

KIC 006530451

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})
006530451-01	OBS	No	469.305040	208.847733	209.8	15.968	7.7	7.5	1.00	6421	1.58	1.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006530451-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

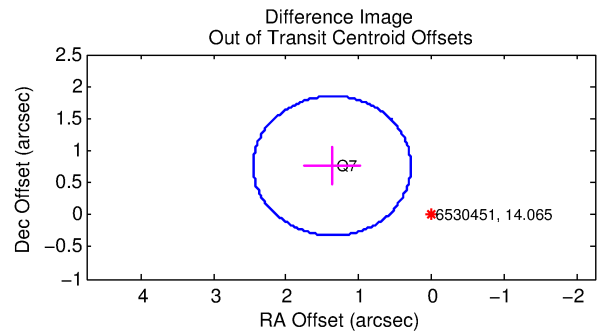
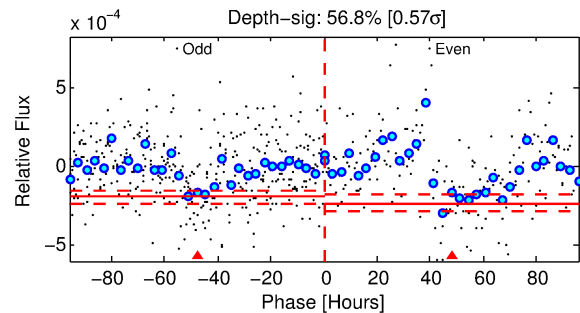
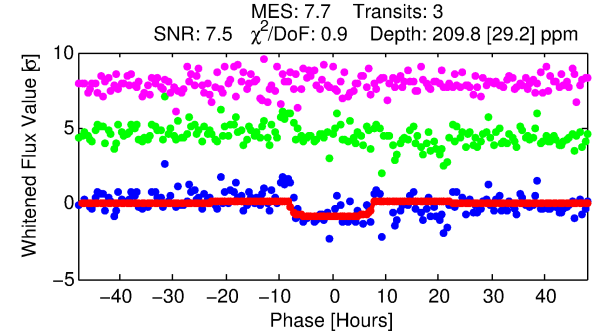
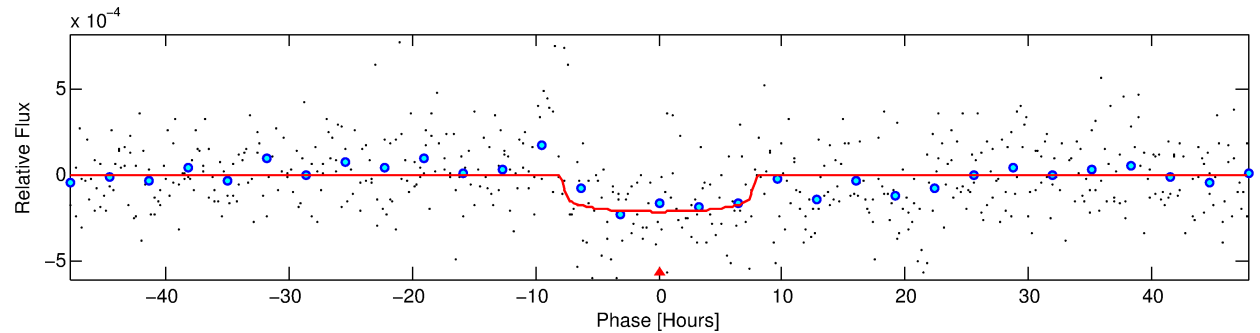
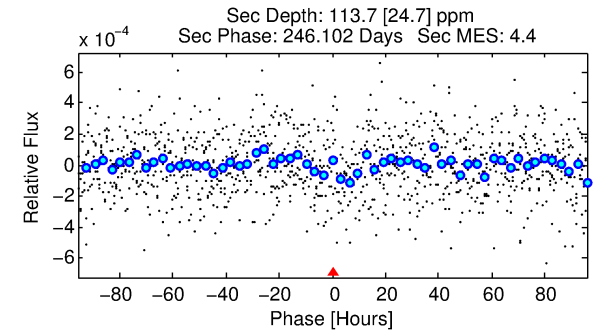
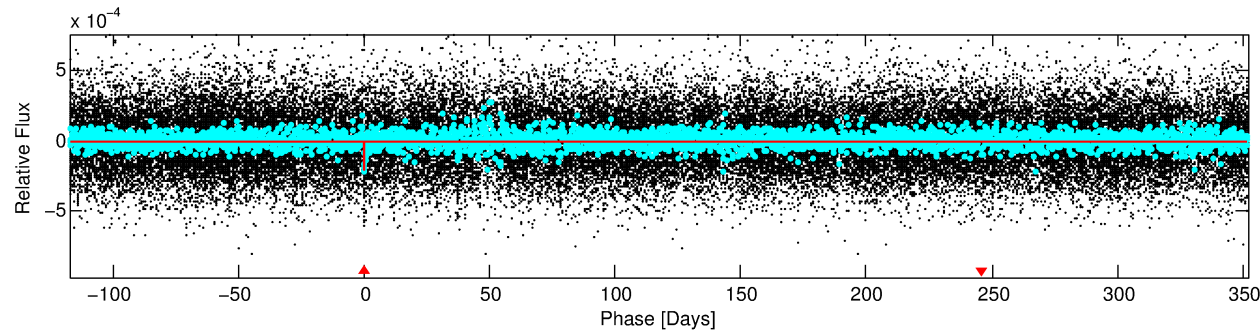
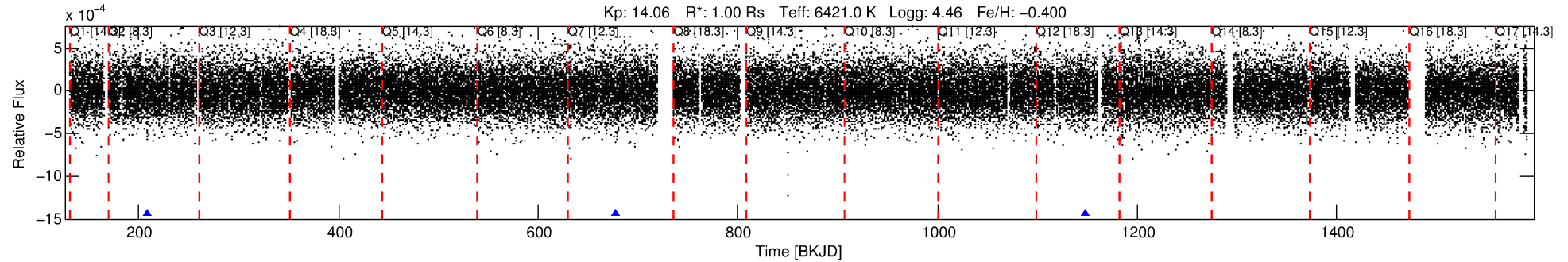
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006530451-01

No Significant Match Found

DV One-Page Summary

KIC: 6530451 Candidate: 1 of 1 Period: 469.305 d



DV Fit Results:

Period = 469.30504 [0.01697] d
Epoch = 208.8477 [0.0222] BKJD
Rp/R* = 0.0145 [0.0053]
a/R* = 149.87 [297.55]
b = 0.76 [1.08]
Seff = 1.06 [0.44]
Teff = 259 [27] K
Rp = 1.58 [0.76] Re
a = 1.2028 [0.3225] AU
Ag = 36103.59 [30866.86] [1.17σ]
Teffp = 5513 [1062] K [4.95σ]

