

KIC 011970988

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})
011970988-01	OBS	4129.01	2.314832	133.053817	53.9	2.490	12.6	13.1	0.92	5240	0.82	554.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011970988-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

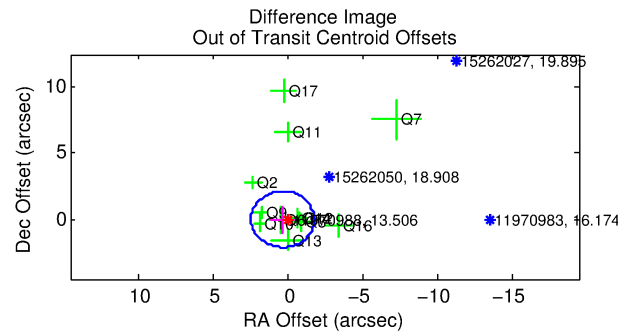
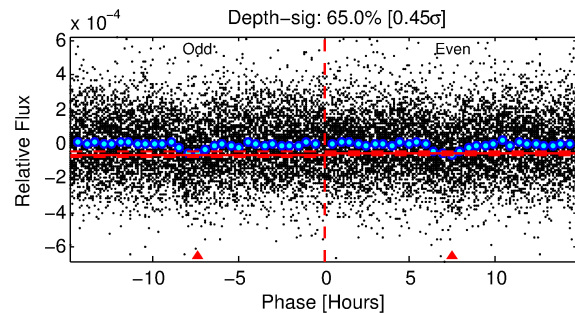
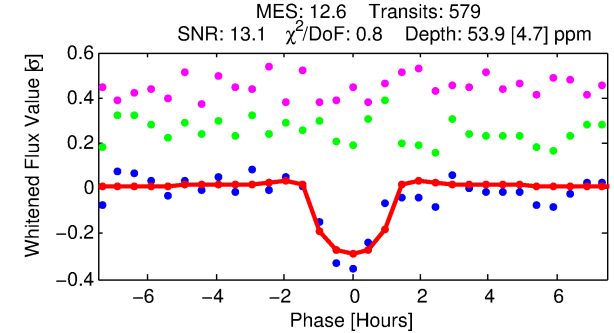
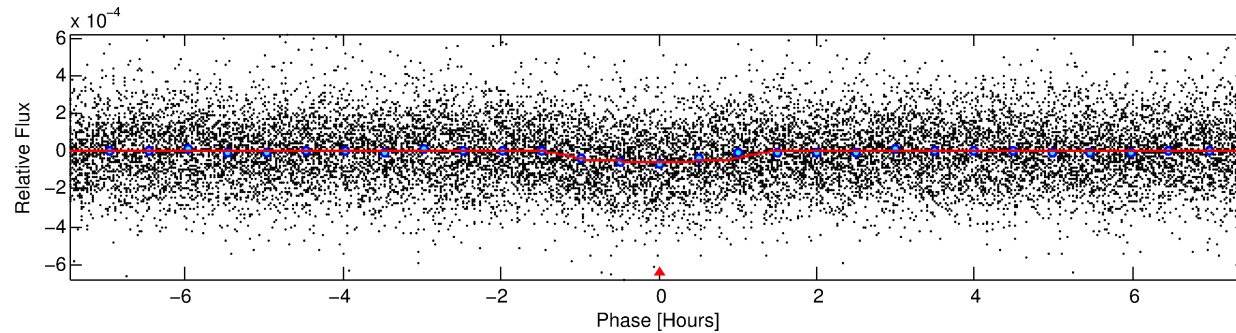
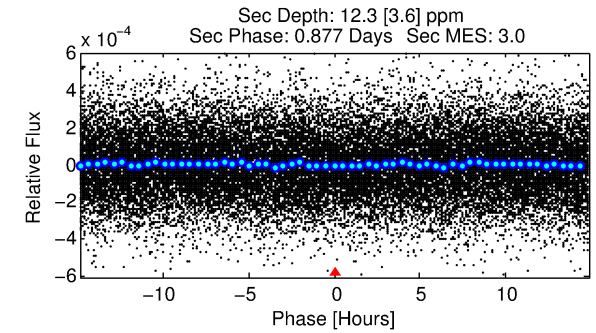
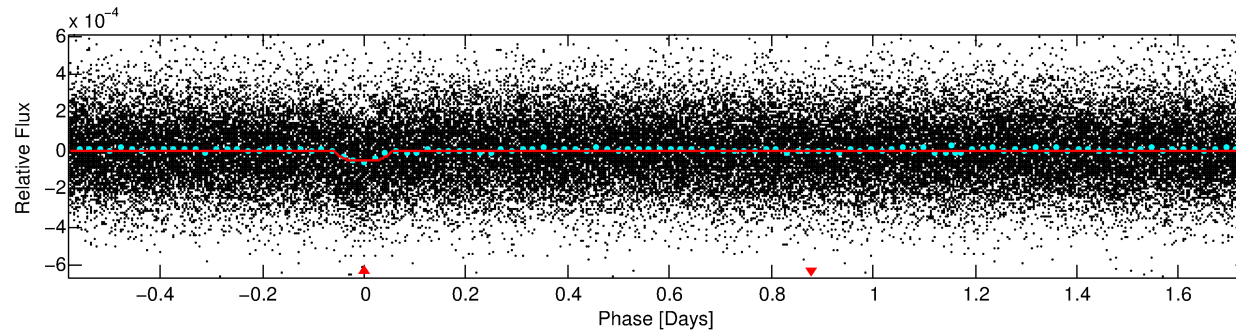
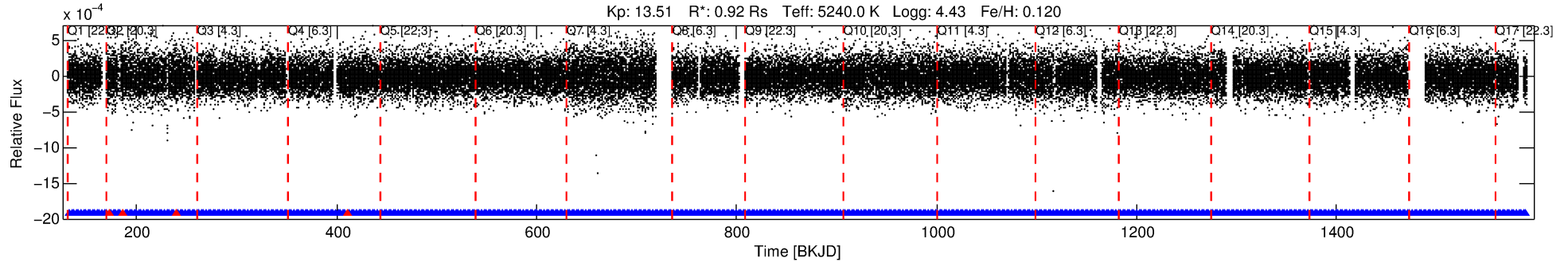
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011970988-01

No Significant Match Found

DV One-Page Summary

KIC: 11970988 Candidate: 1 of 1 Period: 2.315 d
KOI: K04129.01 Corr: 0.925



DV Fit Results:

Period = 2.31483 [0.00001] d
Epoch = 133.0538 [0.0027] BKJD
Rp/R* = 0.0081 [0.0042]
a/R* = 3.37 [6.69]
b = 0.90 [0.48]
Seff = 554.19 [189.87]
Teq = 1237 [106] K
Rp = 0.82 [0.46] Re
a = 0.0322 [0.0066] AU
Ag = 10.47 [11.71] [0.81σ]
Teffp = 3441 [928] K [2.36σ]

