

KIC 005450893

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})
005450893-01	OBS	2970.01	4.820590	135.774690	43.0	3.470	13.0	14.4	1.40	6046	1.08	736.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450893-01	OBS	PC	0.99	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.

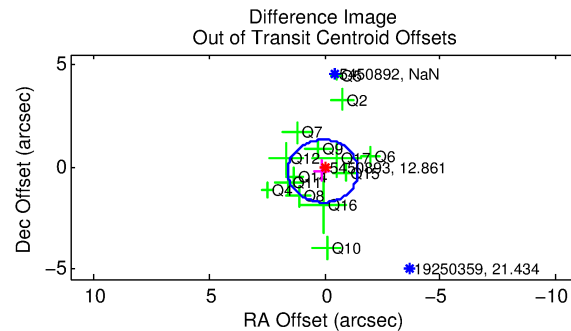
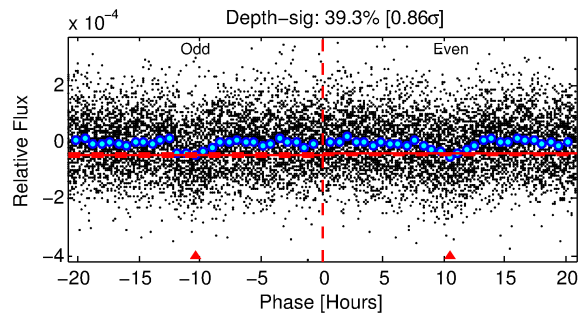
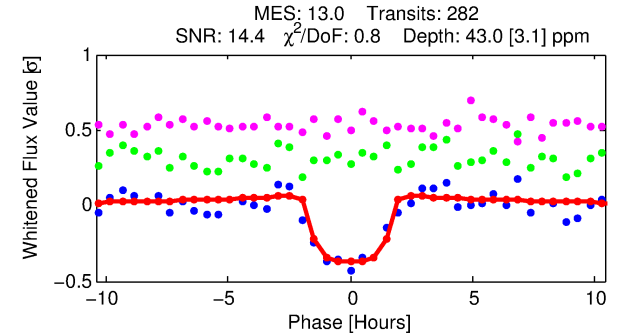
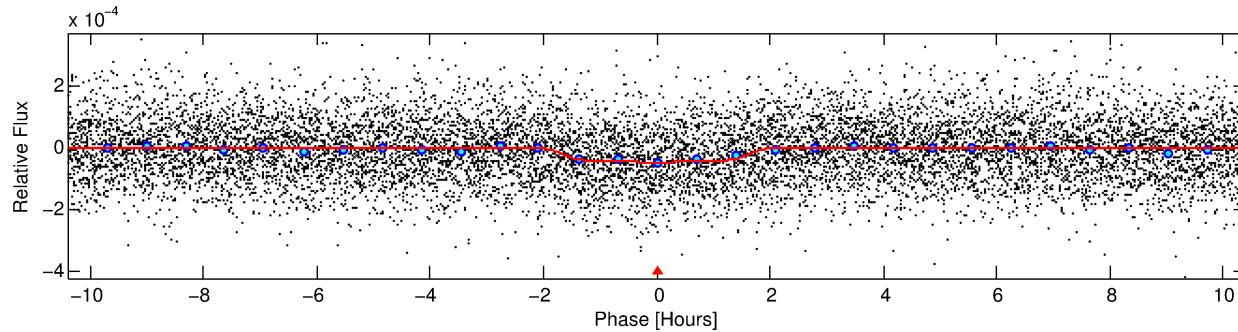
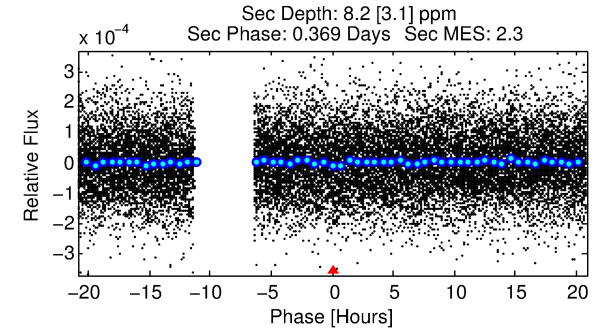
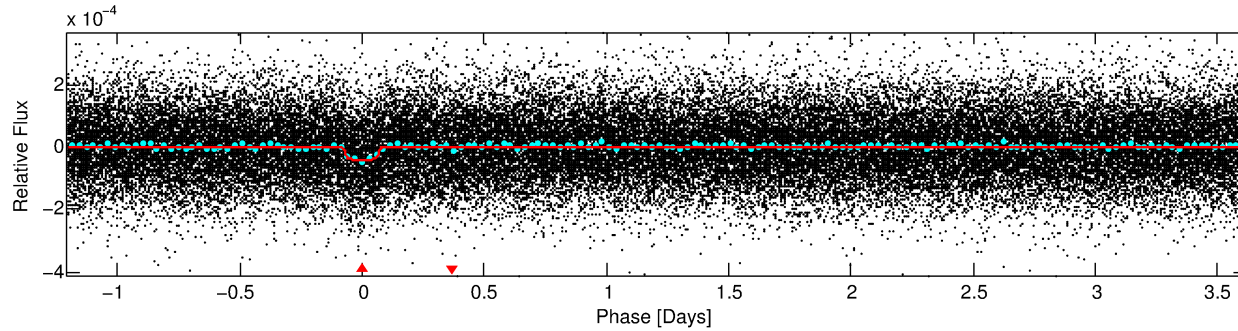
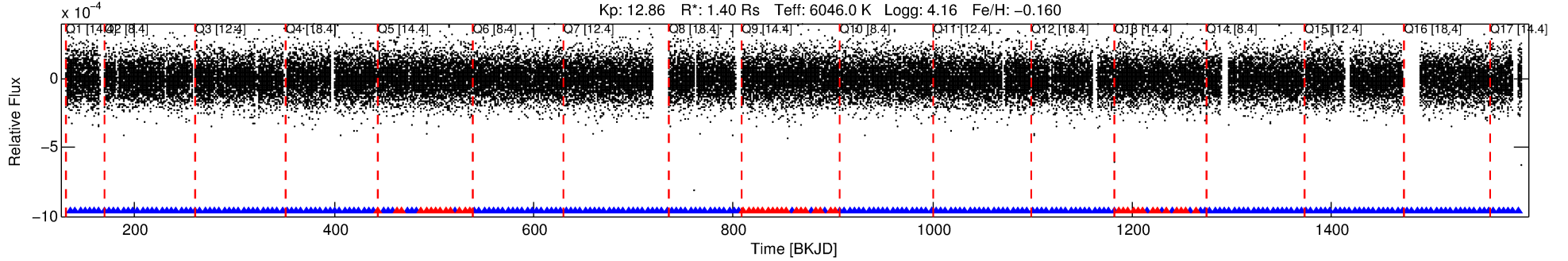
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450893-01

No Significant Match Found

DV One-Page Summary

KIC: 5450893 Candidate: 1 of 1 Period: 4.821 d
KOI: K02970.01 Corr: 0.968



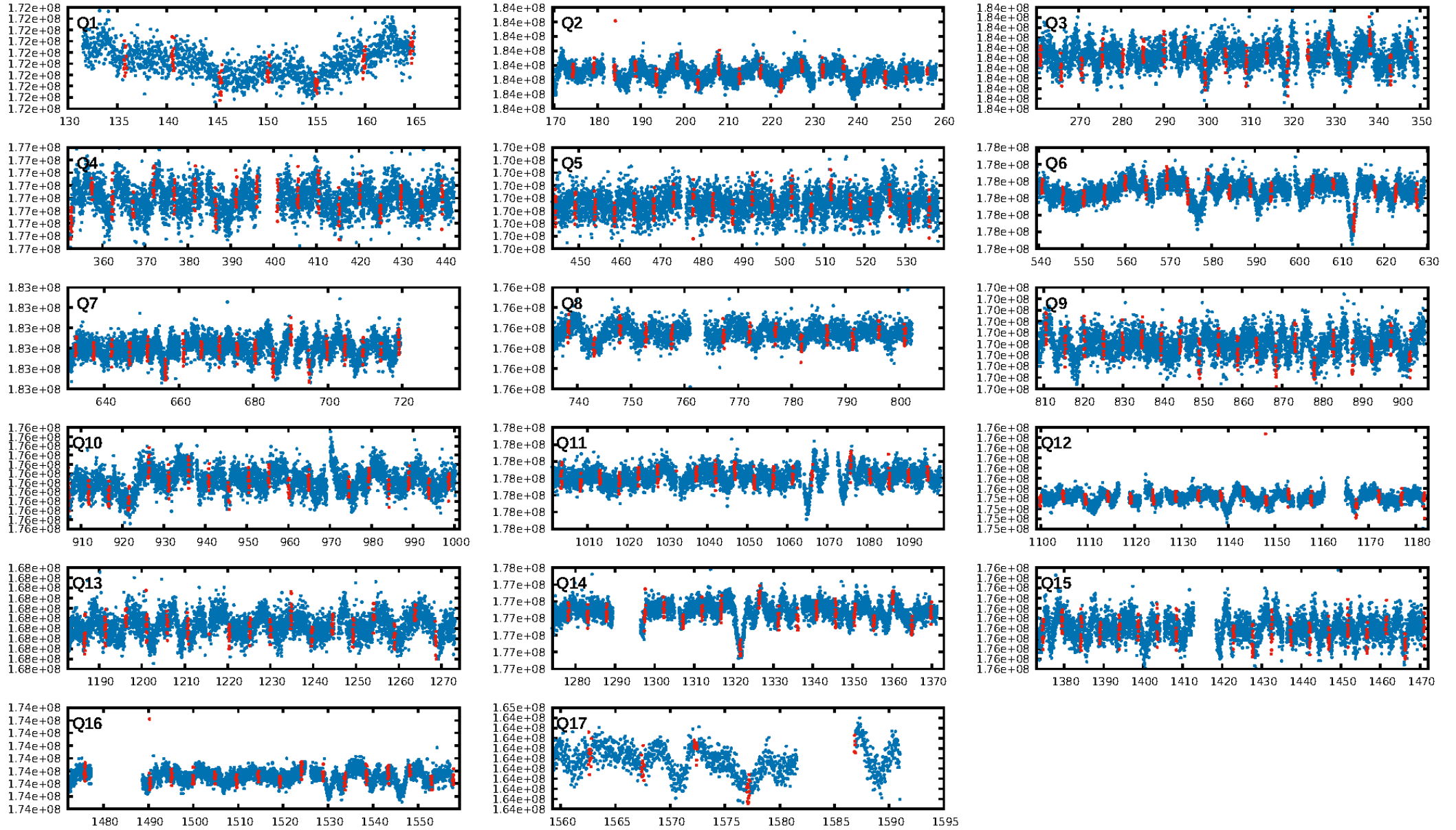
DV Fit Results:

