

KIC 009581589

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})
009581589-01	OBS	4877.01	5.192043	134.560806	59.3	3.802	9.0	9.0	1.07	6322	0.97	444.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009581589-01	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.

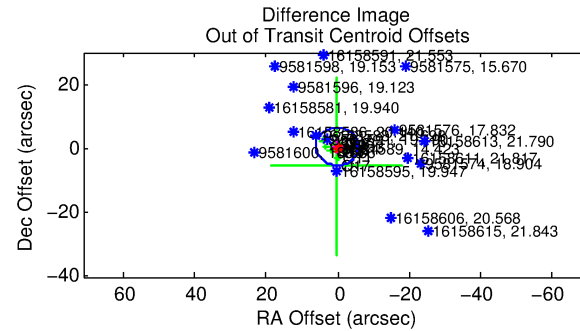
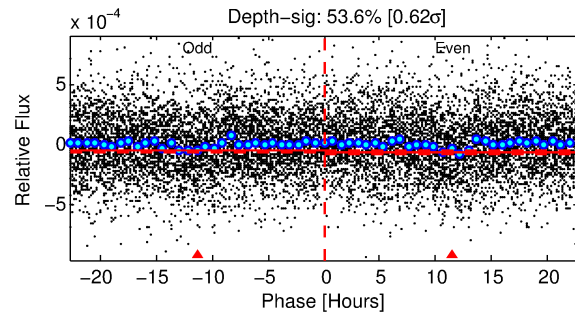
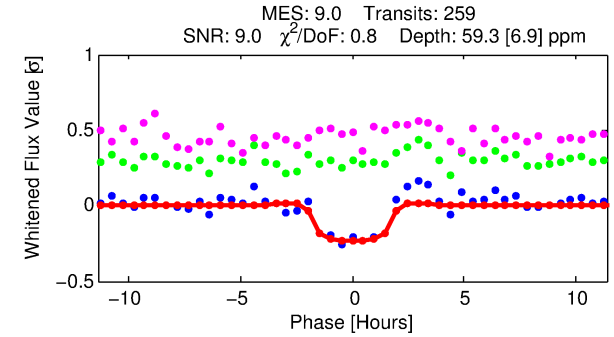
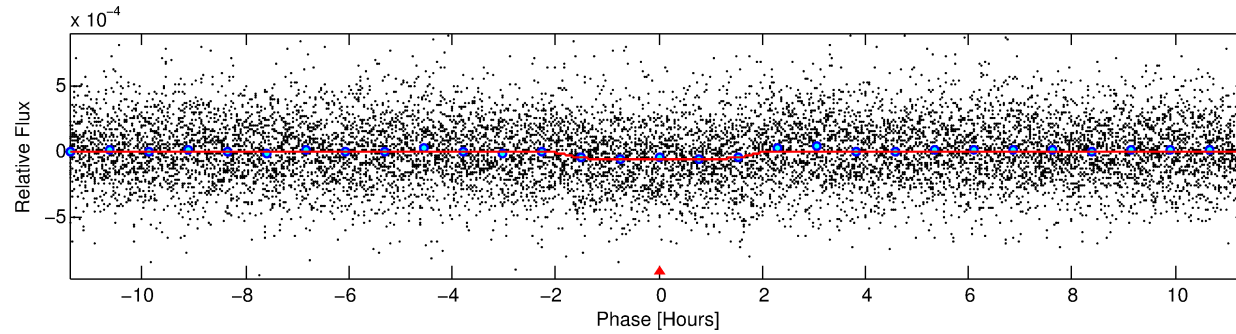
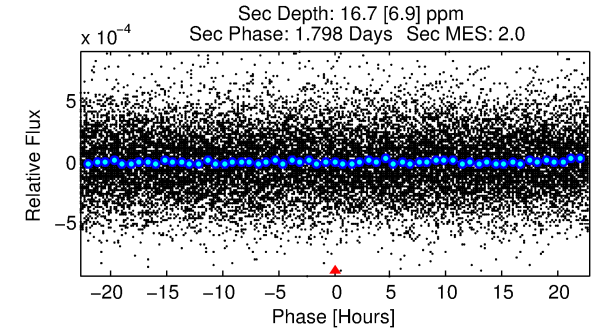
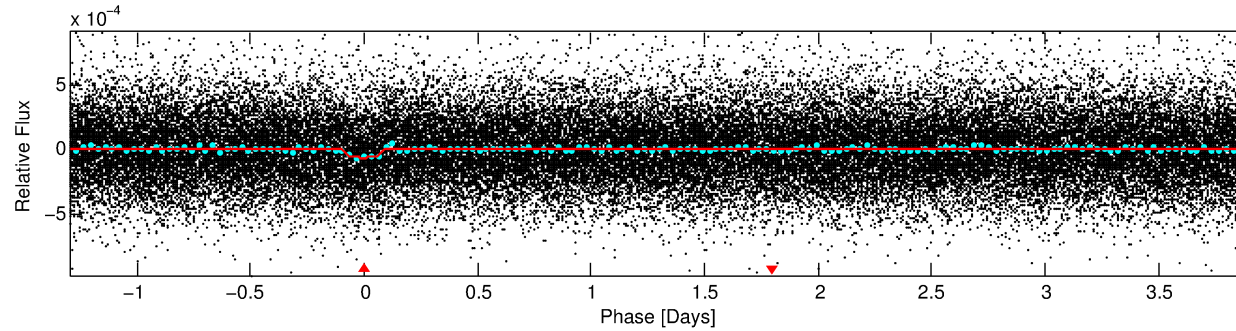
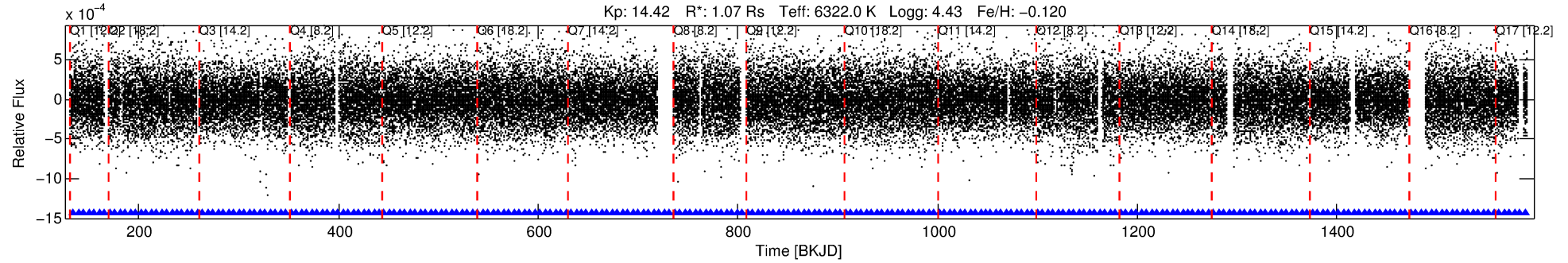
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009581589-01

No Significant Match Found

DV One-Page Summary

KIC: 9581589 Candidate: 1 of 1 Period: 5.192 d
KOI: K04877.01 Corr: 0.972



DV Fit Results:

Period = 5.19204 [0.00005] d
Epoch = 134.5608 [0.0069] BKJD
Rp/R* = 0.0083 [0.0045]
a/R* = 4.87 [14.12]
b = 0.90 [0.66]
Seff = 444.09 [171.57]
Teq = 1171 [113] K
Rp = 0.97 [0.61] Re
a = 0.0610 [0.0156] AU
Ag = 36.44 [44.55] [0.80σ]
Teffp = 4447 [1305] K [2.50σ]

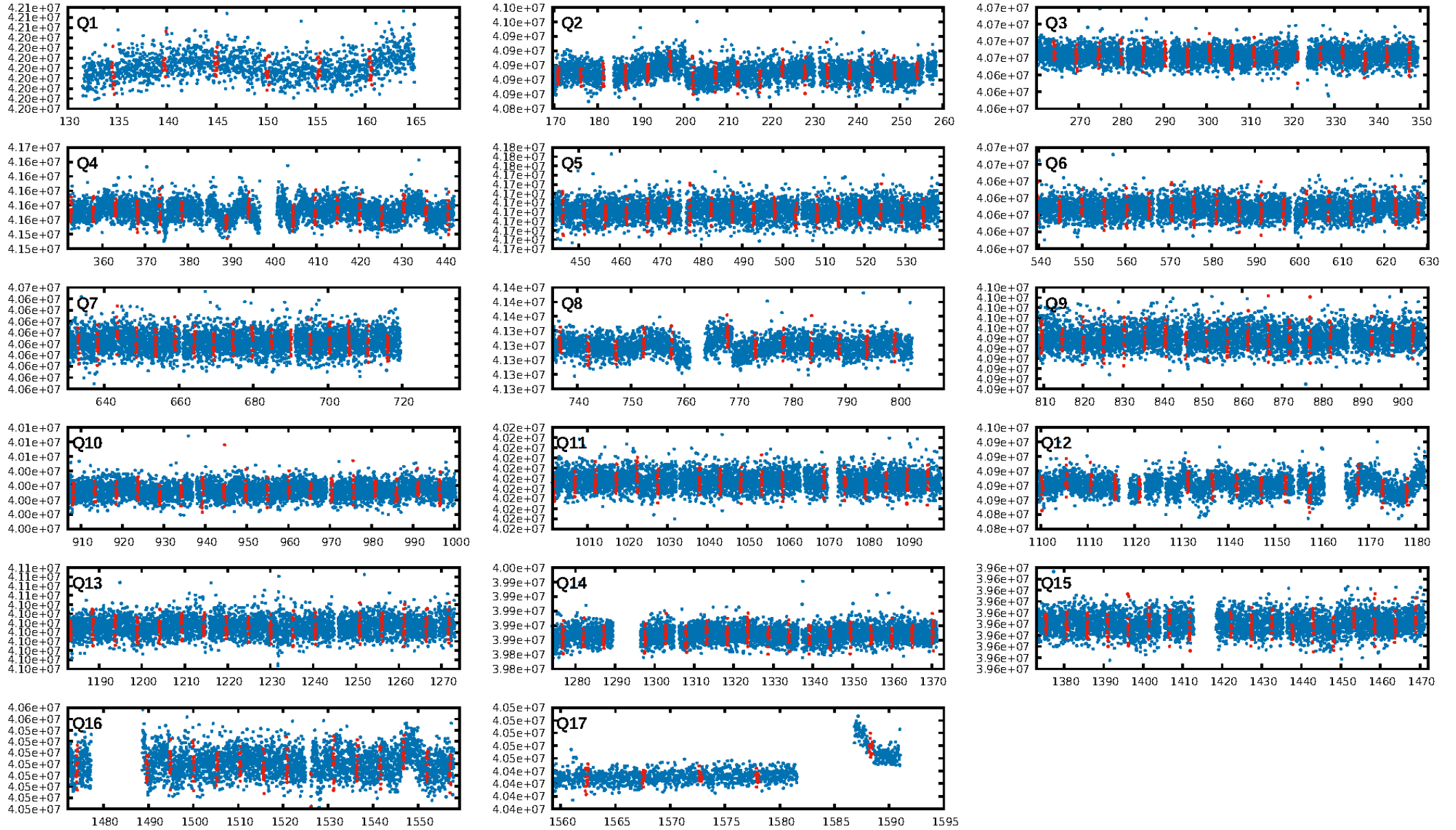
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.25e-19
RollingBand-fgt: 1.00 [248/248]
GhostDiagnostic-chr: -1.91
Centroid-sig: 56.2%
Centroid-so: 0.880 arcsec [0.59σ]
OotOffset-rm: 0.752 arcsec [0.38σ]
KicOffset-rm: 0.690 arcsec [0.35σ]
OotOffset-st: 4/2/4/4 [14]
KicOffset-st: 4/2/4/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [17/17]

