

KIC 010525138

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})
010525138-01	OBS	No	421.374974	552.692382	277.4	9.441	7.3	7.0	0.66	5272	1.22	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010525138-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

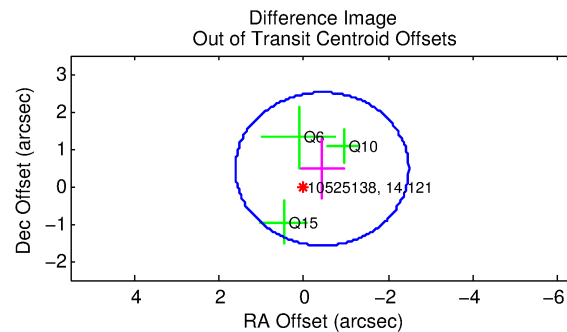
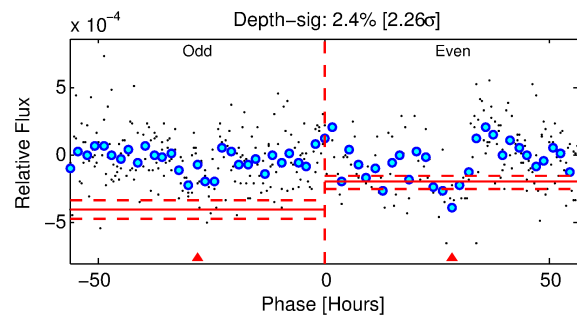
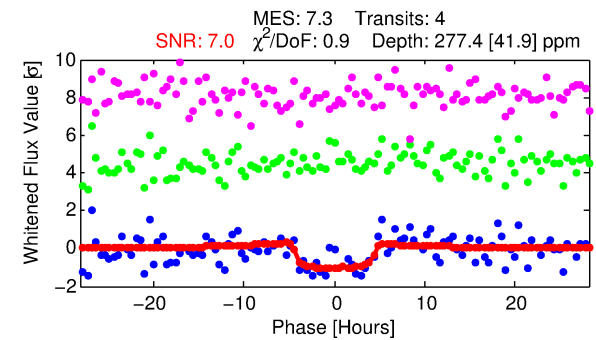
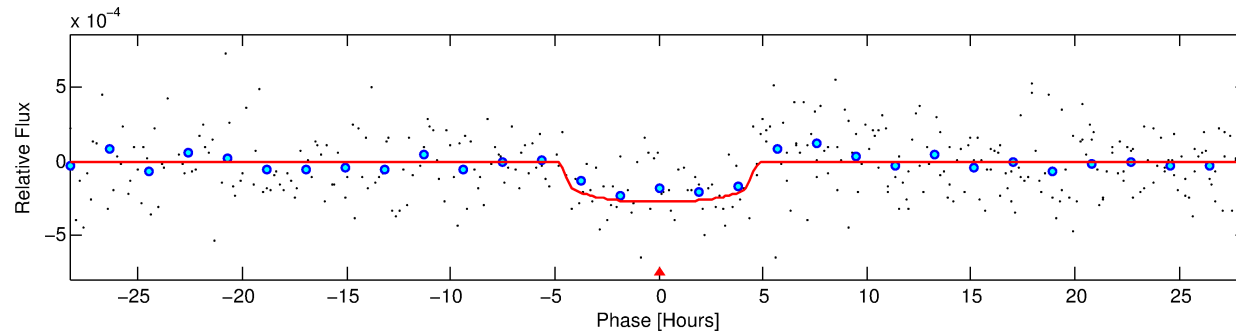
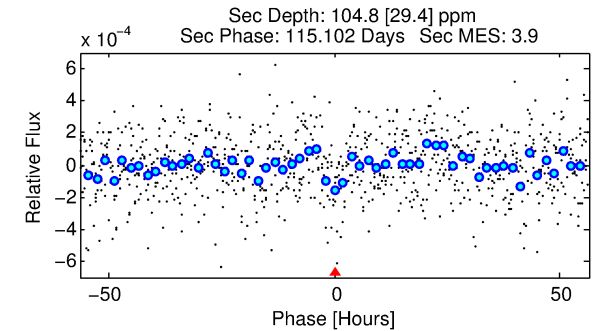
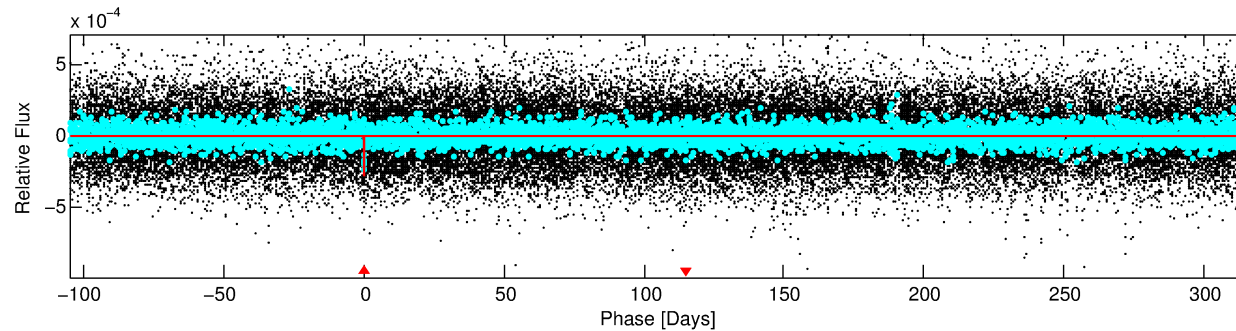
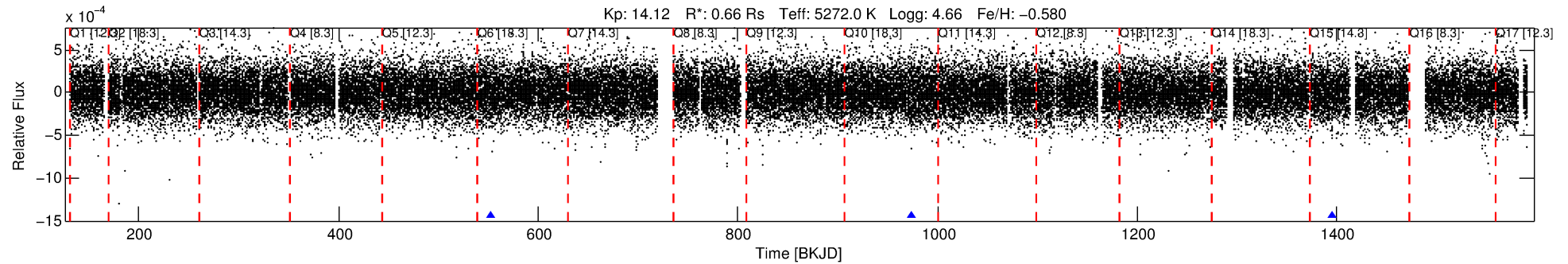
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010525138-01

No Significant Match Found

DV One-Page Summary

KIC: 10525138 Candidate: 1 of 1 Period: 421.375 d



DV Fit Results:

Period = 421.37497 [0.01148] d
Epoch = 552.6924 [0.0143] BKJD
Rp/R* = 0.0169 [0.0120]
a/R* = 218.42 [652.22]
b = 0.79 [1.44]
Seff = 0.31 [0.06]
Teq = 190 [10] K
Rp = 1.22 [0.89] Re
a = 0.9902 [0.1151] AU
Ag = 38026.96 [55542.15] [0.68σ]
Teffp = 4106 [1495] K [2.62σ]

