

KIC 005602405

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})
005602405-01	OBS	No	7.692766	135.331476	36.1	22.589	8.0	6.0	0.87	5658	0.59	145.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005602405-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET

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

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

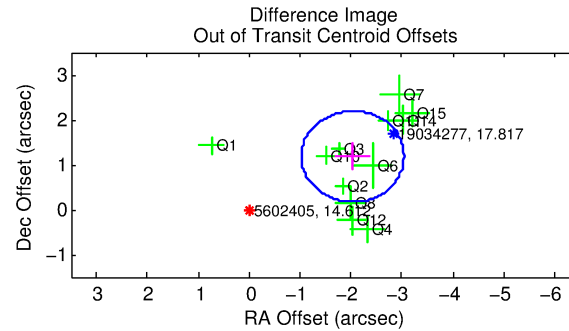
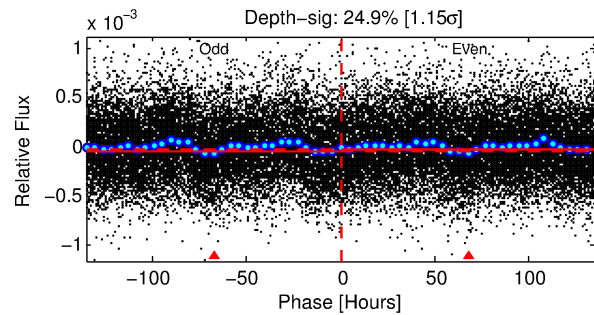
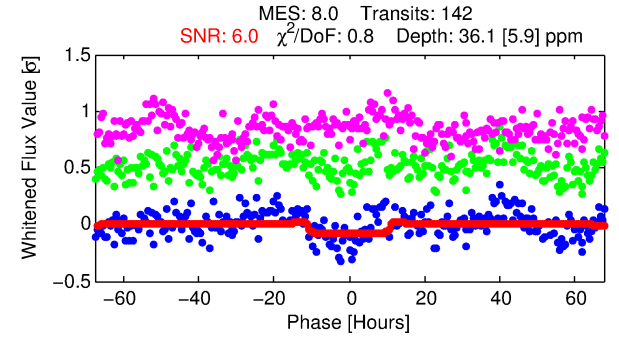
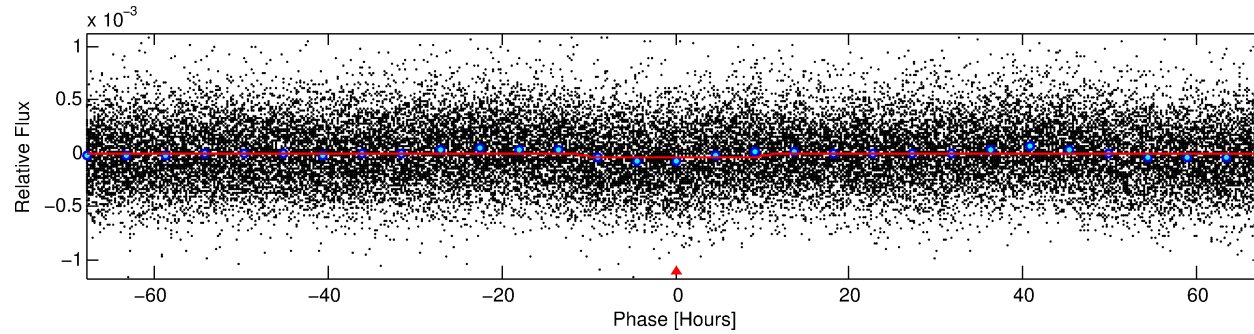
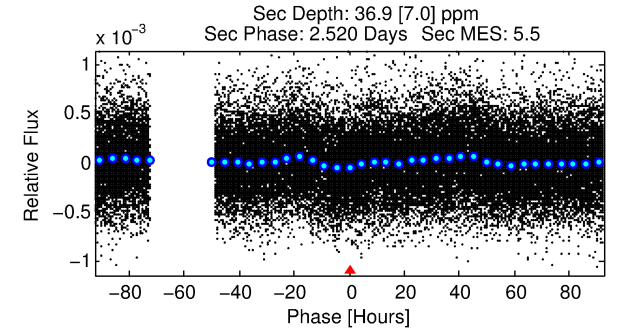
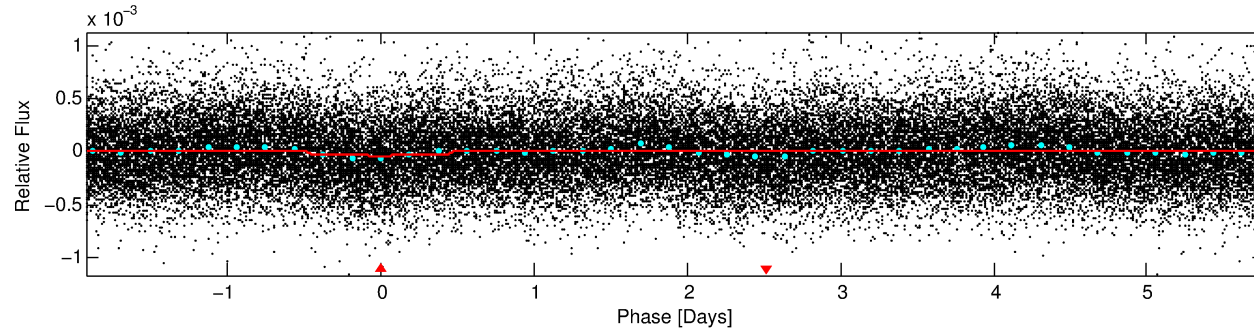
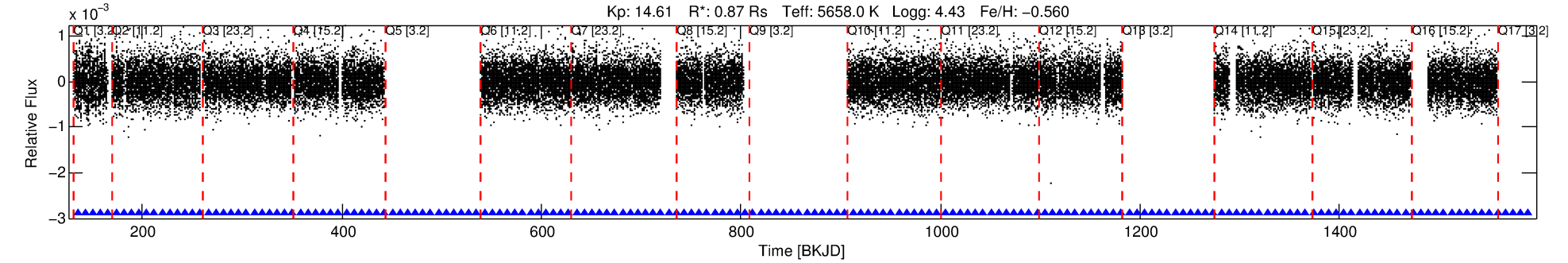
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005602405-01

No Significant Match Found

DV One-Page Summary

KIC: 5602405 Candidate: 1 of 1 Period: 7.693 d



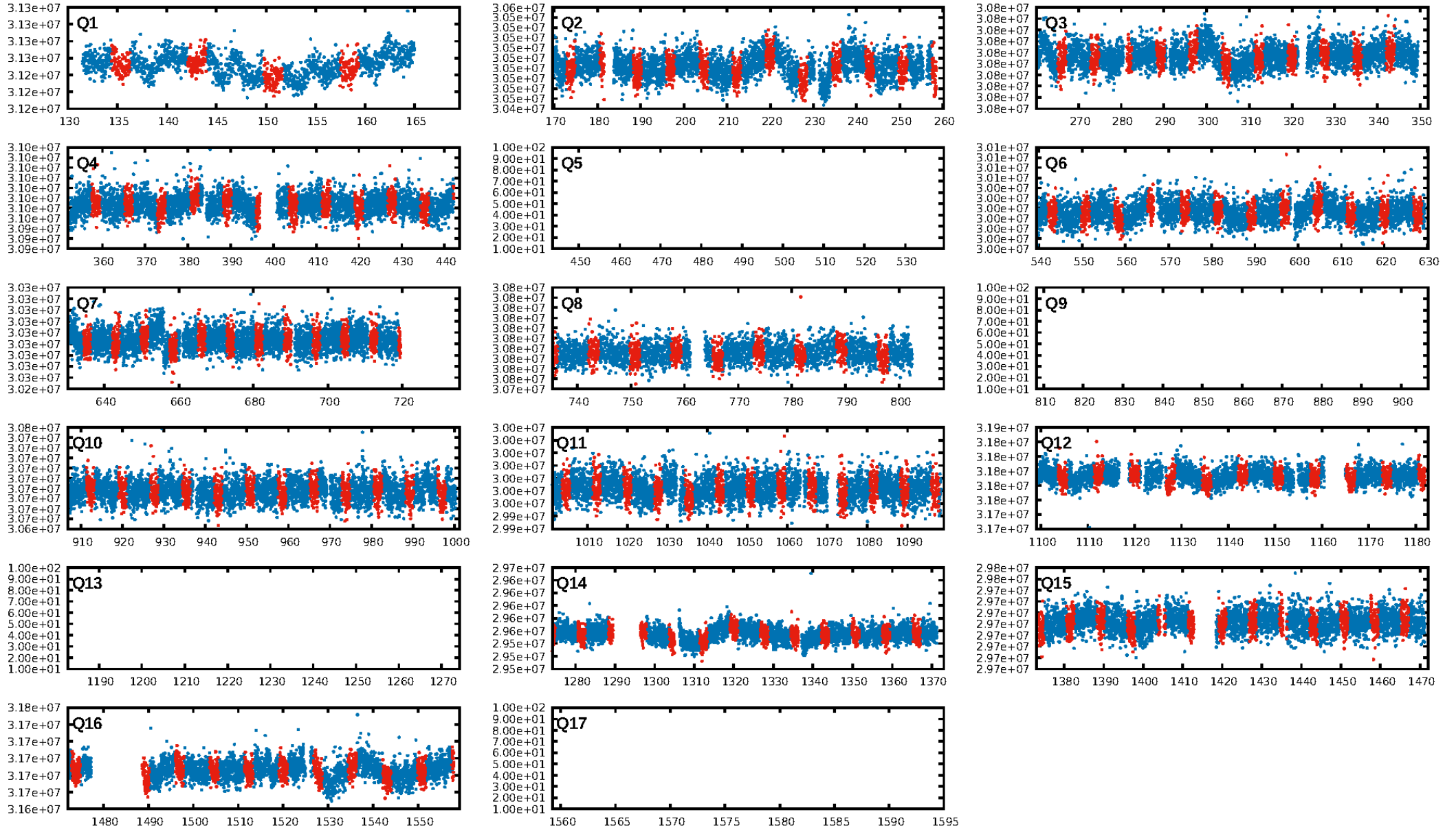
DV Fit Results:

