

KIC 004587528

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})
004587528-01	OBS	No	1.635554	132.728854	164.2	19.627	9.0	16.6	2.29	8340	3.43	20563.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004587528-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

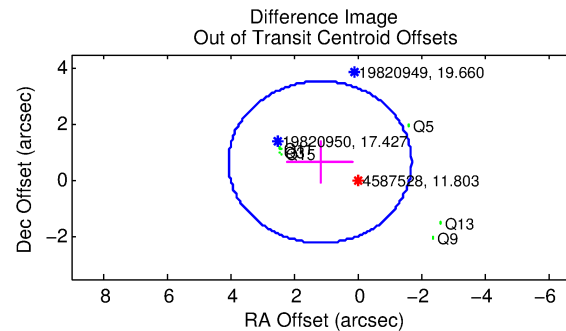
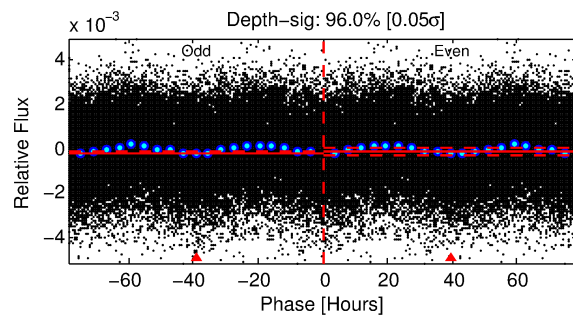
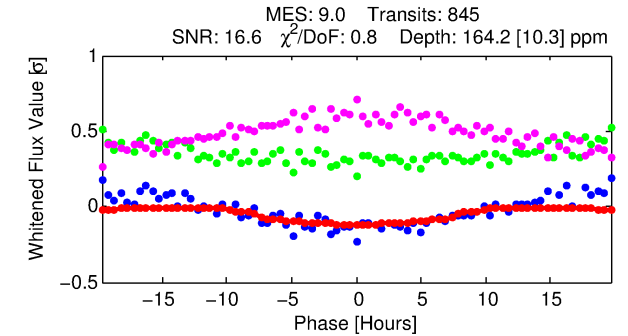
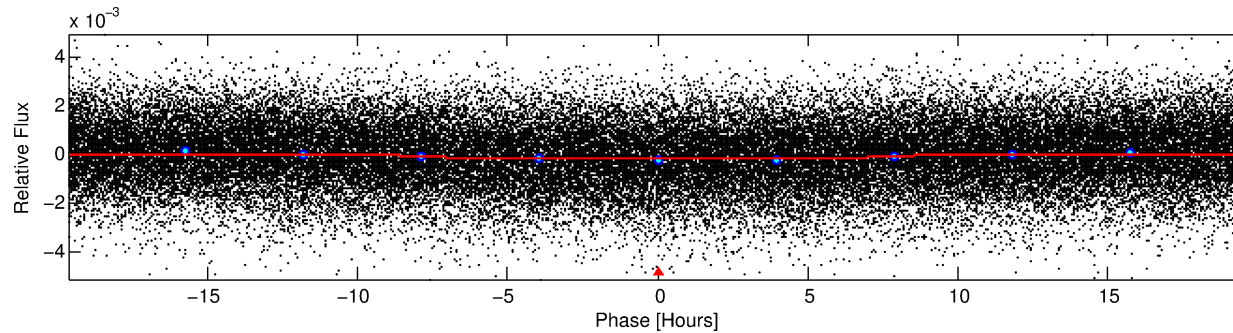
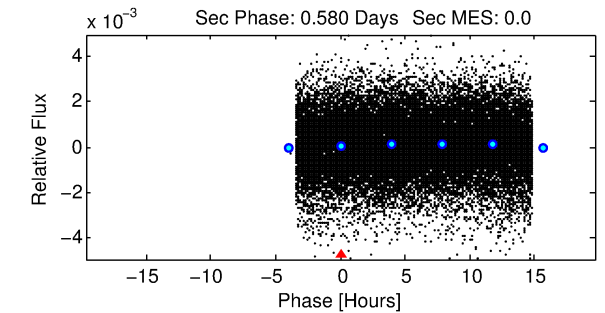
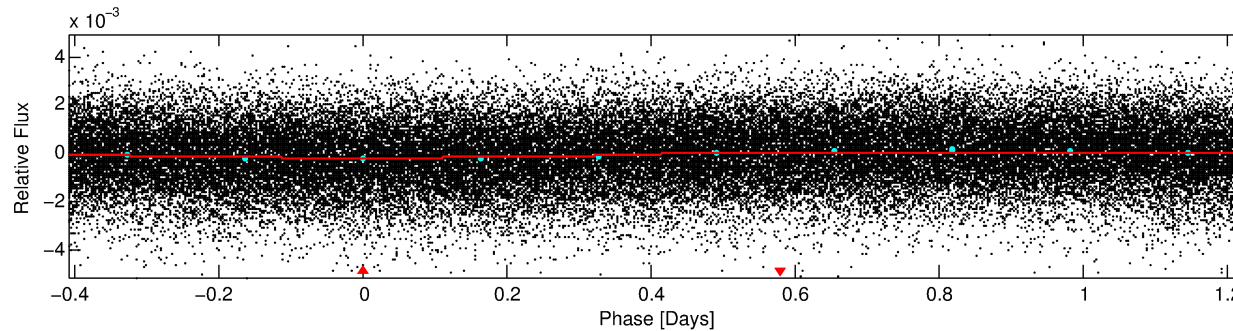
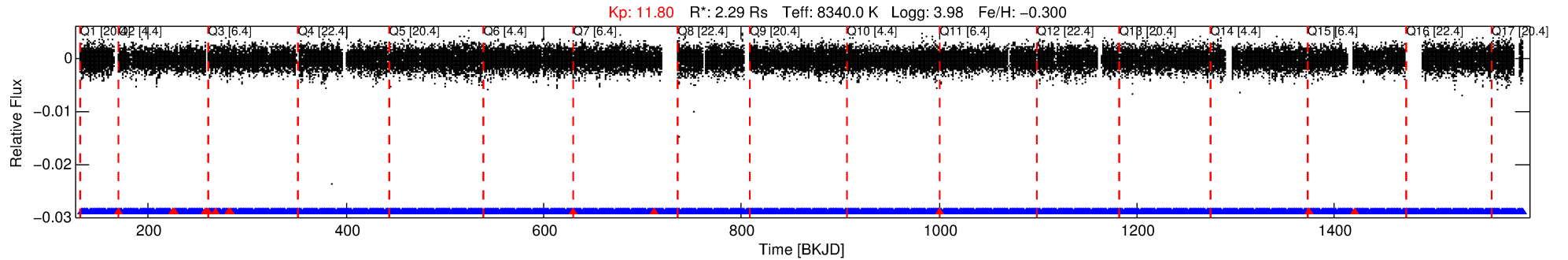
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004587528-01

No Significant Match Found

DV One-Page Summary

KIC: 4587528 Candidate: 1 of 1 Period: 1.636 d



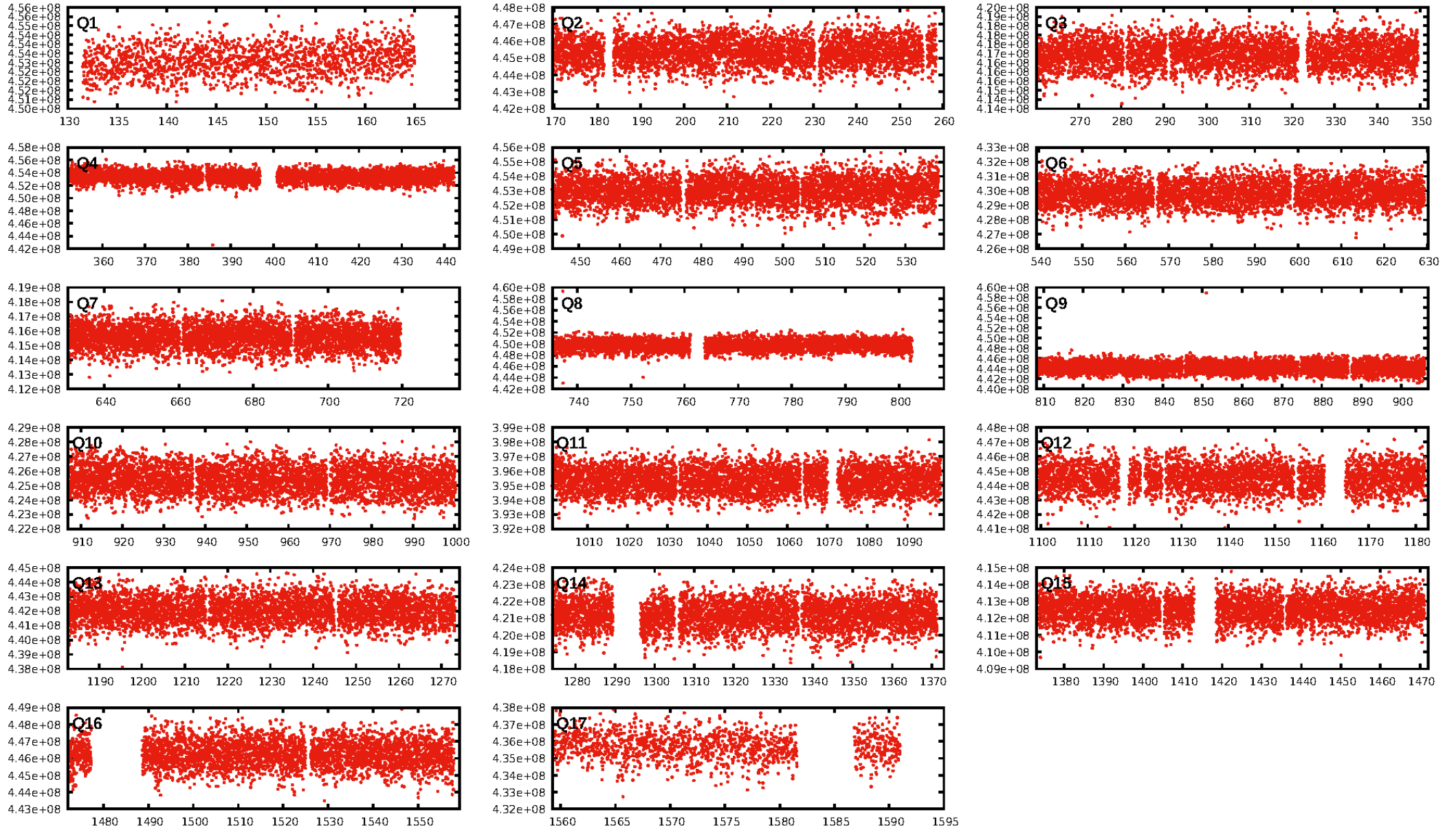
DV Fit Results:

