

KIC 003851130

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})
003851130-01	OBS	2284.01	2.697902	133.653842	130.6	3.160	23.3	25.7	1.35	5609	3.01	1236.50

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003851130-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—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.

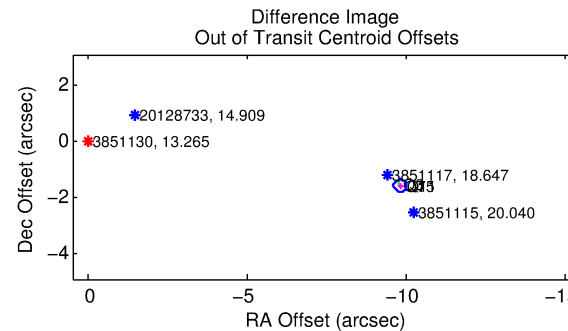
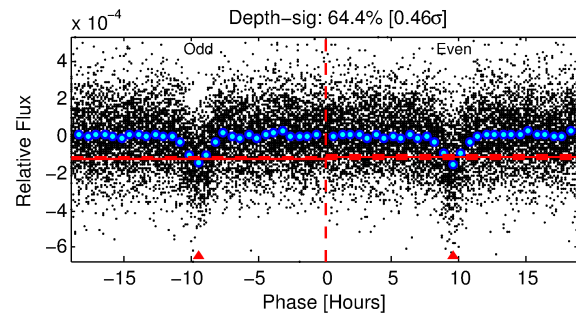
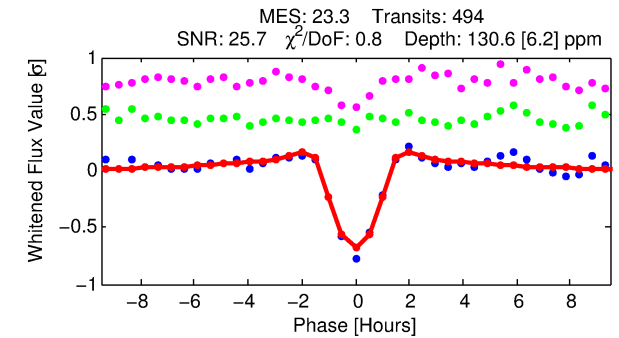
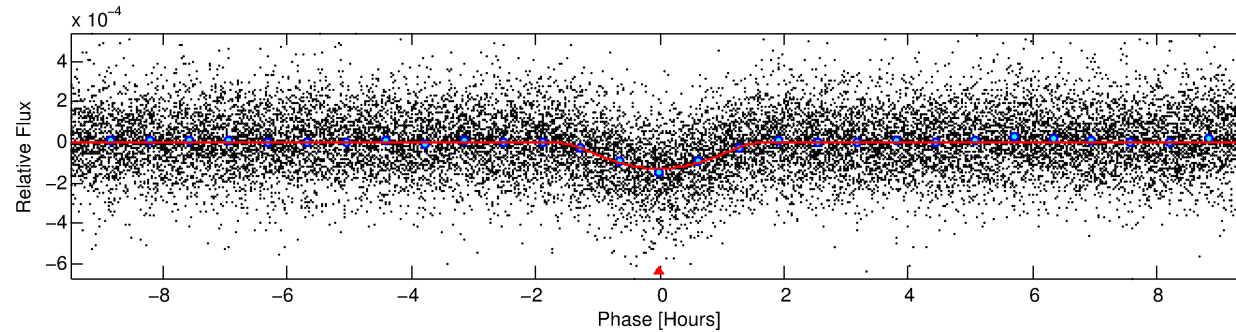
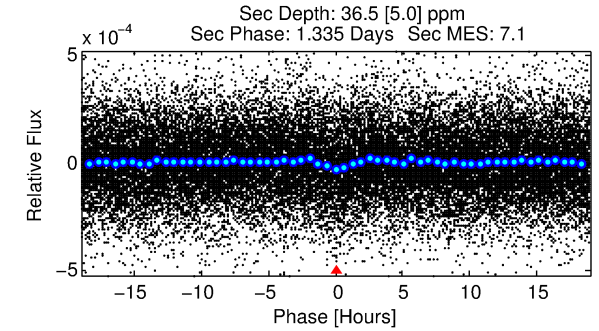
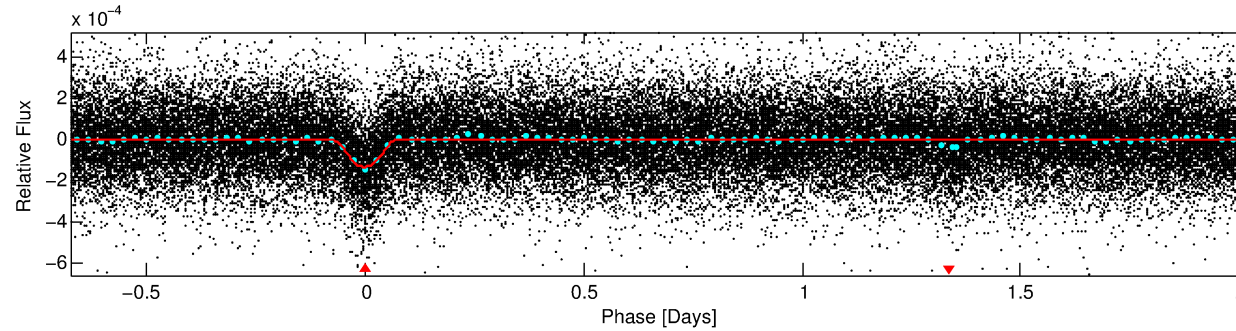
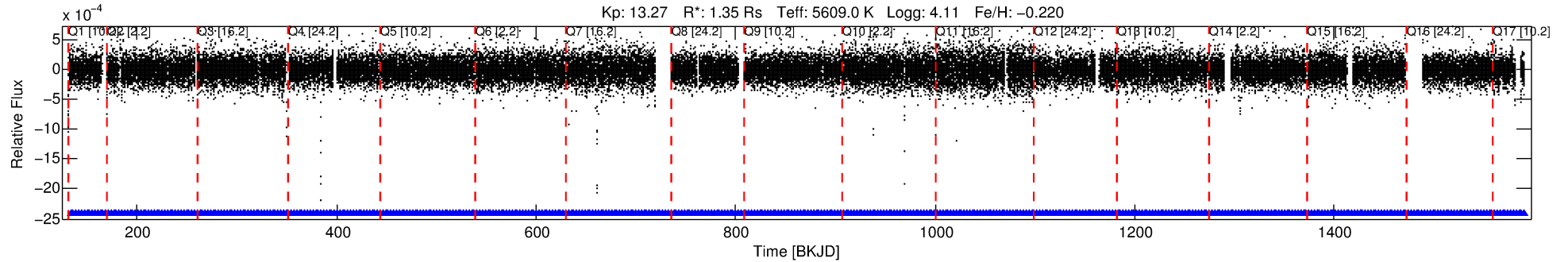
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003851130-01

No Significant Match Found

DV One-Page Summary

KIC: 3851130 Candidate: 1 of 1 Period: 2.698 d
KOI: K02284.01 Corr: 0.861



DV Fit Results:

Period = 2.69790 [0.00001] d
Epoch = 133.6538 [0.0018] BKJD
Rp/R* = 0.0205 [0.0187]
a/R* = 1.72 [0.30]
b = 1.00 [0.03]
Seff = 1236.50 [855.99]
Teq = 1512 [262] K
Rp = 3.01 [2.98] Re
a = 0.0361 [0.0146] AU
Ag = 2.88 [5.65] [0.33σ]
Teffp = 3047 [1400] K [1.08σ]

