

KIC 009024729

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})
009024729-01	OBS	No	258.722122	219.588349	609.0	5.043	7.3	6.9	0.95	5959	2.50	1.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009024729-01	OBS	FP	0.02	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

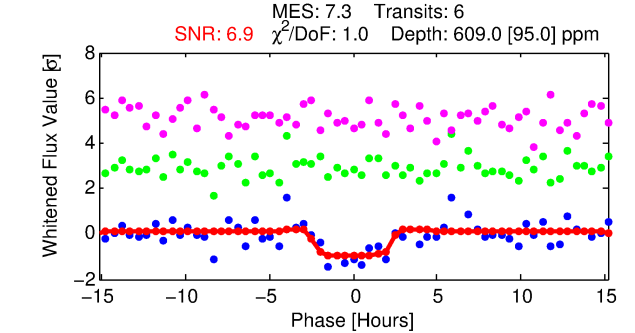
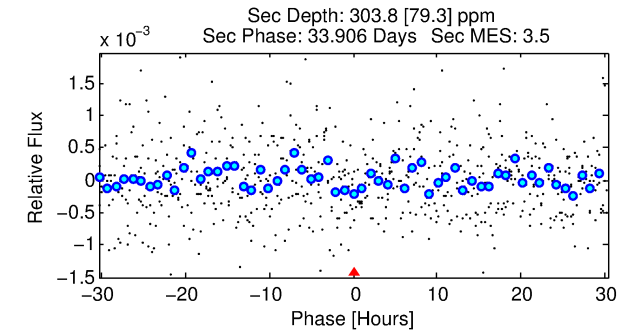
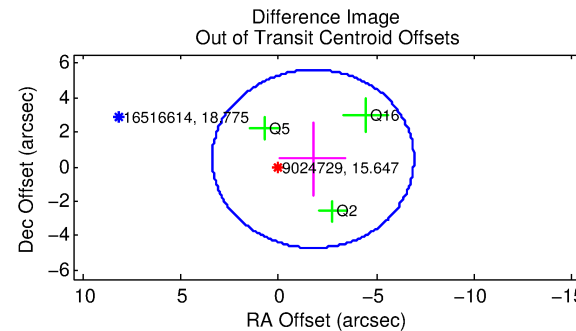
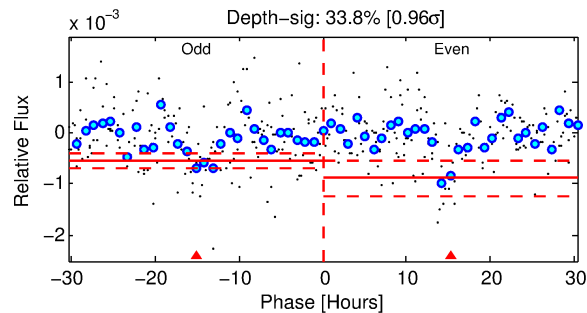
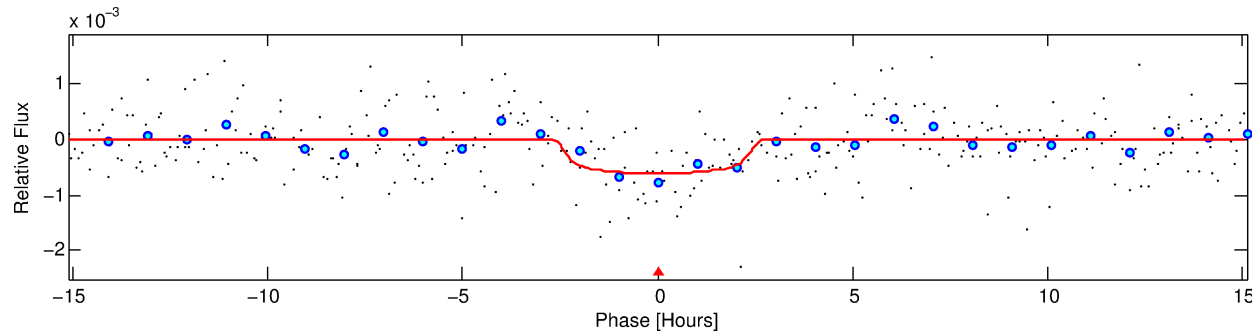
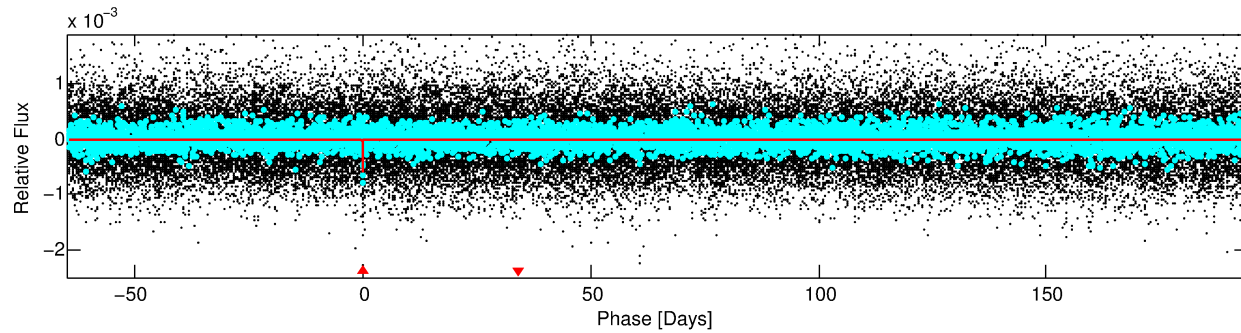
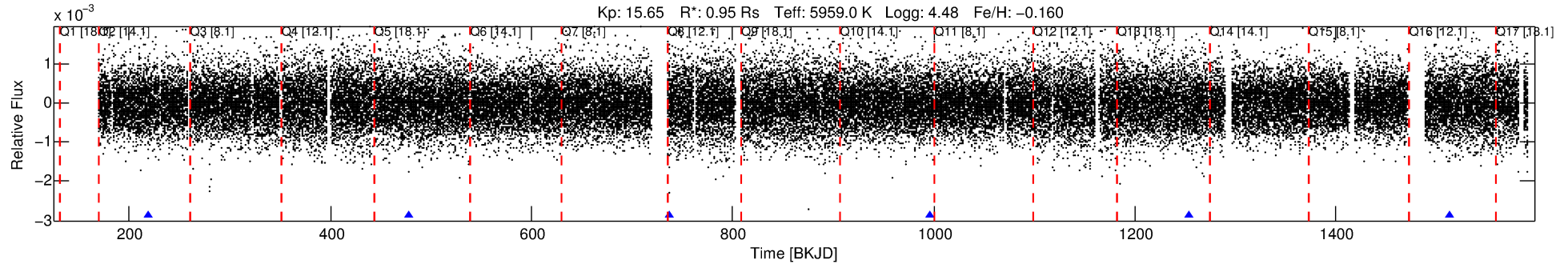
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009024729-01

No Significant Match Found

DV One-Page Summary

KIC: 9024729 Candidate: 1 of 1 Period: 258.722 d



DV Fit Results:

Period = 258.72212 [0.00429] d
Epoch = 219.5883 [0.0129] BKJD
Rp/R* = 0.0242 [0.0283]
a/R* = 289.60 [1603.62]
b = 0.71 [3.92]
Seff = 1.61 [0.64]
Teq = 287 [28] K
Rp = 2.50 [3.02] Re
a = 0.7916 [0.2017] AU
Ag = 16740.38 [39798.20] [0.42 σ]
Teffp = 5054 [2972] K [1.60 σ]

