

KIC 009824400

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})
009824400-01	OBS	No	380.103496	333.675042	220.0	12.755	8.9	4.1	1.05	6242	1.82	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009824400-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— 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.

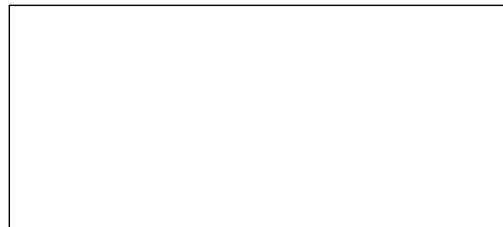
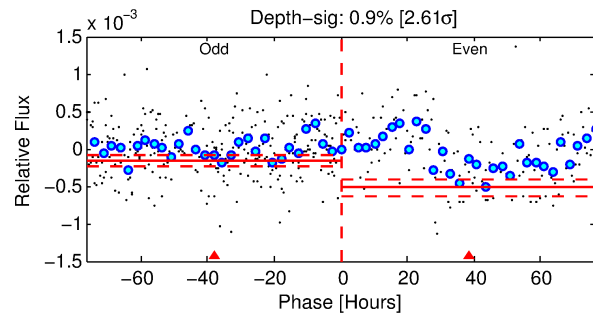
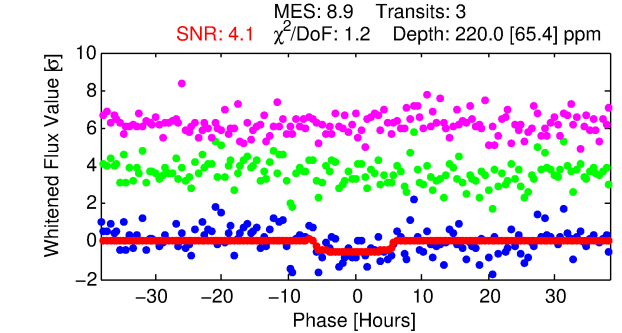
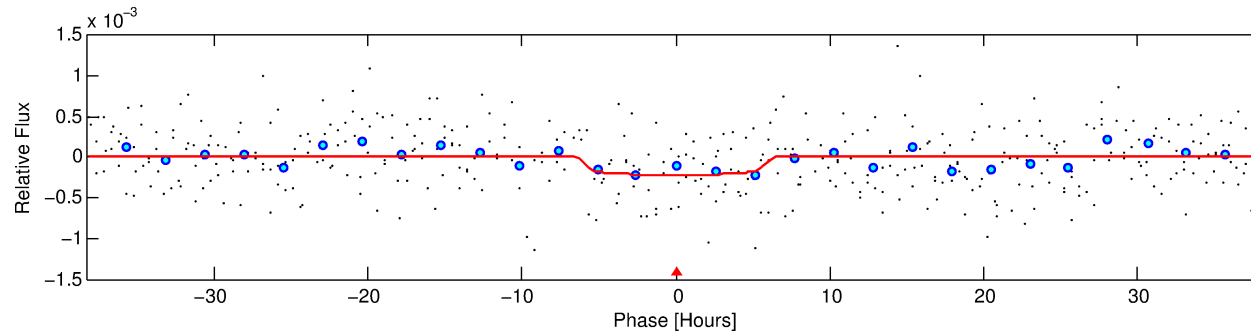
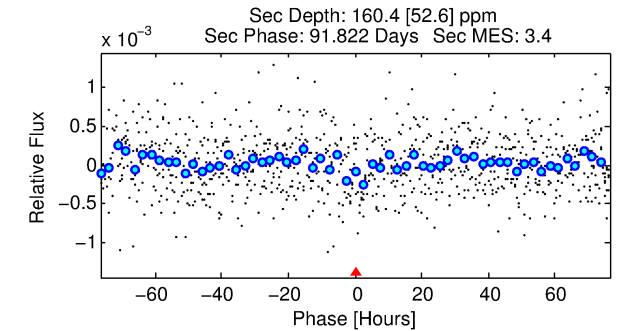
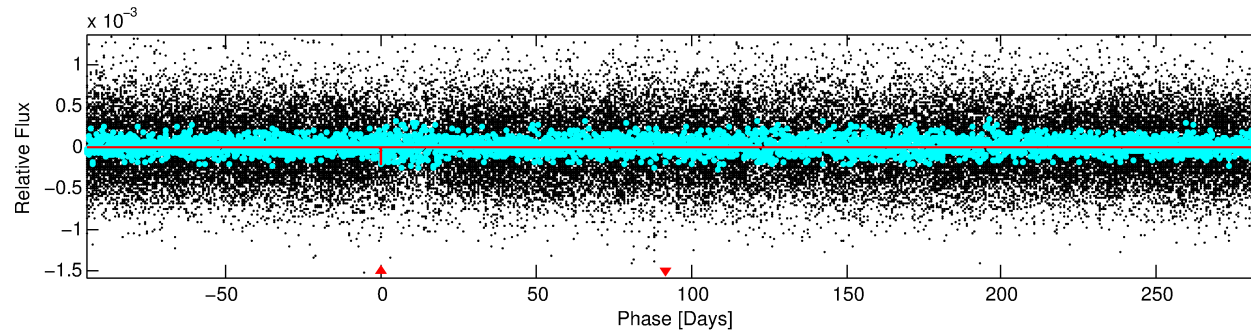
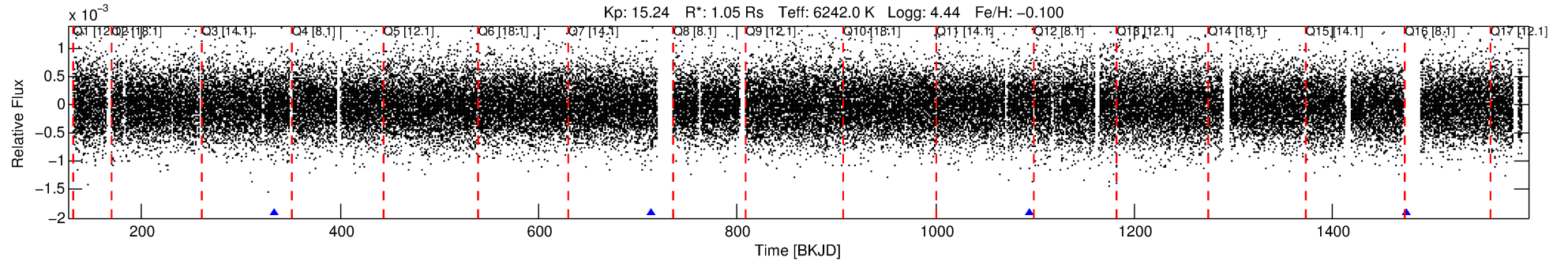
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009824400-01

No Significant Match Found

DV One-Page Summary

KIC: 9824400 Candidate: 1 of 1 Period: 380.103 d



DV Fit Results:

Period = 380.10350 [0.04734] d
Epoch = 333.6750 [0.0507] BKJD
Rp/R* = 0.0160 [0.0064]
a/R* = 106.67 [212.18]
b = 0.90 [0.42]
Seff = 1.32 [0.54]
Teq = 273 [28] K
Rp = 1.82 [0.94] Re
a = 1.0623 [0.2830] AU
Ag = 29902.16 [28329.27] [1.06σ]
Teffp = 5558 [1219] K [4.33σ]