Period = 1.63555 [0.00004] d
Epoch = 132.7289 [0.0149] BKJD
Rp/R* = 0.0137 [0.0007]
a/R* = 1.01 [0.00]
b = 0.91 [0.05]
Seff = 20563.76 [9666.88]
Teff = 3054 [359] K
Rp = 3.43 [1.08] Re
a = 0.0332 [0.0094] AU
Ag = N/A
Teffp = N/A

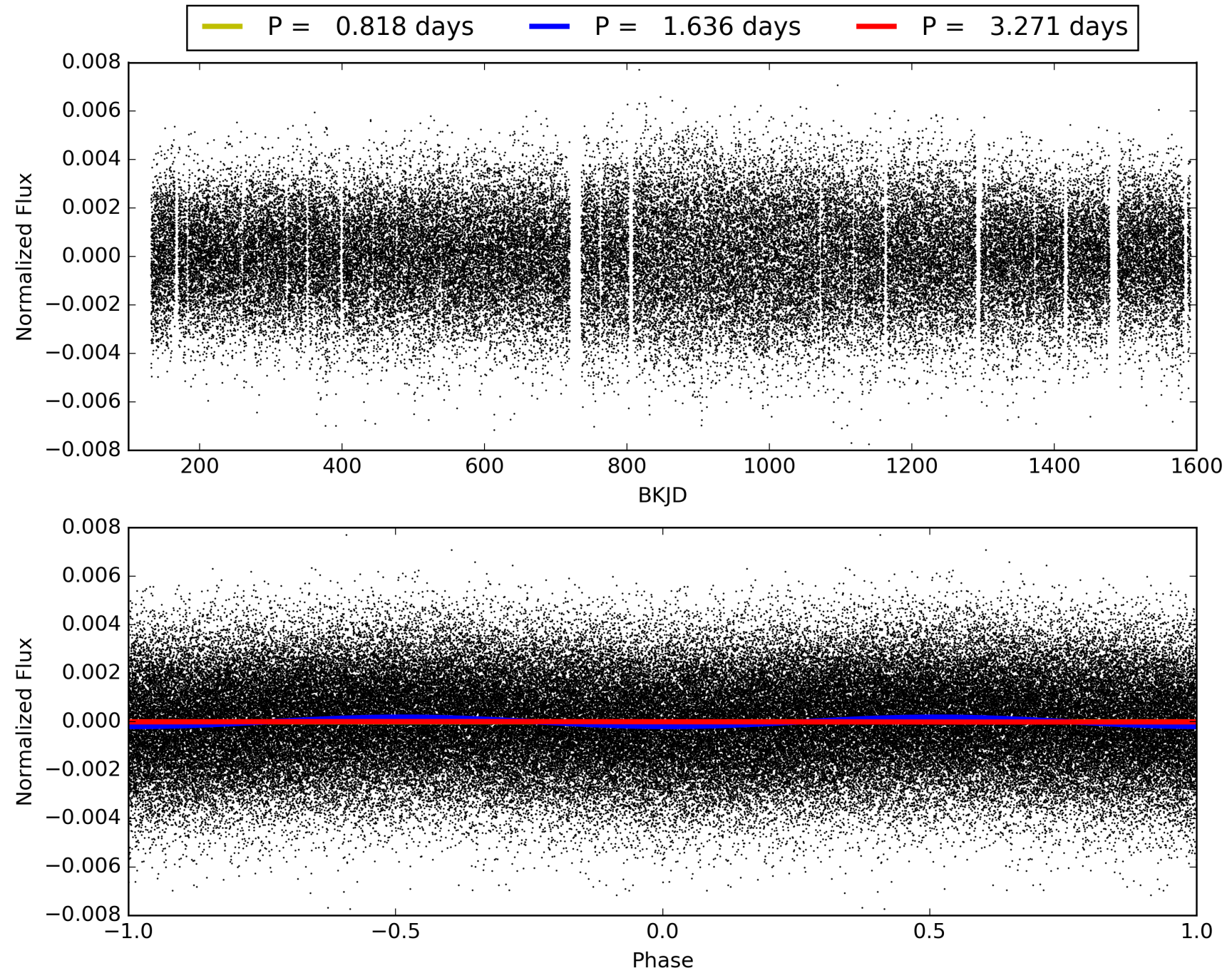
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [793/806]
GhostDiagnostic-chr: 1.652
Centroid-sig: 0.0%
Centroid-so: 0.738 arcsec [5.82σ]
OotOffset-rm: 1.345 arcsec [1.40σ]
KicOffset-rm: 1.313 arcsec [1.16σ]
OotOffset-st: 0/3/0/3 [6]
KicOffset-st: 0/3/0/3 [6]
DiffImageQuality-fgm: 0.00 [0/6]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004587528-01, PDC Light Curves

