

KIC 009754429

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})
009754429-01	OBS	No	570.051869	254.442140	111.7	21.652	7.5	5.9	1.27	6393	1.45	1.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009754429-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED

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

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

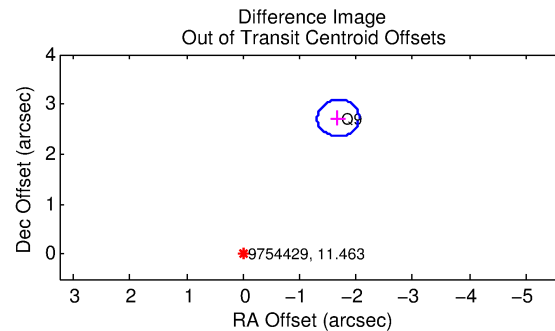
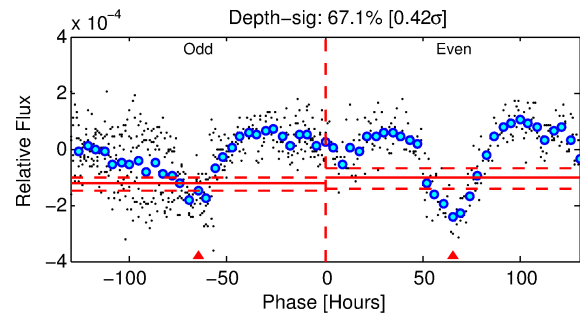
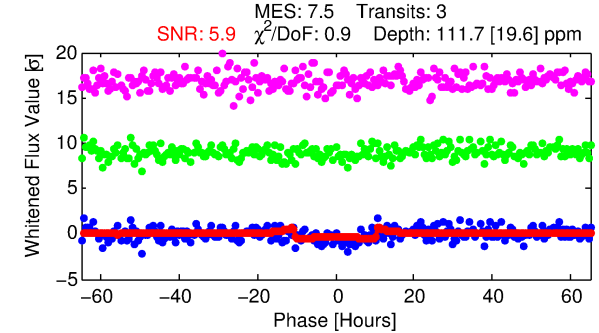
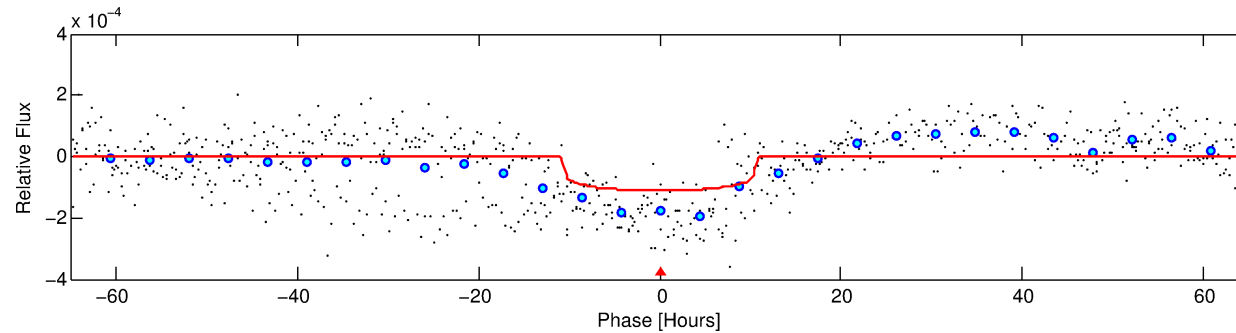
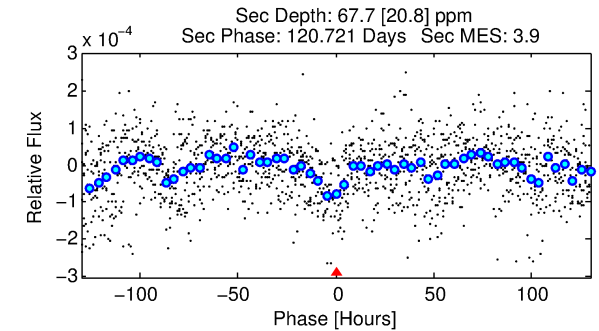
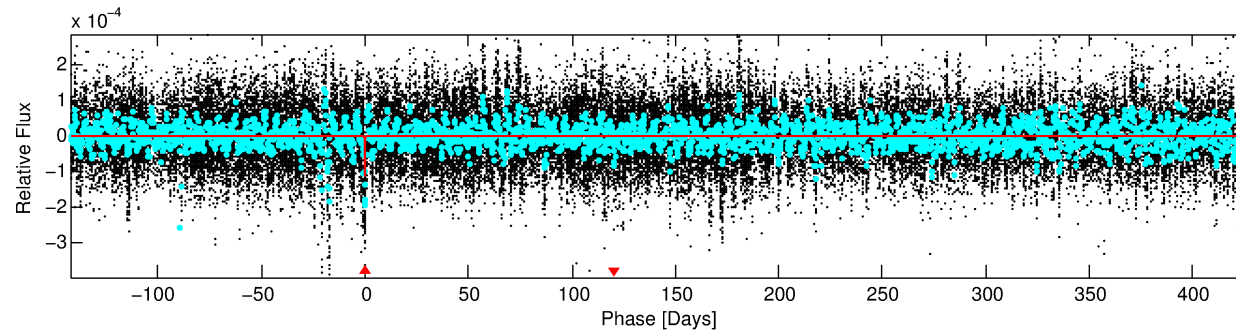
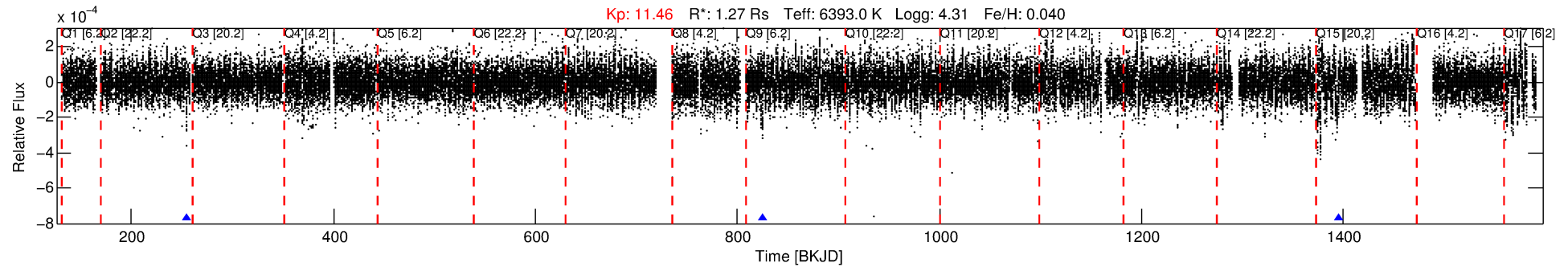
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009754429-01

No Significant Match Found

DV One-Page Summary

KIC: 9754429 Candidate: 1 of 1 Period: 570.052 d



DV Fit Results:

Period = 570.05187 [0.01044] d
Epoch = 254.4421 [0.0150] BKJD
Rp/R* = 0.0105 [0.0017]
a/R* = 139.11 [91.44]
b = 0.74 [0.41]
Seff = 1.18 [0.49]
Teq = 266 [27] K
Rp = 1.45 [0.54] Re
a = 1.4328 [0.3899] AU
Ag = 36174.91 [21223.68] [1.70σ]
Teff = 5668 [668] K [8.08σ]

