

KIC 005212220

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})
005212220-01	OBS	2495.01	1.087491	131.770729	118.4	1.251	29.9	34.5	3.20	5988	4.13	21342.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005212220-01	OBS	FP	0.00	0	0	1	0	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.

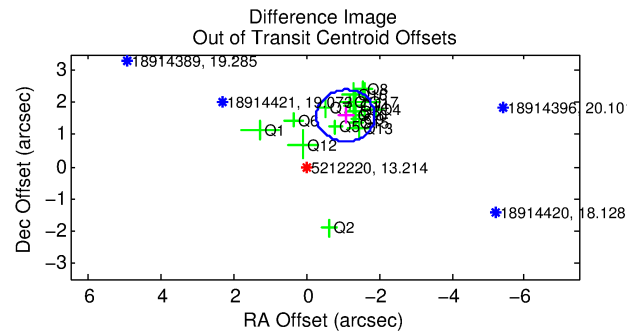
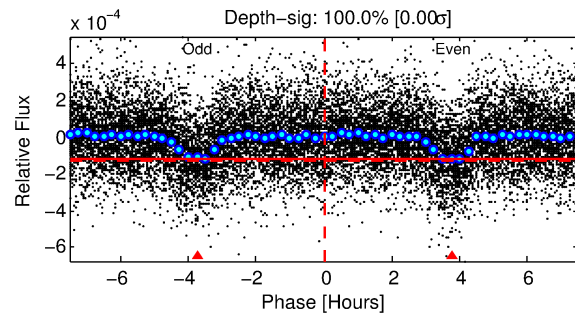
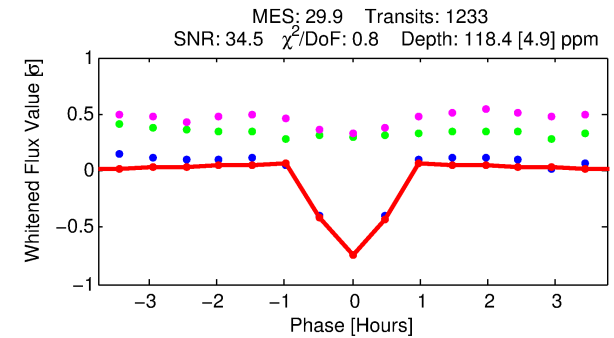
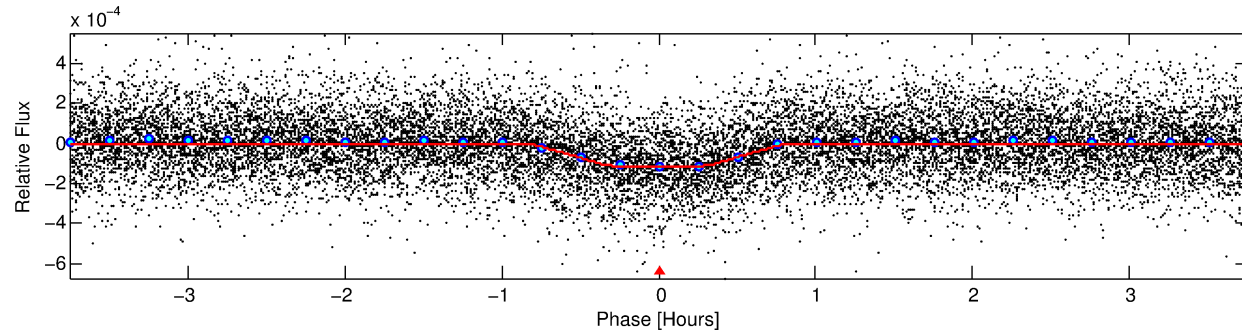
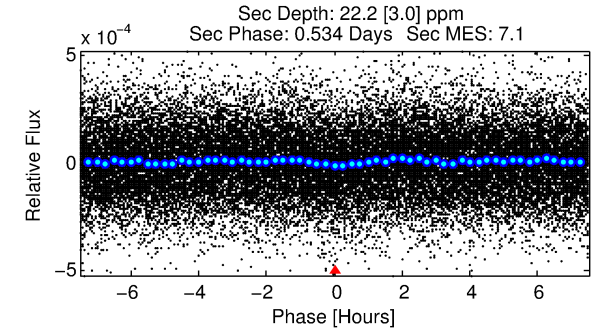
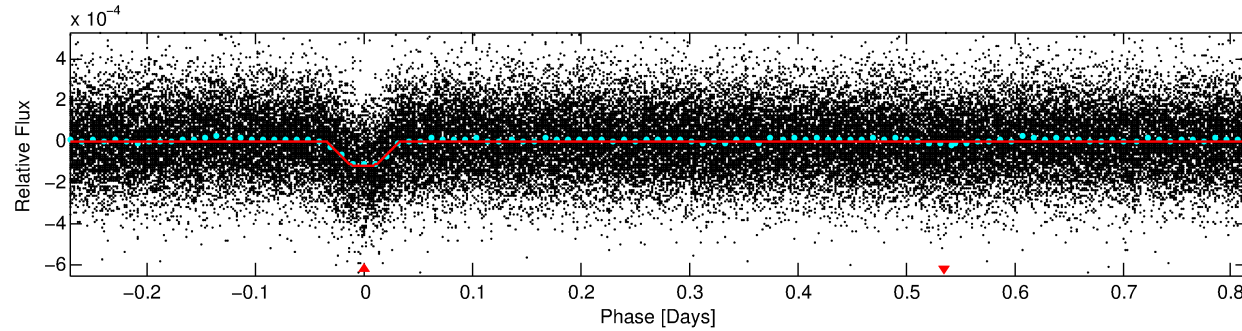
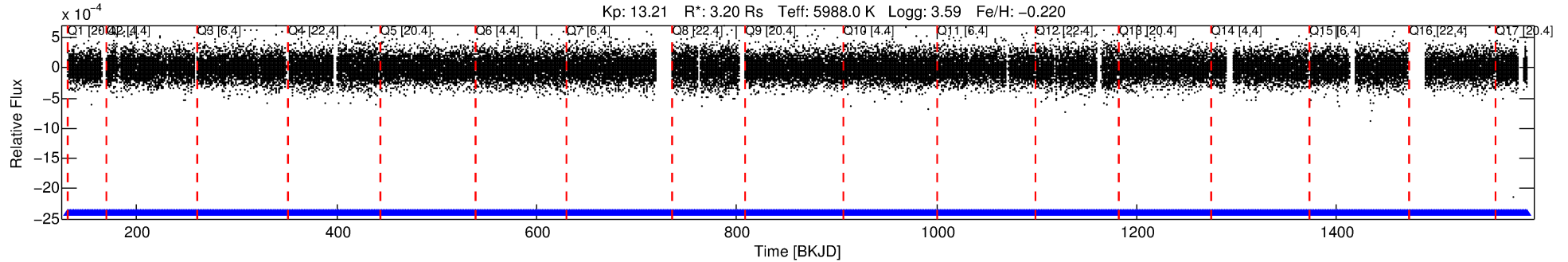
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005212220-01

No Significant Match Found

DV One-Page Summary

KIC: 5212220 Candidate: 1 of 1 Period: 1.087 d
KOI: K02495.01 Corr: 0.977



DV Fit Results:

Period = 1.08749 [0.00000] d
Epoch = 131.7707 [0.0005] BKJD
Rp/R* = 0.0118 [0.0023]
a/R* = 3.19 [3.00]
b = 0.90 [0.22]
Seff = 21342.67 [13437.52]
Teq = 3082 [485] K
Rp = 4.13 [1.85] Re
a = 0.0235 [0.0091] AU
Ag = 0.40 [0.30] [-2.04σ]
Teffp = 3783 [419] K [1.09σ]

