

KIC 011663521

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})
011663521-01	OBS	No	459.900335	429.576140	245.2	7.424	9.5	6.3	0.59	4484	1.12	0.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011663521-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS

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

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

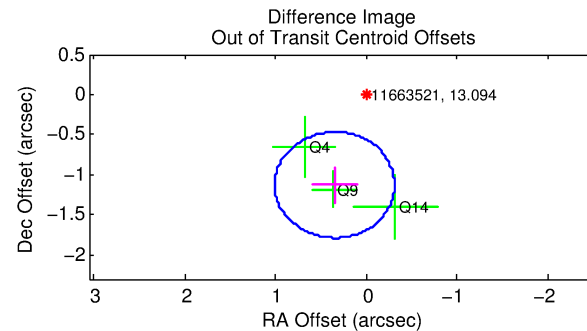
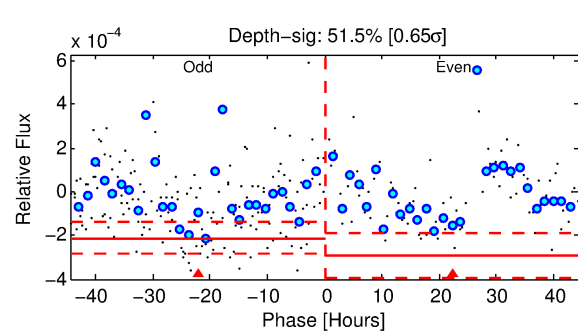
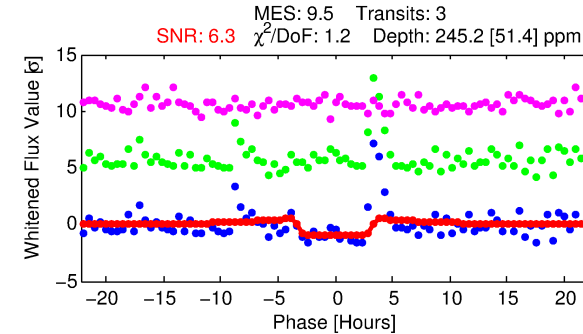
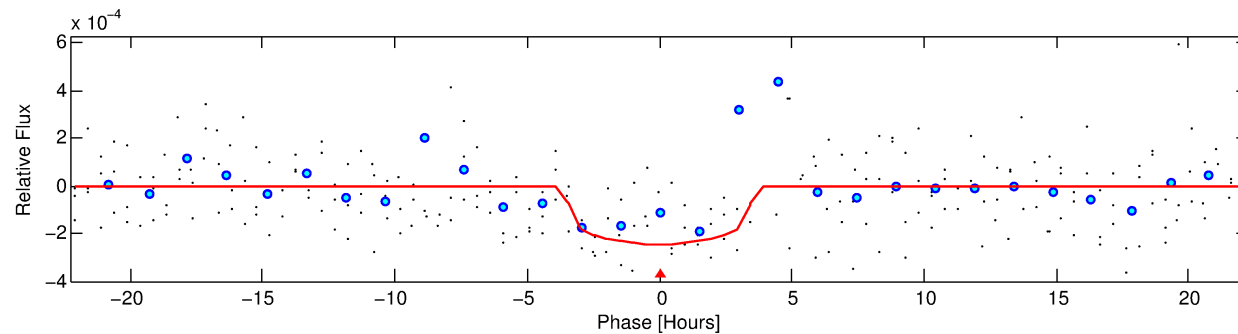
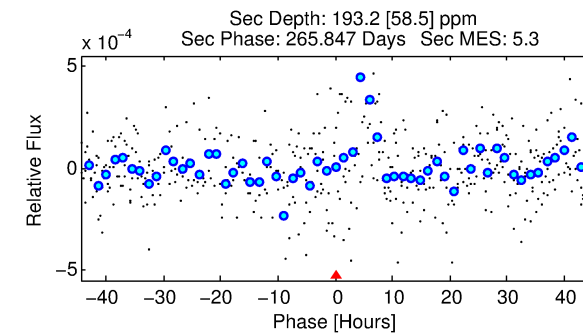
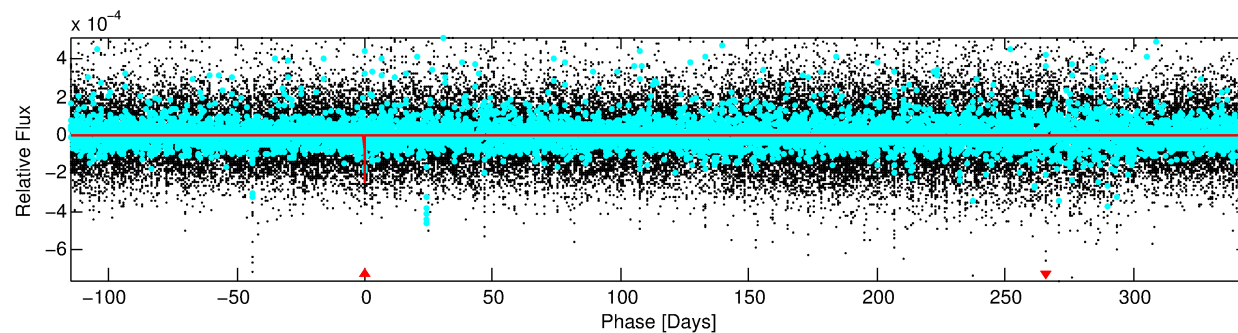
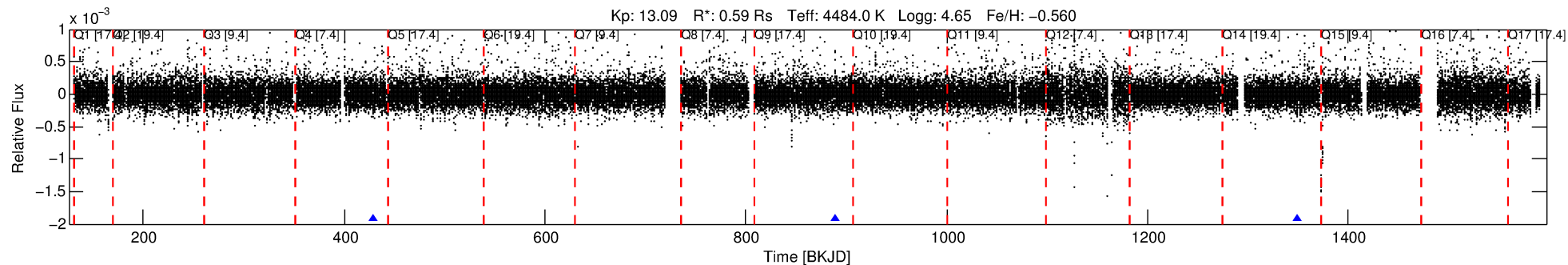
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011663521-01

No Significant Match Found

DV One-Page Summary

KIC: 11663521 Candidate: 1 of 1 Period: 459.900 d



DV Fit Results:

Period = 459.90034 [0.01203] d
Epoch = 429.5761 [0.0153] BKJD
Rp/R* = 0.0173 [0.0201]
a/R* = 235.24 [1048.23]
b = 0.89 [1.09]
Seff = 0.14 [0.02]
Teq = 155 [6] K
Rp = 1.12 [1.31] Re
a = 0.9727 [0.0732] AU
Ag = 80055.79 [188114.84] [0.43σ]
Teffp = 4020 [2362] K [1.64σ]

