

KIC 011912987

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})
011912987-01	OBS	4461.01	3.747841	134.182779	88.9	5.036	14.7	16.3	0.97	5957	1.52	452.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011912987-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH

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.

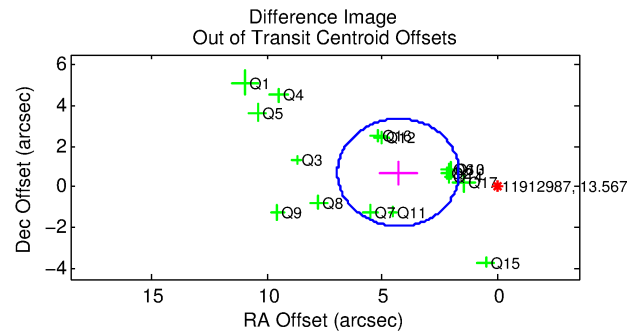
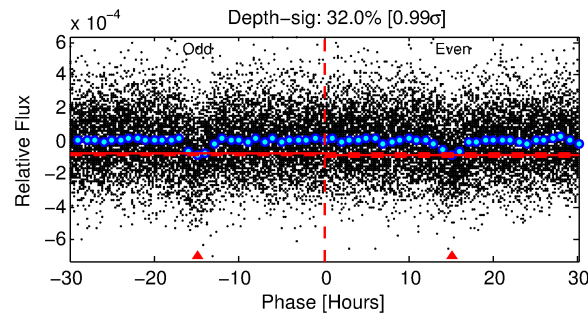
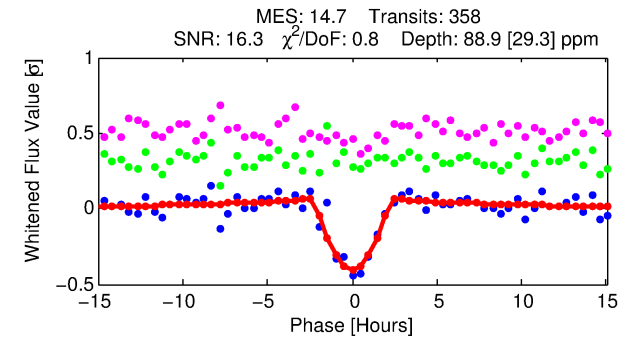
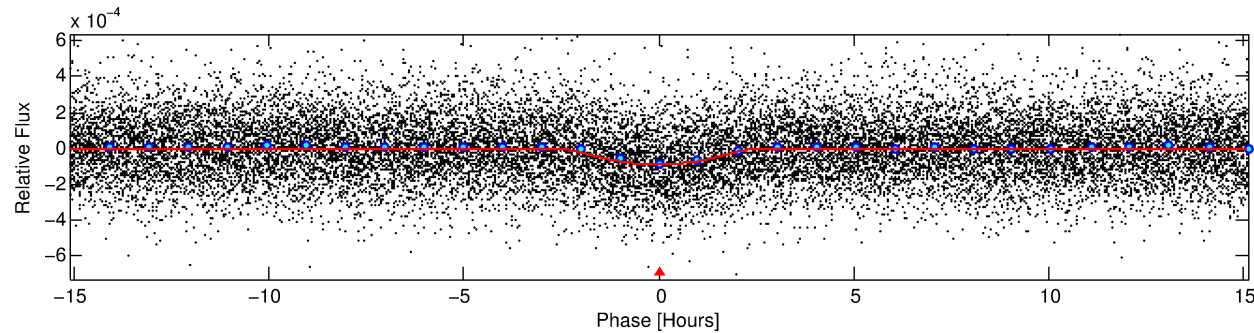
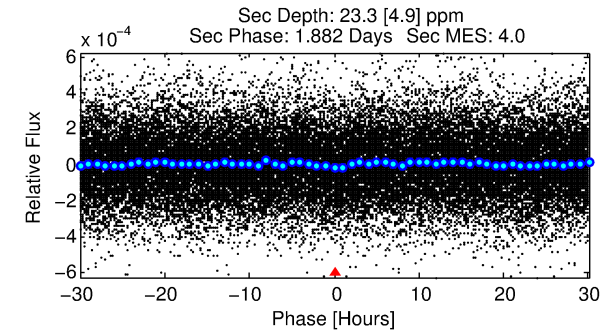
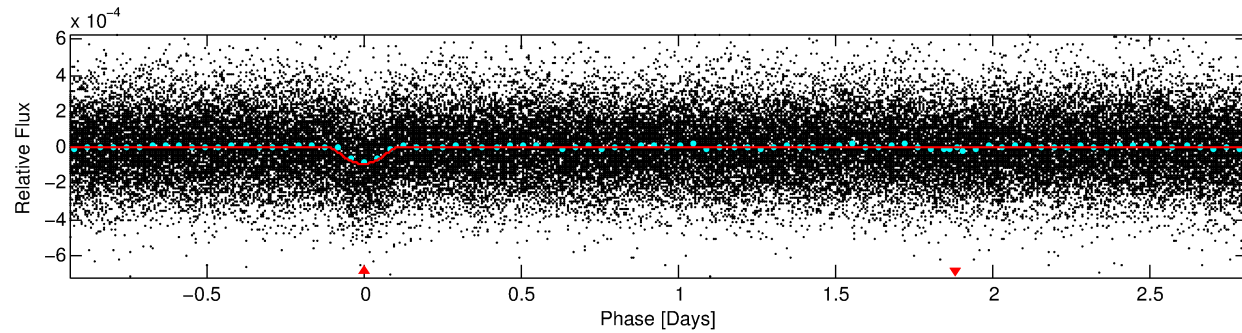
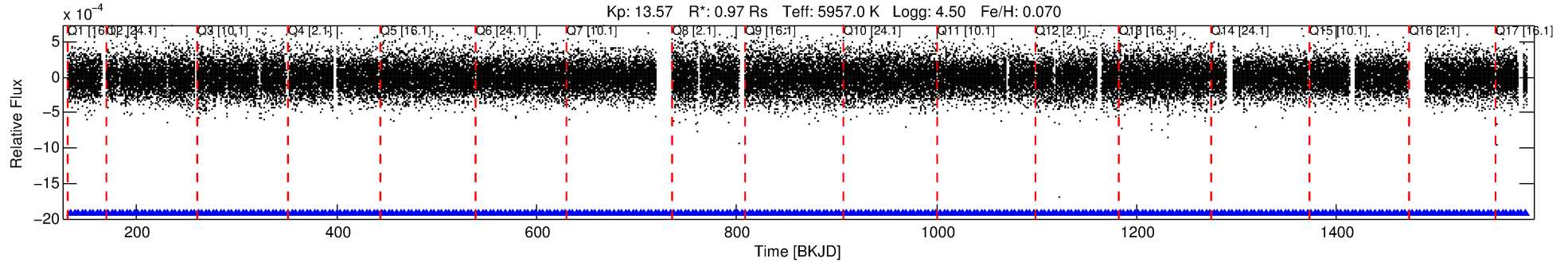
Ephemeris Match Information For 011912987-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
011912987-01	11912987	011913071-pri	11913071	1:1	122.5	17	26	9.53	13.57	2123.60	Direct-PRF	0	0.08	0.19

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 11912987 Candidate: 1 of 1 Period: 3.748 d
KOI: K04461.01 Corr: 0.826



DV Fit Results:

Period = 3.74784 [0.00003] d
Epoch = 134.1828 [0.0058] BKJD
Rp/R* = 0.0144 [0.0090]
a/R* = 1.53 [0.23]
b = 0.99 [0.02]
Seff = 452.32 [188.88]
Teq = 1176 [123] K
Rp = 1.52 [1.06] Re
a = 0.0485 [0.0129] AU
Ag = 12.97 [17.21] [0.70σ]
Teffp = 3450 [1098] K [2.06σ]

