

KIC 009777246

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})
009777246-01	OBS	No	1.568071	132.691983	84.1	11.382	14.9	8.2	1.00	5780	0.91	1432.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009777246-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

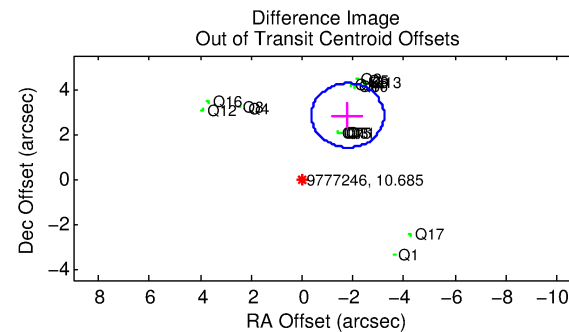
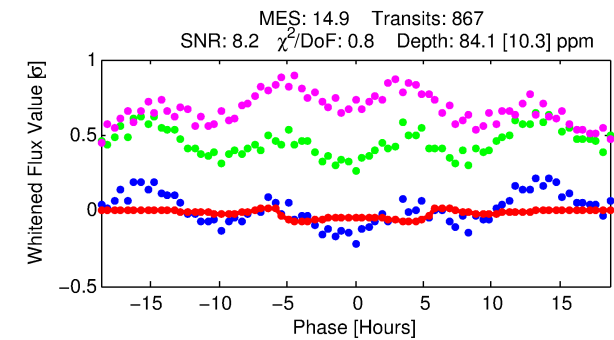
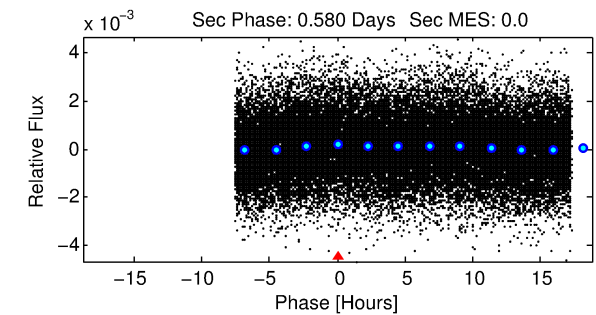
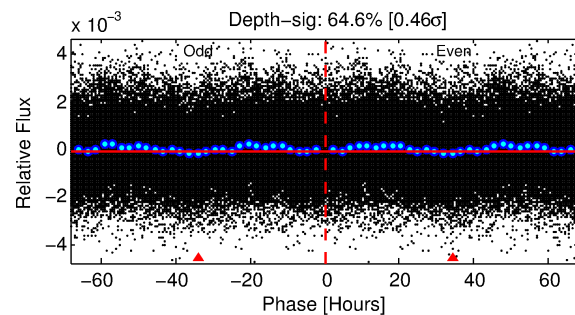
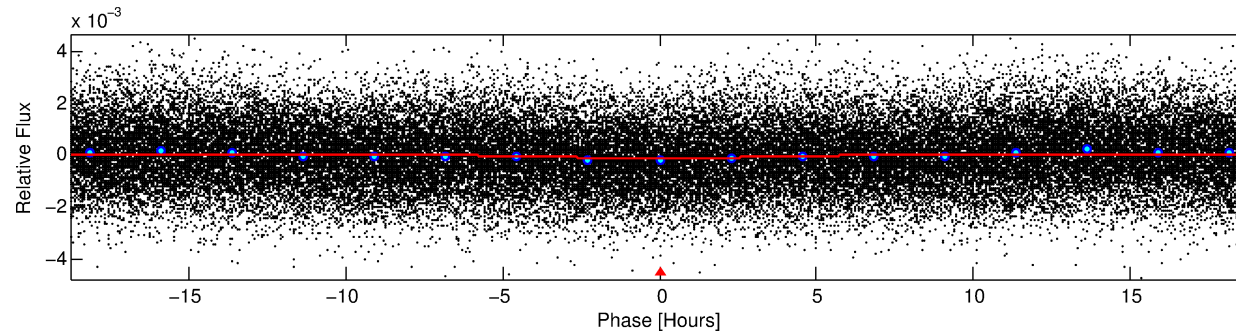
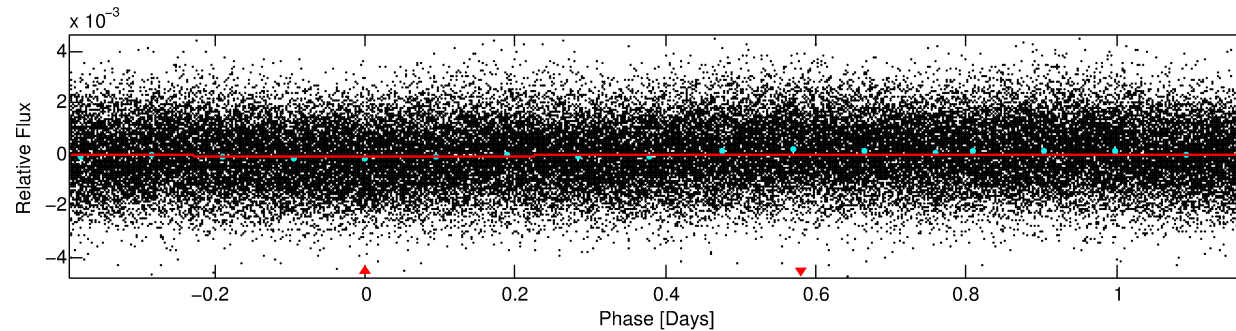
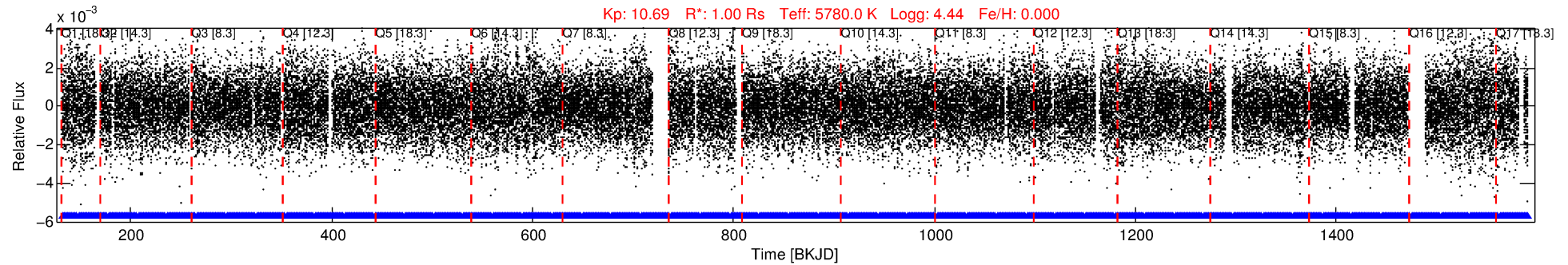
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009777246-01

No Significant Match Found

DV One-Page Summary

KIC: 9777246 Candidate: 1 of 1 Period: 1.568 d



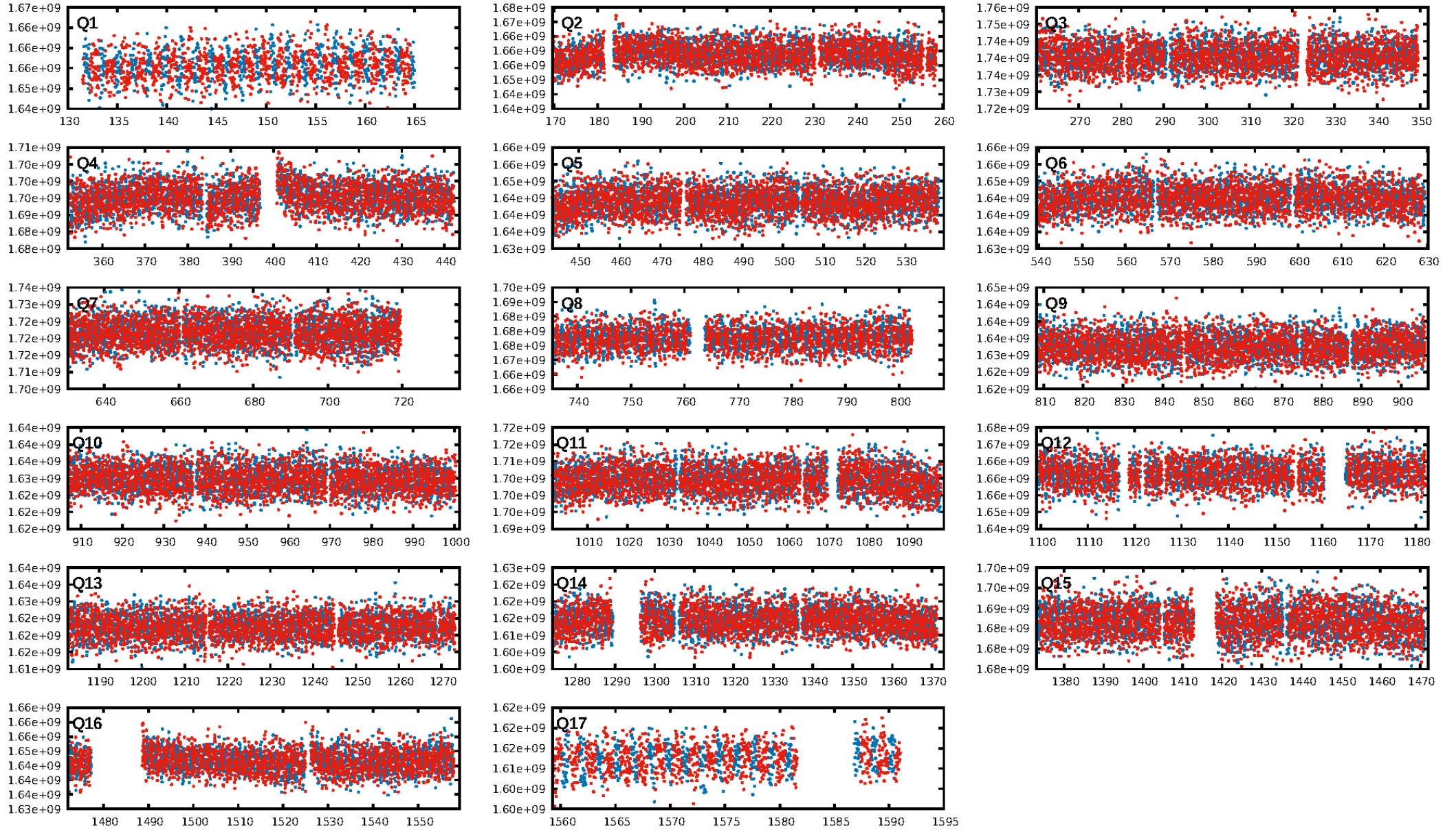
DV Fit Results:

