

KIC 007470491

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})
007470491-01	OBS	7840.01	0.902234	131.714872	28.8	2.113	16.1	17.7	89.81	3705	62.01	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007470491-01	OBS	FP	0.00	0	0	1	0	PLANET_IN_STAR—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.

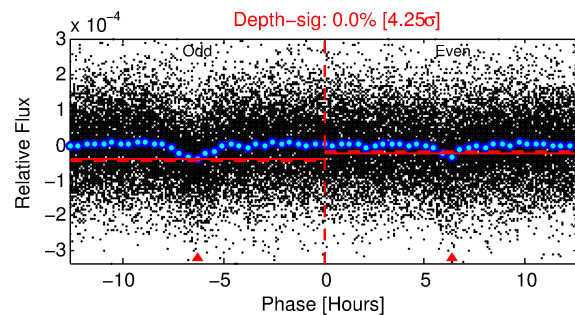
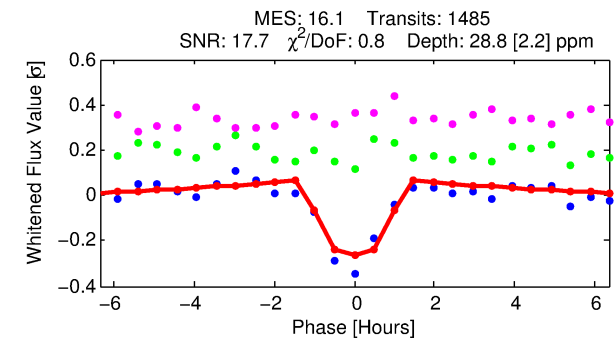
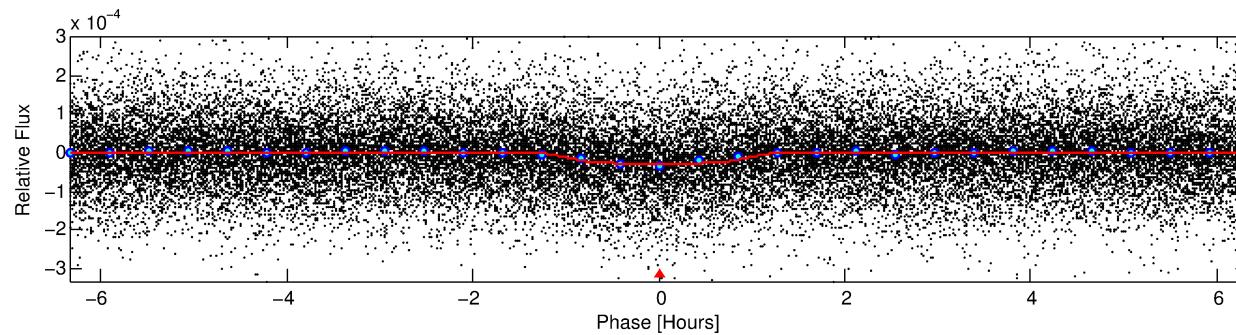
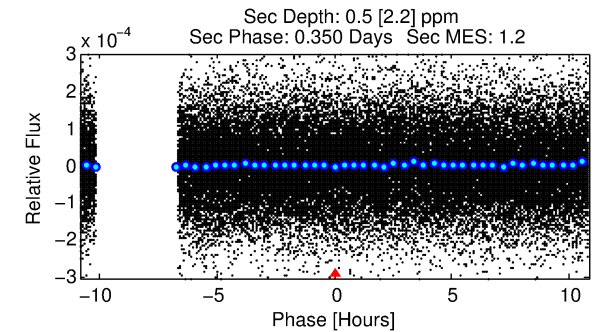
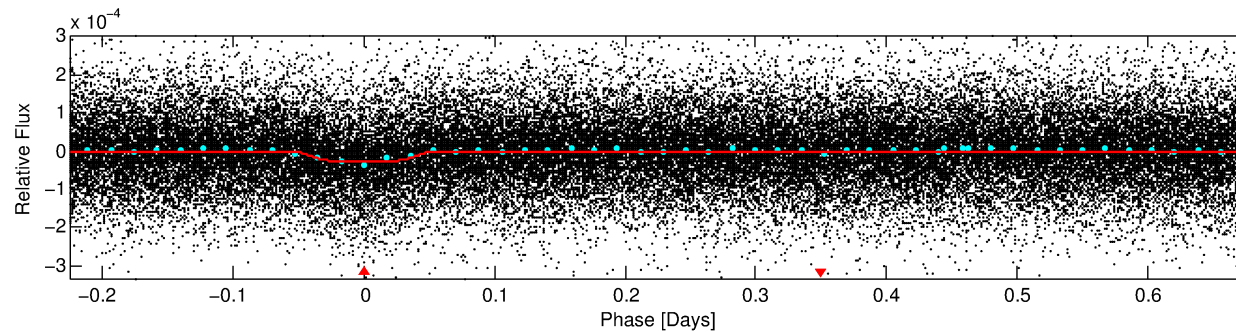
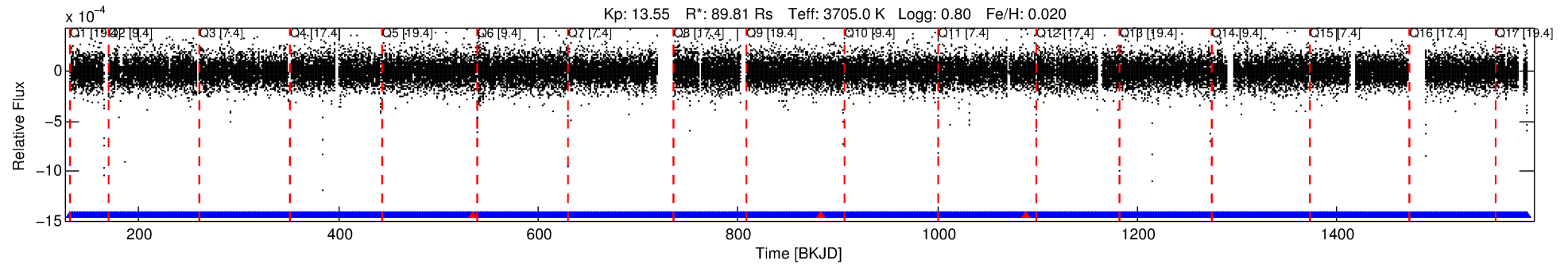
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007470491-01

No Significant Match Found

DV One-Page Summary

KIC: 7470491 Candidate: 1 of 1 Period: 0.902 d



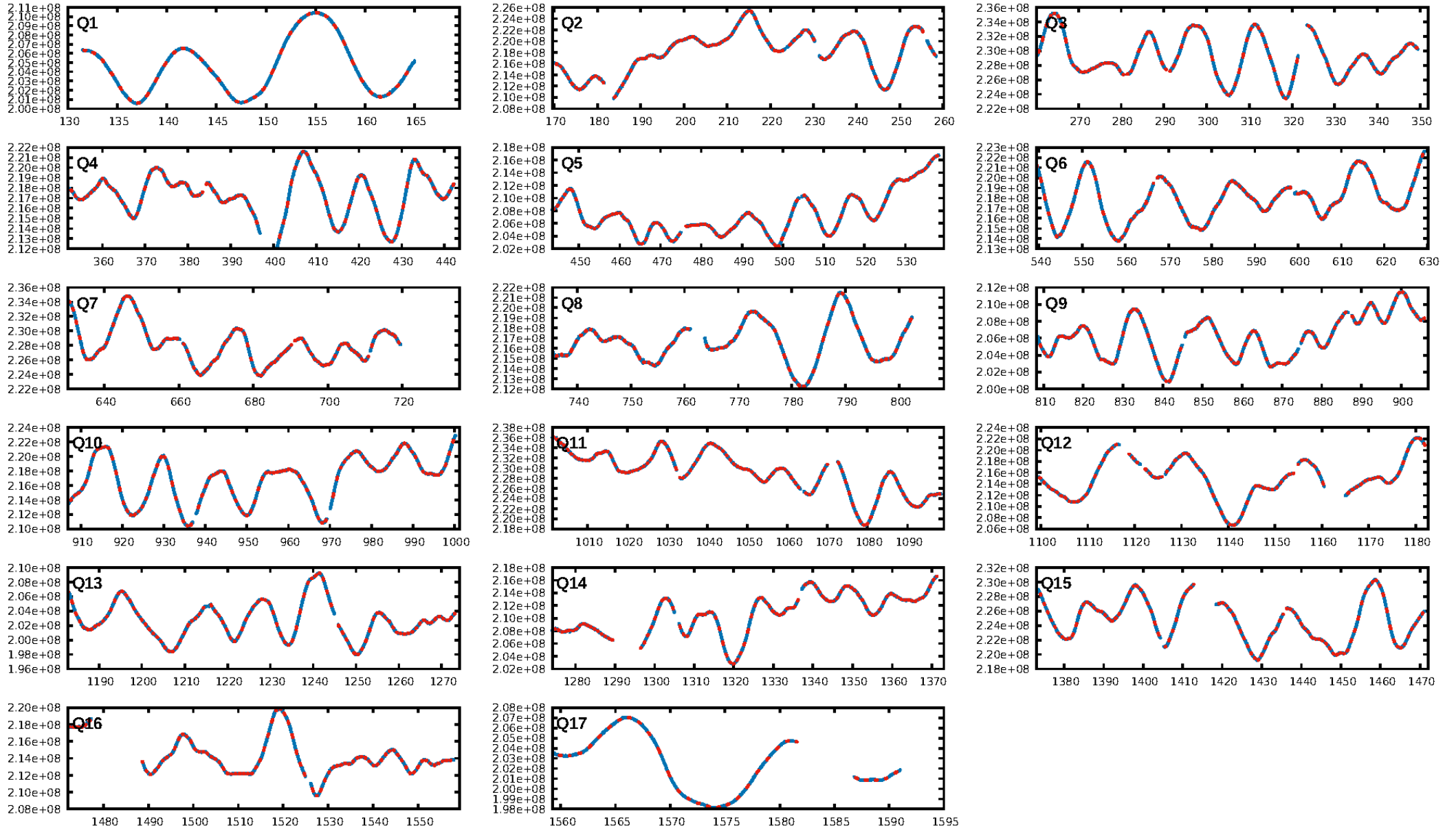
DV Fit Results:

Period = 0.90223 [0.00001] d
Epoch = 131.7149 [0.0014] BKJD
Rp/R* = 0.0063 [0.0022]
a/R* = 1.72 [1.29]
b = 0.90 [0.24]
Seff = N/A
Teq = N/A
Rp = 62.01 [25.48] Re
a = N/A
Ag = N/A
Teffp = N/A

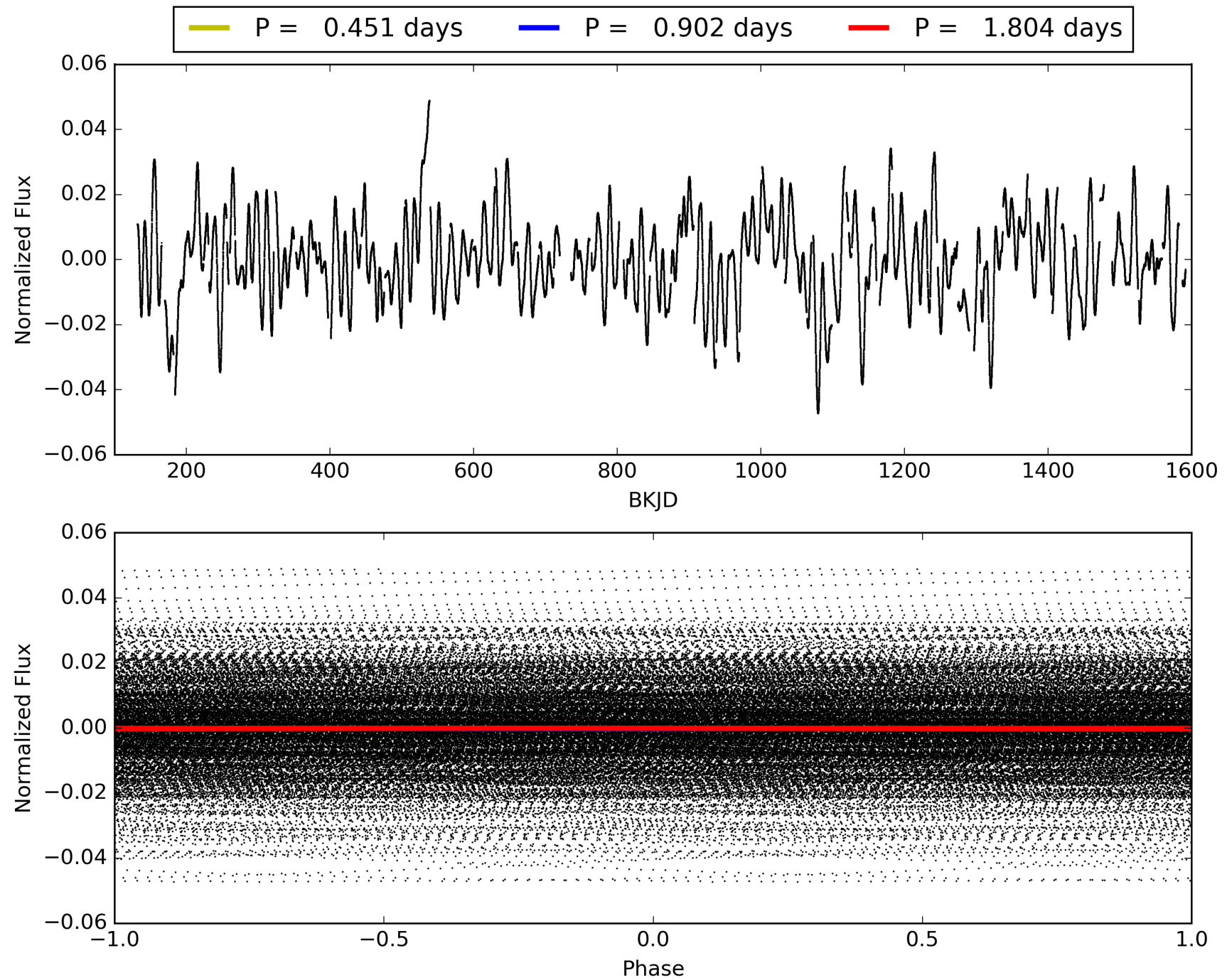
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.02e-55
RollingBand-fgt: 1.00 [1415/1418]
GhostDiagnostic-chr: -0.5027
Centroid-sig: 0.0%
Centroid-so: 4.331 arcsec [6.97σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007470491-01, PDC Light Curves