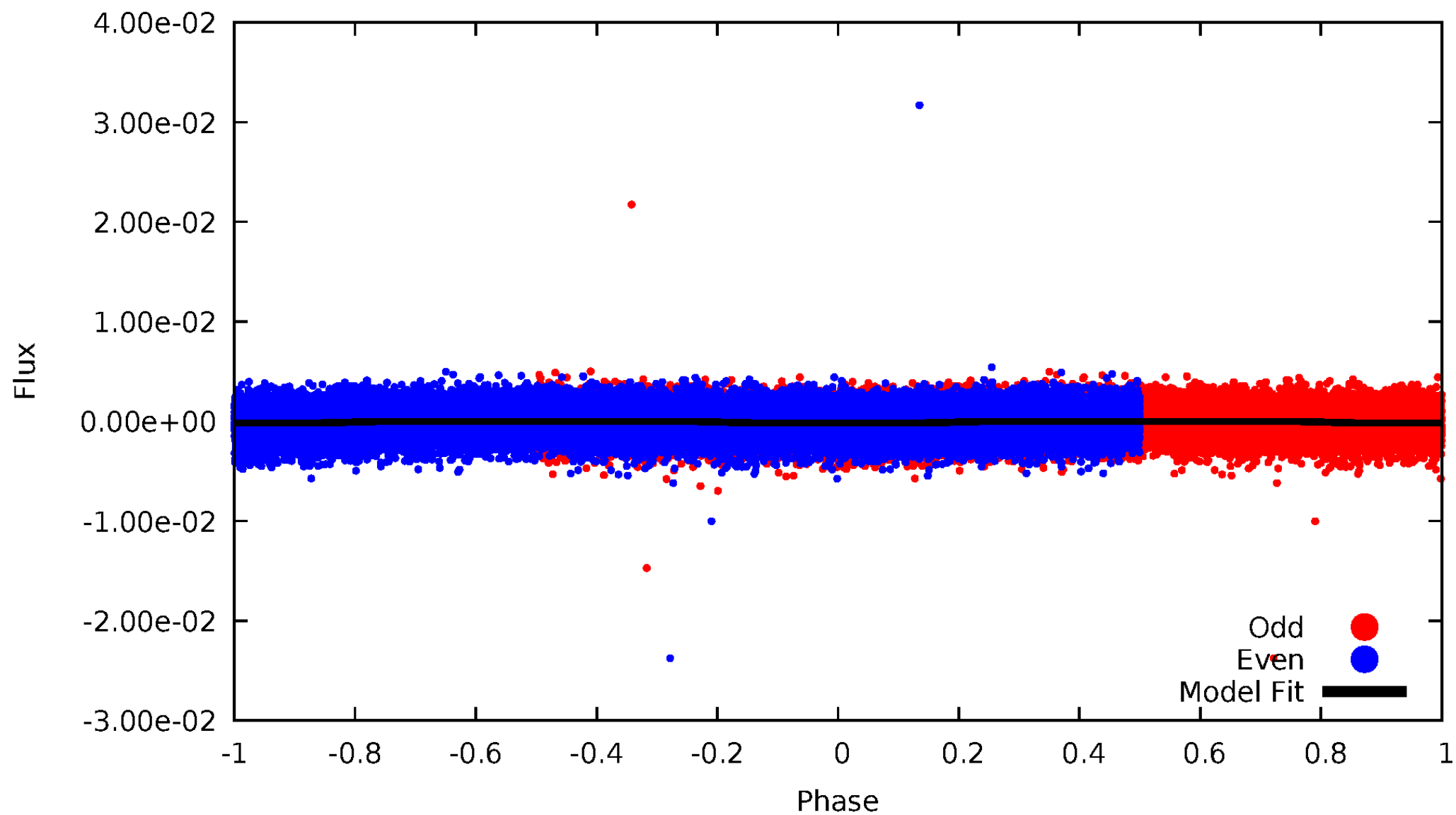


TCE 004587528-01



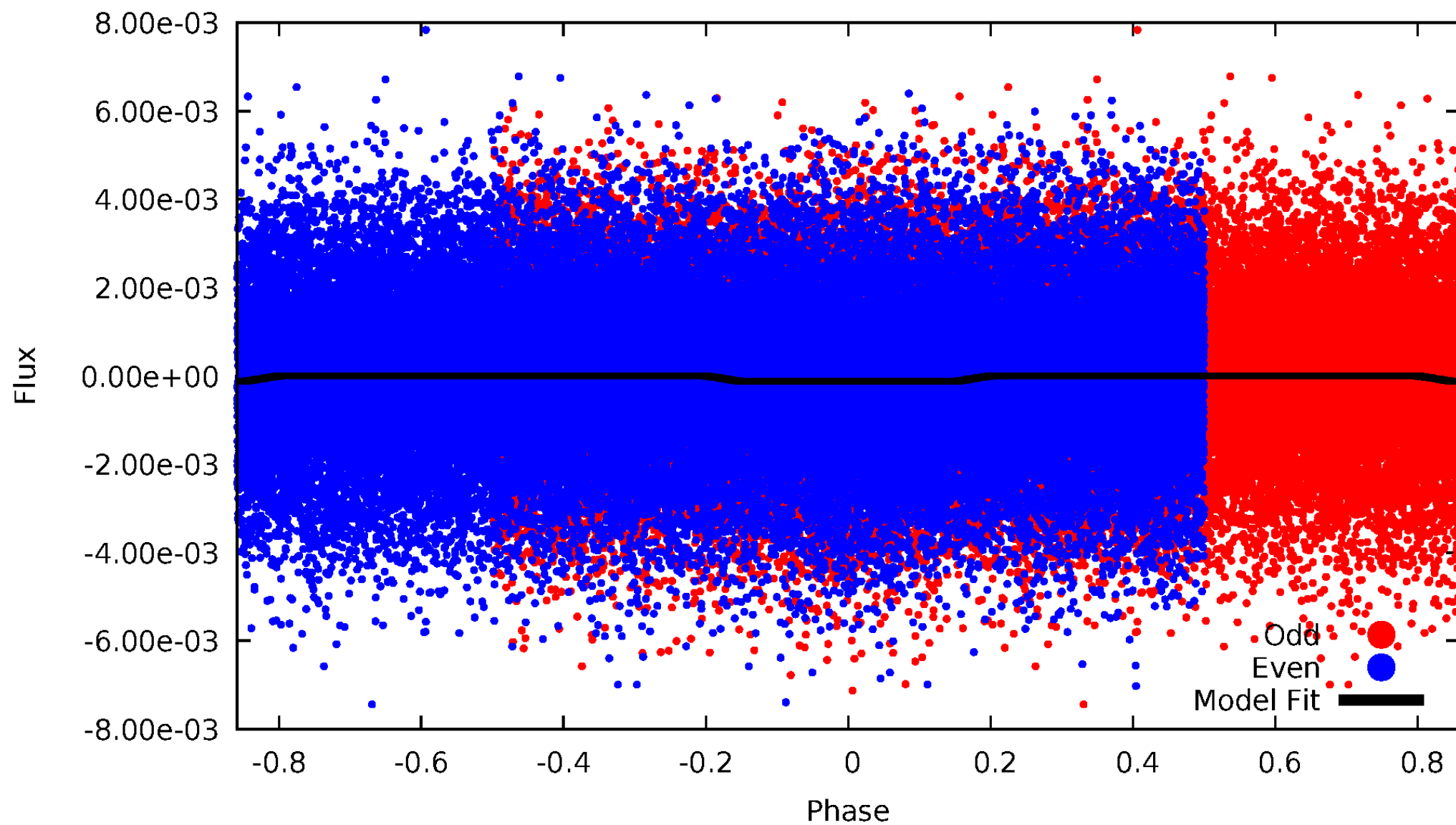
DV Odd/Even

TCE 004587528-01

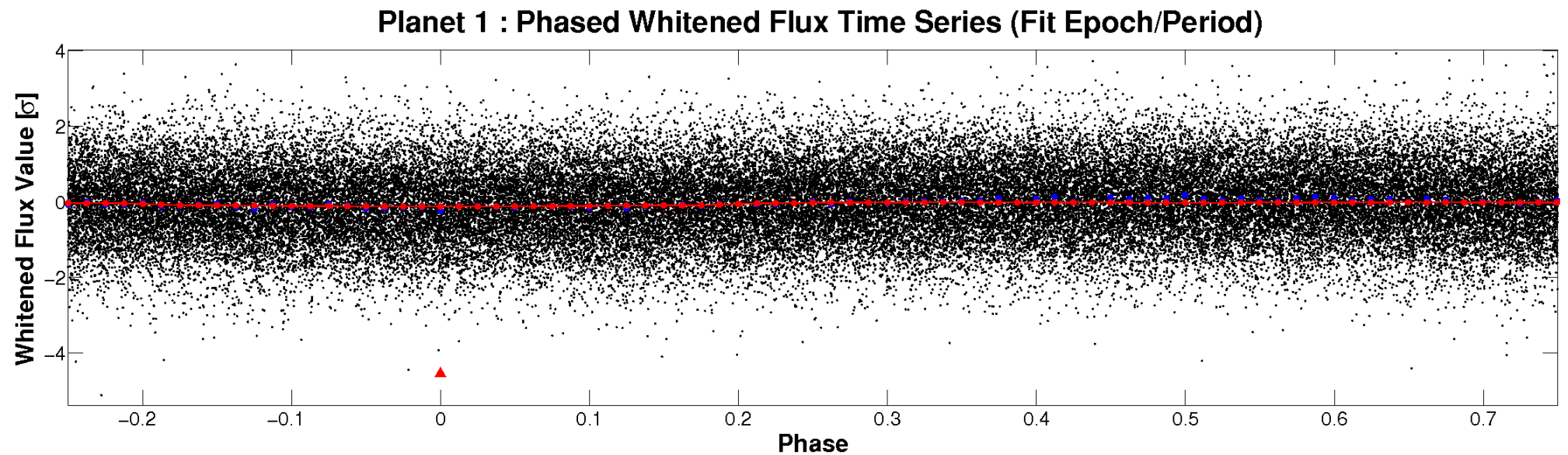
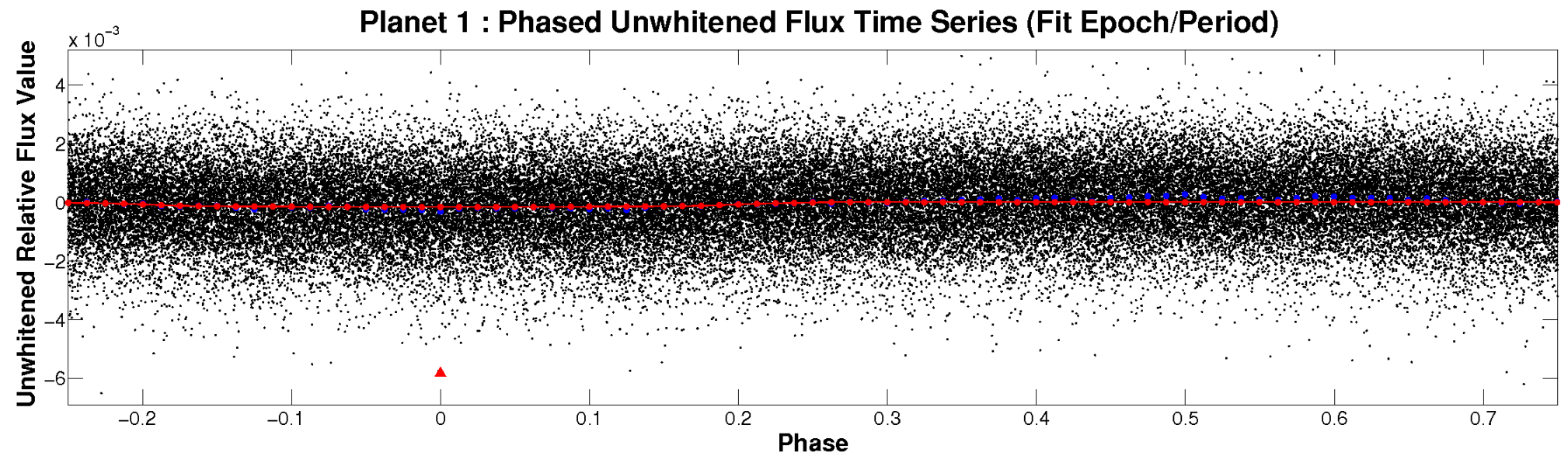


