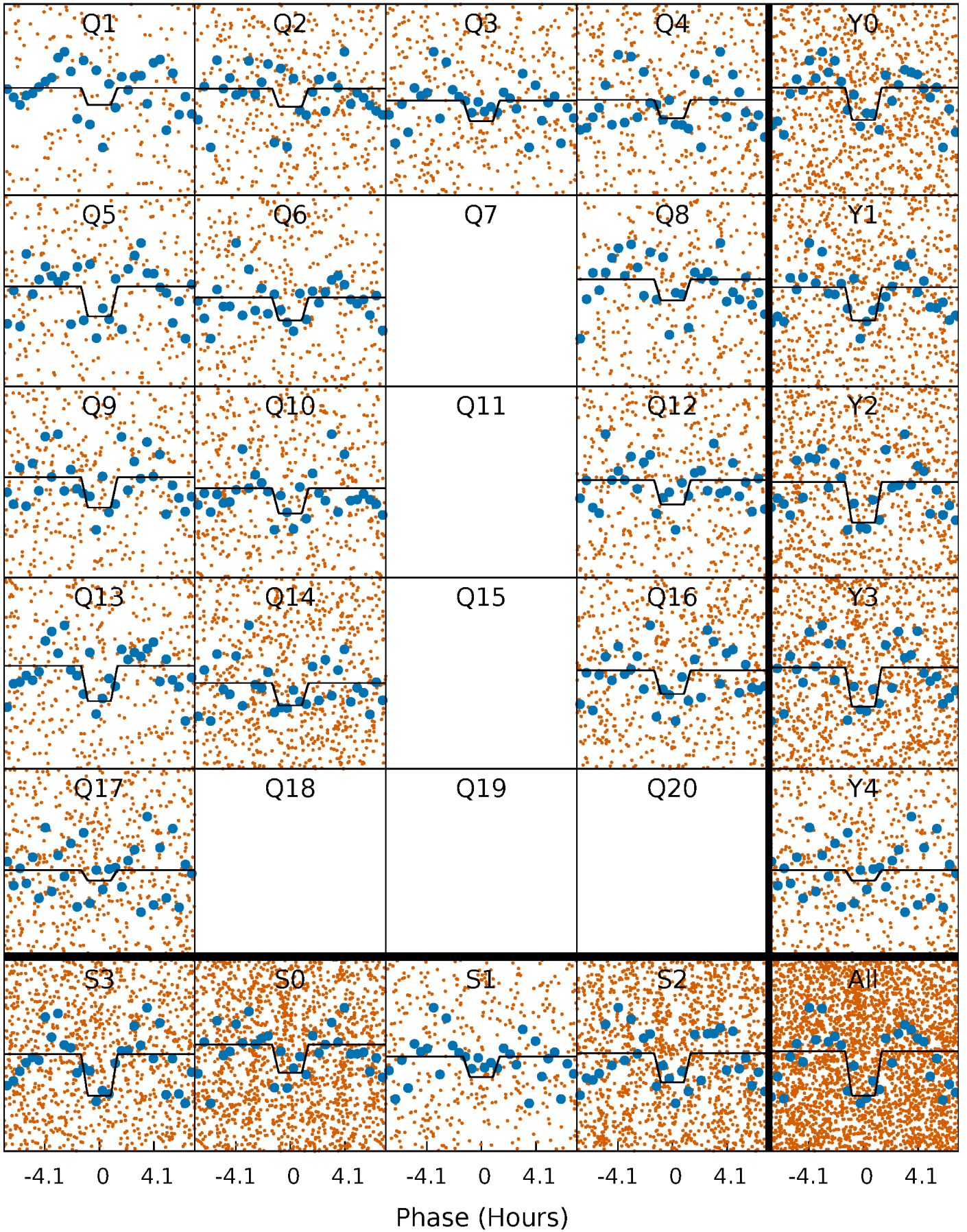
DV Quarter-Phased Transit Curves

TCE 009963667-01 P= 0.560662 Days $T_0=131.588731$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

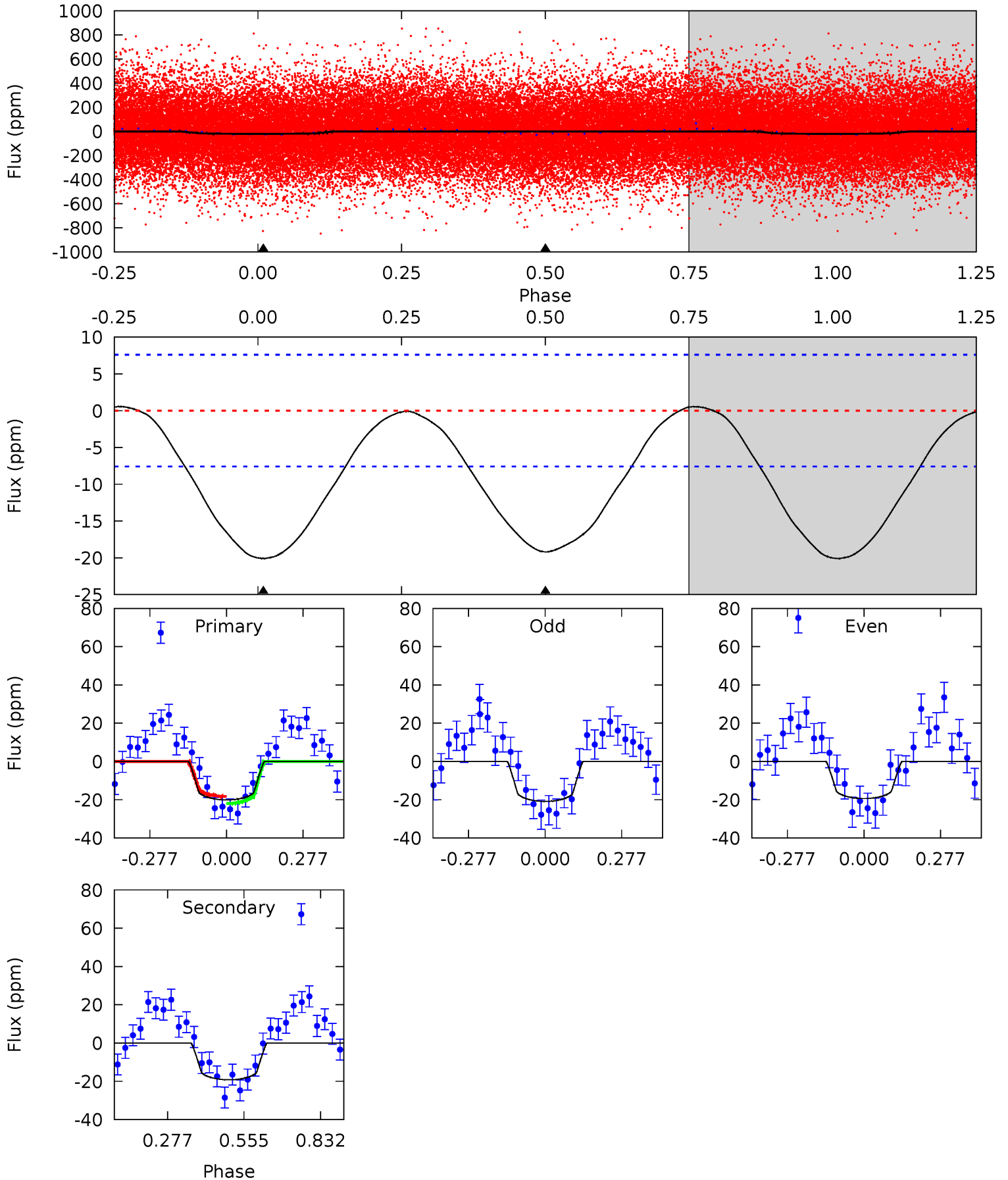
TCE 009963667-01 P= 0.560668 Days $T_0=131.589282$ (BKJD)



