

KIC 008451868

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})
008451868-01	OBS	No	0.539473	131.700937	1.0	5.028	13.2	0.1	0.12	2661	0.01	17.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008451868-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

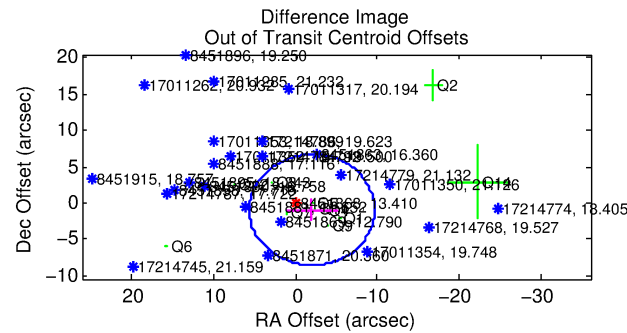
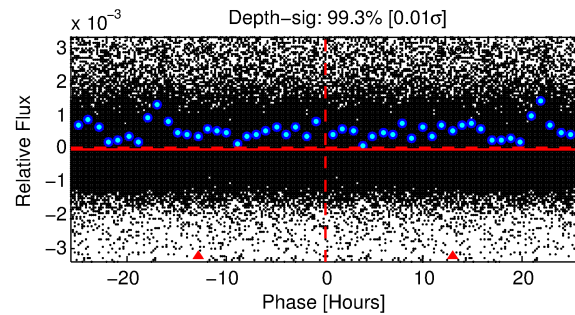
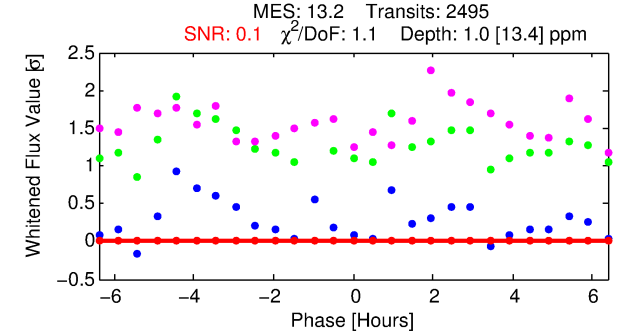
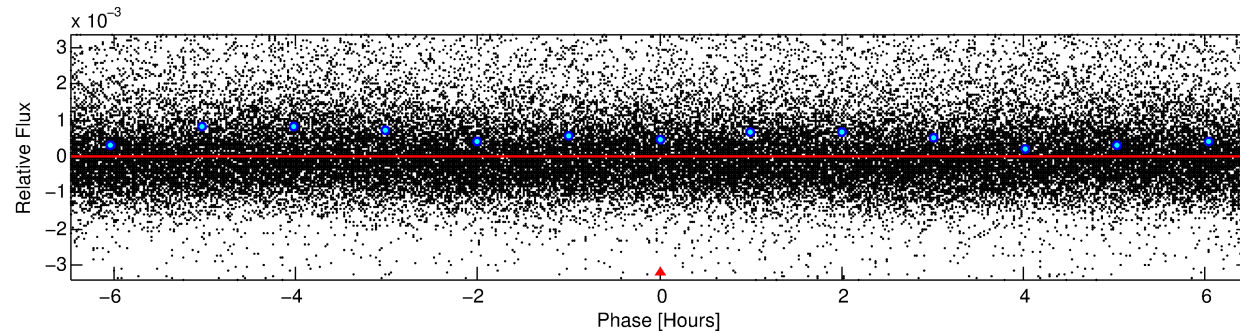
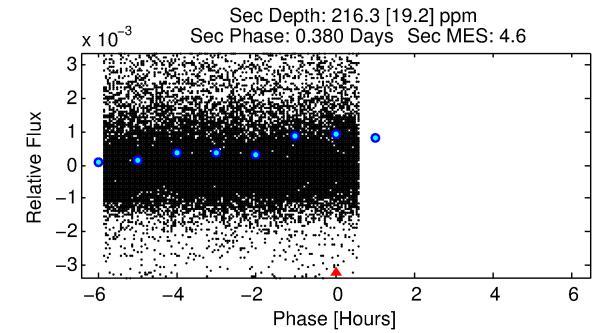
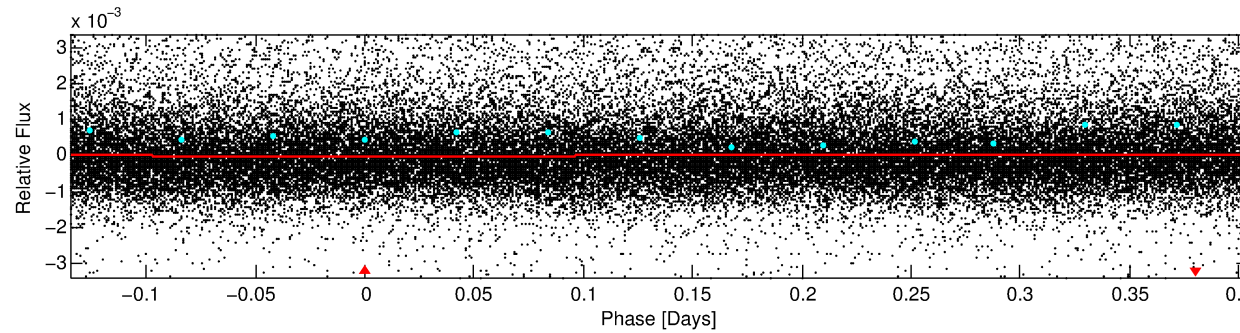
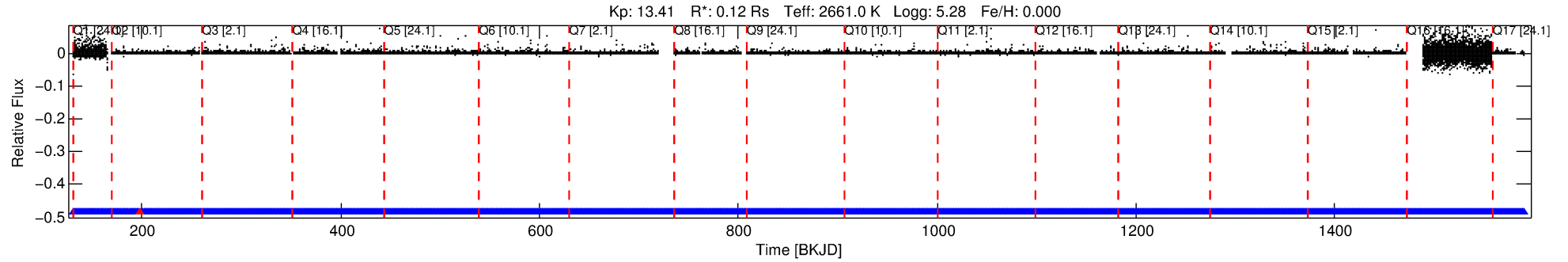
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008451868-01