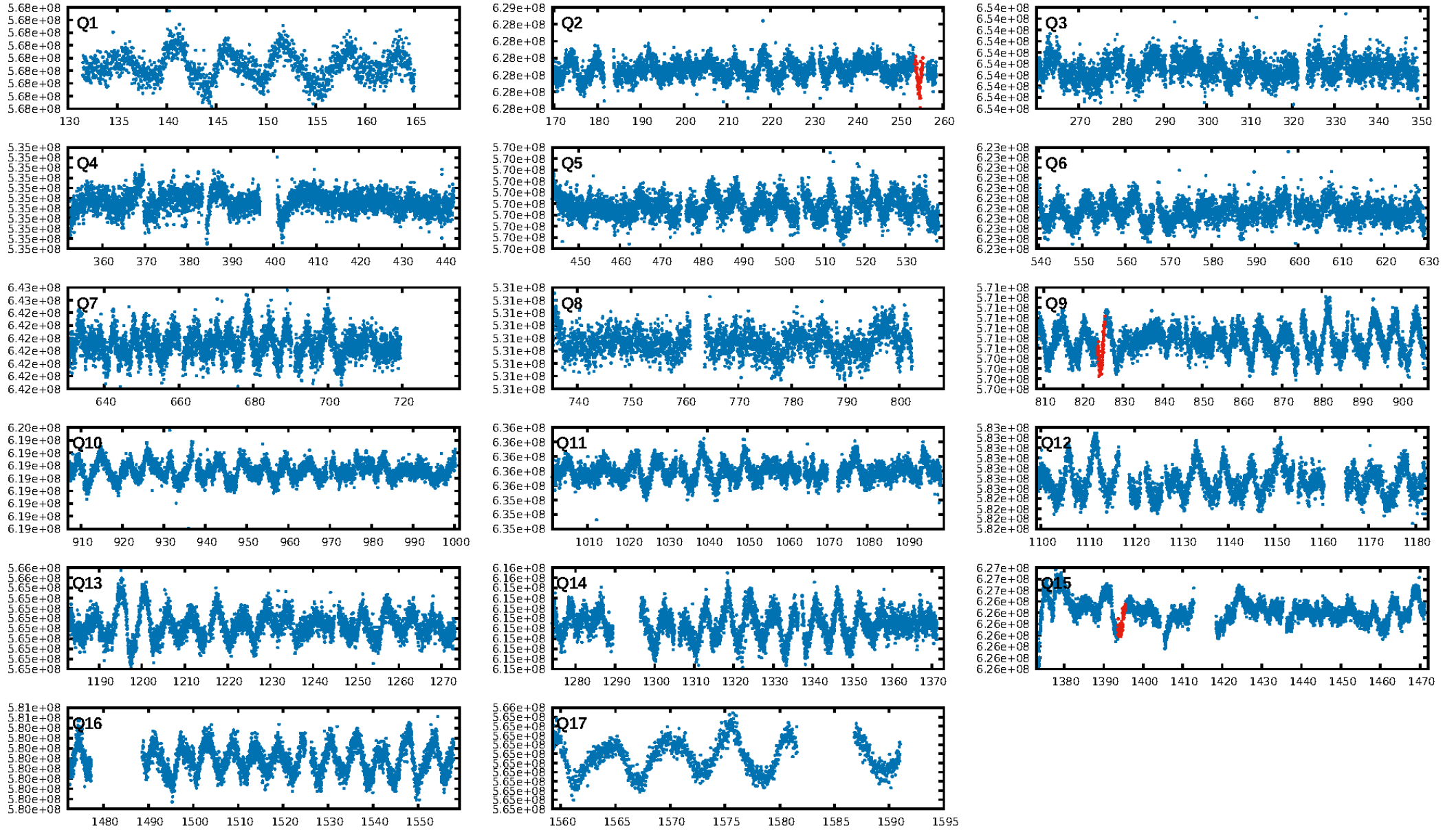
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.4%
ModelChiSquareGoF-sig: 99.9%
Bootstrap-pfa: 2.52e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.4
Centroid-sig: 0.4%
Centroid-so: 2.195 arcsec [2.00σ]
OotOffset-rm: 3.198 arcsec [25.92σ]
KicOffset-rm: 3.132 arcsec [25.44σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [1/1]

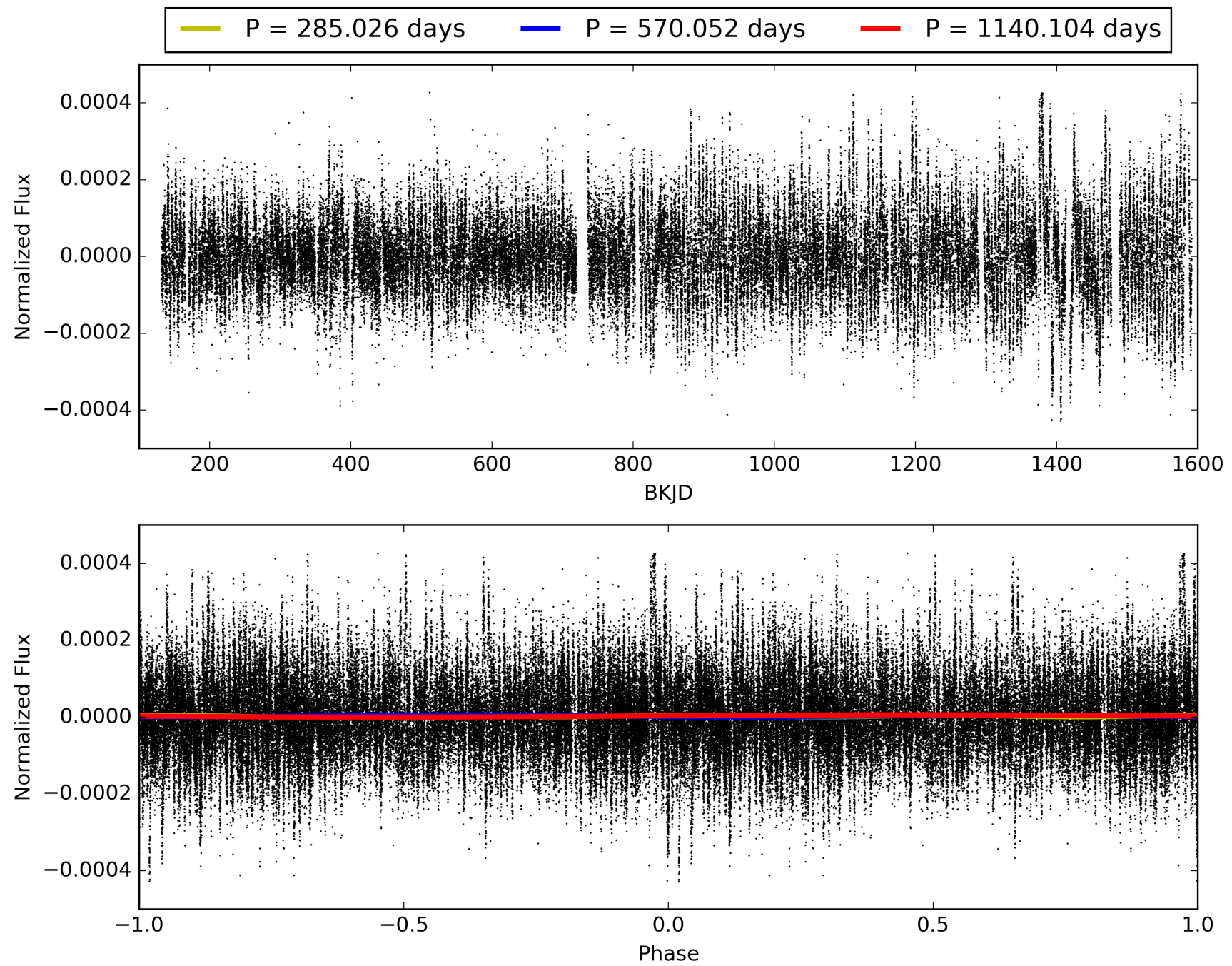
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:12:54 Z

