

KIC 005220762

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})
005220762-01	OBS	No	3.350429	133.047903	15.4	23.445	7.5	10.5	2.50	8007	1.10	7539.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005220762-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET

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

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

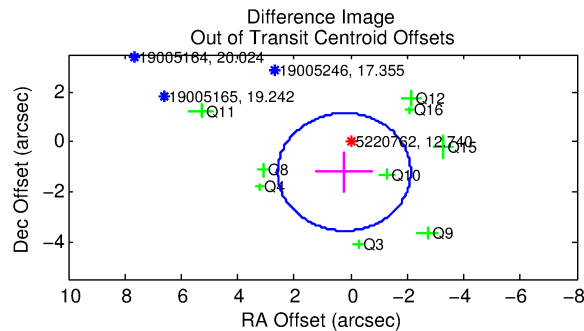
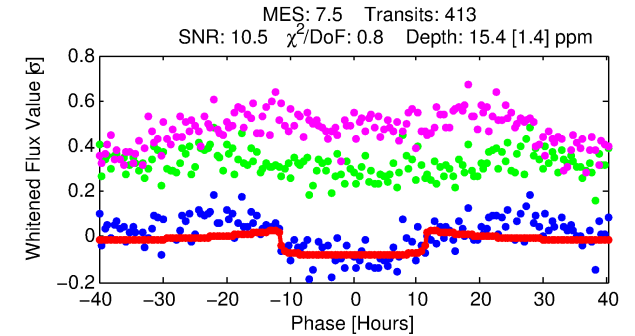
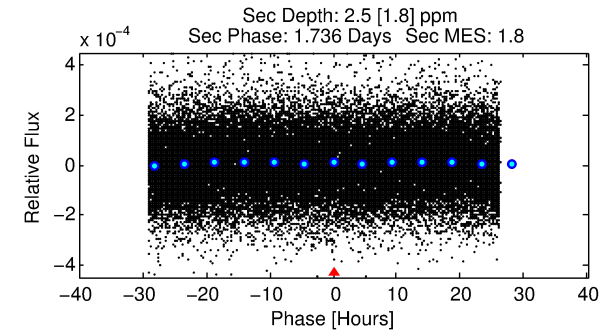
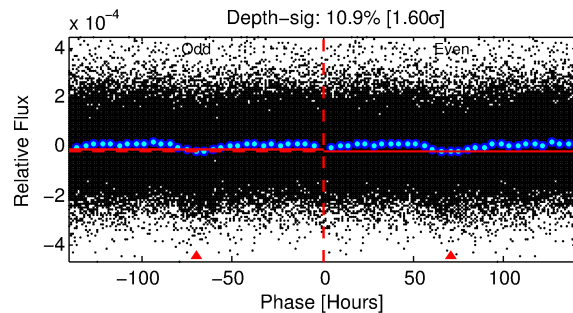
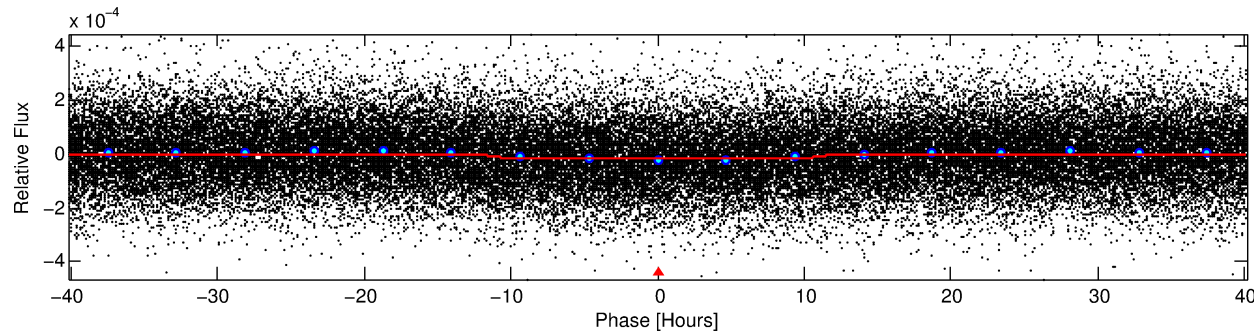
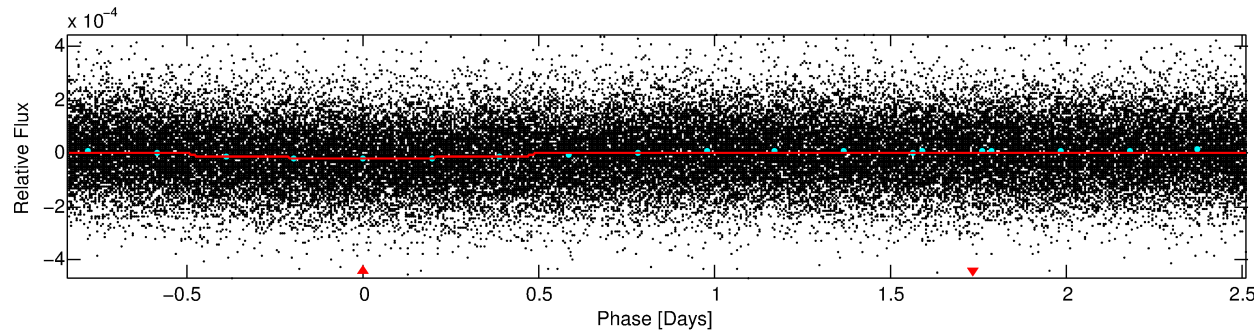
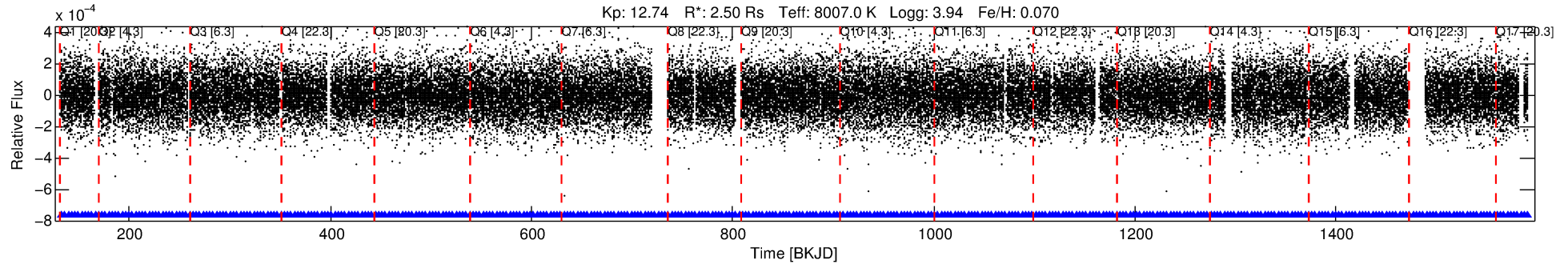
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005220762-01

No Significant Match Found

DV One-Page Summary

KIC: 5220762 Candidate: 1 of 1 Period: 3.350 d



DV Fit Results:

Period = 3.35043 [0.00007] d
Epoch = 133.0479 [0.0128] BKJD
Rp/R* = 0.0040 [0.0009]
a/R* = 1.09 [0.23]
b = 0.84 [0.47]
Seff = 7539.69 [3527.47]
Teq = 2376 [278] K
Rp = 1.10 [0.41] Re
a = 0.0551 [0.0155] AU
Ag = 3.53 [3.32] [0.76 σ]
Teffp = 5035 [1070] K [2.40 σ]