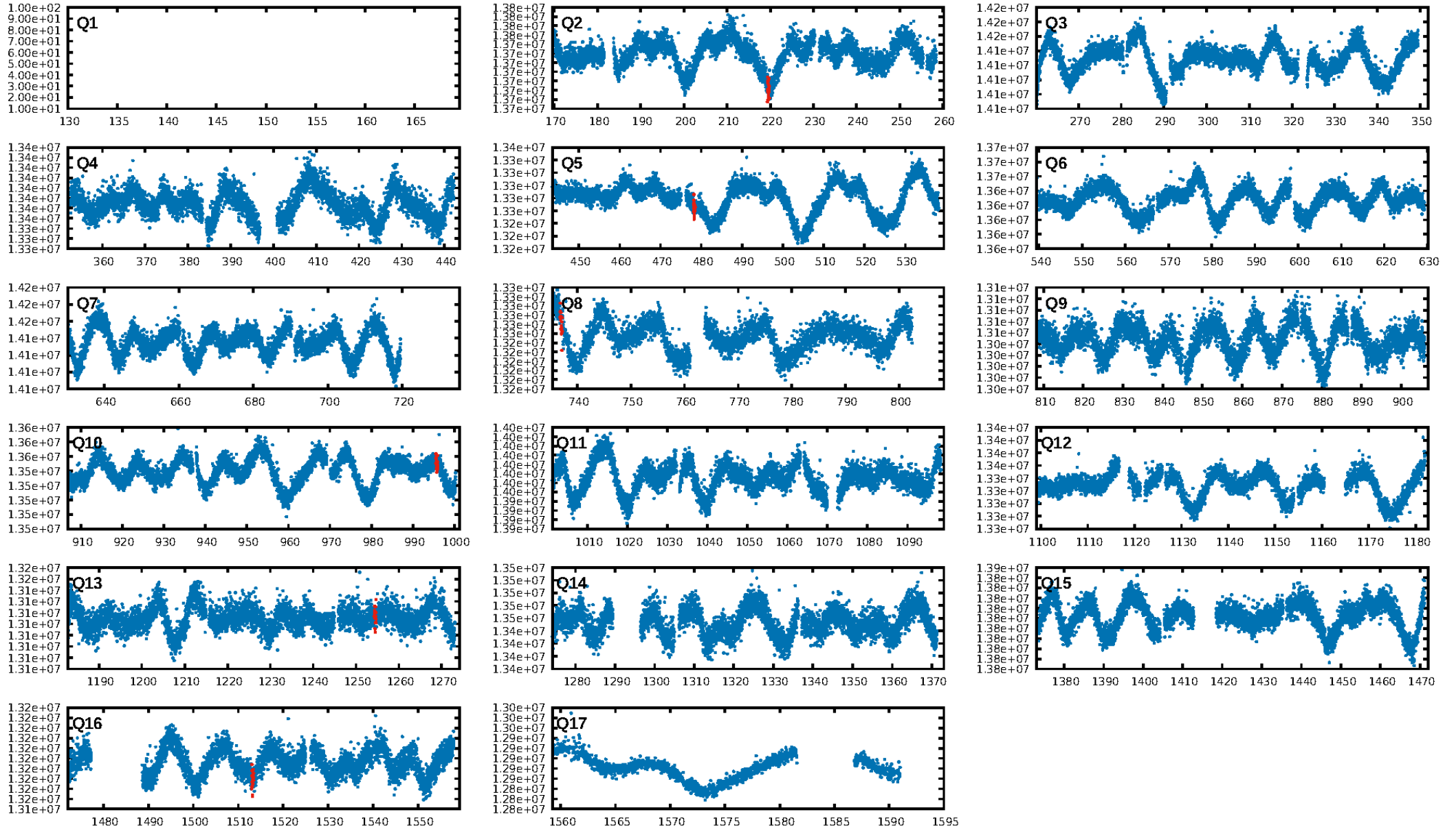
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.8%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 2.76e-10
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -5.223
Centroid-sig: 41.9%
Centroid-so: 1.045 arcsec [0.57 σ]
OotOffset-rm: 1.822 arcsec [1.06 σ]
KicOffset-rm: 1.887 arcsec [1.08 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [6/6]

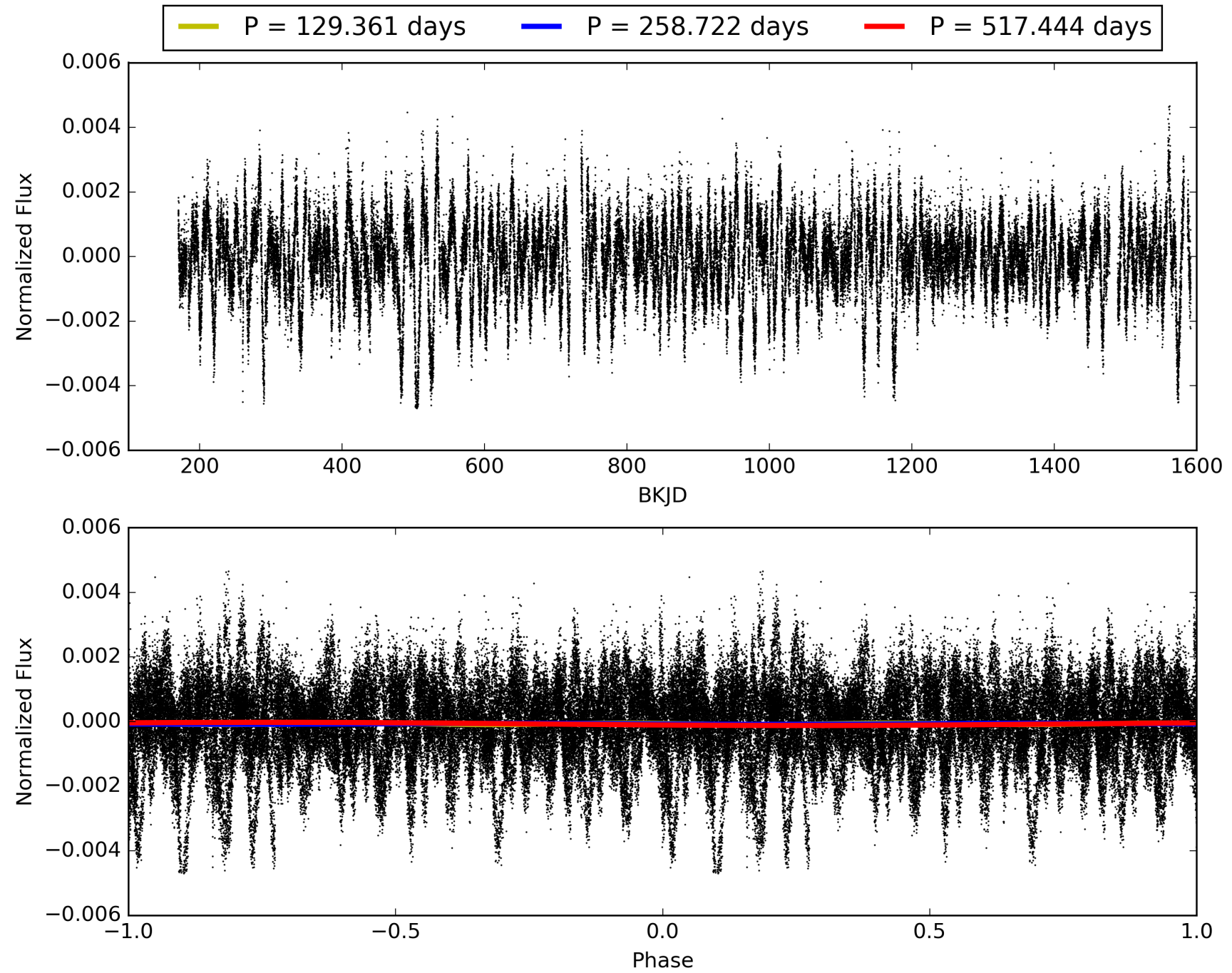
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:24:45 Z