ALT Odd/Even

TCE 004587528-01

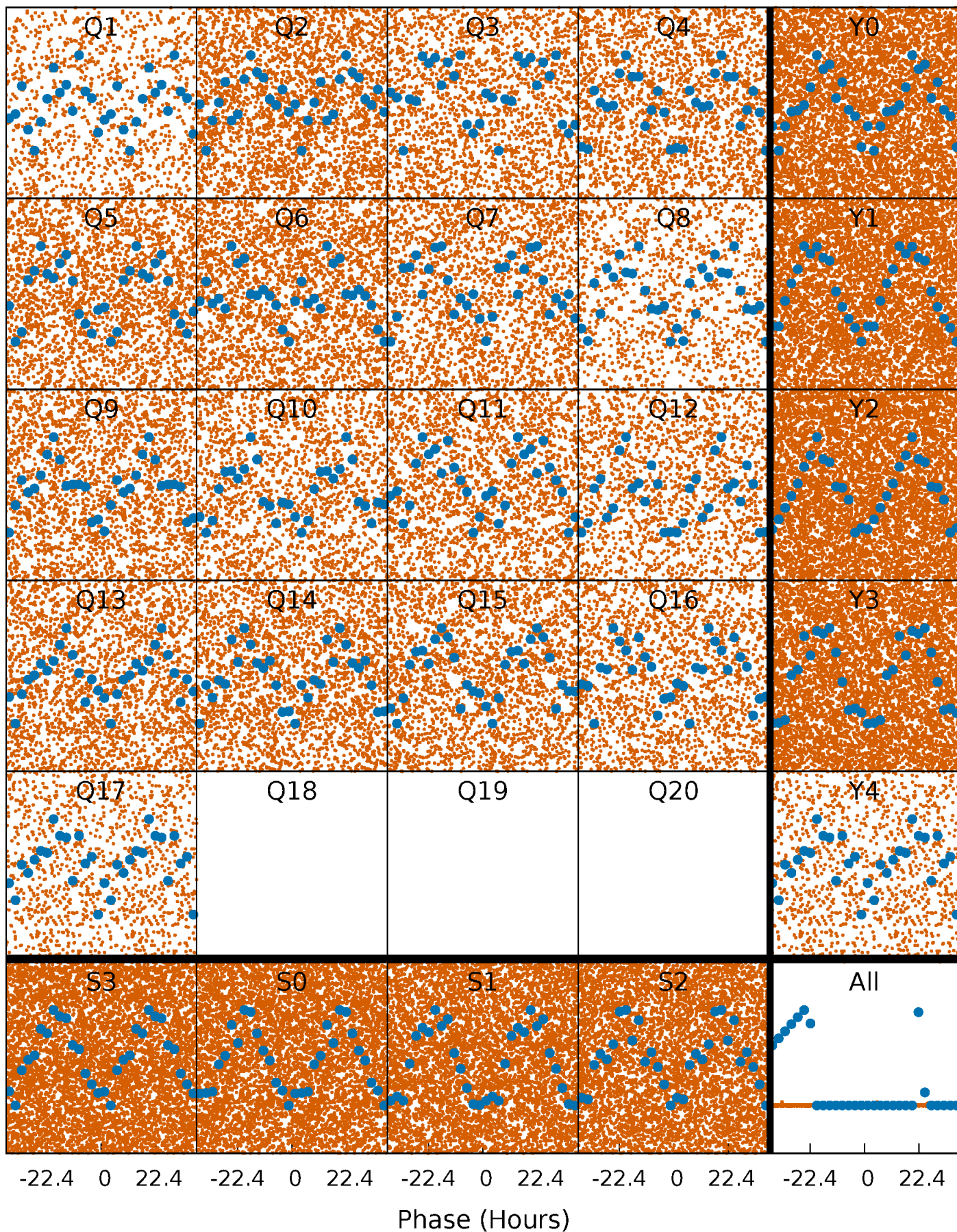


Non-Whitened Vs. Whitened Light Curve



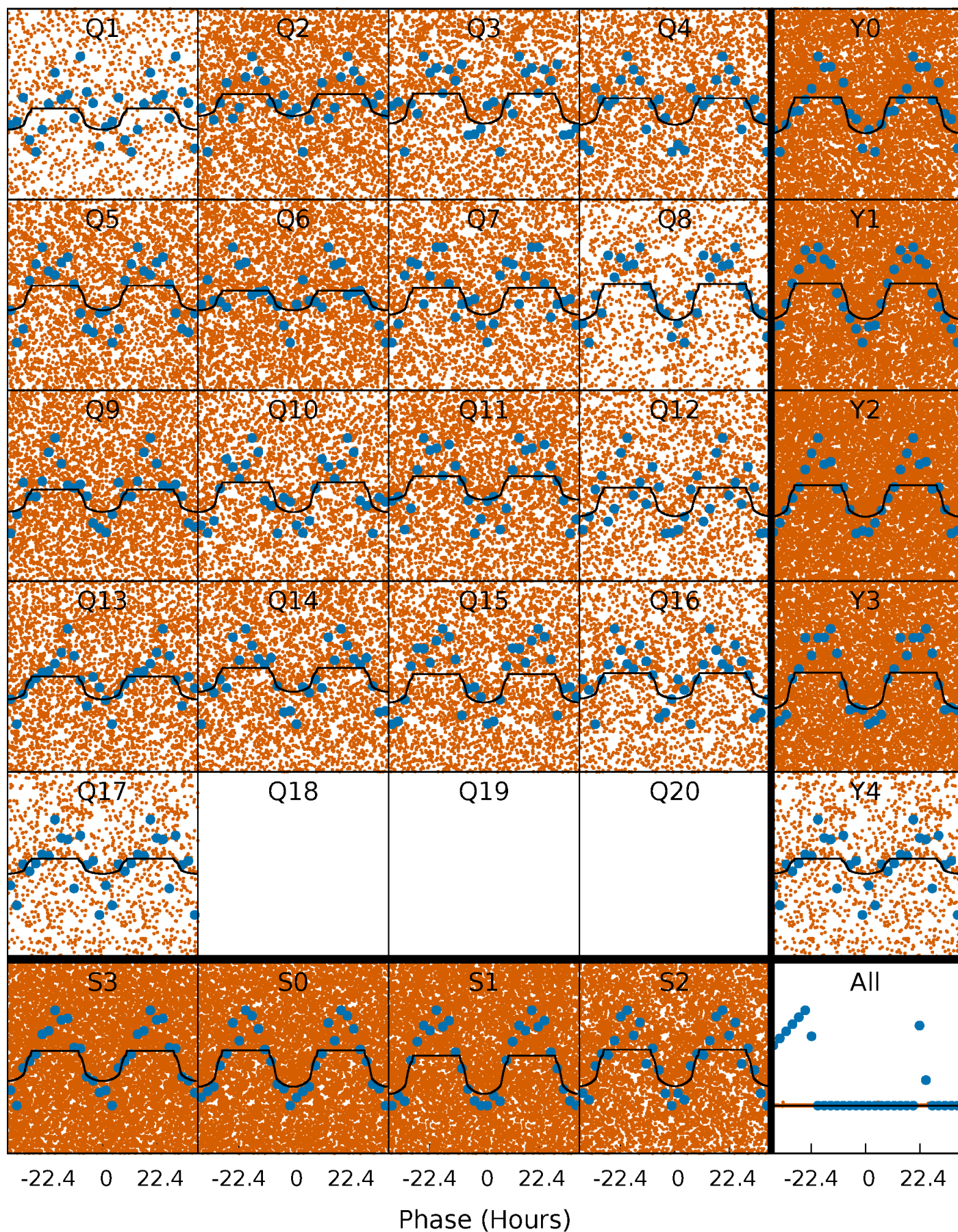
PDC Quarter-Phased Transit Curves

TCE 004587528-01 P= 1.635554 Days $T_0=132.728854$ (BKJD)



