

KIC 006590307

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})
006590307-01	OBS	7787.01	1.332540	132.066710	54.7	3.779	7.7	8.2	0.82	5520	0.72	1054.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006590307-01	OBS	FP	0.00	0	0	1	0	CENT_FEW_DIFFS—HALO_GHOST

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

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

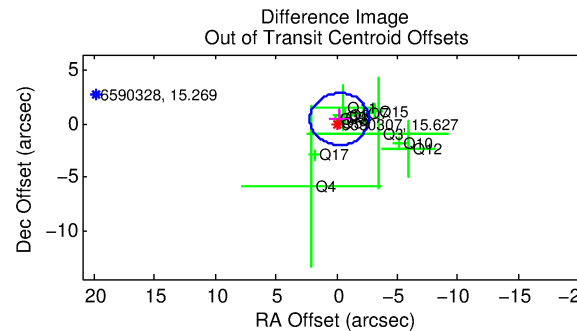
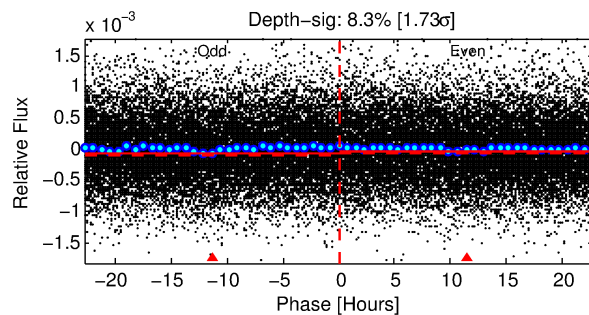
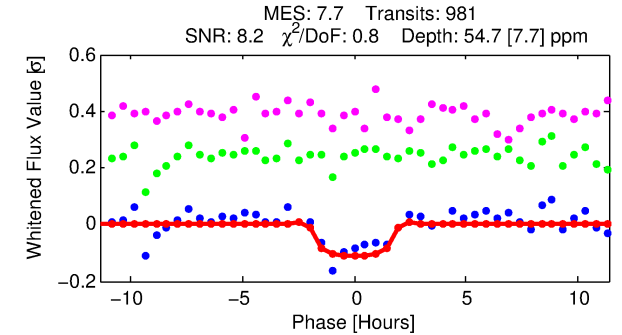
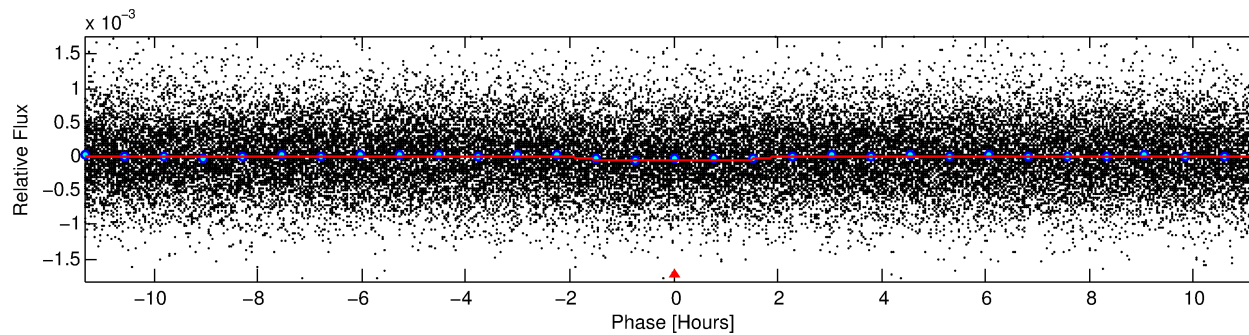
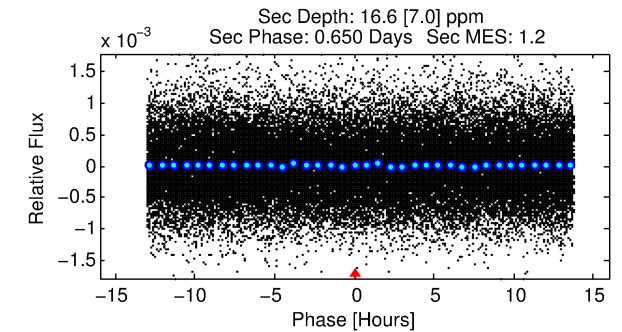
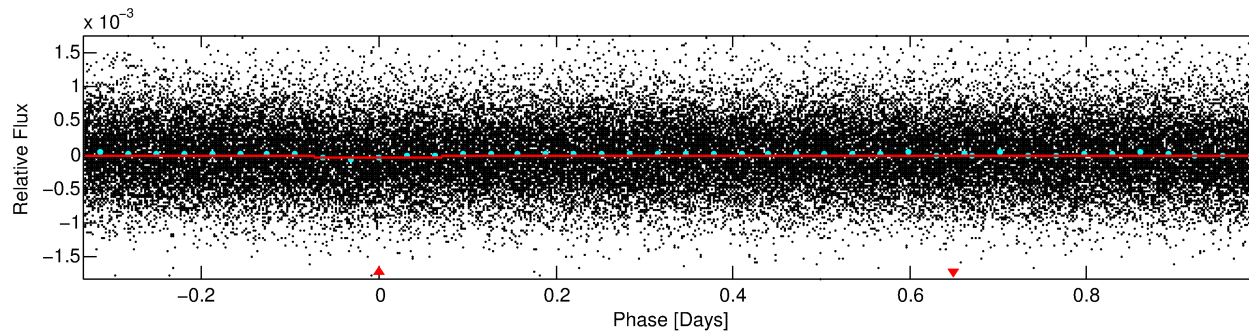
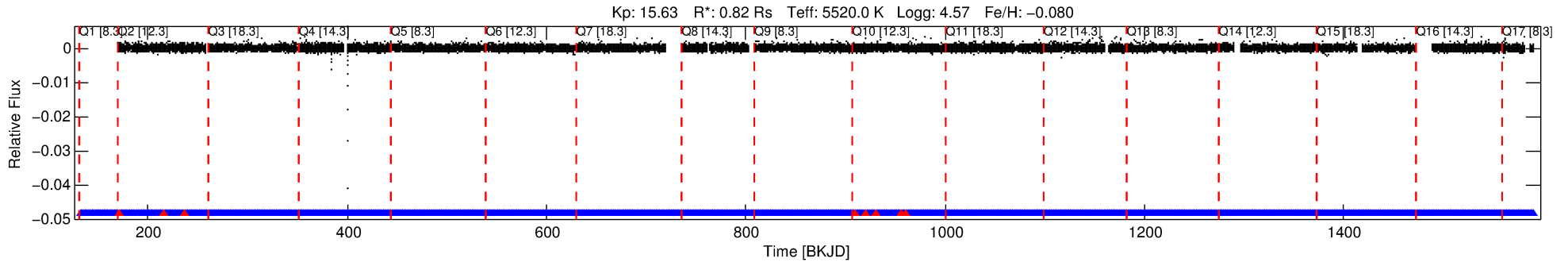
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006590307-01

No Significant Match Found

DV One-Page Summary

KIC: 6590307 Candidate: 1 of 1 Period: 1.333 d



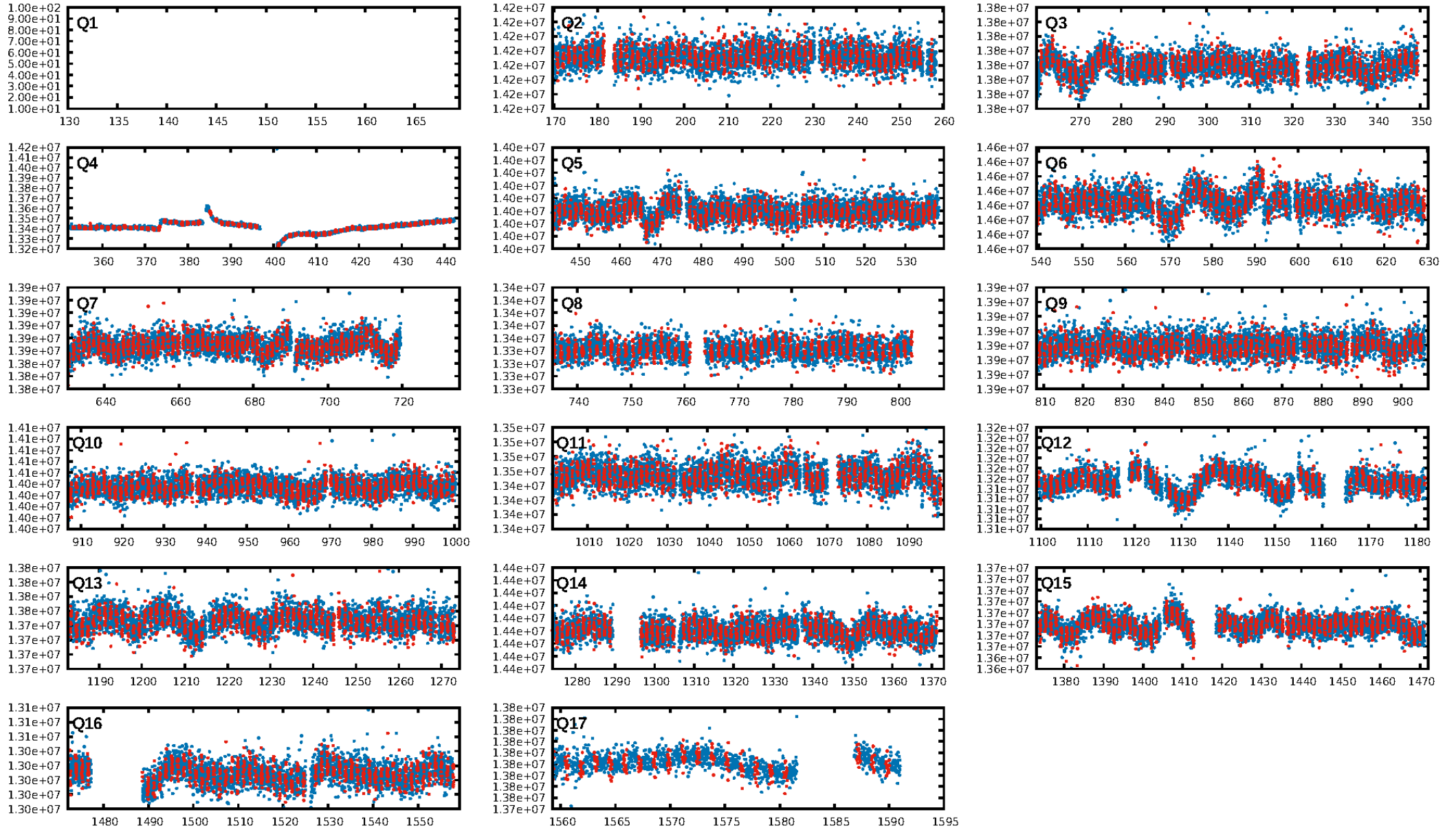
DV Fit Results:

Period = 1.33254 [0.00002] d
Epoch = 132.0667 [0.0059] BKJD
Rp/R* = 0.0081 [0.0069]
a/R* = 1.57 [3.63]
b = 0.89 [0.91]
Seff = 1054.17 [331.73]
Teff = 1453 [114] K
Rp = 0.72 [0.63] Re
a = 0.0230 [0.0045] AU
Ag = 9.35 [16.65] [0.50σ]
Teffp = 3928 [1730] K [1.43σ]

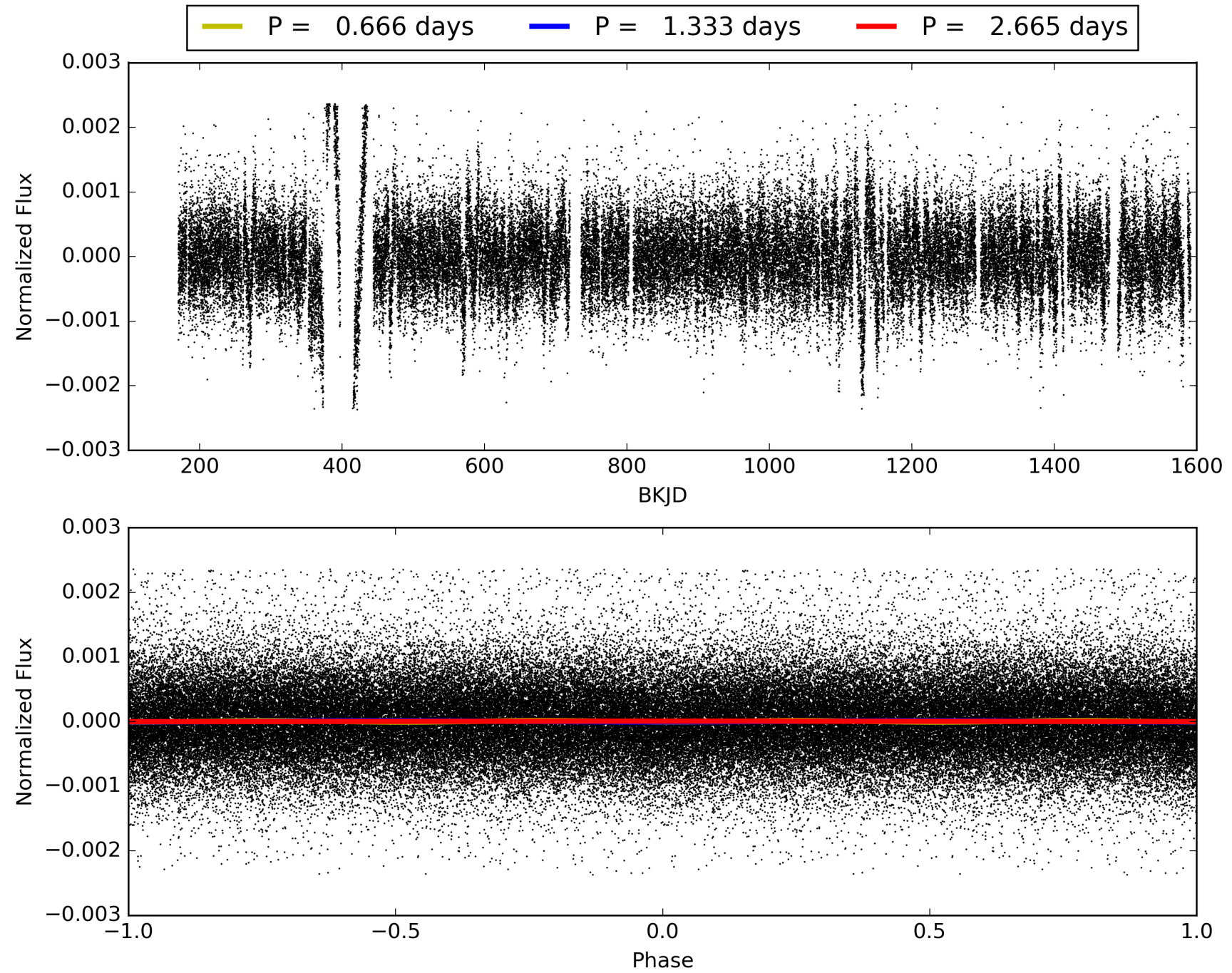
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.95e-14
RollingBand-fgt: 0.99 [953/961]
GhostDiagnostic-chr: 0.06091
Centroid-sig: 60.6%
Centroid-so: 1.051 arcsec [0.63σ]
OotOffset-rm: 0.496 arcsec [0.61σ]
KicOffset-rm: 0.368 arcsec [0.46σ]
OotOffset-st: 2/4/2/4 [12]
KicOffset-st: 2/4/2/4 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 1.00 [16/16]

