

KIC 005310172

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})
005310172-01	OBS	No	1.510534	132.096683	94.5	5.368	9.3	9.0	3.50	7304	3.95	29484.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005310172-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

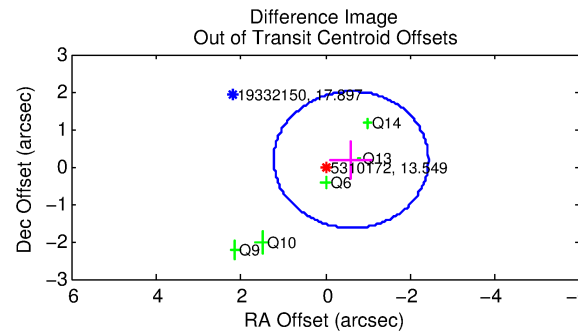
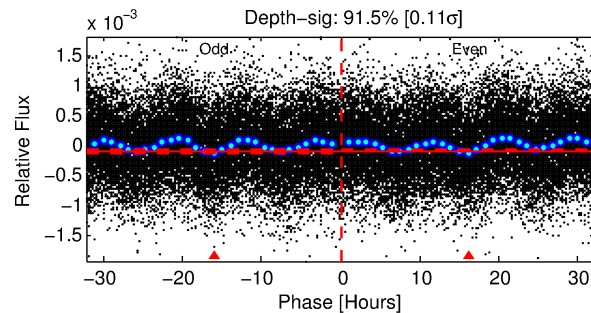
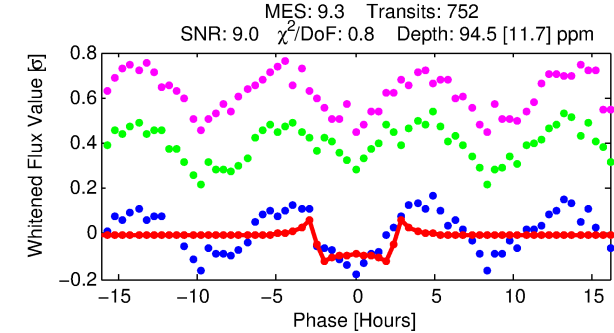
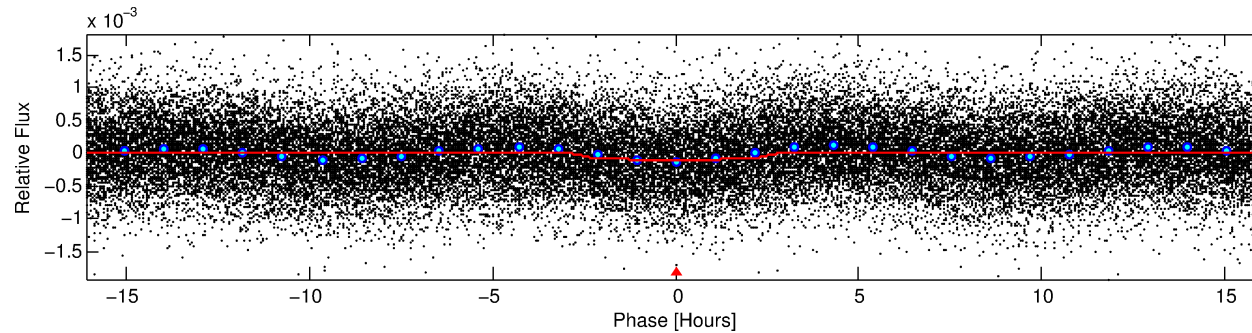
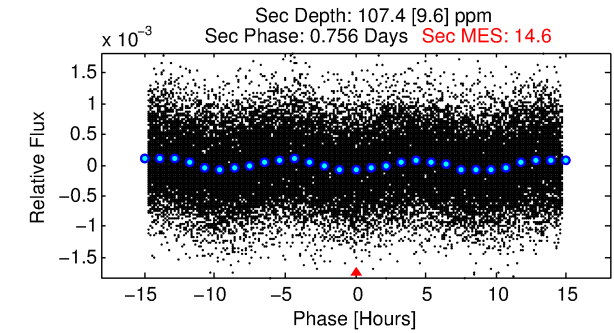
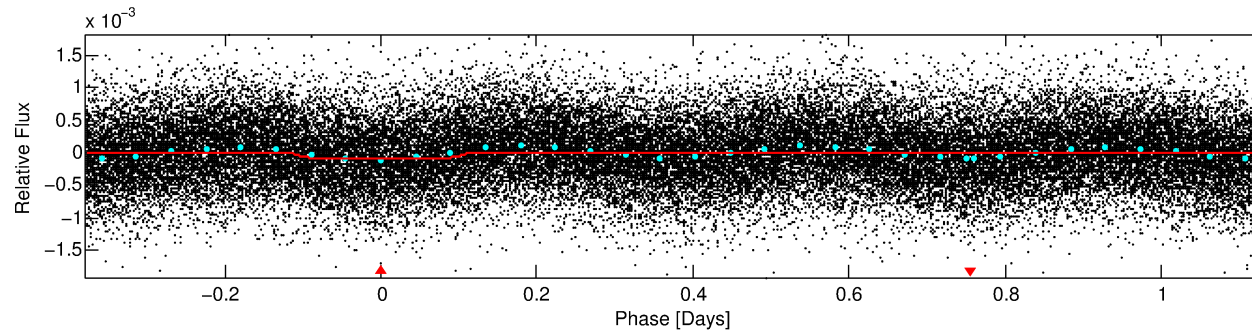
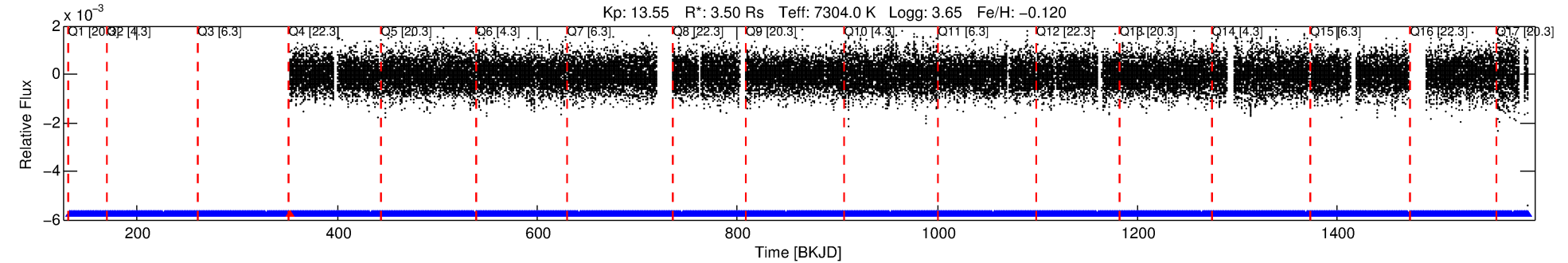
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005310172-01

No Significant Match Found

DV One-Page Summary

KIC: 5310172 Candidate: 1 of 1 Period: 1.511 d



DV Fit Results:

Period = 1.51053 [0.00001] d
Epoch = 132.0967 [0.0030] BKJD
Rp/R* = 0.0103 [0.0016]
a/R* = 1.36 [0.56]
b = 0.90 [0.19]
Seff = 29484.42 [25006.45]
Teq = 3341 [708] K
Rp = 3.95 [2.06] Re
a = 0.0325 [0.0164] AU
Ag = 4.01 [3.58] [0.84σ]
Teffp = 7309 [689] K [4.01σ]

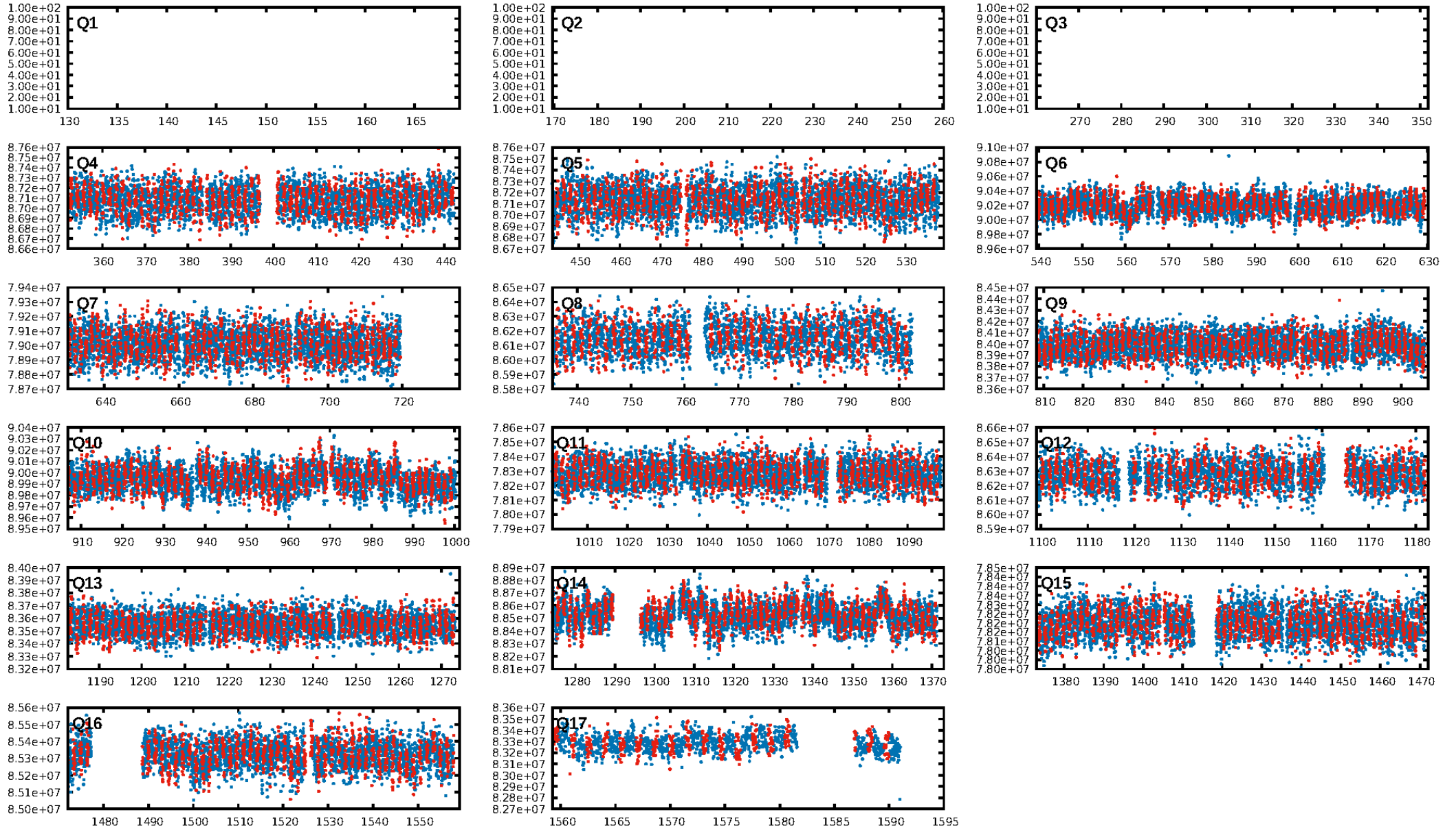
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.70e-13
RollingBand-fgt: 1.00 [733/734]
GhostDiagnostic-chr: 2.194
Centroid-sig: 0.0%
Centroid-so: 1.347 arcsec [2.39σ]
OotOffset-rm: 0.633 arcsec [1.04σ]
OotOffset-st: 3/0/0/2 [5]
KicOffset-rm: 10.431 arcsec [19.86σ]
KicOffset-st: 3/0/1/2 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [14/14]