DV Model-Shift Uniqueness Test

009963667-01, P = 0.560662 Days, E = 131.028069 Days

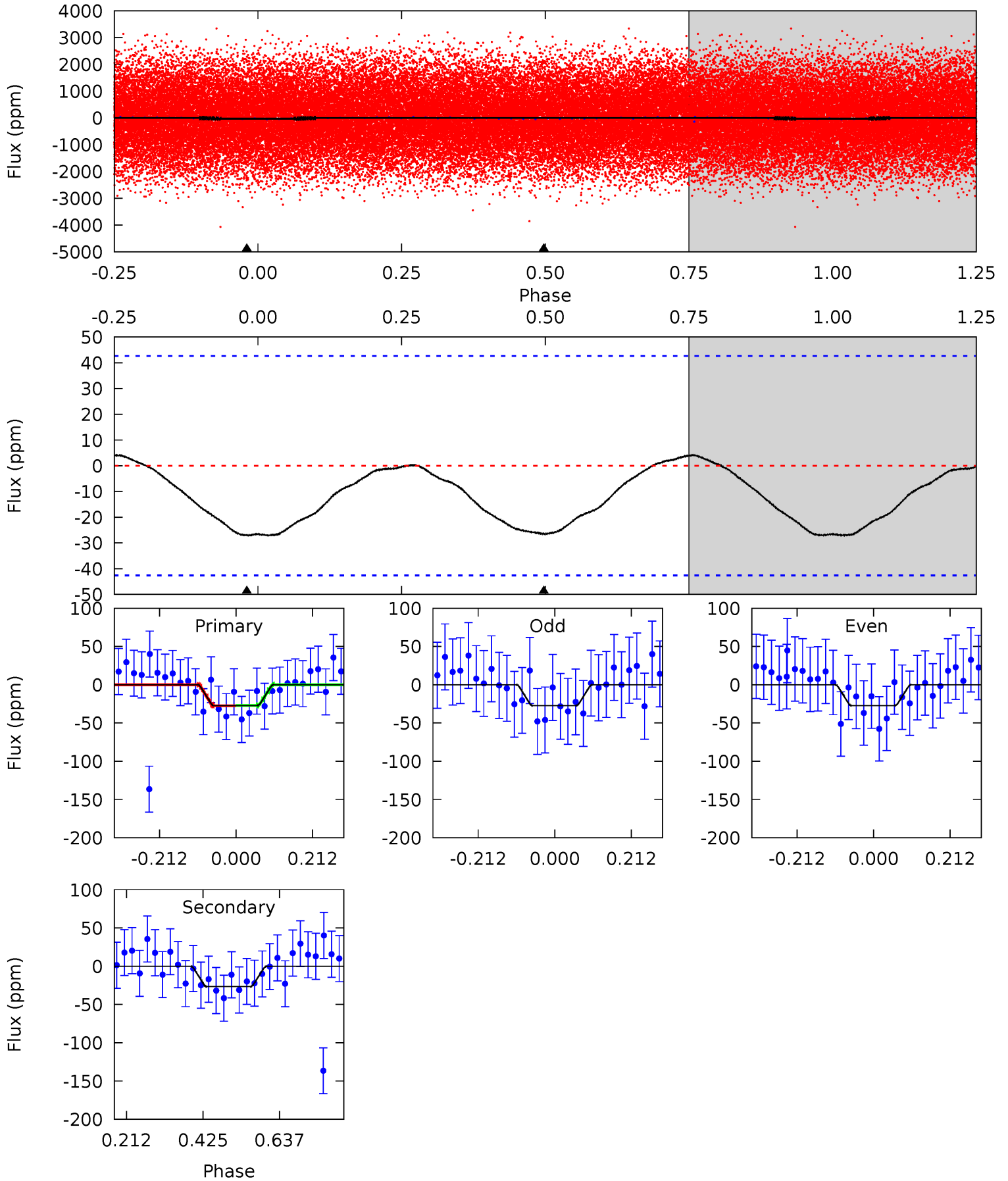
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	11.0	0	0	4.35	1.09	0.20	11.5	11.5	11.0	11.0	0.43	1.09	0.03	1.05



