

KIC 009851983

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})
009851983-01	OBS	7969.01	1.456365	132.769617	42.1	3.703	11.9	12.6	2.65	6184	2.02	12981.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009851983-01	OBS	FP	0.08	1	0	0	0	LPP_DV

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

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

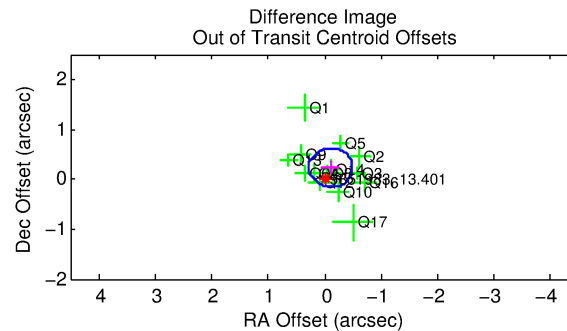
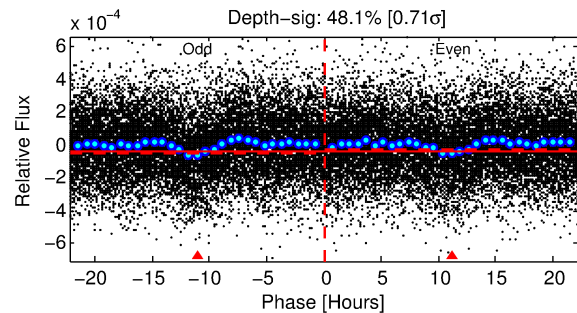
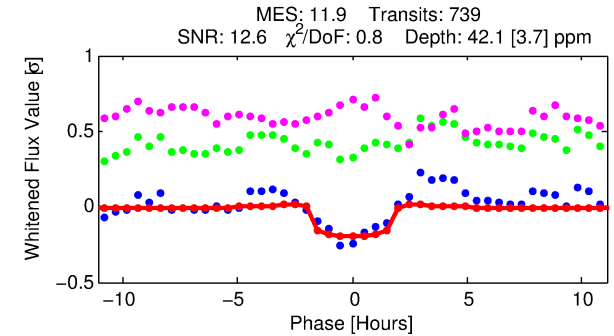
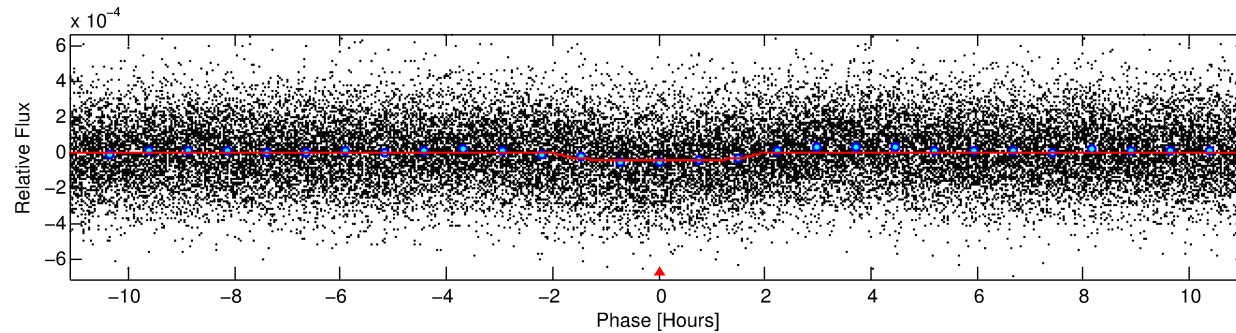
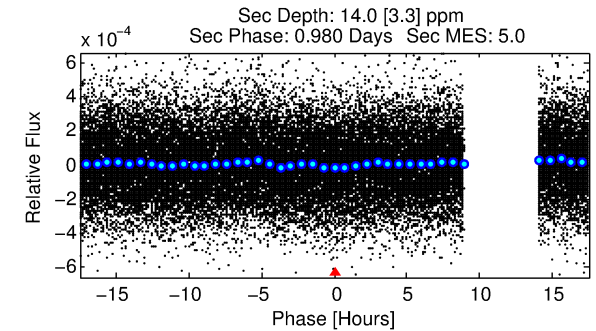
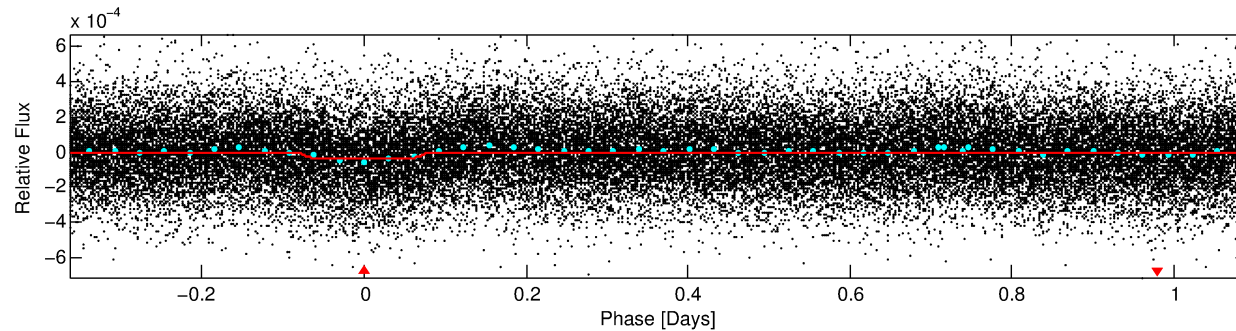
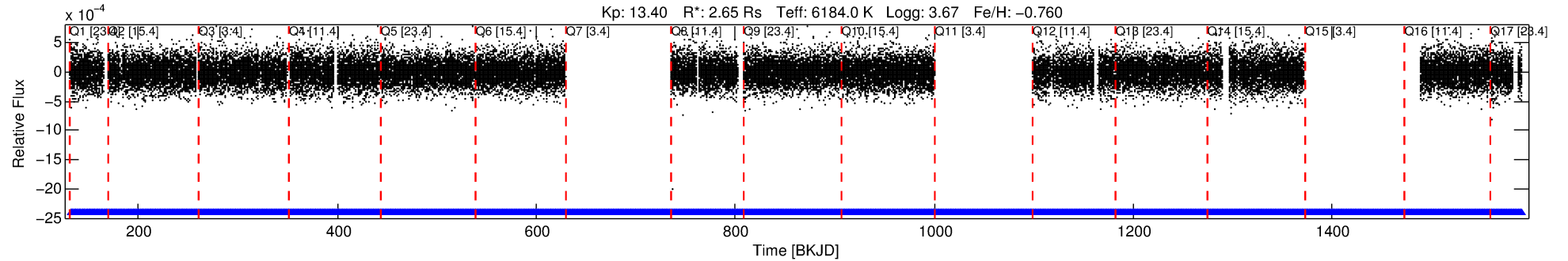
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009851983-01

No Significant Match Found

DV One-Page Summary

KIC: 9851983 Candidate: 1 of 1 Period: 1.456 d



DV Fit Results:

Period = 1.45637 [0.00001] d
Epoch = 132.7696 [0.0032] BKJD
Rp/R* = 0.0070 [0.0027]
a/R* = 1.62 [2.21]
b = 0.91 [0.44]
Seff = 12981.90 [15755.56]
Teq = 2722 [826] K
Rp = 2.02 [1.45] Re
a = 0.0266 [0.0185] AU
Ag = 1.34 [1.94] [0.17σ]
Teffp = 4525 [928] K [1.45σ]

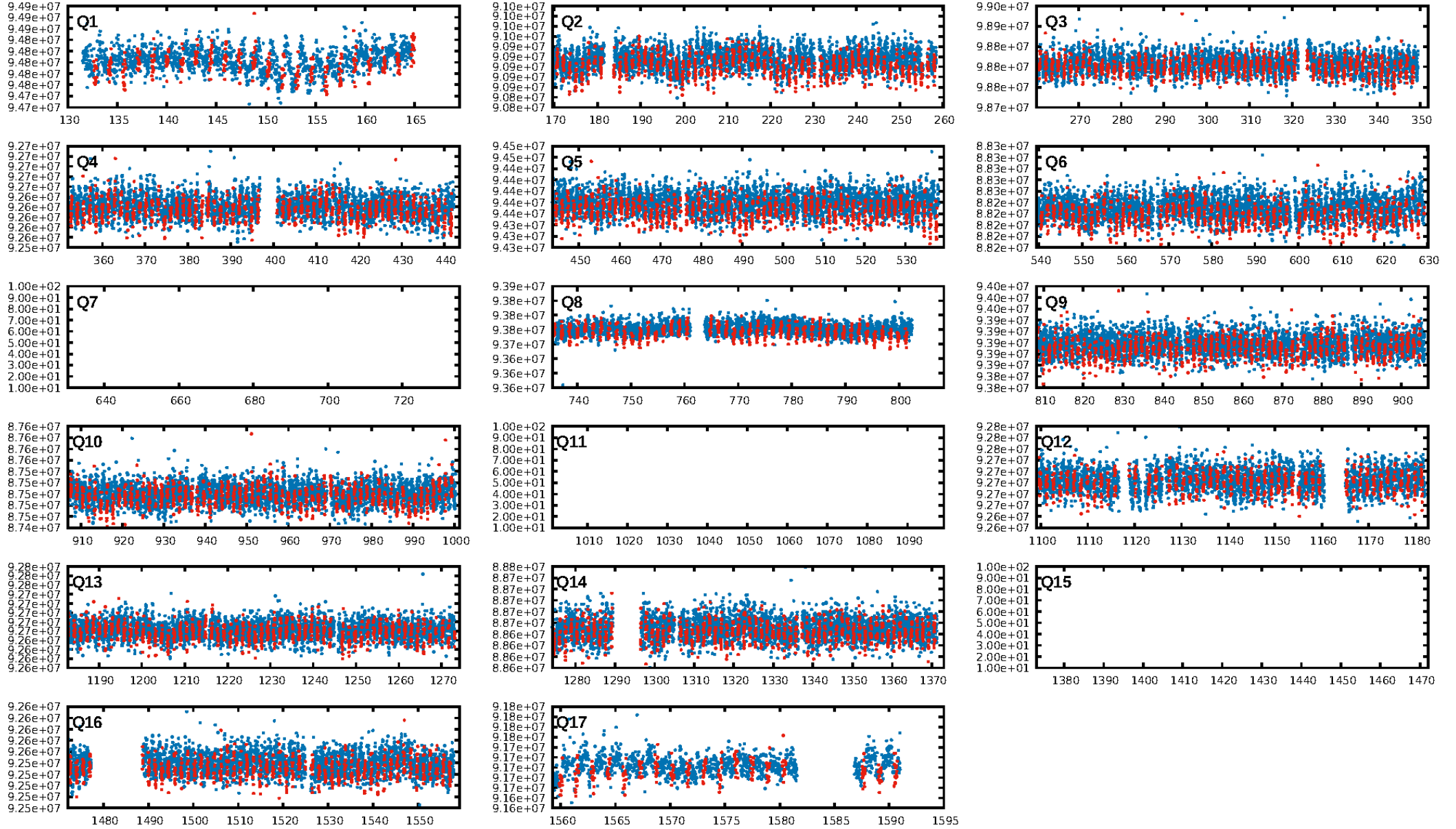
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.50e-28
RollingBand-fgt: 1.00 [698/698]
GhostDiagnostic-chr: 1.011
Centroid-sig: 0.0%
Centroid-so: 3.454 arcsec [4.00σ]
OotOffset-rm: 0.253 arcsec [1.95σ]
KicOffset-rm: 0.293 arcsec [2.14σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