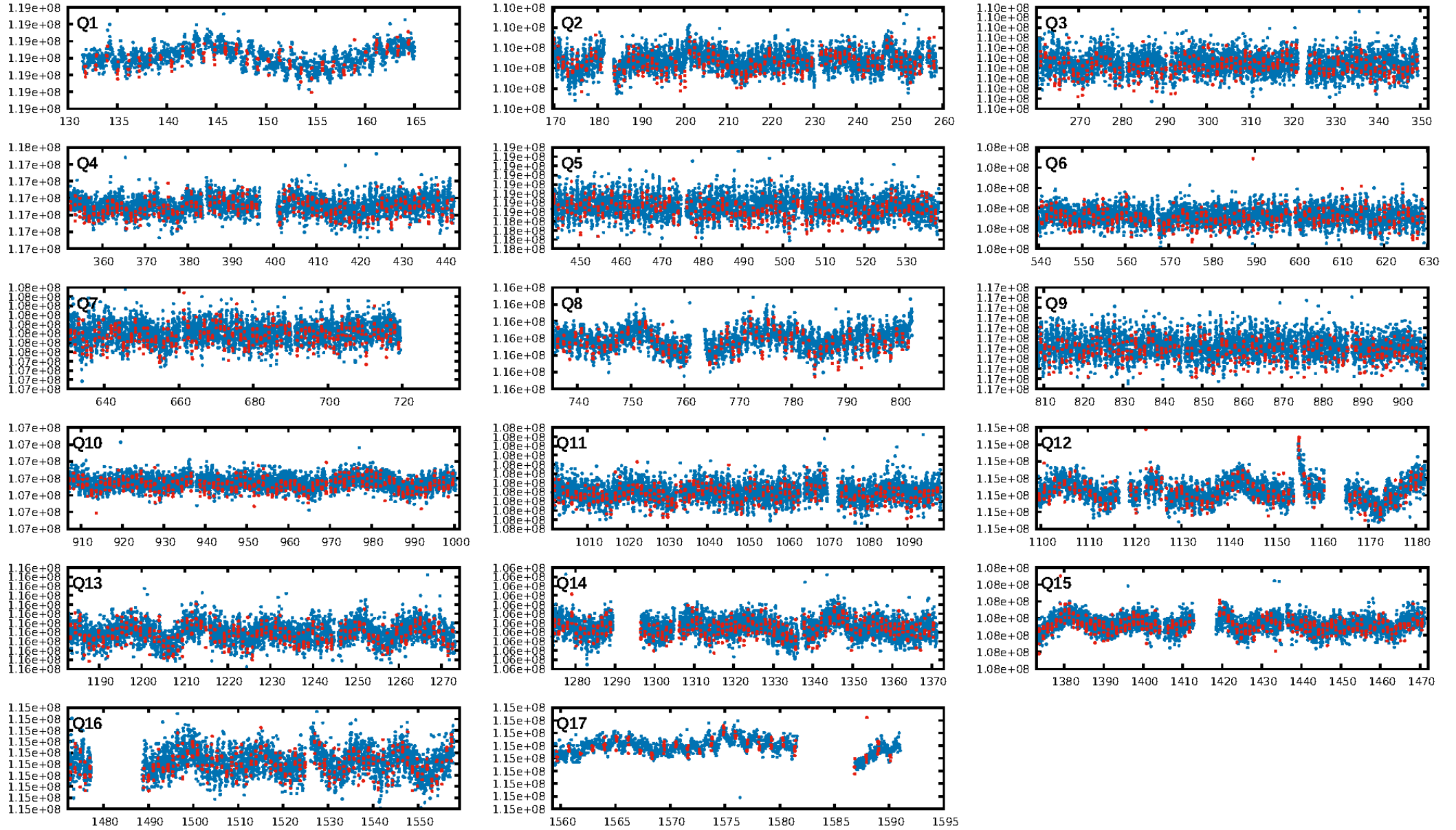
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.80e-186
RollingBand-fgt: 1.00 [1177/1177]
GhostDiagnostic-chr: 3.843
Centroid-sig: 0.0%
Centroid-so: 2.480 arcsec [8.07σ]
OotOffset-rm: 1.921 arcsec [7.15σ]
KicOffset-rm: 1.906 arcsec [7.31σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

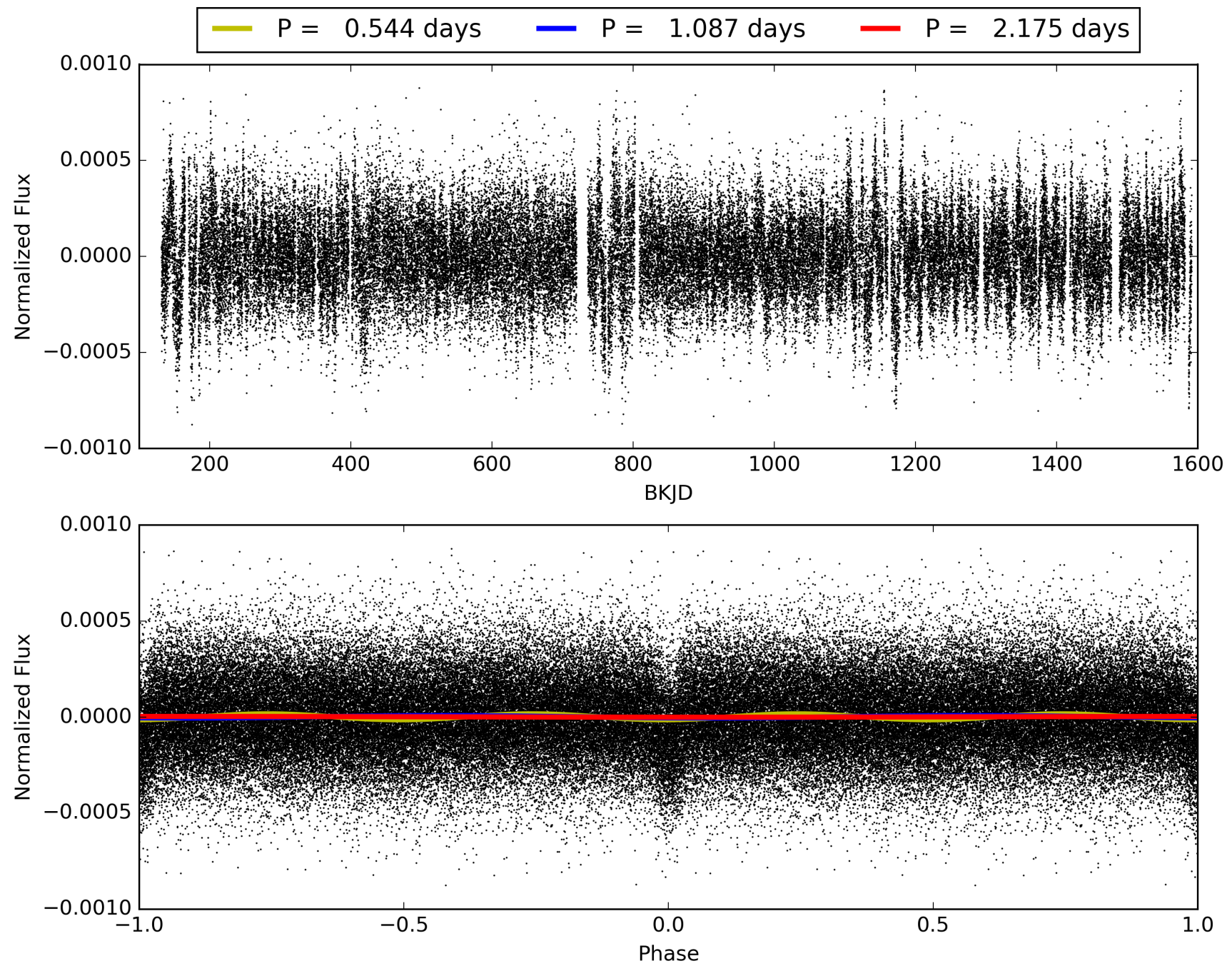
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:17:43 Z