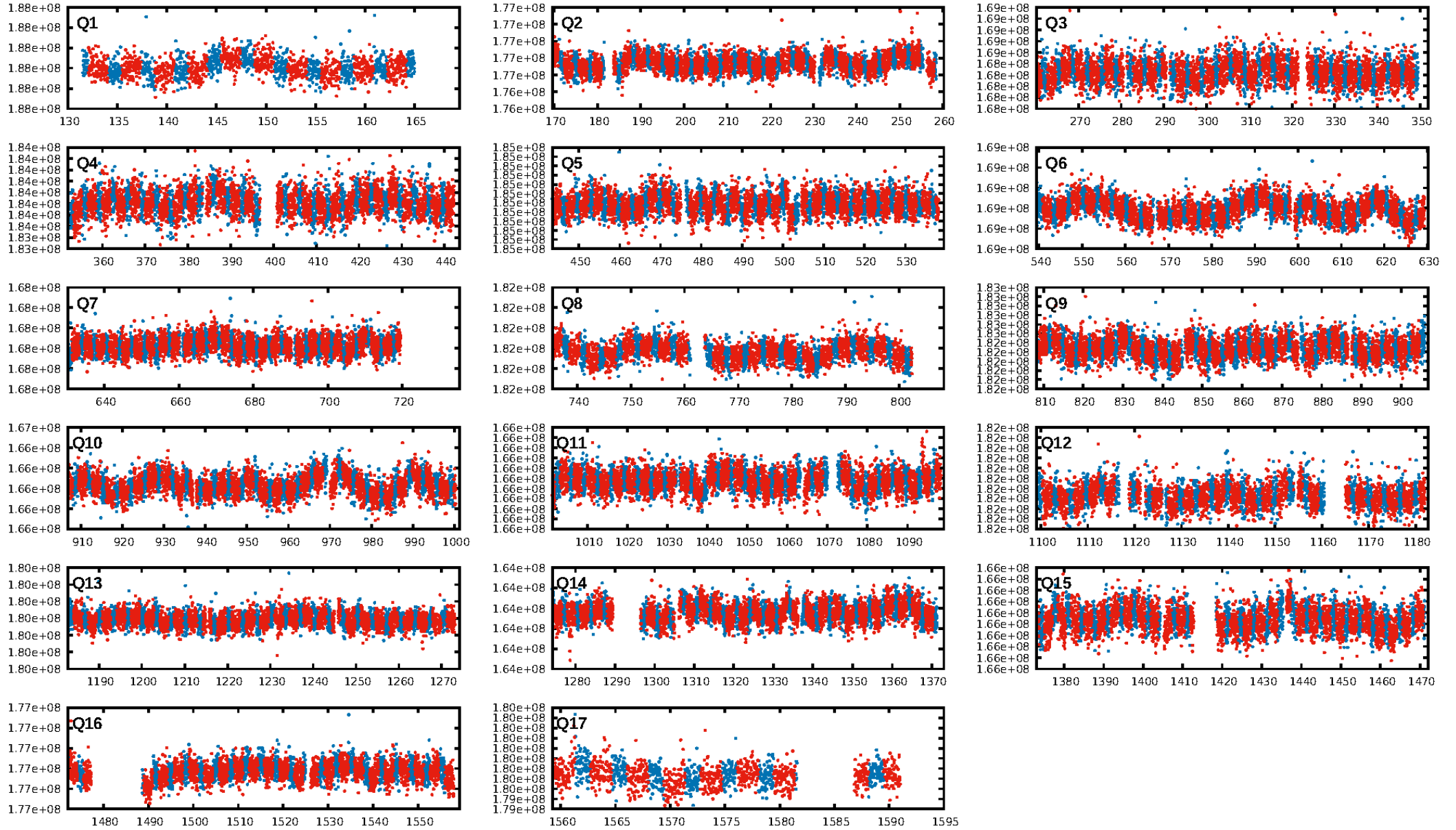
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [394/394]
GhostDiagnostic-chr: 4.248
Centroid-sig: 72.1%
Centroid-so: 0.753 arcsec [0.64 σ]
OotOffset-rm: 1.238 arcsec [1.58 σ]
KicOffset-rm: 1.197 arcsec [1.54 σ]
OotOffset-st: 1/3/4/1 [9]
KicOffset-st: 1/3/4/1 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 1.00 [17/17]

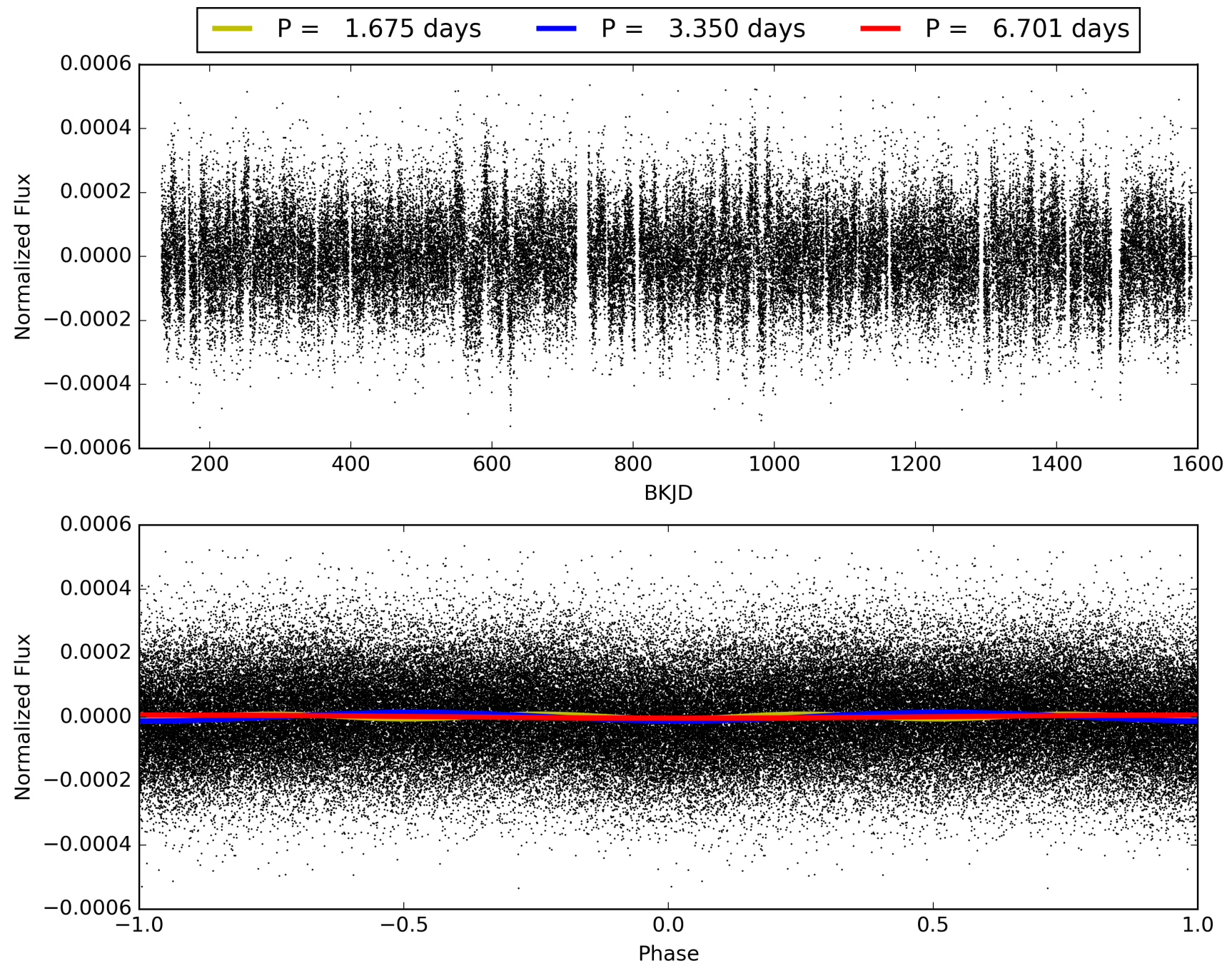
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:23:10 Z

