

KIC 006471021

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})
006471021-01	OBS	0372.01	125.629784	253.346608	7962.9	9.038	104.8	311.9	1.11	5819	9.82	5.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006471021-01	OBS	FP	0.01	1	0	0	0	INCONSISTENT_TRANS

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

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

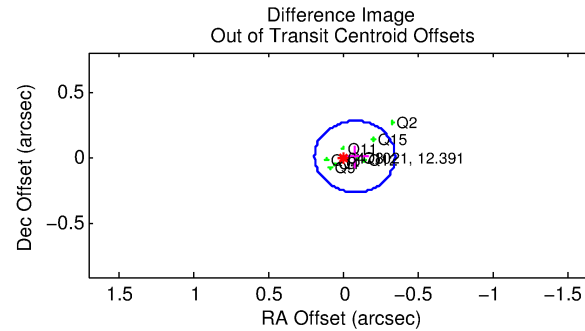
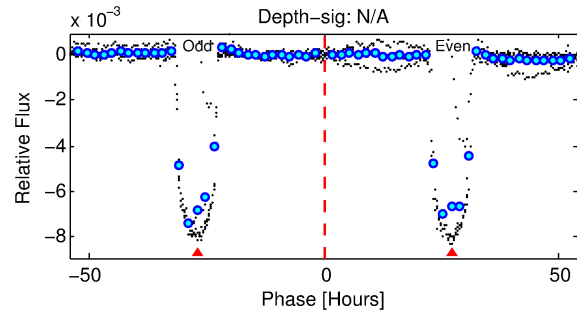
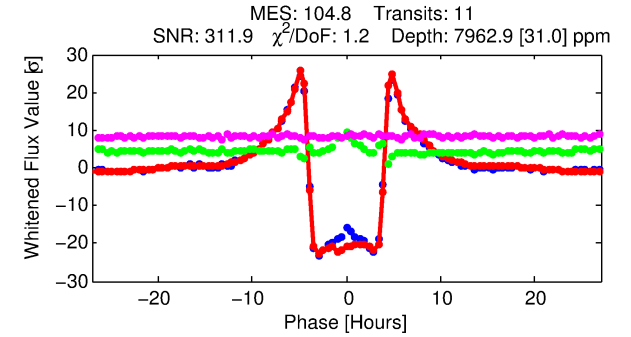
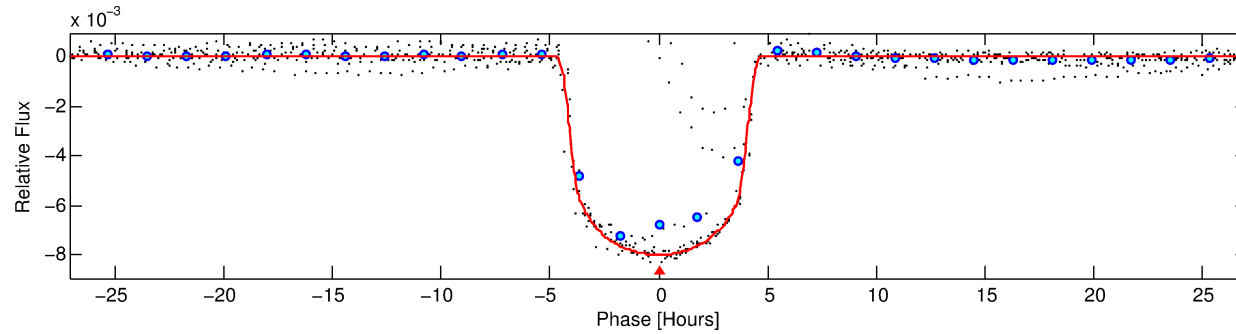
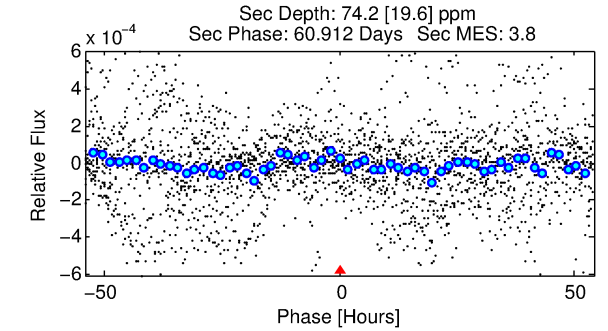
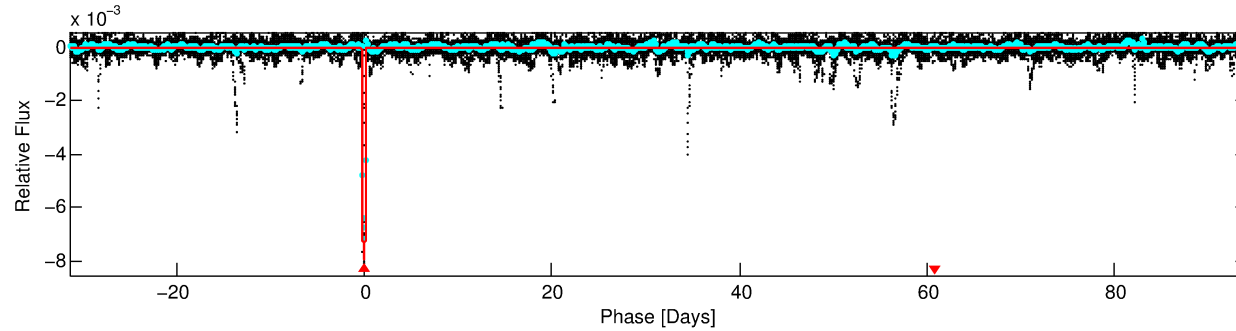
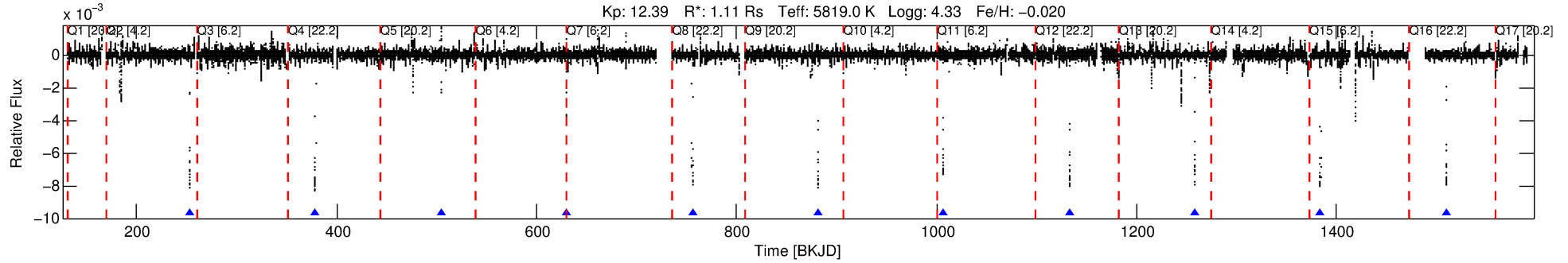
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006471021-01