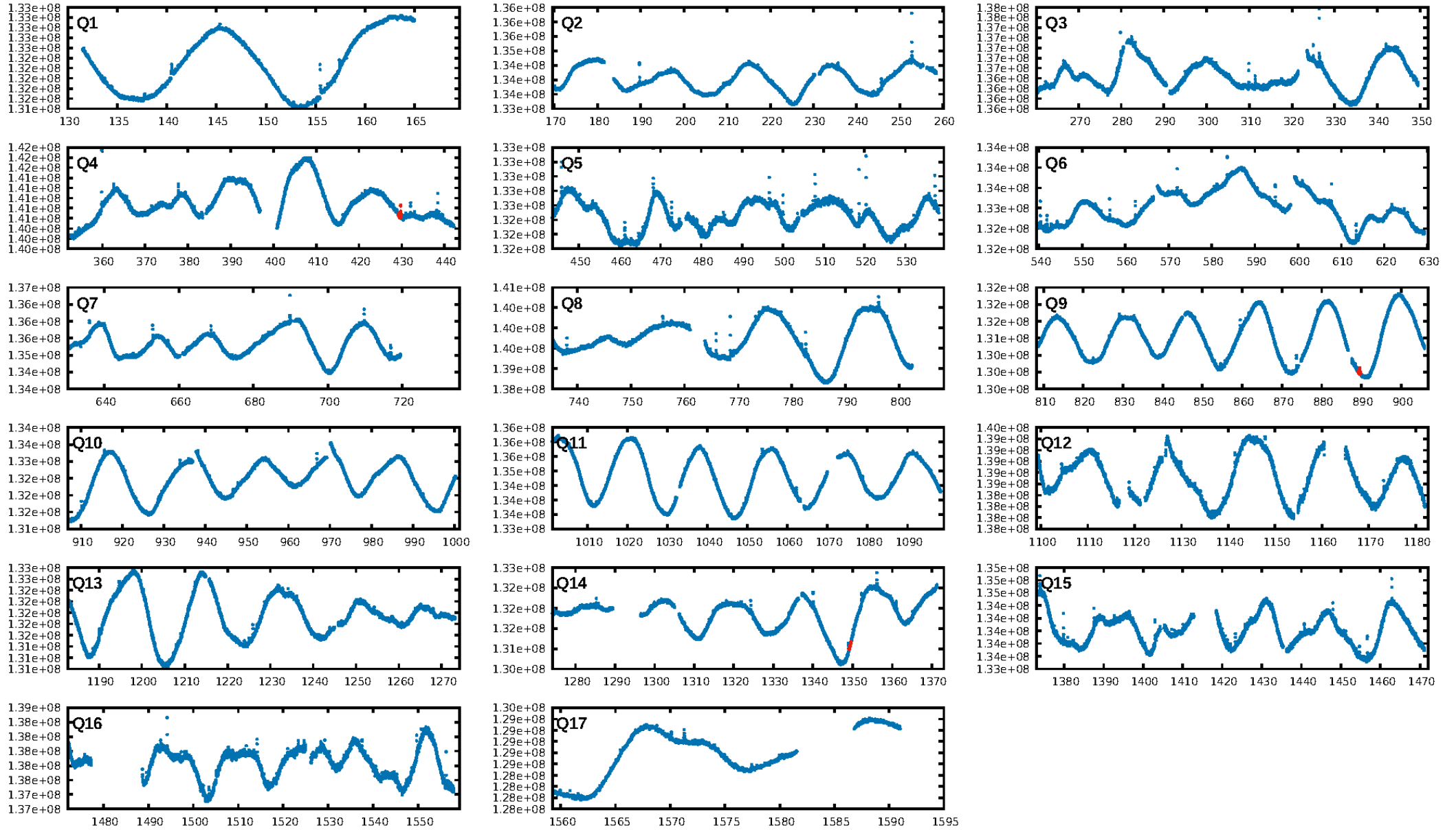
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.1%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 9.61e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.058
Centroid-sig: 69.5%
Centroid-so: 0.507 arcsec [0.41σ]
OotOffset-rm: 1.180 arcsec [5.37σ]
KicOffset-rm: 1.194 arcsec [4.99σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

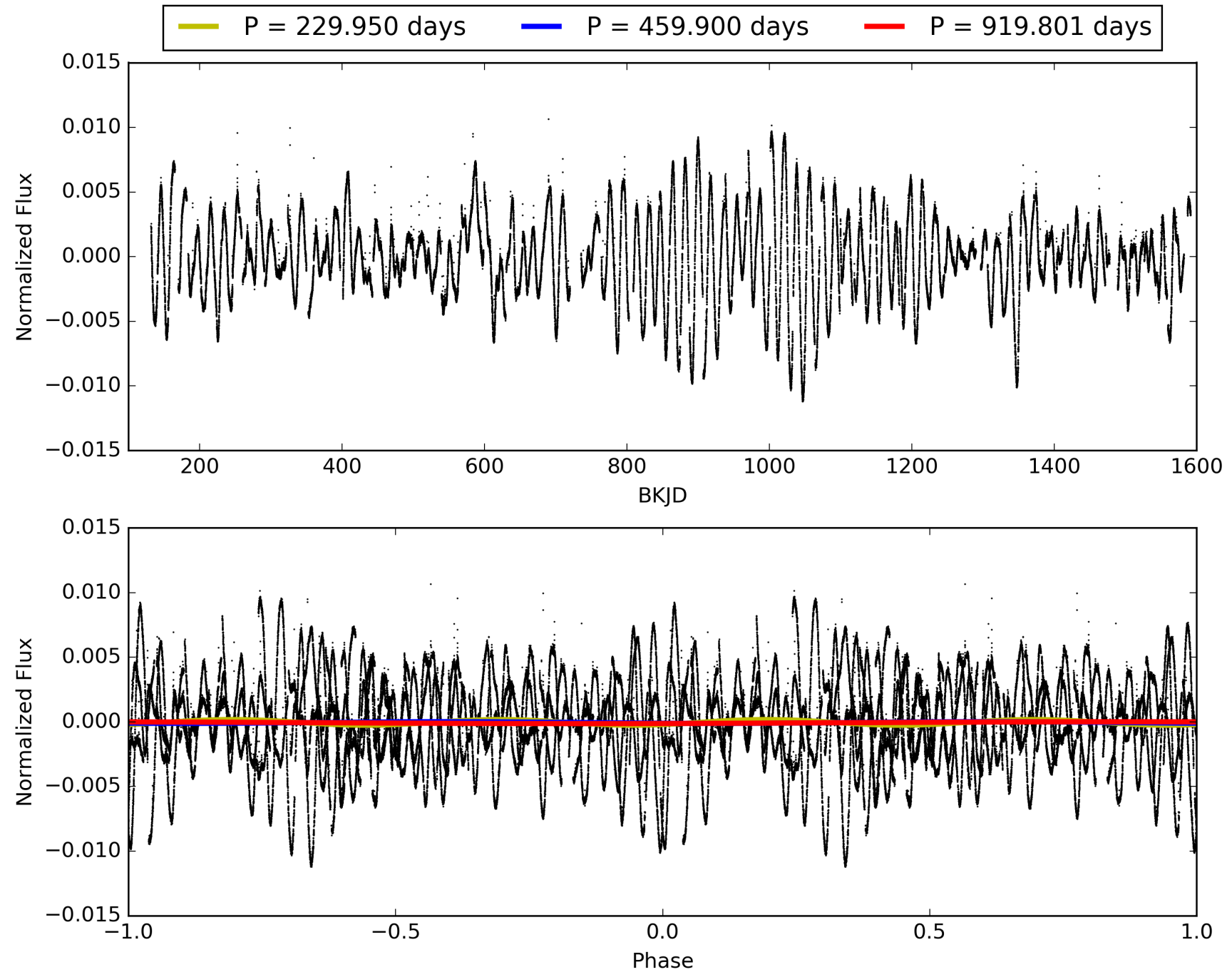
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:29:09 Z