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

TCE 009754429-01, PDC Light Curves

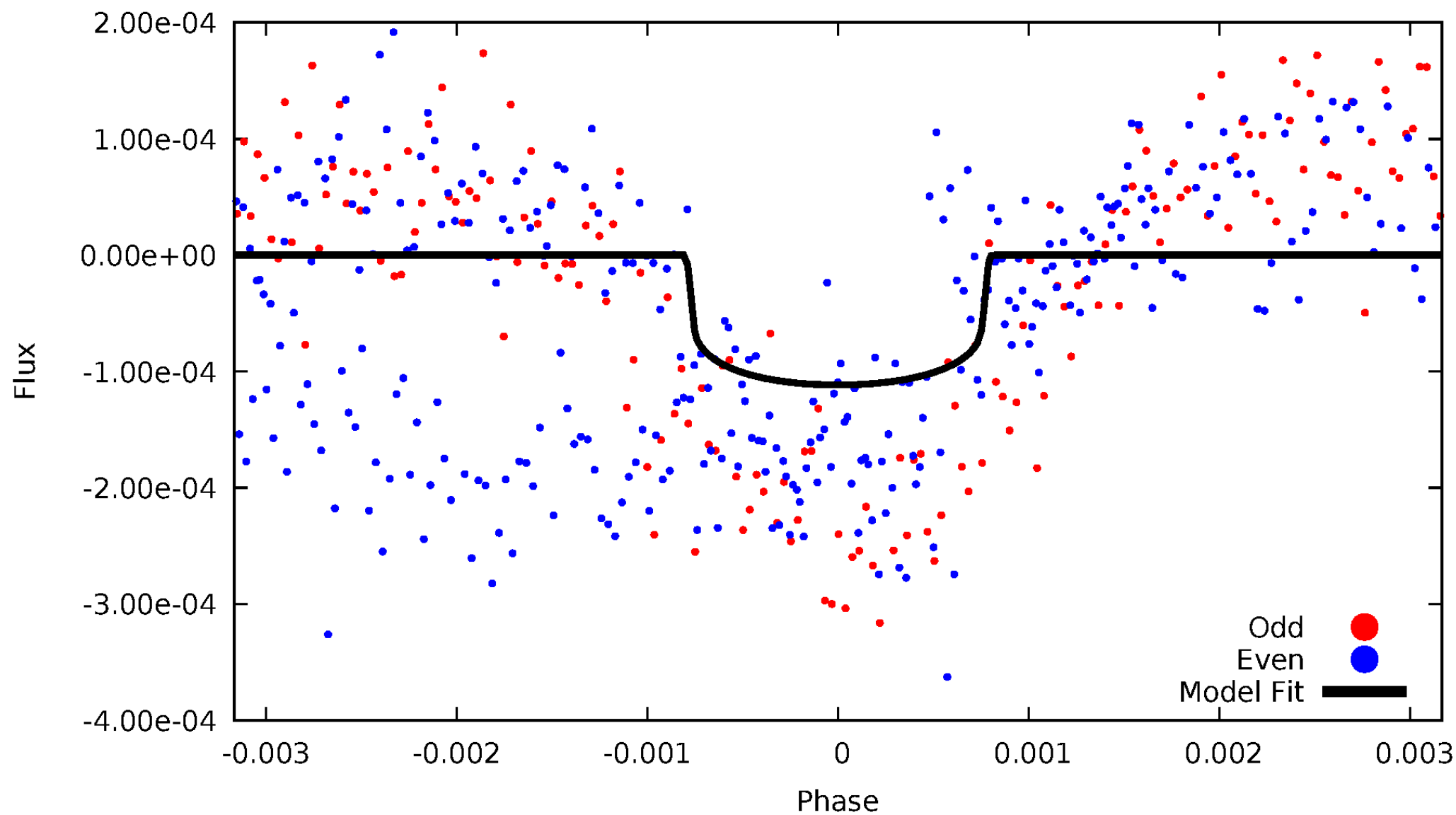


TCE 009754429-01