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

TCE 005220762-01, PDC Light Curves

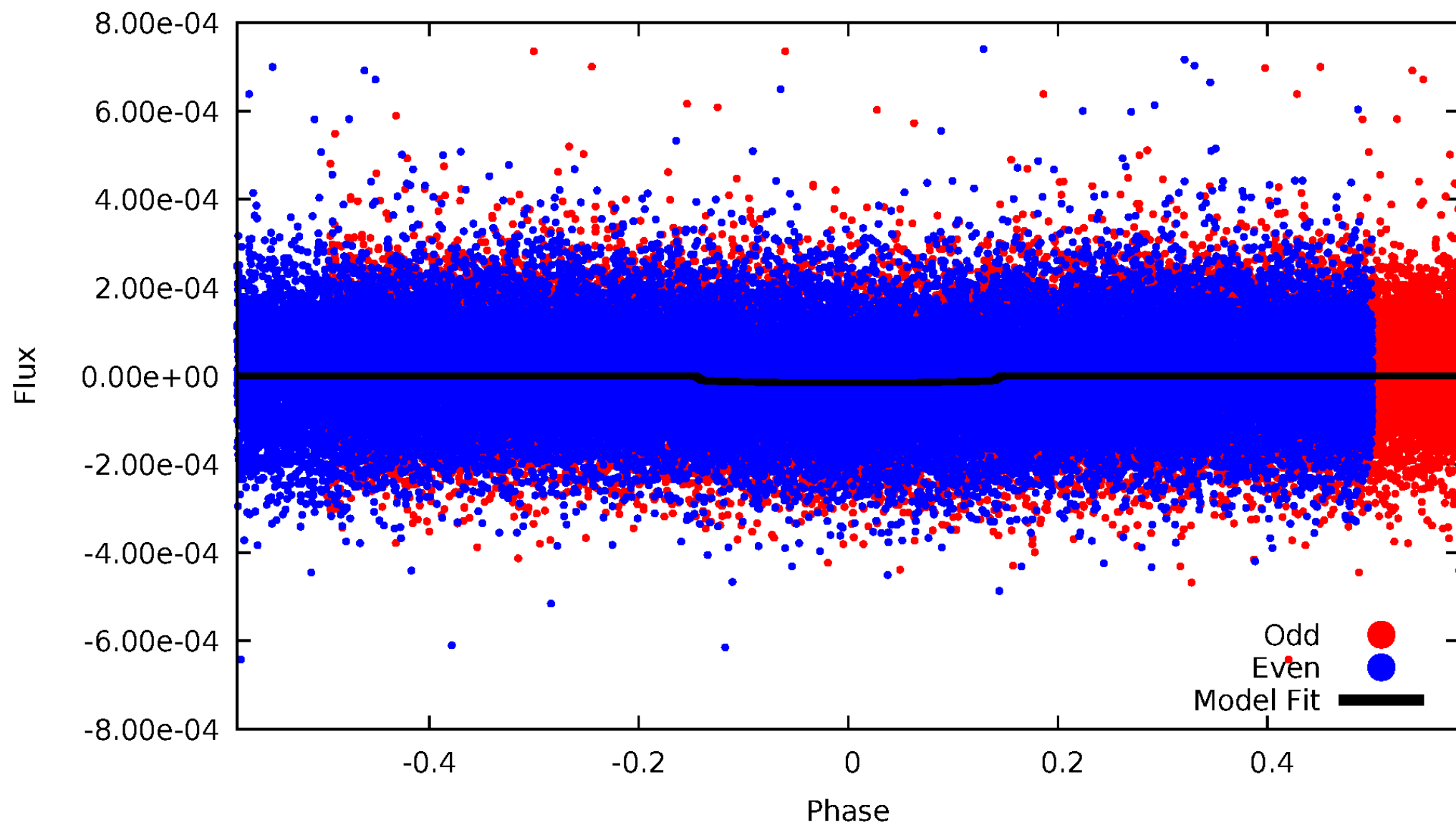


TCE 005220762-01



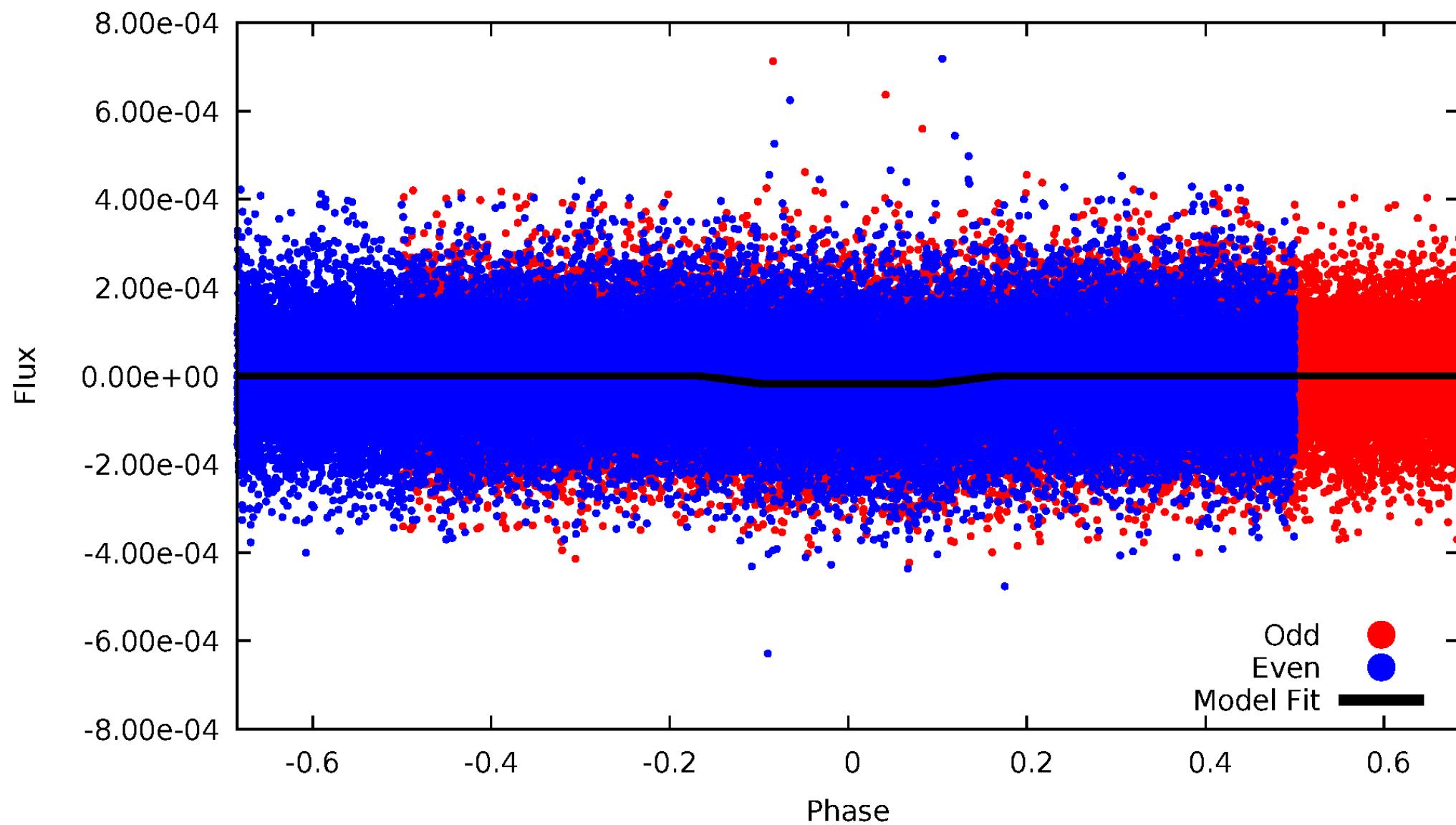
DV Odd/Even

TCE 005220762-01



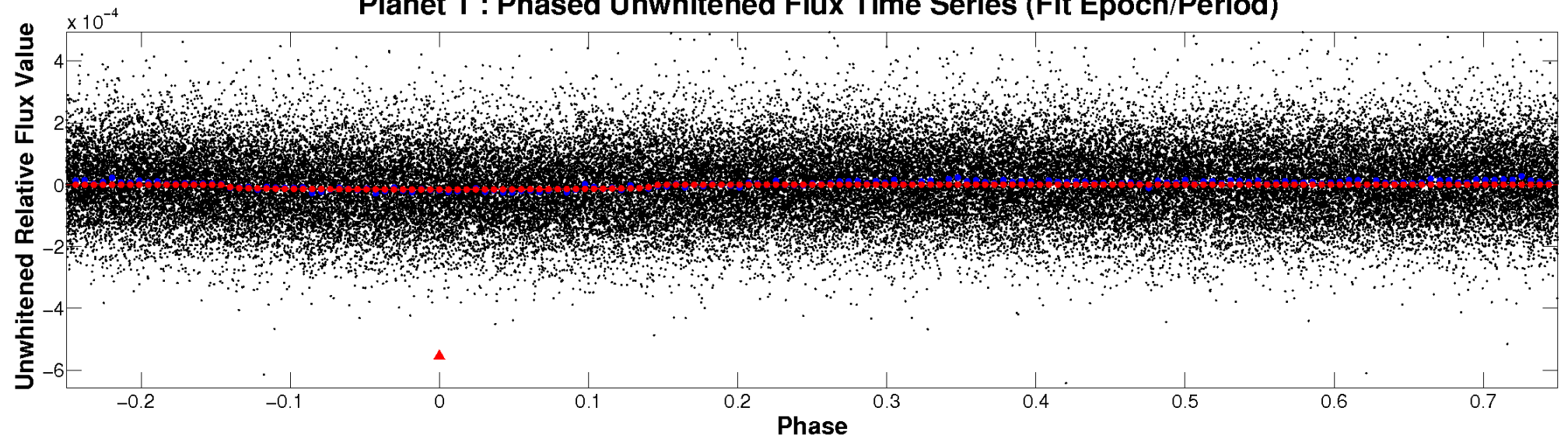
ALT Odd/Even

TCE 005220762-01