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

TCE 011663521-01, PDC Light Curves

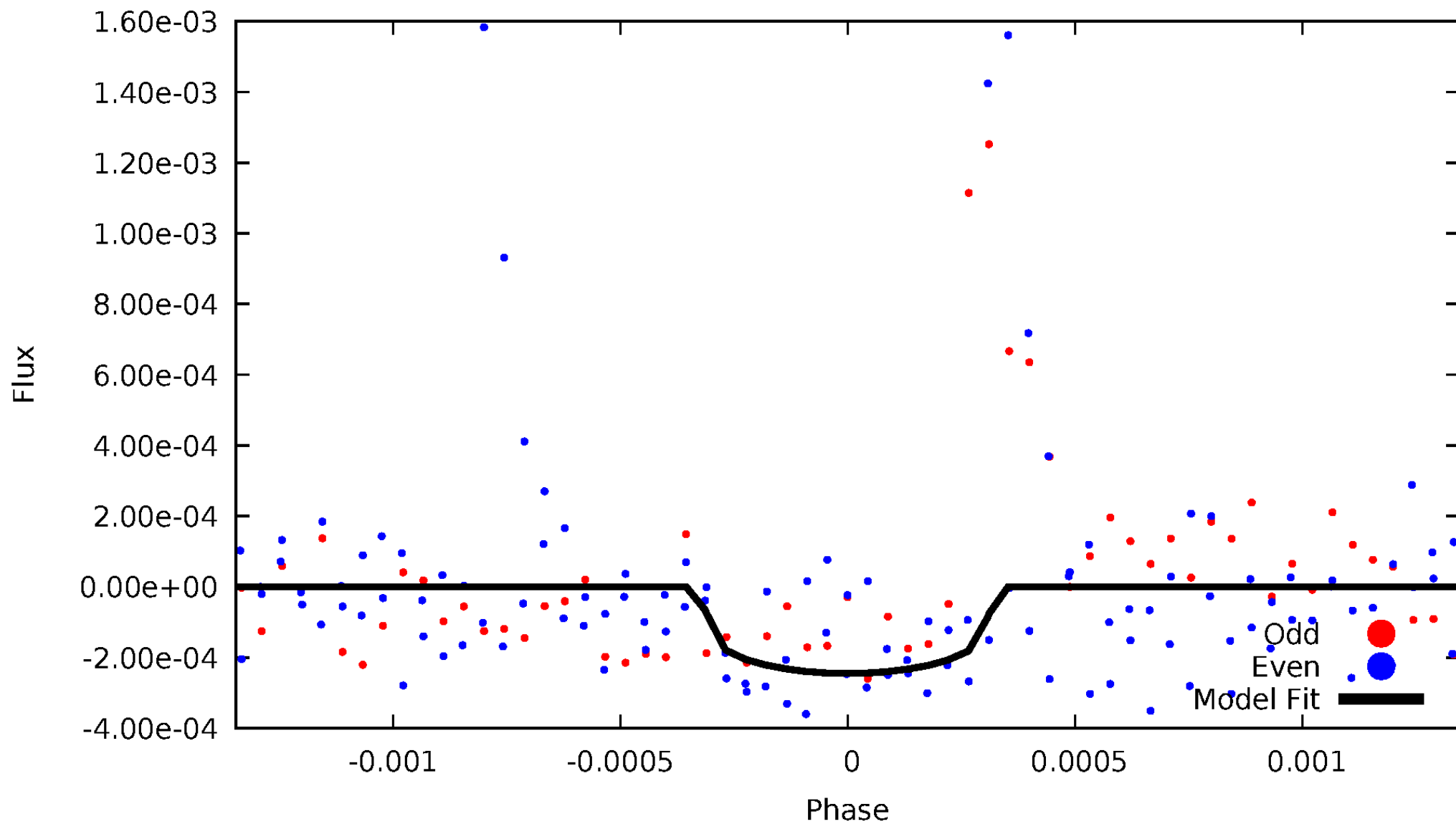


TCE 011663521-01



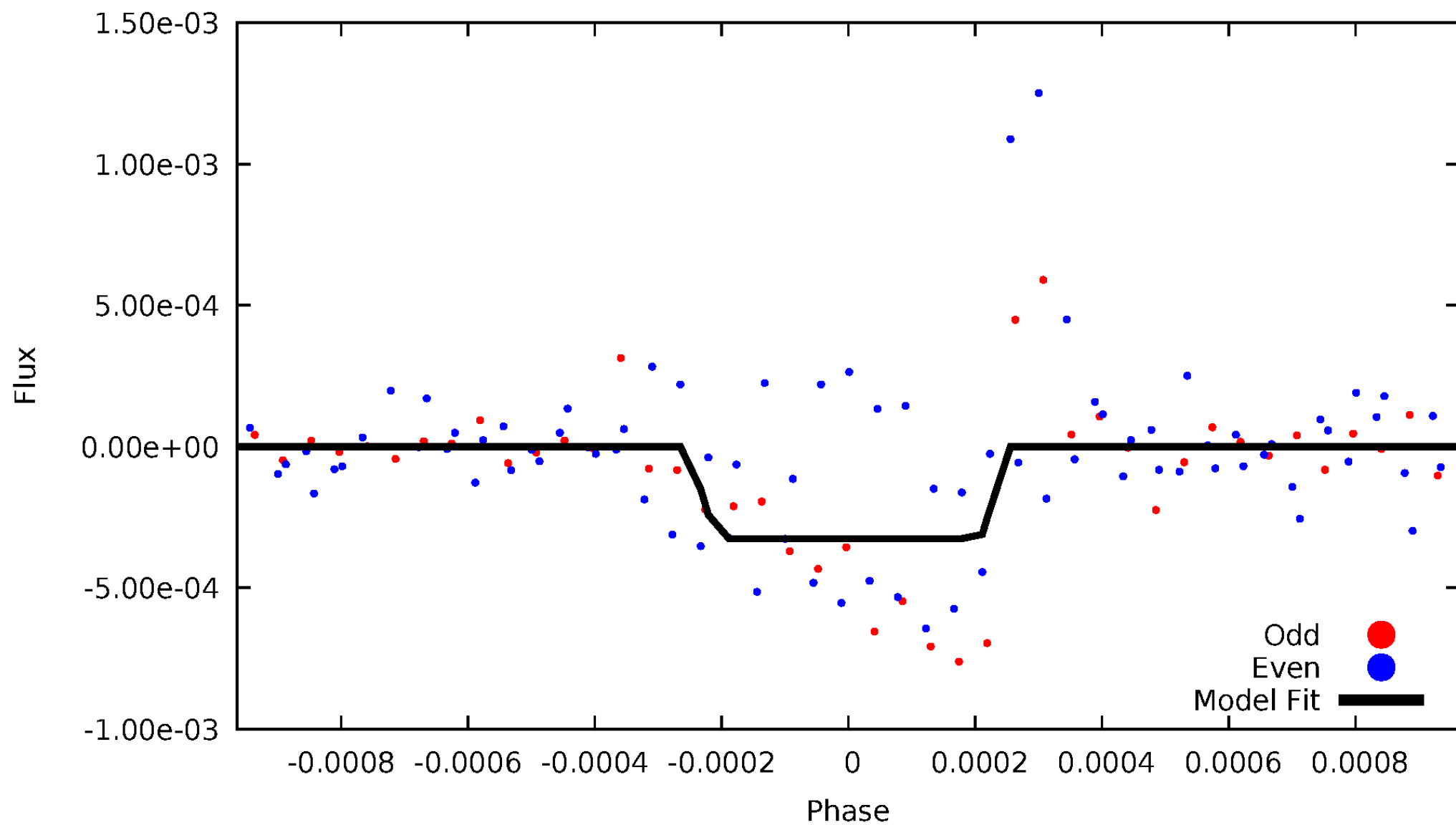
DV Odd/Even

TCE 011663521-01

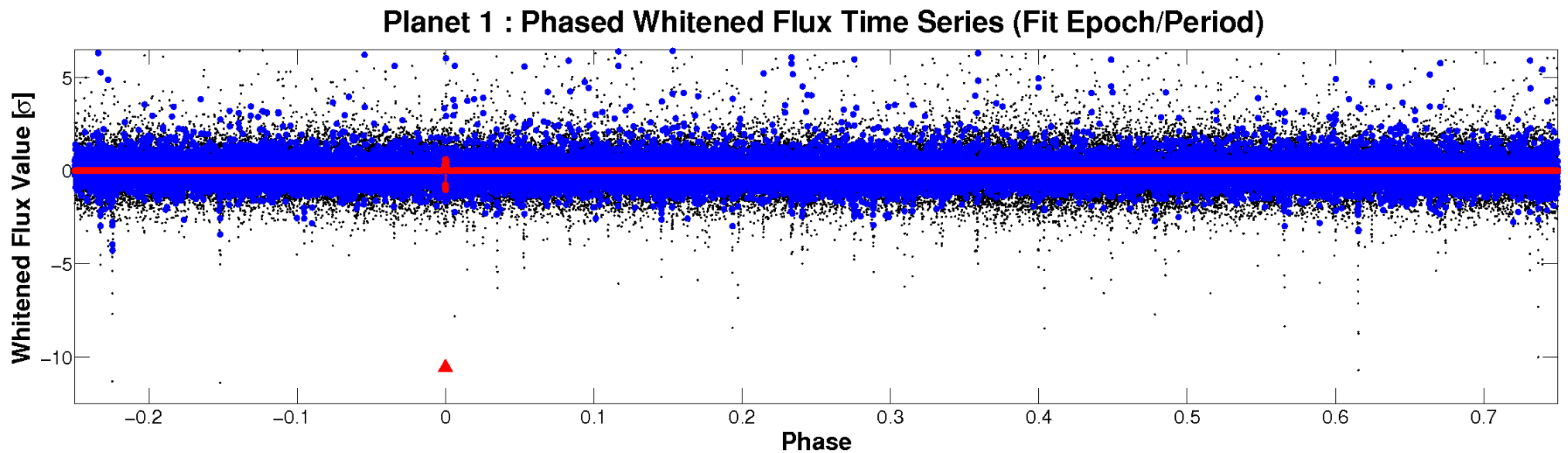
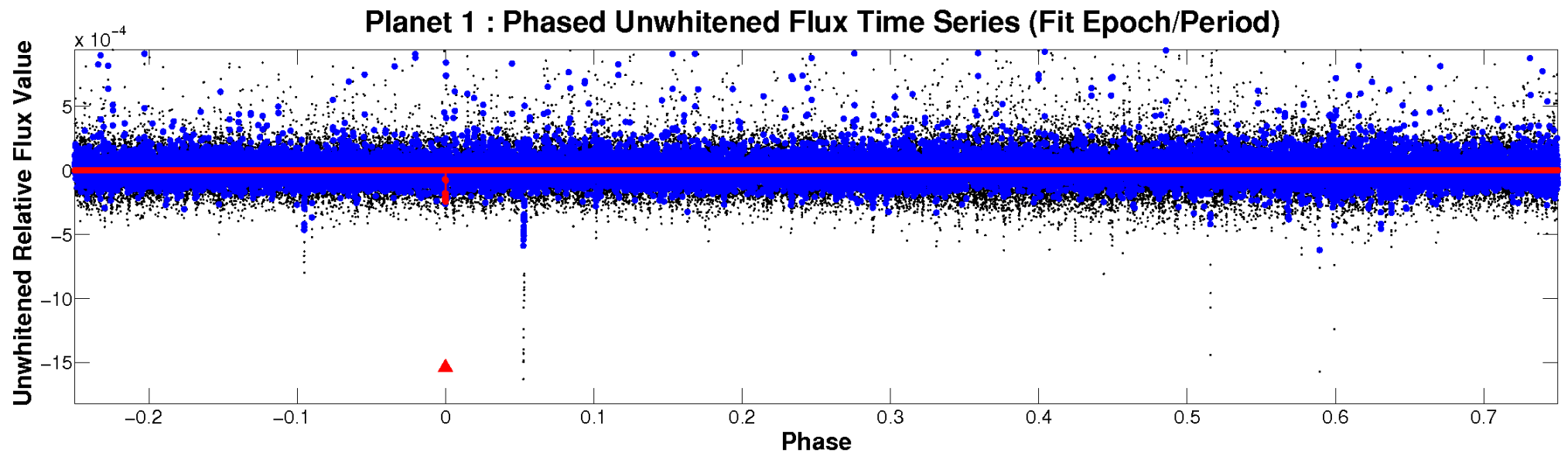