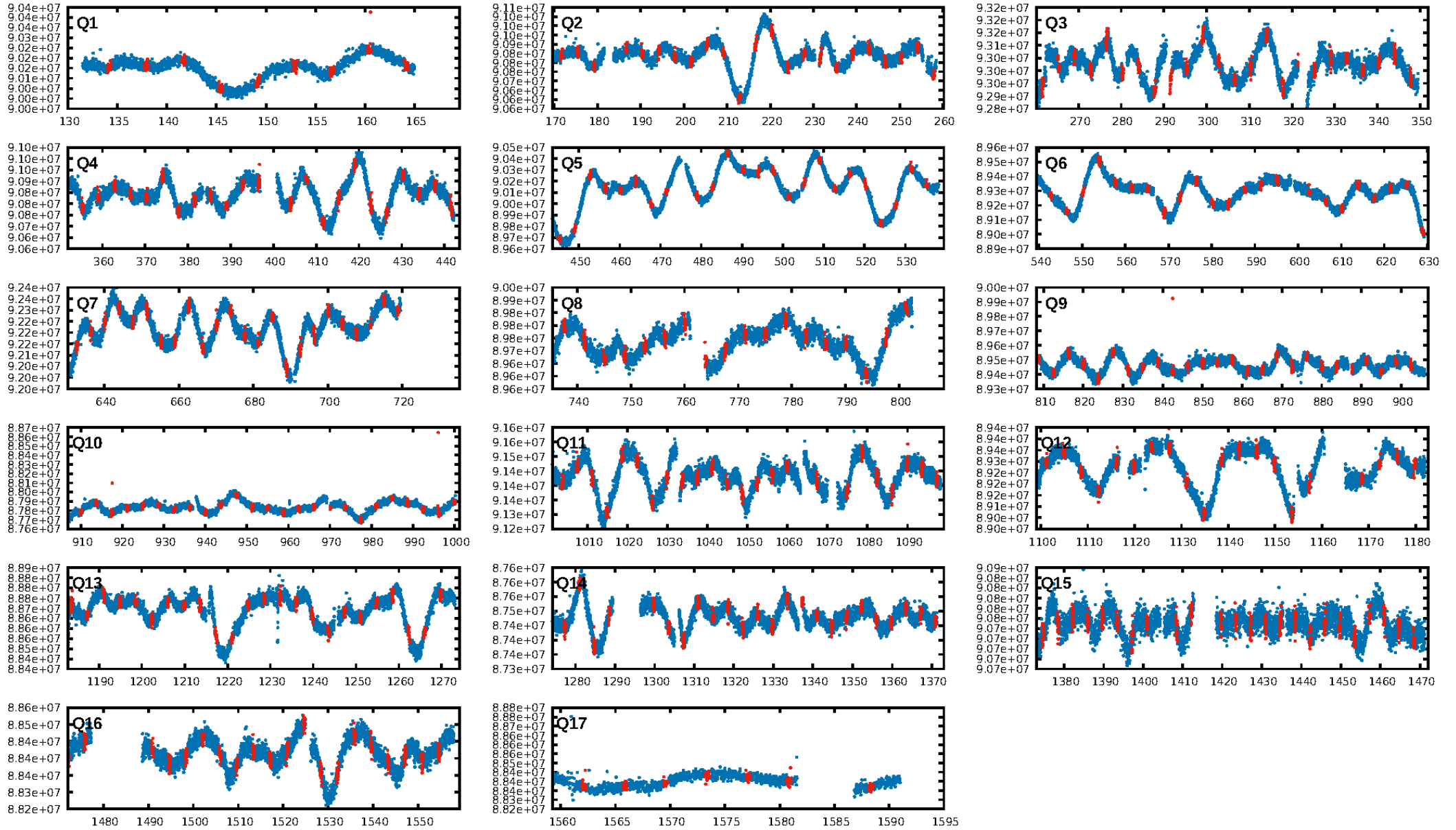
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.03e-45
RollingBand-fgt: 1.00 [342/342]
GhostDiagnostic-chr: 0.1265
Centroid-sig: 0.0%
Centroid-so: 2.224 arcsec [3.86σ]
OotOffset-rm: 4.373 arcsec [4.99σ]
KicOffset-rm: 4.316 arcsec [4.84σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

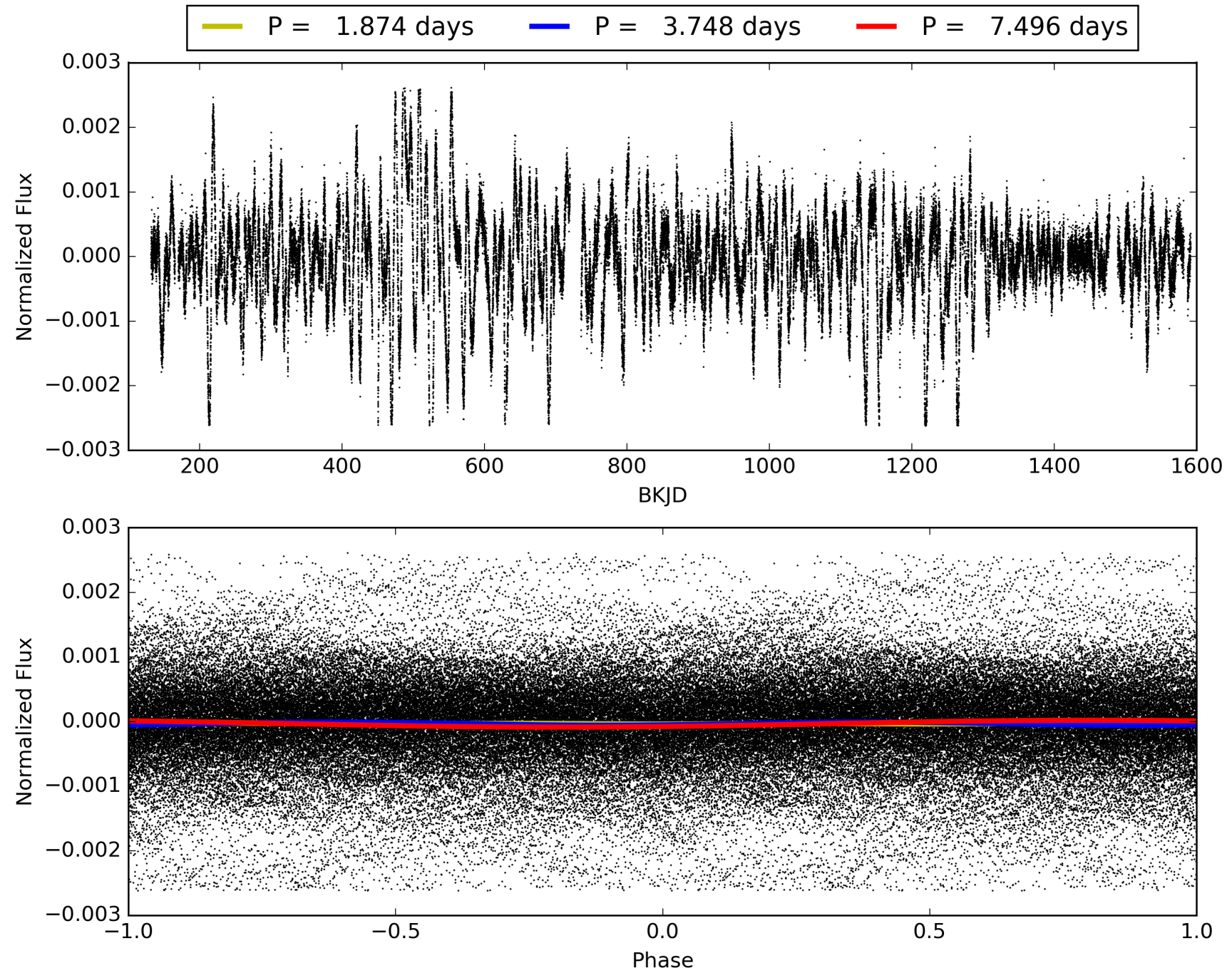
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:36:07 Z

