

KIC 006425597

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})
006425597-01	OBS	4861.01	29.120594	138.472874	427.8	2.958	8.6	9.0	0.79	5671	1.84	18.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006425597-01	OBS	PC	0.98	0	0	0	0	CENT_KIC_POS

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

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

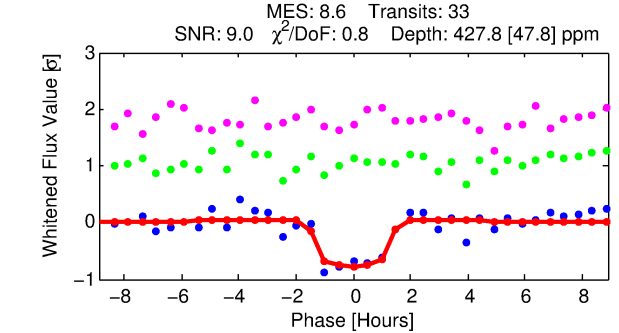
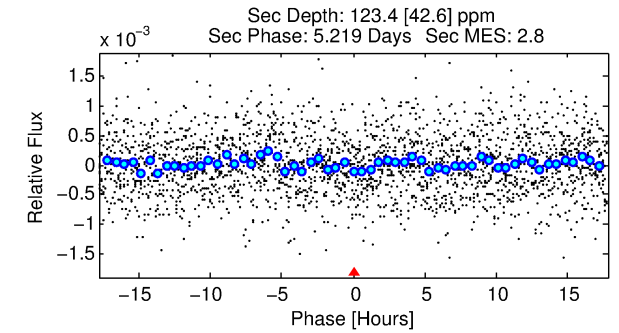
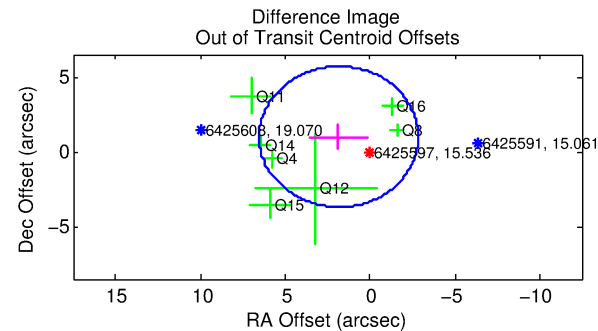
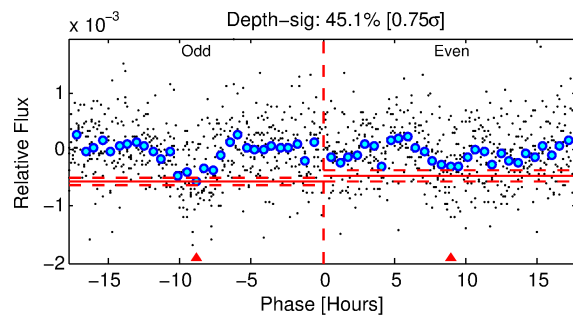
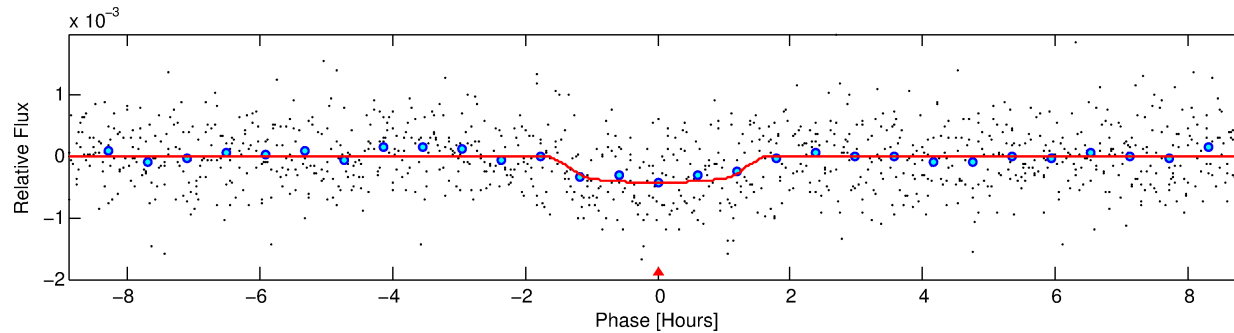
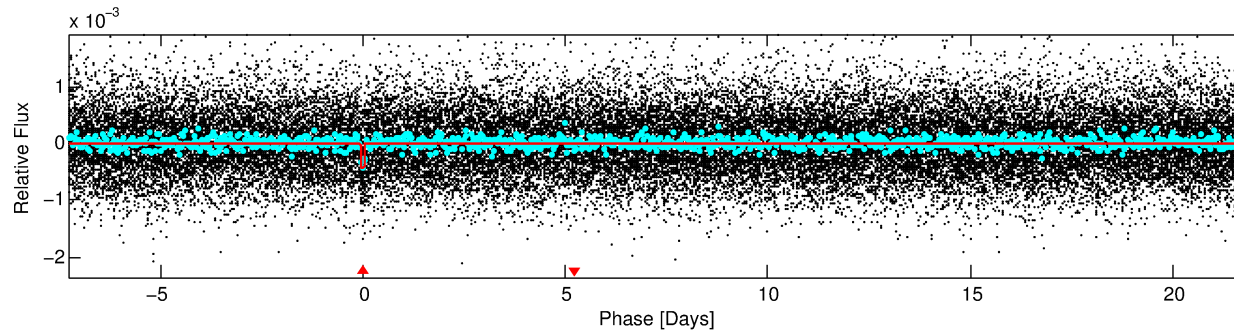
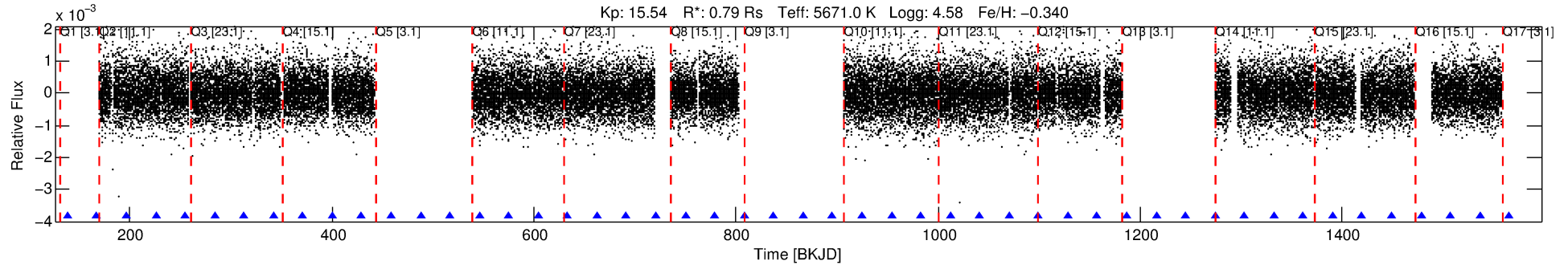
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006425597-01

No Significant Match Found

DV One-Page Summary

KIC: 6425597 Candidate: 1 of 1 Period: 29.121 d
KOI: K04861.01 Corr: 0.844



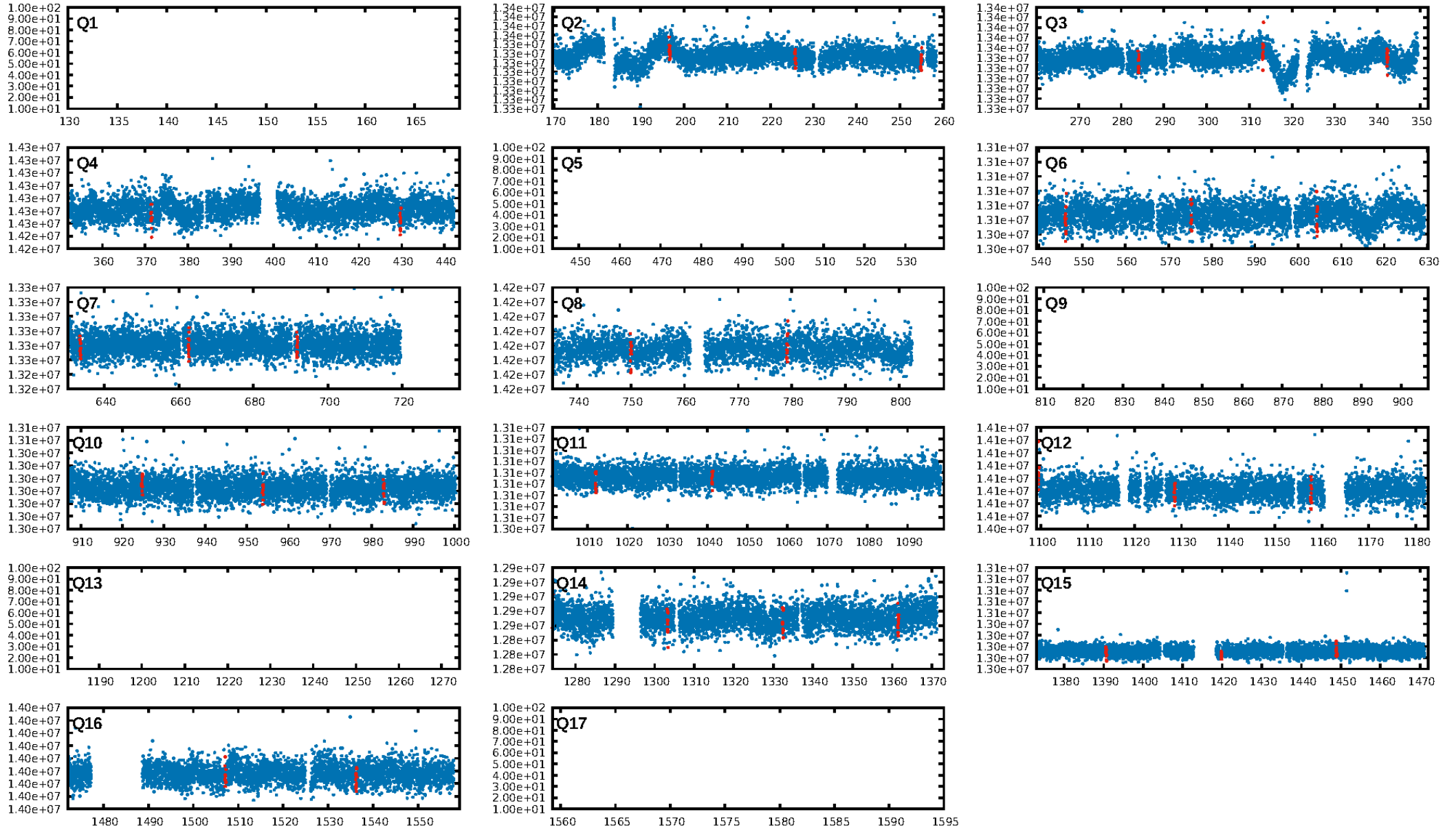
DV Fit Results:

Period = 29.12059 [0.00026] d
Epoch = 138.4729 [0.0075] BKJD
Rp/R* = 0.0214 [0.0175]
a/R* = 44.14 [165.78]
b = 0.84 [1.38]
Seff = 18.46 [5.61]
Teq = 529 [40] K
Rp = 1.84 [1.56] Re
a = 0.1765 [0.0341] AU
Ag = 621.77 [1049.35] [0.59 σ]
Teff = 4081 [1702] K [2.09 σ]

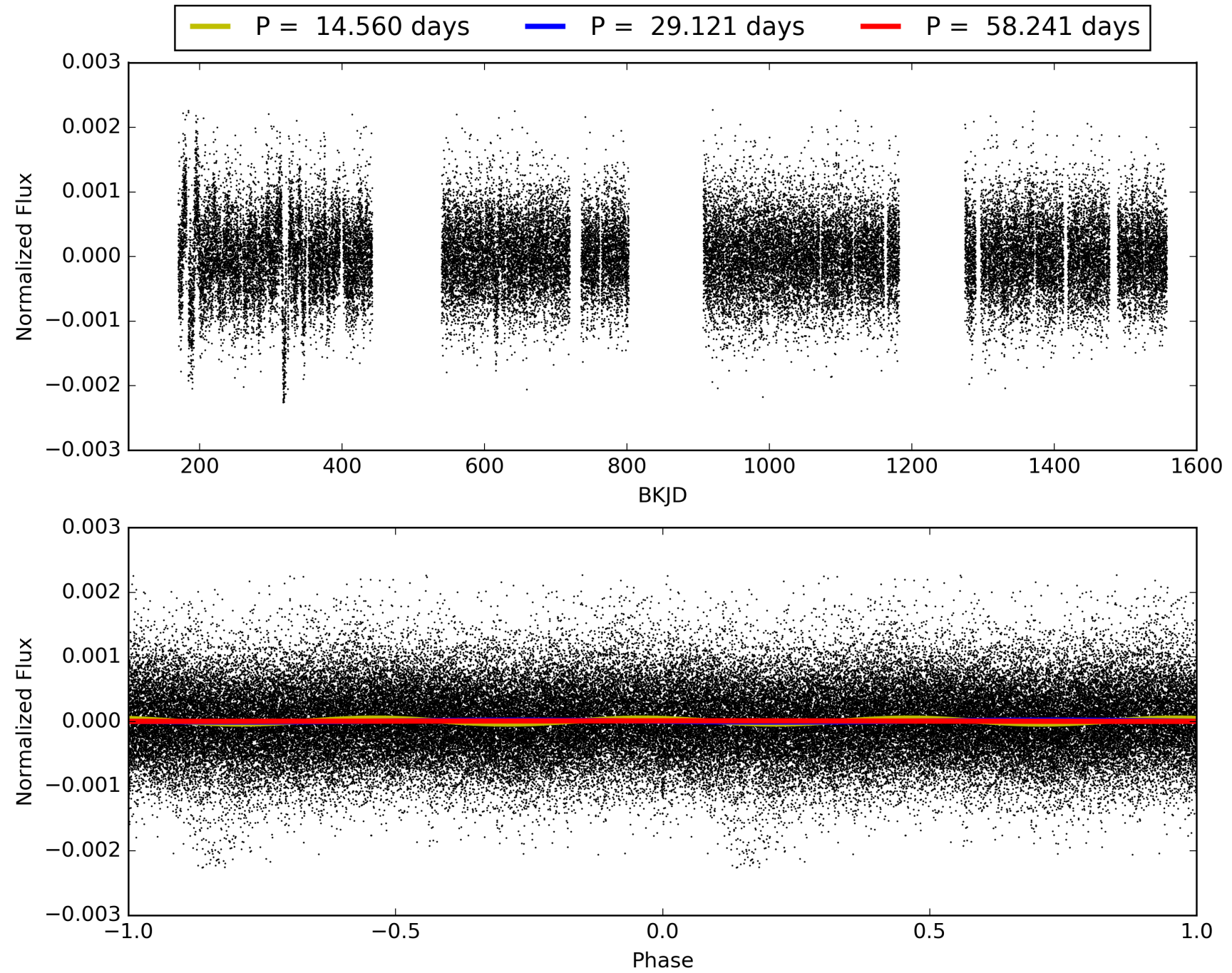
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.34e-17
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: 4.896
Centroid-sig: 45.0%
Centroid-so: 4.237 arcsec [3.27 σ]
OotOffset-rm: 2.093 arcsec [1.34 σ]
KicOffset-rm: 3.769 arcsec [2.21 σ]
OotOffset-st: 1/2/4/0 [7]
KicOffset-st: 1/2/4/0 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 1.00 [12/12]