Period = 1.56807 [0.00002] d
Epoch = 132.6920 [0.0089] BKJD
Rp/R* = 0.0083 [0.0106]
a/R* = 1.23 [2.32]
b = 0.19 [28.87]
Seff = 1432.58 [0.03]
Teq = 1569 [0] K
Rp = 0.91 [1.16] Re
a = 0.0264 [0.0000] AU
Ag = N/A
Teffp = N/A

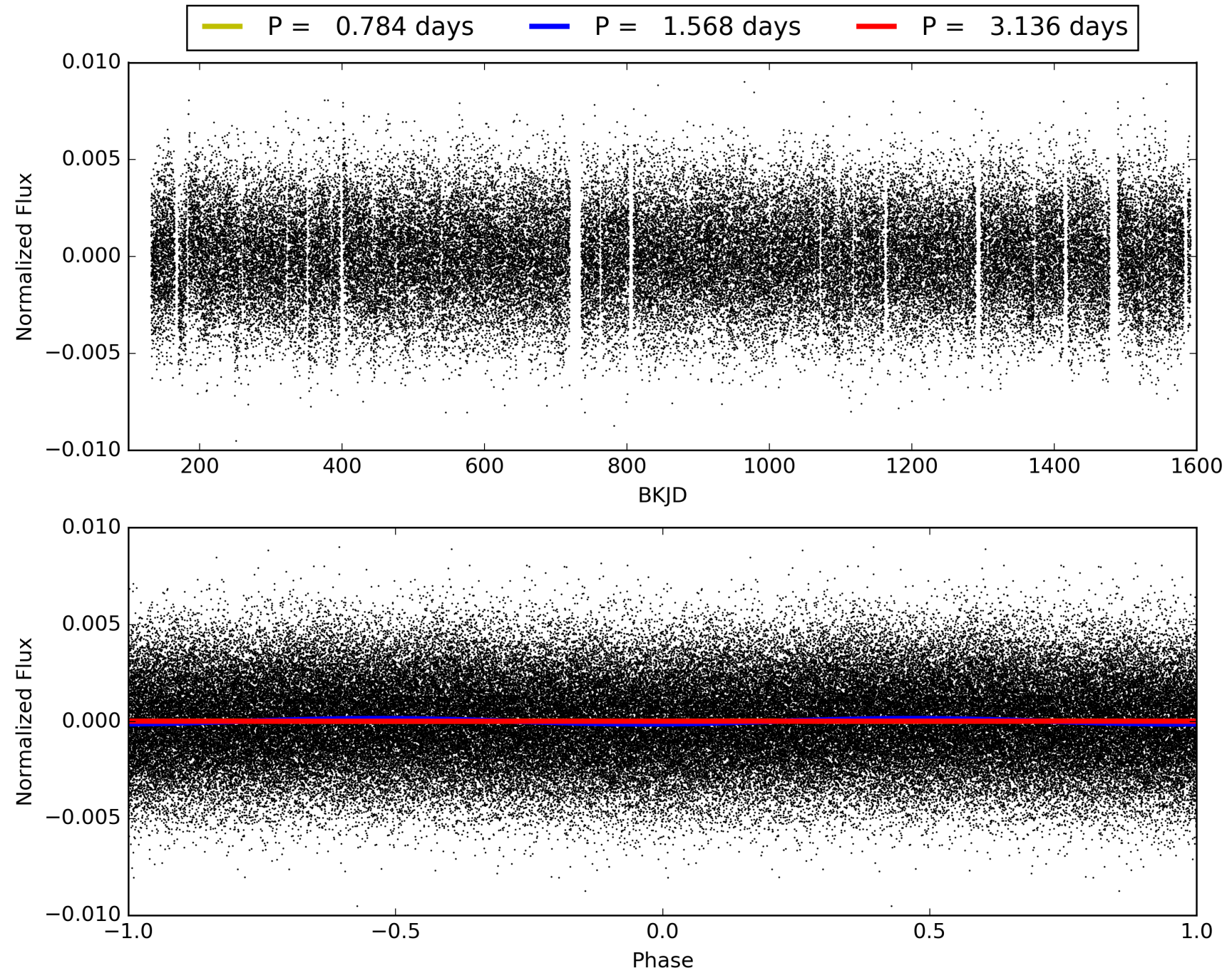
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.97e-84
RollingBand-fgt: 1.00 [828/828]
GhostDiagnostic-chr: 1.1
Centroid-sig: 0.0%
Centroid-so: 2.279 arcsec [4.51σ]
OotOffset-rm: 3.347 arcsec [7.02σ]
KicOffset-rm: 4.224 arcsec [9.30σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009777246-01, PDC Light Curves