Period = 7.69277 [0.00034] d
Epoch = 135.3315 [0.0340] BKJD
Rp/R* = 0.0062 [0.0018]
a/R* = 1.69 [1.52]
b = 0.84 [0.48]
Seff = 145.36 [50.59]
Teff = 885 [77] K
Rp = 0.59 [0.22] Re
a = 0.0691 [0.0147] AU
Ag = 276.84 [193.62] [1.42 σ]
Teffp = 5584 [879] K [5.32 σ]

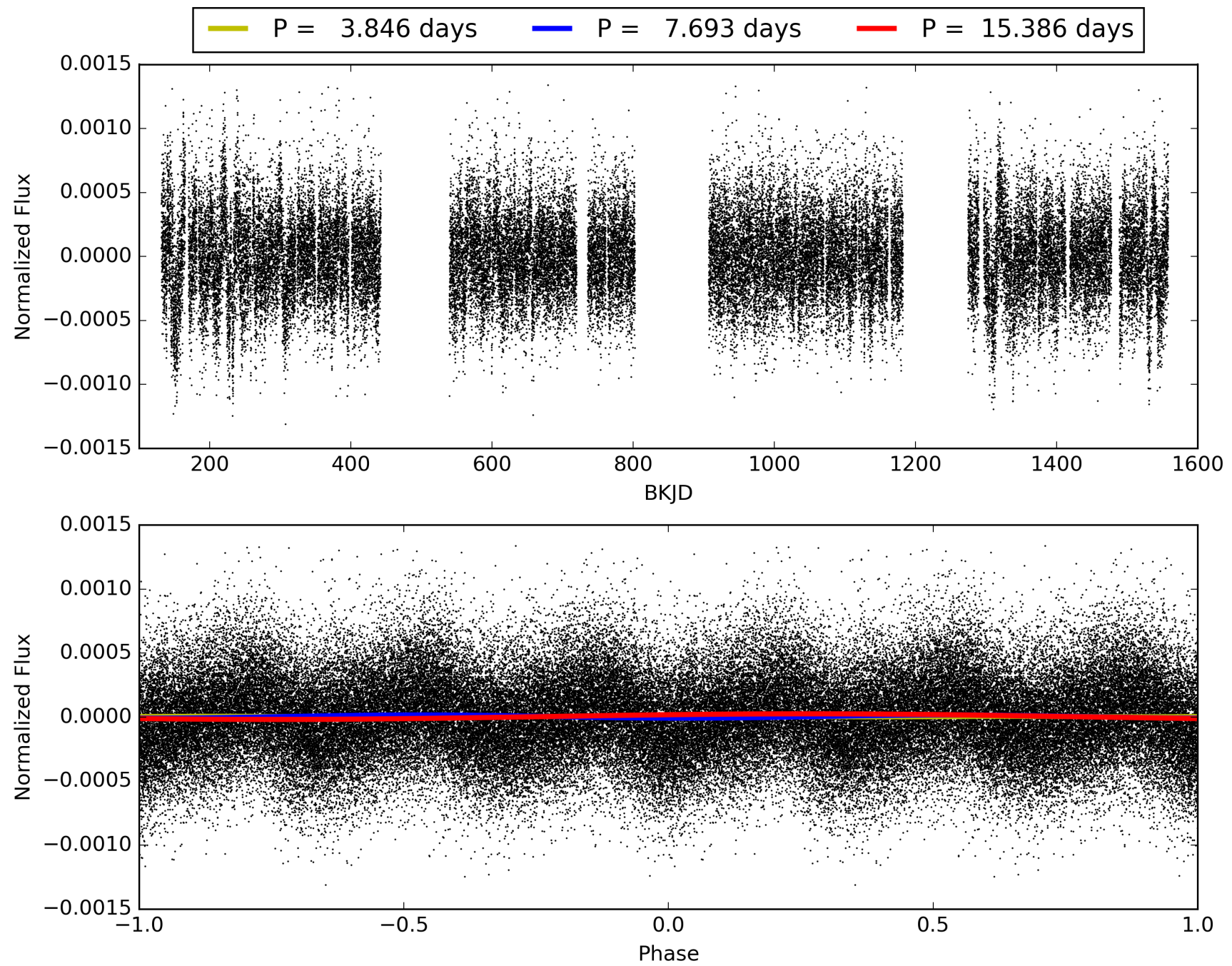
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.03e-15
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: 0.9882
Centroid-sig: 0.1%
Centroid-so: 4.425 arcsec [2.40 σ]
OotOffset-rm: 2.353 arcsec [6.98 σ]
KicOffset-rm: 2.530 arcsec [8.10 σ]
OotOffset-st: 4/4/3/1 [12]
KicOffset-st: 4/4/3/1 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 005602405-01, PDC Light Curves

