

KIC 009531993

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})
009531993-01	OBS	No	1.155449	132.204842	428.0	9.046	13.2	4.7	1.00	5780	2.37	2152.47

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009531993-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

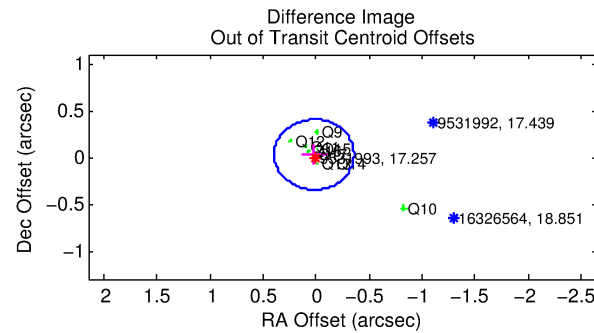
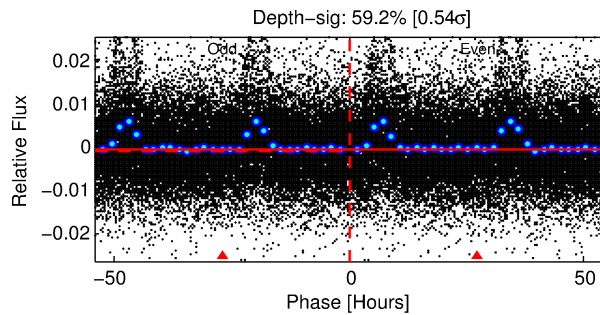
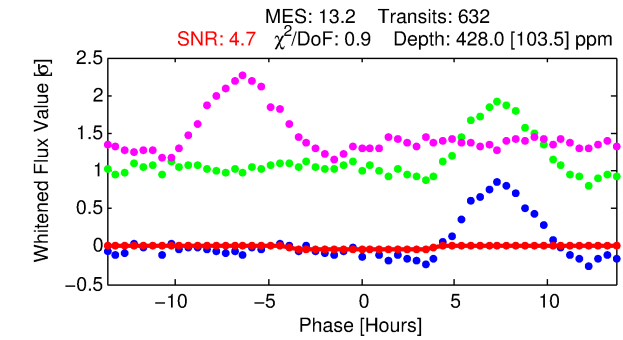
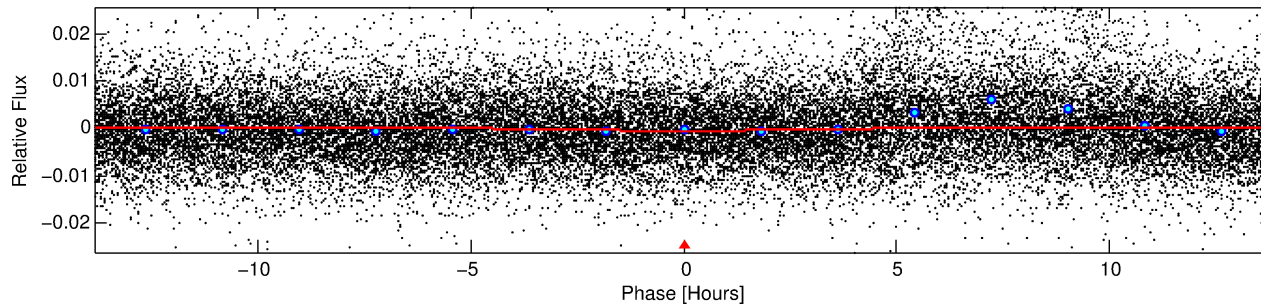
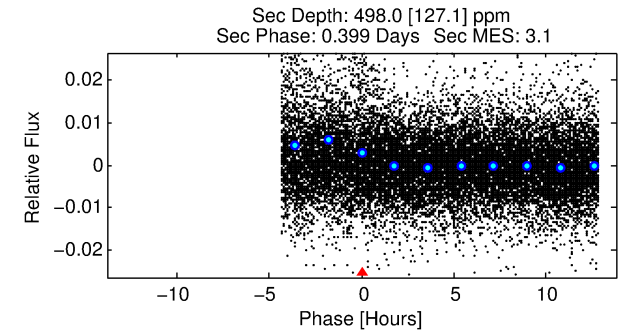
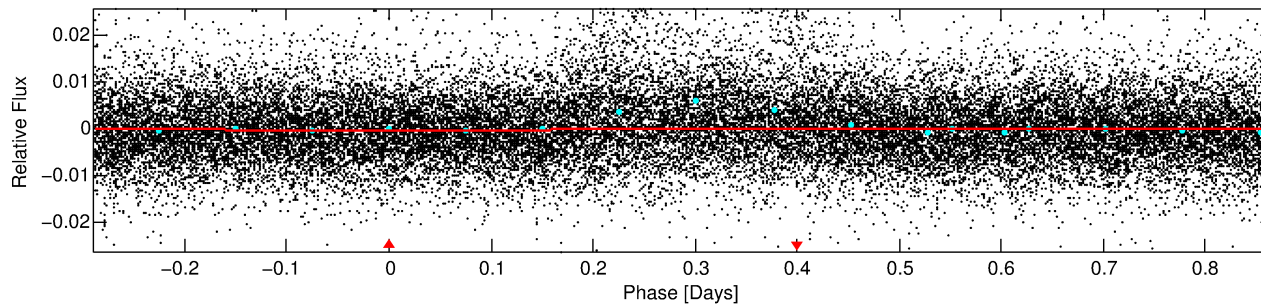
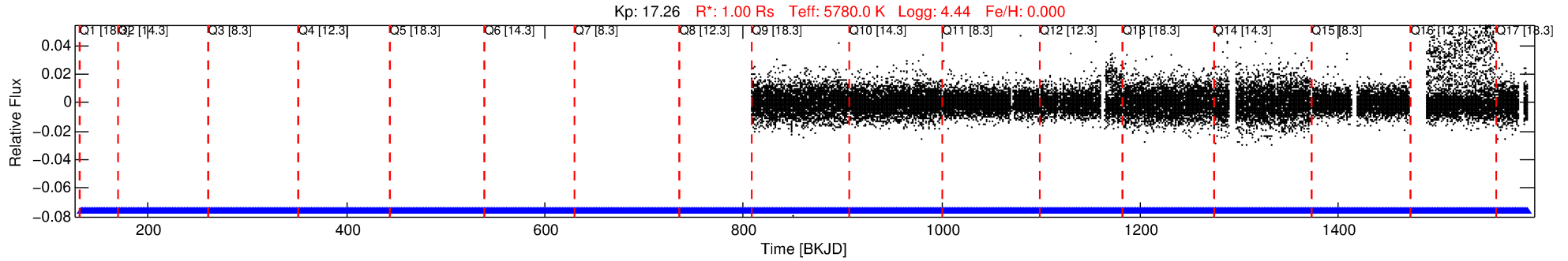
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009531993-01

No Significant Match Found

DV One-Page Summary

KIC: 9531993 Candidate: 1 of 1 Period: 1.155 d



DV Fit Results:

Period = 1.15545 [0.00004] d
Epoch = 132.2048 [0.0203] BKJD
Rp/R* = 0.0217 [0.0073]
a/R* = 1.08 [0.21]
b = 0.85 [0.47]
Seff = 2152.47 [0.09]
Teq = 1737 [0] K
Rp = 2.37 [0.79] Re
a = 0.0216 [0.0000] AU
Ag = 22.71 [16.29] [1.33 σ]
Teffp = 5862 [1051] K [3.93 σ]

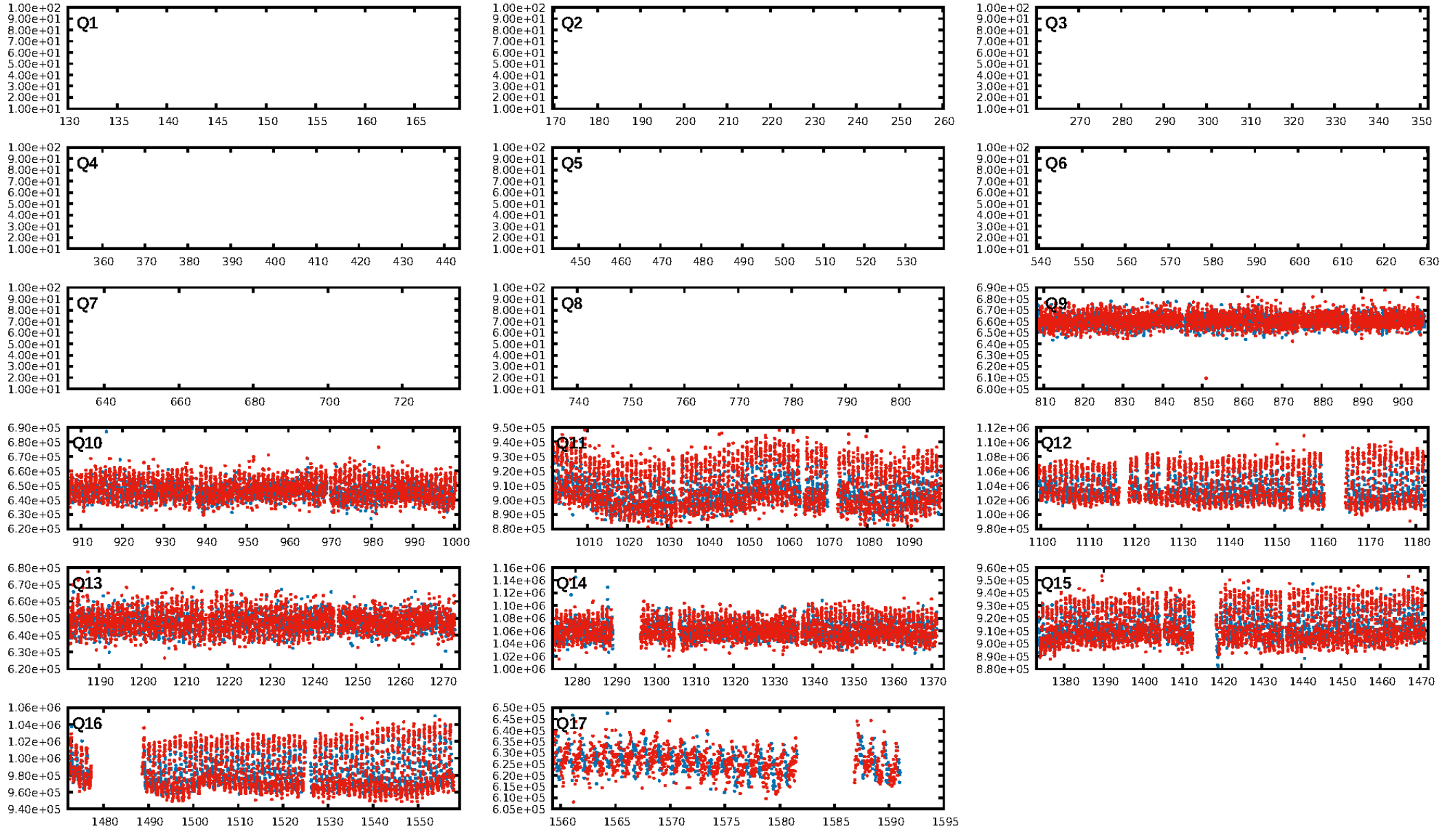
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.18e-11
RollingBand-fgt: 1.00 [608/608]
GhostDiagnostic-chr: 0.5864
Centroid-sig: N/A
Centroid-so: 15.064 arcsec [27.36 σ]
OotOffset-rm: 0.035 arcsec [0.28 σ]
KicOffset-rm: 8.543 arcsec [107.07 σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.89 [8/9]
DiffImageOverlap-fno: 1.00 [9/9]