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

TCE 009024729-01, PDC Light Curves

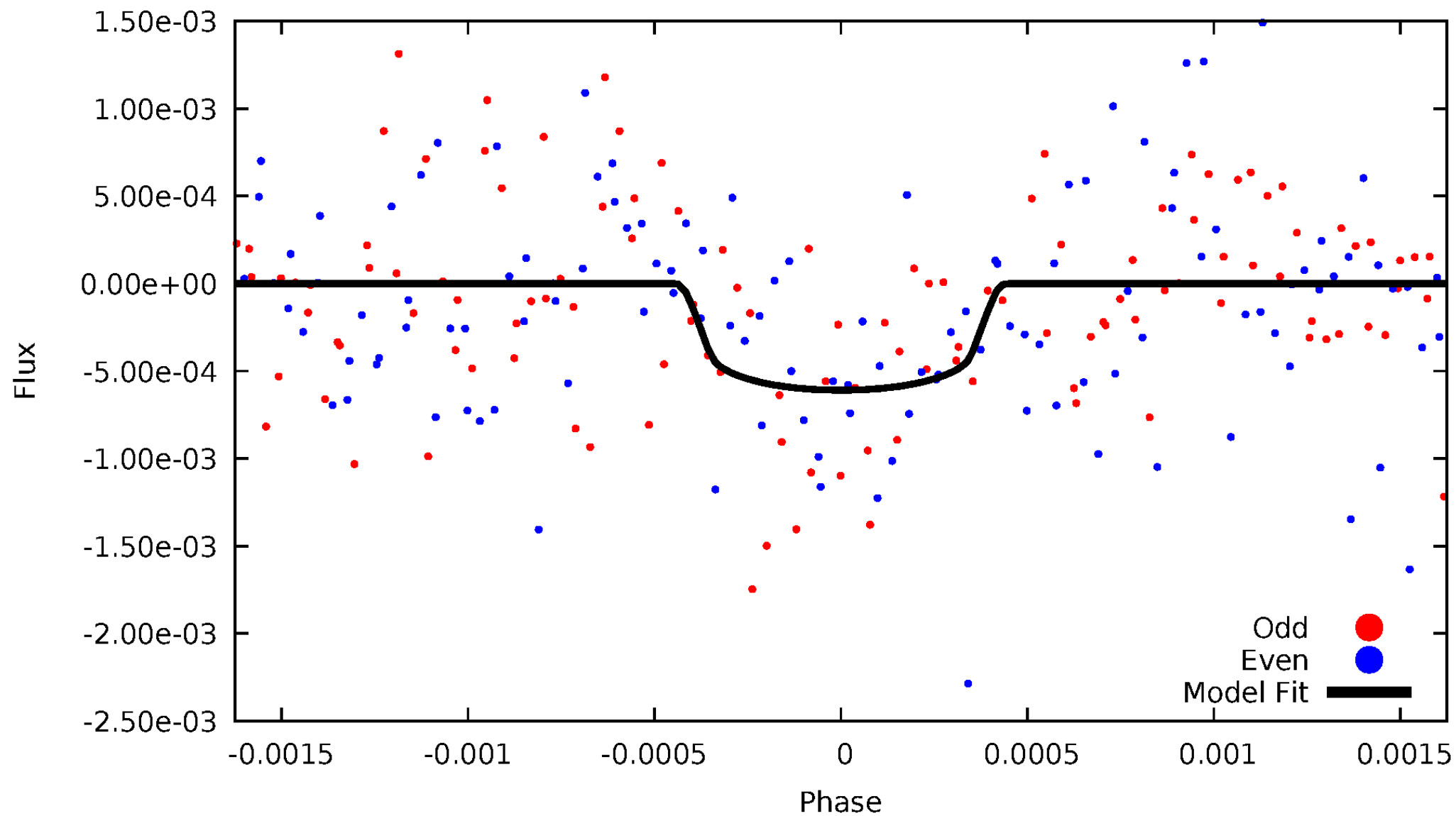


TCE 009024729-01



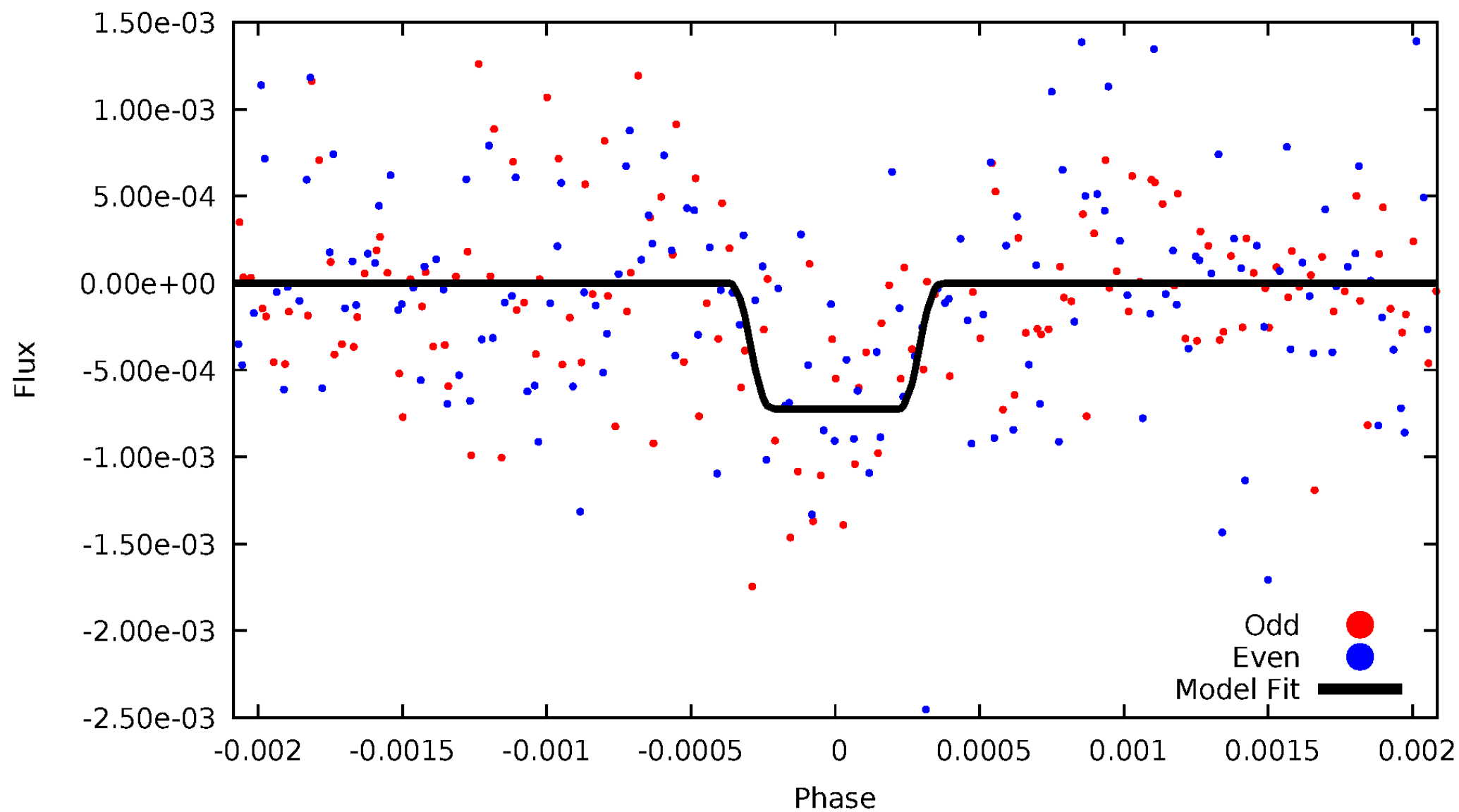
DV Odd/Even

TCE 009024729-01

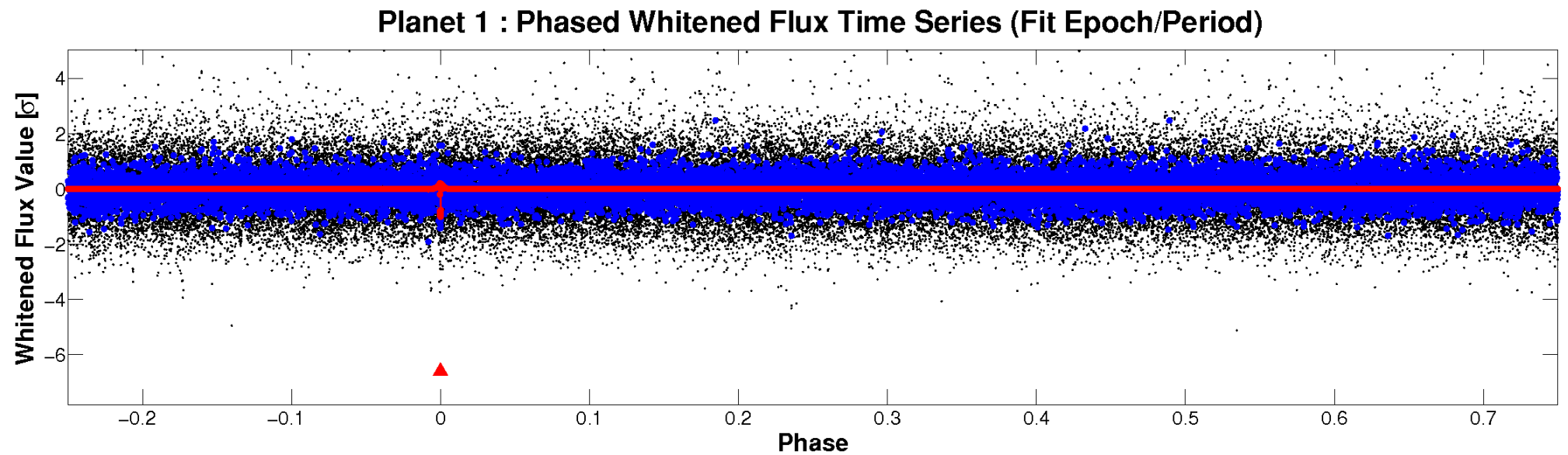
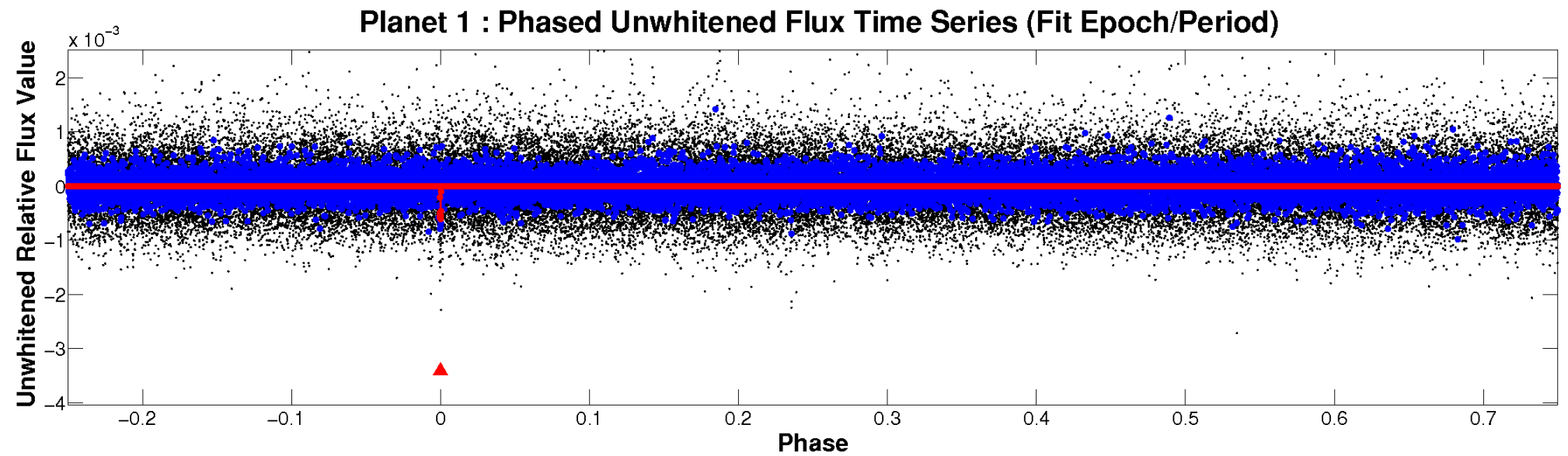