Period = 4.82059 [0.00002] d
Epoch = 135.7747 [0.0035] BKJD
Rp/R* = 0.0071 [0.0020]
a/R* = 4.86 [6.96]
b = 0.90 [0.32]
Seff = 736.59 [230.90]
Teq = 1328 [104] K
Rp = 1.08 [0.38] Re
a = 0.0563 [0.0108] AU
Ag = 12.20 [9.10] [1.23σ]
Teffp = 3839 [661] K [3.75σ]

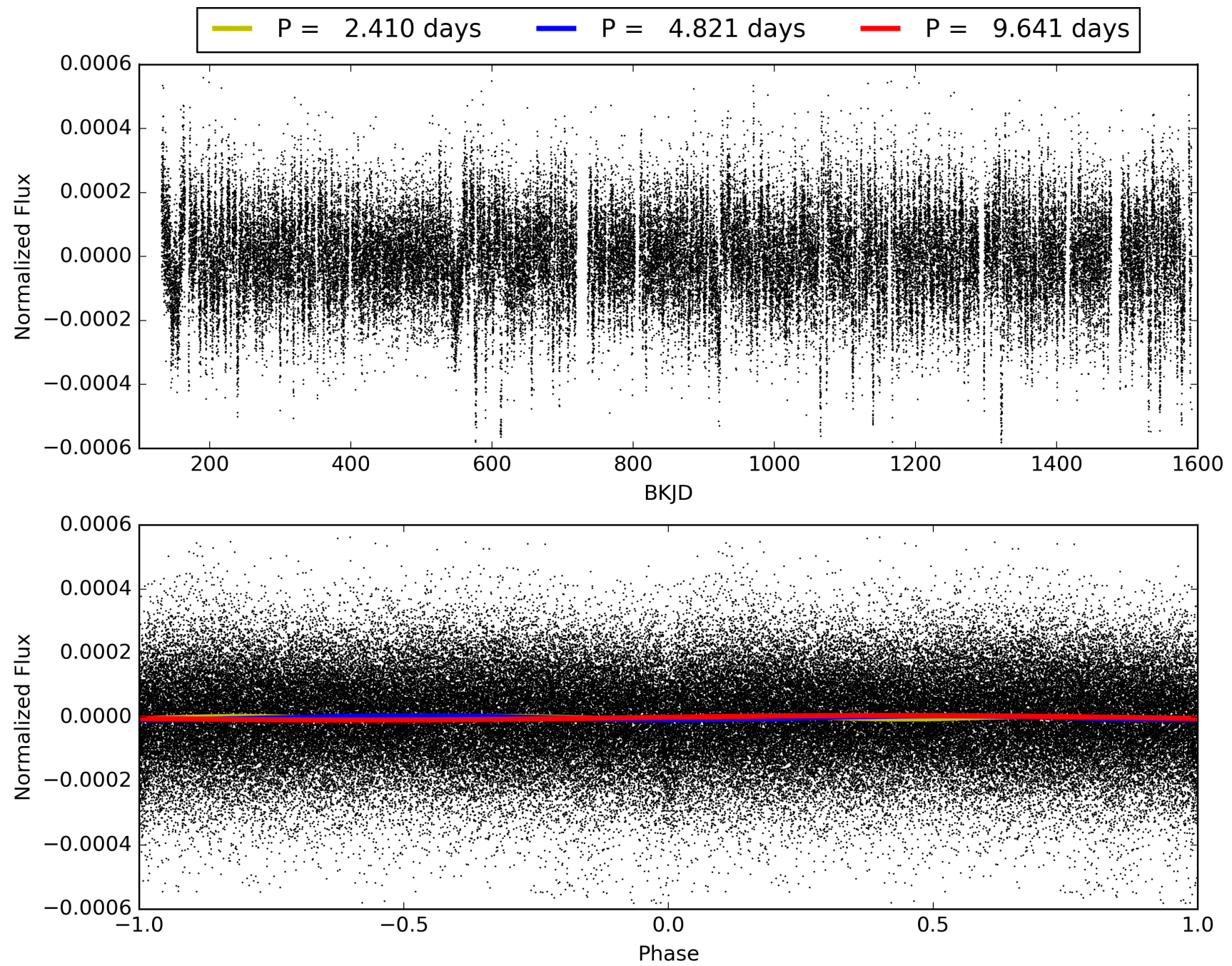
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.51e-37
RollingBand-fgt: 0.84 [227/270]
GhostDiagnostic-chr: 1.618
Centroid-sig: 5.0%
Centroid-so: 0.749 arcsec [1.05σ]
OotOffset-rm: 0.236 arcsec [0.46σ]
KicOffset-rm: 0.237 arcsec [0.67σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005450893-01, PDC Light Curves