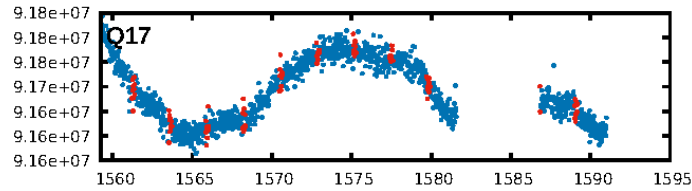
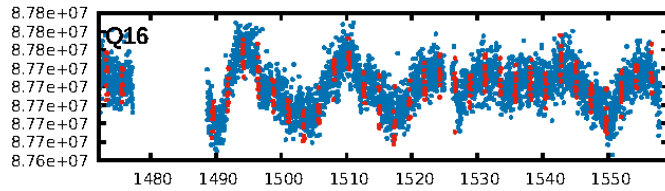
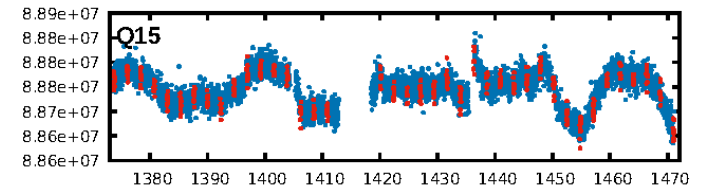
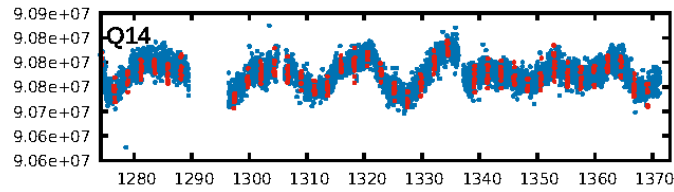
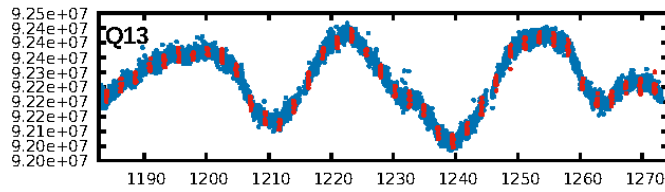
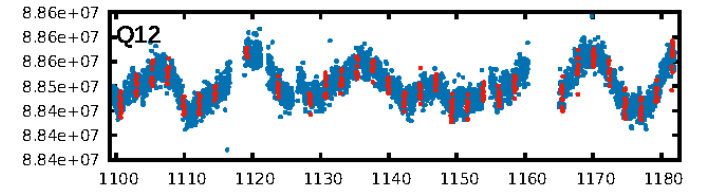
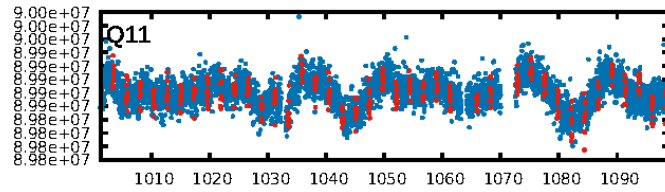
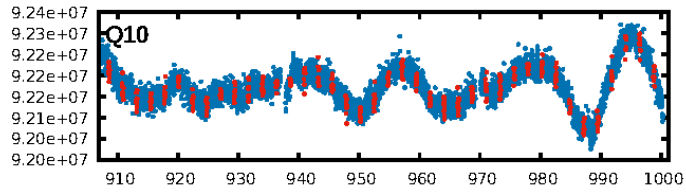
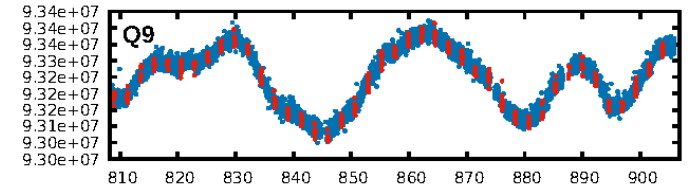
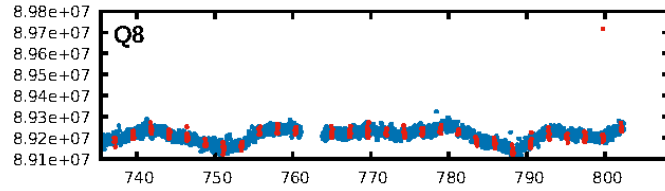
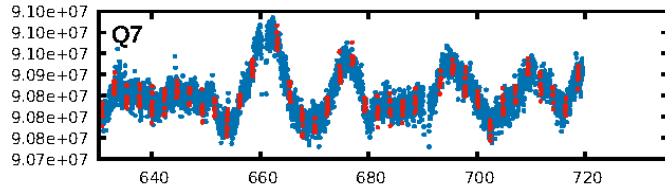
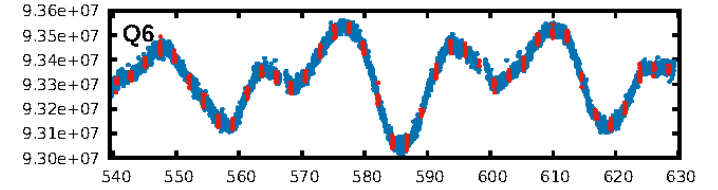
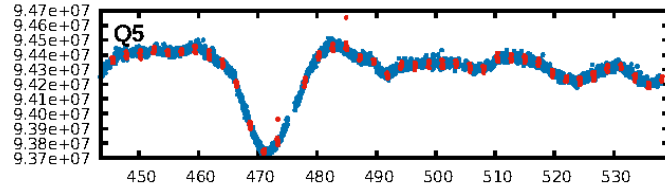
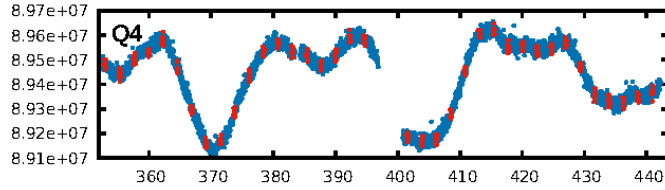
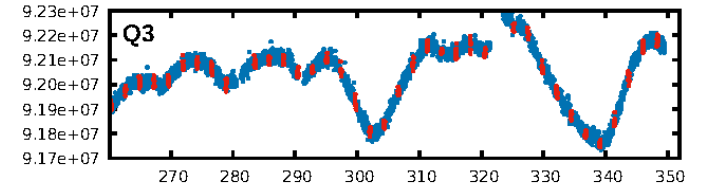
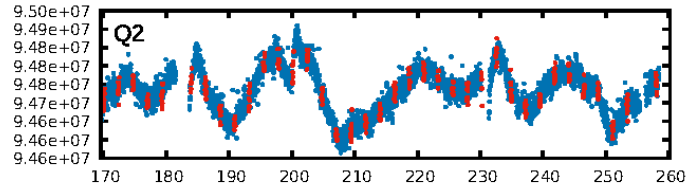
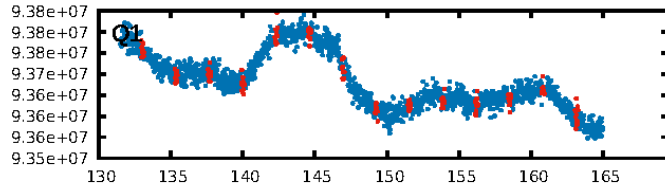
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.22e-34
RollingBand-fgt: 0.99 [551/555]
GhostDiagnostic-chr: 2.899
Centroid-sig: 71.4%
Centroid-so: 1.644 arcsec [1.32σ]
OotOffset-rm: 0.317 arcsec [0.45σ]
KicOffset-rm: 0.755 arcsec [0.84σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

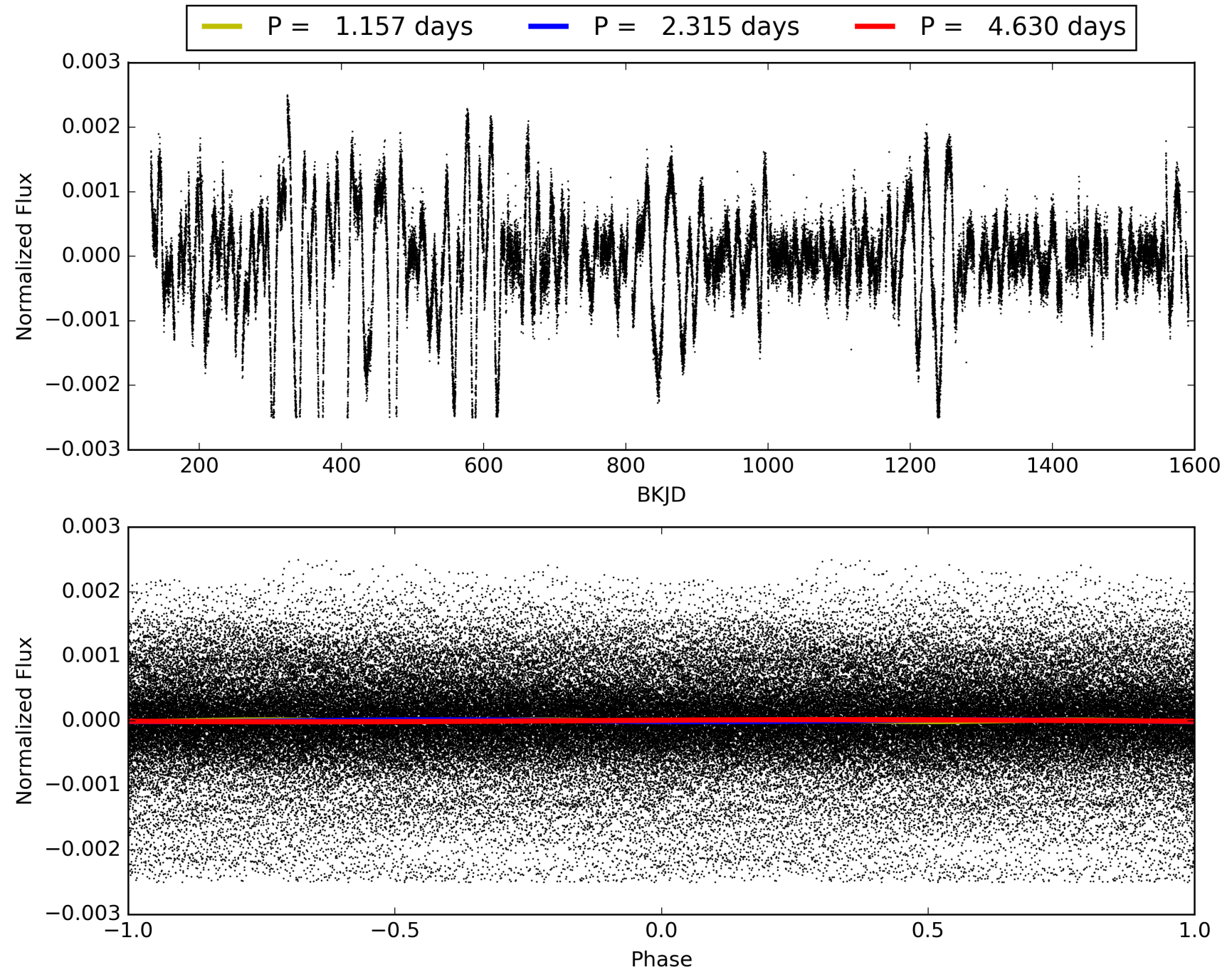
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:48:38 Z