ALT Odd/Even

TCE 009024729-01

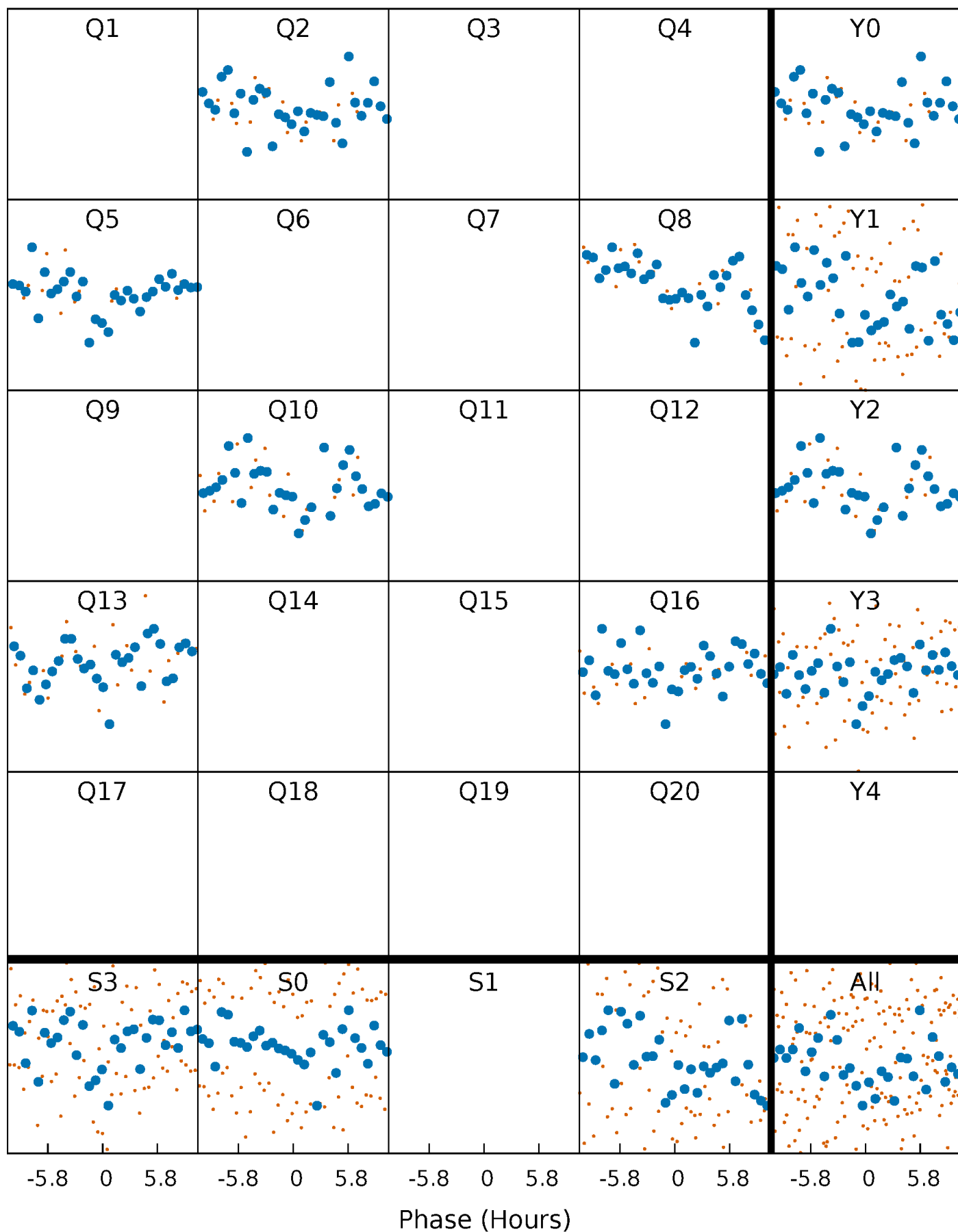


Non-Whitened Vs. Whitened Light Curve



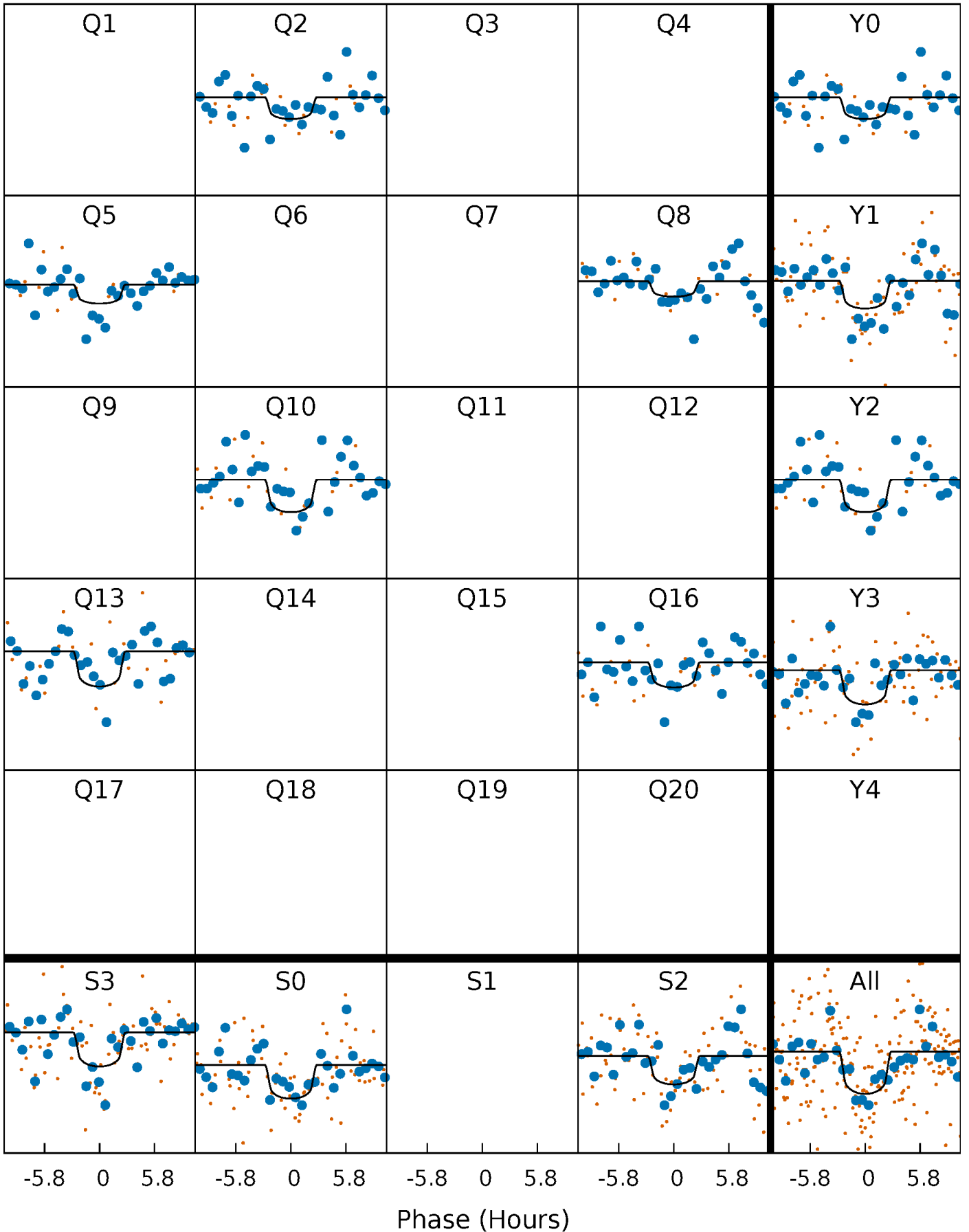
PDC Quarter-Phased Transit Curves

TCE 009024729-01 P=258.722122 Days $T_0=219.588349$ (BKJD)