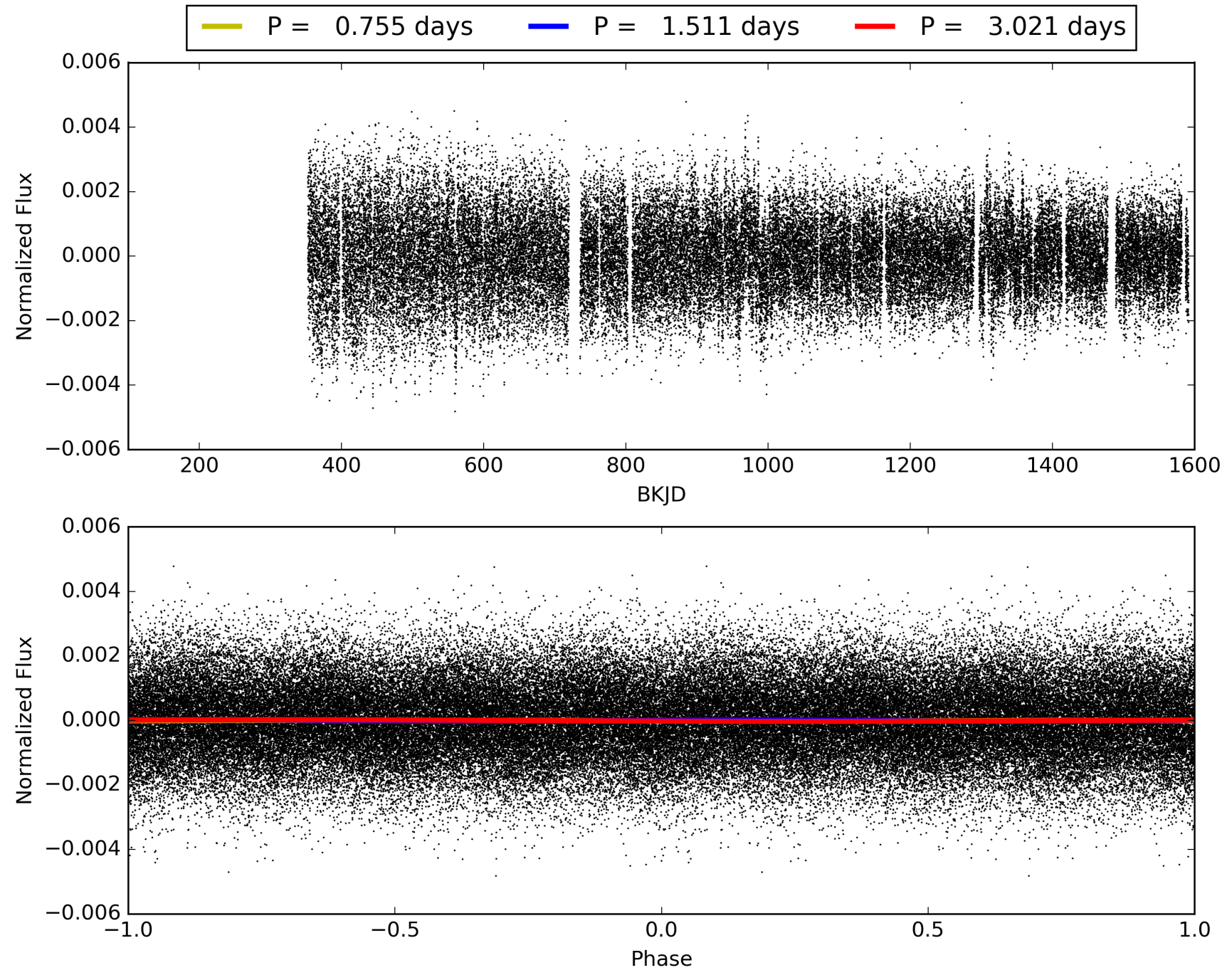
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:42:33 Z