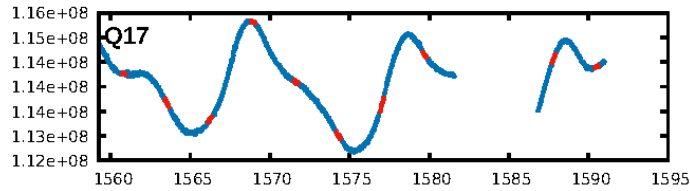
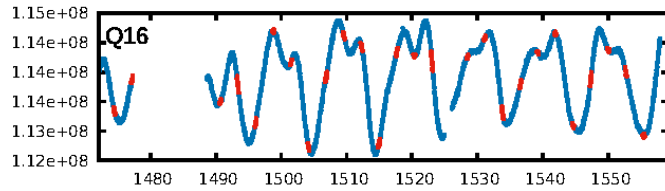
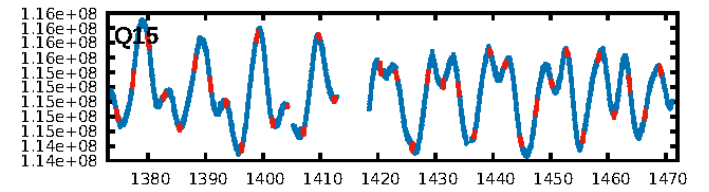
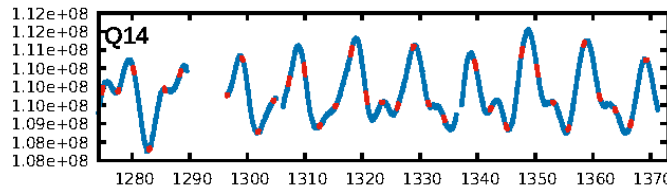
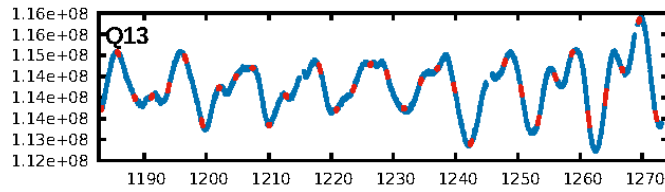
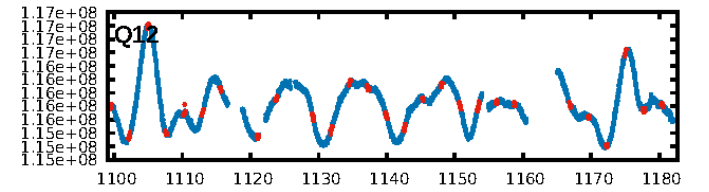
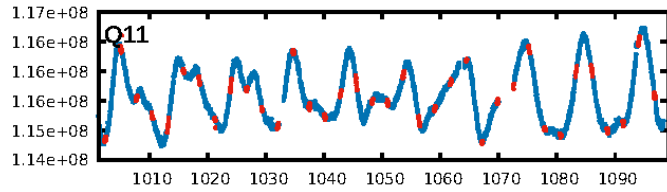
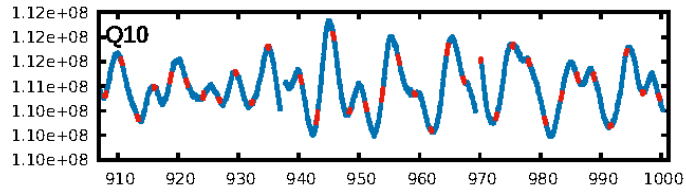
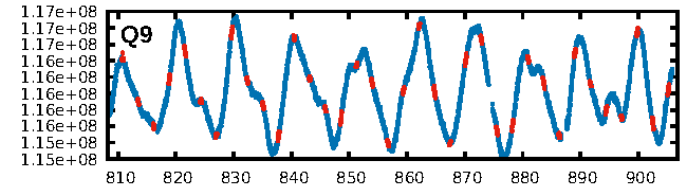
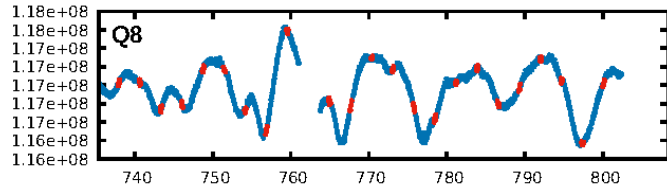
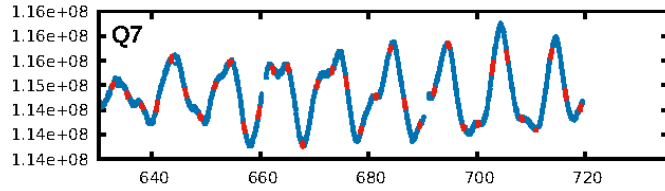
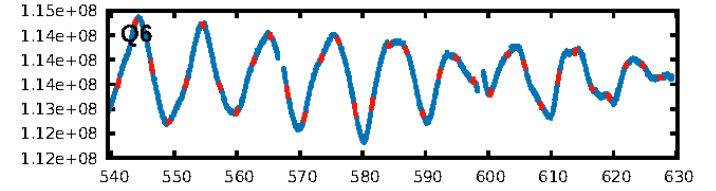
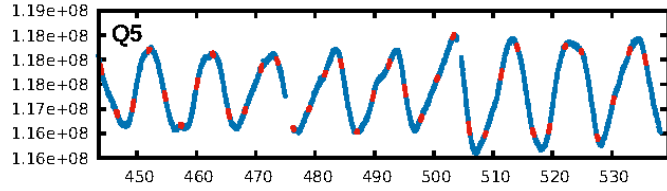
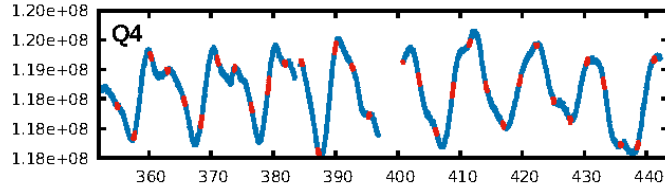
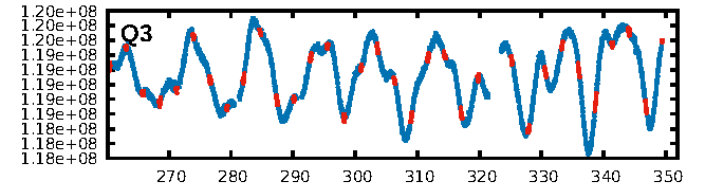
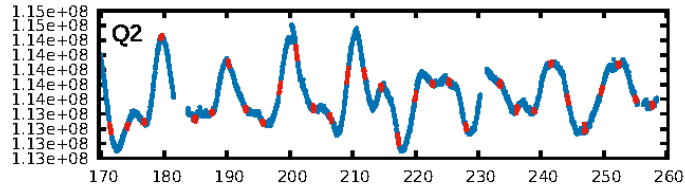
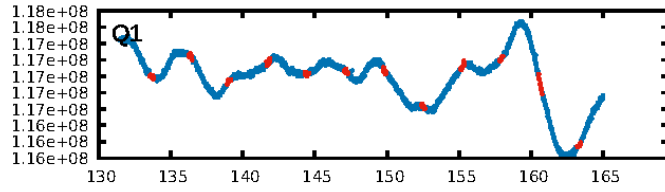
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.25e-113
RollingBand-fgt: 1.00 [472/472]
GhostDiagnostic-chr: -0.2528
Centroid-sig: 0.0%
Centroid-so: 61.828 arcsec [122.56σ]
OotOffset-rm: 9.941 arcsec [142.35σ]
KicOffset-rm: 9.615 arcsec [139.55σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [17/17]

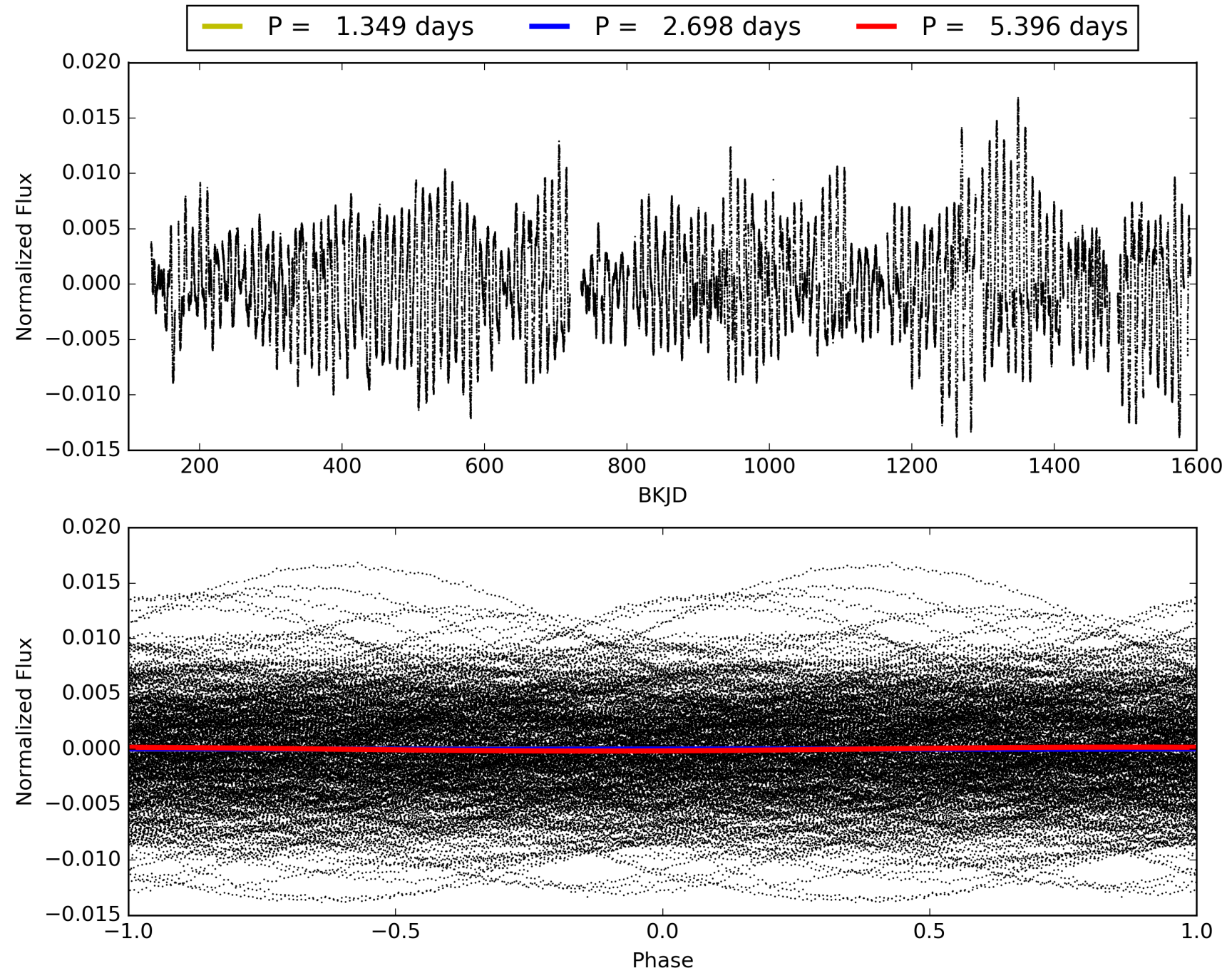
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:55:20 Z