TCE 006425597-01, PDC Light Curves

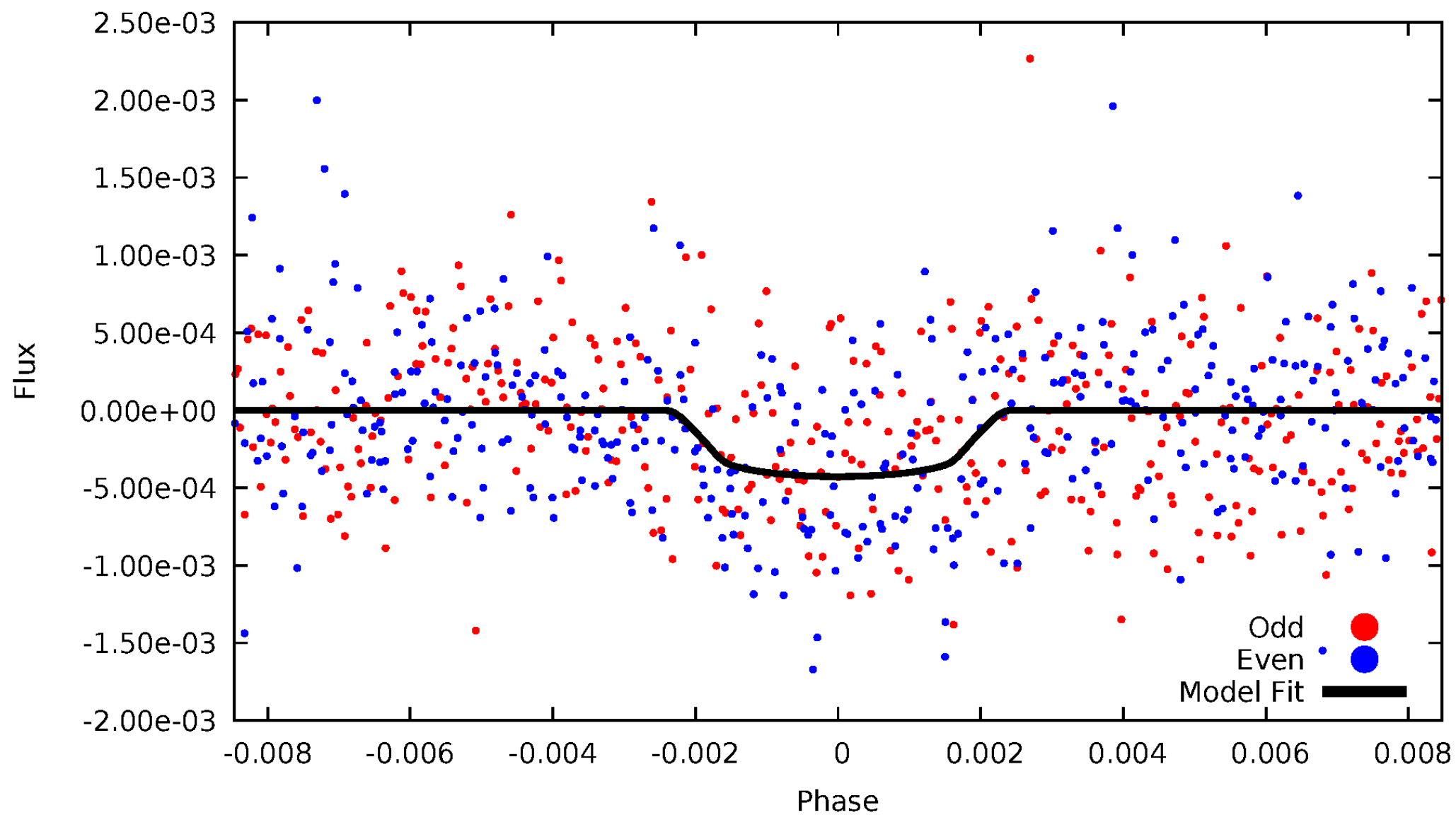


TCE 006425597-01



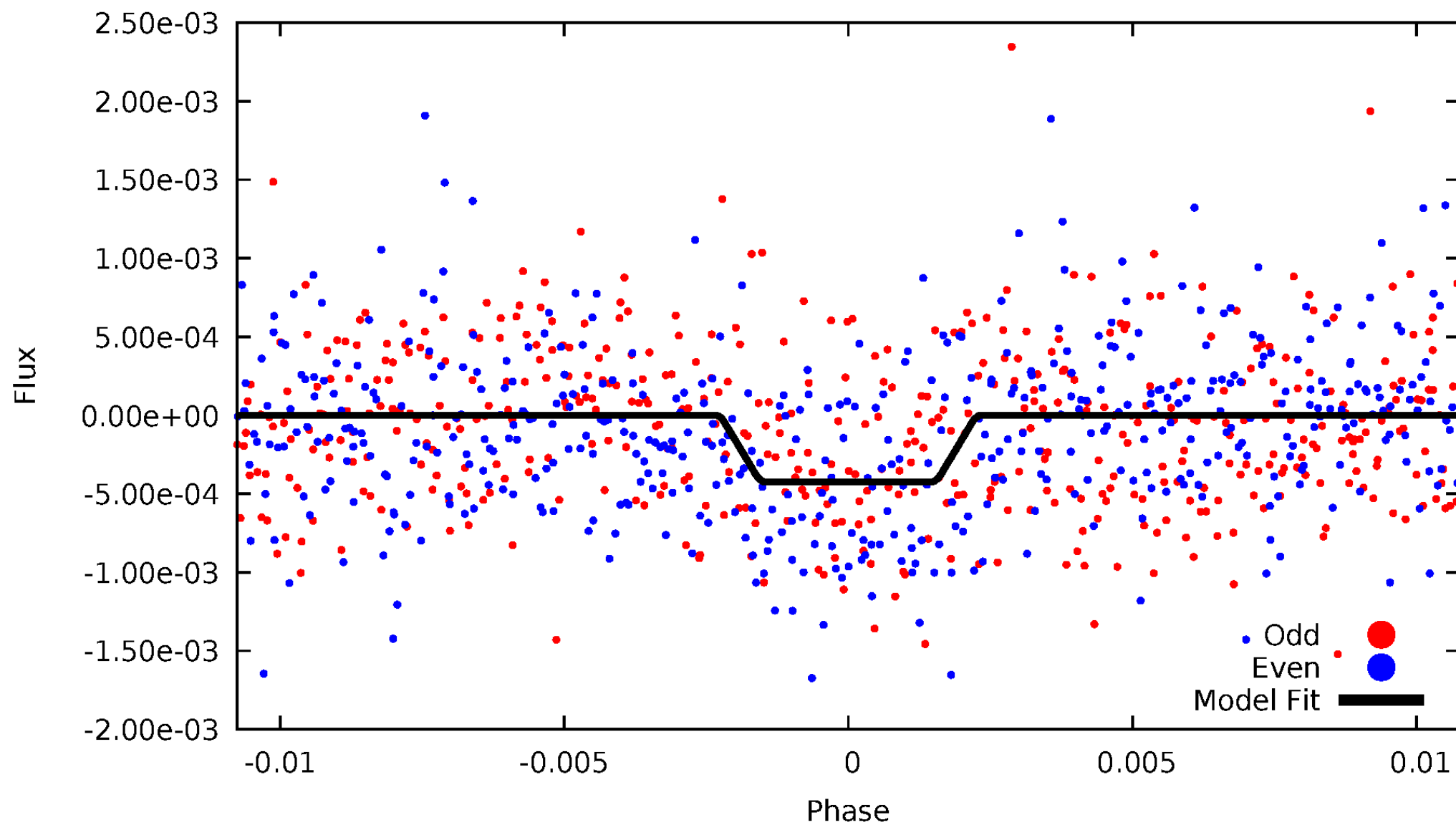
DV Odd/Even

TCE 006425597-01

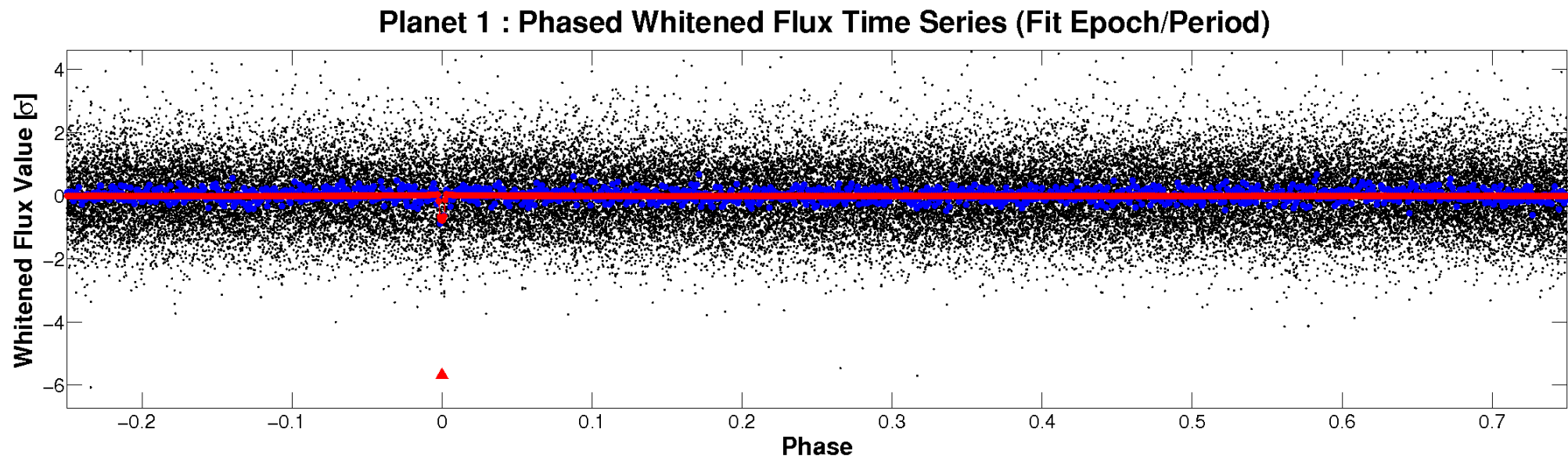
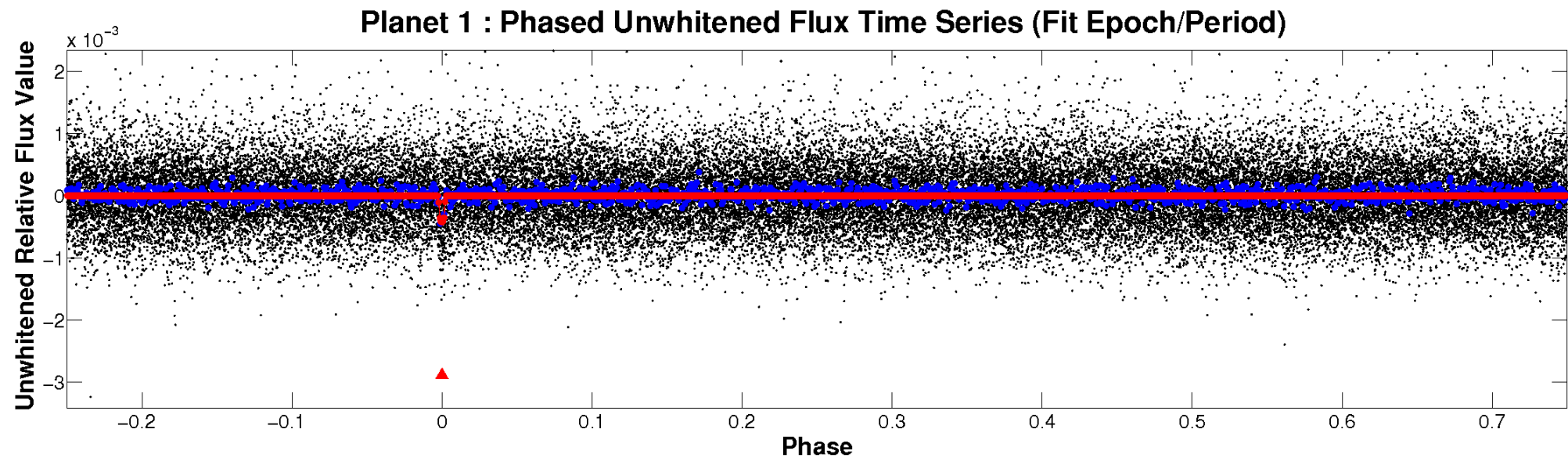