ALT Odd/Even

TCE 011663521-01

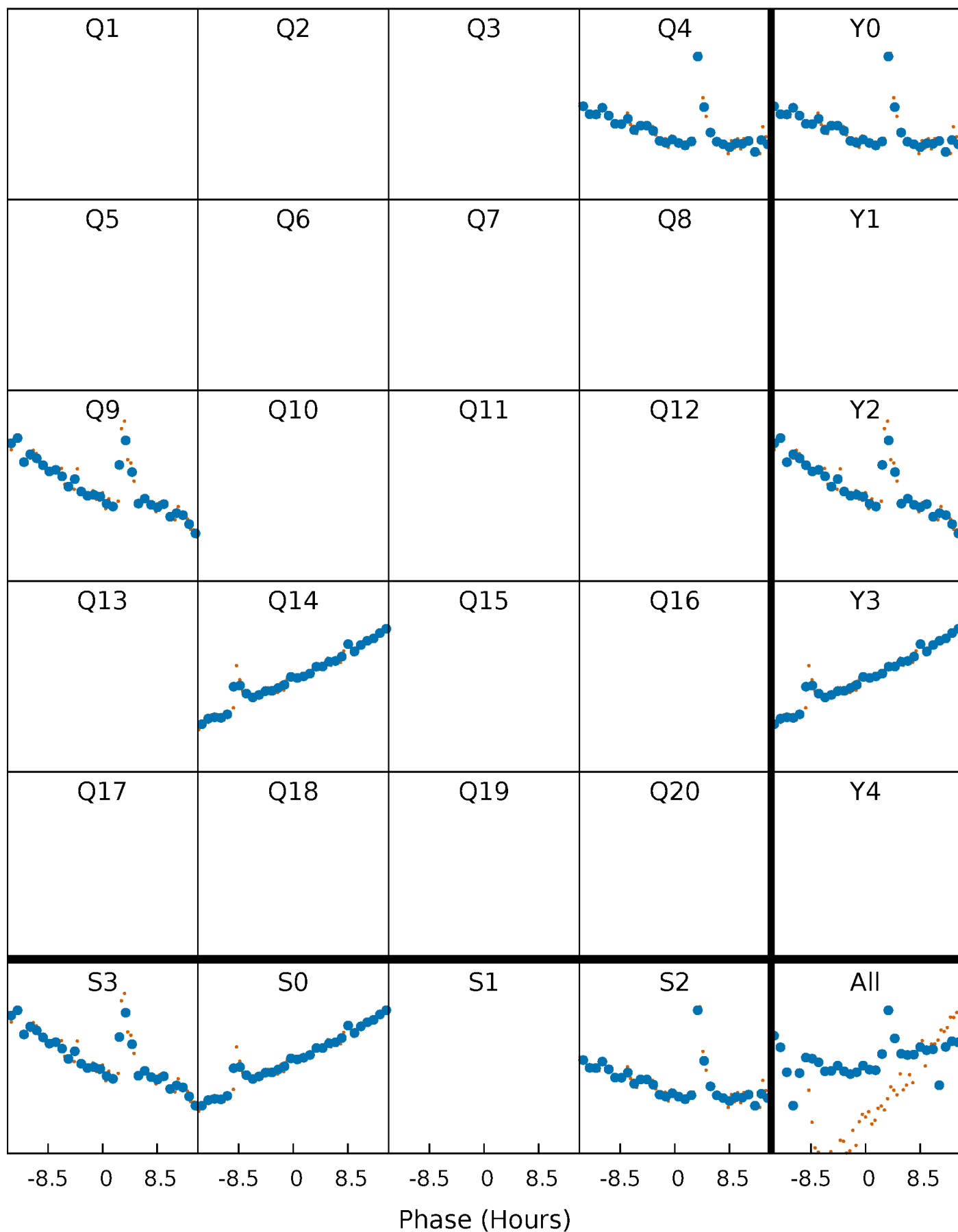


Non-Whitened Vs. Whitened Light Curve



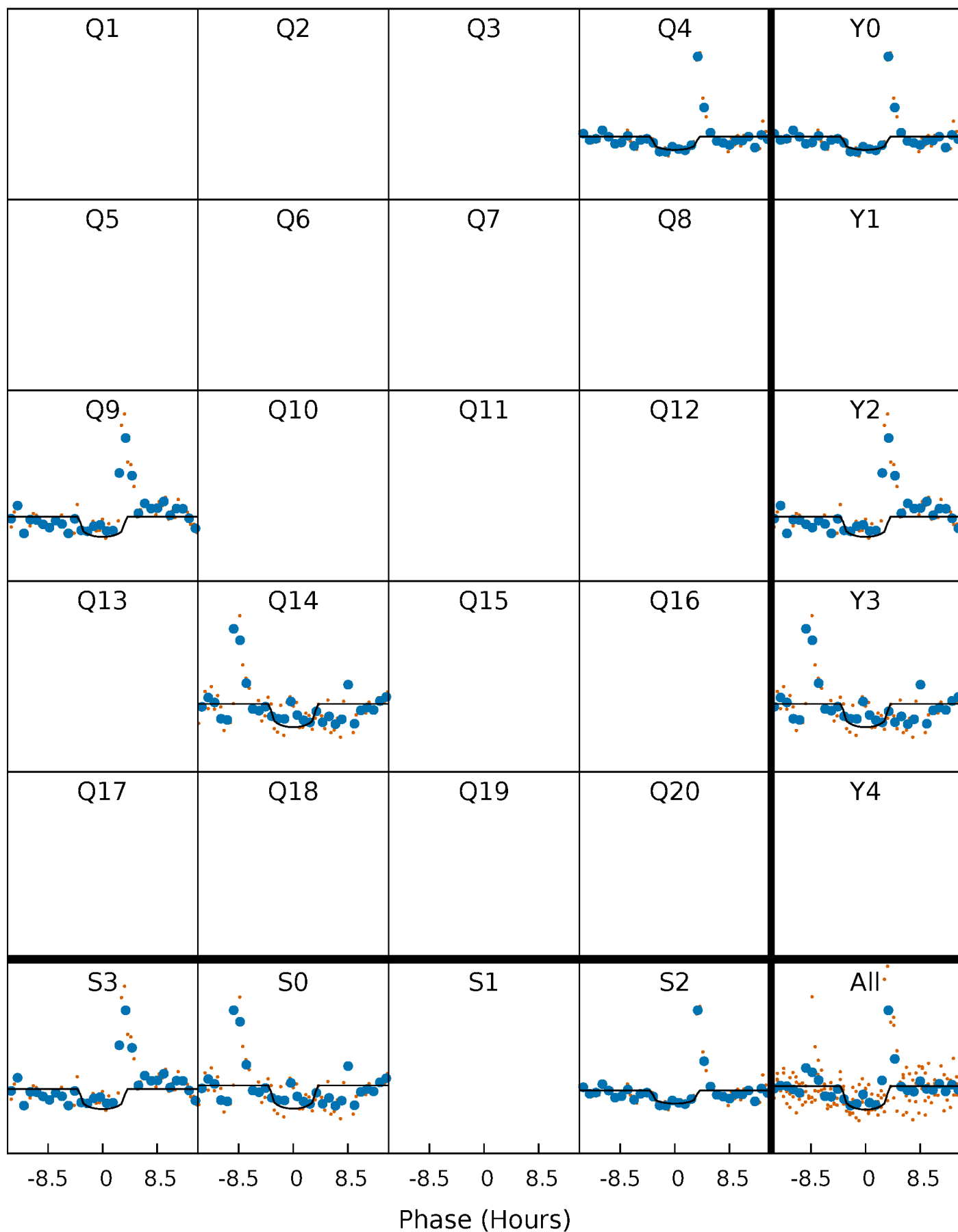
PDC Quarter-Phased Transit Curves

TCE 011663521-01 P=459.900335 Days $T_0=429.576140$ (BKJD)