TCE 006590307-01, PDC Light Curves

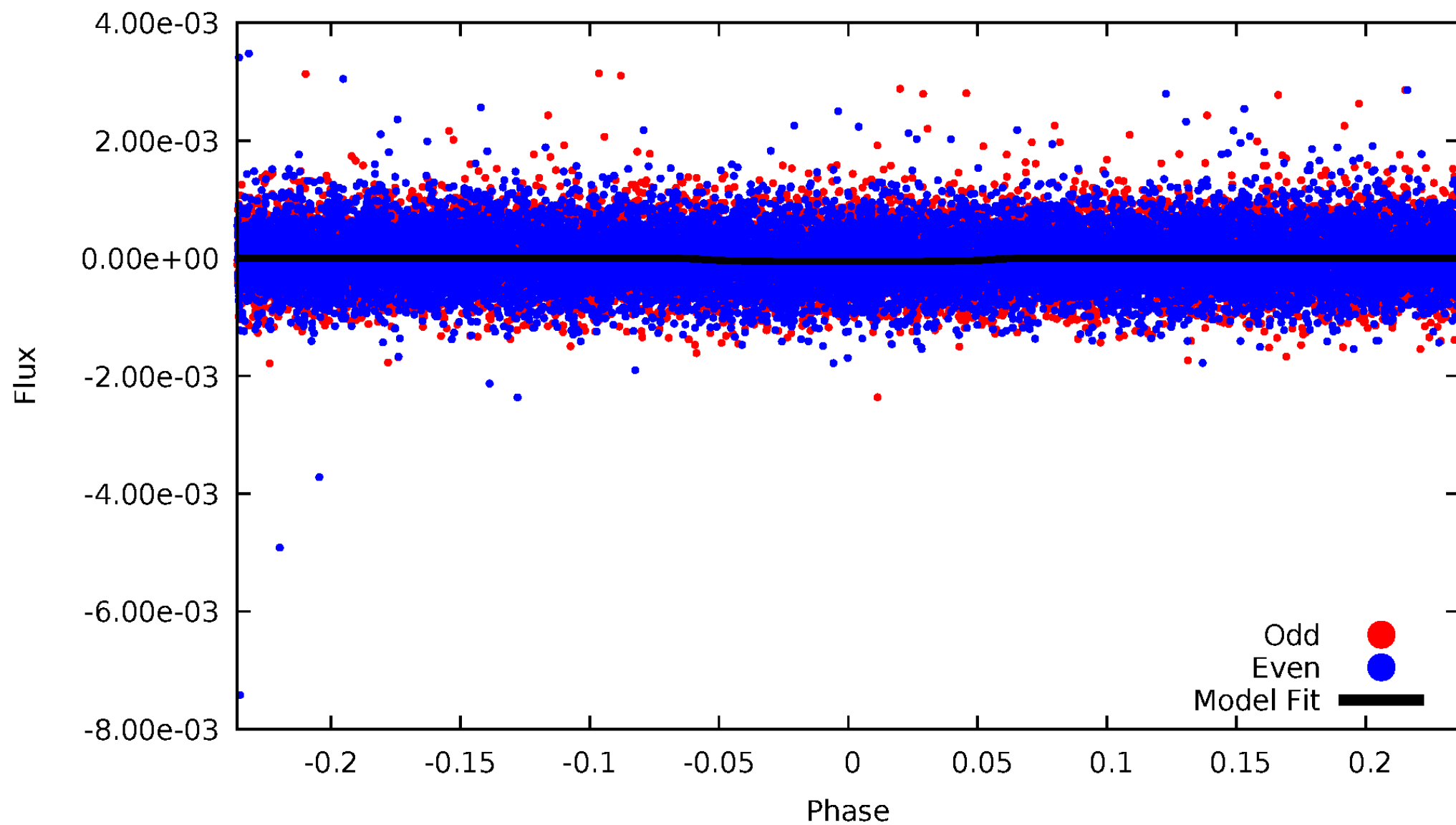


TCE 006590307-01



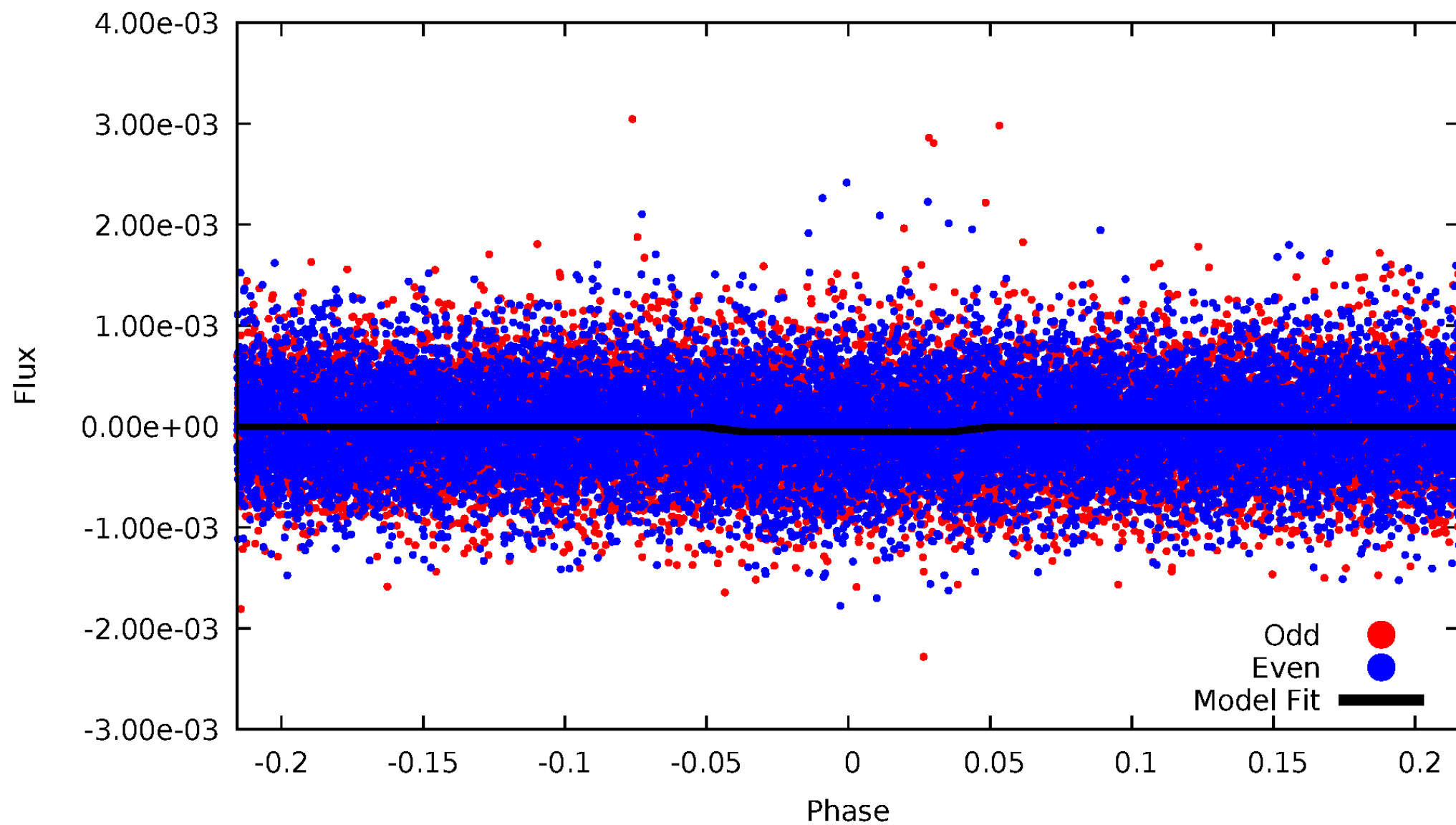
DV Odd/Even

TCE 006590307-01



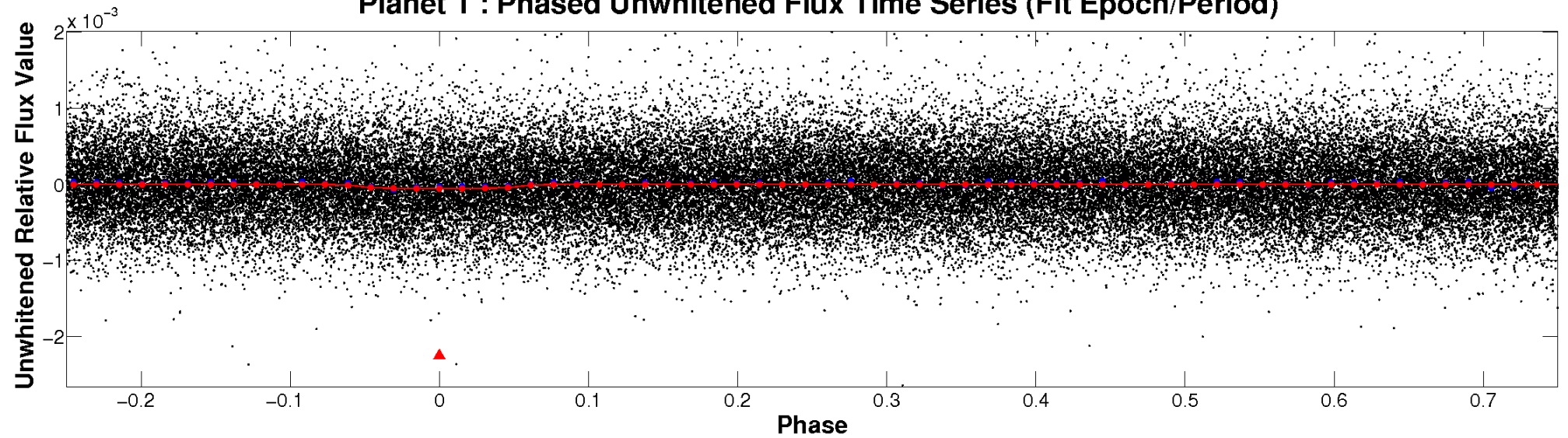
ALT Odd/Even

TCE 006590307-01

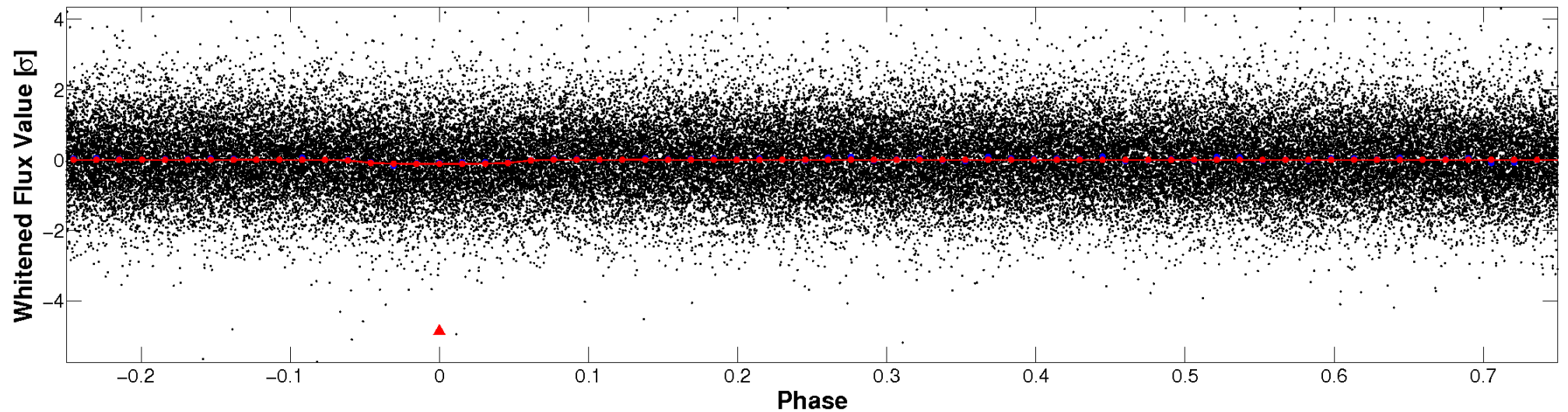


Non-Whitened Vs. Whitened Light Curve

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