No Significant Match Found

DV One-Page Summary

KIC: 6471021 Candidate: 1 of 1 Period: 125.630 d
KOI: K00372.01 Corr: 0.984



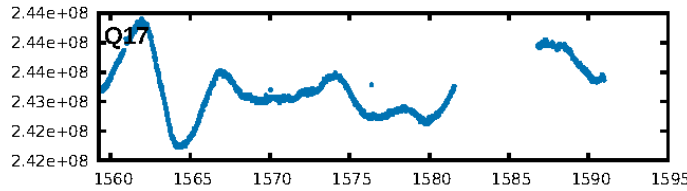
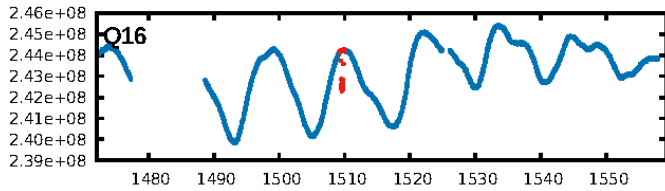
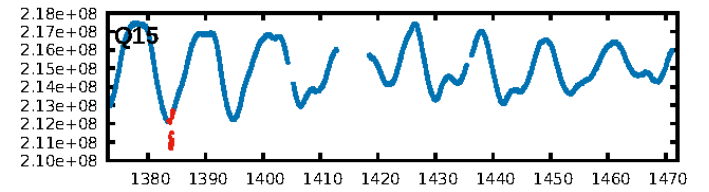
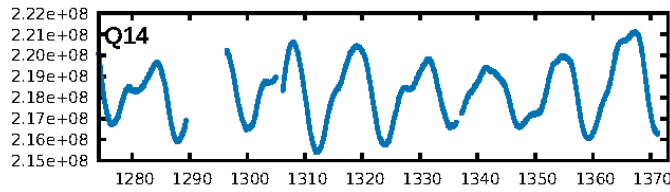
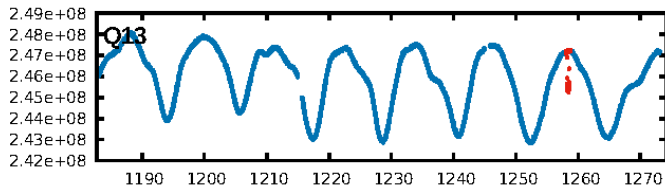
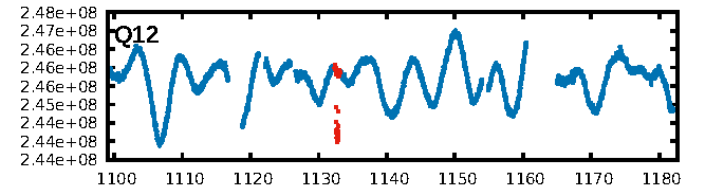
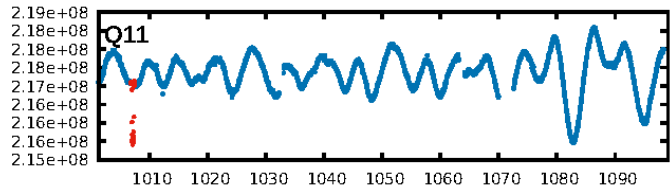