No Significant Match Found

DV One-Page Summary

KIC: 8451868 Candidate: 1 of 1 Period: 0.539 d



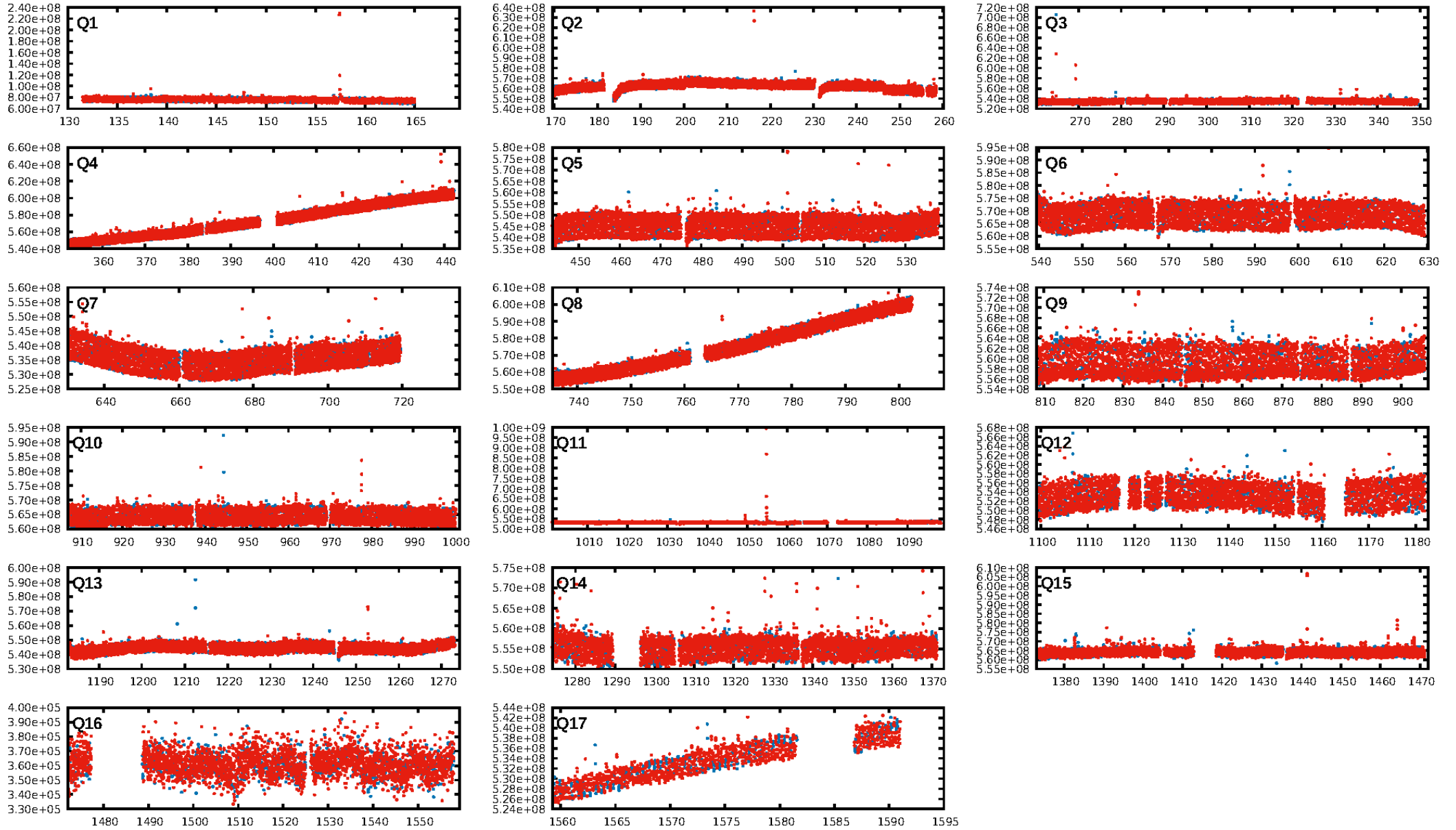
DV Fit Results:

Period = 0.53947 [0.00116] d
Epoch = 131.7009 [0.4129] BKJD
Rp/R* = 0.0009 [0.1545]
a/R* = 1.06 [93.51]
b = 0.16 [4686.72]
Seff = 17.35 [0.05]
Teq = 520 [0] K
Rp = 0.01 [1.96] Re
a = 0.0059 [0.0000] AU
Ag = 31881.16 [10937485.18] [0.00 σ]
Teff = 10752 [922207] K [0.01 σ]

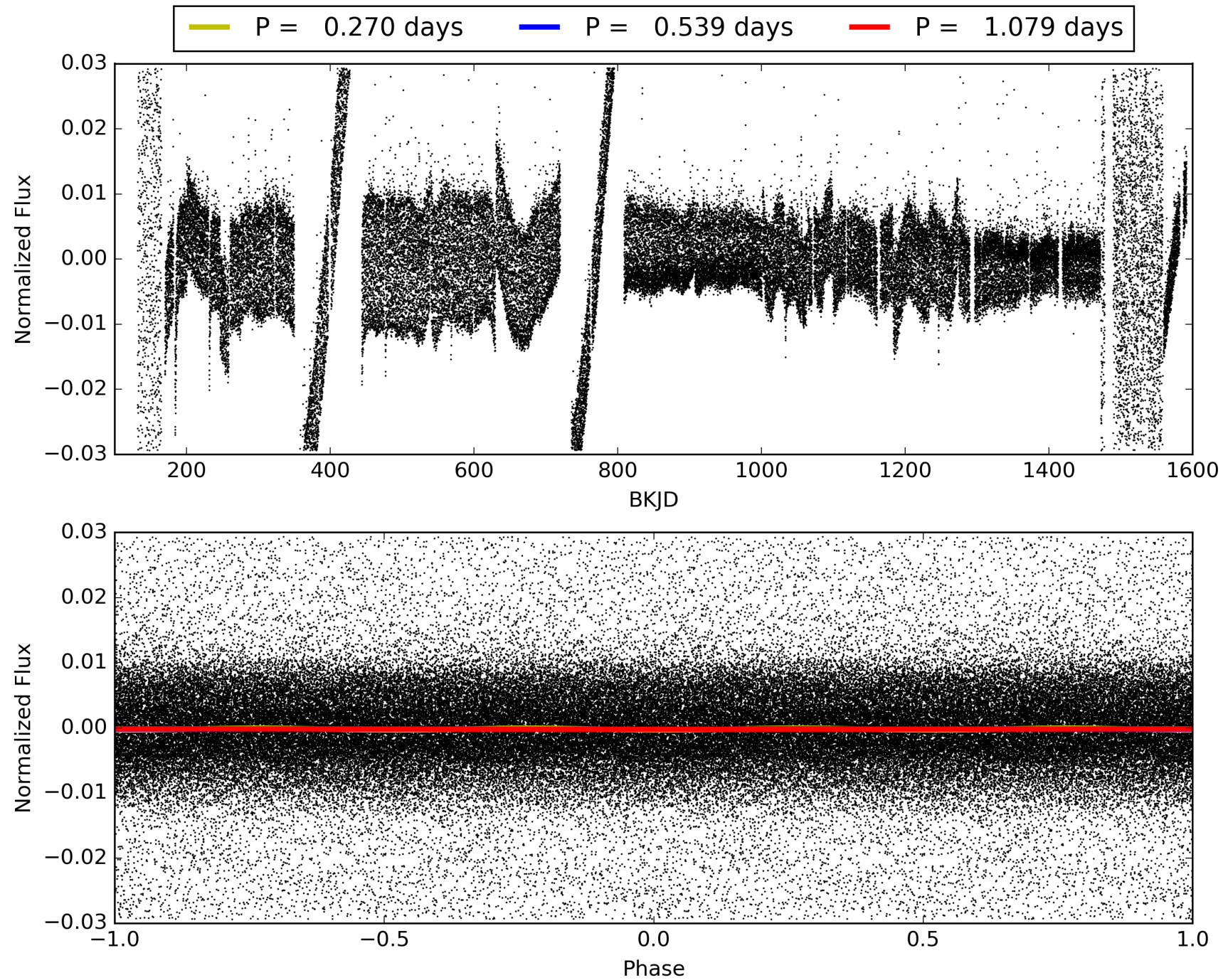
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2382/2383]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.232 arcsec [0.88 σ]
KicOffset-rm: 9.506 arcsec [3.16 σ]
OotOffset-st: 3/3/2/3 [11]
KicOffset-st: 3/3/2/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008451868-01, PDC Light Curves