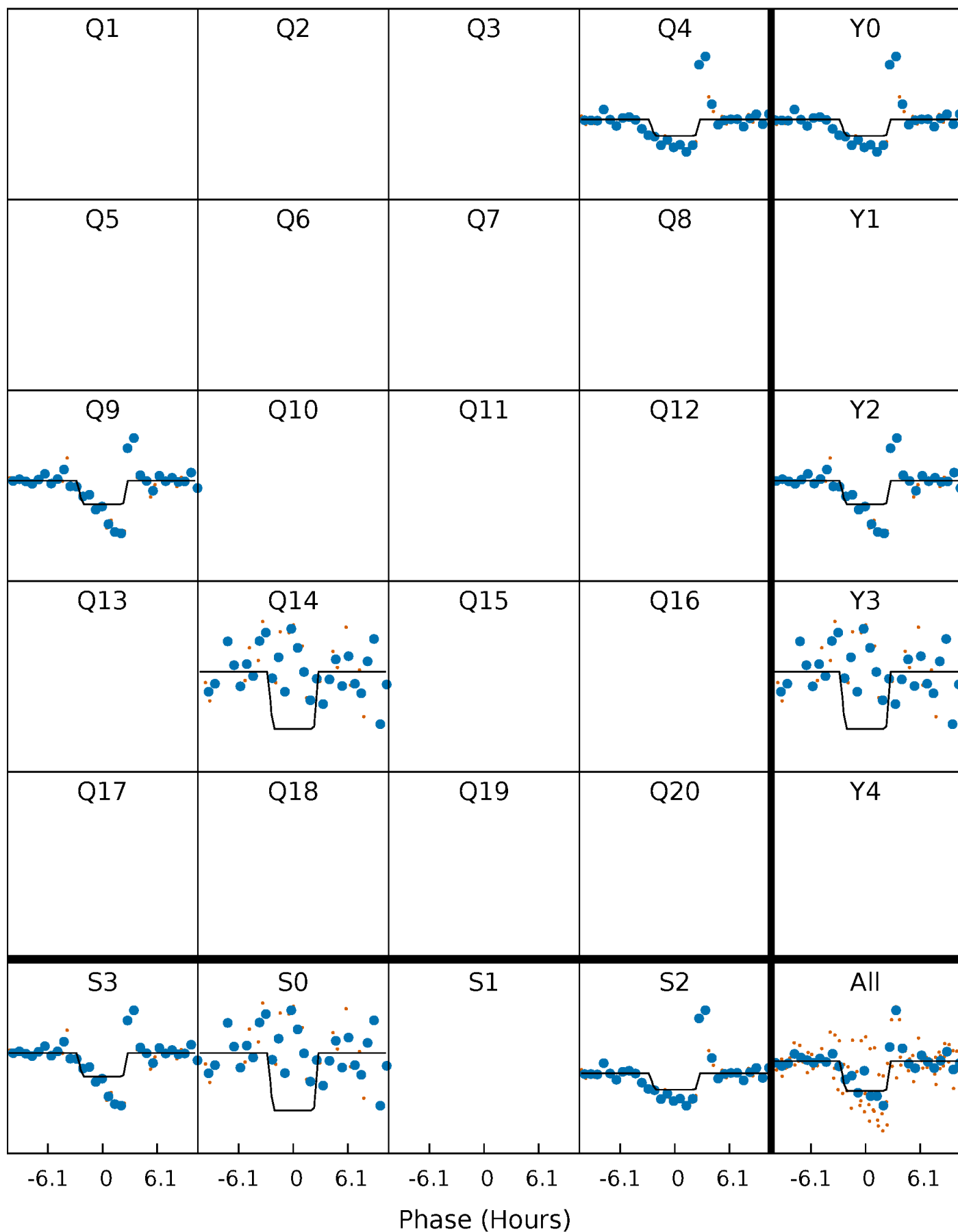
DV Quarter-Phased Transit Curves

TCE 011663521-01 P=459.900335 Days $T_0=429.576140$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

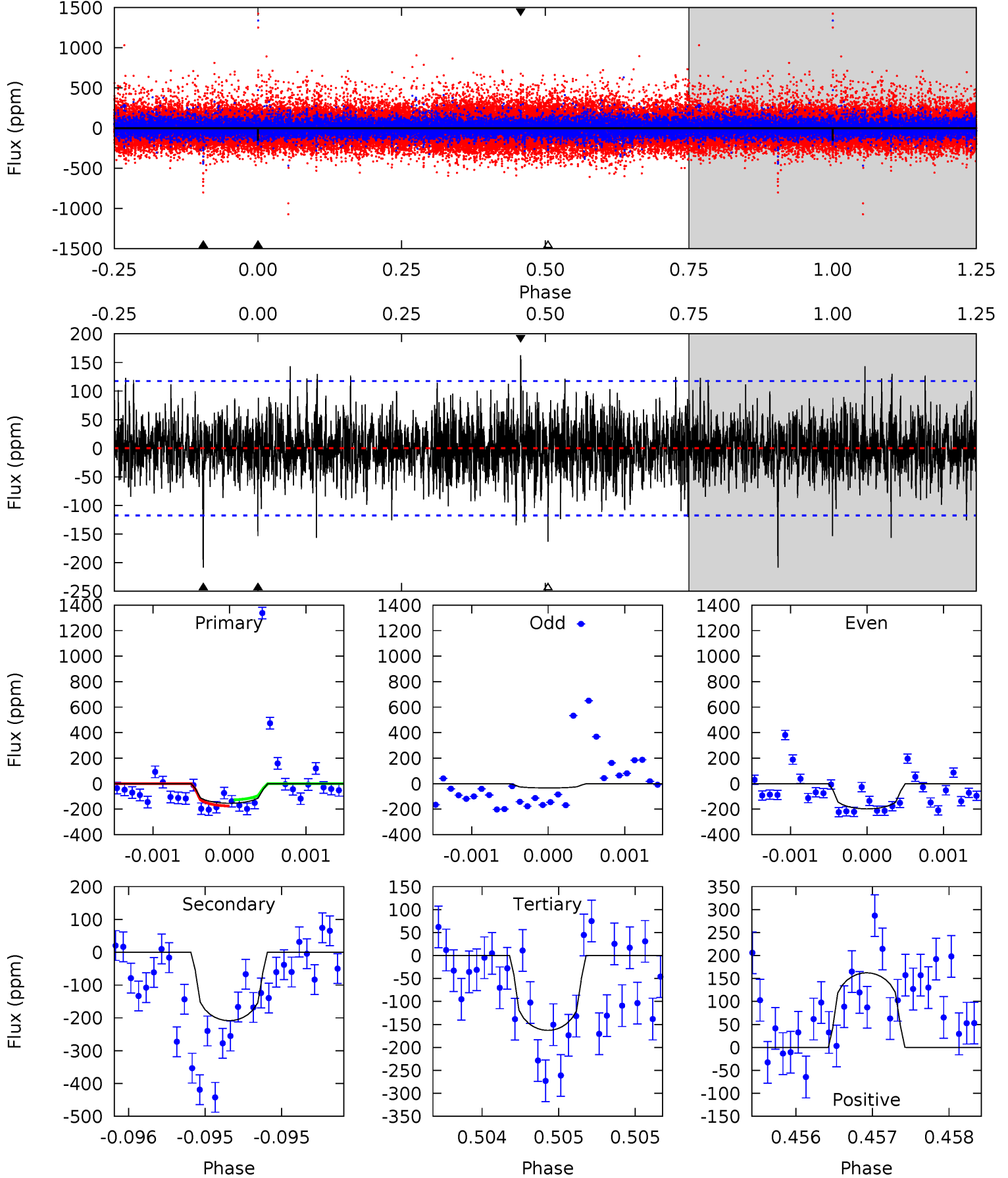
TCE 011663521-01 P=459.877701 Days $T_0=429.600216$ (BKJD)