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

TCE 005212220-01, PDC Light Curves

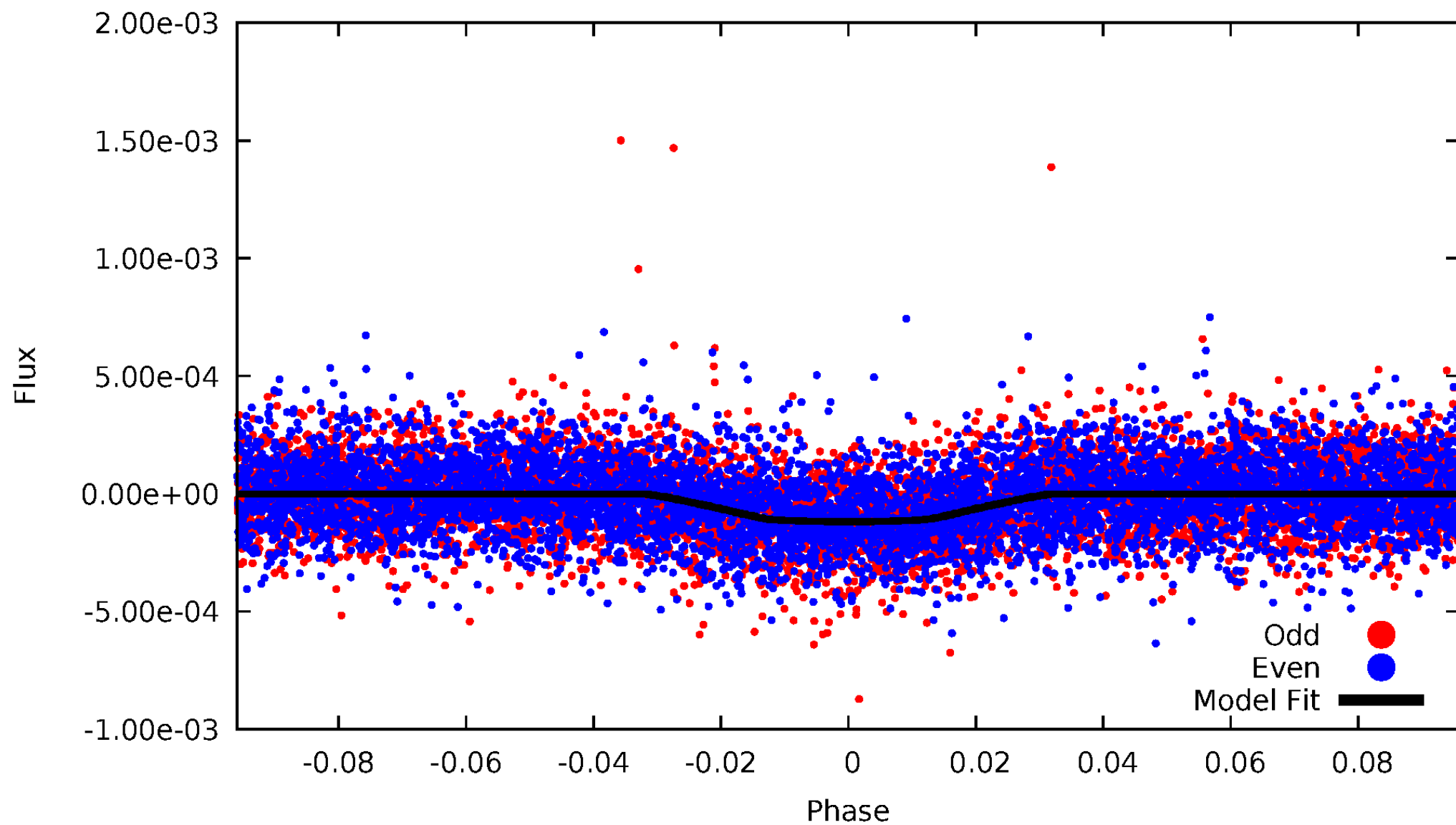


TCE 005212220-01



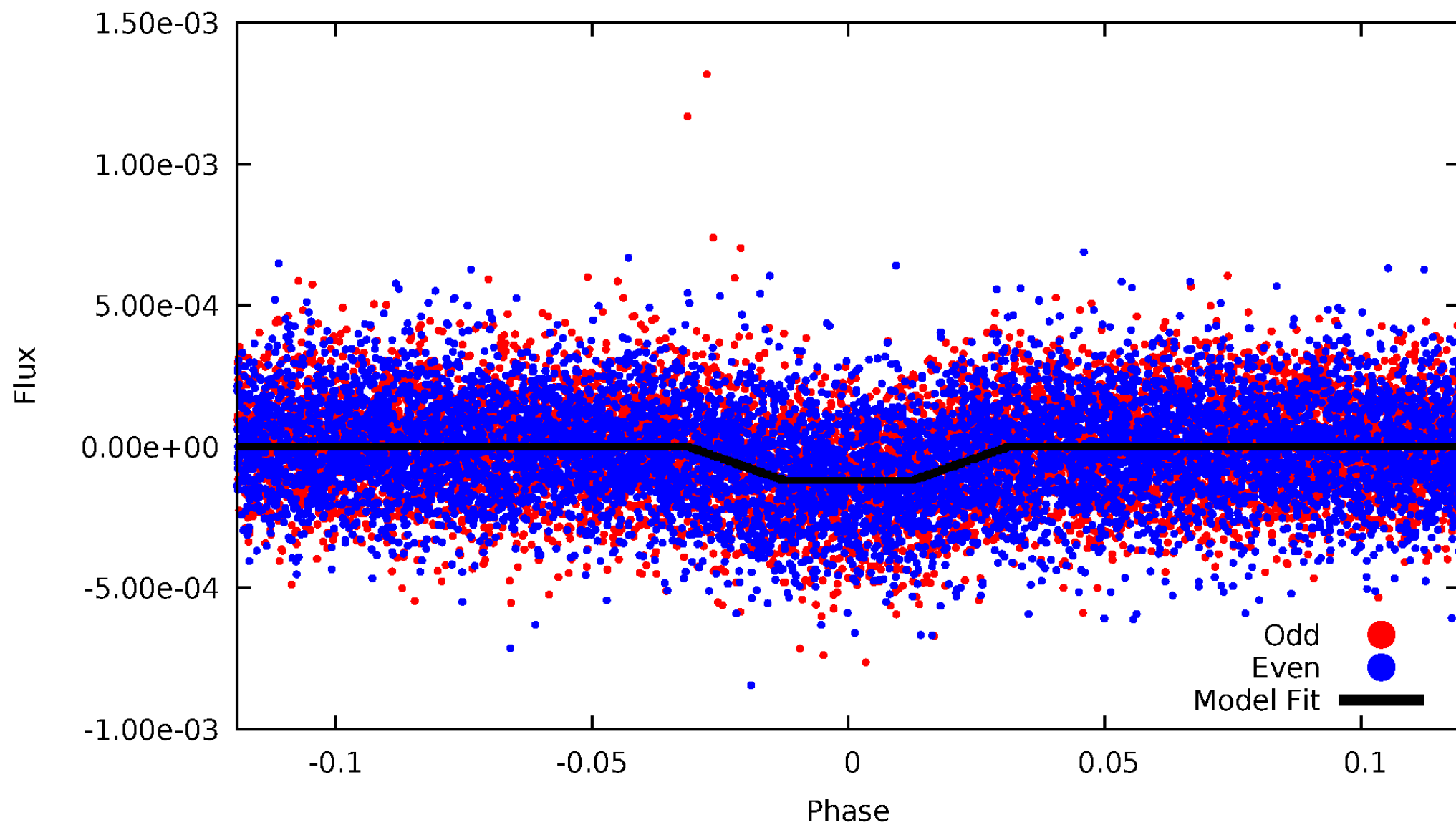
DV Odd/Even

TCE 005212220-01



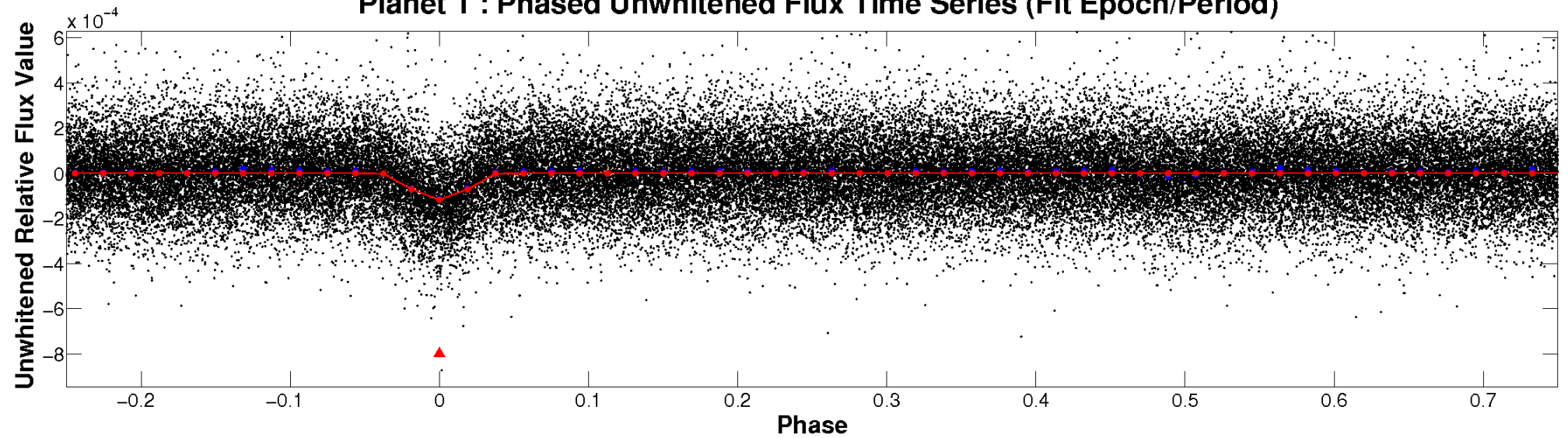
ALT Odd/Even

TCE 005212220-01

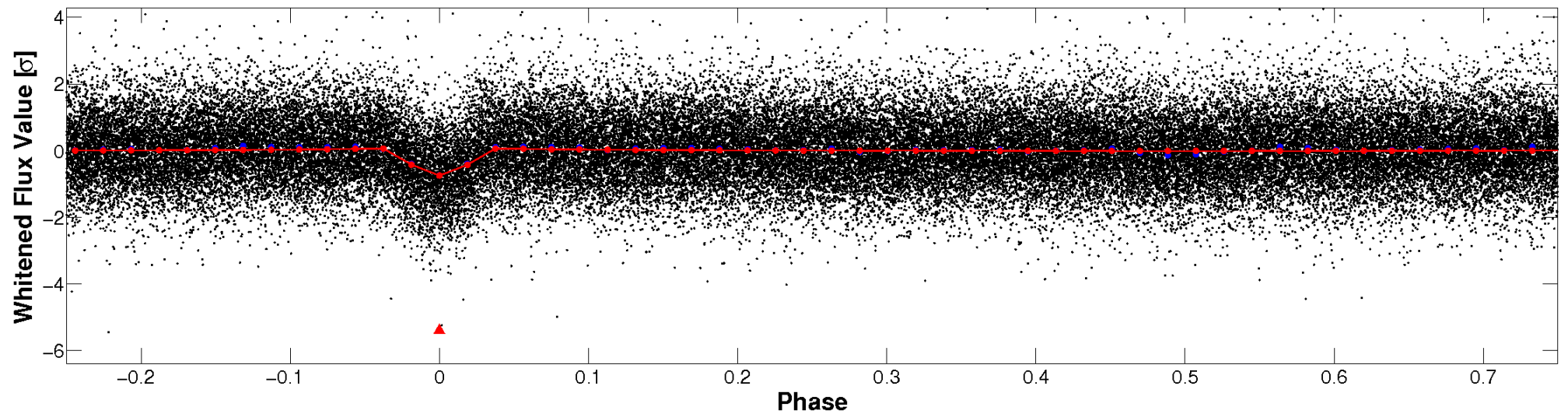