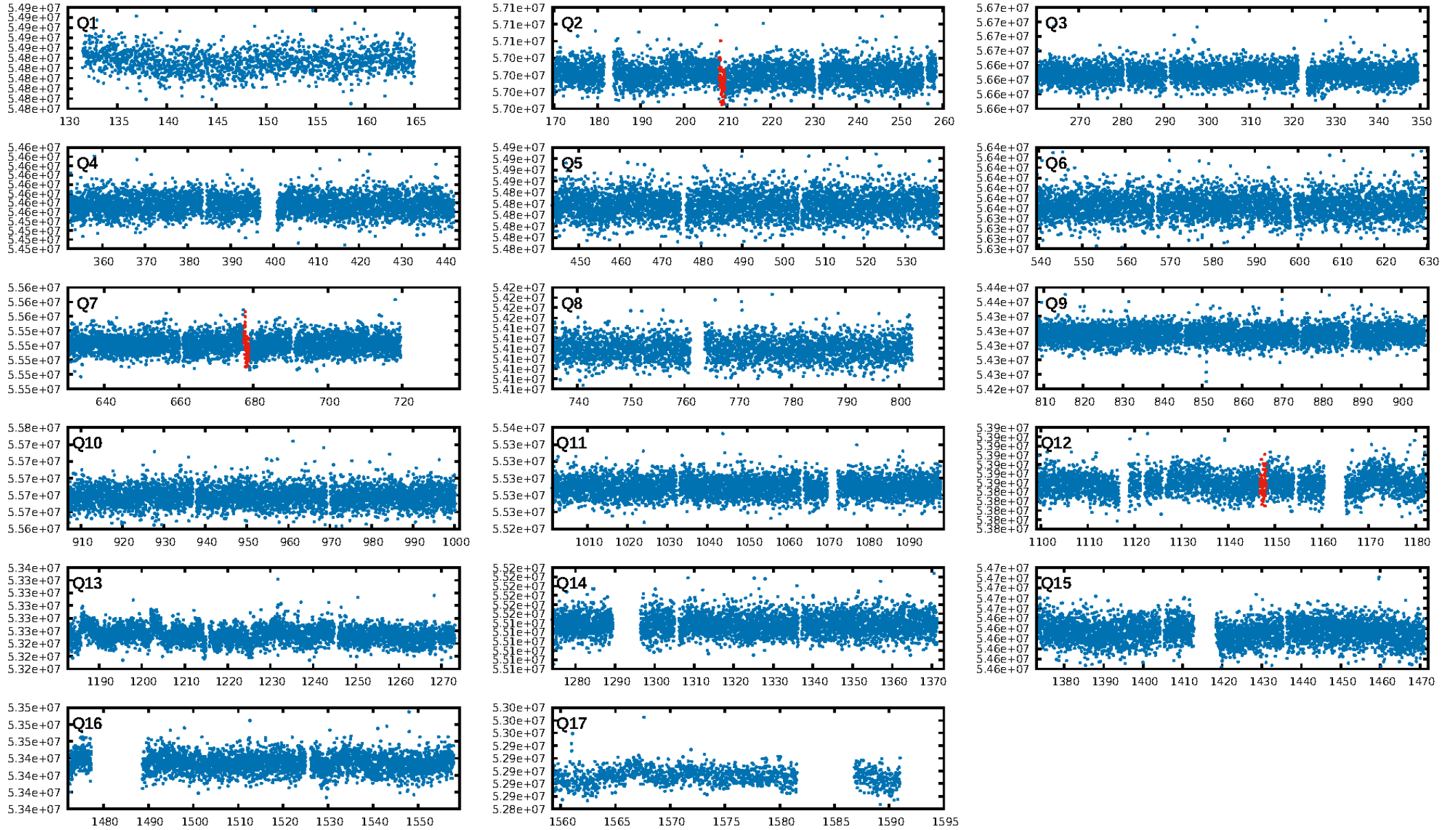
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.23e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.7592
Centroid-sig: 37.6%
Centroid-so: 2.308 arcsec [1.10σ]
OotOffset-rm: 1.566 arcsec [4.33σ]
KicOffset-rm: 1.689 arcsec [4.61σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

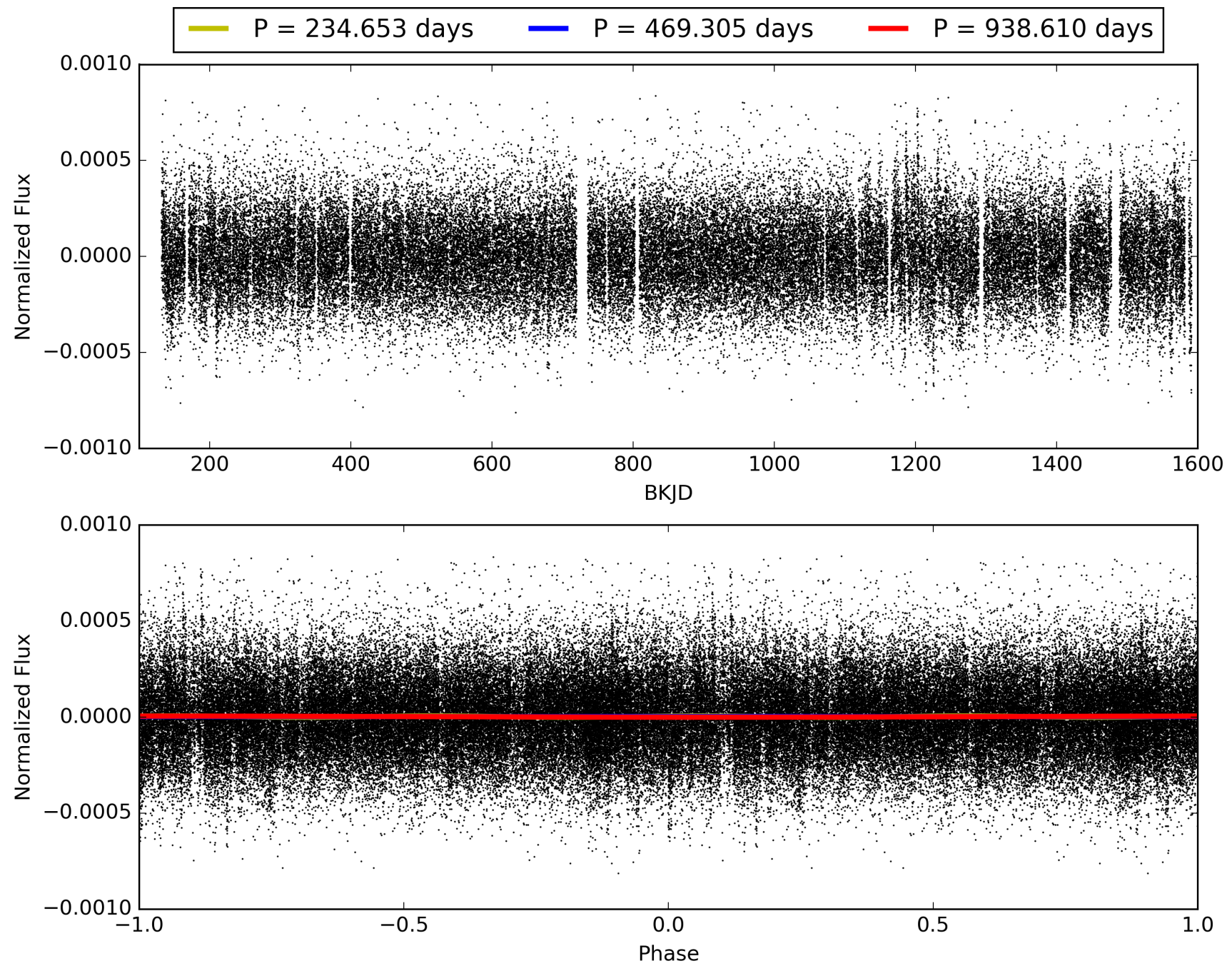
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:55:33 Z