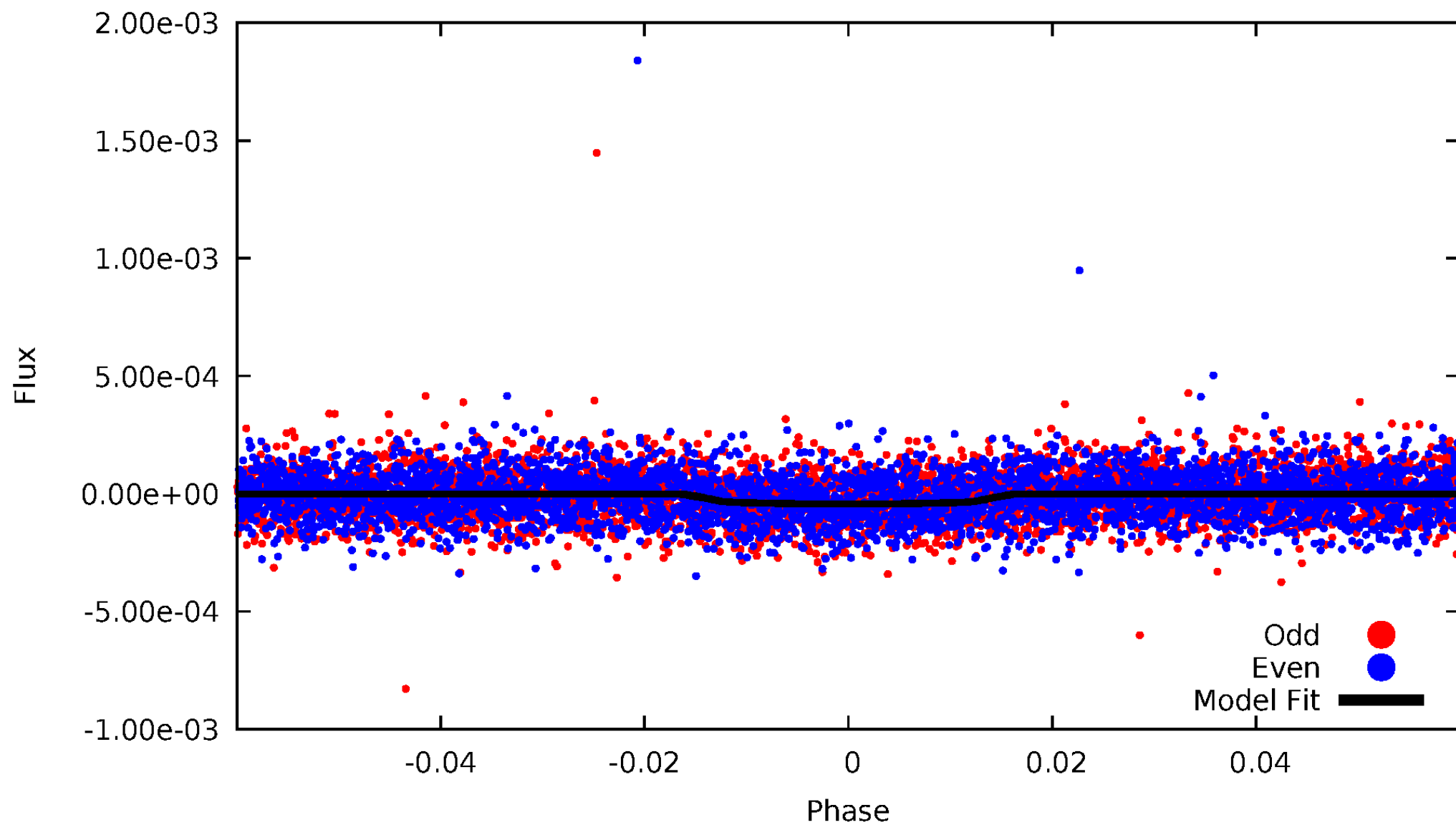


TCE 005450893-01



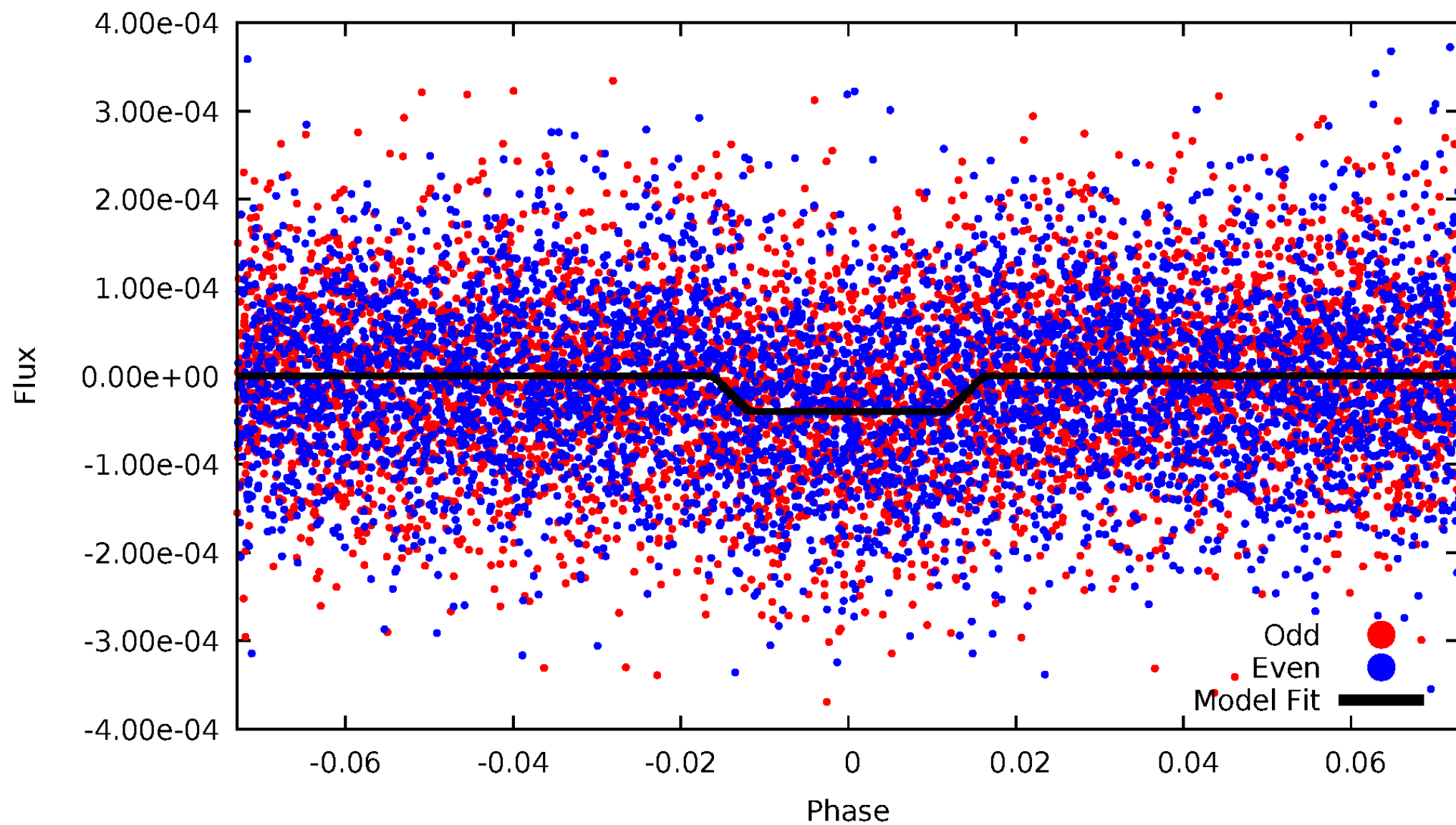
DV Odd/Even

TCE 005450893-01



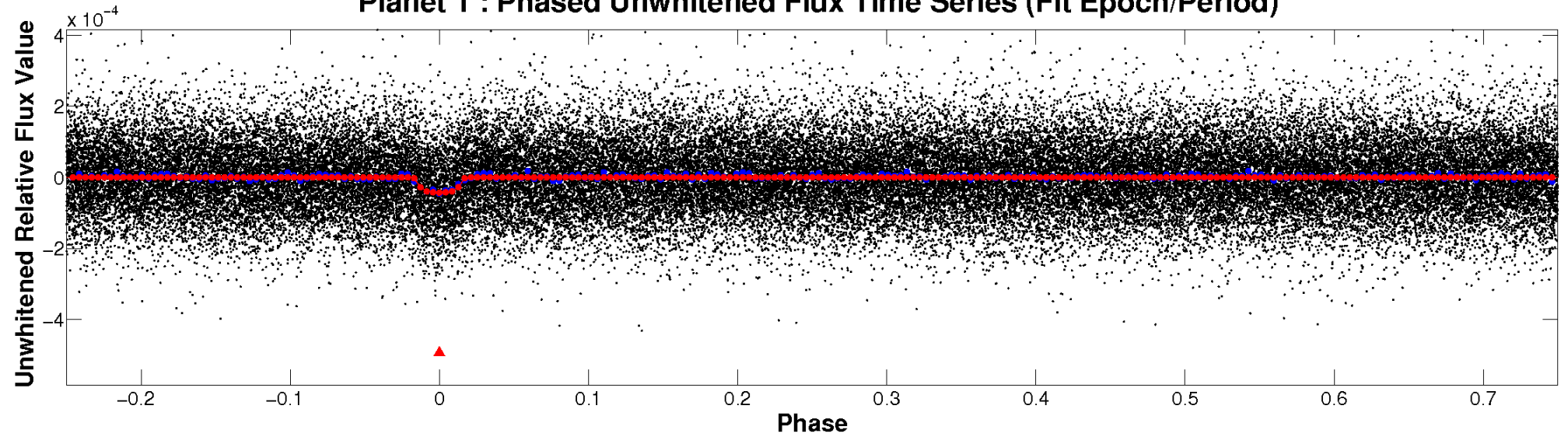
ALT Odd/Even

TCE 005450893-01

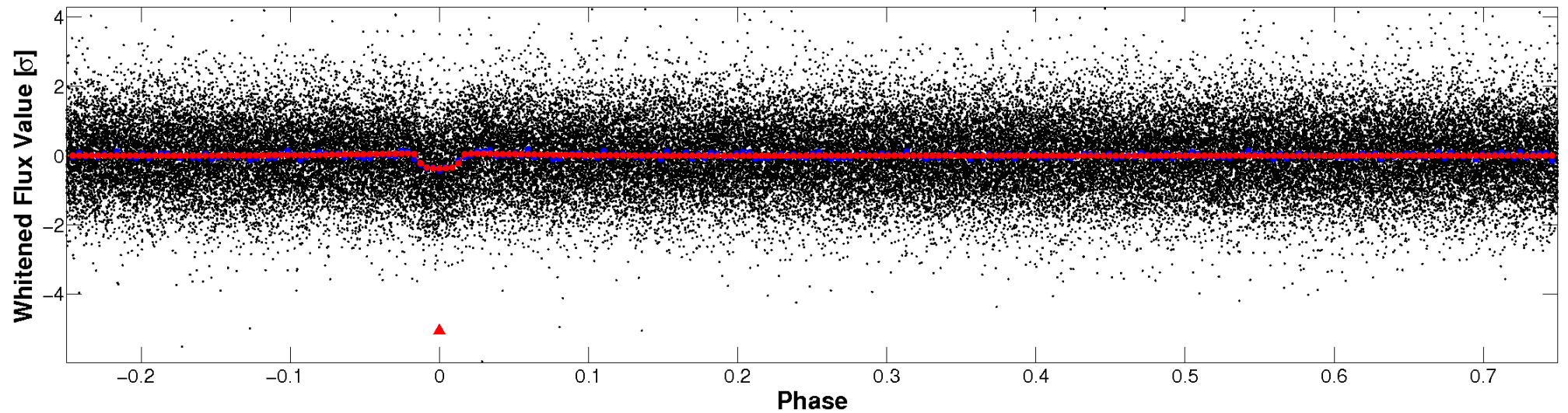


Non-Whitened Vs. Whitened Light Curve

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

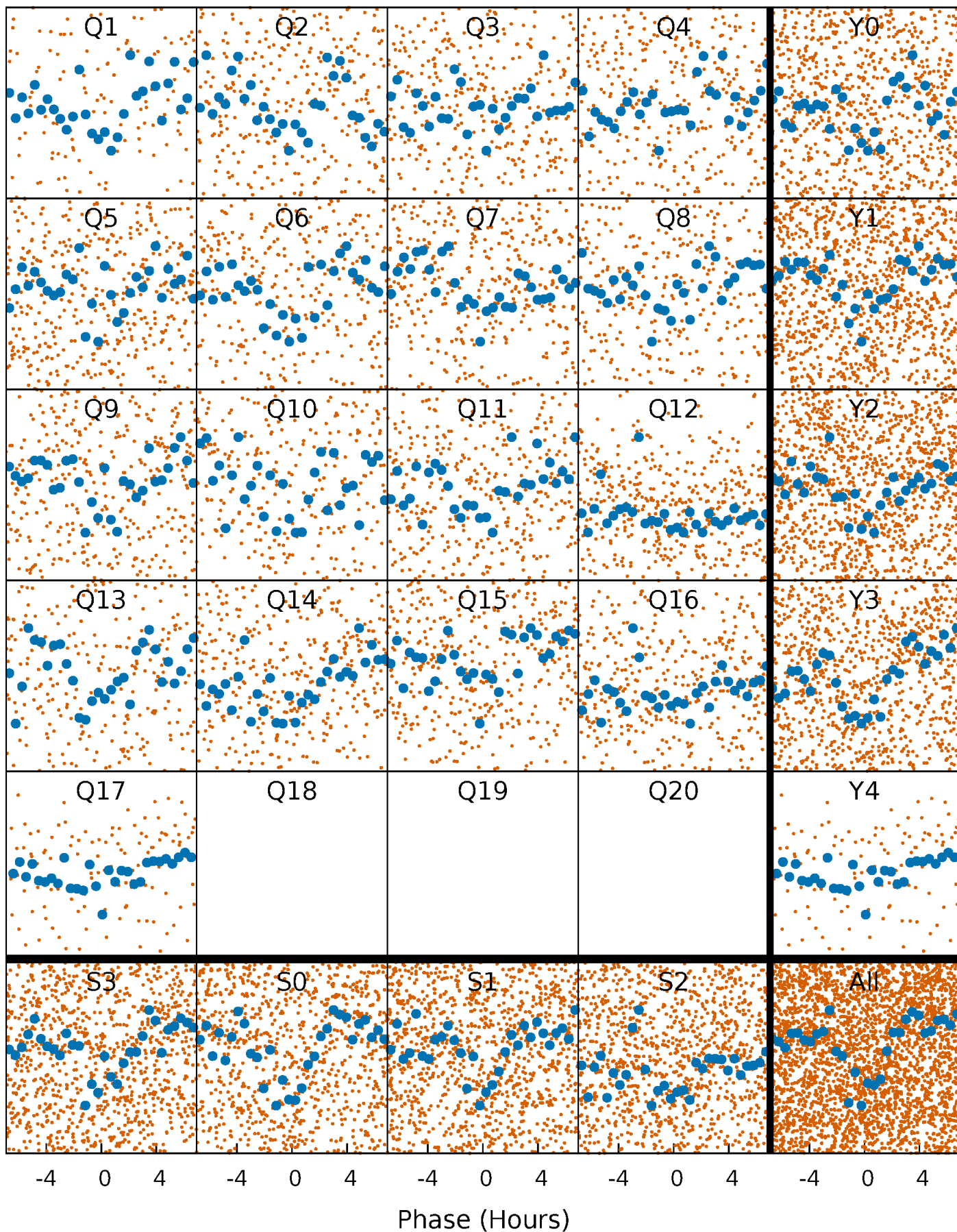