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

TCE 011970988-01, PDC Light Curves

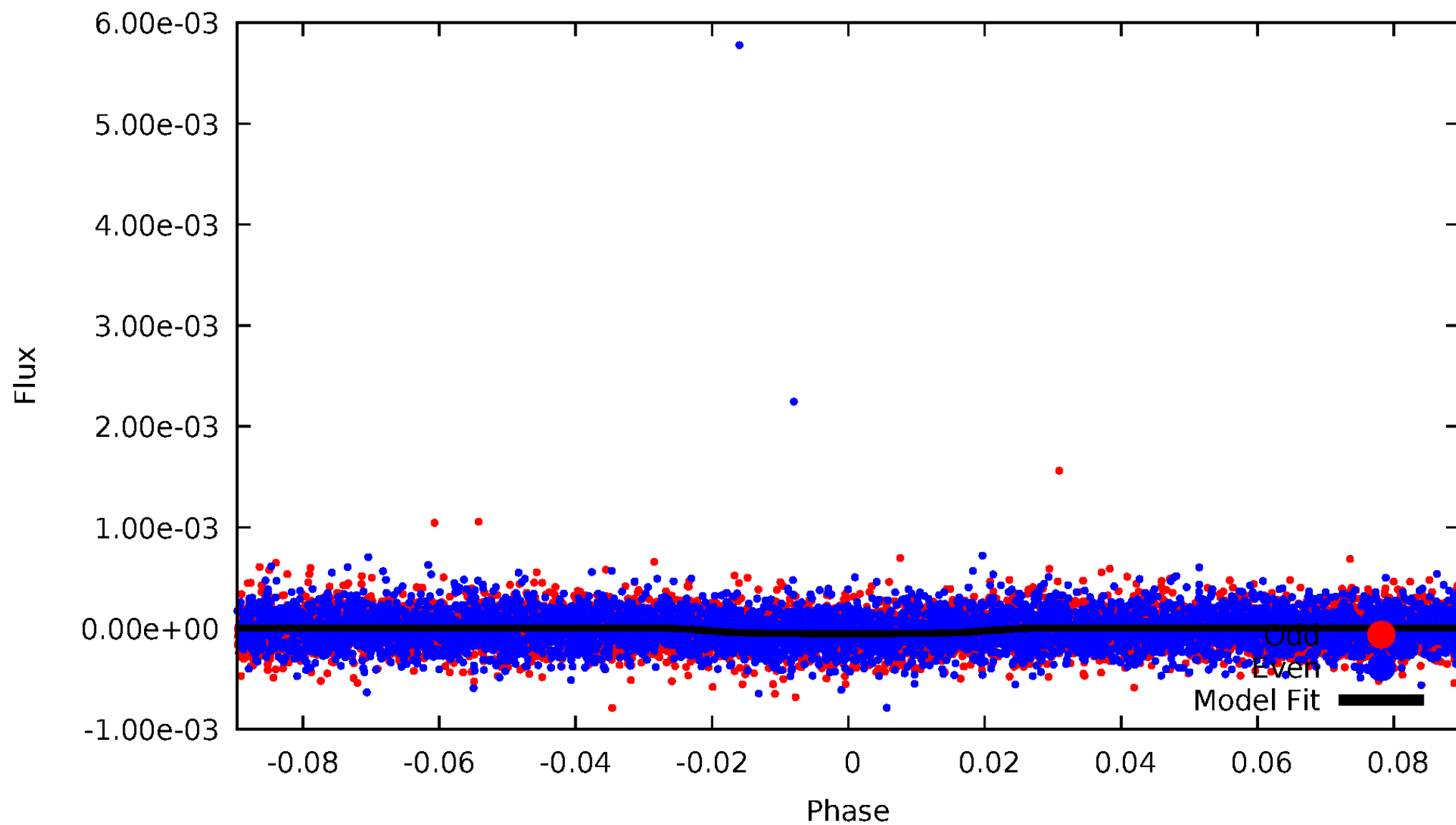


TCE 011970988-01



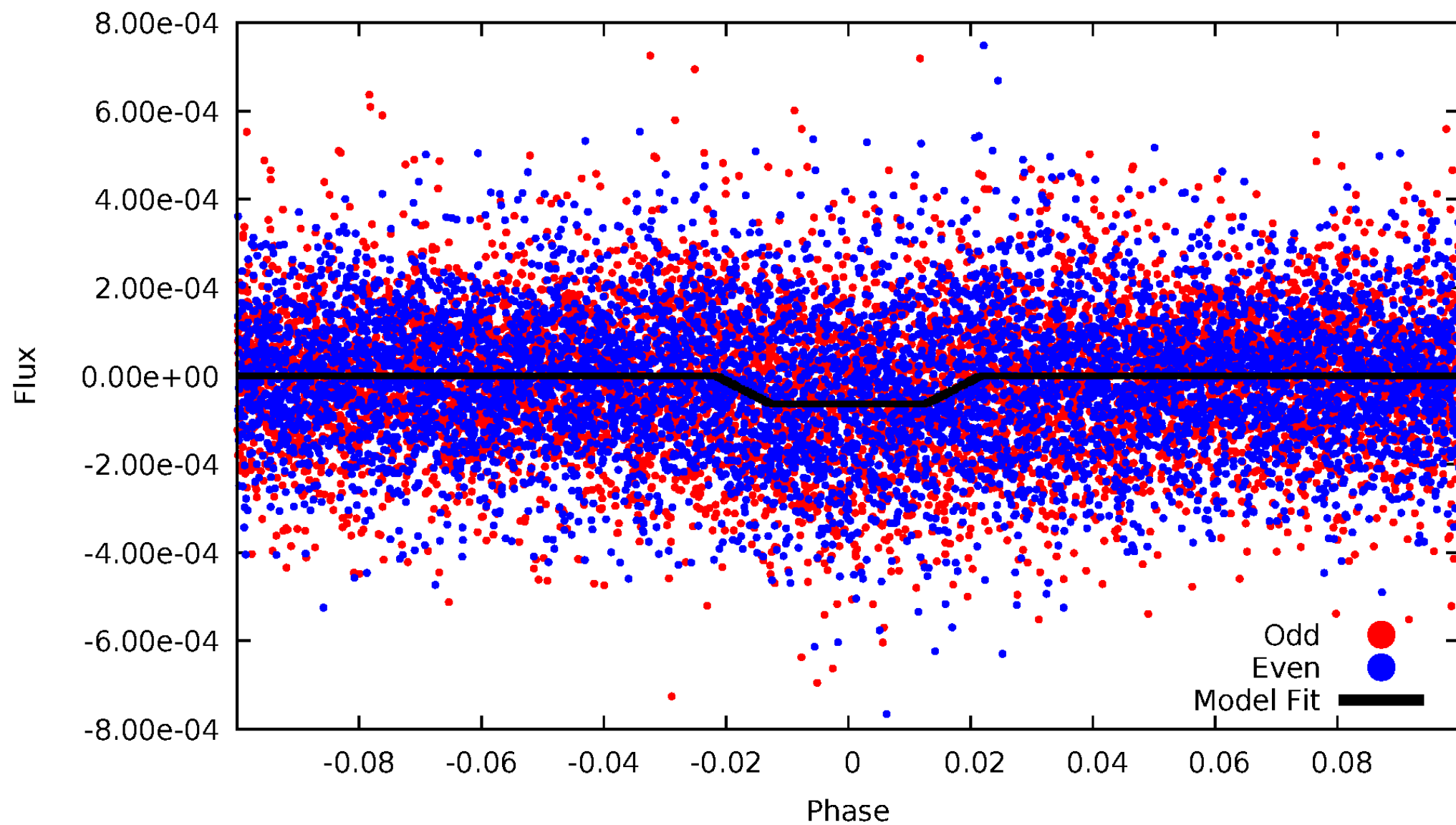
DV Odd/Even

TCE 011970988-01



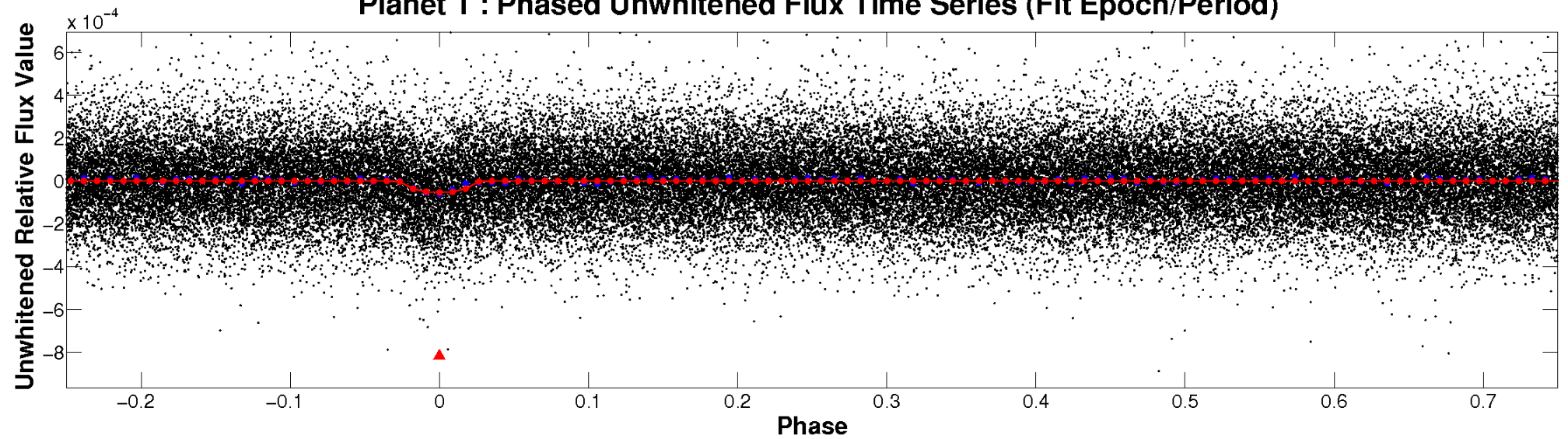
ALT Odd/Even

TCE 011970988-01

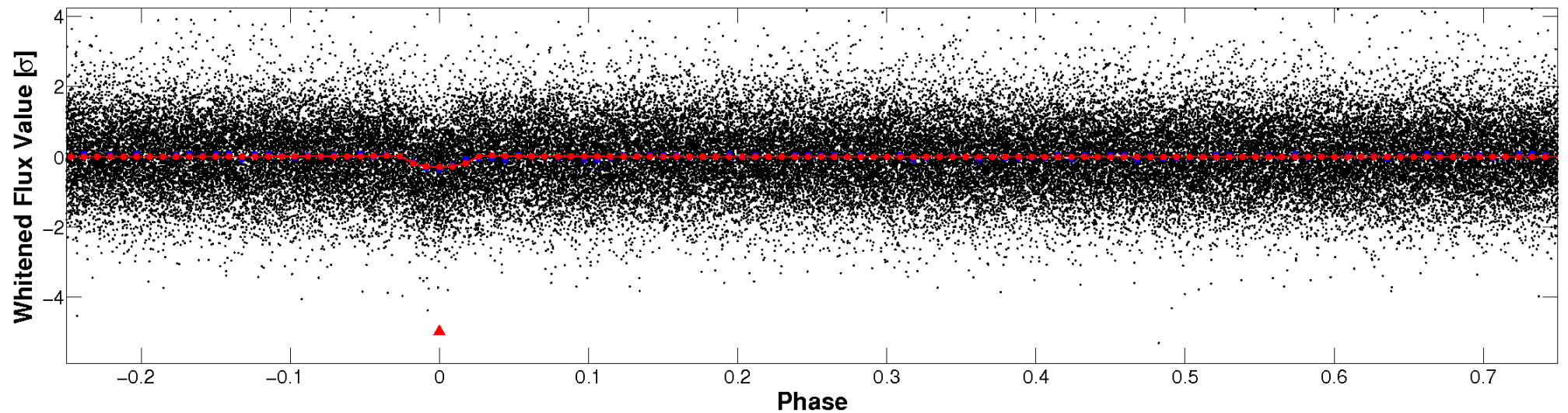