ALT Odd/Even

TCE 006425597-01

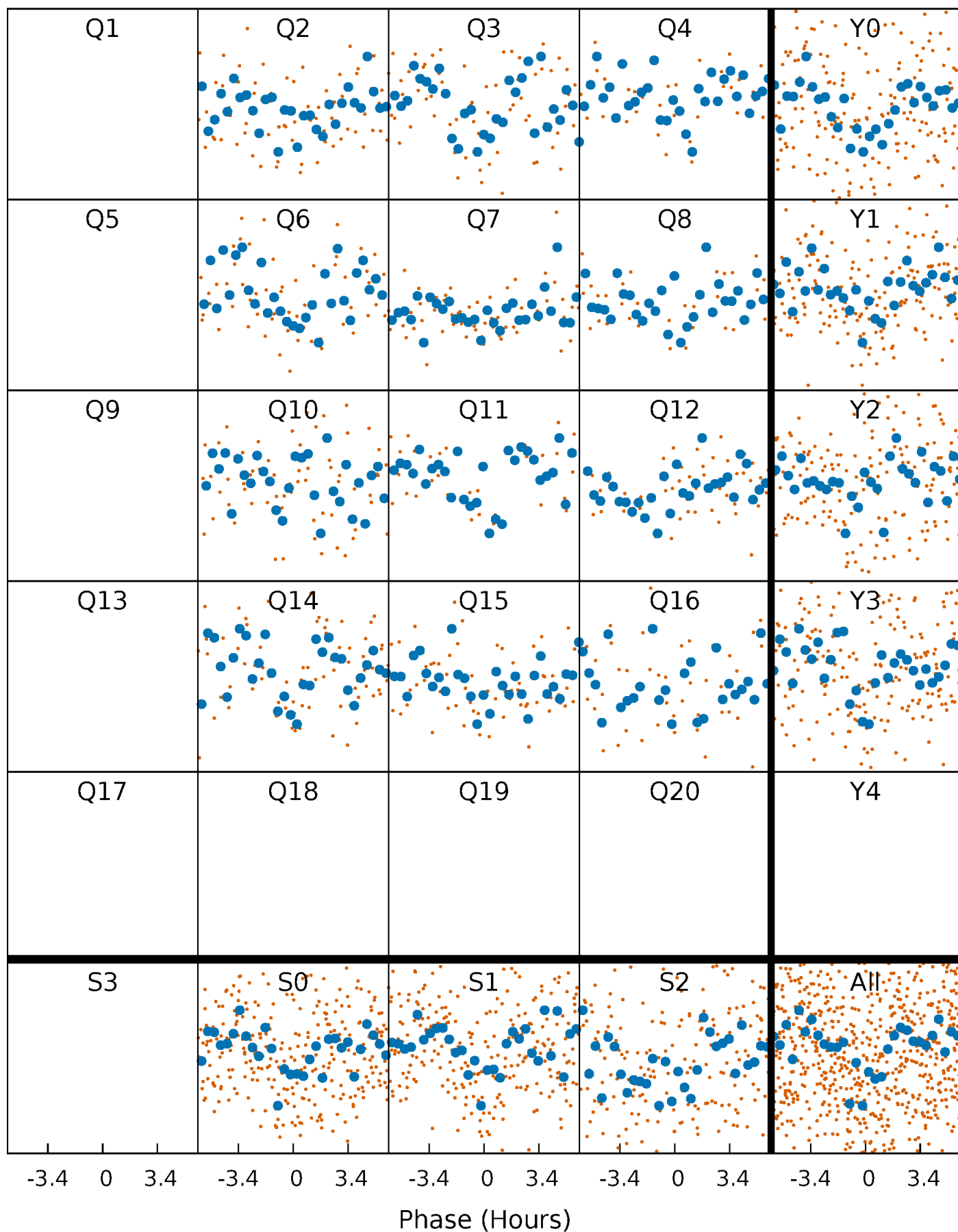


Non-Whitened Vs. Whitened Light Curve



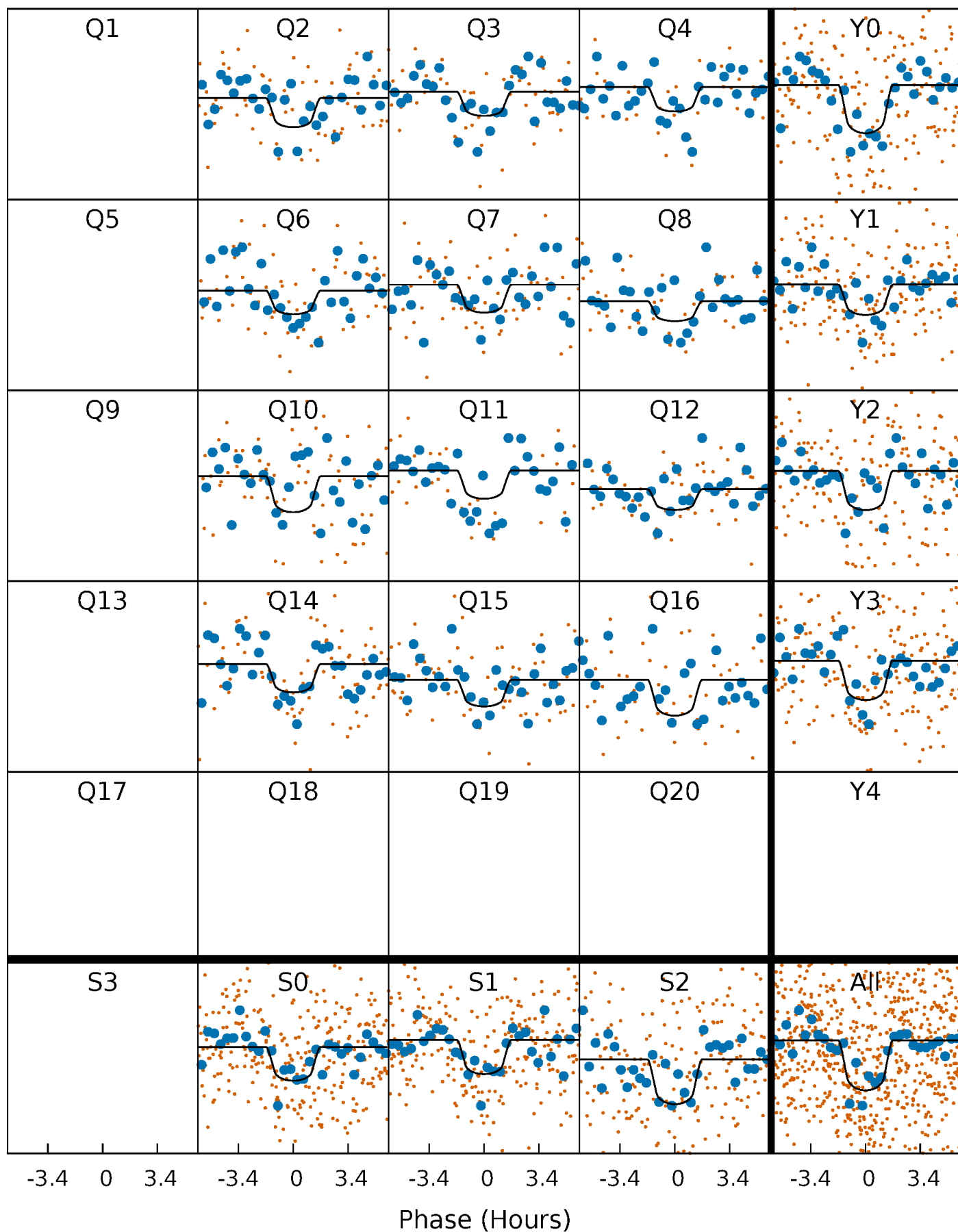
PDC Quarter-Phased Transit Curves

TCE 006425597-01 P= 29.120594 Days $T_0=138.472874$ (BKJD)