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

TCE 005310172-01, PDC Light Curves

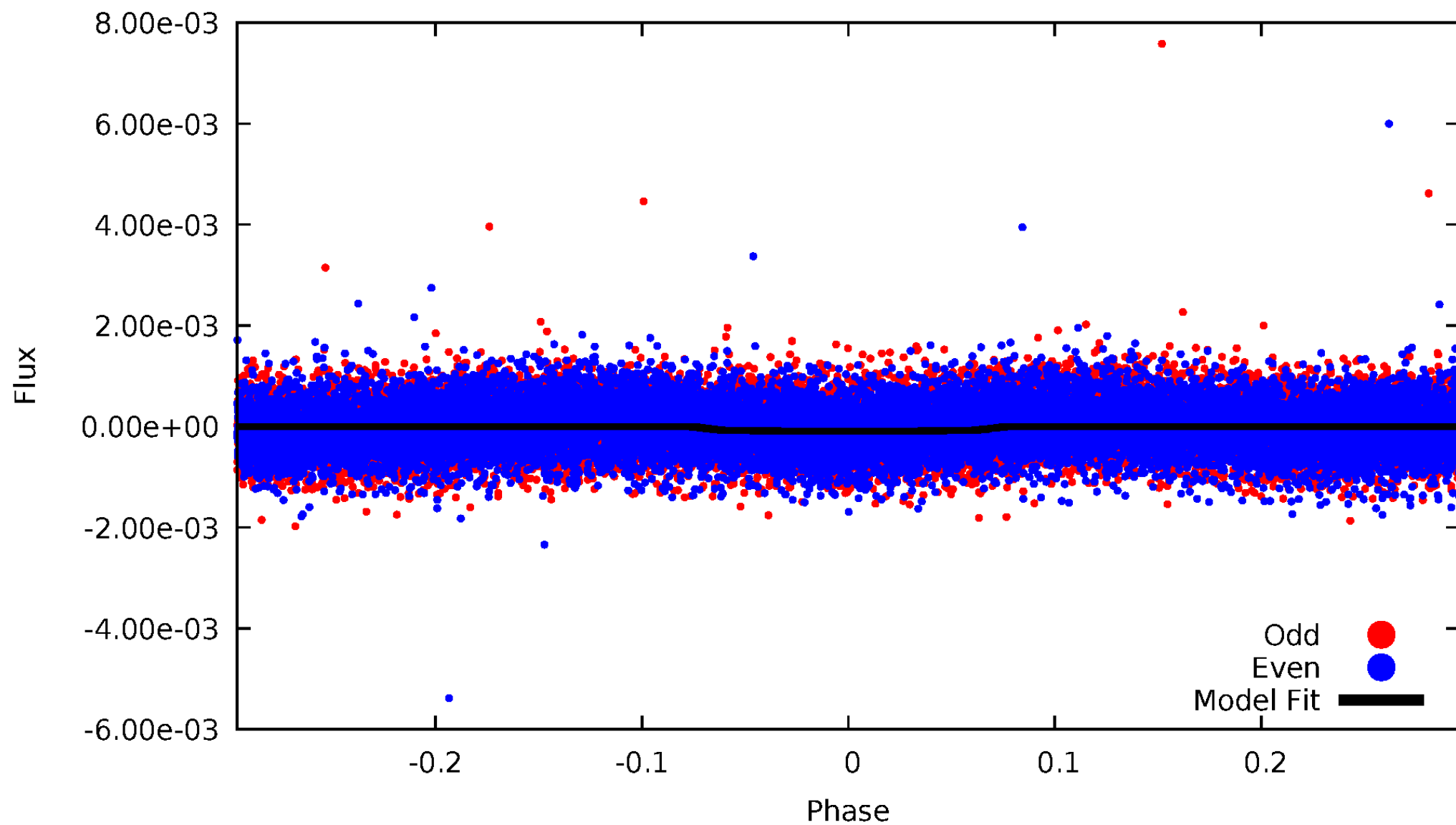


TCE 005310172-01



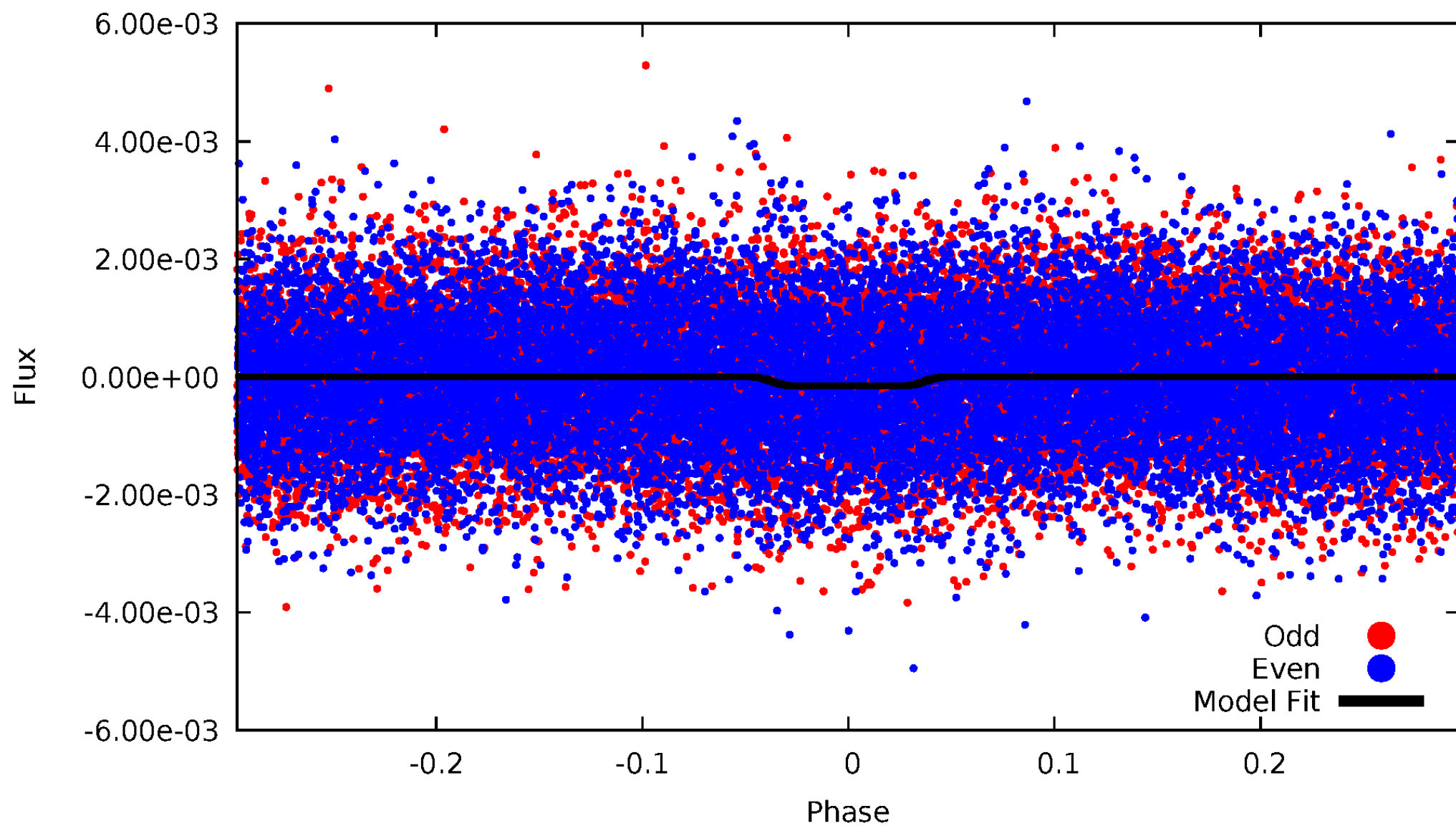
DV Odd/Even

TCE 005310172-01

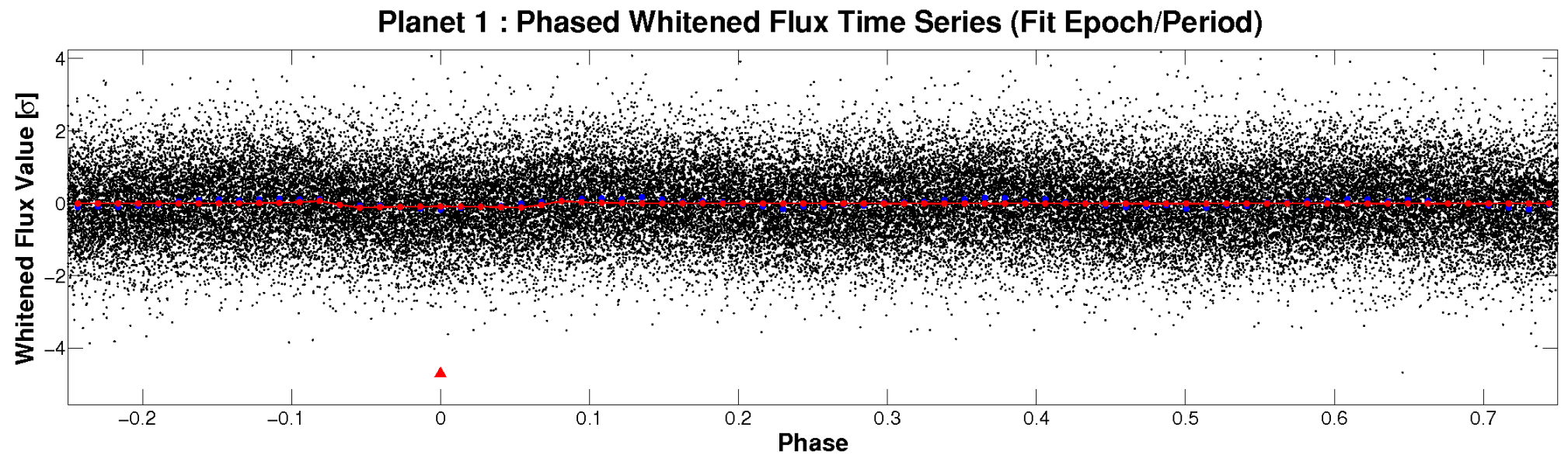
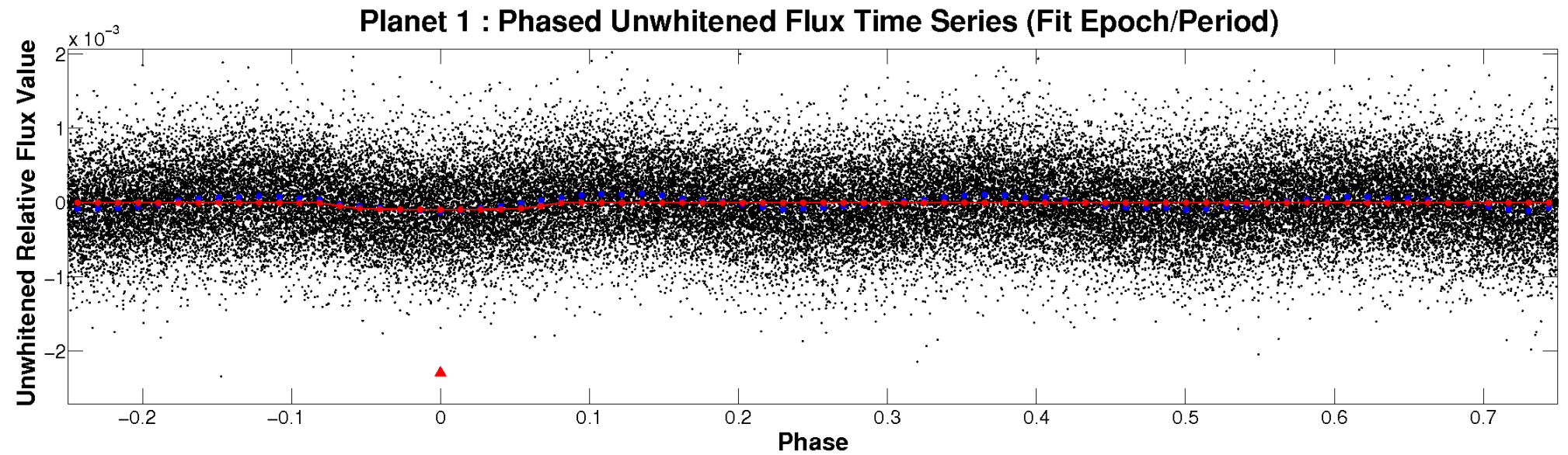