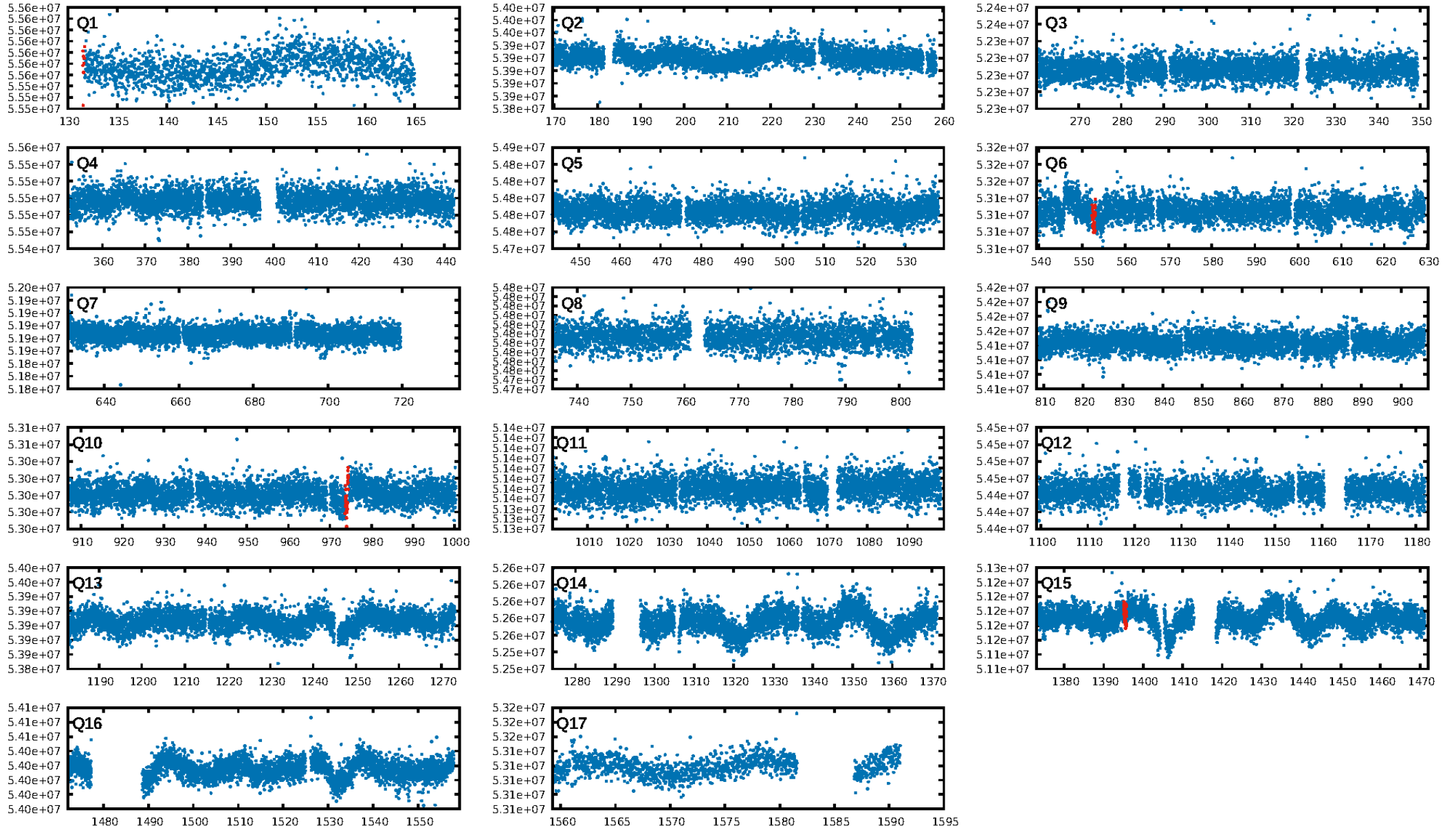
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 37.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.35e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.194
Centroid-sig: 31.5%
Centroid-so: 1.502 arcsec [1.03σ]
OotOffset-rm: 0.641 arcsec [0.94σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-rm: 0.888 arcsec [1.24σ]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

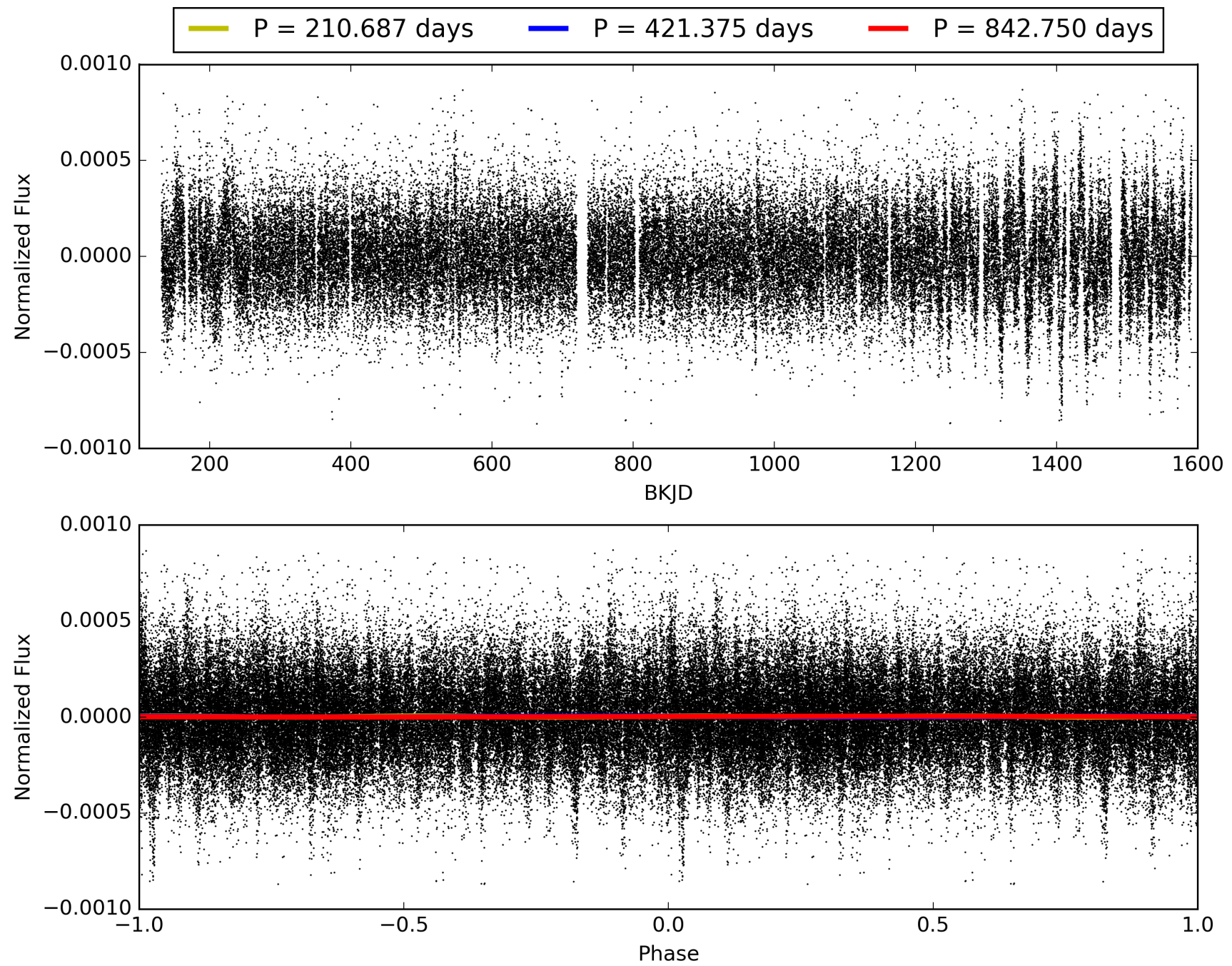
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:50:36 Z