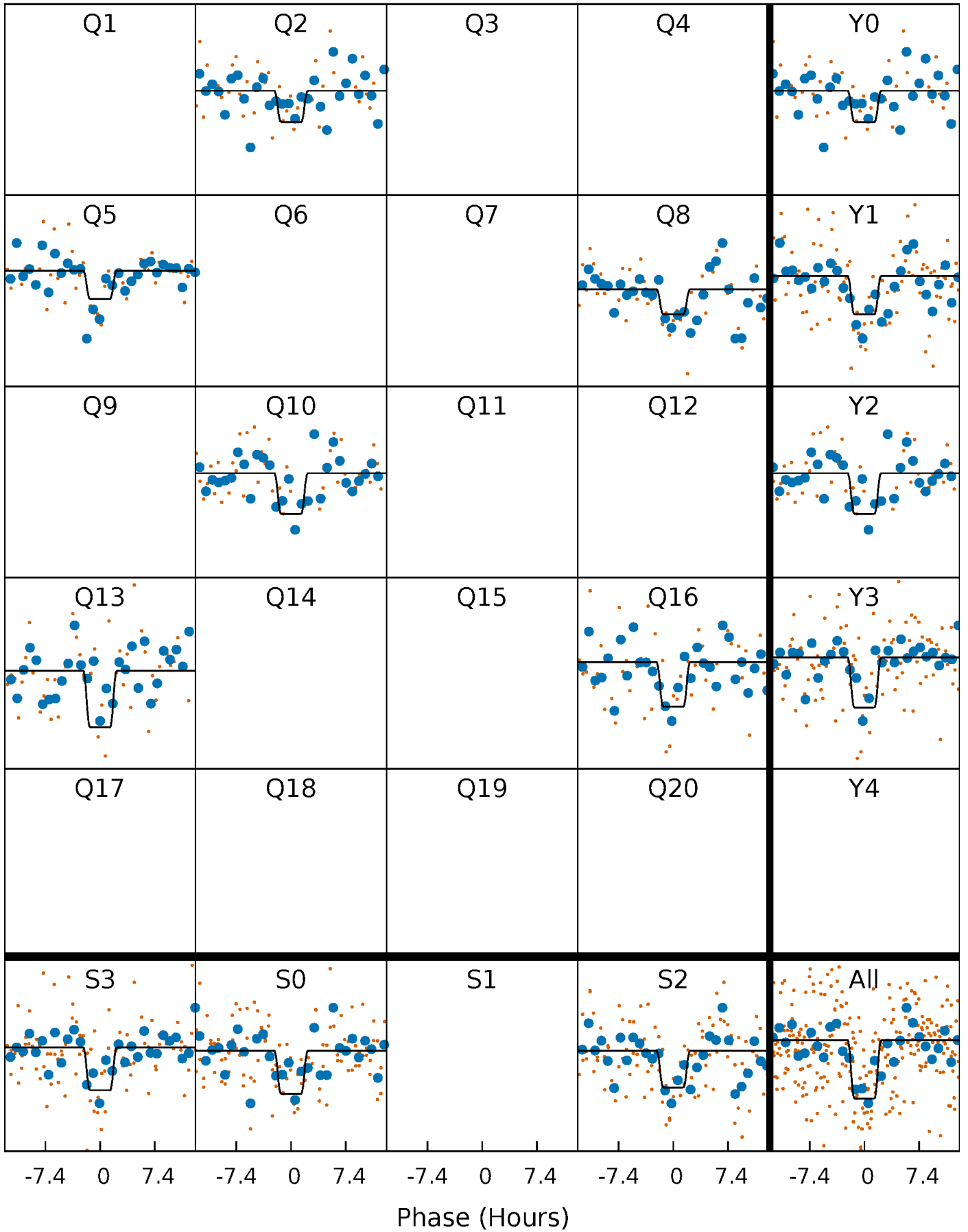
DV Quarter-Phased Transit Curves

TCE 009024729-01 P=258.722122 Days $T_0=219.588349$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

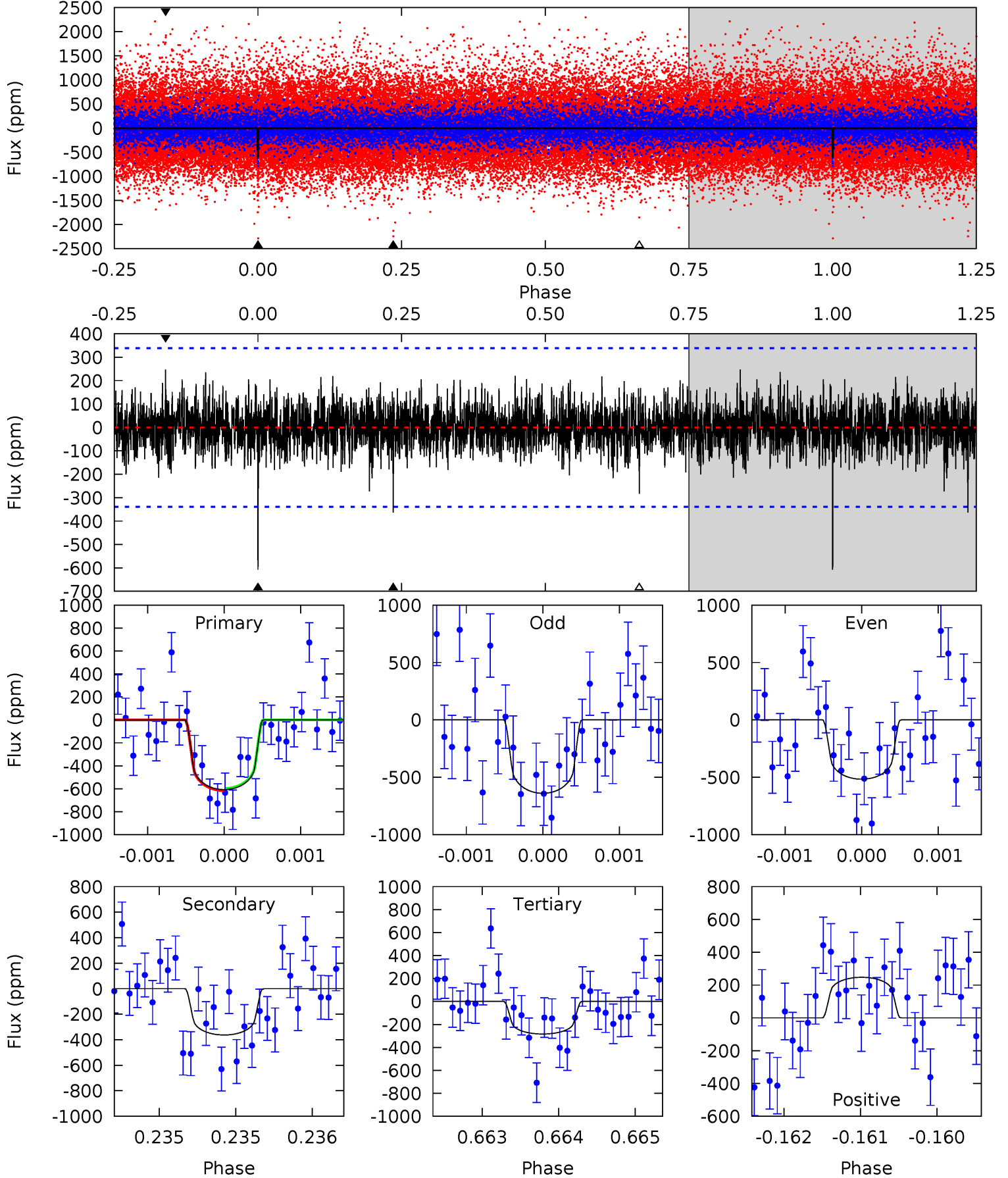
TCE 009024729-01 P=258.716114 Days $T_0=219.607266$ (BKJD)



DV Model-Shift Uniqueness Test

009024729-01, P = 258.722122 Days, E = 219.588349 Days

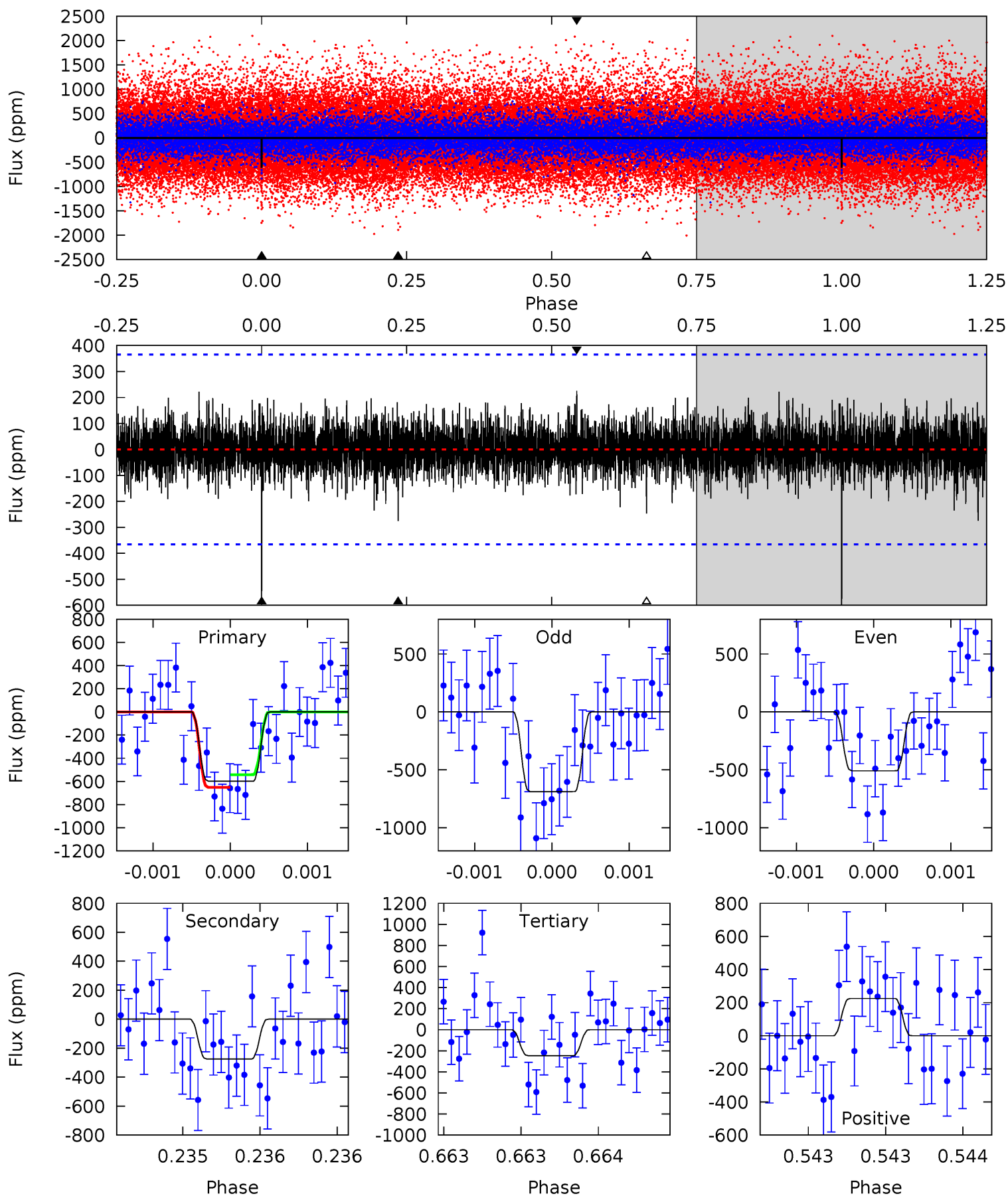
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.81	5.86	4.58	4.00	5.48	3.33	1.15	5.23	5.81	1.28	1.87	0.99	1.05	0.29	0.15