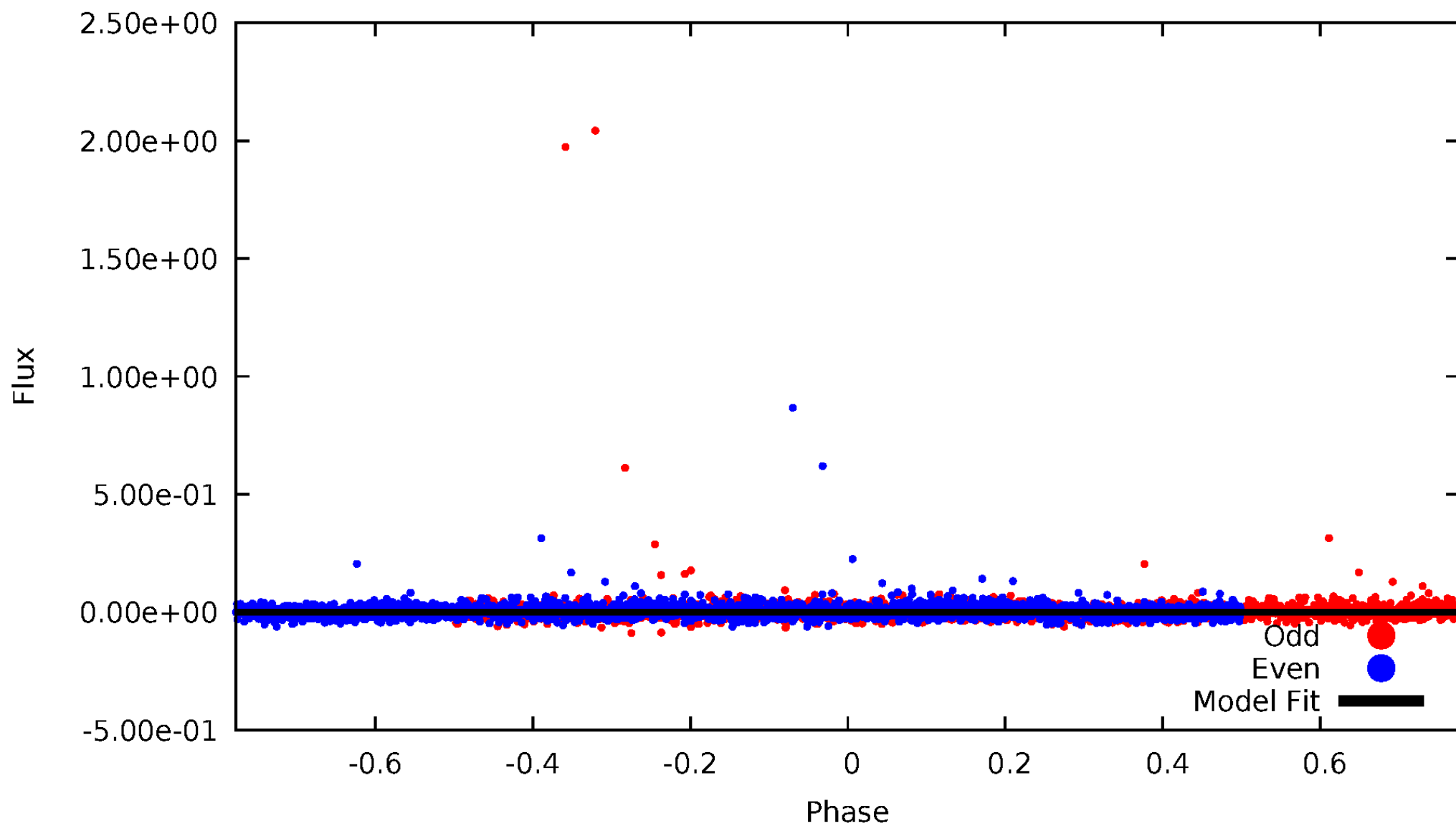


TCE 008451868-01



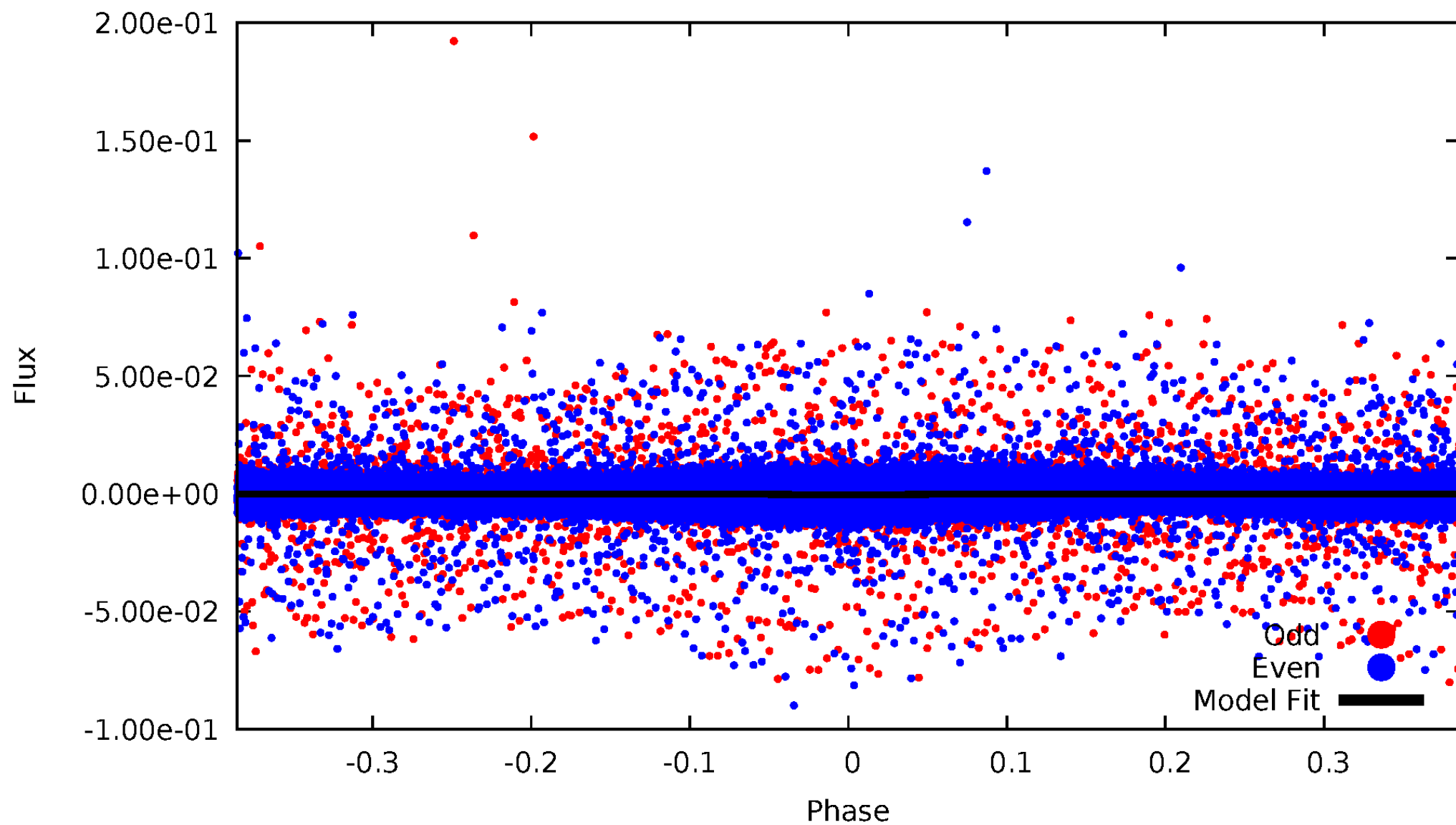
DV Odd/Even

TCE 008451868-01



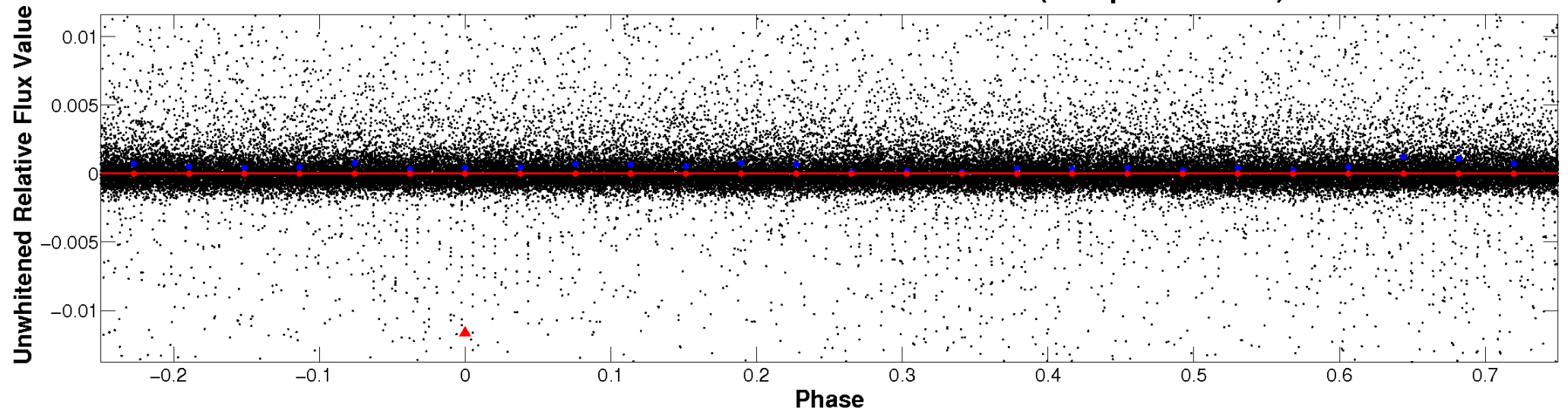
ALT Odd/Even

TCE 008451868-01

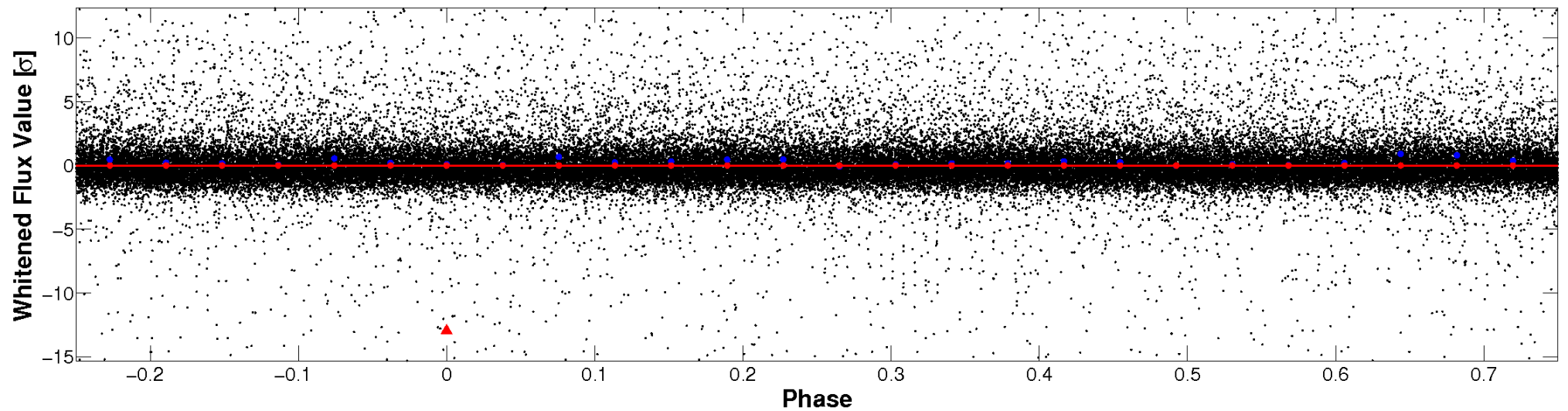