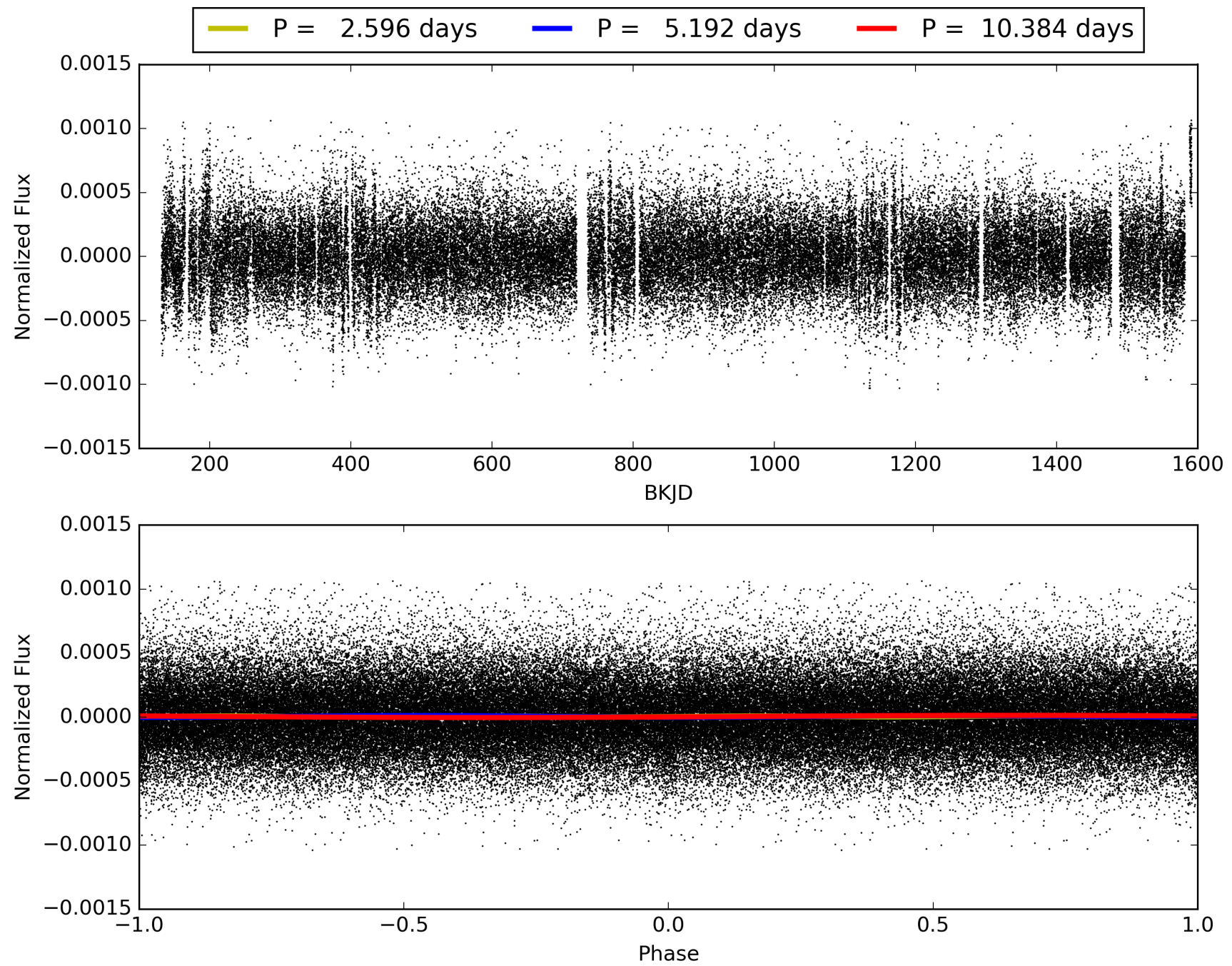
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:28:07 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009581589-01, PDC Light Curves