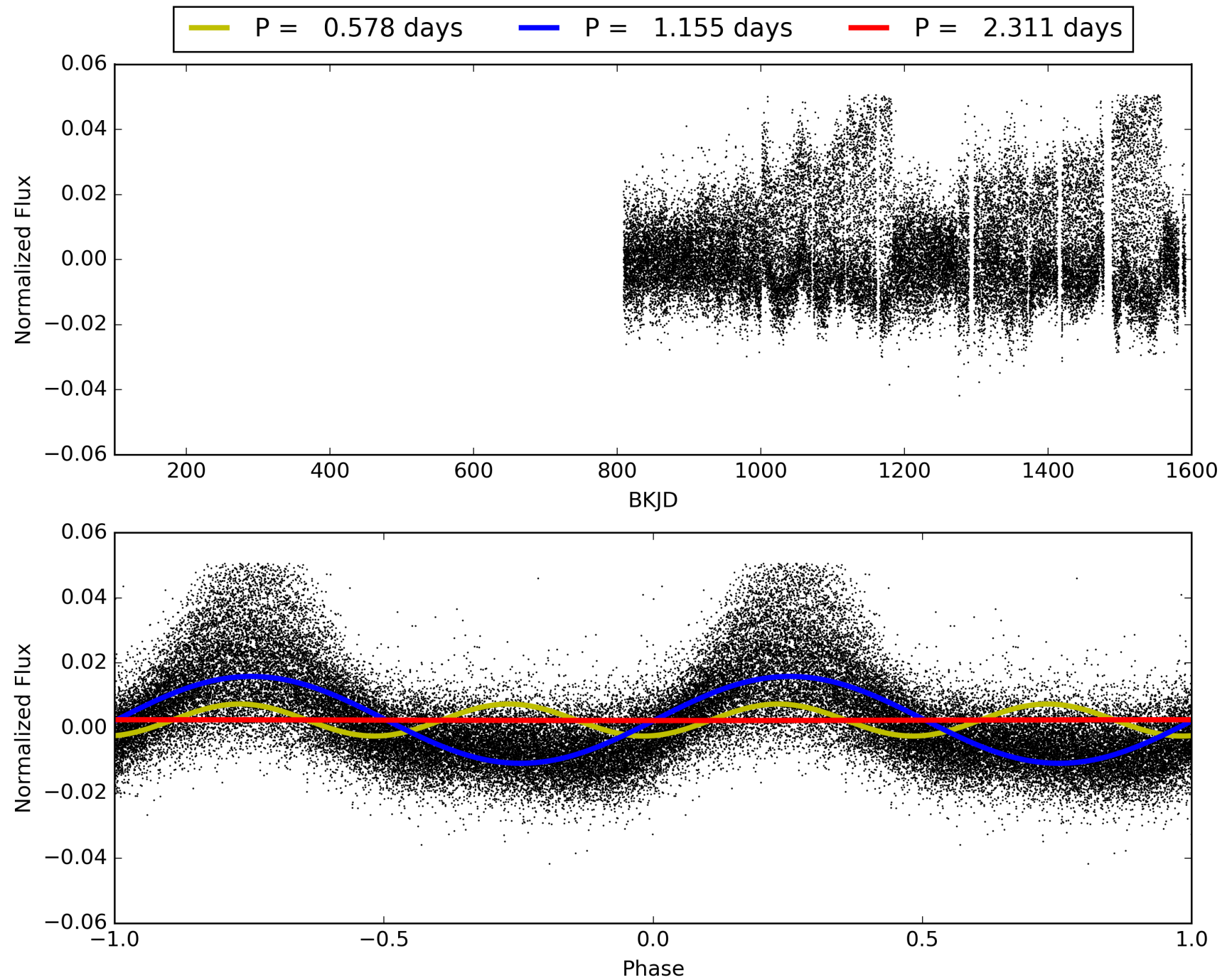
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:55:07 Z