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



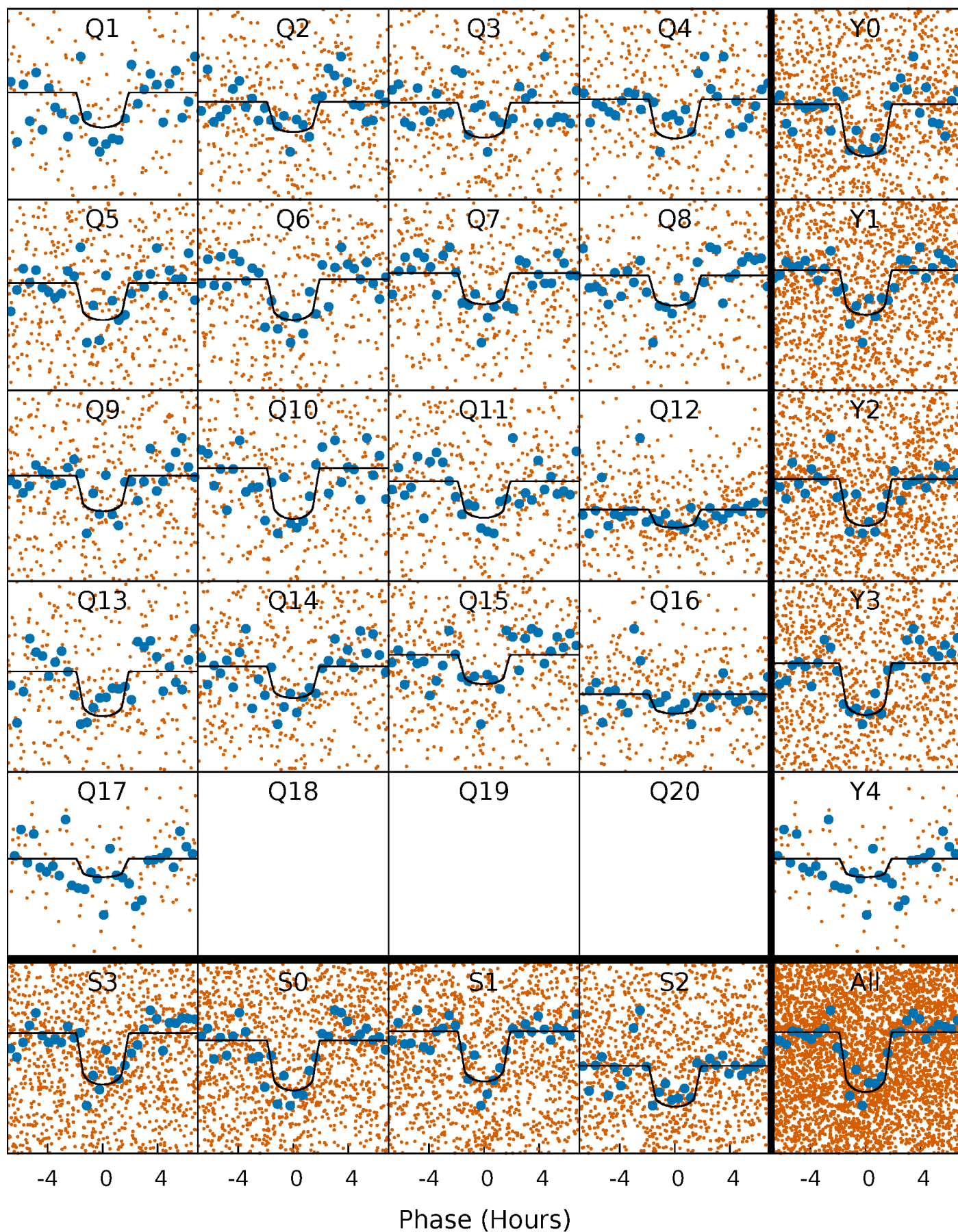
PDC Quarter-Phased Transit Curves

TCE 005450893-01 P= 4.820590 Days $T_0=135.774690$ (BKJD)



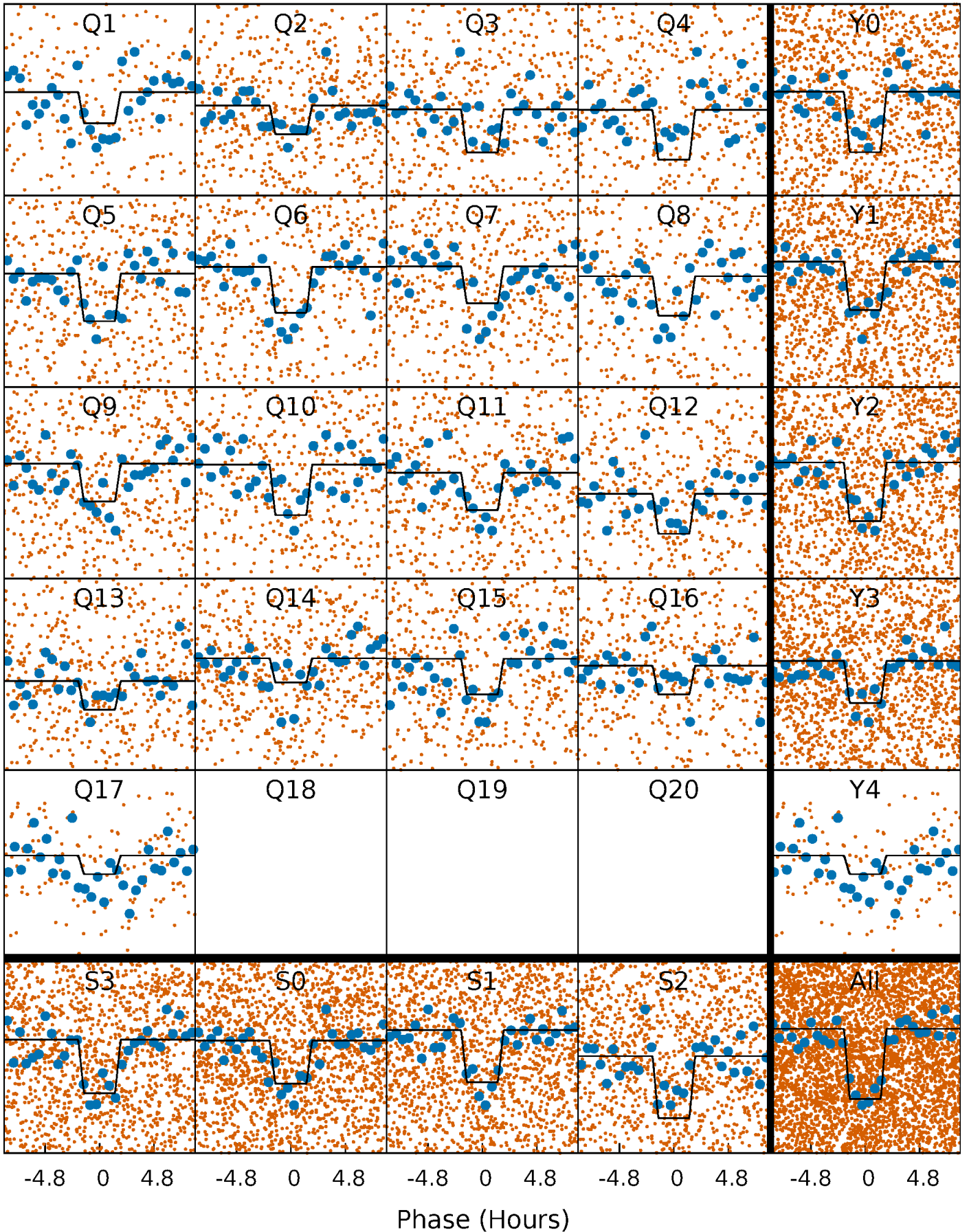
DV Quarter-Phased Transit Curves

TCE 005450893-01 P= 4.820590 Days $T_0=135.774690$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