ALT Odd/Even

TCE 005310172-01

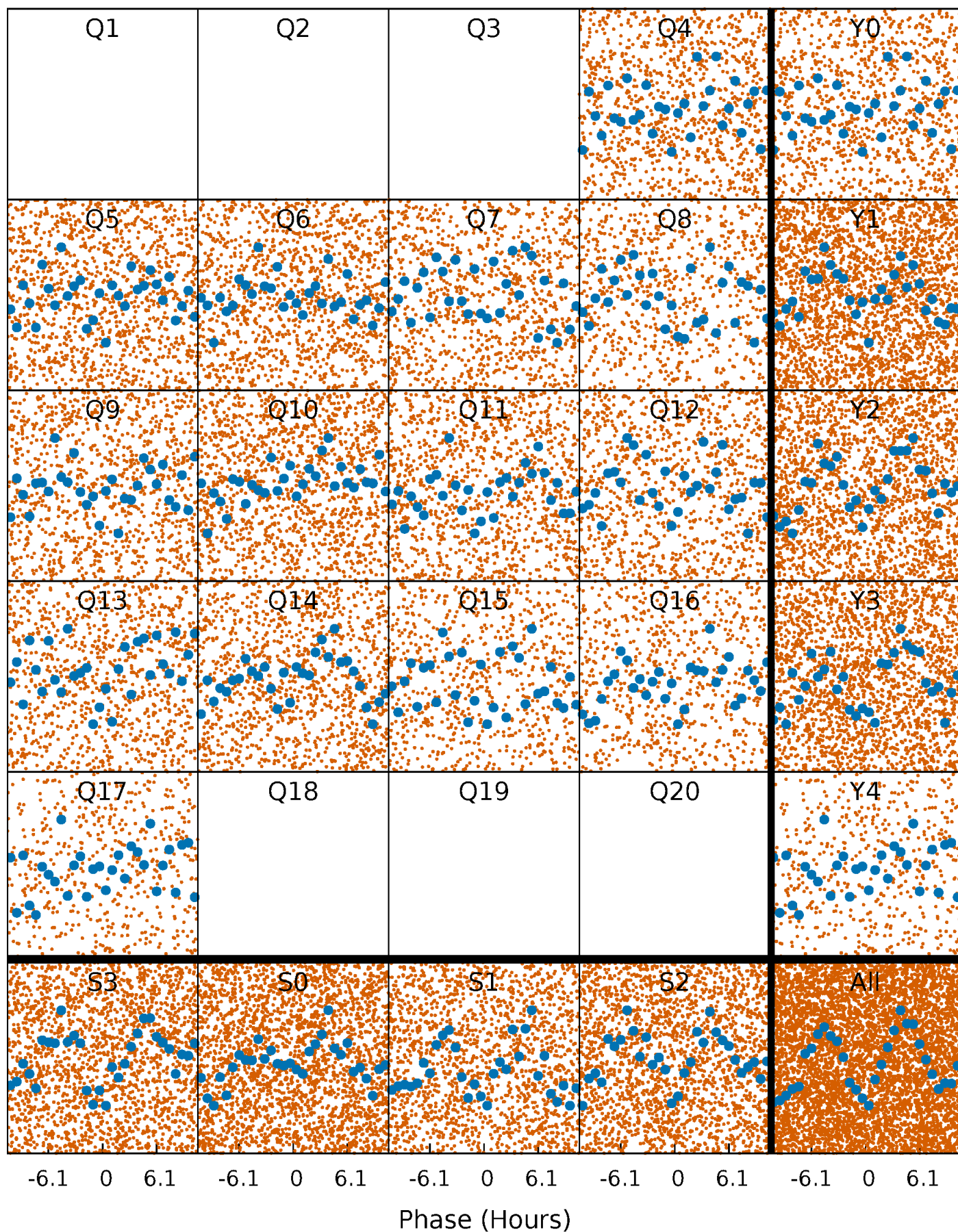


Non-Whitened Vs. Whitened Light Curve



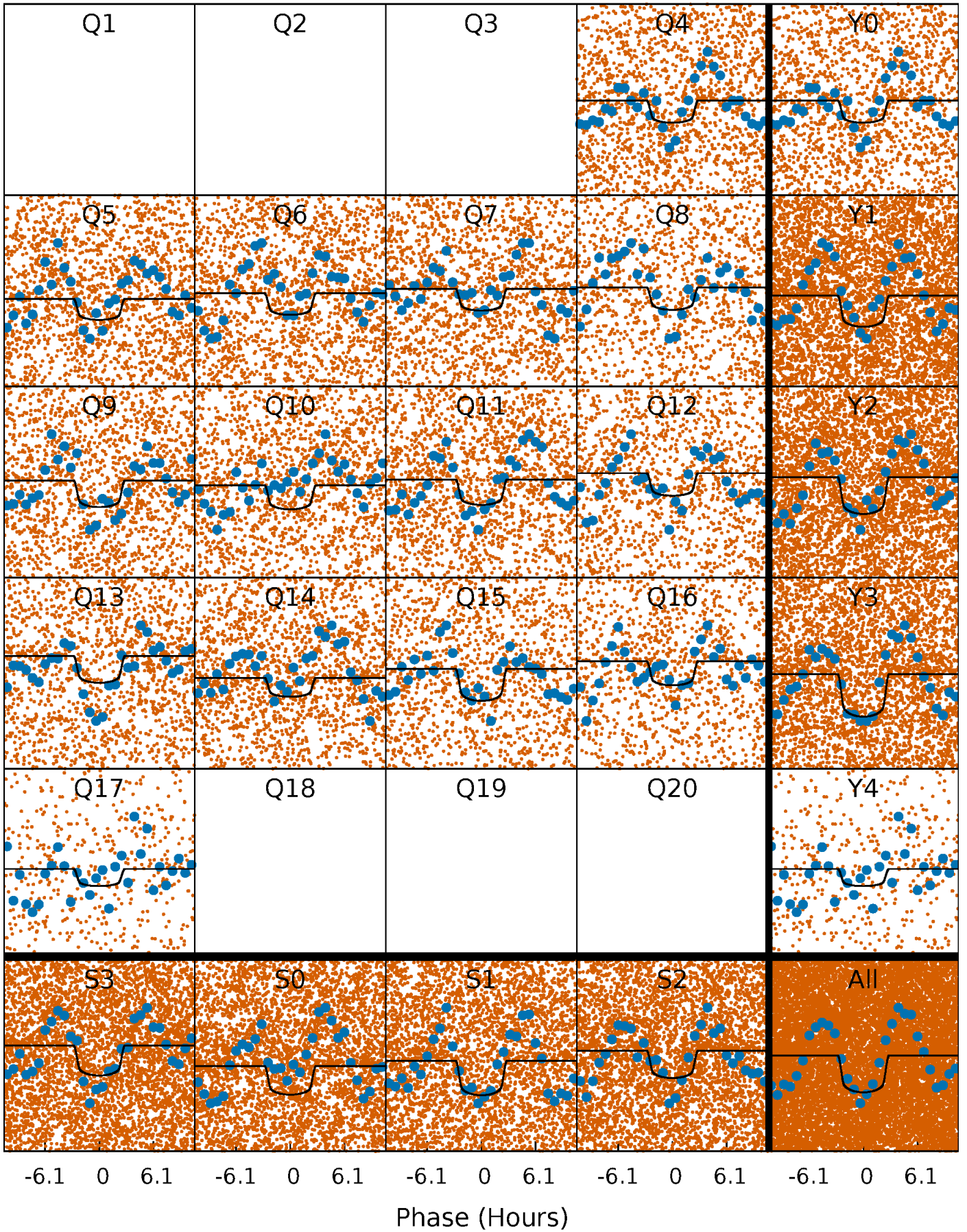
PDC Quarter-Phased Transit Curves

TCE 005310172-01 P= 1.510534 Days $T_0=132.096684$ (BKJD)



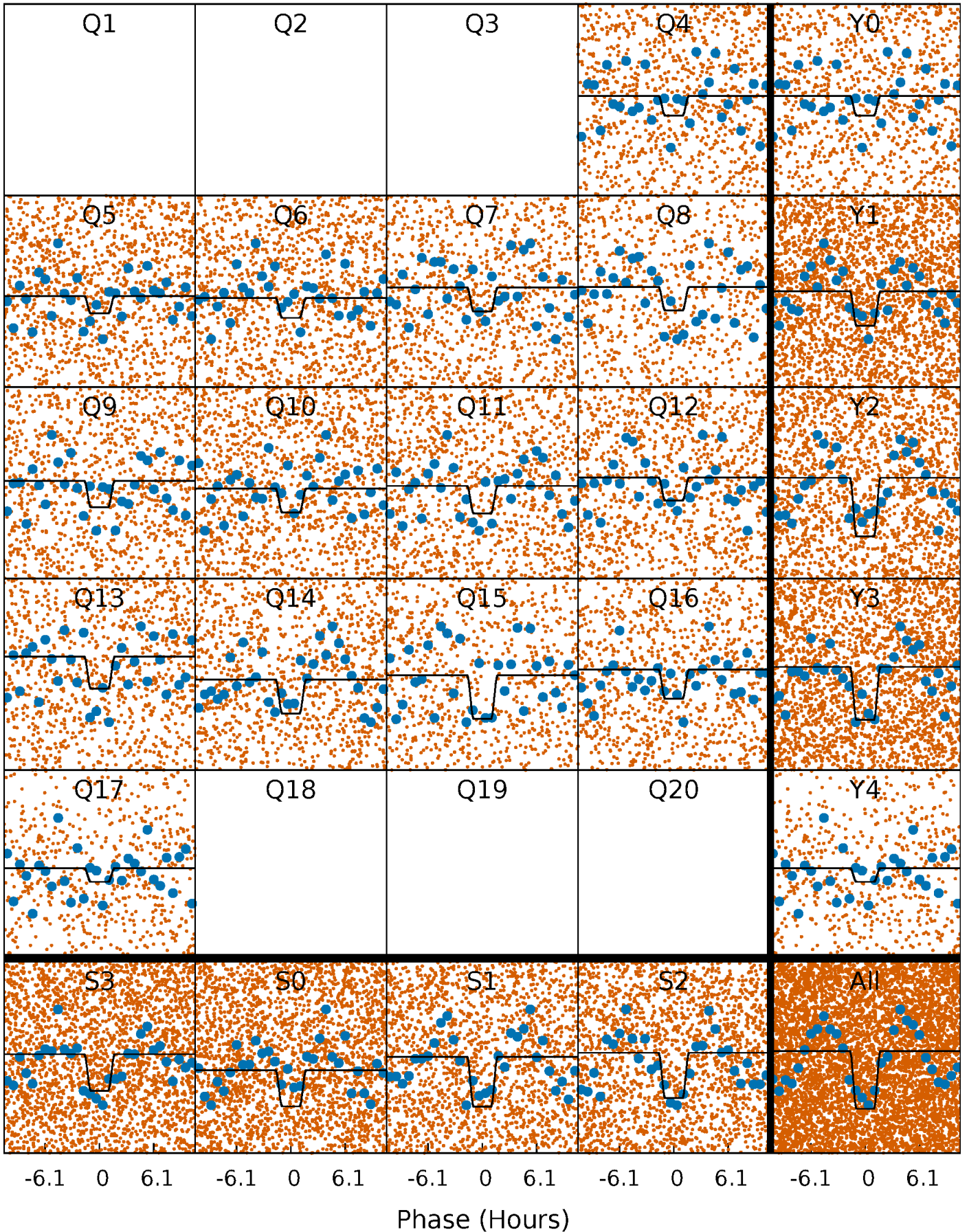
DV Quarter-Phased Transit Curves

TCE 005310172-01 P= 1.510534 Days $T_0=132.096684$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