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

TCE 011912987-01, PDC Light Curves

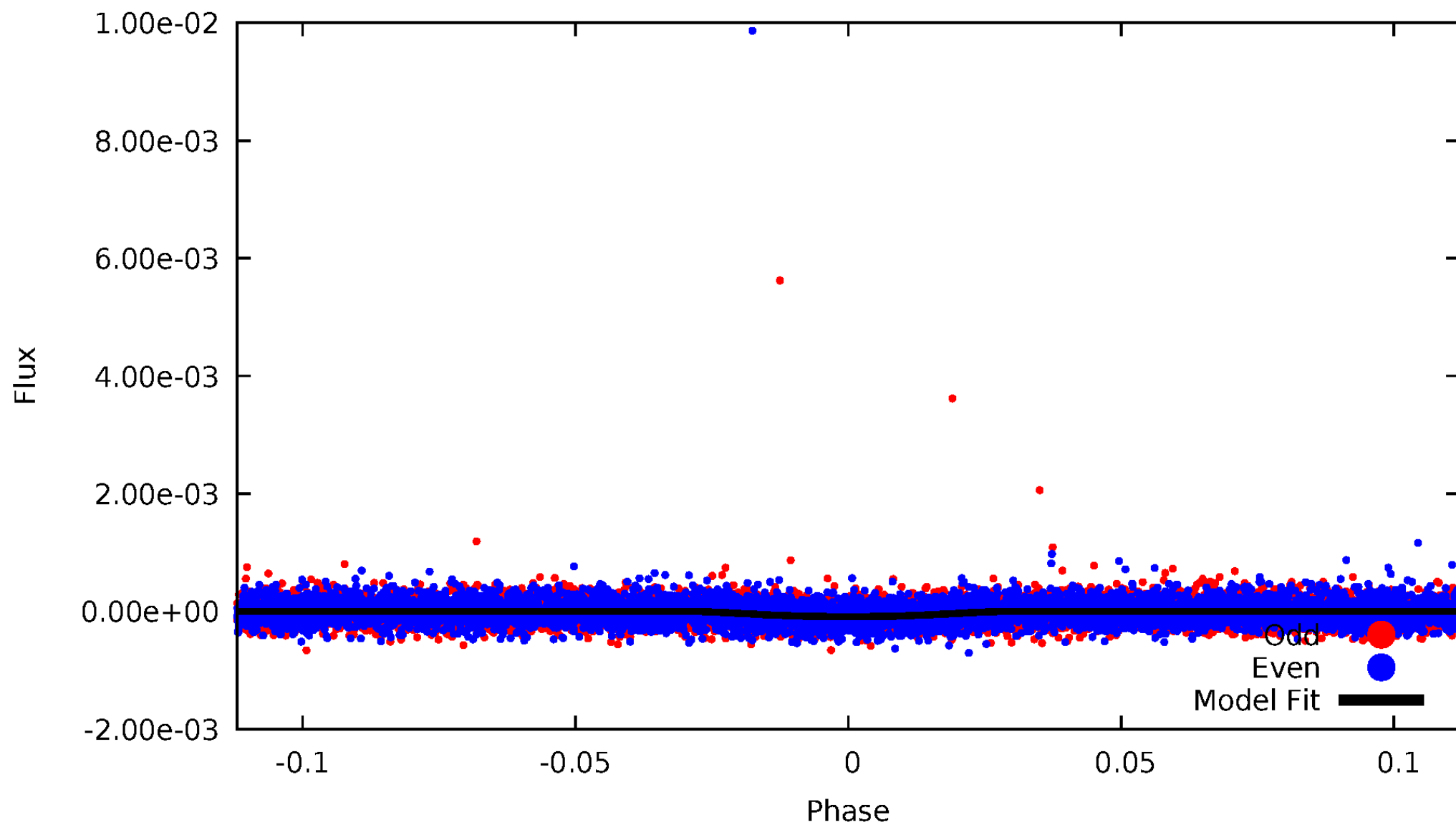


TCE 011912987-01



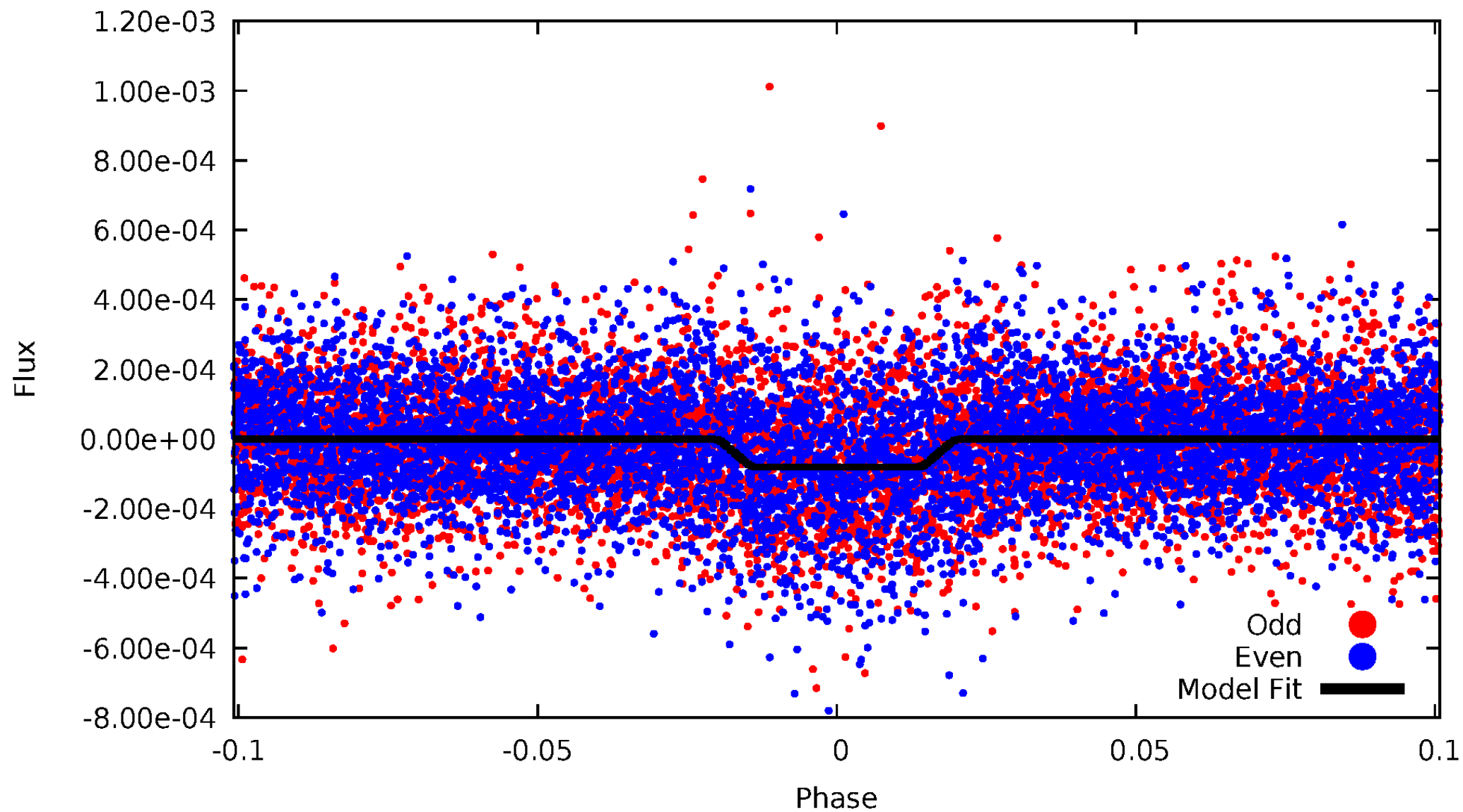
DV Odd/Even

TCE 011912987-01



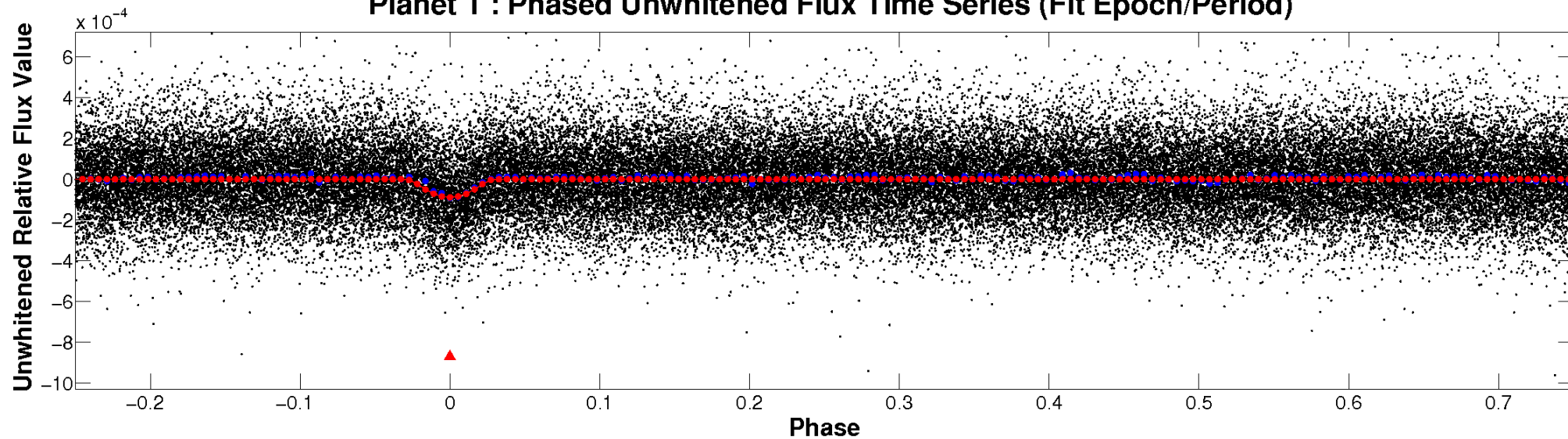
ALT Odd/Even

TCE 011912987-01

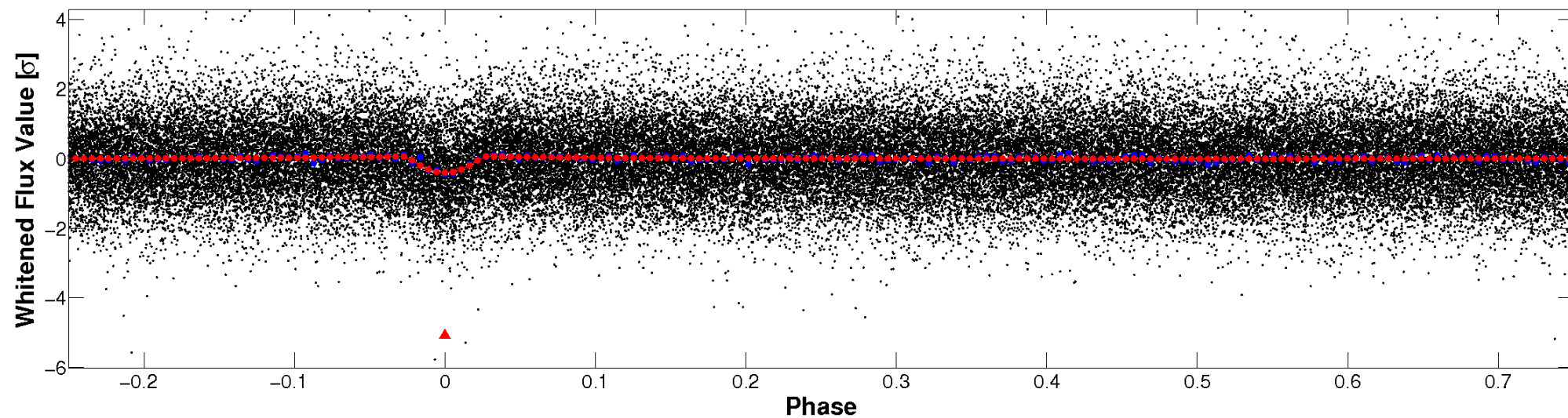