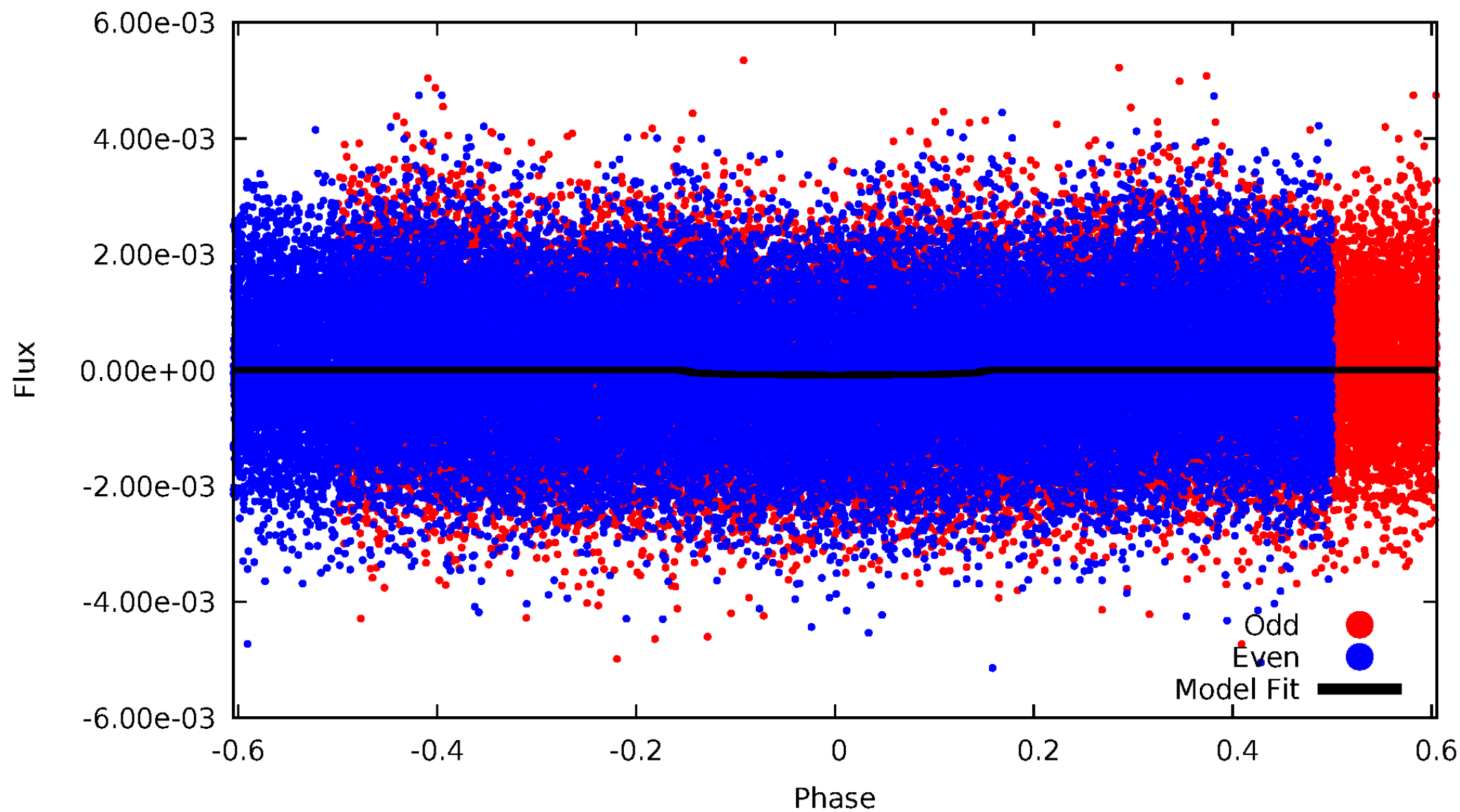


TCE 009777246-01



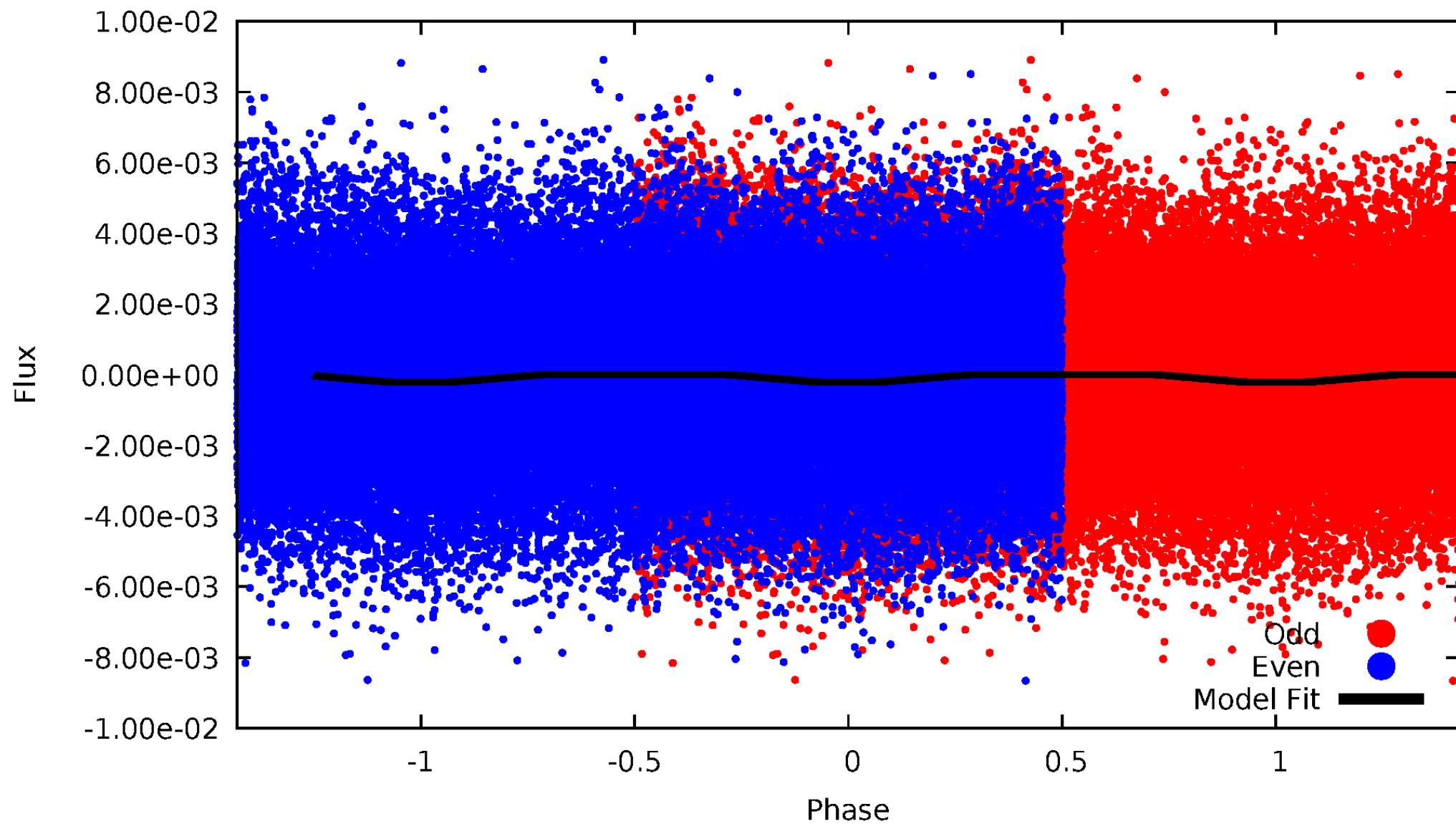
DV Odd/Even

TCE 009777246-01

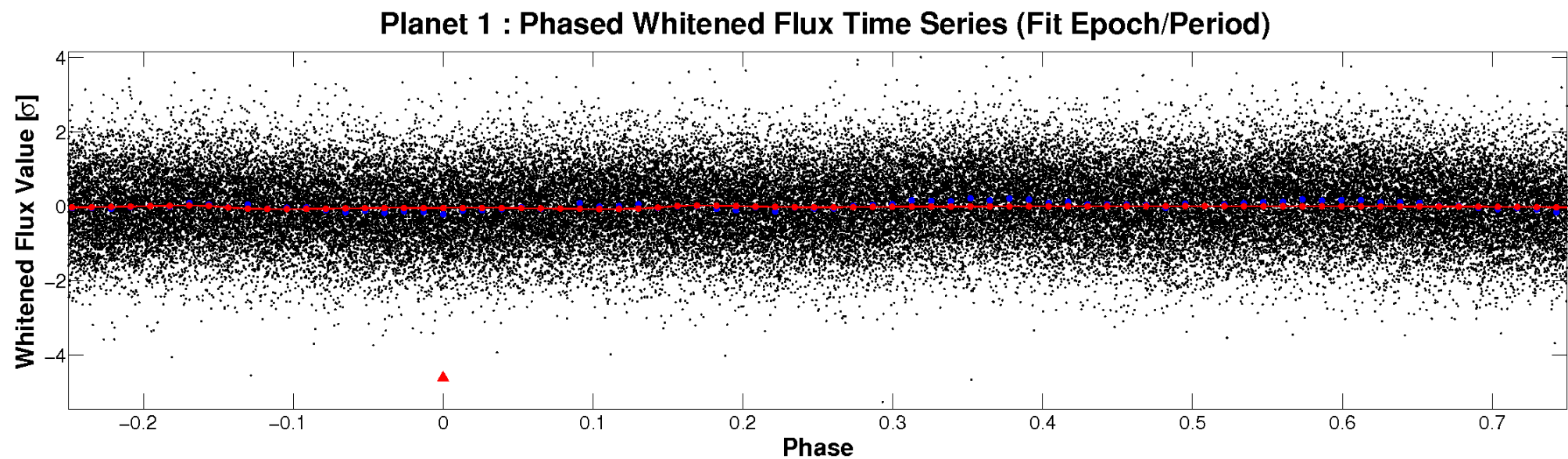
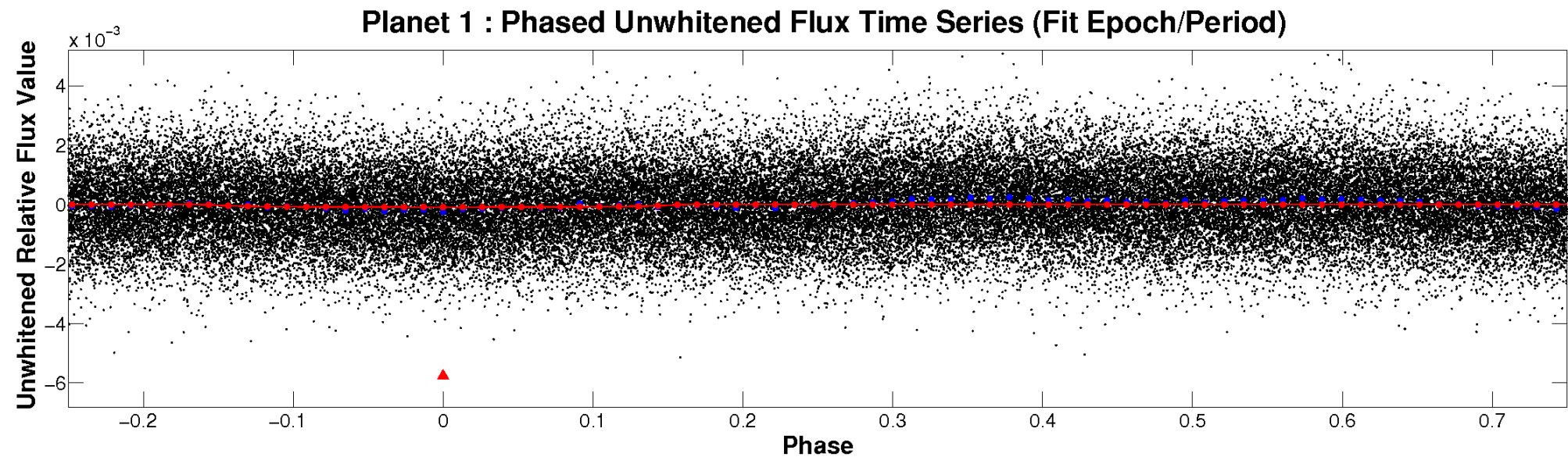