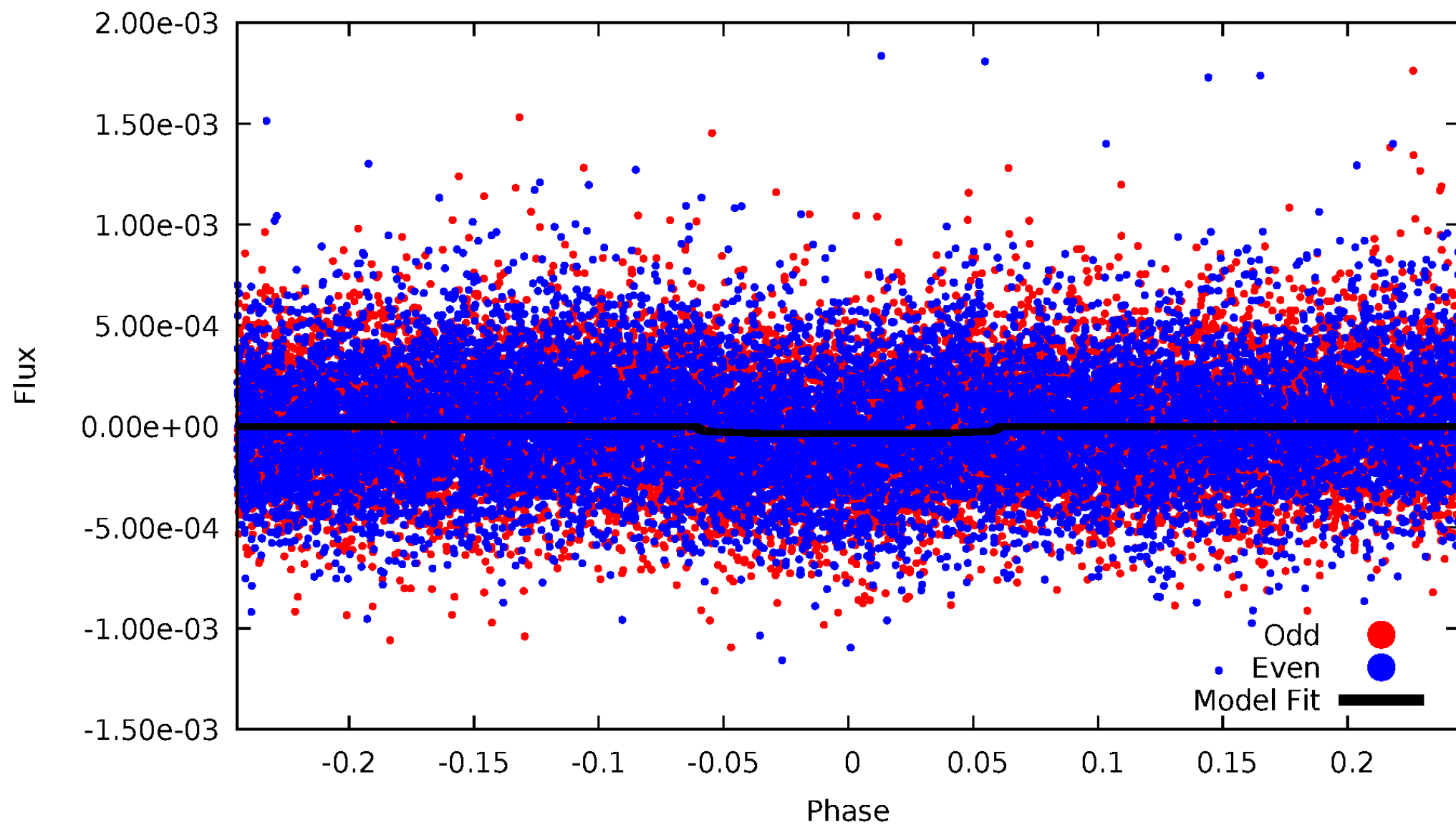


TCE 005602405-01



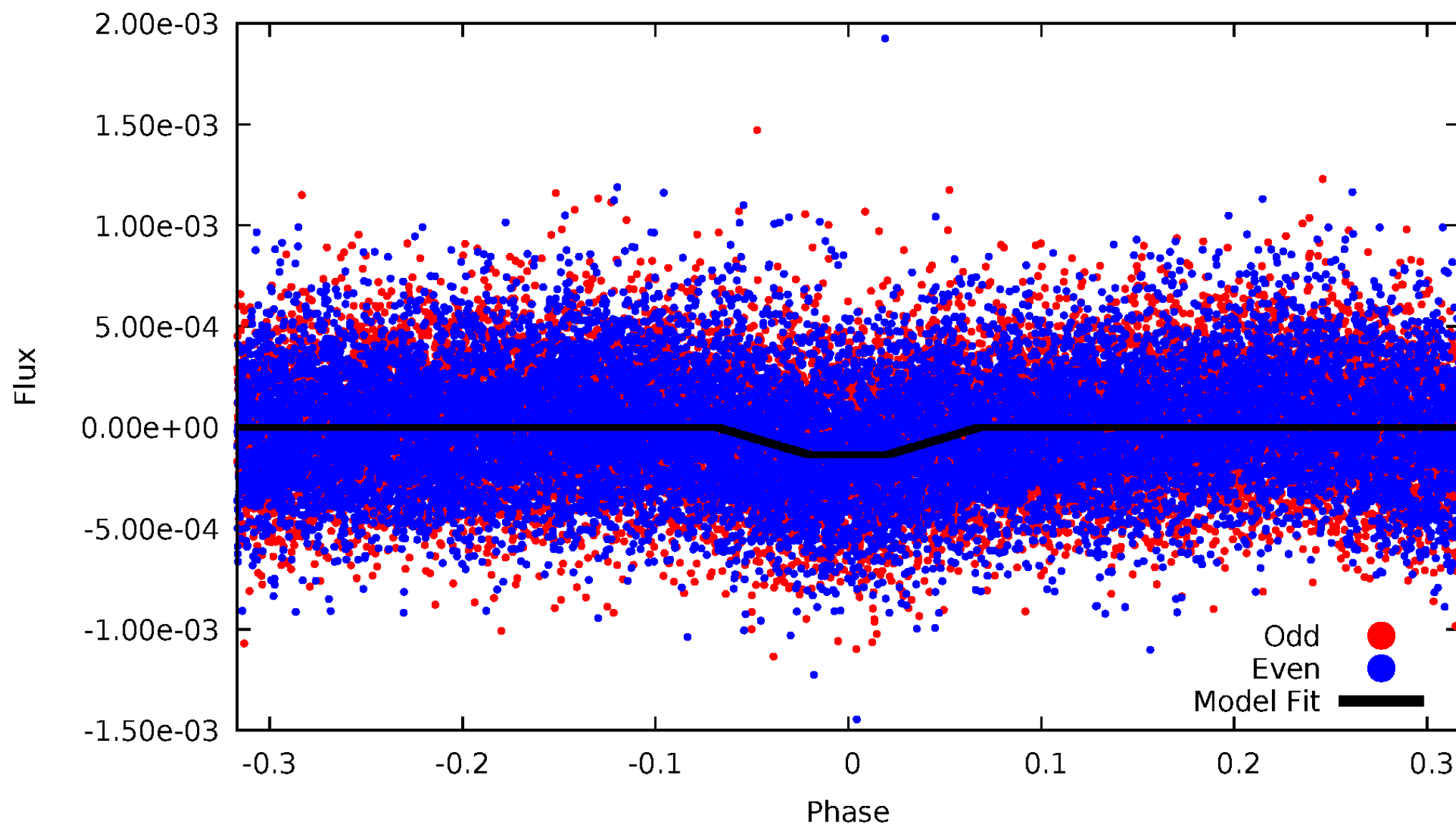
DV Odd/Even

TCE 005602405-01



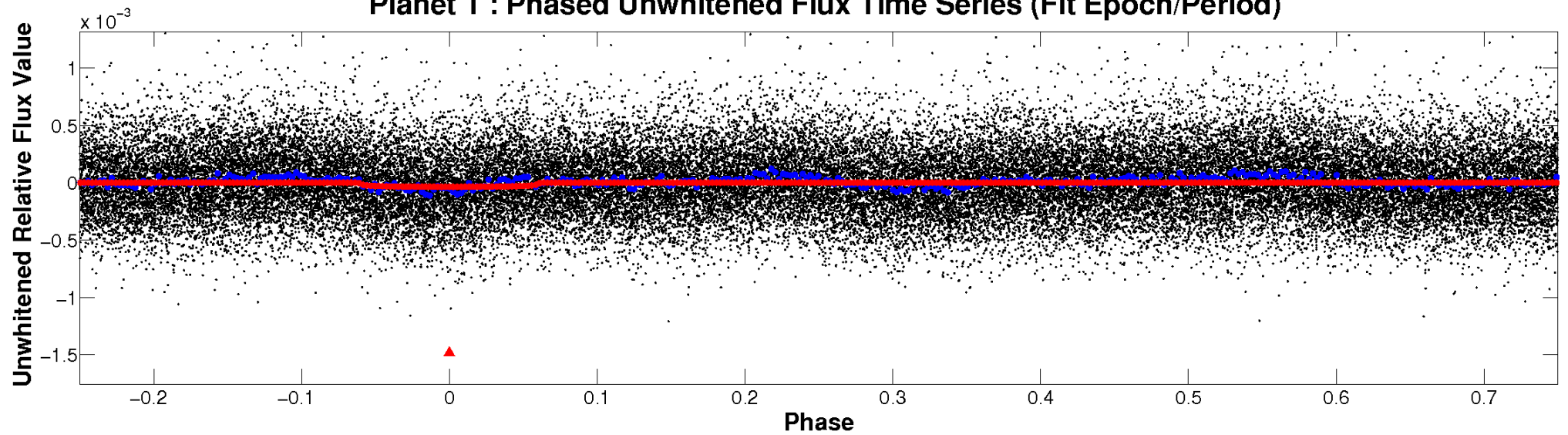
ALT Odd/Even

TCE 005602405-01

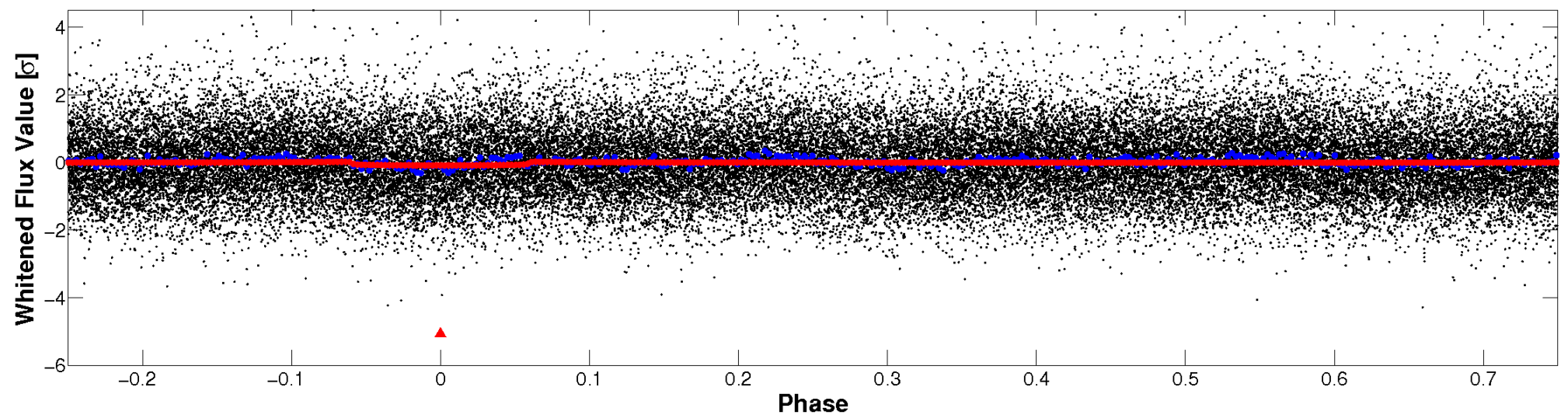


Non-Whitened Vs. Whitened Light Curve