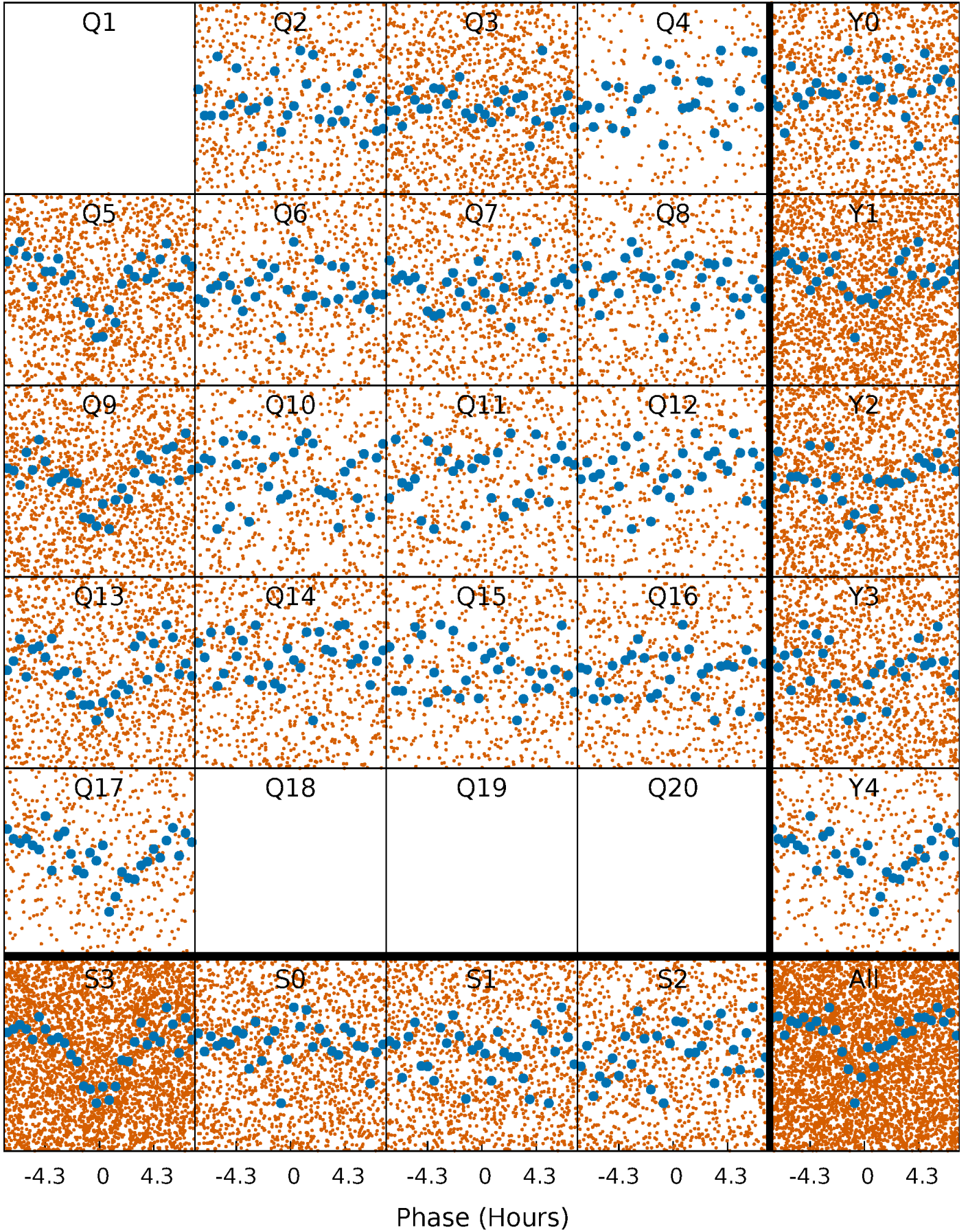


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



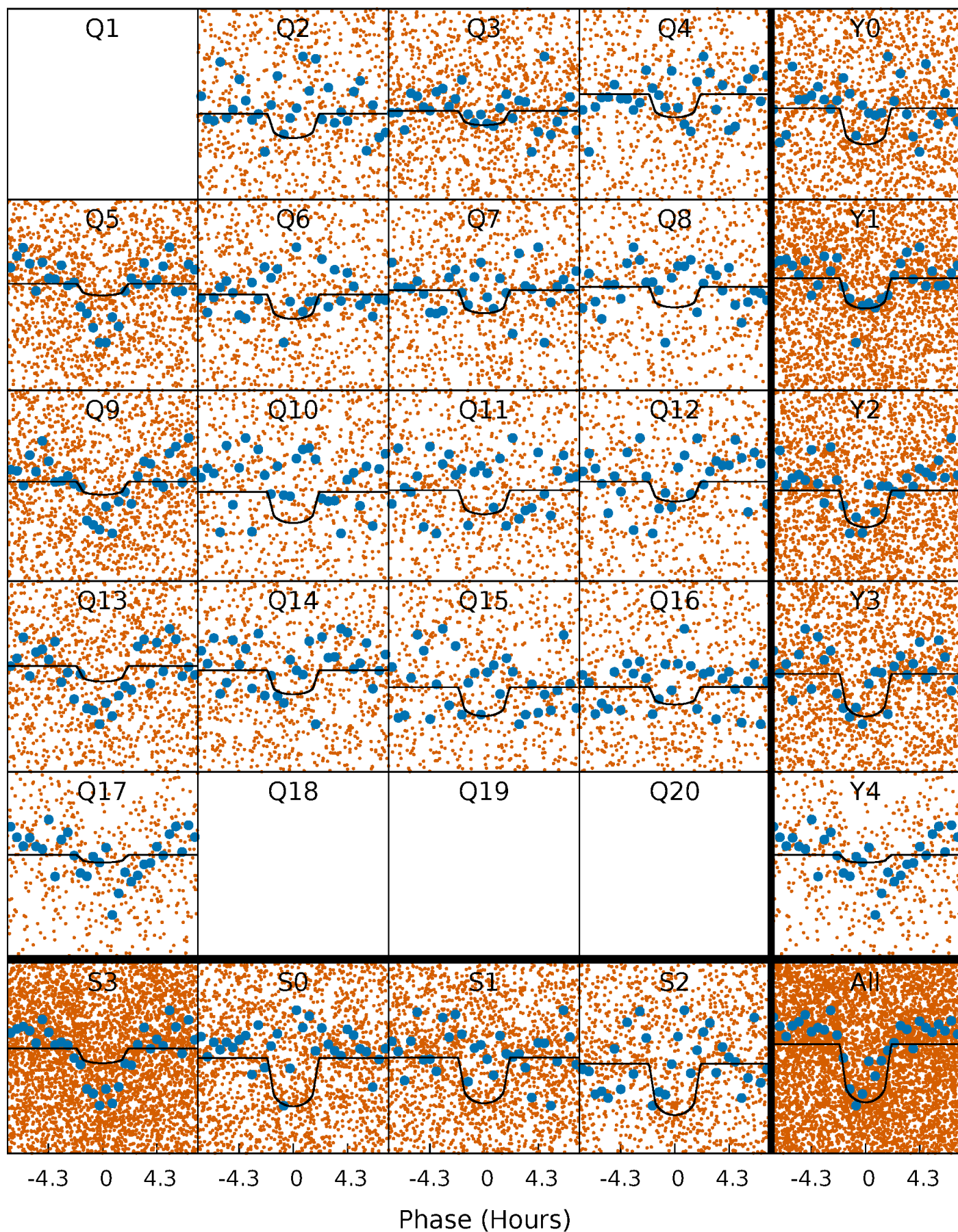
PDC Quarter-Phased Transit Curves

TCE 006590307-01 P= 1.332540 Days $T_0=132.066710$ (BKJD)



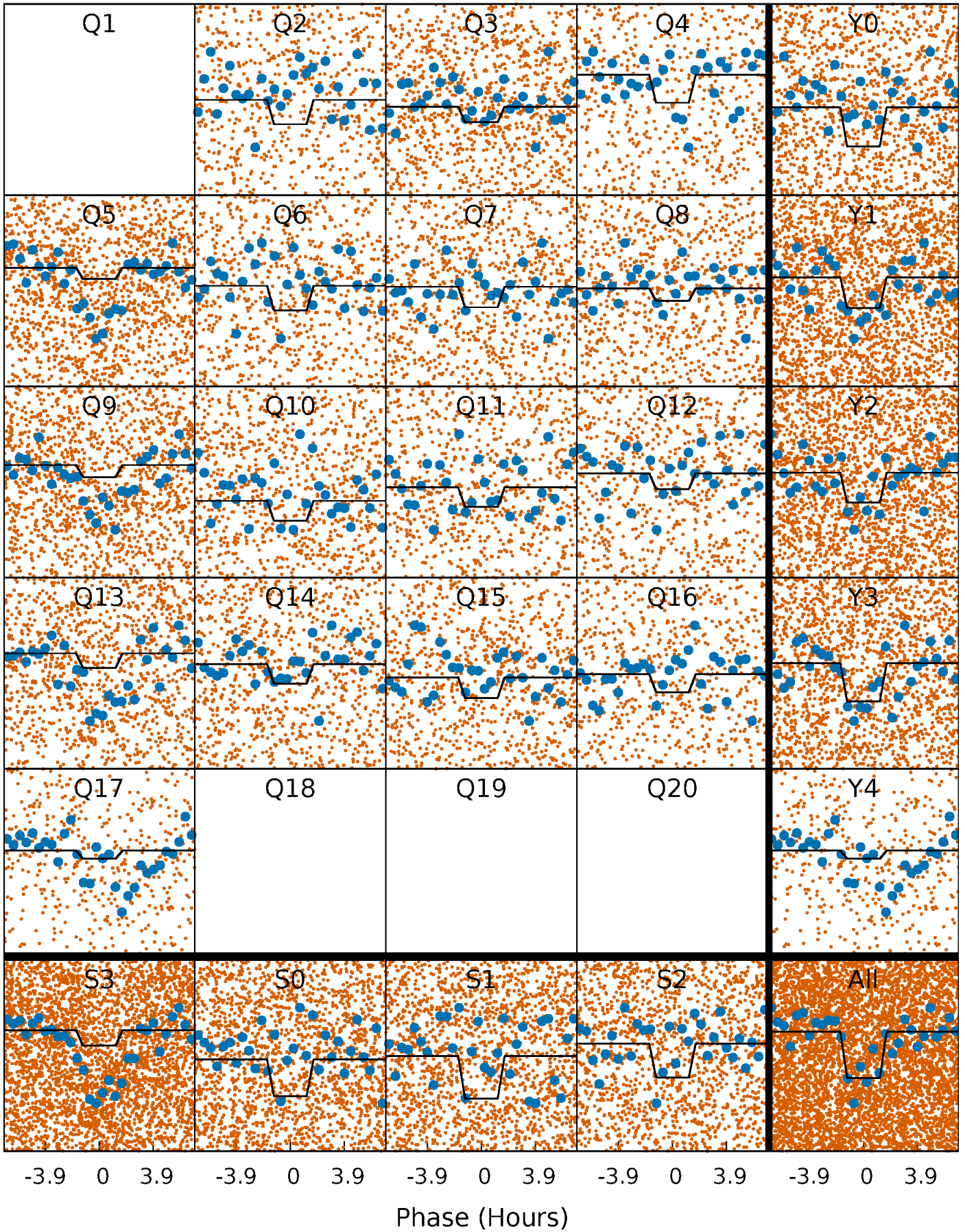
DV Quarter-Phased Transit Curves

TCE 006590307-01 P= 1.332540 Days $T_0=132.066710$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