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

TCE 009531993-01, PDC Light Curves

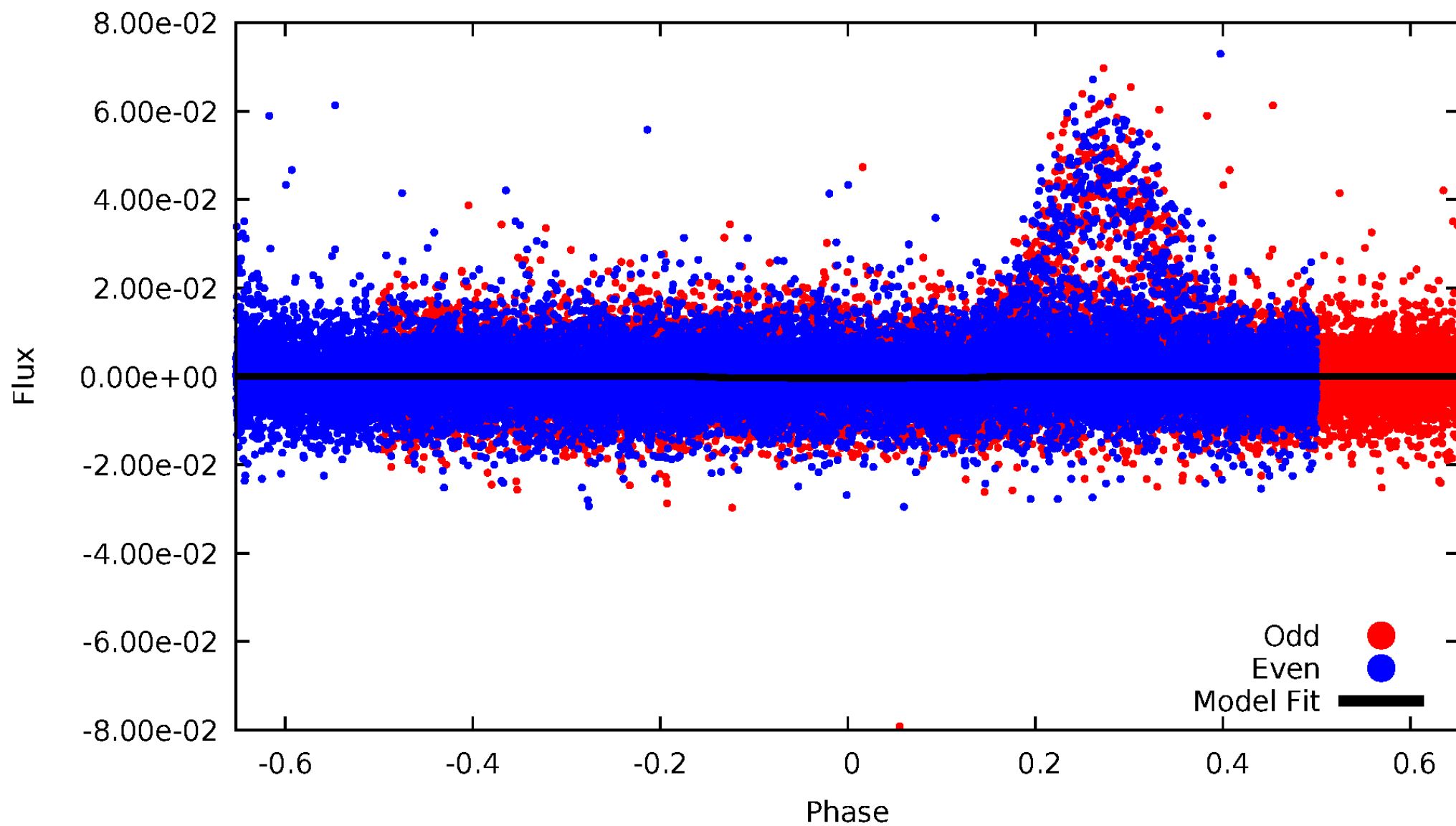


TCE 009531993-01



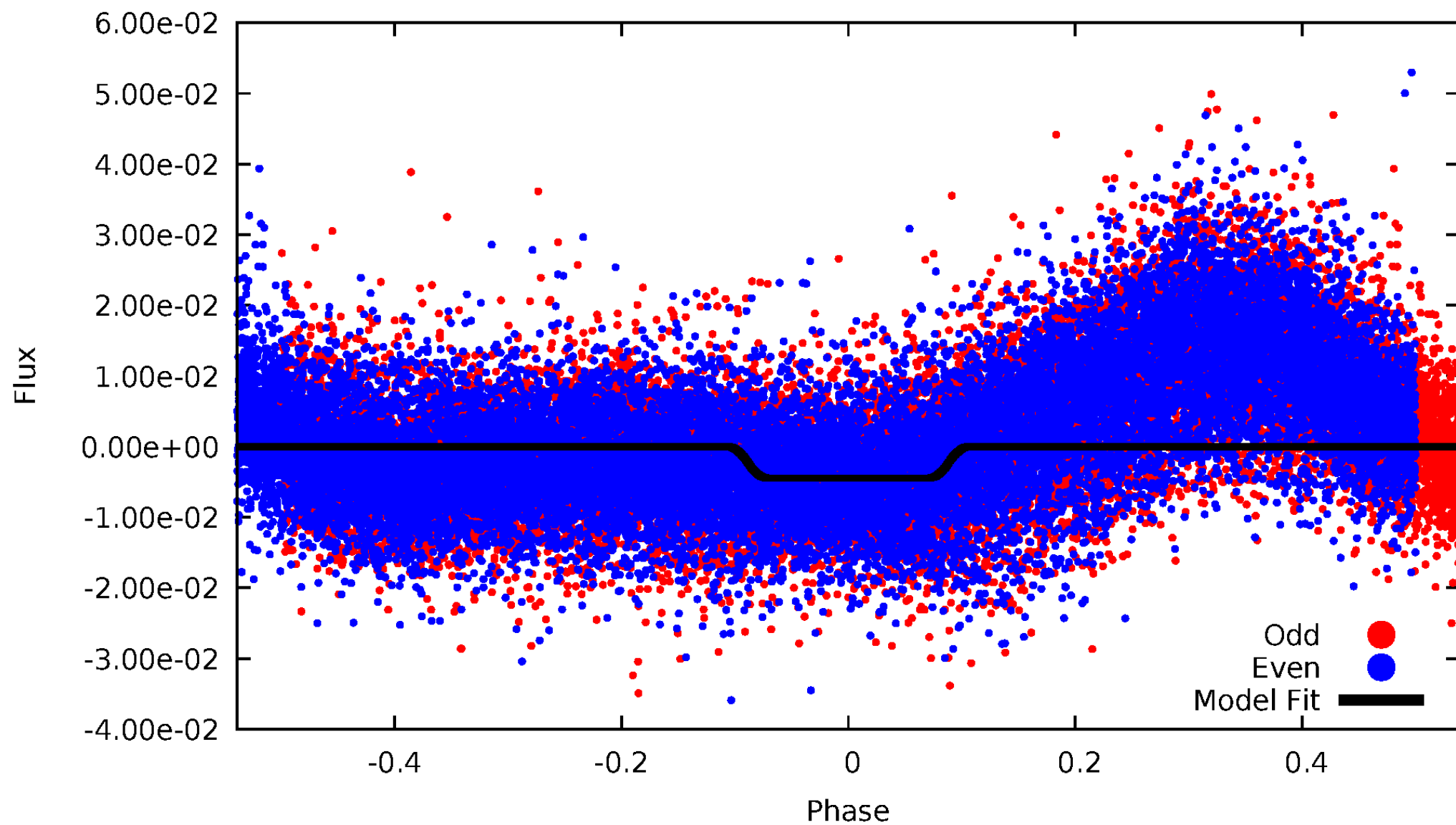
DV Odd/Even

TCE 009531993-01



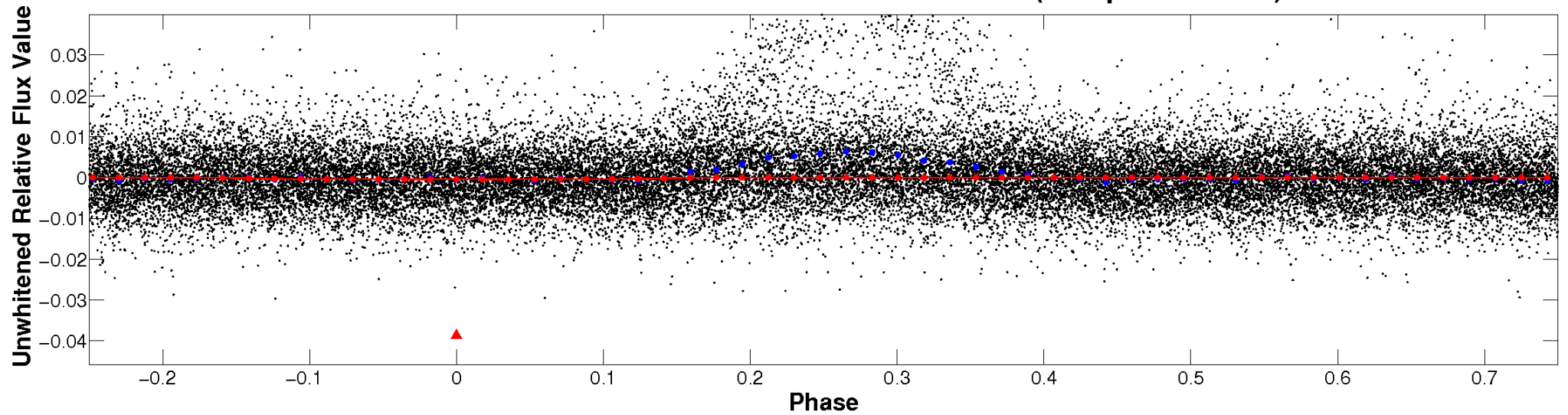
ALT Odd/Even

TCE 009531993-01

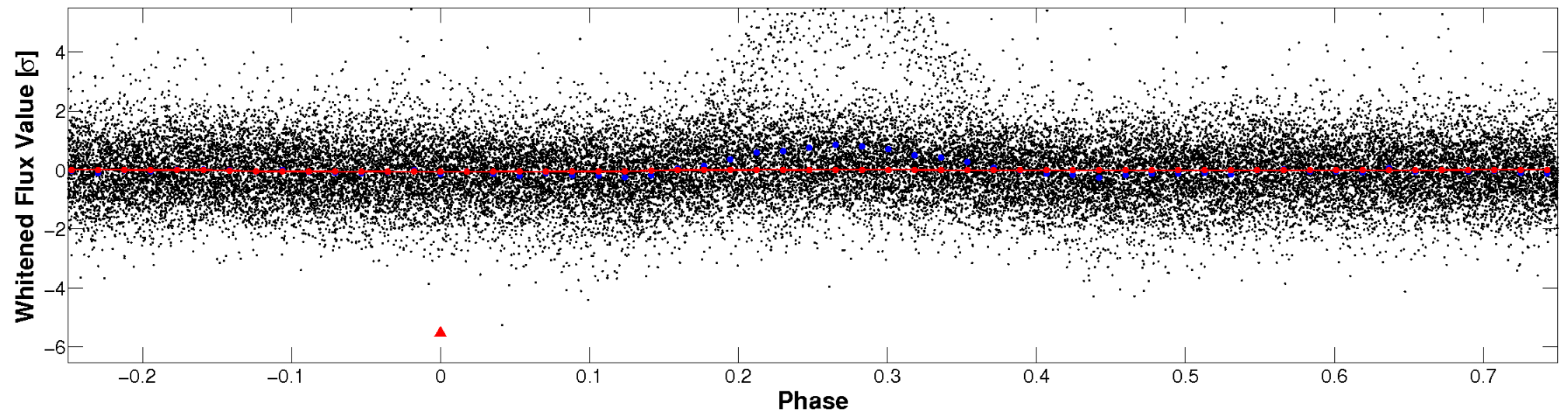


Non-Whitened Vs. Whitened Light Curve

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

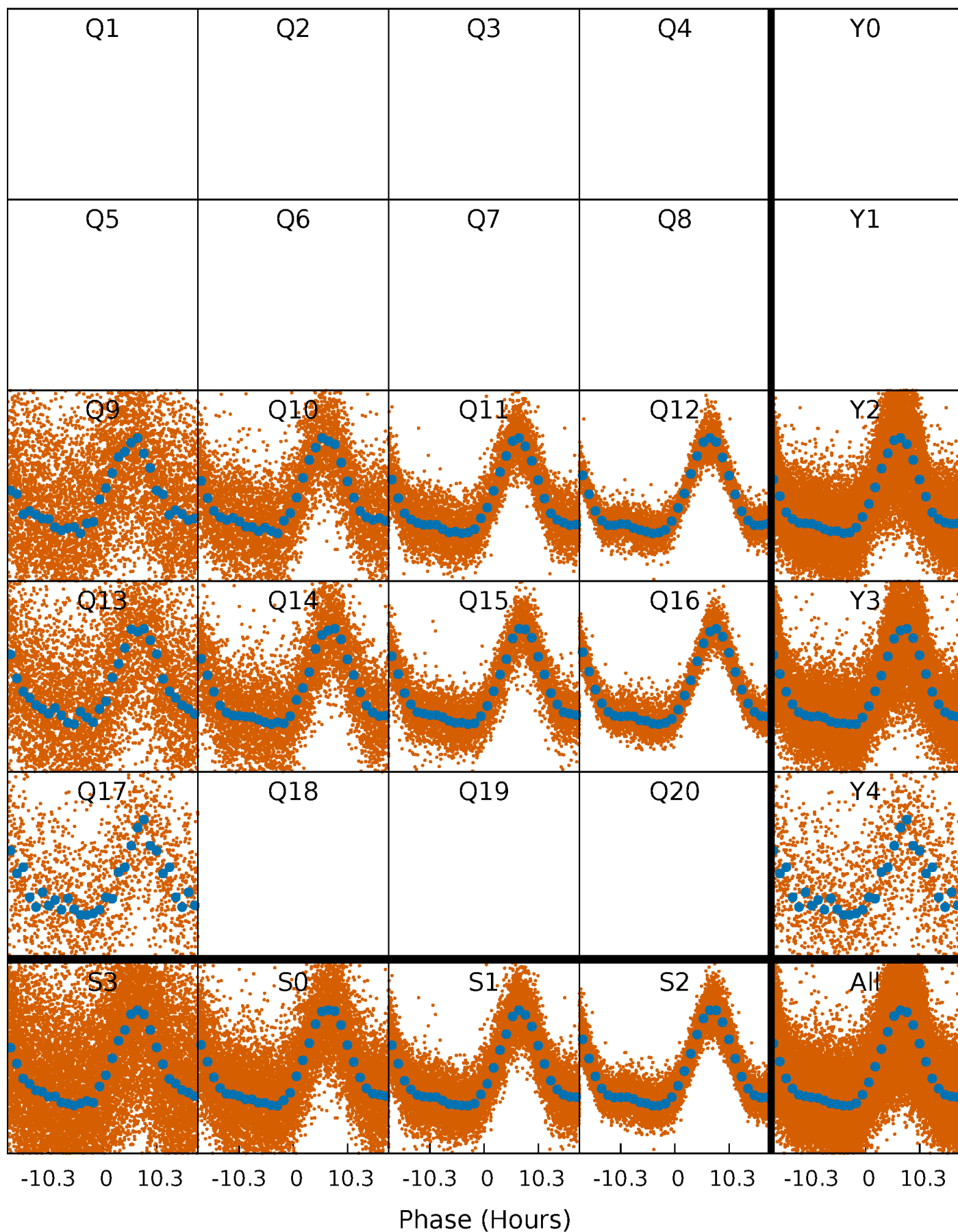


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



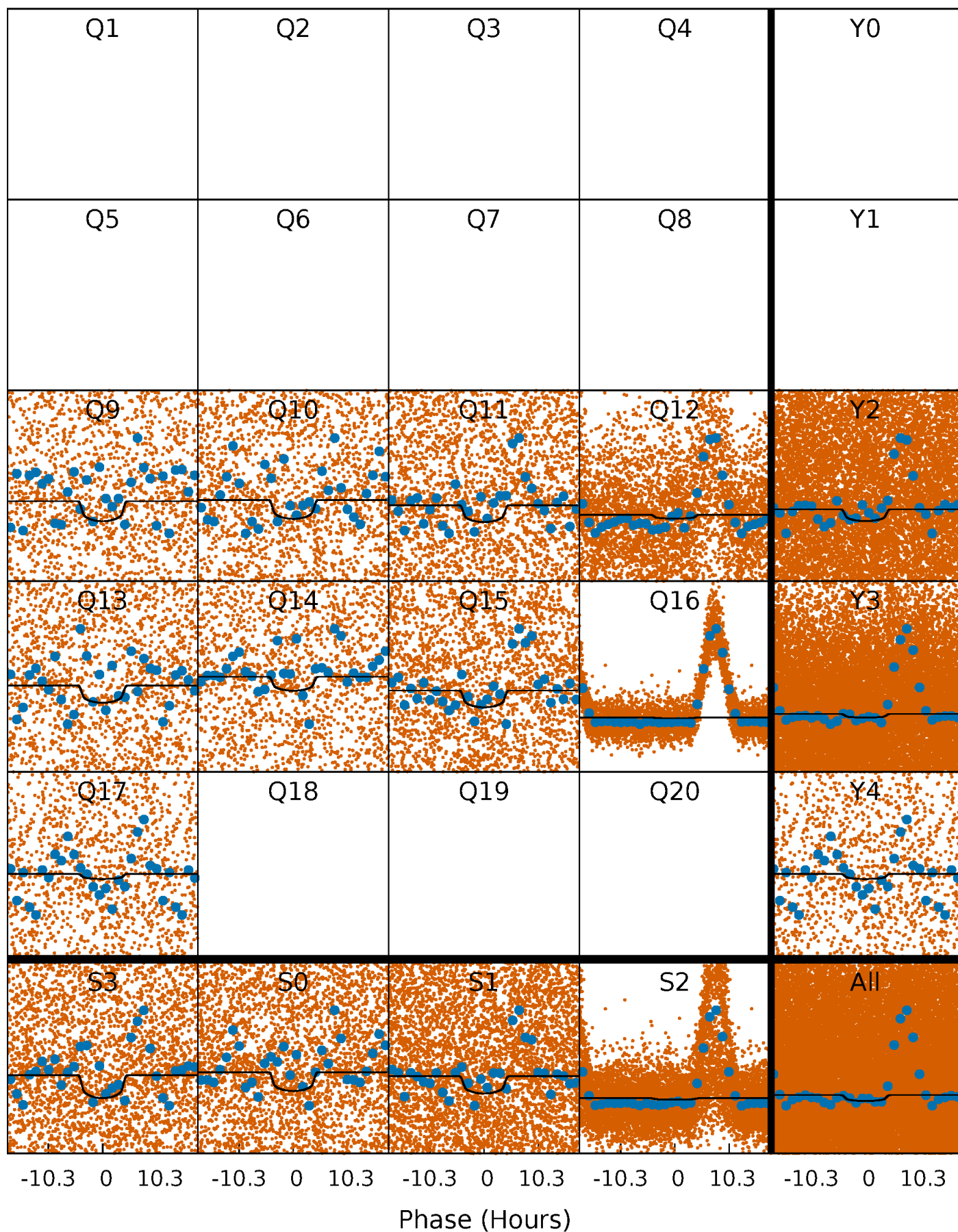
PDC Quarter-Phased Transit Curves

TCE 009531993-01 P= 1.155449 Days $T_0=132.204842$ (BKJD)