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

TCE 006530451-01, PDC Light Curves

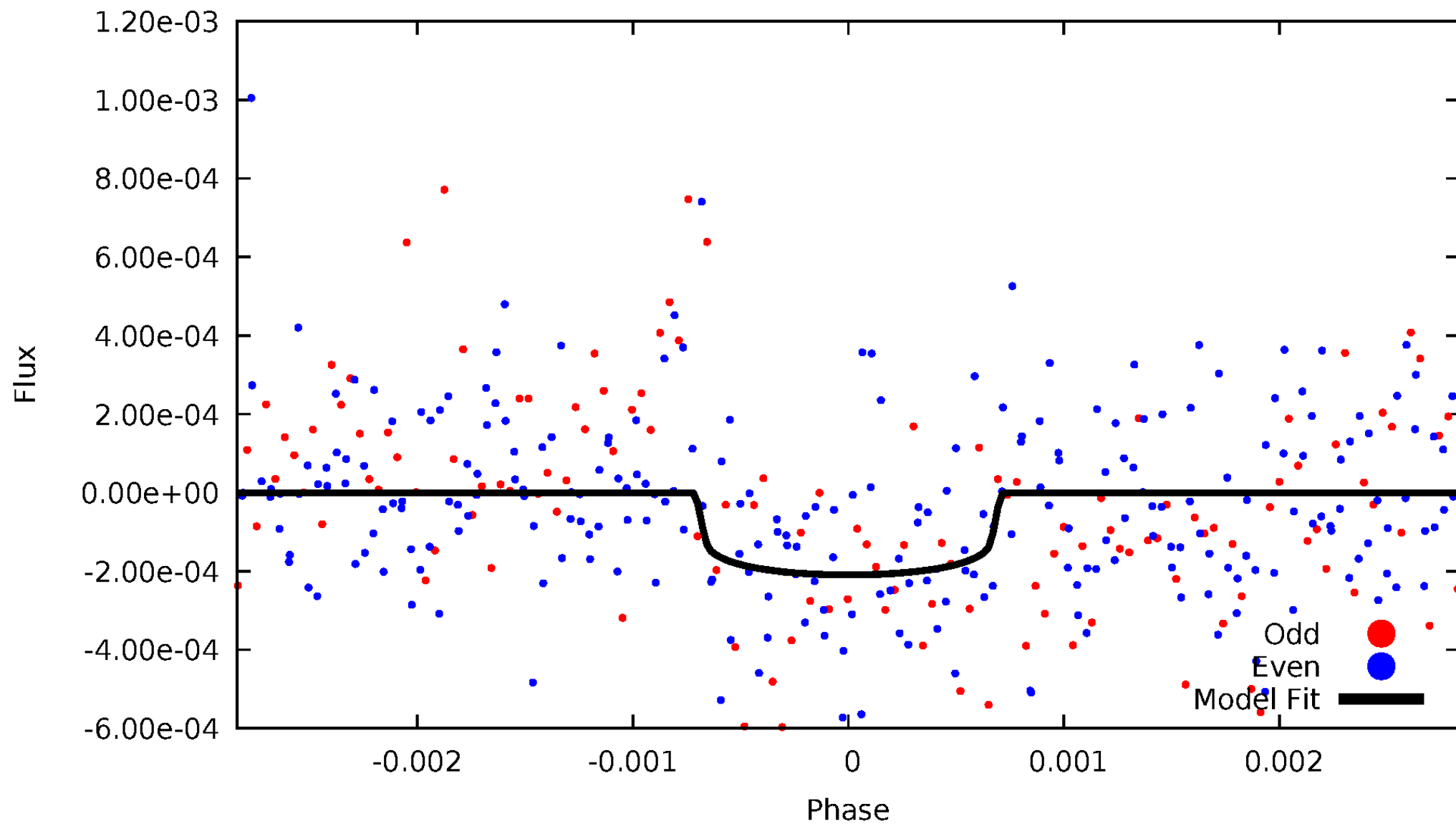


TCE 006530451-01