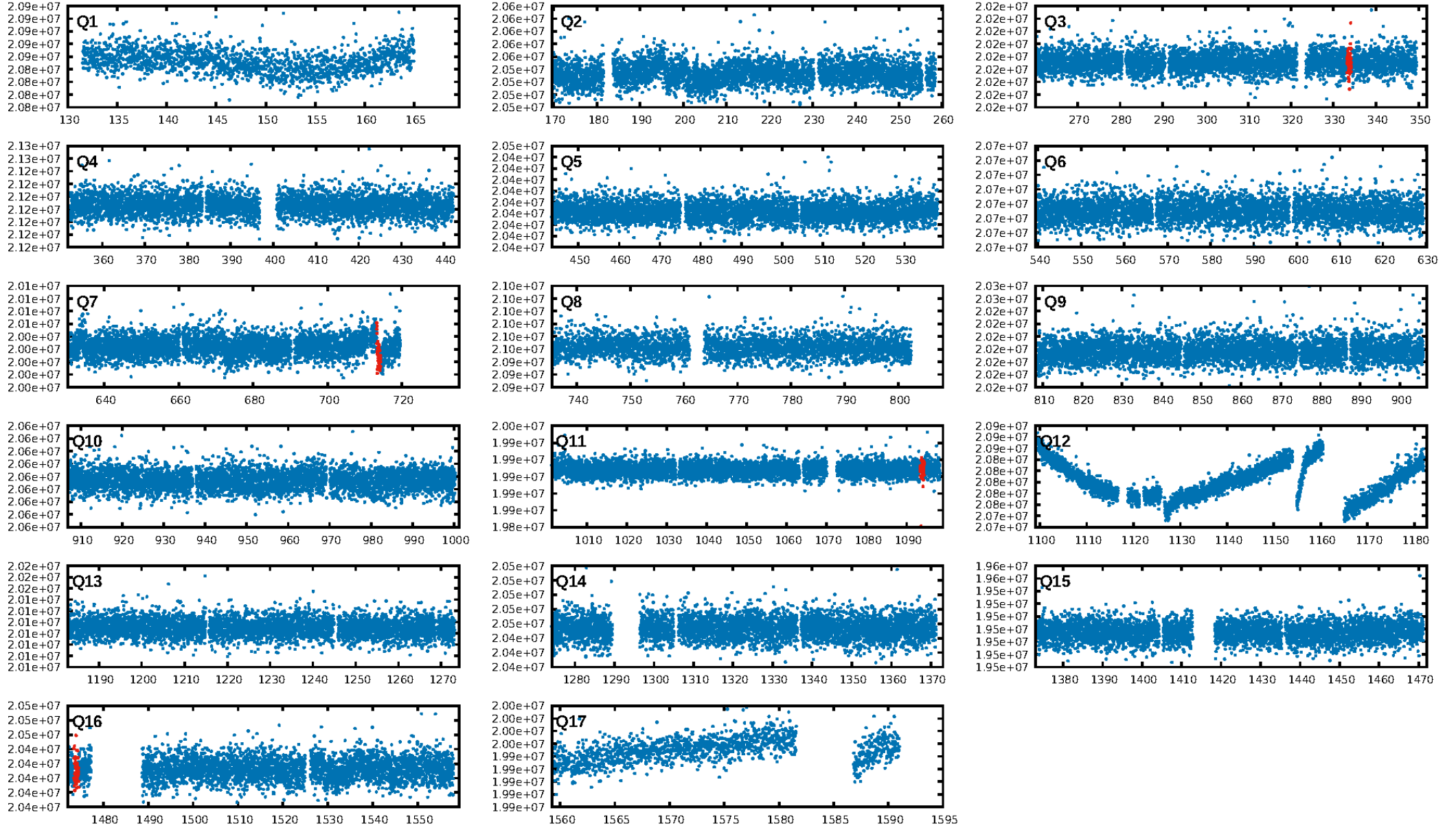
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 93.5%
Bootstrap-pfa: 1.40e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.014
Centroid-sig: 7.8%
Centroid-so: 3.919 arcsec [1.44σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [1/1]

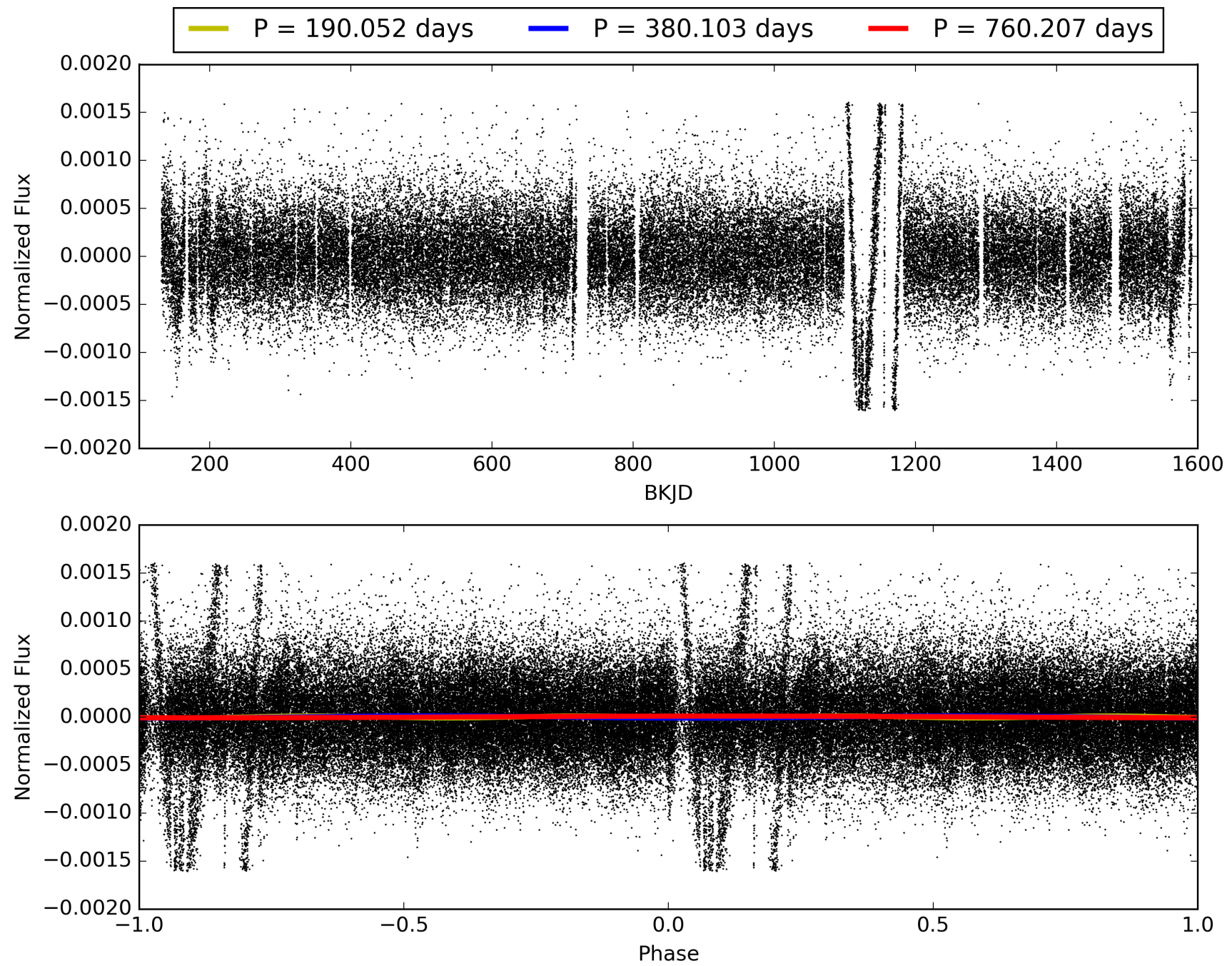
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:05:25 Z