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

TCE 003851130-01, PDC Light Curves

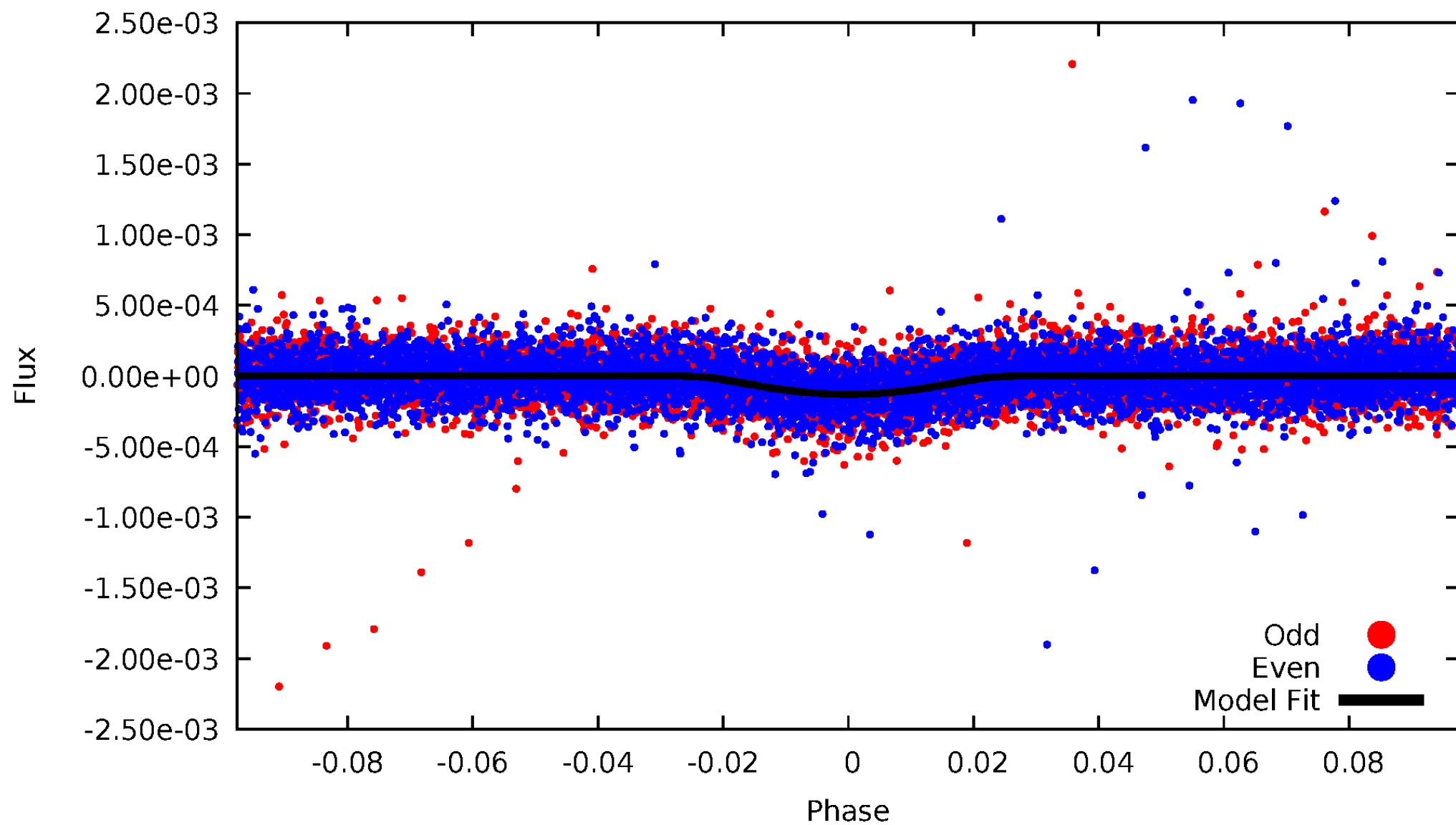


TCE 003851130-01



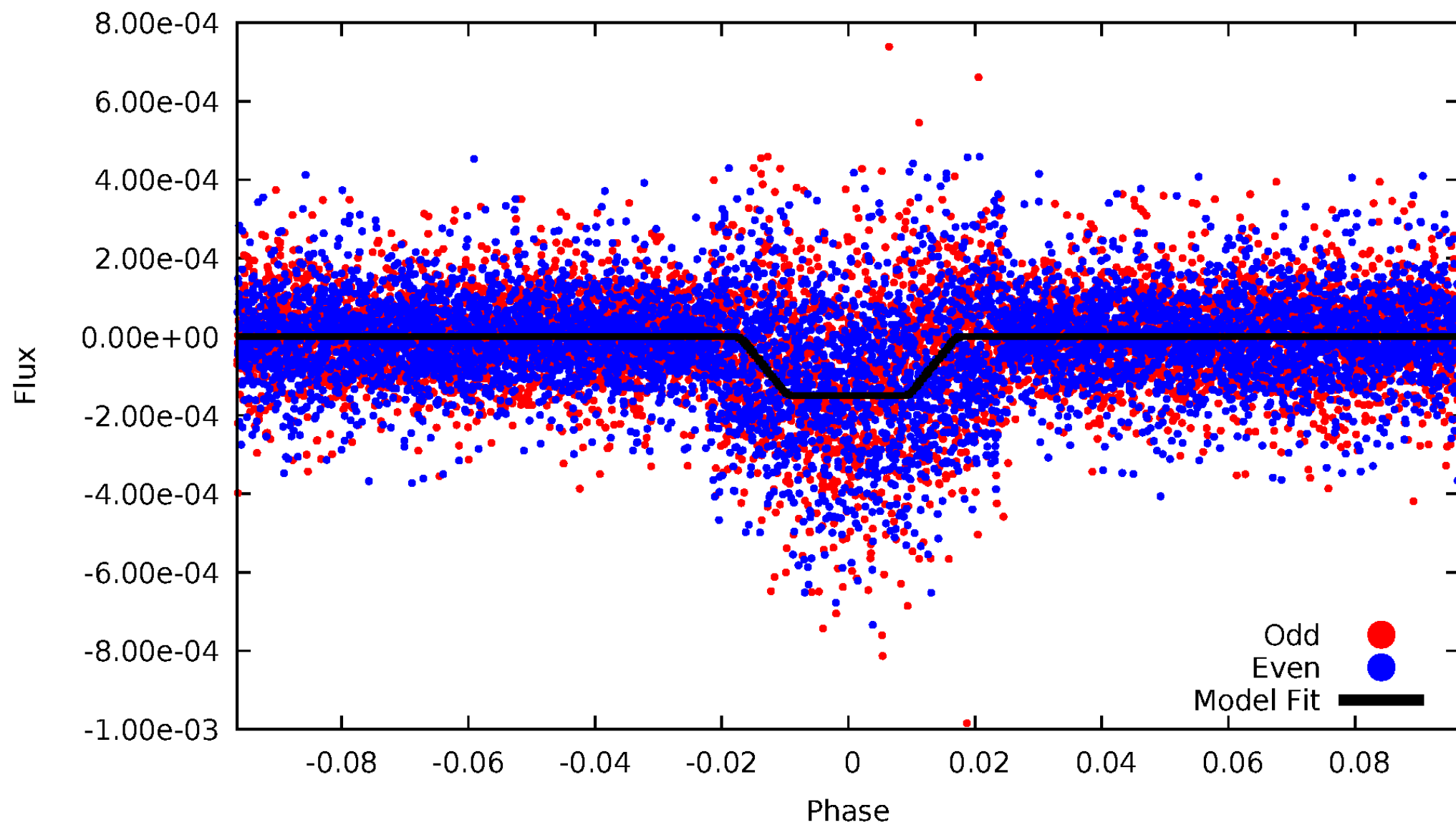
DV Odd/Even

TCE 003851130-01



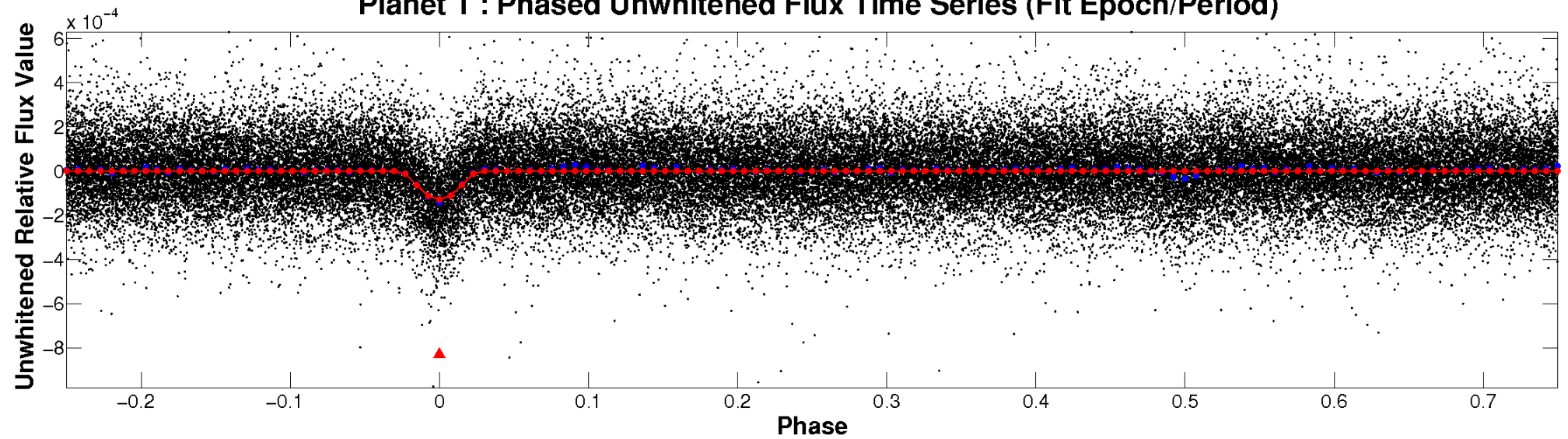
ALT Odd/Even

TCE 003851130-01

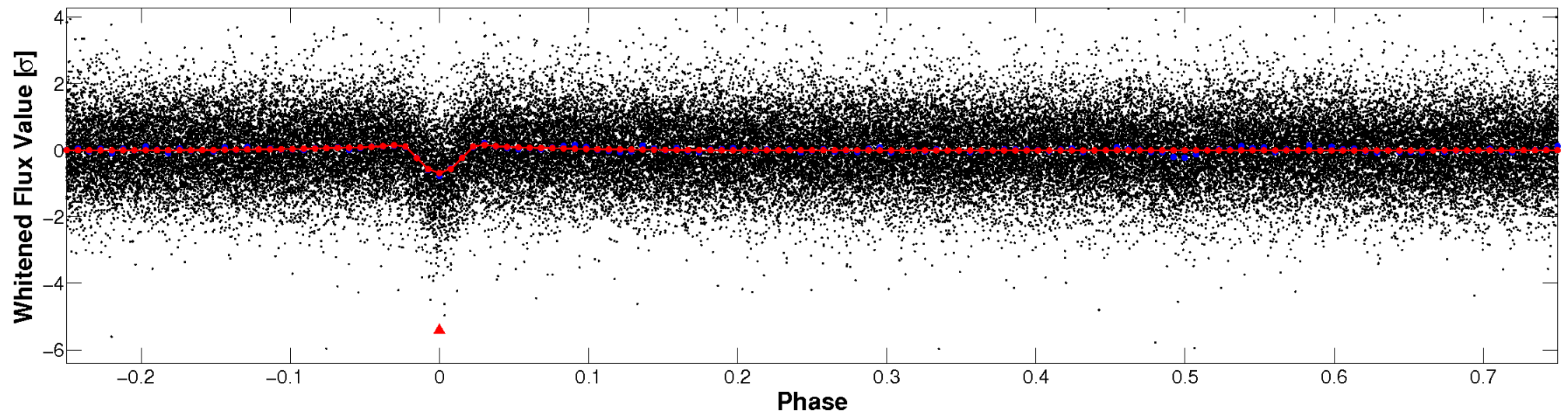