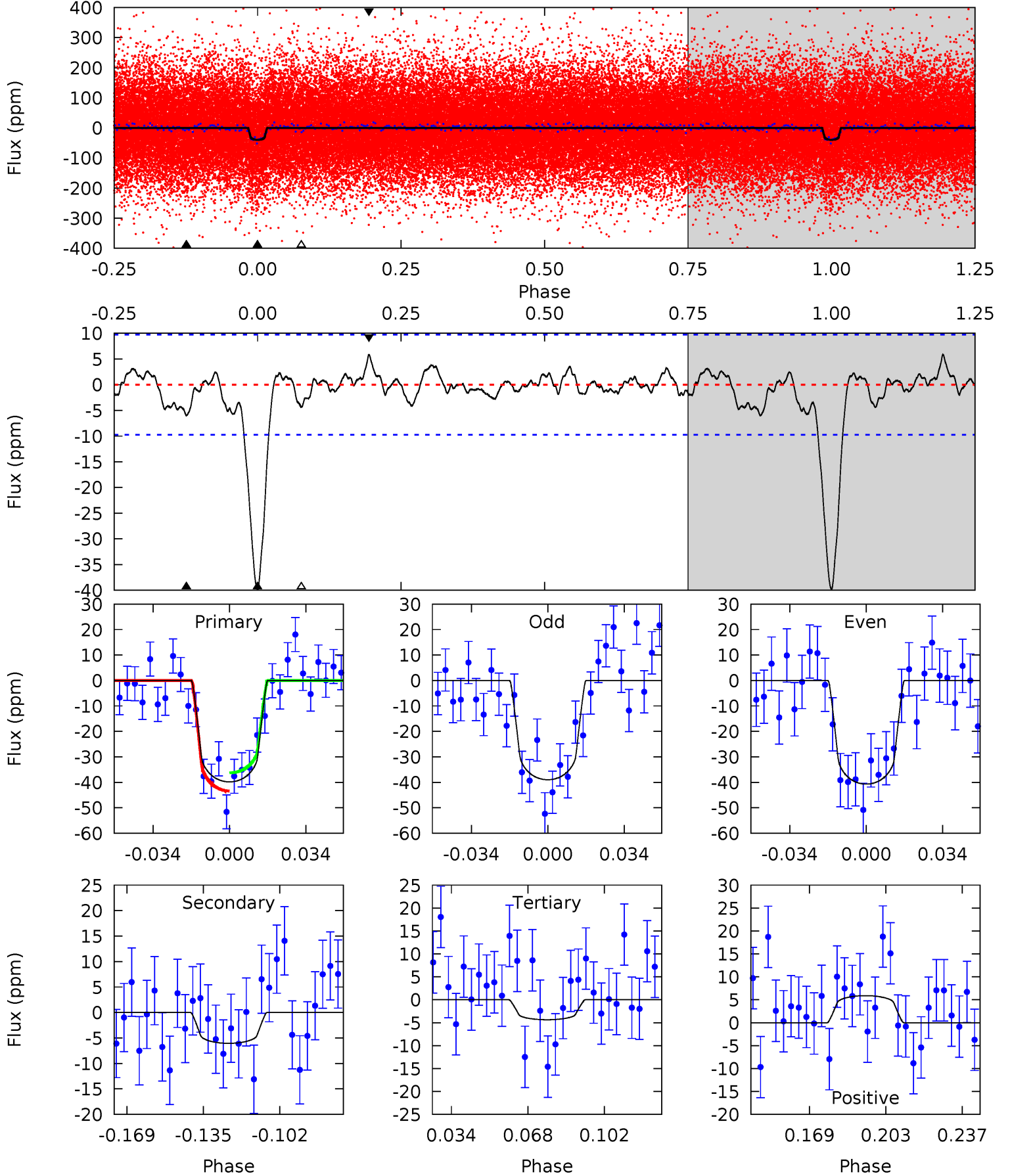
TCE 005450893-01 P= 4.820539 Days $T_0=135.778331$ (BKJD)



DV Model-Shift Uniqueness Test

005450893-01, P = 4.820590 Days, E = 130.954100 Days

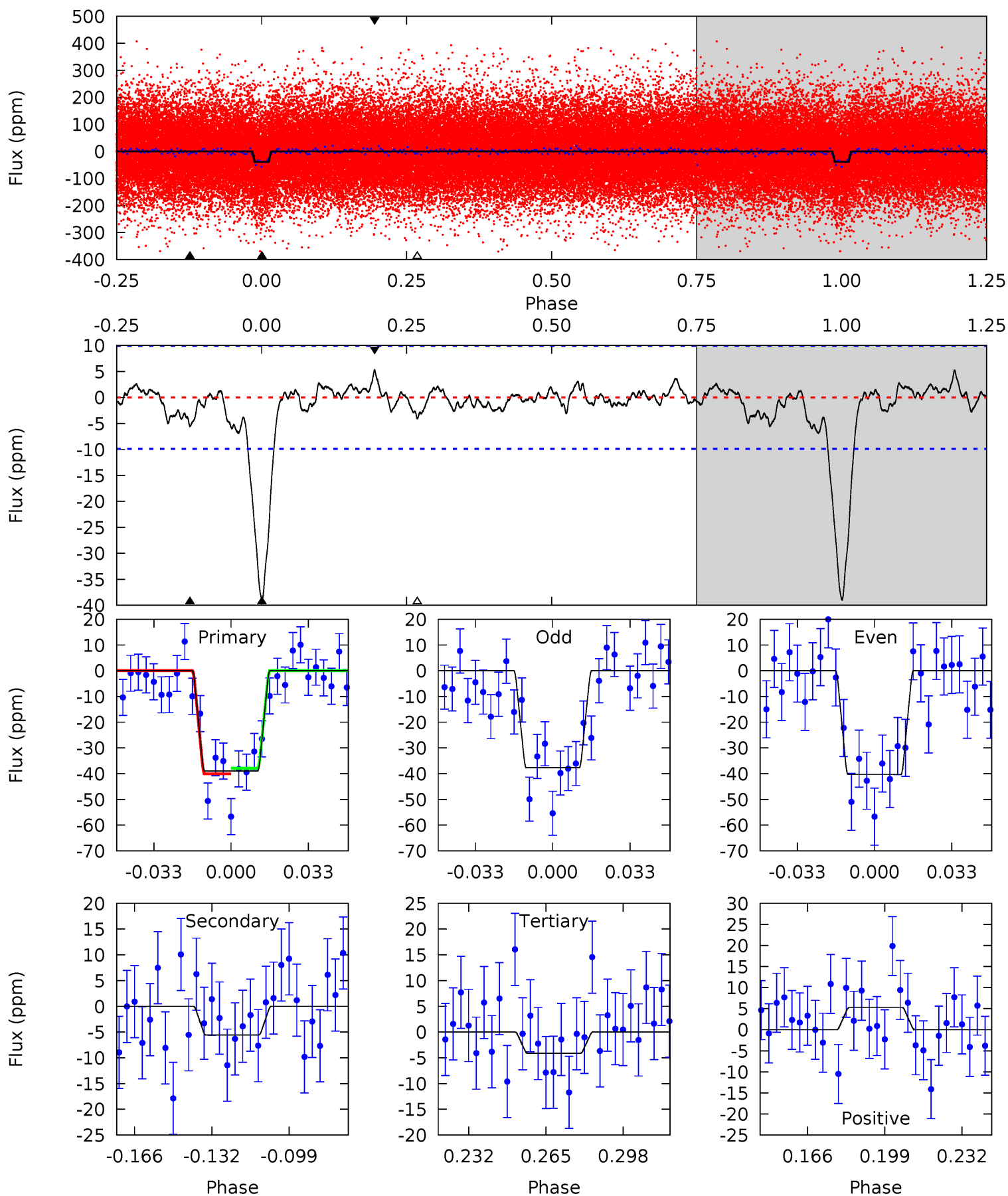
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	2.97	2.14	2.89	4.79	2.12	0.95	17.4	16.7	0.83	0.08	0.42	1.03	0.13	1.75



Alt Model-Shift Uniqueness Test

005450893-01, P = 4.820539 Days, E = 130.957792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	2.69	1.99	2.55	4.79	2.13	0.89	16.9	16.3	0.70	0.14	0.63	0.97	0.12	0.52



Stellar Parameters For KIC 005450893

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+121}_{-133}	$4.158^{+0.174}_{-0.101}$	$-0.160^{+0.200}_{-0.150}$	$1.396^{+0.238}_{-0.290}$	$1.024^{+0.100}_{-0.073}$	$0.530^{+0.458}_{-0.180}$
	+2%/-2%	+4%/-2%	+125%/-94%	+17%/-21%	+10%/-7%	+86%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005450893-01 / KOI 2970.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 2	$1.05^{+0.34}_{-0.31}$	1844^{+86}_{-104}	3900^{+544}_{-425}	$9.704^{+11.019}_{-4.821}$
Alt.	-6 ± 2	$0.95^{+0.34}_{-0.31}$	1840^{+99}_{-104}	3948^{+655}_{-465}	11^{+13}_{-6}

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

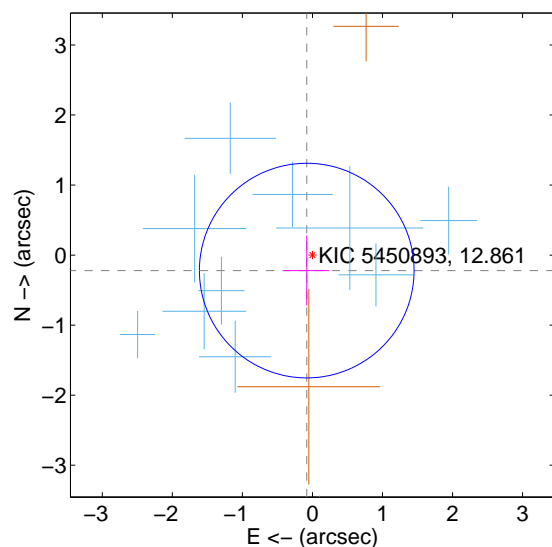
Supplemental centroid analysis for 005450893-01. Kepler magnitude: 12.86. Transit SNR 14.44

There are 11 quarters with good PRF difference image offsets

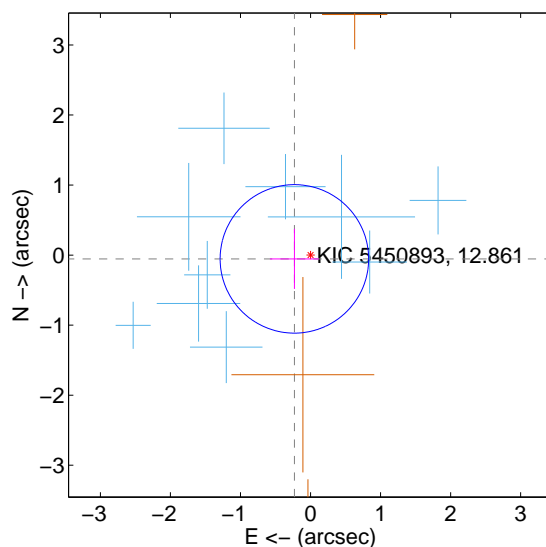
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.236 ± 0.511	0.46	0.081 ± 0.324	-0.221 ± 0.500
PRF-fit source offset from KIC position	0.237 ± 0.353	0.67	0.230 ± 0.349	-0.054 ± 0.430
photometric centroid source offset	0.75 ± 0.71	1.05	0.17 ± 0.85	-0.73 ± 0.70