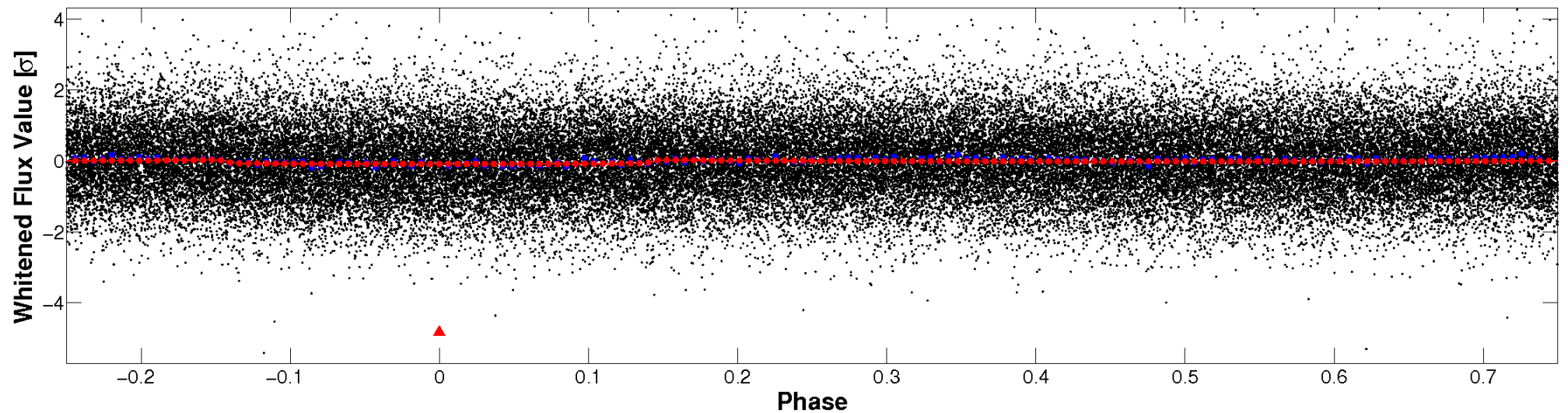


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

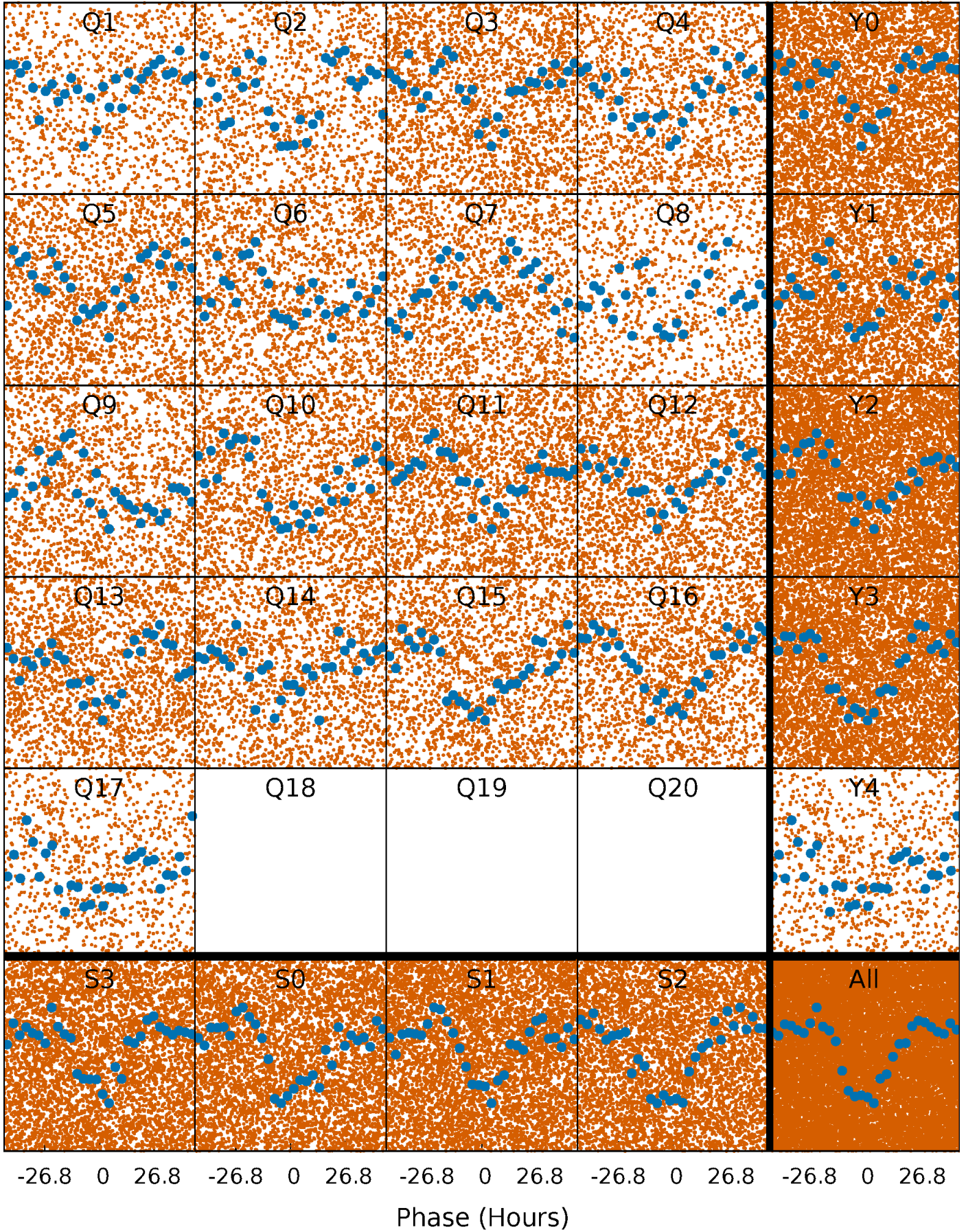


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



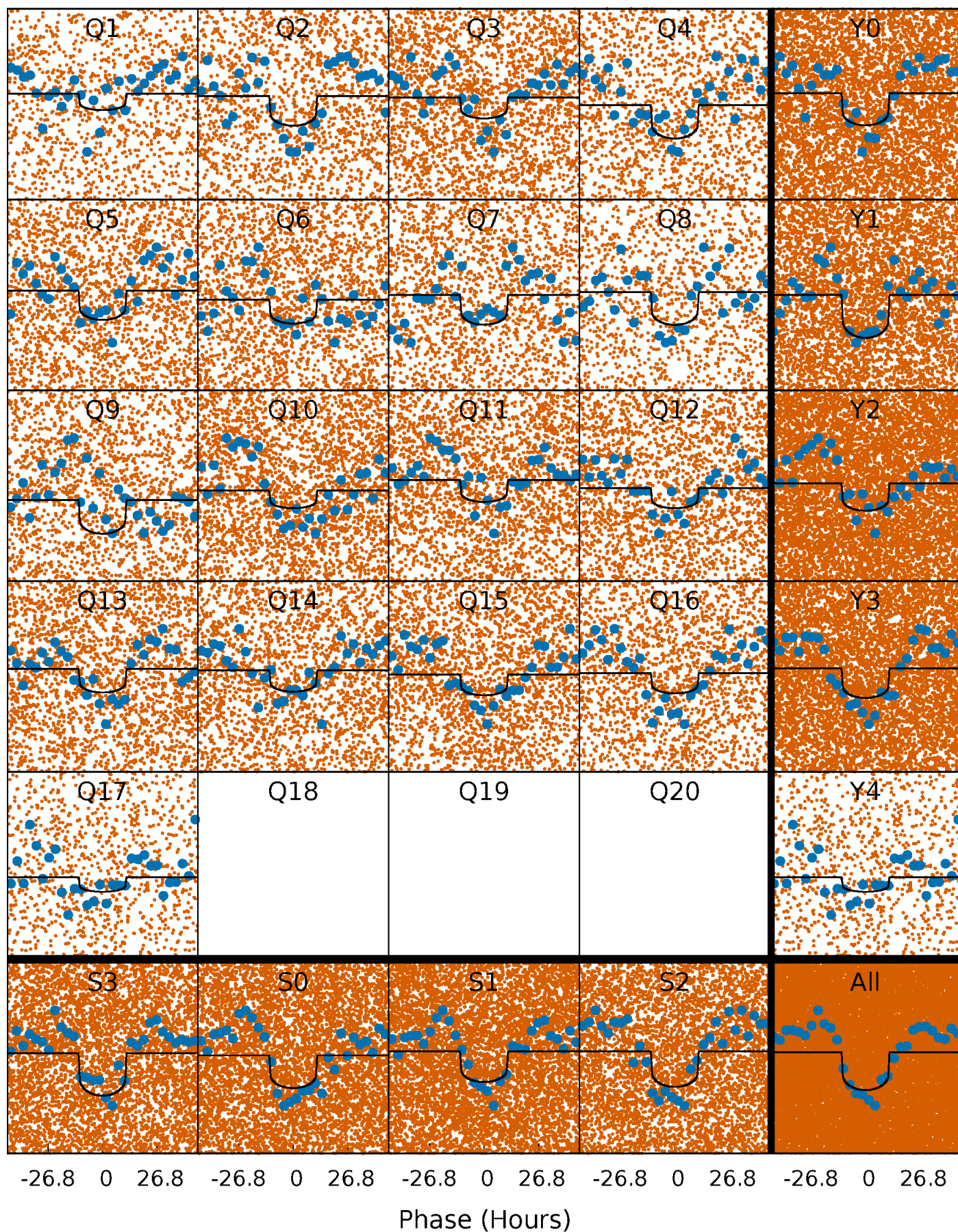
PDC Quarter-Phased Transit Curves

TCE 005220762-01 P= 3.350429 Days $T_0=133.047902$ (BKJD)