Alt Model-Shift Uniqueness Test

009024729-01, P = 258.716114 Days, E = 219.607266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	4.14	3.72	3.39	5.51	3.38	0.94	5.30	5.63	0.42	0.75	1.35	1.04	0.27	0.83



Stellar Parameters For KIC 009024729

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5959^{+188}_{-208}	$4.481^{+0.067}_{-0.202}$	$-0.160^{+0.300}_{-0.300}$	$0.946^{+0.287}_{-0.103}$	$0.986^{+0.132}_{-0.119}$	$1.642^{+0.469}_{-0.875}$
	+3%/-3%	+1%/-5%	+188%/-188%	+30%/-11%	+13%/-12%	+29%/-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 009024729-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-363 ± 62	$3.23^{+2.66}_{-2.20}$	409^{+30}_{-22}	4835^{+4011}_{-985}	$11518^{+100849}_{-7970}$
Alt.	-275 ± 66	$3.61^{+2.78}_{-2.30}$	410^{+28}_{-23}	4373^{+2614}_{-819}	7032^{+43168}_{-4951}

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

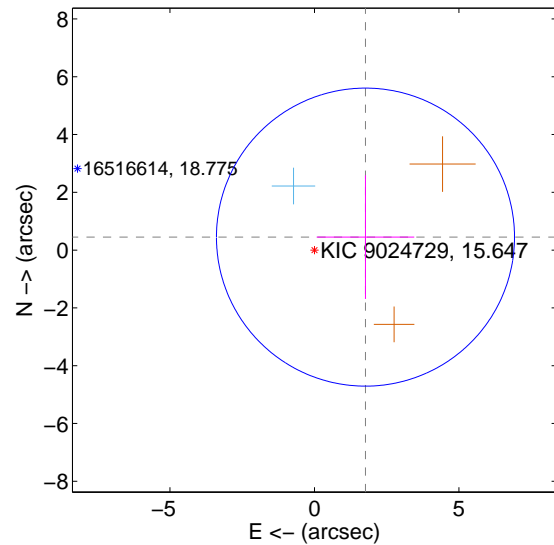
Supplemental centroid analysis for 009024729-01. Kepler magnitude: 15.65. Transit SNR 6.90

There are 1 quarters with good PRF difference image offsets

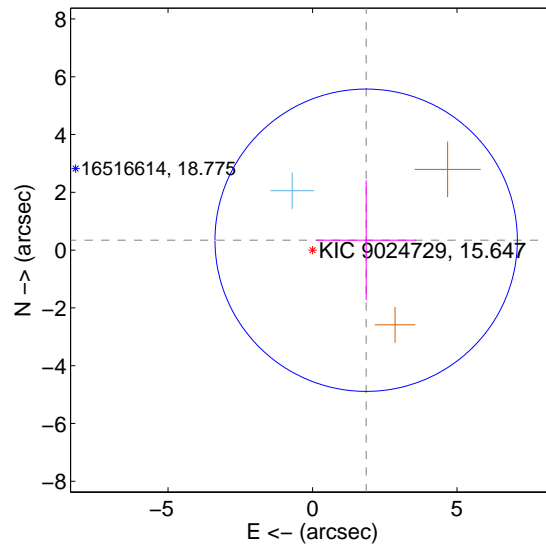
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.822 ± 1.719	1.06	-1.766 ± 1.688	0.449 ± 2.140
PRF-fit source offset from KIC position	1.887 ± 1.744	1.08	-1.856 ± 1.731	0.342 ± 2.076
photometric centroid source offset	1.04 ± 1.82	0.57	0.22 ± 1.73	1.02 ± 1.82

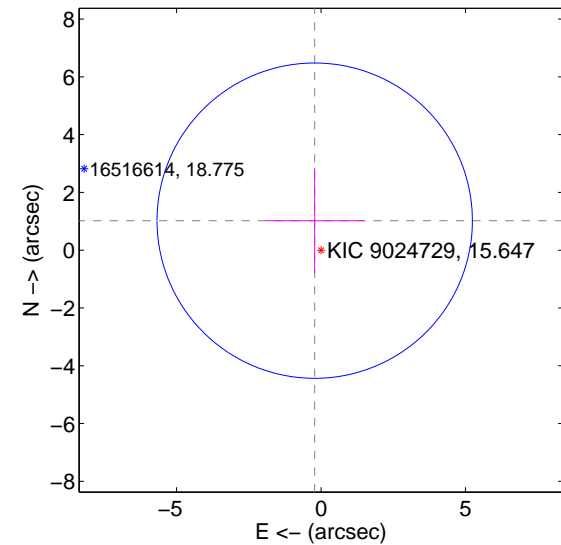
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