Non-Whitened Vs. Whitened Light Curve

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

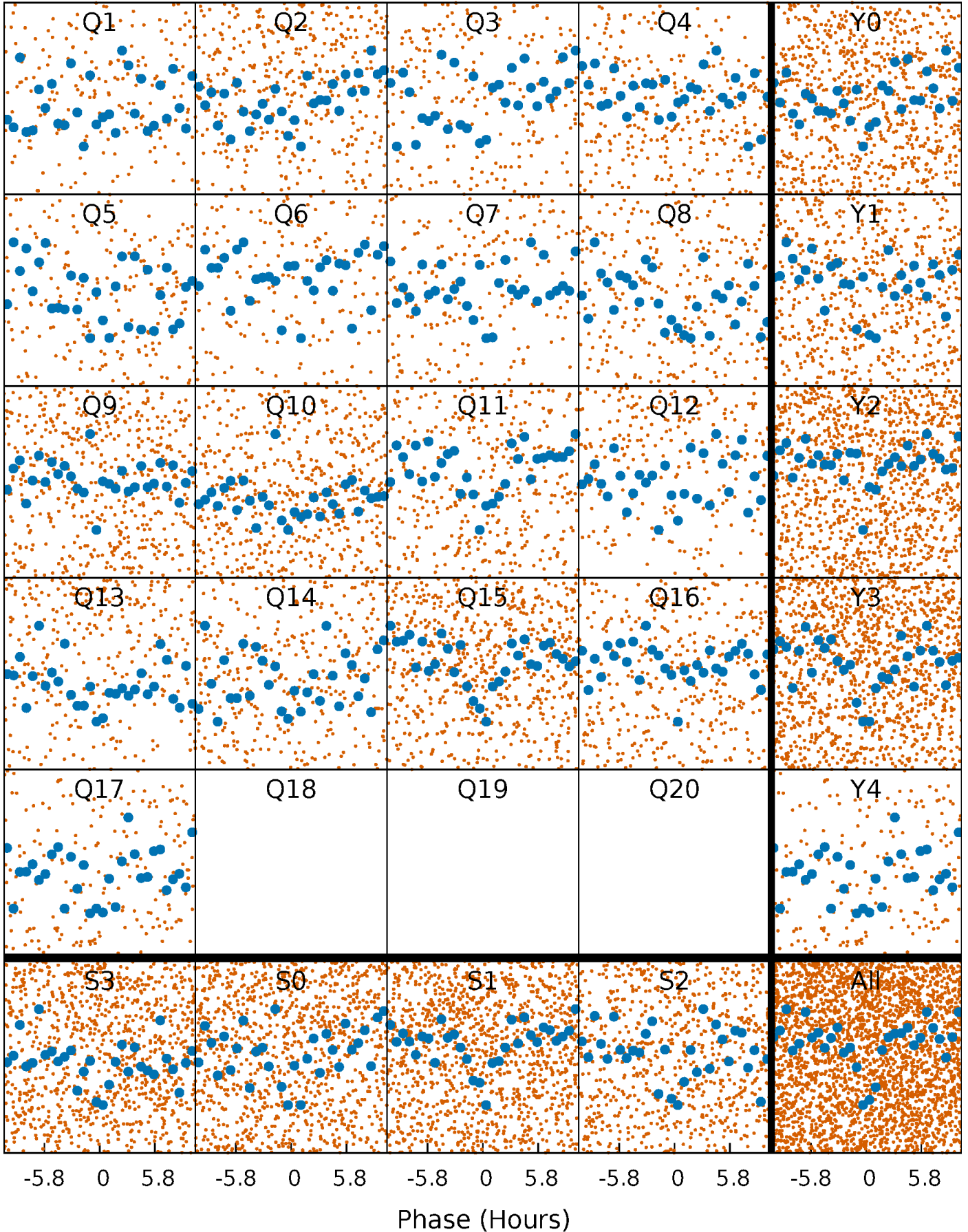


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



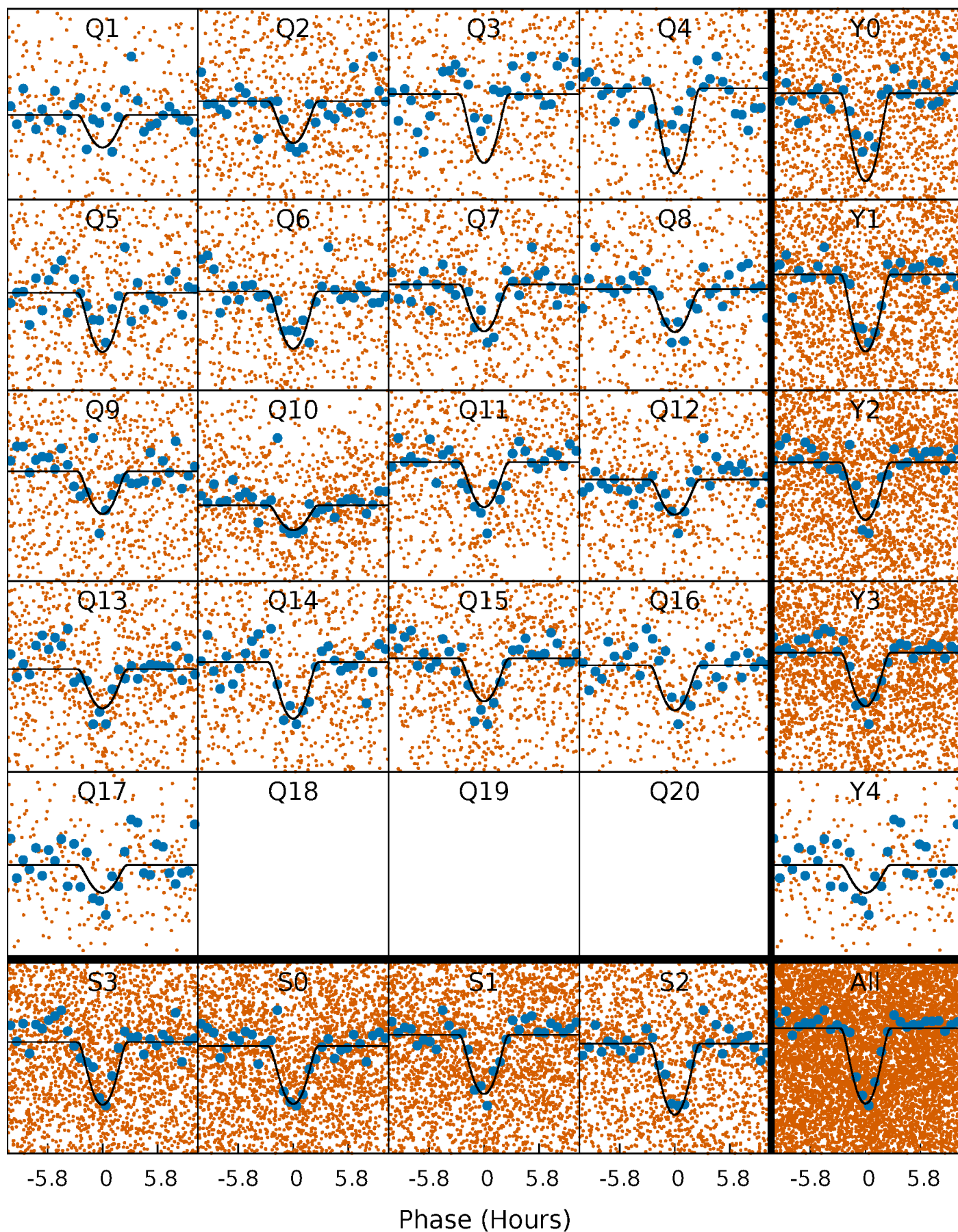
PDC Quarter-Phased Transit Curves

TCE 011912987-01 P= 3.747841 Days $T_0=134.182779$ (BKJD)