Non-Whitened Vs. Whitened Light Curve

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

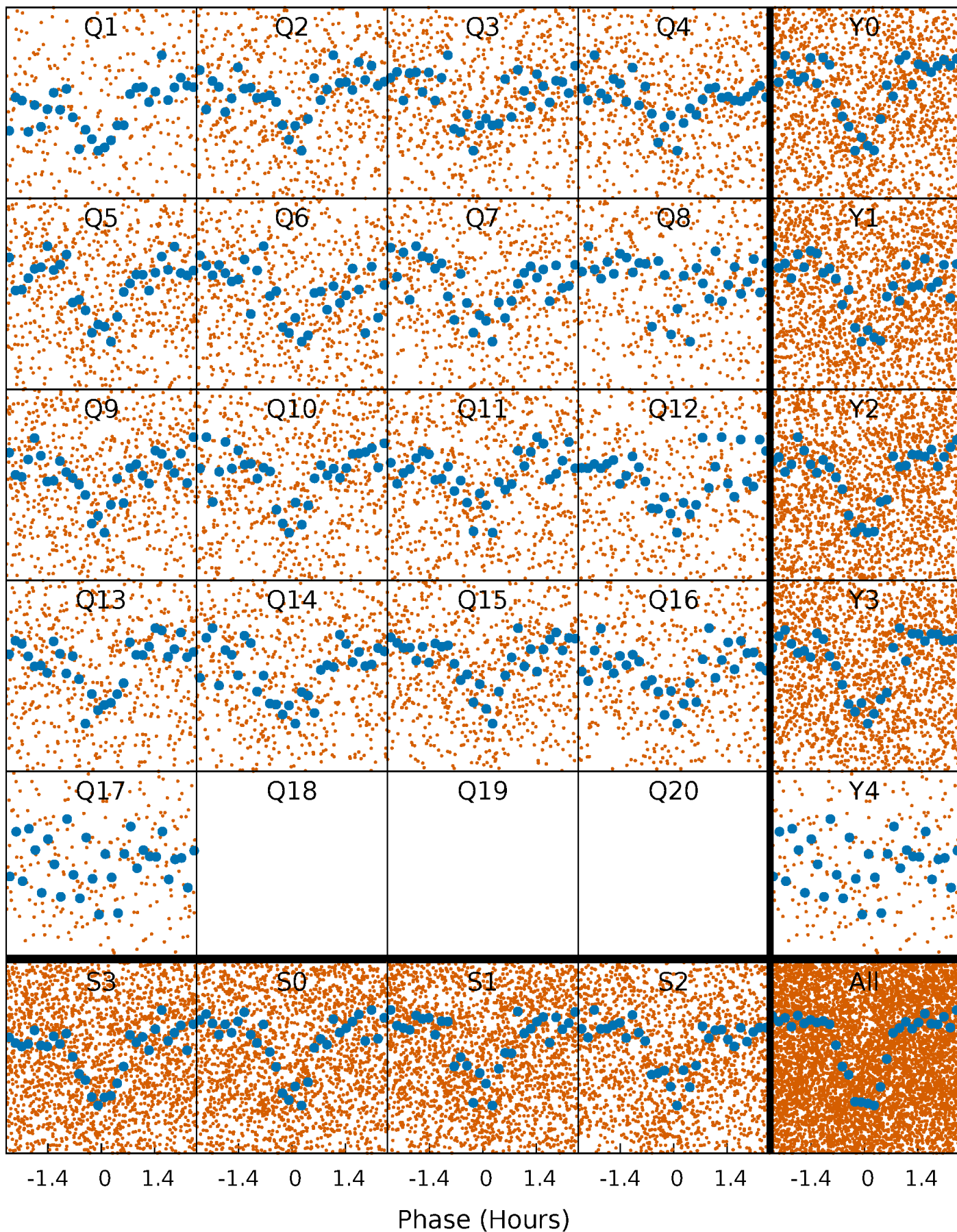


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



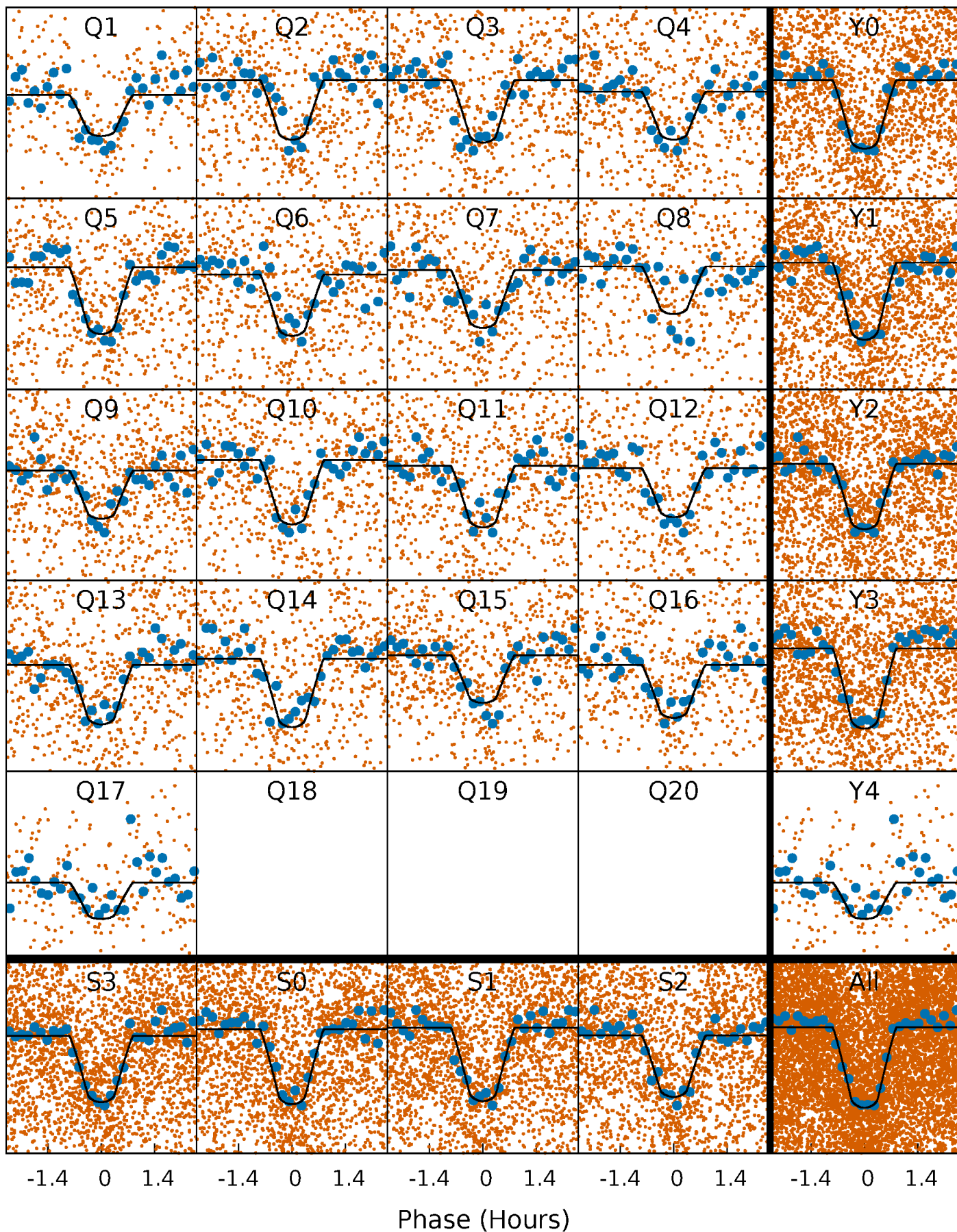
PDC Quarter-Phased Transit Curves

TCE 005212220-01 P= 1.087491 Days $T_0=131.770729$ (BKJD)