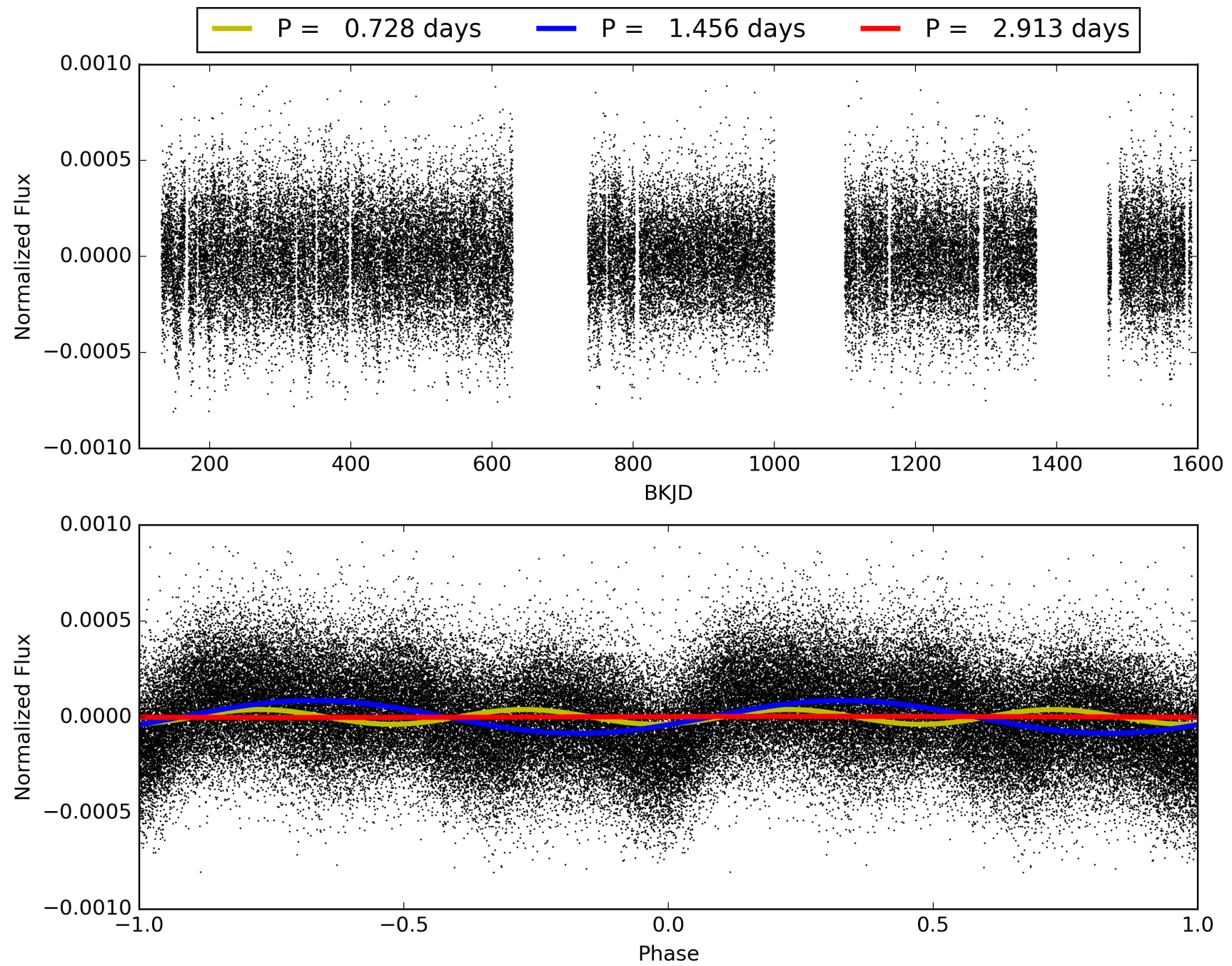
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:37:54 Z