ALT Odd/Even

TCE 009777246-01

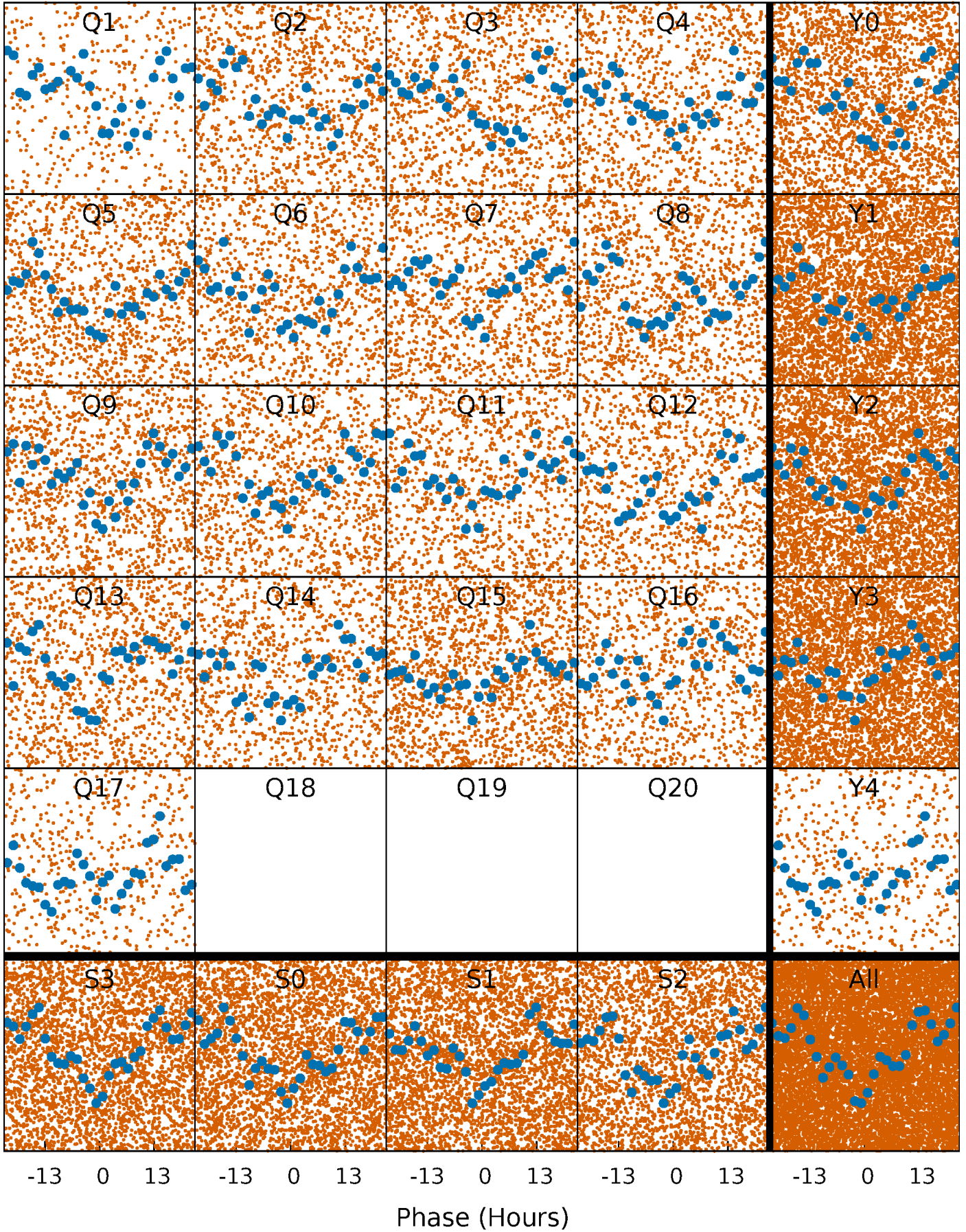


Non-Whitened Vs. Whitened Light Curve



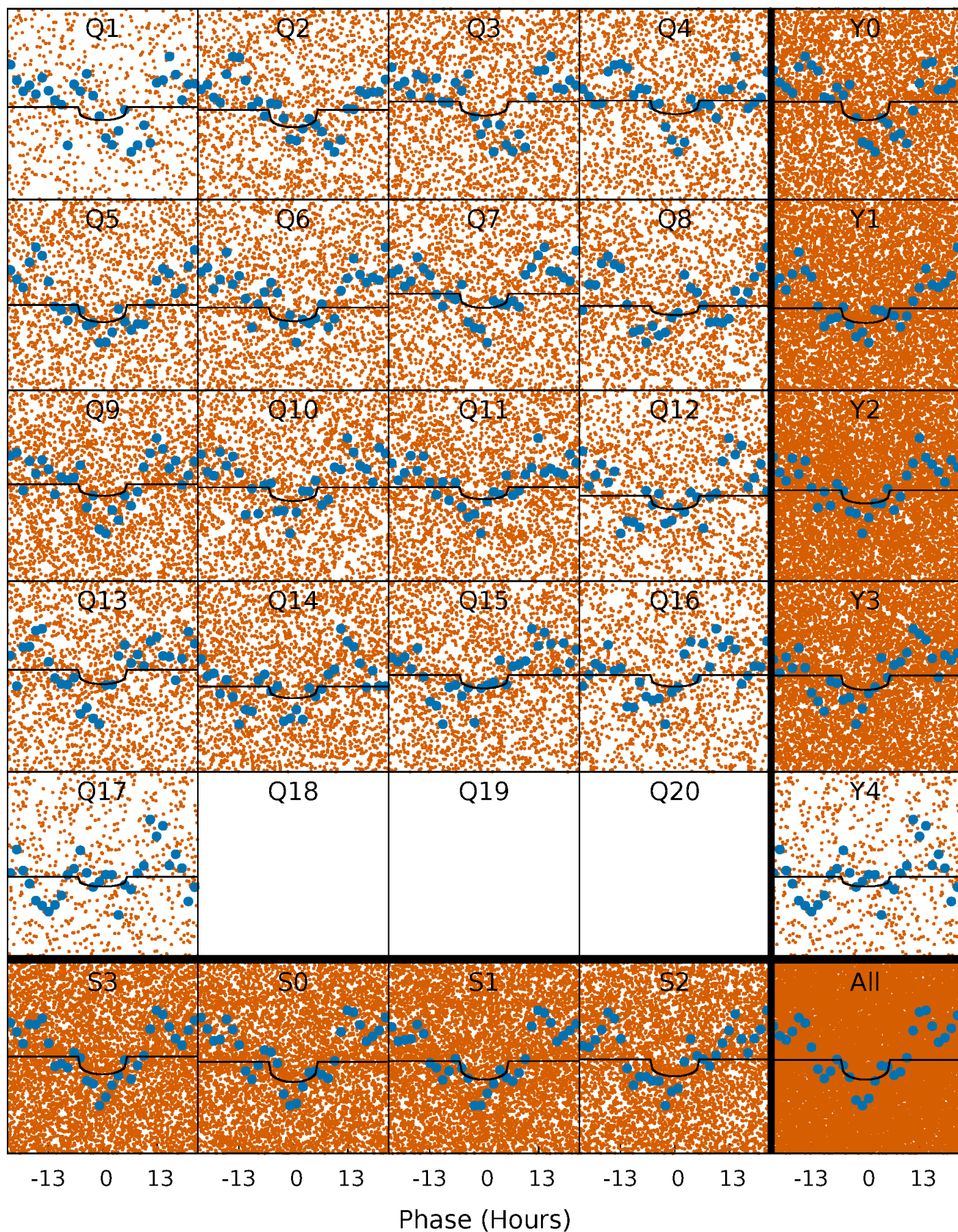
PDC Quarter-Phased Transit Curves

TCE 009777246-01 P= 1.568071 Days $T_0=132.691983$ (BKJD)



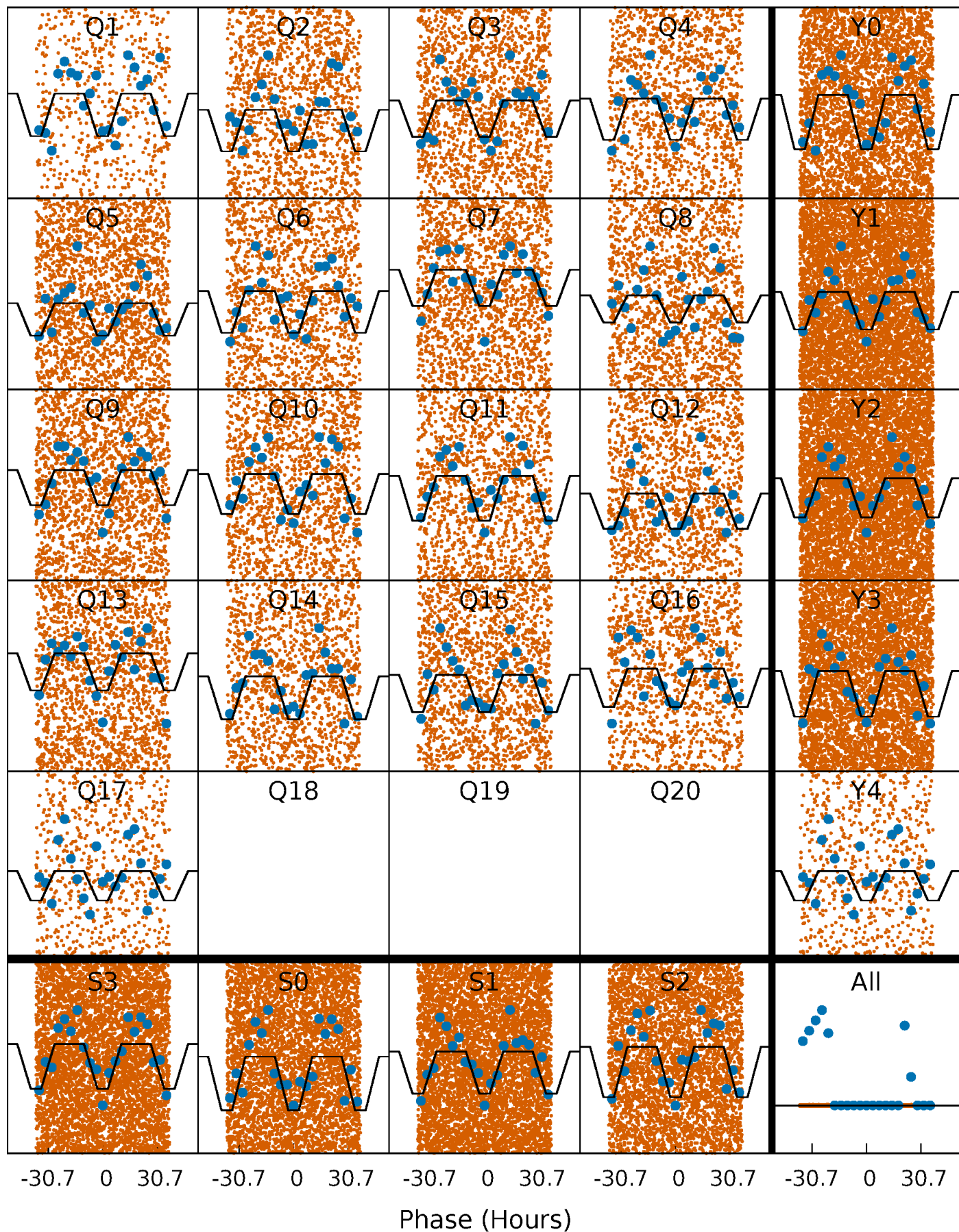
DV Quarter-Phased Transit Curves

TCE 009777246-01 P= 1.568071 Days $T_0=132.691983$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