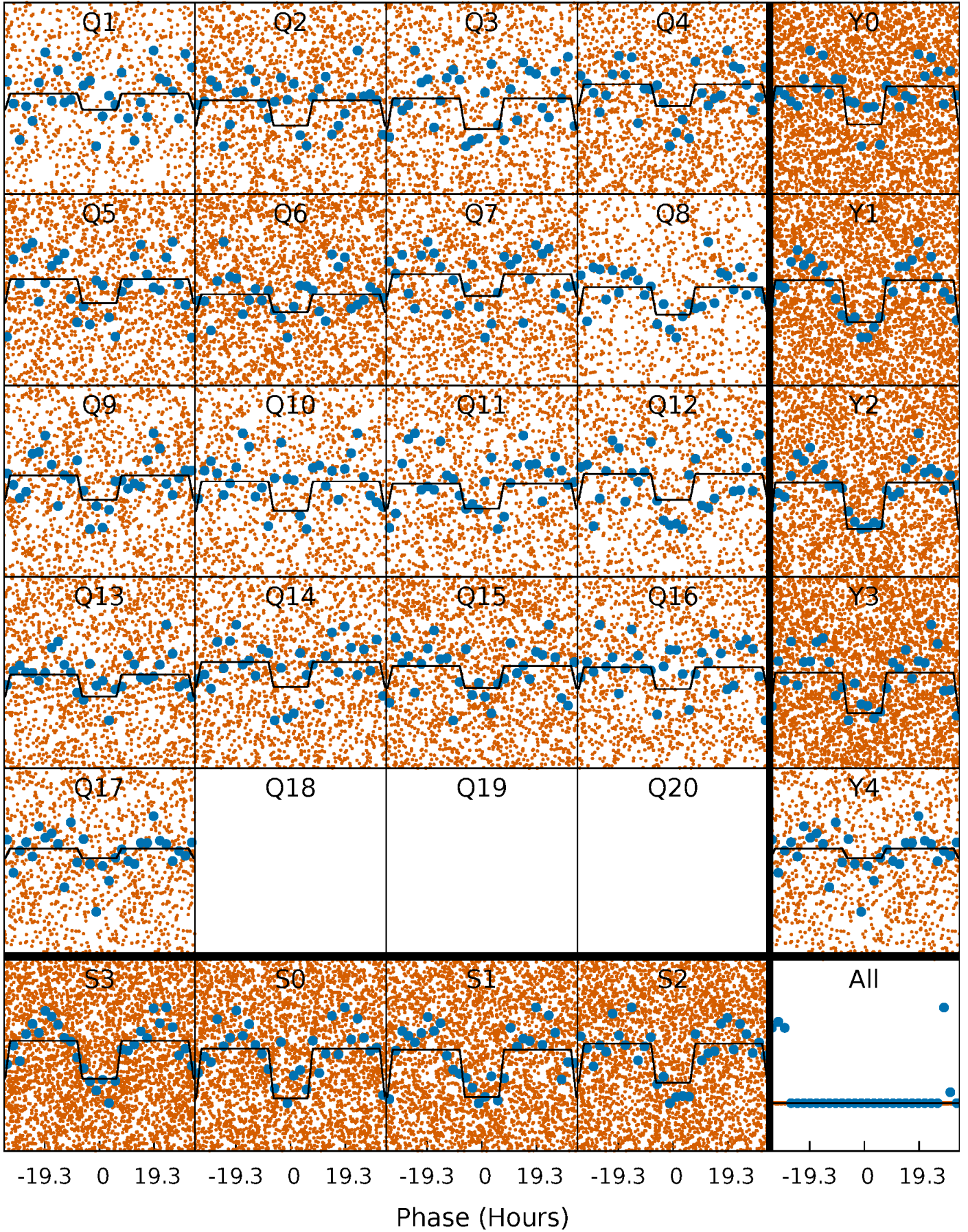
DV Quarter-Phased Transit Curves

TCE 004587528-01 P= 1.635554 Days $T_0=132.728854$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

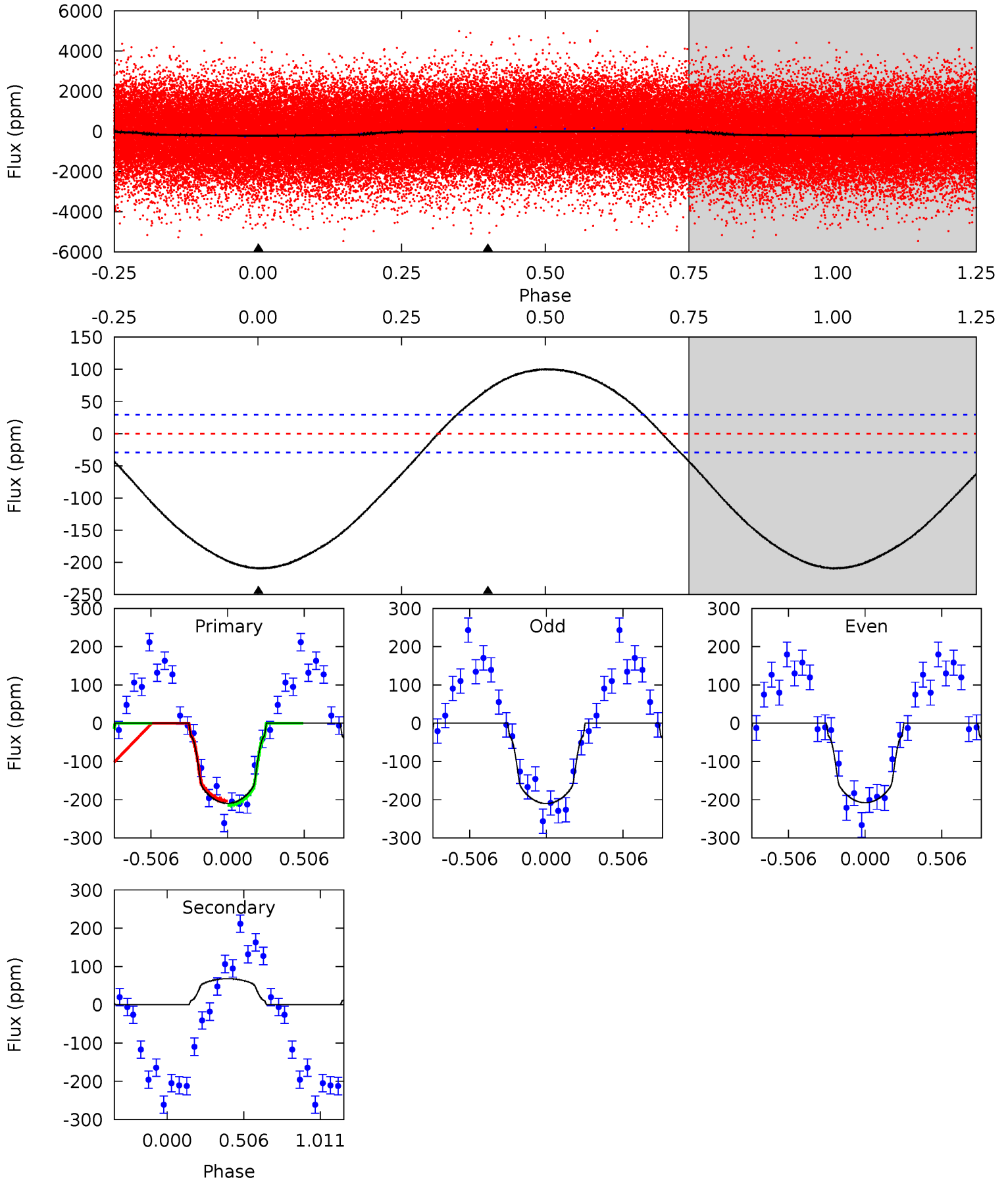
TCE 004587528-01 P= 1.635634 Days $T_0=132.697396$ (BKJD)