Non-Whitened Vs. Whitened Light Curve

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

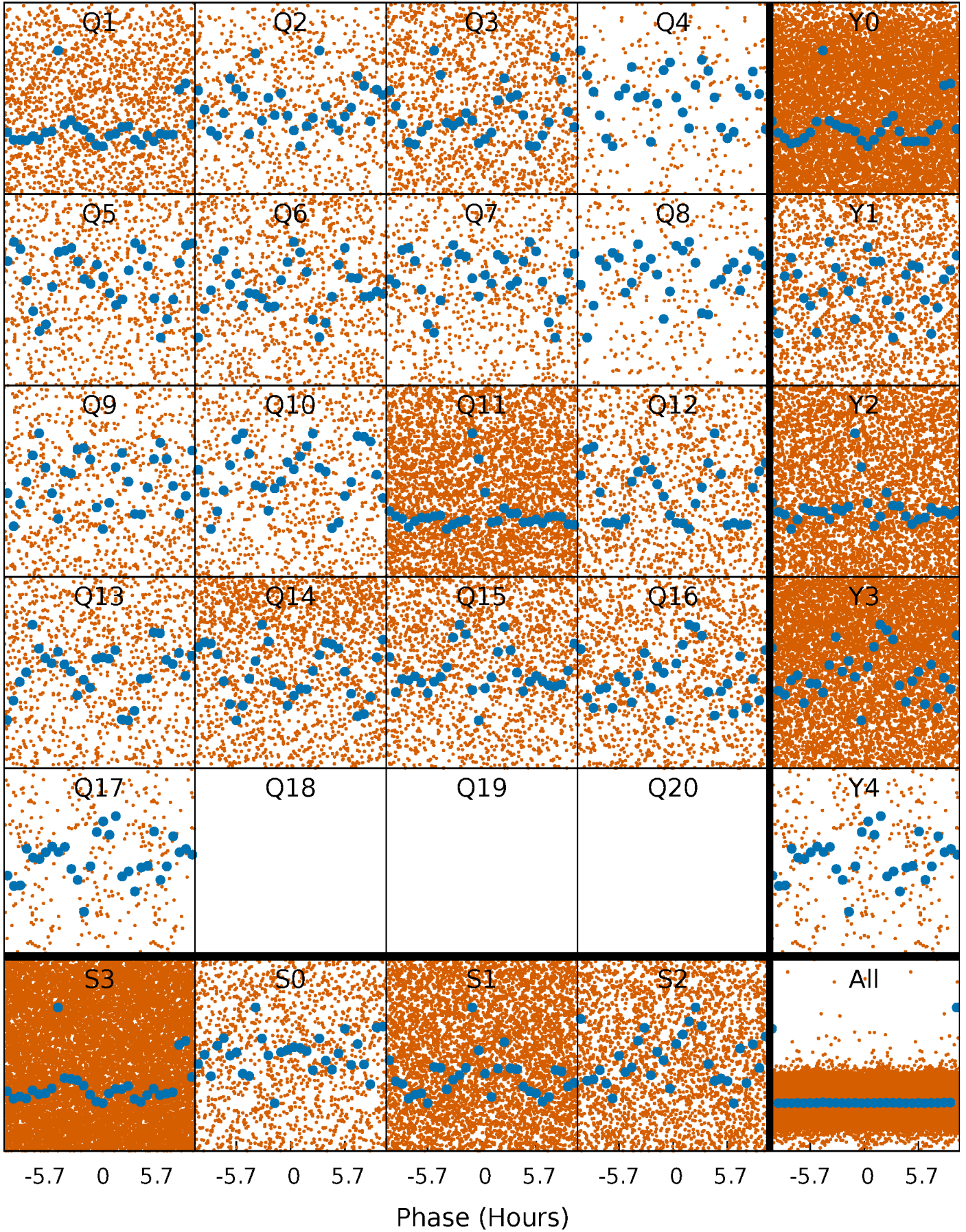


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



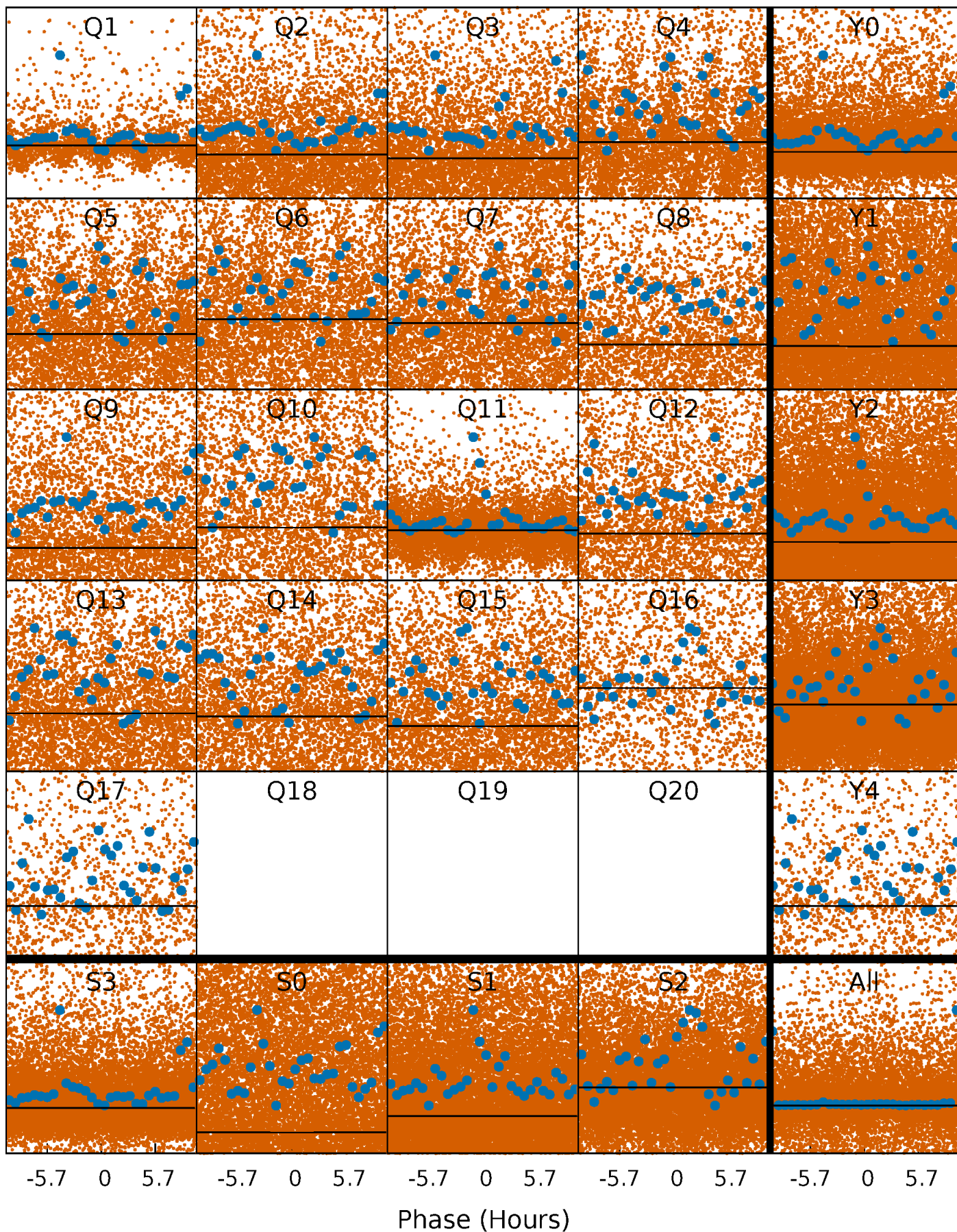
PDC Quarter-Phased Transit Curves