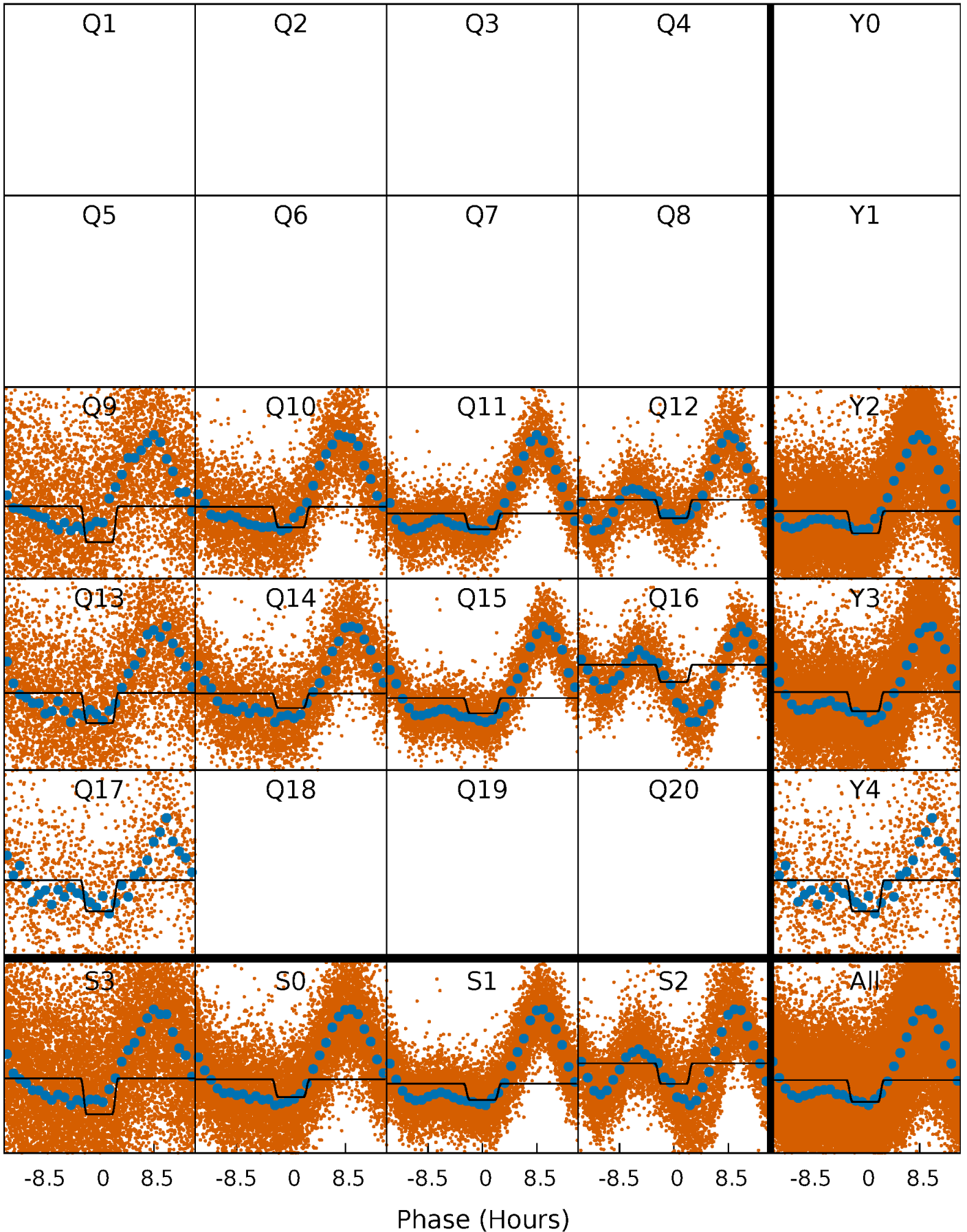
DV Quarter-Phased Transit Curves

TCE 009531993-01 P= 1.155449 Days $T_0=132.204842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

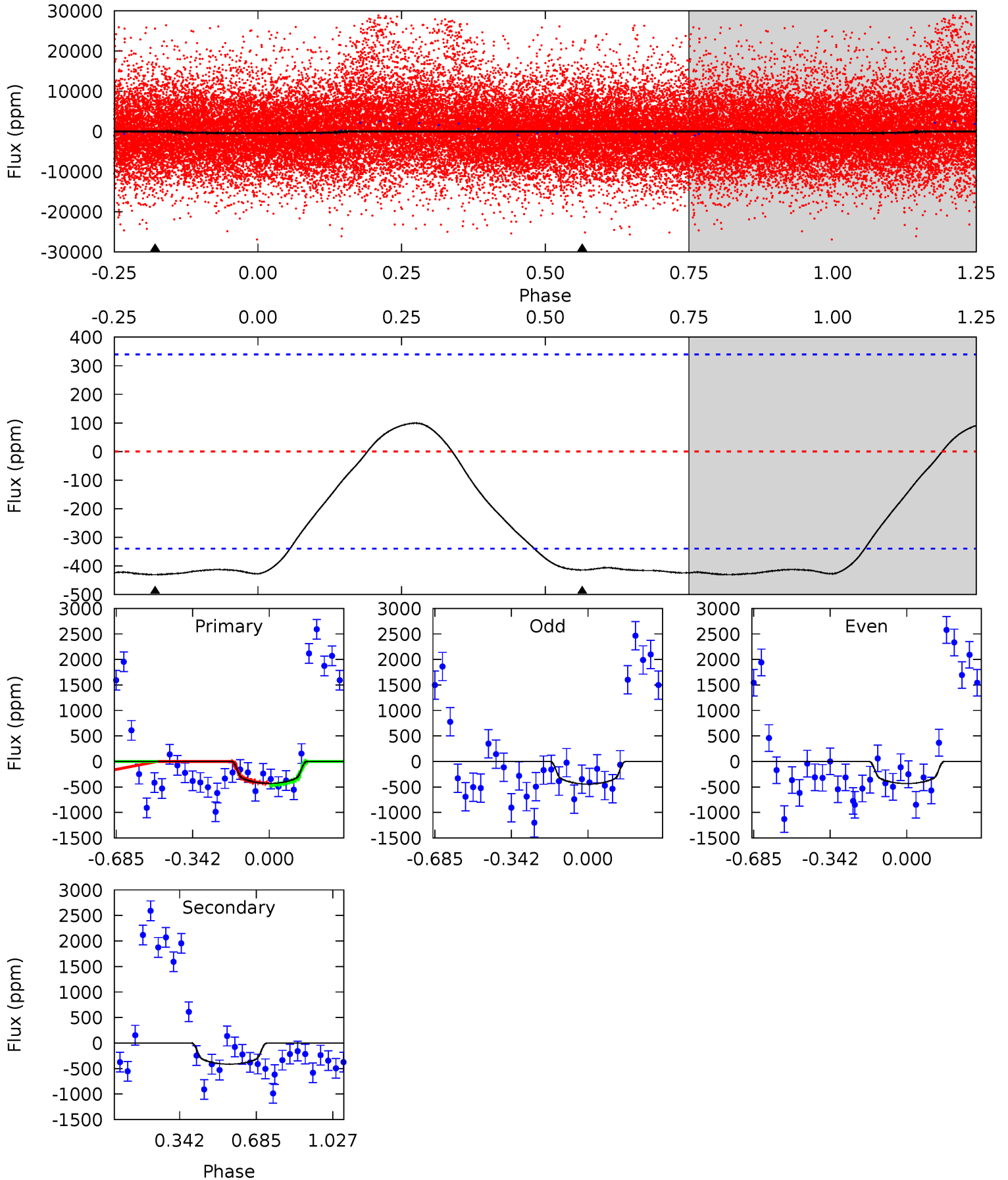
TCE 009531993-01 P= 1.155408 Days $T_0=132.141560$ (BKJD)



DV Model-Shift Uniqueness Test

009531993-01, P = 1.155449 Days, E = 132.204842 Days

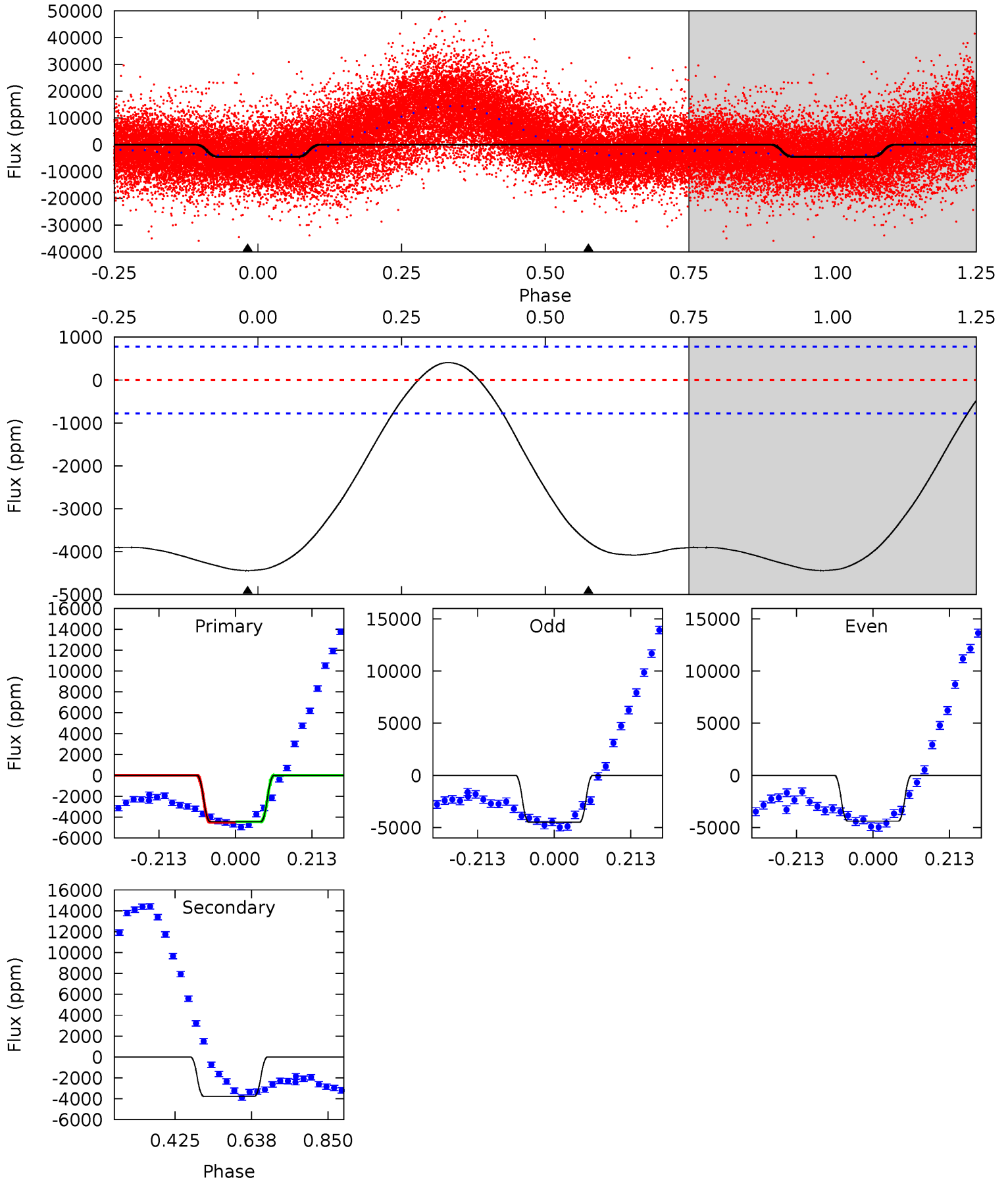
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.45	5.24	0	0	4.30	0.95	0.79	5.45	5.45	5.24	5.24	0.07	0.84	0.19	0.32