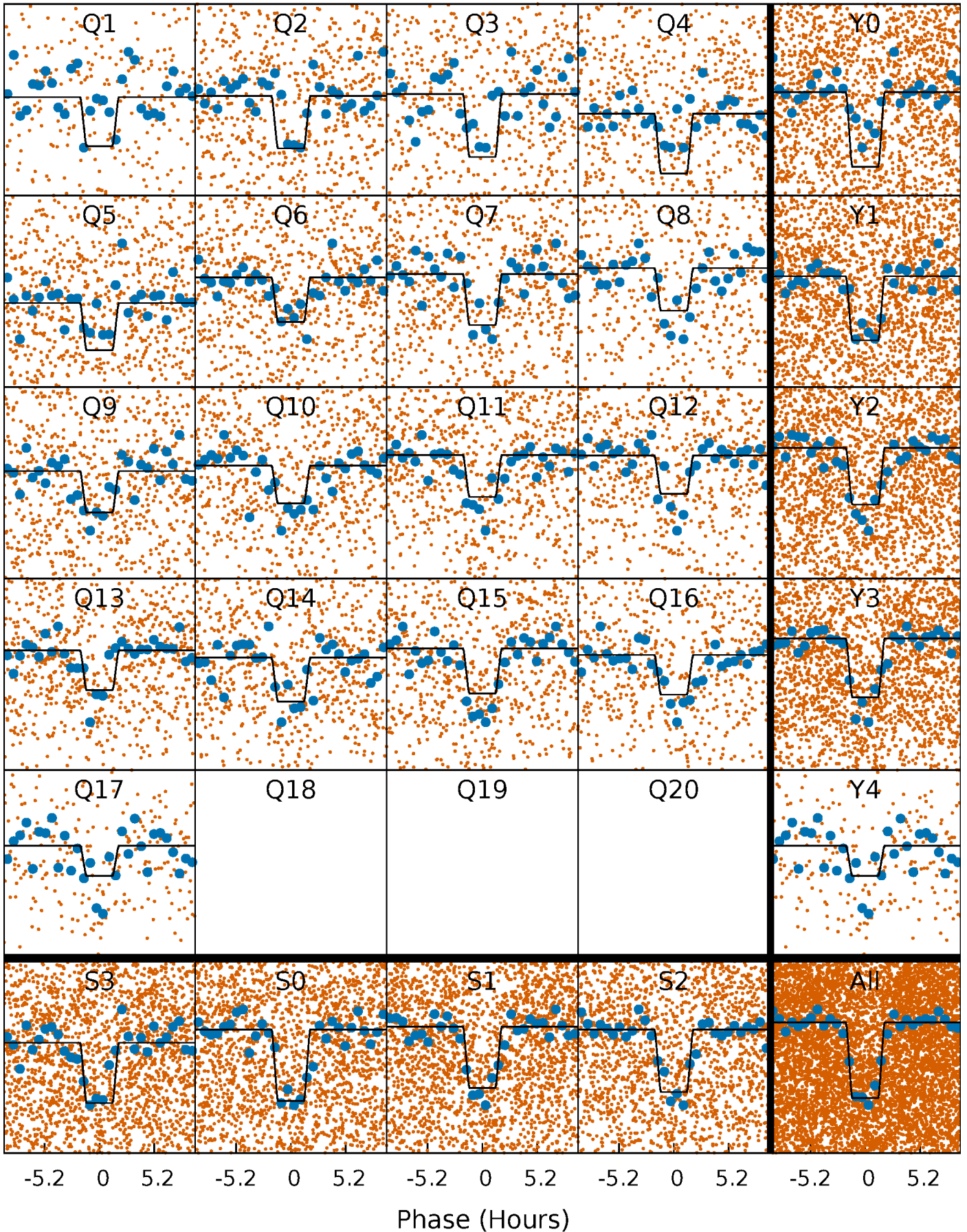
DV Quarter-Phased Transit Curves

TCE 011912987-01 P= 3.747841 Days $T_0=134.182779$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

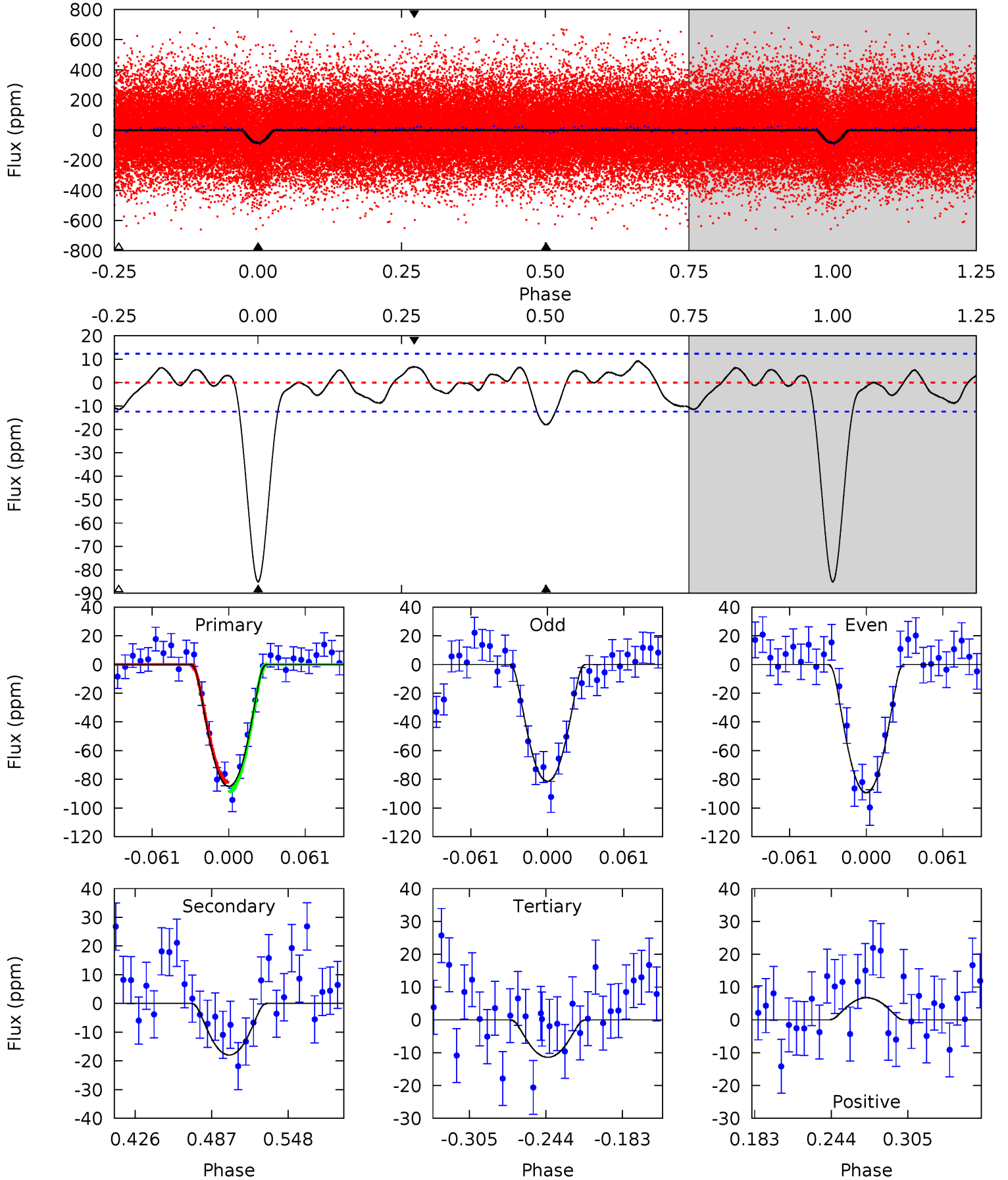
TCE 011912987-01 P= 3.747863 Days $T_0=134.179405$ (BKJD)



DV Model-Shift Uniqueness Test

011912987-01, P = 3.747841 Days, E = 130.434938 Days

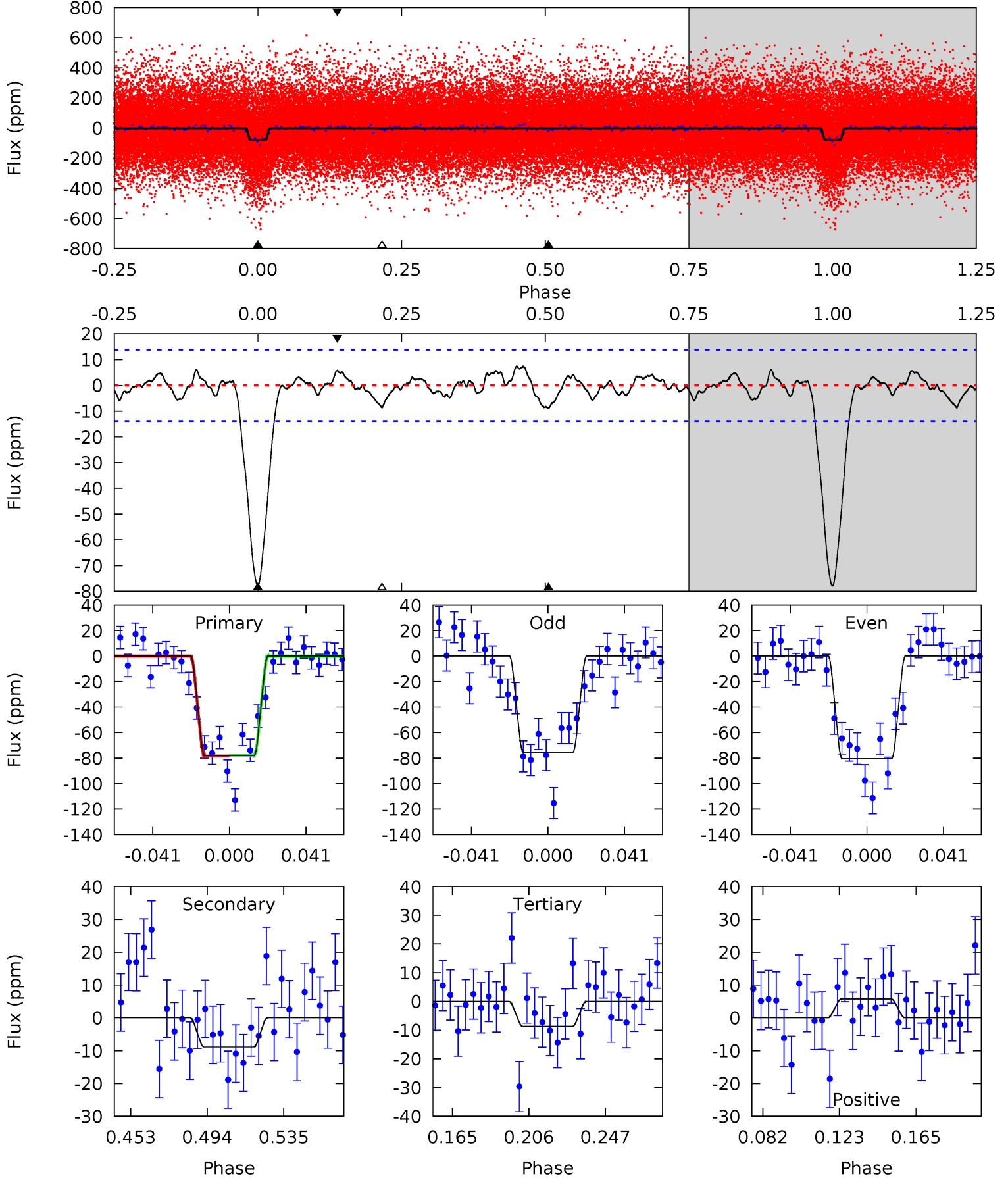
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.1	6.79	4.31	2.54	4.67	1.87	1.83	27.8	29.6	2.48	4.26	1.50	0.94	0.10	1.23