Non-Whitened Vs. Whitened Light Curve

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

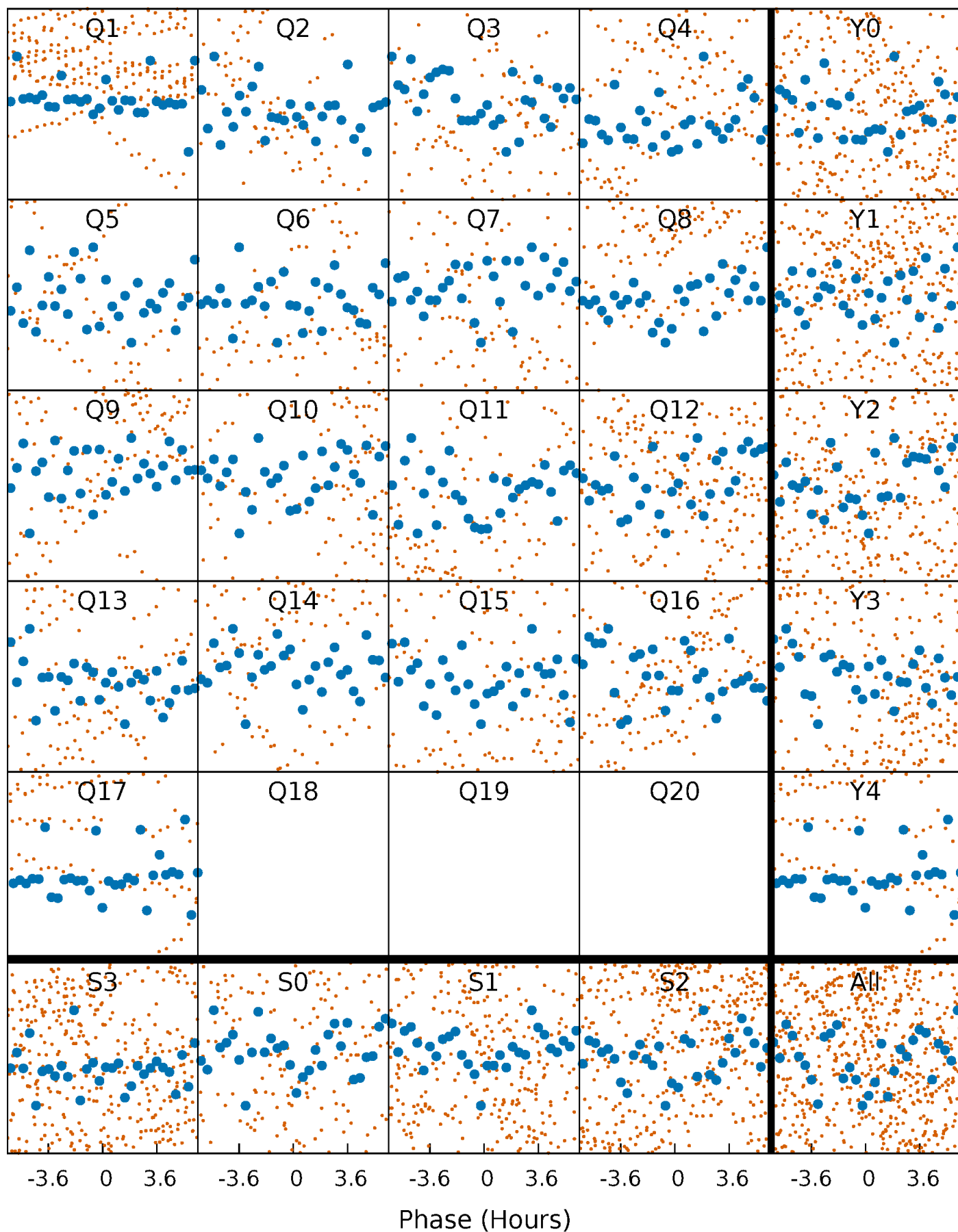


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



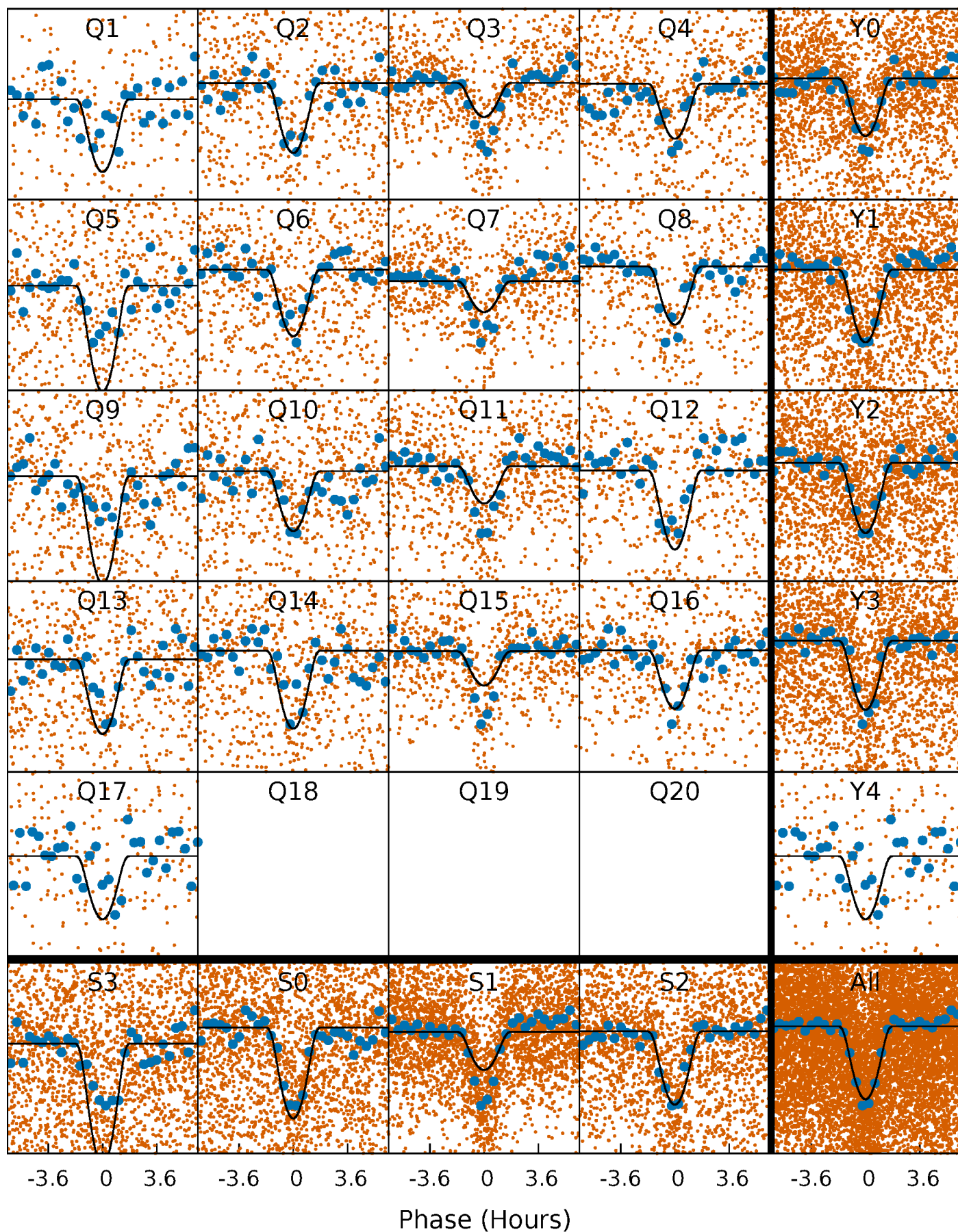
PDC Quarter-Phased Transit Curves

TCE 003851130-01 P= 2.697902 Days $T_0=133.653842$ (BKJD)