Non-Whitened Vs. Whitened Light Curve

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

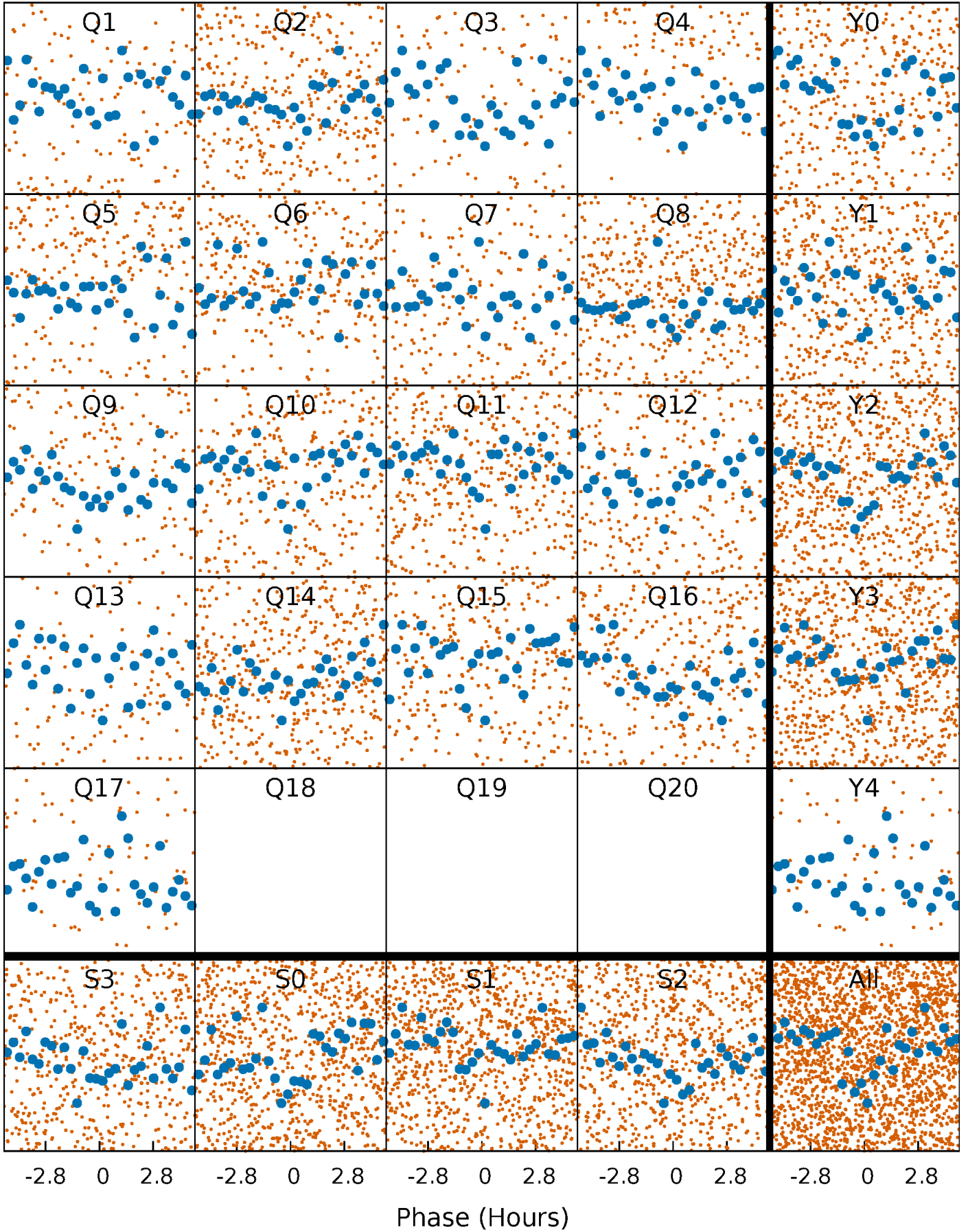


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



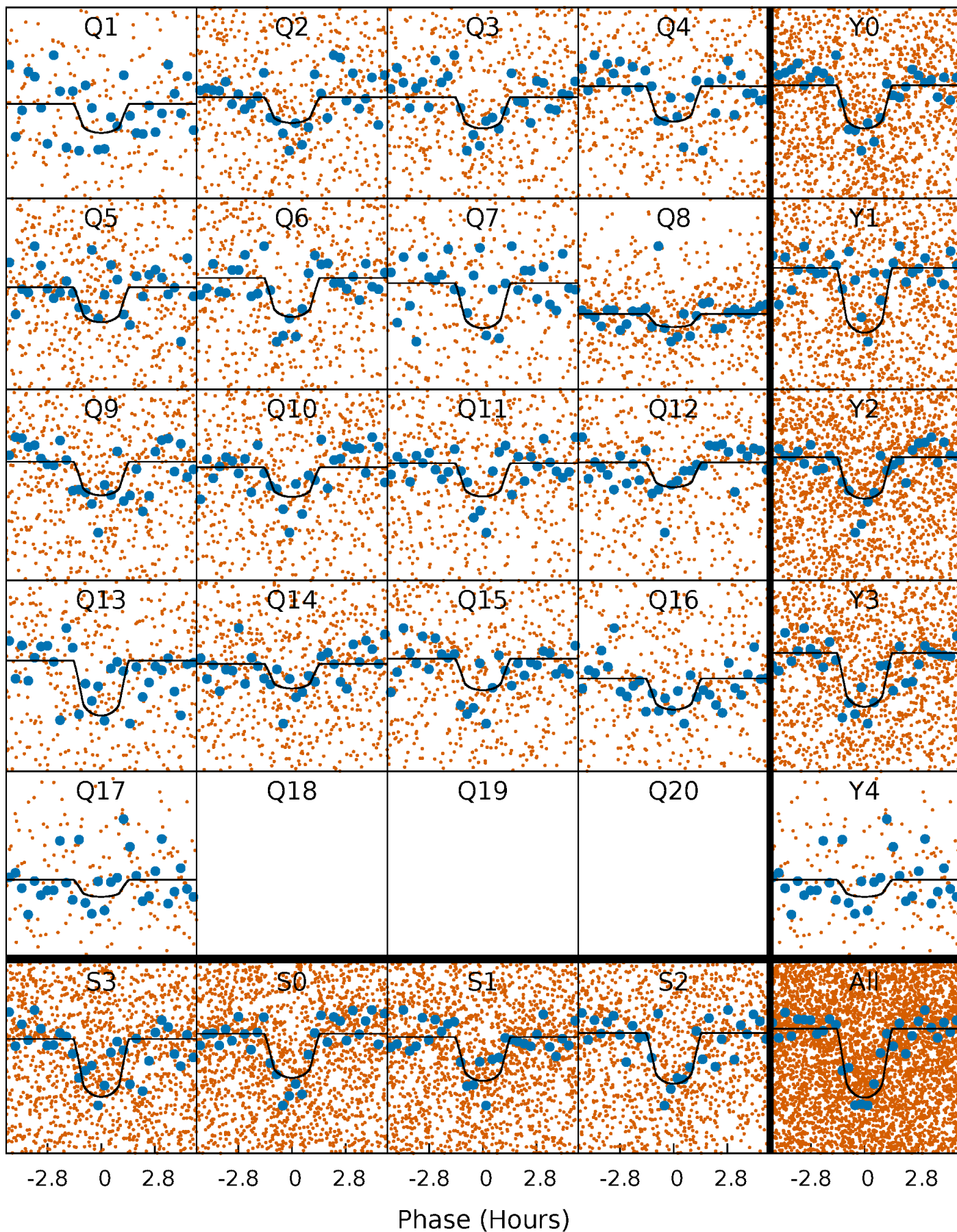
PDC Quarter-Phased Transit Curves

TCE 011970988-01 P= 2.314832 Days $T_0=133.053817$ (BKJD)