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

TCE 009824400-01, PDC Light Curves

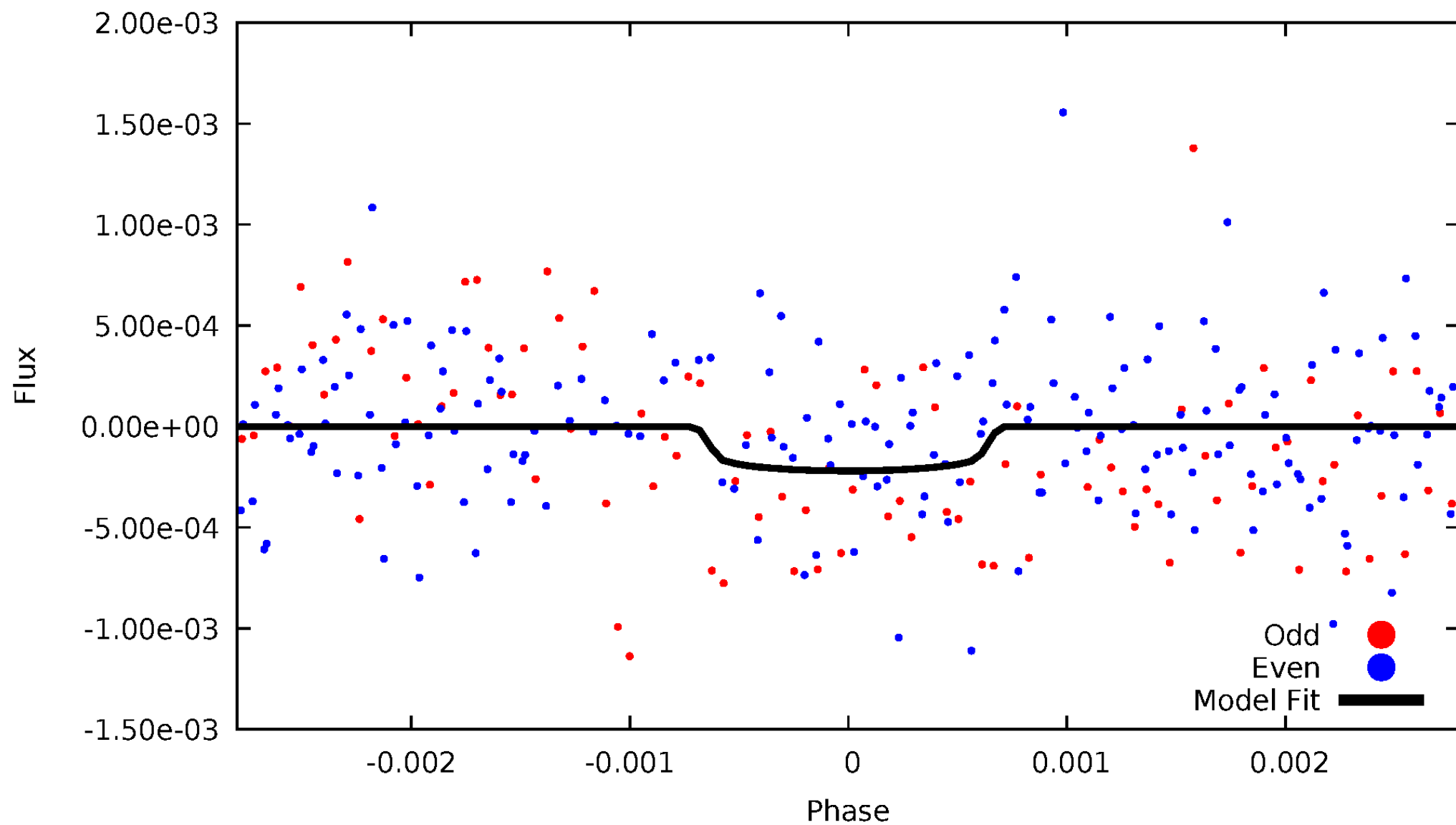


TCE 009824400-01



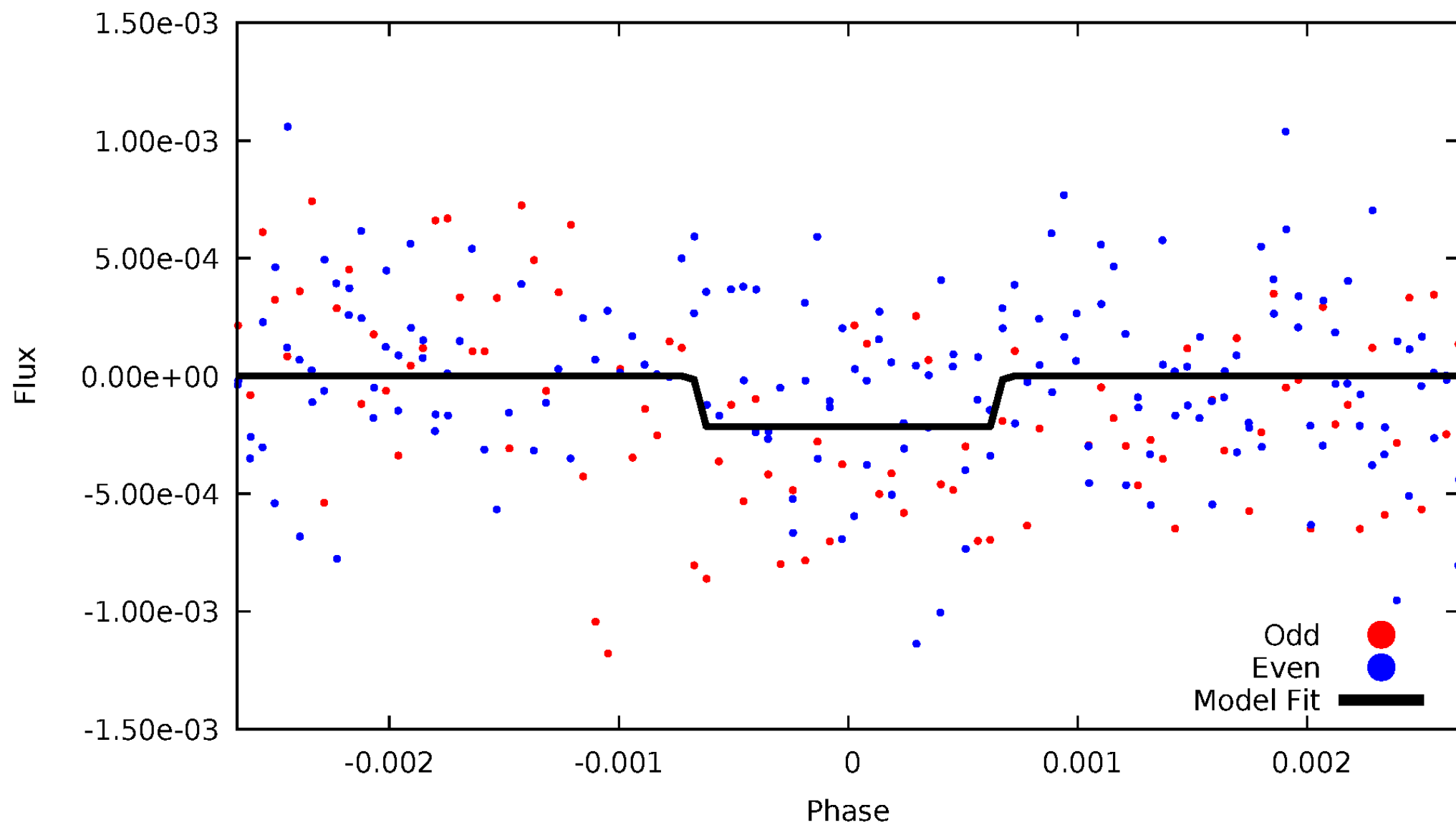
DV Odd/Even

TCE 009824400-01



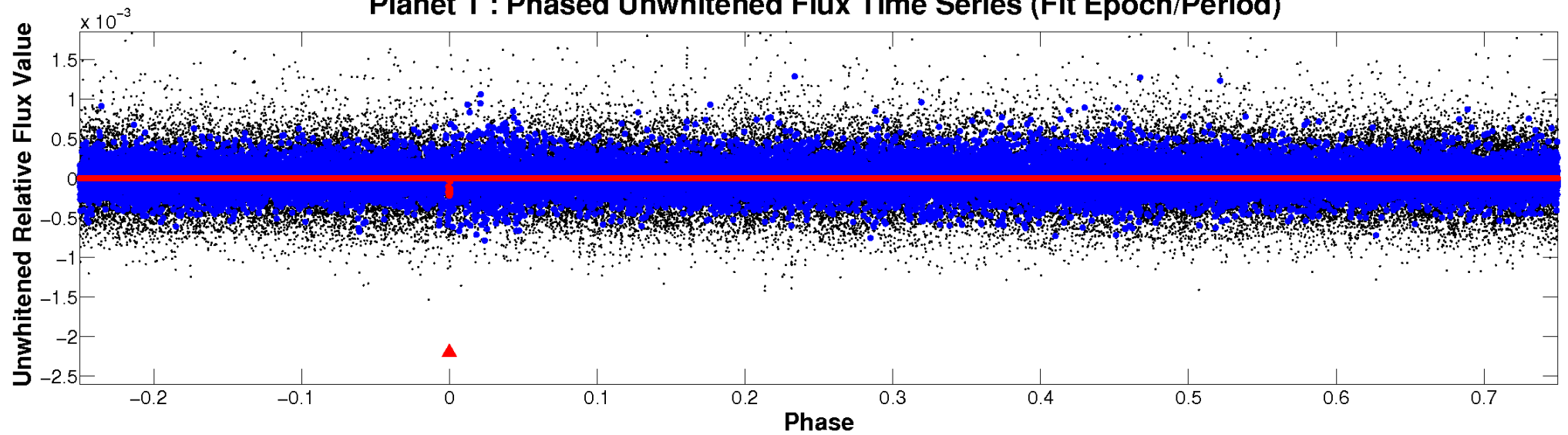
ALT Odd/Even

TCE 009824400-01