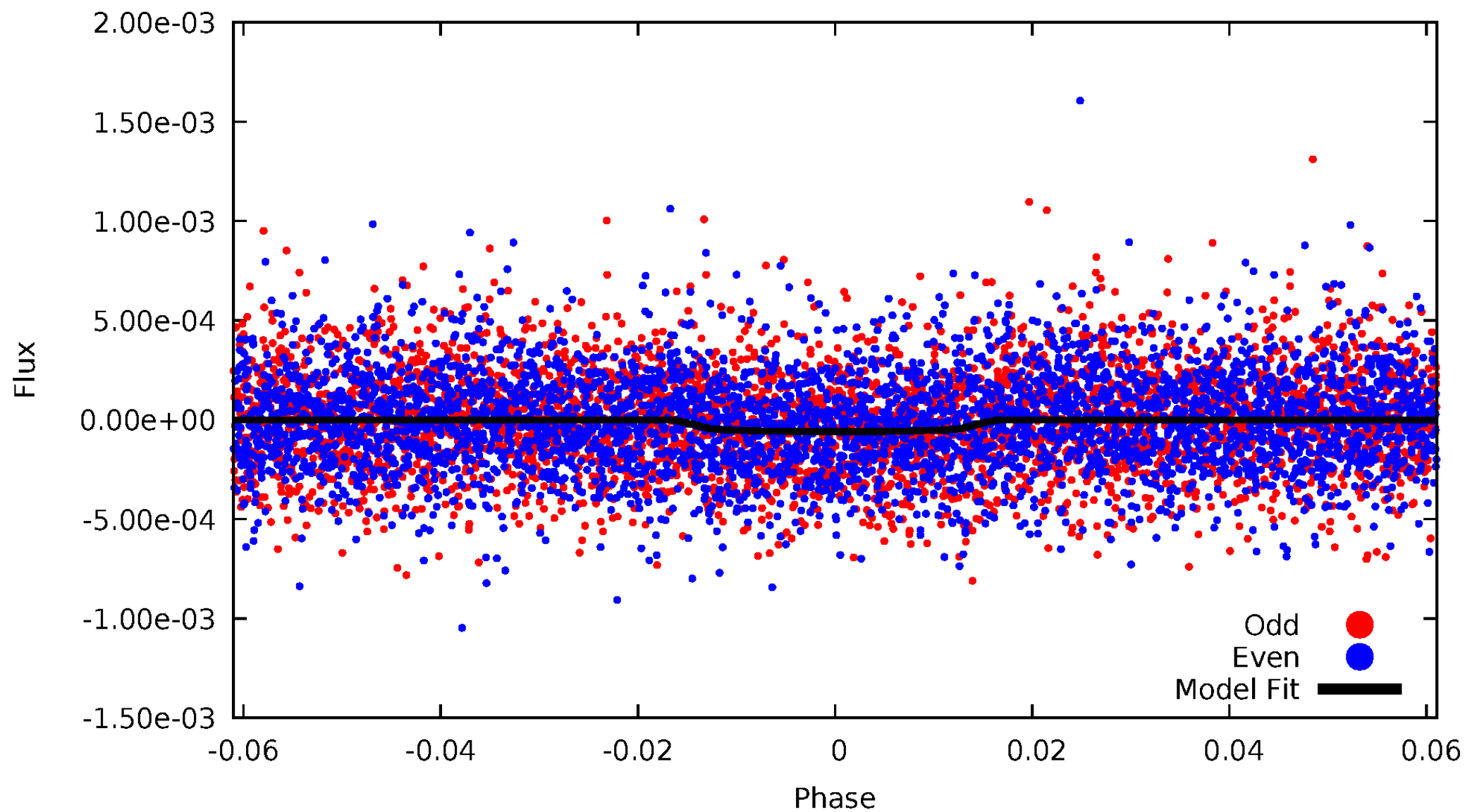


TCE 009581589-01



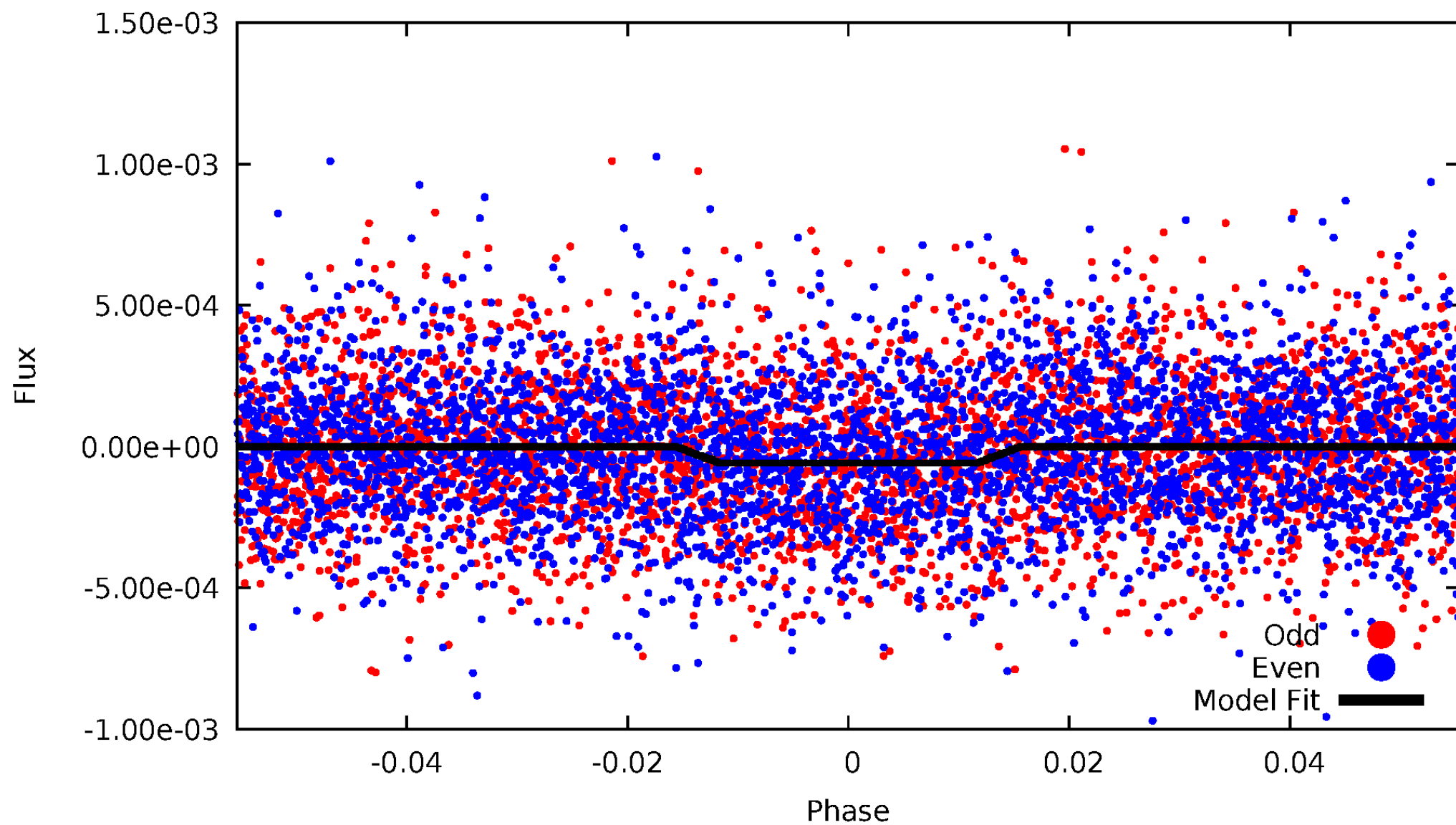
DV Odd/Even

TCE 009581589-01

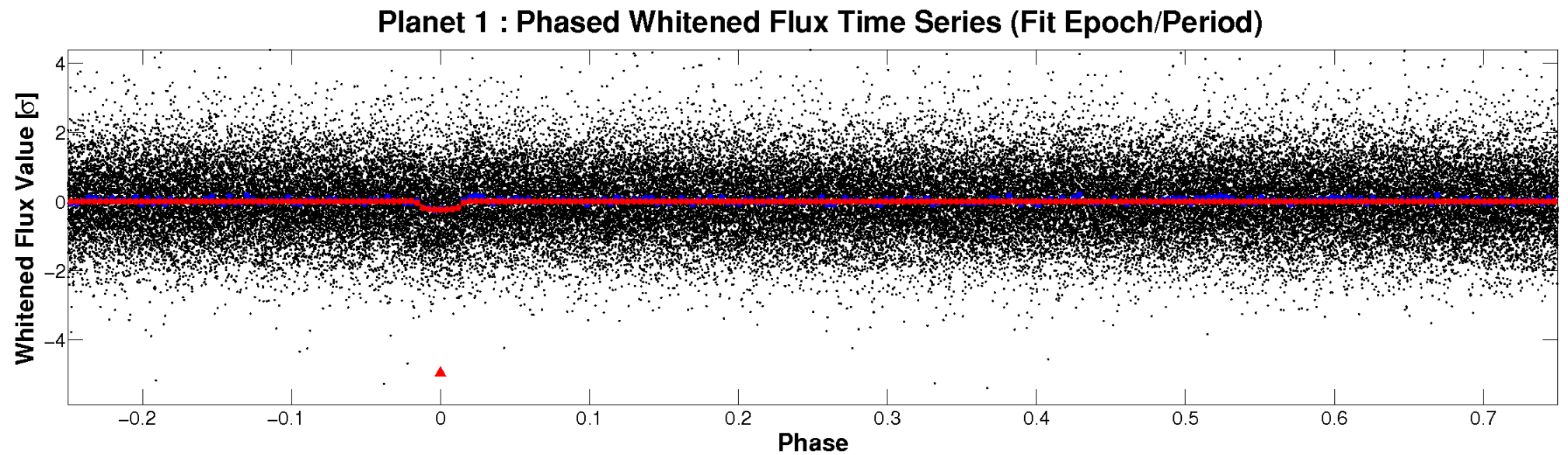
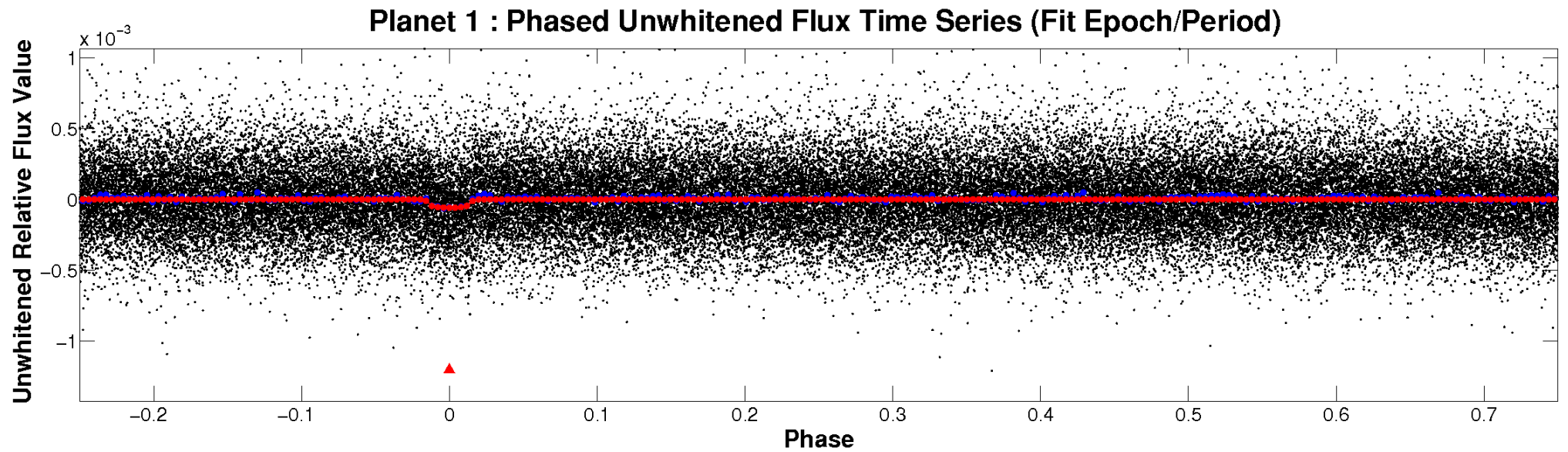