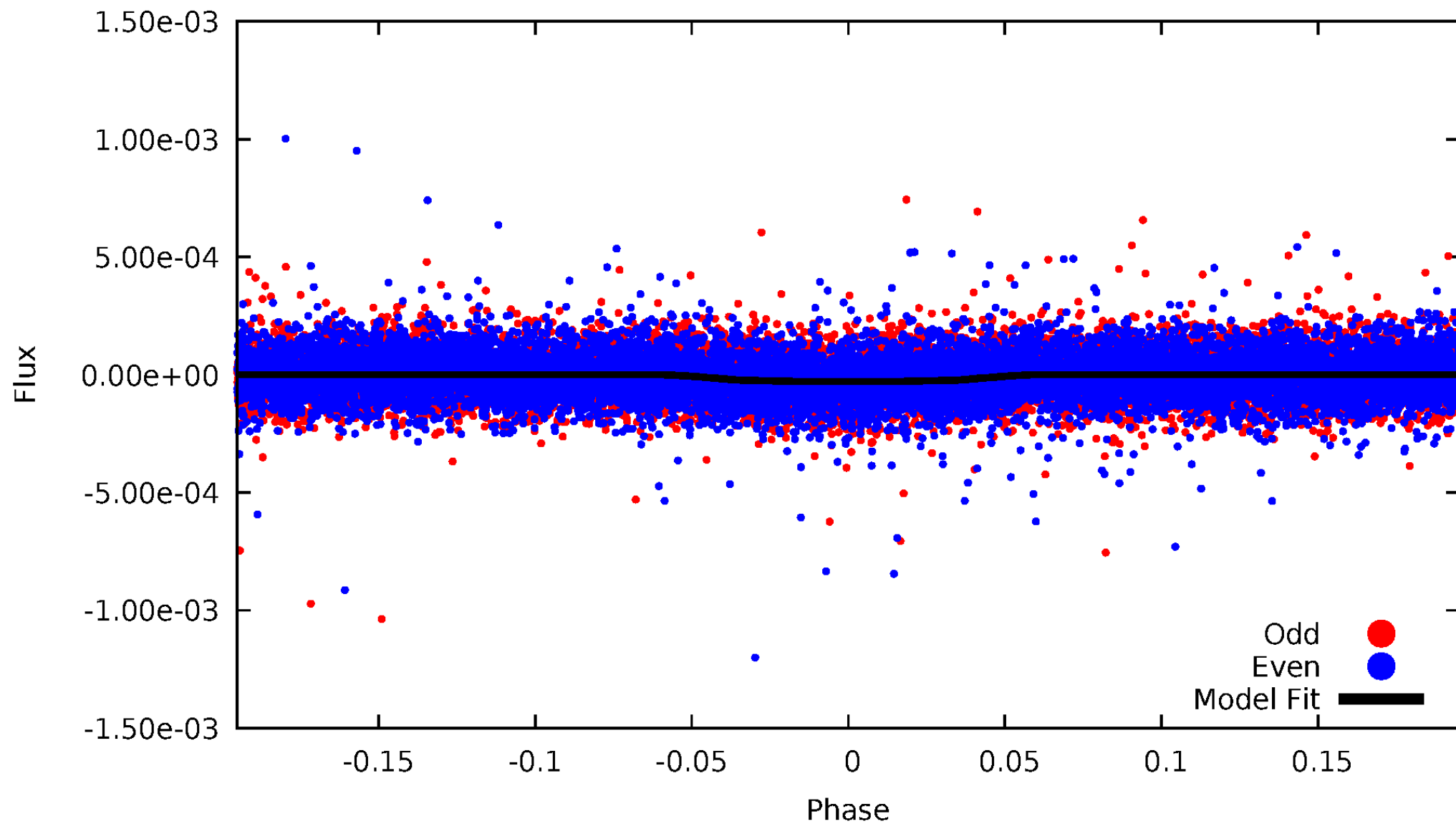


TCE 007470491-01



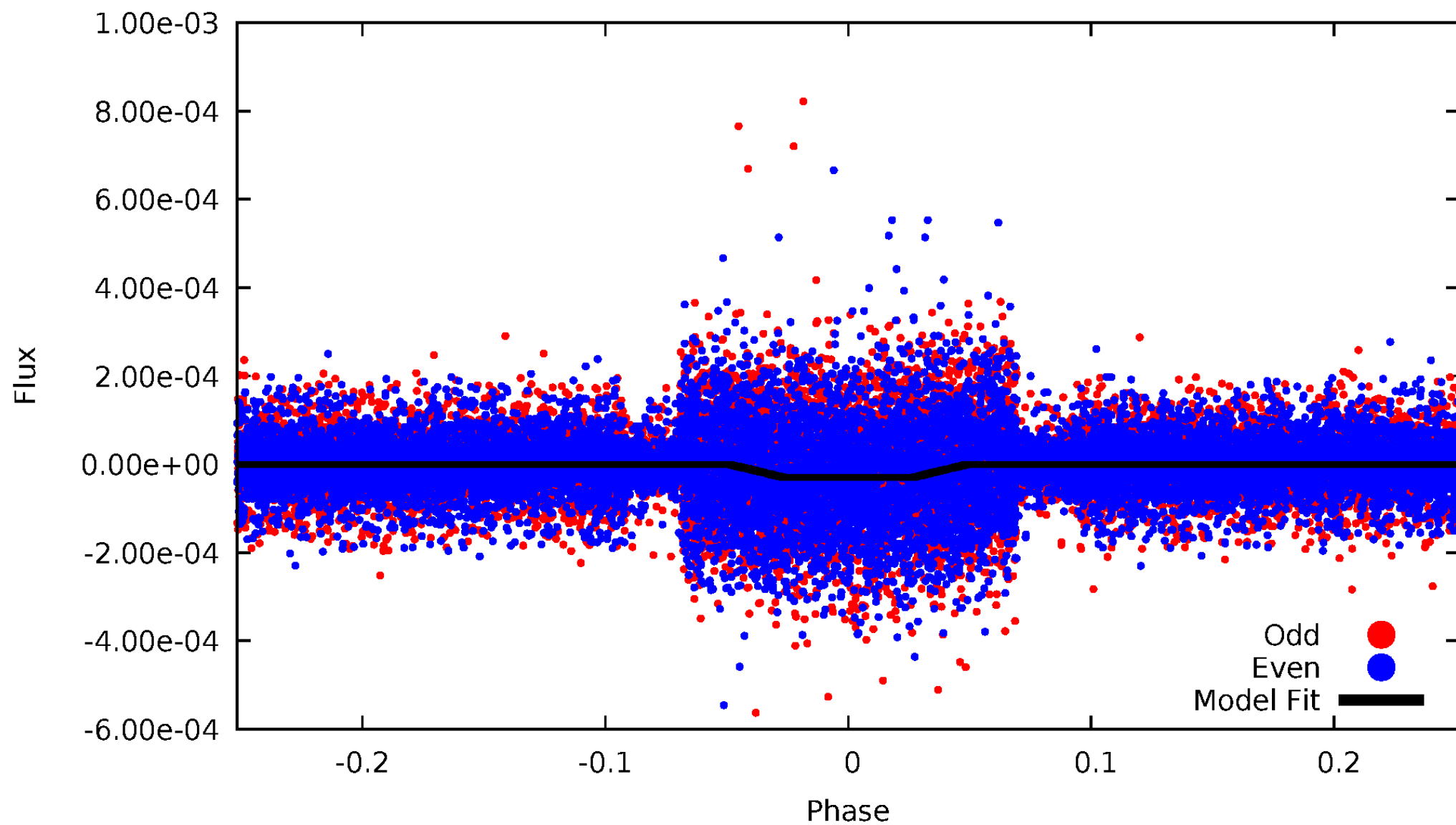
DV Odd/Even

TCE 007470491-01



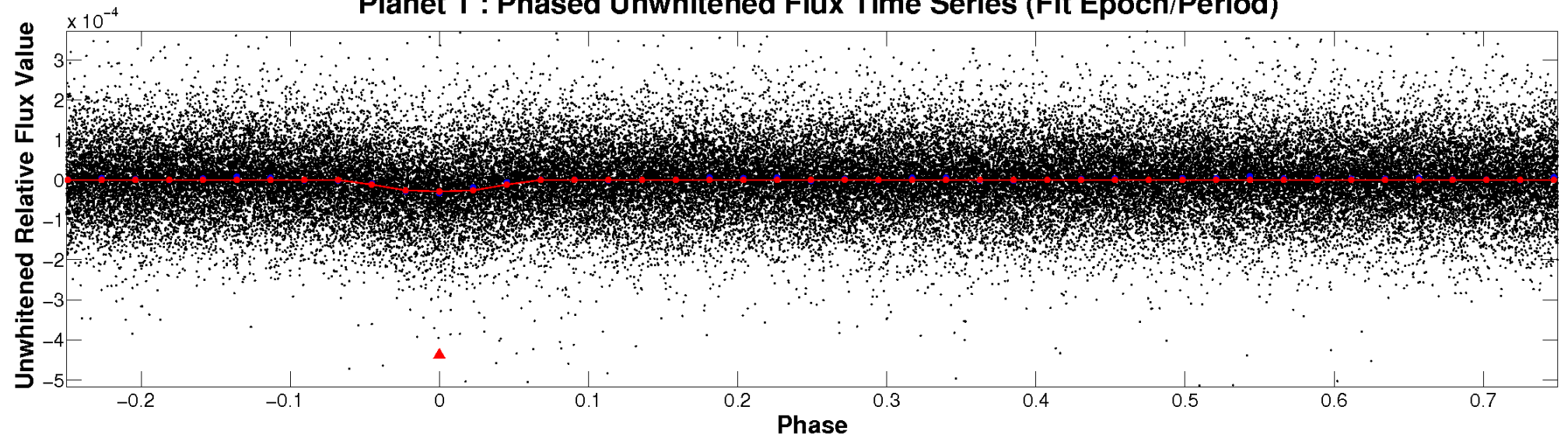
ALT Odd/Even

TCE 007470491-01

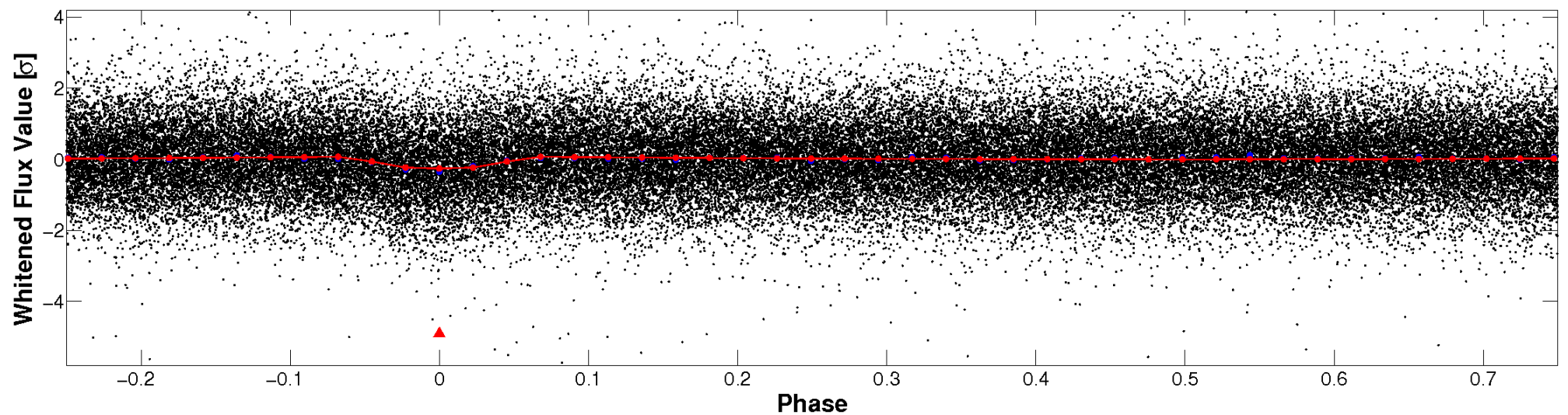


Non-Whitened Vs. Whitened Light Curve