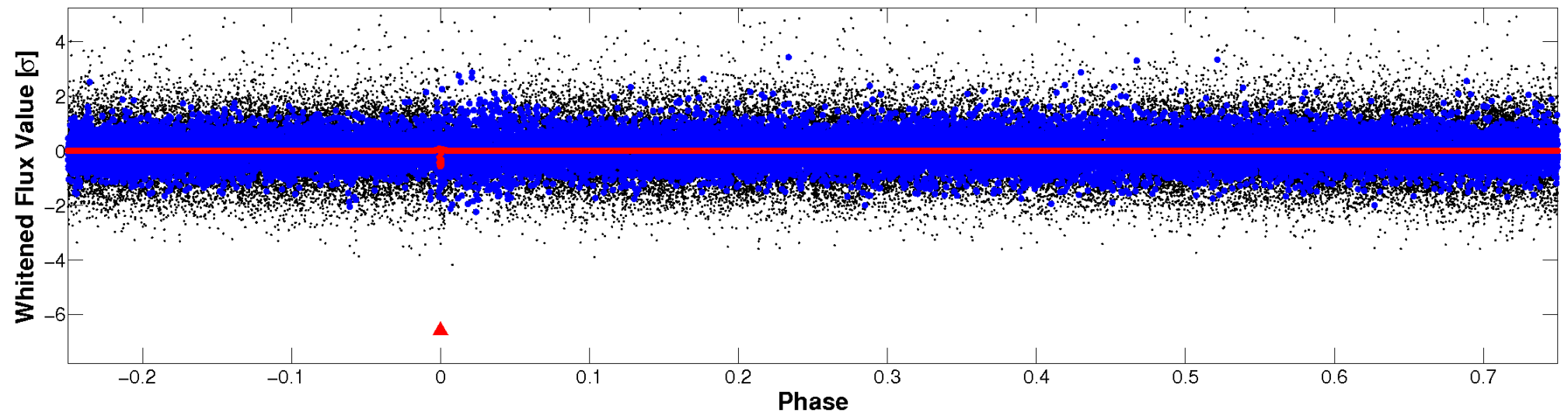


Non-Whitened Vs. Whitened Light Curve

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

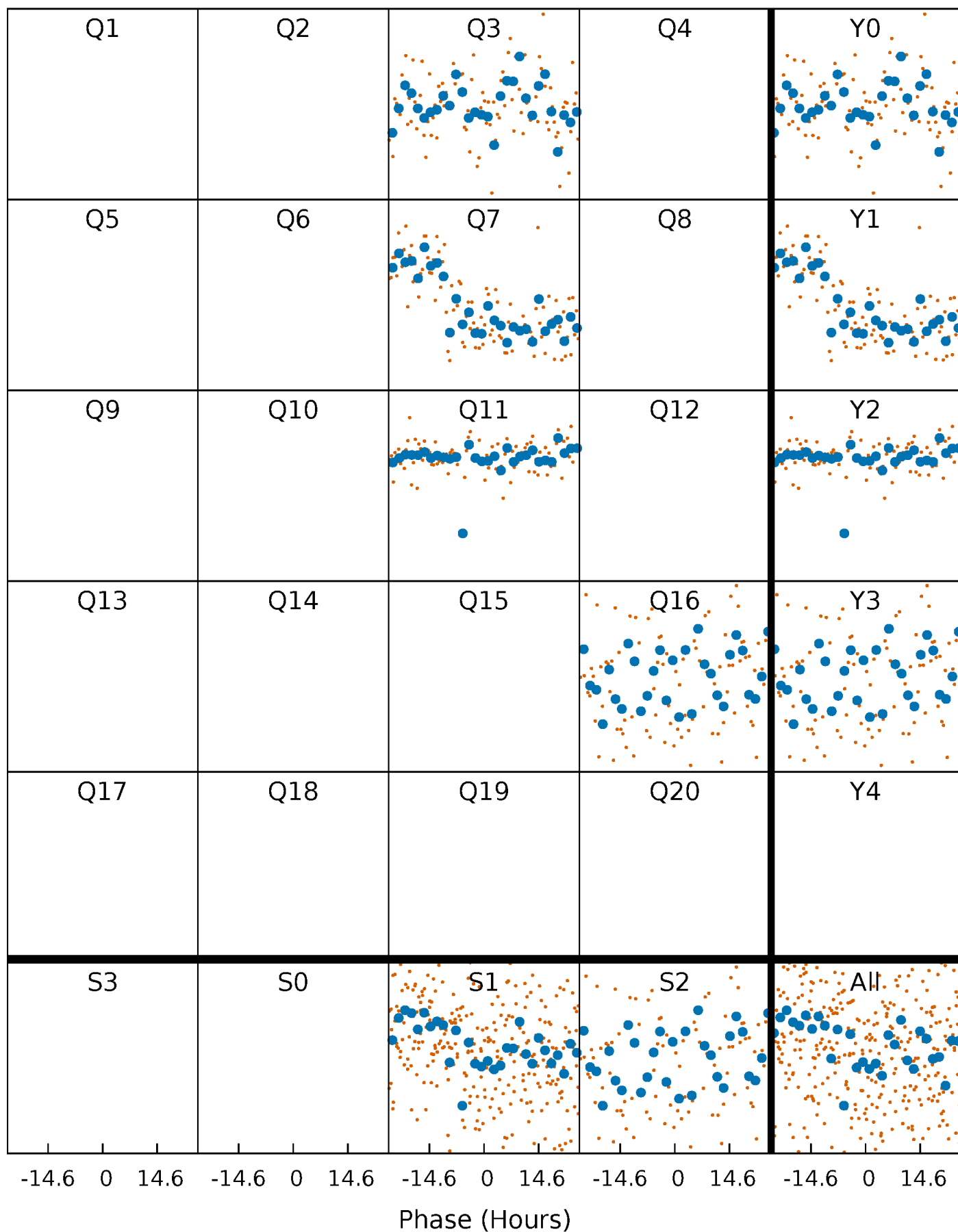


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



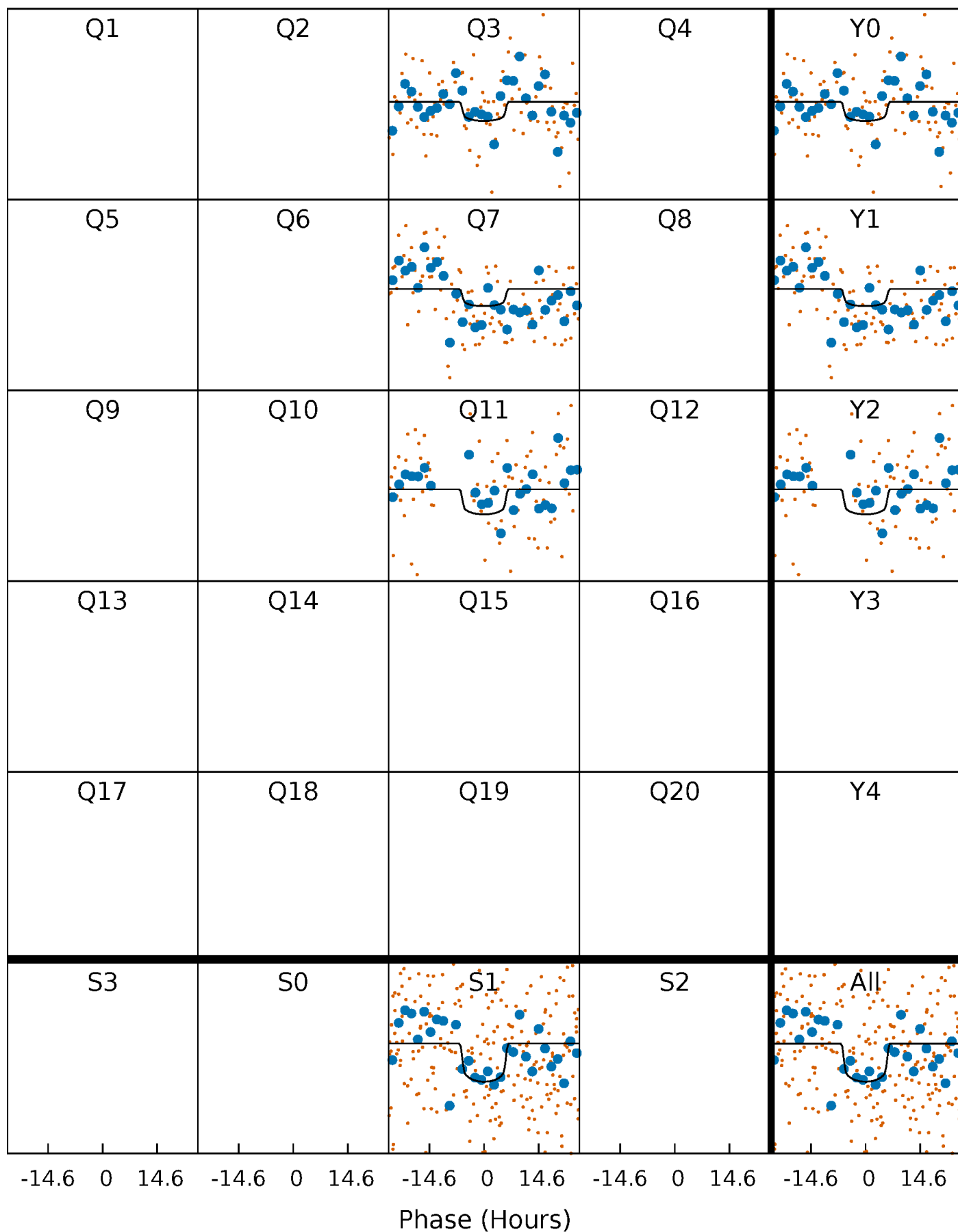
PDC Quarter-Phased Transit Curves