Alt Model-Shift Uniqueness Test

011912987-01, P = 3.747863 Days, E = 130.431542 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	3.06	2.99	1.98	4.75	2.04	1.04	23.8	24.8	0.07	1.08	0.85	0.99	0.09	0.10



Stellar Parameters For KIC 011912987

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5957^{+160}_{-195}	$4.498^{+0.039}_{-0.221}$	$0.070^{+0.250}_{-0.350}$	$0.971^{+0.299}_{-0.100}$	$1.083^{+0.126}_{-0.154}$	$1.665^{+0.364}_{-0.910}$
	+3%/-3%	+1%/-5%	+357%/-500%	+31%/-10%	+12%/-14%	+22%/-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 011912987-01 / KOI 4461.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 3	$1.65^{+1.10}_{-0.89}$	1686^{+126}_{-77}	3599^{+1230}_{-531}	$8.187^{+30.725}_{-5.153}$
Alt.	-9 ± 3	$1.22^{+0.92}_{-0.76}$	1682^{+125}_{-79}	3542^{+1616}_{-635}	$7.411^{+45.101}_{-5.277}$

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

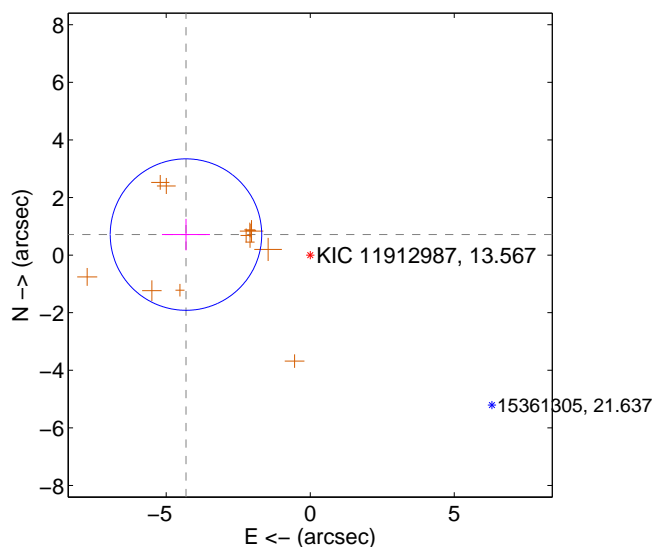
Supplemental centroid analysis for 011912987-01. Kepler magnitude: 13.57. Transit SNR 16.28

There are 0 quarters with good PRF difference image offsets

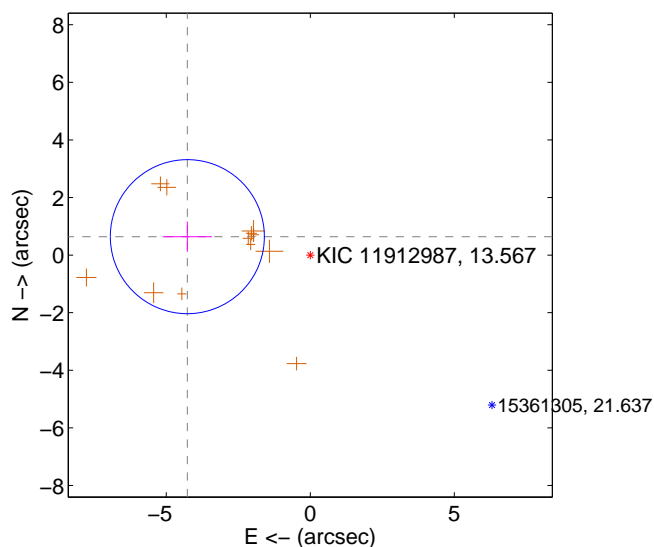
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.373 ± 0.877	4.99	4.314 ± 0.834	0.713 ± 0.546
PRF-fit source offset from KIC position	4.316 ± 0.891	4.84	4.269 ± 0.854	0.640 ± 0.528
photometric centroid source offset	2.22 ± 0.58	3.86	2.06 ± 0.57	0.84 ± 0.62

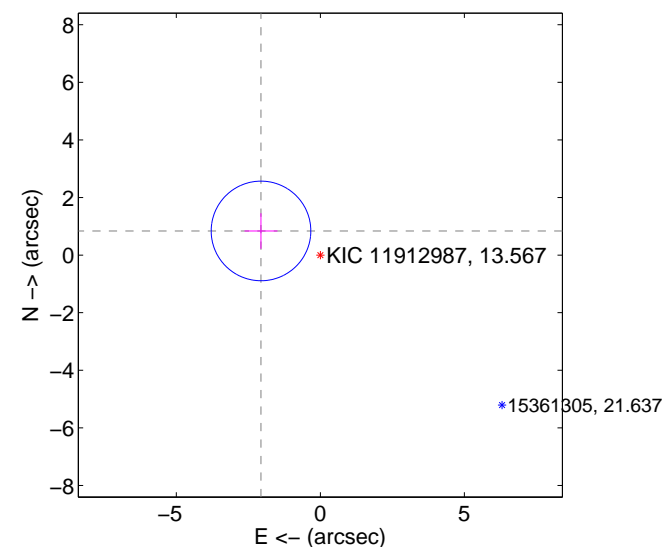
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