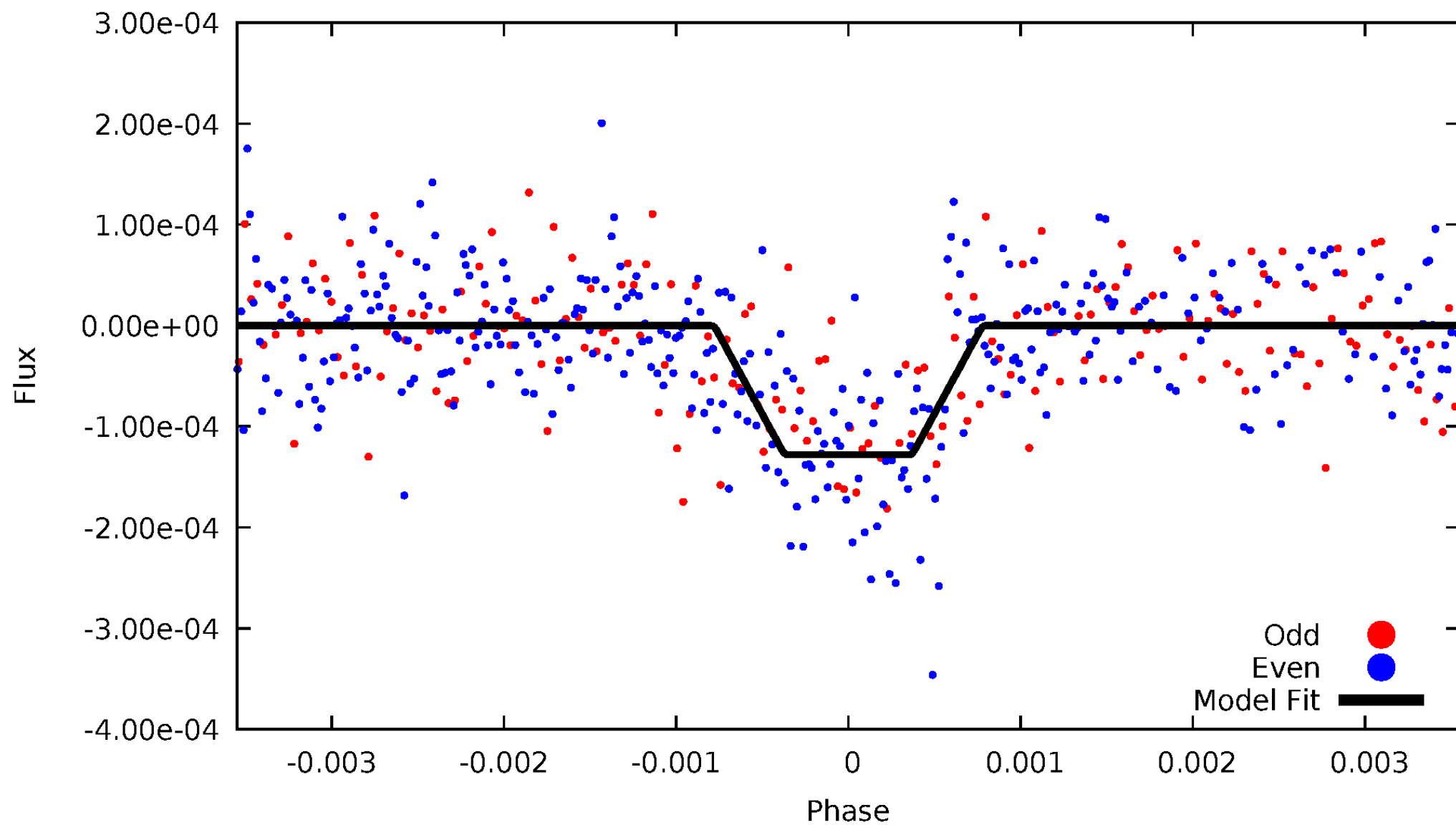
DV Odd/Even

TCE 009754429-01

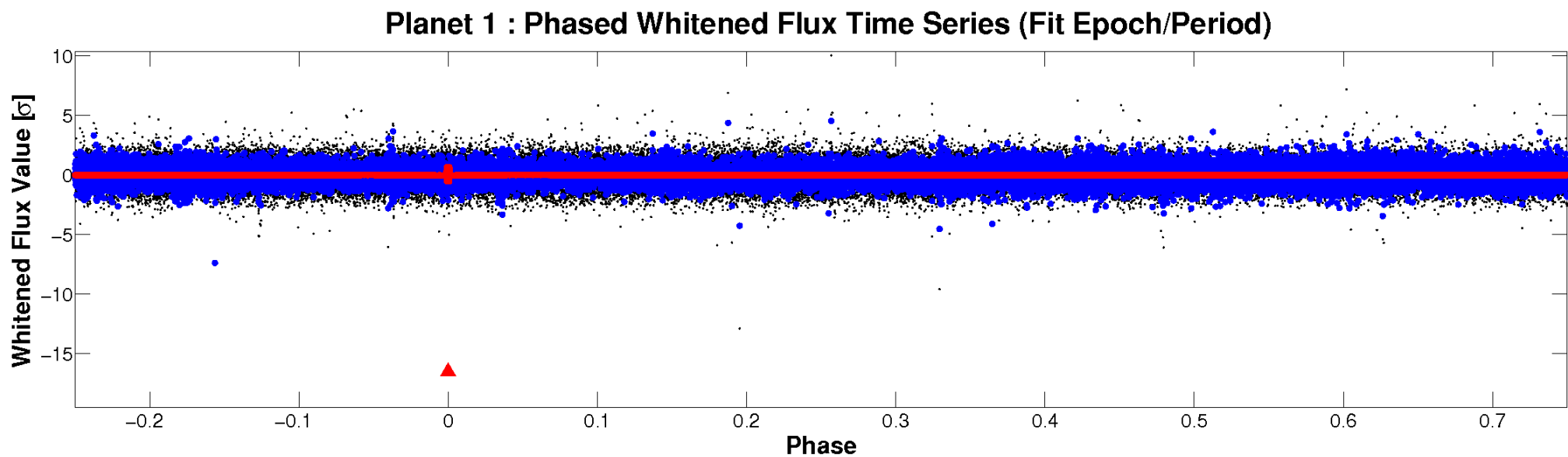
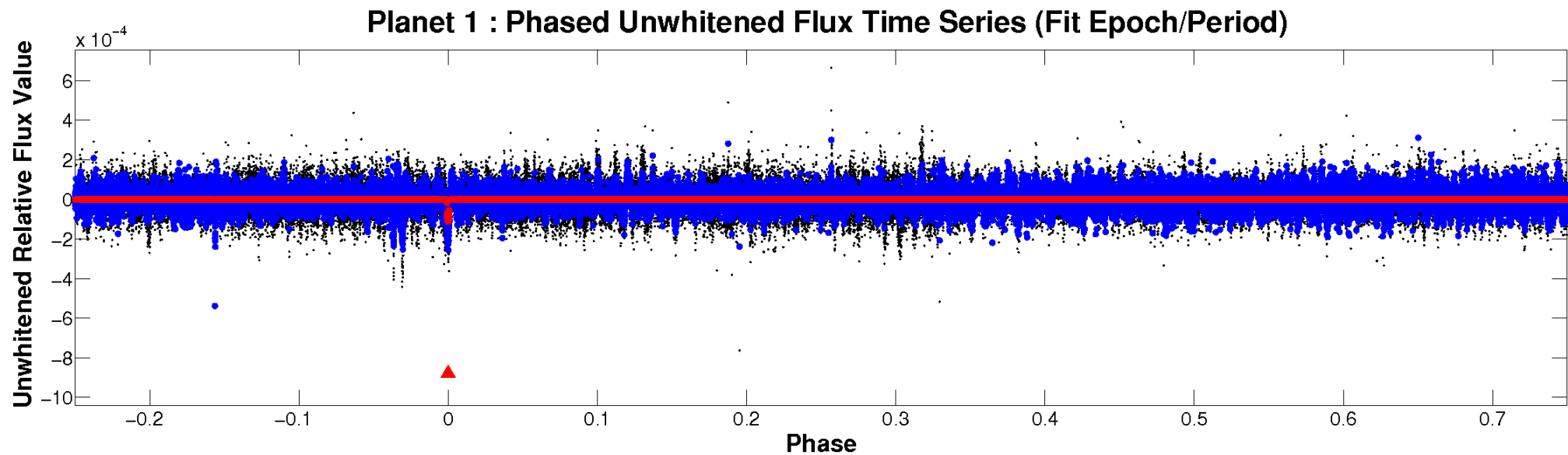