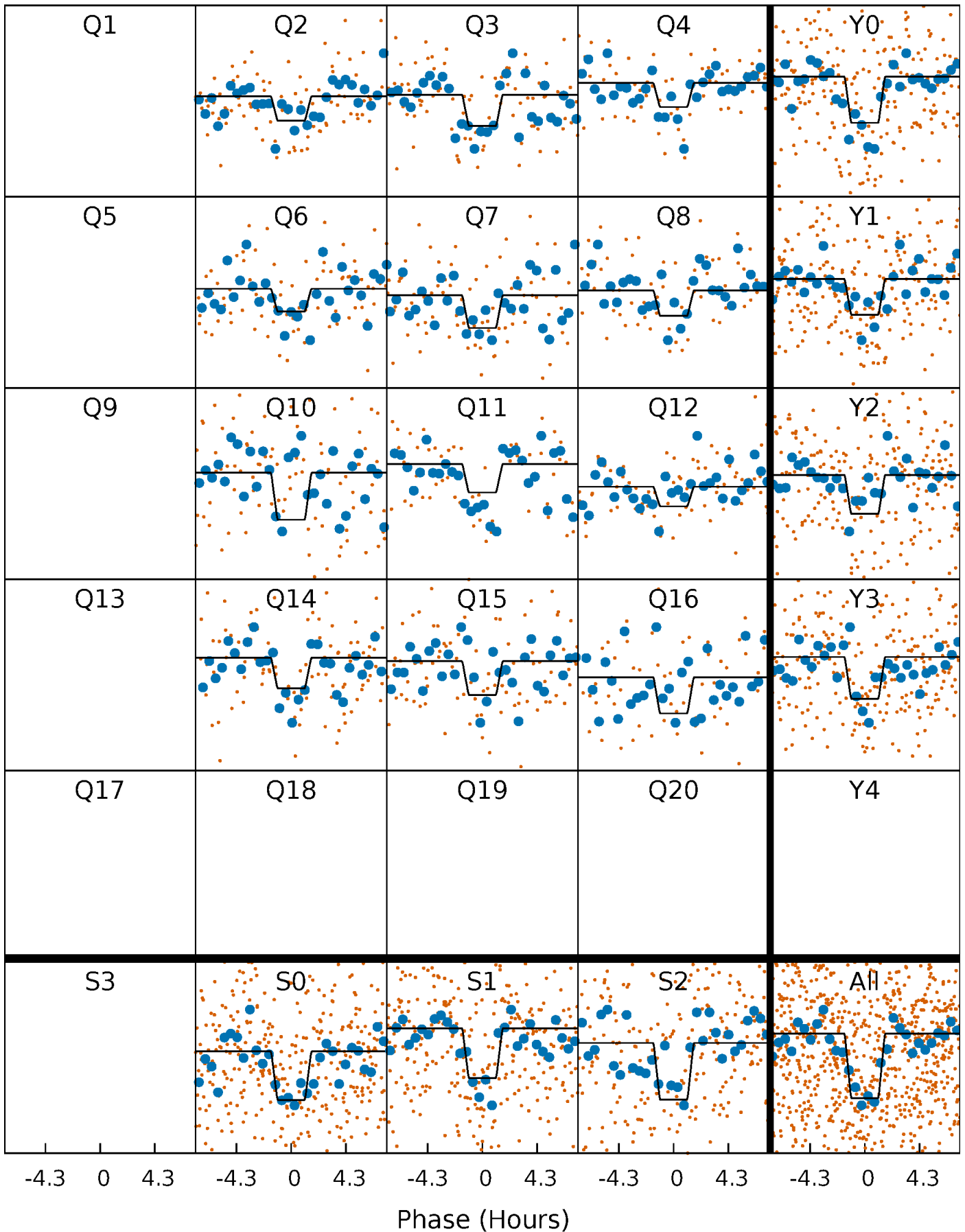
DV Quarter-Phased Transit Curves

TCE 006425597-01 P= 29.120594 Days $T_0=138.472874$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

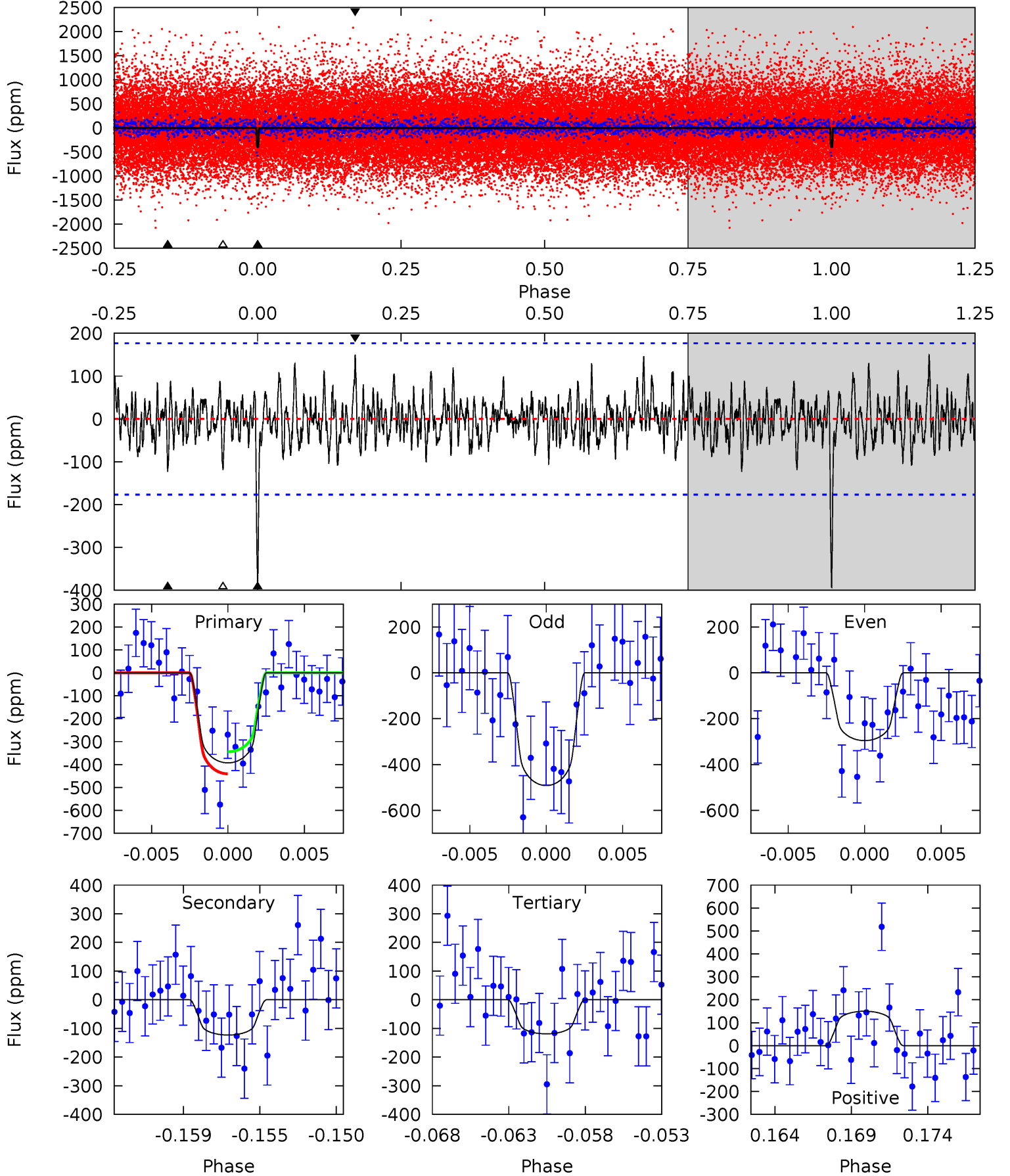
TCE 006425597-01 P= 29.120084 Days $T_0=138.484271$ (BKJD)



DV Model-Shift Uniqueness Test

006425597-01, $P = 29.120594$ Days, $E = 138.472874$ Days

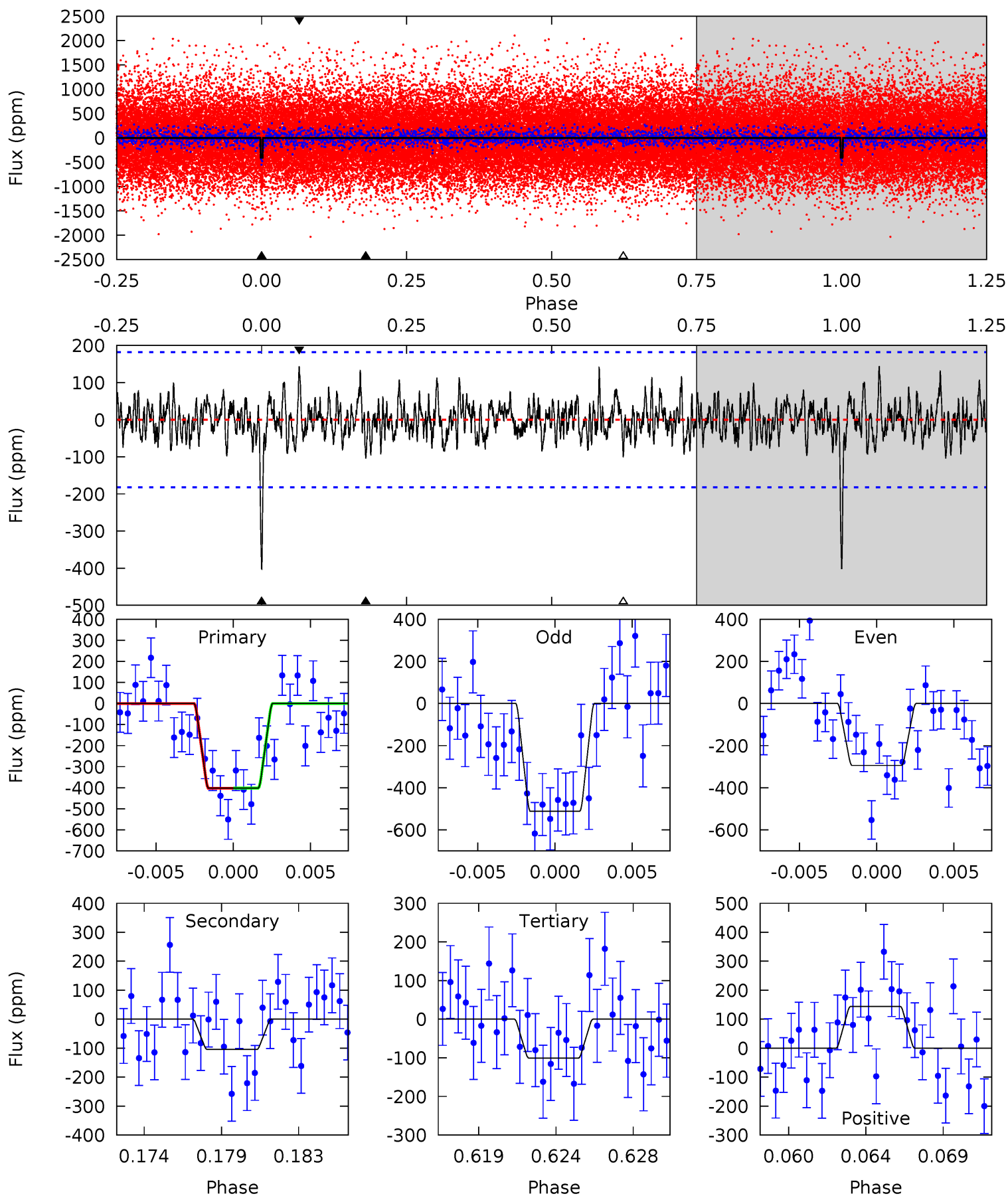
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	3.60	3.48	4.38	5.16	2.82	1.20	8.01	7.10	0.12	-0.78	2.87	1.02	0.28	1.41