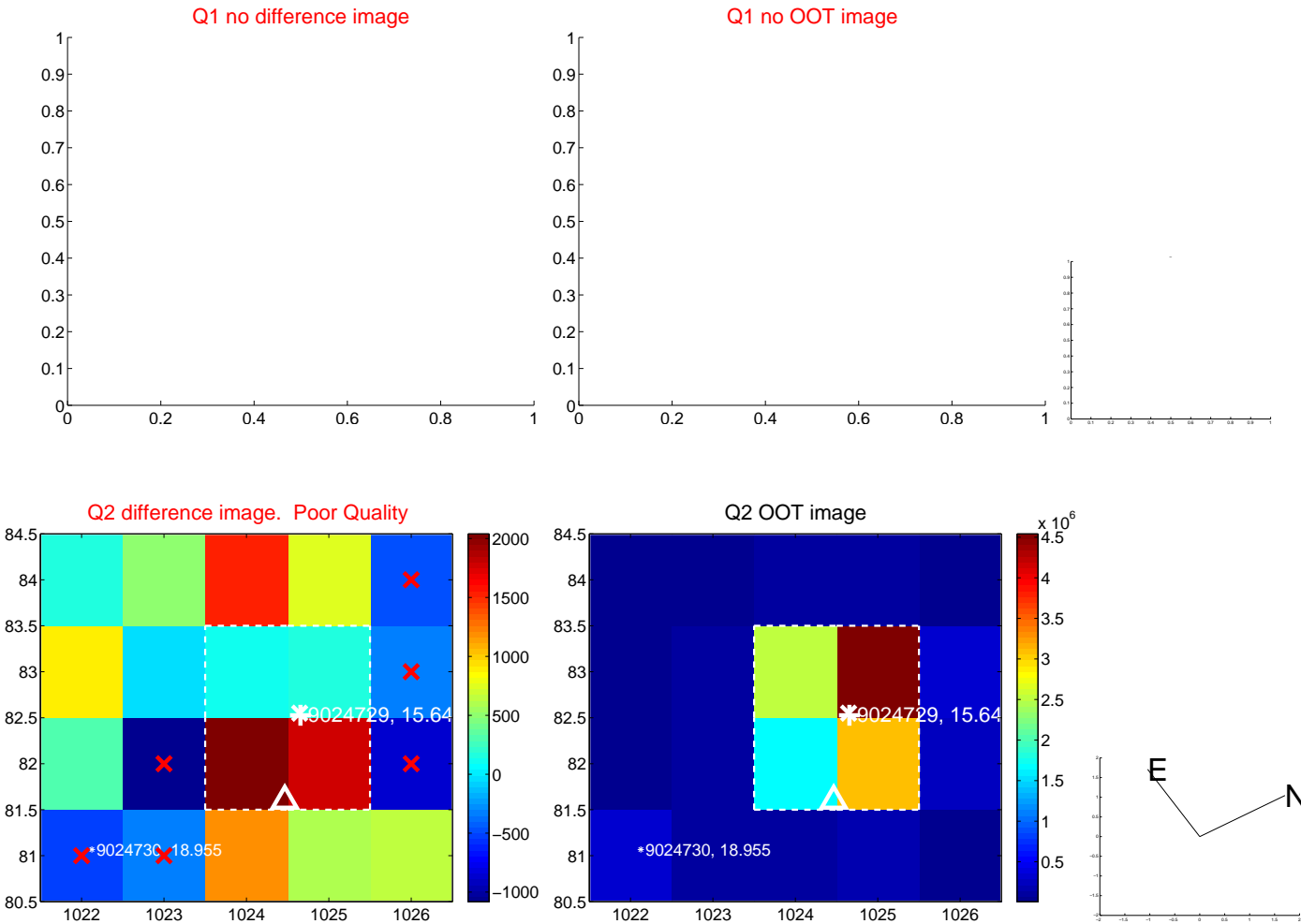


offset from photometric centroids

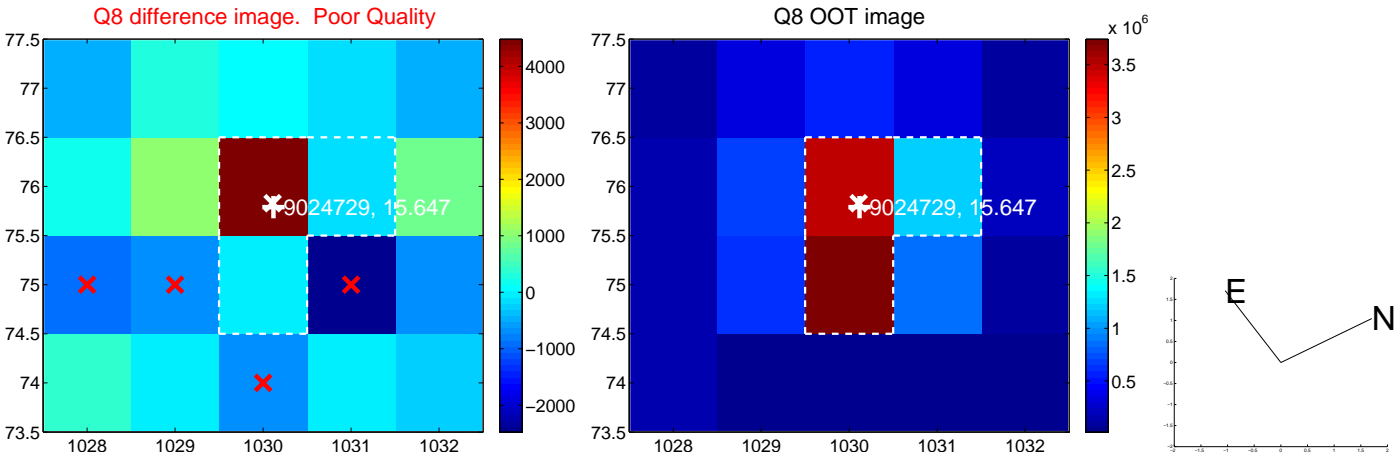
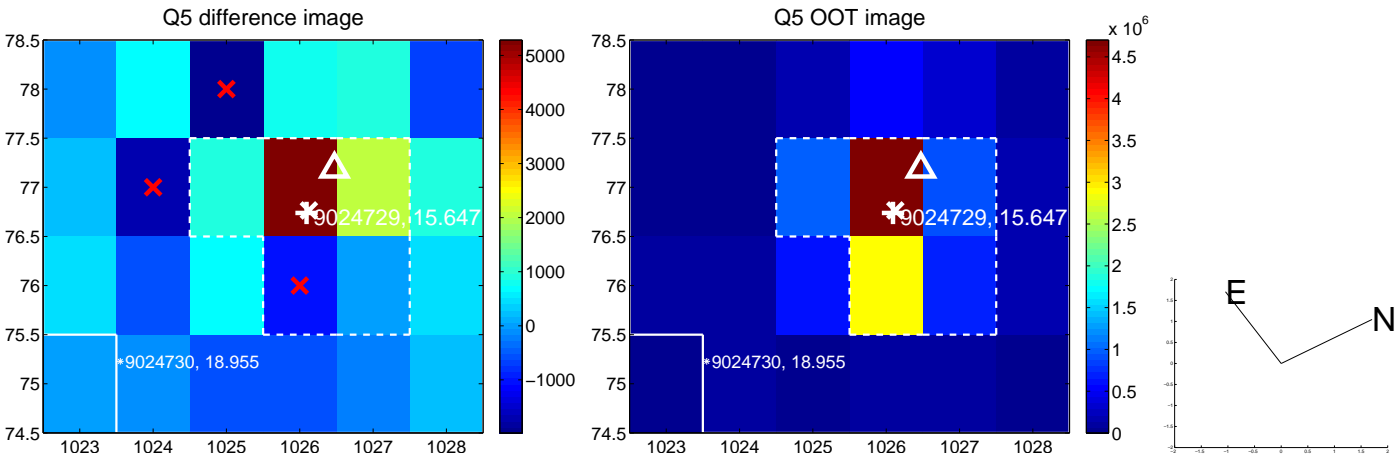


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

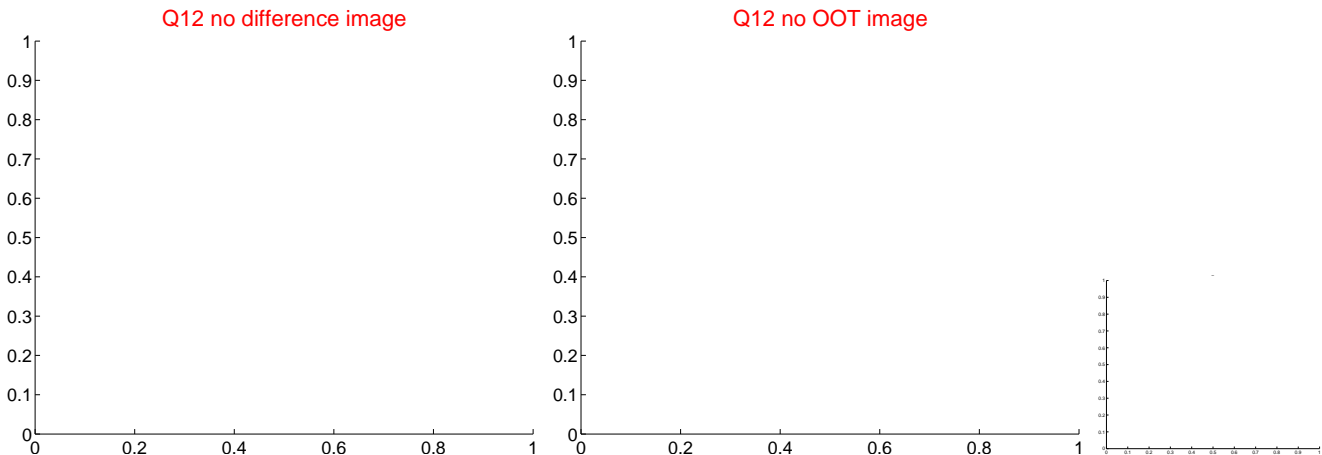
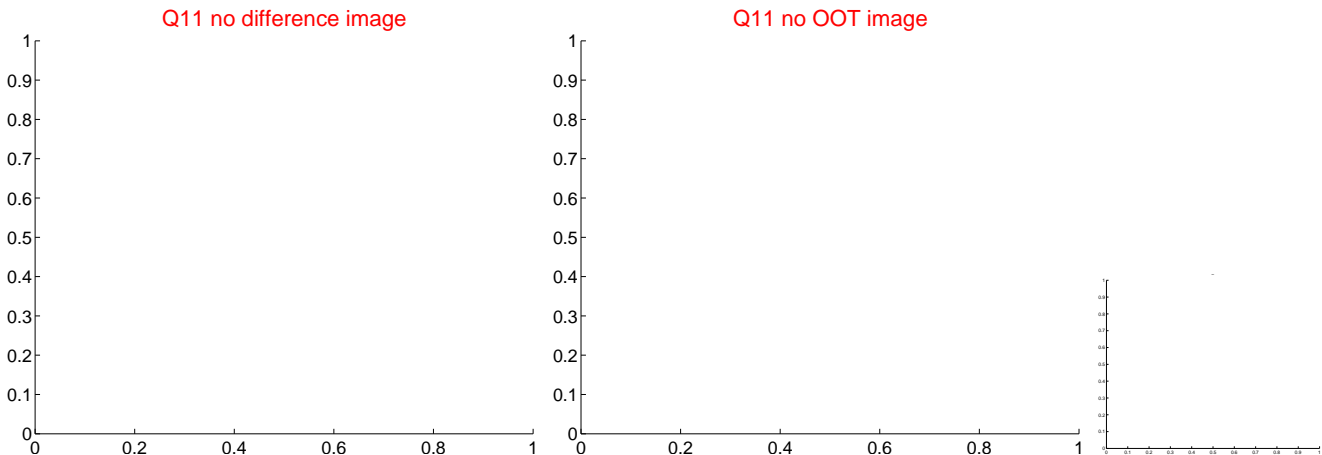
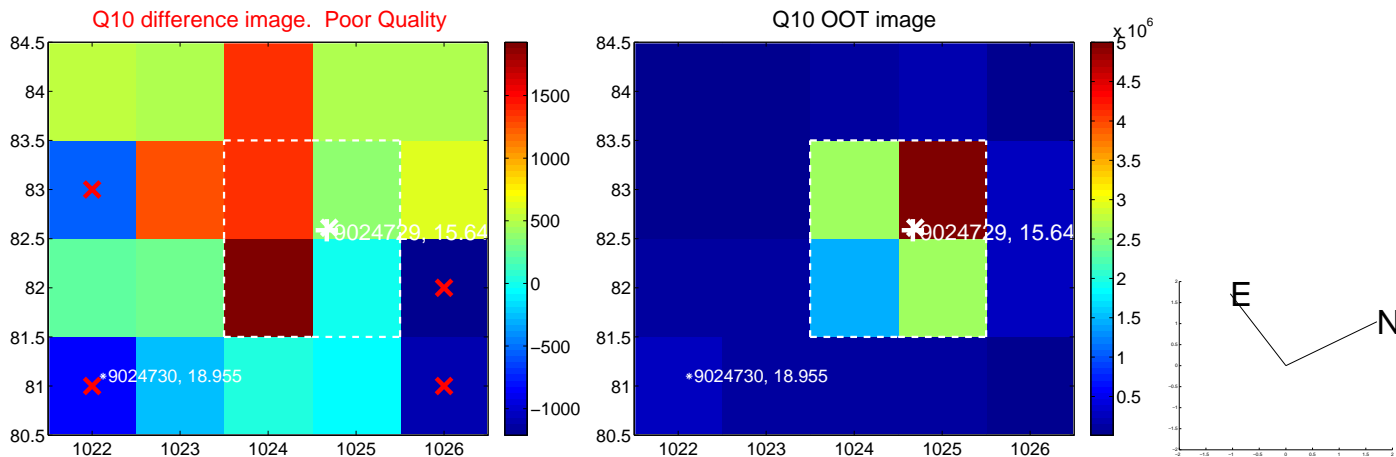
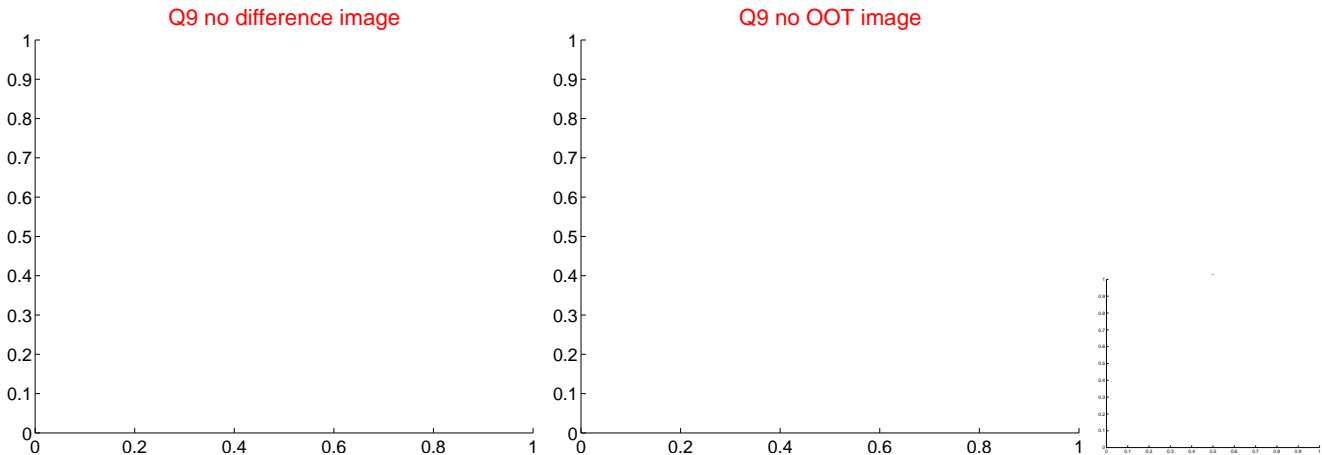
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