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

TCE 009851983-01, PDC Light Curves

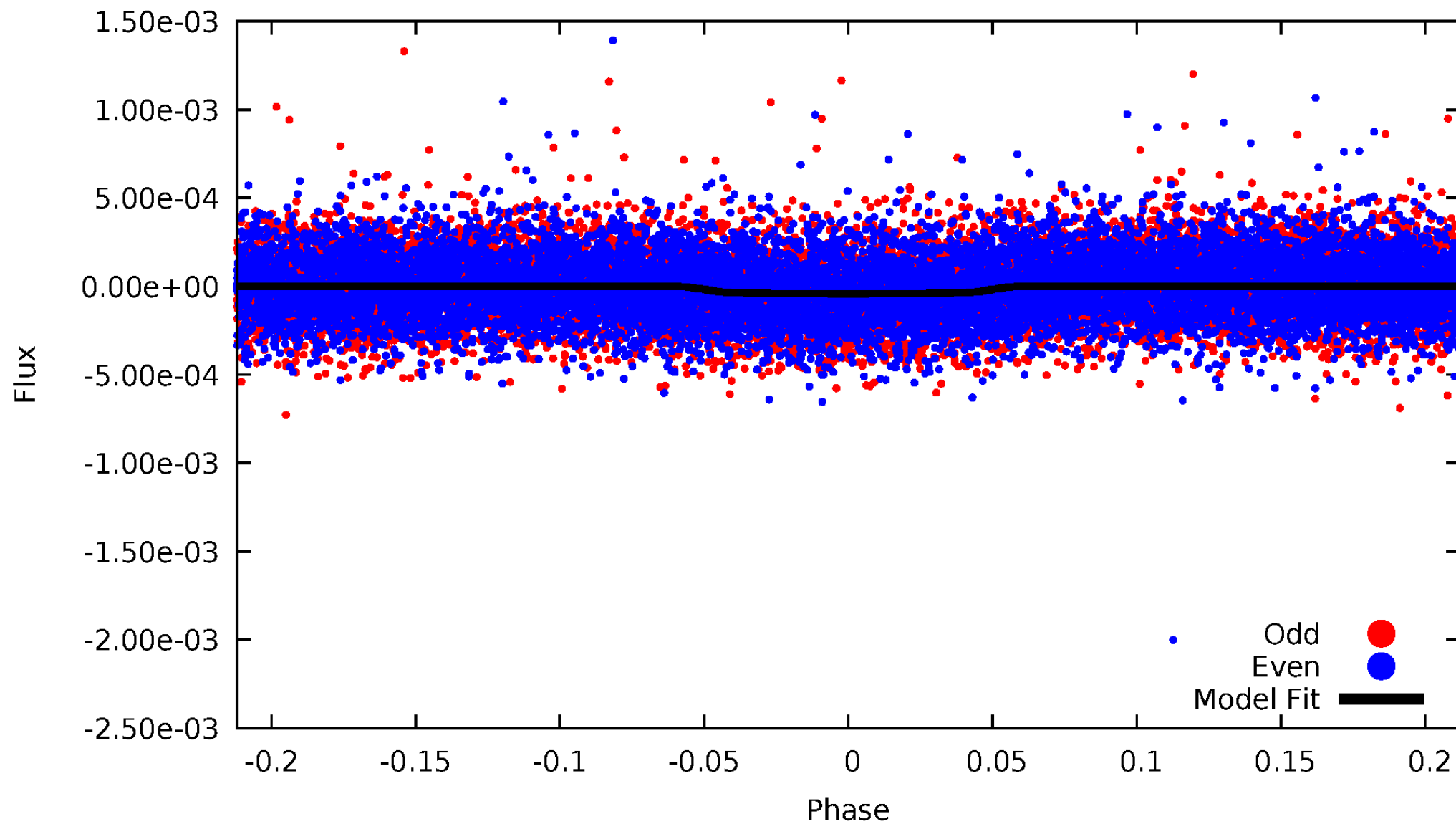


TCE 009851983-01



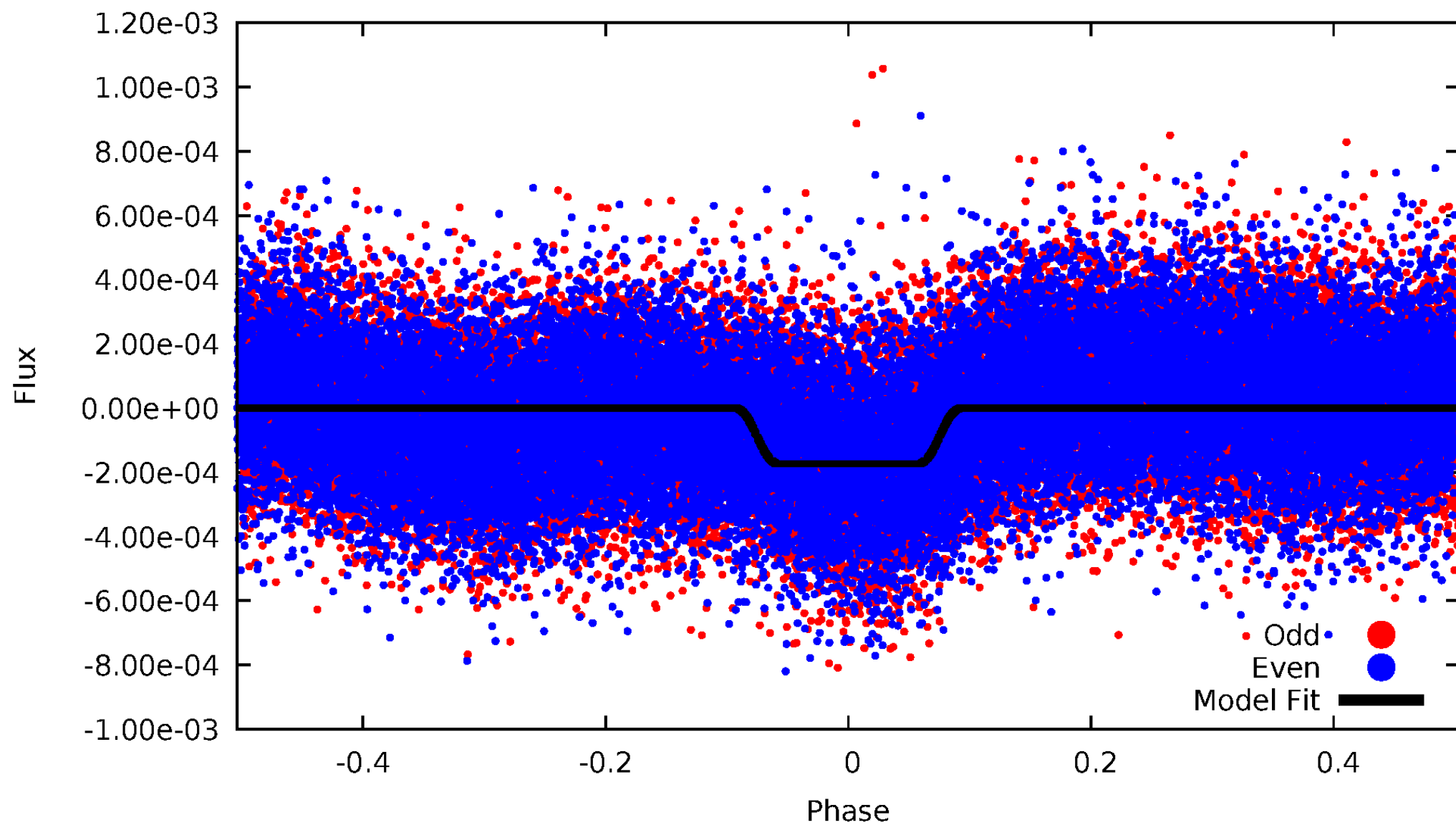
DV Odd/Even

TCE 009851983-01



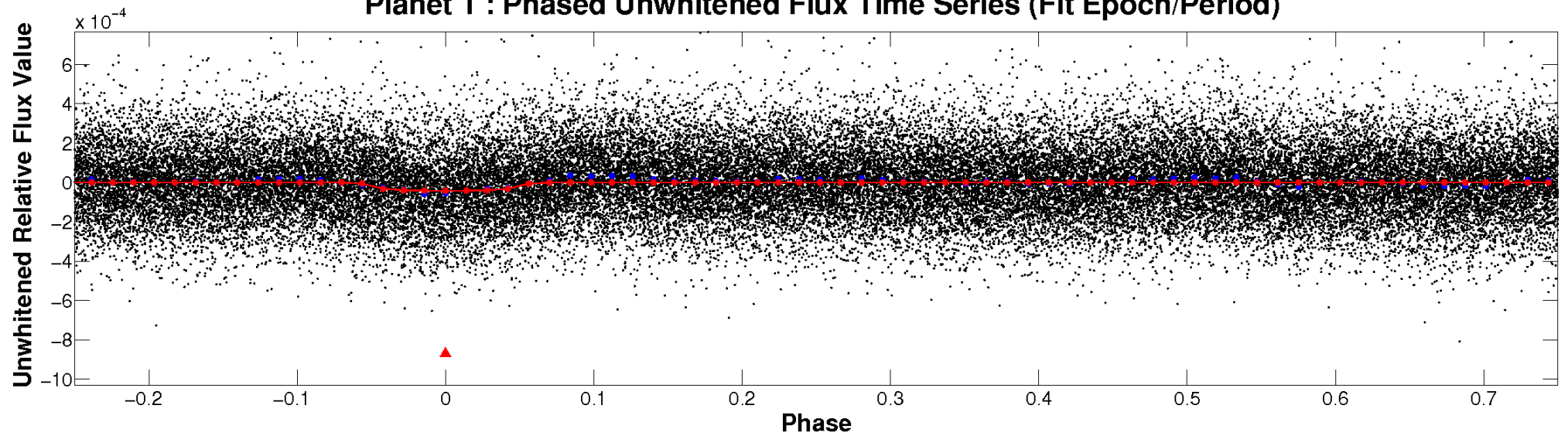
ALT Odd/Even

TCE 009851983-01

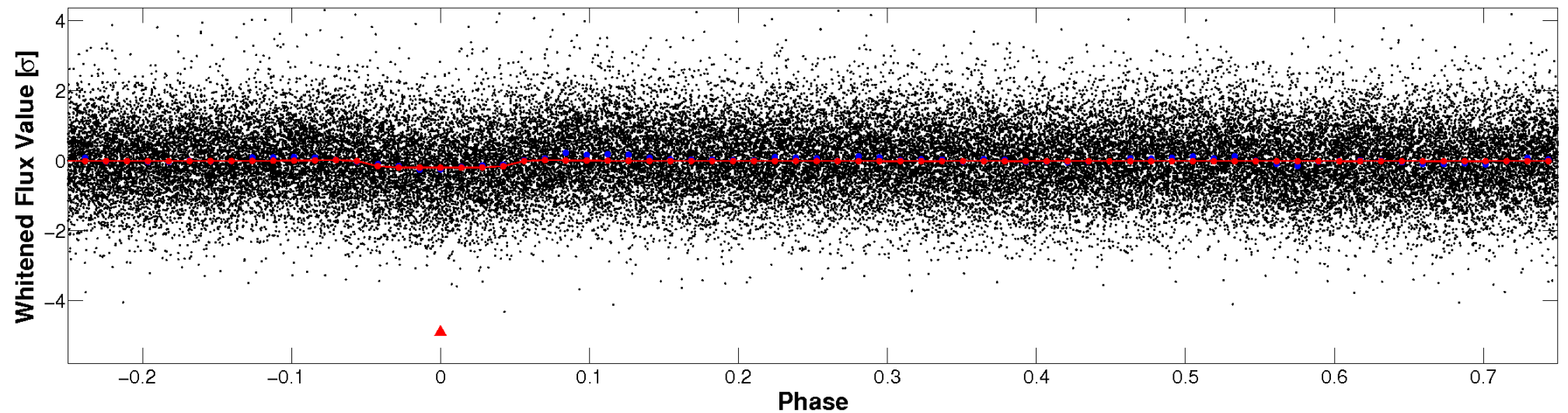


Non-Whitened Vs. Whitened Light Curve

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