Alt Model-Shift Uniqueness Test

006425597-01, P = 29.120084 Days, E = 138.484271 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	2.97	2.86	4.10	5.17	2.83	1.13	8.57	7.34	0.11	-1.12	3.10	0.98	0.26	0.01



Stellar Parameters For KIC 006425597

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5671^{+152}_{-169}	$4.582^{+0.038}_{-0.152}$	$-0.340^{+0.300}_{-0.300}$	$0.788^{+0.182}_{-0.073}$	$0.872^{+0.089}_{-0.097}$	$2.510^{+0.499}_{-1.110}$
	+3%/-3%	+1%/-3%	+88%/-88%	+23%/-9%	+10%/-11%	+20%/-44%
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 006425597-01 / KOI 4861.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-123 ± 34	$2.08^{+1.51}_{-1.28}$	753^{+39}_{-32}	4148^{+2159}_{-708}	472^{+2889}_{-324}
Alt.	-105 ± 35	$2.16^{+1.42}_{-1.26}$	753^{+40}_{-29}	3944^{+1807}_{-617}	346^{+1911}_{-223}

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 $A_{obs} \gg 1.0$

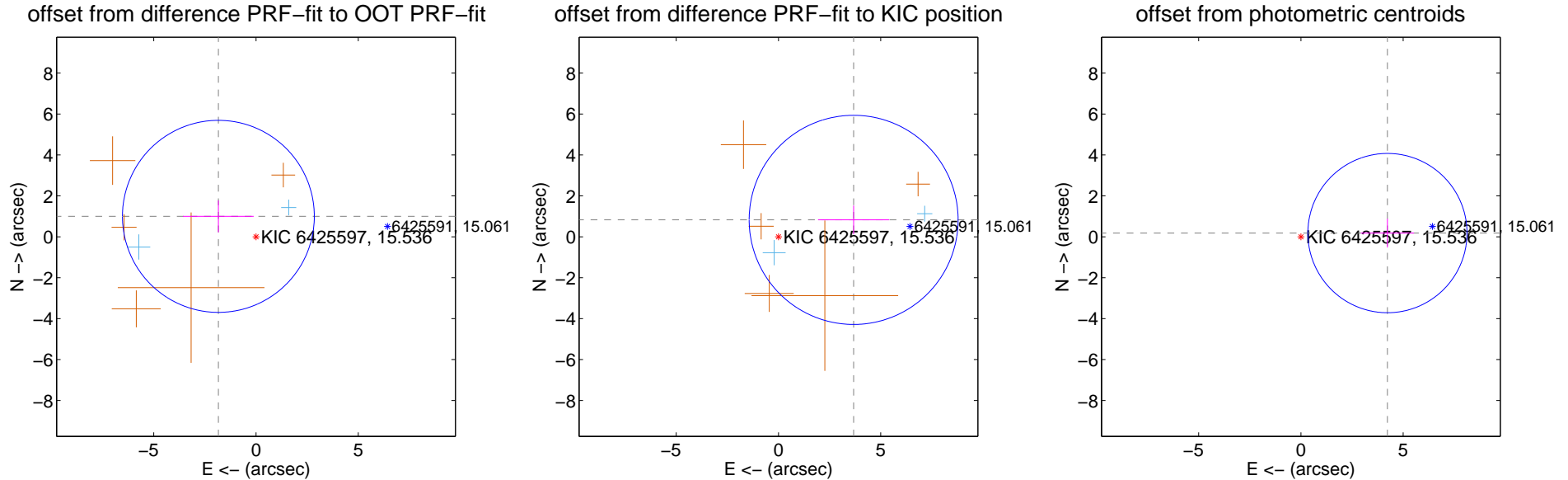
DV Centroid Data

Supplemental centroid analysis for 006425597-01. Kepler magnitude: 15.54. Transit SNR 9.04

There are 2 quarters with good PRF difference image offsets

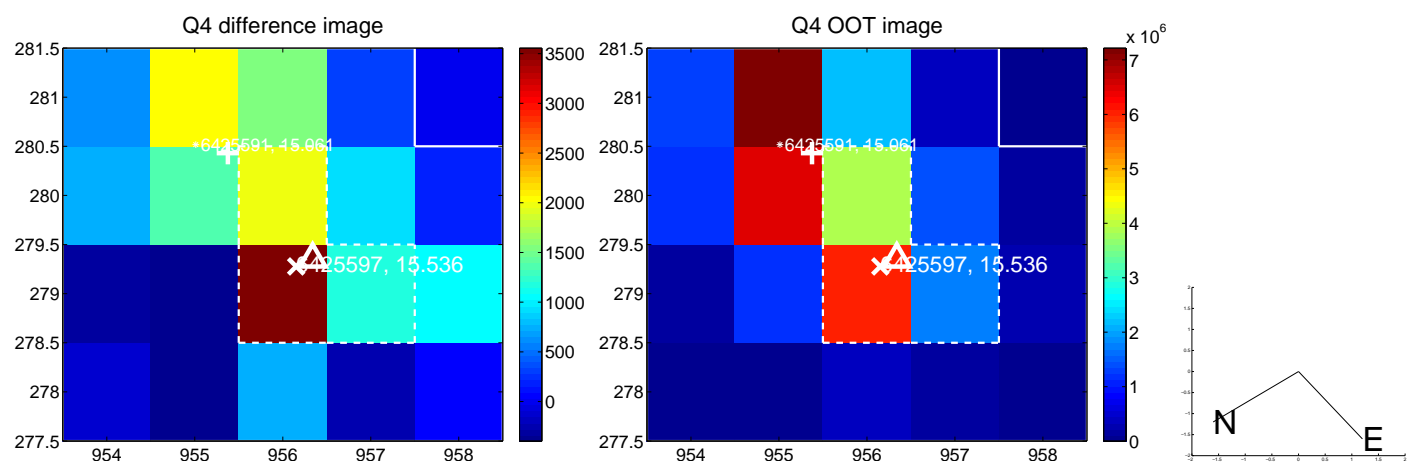
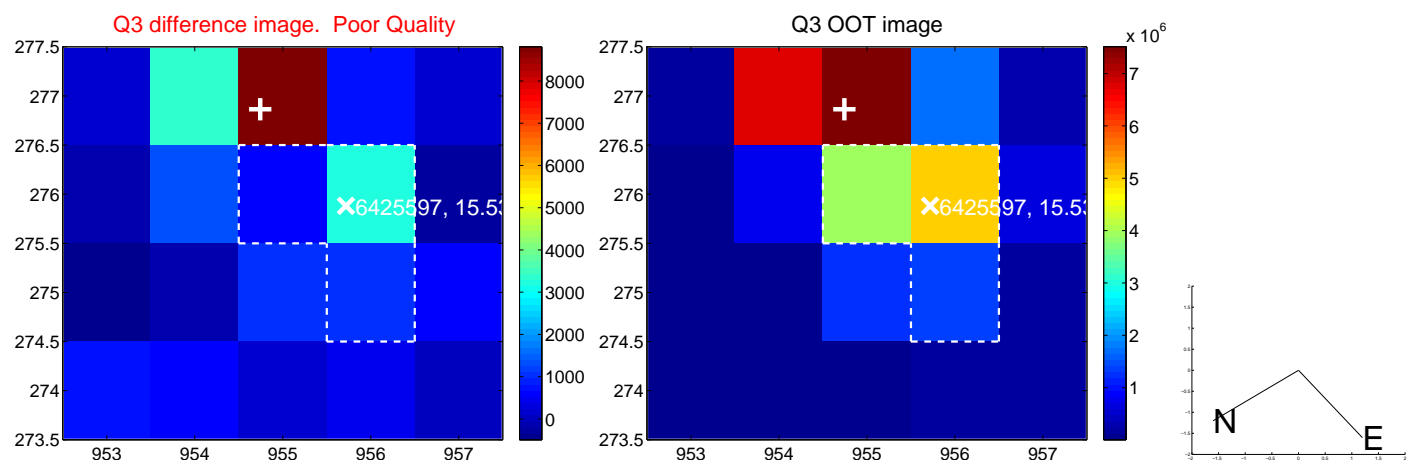
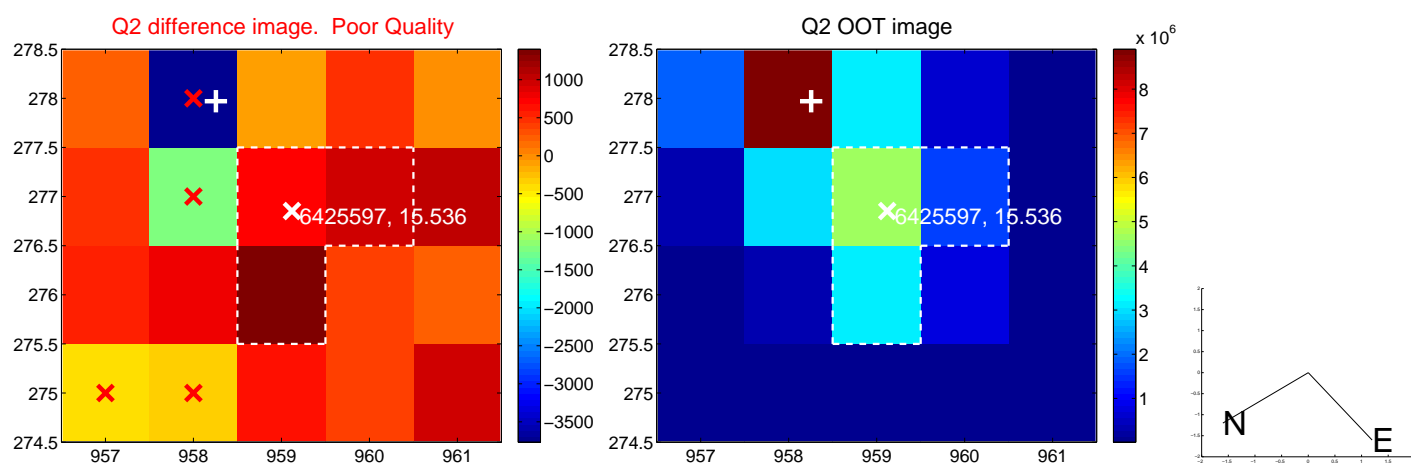
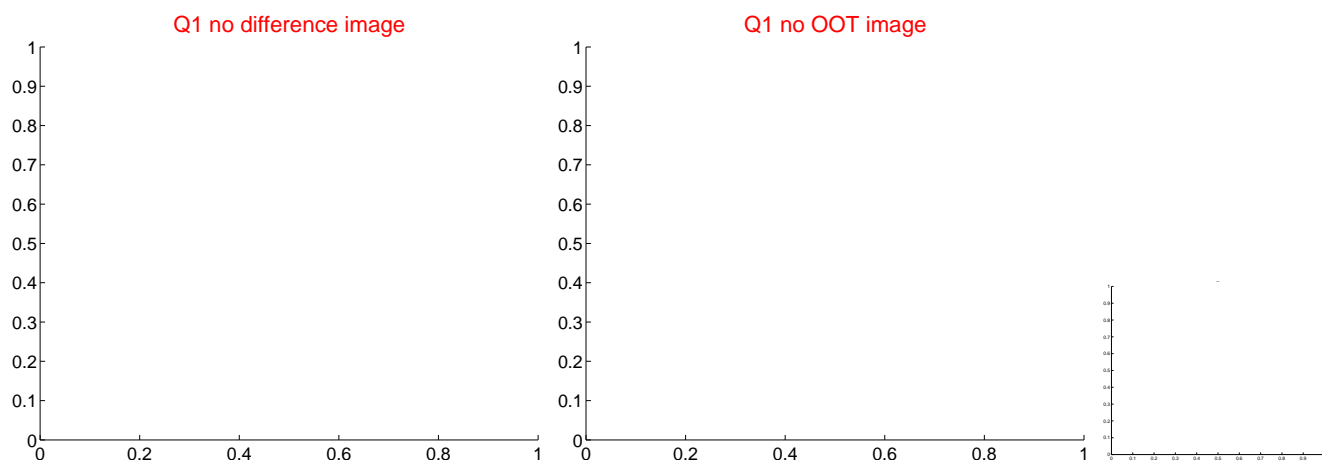
The OOT PRF centroid is offset from the target star catalog position by about 5.51 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.093 ± 1.564	1.34	1.840 ± 1.729	0.998 ± 0.778
PRF-fit source offset from KIC position	3.769 ± 1.703	2.21	-3.677 ± 1.739	0.826 ± 0.700
photometric centroid source offset	4.24 ± 1.30	3.27	-4.23 ± 1.30	0.18 ± 0.71