DV Model-Shift Uniqueness Test

004587528-01, P = 1.635554 Days, E = 131.093300 Days

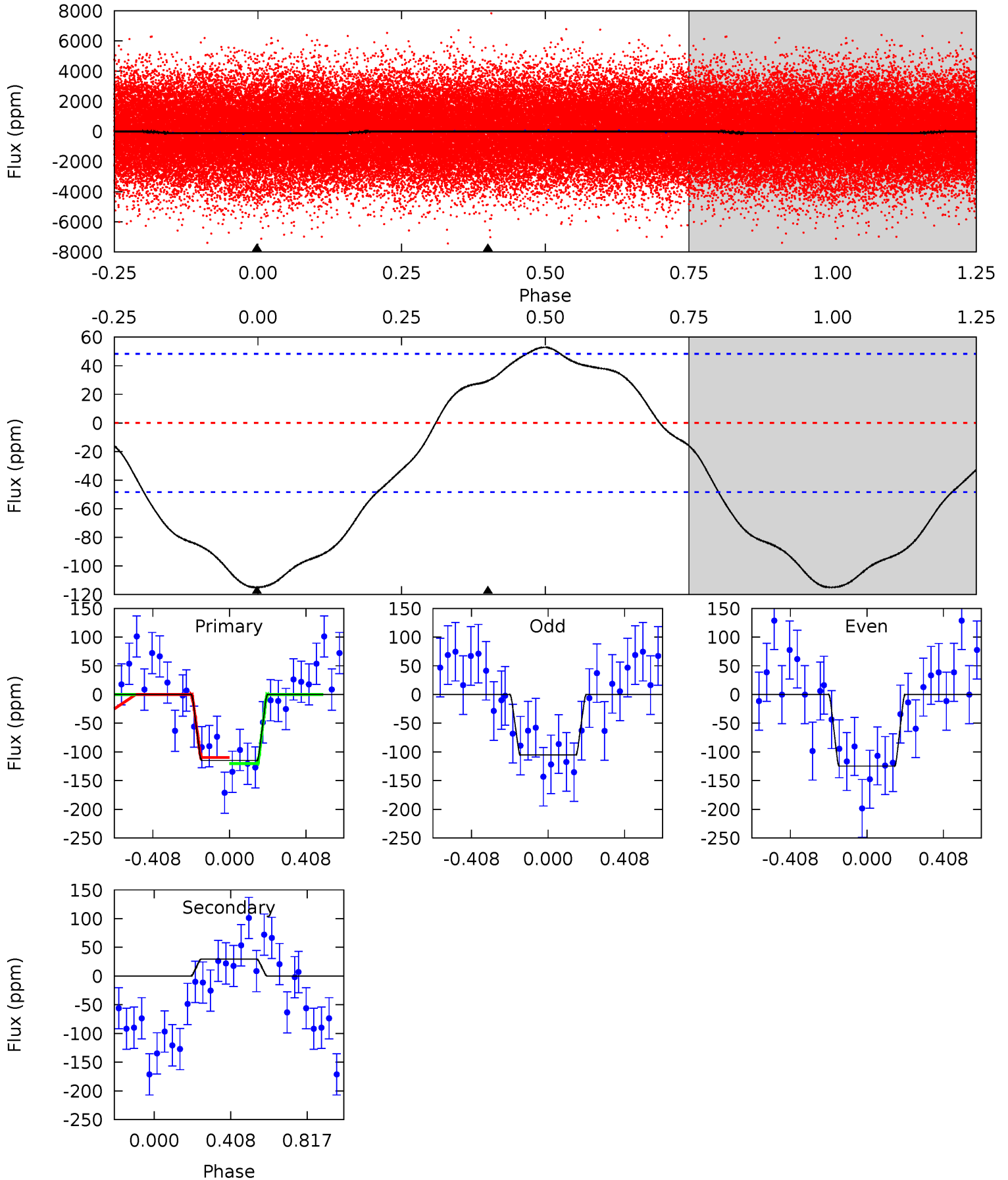
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.0	-9.77	0	0	4.21	0.67	3.97	30.0	30.0	-9.77	-9.77	0.15	1.15	0.33	0.79



Alt Model-Shift Uniqueness Test

004587528-01, P = 1.635634 Days, E = 131.061762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	-2.59	0	0	4.26	0.83	1.21	10.1	10.1	-2.59	-2.59	0.85	1.00	0.32	0.45



Stellar Parameters For KIC 004587528

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8340^{+236}_{-354}	$3.981^{+0.252}_{-0.108}$	$-0.300^{+0.150}_{-0.300}$	$2.289^{+0.381}_{-0.708}$	$1.828^{+0.089}_{-0.355}$	$0.215^{+0.330}_{-0.069}$
	+3%/-4%	+6%/-3%	+50%/-100%	+17%/-31%	+5%/-19%	+153%/-32%
Source	KIC0	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 004587528-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	68 ± 7	$3.30^{+0.42}_{-0.59}$	4174^{+273}_{-343}	-6345^{+297}_{-309}	$-3.709^{+0.791}_{-1.568}$
Alt.	29 ± 11	$2.62^{+0.35}_{-0.44}$	4190^{+282}_{-359}	-5819^{+563}_{-553}	$-2.577^{+1.073}_{-1.549}$

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 $A_{obs} \gg 1.0$

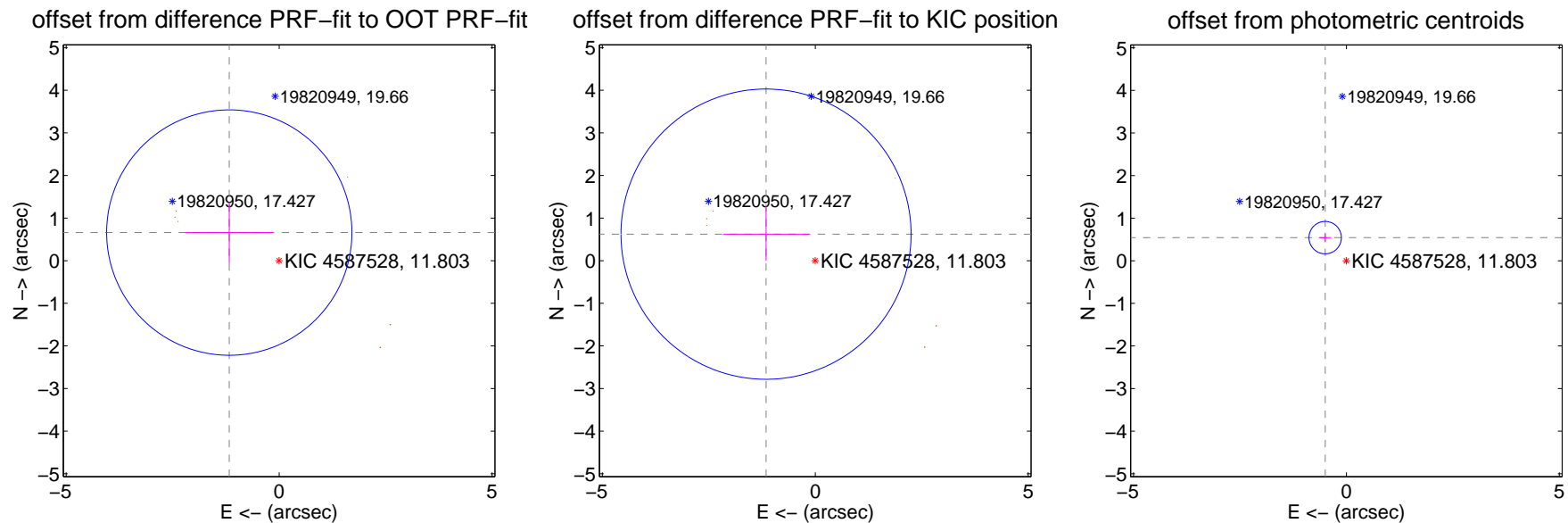
DV Centroid Data

Supplemental centroid analysis for 004587528-01. **Kepler magnitude: 11.80.** Transit SNR 16.60

There are 0 quarters with good PRF difference image offsets

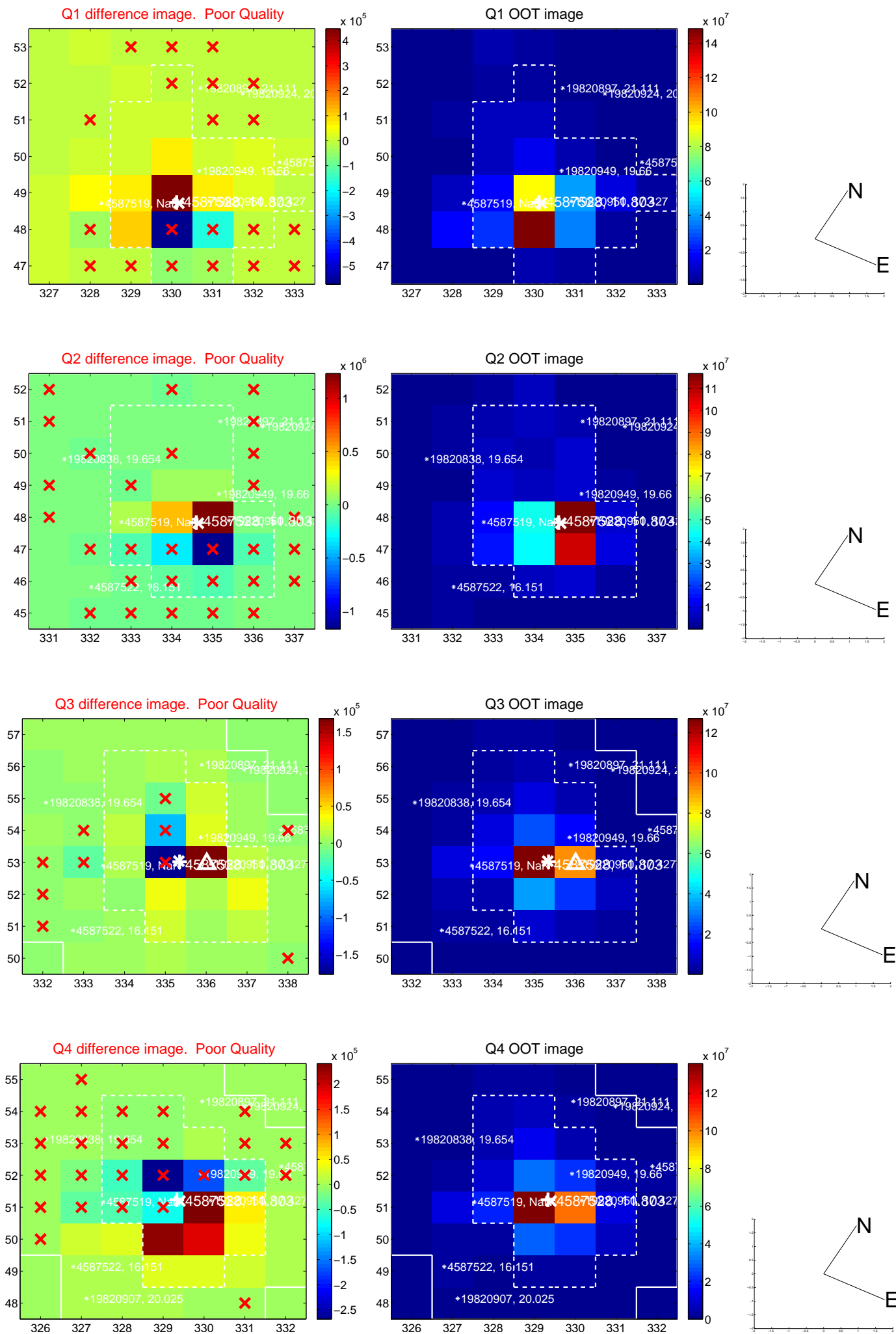
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.345 ± 0.960	1.40	1.171 ± 1.025	0.660 ± 0.719
PRF-fit source offset from KIC position	1.313 ± 1.135	1.16	1.156 ± 1.011	0.623 ± 0.623
photometric centroid source offset	0.74 ± 0.13	5.82	0.50 ± 0.14	0.54 ± 0.11