ALT Odd/Even

TCE 009581589-01

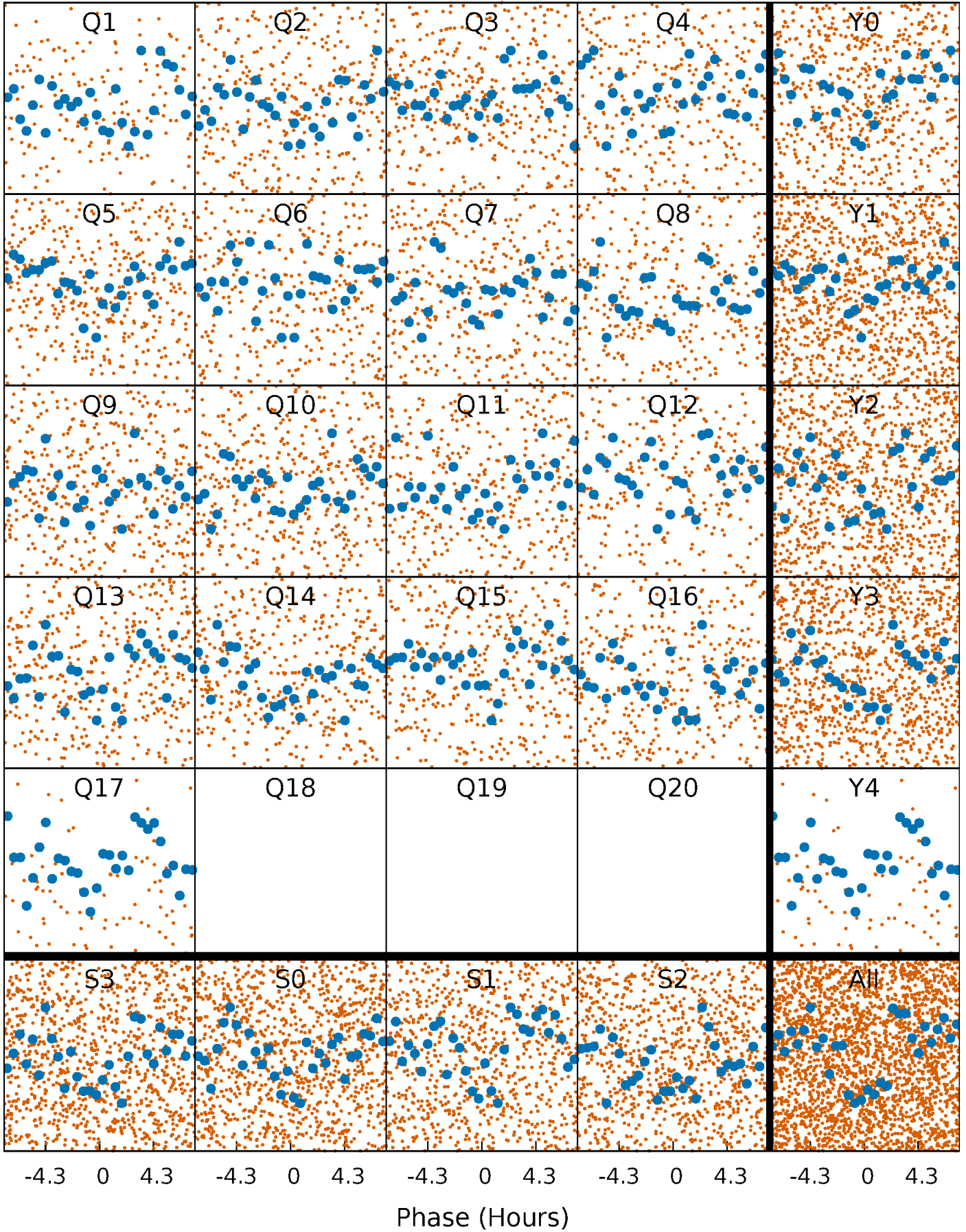


Non-Whitened Vs. Whitened Light Curve



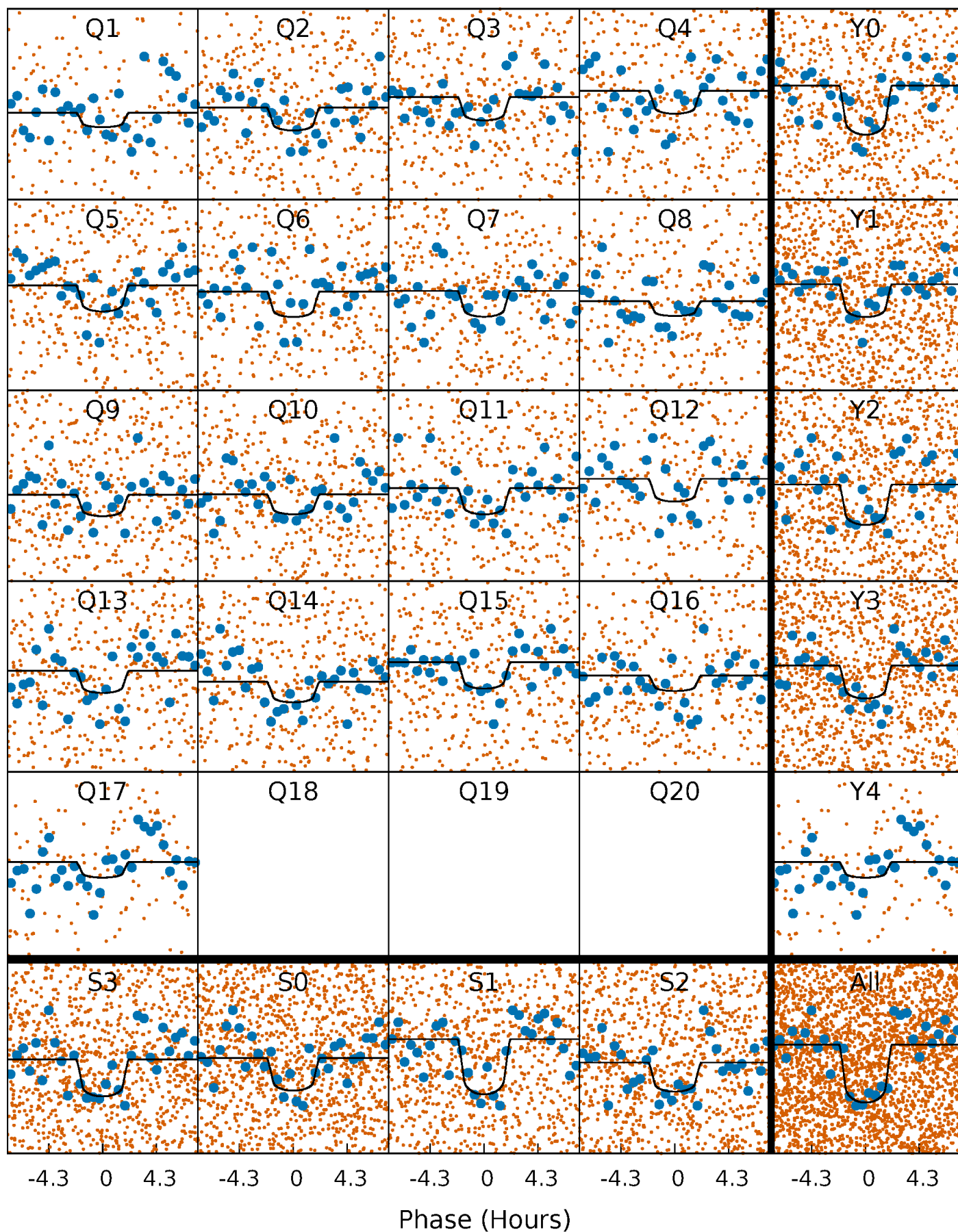
PDC Quarter-Phased Transit Curves

TCE 009581589-01 P= 5.192043 Days $T_0=134.560806$ (BKJD)



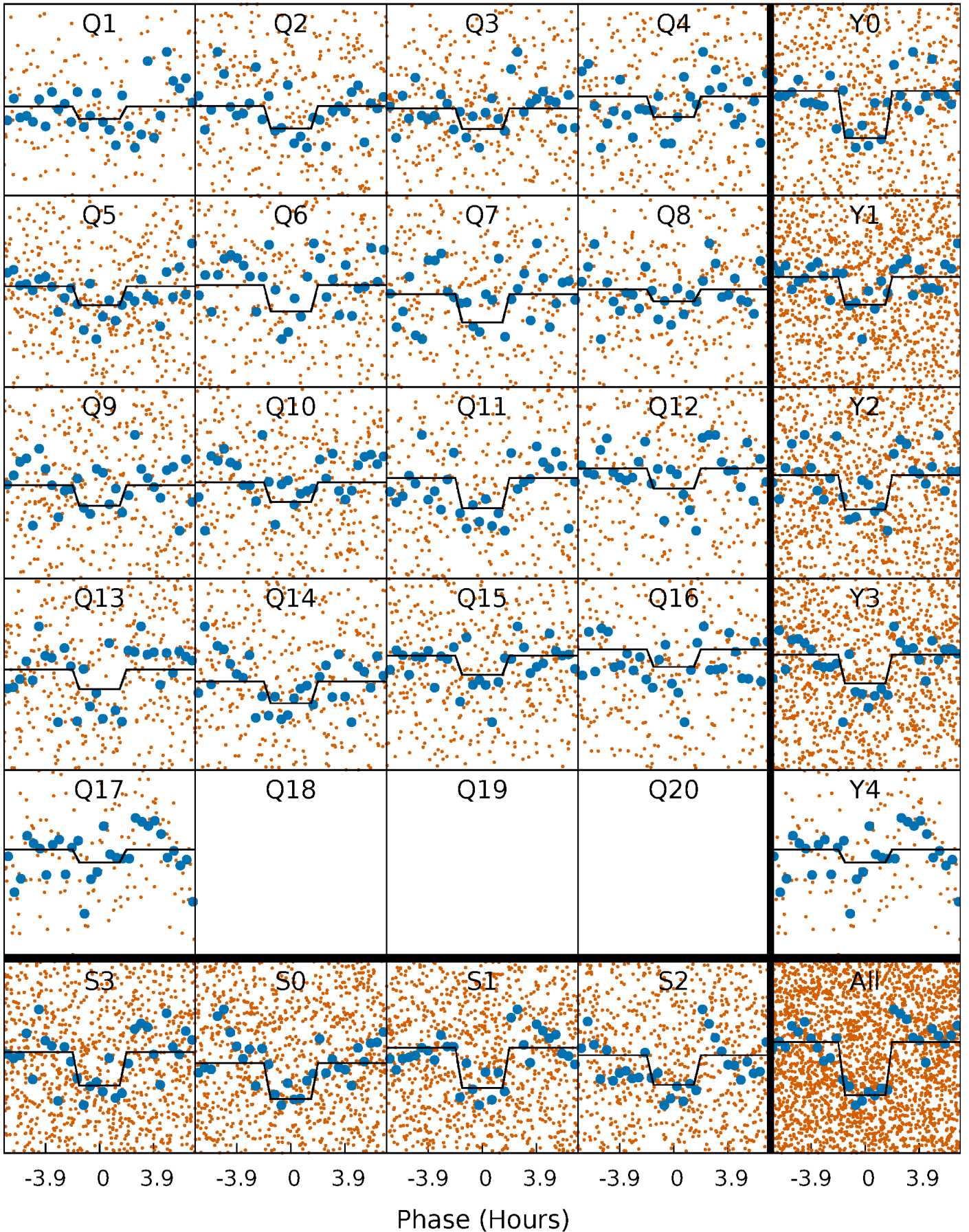
DV Quarter-Phased Transit Curves

TCE 009581589-01 P= 5.192043 Days $T_0=134.560806$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