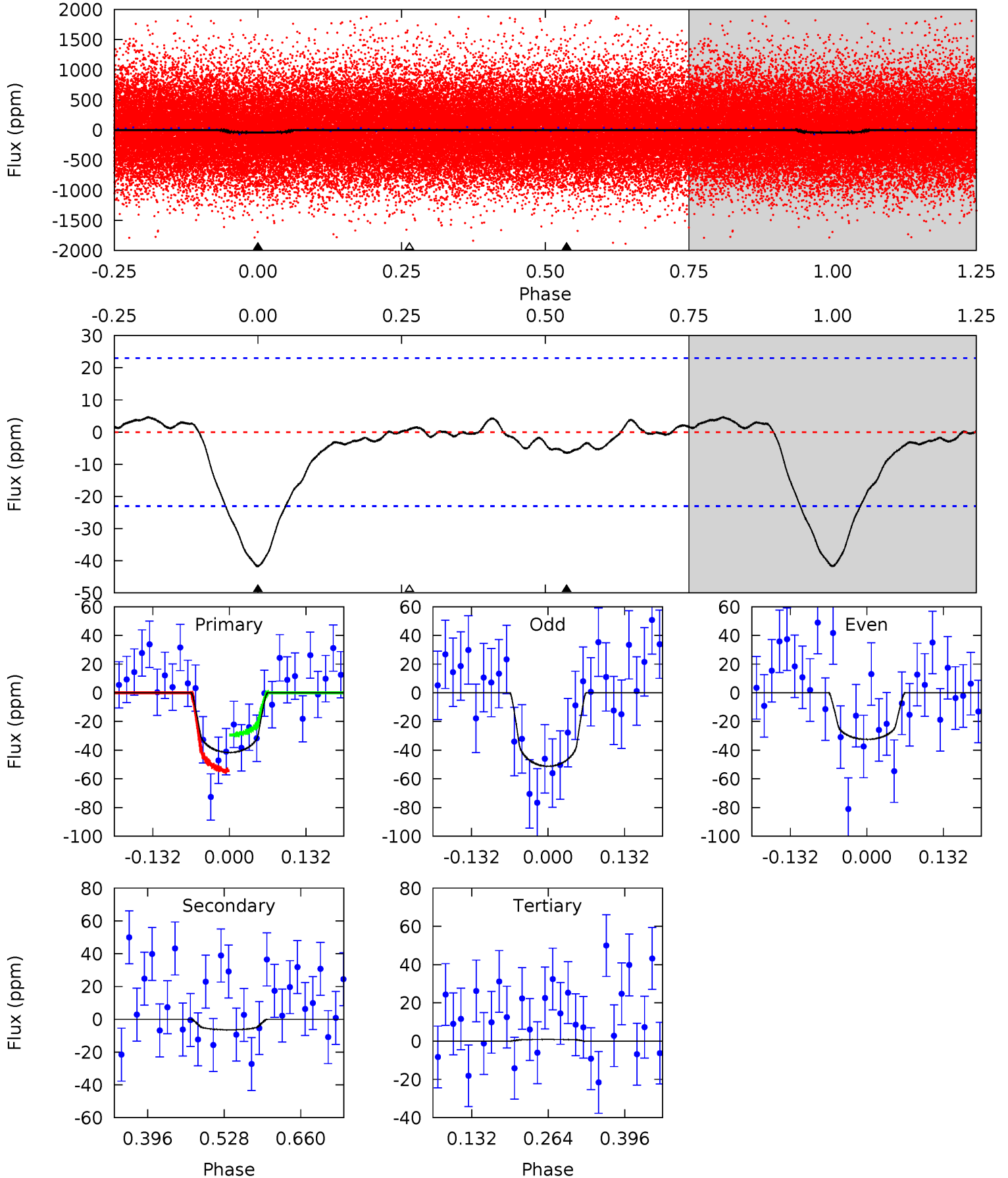
TCE 006590307-01 P= 1.332511 Days $T_0=132.073596$ (BKJD)



DV Model-Shift Uniqueness Test

006590307-01, P = 1.332540 Days, E = 132.066710 Days

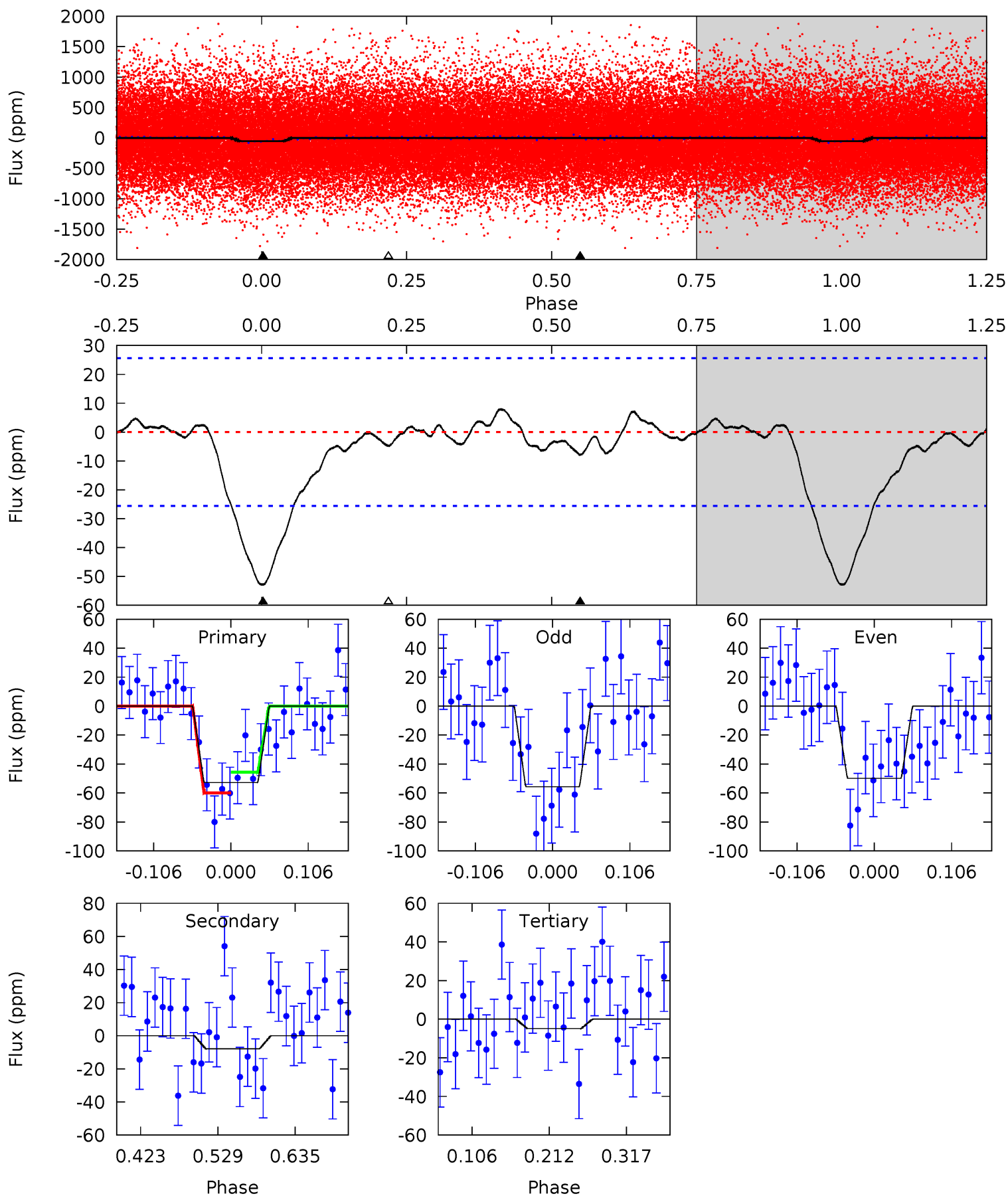
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.17	1.26	-0.17	0	4.51	1.51	0.41	8.34	8.17	1.43	1.26	1.83	1.05	0.10	2.44



Alt Model-Shift Uniqueness Test

006590307-01, P = 1.332511 Days, E = 132.073596 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.39	1.40	0.86	0	4.55	1.62	0.56	8.53	9.39	0.54	1.40	0.51	1.00	0.13	1.27