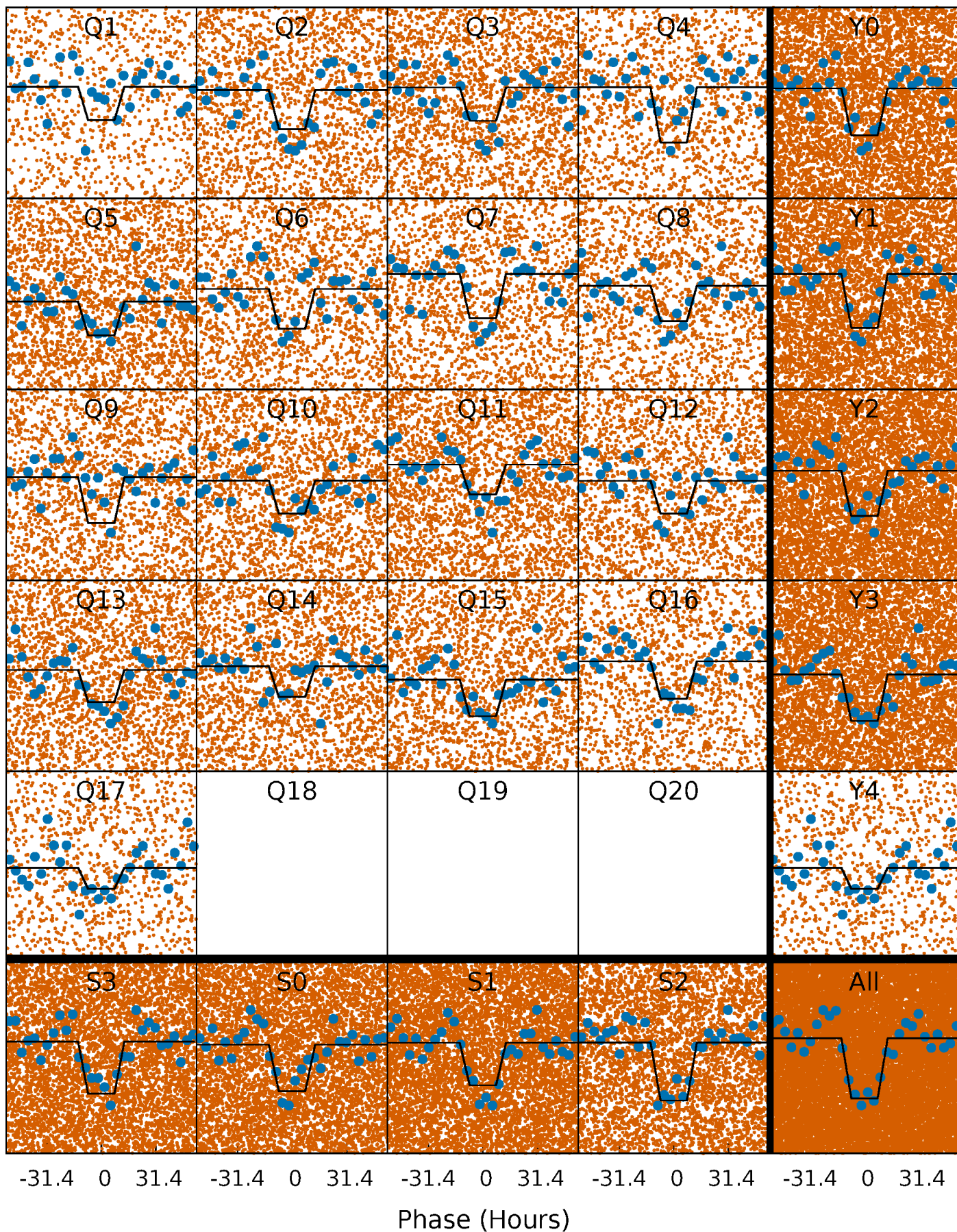
DV Quarter-Phased Transit Curves

TCE 005220762-01 P= 3.350429 Days $T_0=133.047902$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

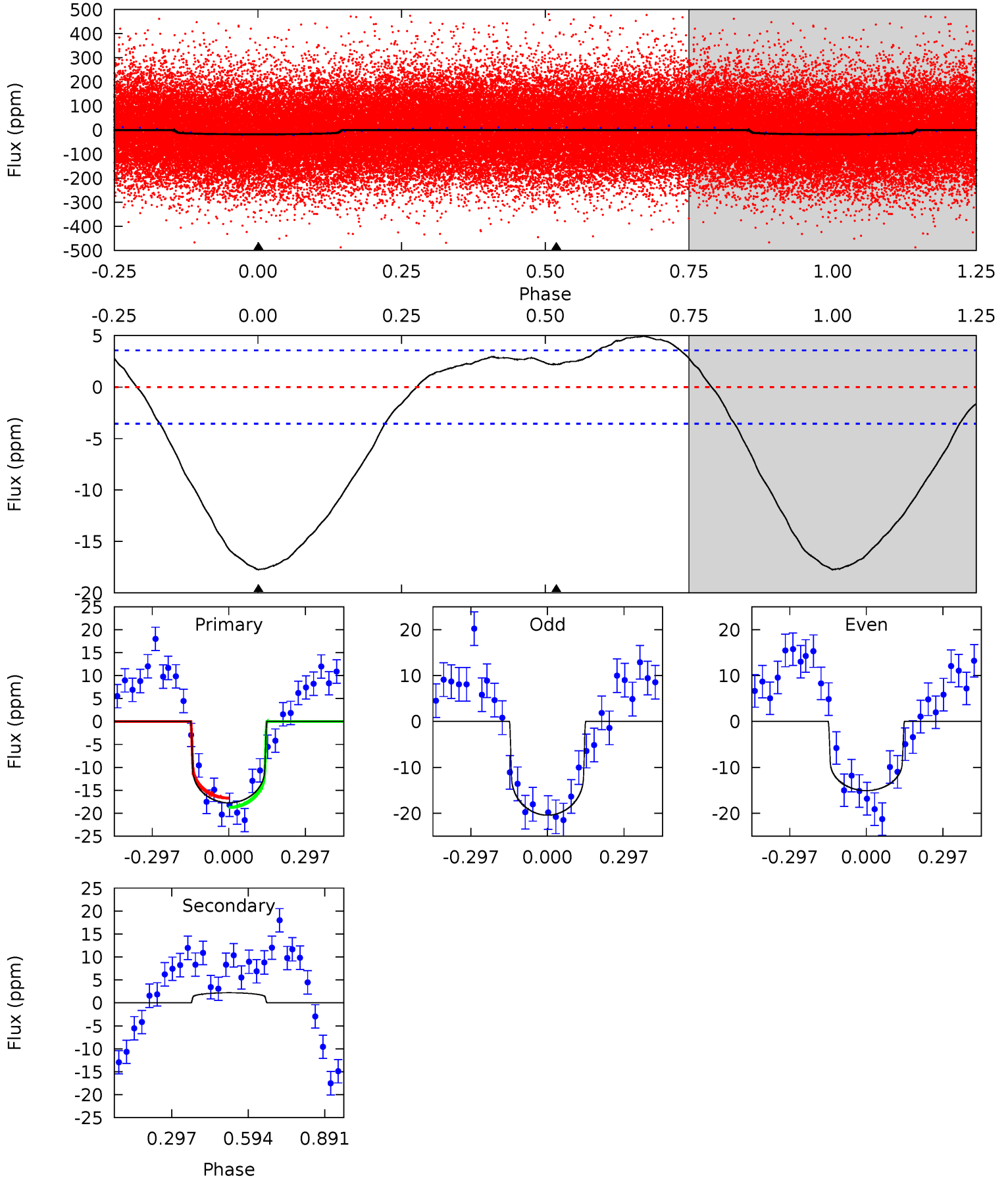
TCE 005220762-01 P= 3.349844 Days $T_0=133.148361$ (BKJD)