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

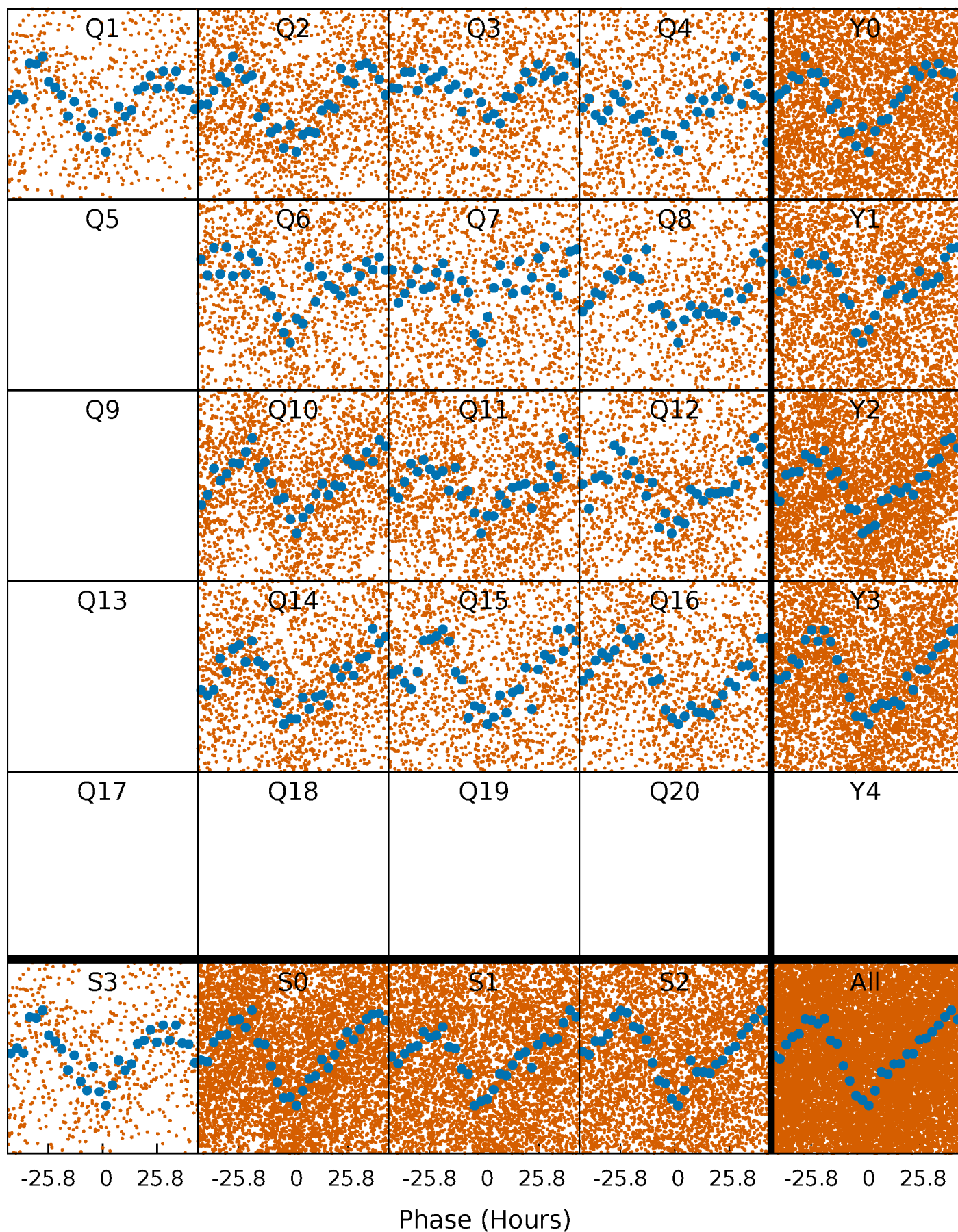


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



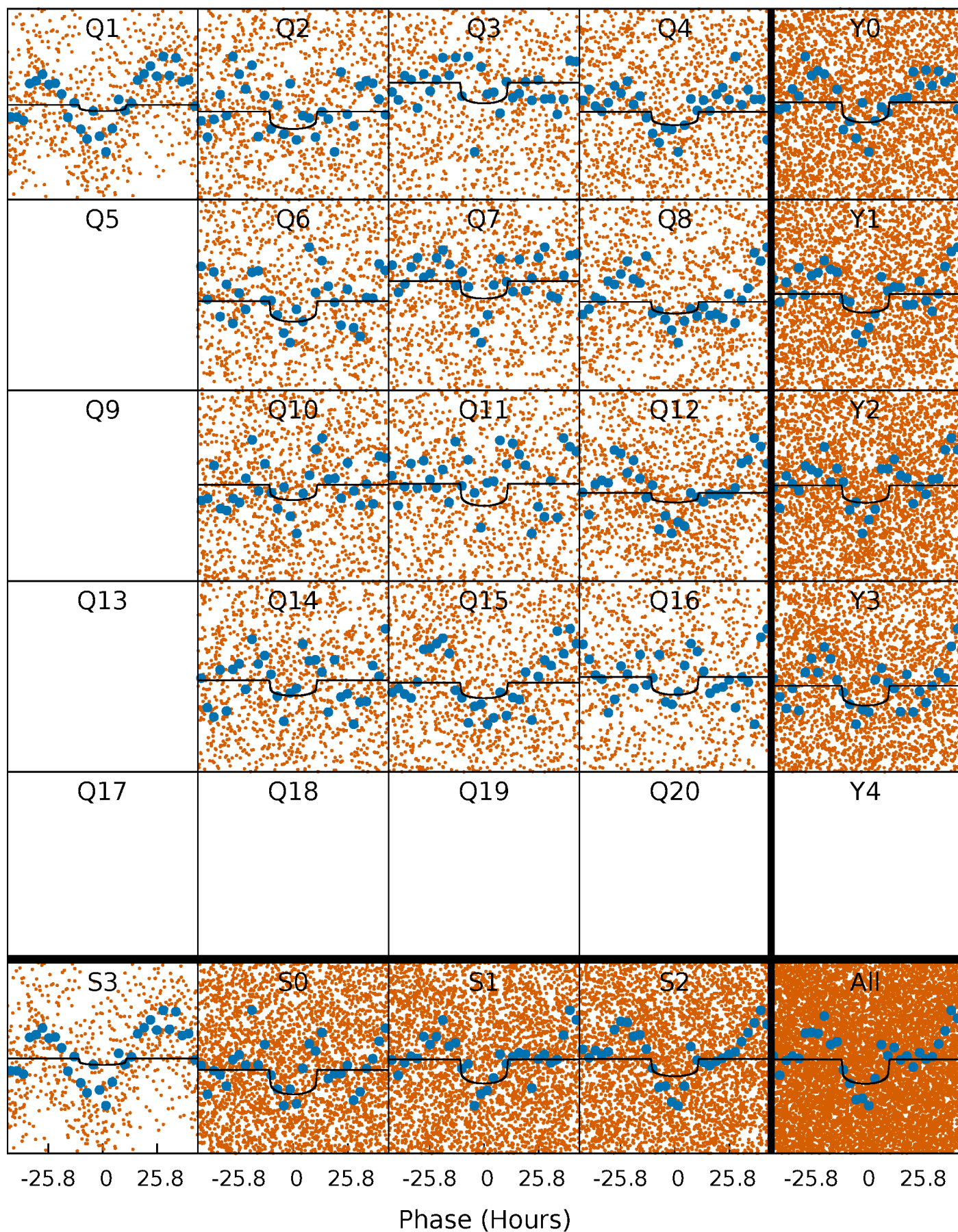
PDC Quarter-Phased Transit Curves

TCE 005602405-01 P= 7.692766 Days $T_0=135.331476$ (BKJD)