TCE 008451868-01 P= 0.539473 Days $T_0=131.700937$ (BKJD)



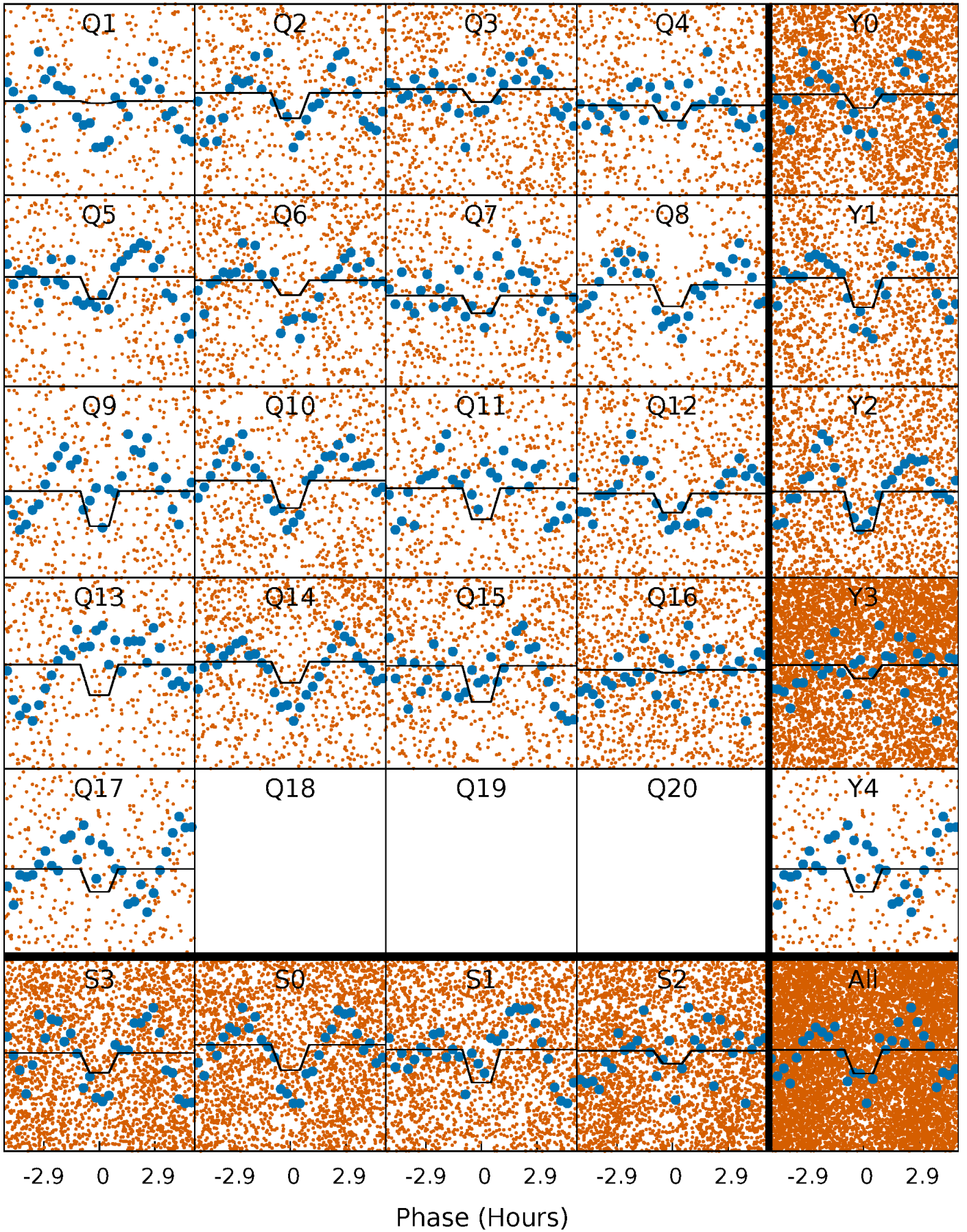
DV Quarter-Phased Transit Curves

TCE 008451868-01 P= 0.539473 Days $T_0=131.700937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