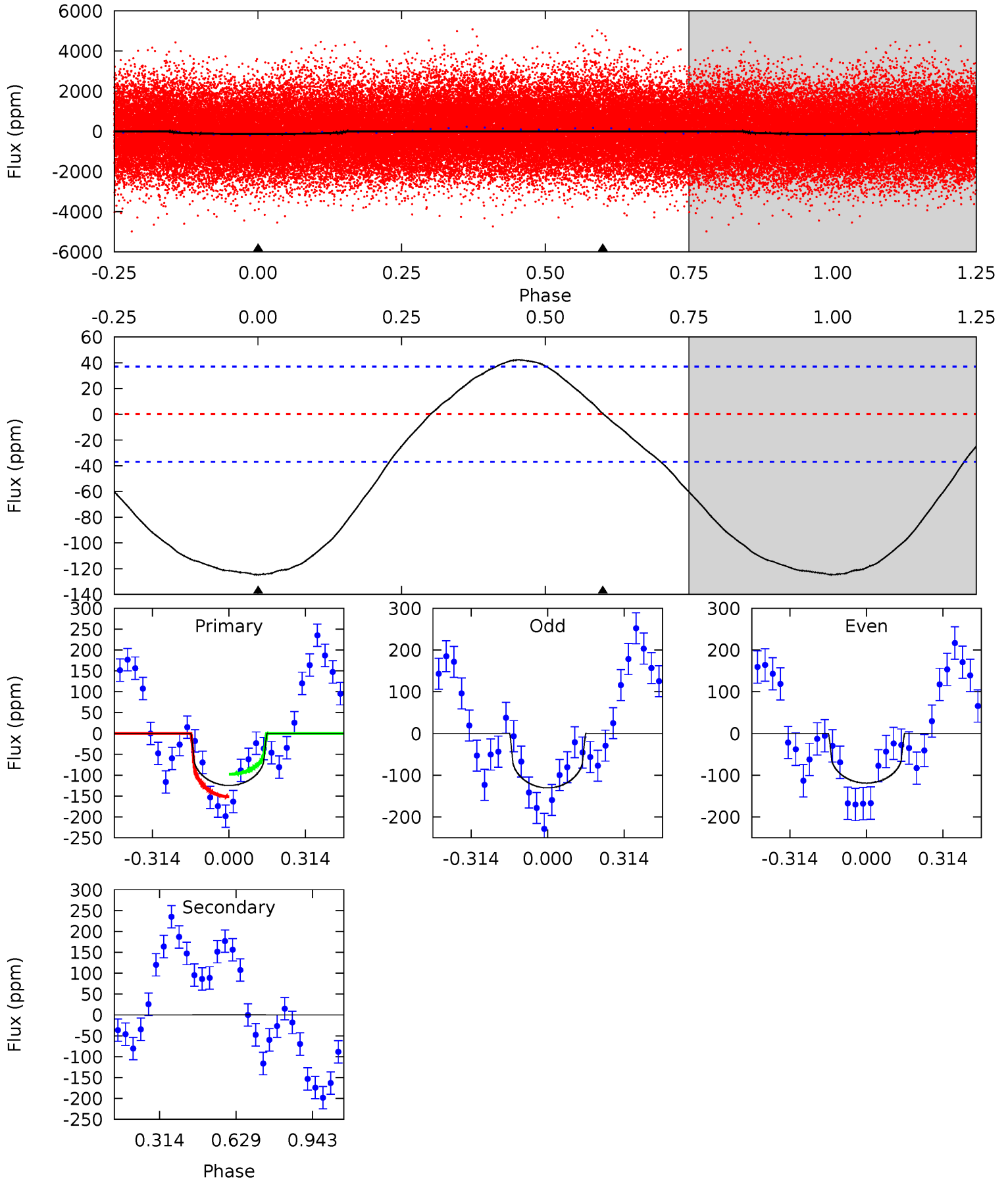
TCE 009777246-01 P= 1.567913 Days $T_0=132.724649$ (BKJD)



DV Model-Shift Uniqueness Test

009777246-01, P = 1.568071 Days, E = 131.123912 Days

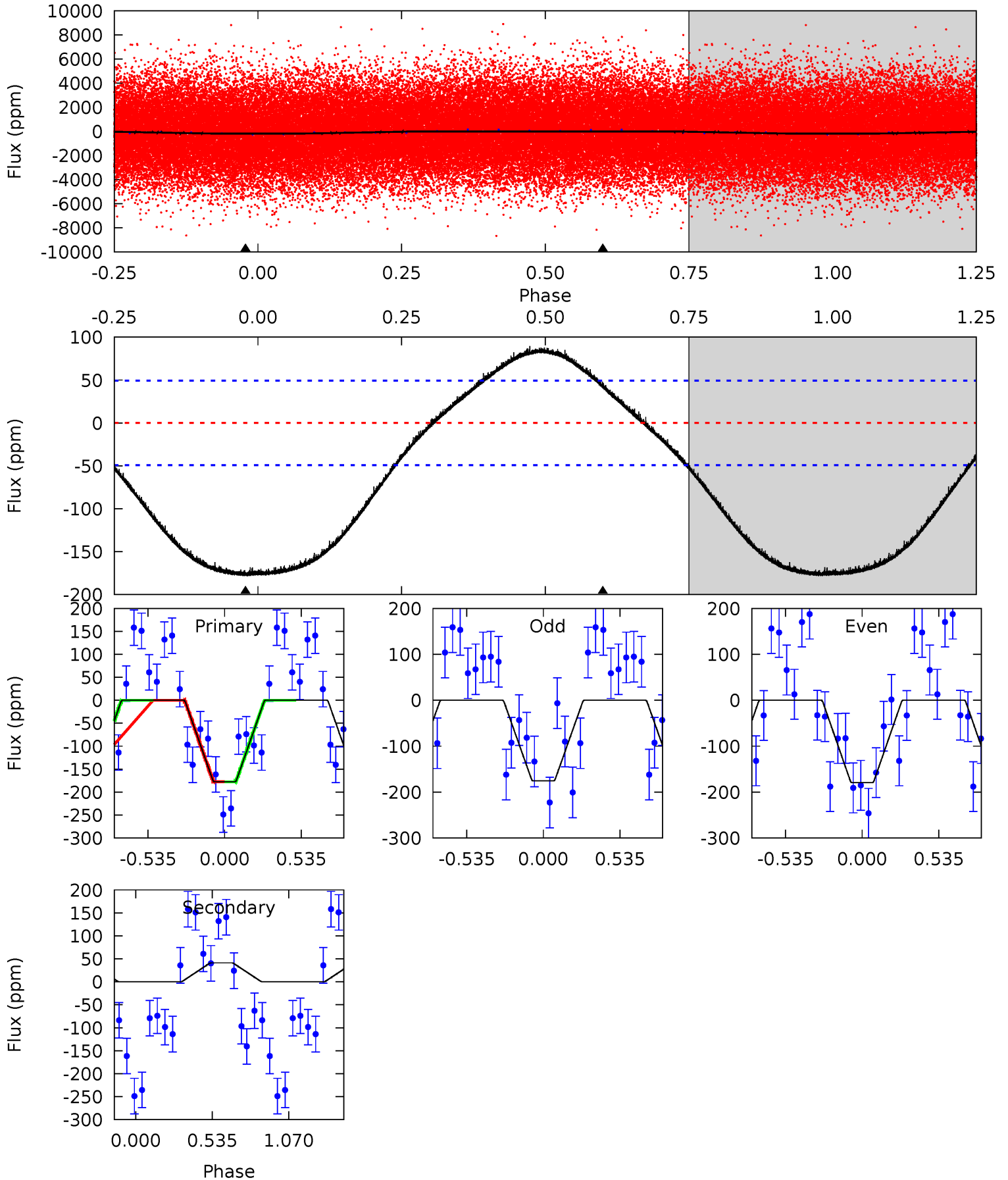
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	-0.06	0	0	4.32	1.01	1.50	14.5	14.5	-0.06	-0.06	0.66	0.89	0.25	3.26



Alt Model-Shift Uniqueness Test

009777246-01, P = 1.567913 Days, E = 131.156736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	-3.52	0	0	4.20	0.62	1.62	15.1	15.1	-3.52	-3.52	0.15	0.92	0.33	0.01



Stellar Parameters For KIC 009777246

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5780^{+1}_{-1}	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

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

Secondary Eclipse Parameters for KIC 009777246-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	1 ± 9	$1.25^{+0.95}_{-0.83}$	2198^{+113}_{-100}	-2727^{+6330}_{-1157}	$-0.115^{+3.287}_{-4.286}$
Alt.	41 ± 12	$1.63^{+1.04}_{-0.90}$	2192^{+104}_{-106}	-4111^{+644}_{-1553}	$-6.015^{+3.987}_{-24.187}$