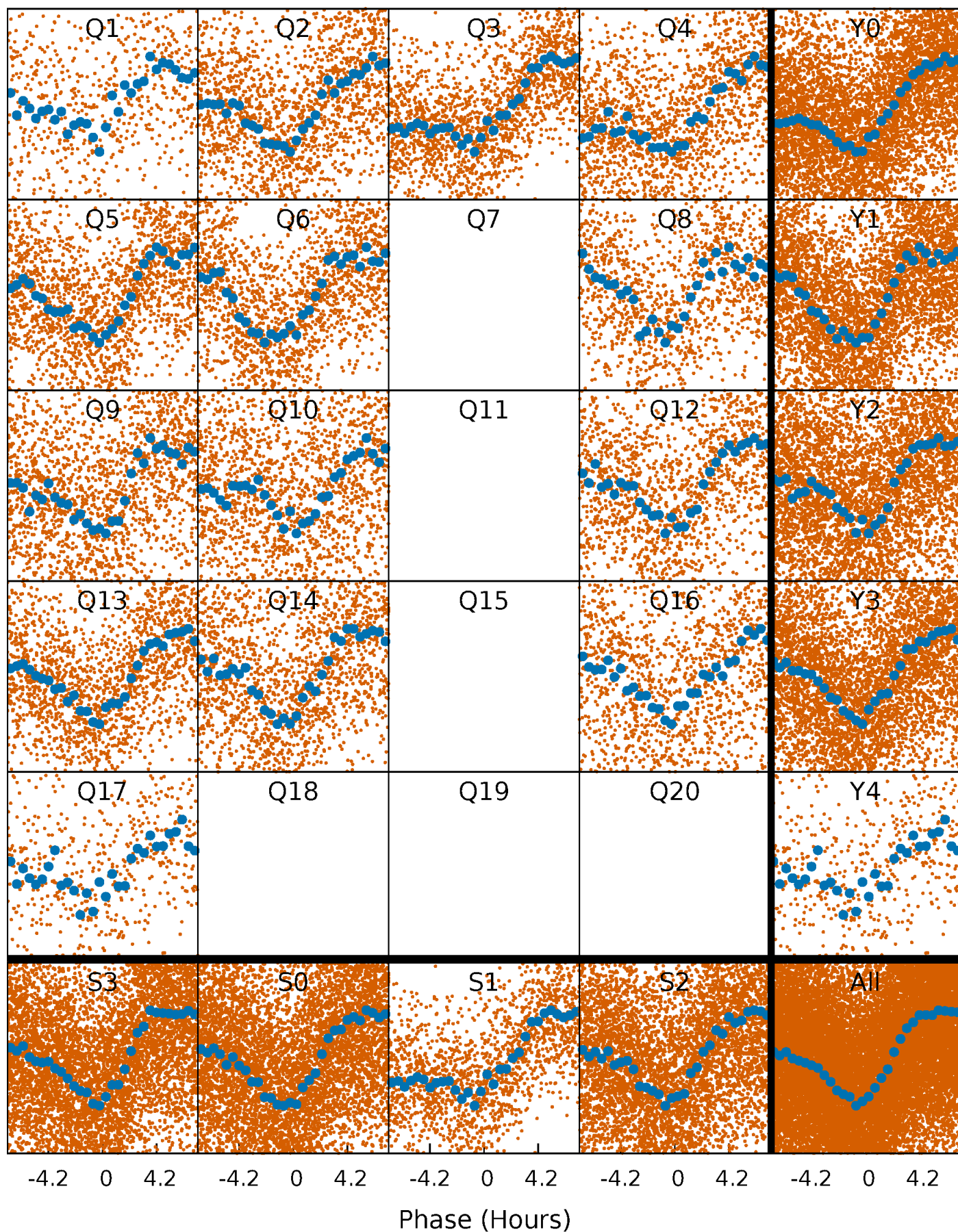


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



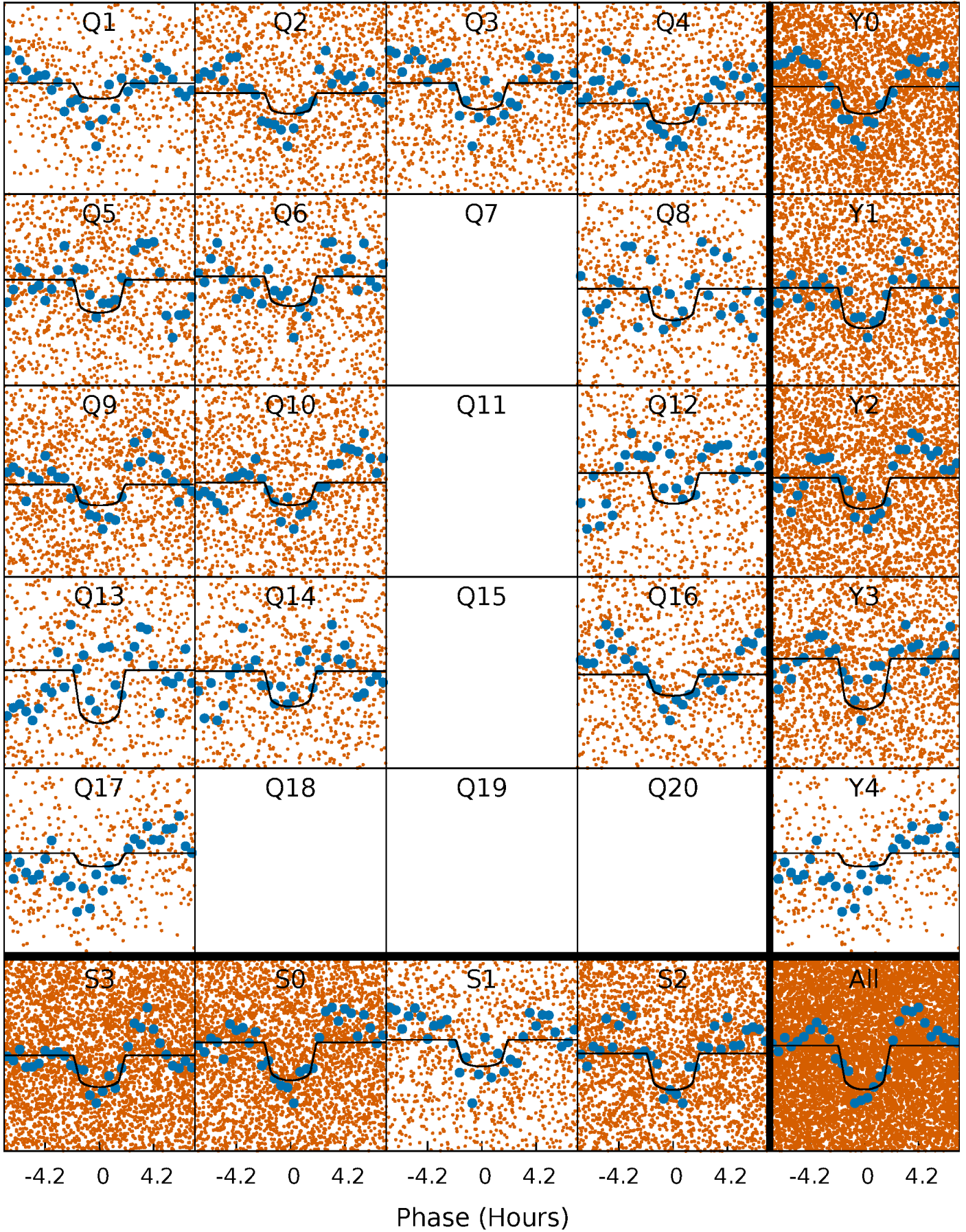
PDC Quarter-Phased Transit Curves

TCE 009851983-01 P= 1.456365 Days $T_0=132.769617$ (BKJD)



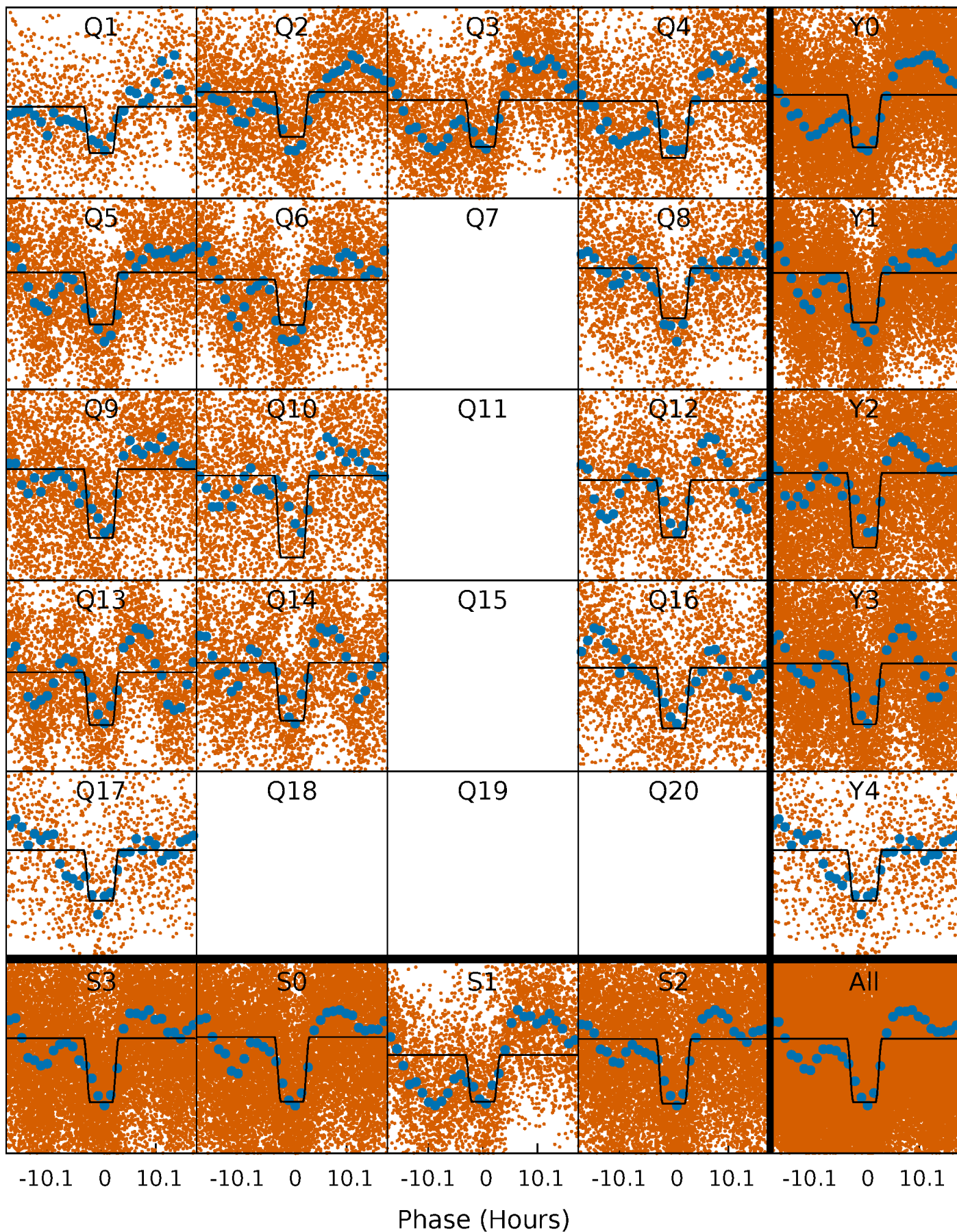
DV Quarter-Phased Transit Curves

TCE 009851983-01 P= 1.456365 Days $T_0=132.769617$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