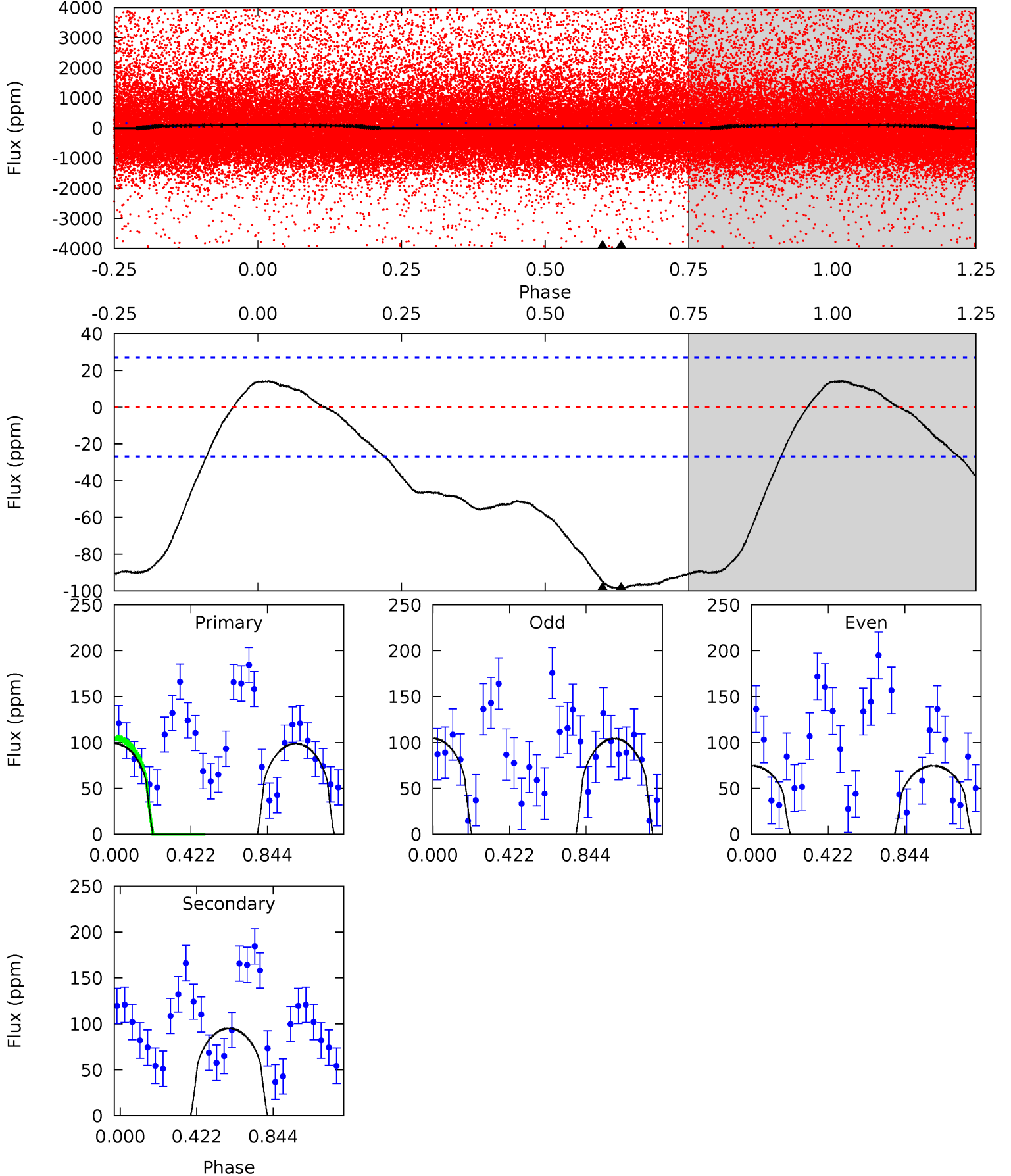
TCE 008451868-01 P= 0.539613 Days $T_0=131.696403$ (BKJD)



DV Model-Shift Uniqueness Test

008451868-01, P = 0.539473 Days, E = 131.161464 Days

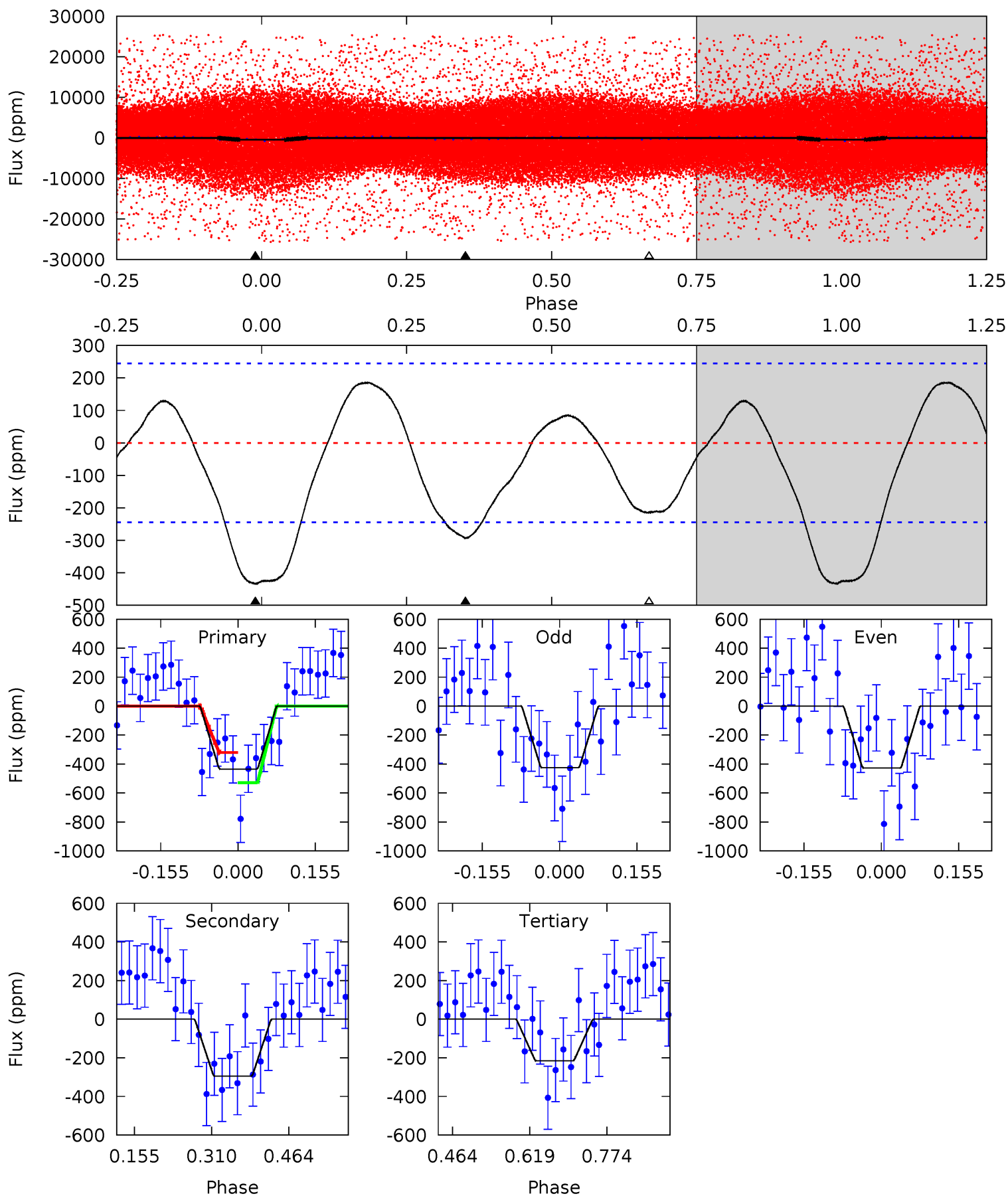
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	15.0	0	0	4.25	0.80	1.20	15.6	15.6	15.0	15.0	2.39	4.31	0.13	2.36



Alt Model-Shift Uniqueness Test

008451868-01, P = 0.539613 Days, E = 131.156790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.95	5.39	3.94	0	4.47	1.42	2.41	4.00	7.95	1.44	5.39	0.03	2.10	0.30	2.03



Stellar Parameters For KIC 008451868

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	2661^{+1}_{-1}	$5.283^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$0.116^{+1.000}_{-1.000}$	$0.094^{+1.000}_{-1.000}$	$85.200^{+1.000}_{-1.000}$
	+0%/-0%	+19%/-19%	+inf%/-inf%	+862%/-862%	+1064%/-1064%	+1%/-1%
Source	PHO54	PHO54	PHO54	BTSL		

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

Secondary Eclipse Parameters for KIC 008451868-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-95 ± 6	$1.53^{+1.85}_{-1.07}$	747^{+78}_{-72}	1543^{+456}_{-2878}	$0.875^{+7.821}_{-0.661}$
Alt.	-295 ± 55	$1.60^{+1.67}_{-1.10}$	750^{+77}_{-78}	1745^{+502}_{-268}	$2.561^{+20.773}_{-1.903}$