Alt Model-Shift Uniqueness Test

009531993-01, P = 1.155408 Days, E = 132.141560 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.2	21.4	0	0	4.40	1.25	3.65	25.2	25.2	21.4	21.4	0.31	1.05	0.08	0.17



Stellar Parameters For KIC 009531993

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 009531993-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-414 ± 79	$2.33^{+0.73}_{-0.80}$	2438^{+107}_{-114}	5643^{+1400}_{-714}	20^{+28}_{-9}
Alt.	-3769 ± 176	$7.35^{+0.91}_{-0.90}$	2433^{+119}_{-110}	5541^{+340}_{-314}	18^{+5}_{-4}

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 $A_{obs} \gg 1.0$

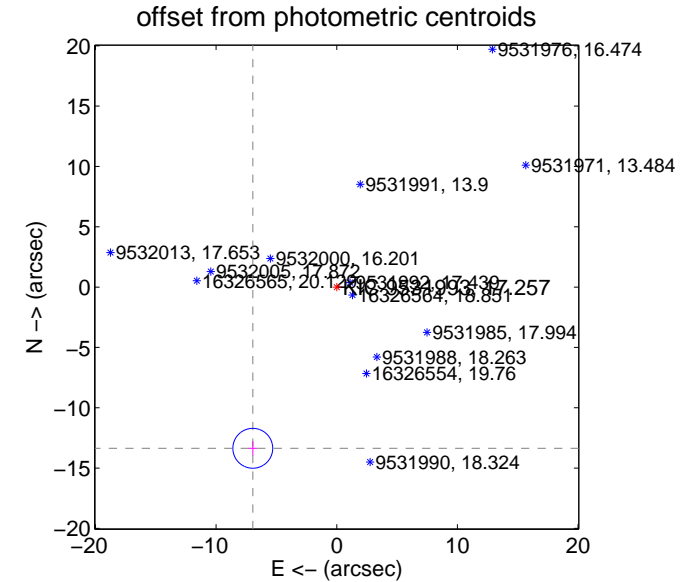
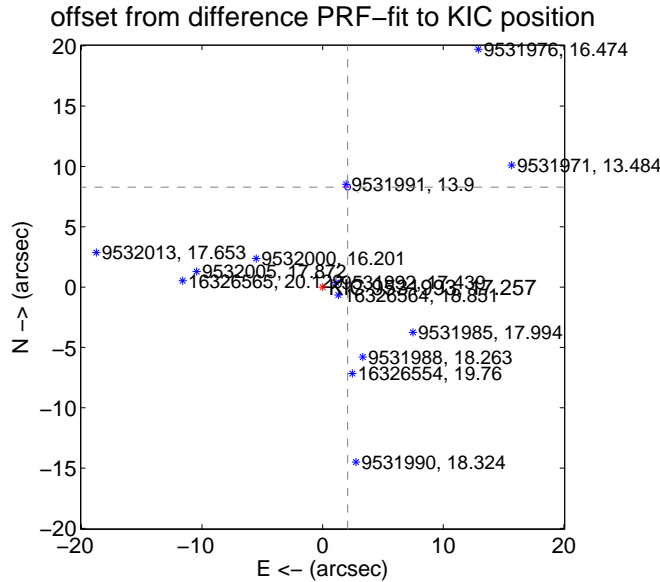
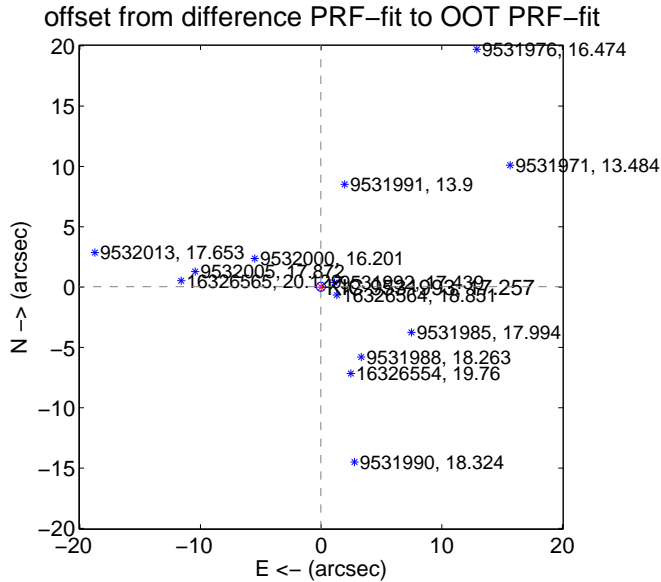
DV Centroid Data

Supplemental centroid analysis for 009531993-01. Kepler magnitude: 17.26. Transit SNR 4.75

There are 8 quarters with good PRF difference image offsets

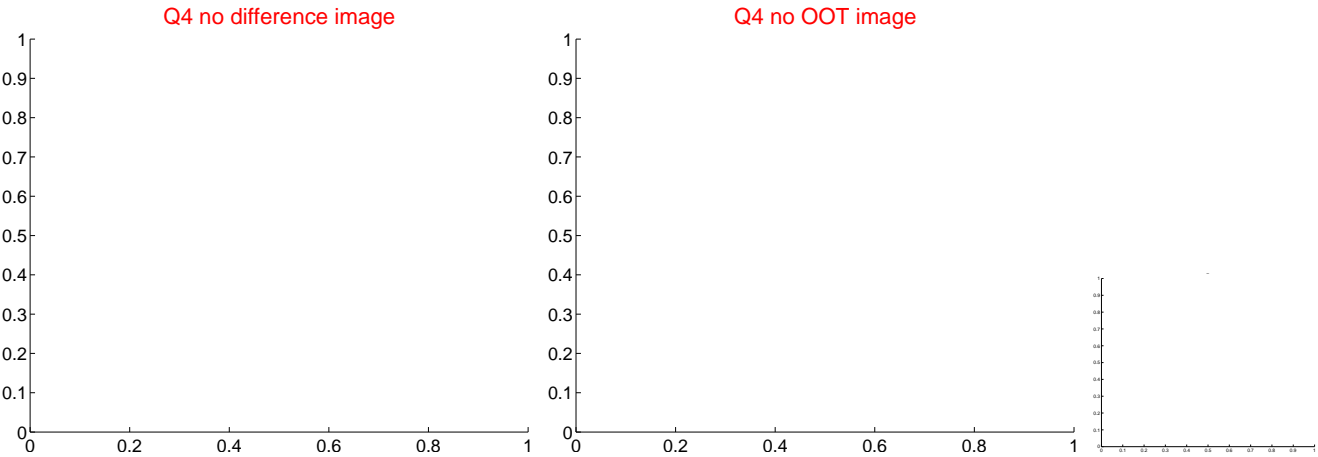
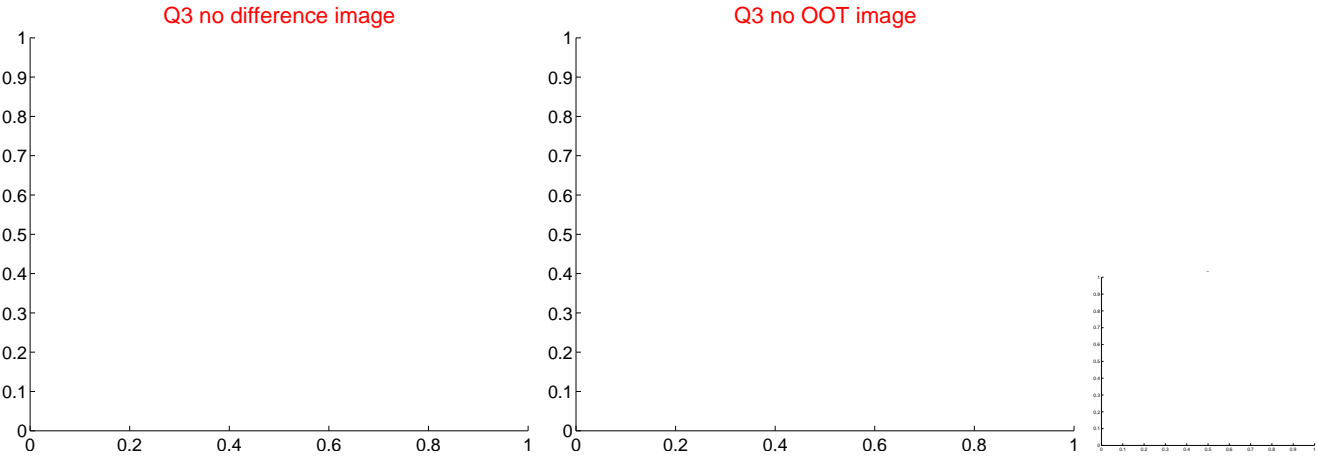
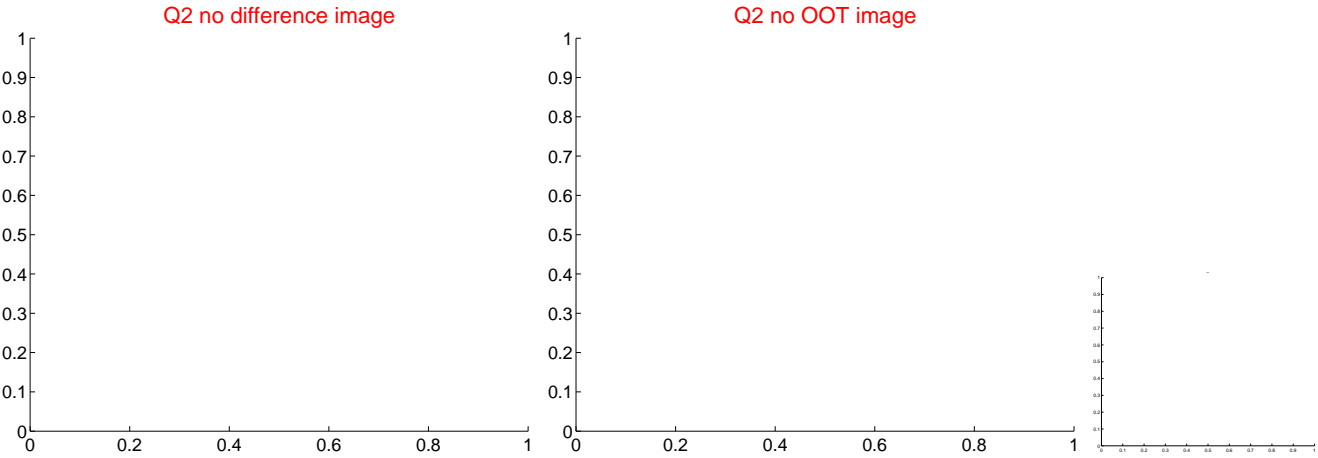
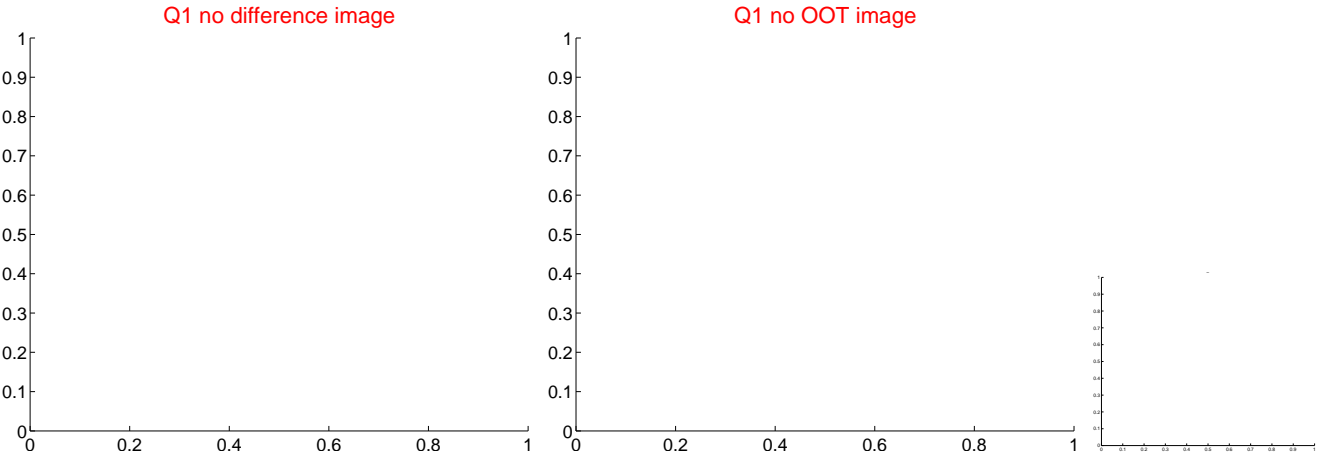
The OOT PRF centroid is offset from the target star catalog position by about 8.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.035 ± 0.125	0.28	0.019 ± 0.113	0.029 ± 0.096
PRF-fit source offset from KIC position	8.543 ± 0.080	107.07	-2.078 ± 0.127	8.286 ± 0.093
photometric centroid source offset	15.06 ± 0.55	27.36	6.96 ± 0.36	-13.36 ± 0.59