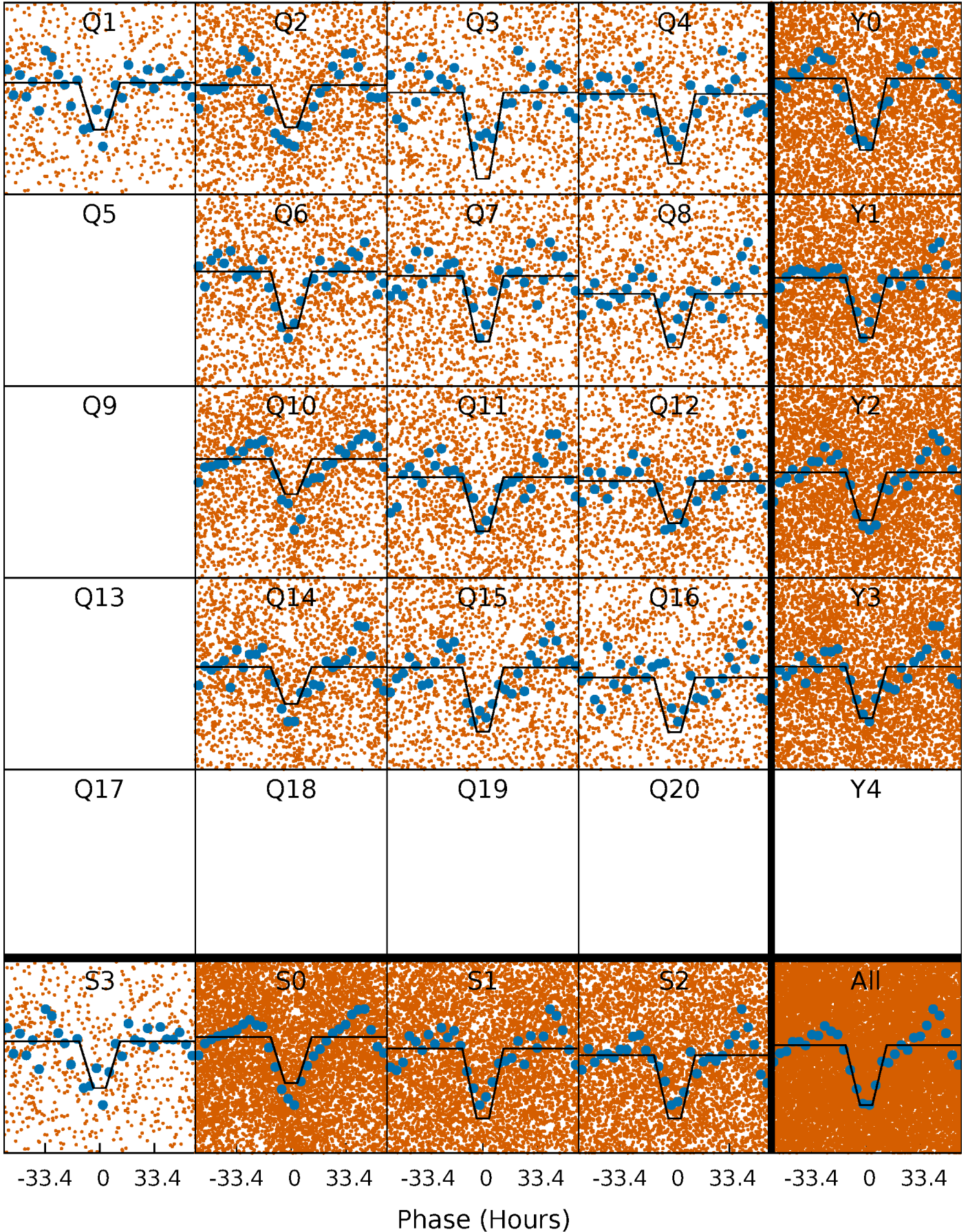
DV Quarter-Phased Transit Curves

TCE 005602405-01 P= 7.692766 Days $T_0=135.331476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

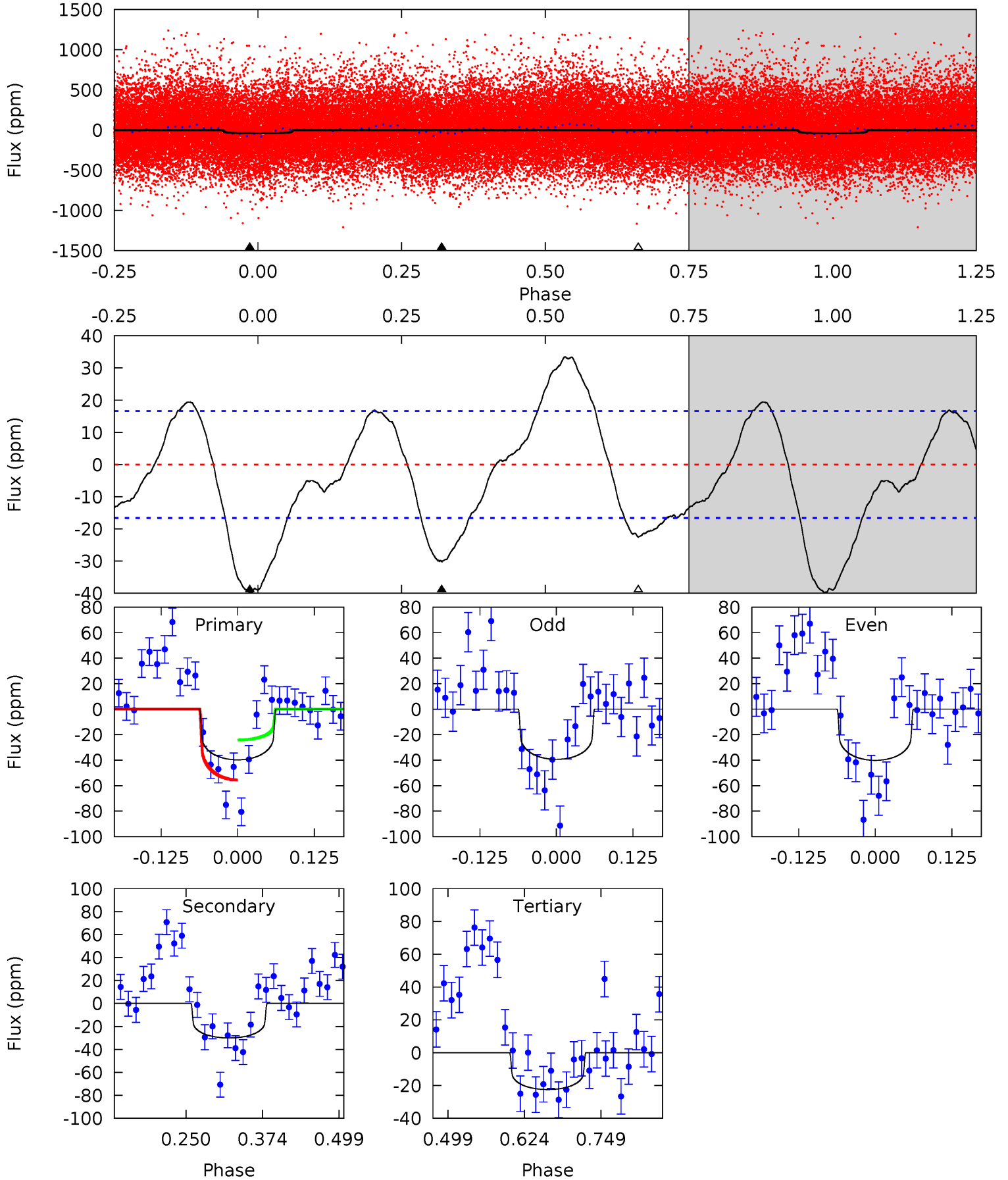
TCE 005602405-01 P= 7.692523 Days $T_0=135.306315$ (BKJD)



DV Model-Shift Uniqueness Test

005602405-01, P = 7.692766 Days, E = 127.638710 Days

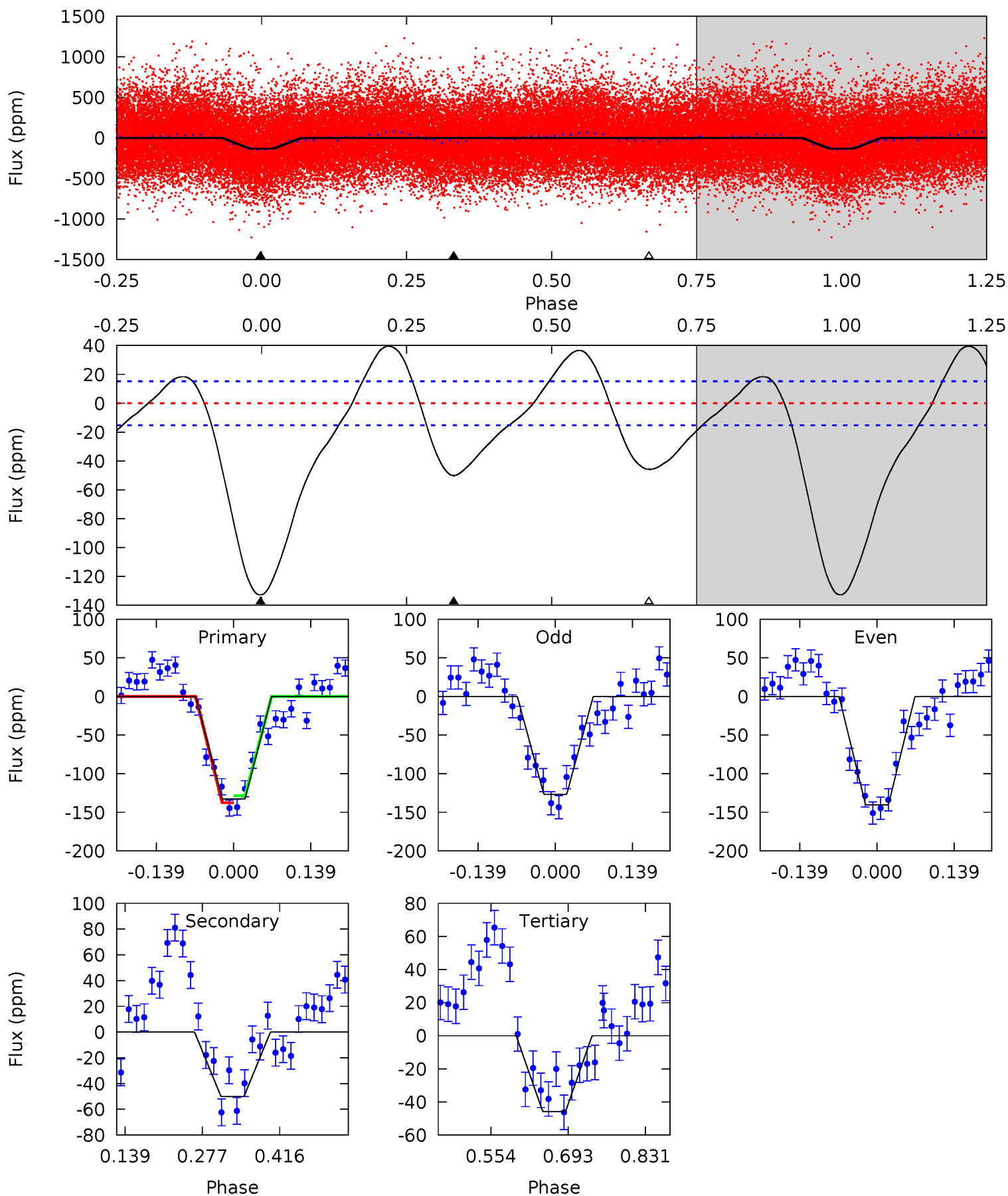
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	8.18	6.12	0	4.52	1.54	4.52	4.69	10.8	2.06	8.18	0.11	1.23	0.46	4.28