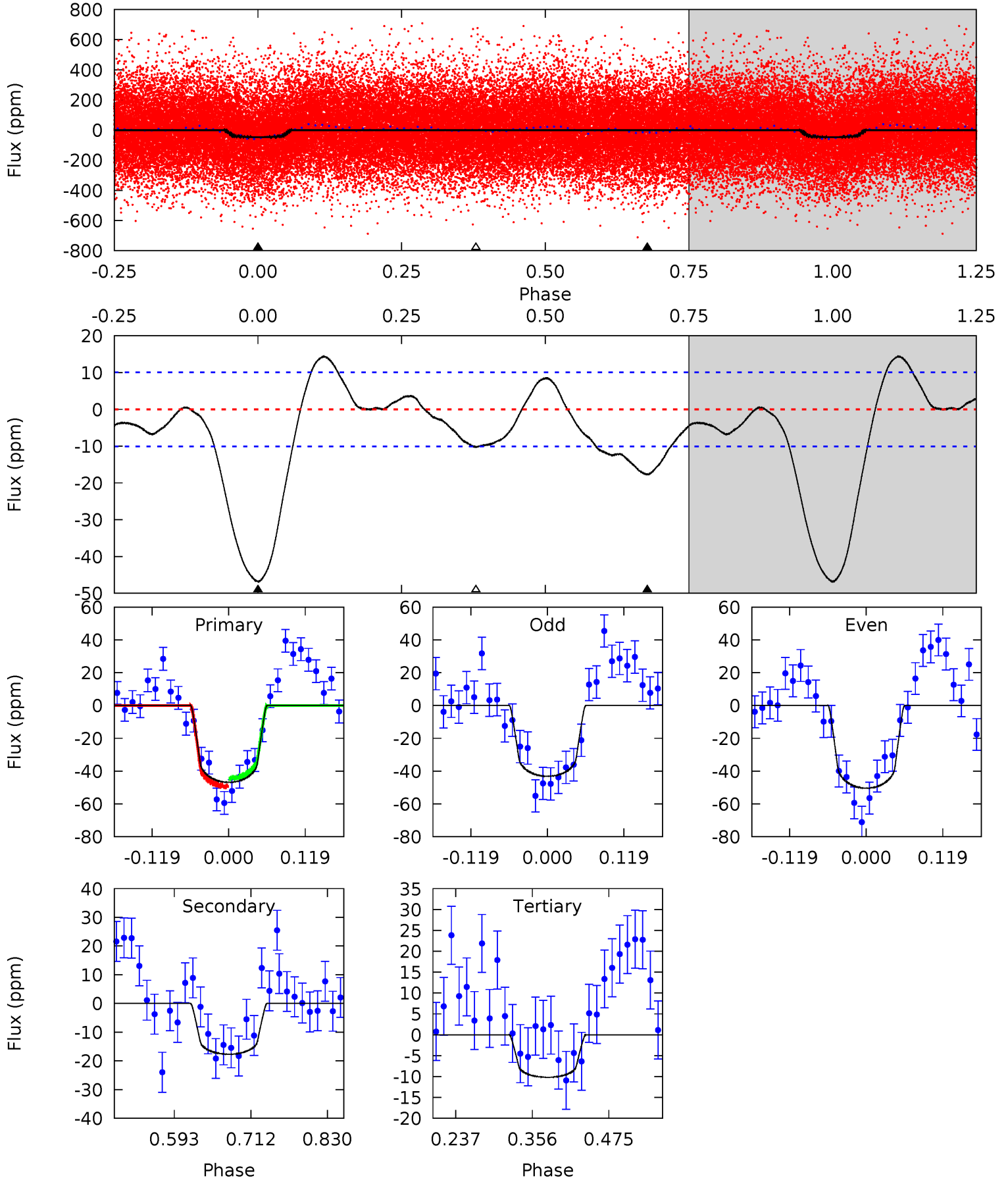
TCE 009851983-01 P= 1.456391 Days $T_0=132.712227$ (BKJD)



DV Model-Shift Uniqueness Test

009851983-01, P = 1.456365 Days, E = 131.313252 Days

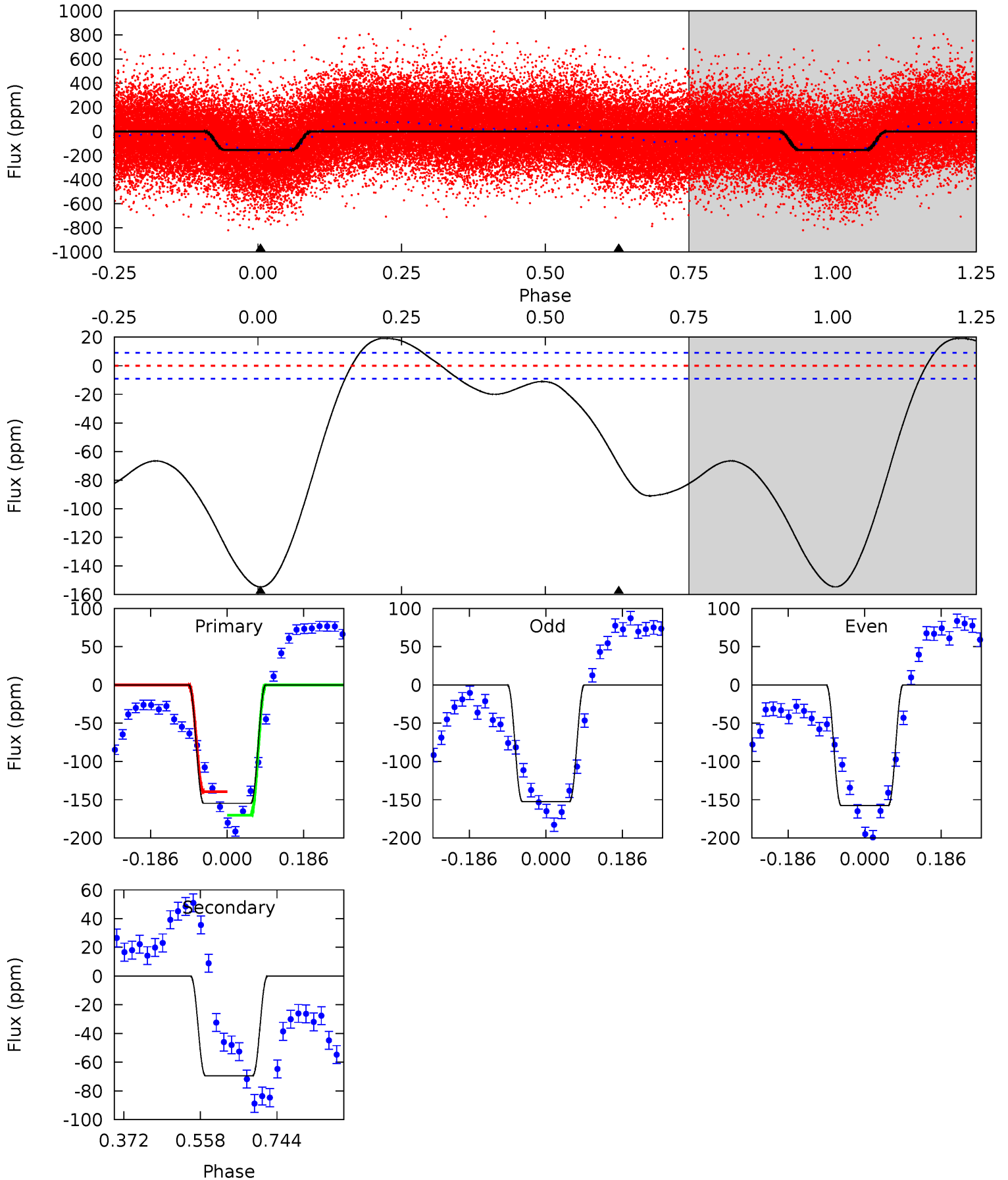
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	7.95	4.58	0	4.53	1.56	2.59	16.5	21.1	3.37	7.95	1.63	1.06	0.24	1.13



Alt Model-Shift Uniqueness Test

009851983-01, P = 1.456391 Days, E = 131.255836 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.2	34.2	0	0	4.43	1.32	8.49	76.2	76.2	34.2	34.2	1.28	1.01	0.11	7.49



Stellar Parameters For KIC 009851983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6184^{+218}_{-196}	$3.665^{+0.740}_{-0.131}$	$-0.760^{+0.300}_{-0.250}$	$2.646^{+0.686}_{-1.601}$	$1.179^{+0.154}_{-0.334}$	$0.090^{+1.224}_{-0.041}$
	+4%/-3%	+20%/-4%	+39%/-33%	+26%/-61%	+13%/-28%	+1366%/-46%
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 009851983-01 / KOI 7969.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 2	$1.71^{+0.89}_{-0.75}$	3649^{+370}_{-601}	4770^{+1134}_{-719}	$2.295^{+5.058}_{-1.281}$
Alt.	-70 ± 2	$3.44^{+1.14}_{-1.24}$	3698^{+316}_{-650}	4860^{+558}_{-432}	$2.337^{+2.941}_{-1.043}$