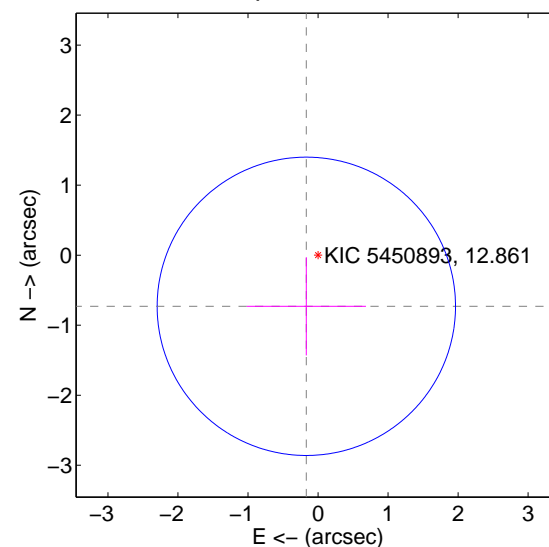
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

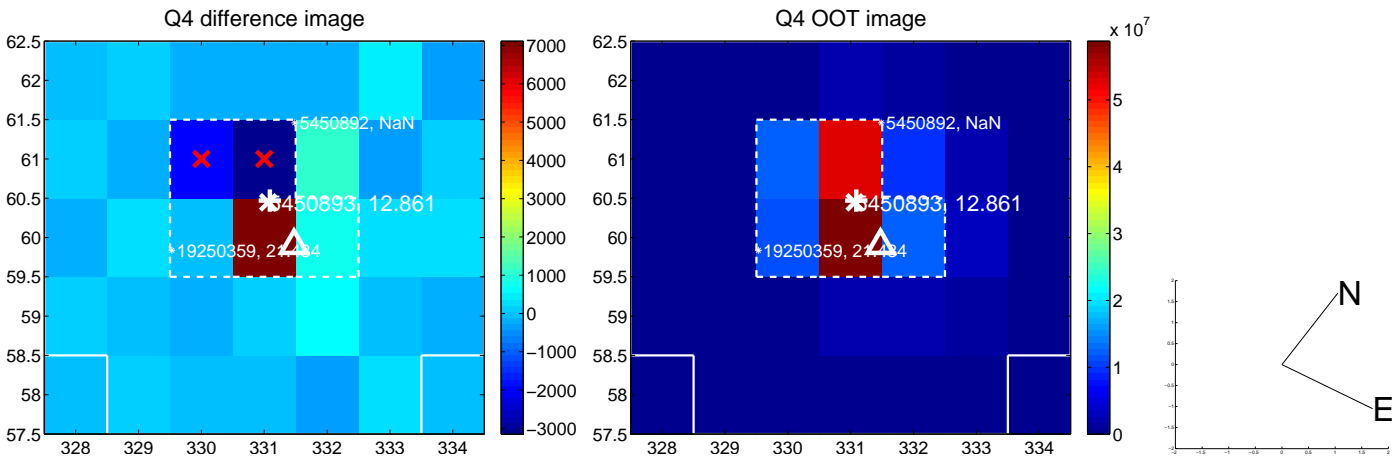
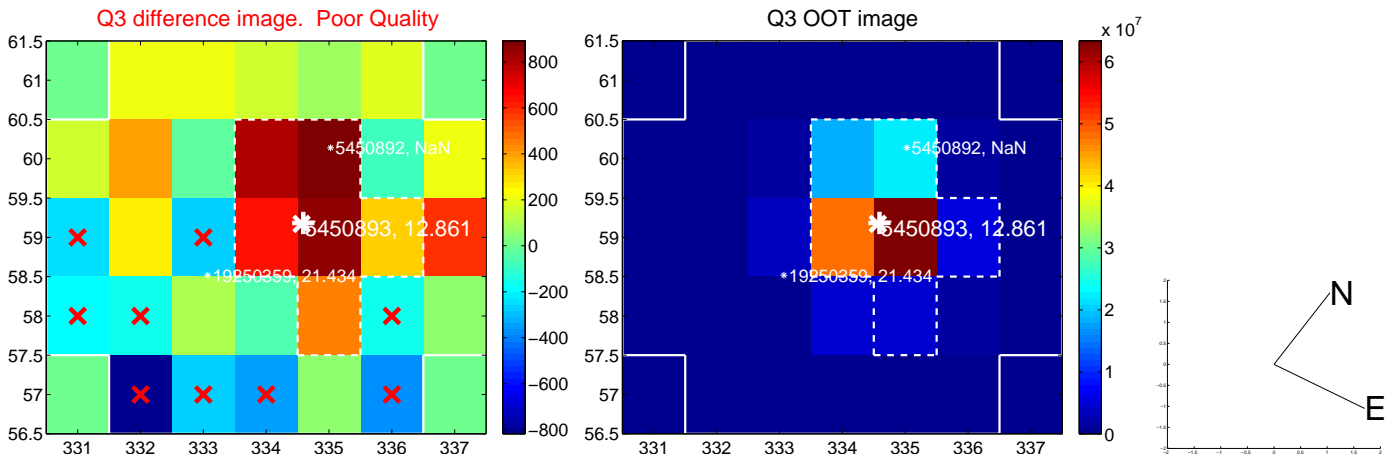
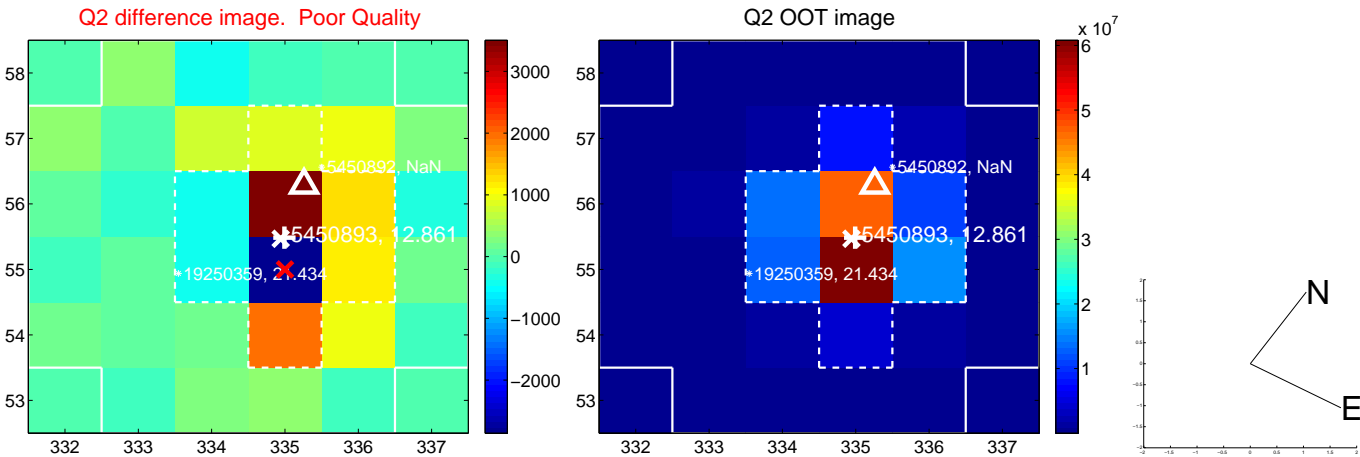
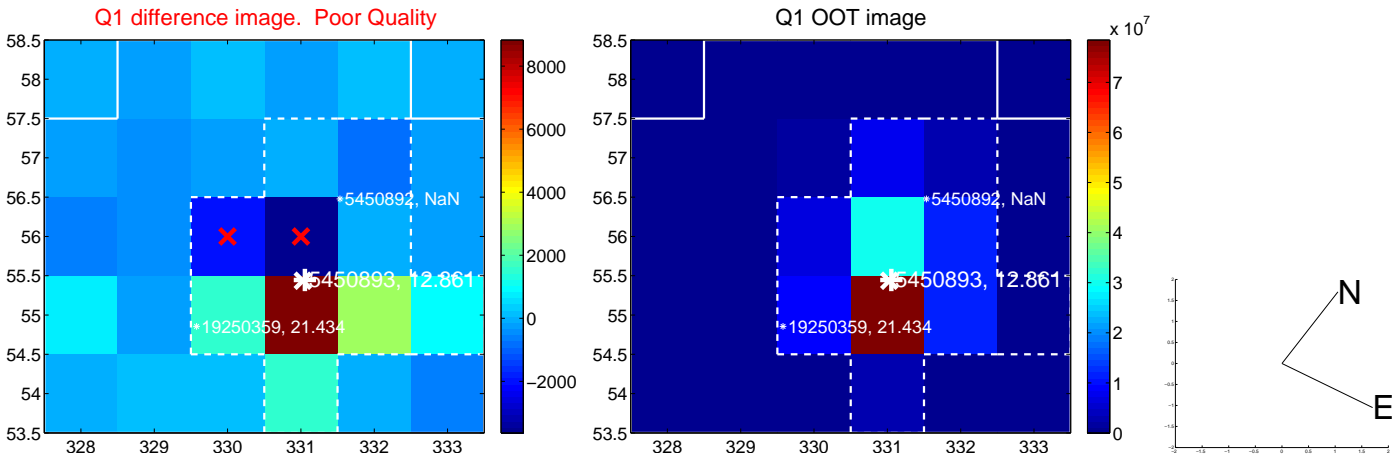