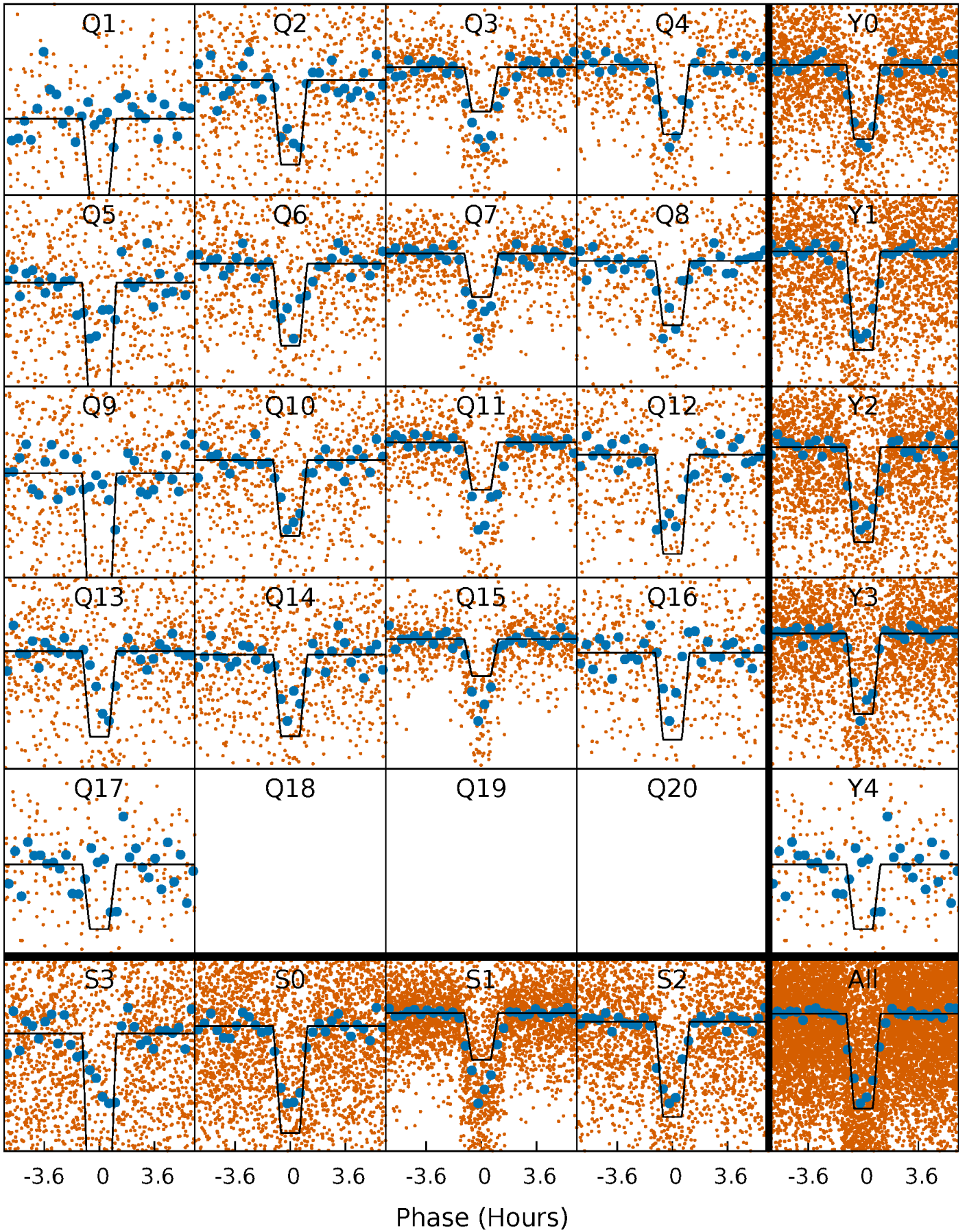
DV Quarter-Phased Transit Curves

TCE 003851130-01 P= 2.697902 Days $T_0=133.653842$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

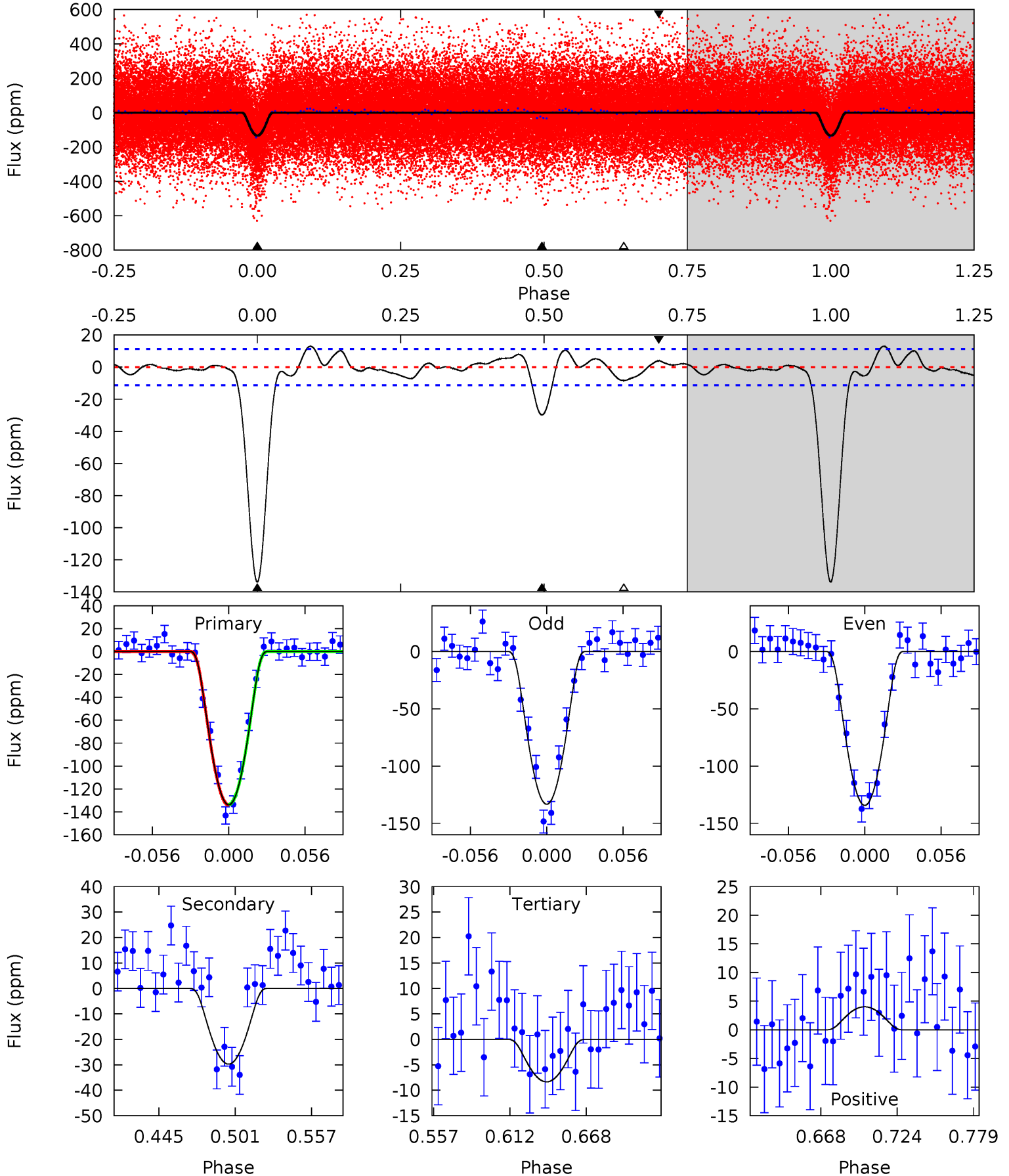
TCE 003851130-01 P= 2.697902 Days $T_0=133.654212$ (BKJD)