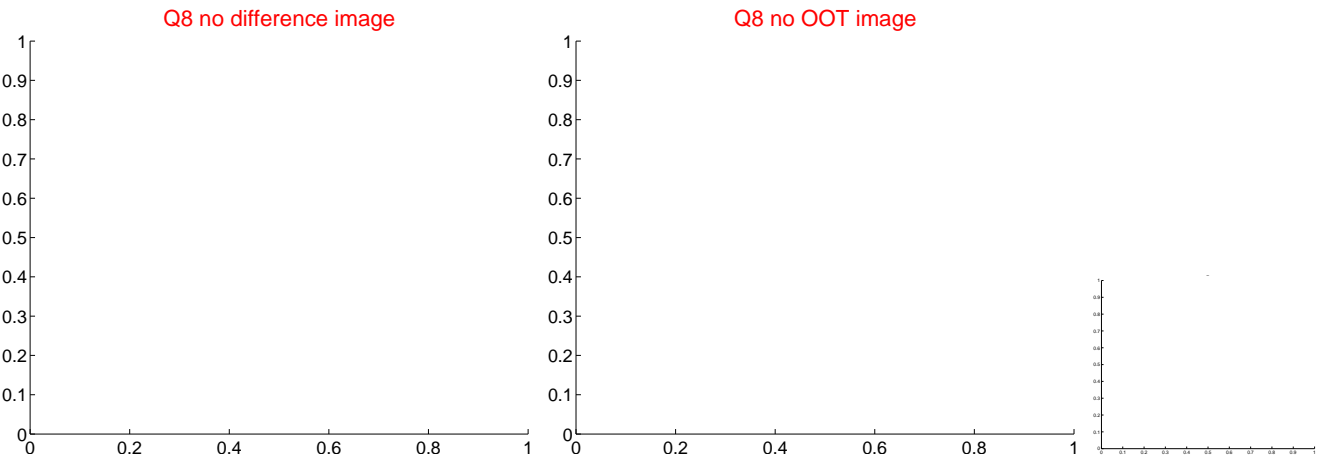
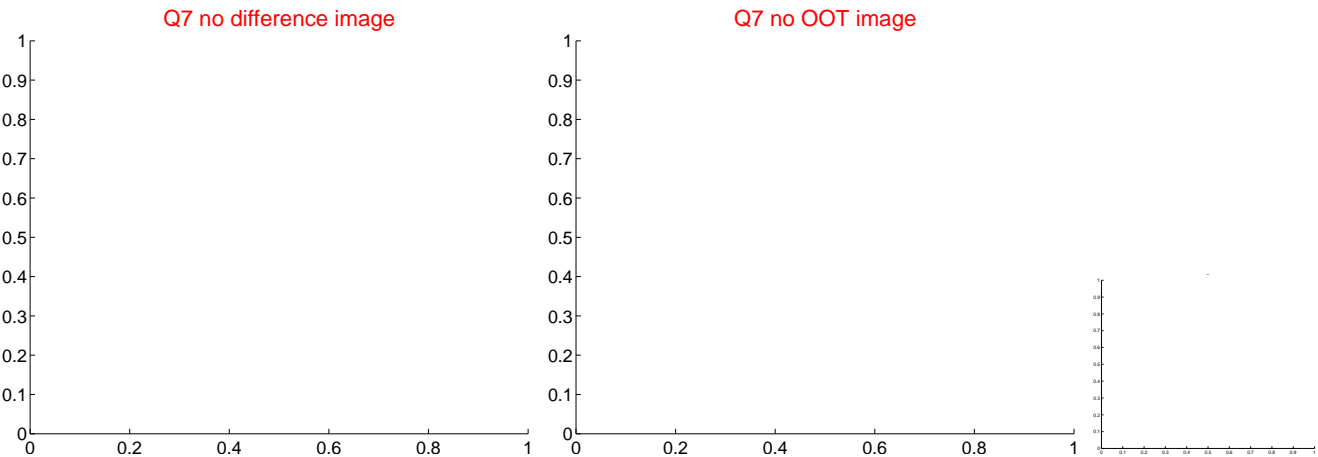
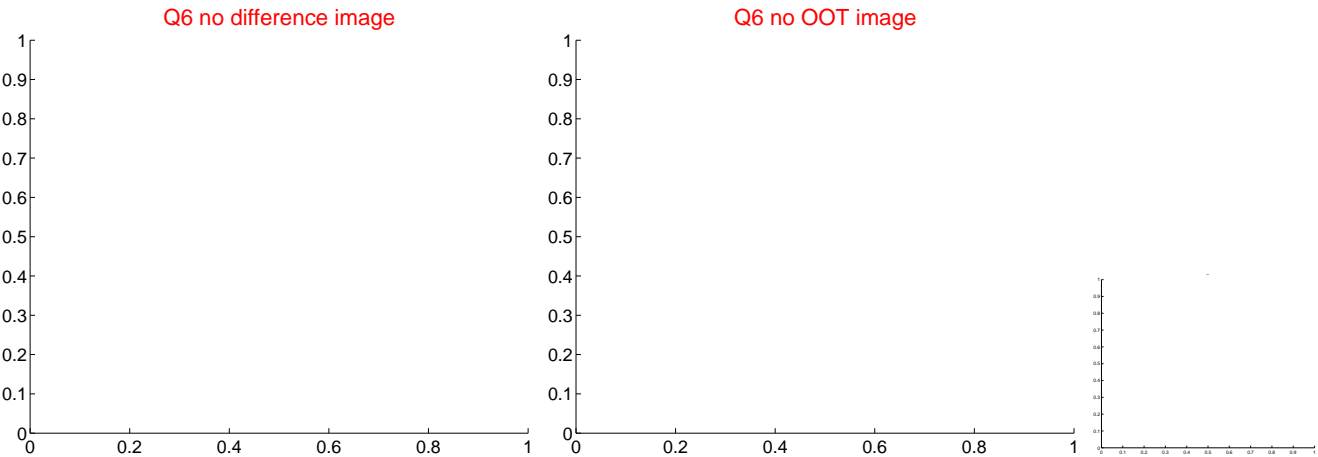
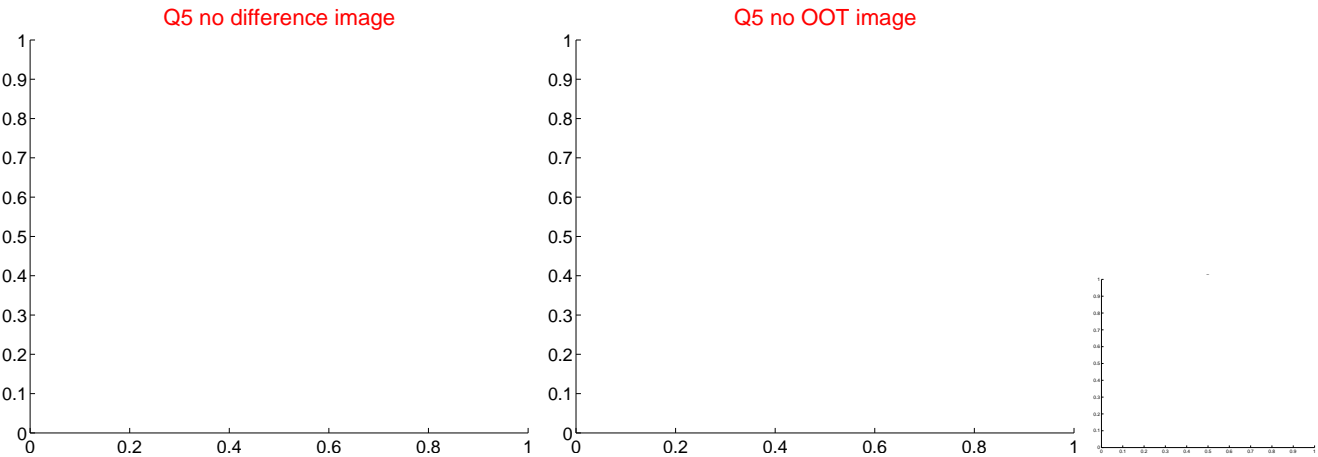