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 $A_{\text{obs}} \gg 1.0$

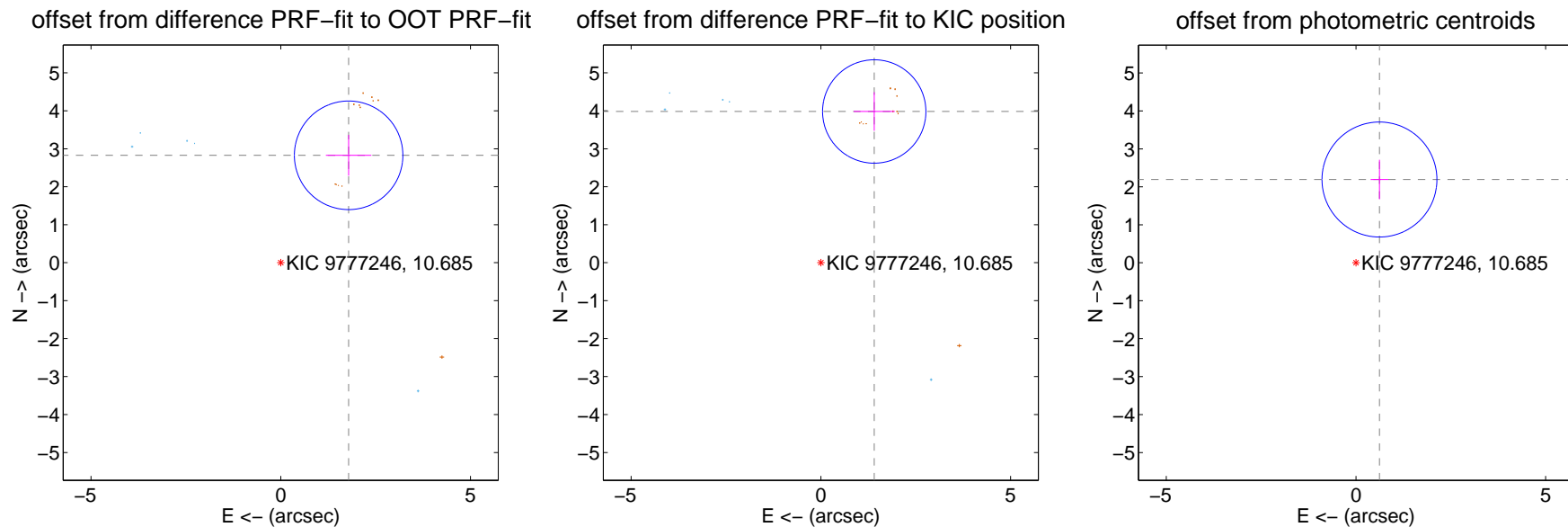
DV Centroid Data

Supplemental centroid analysis for 009777246-01. **Kepler magnitude: 10.69.** Transit SNR 8.19

There are 5 quarters with good PRF difference image offsets

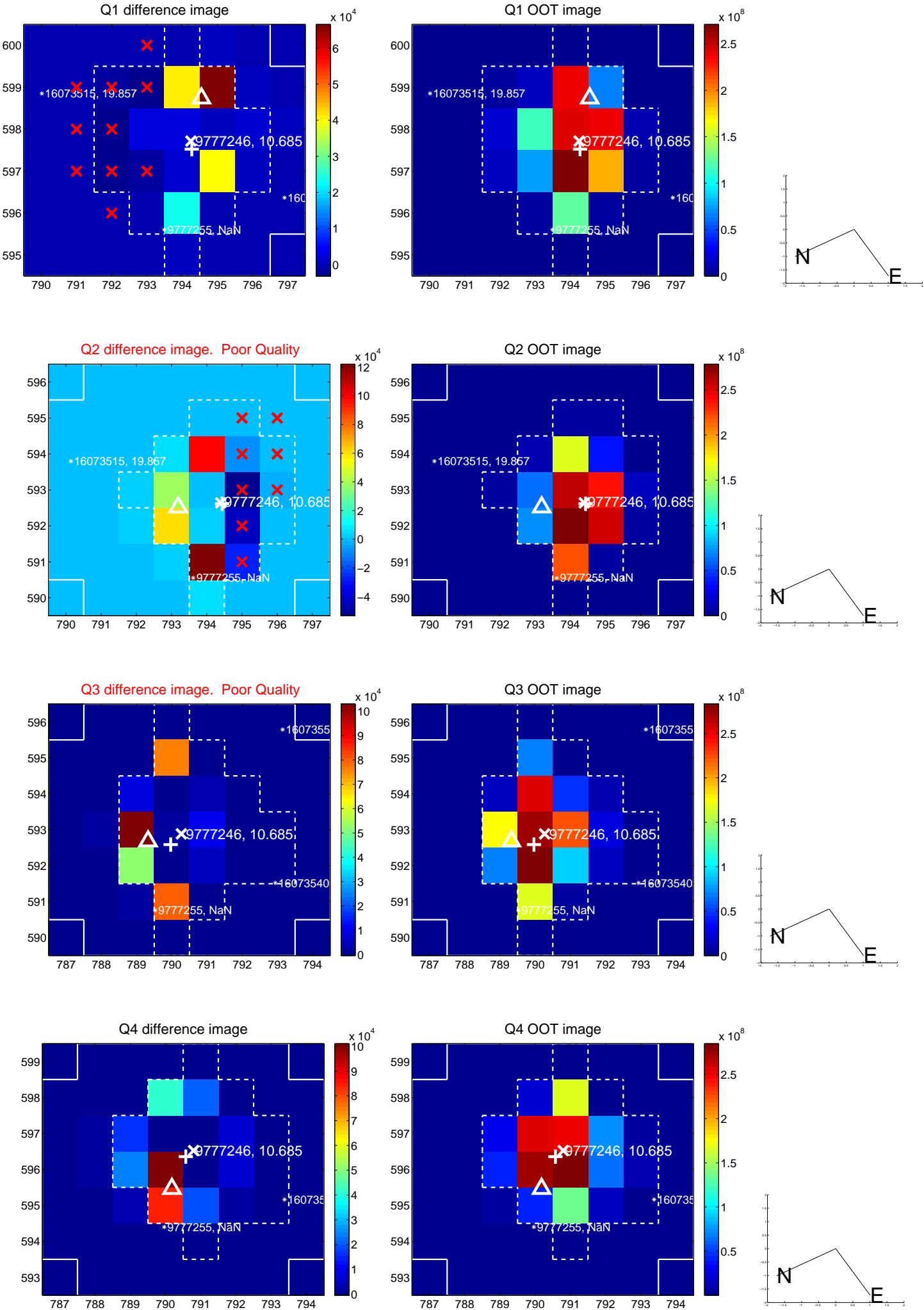
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.347 ± 0.477	7.02	-1.789 ± 0.599	2.828 ± 0.538
PRF-fit source offset from KIC position	4.224 ± 0.454	9.30	-1.407 ± 0.542	3.982 ± 0.508
photometric centroid source offset	2.28 ± 0.50	4.51	-0.62 ± 0.23	2.19 ± 0.52