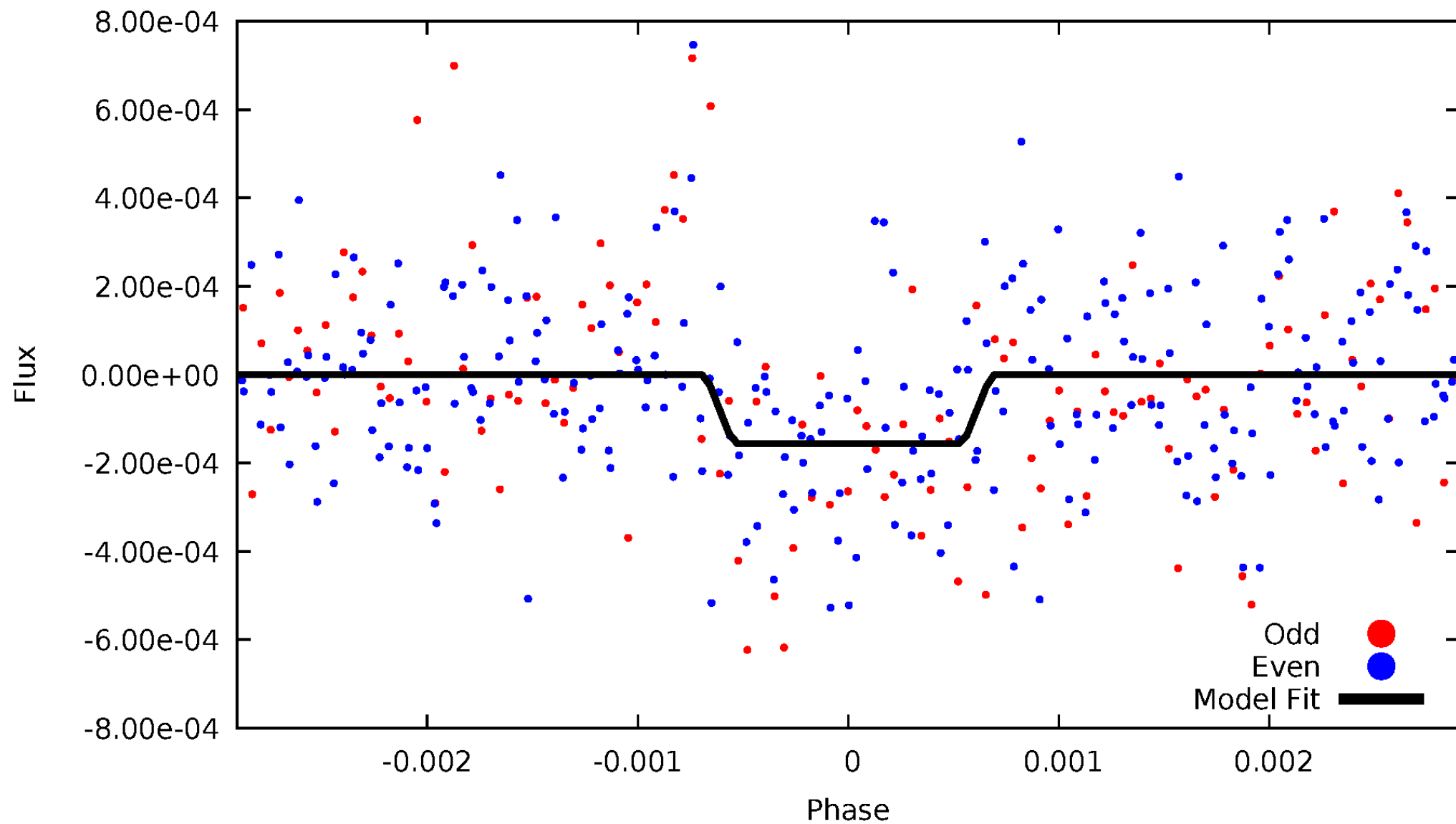
DV Odd/Even

TCE 006530451-01

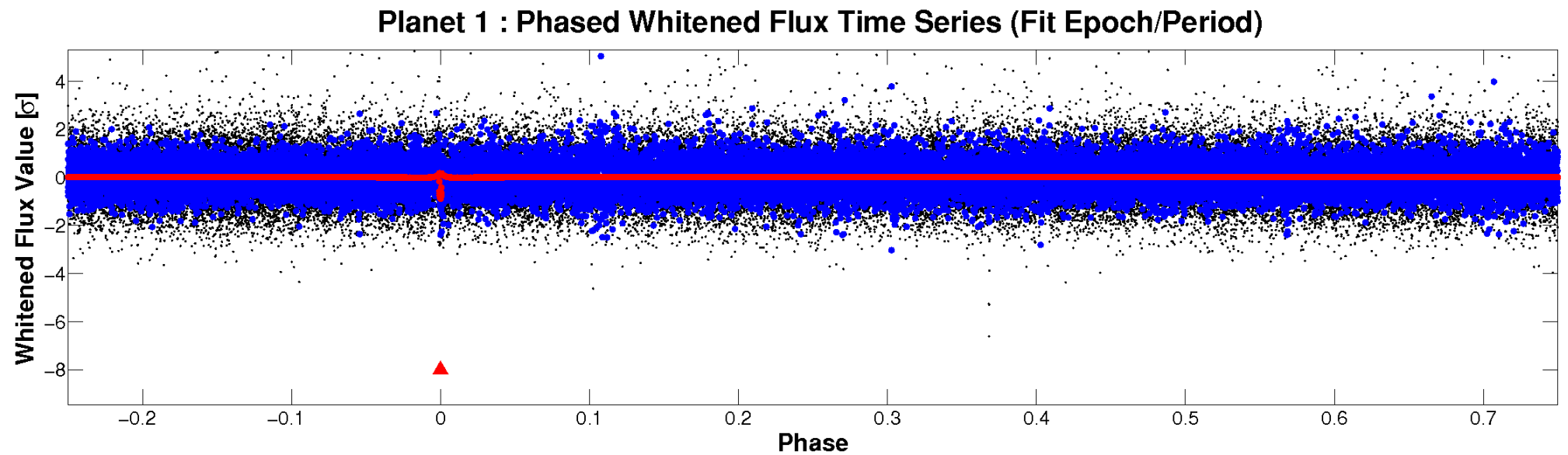
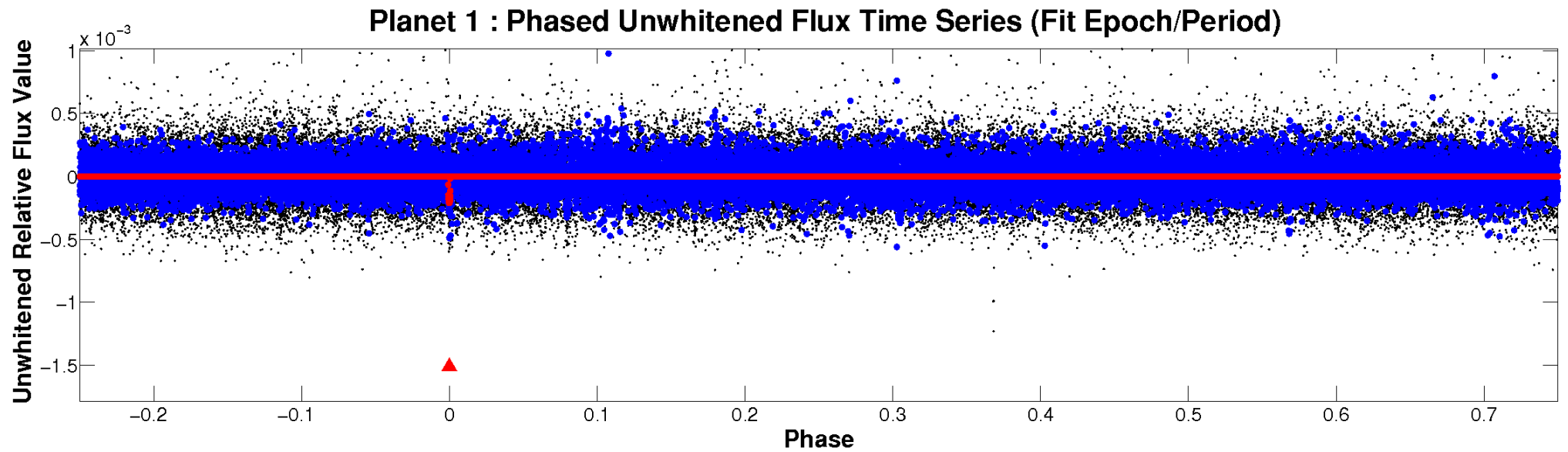