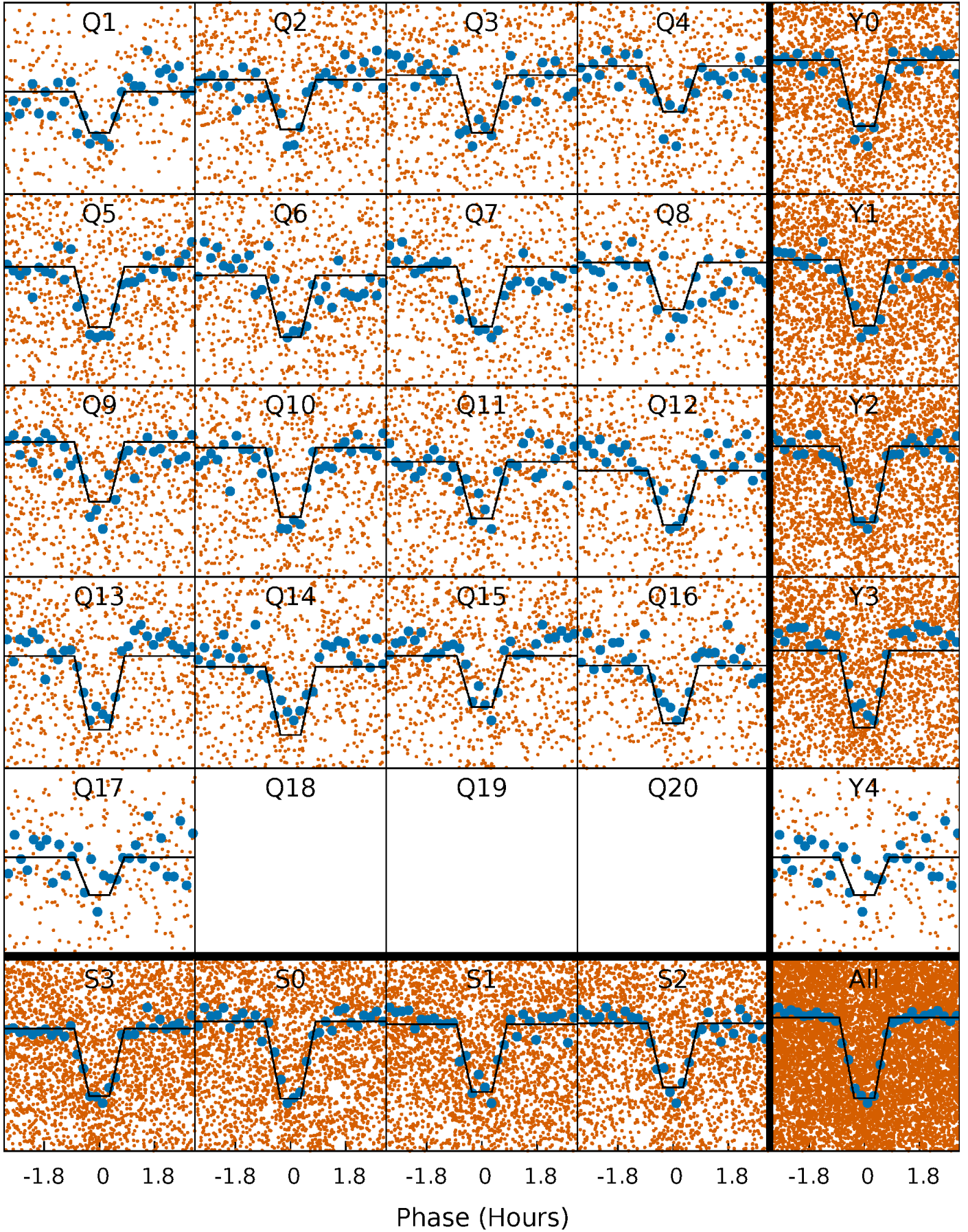
DV Quarter-Phased Transit Curves

TCE 005212220-01 P= 1.087491 Days $T_0=131.770729$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

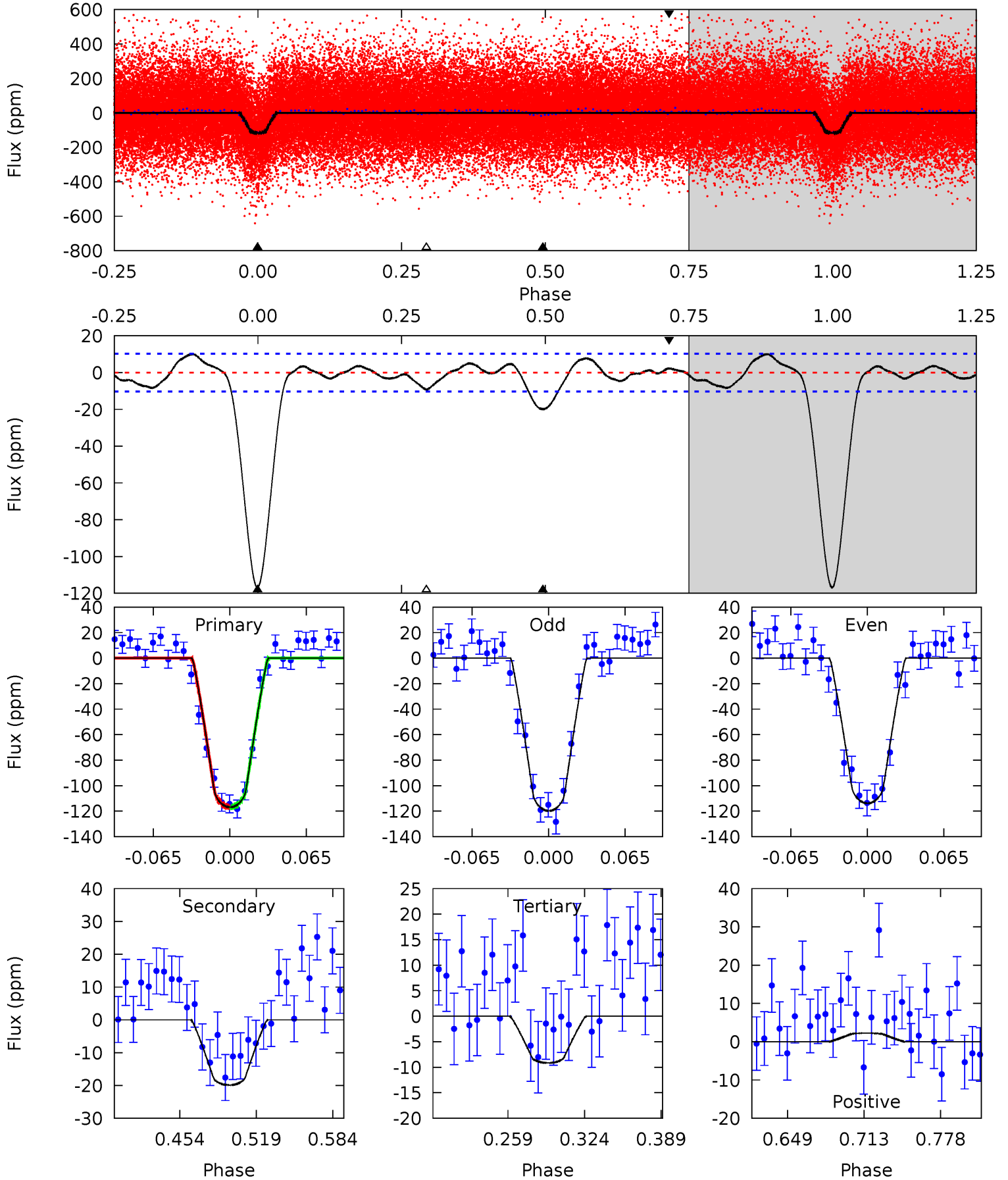
TCE 005212220-01 P= 1.087489 Days $T_0=131.772092$ (BKJD)



DV Model-Shift Uniqueness Test

005212220-01, P = 1.087491 Days, E = 130.683238 Days

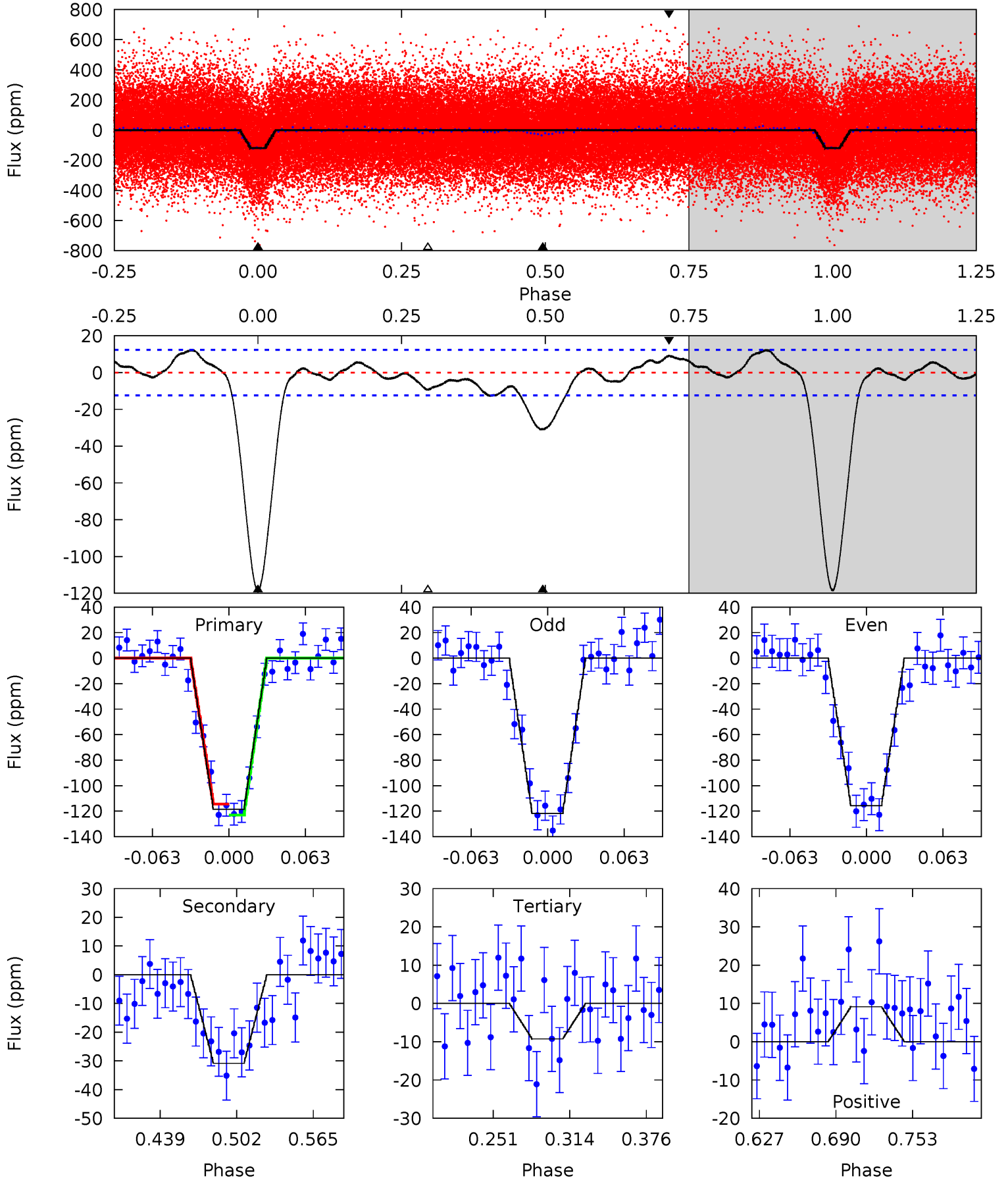
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.9	9.00	4.15	1.02	4.65	1.85	1.90	48.8	51.9	4.85	7.98	1.35	1.02	0.08	0.03