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

TCE 010525138-01, PDC Light Curves

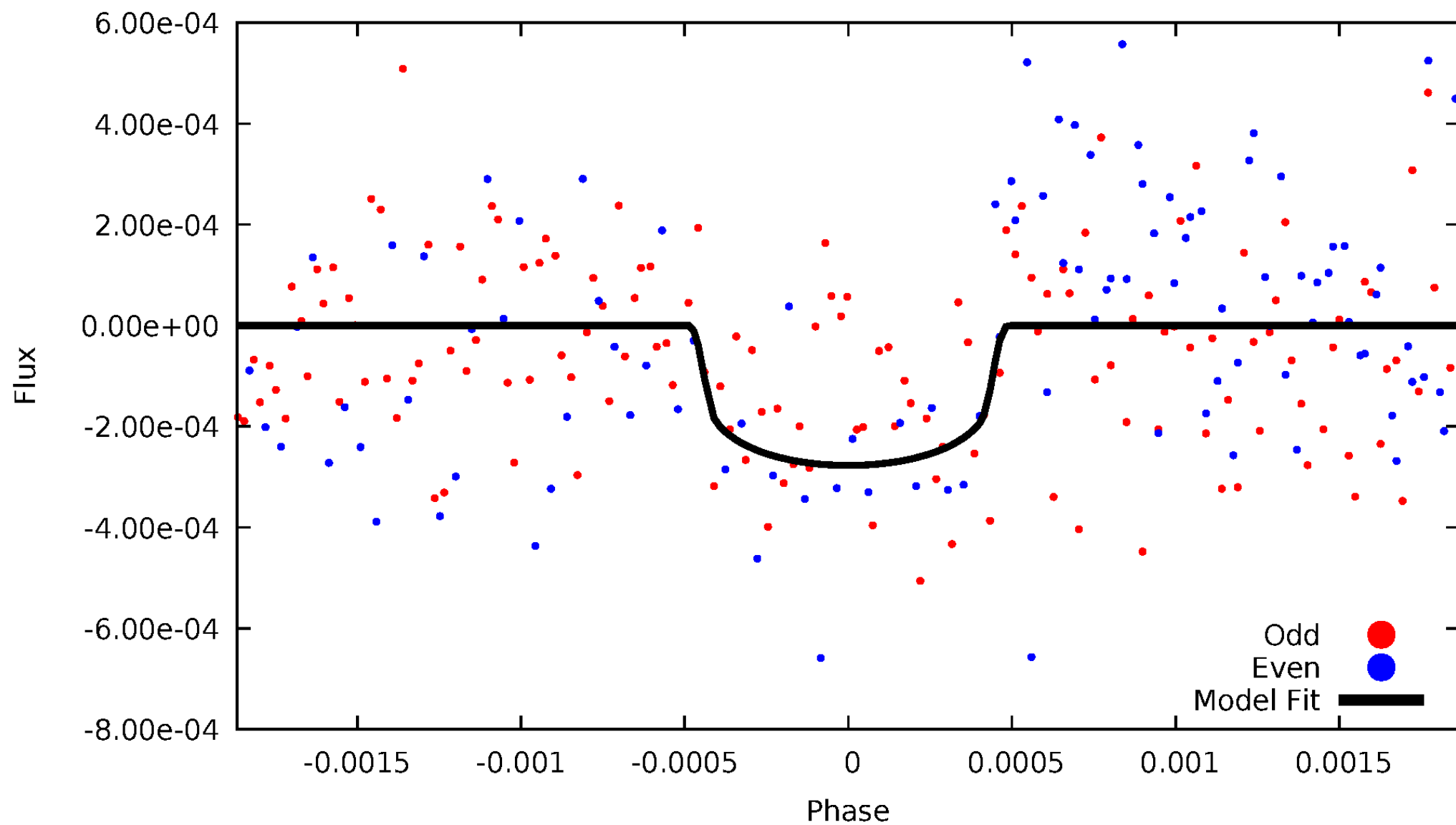


TCE 010525138-01



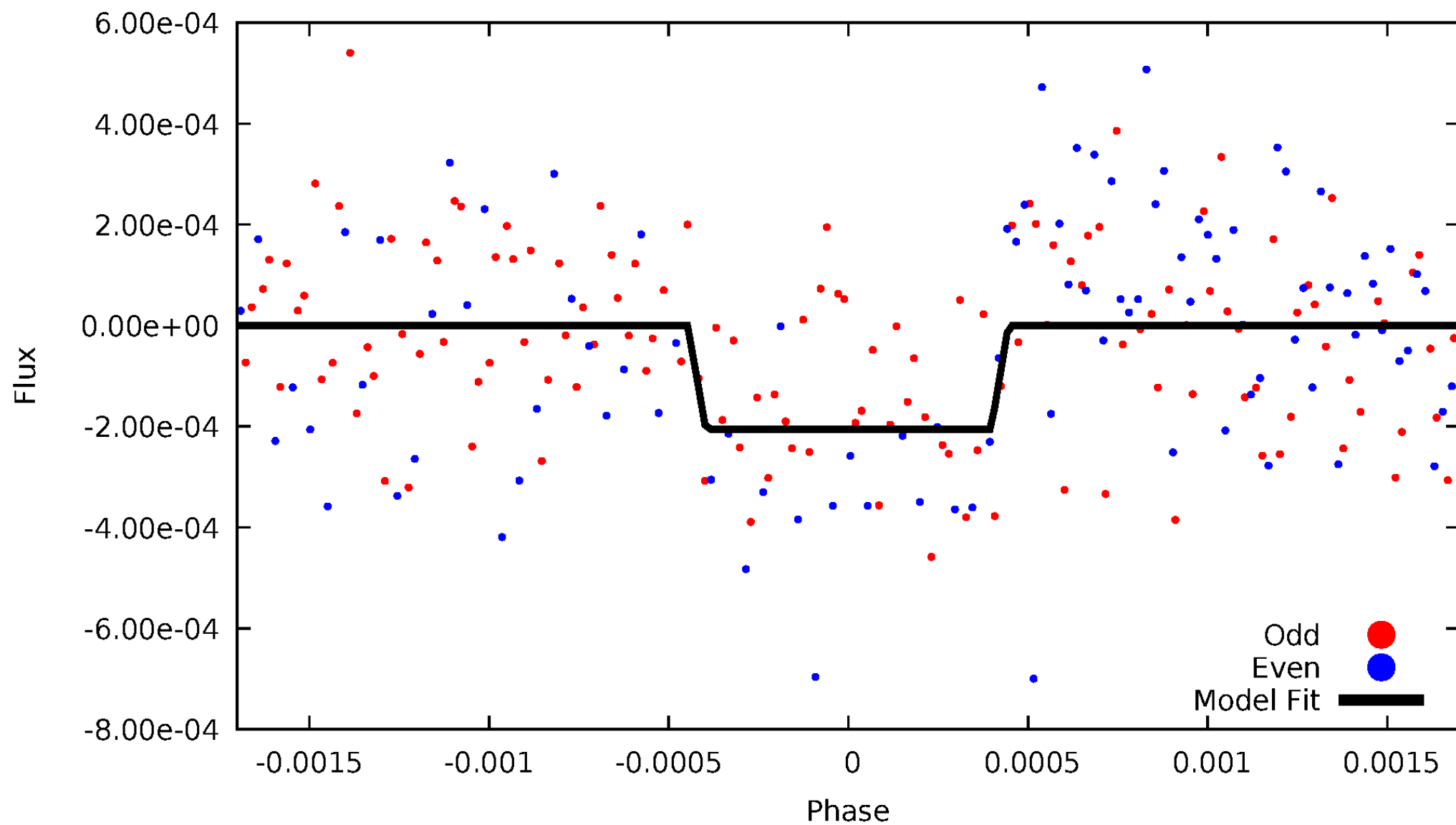
DV Odd/Even

TCE 010525138-01

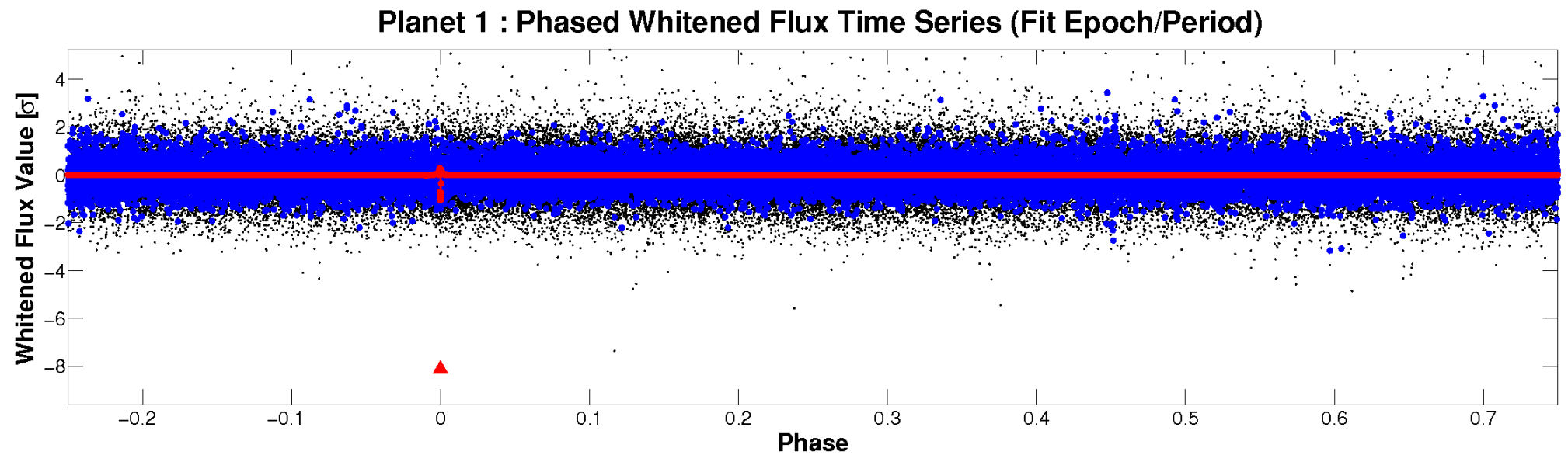
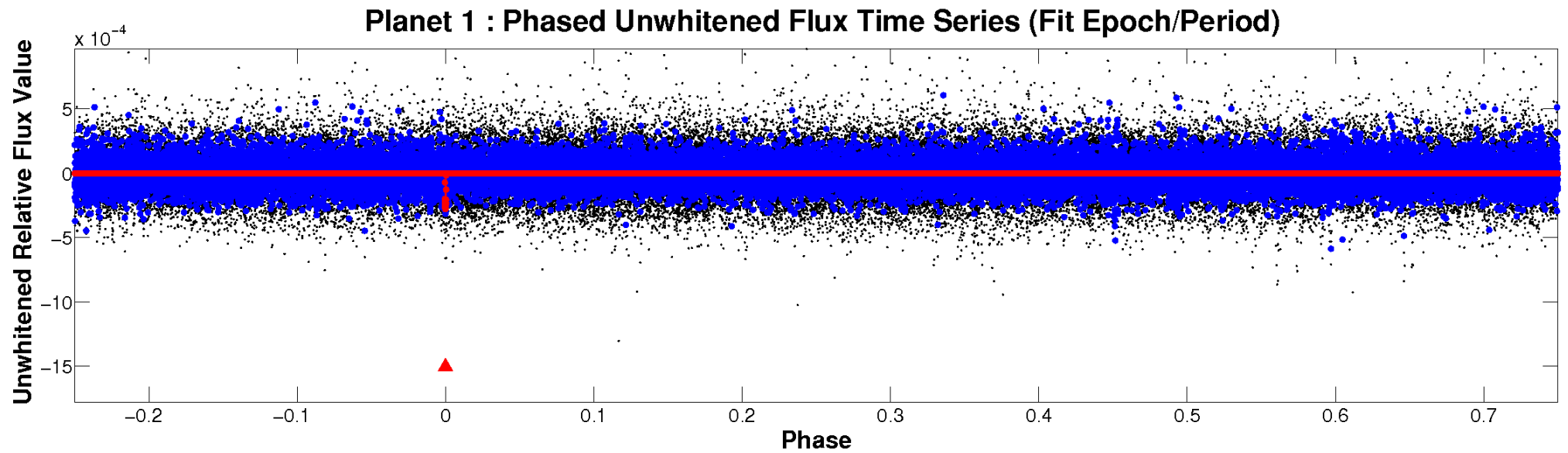