DV Model-Shift Uniqueness Test

005220762-01, P = 3.350429 Days, E = 129.697473 Days

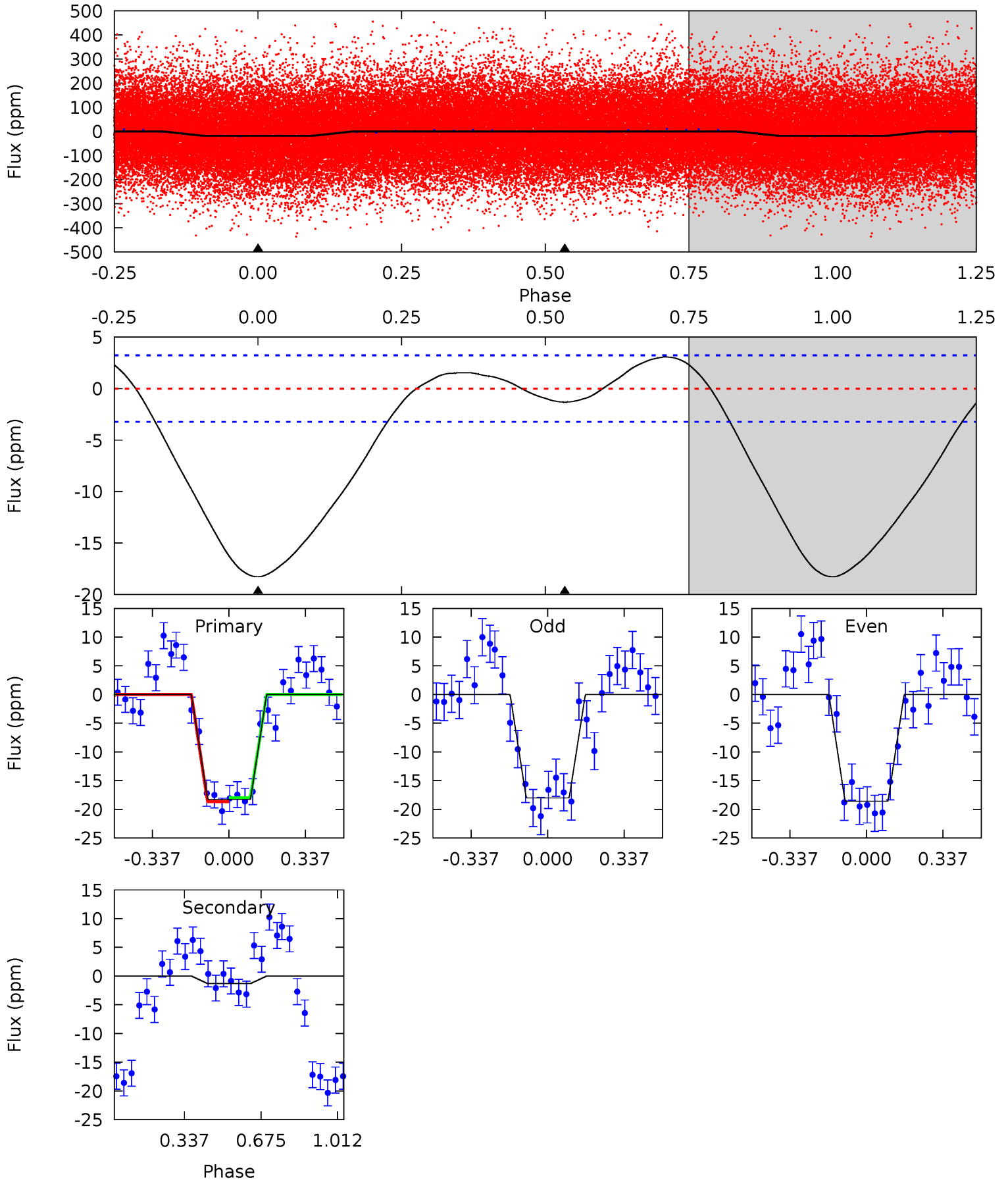
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	-2.68	0	0	4.33	1.04	2.16	21.5	21.5	-2.68	-2.68	3.25	0.88	0.22	1.24



Alt Model-Shift Uniqueness Test

005220762-01, P = 3.349844 Days, E = 129.798517 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	1.74	0	0	4.30	0.96	1.85	24.4	24.4	1.74	1.74	0.39	0.99	0.14	0.45



Stellar Parameters For KIC 005220762

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8007^{+223}_{-335}	$3.943^{+0.252}_{-0.126}$	$0.070^{+0.200}_{-0.450}$	$2.495^{+0.444}_{-0.760}$	$1.993^{+0.291}_{-0.436}$	$0.181^{+0.265}_{-0.070}$
	+3%/-4%	+6%/-3%	+286%/-643%	+18%/-30%	+15%/-22%	+147%/-39%
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 005220762-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	2 ± 1	$1.09^{+0.29}_{-0.29}$	3275^{+220}_{-265}	-4880^{+510}_{-641}	$-3.088^{+1.547}_{-2.800}$
Alt.	-1 ± 1	$1.12^{+0.31}_{-0.28}$	3276^{+212}_{-286}	4045^{+648}_{-782}	$1.609^{+1.787}_{-0.969}$

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

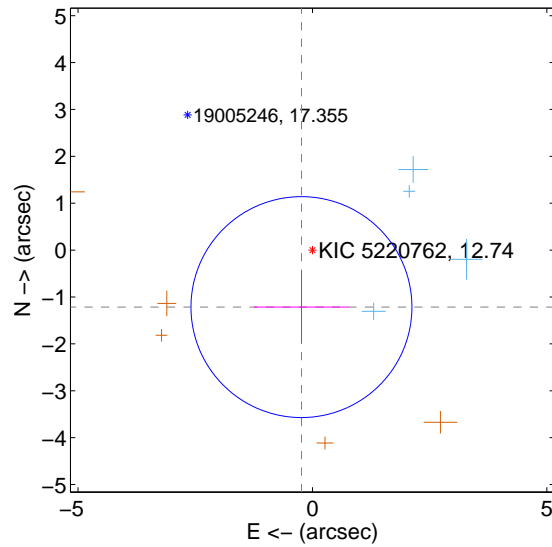
Supplemental centroid analysis for 005220762-01. Kepler magnitude: 12.74. Transit SNR 10.48

There are 4 quarters with good PRF difference image offsets

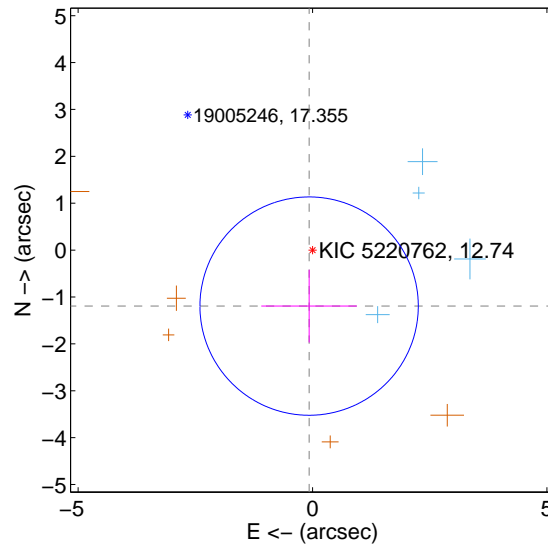
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.238 ± 0.785	1.58	0.234 ± 1.014	-1.216 ± 0.776
PRF-fit source offset from KIC position	1.197 ± 0.776	1.54	0.073 ± 1.019	-1.194 ± 0.775
photometric centroid source offset	0.75 ± 1.18	0.64	0.18 ± 1.25	-0.73 ± 1.18

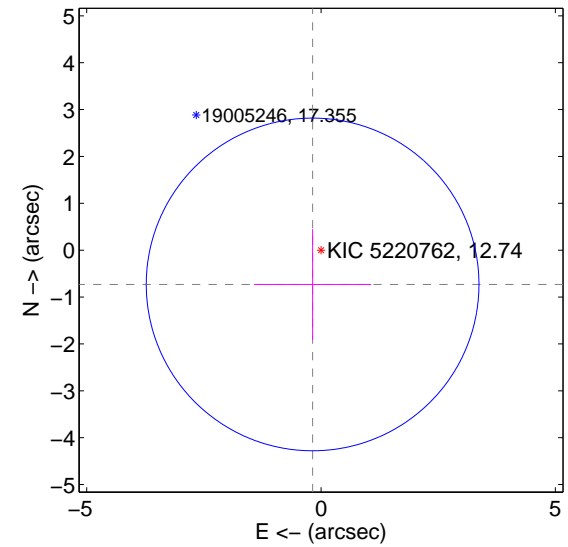
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