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

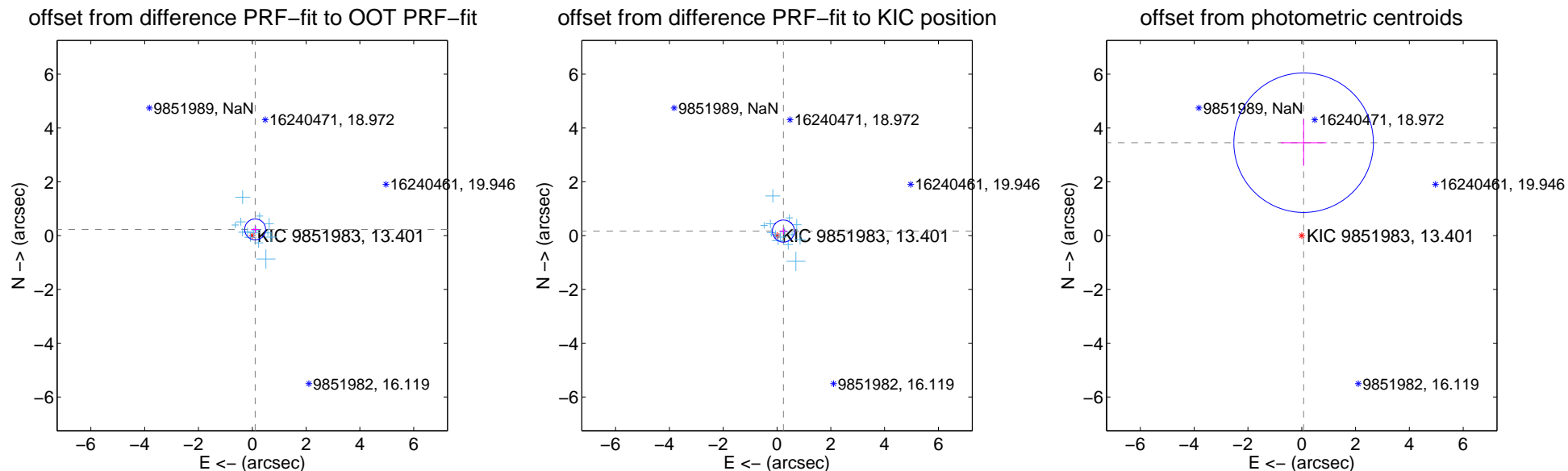
DV Centroid Data

Supplemental centroid analysis for 009851983-01. Kepler magnitude: 13.40. Transit SNR 12.63

There are 14 quarters with good PRF difference image offsets

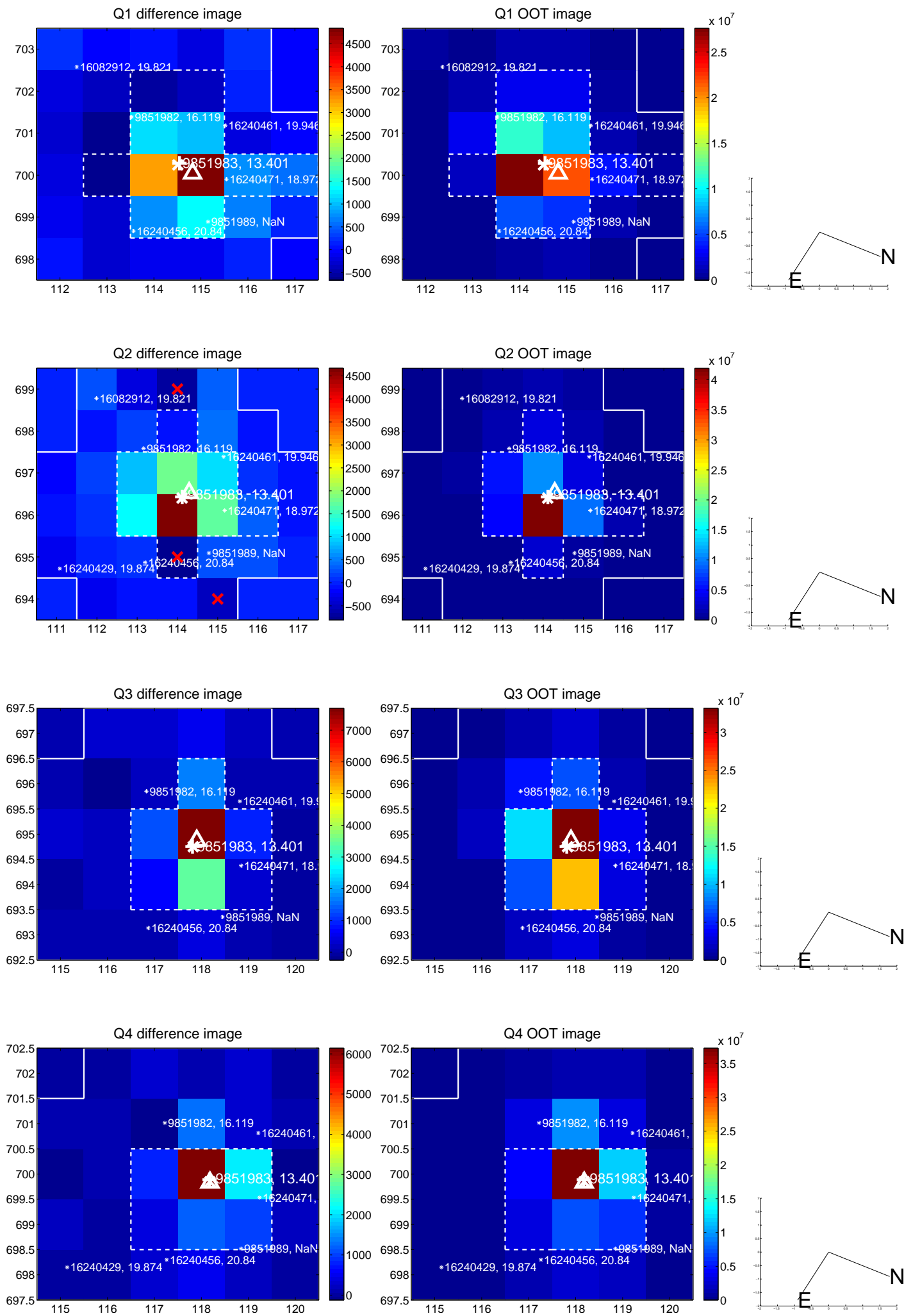
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.253 ± 0.130	1.95	-0.107 ± 0.149	0.229 ± 0.125
PRF-fit source offset from KIC position	0.293 ± 0.137	2.14	-0.240 ± 0.140	0.168 ± 0.130
photometric centroid source offset	3.45 ± 0.86	4.00	-0.07 ± 0.85	3.45 ± 0.86