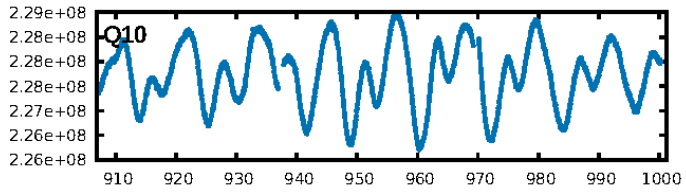
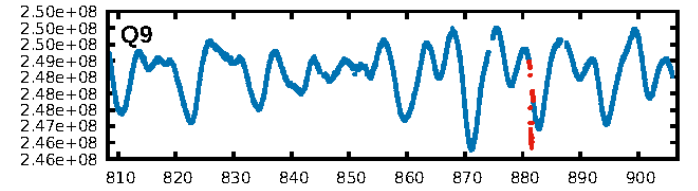
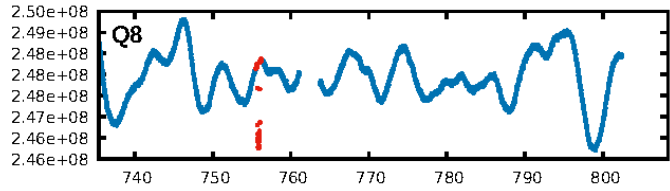
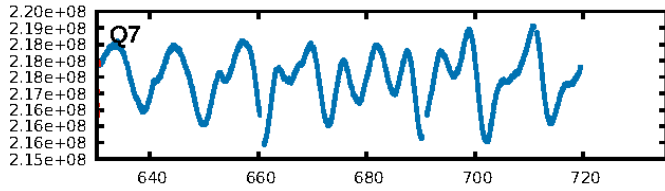
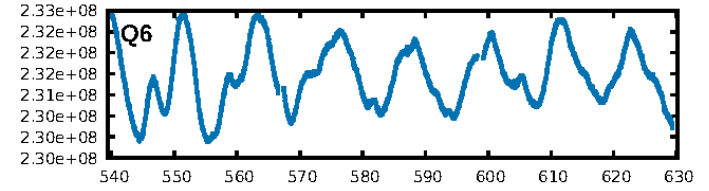
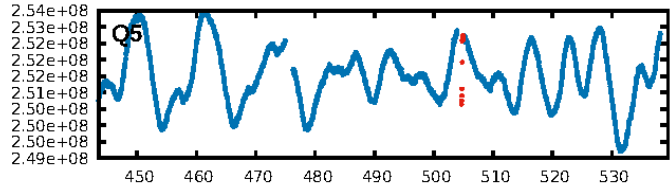
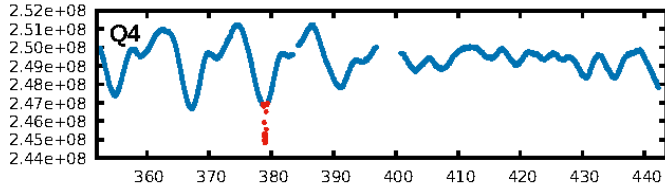
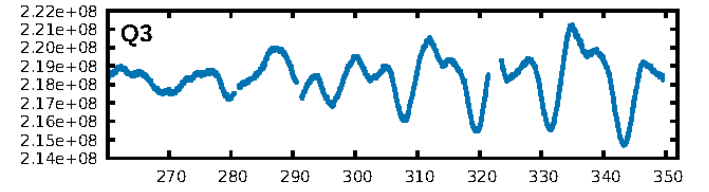
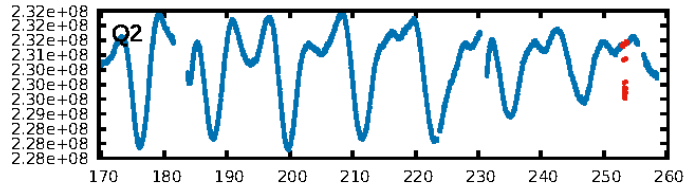
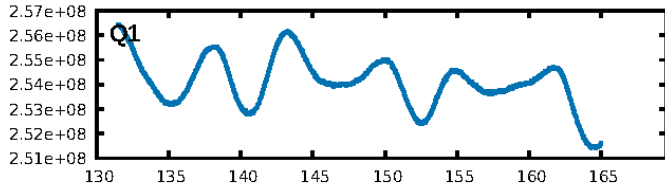
DV Fit Results:

Period = 125.62978 [0.00005] d
Epoch = 253.3466 [0.0003] BKJD
Rp/R* = 0.0810 [0.0005]
a/R* = 114.79 [2.69]
b = 0.01 [3.00]
Seff = 5.36 [1.25]
Teq = 388 [23] K
Rp = 9.82 [1.44] Re
a = 0.4863 [0.0685] AU
Ag = 100.01 [34.77] [2.85] σ
Teffp = 1897 [129] K [11.54] σ

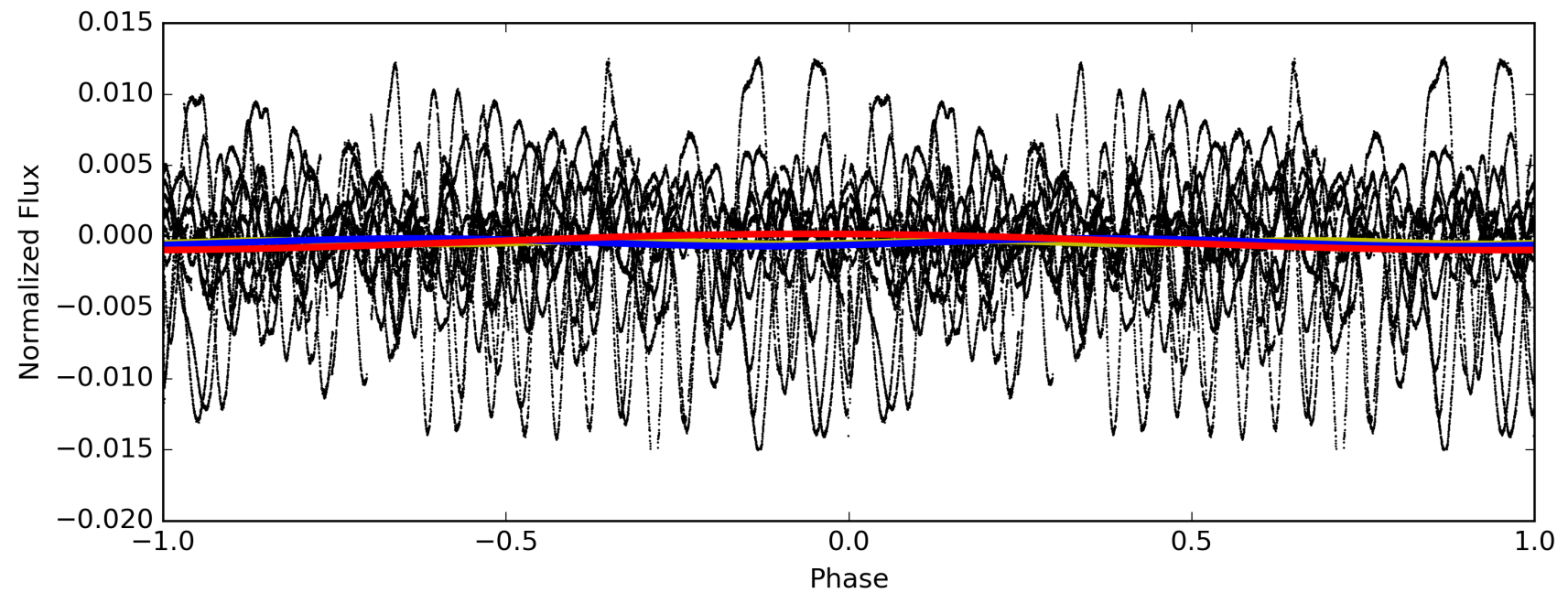
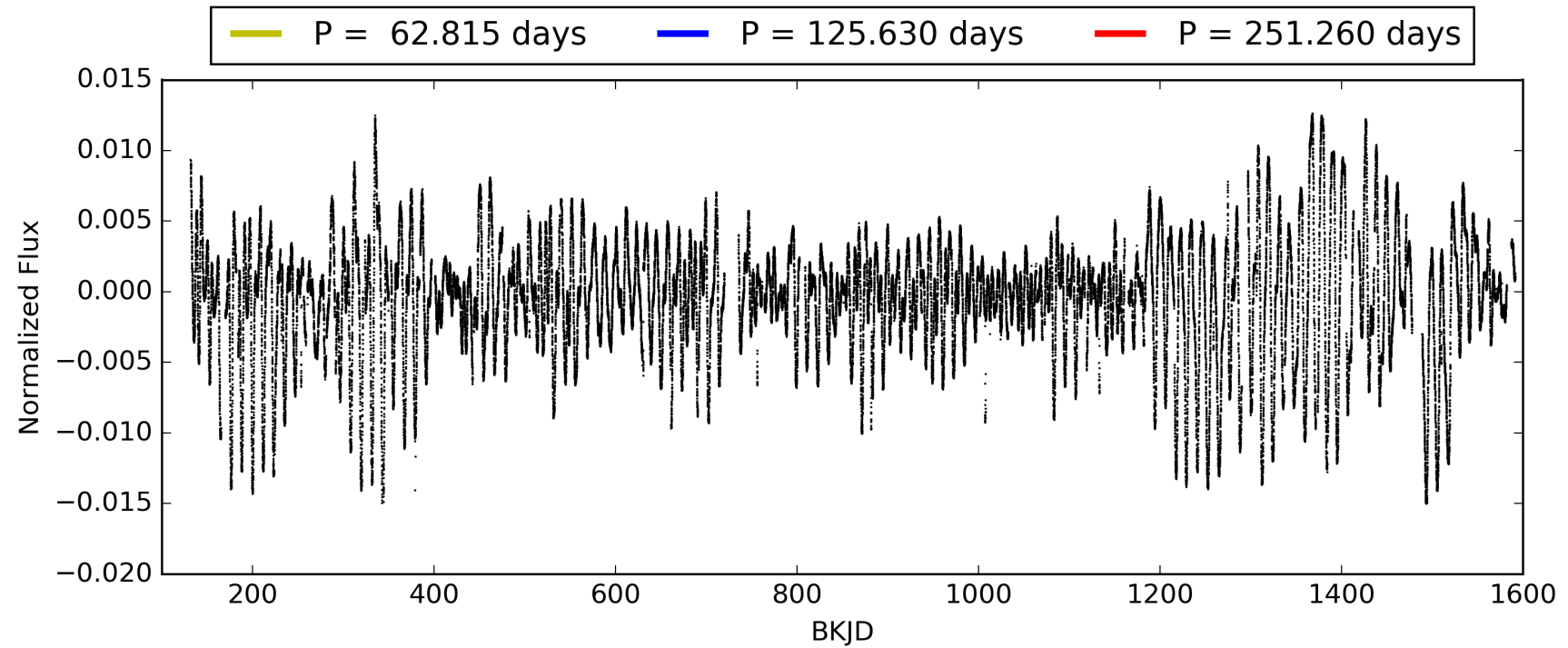
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.5%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 2.154
Centroid-sig: 0.0%
Centroid-so: 0.226 arcsec [11.90] σ
OotOffset-rm: 0.082 arcsec [0.91] σ
KicOffset-rm: 0.177 arcsec [1.72] σ
OotOffset-st: 1/2/3/2 [8]
KicOffset-st: 1/2/3/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