Stellar Parameters For KIC 006590307

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5520^{+166}_{-166}	$4.572^{+0.038}_{-0.161}$	$-0.080^{+0.300}_{-0.300}$	$0.818^{+0.188}_{-0.075}$	$0.917^{+0.083}_{-0.102}$	$2.358^{+0.472}_{-0.990}$
	+3%/-3%	+1%/-4%	+375%/-375%	+23%/-9%	+9%/-11%	+20%/-42%
Source	PHO1	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 006590307-01 / KOI 7787.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 5	$0.85^{+0.58}_{-0.52}$	2074^{+121}_{-88}	3271^{+1445}_{-1098}	$2.319^{+13.923}_{-1.948}$
Alt.	-8 ± 6	$0.77^{+0.56}_{-0.48}$	2068^{+121}_{-84}	3495^{+1590}_{-968}	$3.297^{+20.685}_{-2.702}$

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

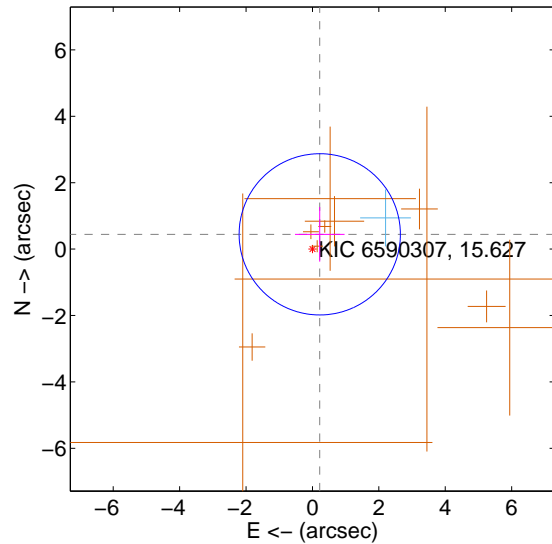
Supplemental centroid analysis for 006590307-01. Kepler magnitude: 15.63. Transit SNR 8.20

There are 1 quarters with good PRF difference image offsets

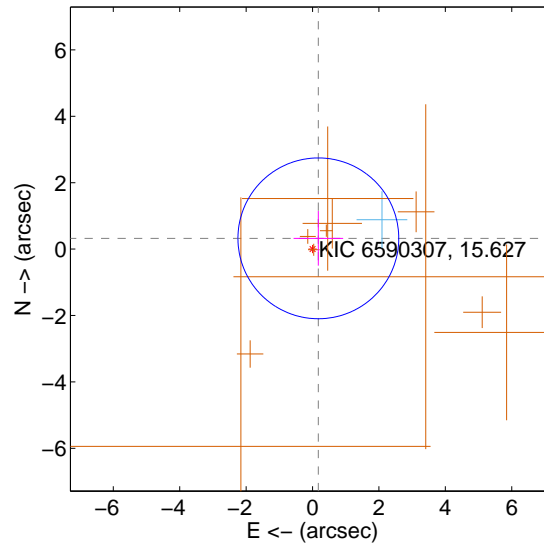
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.496 ± 0.809	0.61	-0.220 ± 0.748	0.445 ± 0.824
PRF-fit source offset from KIC position	0.368 ± 0.807	0.46	-0.175 ± 0.748	0.324 ± 0.824
photometric centroid source offset	1.05 ± 1.67	0.63	0.69 ± 1.52	0.80 ± 1.78

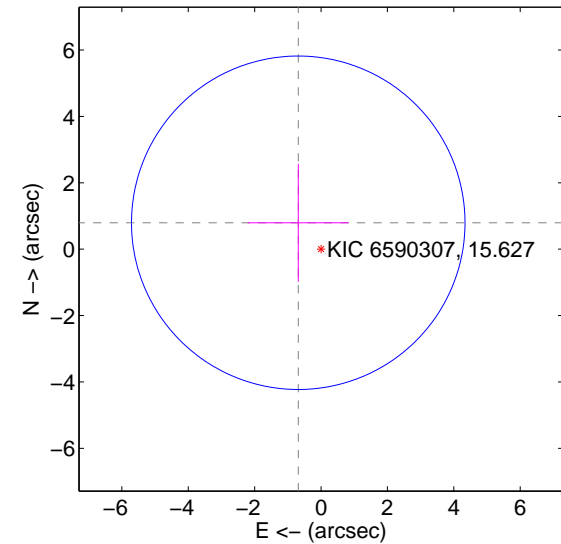
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