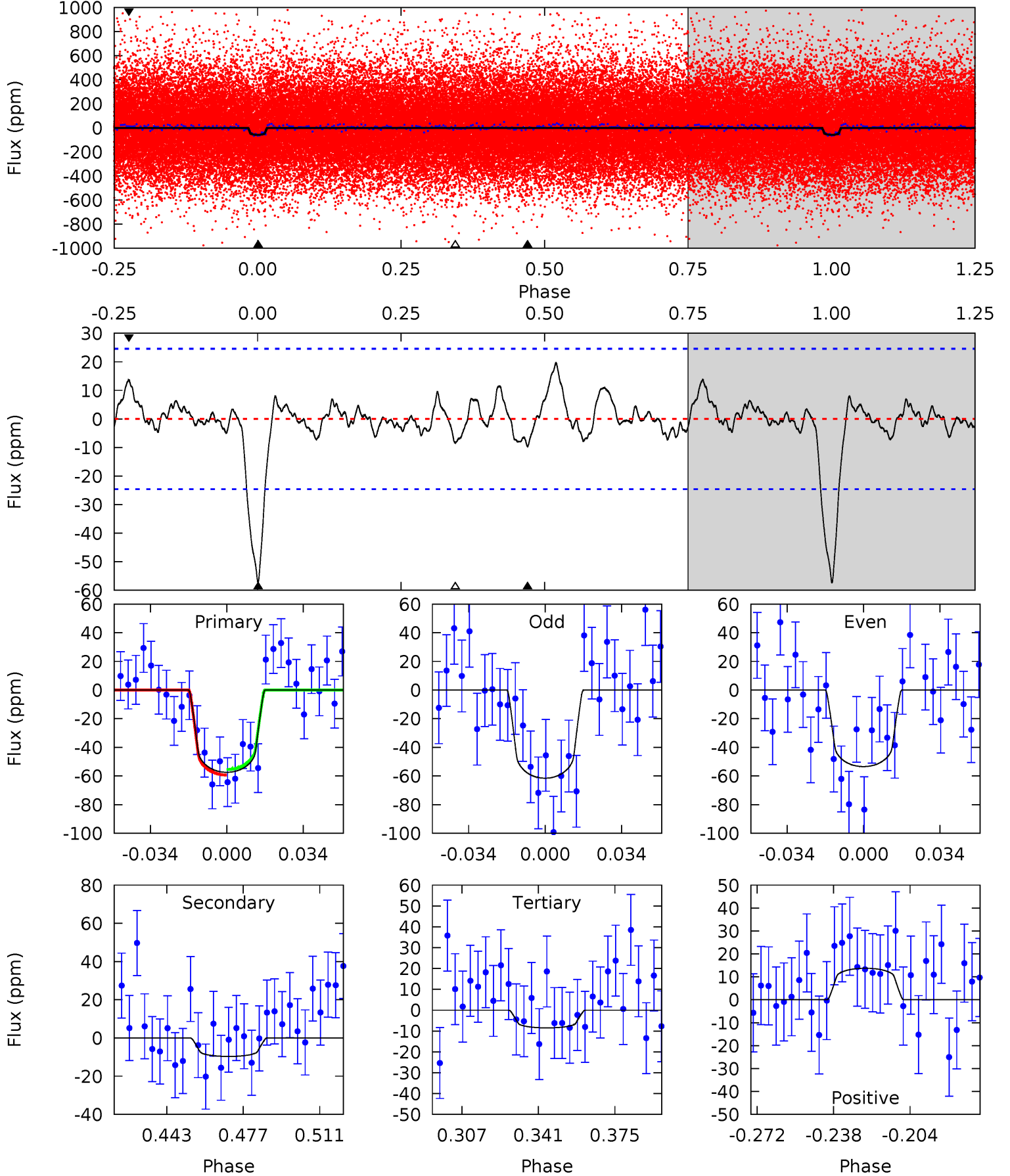
TCE 009581589-01 P= 5.192132 Days $T_0=134.550048$ (BKJD)



DV Model-Shift Uniqueness Test

009581589-01, P = 5.192043 Days, E = 129.368763 Days

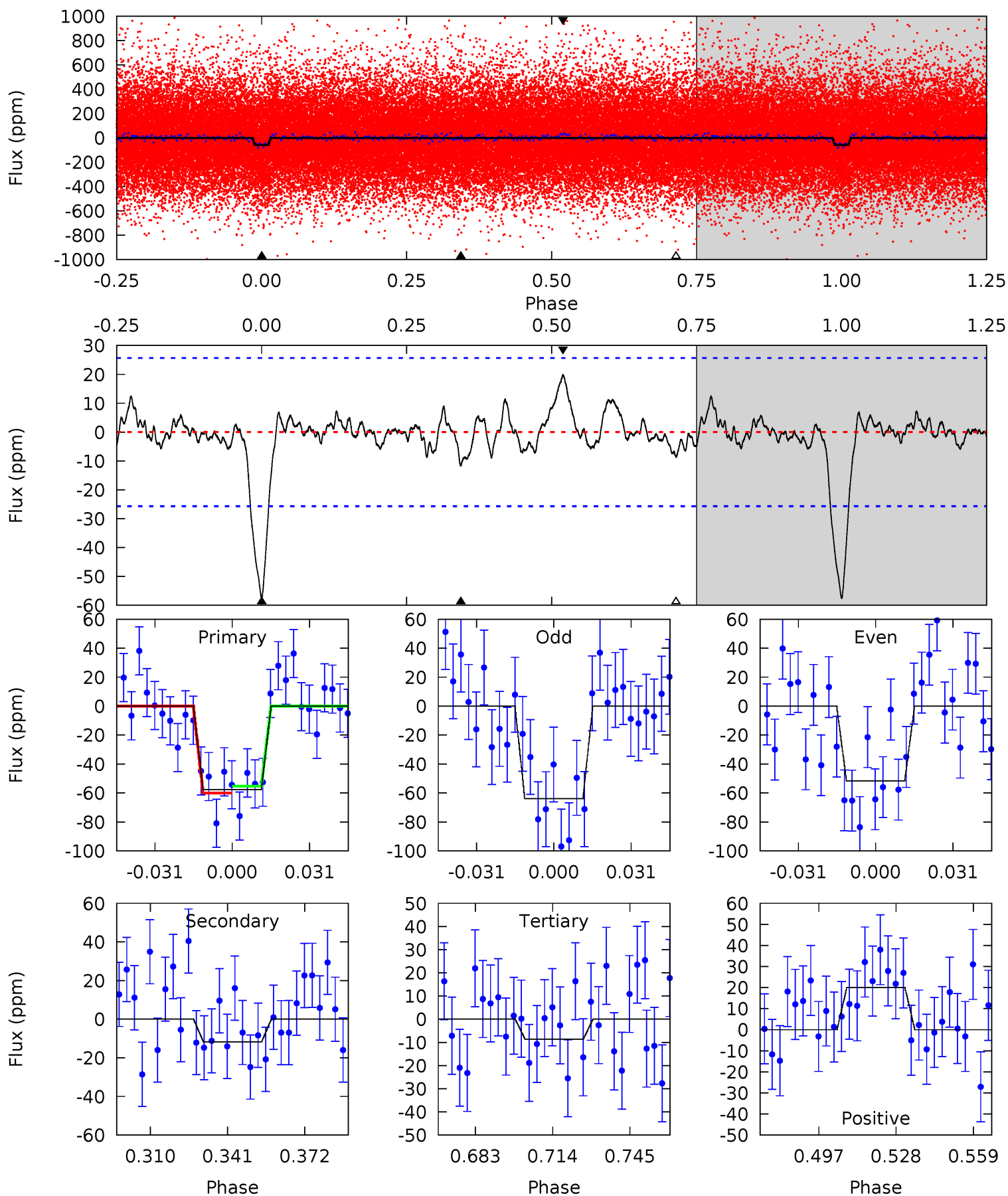
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	1.89	1.66	2.68	4.79	2.12	0.97	9.53	8.51	0.23	-0.79	0.79	1.15	0.25	0.37



Alt Model-Shift Uniqueness Test

009581589-01, P = 5.192132 Days, E = 129.357916 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	2.20	1.62	3.75	4.80	2.16	0.91	9.18	7.05	0.58	-1.54	1.15	1.03	0.26	0.45



Stellar Parameters For KIC 009581589

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6322^{+156}_{-203}	$4.426^{+0.065}_{-0.195}$	$-0.120^{+0.250}_{-0.300}$	$1.075^{+0.335}_{-0.134}$	$1.124^{+0.154}_{-0.139}$	$1.274^{+0.349}_{-0.658}$
	+2%/-3%	+1%/-4%	+208%/-250%	+31%/-12%	+14%/-12%	+27%/-52%
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 009581589-01 / KOI 4877.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 5	$1.03^{+0.55}_{-0.54}$	1659^{+116}_{-81}	4033^{+1516}_{-666}	16^{+67}_{-11}
Alt.	-12 ± 5	$0.98^{+0.54}_{-0.46}$	1662^{+113}_{-79}	4310^{+1435}_{-731}	23^{+68}_{-15}