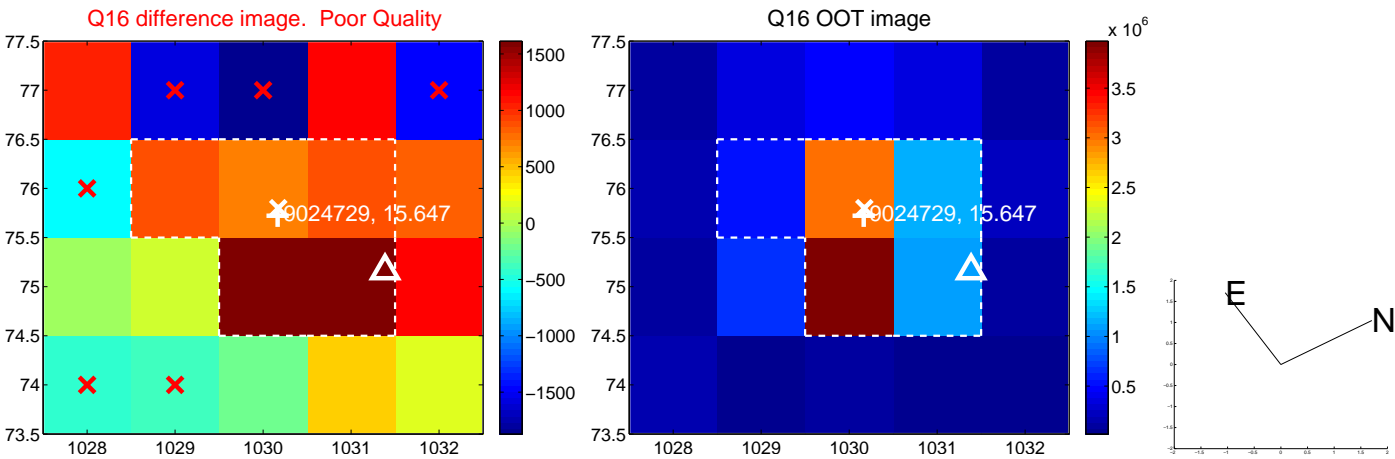
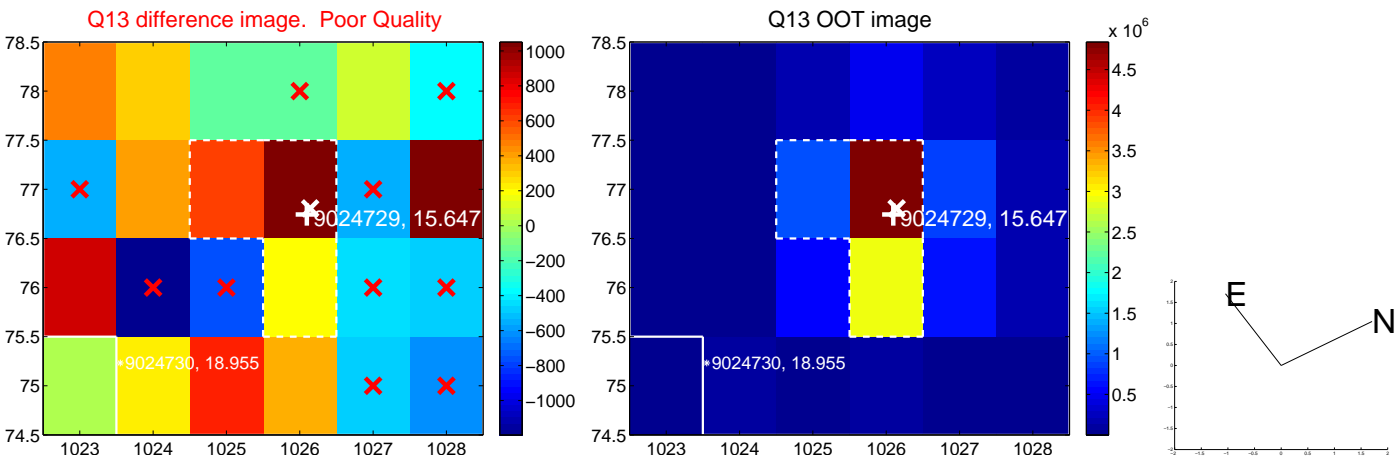
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



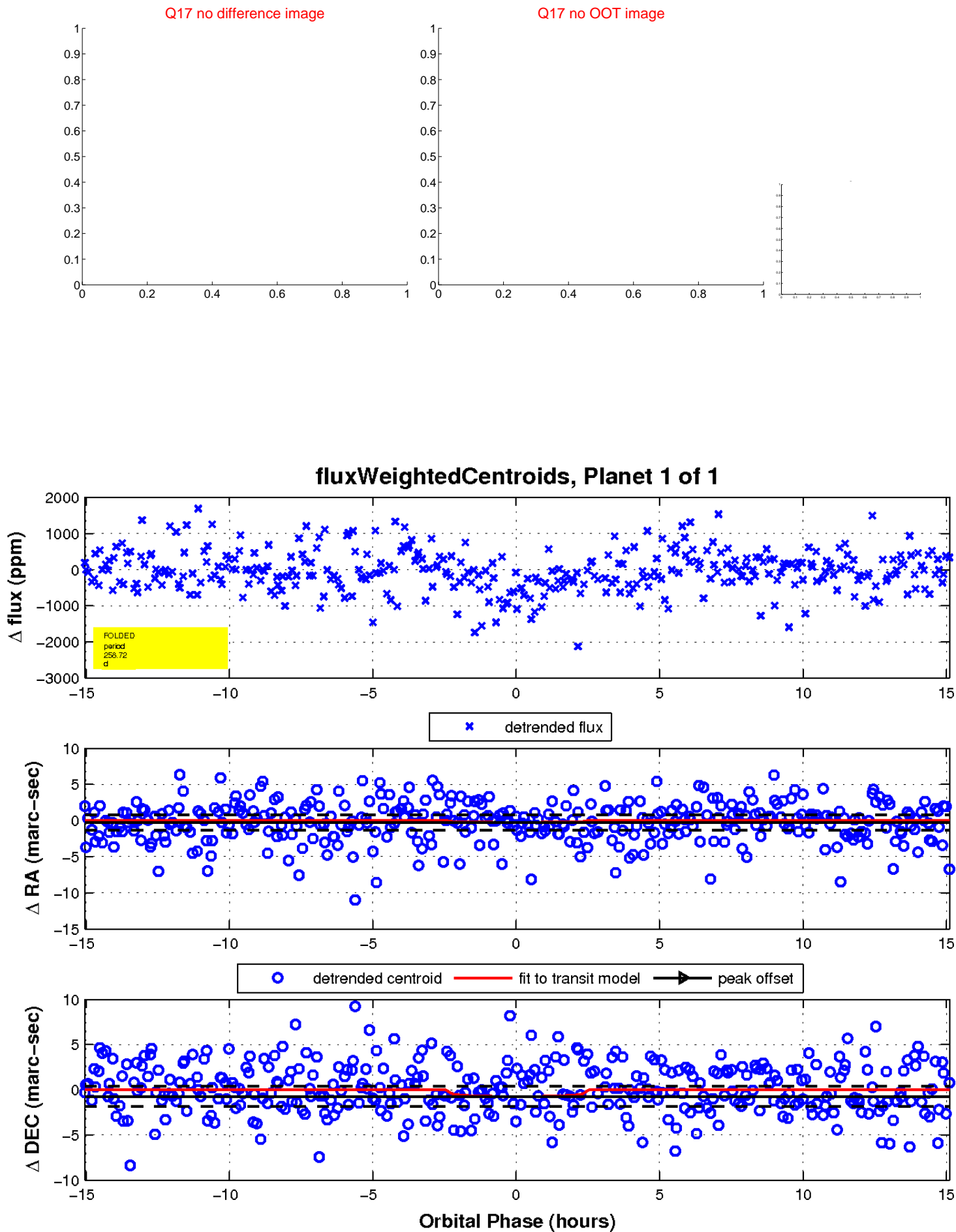
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