Alt Model-Shift Uniqueness Test

005602405-01, P = 7.692523 Days, E = 127.613792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	14.8	13.5	0	4.50	1.48	7.43	25.7	39.2	1.30	14.8	2.01	1.10	0.23	1.30



Stellar Parameters For KIC 005602405

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5658^{+169}_{-169}	$4.431^{+0.153}_{-0.187}$	$-0.560^{+0.350}_{-0.300}$	$0.870^{+0.204}_{-0.136}$	$0.745^{+0.112}_{-0.040}$	$1.593^{+1.124}_{-0.768}$
	+3%/-3%	+3%/-4%	+62%/-54%	+23%/-16%	+15%/-5%	+71%/-48%
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 005602405-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 4	$0.61^{+0.20}_{-0.19}$	1238^{+89}_{-66}	5295^{+1052}_{-598}	213^{+259}_{-95}
Alt.	-50 ± 3	$1.13^{+0.24}_{-0.21}$	1240^{+91}_{-75}	4561^{+339}_{-251}	105^{+53}_{-32}

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

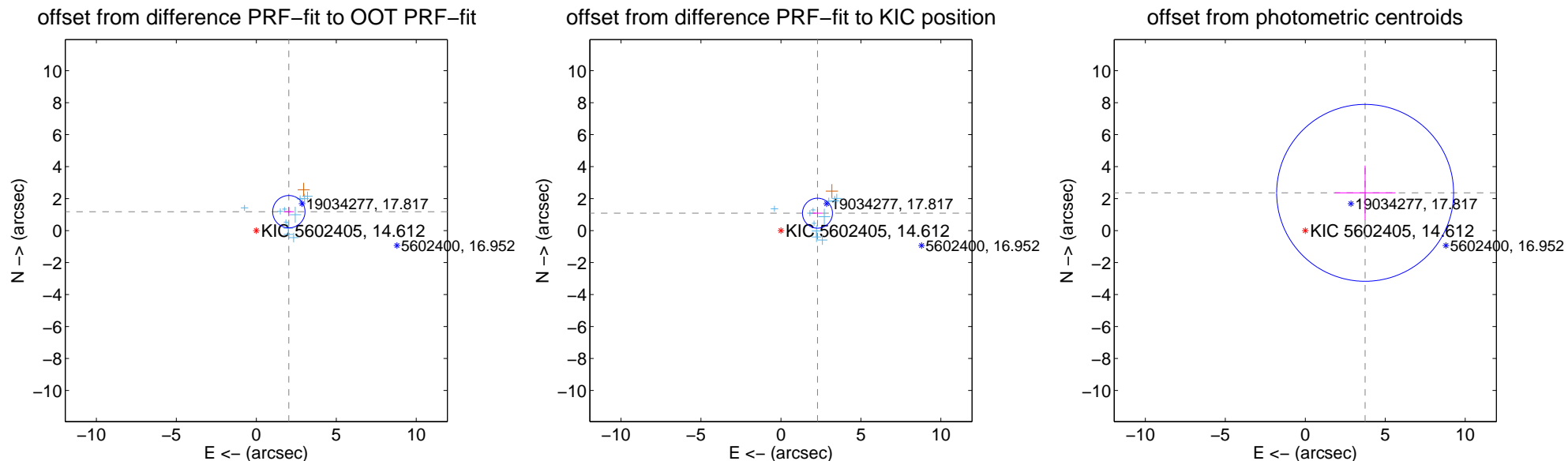
DV Centroid Data

Supplemental centroid analysis for 005602405-01. Kepler magnitude: 14.61. Transit SNR 5.99

There are 11 quarters with good PRF difference image offsets

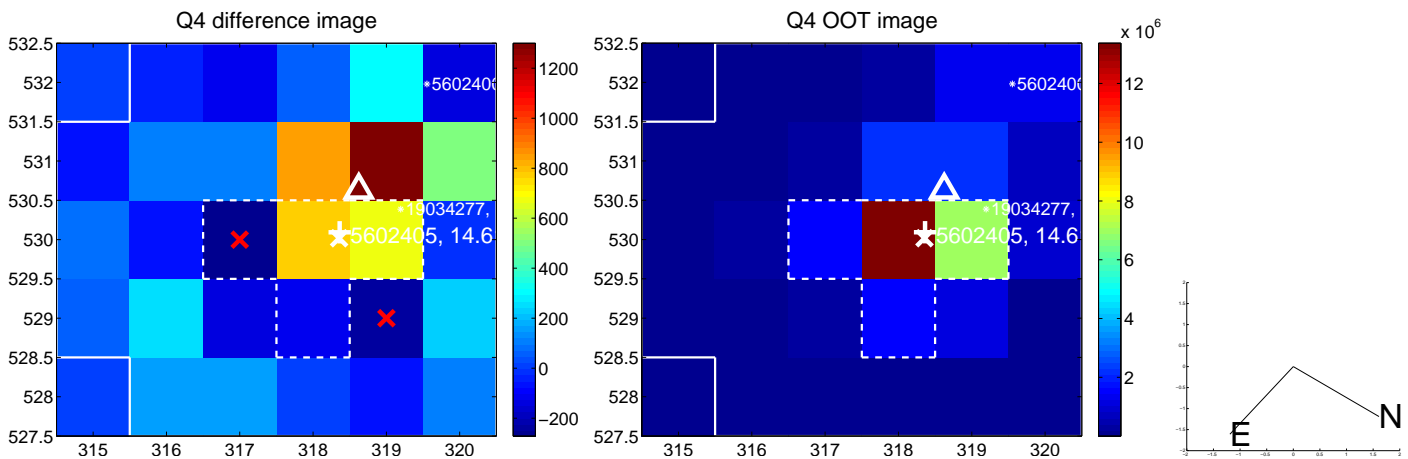
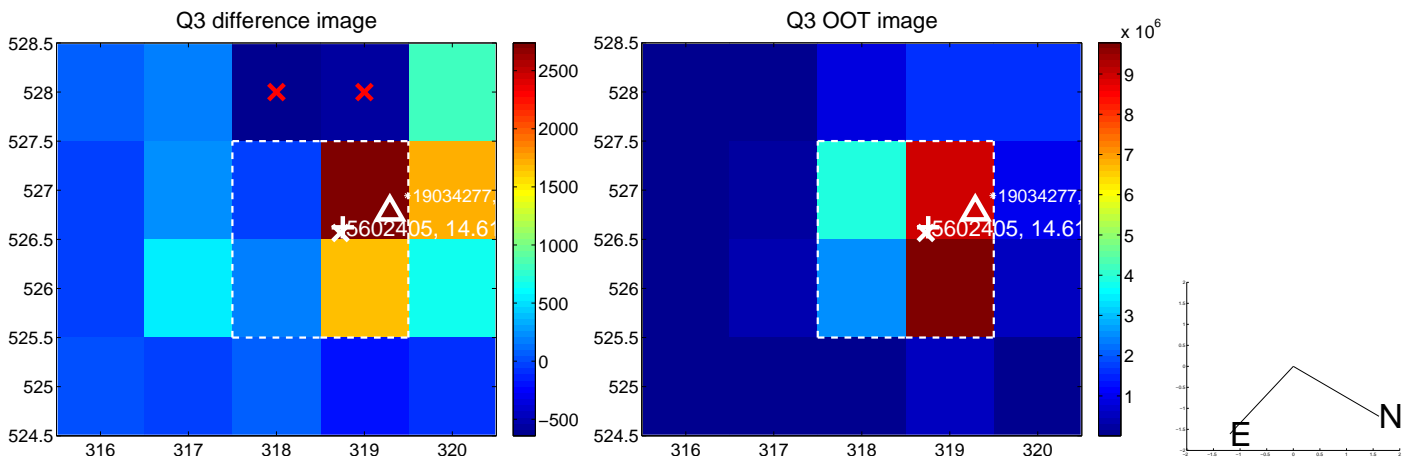
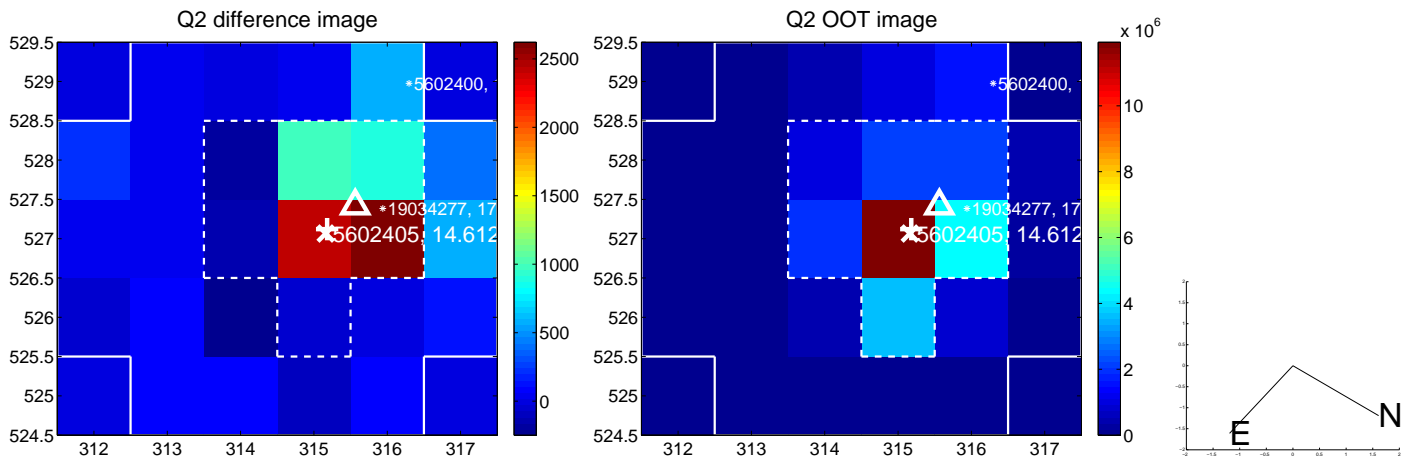
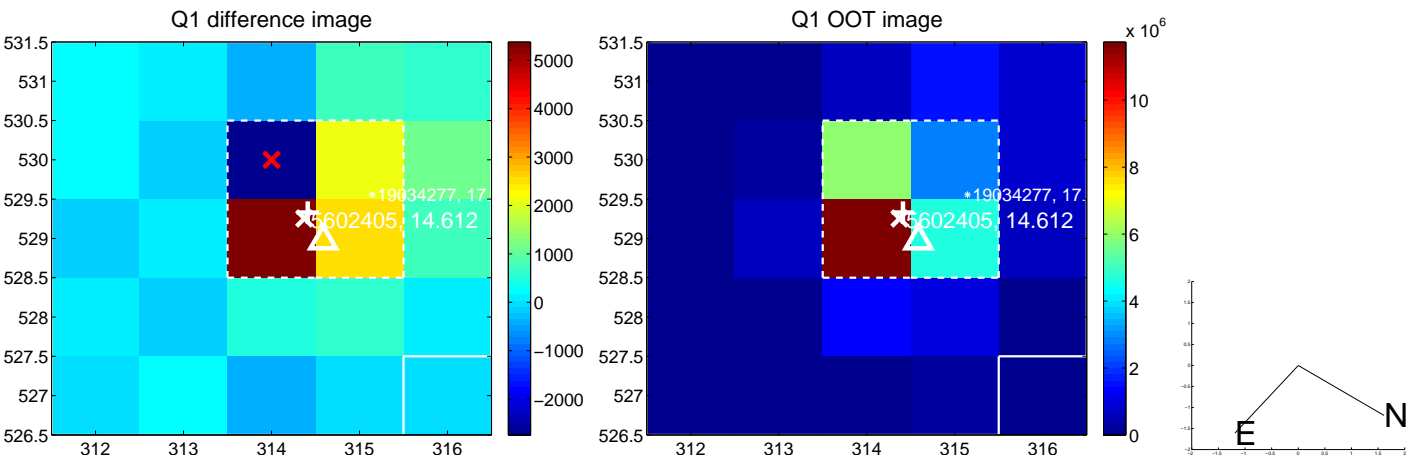
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.353 ± 0.337	6.98	-2.035 ± 0.319	1.181 ± 0.281
PRF-fit source offset from KIC position	2.530 ± 0.312	8.10	-2.285 ± 0.300	1.087 ± 0.263
photometric centroid source offset	4.42 ± 1.84	2.40	-3.74 ± 1.90	2.36 ± 1.71