DV Model-Shift Uniqueness Test

003851130-01, P = 2.697902 Days, E = 130.955940 Days

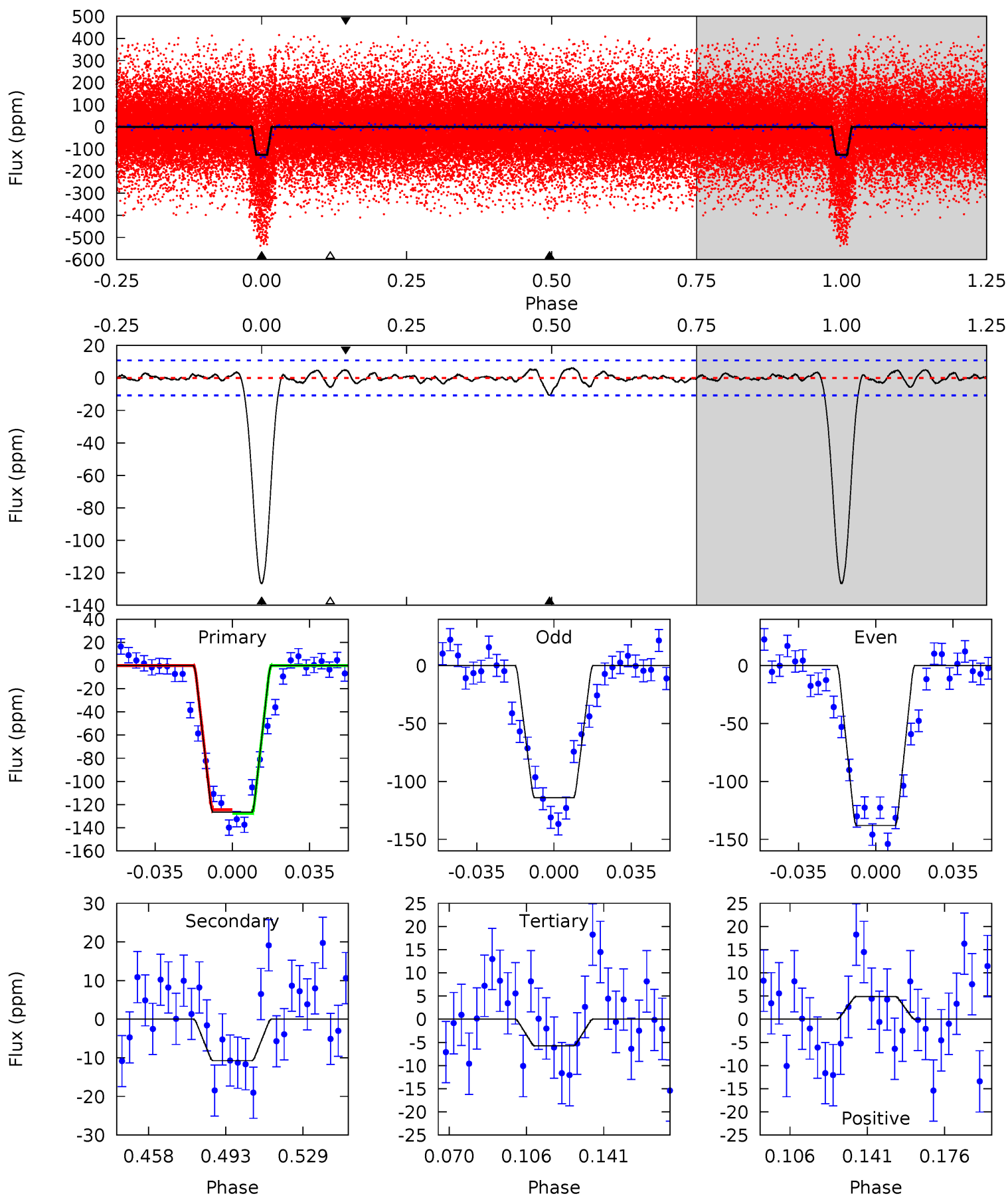
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.8	12.4	3.48	1.67	4.69	1.91	1.69	52.3	54.1	8.91	10.7	0.22	1.06	0.09	0.08



Alt Model-Shift Uniqueness Test

003851130-01, P = 2.697902 Days, E = 130.956310 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.0	4.75	2.53	2.17	4.78	2.11	0.87	53.5	53.9	2.22	2.58	5.31	1.17	0.05	0.69



Stellar Parameters For KIC 003851130

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5609^{+167}_{-150}	$4.114^{+0.413}_{-0.177}$	$-0.220^{+0.300}_{-0.250}$	$1.348^{+0.415}_{-0.508}$	$0.862^{+0.110}_{-0.080}$	$0.496^{+1.512}_{-0.271}$
	+3%/-3%	+10%/-4%	+136%/-114%	+31%/-38%	+13%/-9%	+305%/-55%
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 003851130-01 / KOI 2284.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30 ± 2	$3.22^{+2.54}_{-1.93}$	2083^{+183}_{-220}	3207^{+1237}_{-633}	$2.116^{+11.005}_{-1.469}$
Alt.	-11 ± 2	$2.54^{+2.38}_{-1.70}$	2069^{+172}_{-233}	2865^{+1424}_{-1088}	$1.129^{+9.760}_{-0.816}$

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 $A_{obs} \gg 1.0$

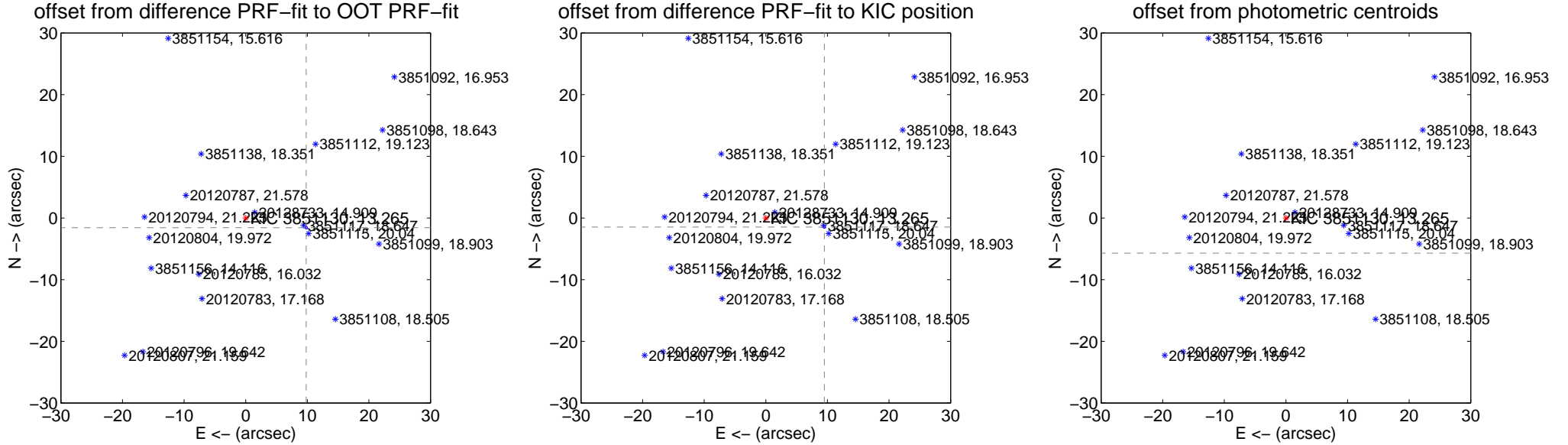
DV Centroid Data

Supplemental centroid analysis for 003851130-01. Kepler magnitude: 13.27. Transit SNR 25.69

There are 4 quarters with good PRF difference image offsets

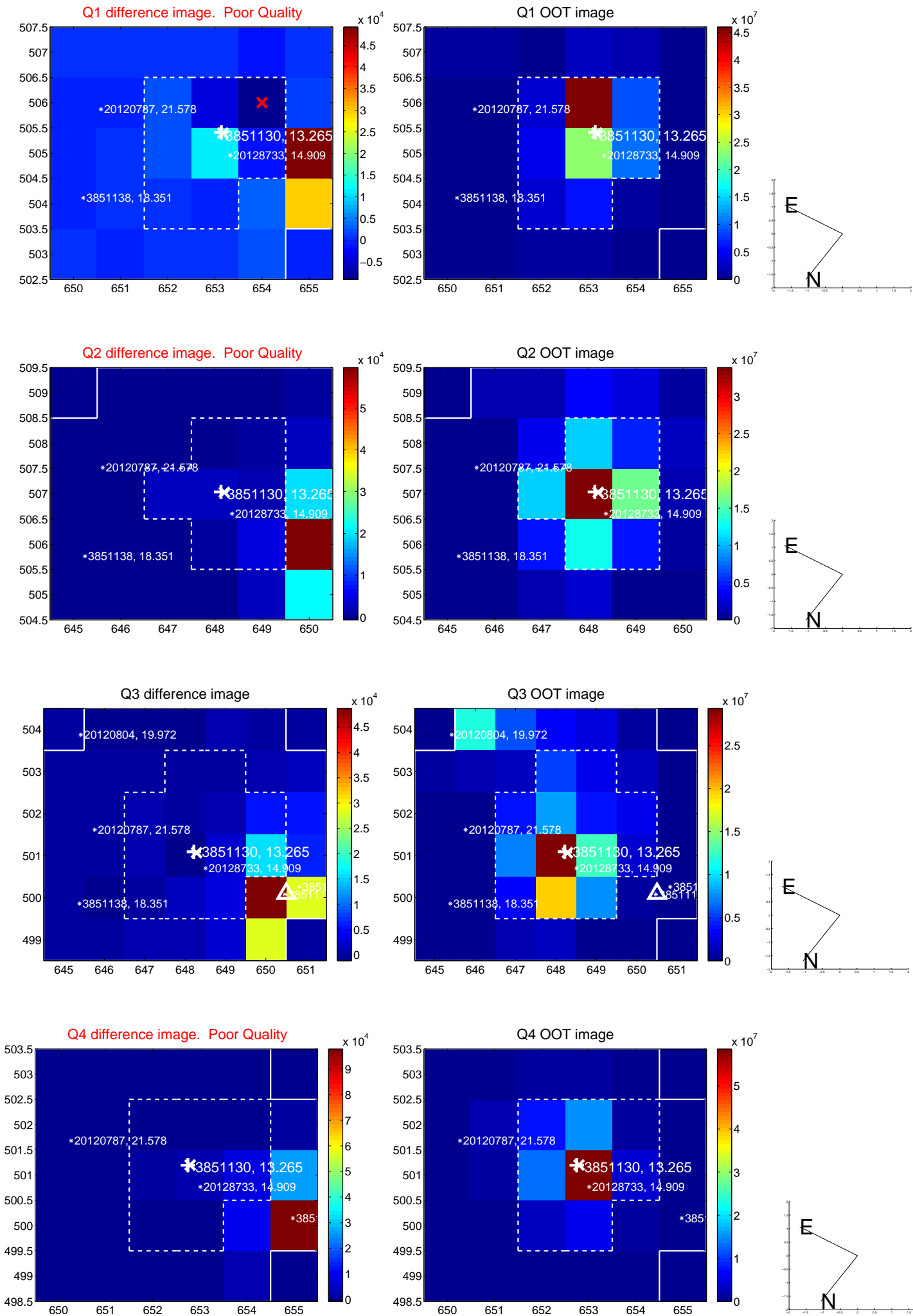
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.941 \pm 0.070	142.35	-9.815 \pm 0.070	-1.574 \pm 0.070
PRF-fit source offset from KIC position	9.615 \pm 0.069	139.55	-9.502 \pm 0.069	-1.464 \pm 0.067
photometric centroid source offset	61.83 \pm 0.50	122.56	-61.57 \pm 0.50	-5.70 \pm 0.46