ALT Odd/Even

TCE 009754429-01

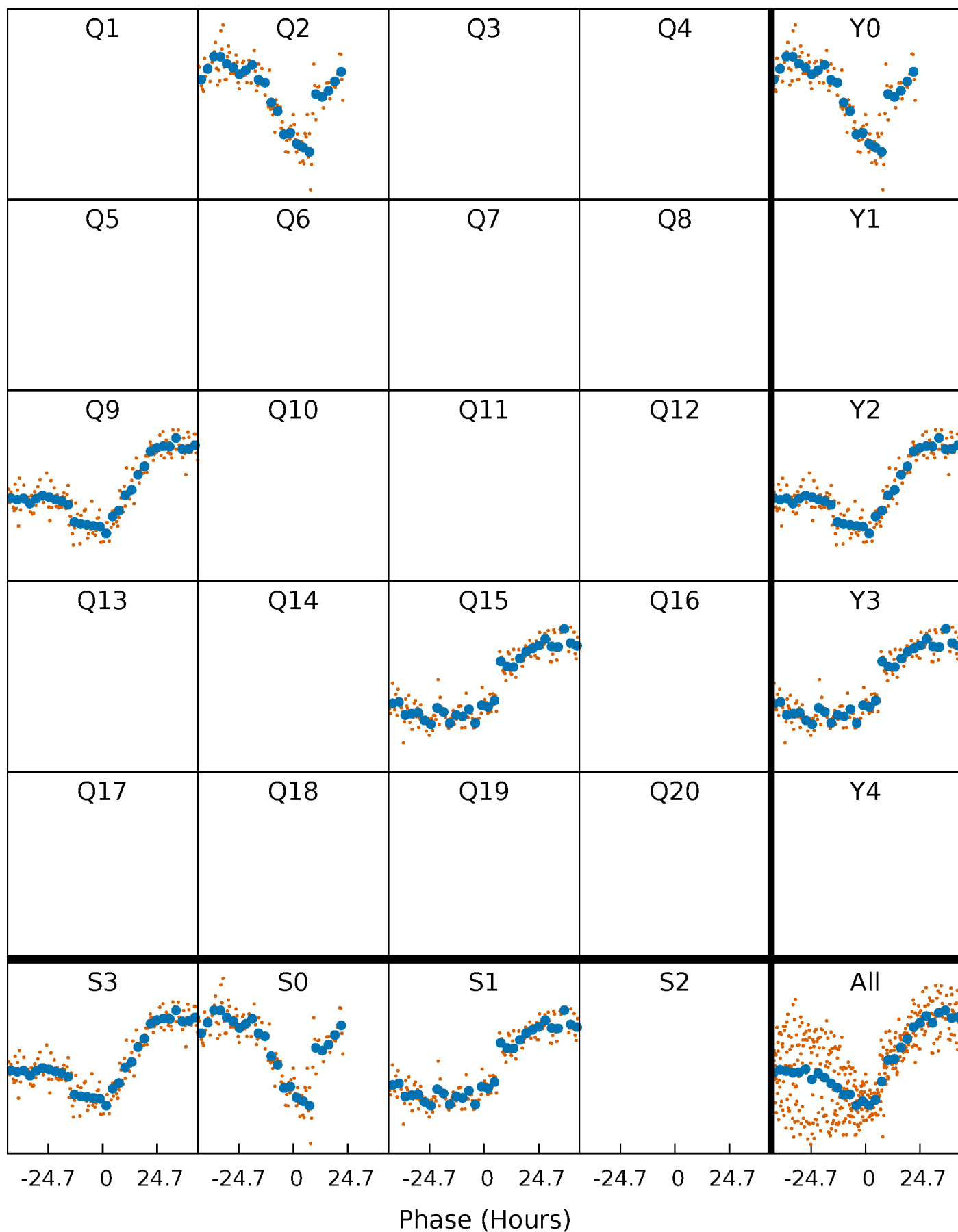


Non-Whitened Vs. Whitened Light Curve



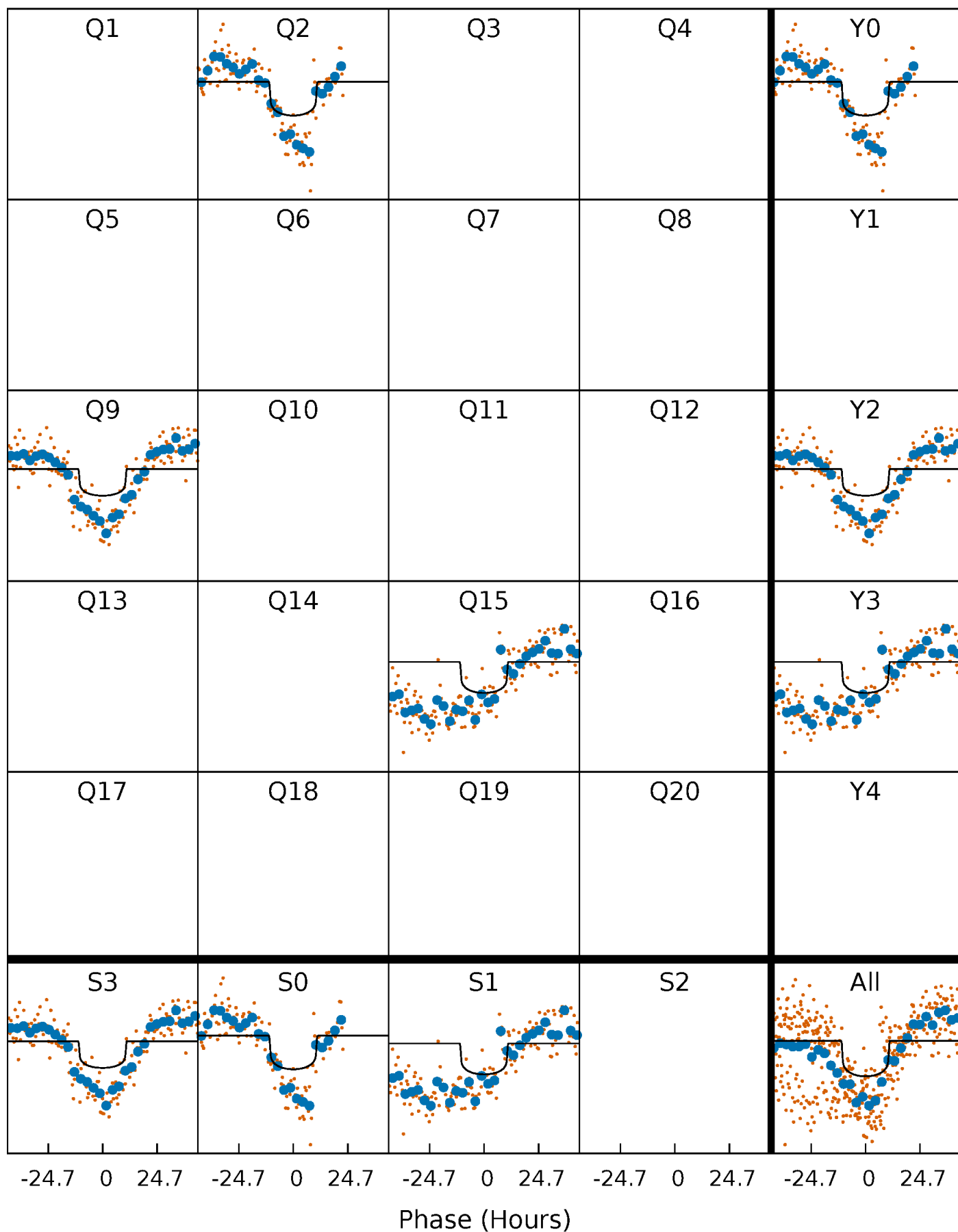
PDC Quarter-Phased Transit Curves

TCE 009754429-01 P=570.051869 Days $T_0=254.442140$ (BKJD)



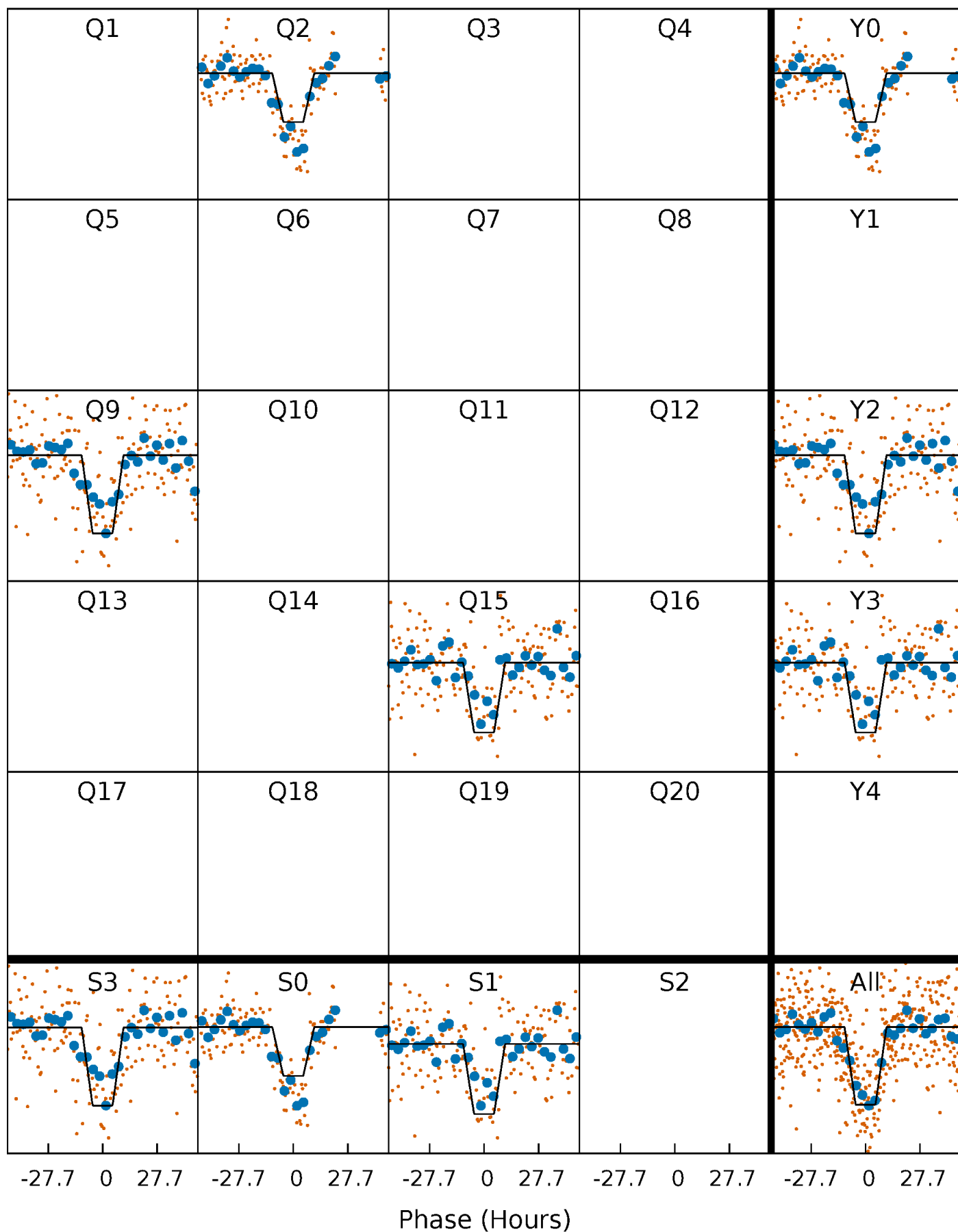
DV Quarter-Phased Transit Curves

TCE 009754429-01 P=570.051869 Days $T_0=254.442140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