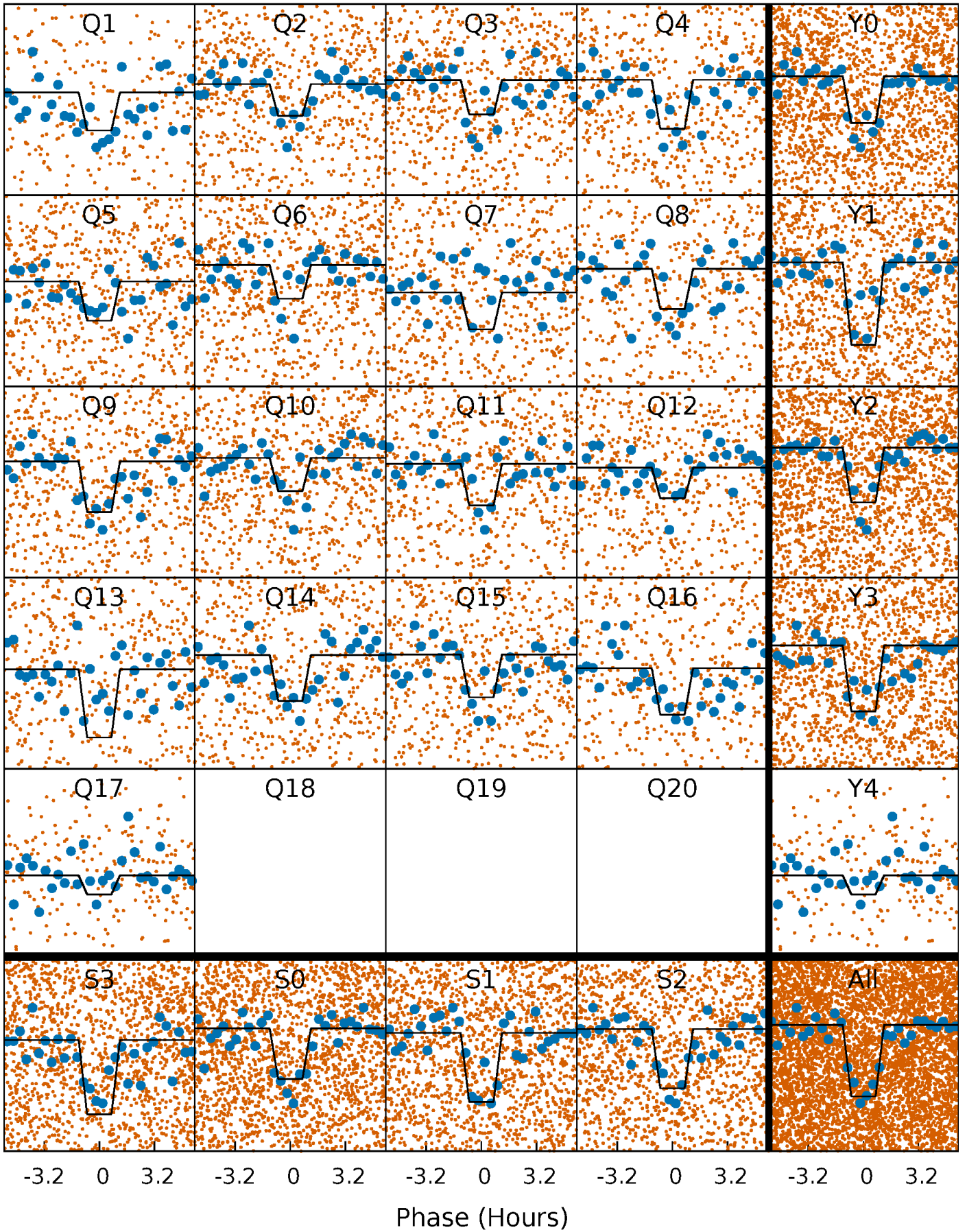
DV Quarter-Phased Transit Curves

TCE 011970988-01 P= 2.314832 Days $T_0=133.053817$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

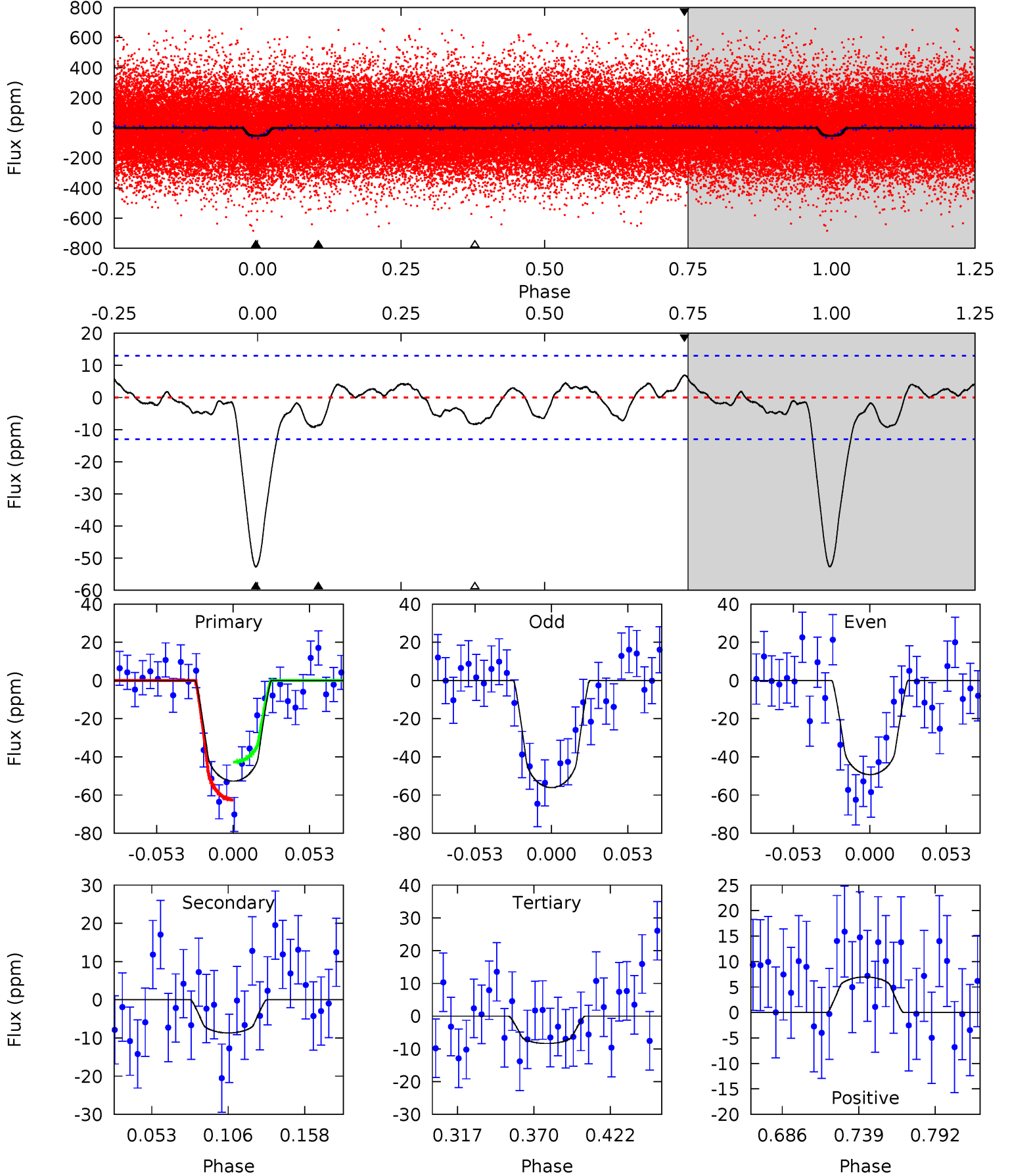
TCE 011970988-01 P= 2.314803 Days $T_0=133.053680$ (BKJD)



DV Model-Shift Uniqueness Test

011970988-01, P = 2.314832 Days, E = 130.738985 Days

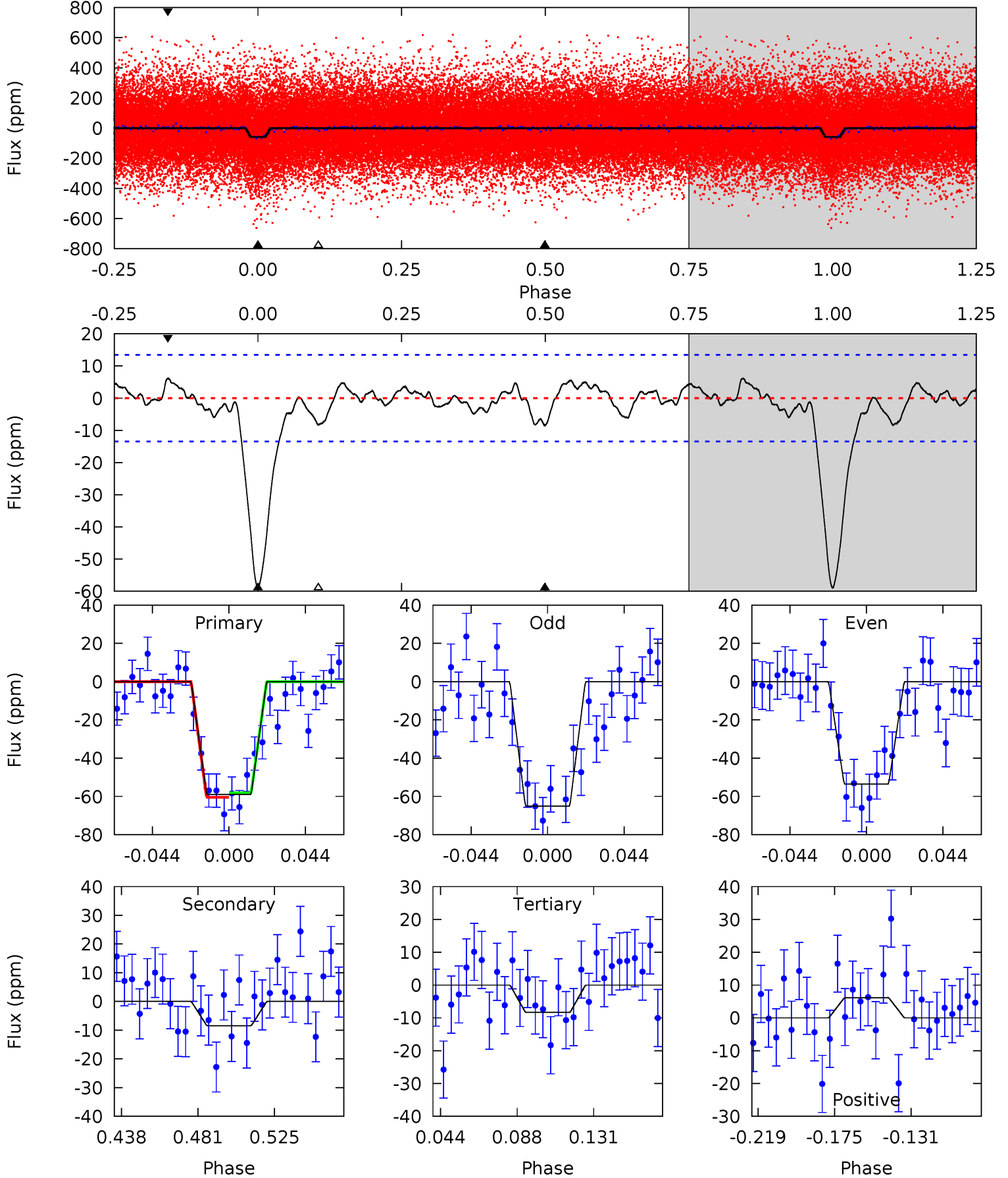
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.14	3.03	2.52	4.70	1.94	1.31	16.0	16.5	0.11	0.62	1.23	0.94	0.12	3.58



Alt Model-Shift Uniqueness Test

011970988-01, P = 2.314803 Days, E = 130.738877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	2.97	2.94	2.15	4.74	2.02	1.08	17.8	18.6	0.03	0.82	2.03	0.91	0.09	0.42