Alt Model-Shift Uniqueness Test

005212220-01, P = 1.087489 Days, E = 130.684603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.5	11.6	3.48	3.43	4.66	1.86	2.10	41.0	41.1	8.11	8.15	1.13	1.02	0.09	1.62



Stellar Parameters For KIC 005212220

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5988^{+208}_{-187}	$3.594^{+0.360}_{-0.120}$	$-0.220^{+0.350}_{-0.300}$	$3.204^{+0.594}_{-1.287}$	$1.469^{+0.201}_{-0.374}$	$0.063^{+0.186}_{-0.023}$
	+3%/-3%	+10%/-3%	+159%/-136%	+19%/-40%	+14%/-25%	+295%/-37%
Source	PHO1	FLK73	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 005212220-01 / KOI 2495.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 2	$3.82^{+1.07}_{-1.07}$	4235^{+309}_{-405}	3225^{+732}_{-6150}	$0.412^{+0.362}_{-0.159}$
Alt.	-31 ± 3	$3.56^{+1.09}_{-1.02}$	4255^{+287}_{-434}	4058^{+635}_{-668}	$0.735^{+0.706}_{-0.305}$

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

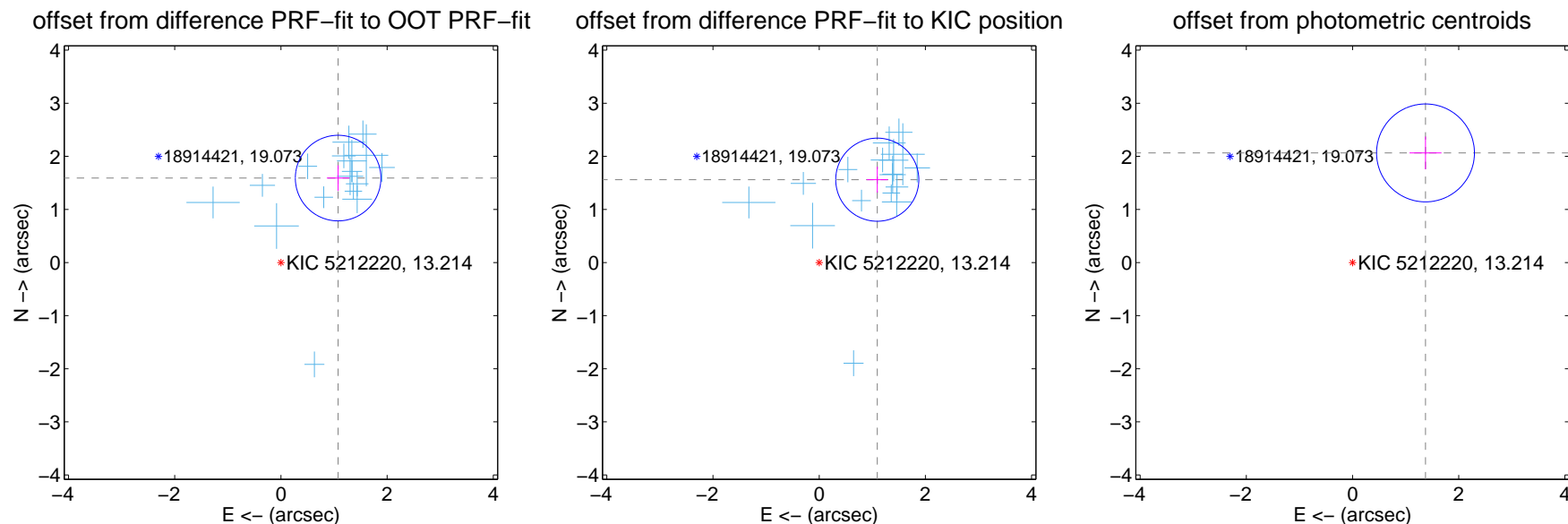
DV Centroid Data

Supplemental centroid analysis for 005212220-01. Kepler magnitude: 13.21. Transit SNR 34.51

There are 17 quarters with good PRF difference image offsets

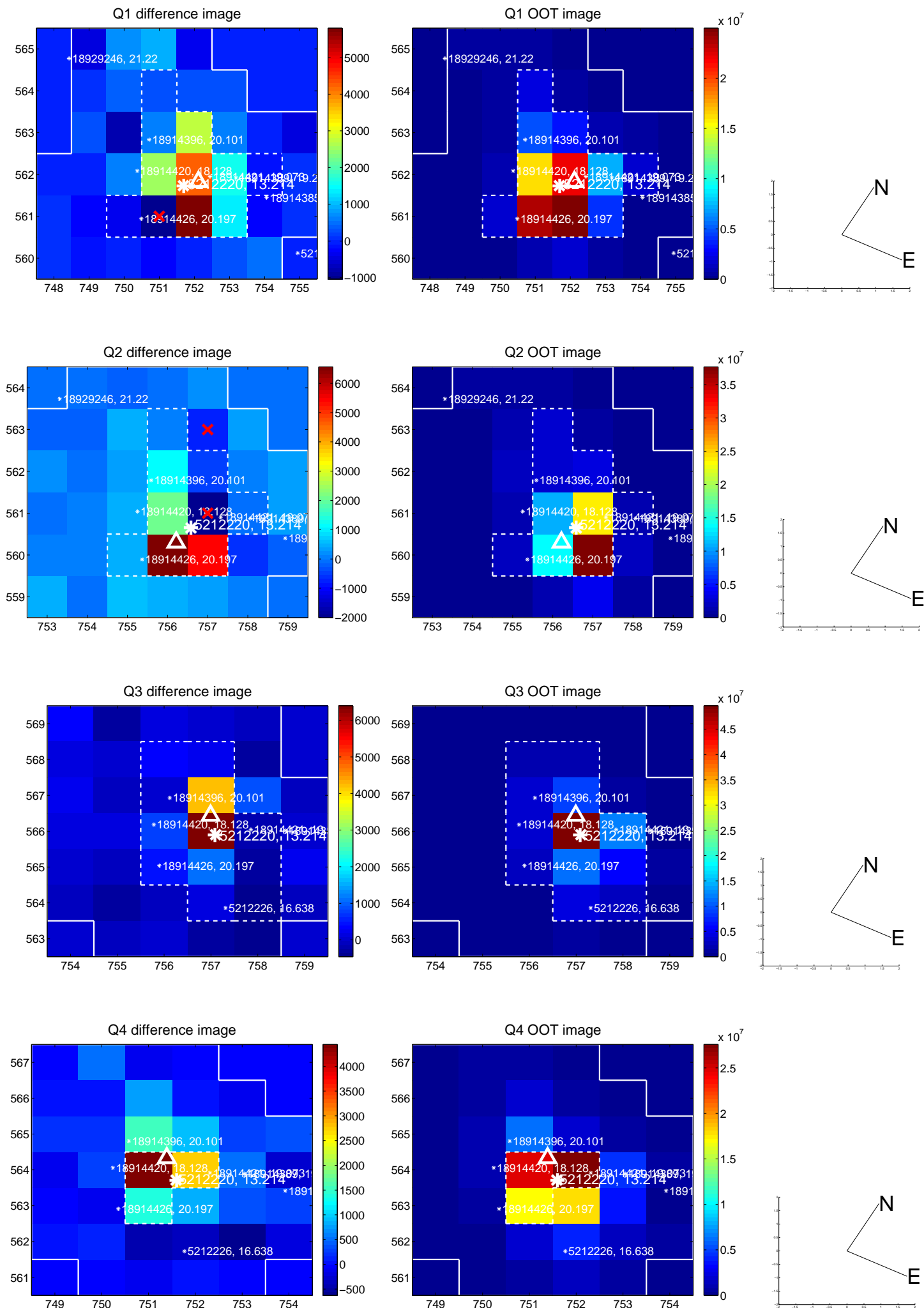
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.921 ± 0.269	7.15	-1.078 ± 0.213	1.590 ± 0.240
PRF-fit source offset from KIC position	1.906 ± 0.261	7.31	-1.094 ± 0.198	1.560 ± 0.244
photometric centroid source offset	2.48 ± 0.31	8.07	-1.37 ± 0.30	2.06 ± 0.31