DV Model-Shift Uniqueness Test

011663521-01, P = 459.900335 Days, E = 429.576140 Days

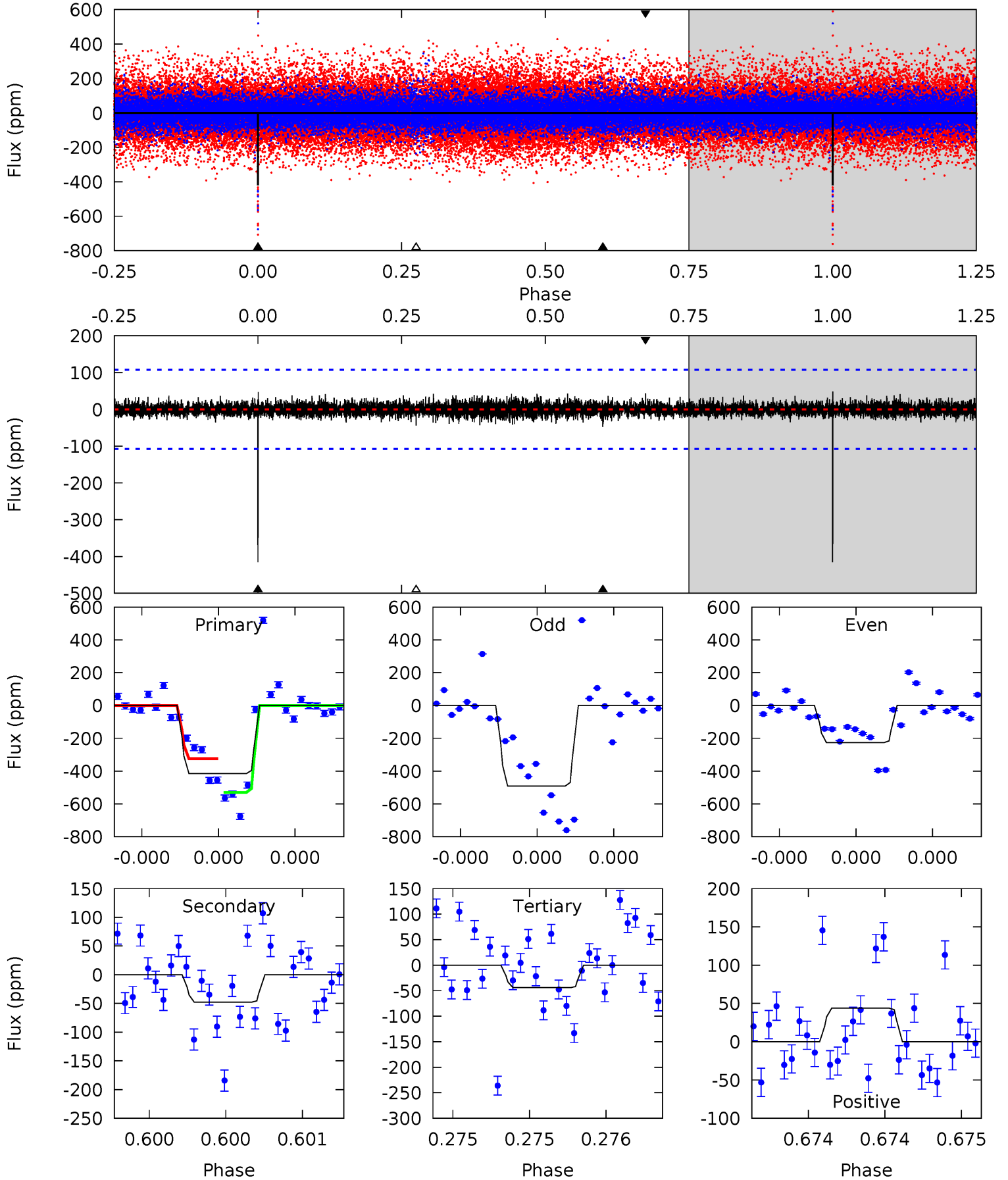
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.20	9.78	7.65	7.62	5.51	3.39	1.68	-0.45	-0.41	2.14	2.17	3.48	0.88	0.44	1.11



Alt Model-Shift Uniqueness Test

011663521-01, P = 459.877701 Days, E = 429.600216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	2.47	2.28	2.27	5.58	3.49	0.53	19.2	19.2	0.19	0.20	7.59	0.64	0.10	5.30



Stellar Parameters For KIC 011663521

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4484^{+120}_{-134}	$4.654^{+0.056}_{-0.028}$	$-0.560^{+0.350}_{-0.300}$	$0.594^{+0.046}_{-0.055}$	$0.580^{+0.063}_{-0.039}$	$3.905^{+0.961}_{-0.470}$
	+3%/-3%	+1%/-1%	+62%/-54%	+8%/-9%	+11%/-7%	+25%/-12%
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 011663521-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-209 ± 21	$1.45^{+1.16}_{-0.93}$	215^{+7}_{-7}	3816^{+1838}_{-638}	$51054^{+357080}_{-35071}$
Alt.	-48 ± 19	$1.45^{+1.10}_{-0.94}$	215^{+7}_{-8}	3026^{+1169}_{-482}	11910^{+79139}_{-8821}

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

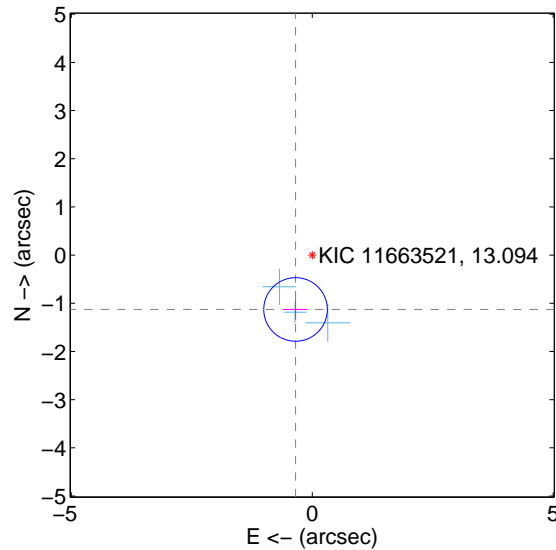
Supplemental centroid analysis for 011663521-01. Kepler magnitude: 13.09. Transit SNR 6.31

There are 3 quarters with good PRF difference image offsets

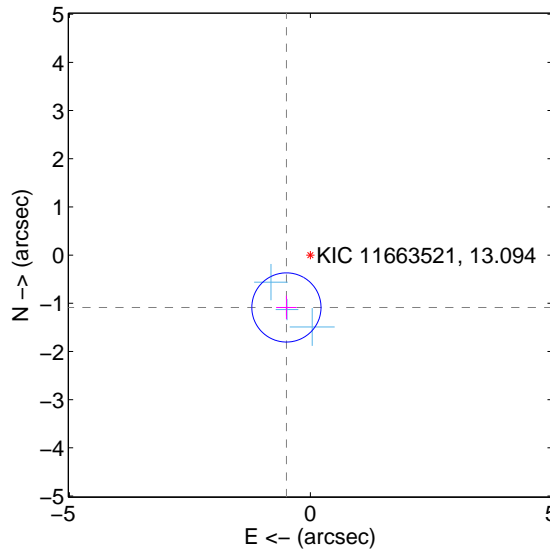
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.180 ± 0.220	5.37	0.346 ± 0.252	-1.128 ± 0.217
PRF-fit source offset from KIC position	1.194 ± 0.239	4.99	0.496 ± 0.214	-1.087 ± 0.244
photometric centroid source offset	0.51 ± 1.23	0.41	0.11 ± 1.16	0.49 ± 1.23

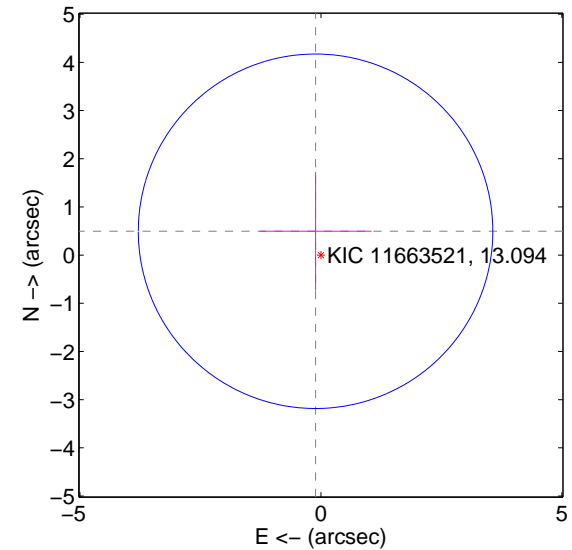
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