ALT Odd/Even

TCE 010525138-01

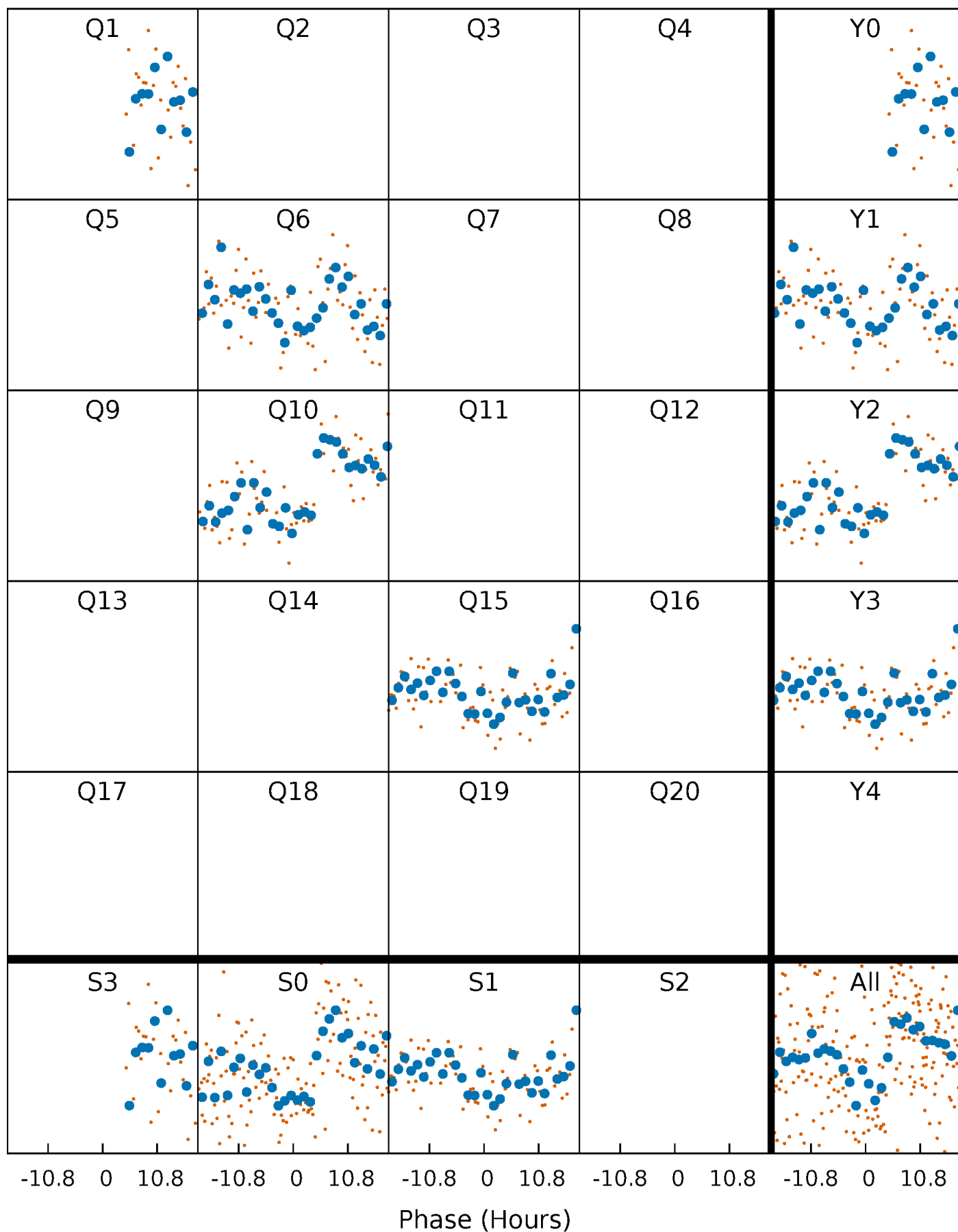


Non-Whitened Vs. Whitened Light Curve



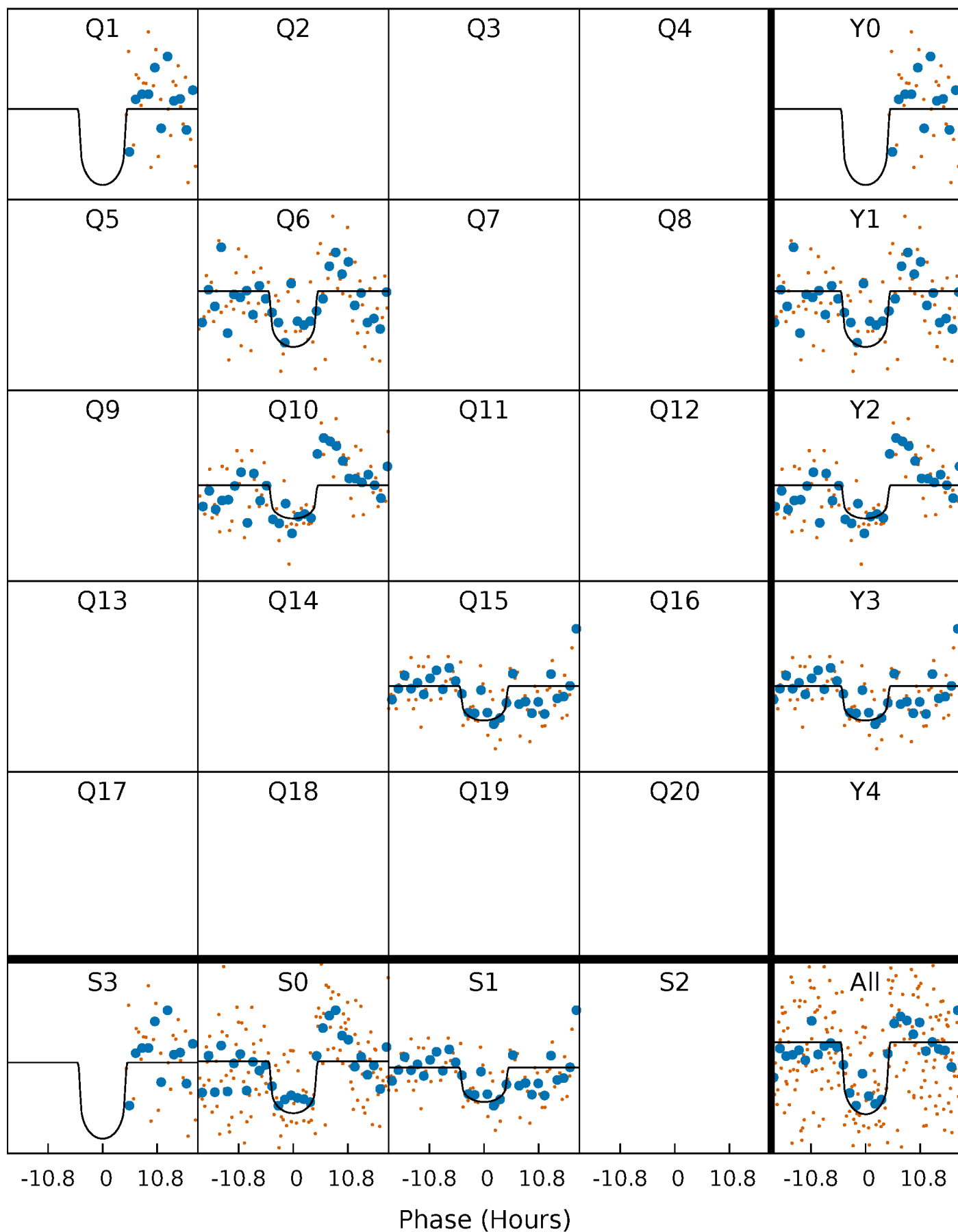
PDC Quarter-Phased Transit Curves

TCE 010525138-01 P=421.374974 Days $T_0=552.692382$ (BKJD)