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

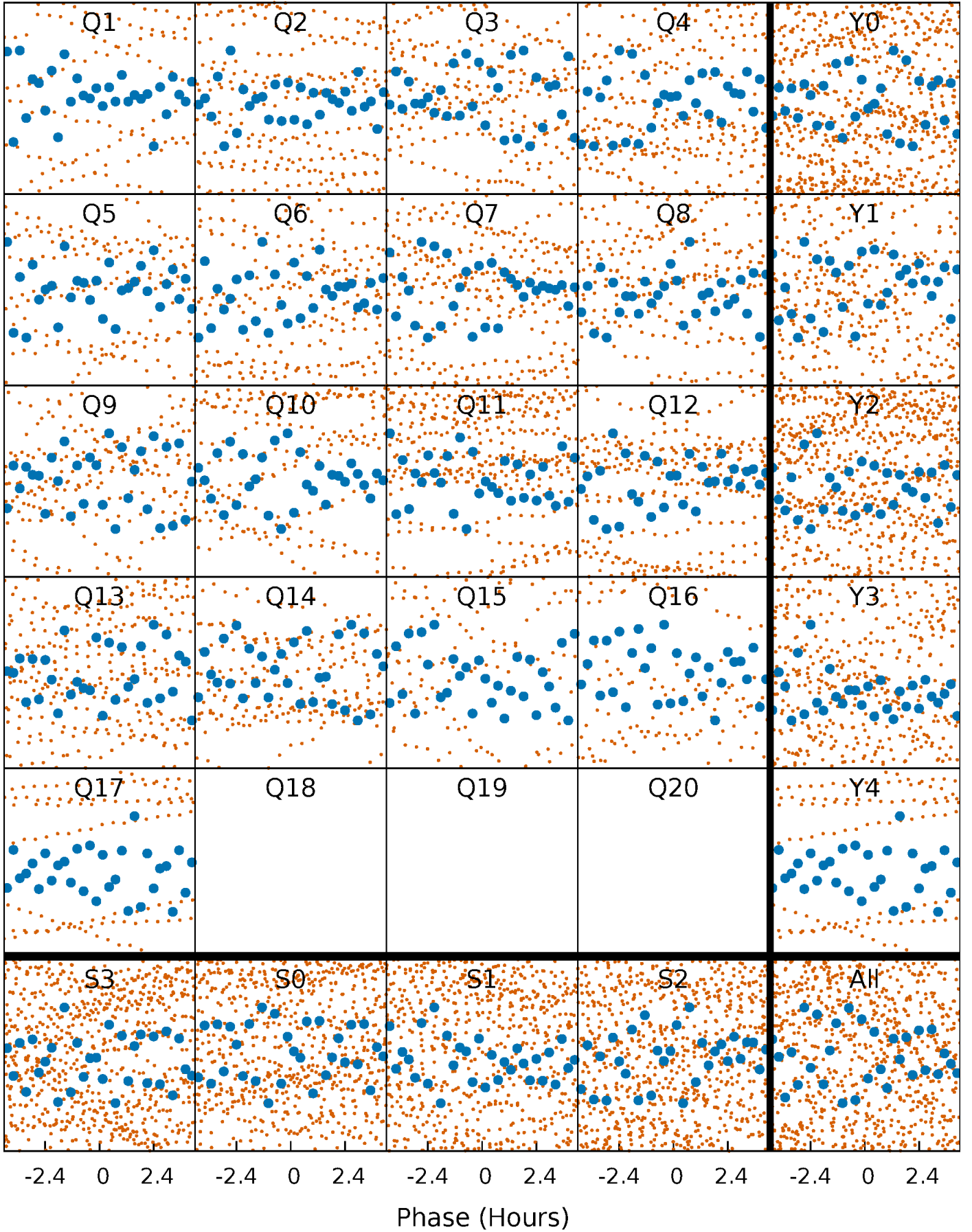


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



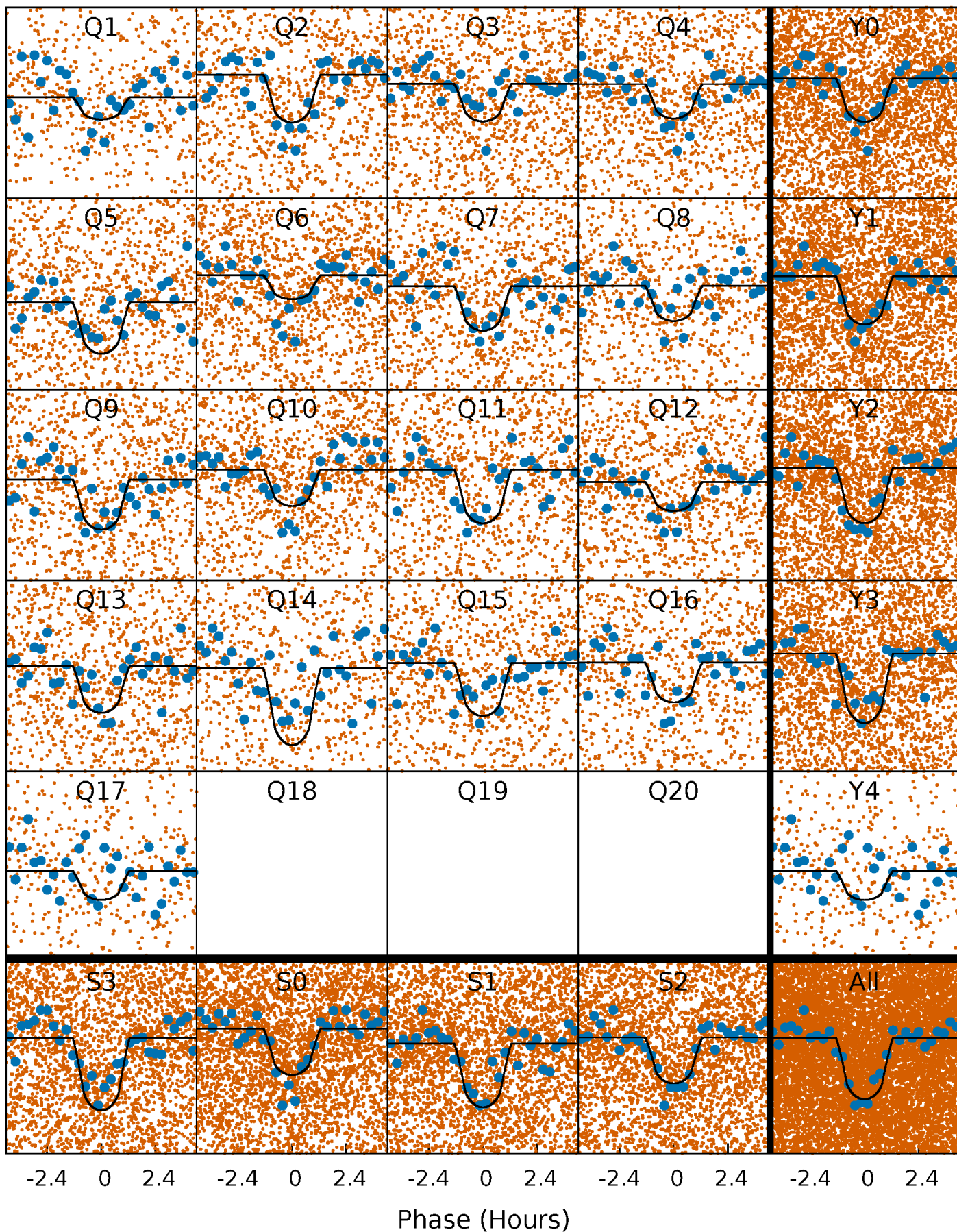
PDC Quarter-Phased Transit Curves

TCE 007470491-01 P= 0.902234 Days $T_0=131.714872$ (BKJD)