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 $A_{obs} \gg 1.0$

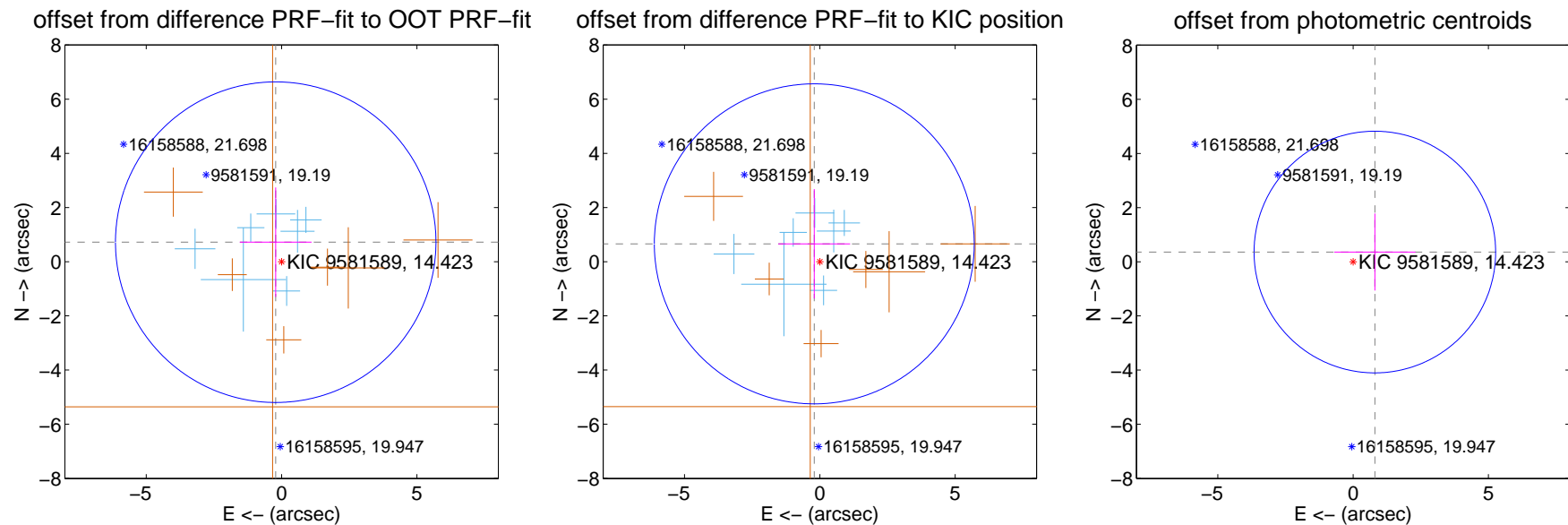
DV Centroid Data

Supplemental centroid analysis for 009581589-01. Kepler magnitude: 14.42. Transit SNR 9.03

There are 7 quarters with good PRF difference image offsets

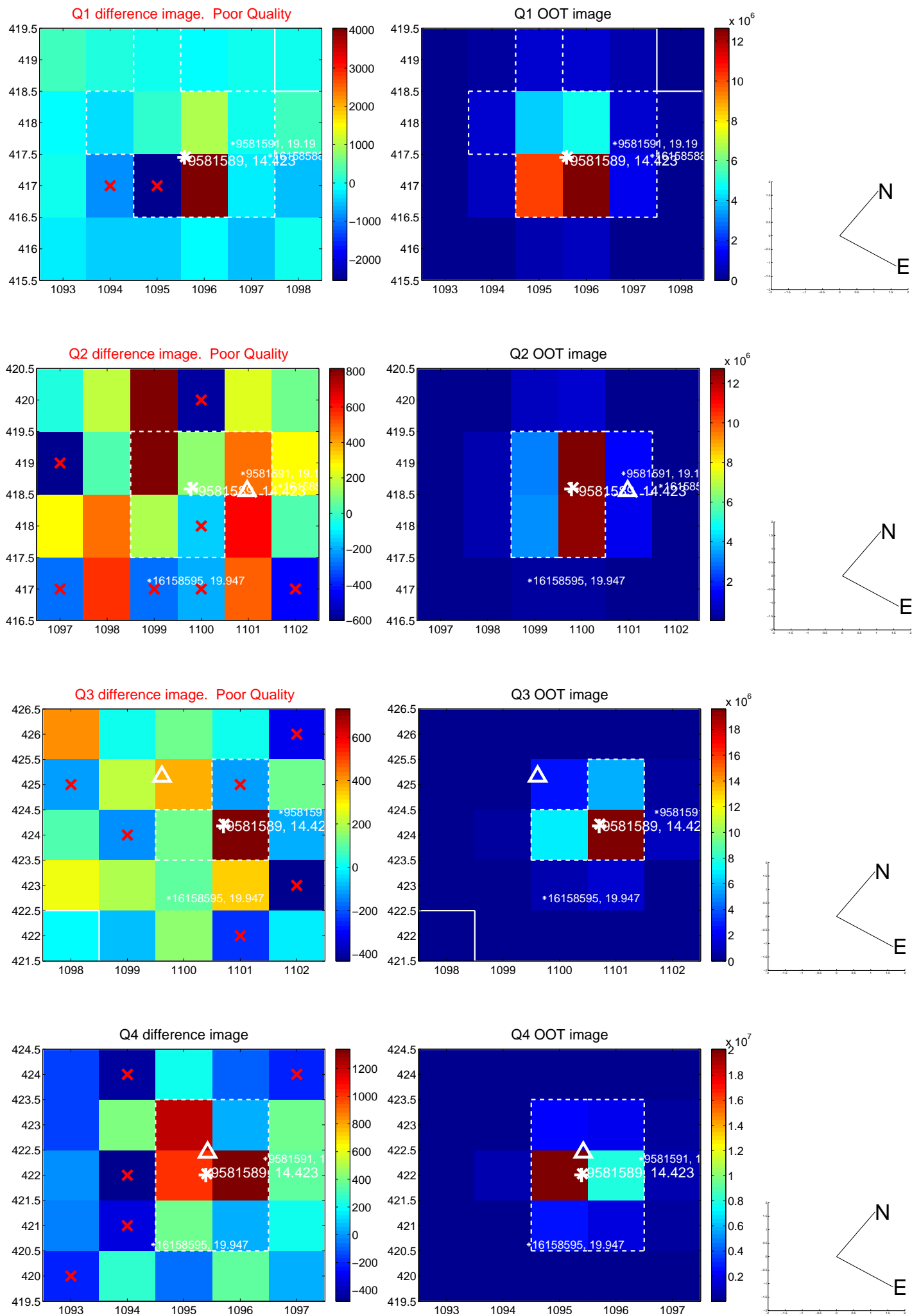
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.752 ± 1.973	0.38	0.217 ± 1.326	0.720 ± 2.021
PRF-fit source offset from KIC position	0.690 ± 1.969	0.35	0.206 ± 1.326	0.659 ± 2.021
photometric centroid source offset	0.88 ± 1.49	0.59	-0.80 ± 1.50	0.36 ± 1.42