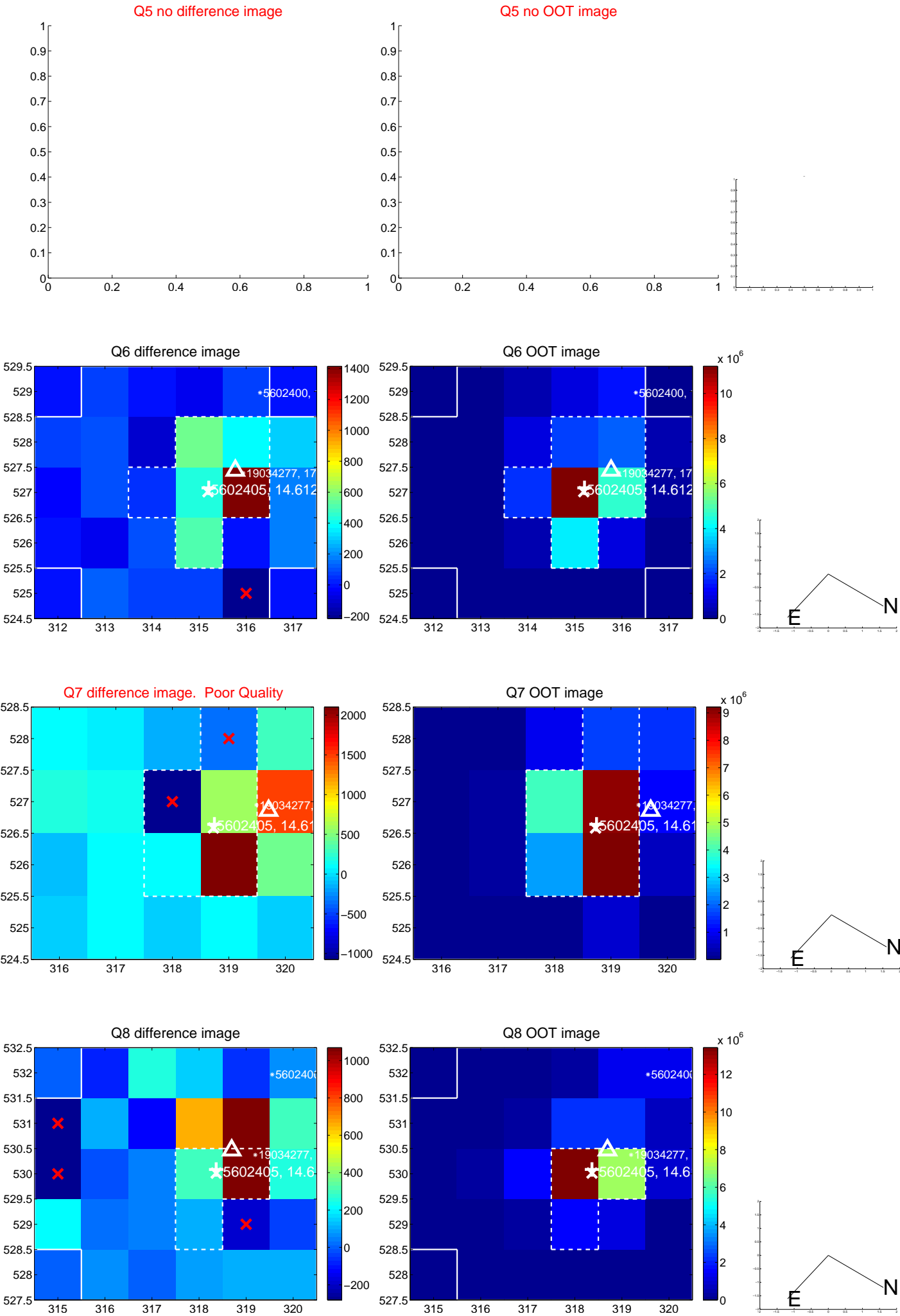


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

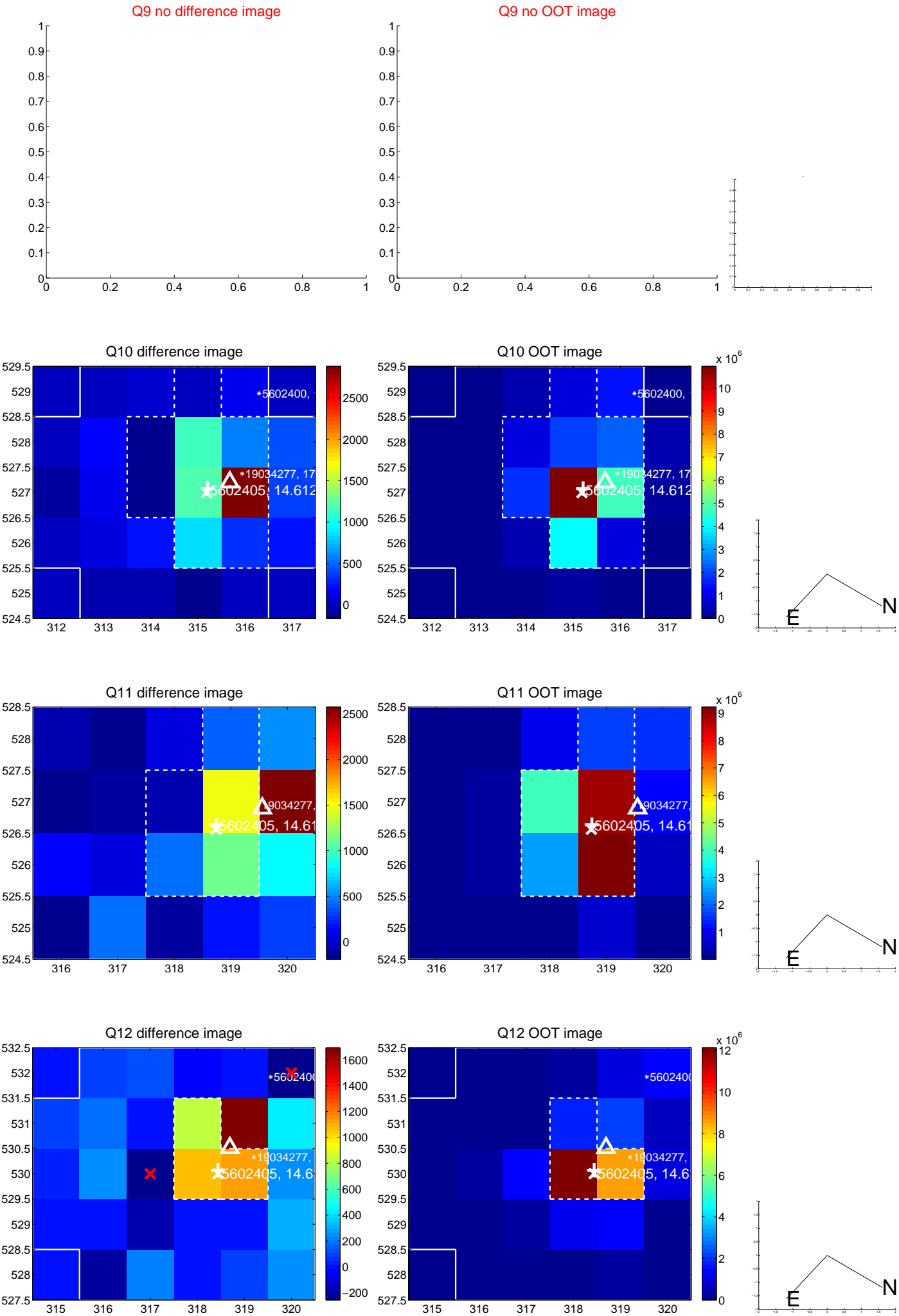
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