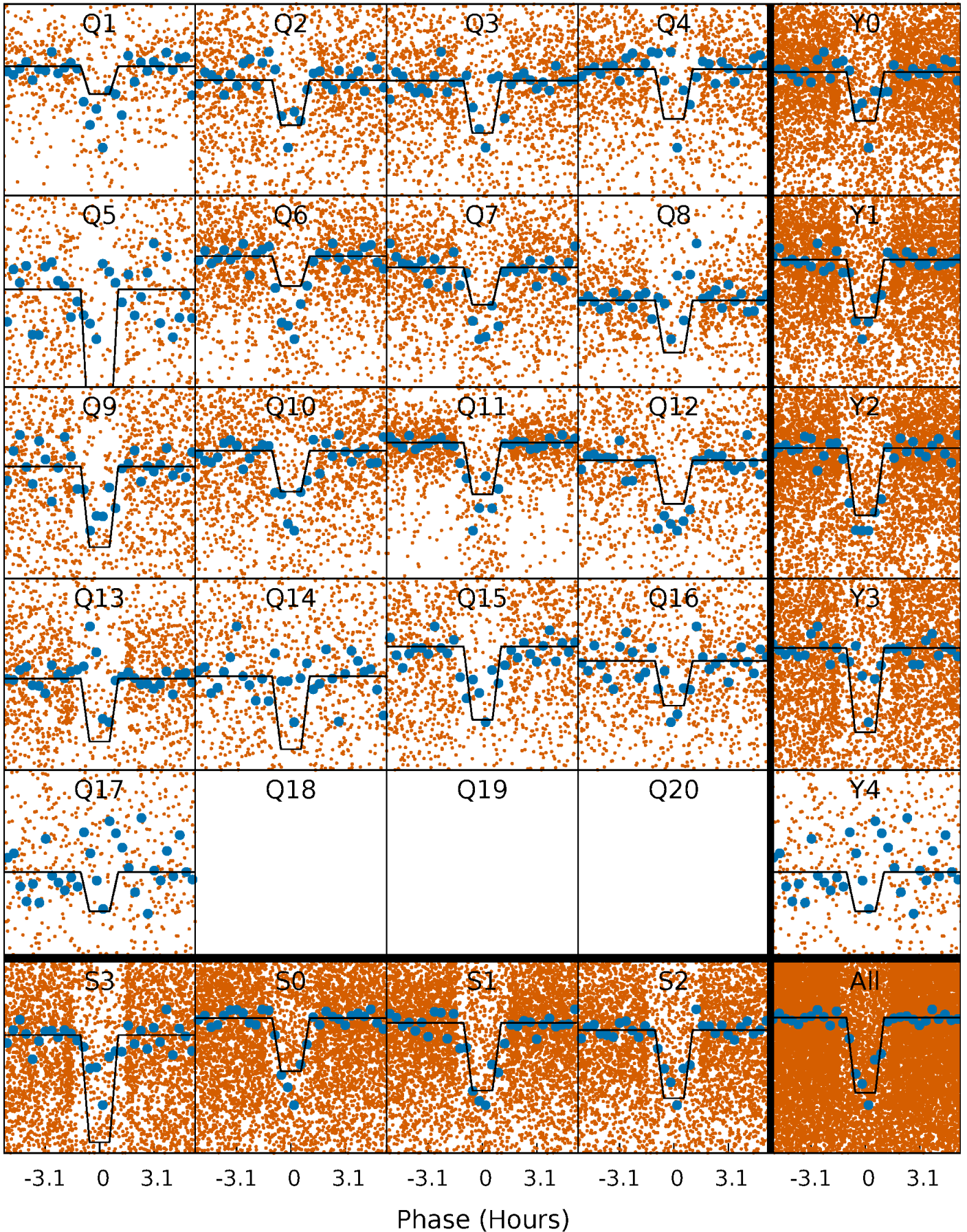
DV Quarter-Phased Transit Curves

TCE 007470491-01 P= 0.902234 Days $T_0=131.714872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

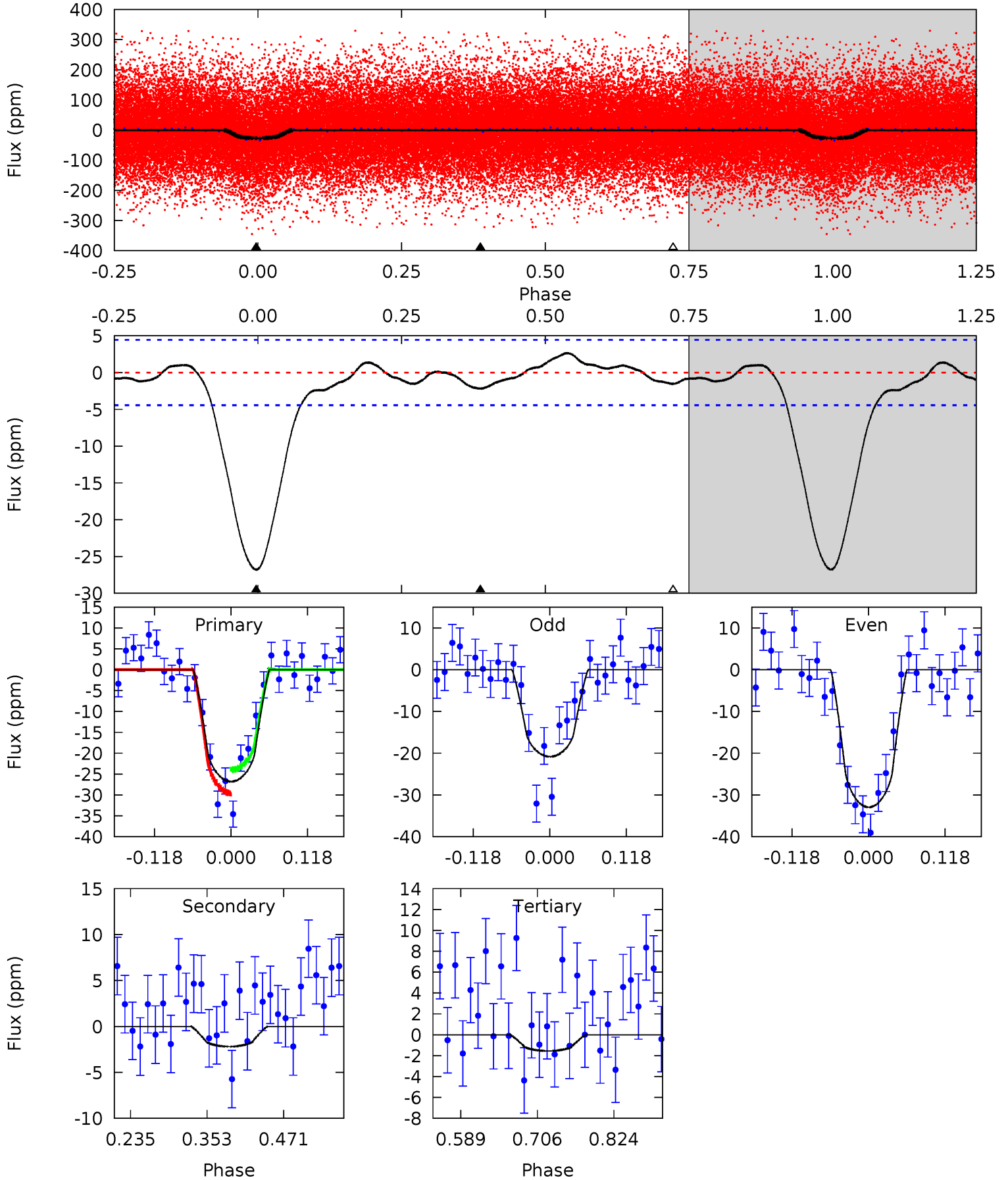
TCE 007470491-01 P= 0.902226 Days $T_0=131.716203$ (BKJD)



DV Model-Shift Uniqueness Test

007470491-01, P = 0.902234 Days, E = 130.812638 Days

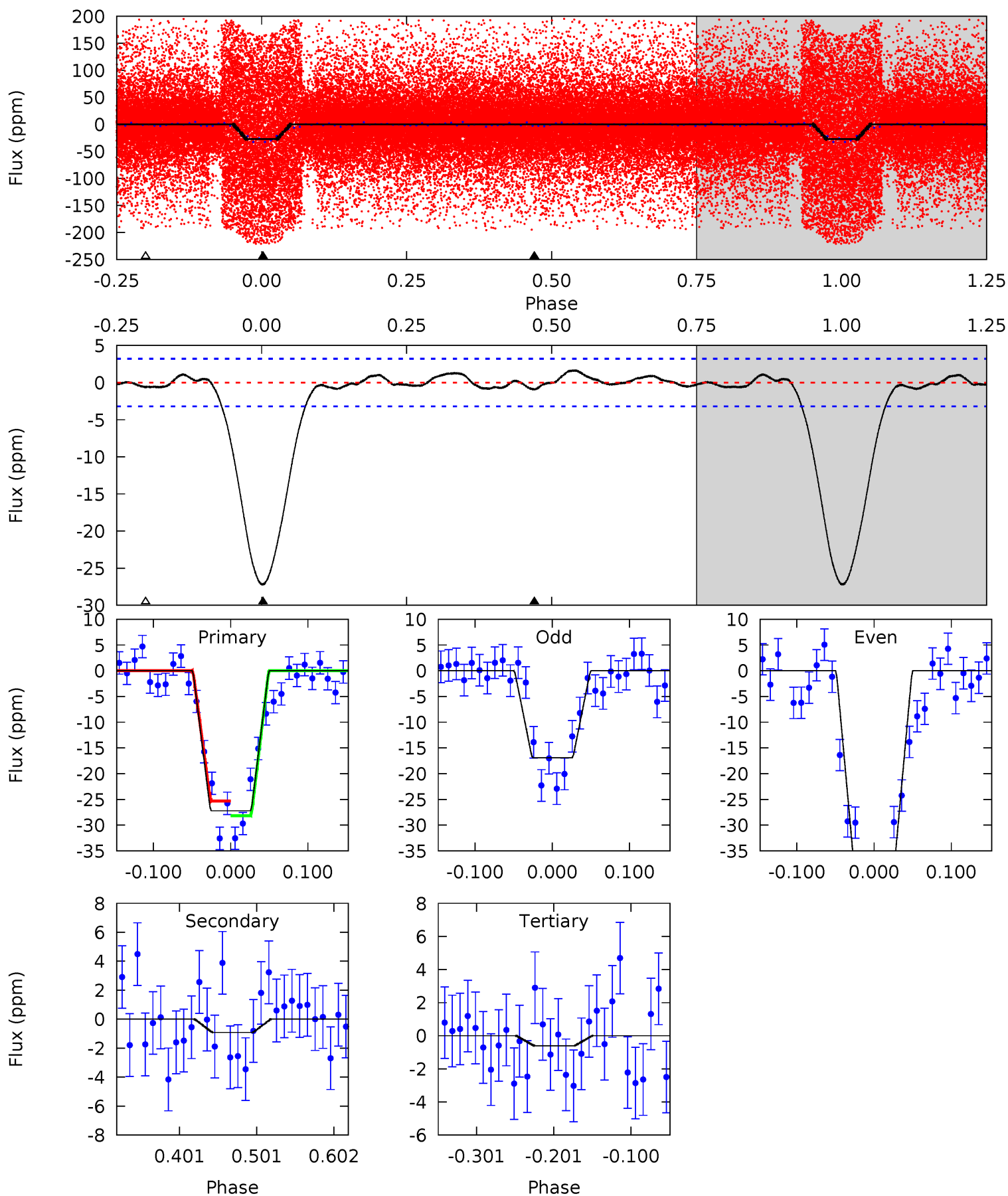
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	2.24	1.58	0	4.53	1.56	1.23	25.8	27.4	0.66	2.24	6.19	1.05	0.09	2.90