offset from photometric centroids

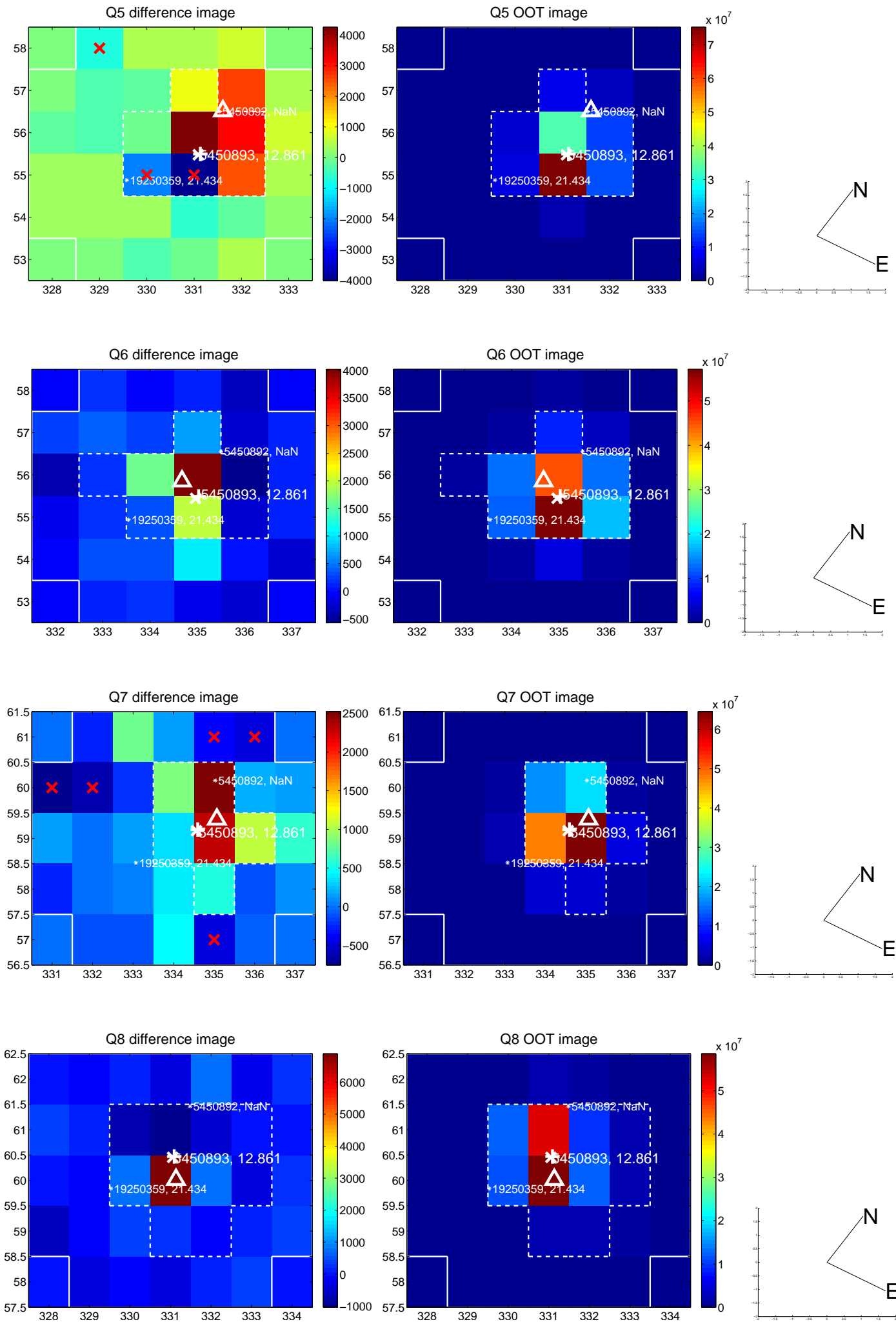


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

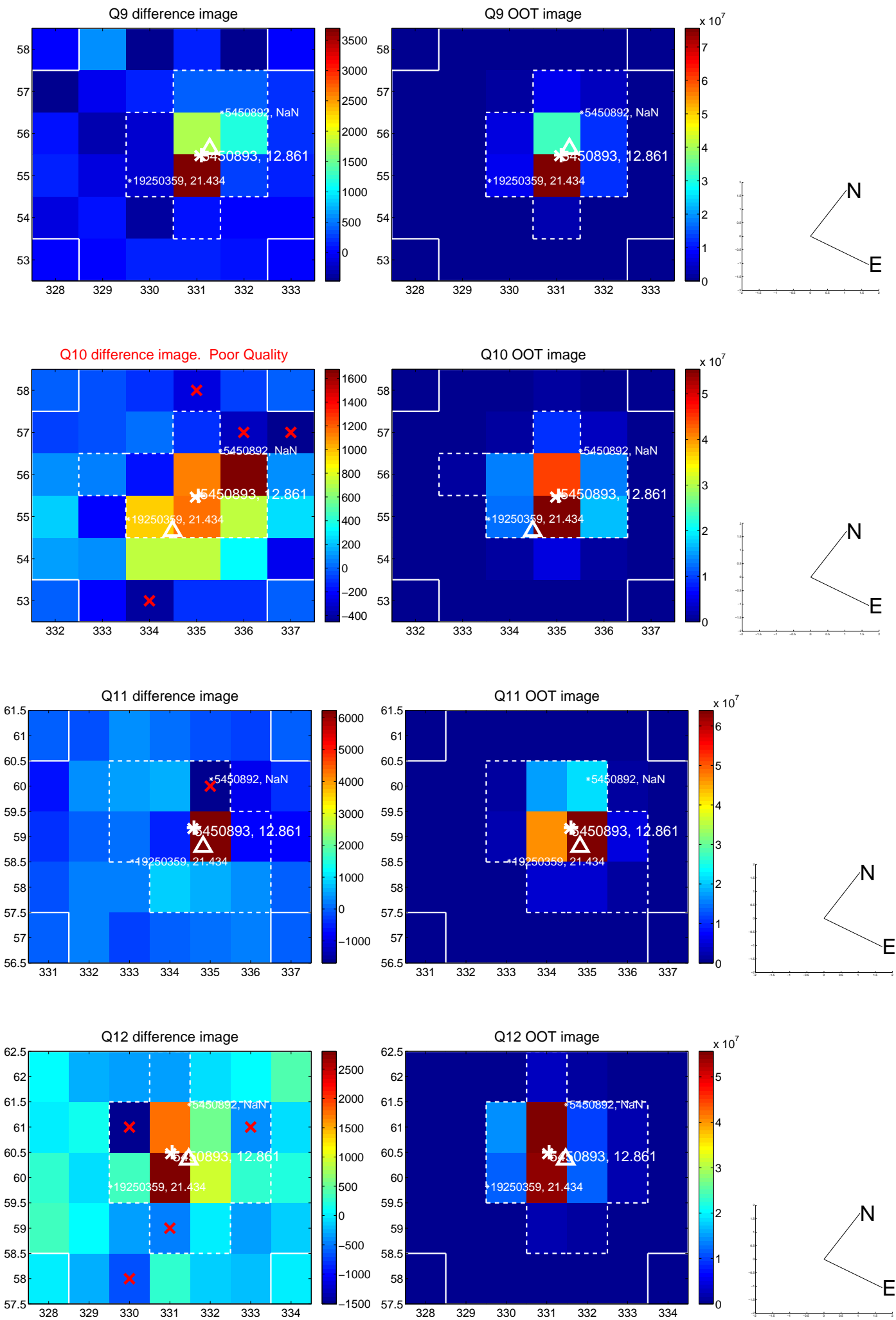
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