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

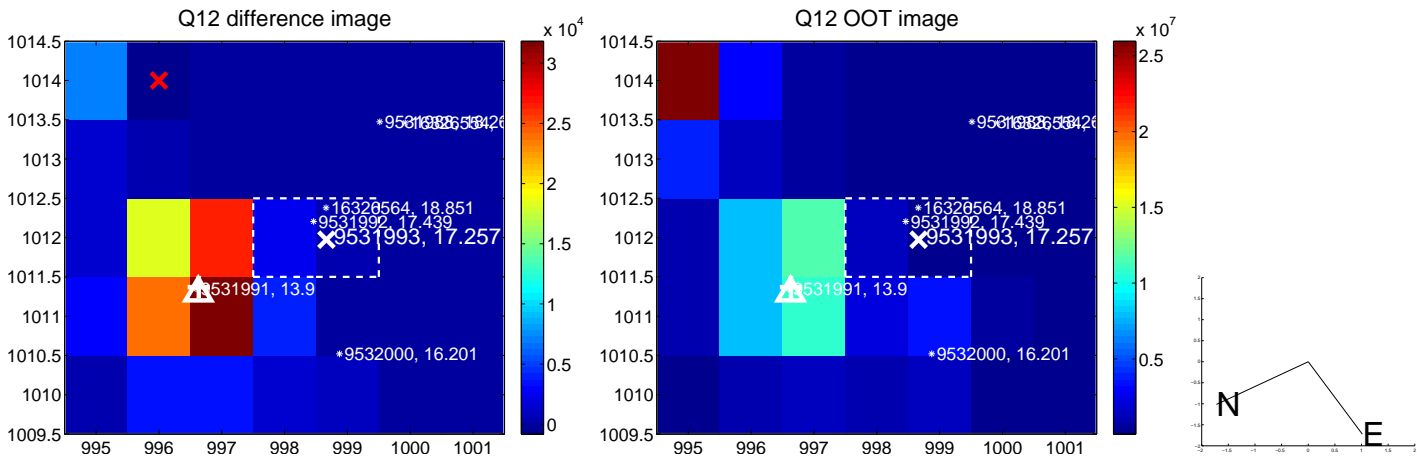
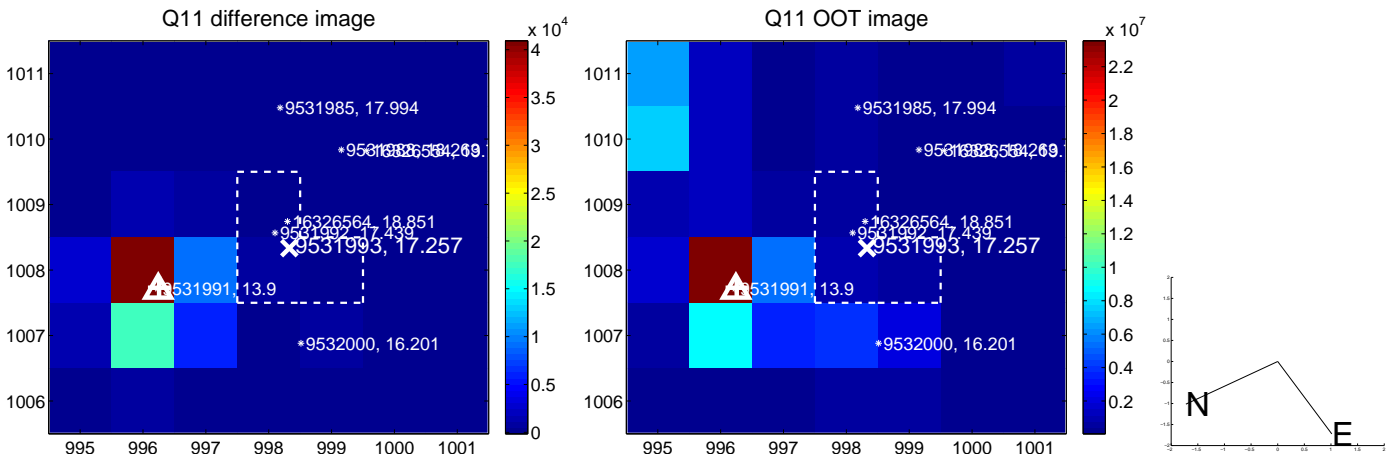
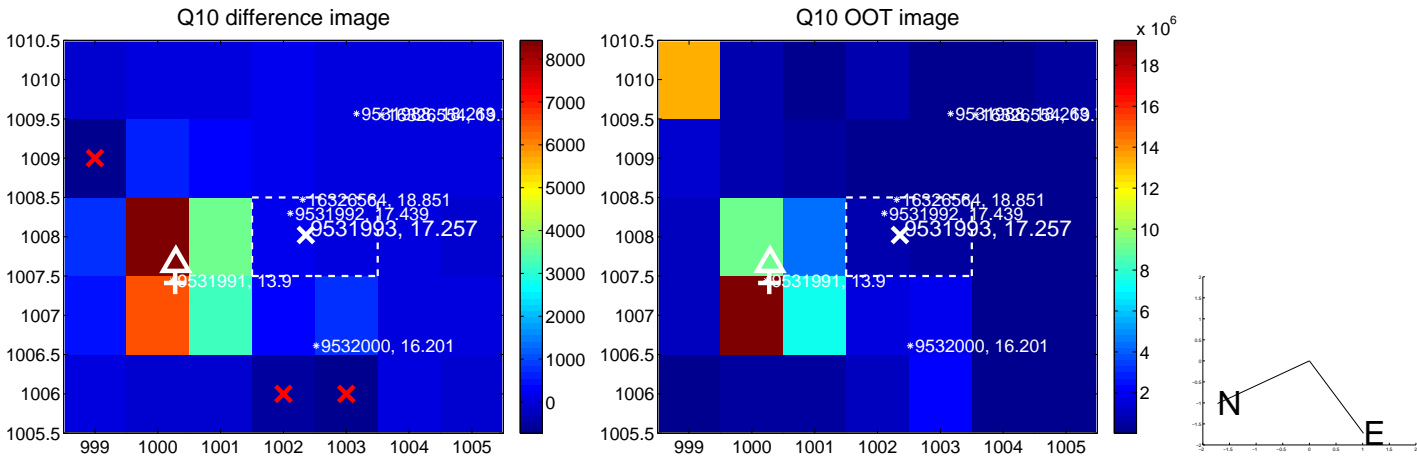
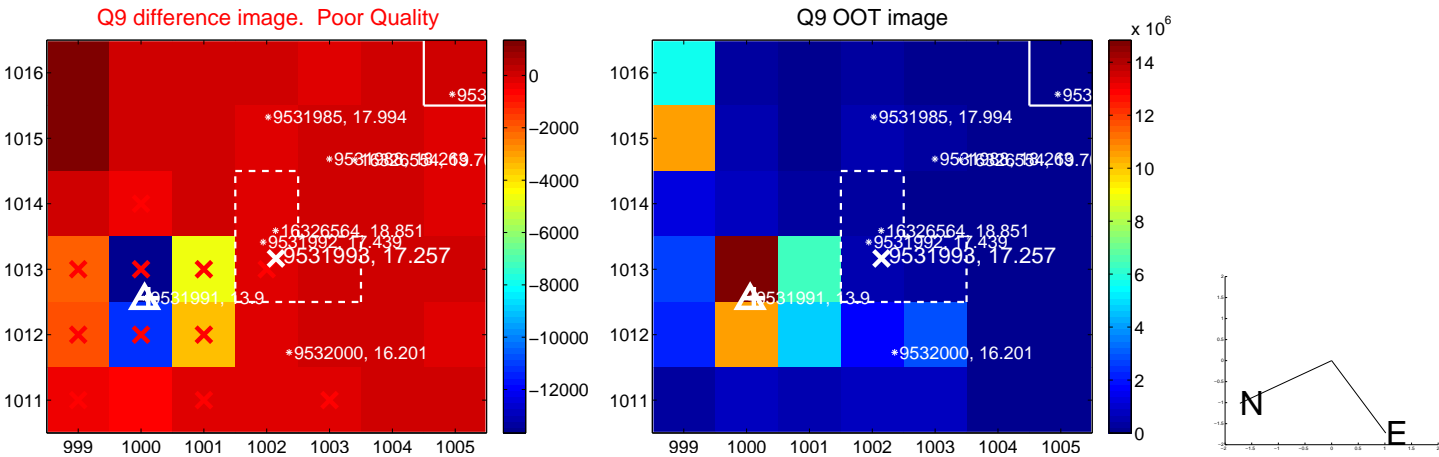
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