ALT Odd/Even

TCE 006530451-01



Non-Whitened Vs. Whitened Light Curve



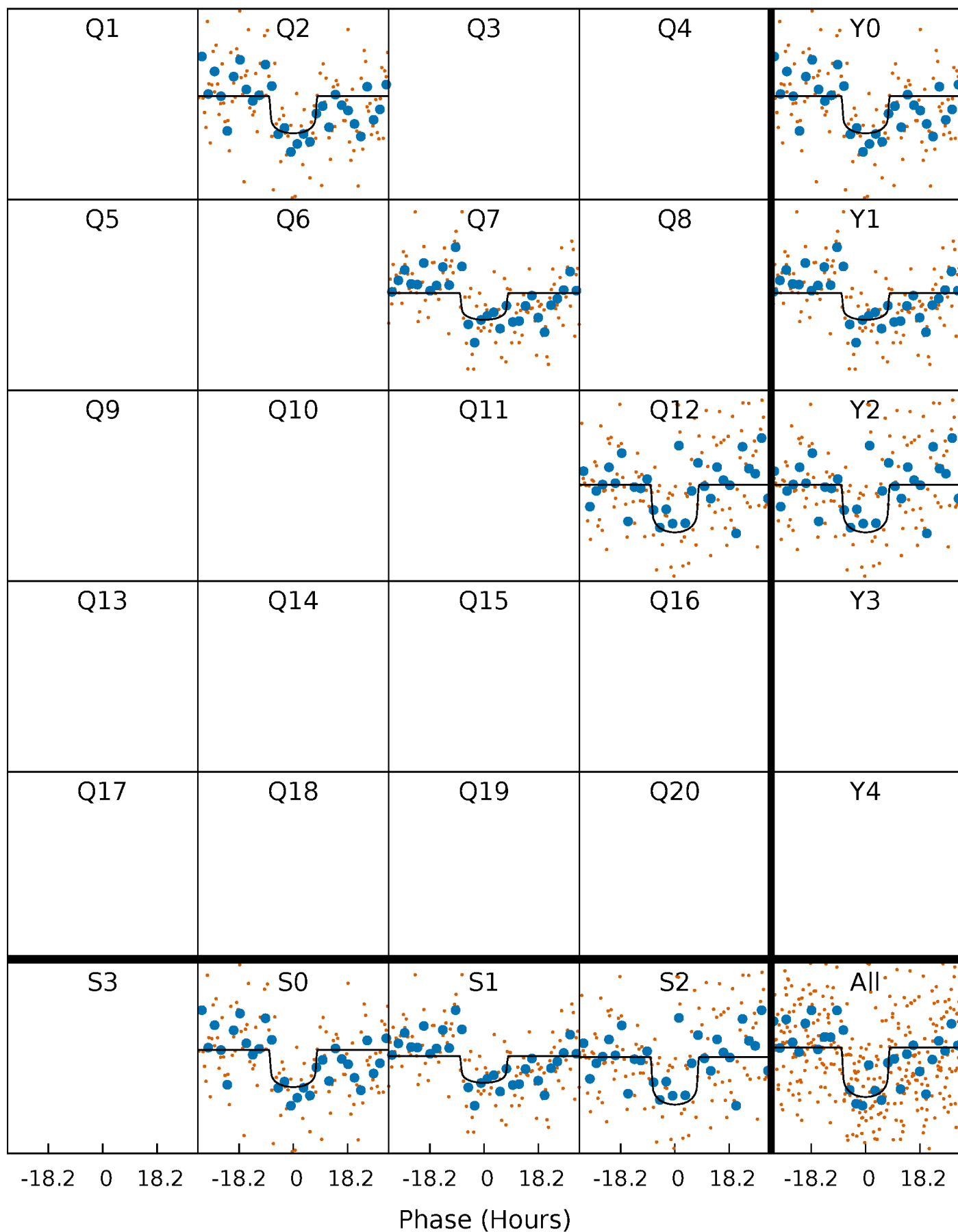
PDC Quarter-Phased Transit Curves

TCE 006530451-01 P=469.305041 Days $T_0=208.847733$ (BKJD)



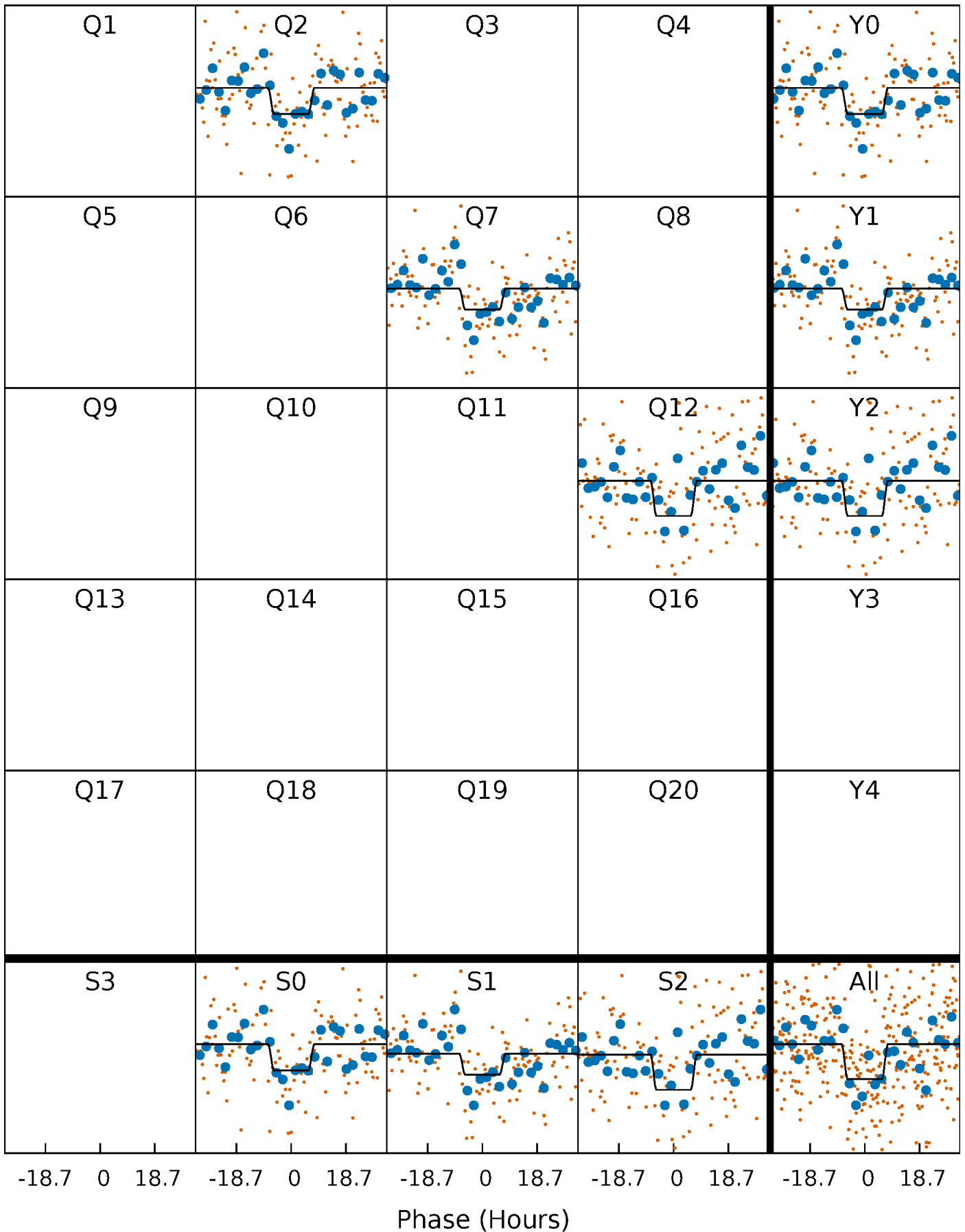
DV Quarter-Phased Transit Curves

TCE 006530451-01 P=469.305041 Days $T_0=208.847733$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

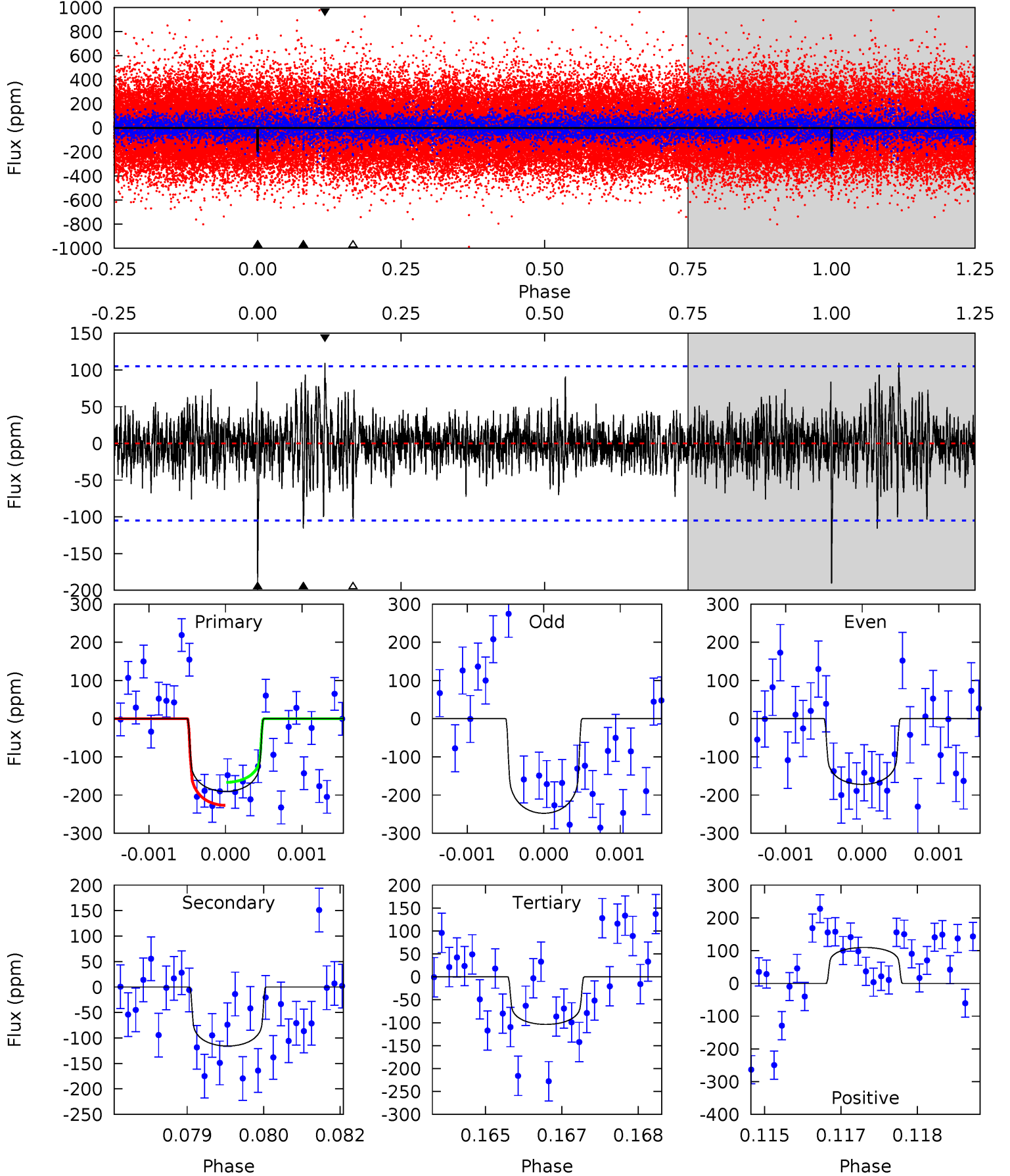
TCE 006530451-01 $P=469.277139$ Days $T_0=208.874842$ (BKJD)