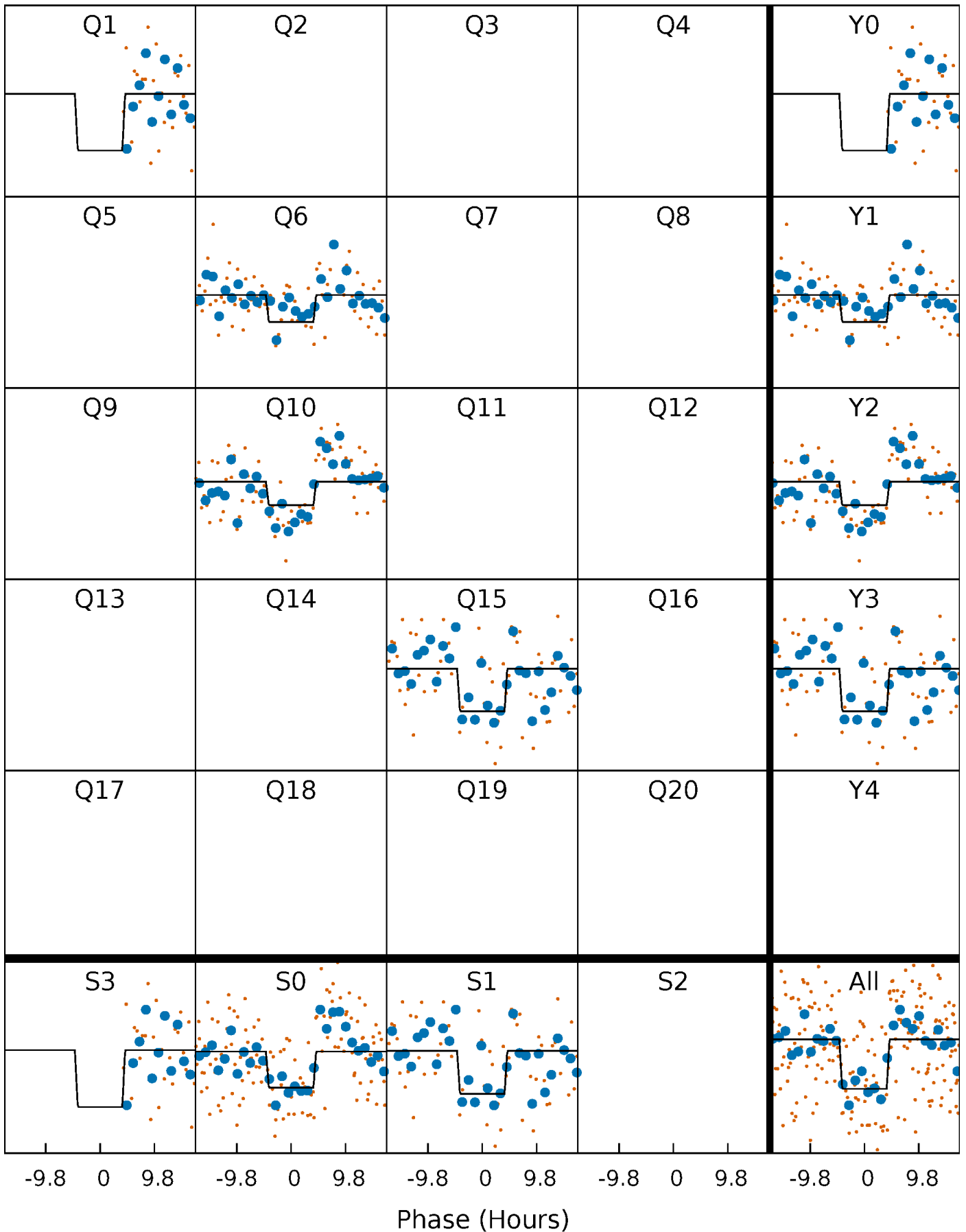
DV Quarter-Phased Transit Curves

TCE 010525138-01 P=421.374974 Days $T_0=552.692382$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

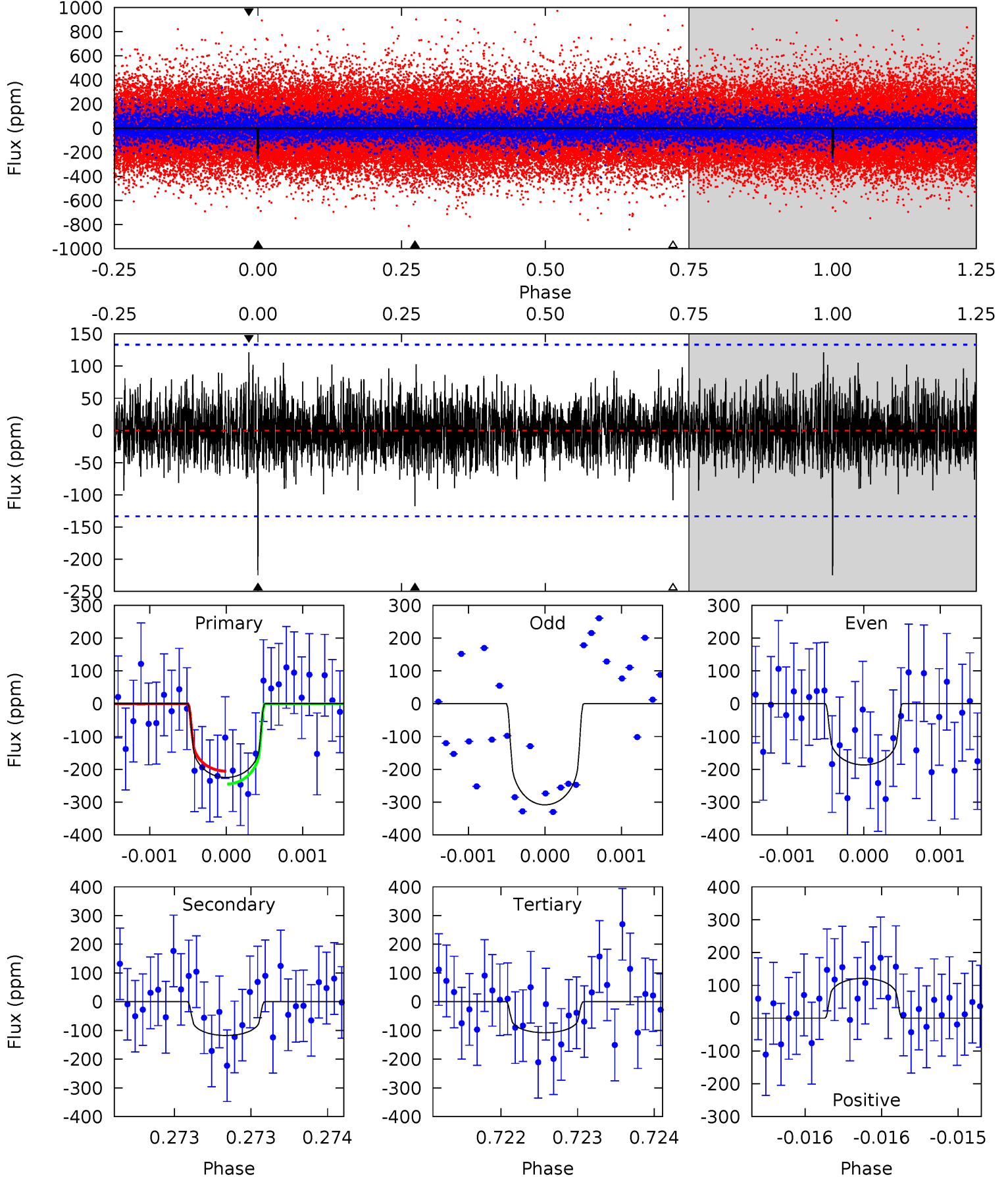
TCE 010525138-01 P=421.367252 Days $T_0=552.703155$ (BKJD)