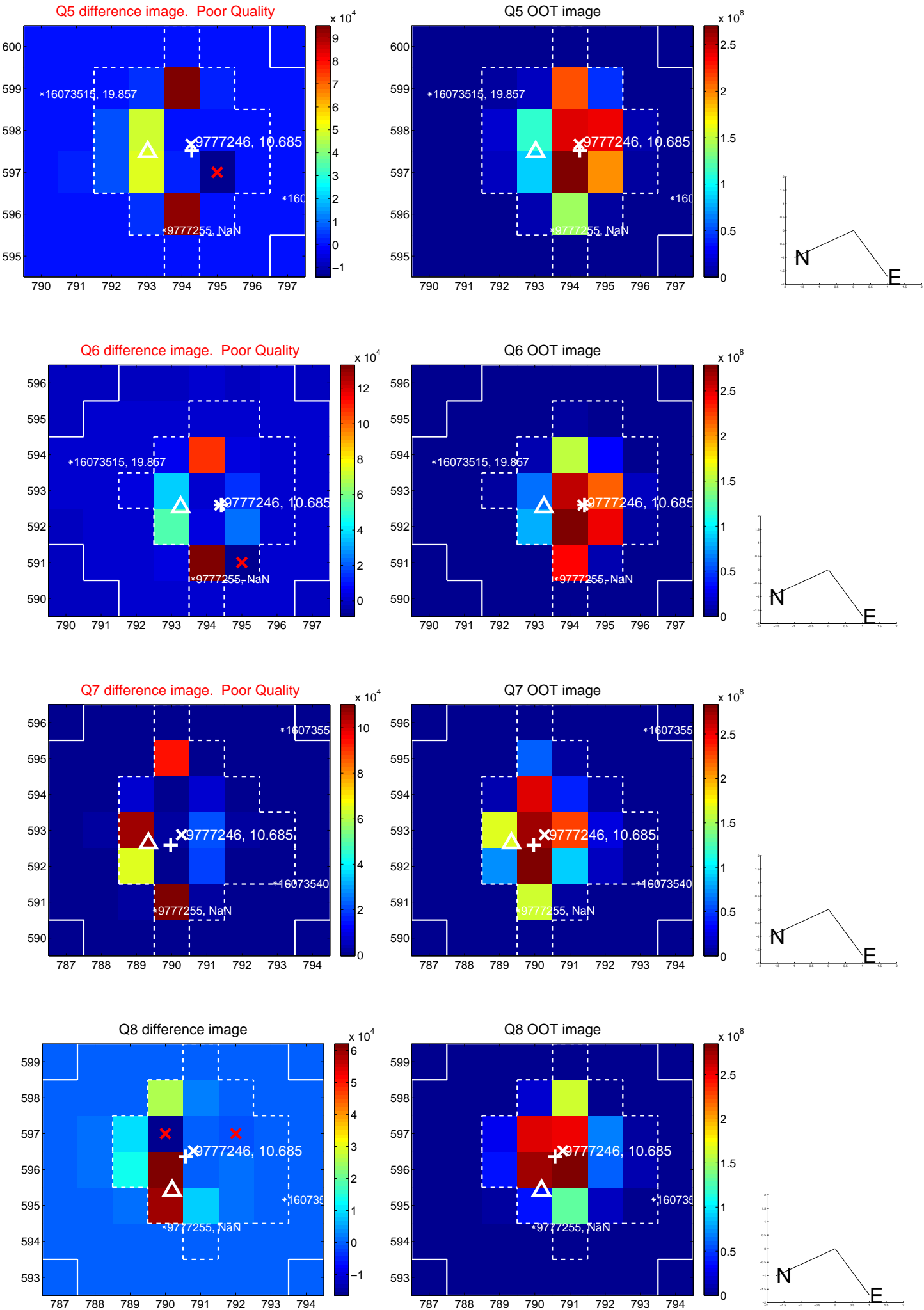


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

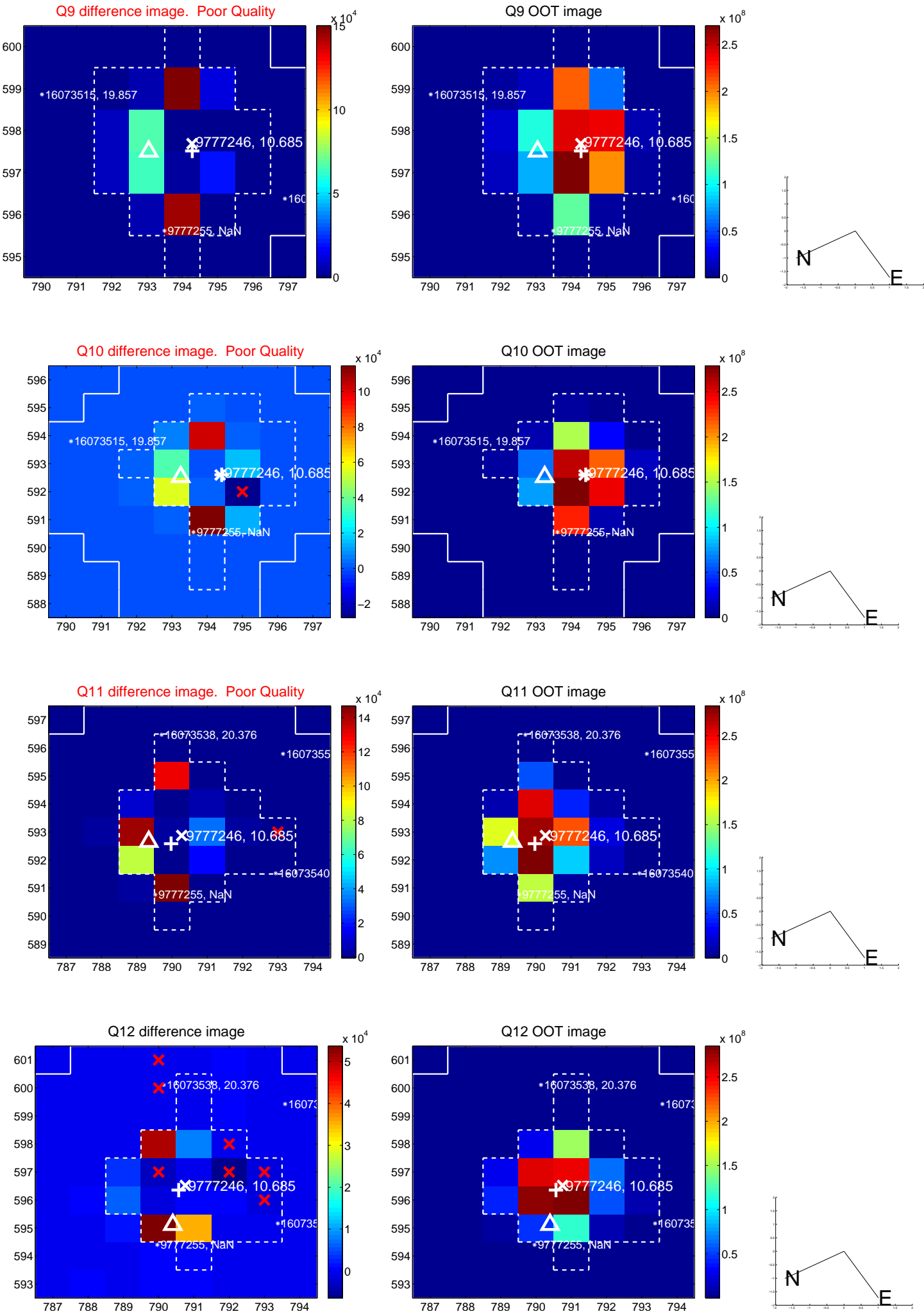
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