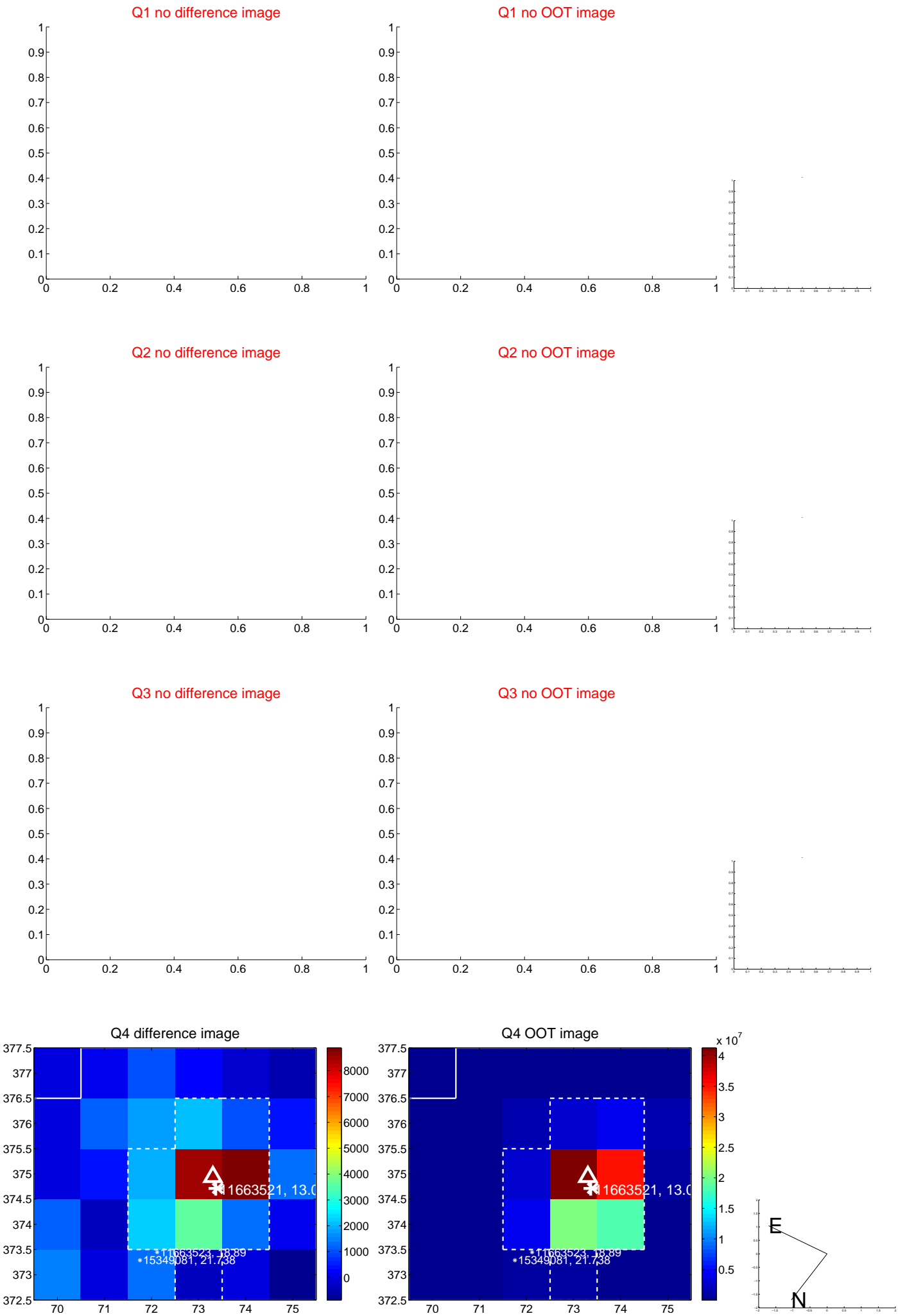


offset from photometric centroids



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.

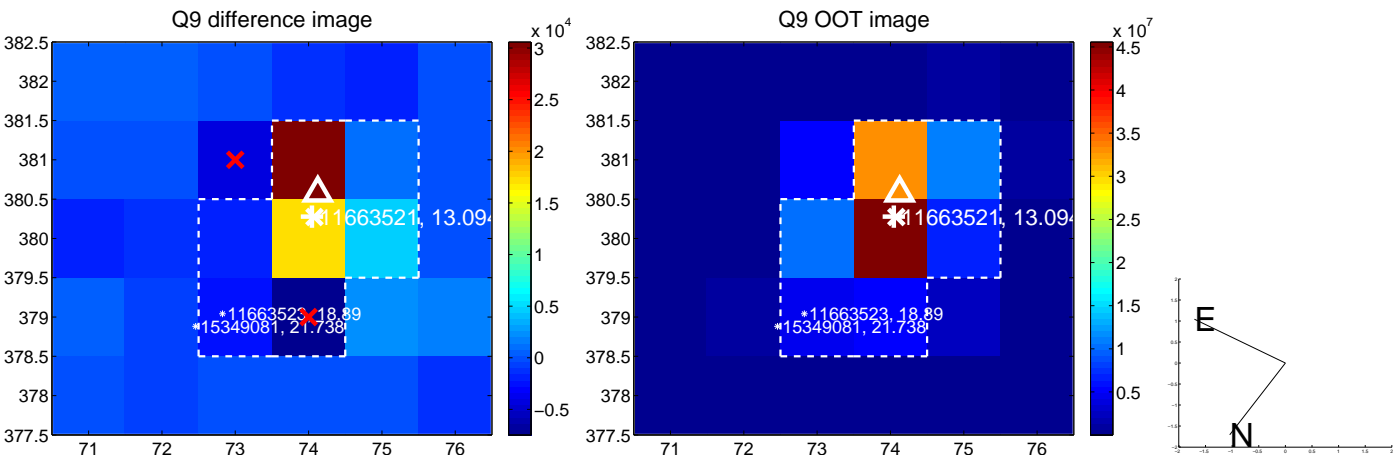
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