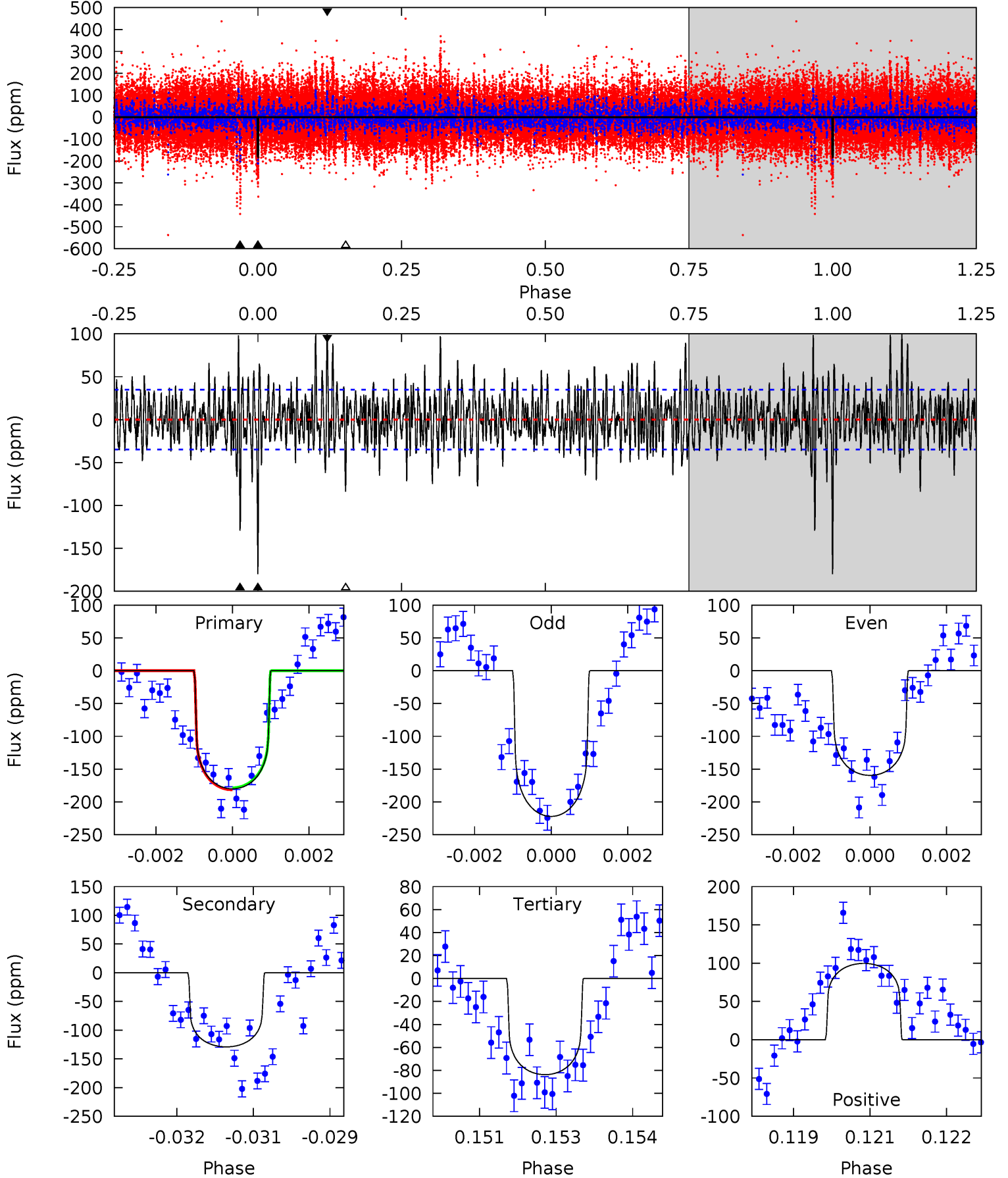
TCE 009754429-01 P=570.000967 Days $T_0=254.489335$ (BKJD)



DV Model-Shift Uniqueness Test

009754429-01, P = 570.051869 Days, E = 254.442140 Days

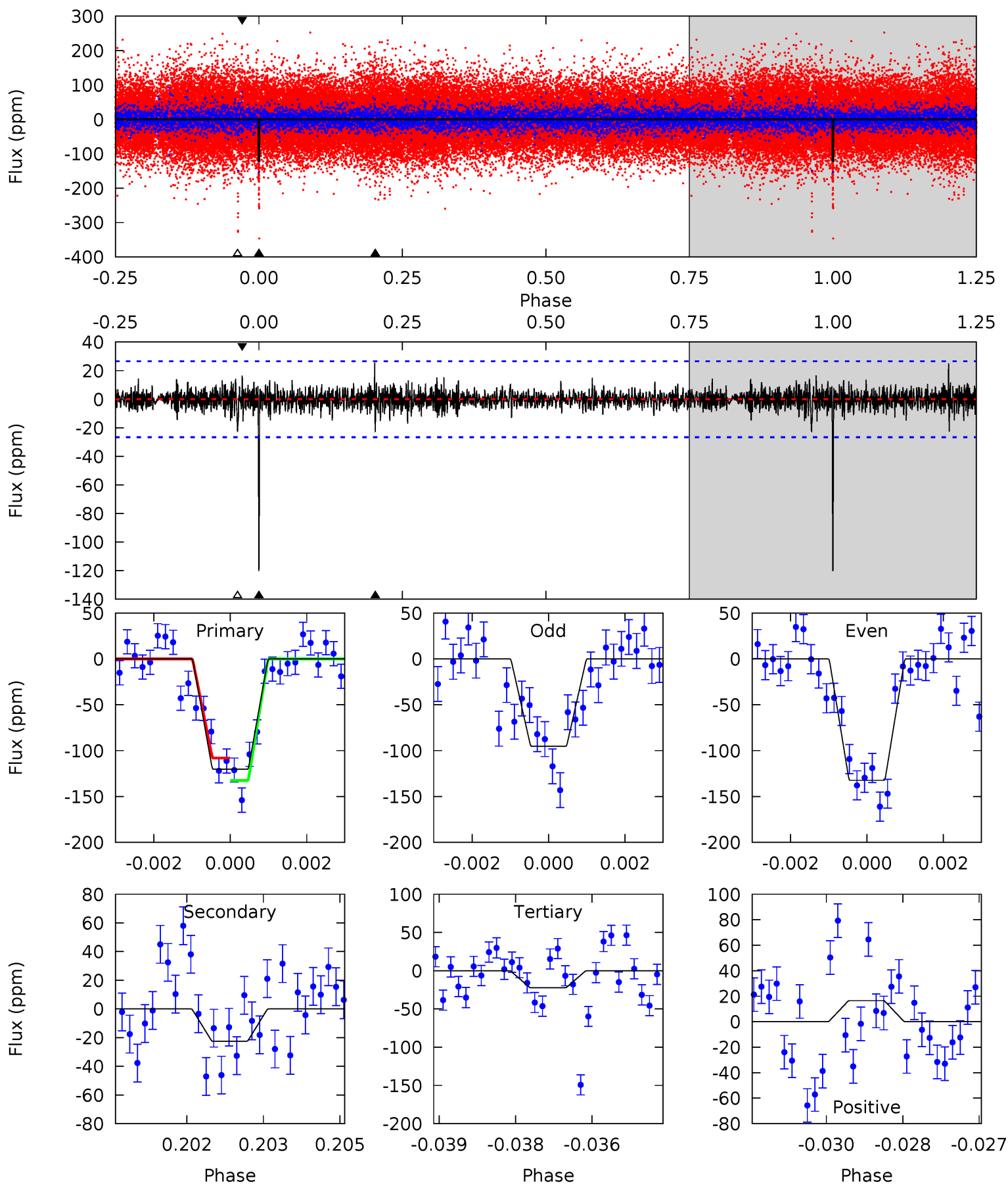
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.7	19.8	12.9	15.3	5.37	3.15	4.00	14.8	12.3	6.97	4.52	4.52	0.99	0.36	0.23



Alt Model-Shift Uniqueness Test

009754429-01, P = 570.000967 Days, E = 254.489335 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	4.53	4.51	3.33	5.37	3.16	0.91	19.8	21.0	0.02	1.21	3.53	1.26	0.17	2.47