DV Model-Shift Uniqueness Test

006530451-01, P = 469.305041 Days, E = 208.847733 Days

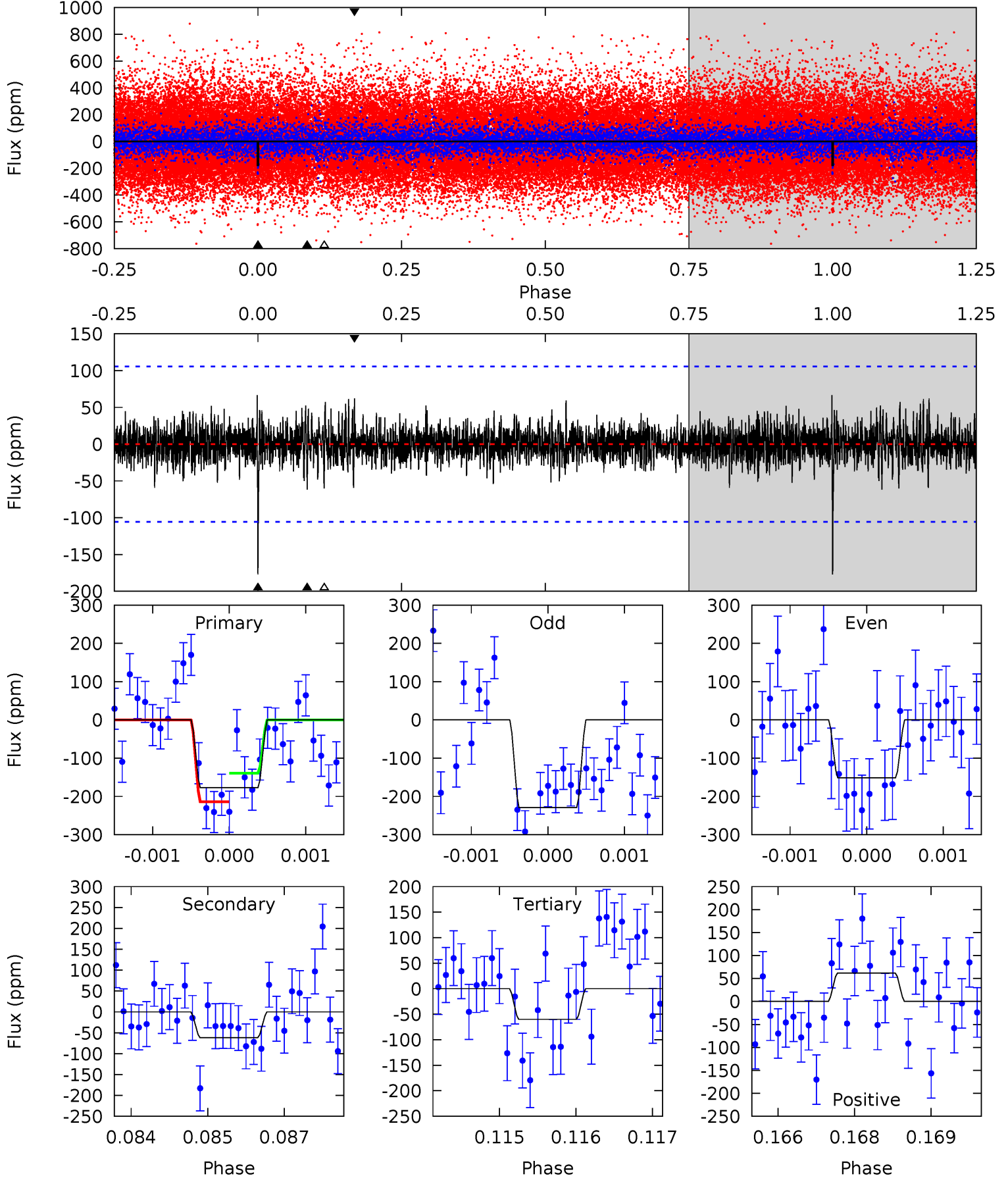
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	5.94	5.32	5.62	5.38	3.18	1.23	4.45	4.15	0.62	0.32	1.79	0.84	0.37	1.53



Alt Model-Shift Uniqueness Test

006530451-01, P = 469.277139 Days, E = 208.874842 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	3.16	3.07	3.16	5.39	3.20	0.82	5.97	5.88	0.09	-0.01	1.86	0.90	0.27	1.92



Stellar Parameters For KIC 006530451

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6421^{+152}_{-209}	$4.458^{+0.054}_{-0.216}$	$-0.400^{+0.300}_{-0.300}$	$1.003^{+0.317}_{-0.106}$	$1.054^{+0.142}_{-0.142}$	$1.470^{+0.420}_{-0.819}$
	+2%/-3%	+1%/-5%	+75%/-75%	+32%/-11%	+13%/-13%	+29%/-56%
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 006530451-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-116 ± 19	$1.64^{+0.74}_{-0.63}$	369^{+28}_{-18}	5560^{+1642}_{-797}	33707^{+56955}_{-17845}
Alt.	-62 ± 20	$1.43^{+0.65}_{-0.56}$	369^{+26}_{-18}	5124^{+1388}_{-769}	23312^{+39267}_{-13905}