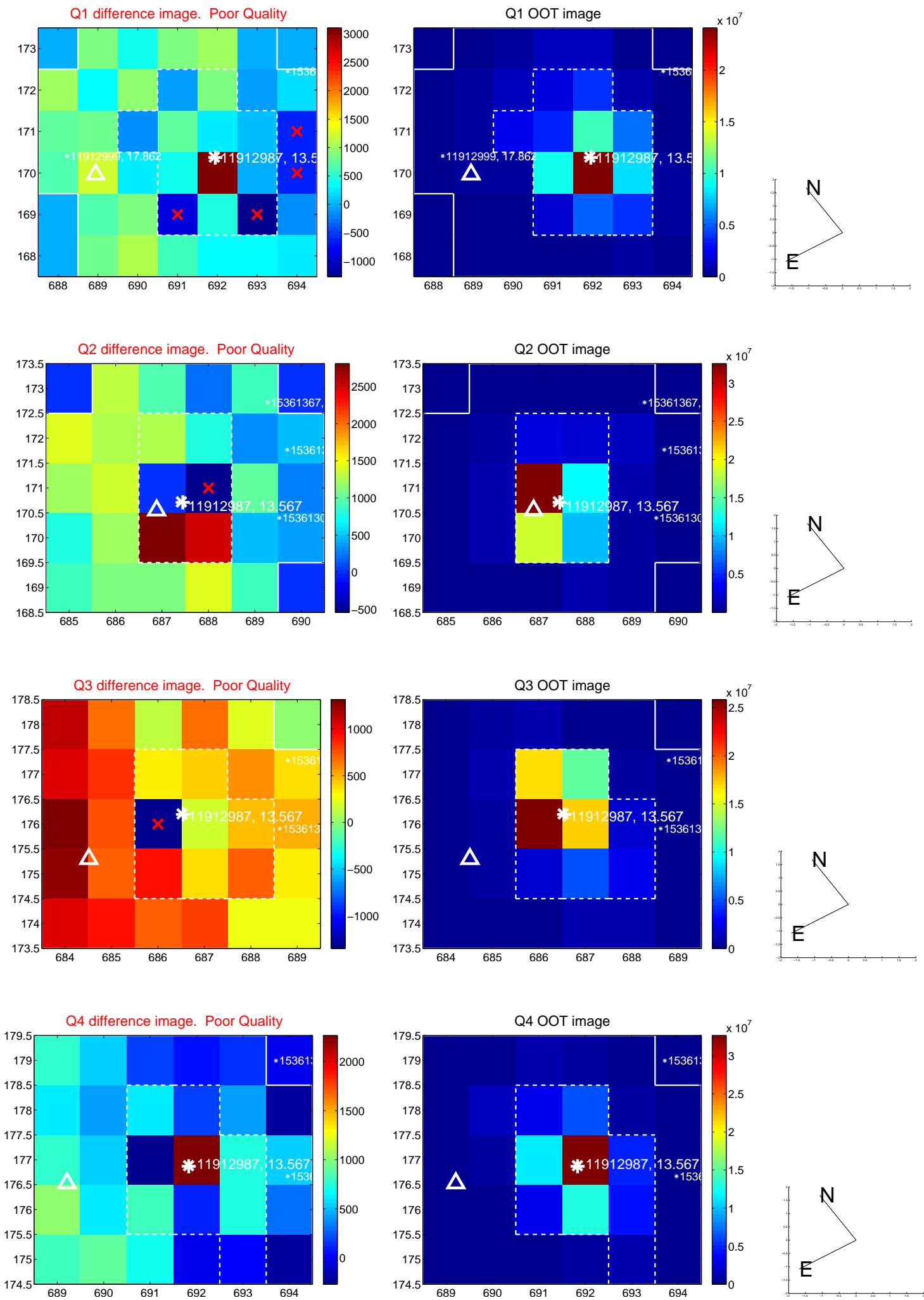


offset from photometric centroids

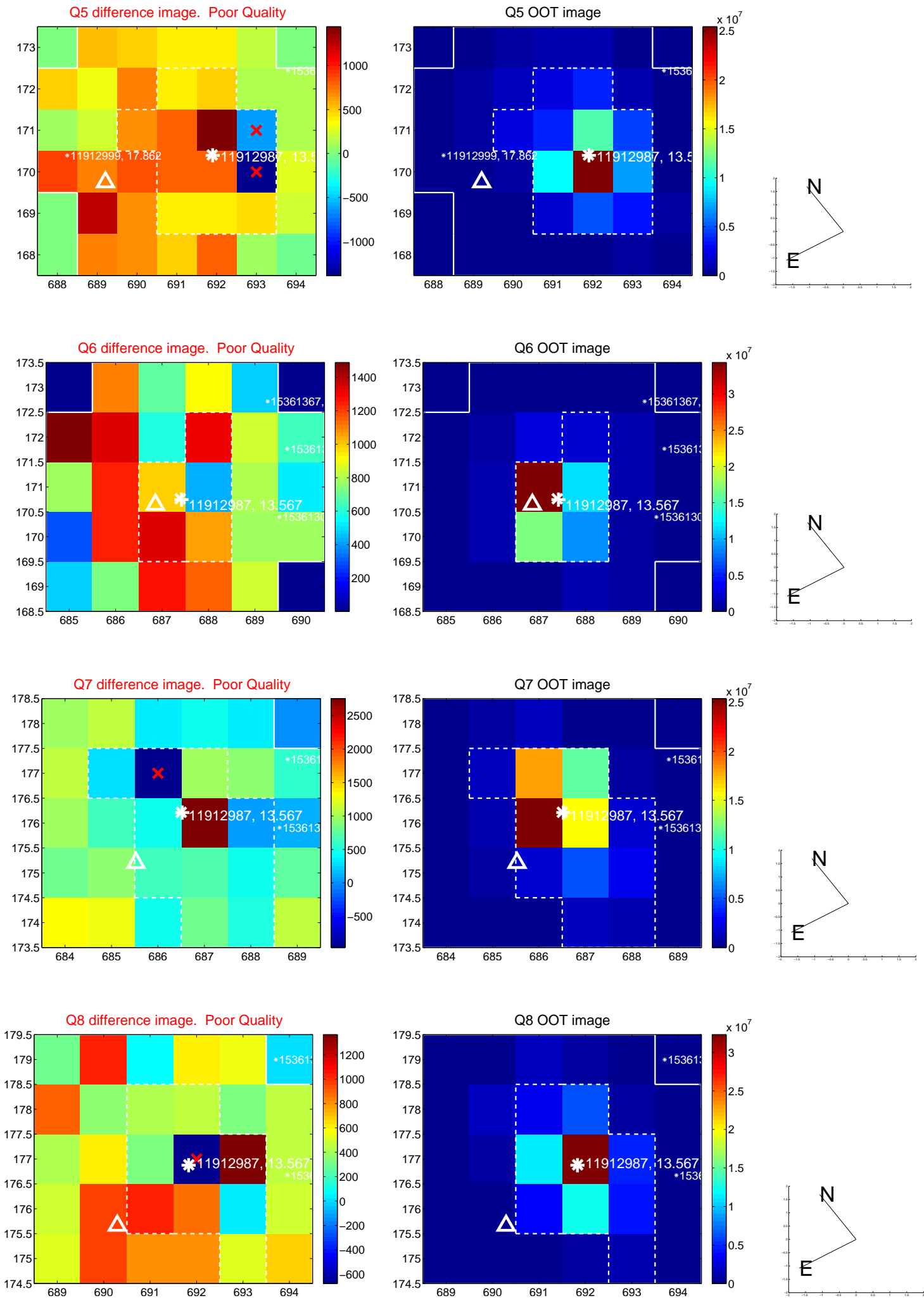


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

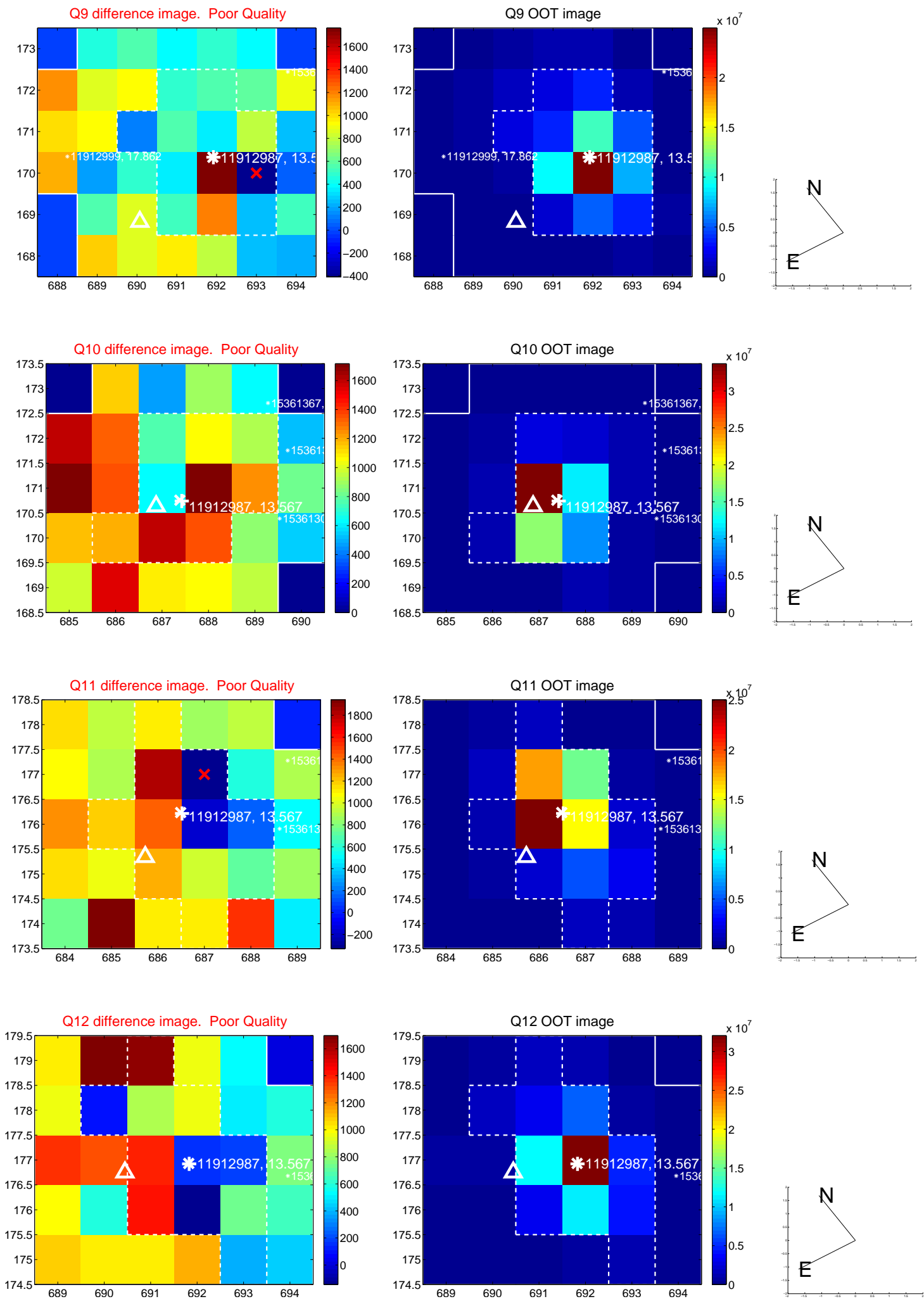
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