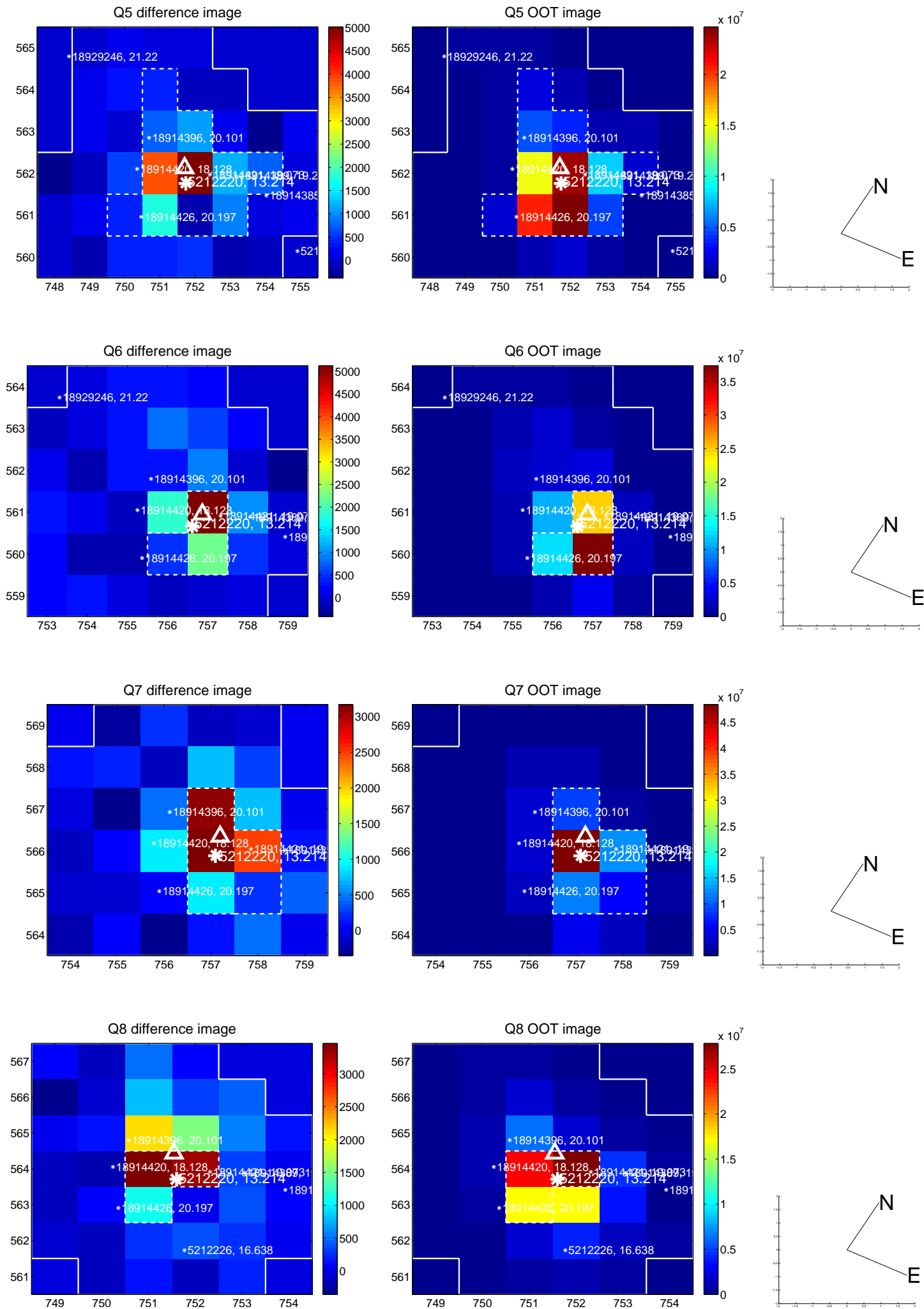


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

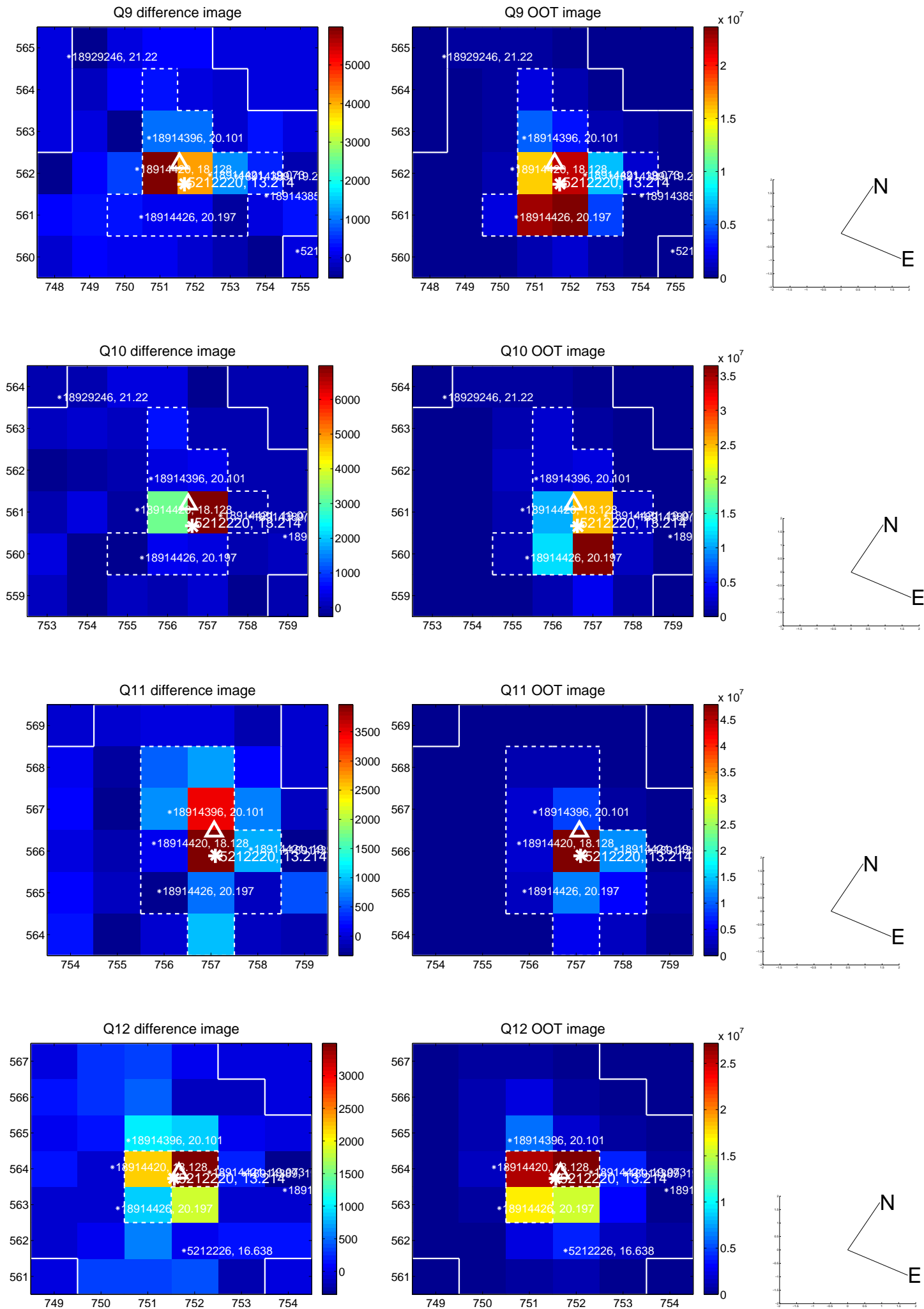
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