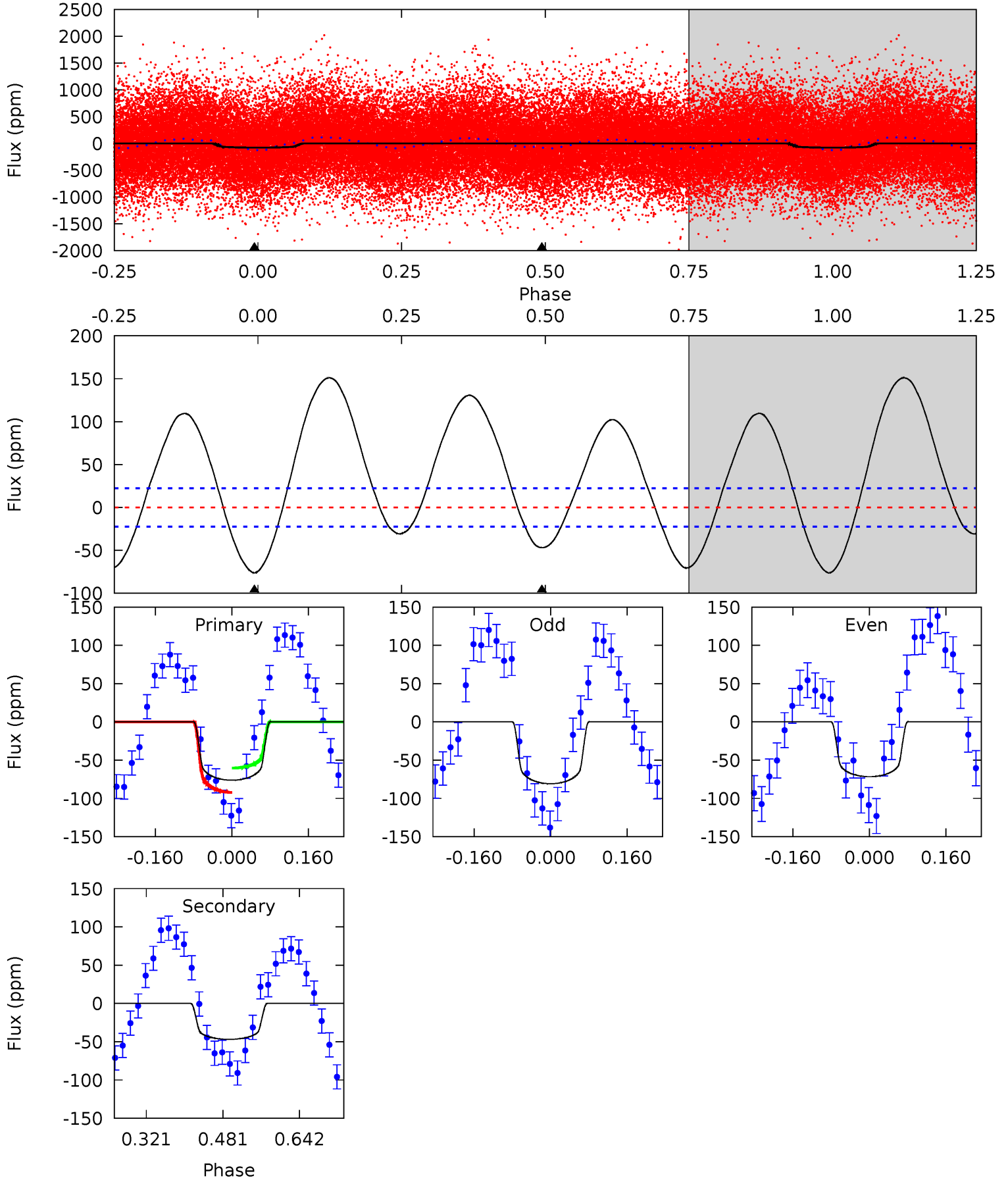
TCE 005310172-01 P= 1.510526 Days $T_0=132.096989$ (BKJD)



DV Model-Shift Uniqueness Test

005310172-01, P = 1.510534 Days, E = 132.096684 Days

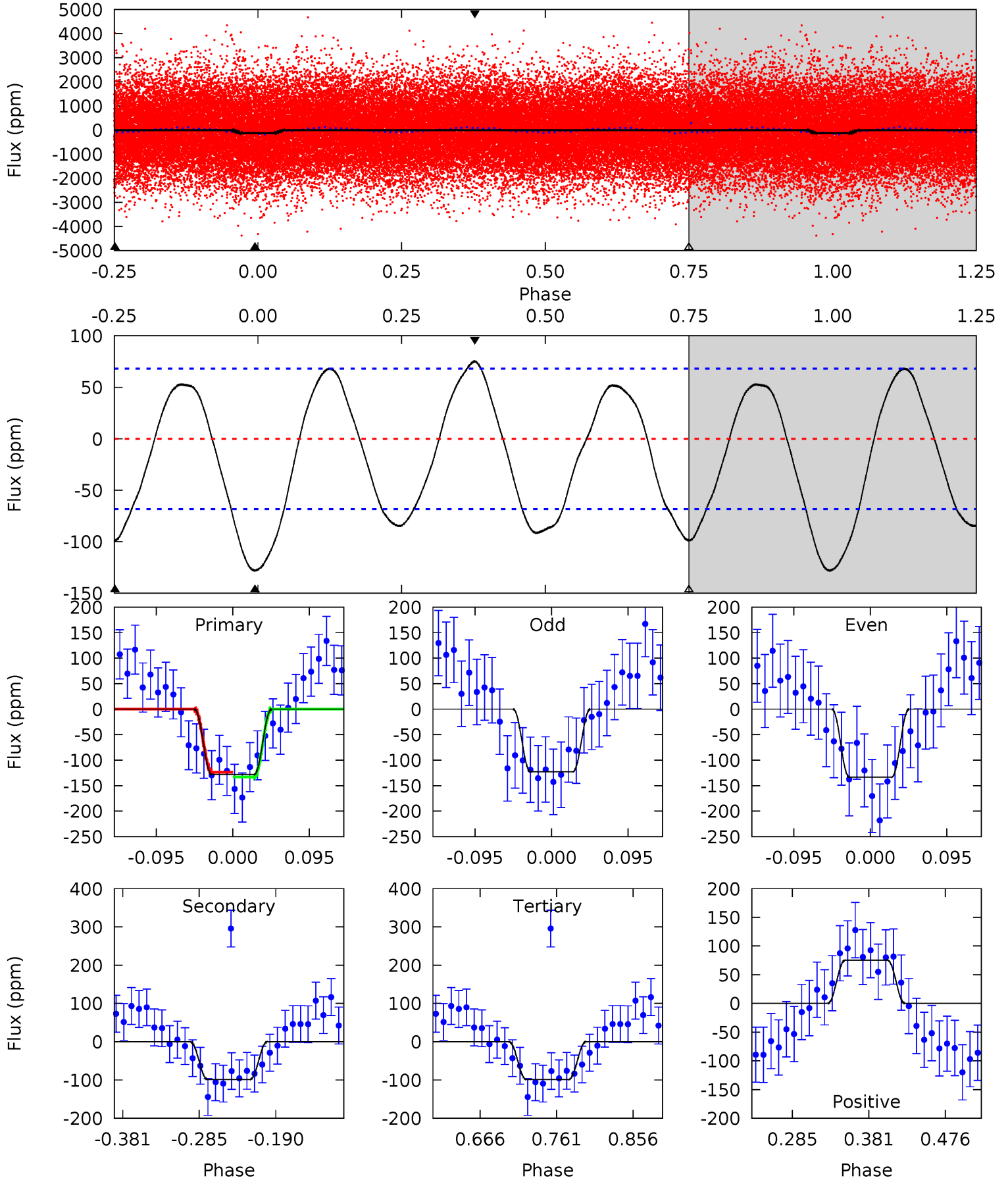
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	9.31	0	0	4.46	1.40	9.77	15.1	15.1	9.31	9.31	0.91	0.87	0.66	3.15



Alt Model-Shift Uniqueness Test

005310172-01, P = 1.510526 Days, E = 132.096989 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	6.62	6.62	5.05	4.58	1.67	3.74	1.98	3.55	0.00	1.57	0.36	1.00	0.37	0.31



Stellar Parameters For KIC 005310172

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7304^{+203}_{-330}	$3.654^{+0.495}_{-0.055}$	$-0.120^{+0.250}_{-0.350}$	$3.499^{+0.325}_{-1.735}$	$2.014^{+0.067}_{-0.605}$	$0.066^{+0.357}_{-0.012}$
	+3%/-5%	+14%/-2%	+208%/-292%	+9%/-50%	+3%/-30%	+539%/-18%
Source	KIC0	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 005310172-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 5	$3.52^{+0.89}_{-0.93}$	4452^{+312}_{-552}	5596^{+637}_{-503}	$2.123^{+1.727}_{-0.743}$
Alt.	-99 ± 15	$4.27^{+0.91}_{-1.21}$	4465^{+326}_{-587}	6237^{+666}_{-520}	$3.045^{+2.615}_{-0.991}$

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

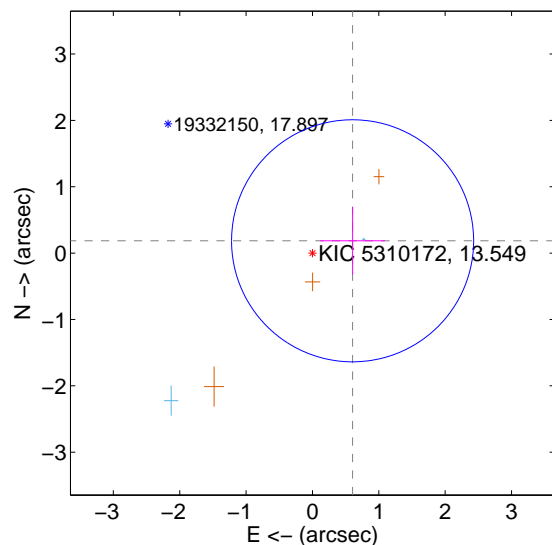
Supplemental centroid analysis for 005310172-01. Kepler magnitude: 13.55. Transit SNR 9.04

There are 3 quarters with good PRF difference image offsets

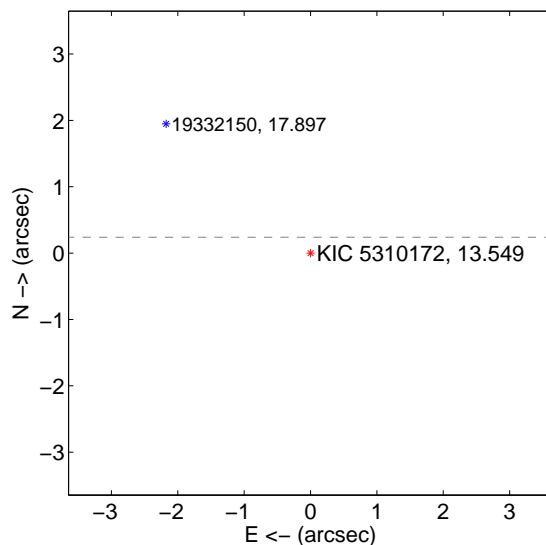
The OOT PRF centroid is offset from the target star catalog position by about 10.96 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.633 ± 0.608	1.04	-0.605 ± 0.487	0.185 ± 0.507
PRF-fit source offset from KIC position	10.431 ± 0.525	19.86	10.428 ± 0.538	0.239 ± 0.574
photometric centroid source offset	1.35 ± 0.56	2.39	1.23 ± 0.61	-0.55 ± 0.26