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 $A_{obs} \gg 1.0$

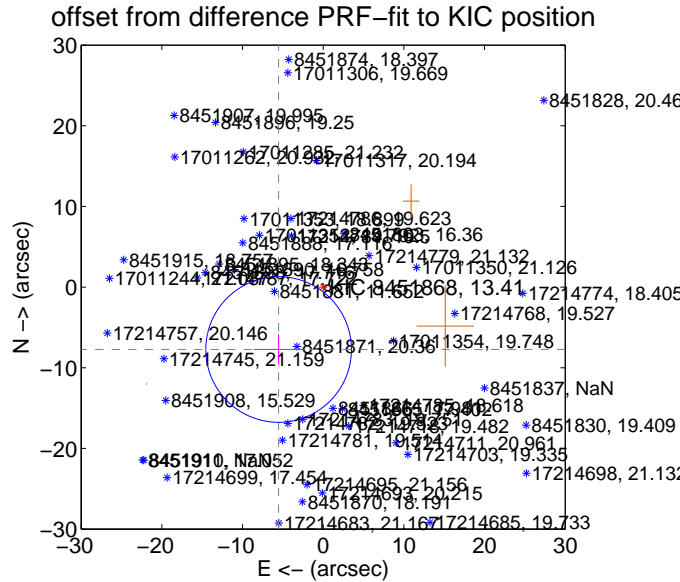
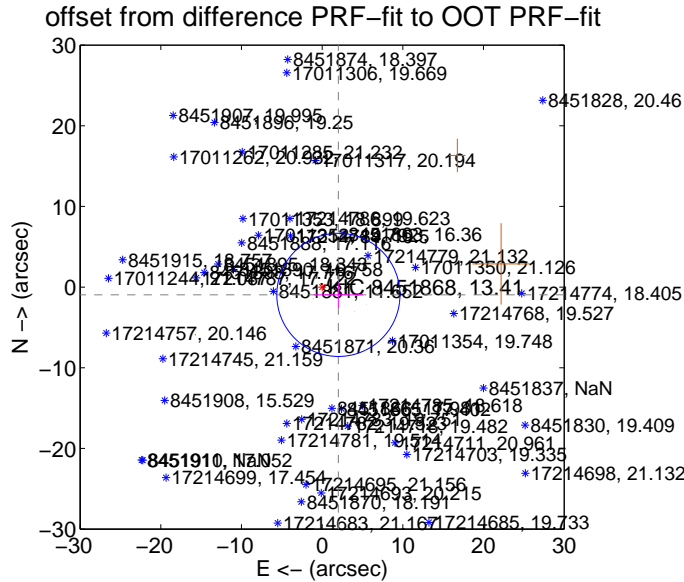
DV Centroid Data

Supplemental centroid analysis for 008451868-01. Kepler magnitude: 13.41. Transit SNR 0.11

There are 2 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 10.46 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

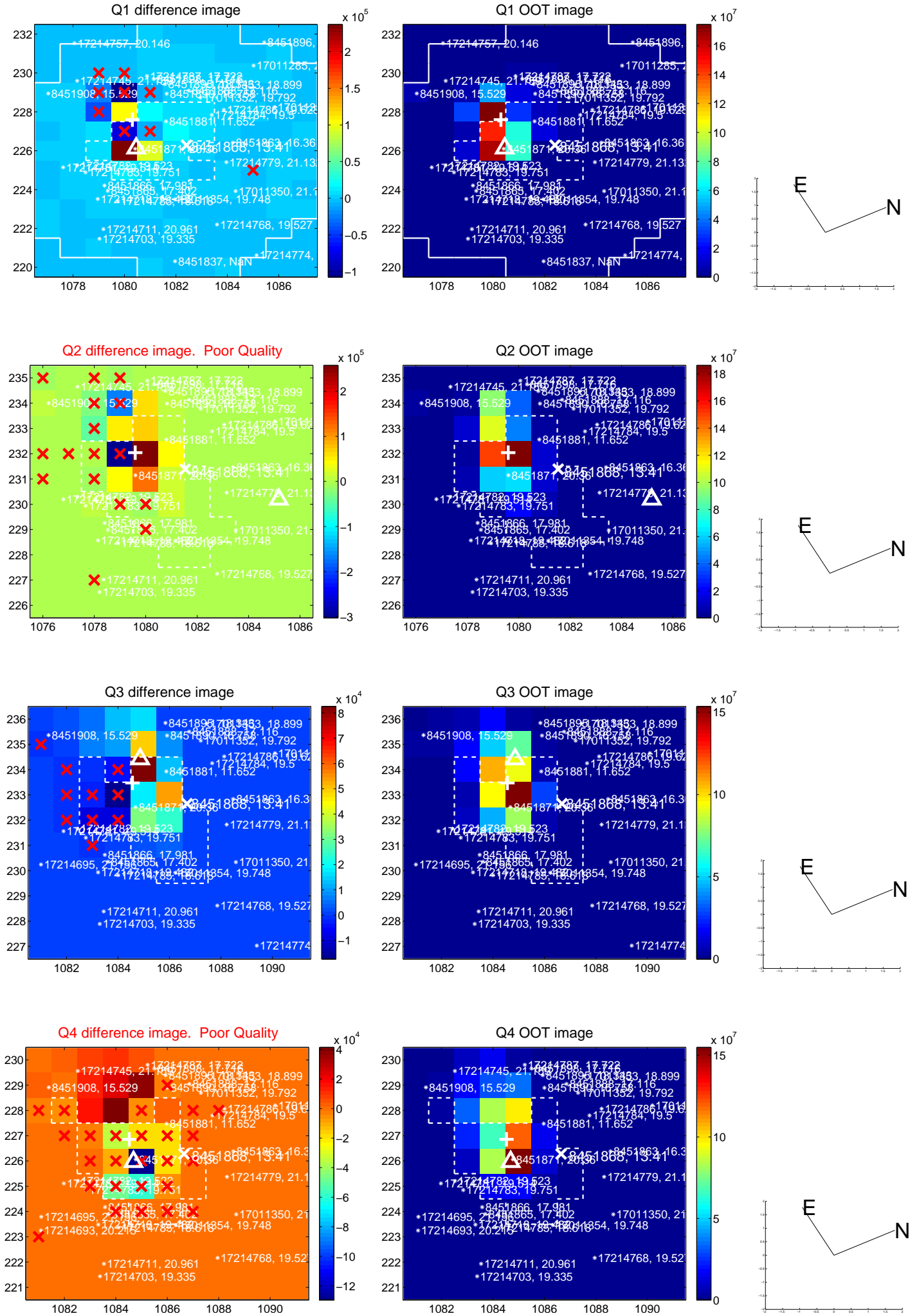
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.232 ± 2.545	0.88	-2.014 ± 3.064	-0.962 ± 1.527
PRF-fit source offset from KIC position	9.506 ± 3.008	3.16	5.523 ± 3.089	-7.737 ± 1.902
photometric centroid source offset	—	—	—	—