Stellar Parameters For KIC 009754429

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6393^{+179}_{-246}	$4.310^{+0.108}_{-0.201}$	$0.040^{+0.250}_{-0.300}$	$1.273^{+0.428}_{-0.214}$	$1.205^{+0.180}_{-0.162}$	$0.824^{+0.400}_{-0.425}$
	+3%/-4%	+3%/-5%	+625%/-750%	+34%/-17%	+15%/-13%	+49%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009754429-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-129 ± 7	$1.49^{+0.34}_{-0.30}$	374^{+29}_{-22}	6630^{+694}_{-534}	65383^{+35877}_{-22285}
Alt.	-22 ± 5	$1.61^{+0.36}_{-0.27}$	375^{+29}_{-24}	4332^{+332}_{-306}	9492^{+4912}_{-3527}

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

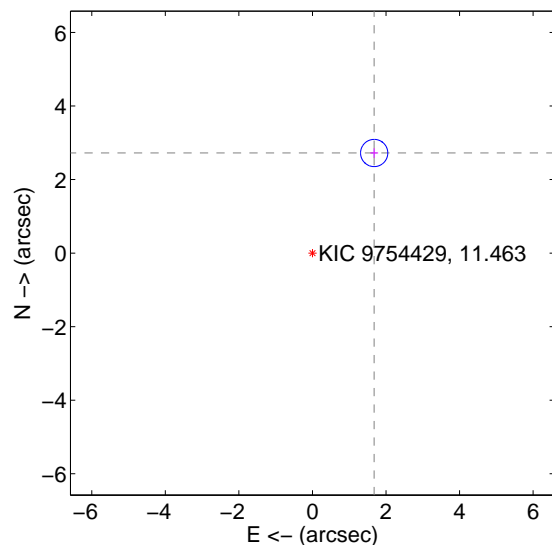
Supplemental centroid analysis for 009754429-01. **Kepler magnitude: 11.46.** Transit SNR 5.85

There are 1 quarters with good PRF difference image offsets

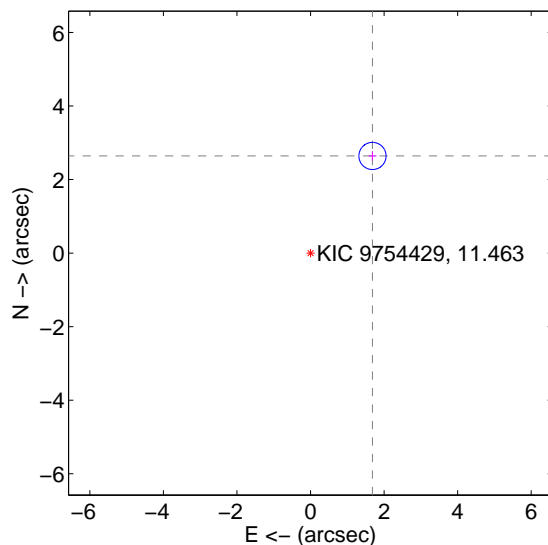
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.198 ± 0.123	25.92	-1.678 ± 0.108	2.722 ± 0.129
PRF-fit source offset from KIC position	3.132 ± 0.123	25.44	-1.684 ± 0.108	2.641 ± 0.129
photometric centroid source offset	2.19 ± 1.10	2.00	0.50 ± 1.39	-2.14 ± 1.08

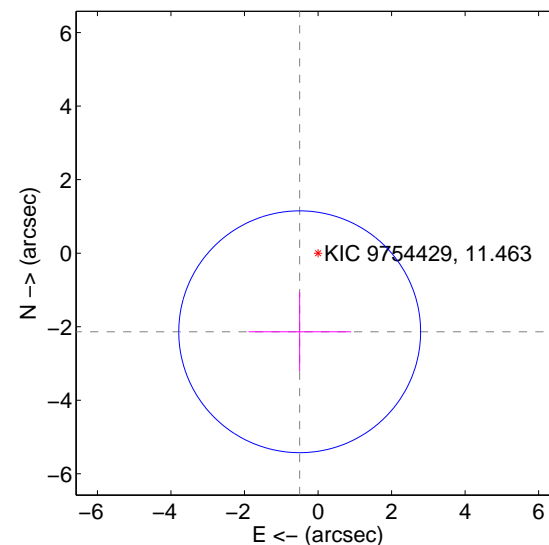
offset from difference PRF-fit to OOT PRF-fit



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.