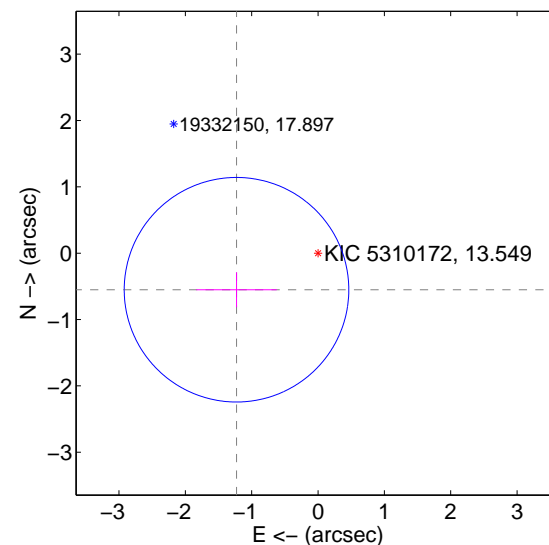
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

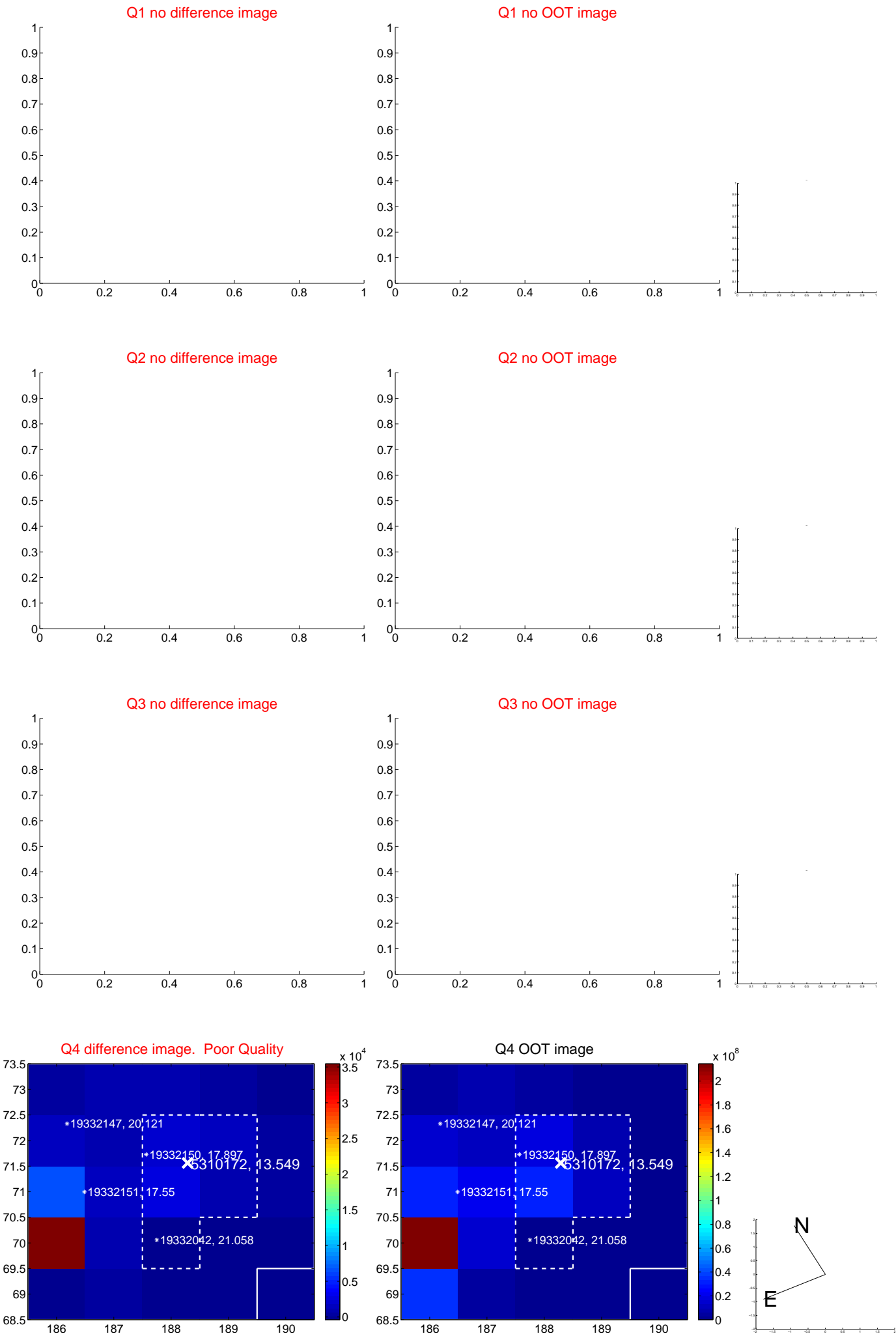


offset from photometric centroids

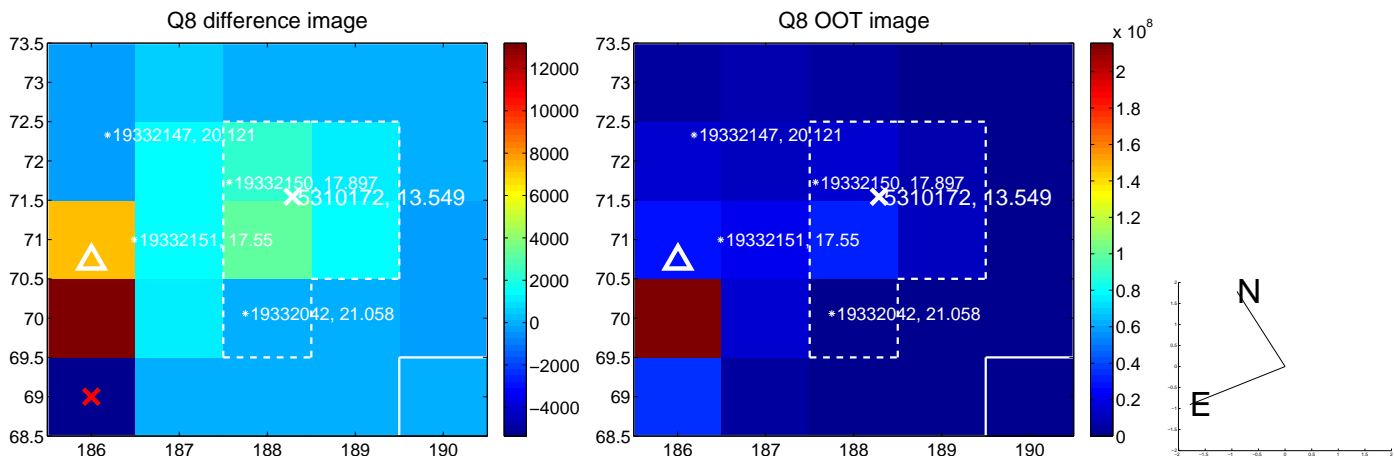
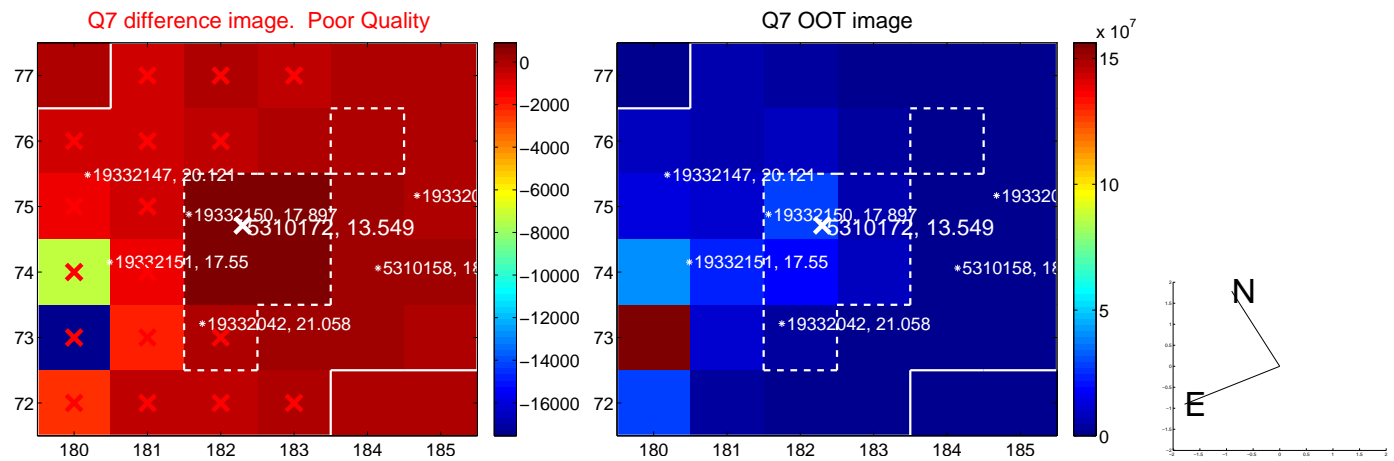
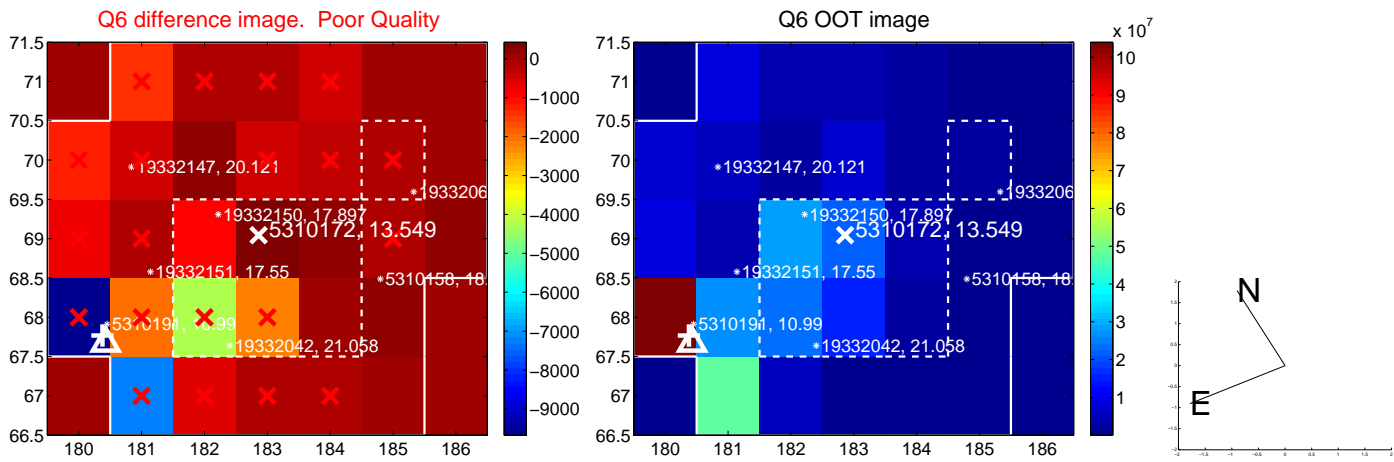
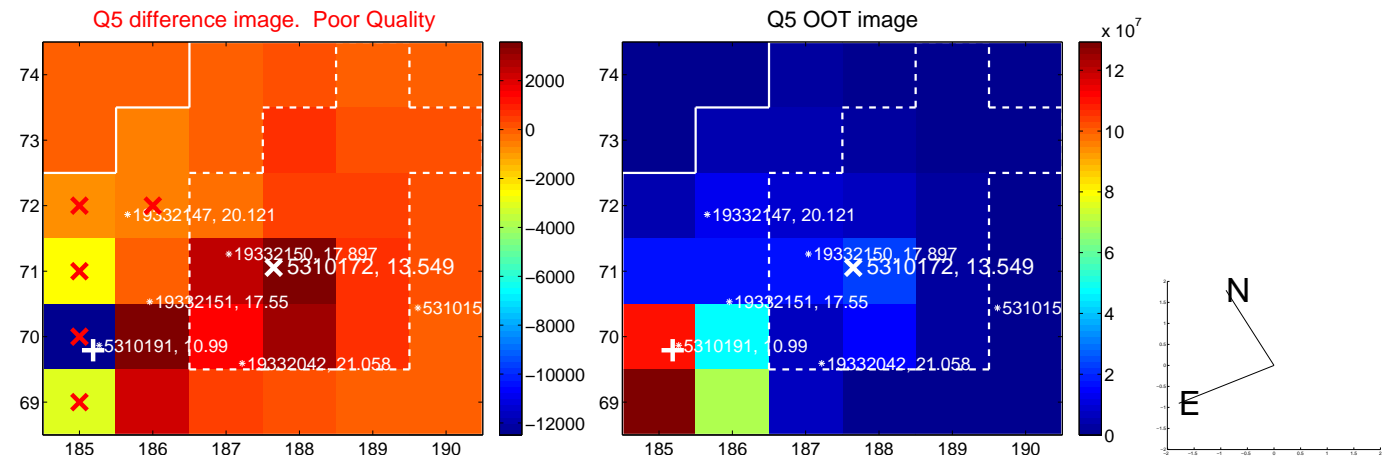