Alt Model-Shift Uniqueness Test

009963667-01, P = 0.560668 Days, E = 131.028614 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.82	2.76	0	0	4.40	1.25	0.22	2.82	2.82	2.76	2.76	0.01	1.05	0.14	0.02



Stellar Parameters For KIC 009963667

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8431^{+233}_{-366}	$4.008^{+0.198}_{-0.132}$	$0.070^{+0.250}_{-0.550}$	$2.351^{+0.464}_{-0.696}$	$2.055^{+0.292}_{-0.500}$	$0.223^{+0.286}_{-0.079}$
	+3%/-4%	+5%/-3%	+357%/-786%	+20%/-30%	+14%/-24%	+128%/-36%
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 009963667-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 2	$1.37^{+0.65}_{-0.61}$	6078^{+399}_{-421}	6840^{+3658}_{-1583}	$1.611^{+3.936}_{-0.882}$
Alt.	-27 ± 10	$1.37^{+0.78}_{-0.65}$	6070^{+421}_{-457}	7665^{+5083}_{-2106}	$2.137^{+6.019}_{-1.325}$

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

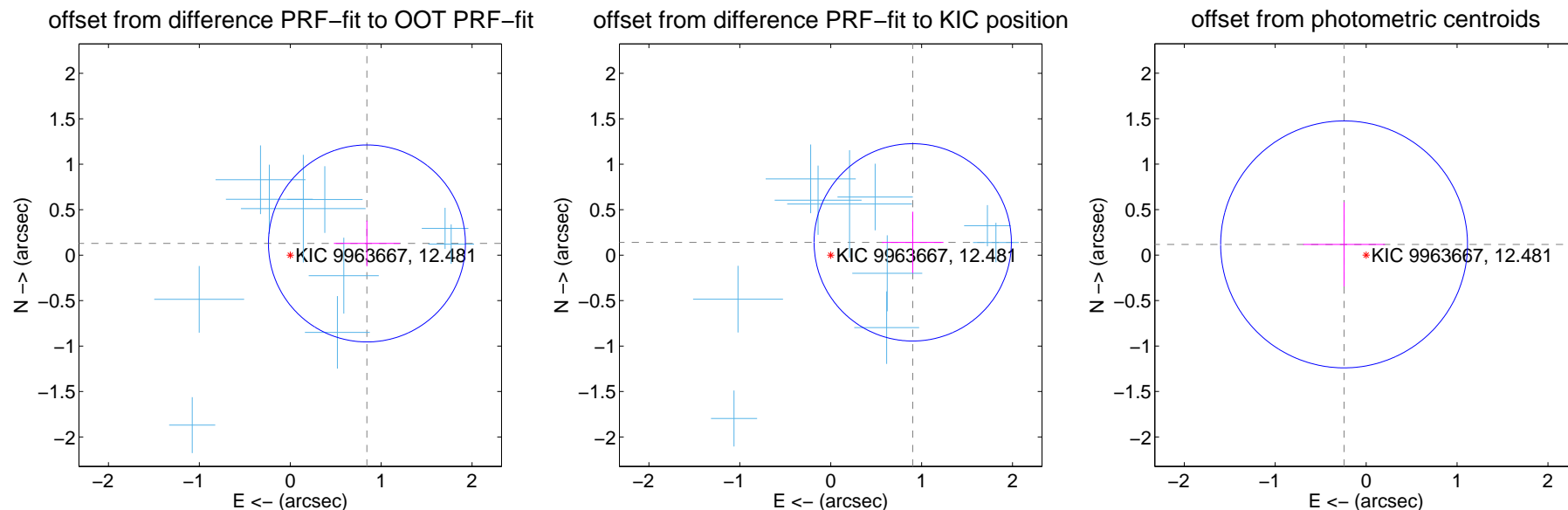
DV Centroid Data

Supplemental centroid analysis for 009963667-01. Kepler magnitude: 12.48. Transit SNR 12.77