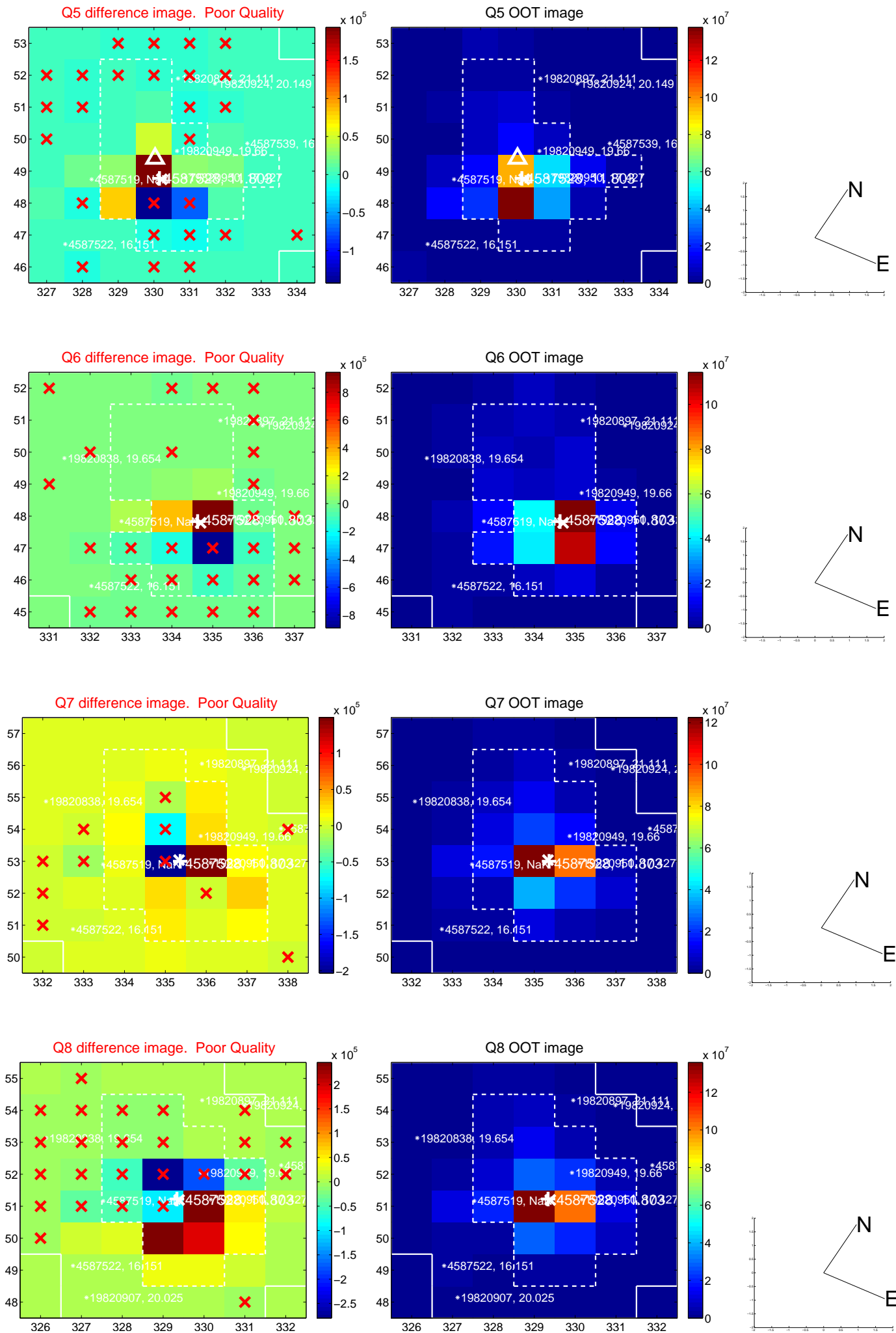


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

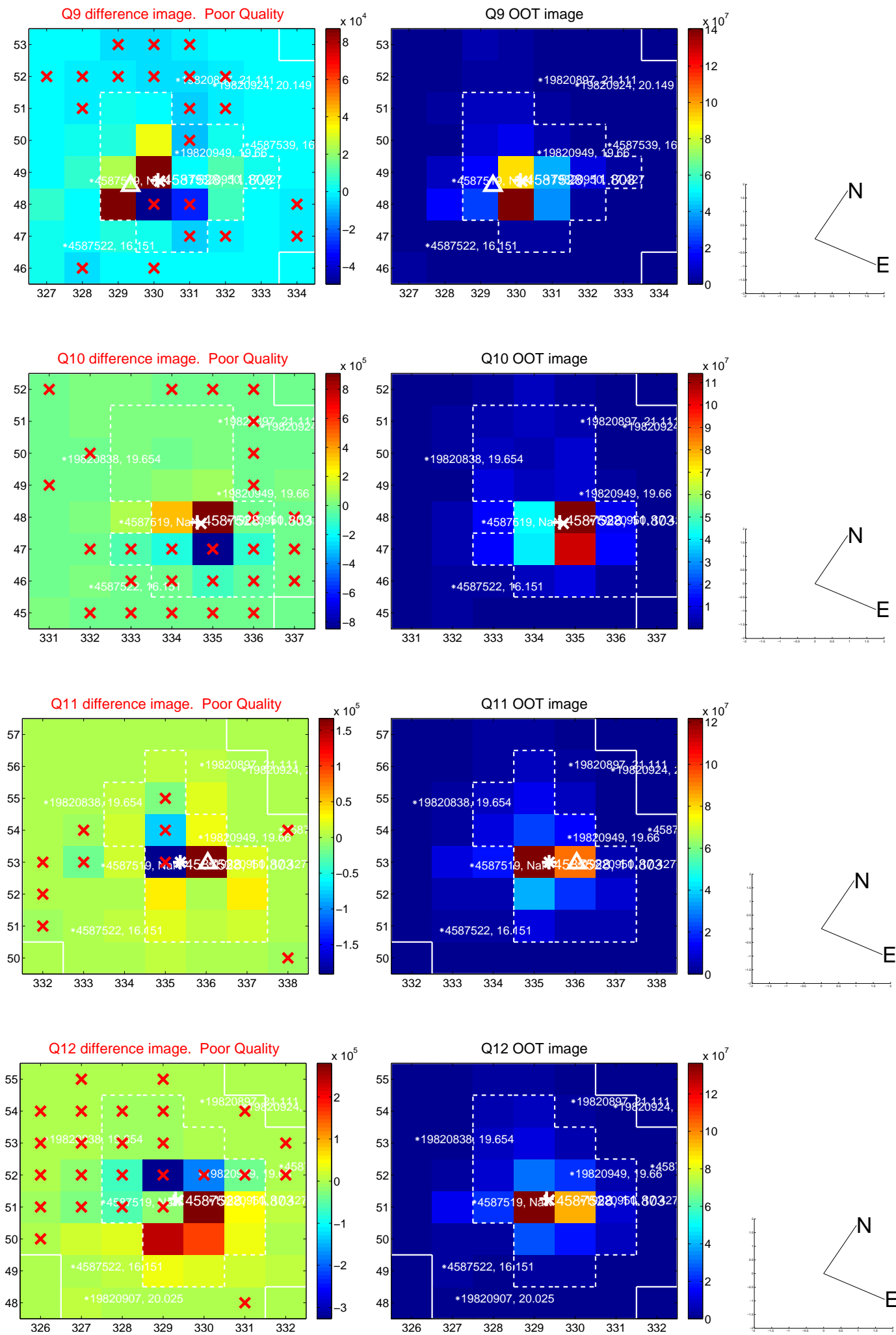
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