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

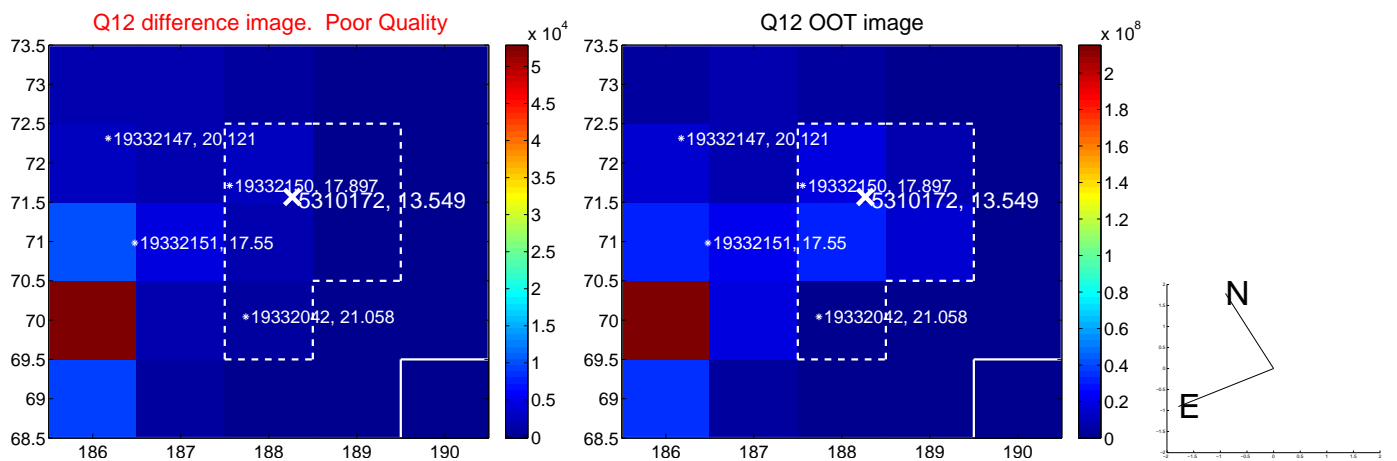
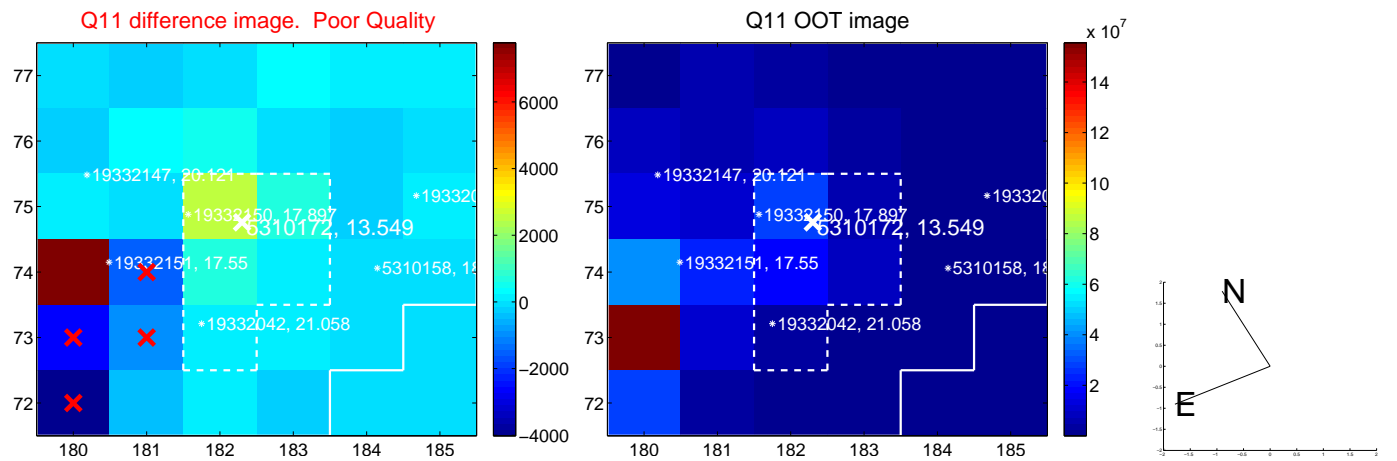
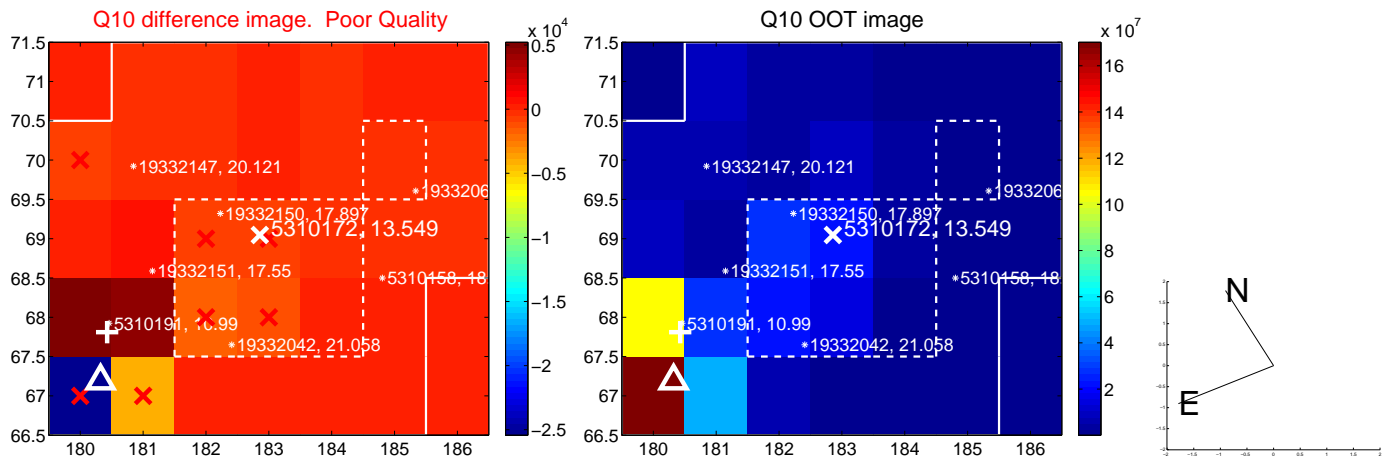
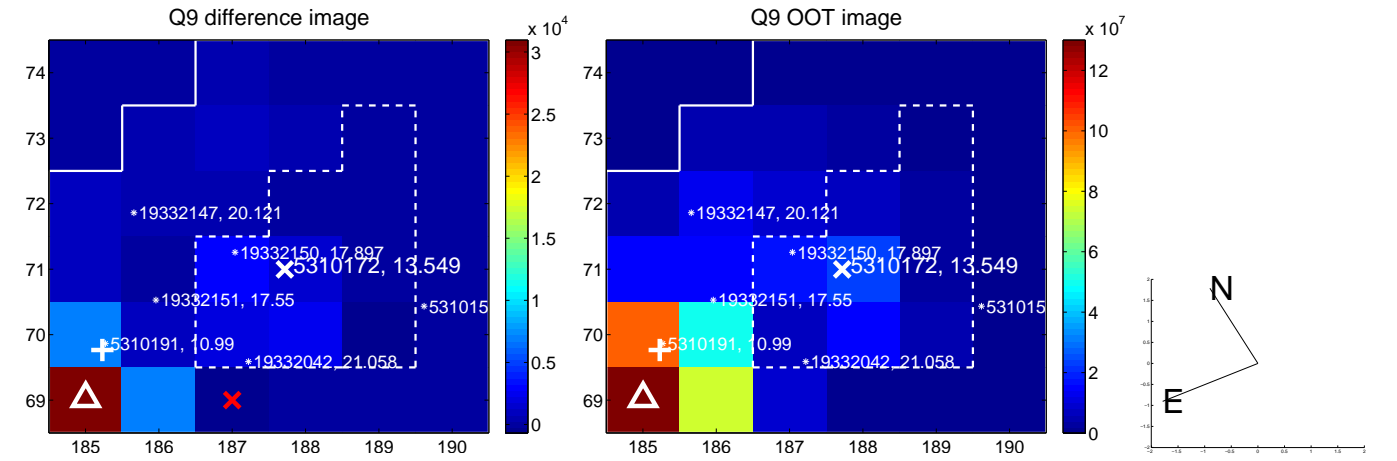
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