DV Model-Shift Uniqueness Test

010525138-01, P = 421.374974 Days, E = 131.317408 Days

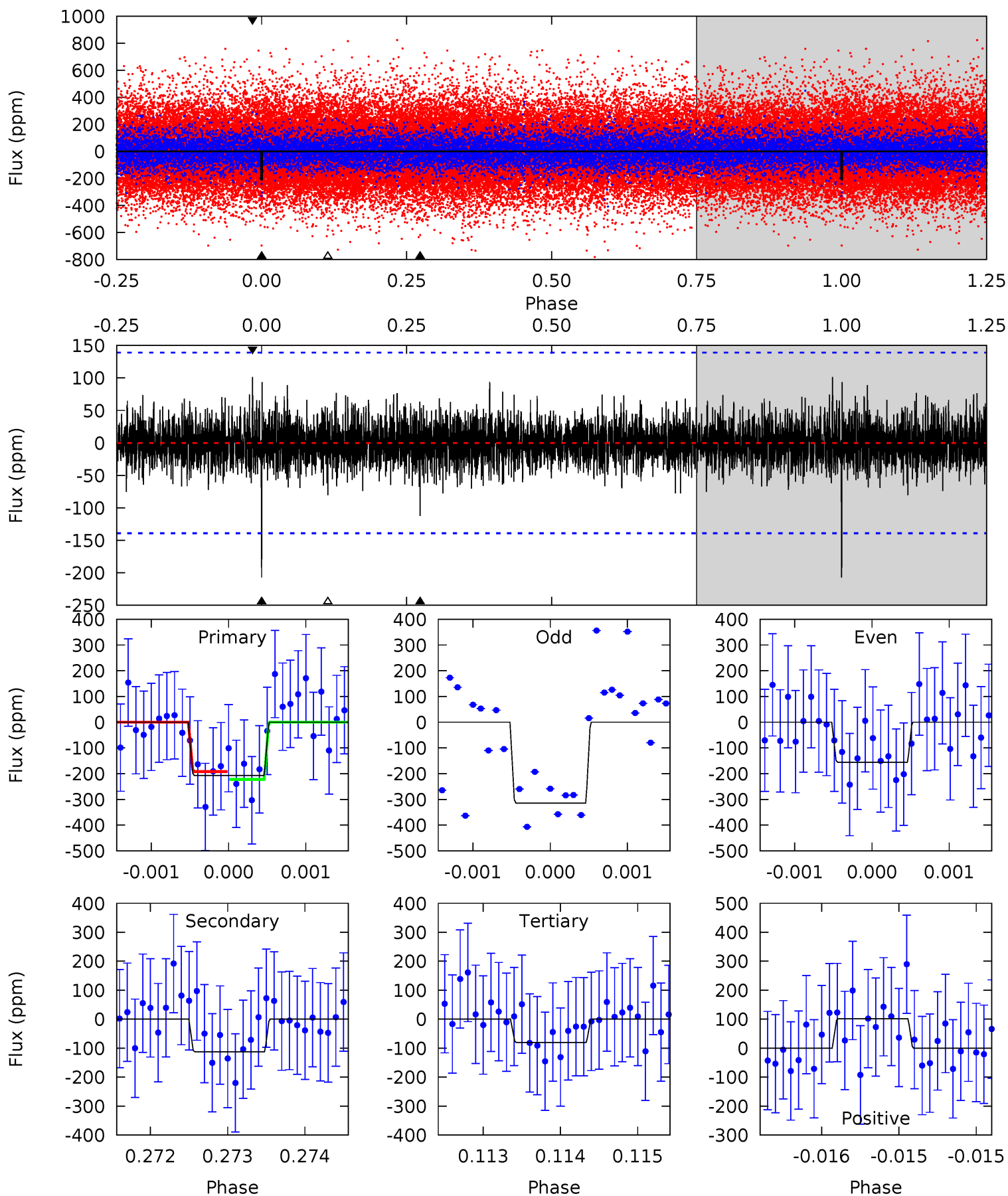
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.21	4.82	4.42	4.97	5.46	3.30	1.22	4.79	4.24	0.40	-0.15	2.30	1.03	0.35	0.81



Alt Model-Shift Uniqueness Test

010525138-01, P = 421.367252 Days, E = 131.335903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.15	4.42	3.17	3.99	5.48	3.33	0.92	4.98	4.16	1.25	0.43	2.94	1.21	0.33	0.60



Stellar Parameters For KIC 010525138

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5272^{+157}_{-141}	$4.659^{+0.028}_{-0.088}$	$-0.580^{+0.300}_{-0.300}$	$0.662^{+0.094}_{-0.040}$	$0.732^{+0.069}_{-0.063}$	$3.549^{+0.521}_{-0.970}$
	+3%/-3%	+1%/-2%	+52%/-52%	+14%/-6%	+9%/-9%	+15%/-27%
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 010525138-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-118 ± 24	$1.37^{+0.82}_{-0.77}$	269^{+10}_{-9}	4238^{+1690}_{-678}	$32212^{+132973}_{-19988}$
Alt.	-112 ± 25	$1.19^{+0.84}_{-0.73}$	268^{+11}_{-9}	4473^{+2248}_{-845}	$42765^{+225989}_{-28846}$

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

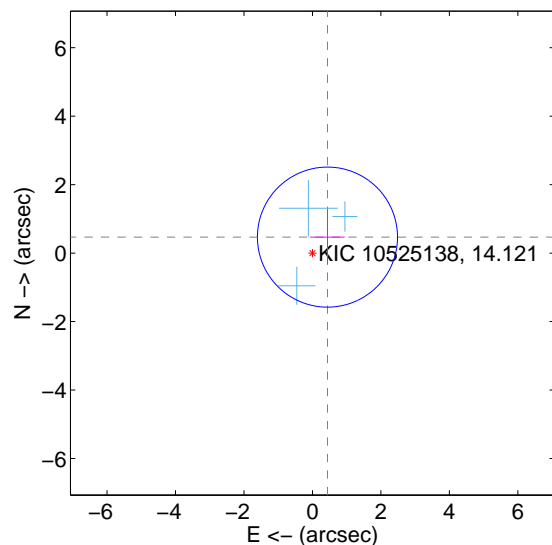
Supplemental centroid analysis for 010525138-01. Kepler magnitude: 14.12. Transit SNR 7.04

There are 3 quarters with good PRF difference image offsets

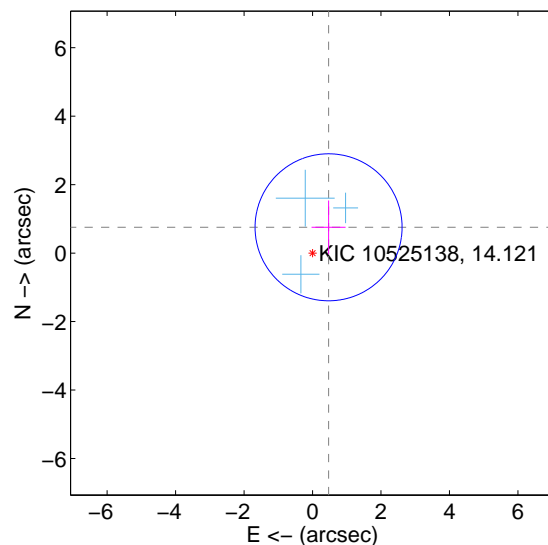
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.641 ± 0.682	0.94	-0.439 ± 0.507	0.467 ± 0.806
PRF-fit source offset from KIC position	0.888 ± 0.716	1.24	-0.469 ± 0.497	0.754 ± 0.784
photometric centroid source offset	1.50 ± 1.46	1.03	-1.03 ± 1.51	1.10 ± 1.43

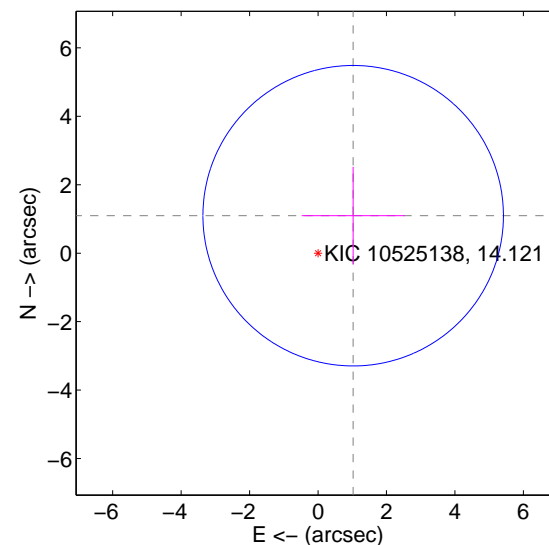
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