There are 11 quarters with good PRF difference image offsets

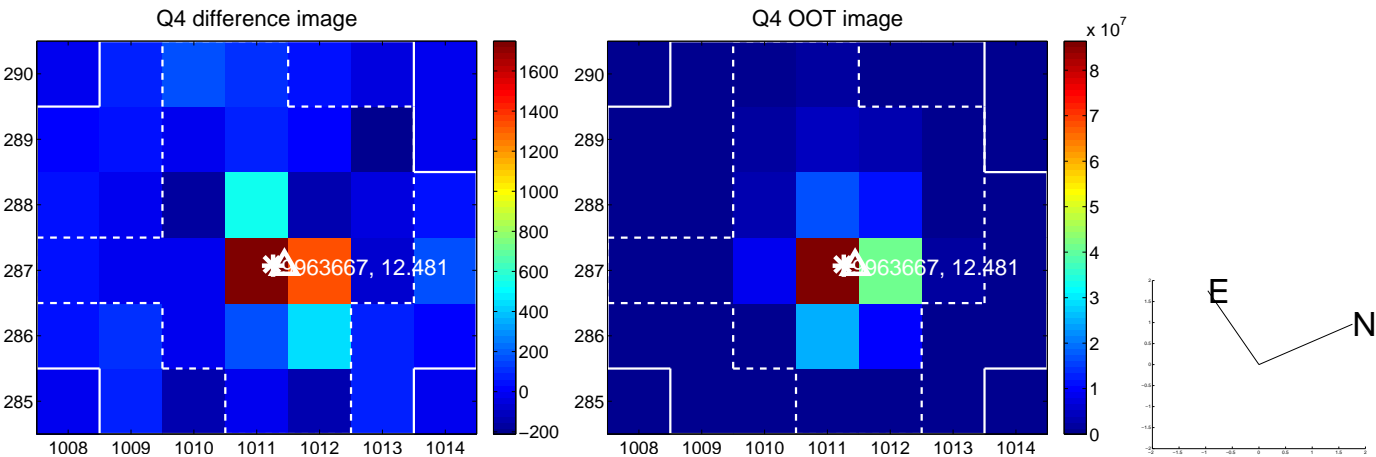
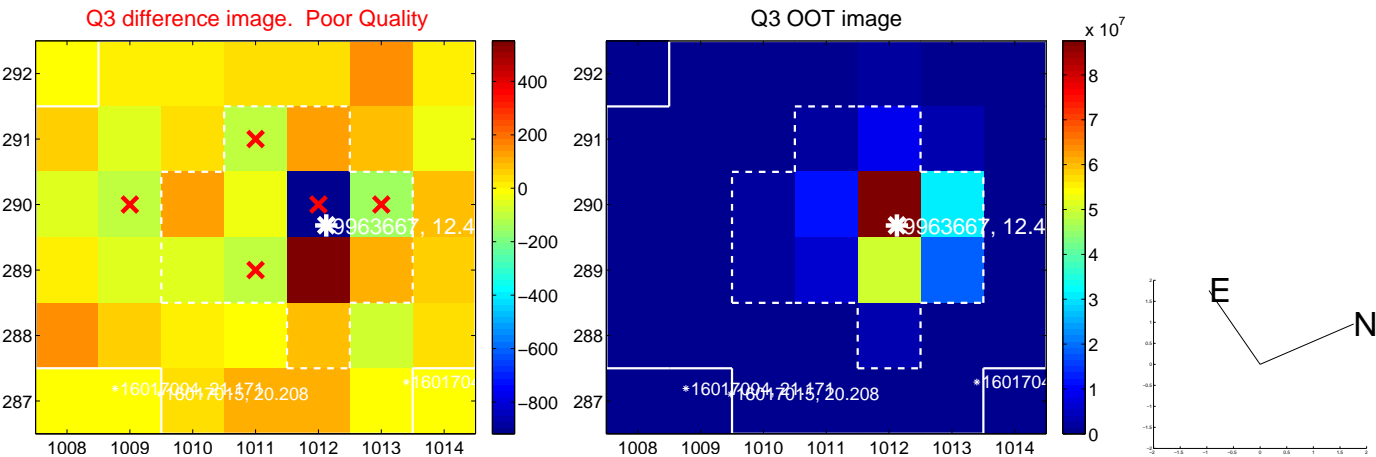
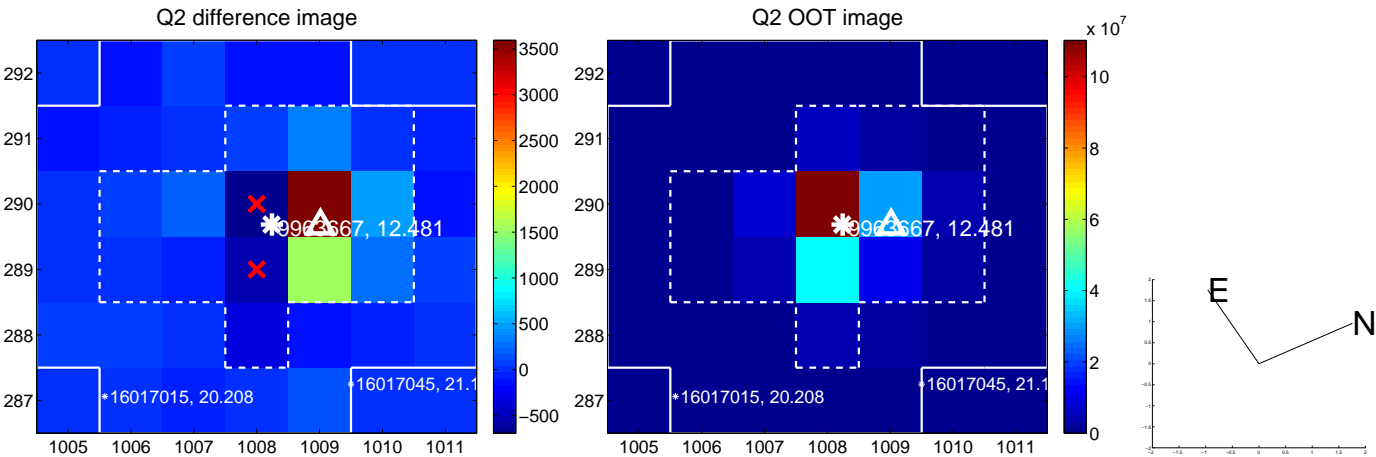
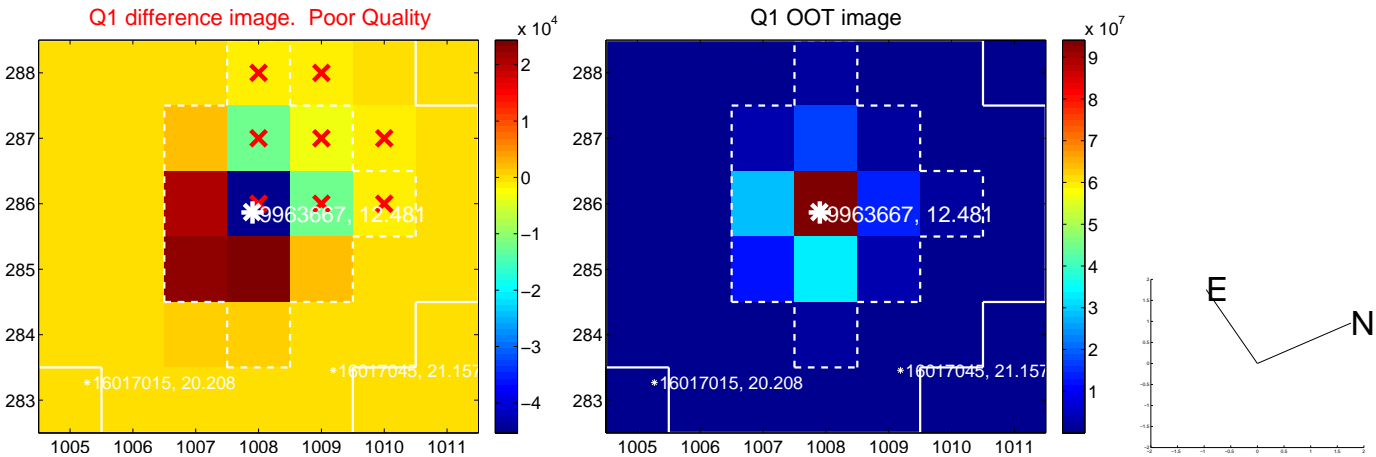
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.853 ± 0.361	2.36	-0.844 ± 0.363	0.129 ± 0.252
PRF-fit source offset from KIC position	0.913 ± 0.362	2.52	-0.902 ± 0.337	0.141 ± 0.337
photometric centroid source offset	0.27 ± 0.45	0.60	0.24 ± 0.45	0.12 ± 0.46