TCE 009824400-01 P=380.103496 Days $T_0=333.675042$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009824400-01 P=380.103496 Days $T_0=333.675042$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

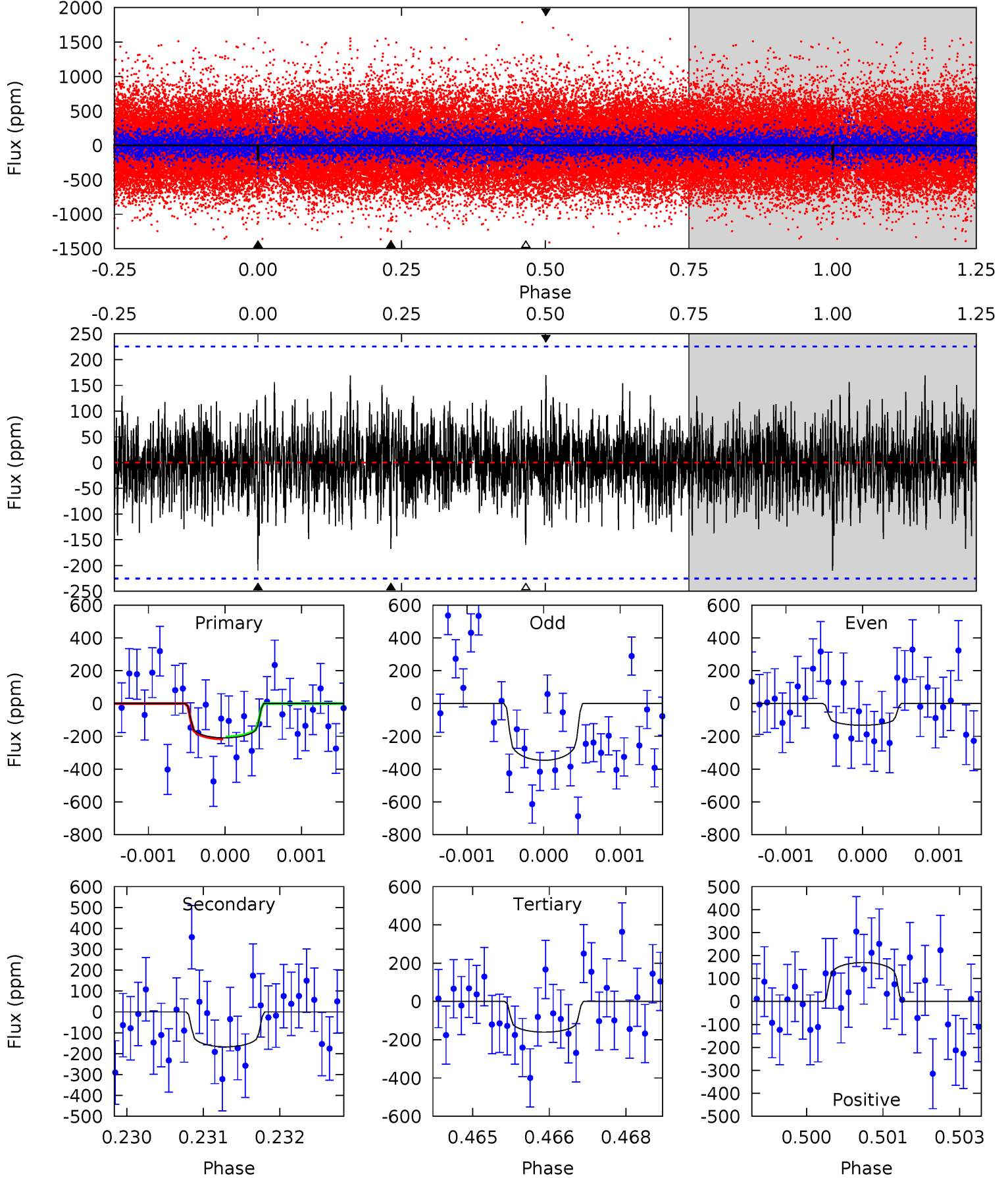
TCE 009824400-01 $P=380.186817$ Days $T_0=333.609674$ (BKJD)