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 $A_{\text{obs}} \gg 1.0$

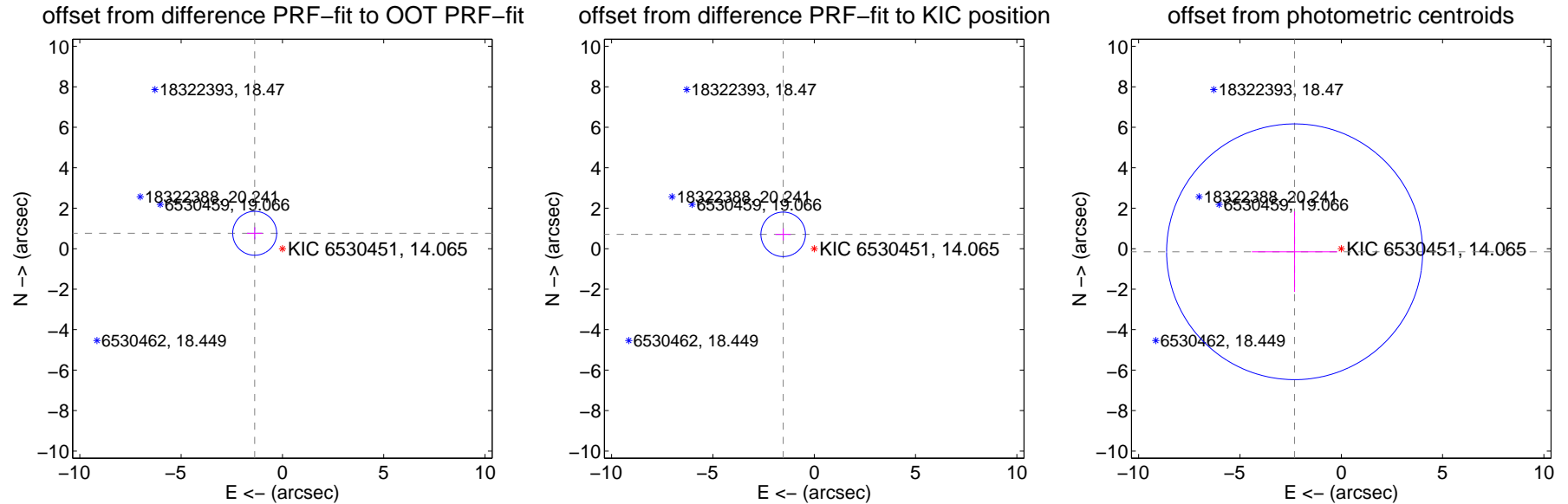
DV Centroid Data

Supplemental centroid analysis for 006530451-01. Kepler magnitude: 14.06. Transit SNR 7.50

There are 1 quarters with good PRF difference image offsets

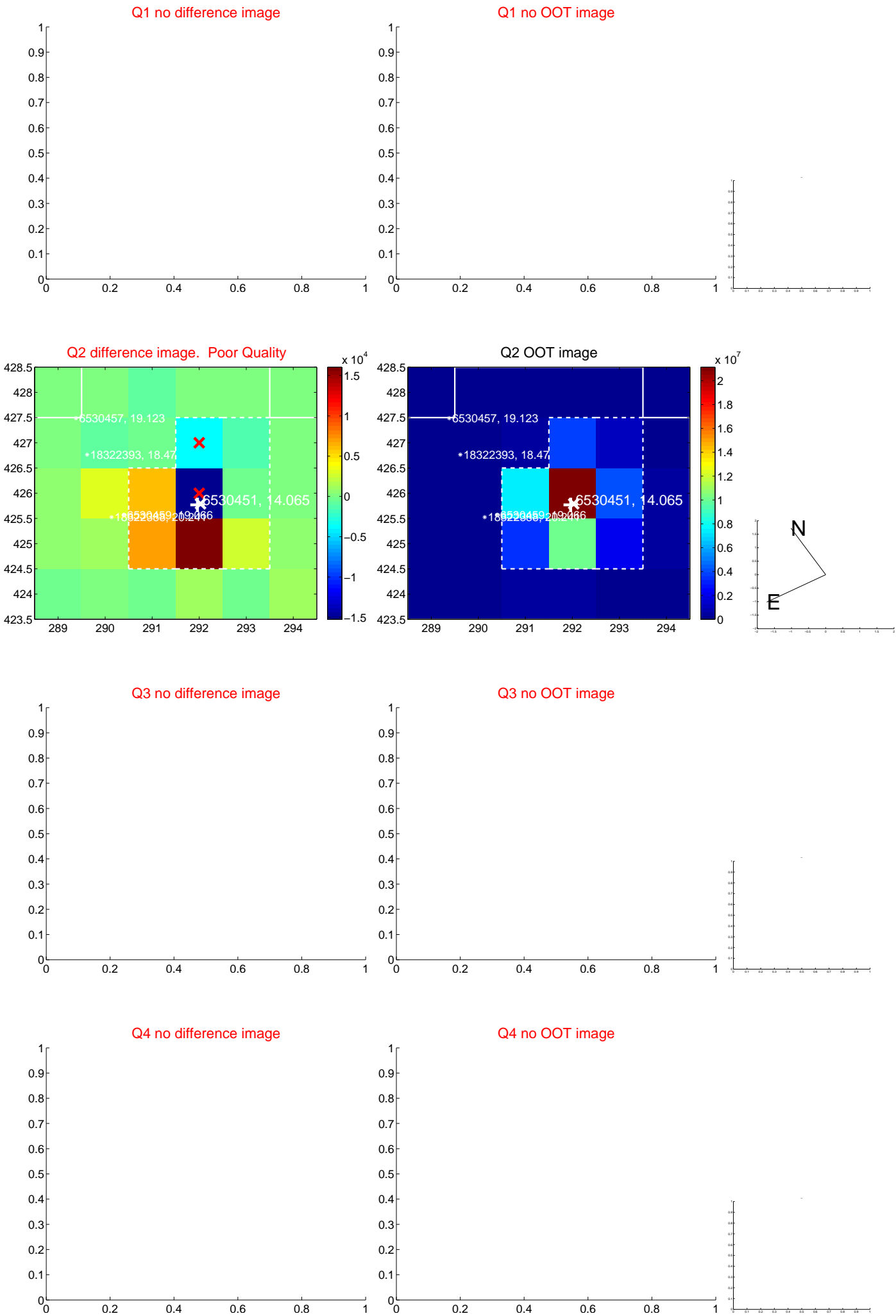
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.566 ± 0.362	4.33	1.369 ± 0.379	0.762 ± 0.299
PRF-fit source offset from KIC position	1.689 ± 0.366	4.61	1.533 ± 0.379	0.709 ± 0.299
photometric centroid source offset	2.31 ± 2.11	1.10	2.30 ± 2.11	-0.15 ± 1.99