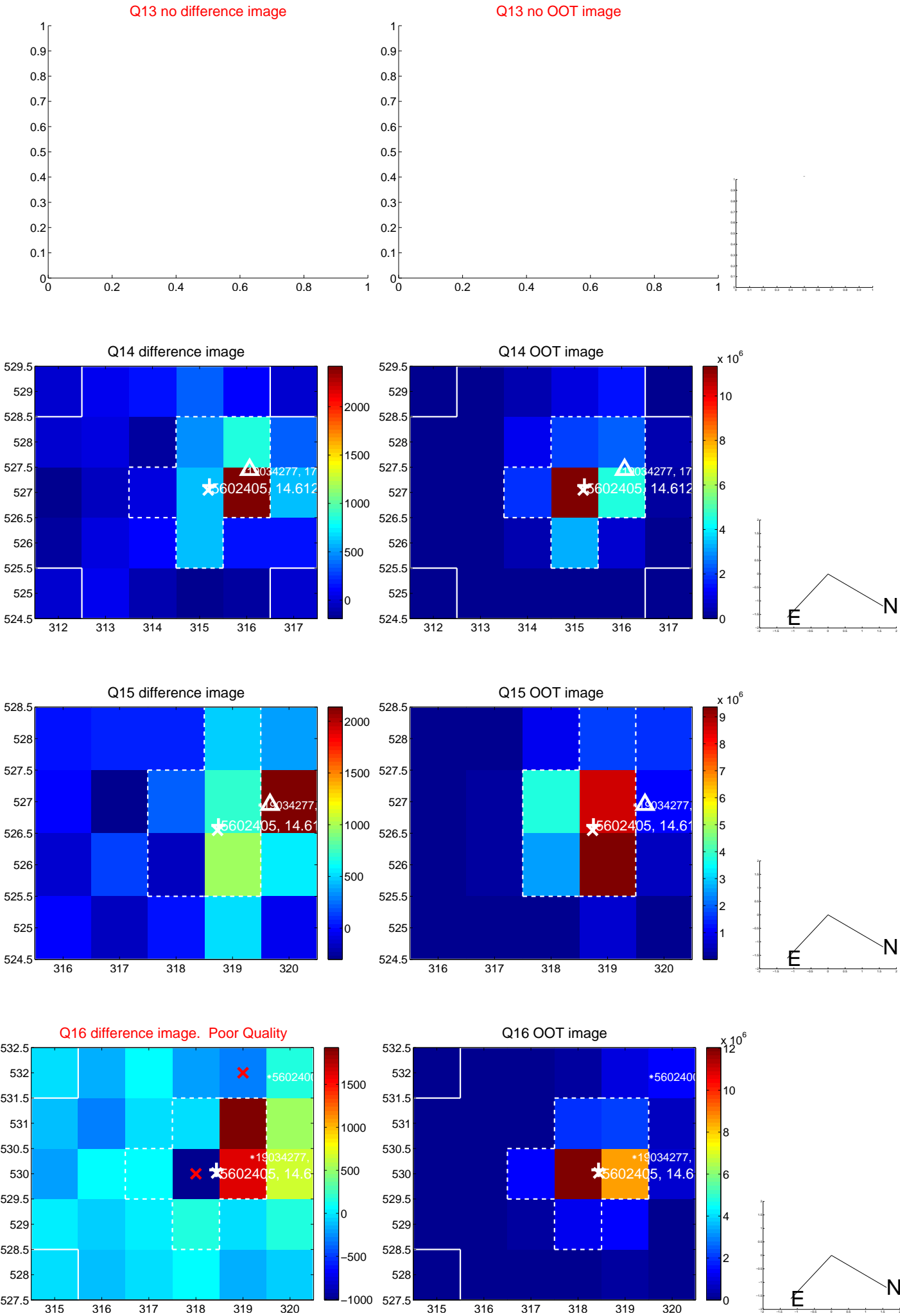
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



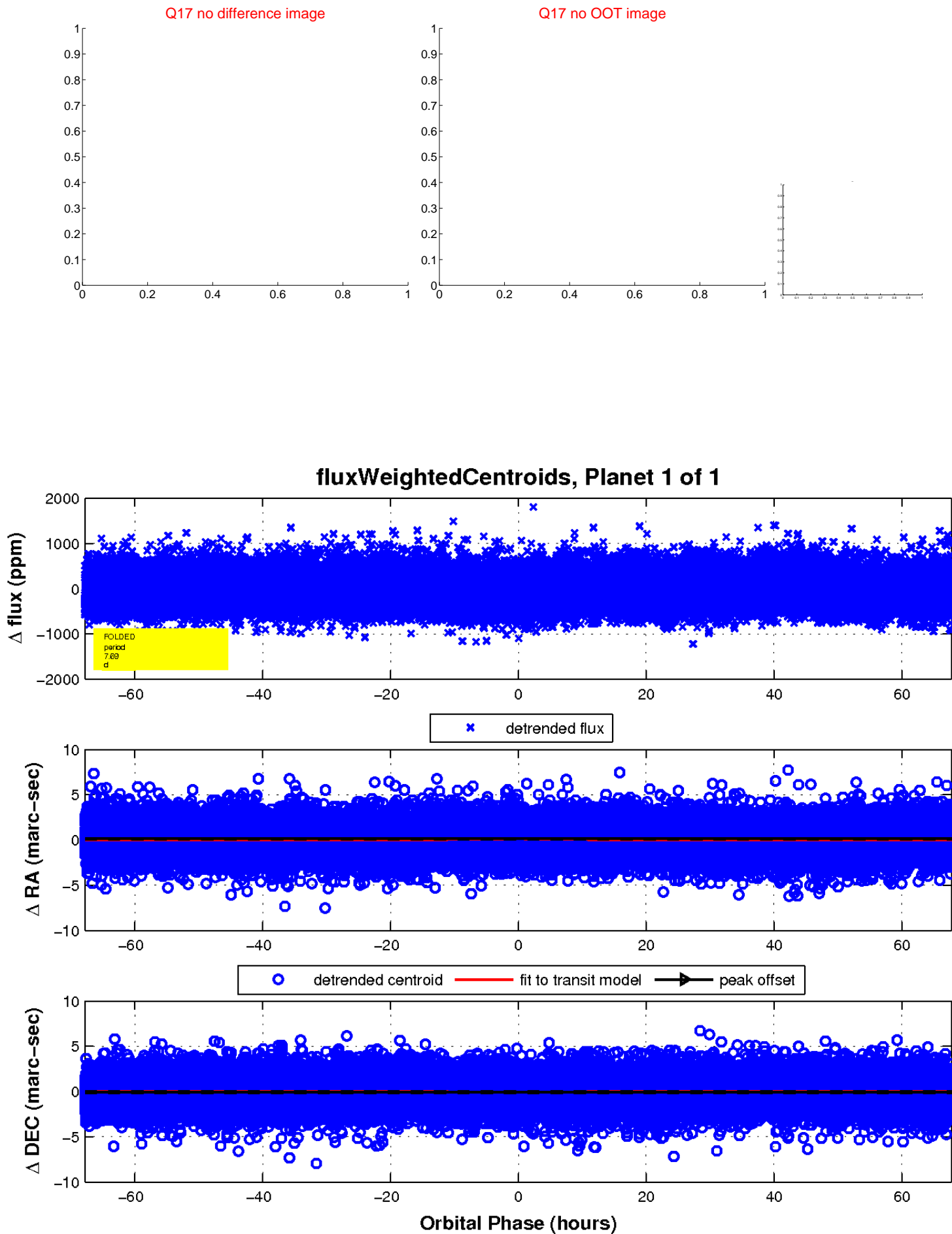
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