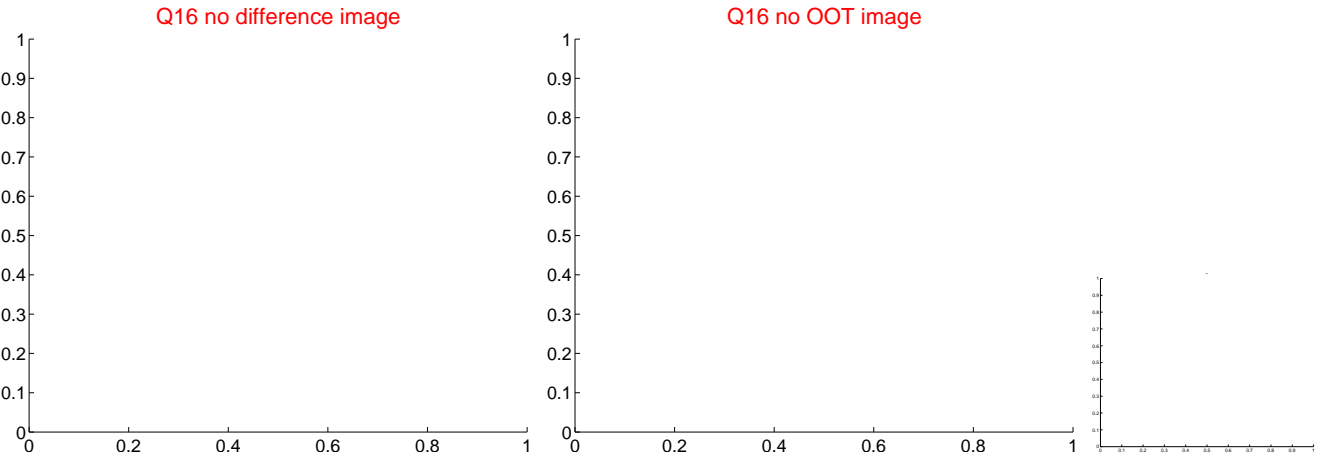
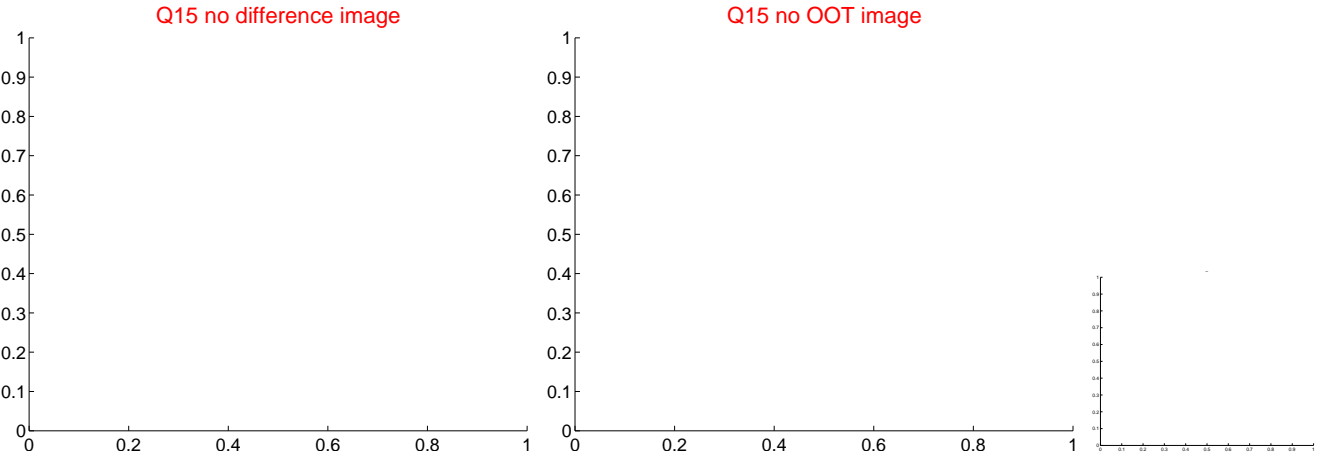
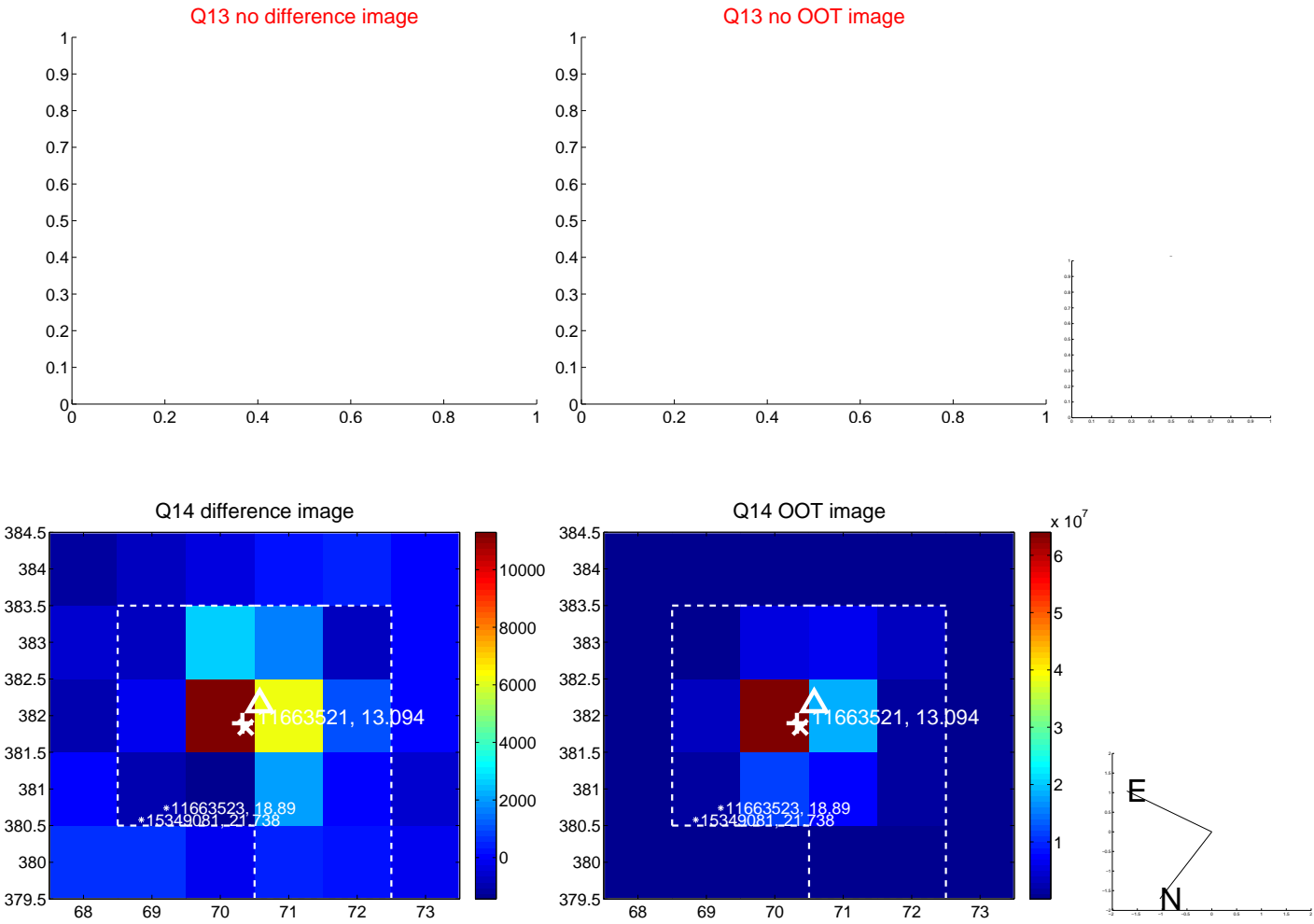
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



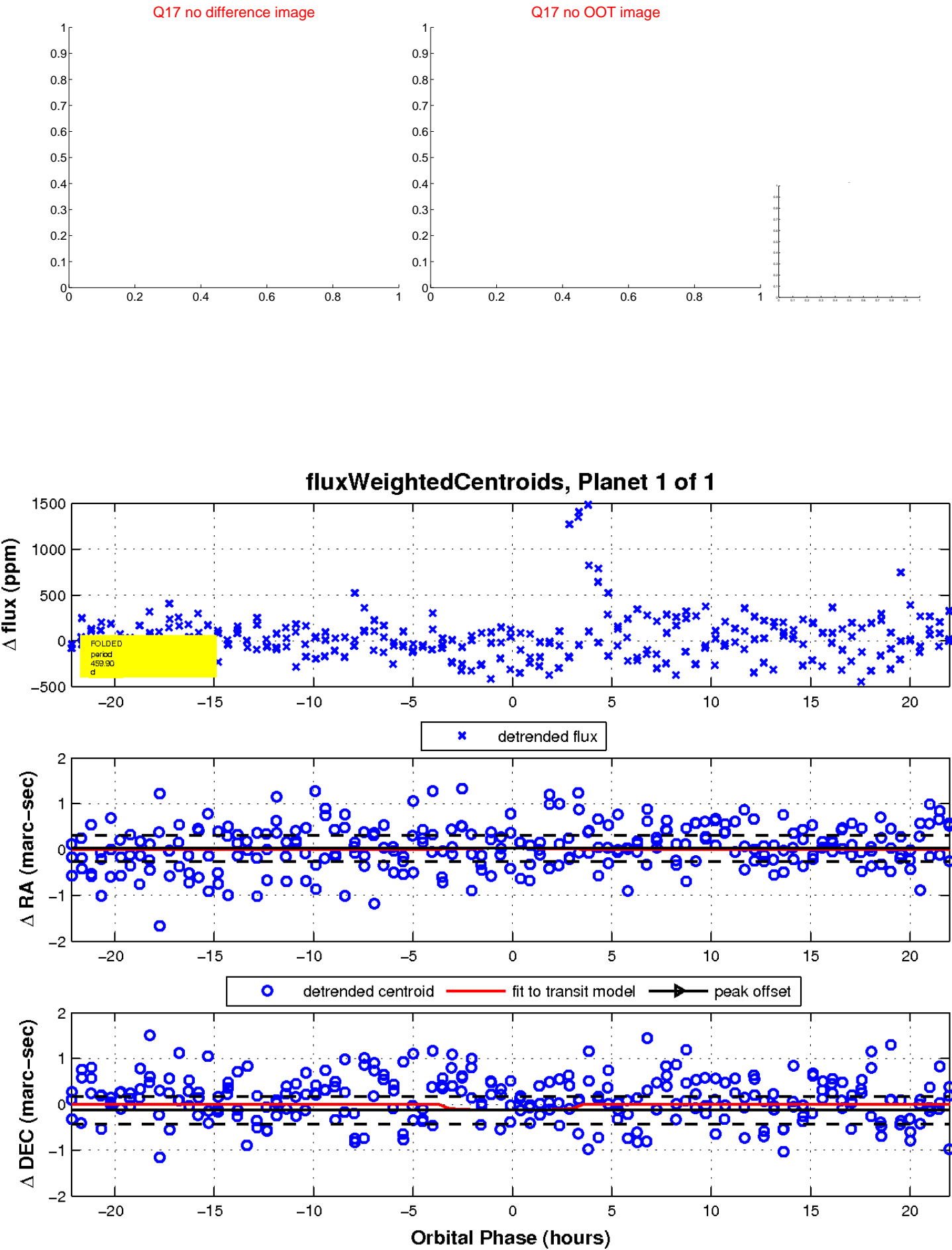
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