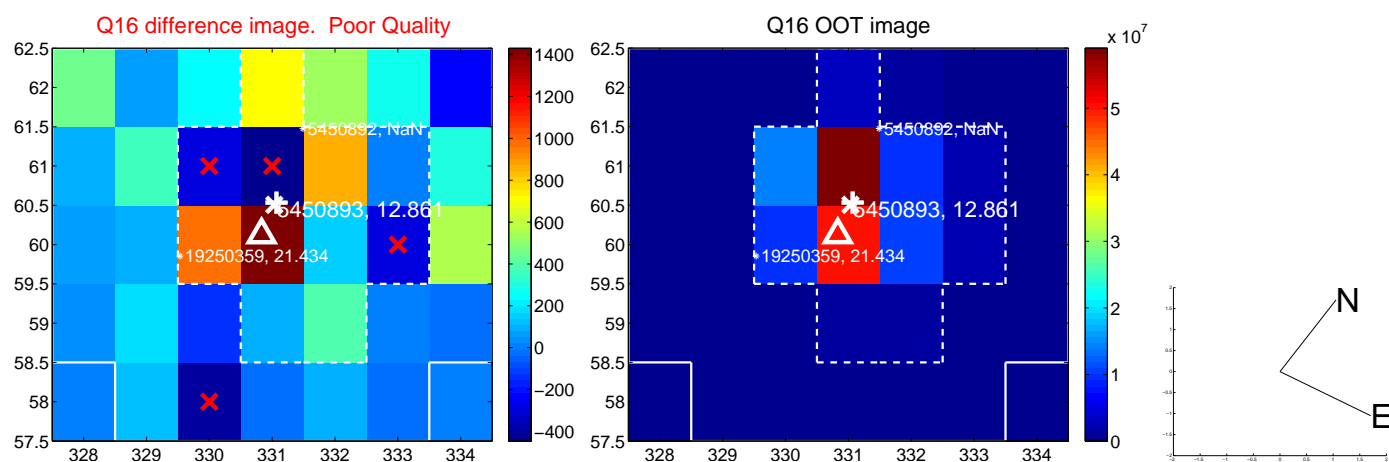
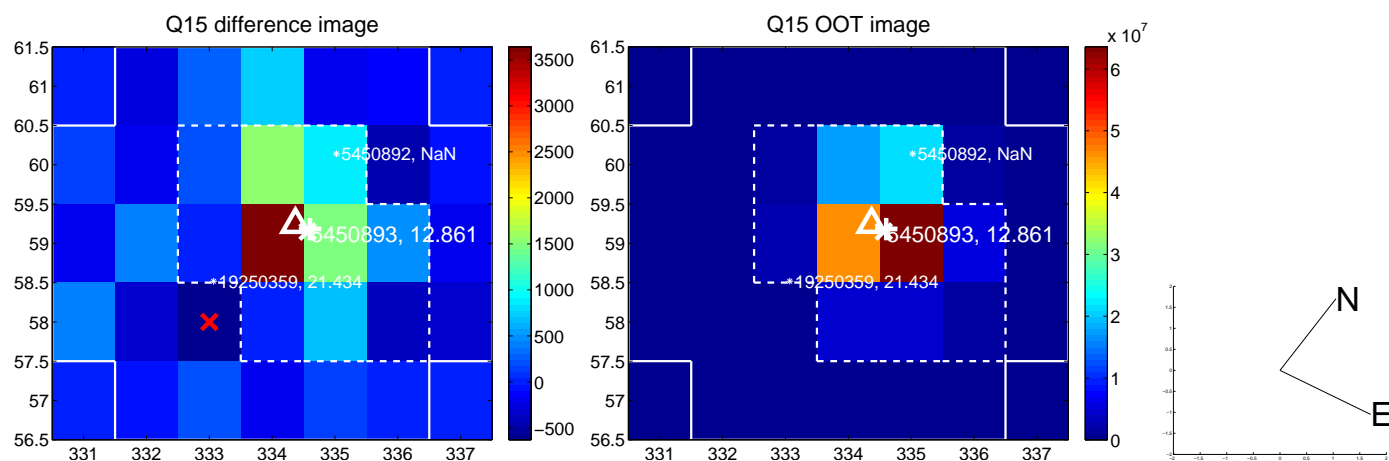
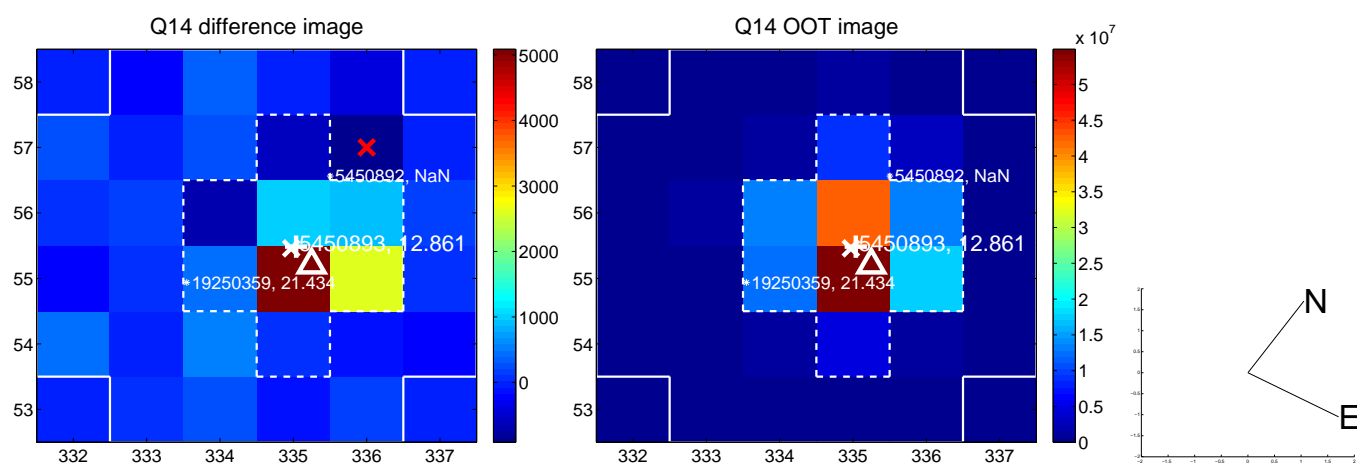
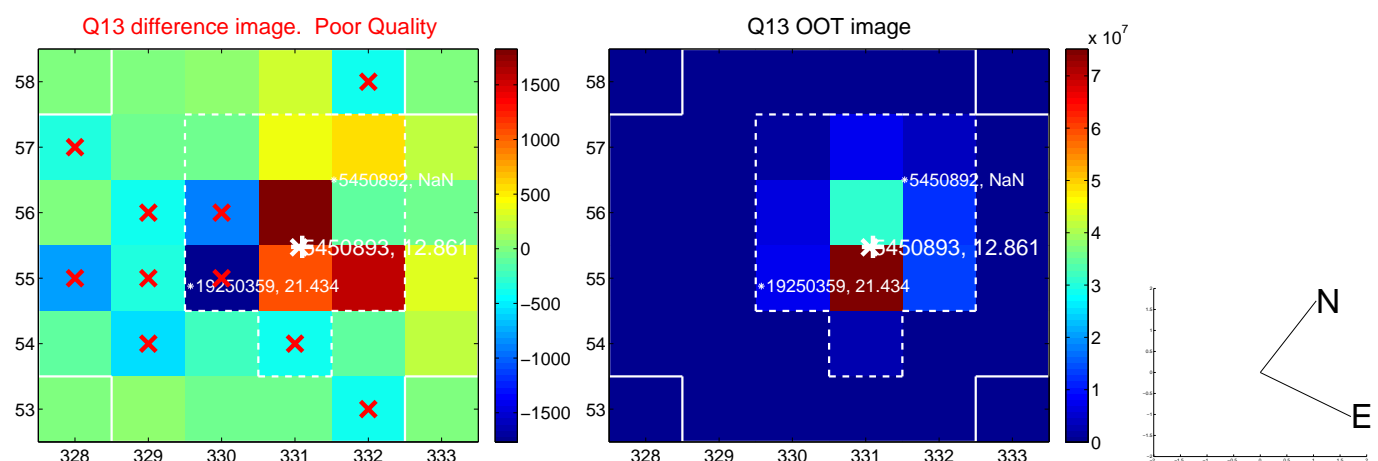
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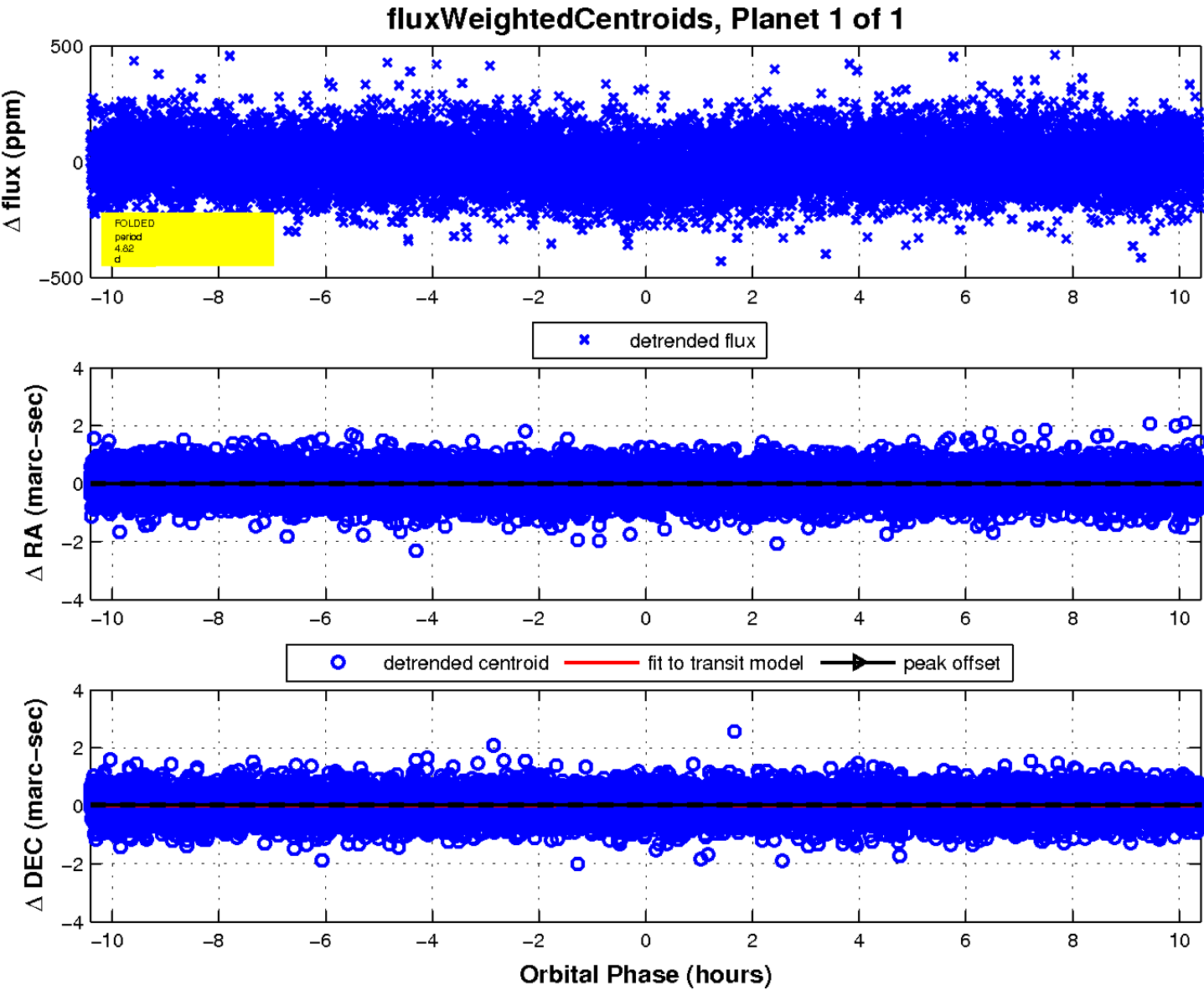
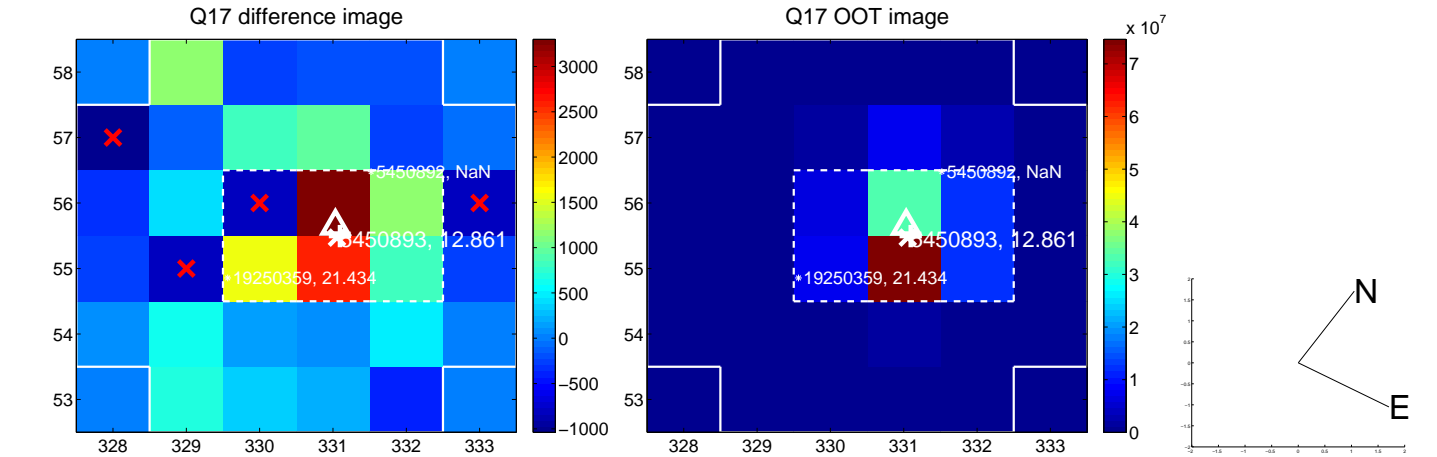
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UKIRT Image

Declination