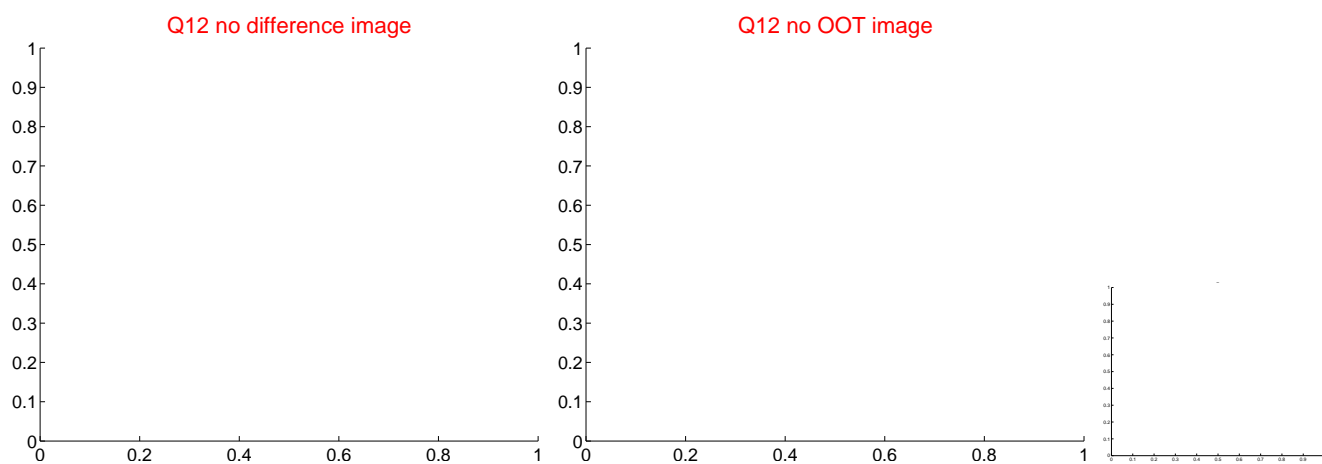
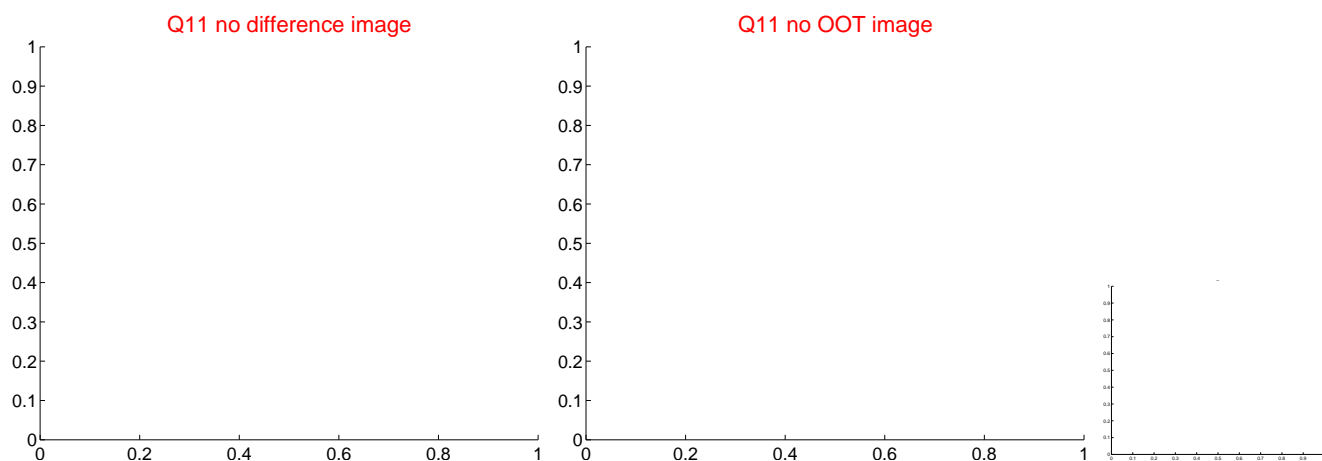
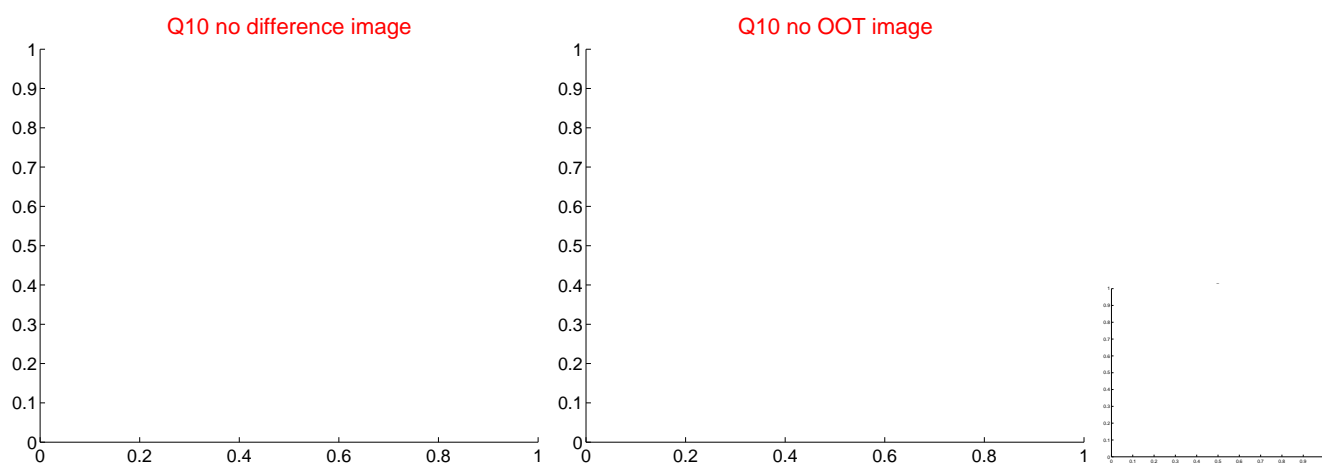
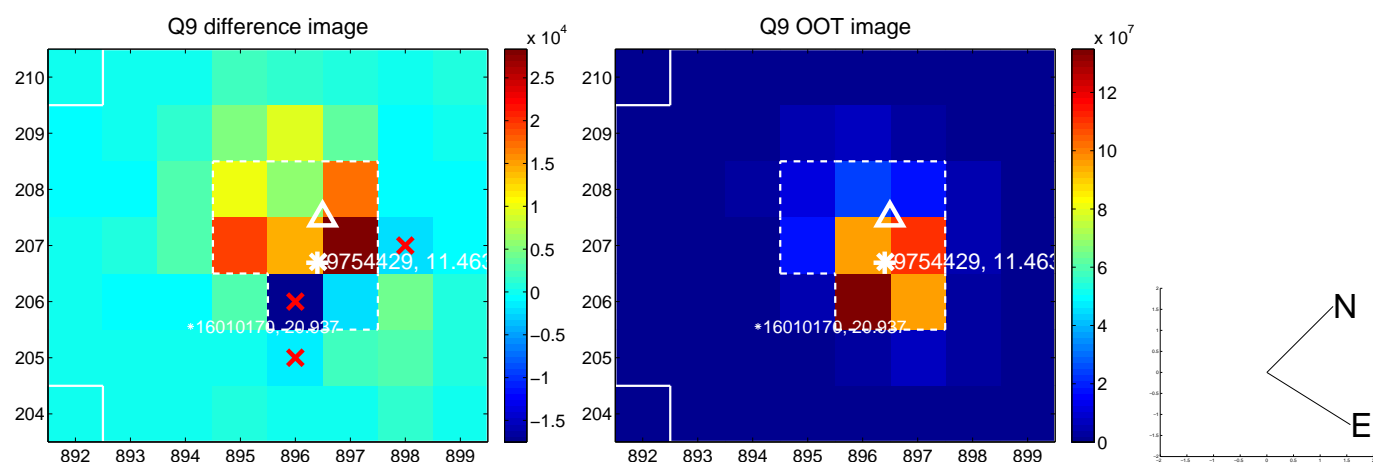
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



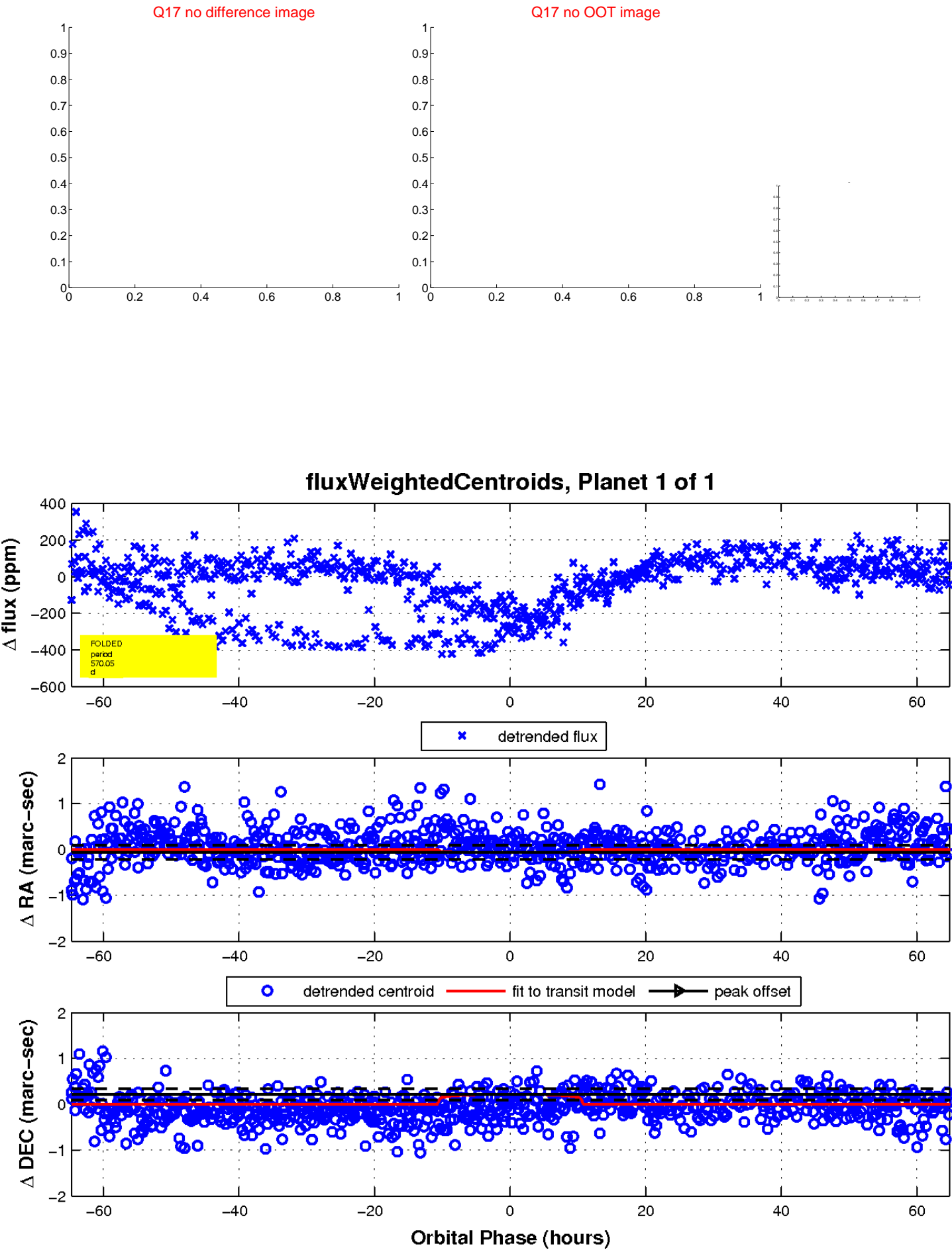
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