Alt Model-Shift Uniqueness Test

007470491-01, P = 0.902226 Days, E = 130.813977 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.7	1.30	0.86	0	4.56	1.64	0.80	37.9	38.7	0.44	1.30	14.5	1.03	0.06	2.03



Stellar Parameters For KIC 007470491

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3705^{+74}_{-111}	$0.798^{+0.033}_{-0.030}$	$0.020^{+0.200}_{-0.250}$	$89.806^{+18.859}_{-18.859}$	$1.847^{+1.500}_{-0.750}$	$0.000^{+0.000}_{-0.000}$
	+2%/-3%	+4%/-4%	+1000%/-1250%	+21%/-21%	+81%/-41%	+32%/-9%
Source	PHO54	AST54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007470491-01 / KOI 7840.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$63.21^{+24.72}_{-23.85}$	14447^{+543}_{-561}	-12268^{+966}_{-973}	$0.000^{+0.000}_{-0.000}$
Alt.	-1 ± 1	$52.94^{+26.68}_{-21.65}$	14385^{+586}_{-543}	-12147^{+999}_{-1053}	$0.000^{+0.000}_{-0.000}$

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

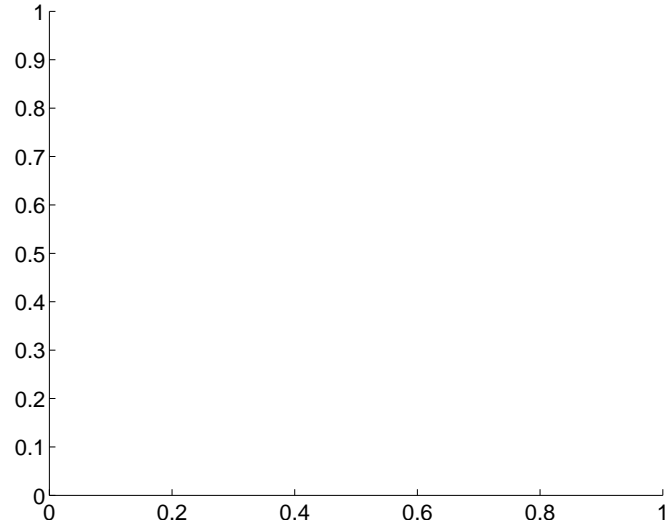
Supplemental centroid analysis for 007470491-01. Kepler magnitude: 13.55. Transit SNR 17.69

There are 0 quarters with good PRF difference image offsets

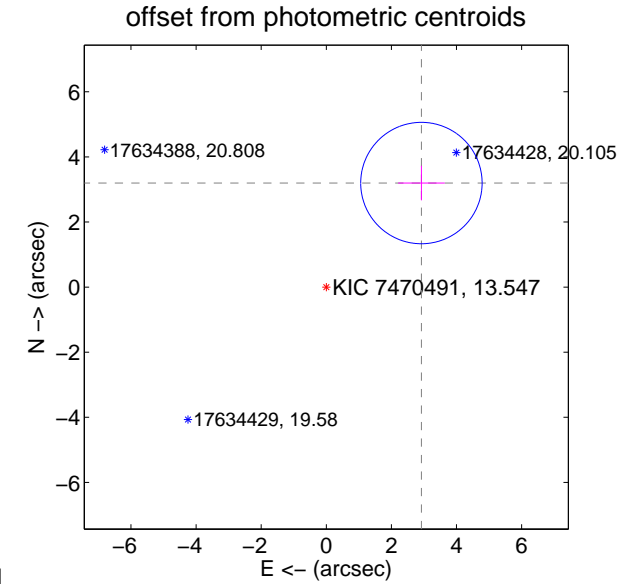
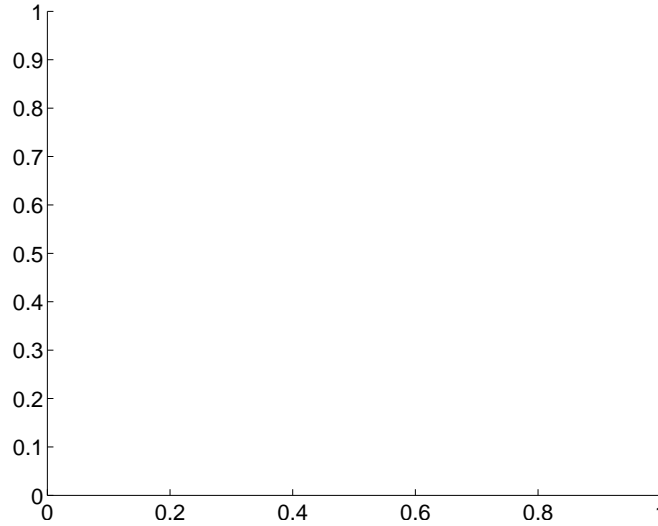
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	4.33 ± 0.62	6.97	-2.92 ± 0.71	3.20 ± 0.53