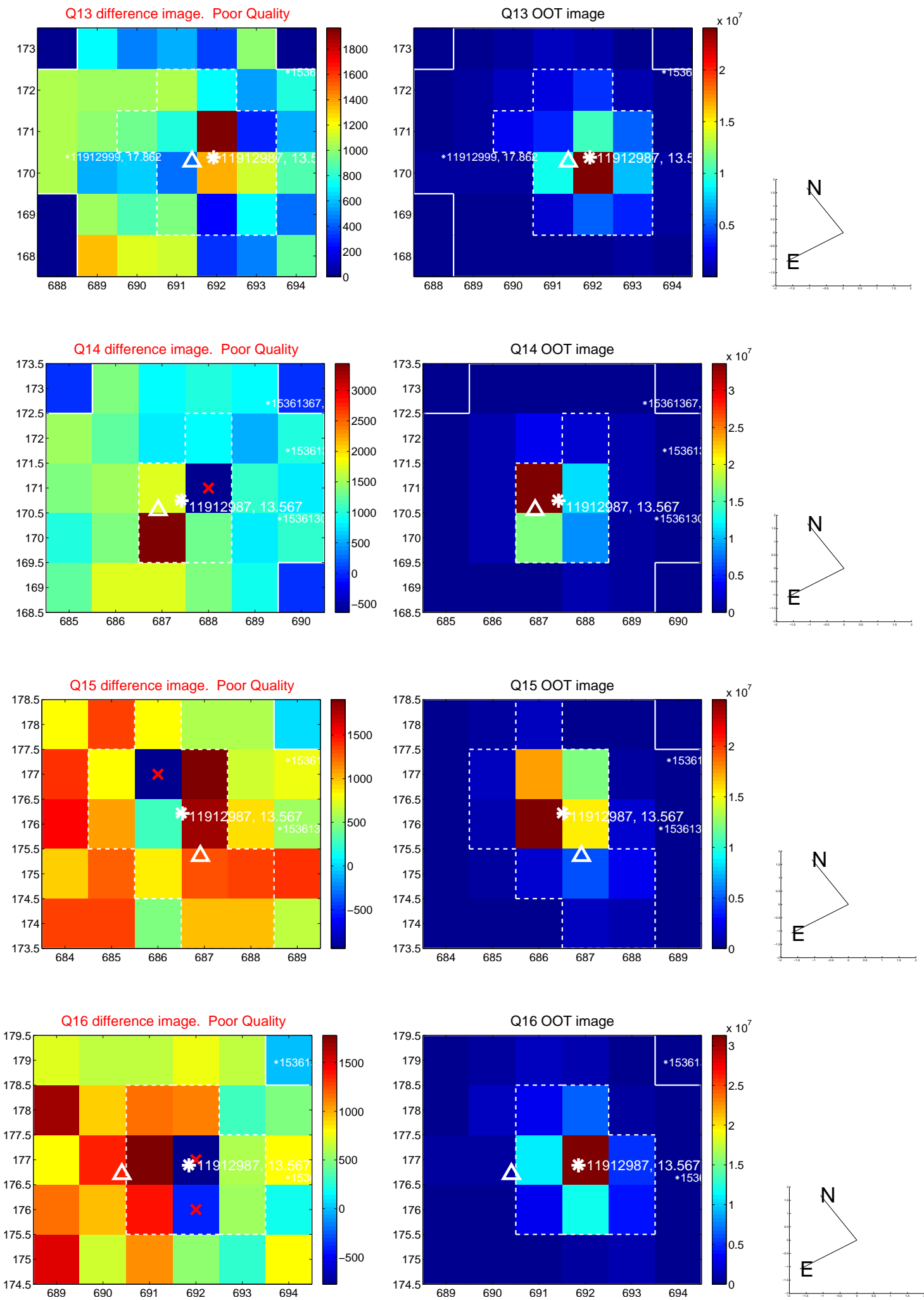
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



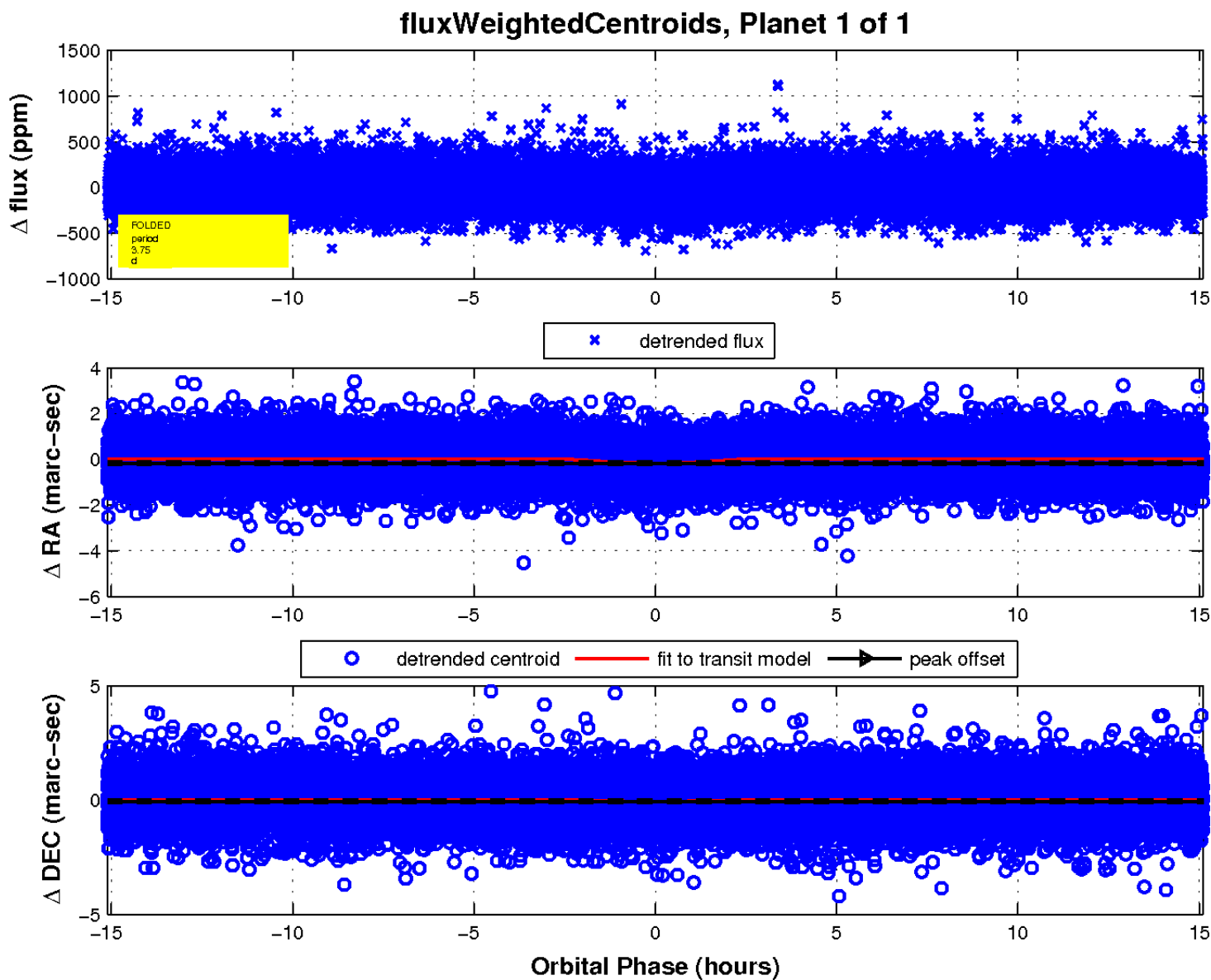
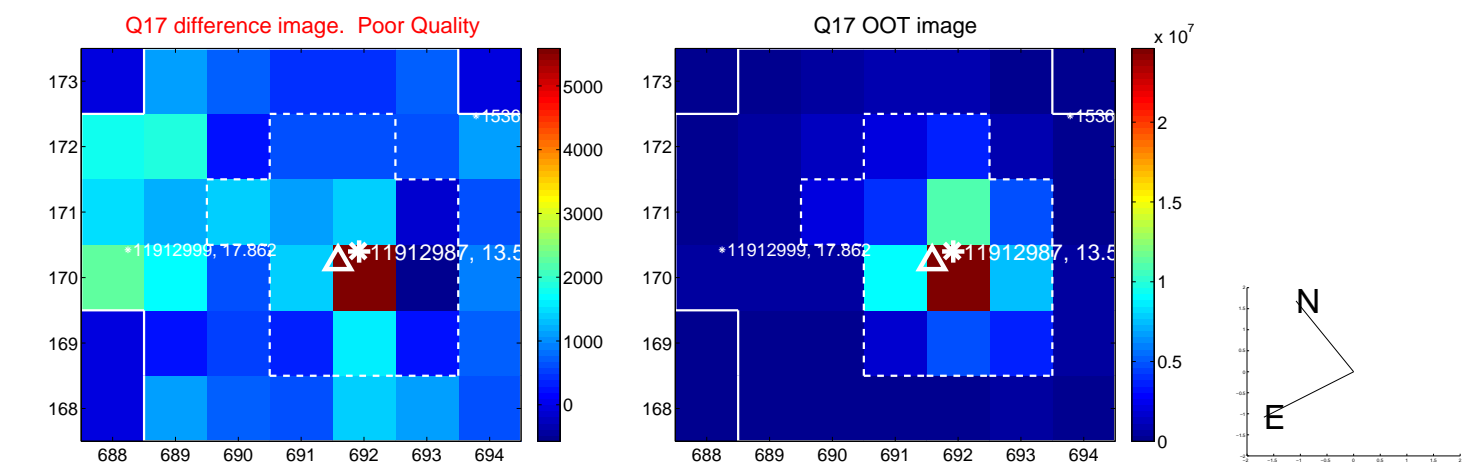
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