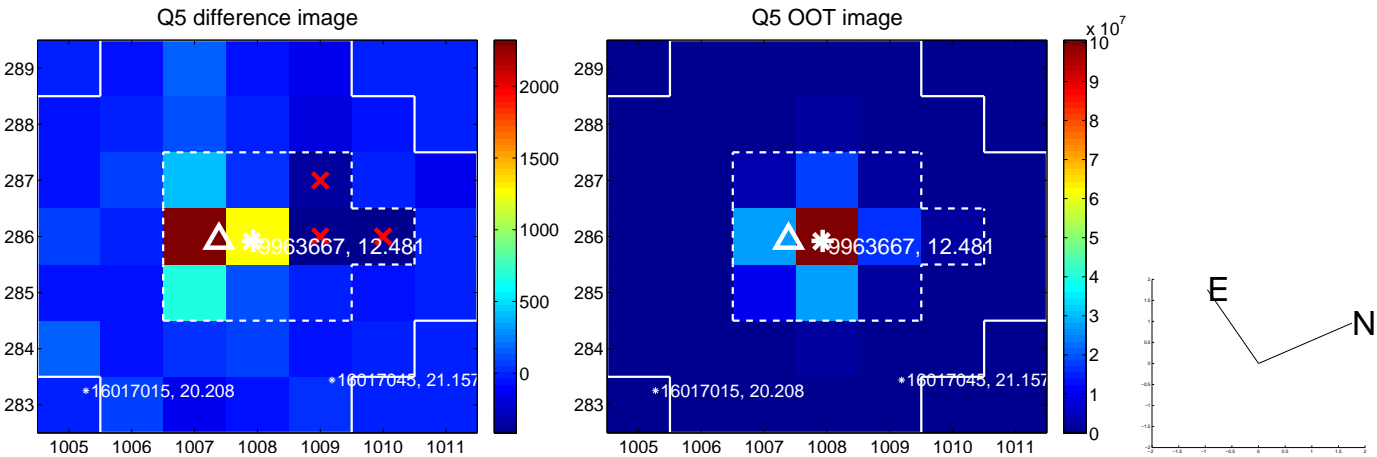


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

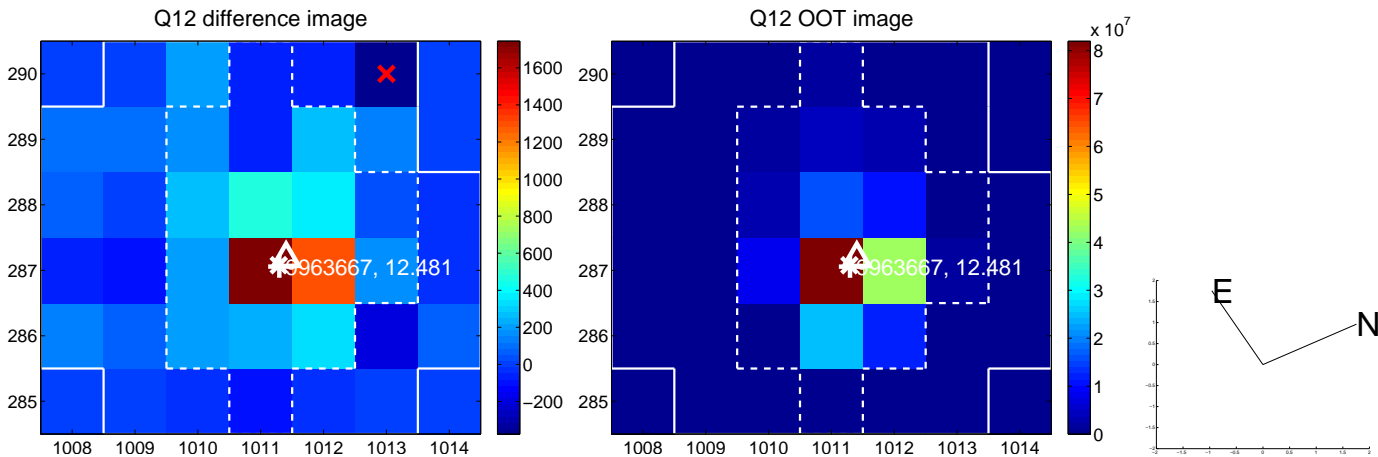