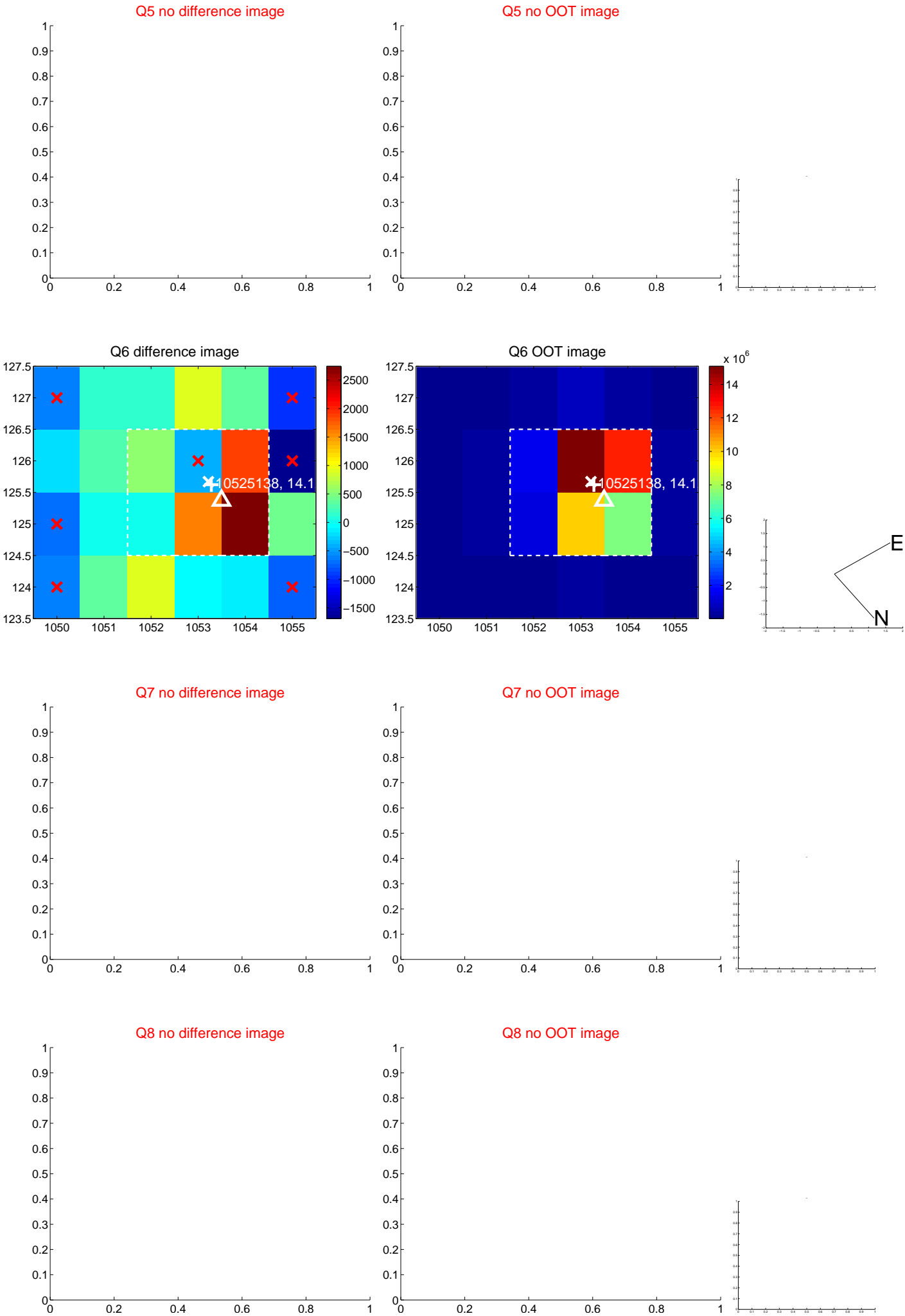


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

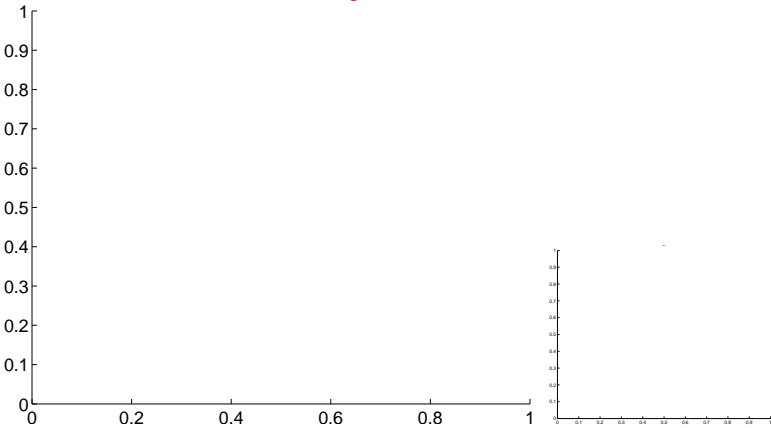


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

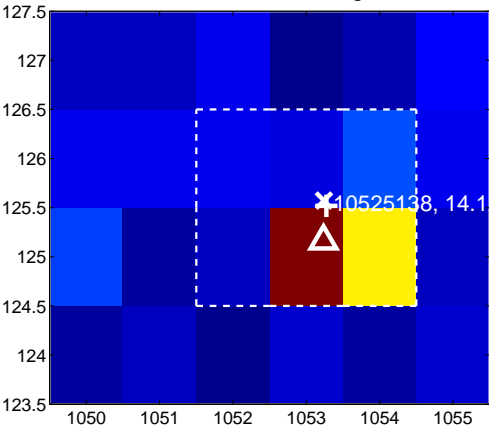
Q9 no difference image



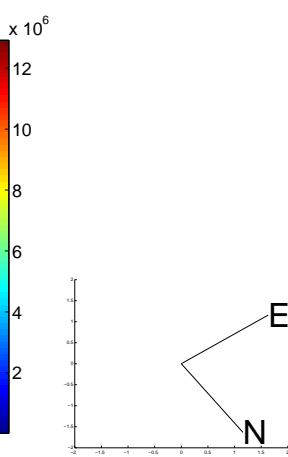
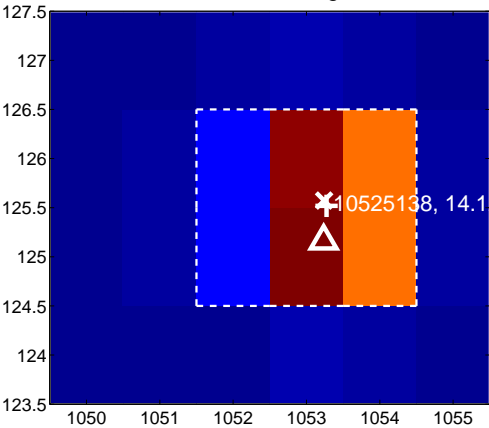
Q9 no OOT image