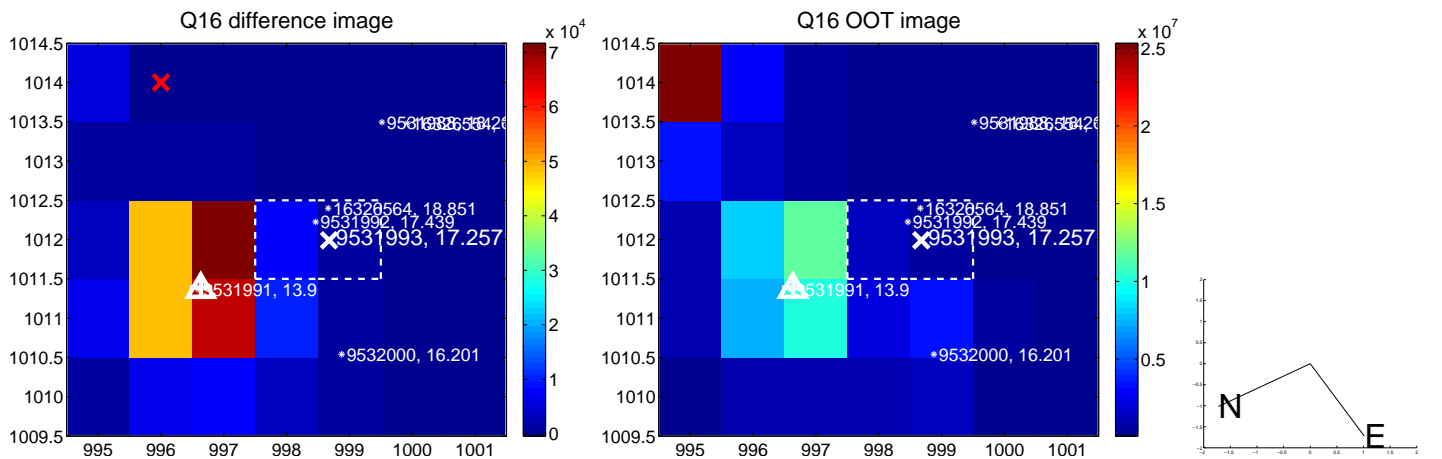
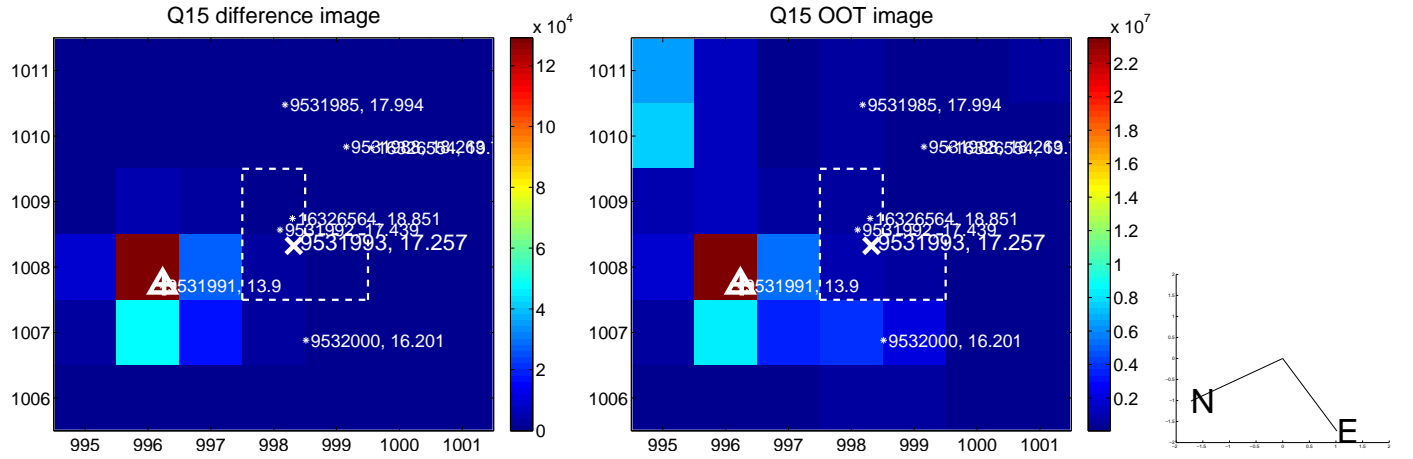
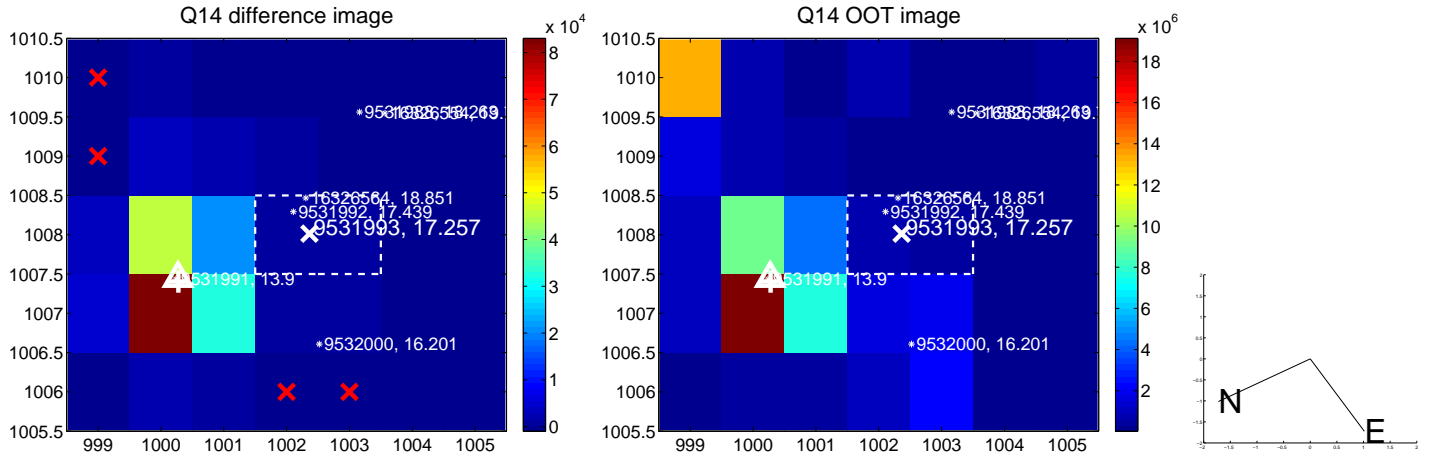
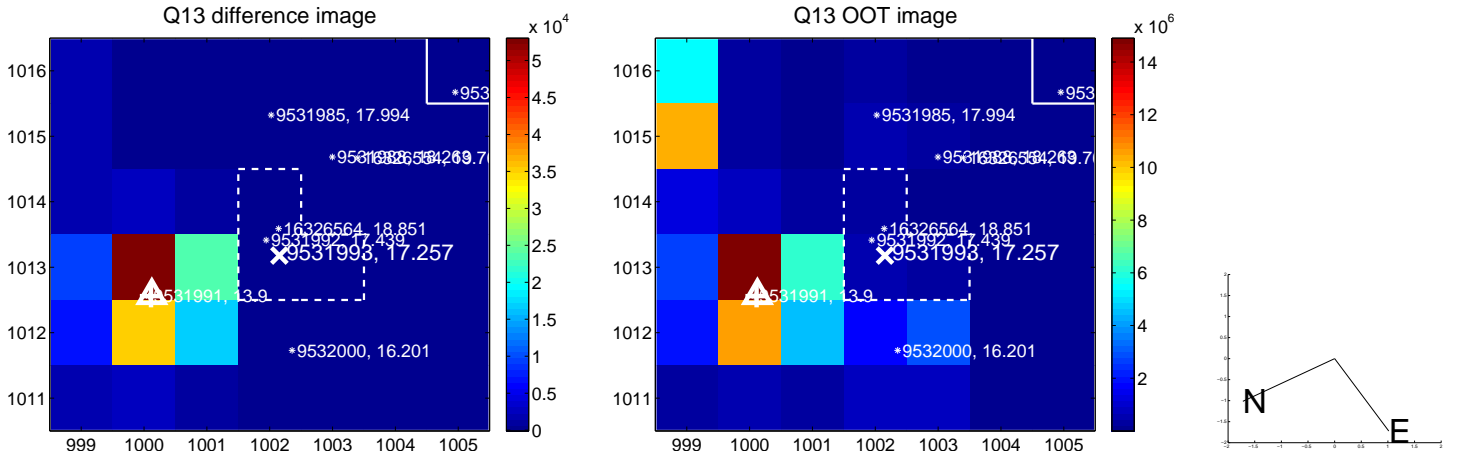
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



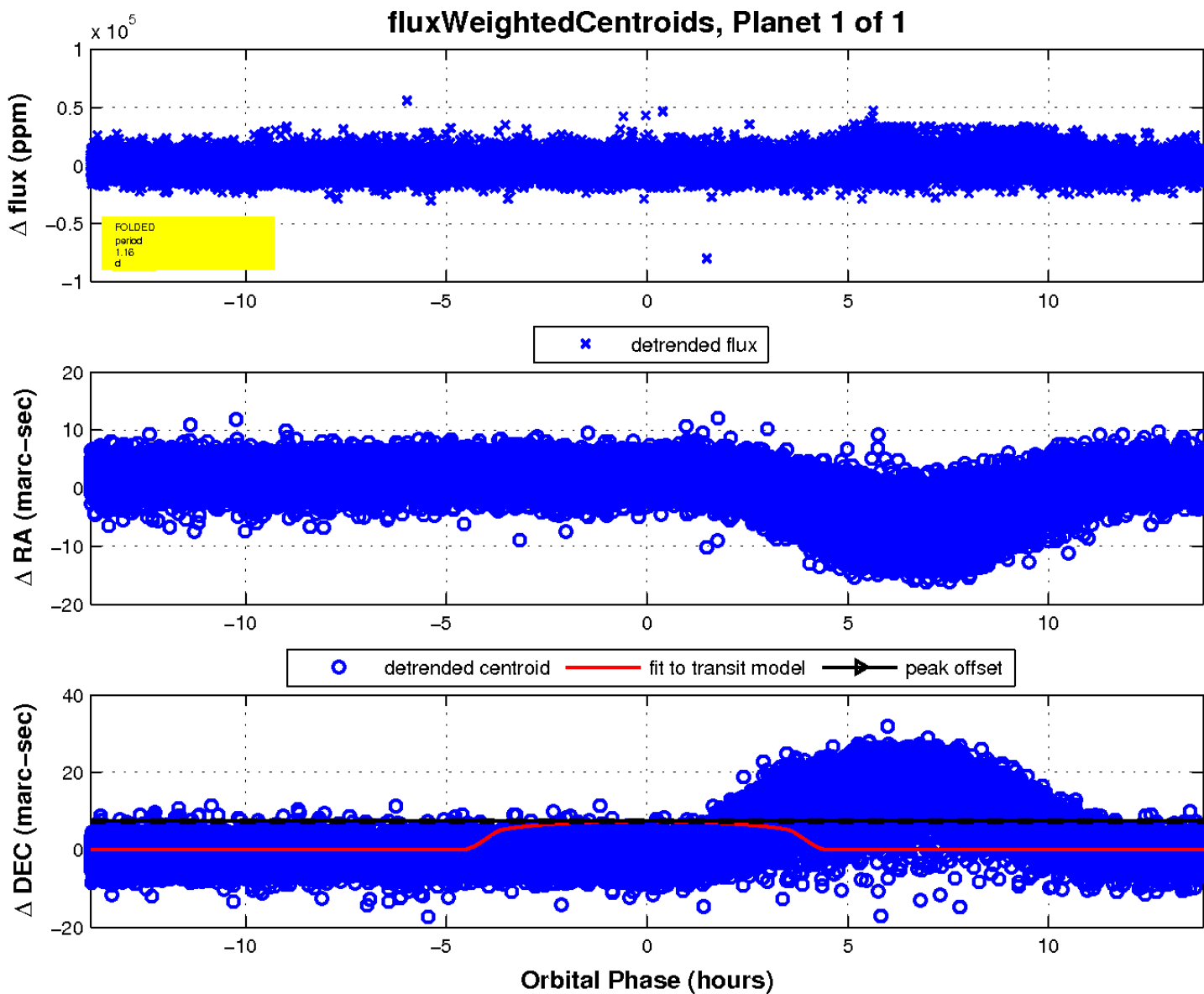
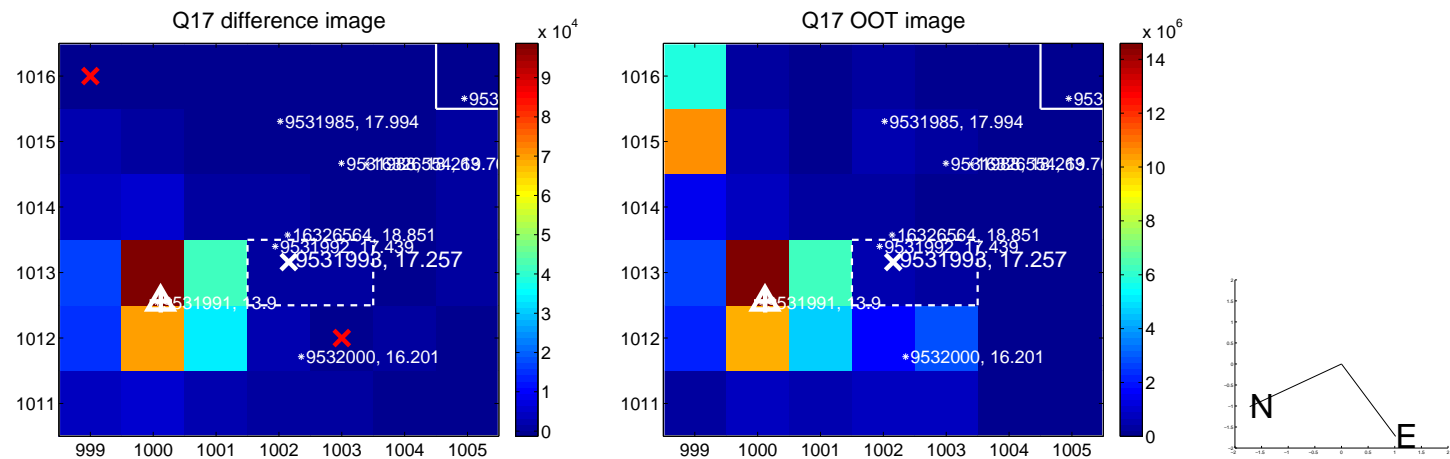
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UKIRT Image

Declination