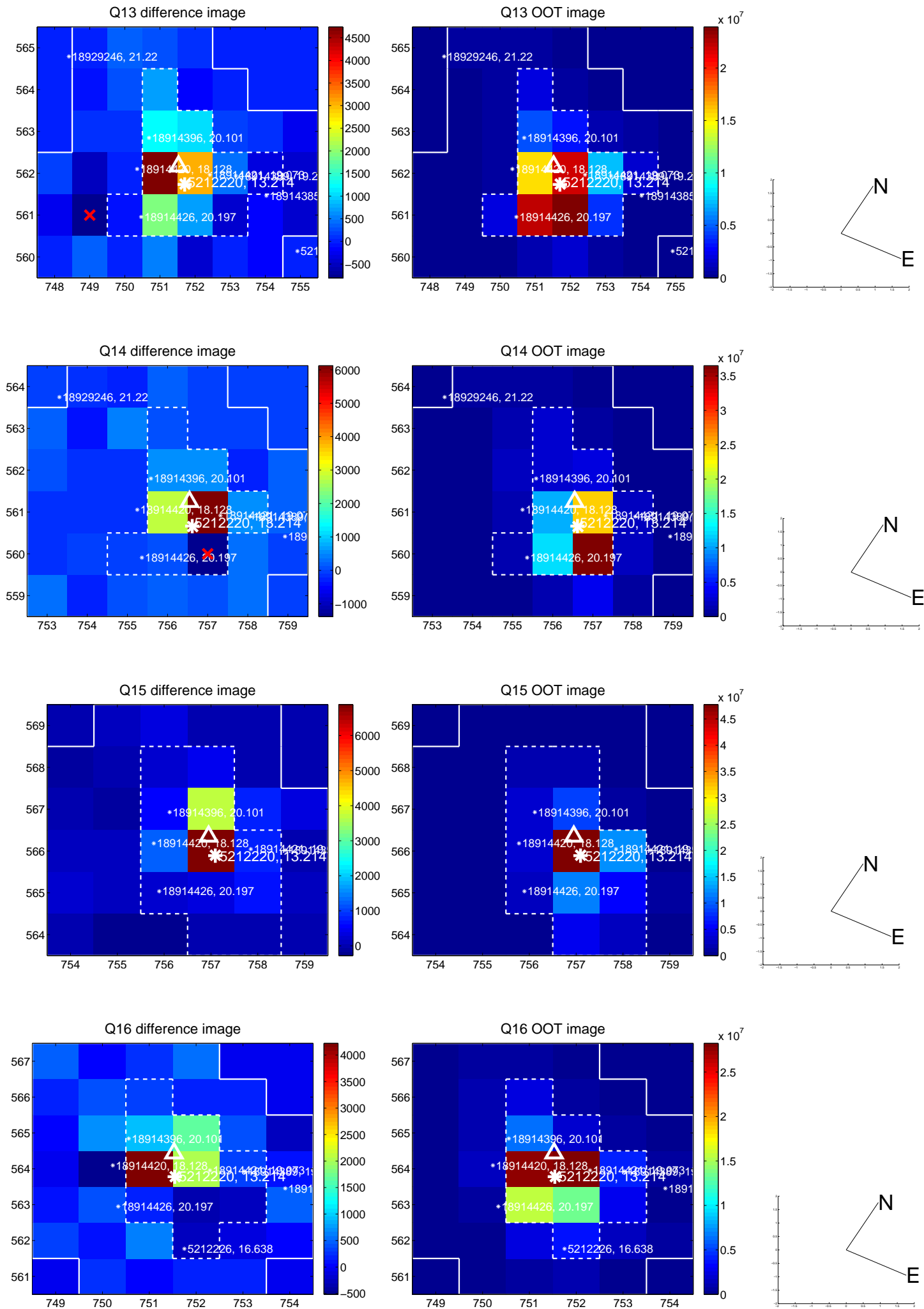
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



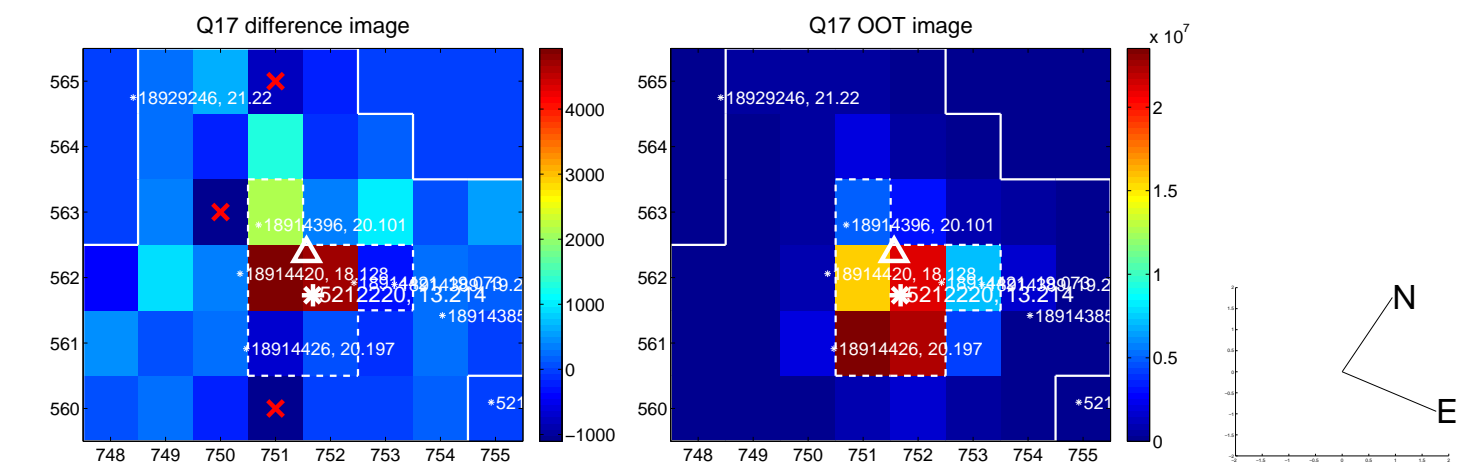
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



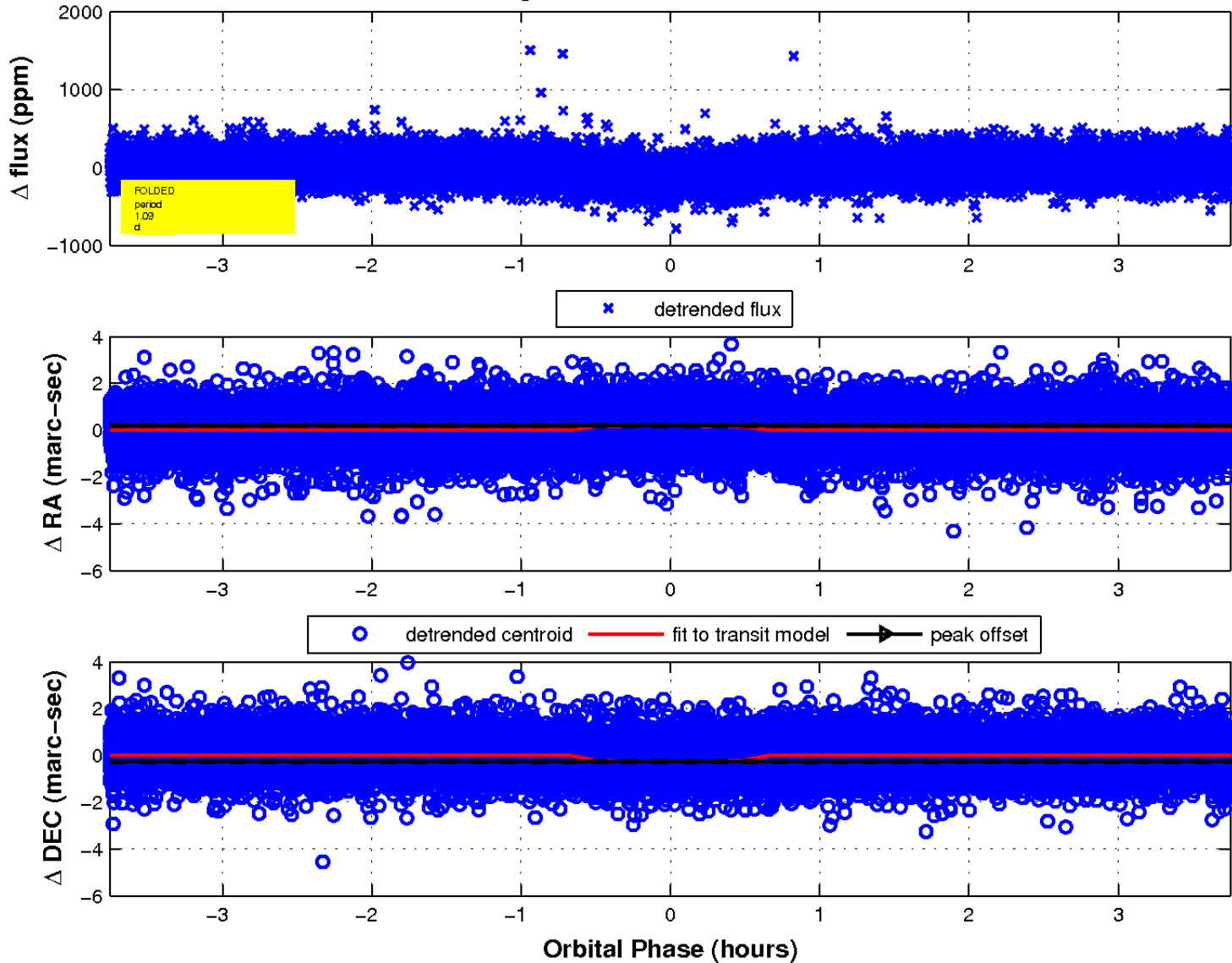
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