DV Model-Shift Uniqueness Test

009824400-01, P = 380.103496 Days, E = 333.675042 Days

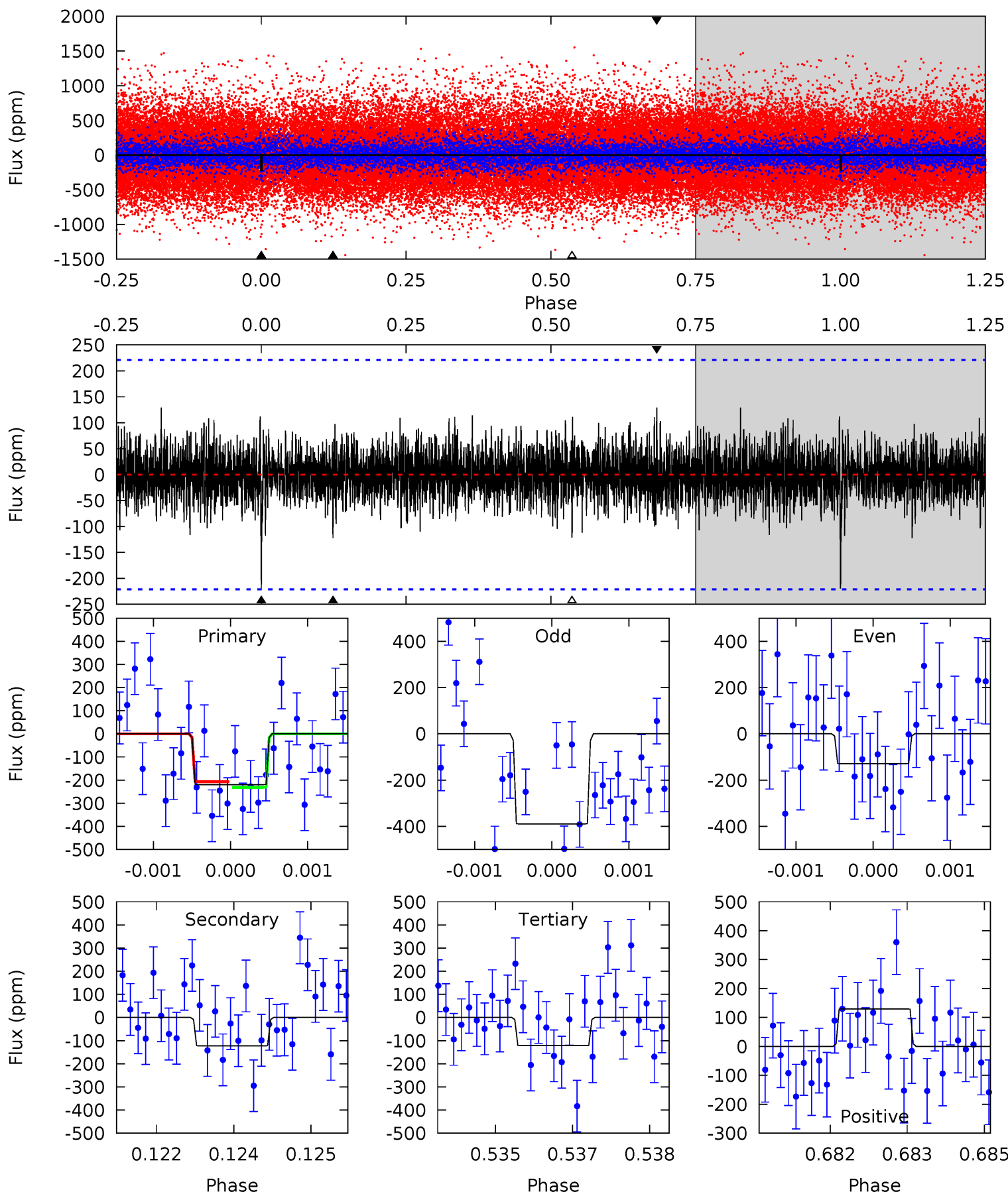
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.01	4.00	3.83	4.06	5.39	3.19	1.10	1.18	0.96	0.17	-0.06	2.50	1.23	0.45	0.14



Alt Model-Shift Uniqueness Test

009824400-01, P = 380.186817 Days, E = 333.609674 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	2.99	2.96	3.16	5.40	3.21	0.80	2.40	2.21	0.03	-0.17	3.06	1.33	0.37	0.30



Stellar Parameters For KIC 009824400

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6242^{+174}_{-217}	$4.442^{+0.052}_{-0.208}$	$-0.100^{+0.250}_{-0.350}$	$1.047^{+0.335}_{-0.112}$	$1.104^{+0.145}_{-0.145}$	$1.354^{+0.385}_{-0.719}$
	+3%/-3%	+1%/-5%	+250%/-350%	+32%/-11%	+13%/-13%	+28%/-53%
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 009824400-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-167 ± 42	$1.91^{+0.90}_{-0.83}$	389^{+27}_{-20}	5580^{+1746}_{-831}	27635^{+51553}_{-14959}
Alt.	-122 ± 41	$1.80^{+0.74}_{-0.75}$	390^{+30}_{-20}	5367^{+1717}_{-888}	22701^{+47024}_{-12877}

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

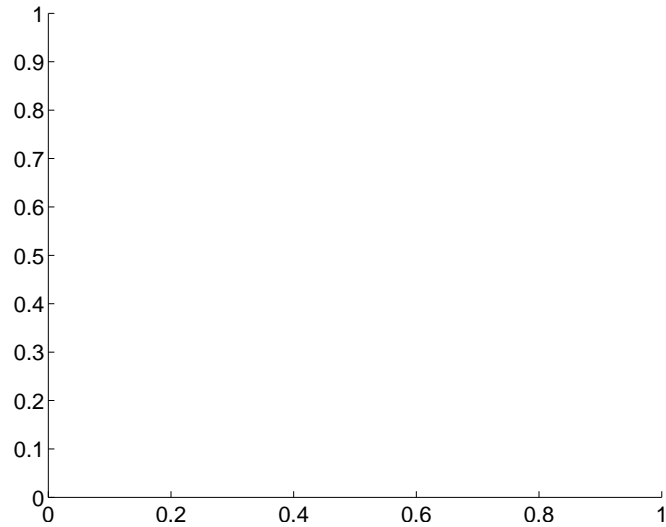
Supplemental centroid analysis for 009824400-01. Kepler magnitude: 15.24. Transit SNR 4.07