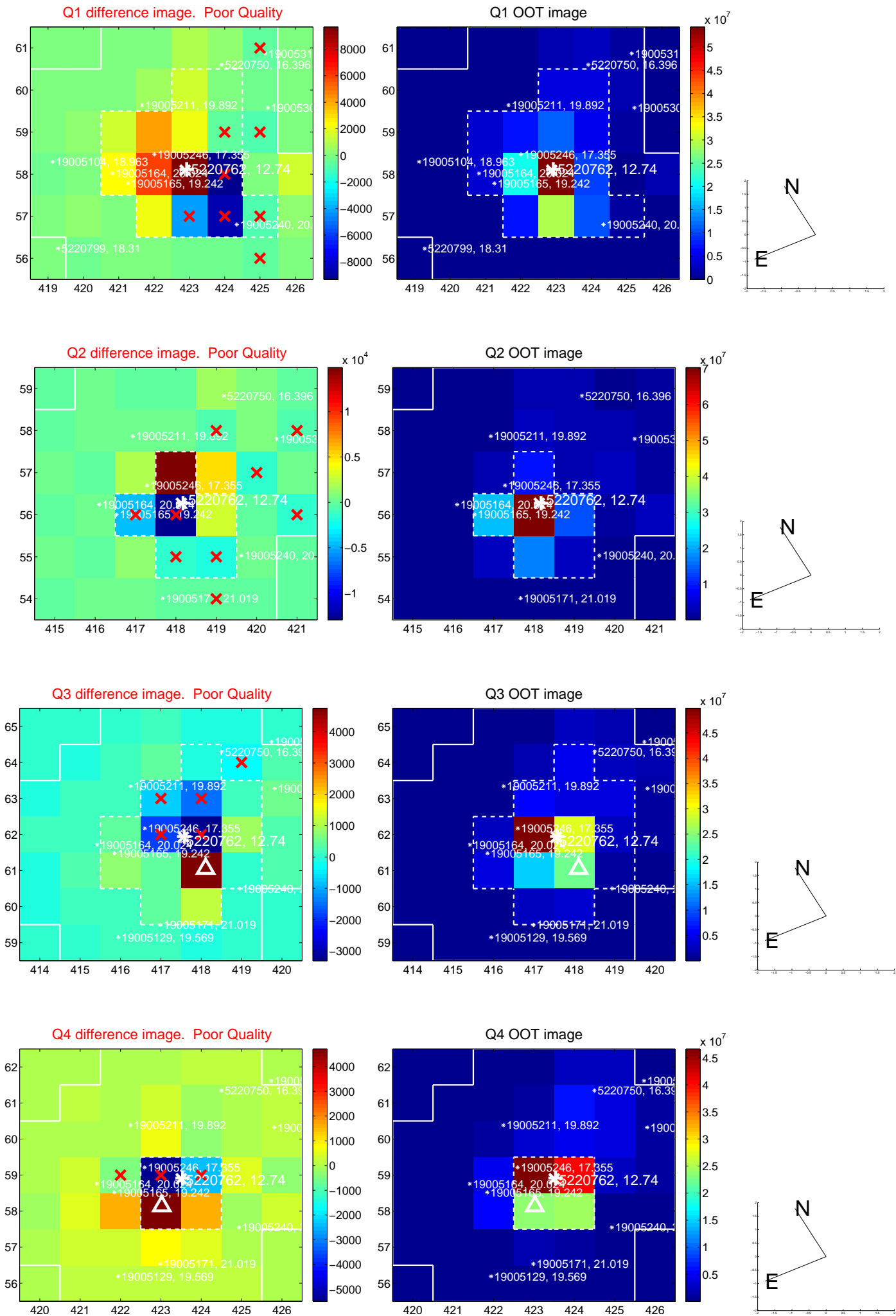


offset from photometric centroids

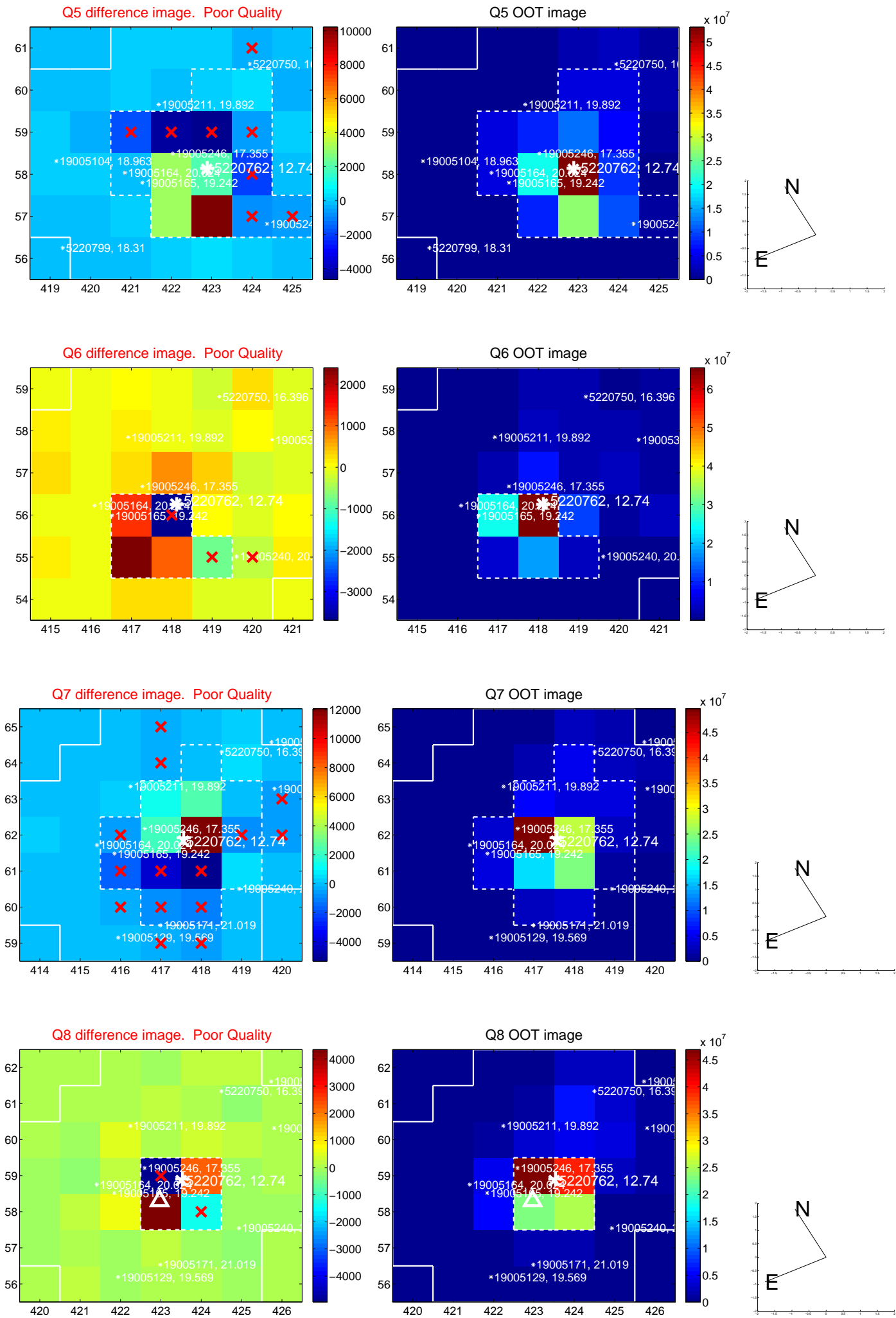


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

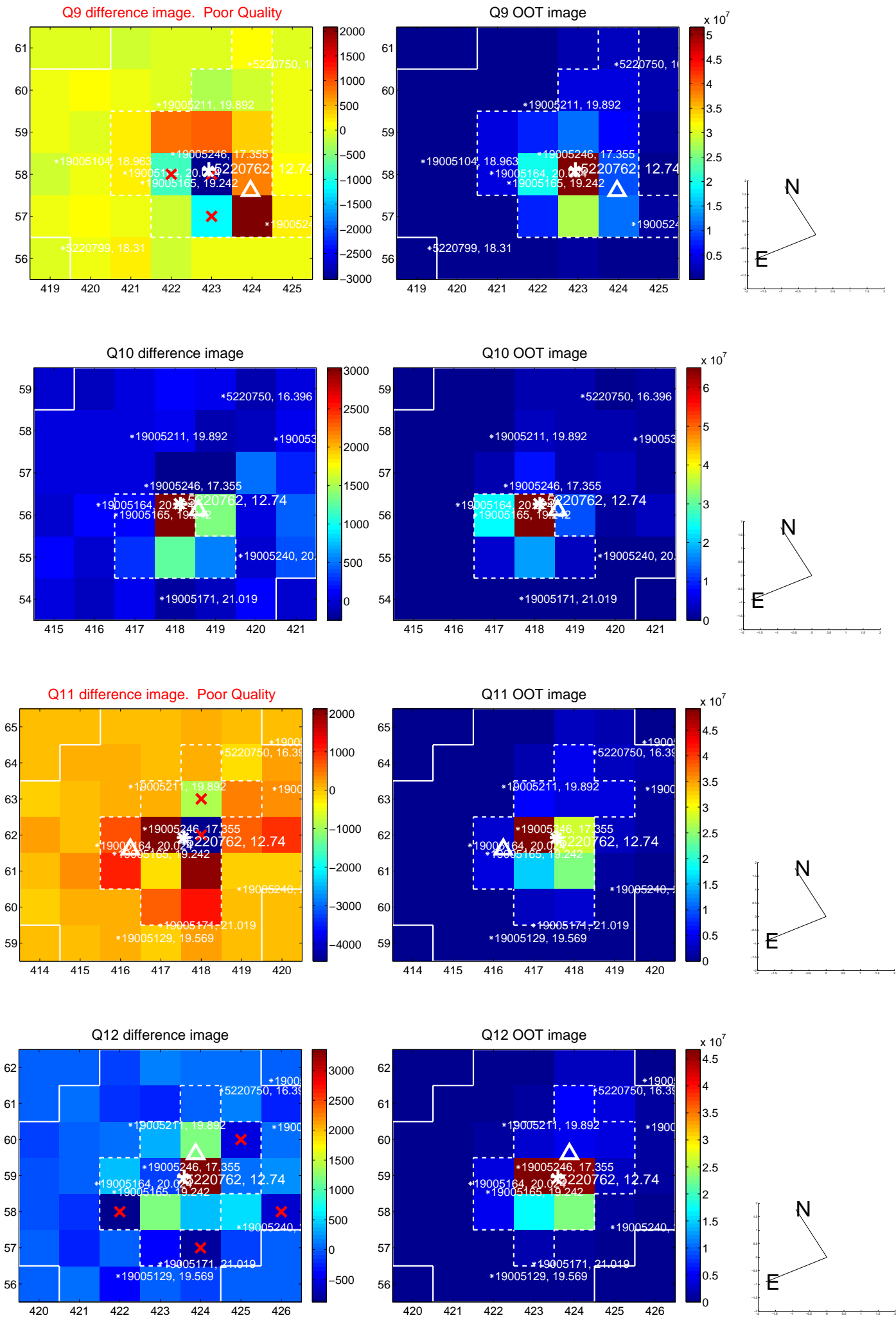
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