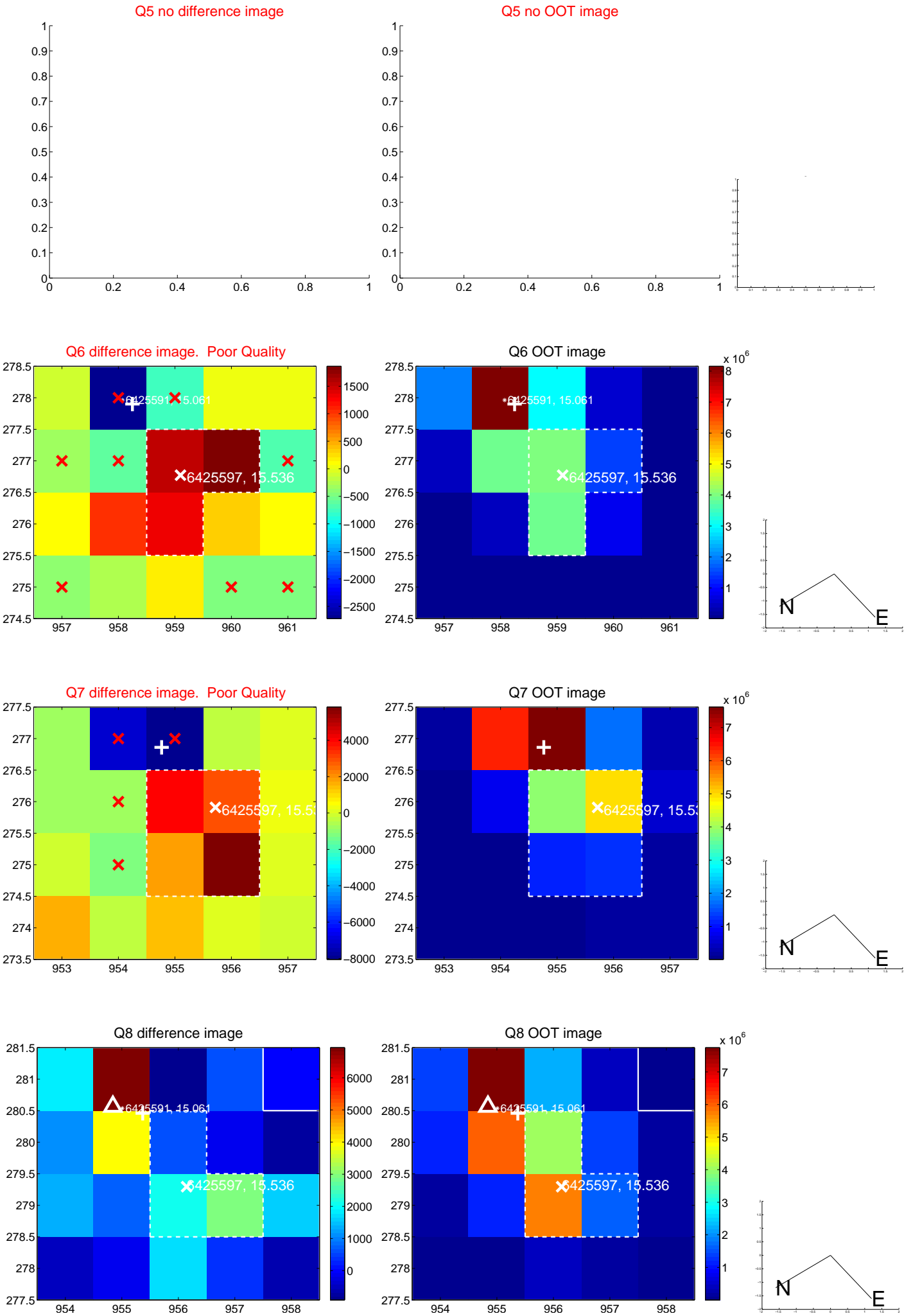


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

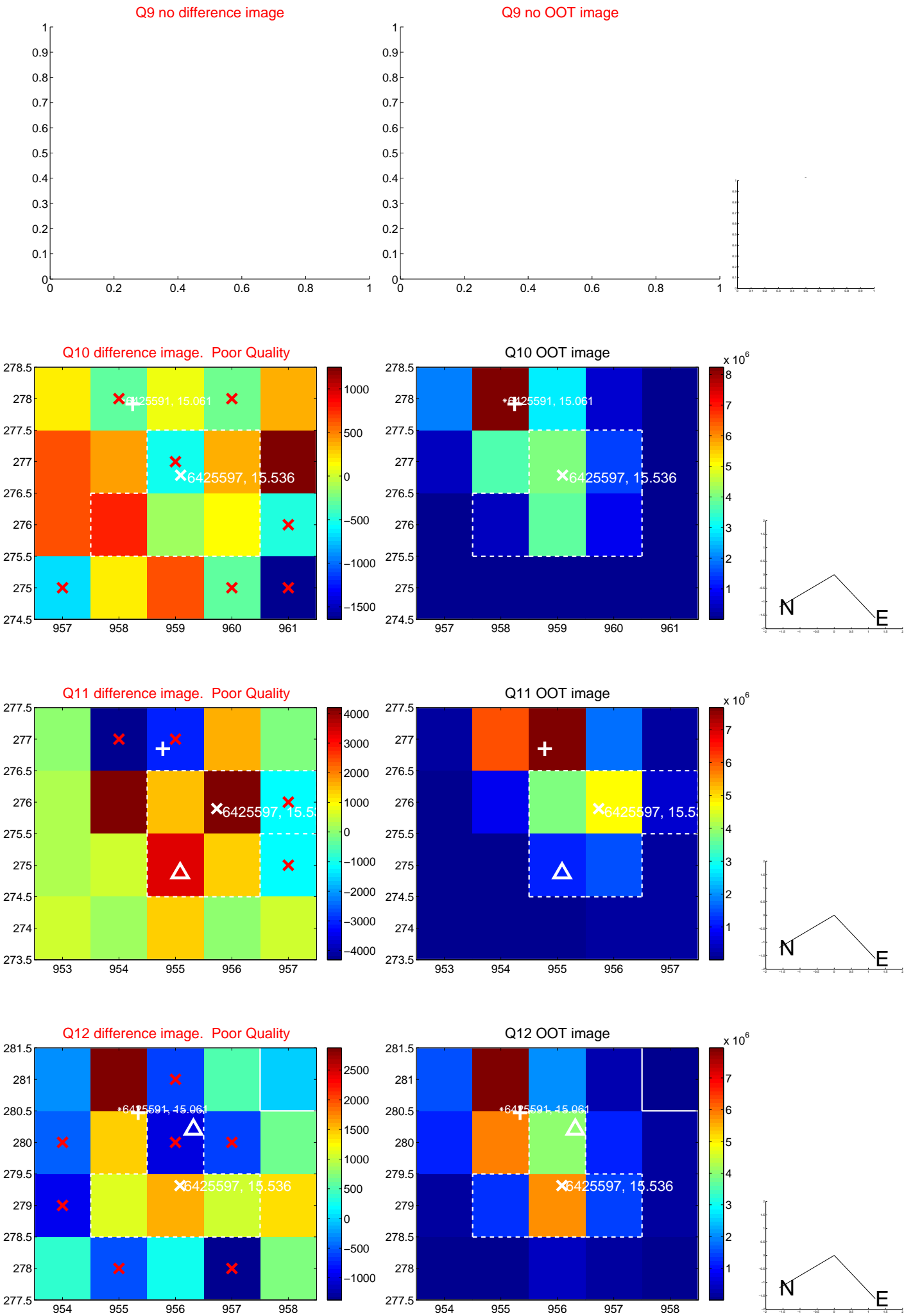
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