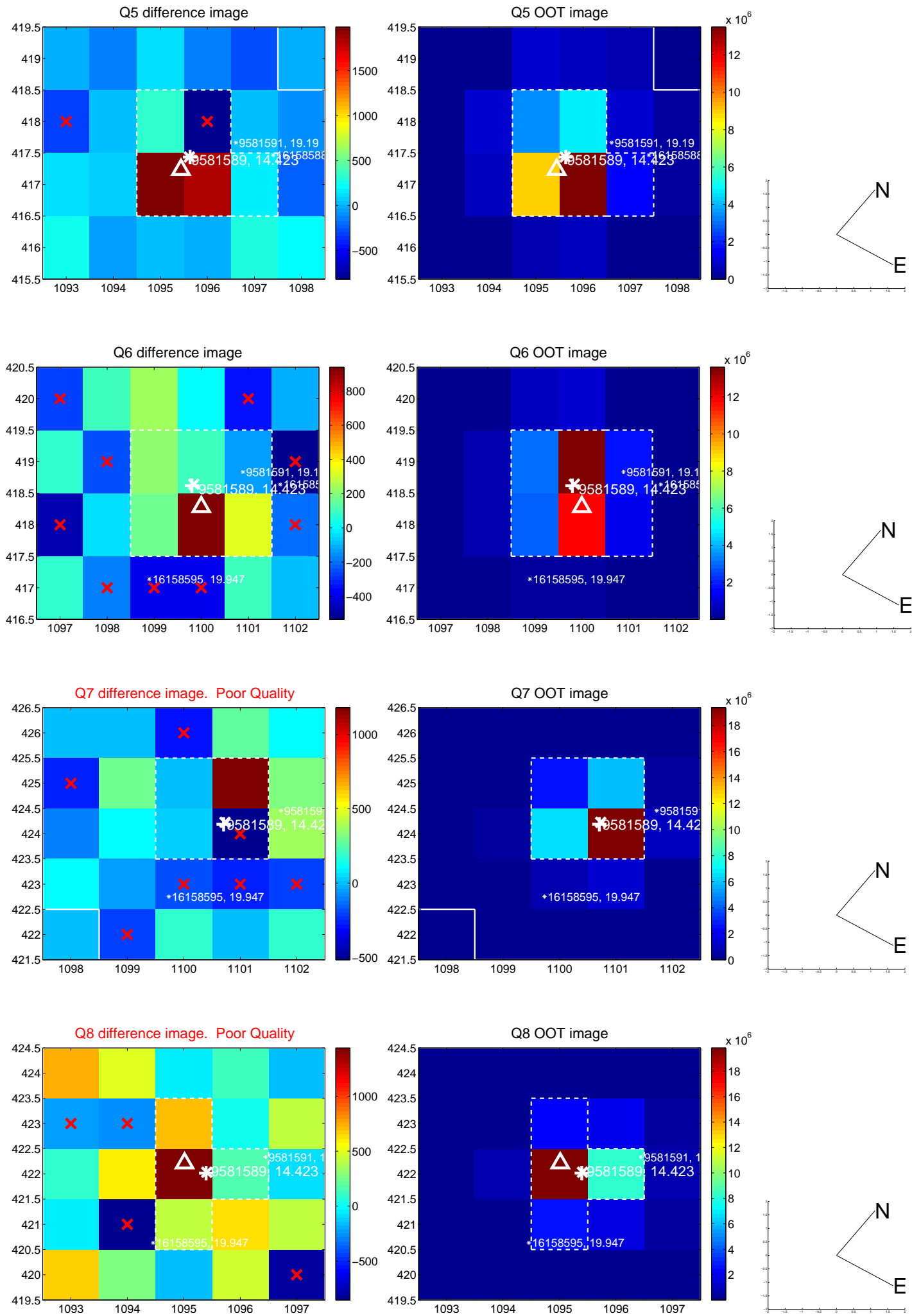


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

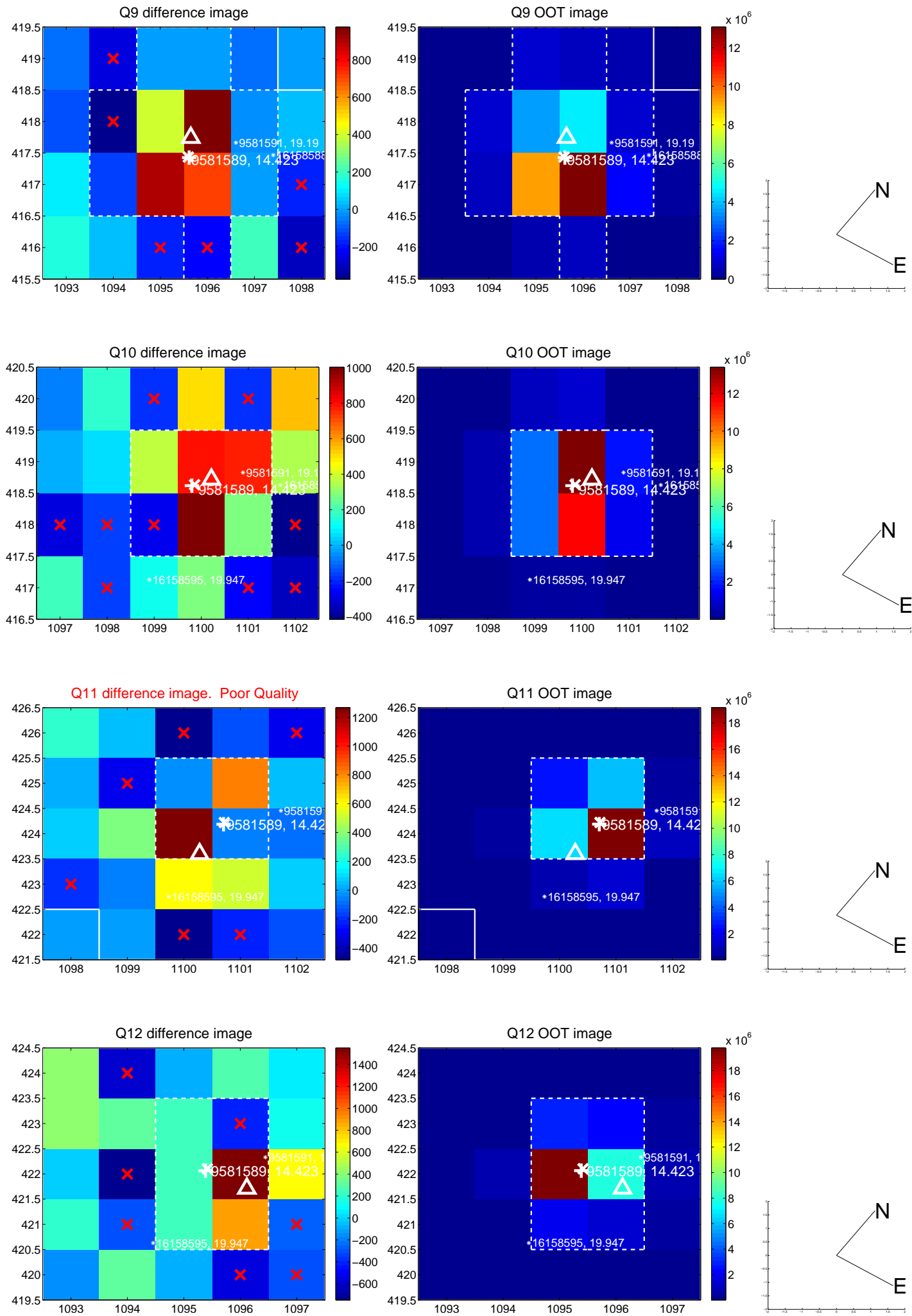
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



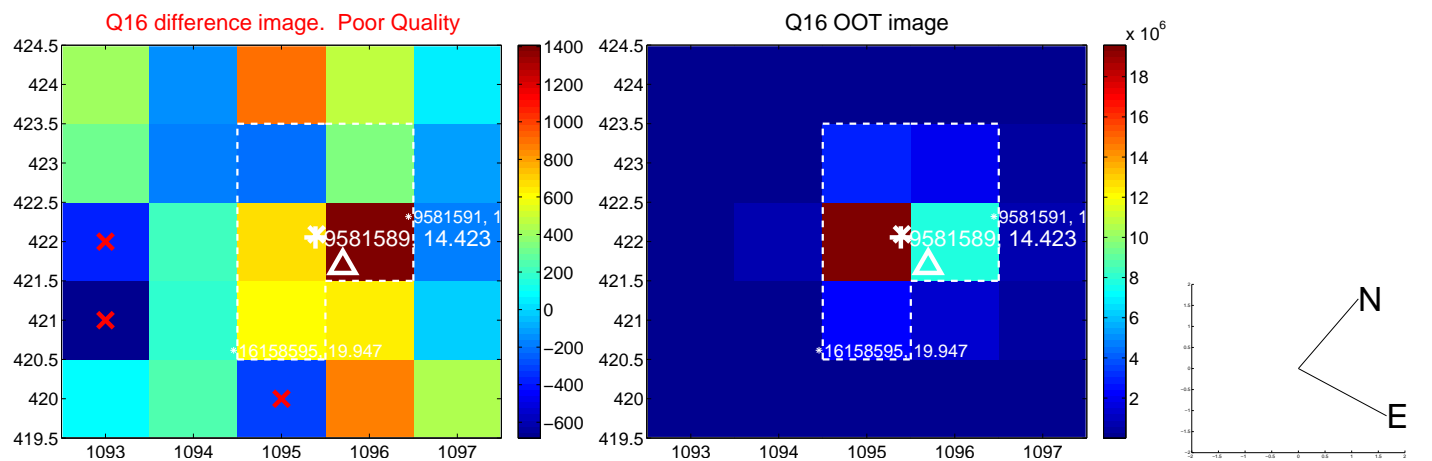
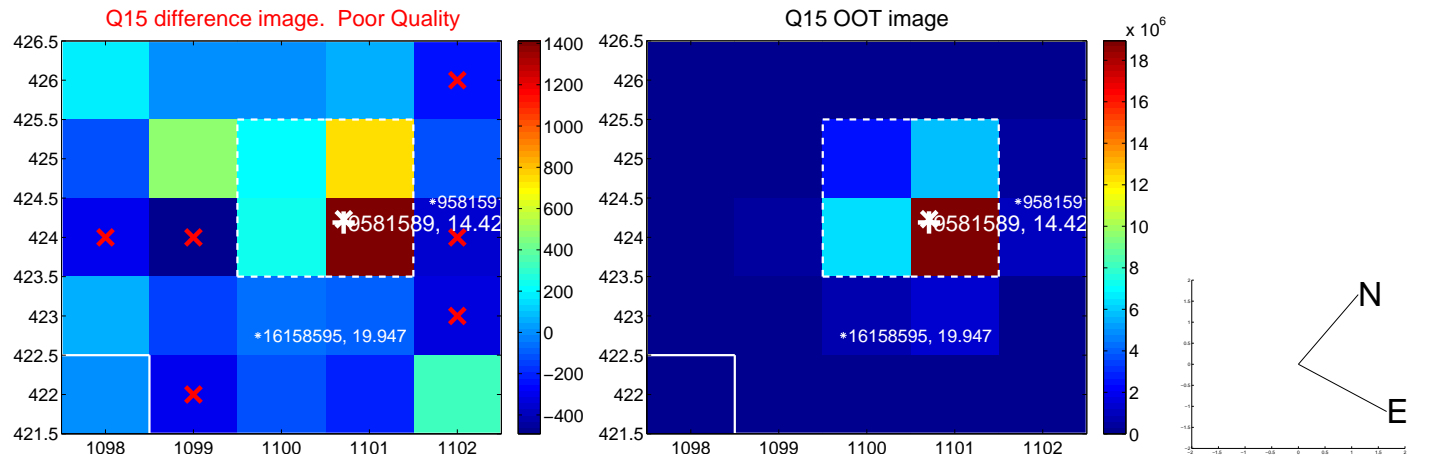
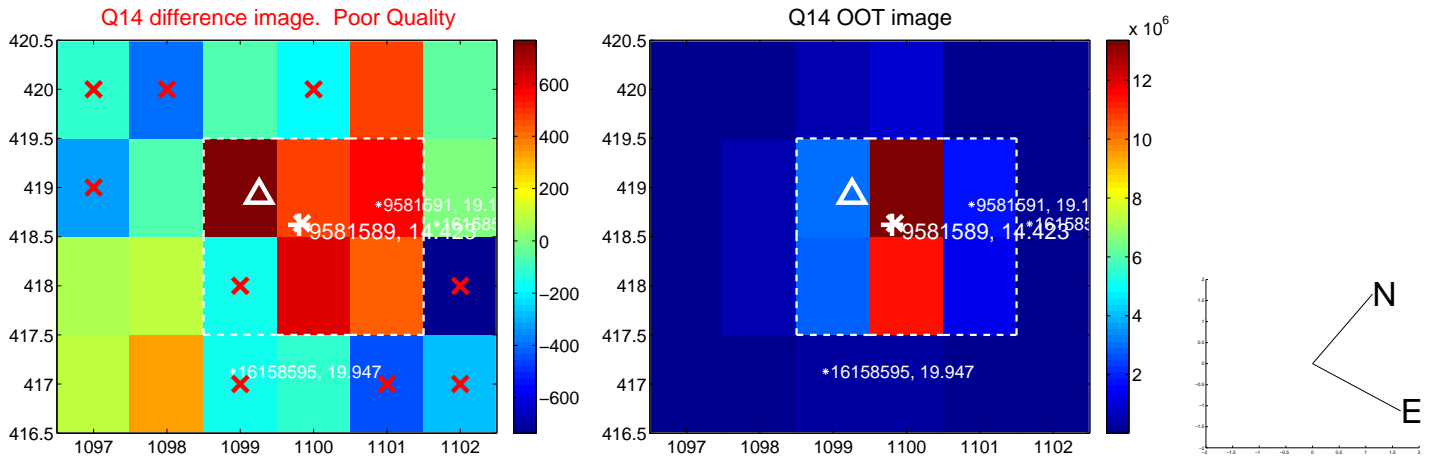
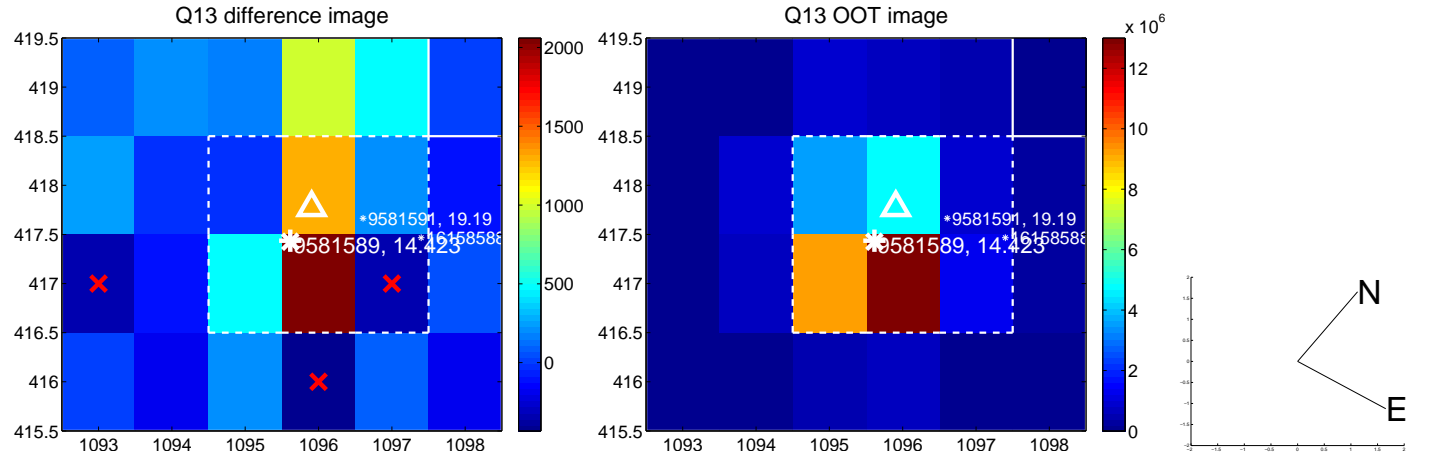
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