Stellar Parameters For KIC 011970988

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5240^{+157}_{-141}	$4.428^{+0.124}_{-0.186}$	$0.120^{+0.250}_{-0.250}$	$0.923^{+0.203}_{-0.140}$	$0.833^{+0.095}_{-0.066}$	$1.490^{+0.773}_{-0.654}$
	+3%/-3%	+3%/-4%	+208%/-208%	+22%/-15%	+11%/-8%	+52%/-44%
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 011970988-01 / KOI 4129.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$0.82^{+0.46}_{-0.40}$	1747^{+117}_{-96}	3566^{+1001}_{-536}	$7.289^{+20.107}_{-4.553}$
Alt.	-8 ± 3	$0.84^{+0.45}_{-0.42}$	1751^{+106}_{-105}	3539^{+983}_{-530}	$6.695^{+20.107}_{-4.194}$

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

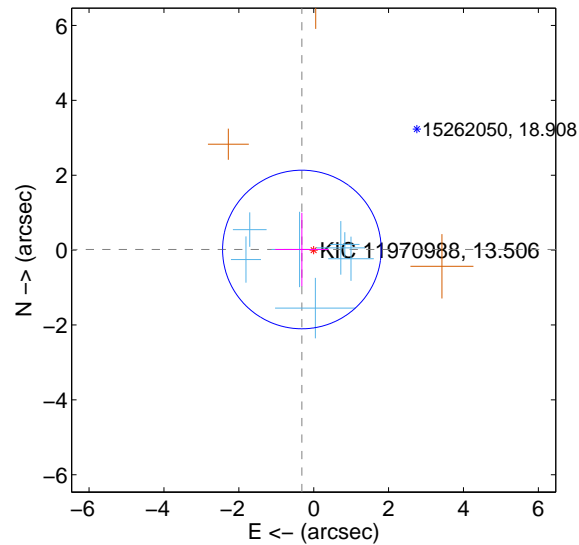
Supplemental centroid analysis for 011970988-01. Kepler magnitude: 13.51. Transit SNR 13.09

There are 7 quarters with good PRF difference image offsets

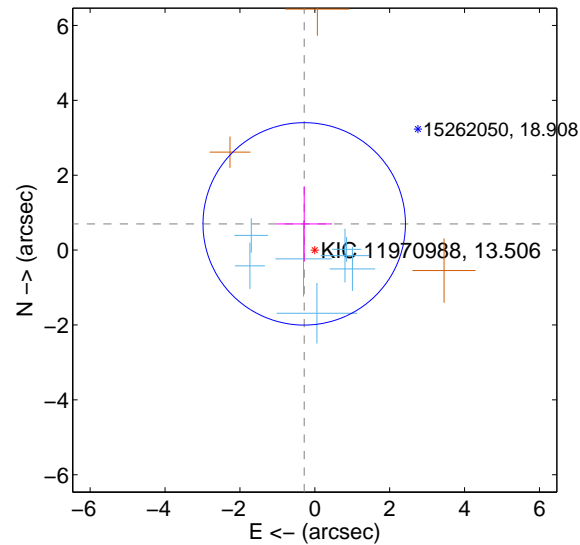
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.317 ± 0.706	0.45	0.316 ± 0.714	0.016 ± 0.979
PRF-fit source offset from KIC position	0.755 ± 0.901	0.84	0.283 ± 0.744	0.700 ± 1.006
photometric centroid source offset	1.64 ± 1.25	1.32	0.05 ± 0.76	-1.64 ± 1.25

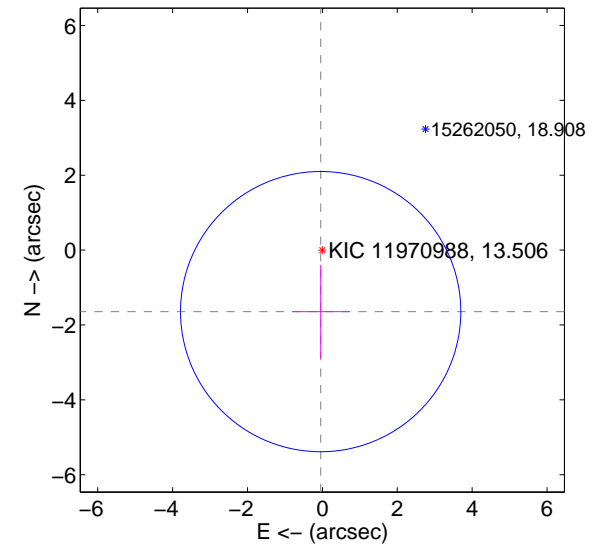
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