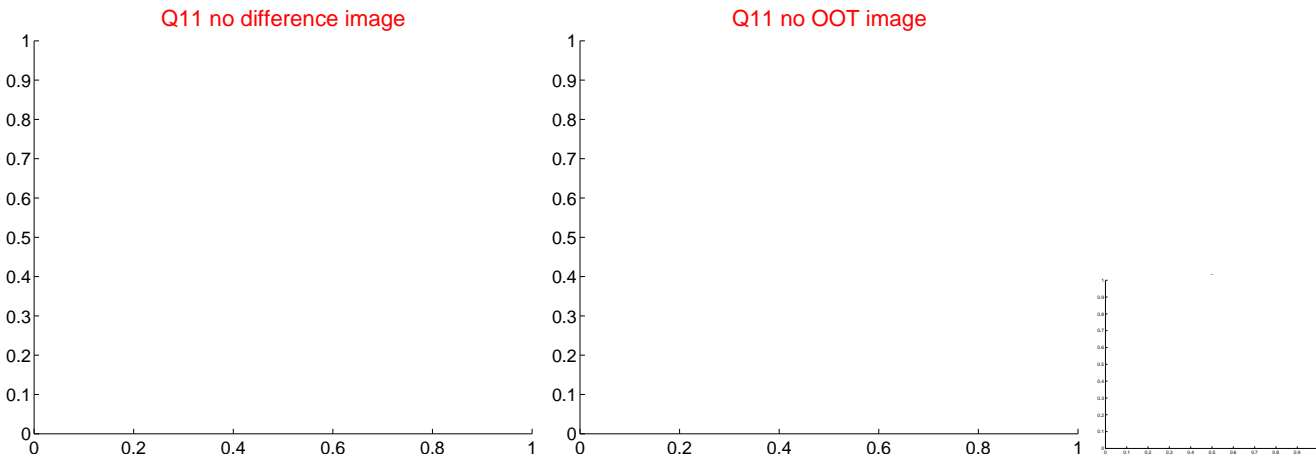
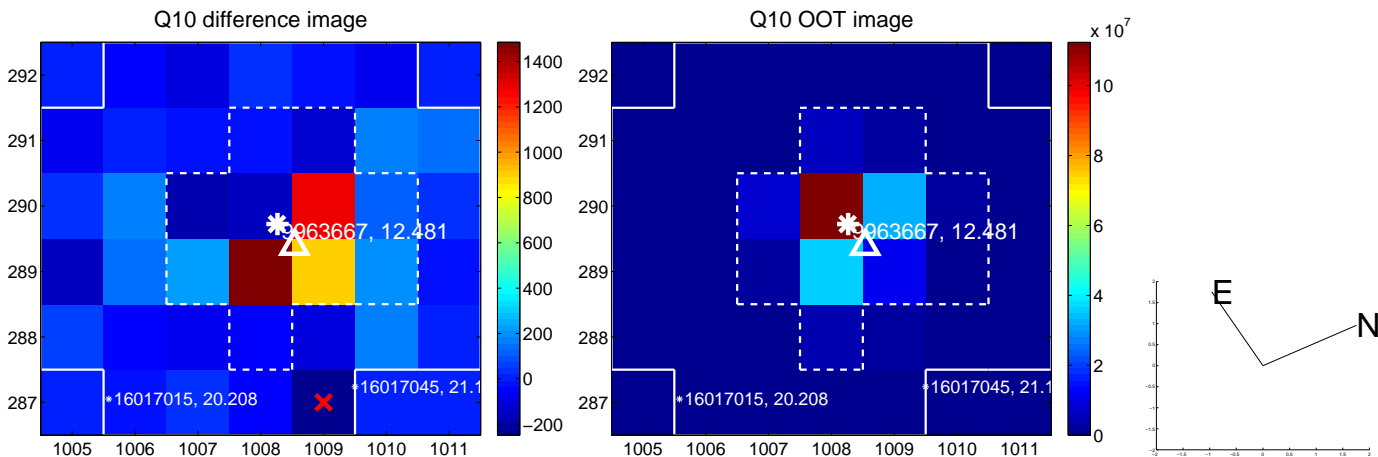
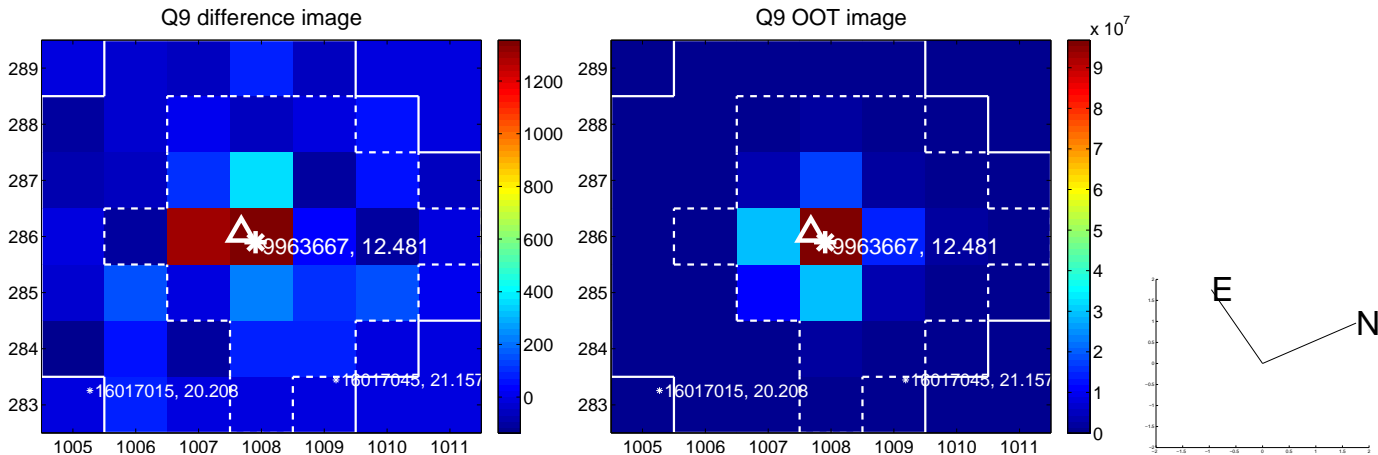
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