There are 0 quarters with good PRF difference image offsets

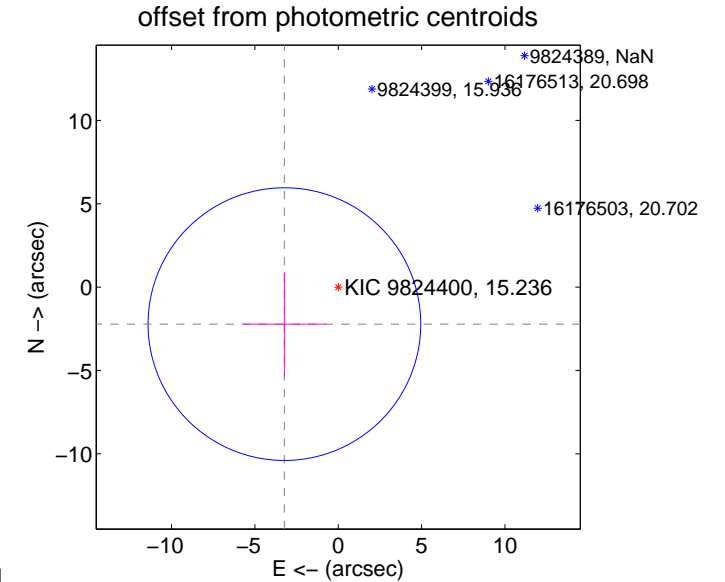
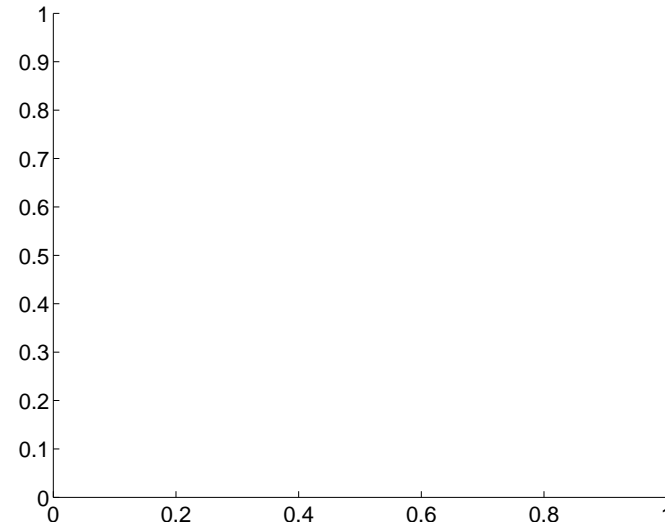
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	3.92 ± 2.73	1.44	3.23 ± 2.52	-2.22 ± 3.12

There is no PRF-fit offset from OOT-fit

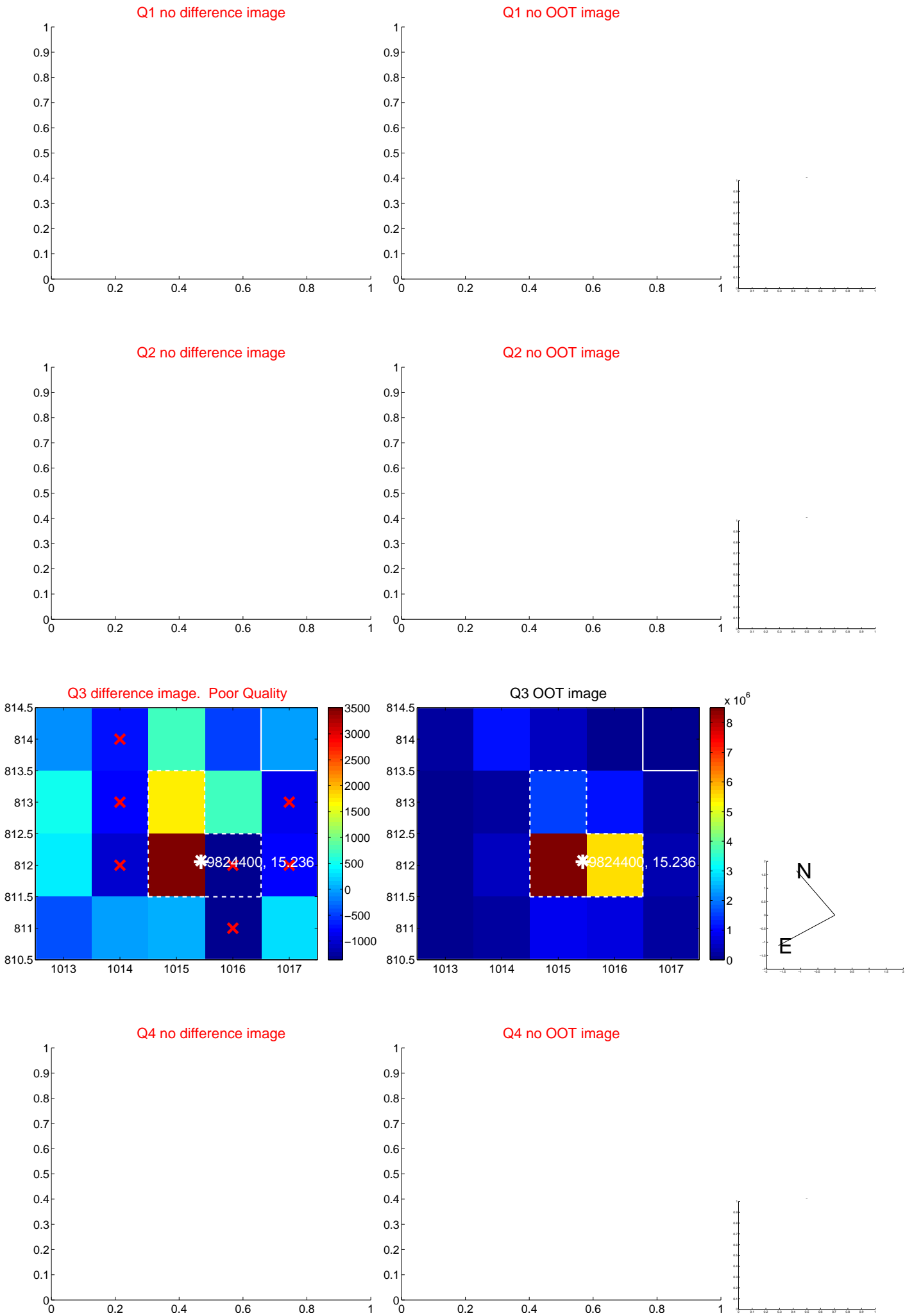


There is no PRF-fit offset from KIC



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.