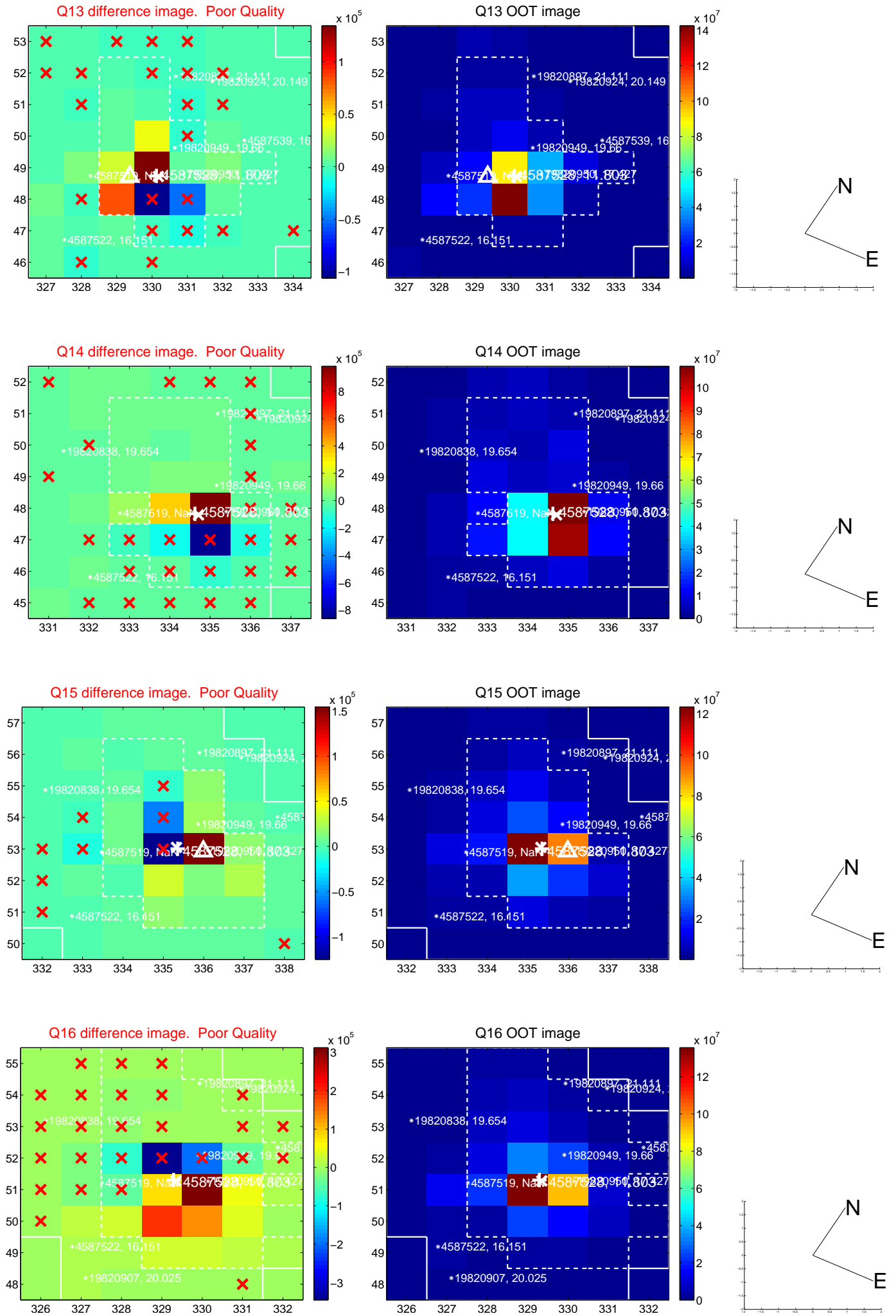
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



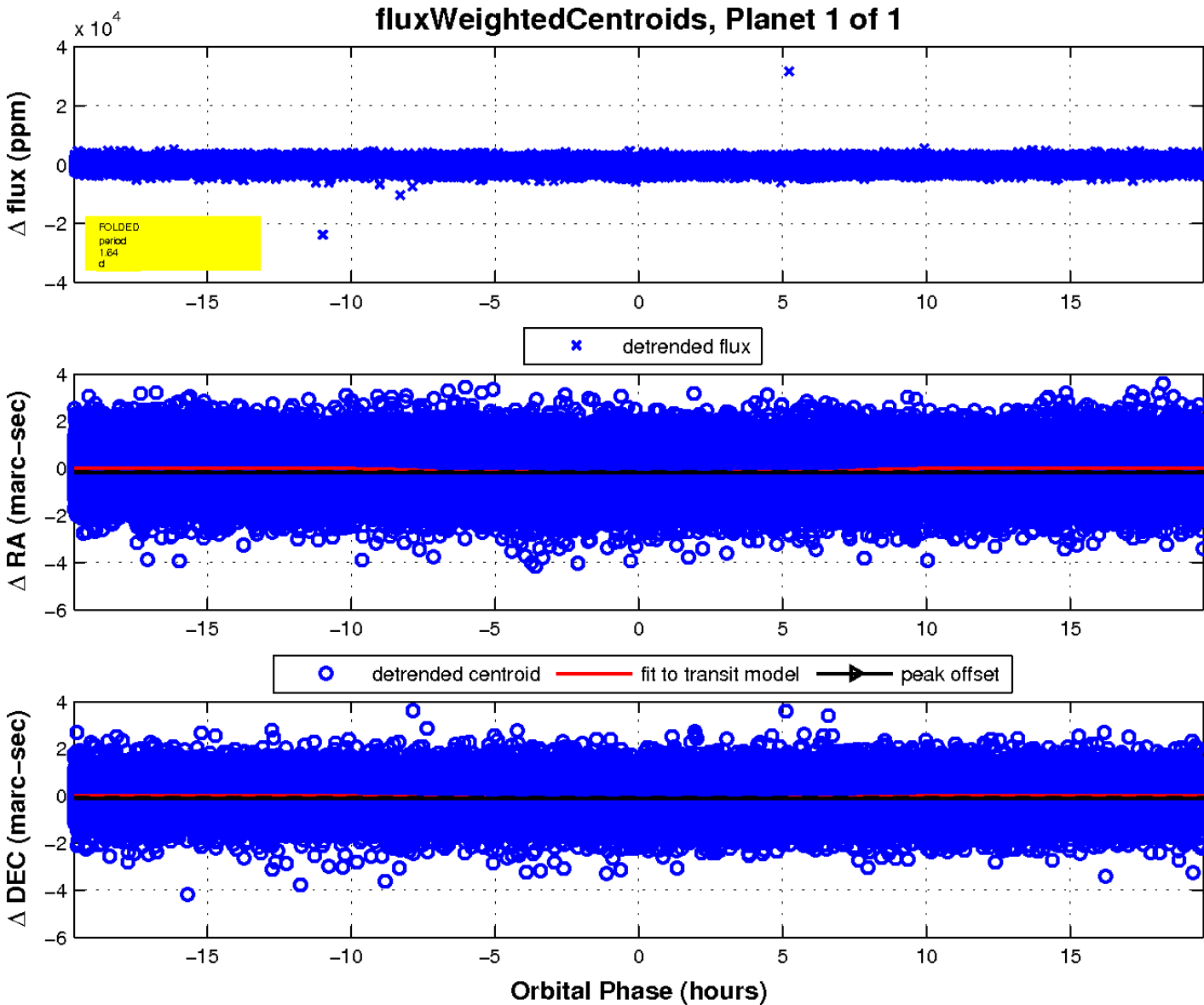
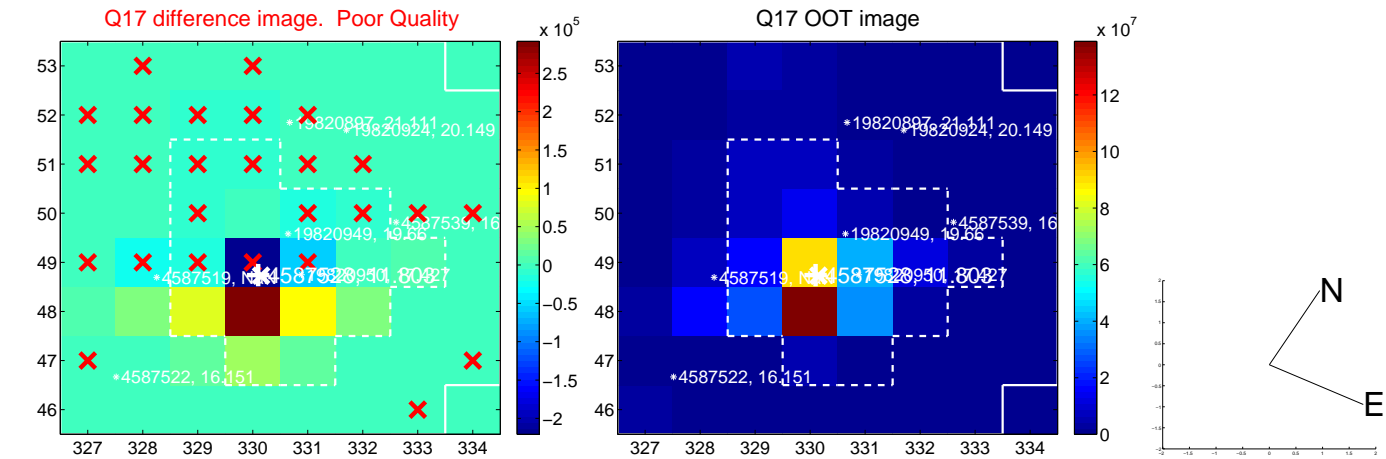
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