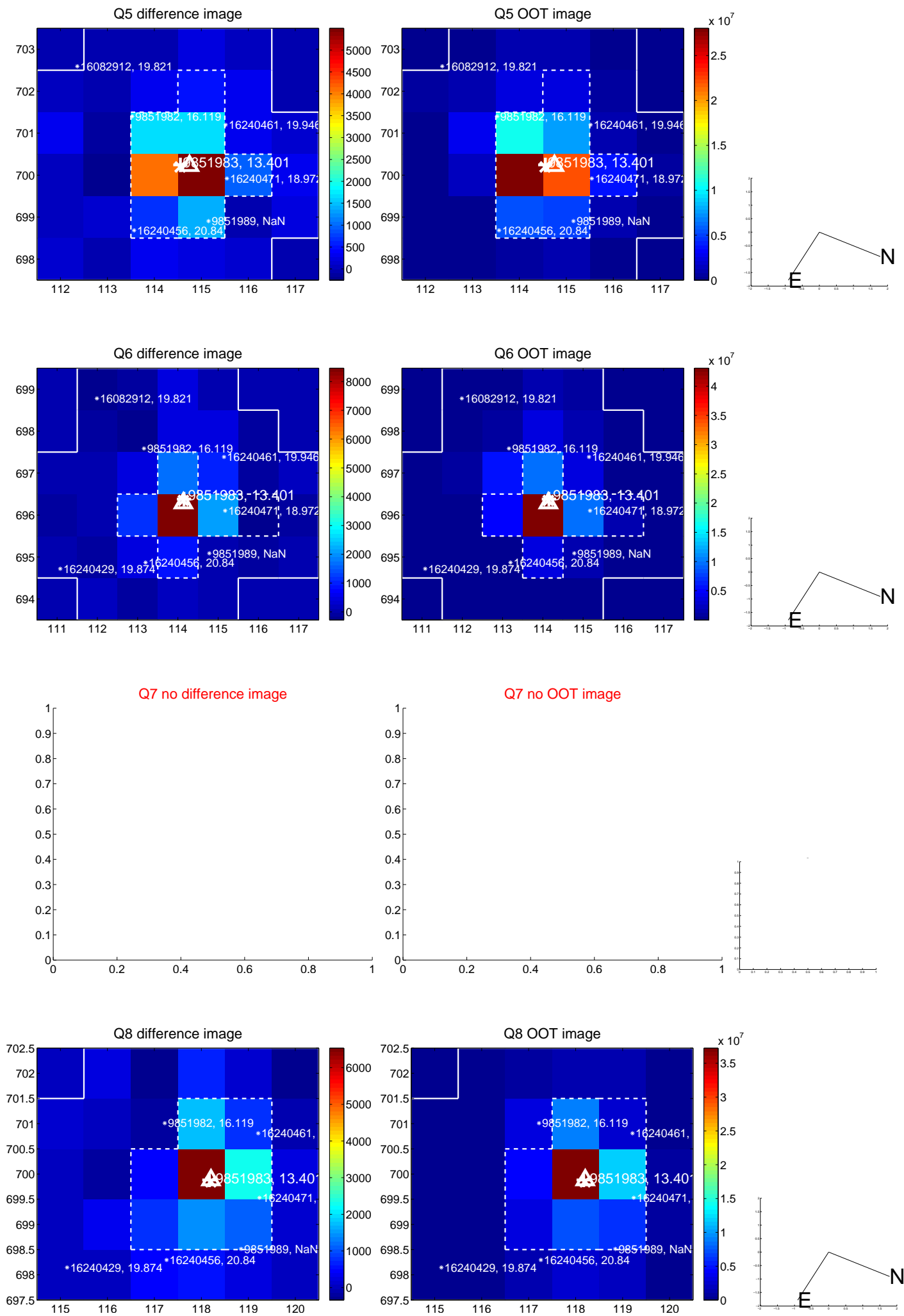


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

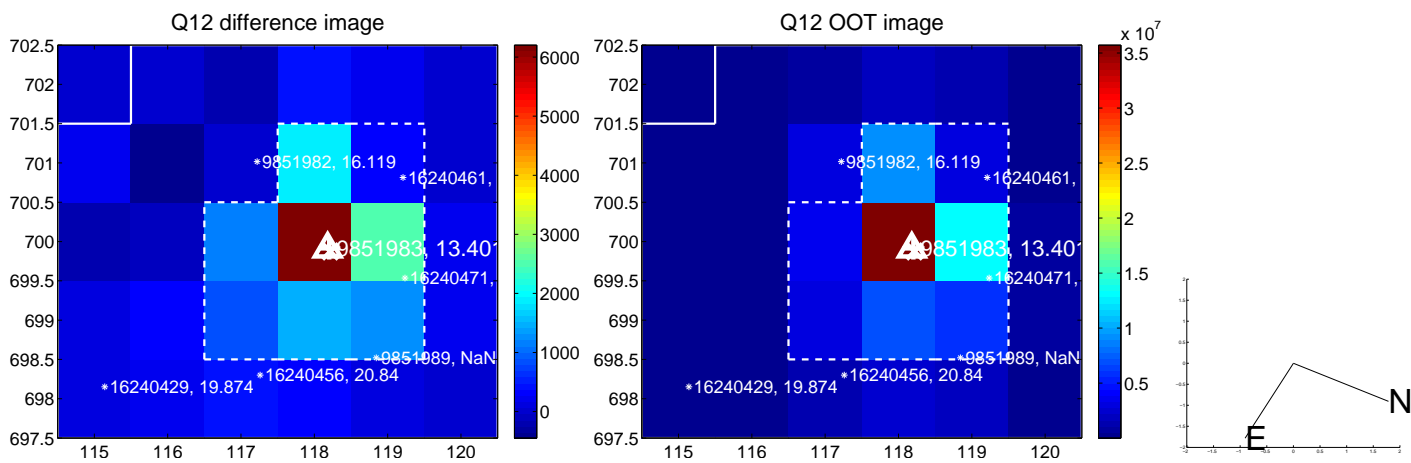
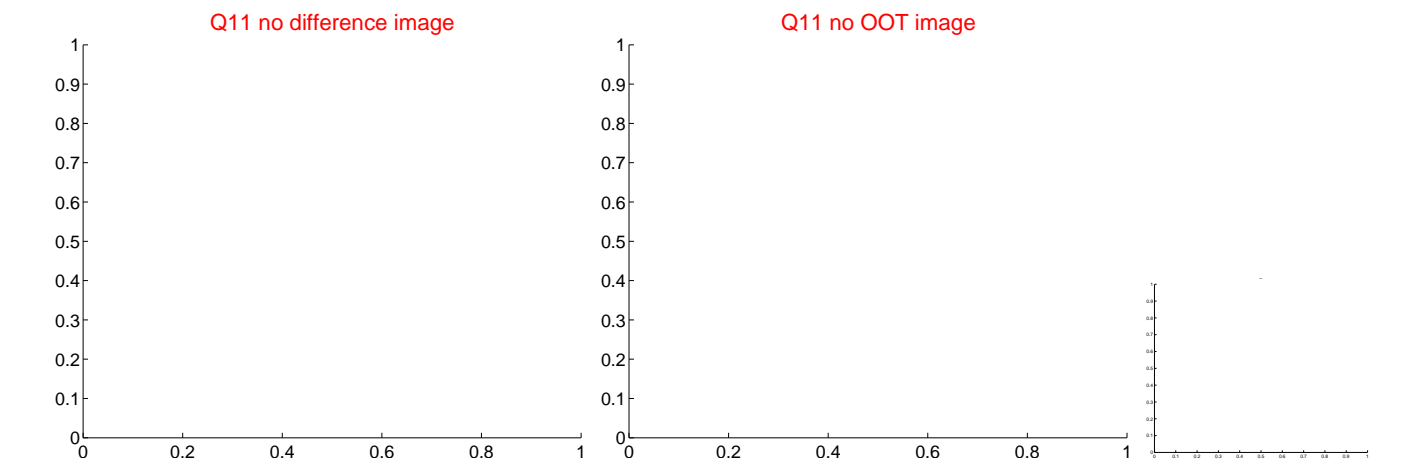
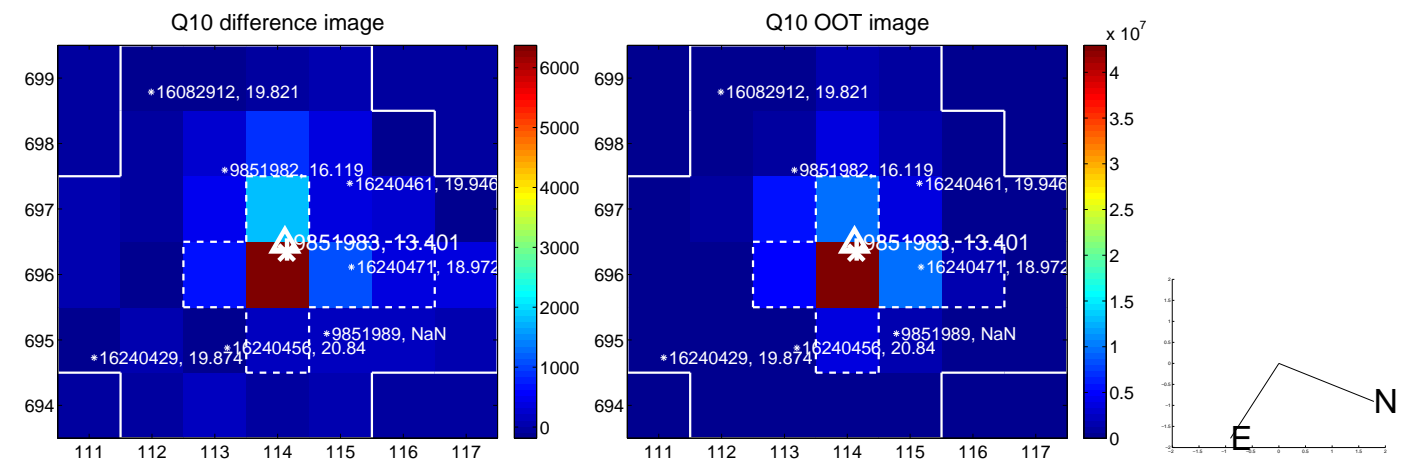
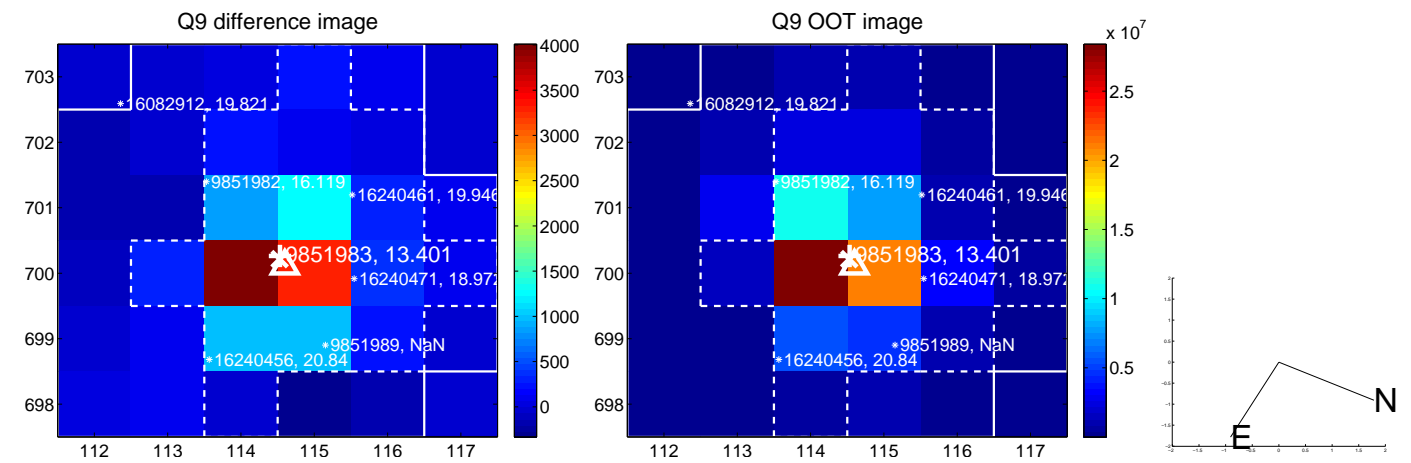
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