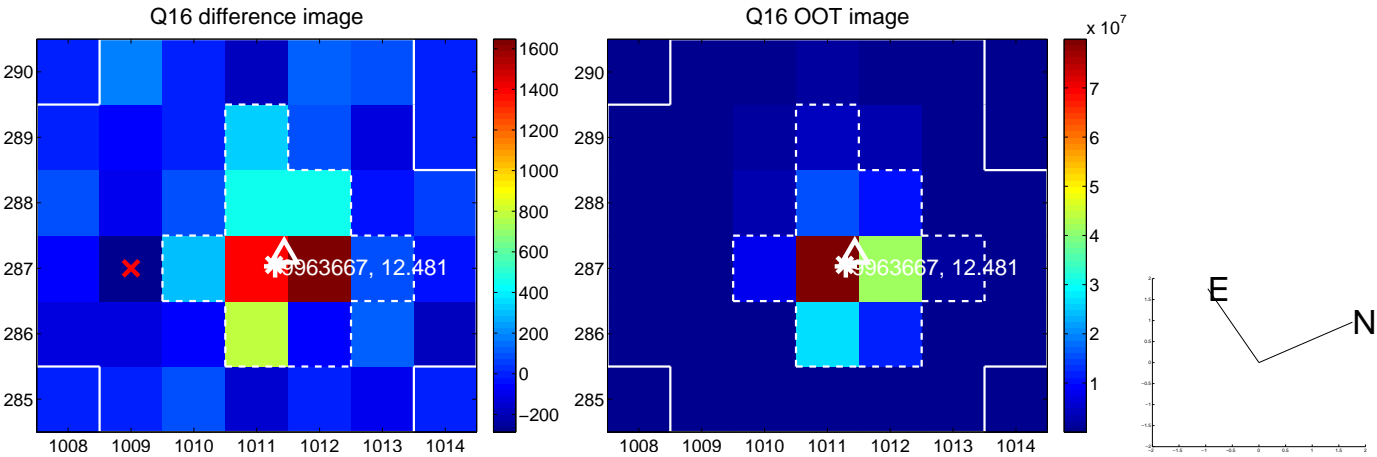
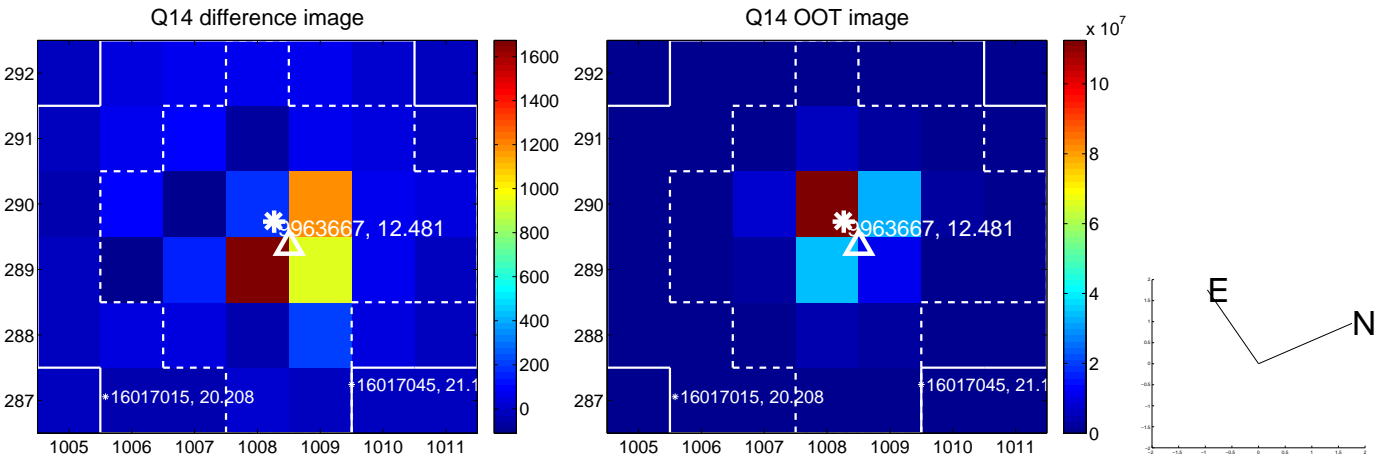
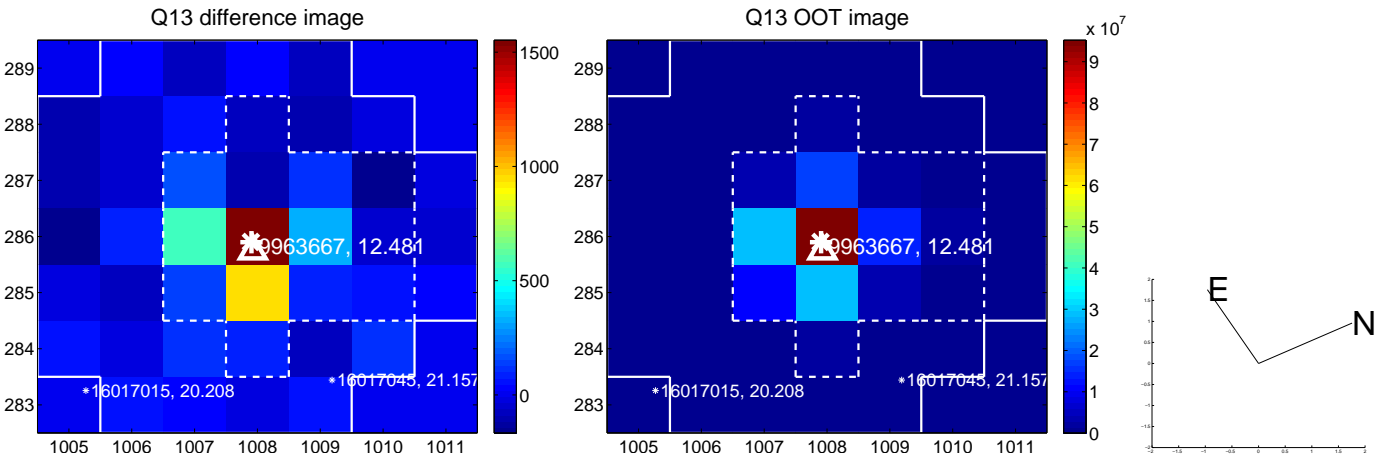
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