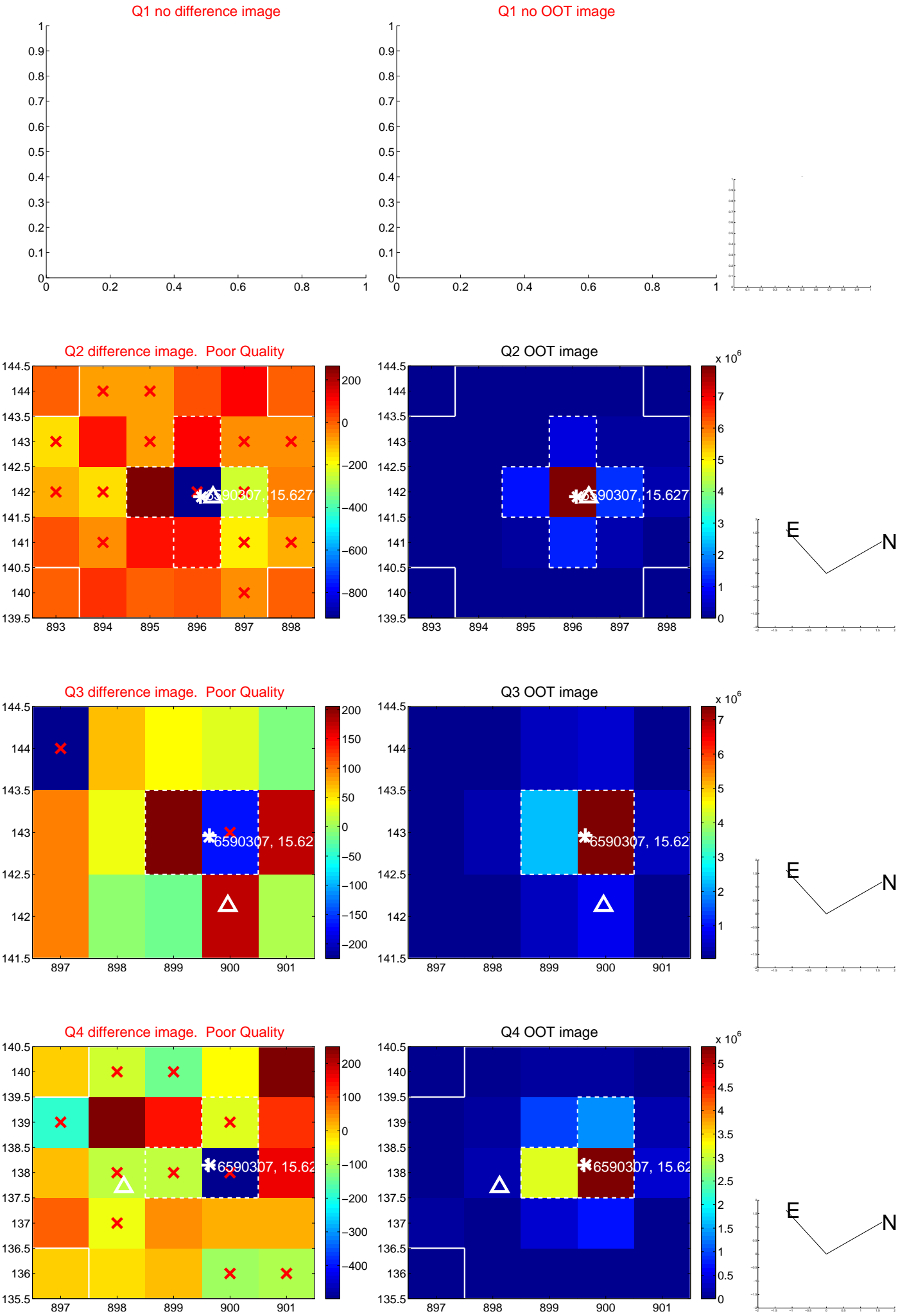


offset from photometric centroids

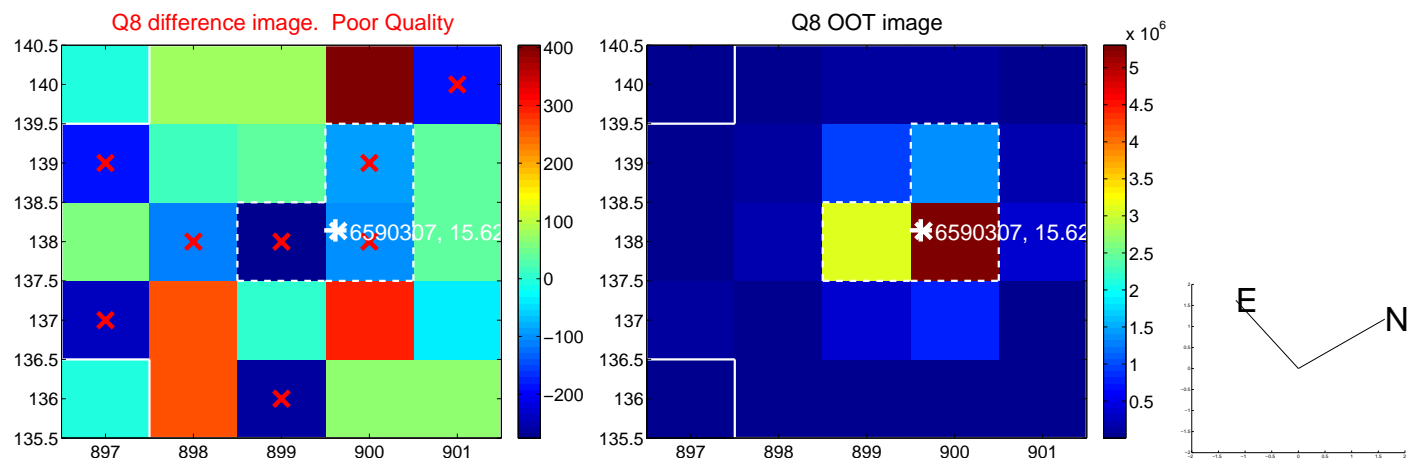
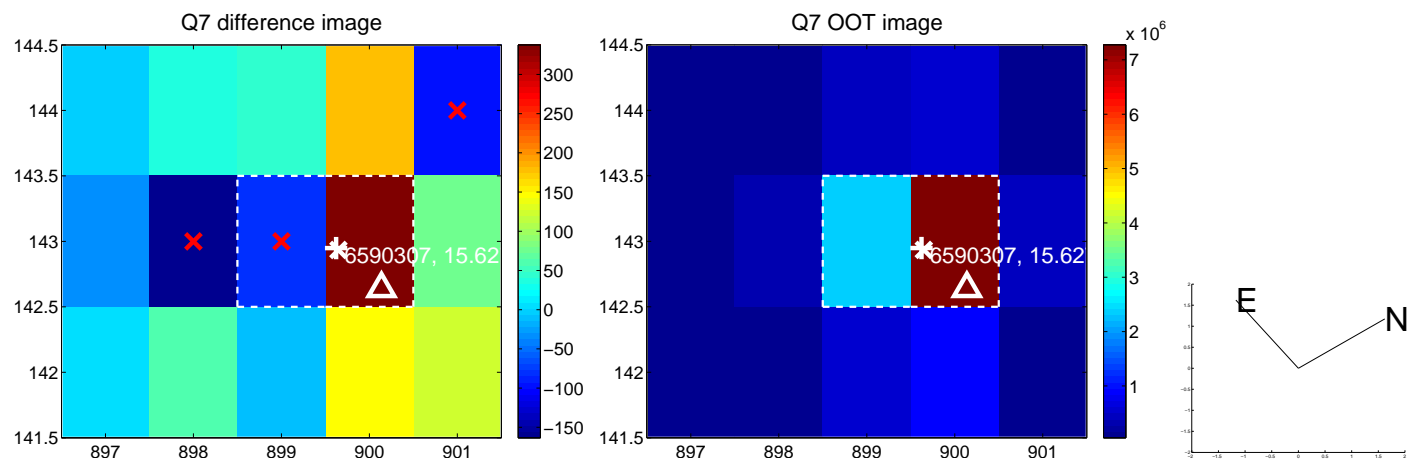
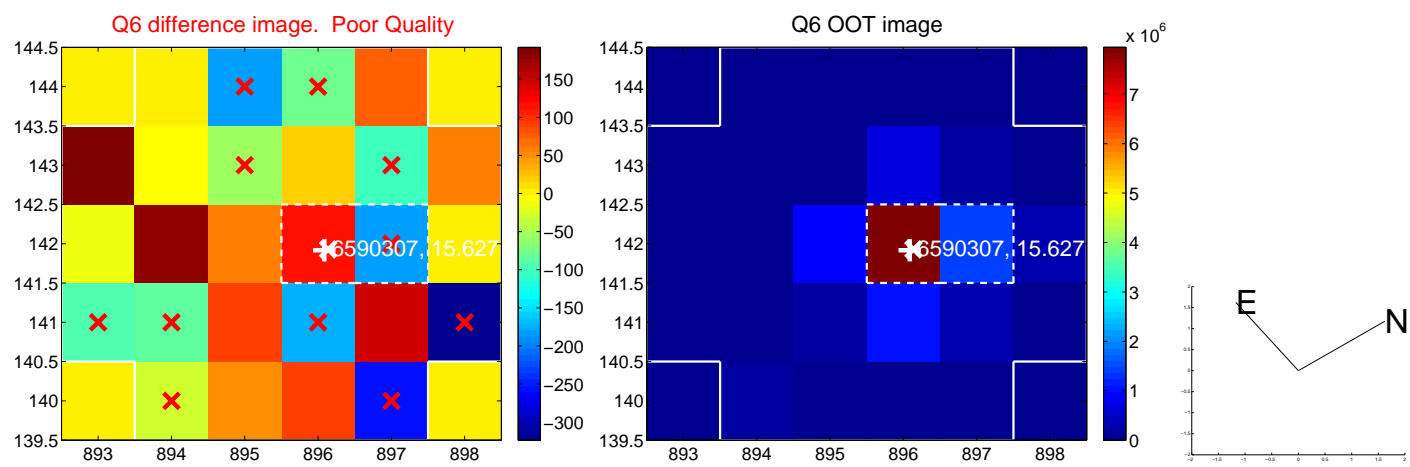
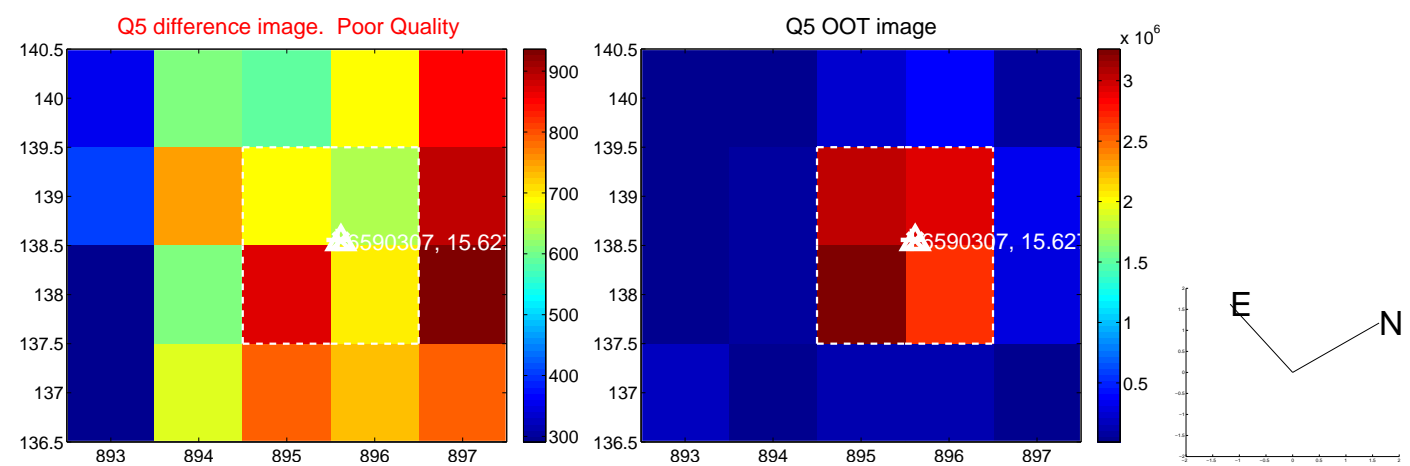