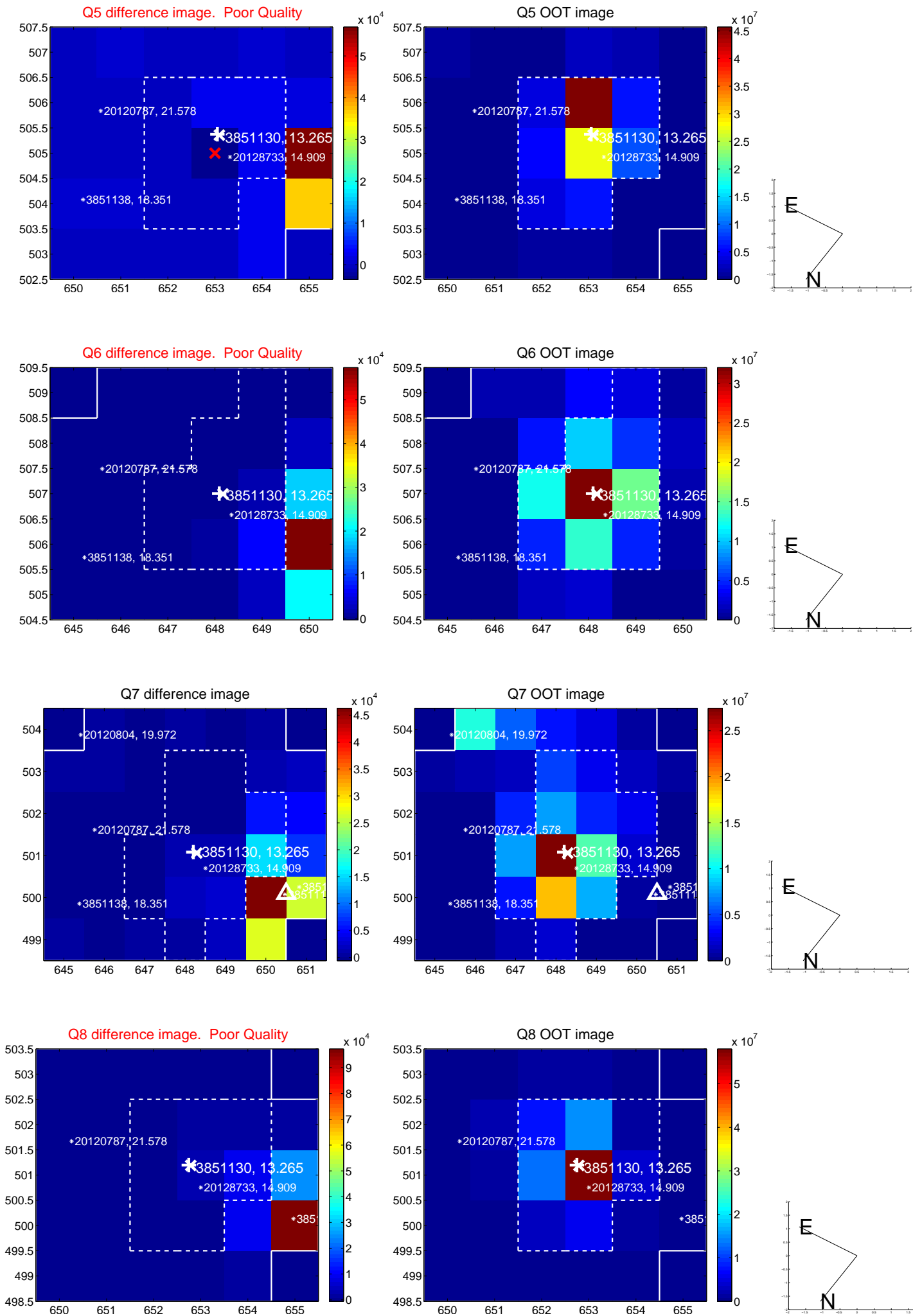


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

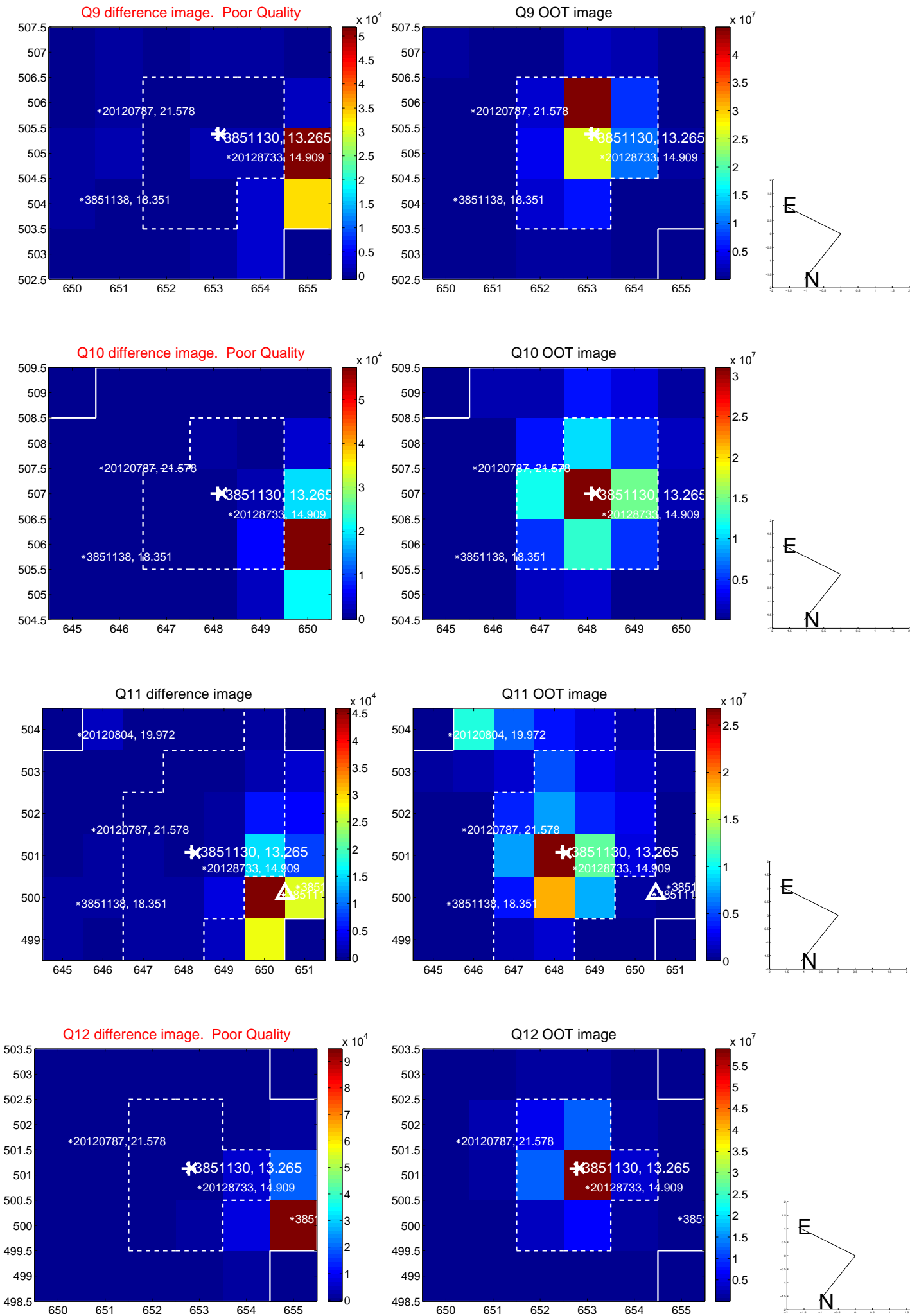
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