TCE 006471021-01, PDC Light Curves

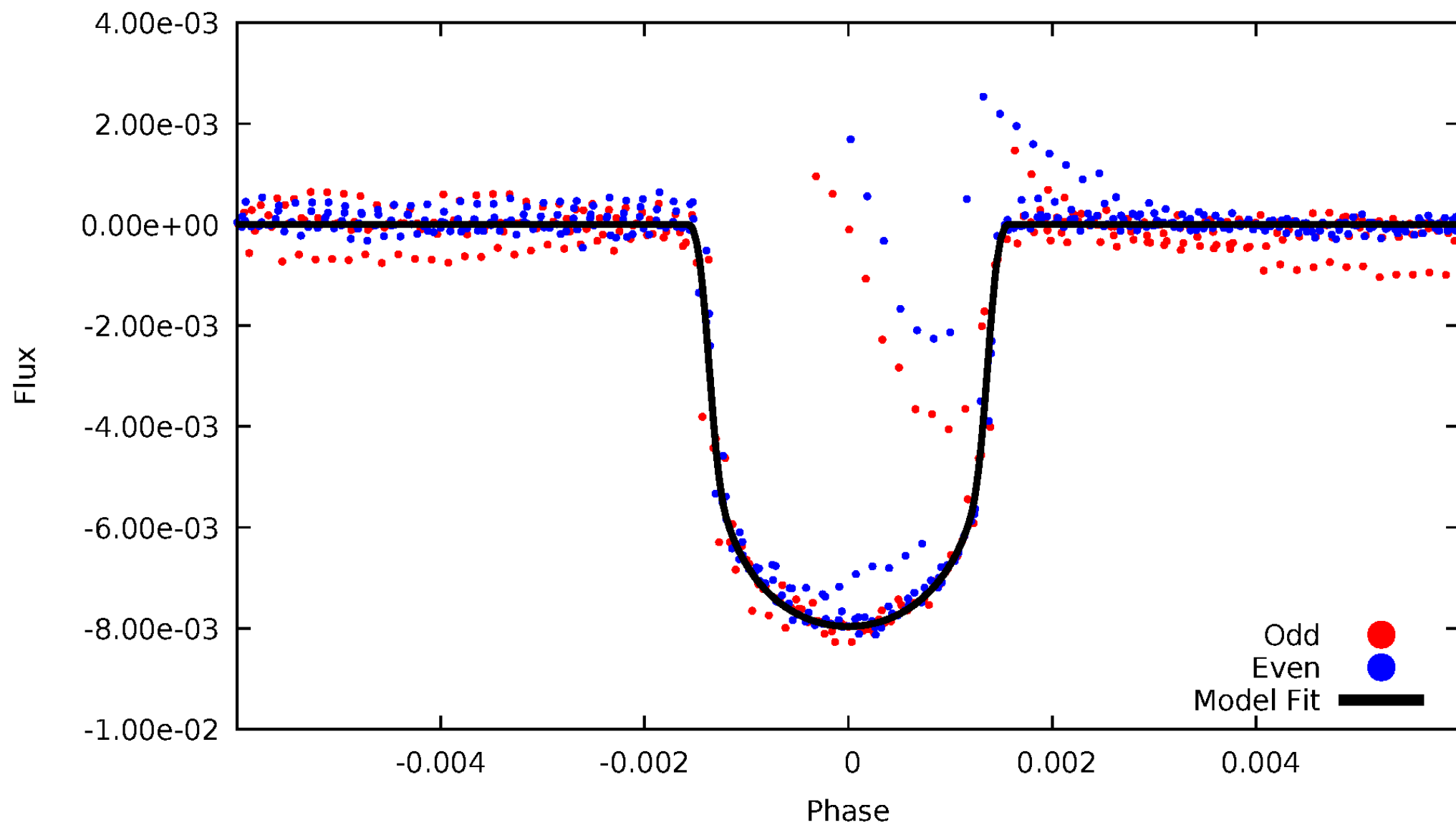


TCE 006471021-01