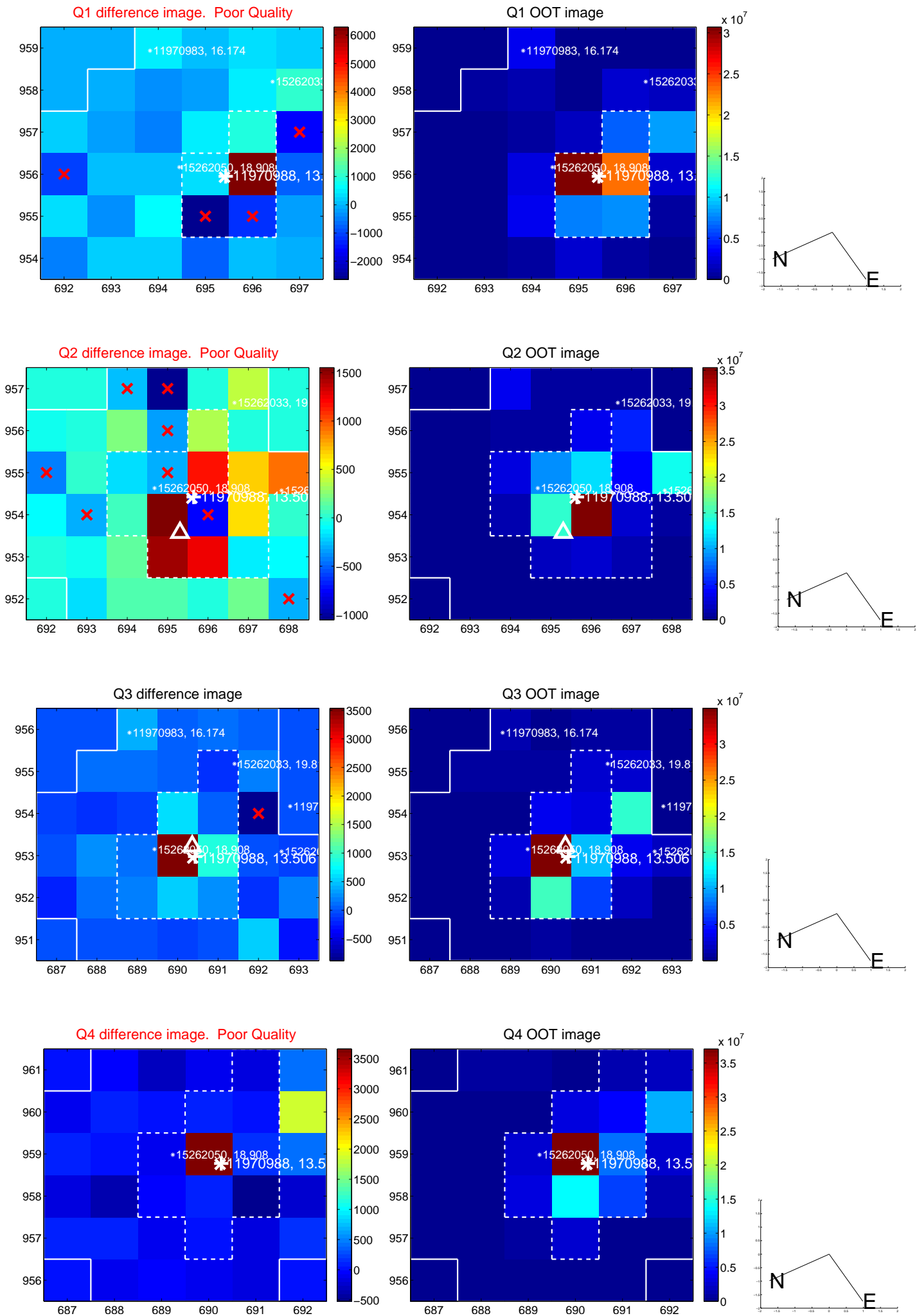


offset from photometric centroids

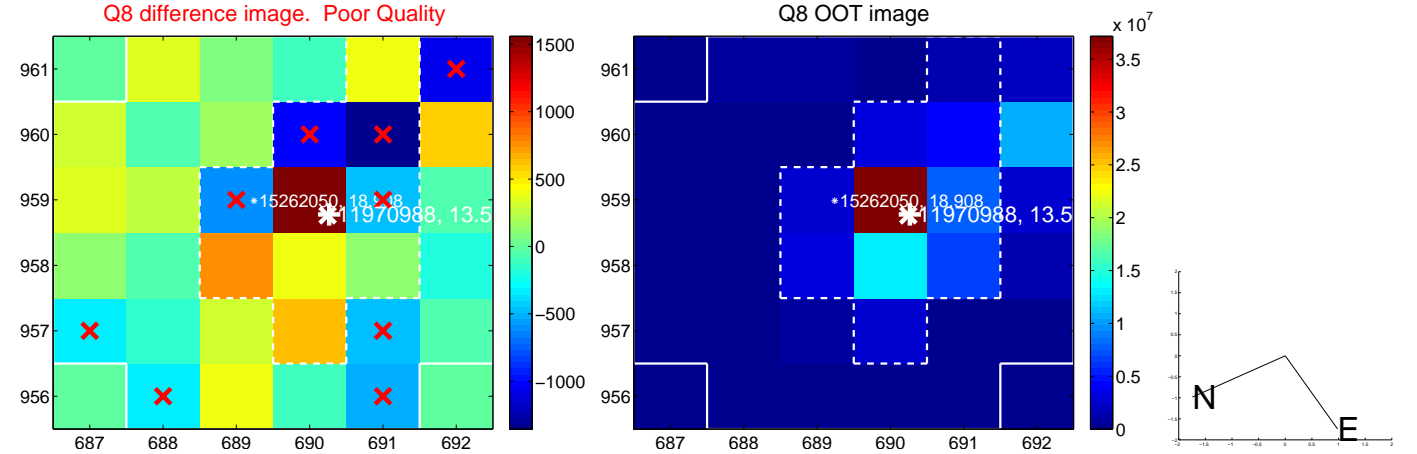
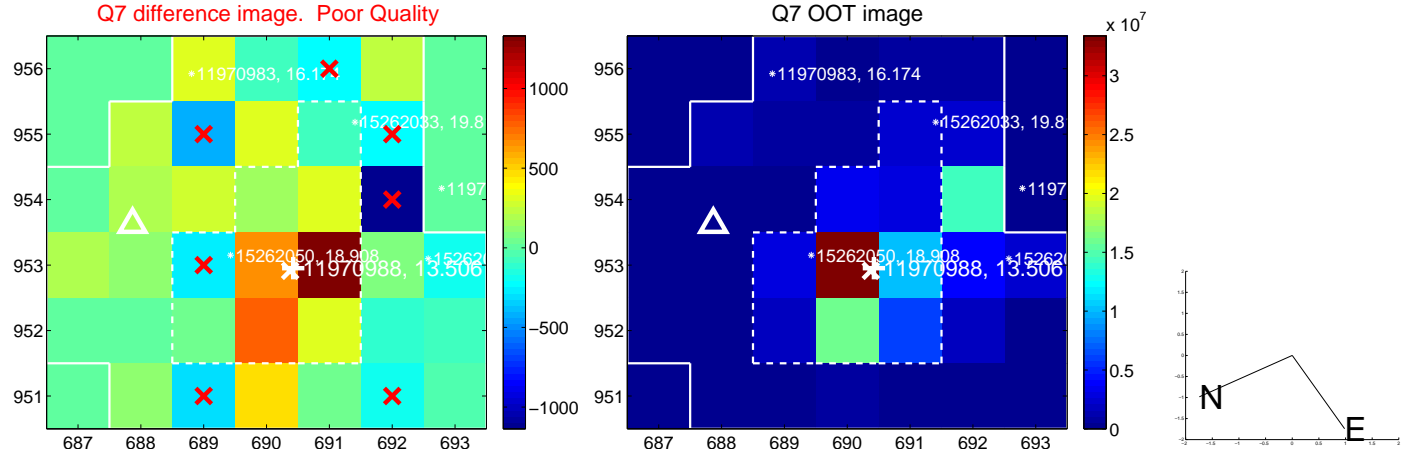
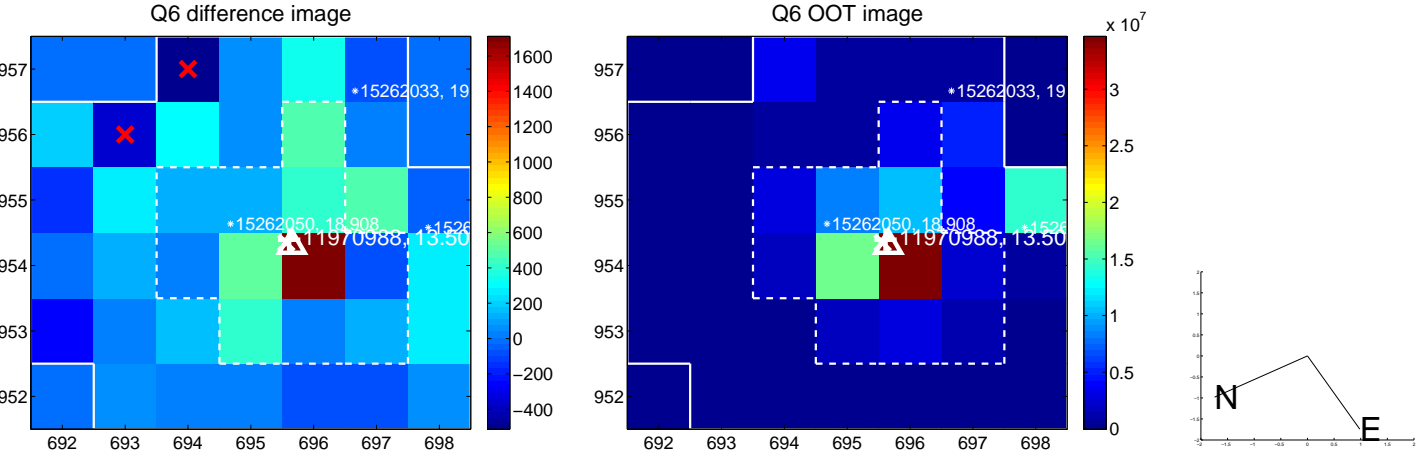
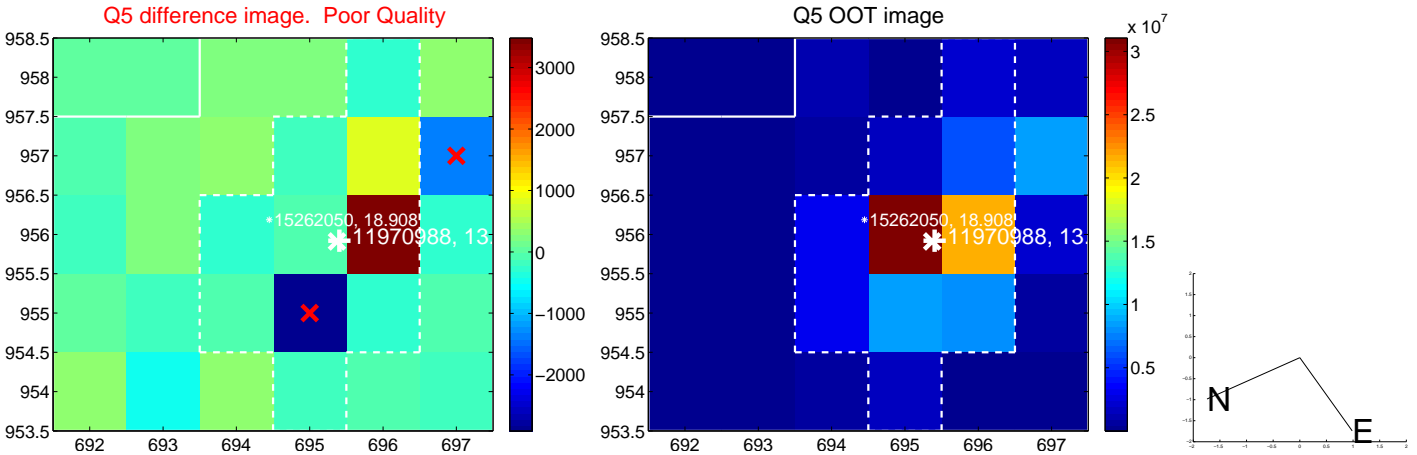


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

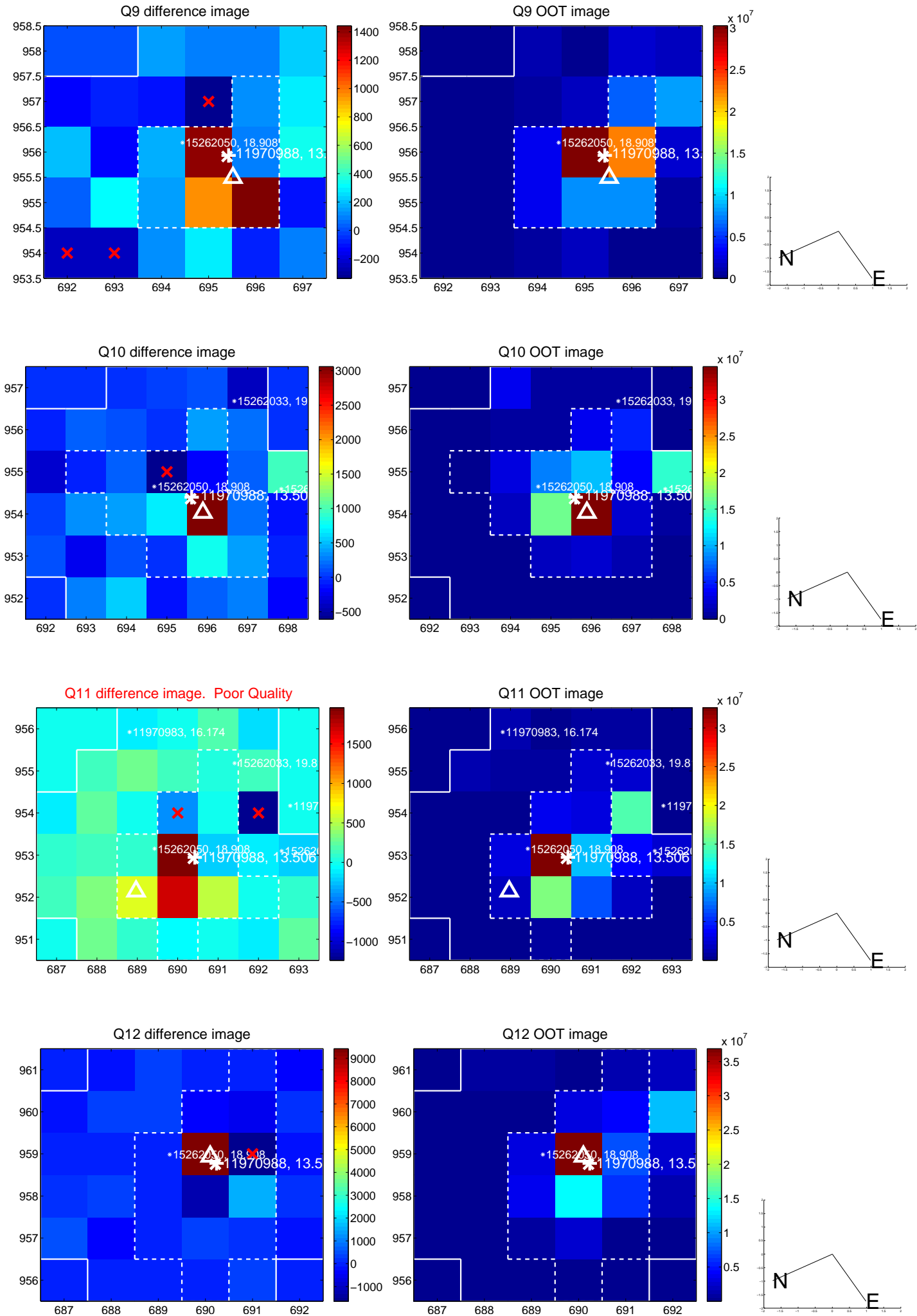
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