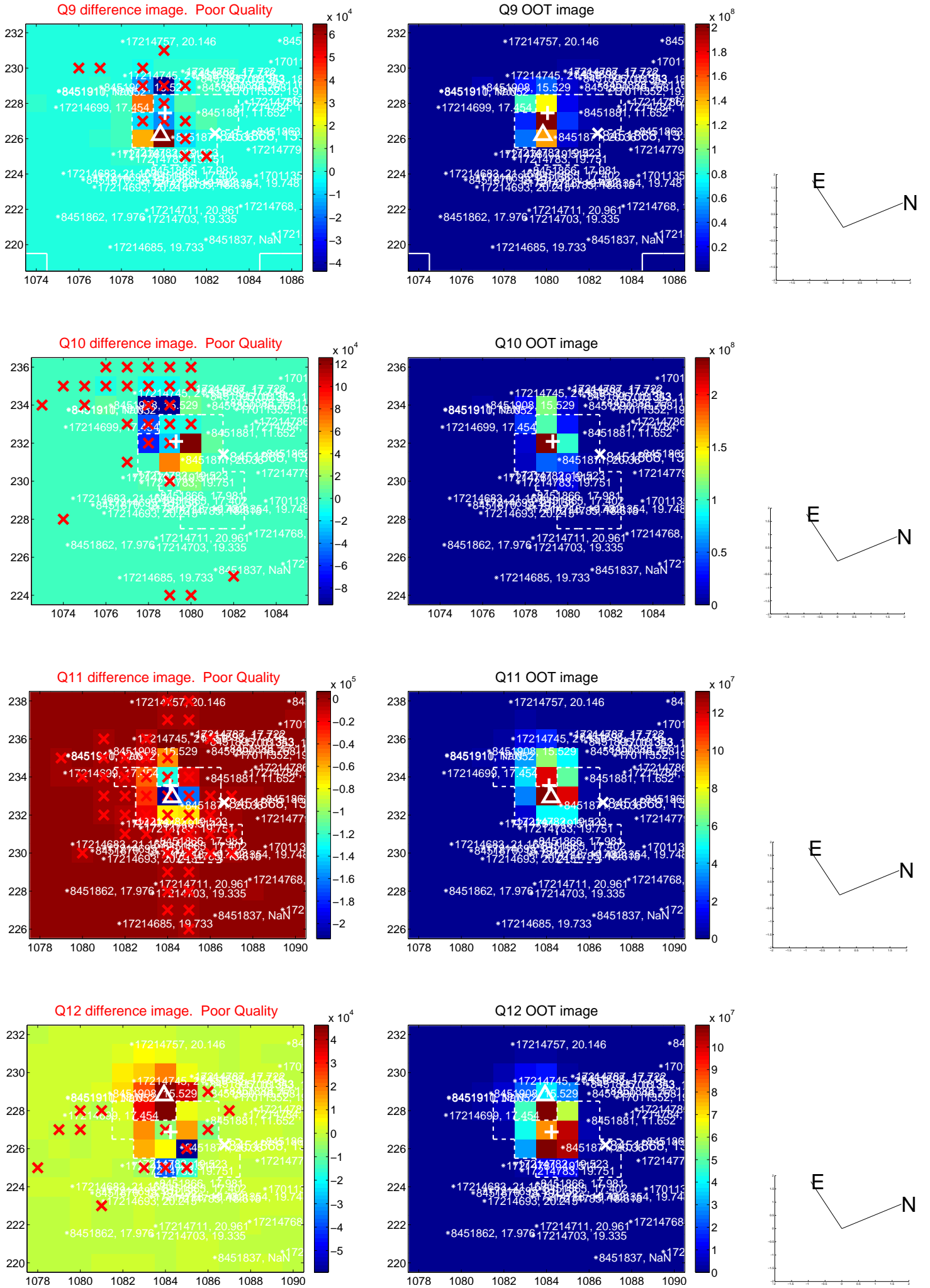
There are no photometric centroids

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.

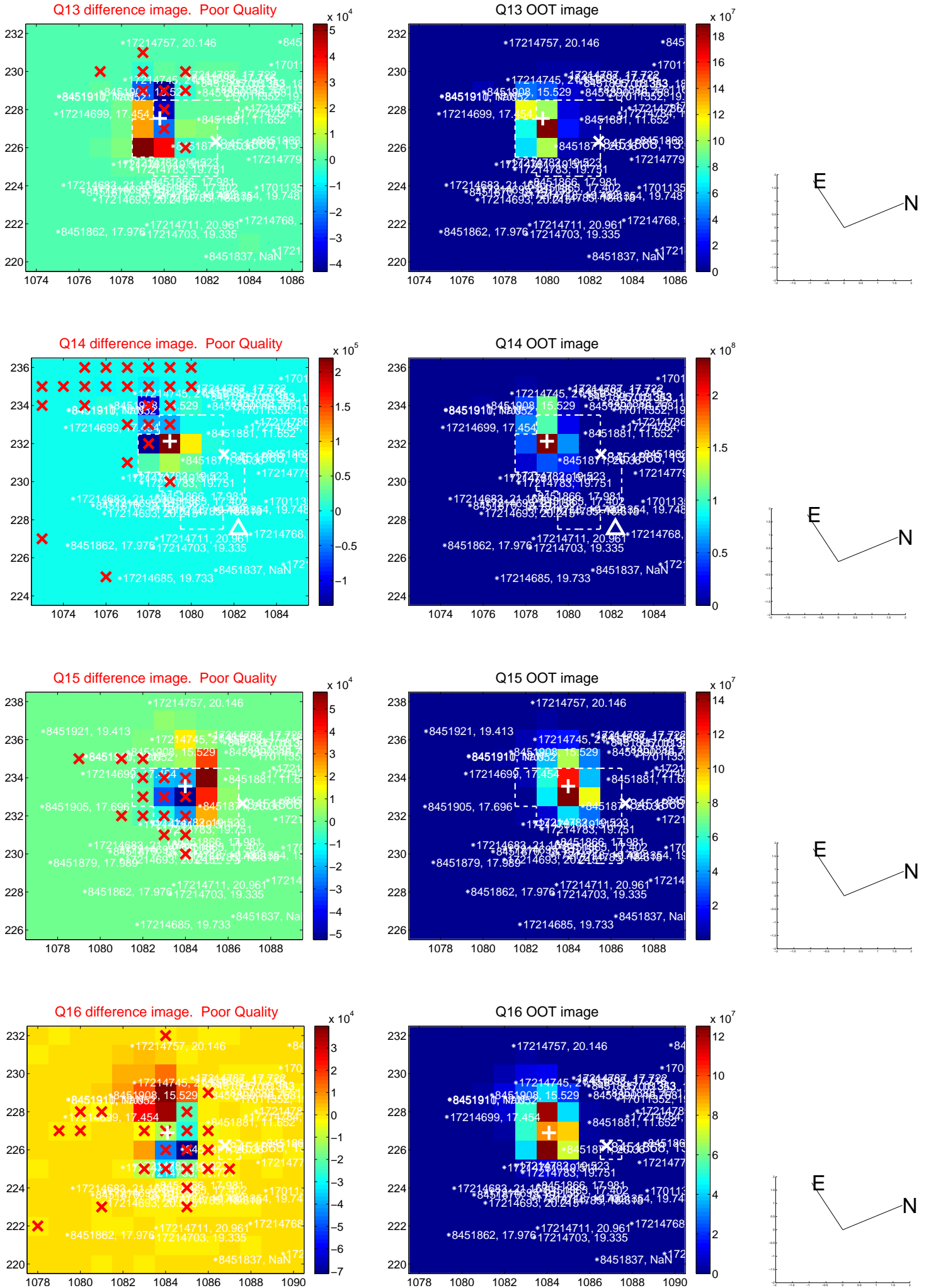
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



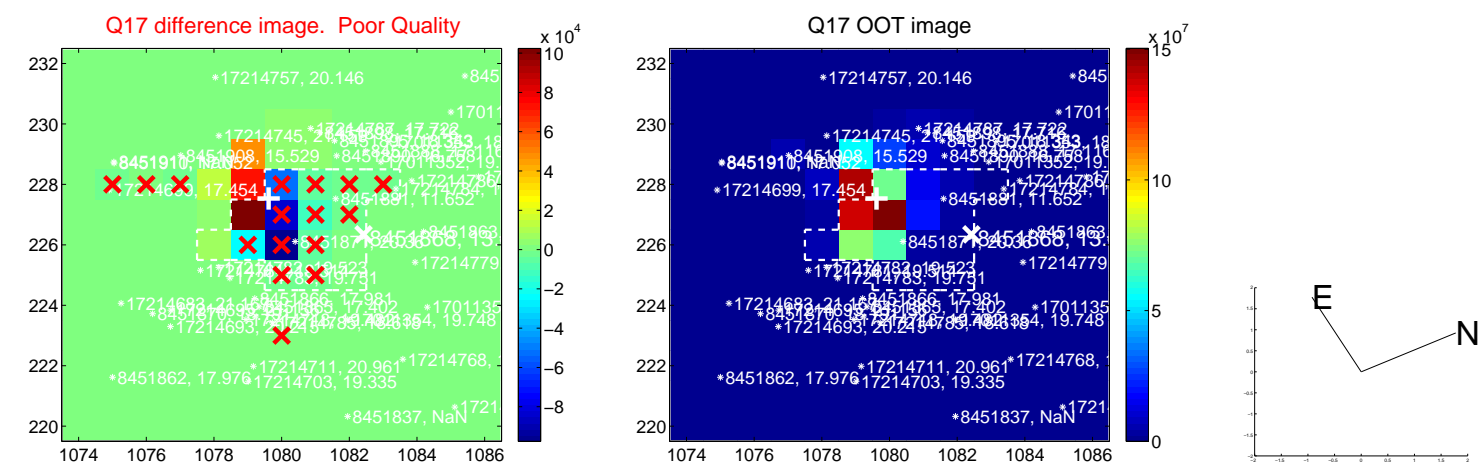
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