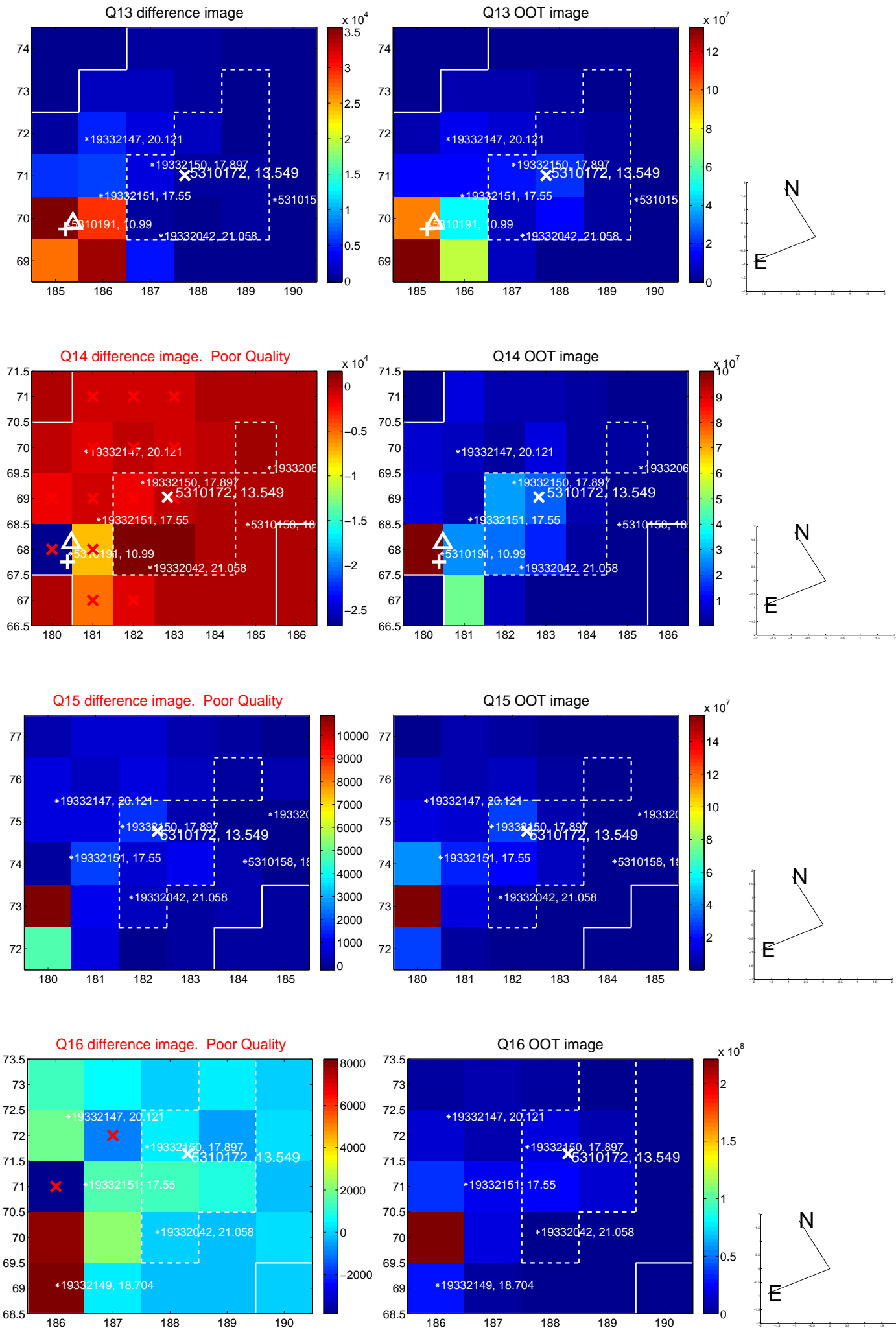
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



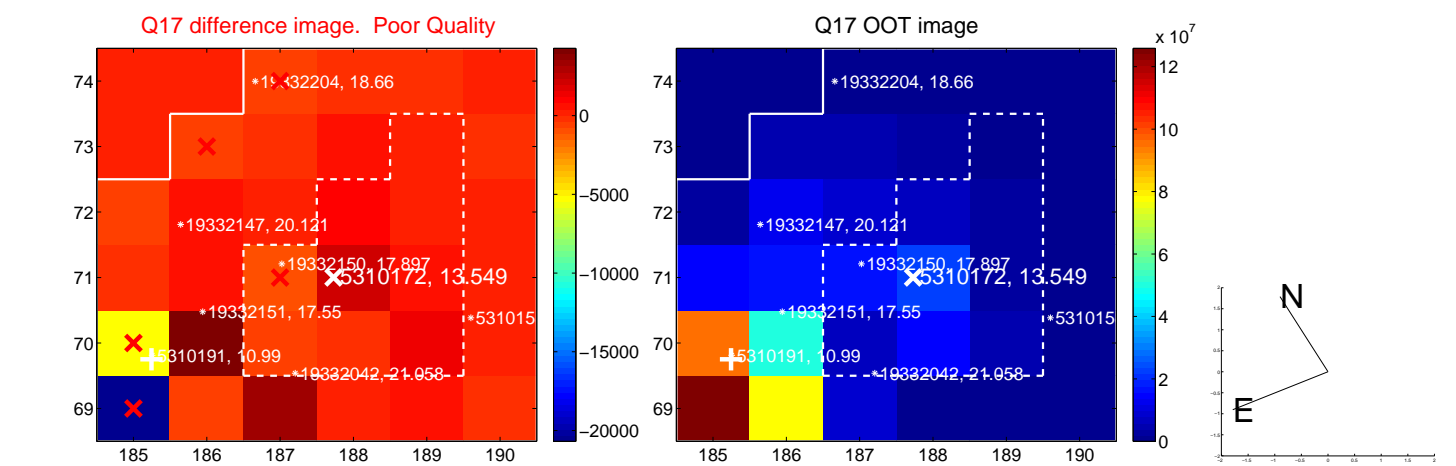
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



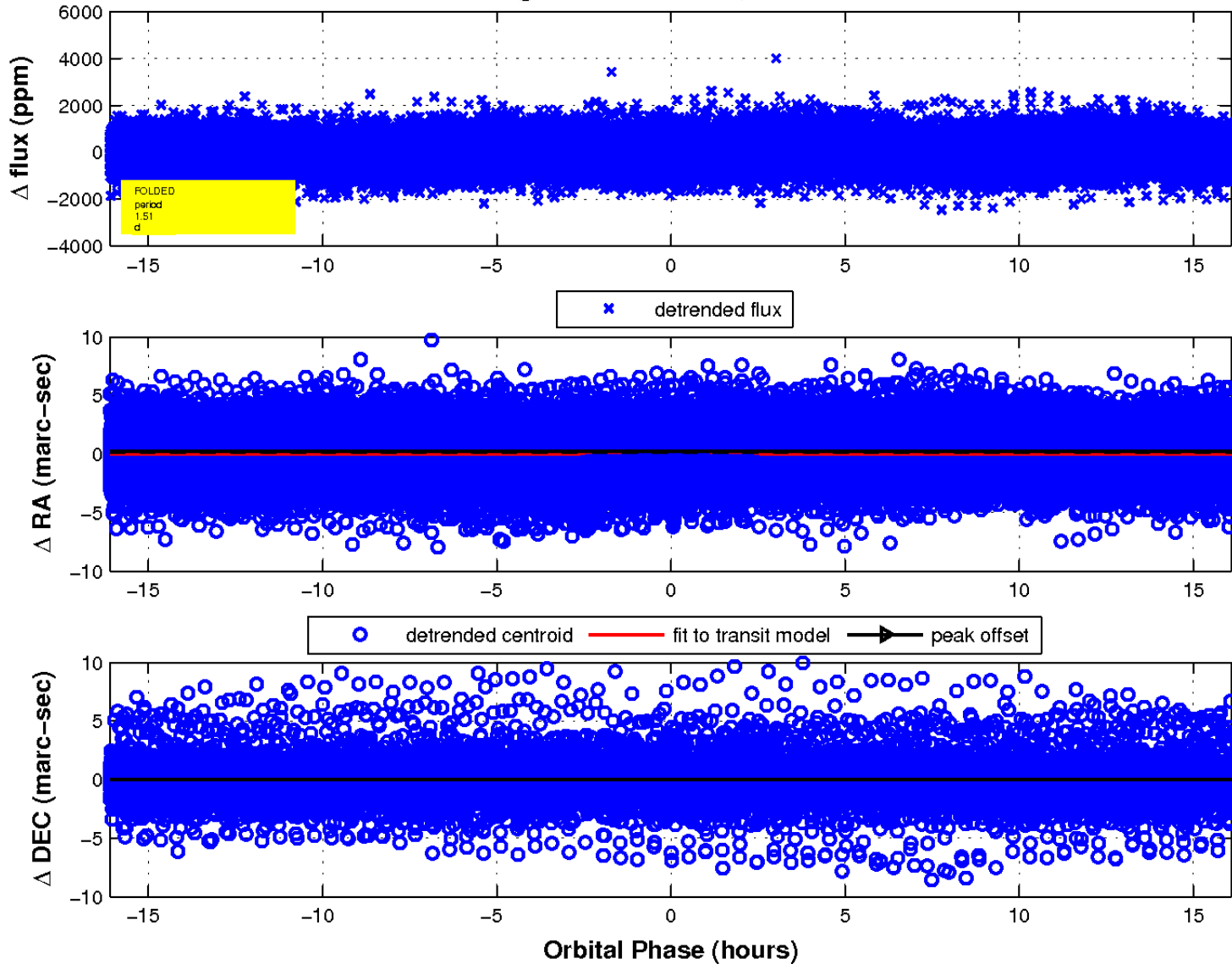
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