There is no PRF-fit offset from OOT-fit

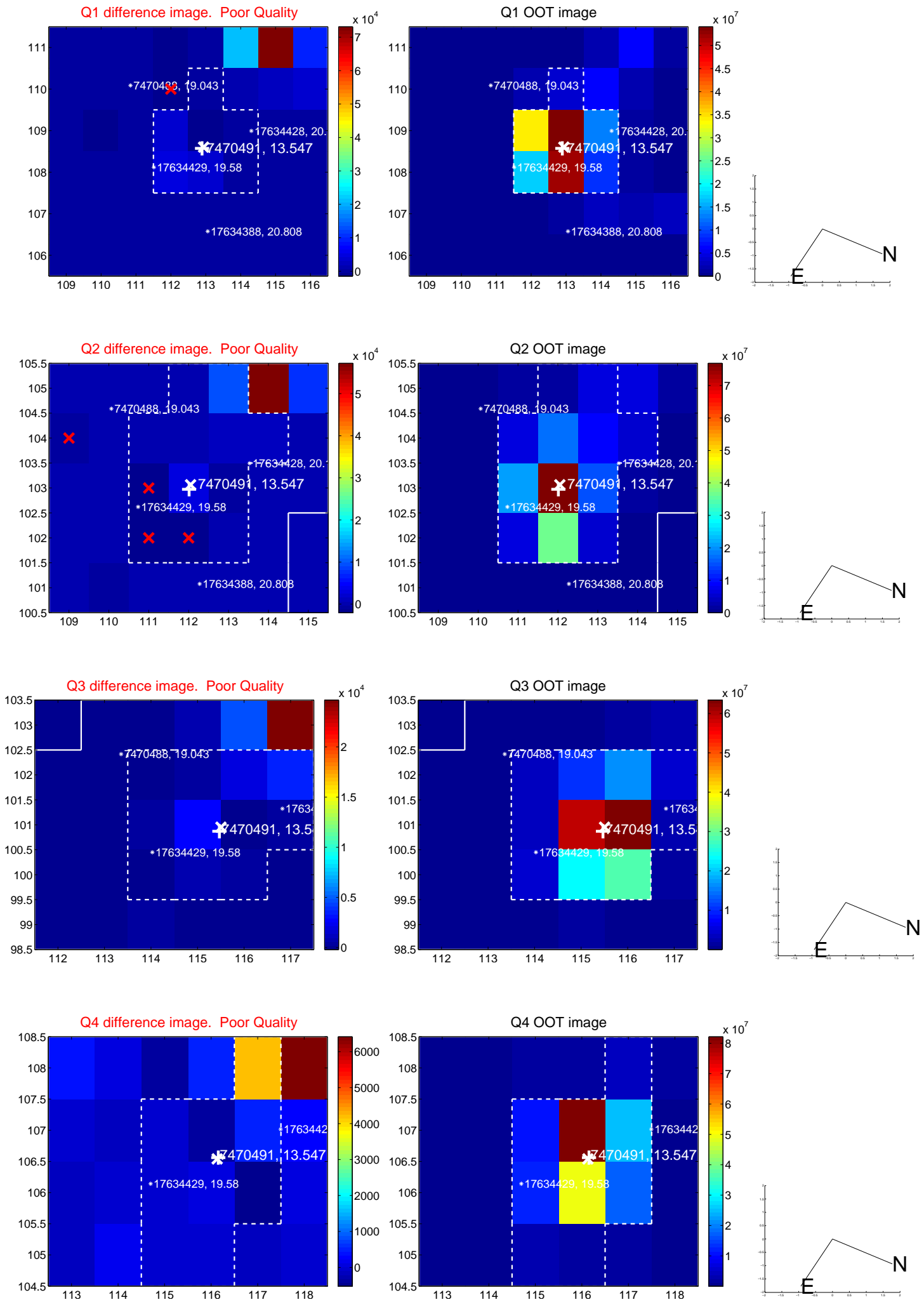


There is no PRF-fit offset from KIC

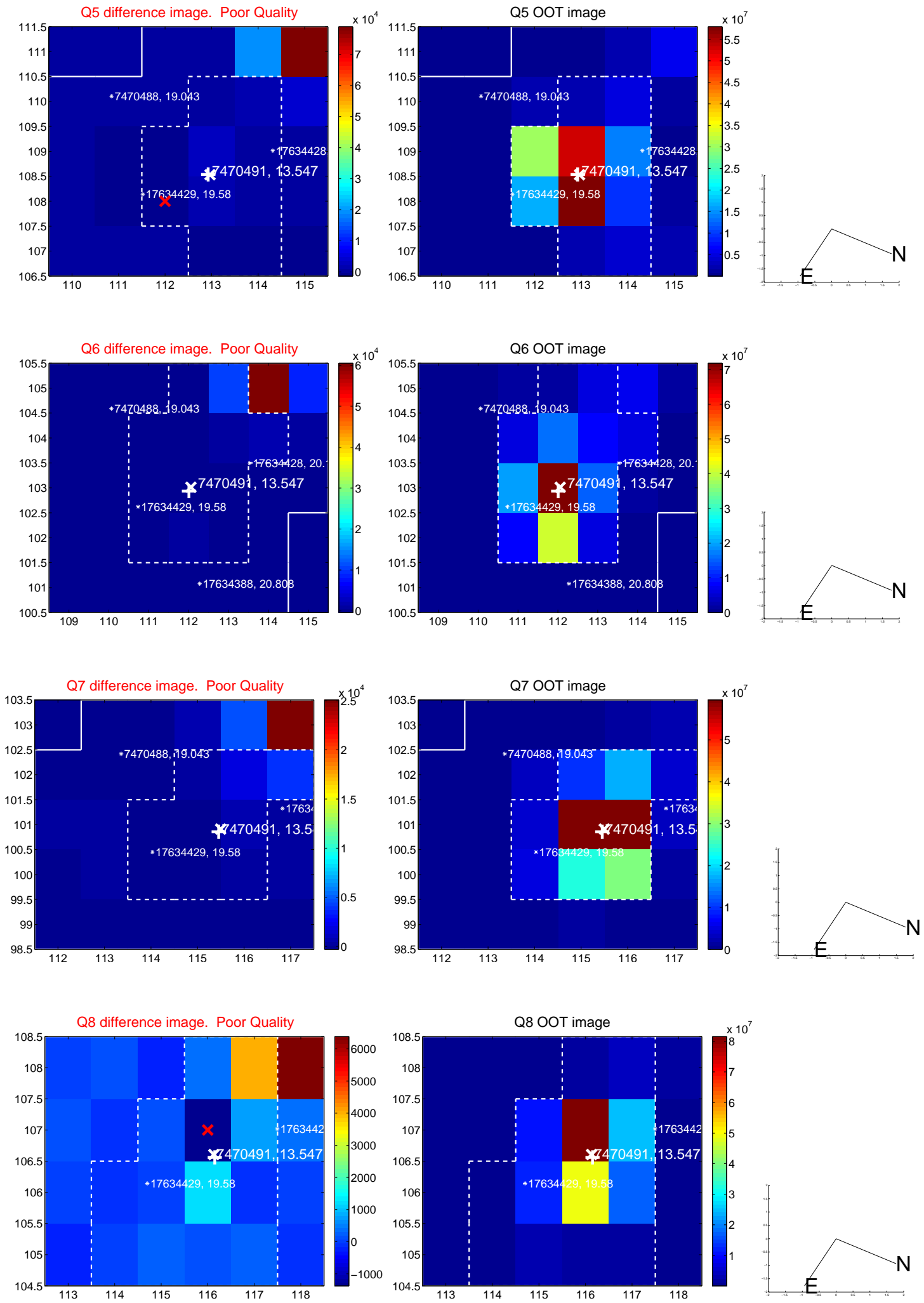


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

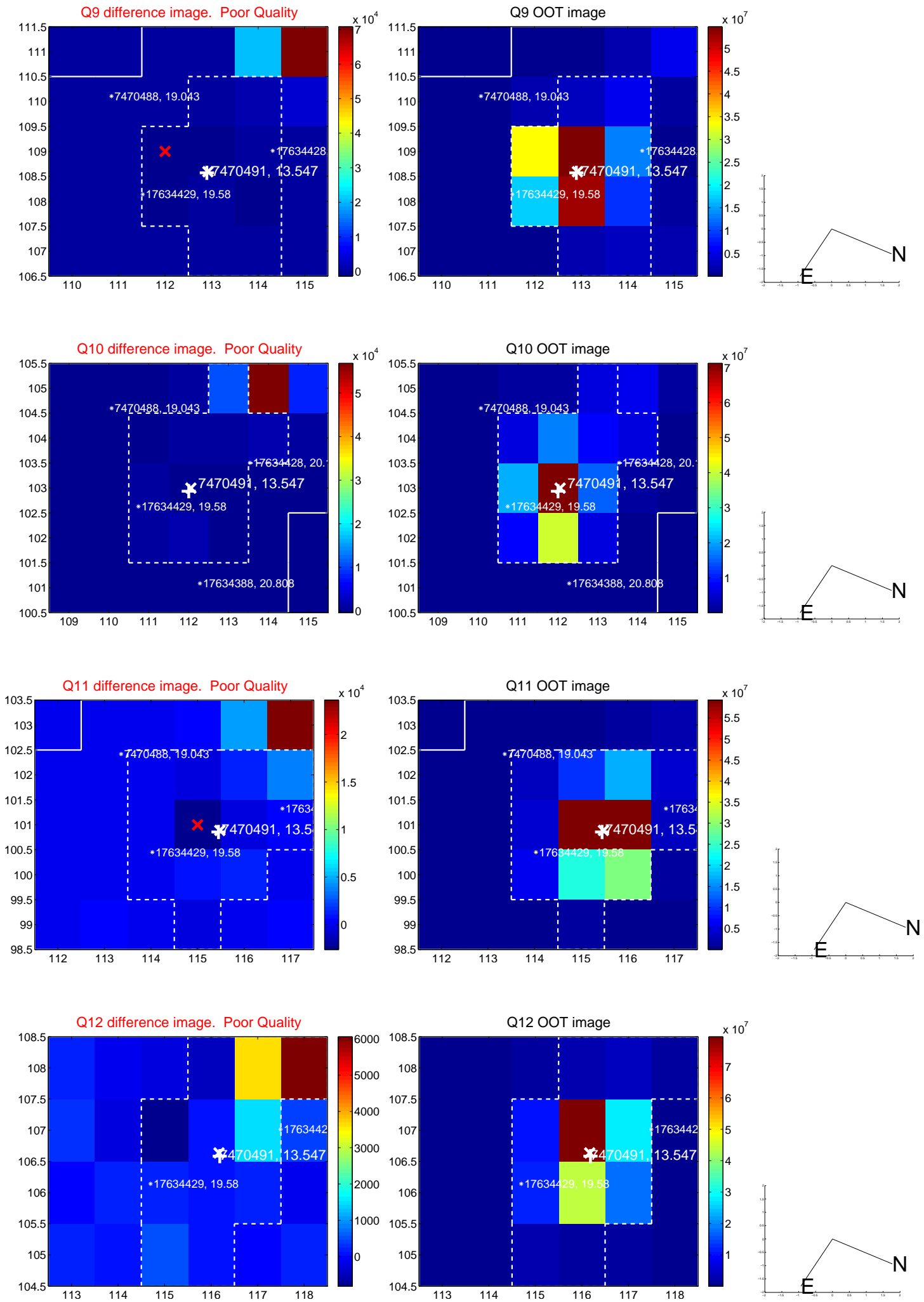
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