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

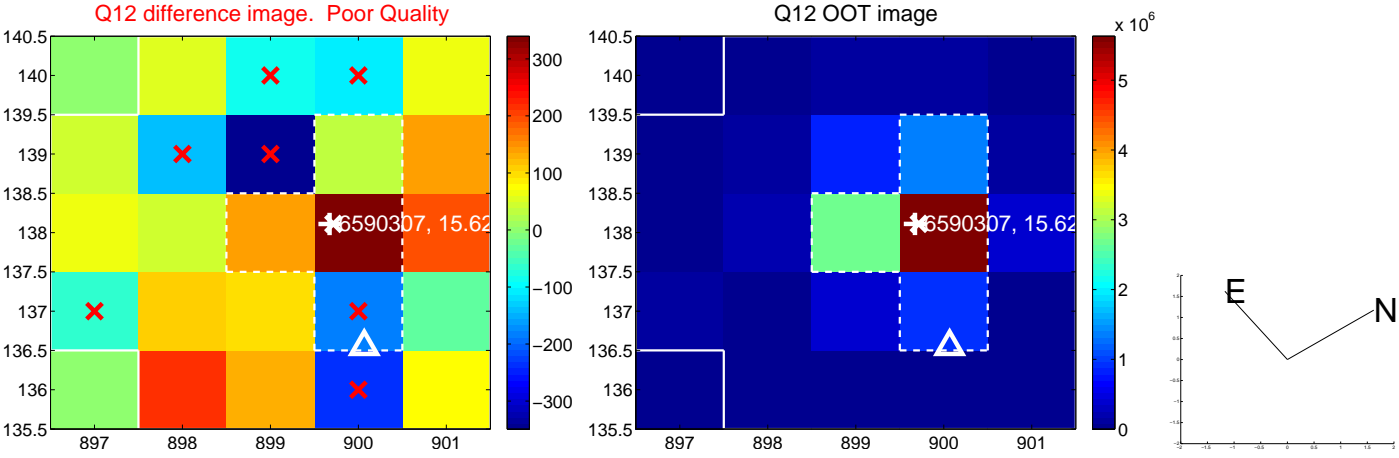
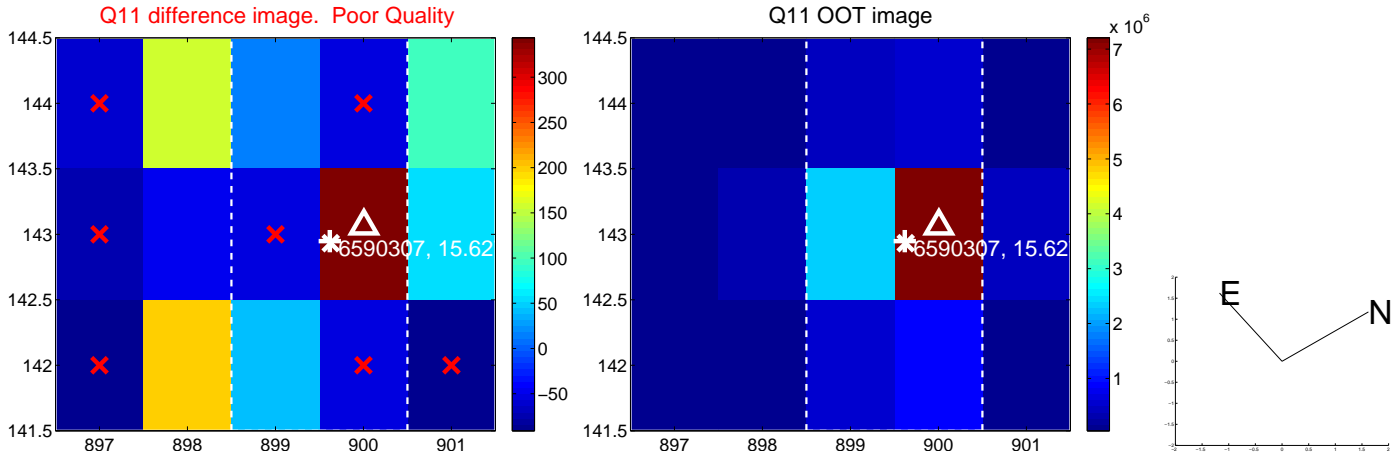
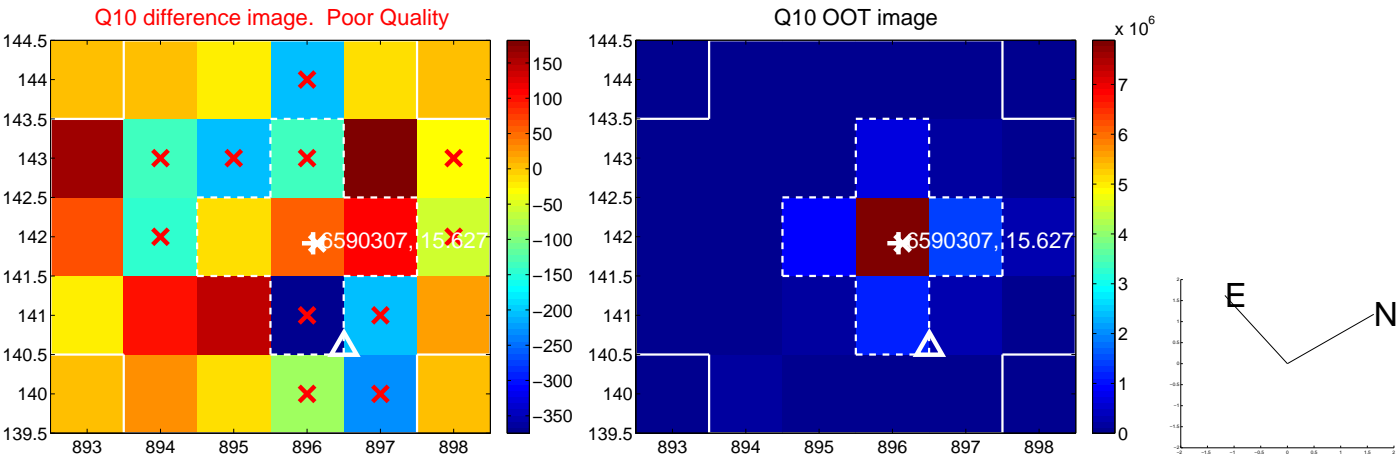
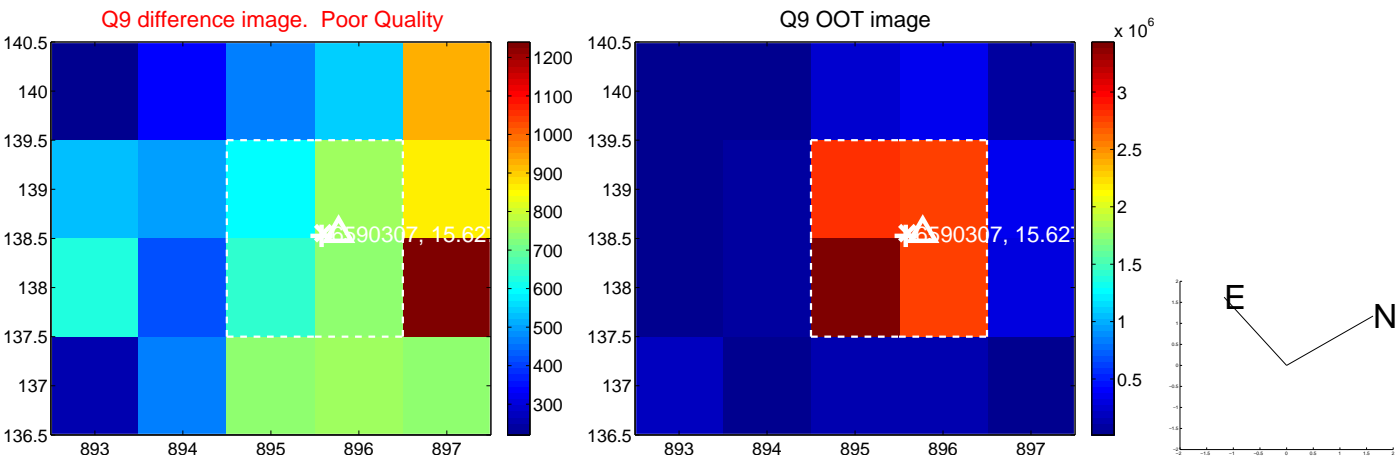
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



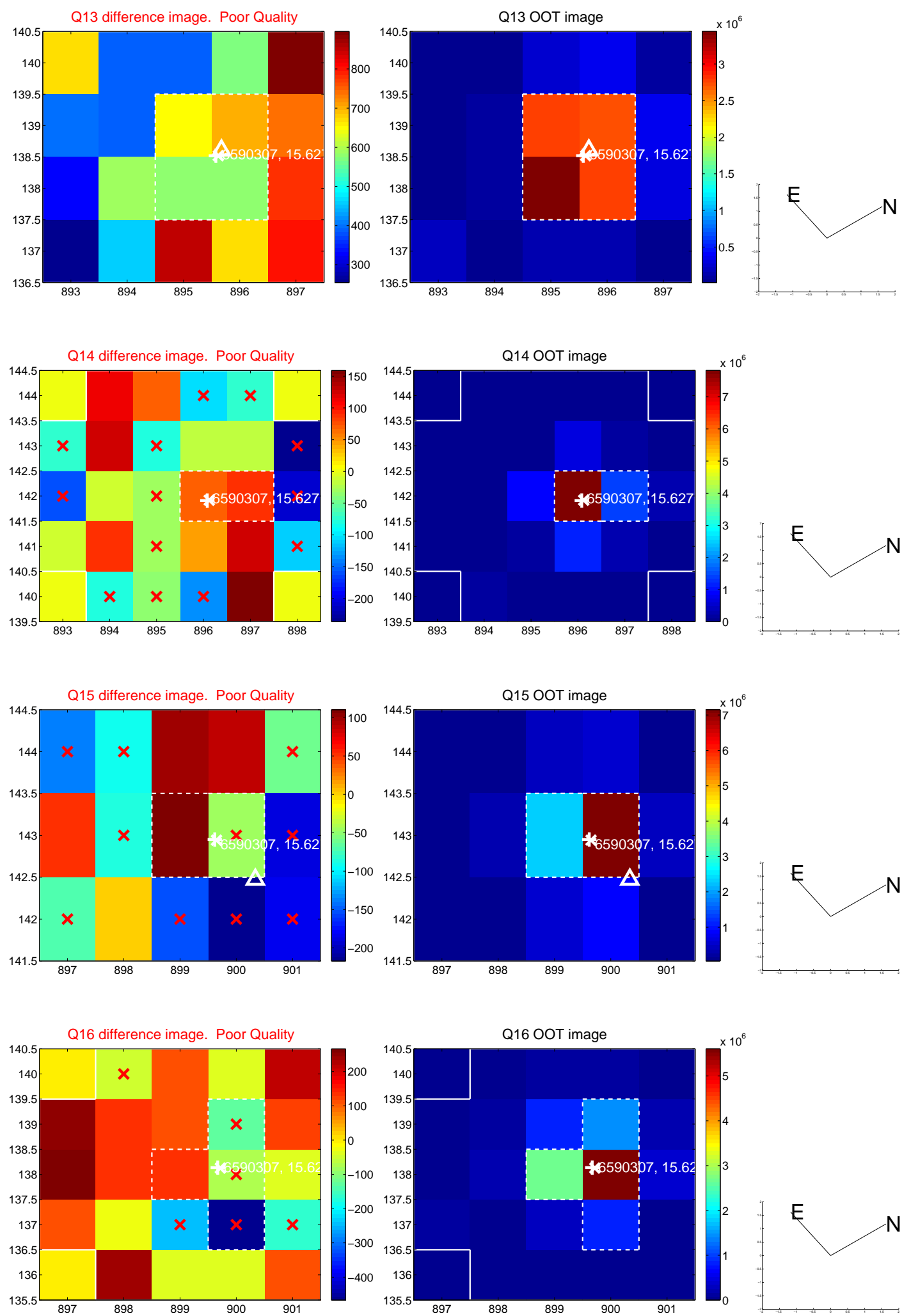
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