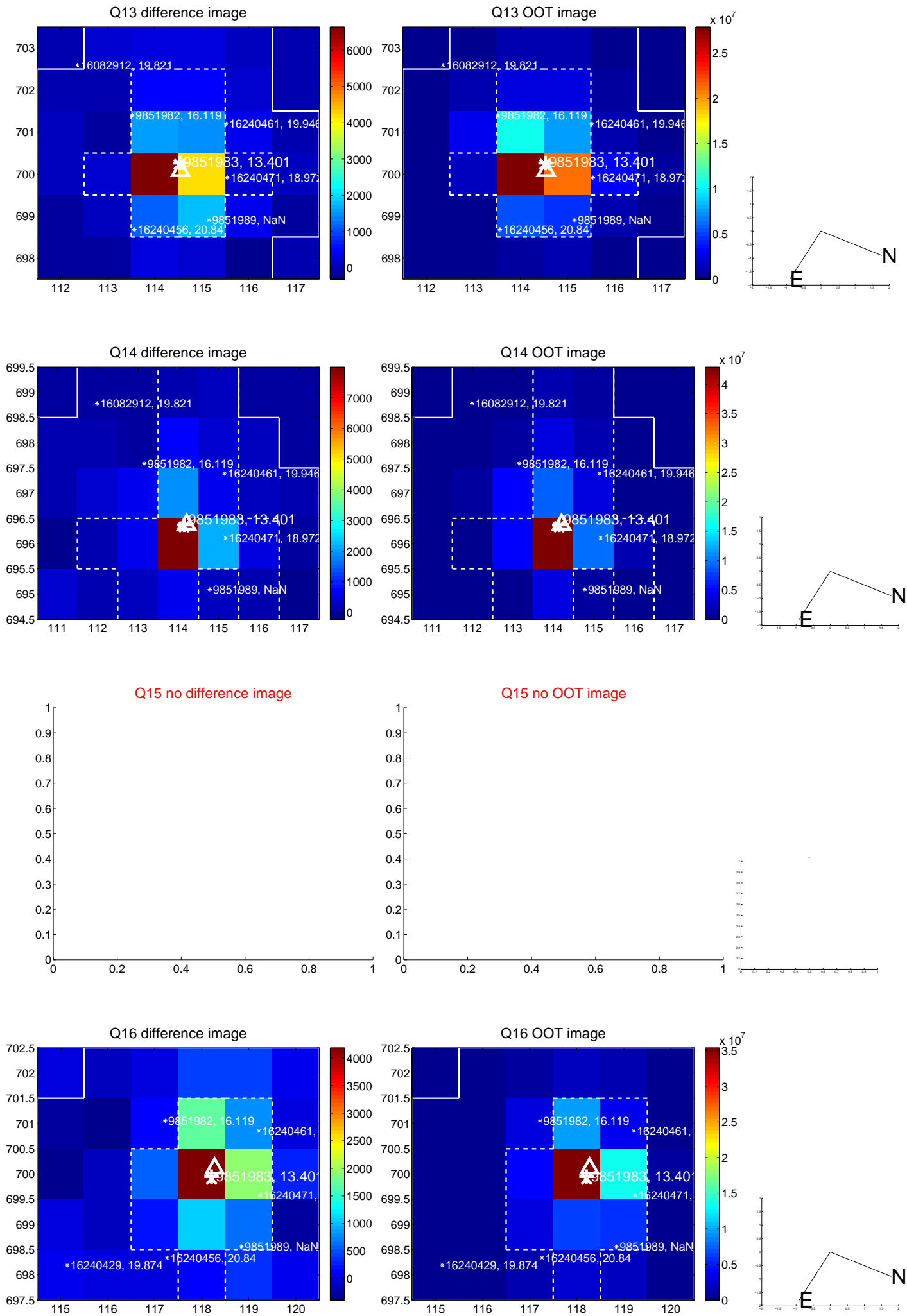
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



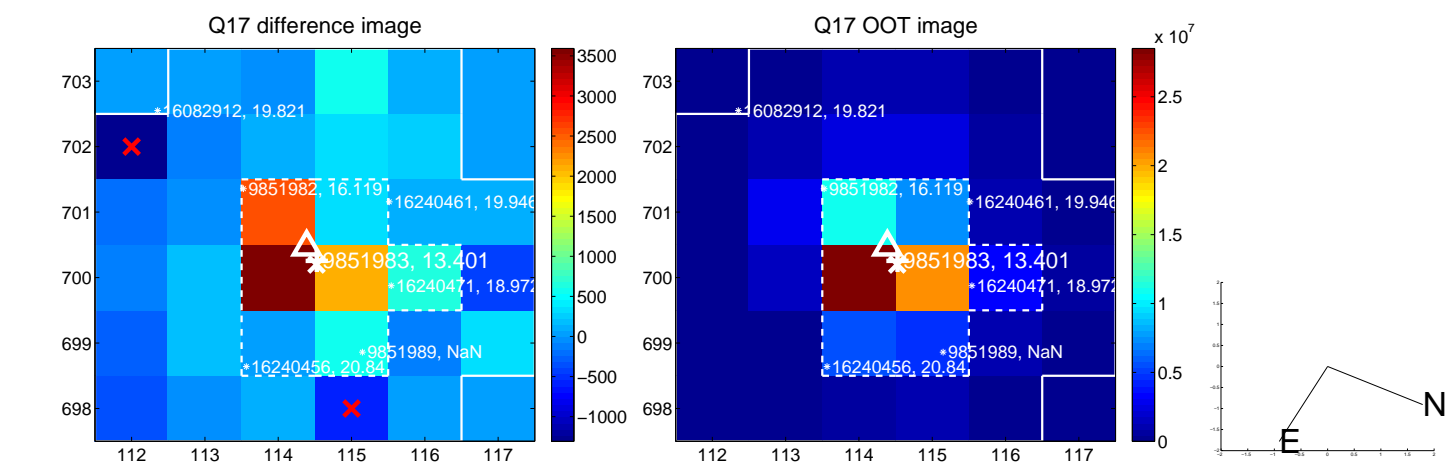
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



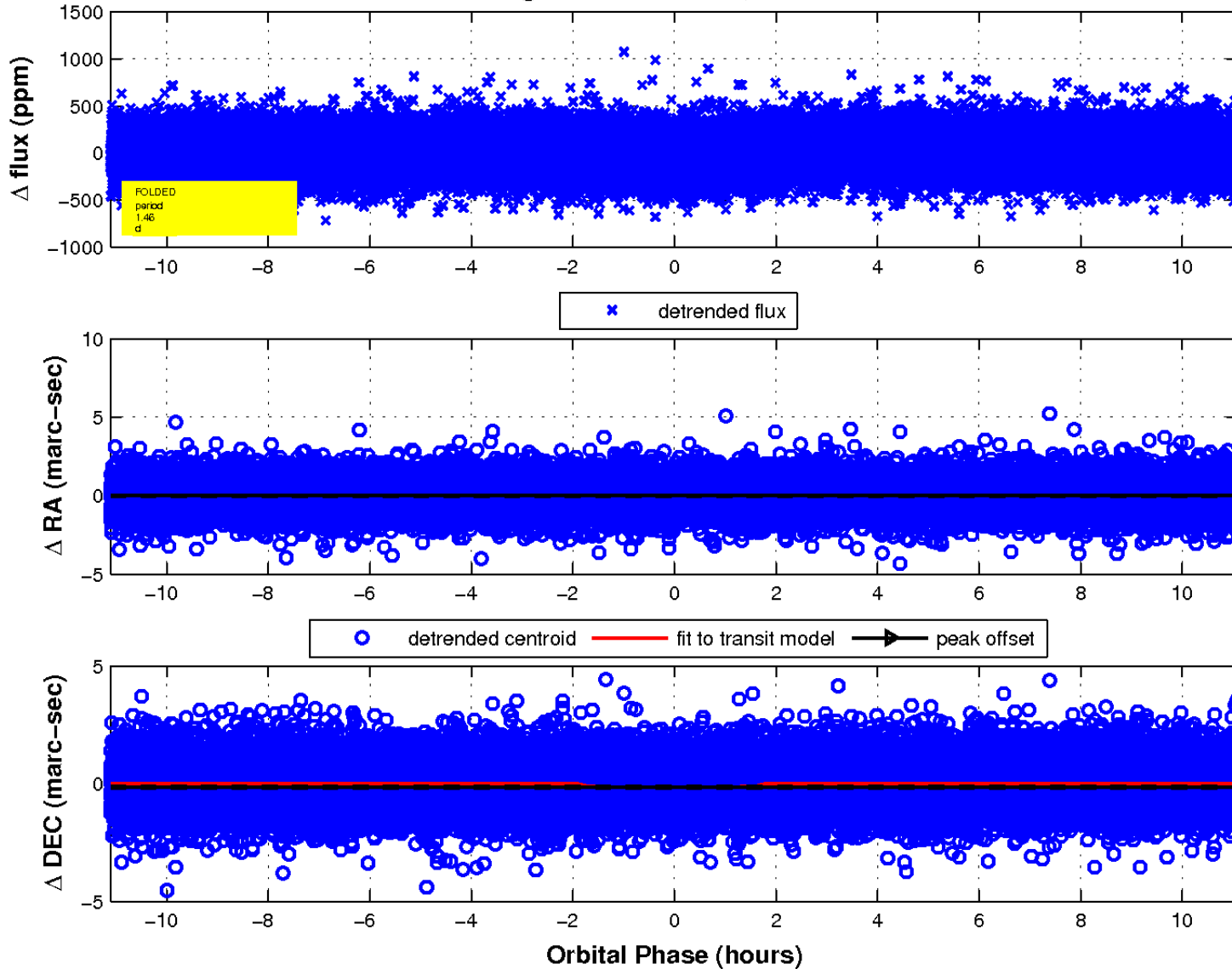
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