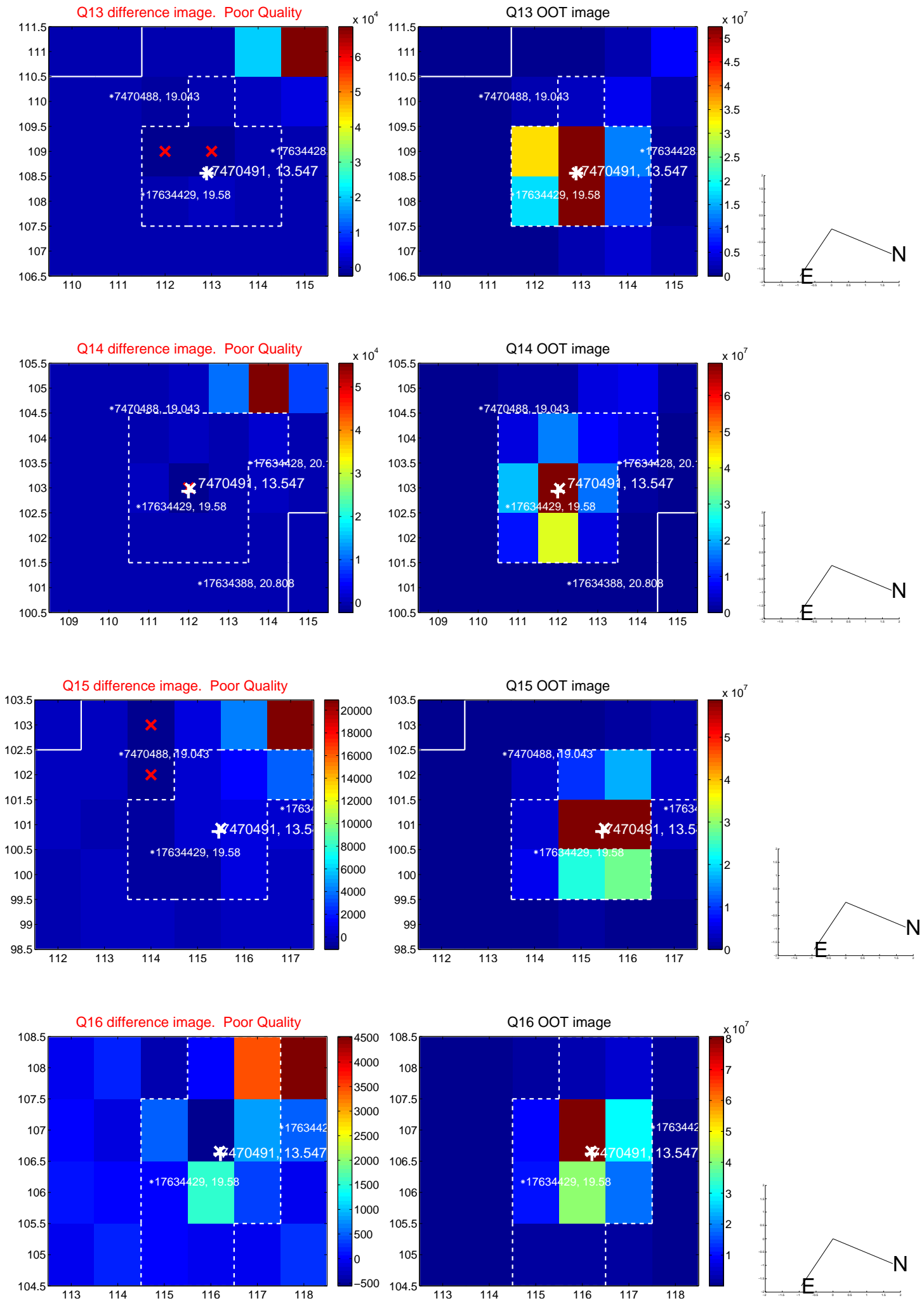
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



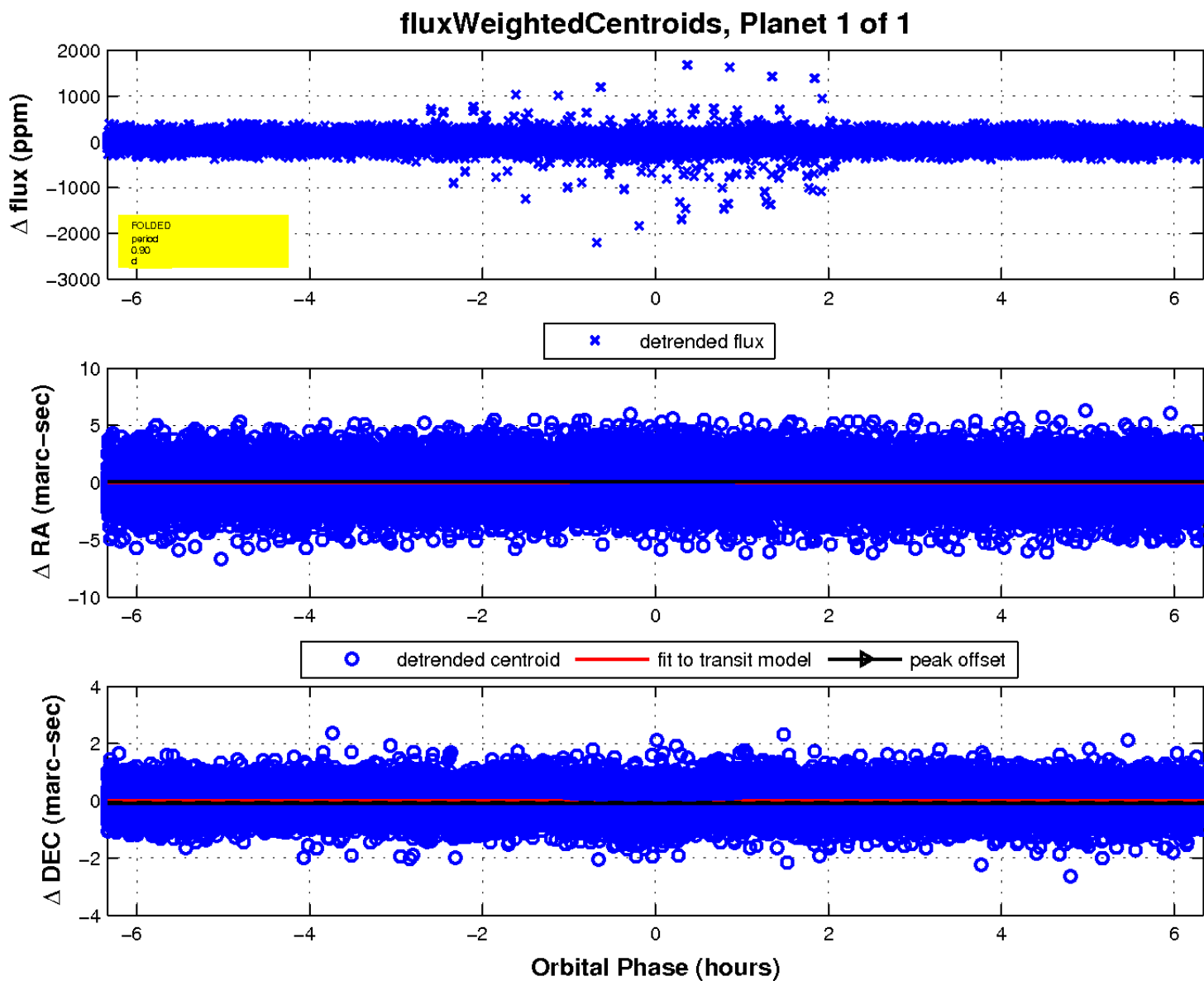
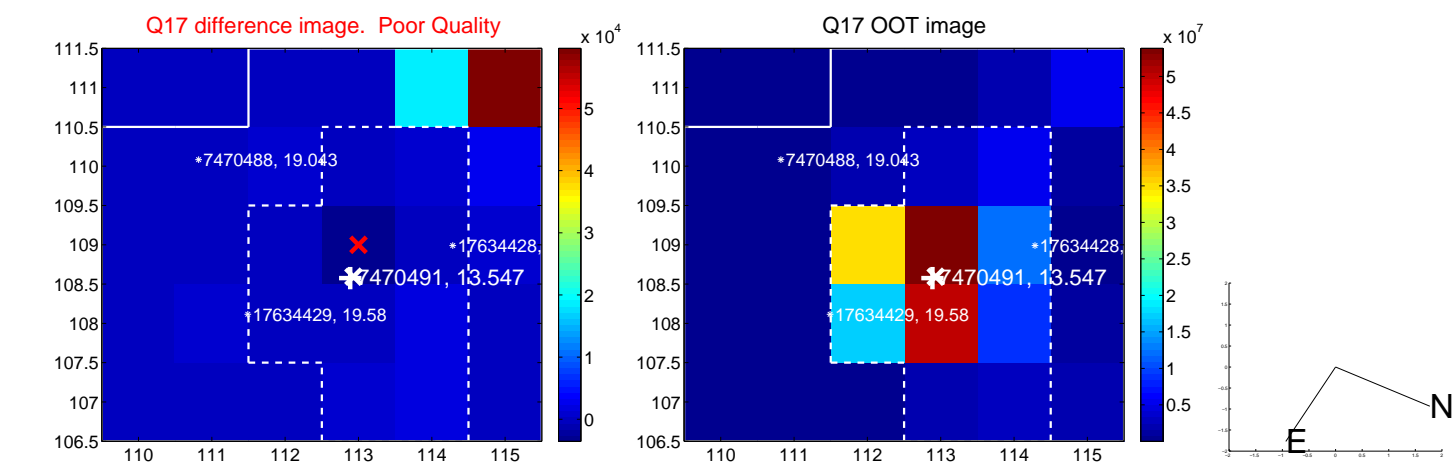
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