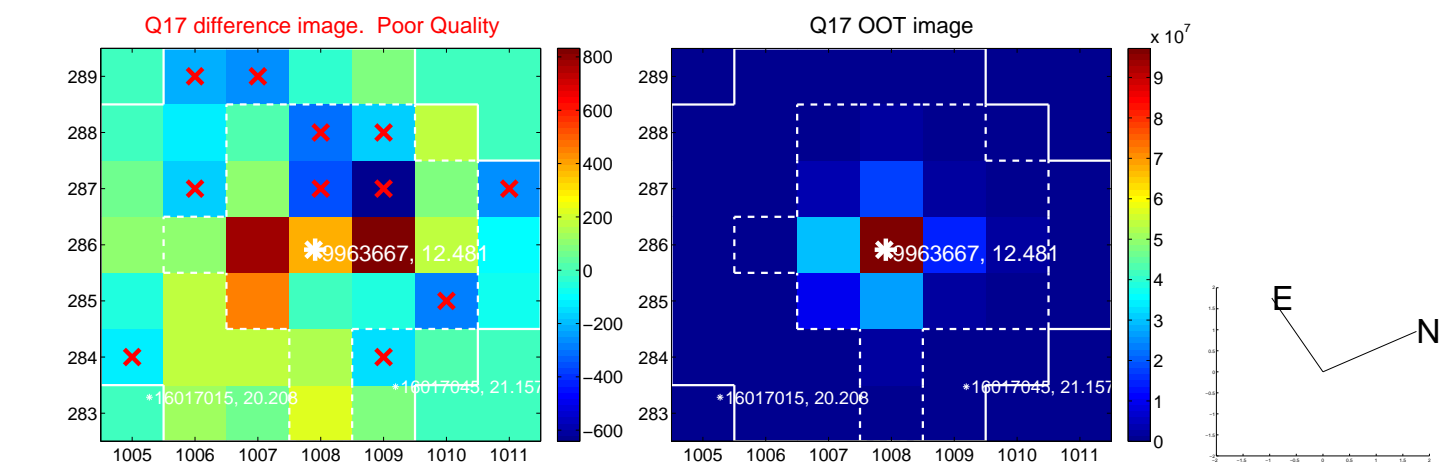
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



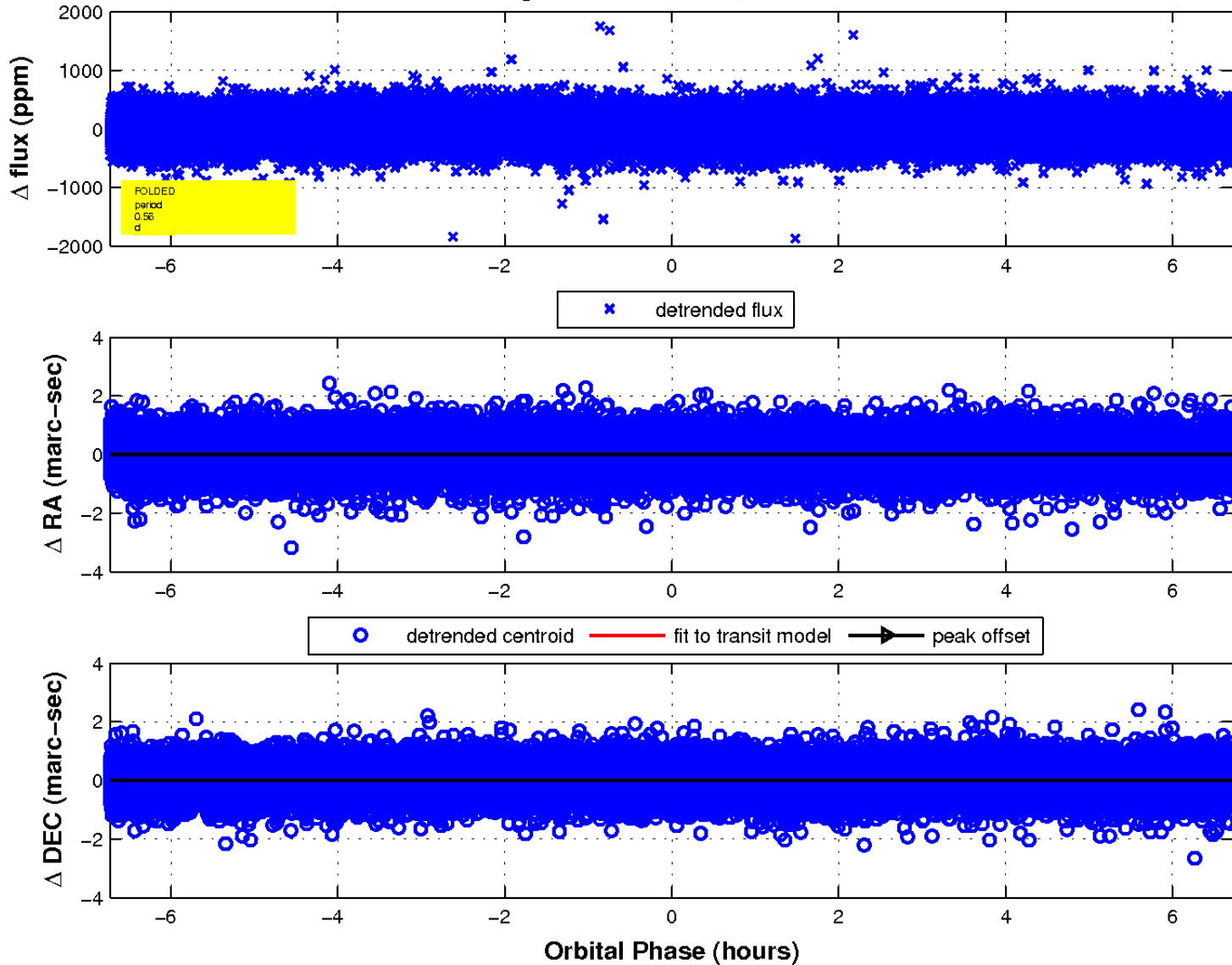
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