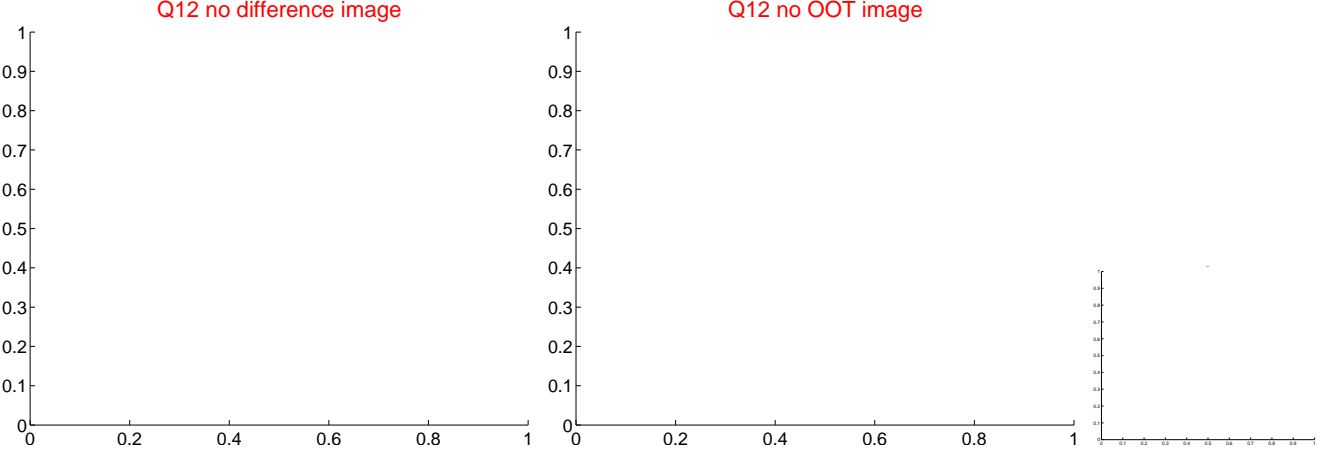
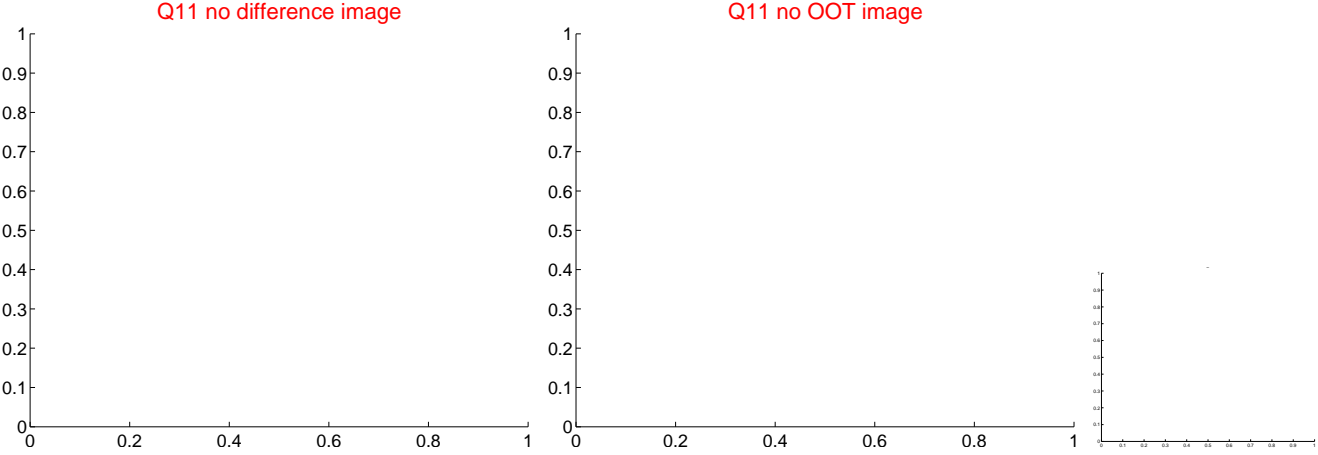
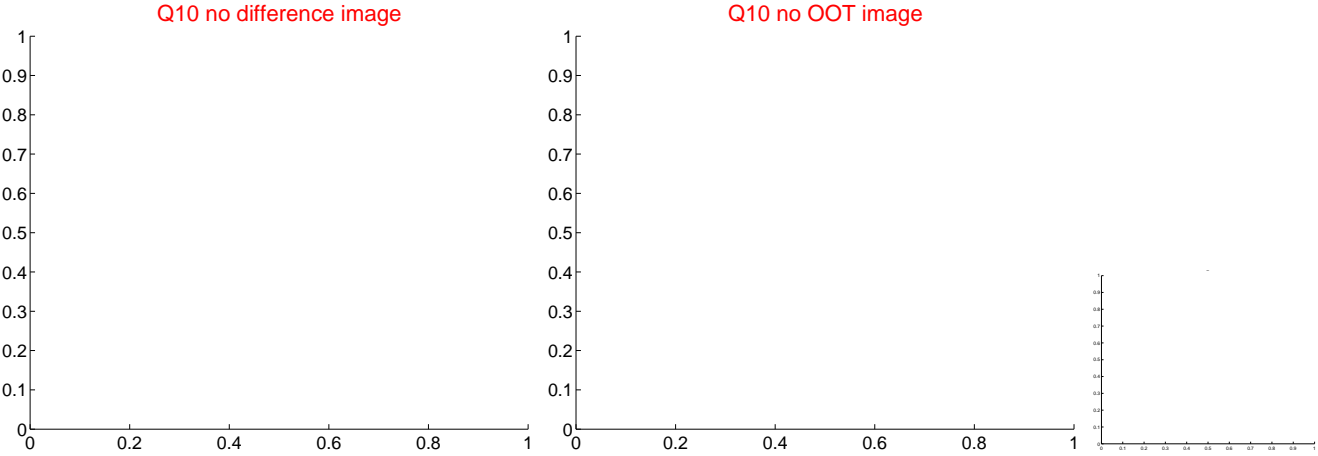
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



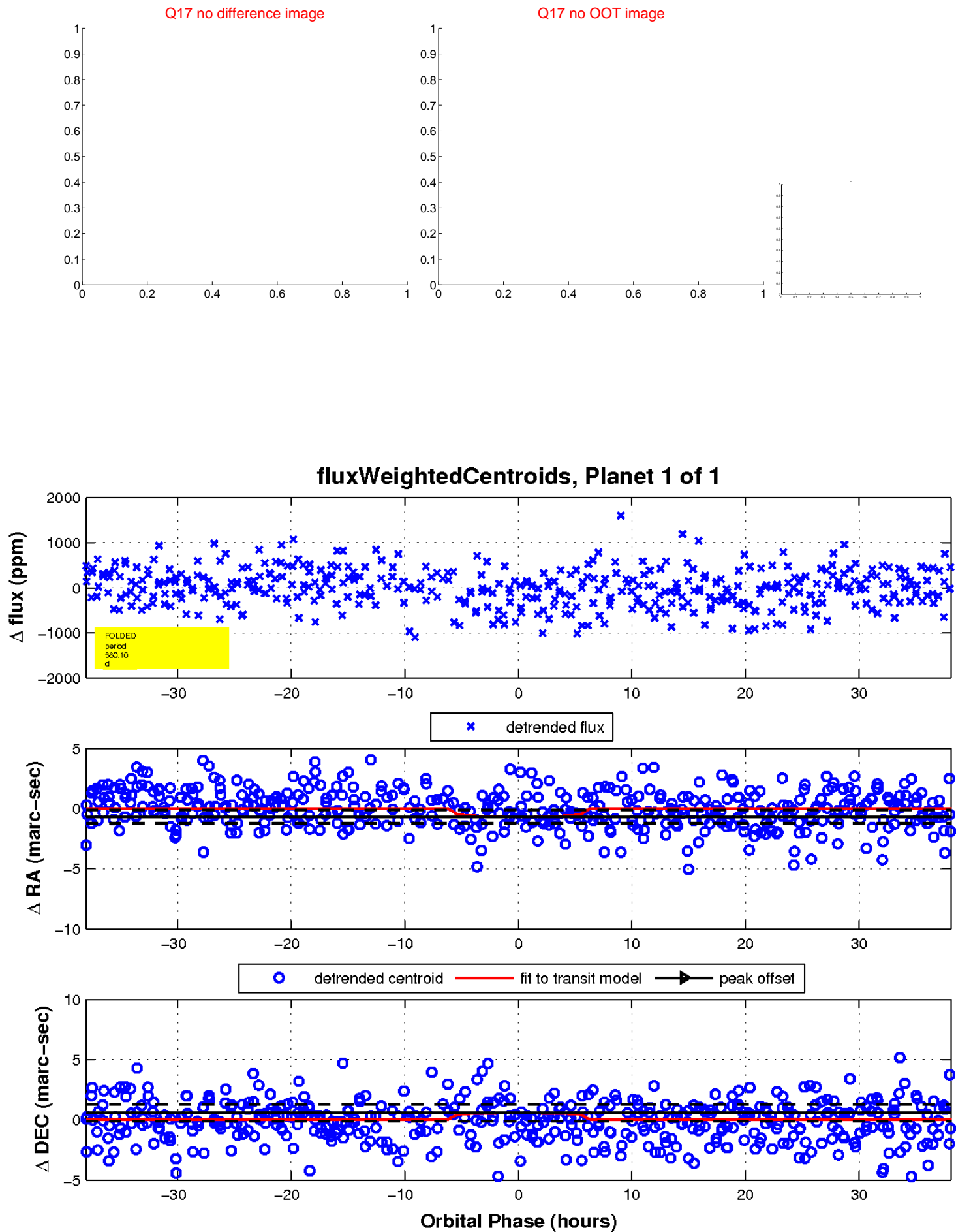
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