Q10 difference image



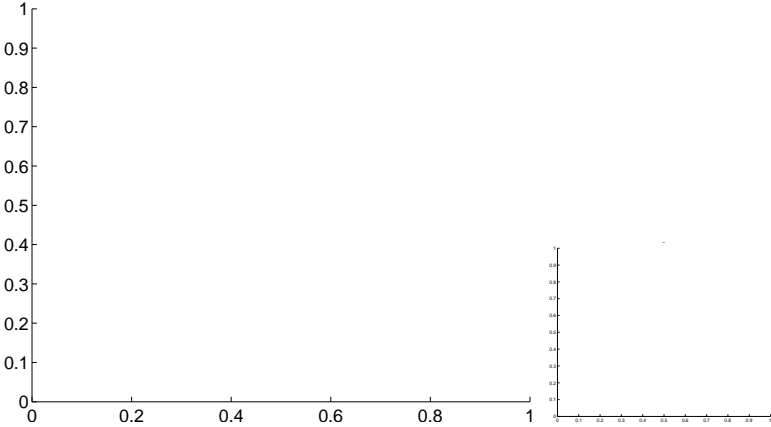
Q10 OOT image



Q11 no difference image



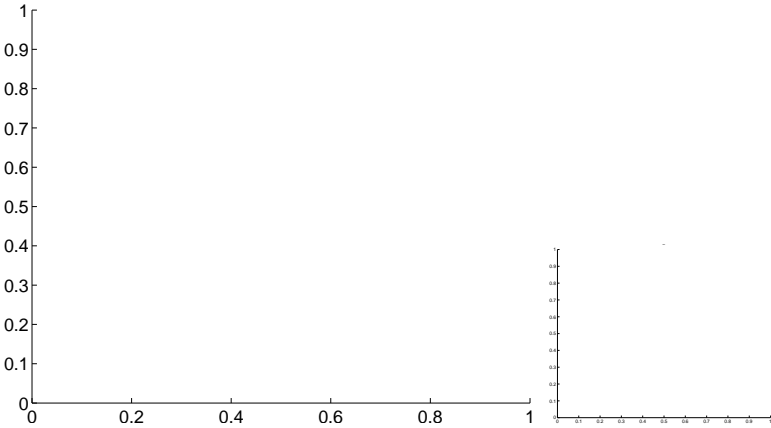
Q11 no OOT image



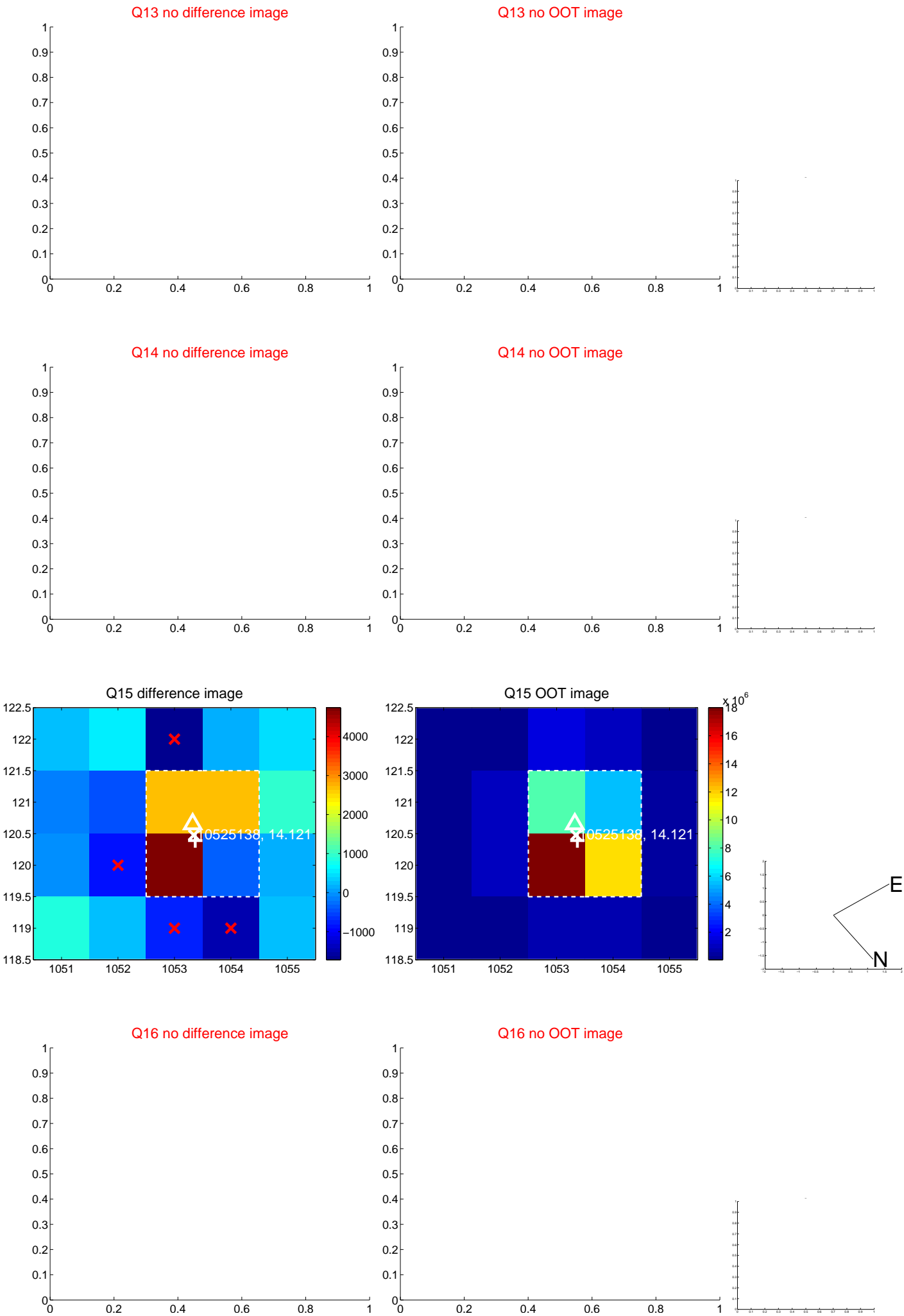
Q12 no difference image



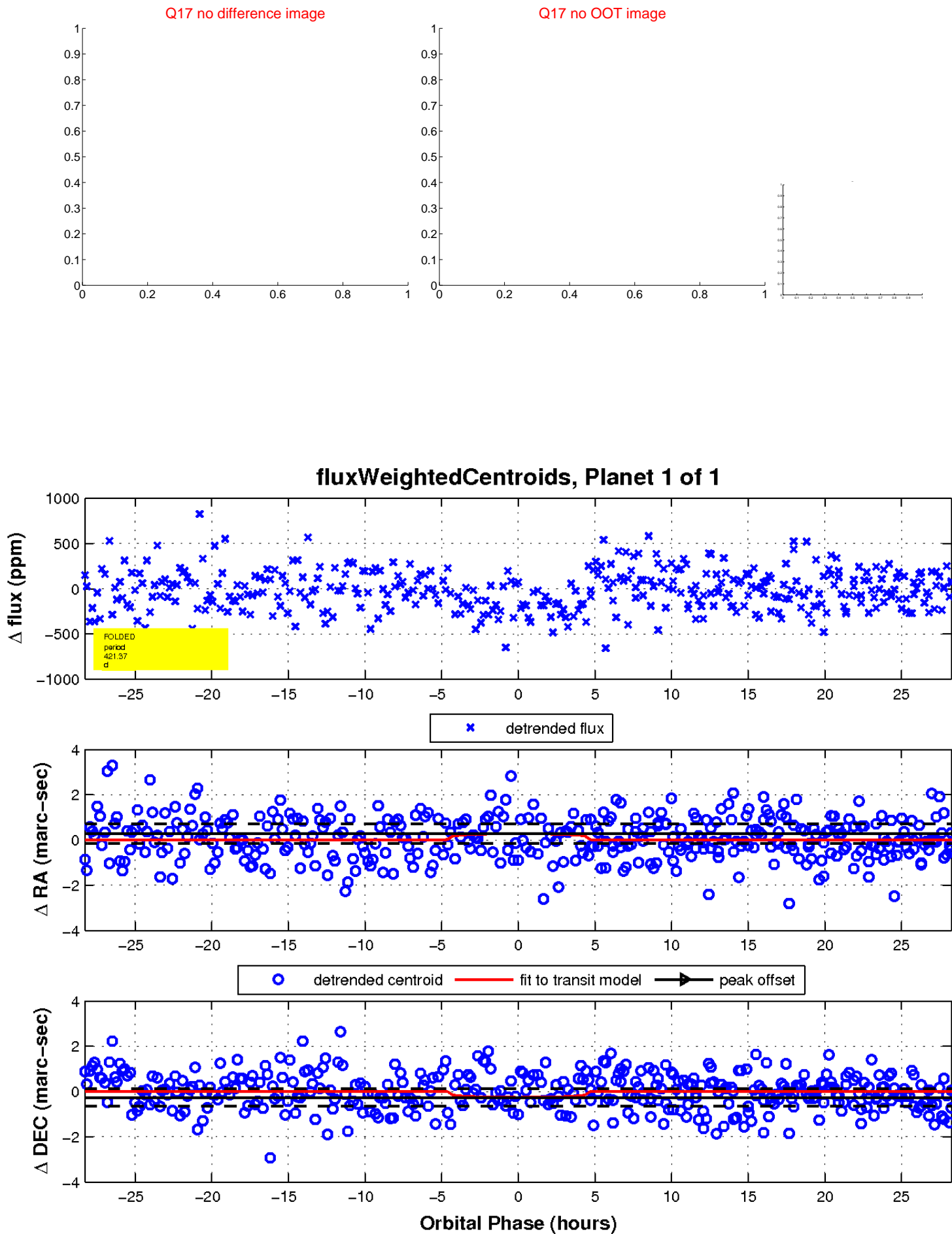
Q12 no OOT image



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