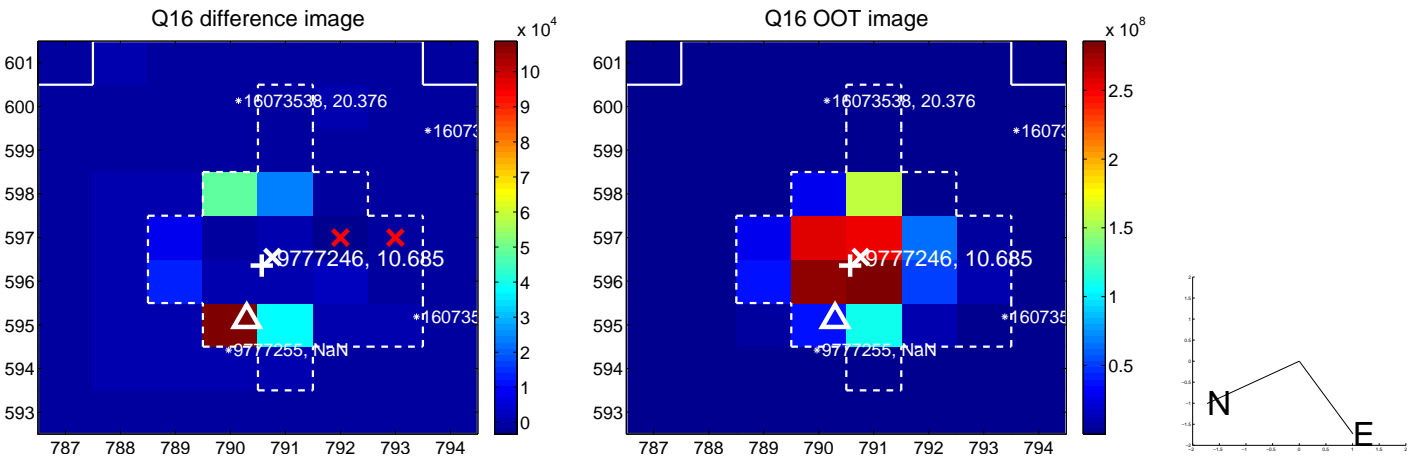
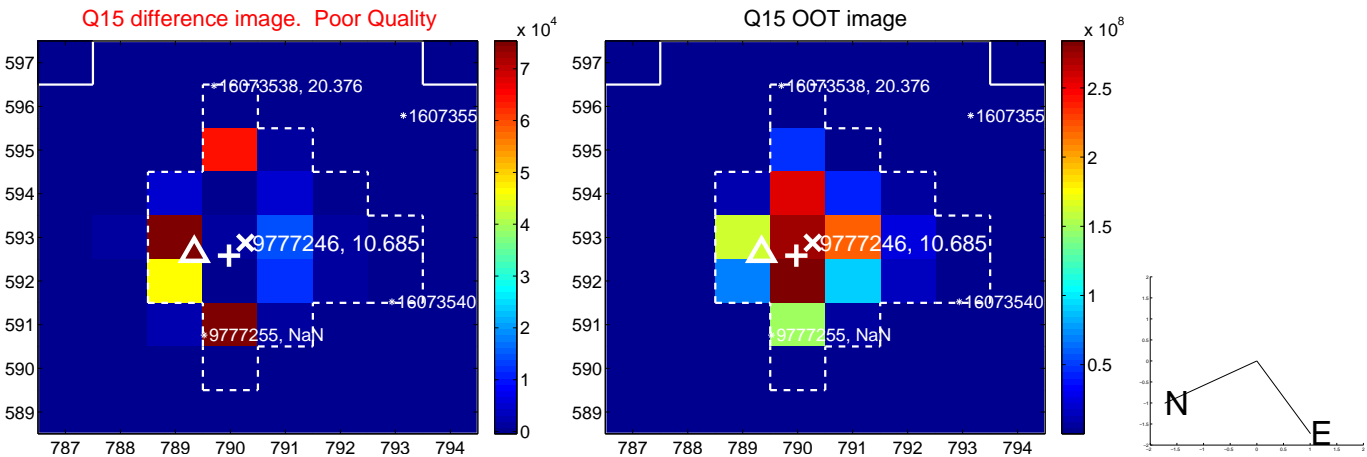
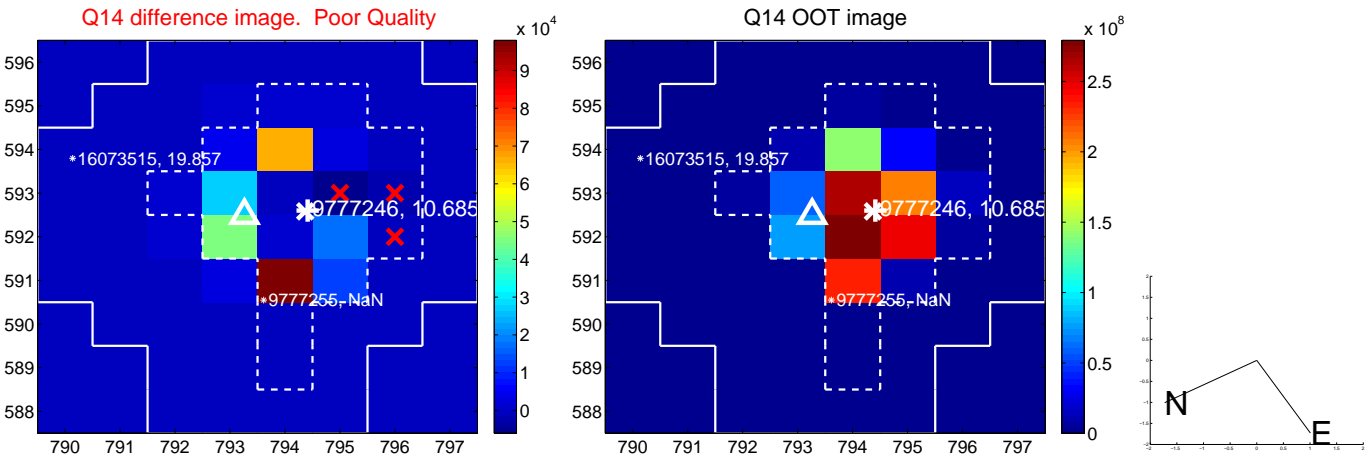
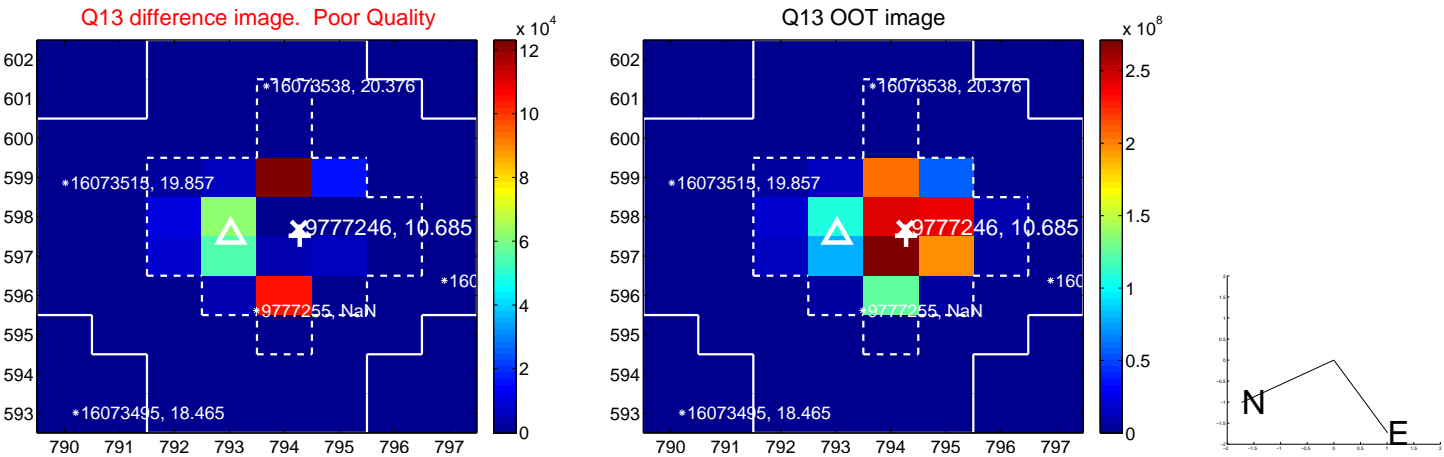
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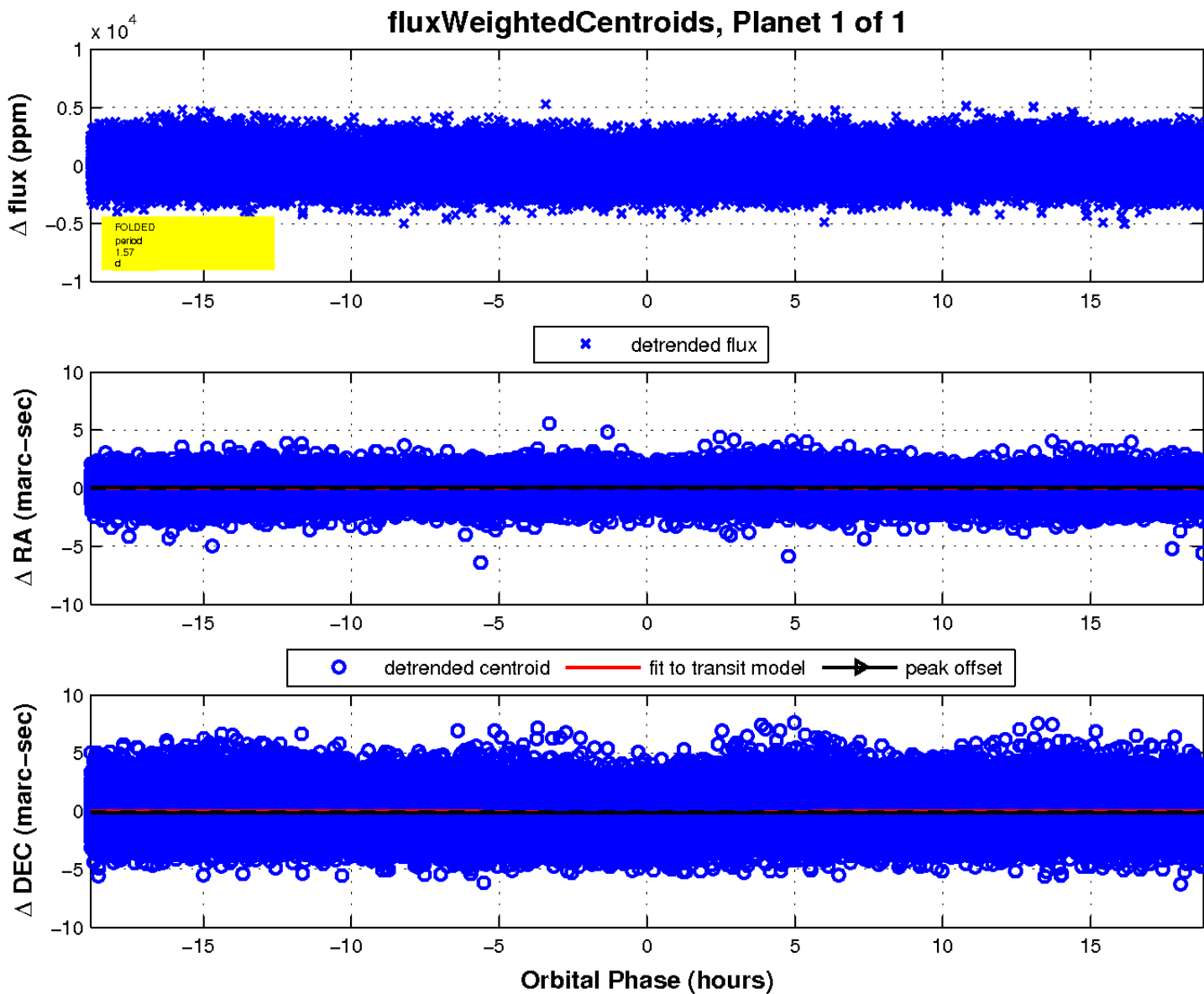
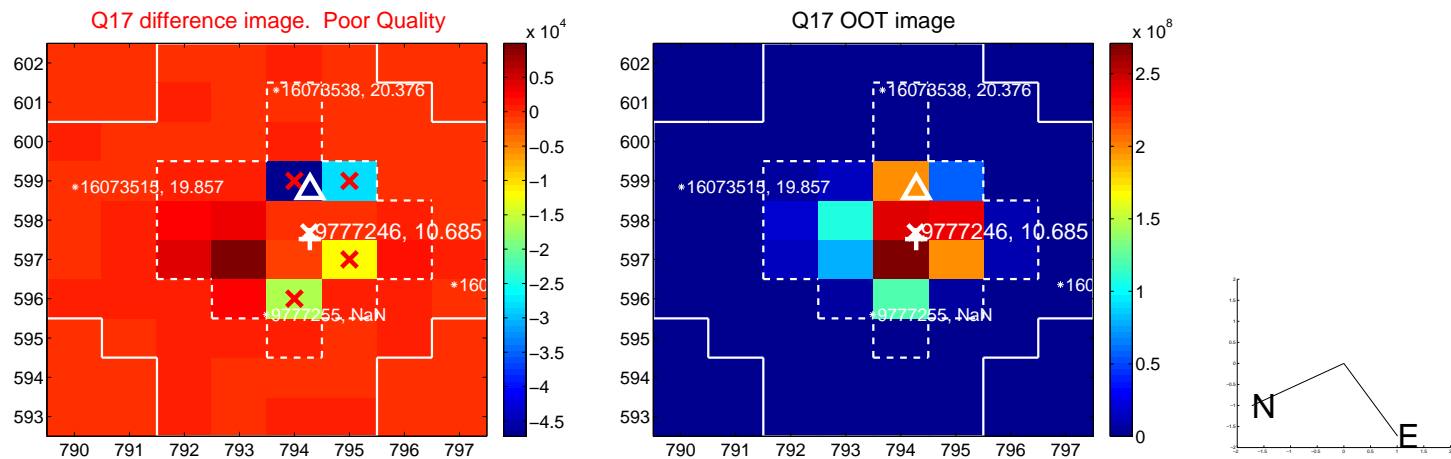
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UKIRT Image