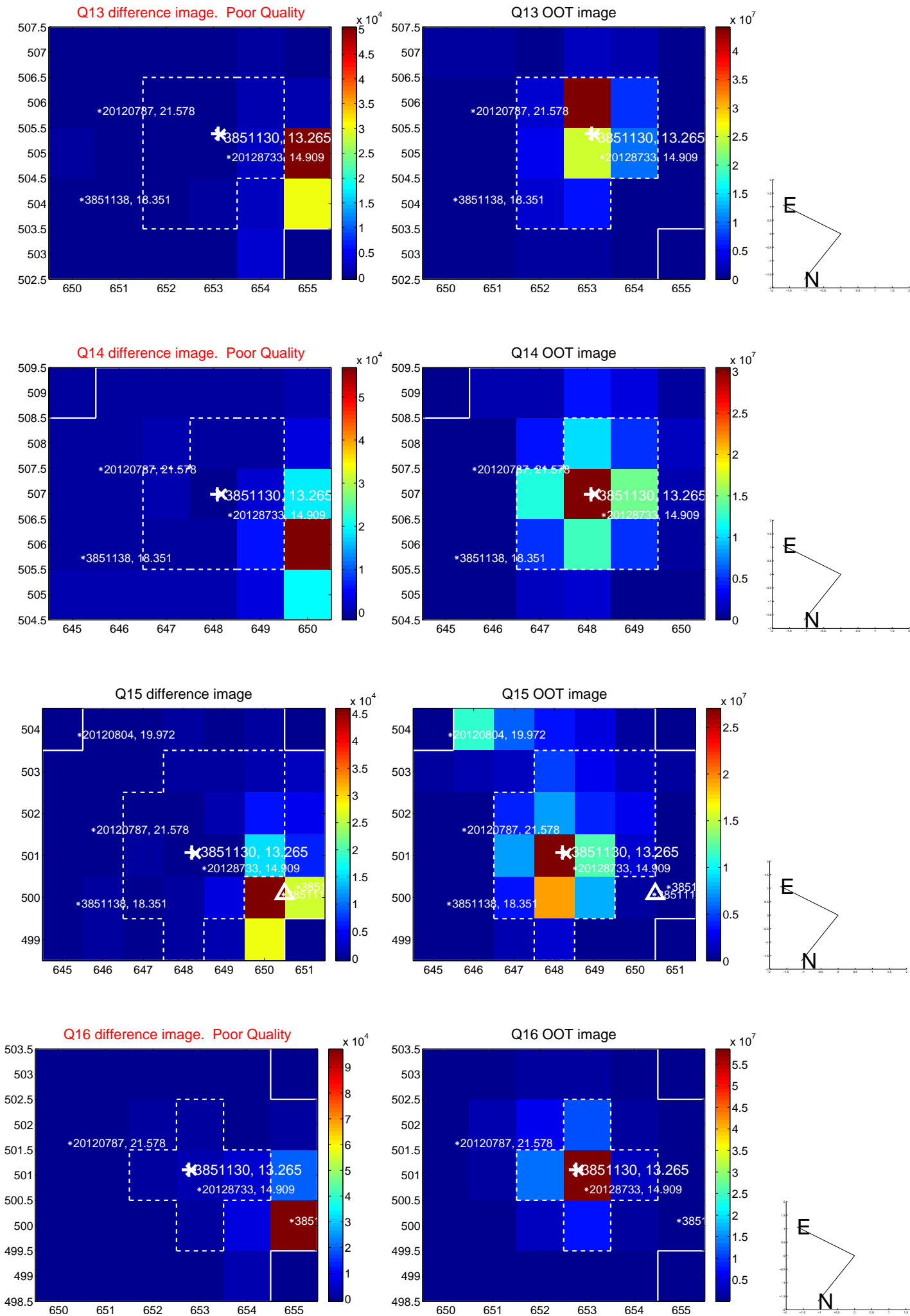
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



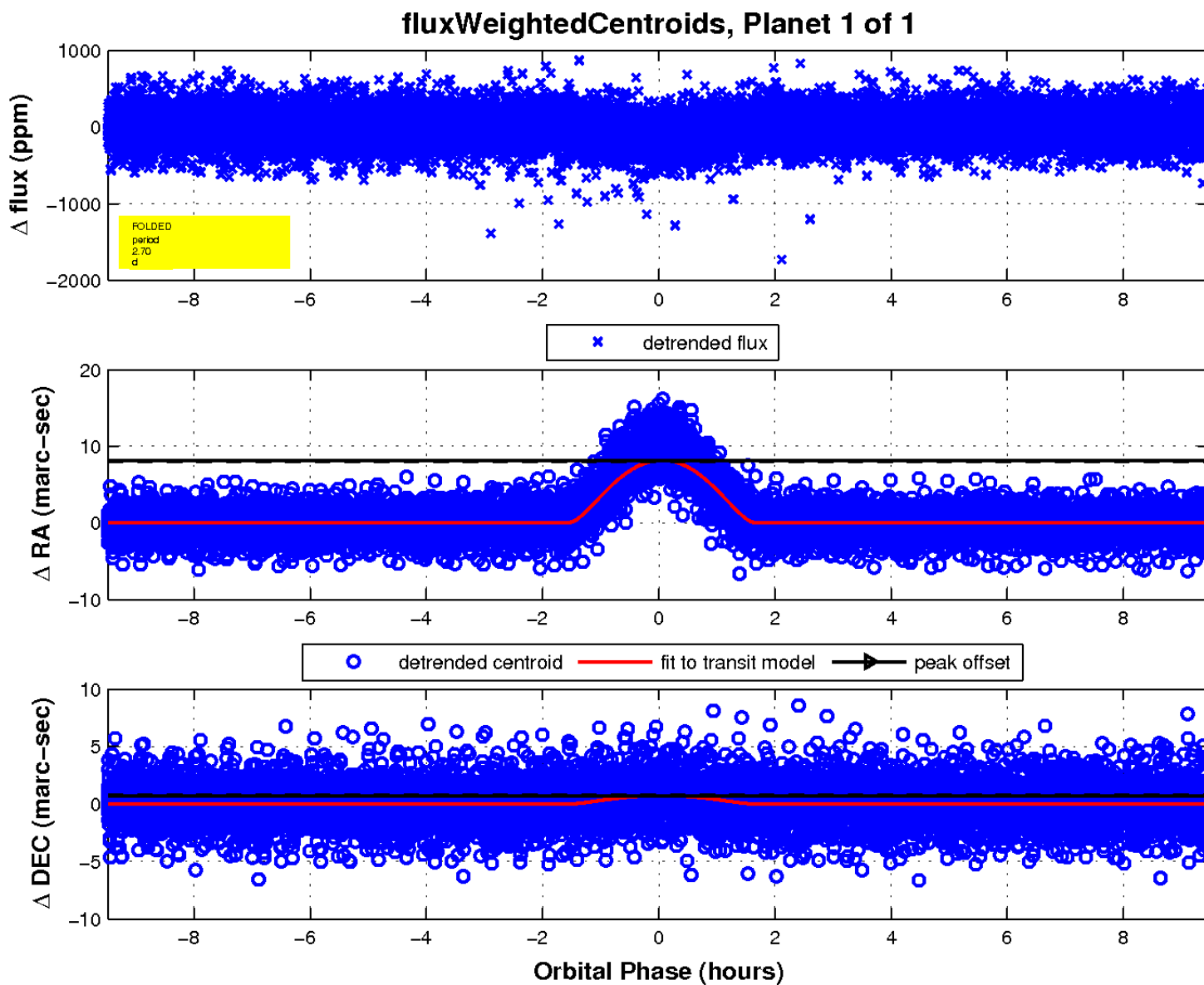
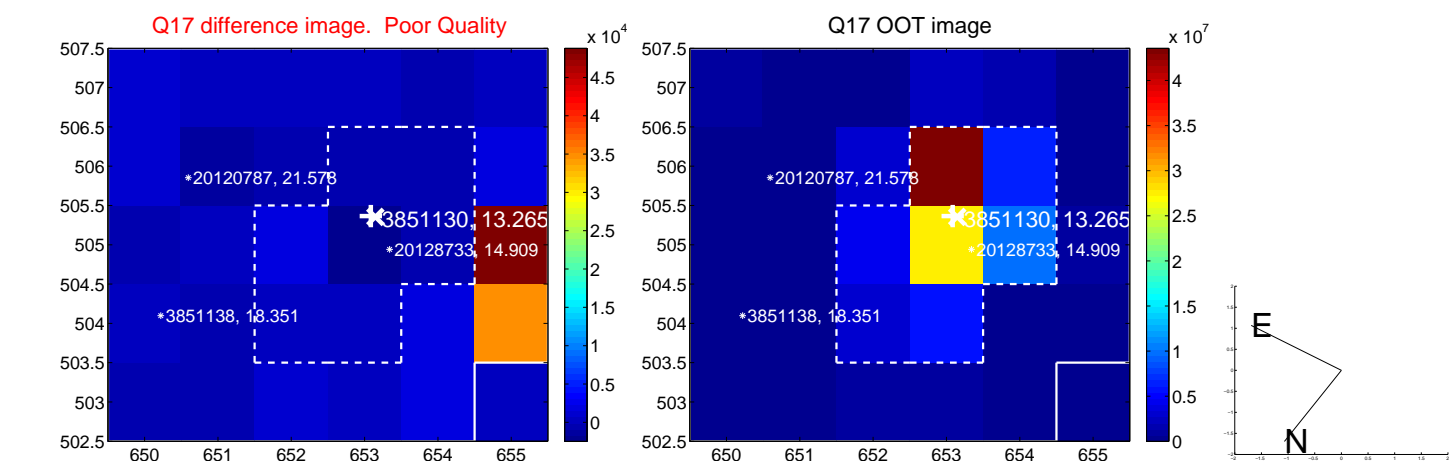
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