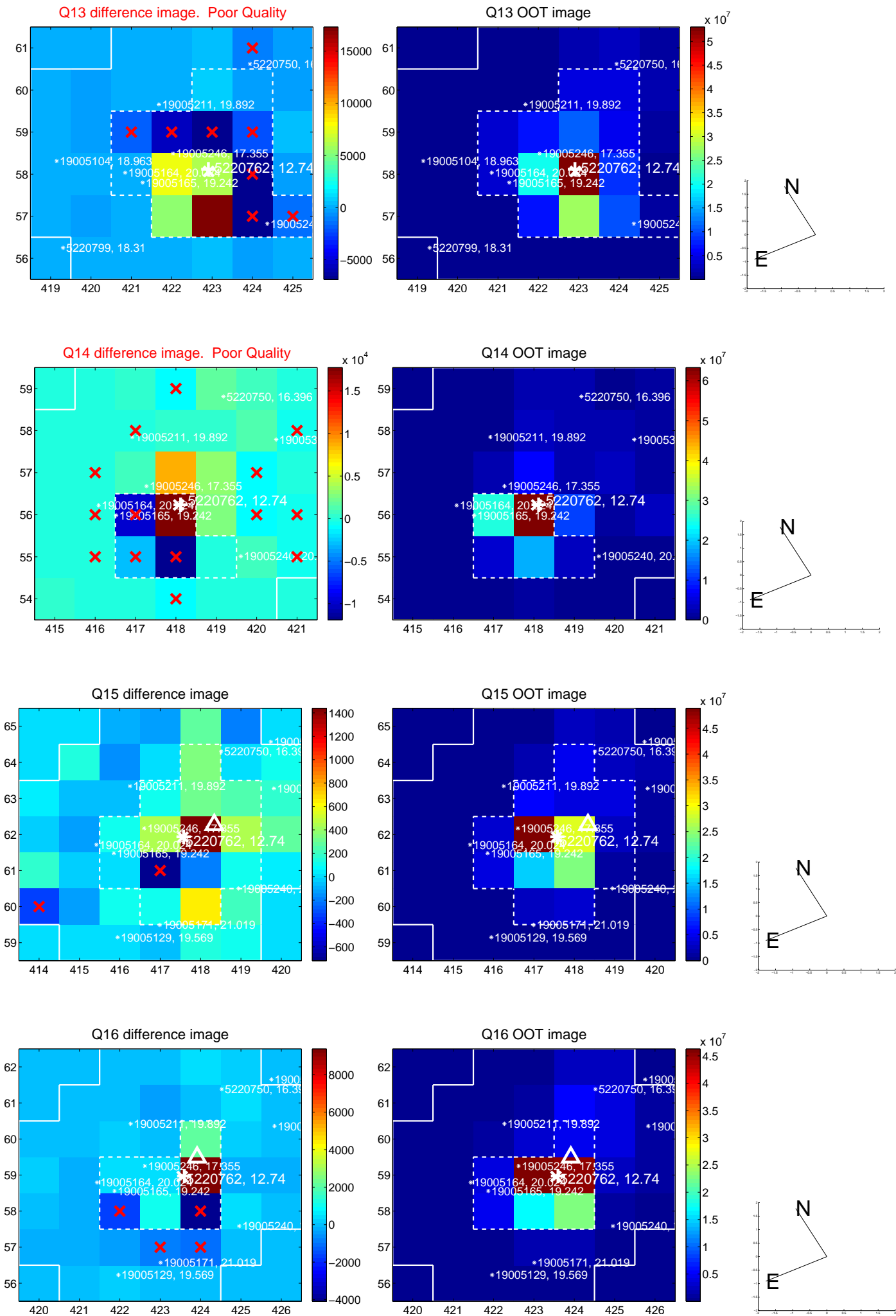
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



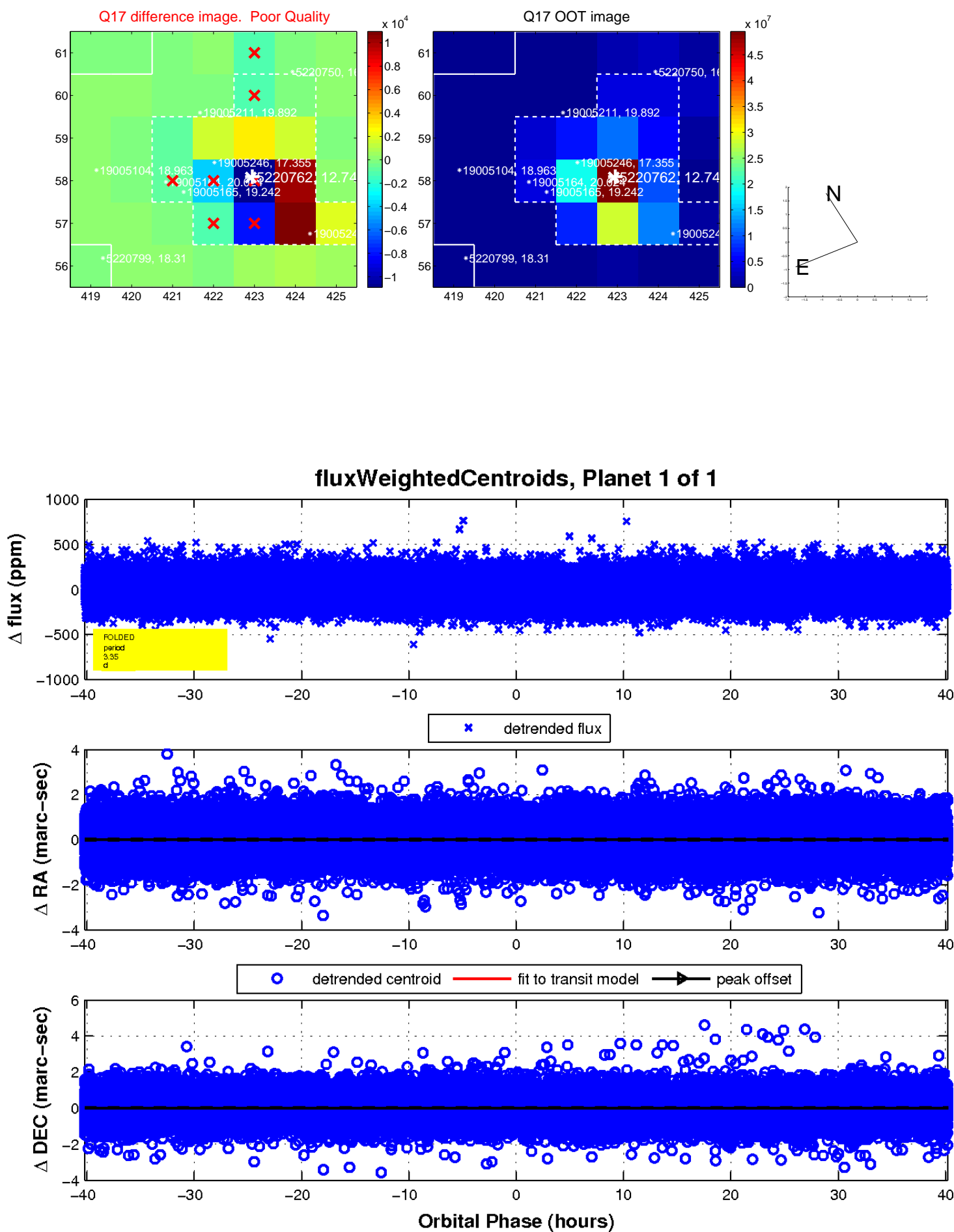
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