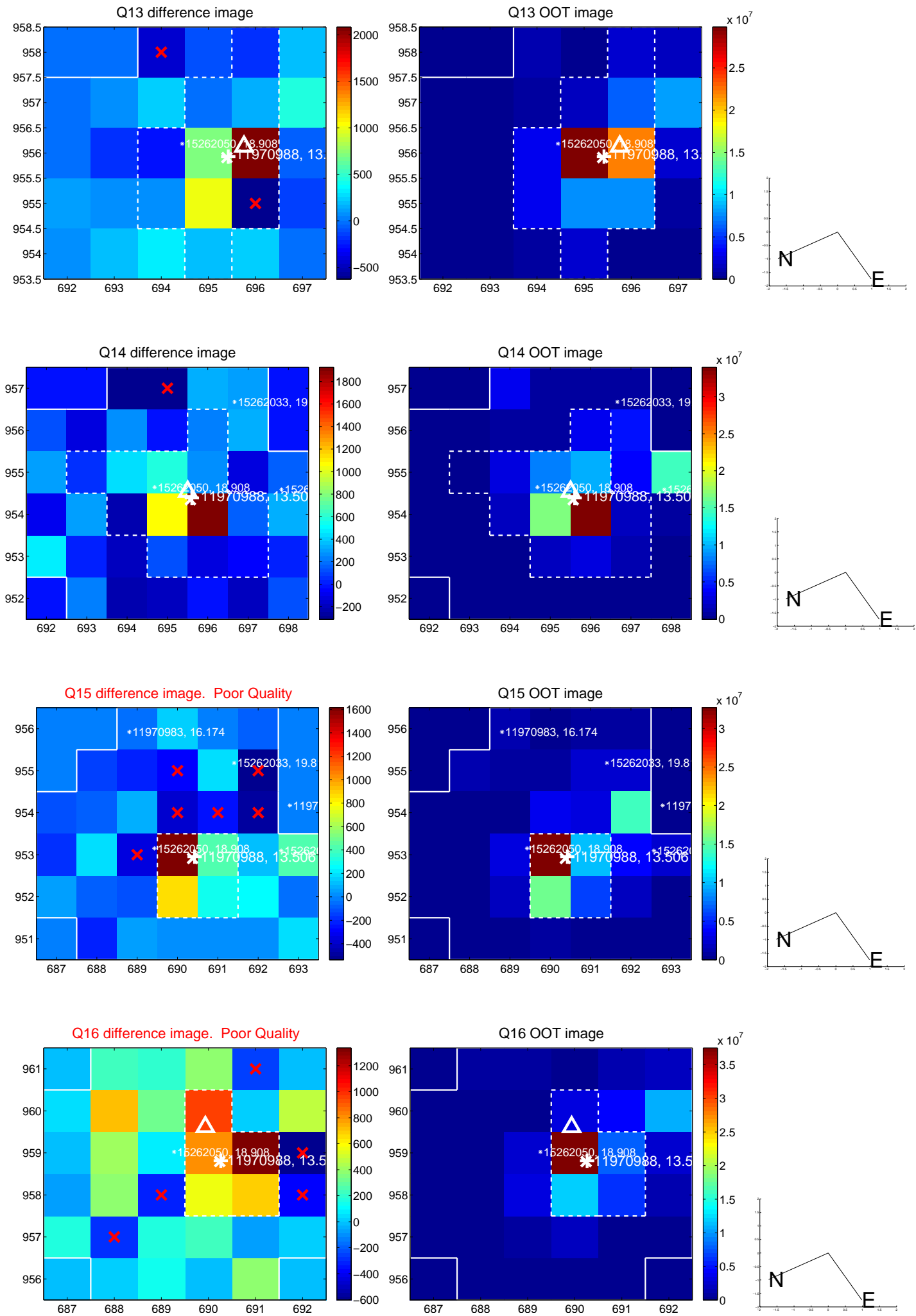
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



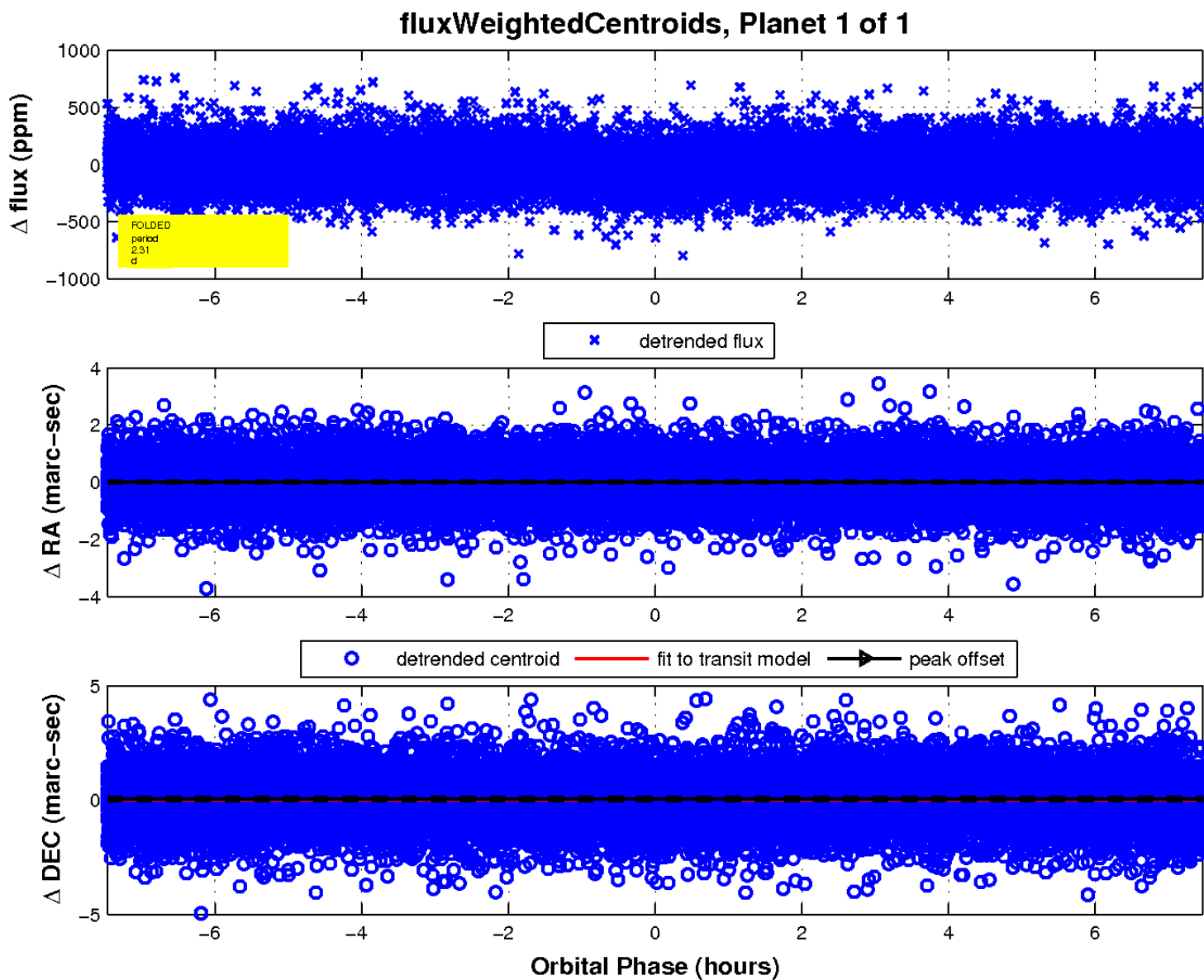
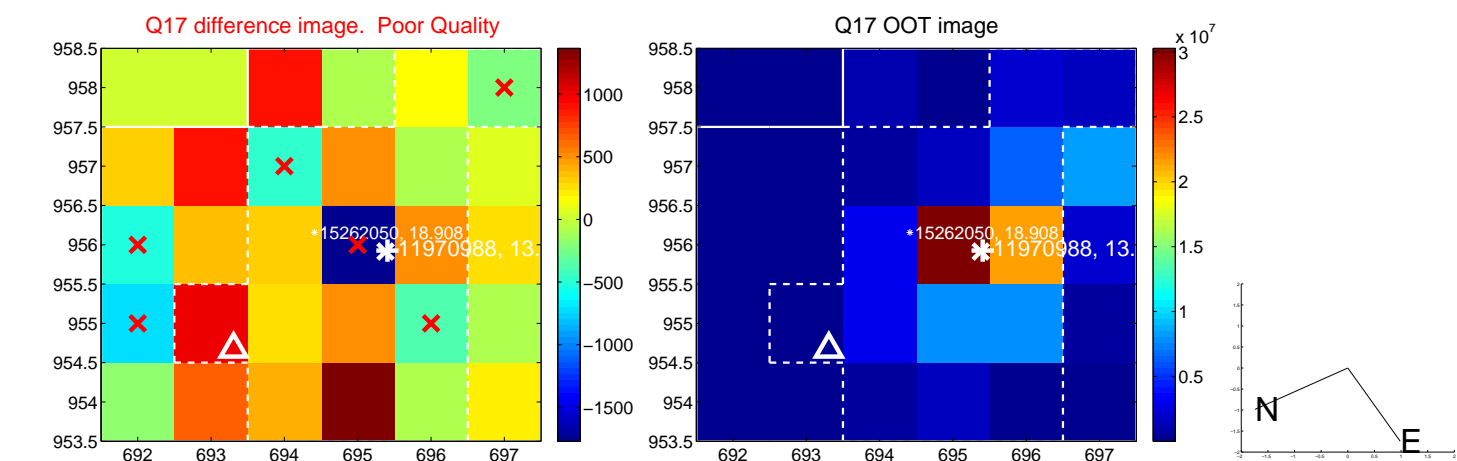
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