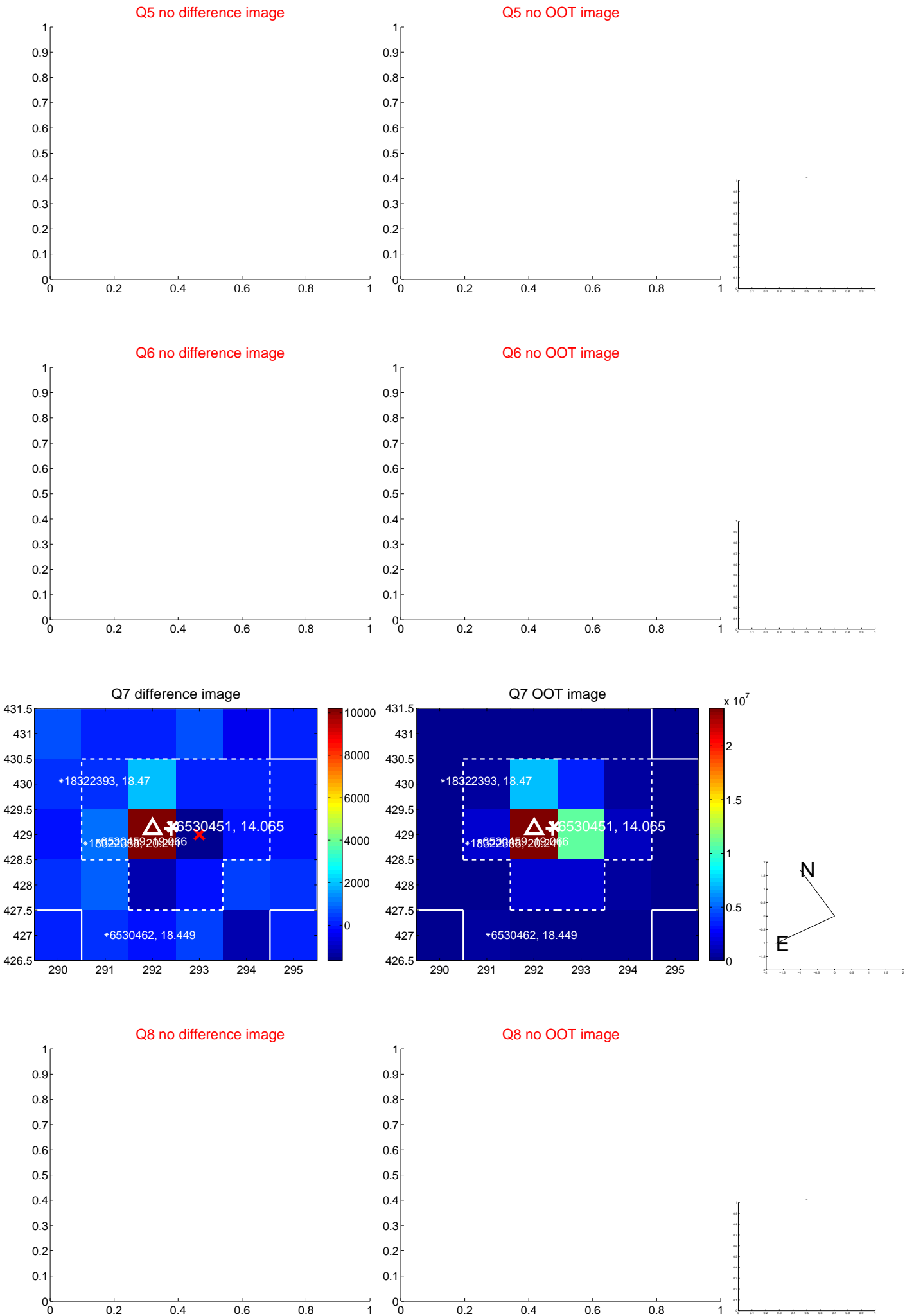


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

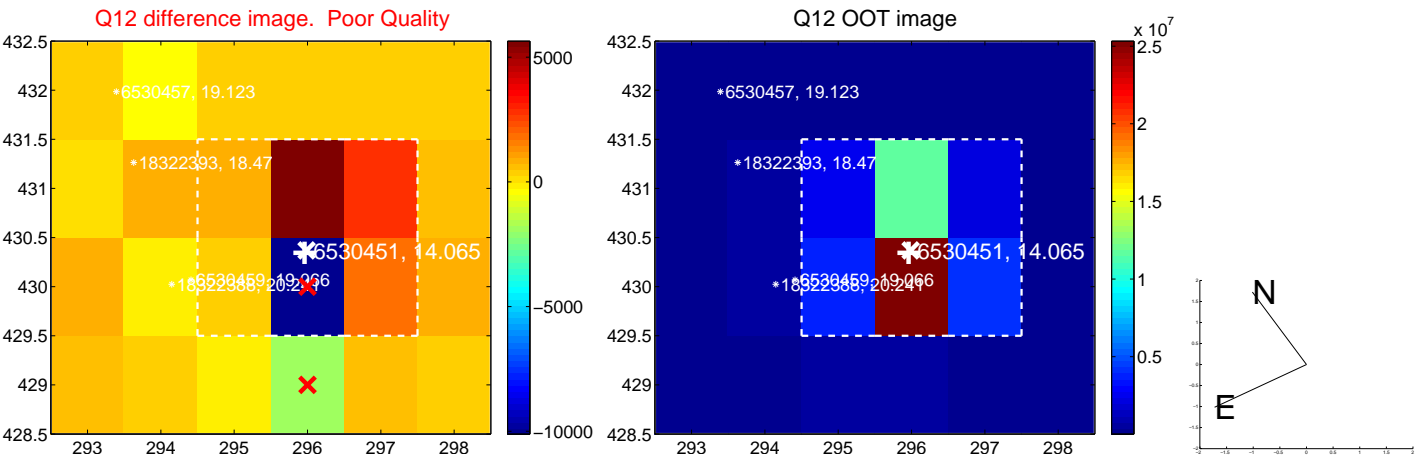
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



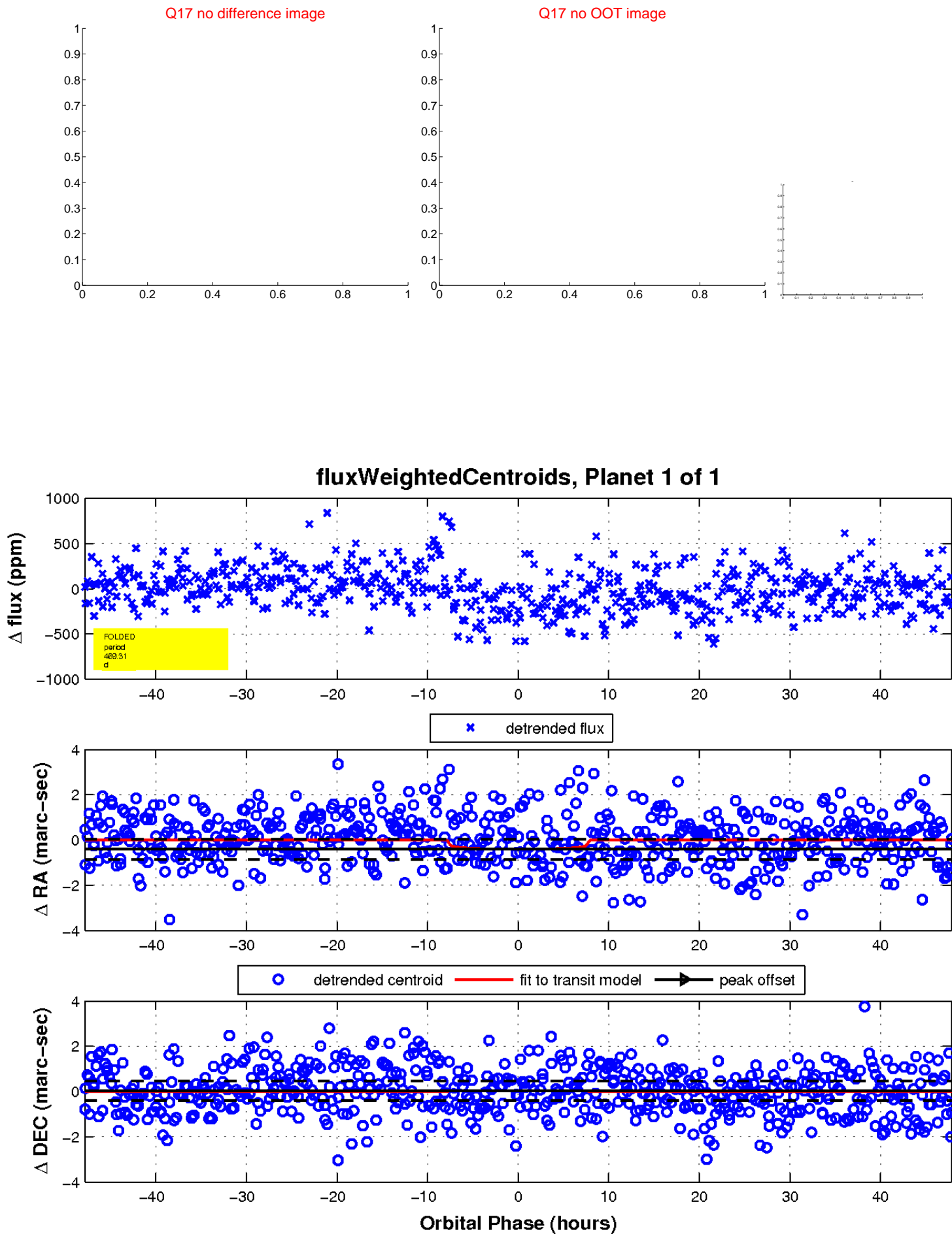
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

Declination