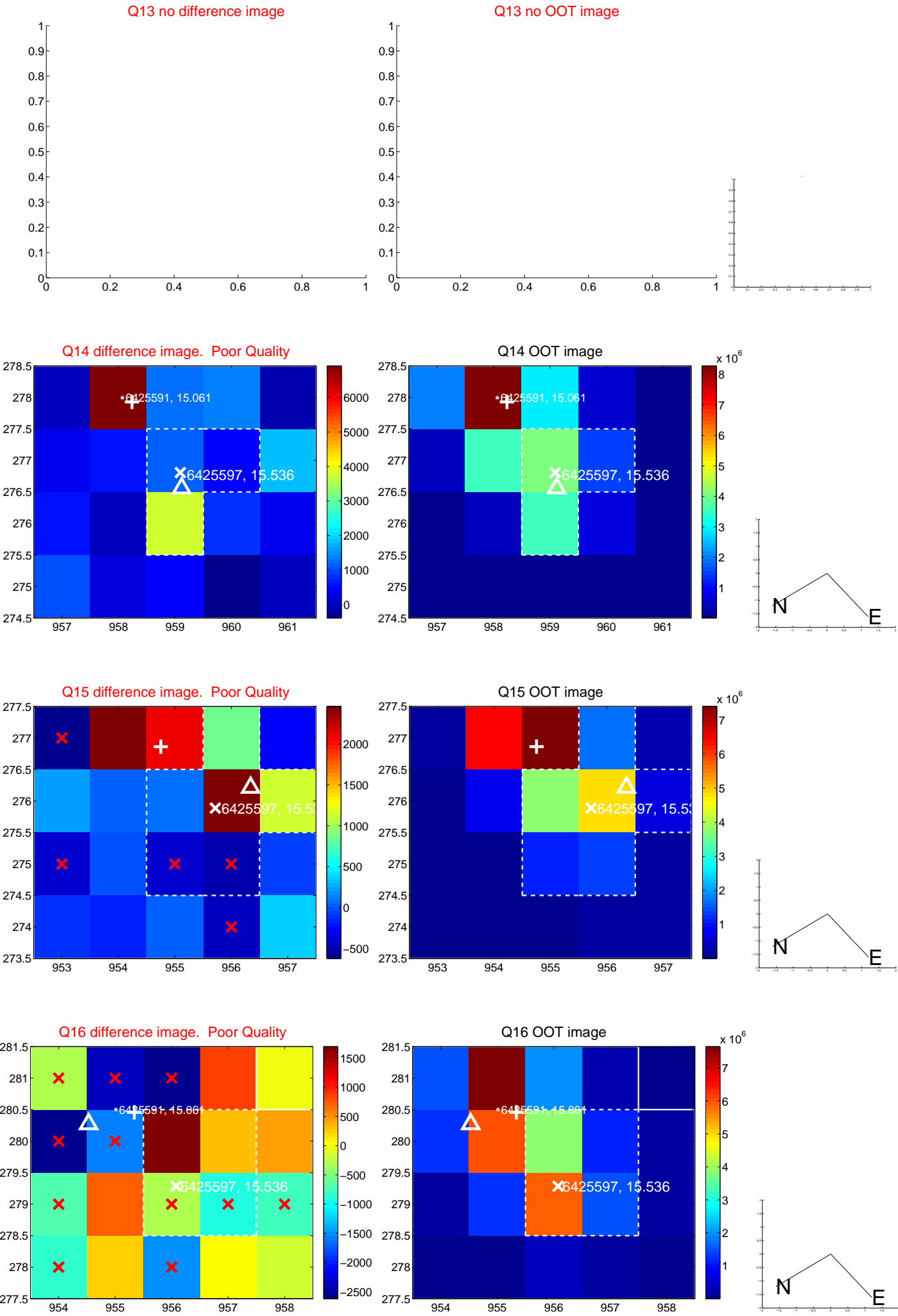
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



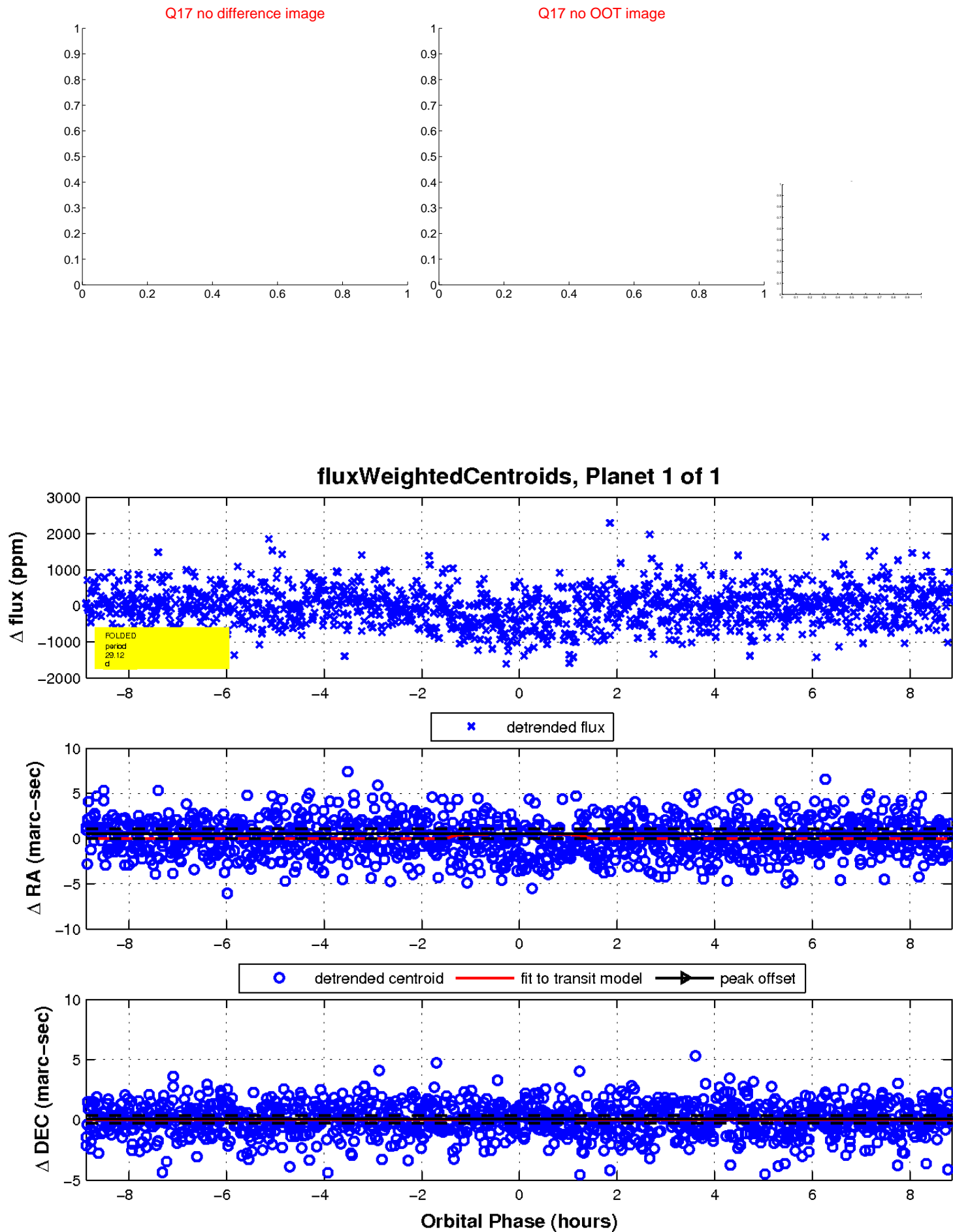
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