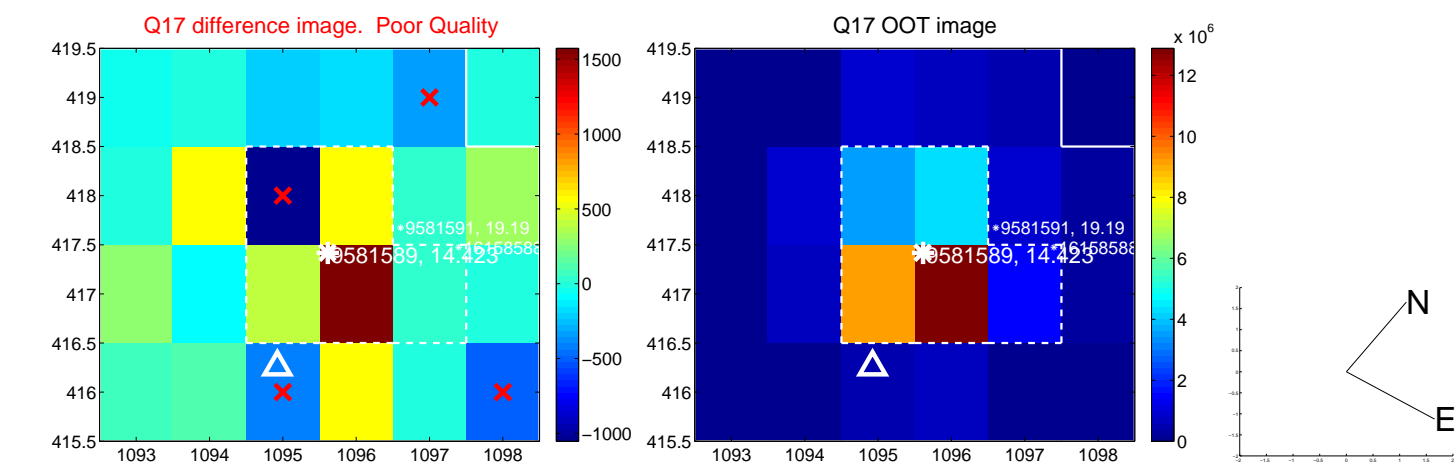
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



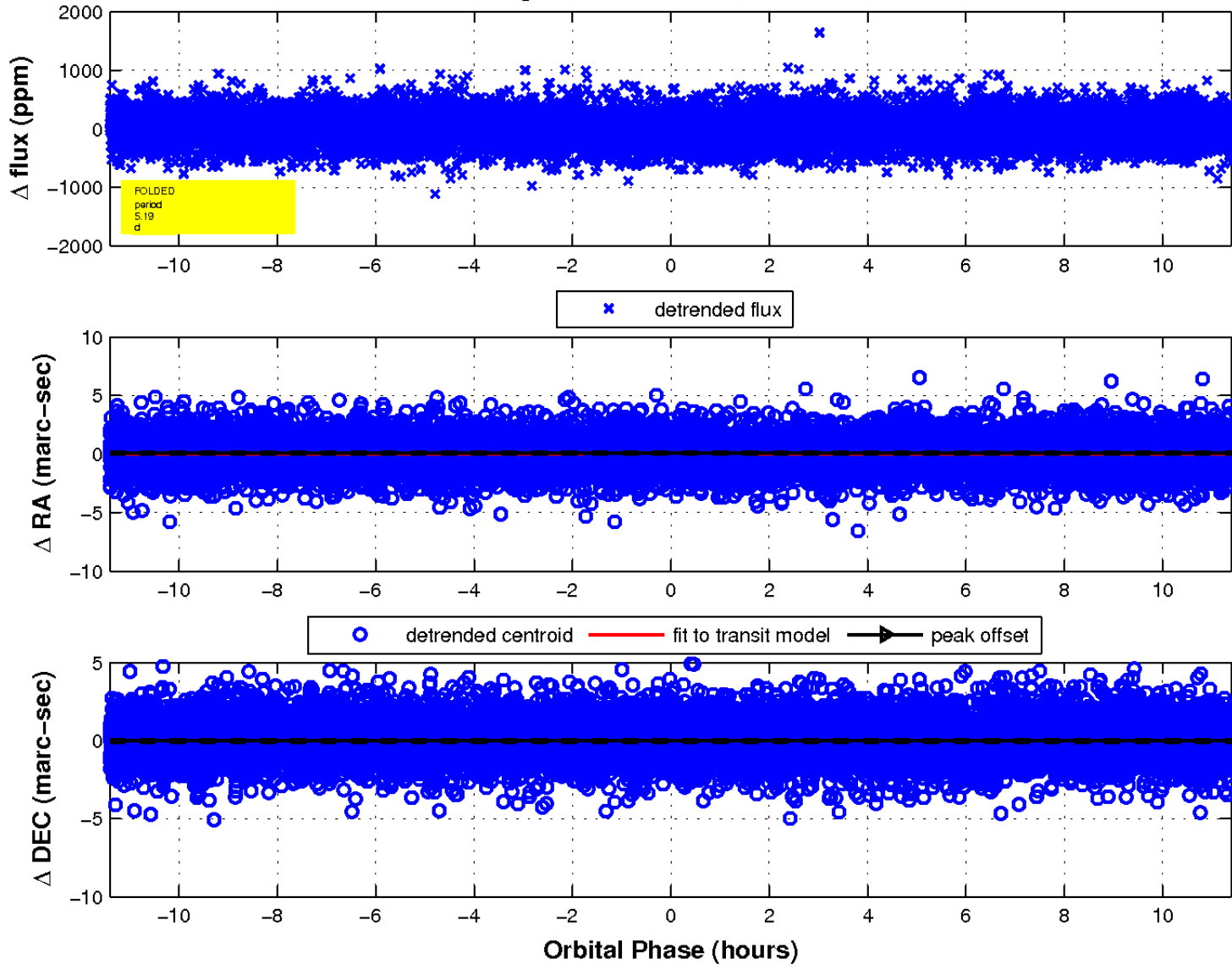
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