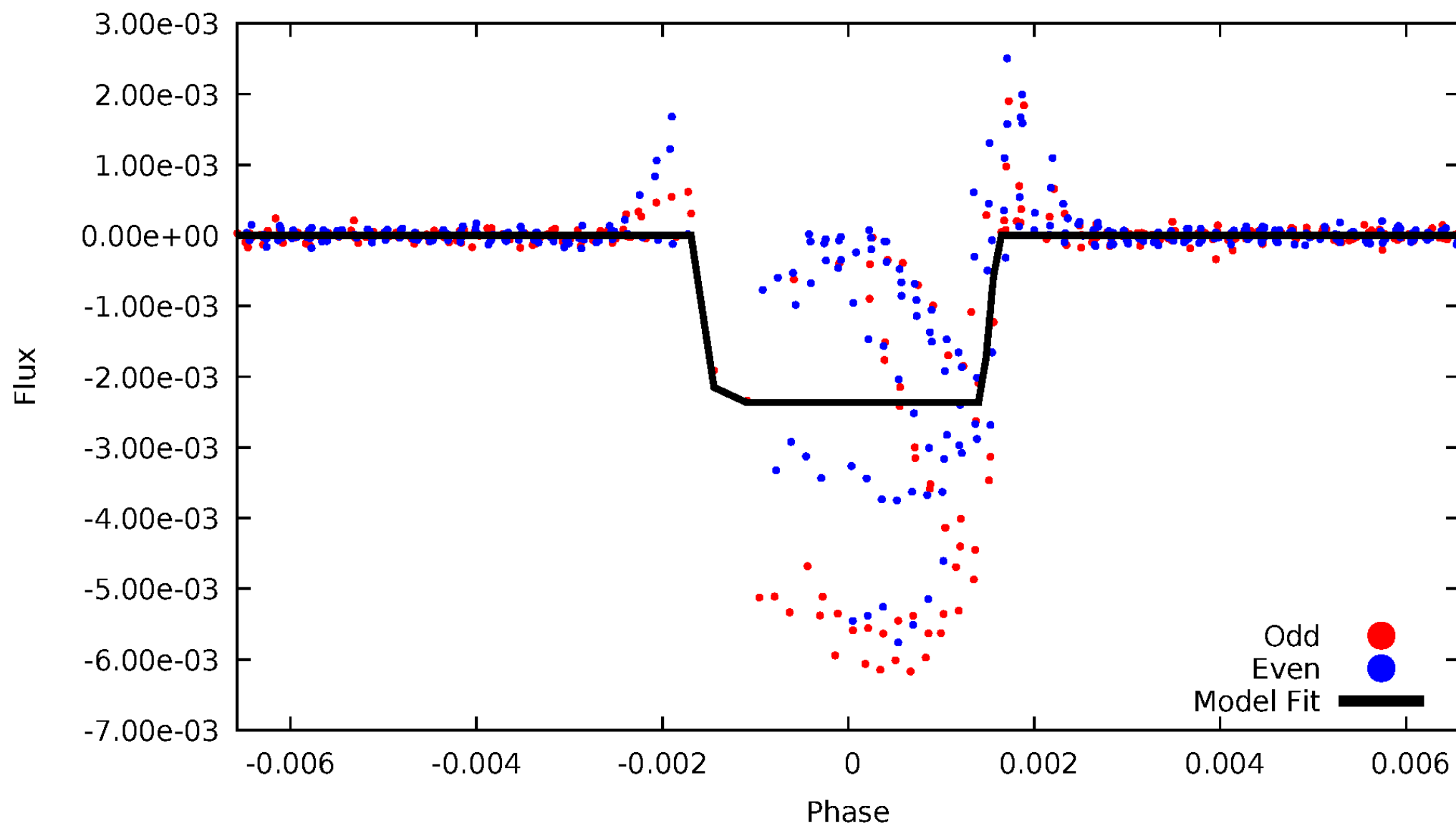
DV Odd/Even

TCE 006471021-01

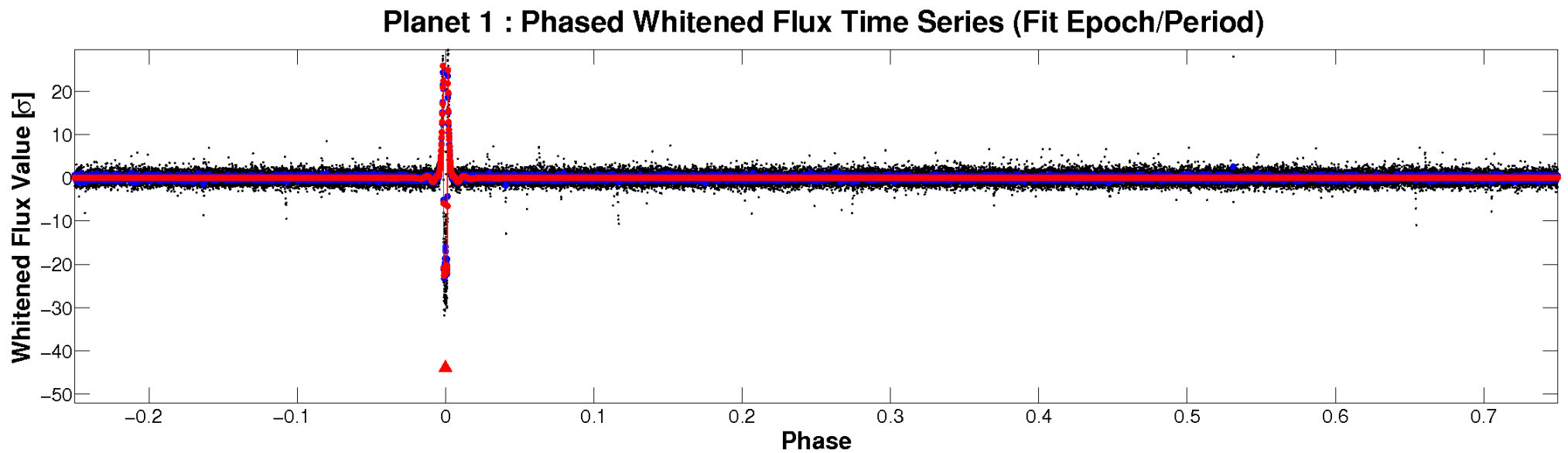
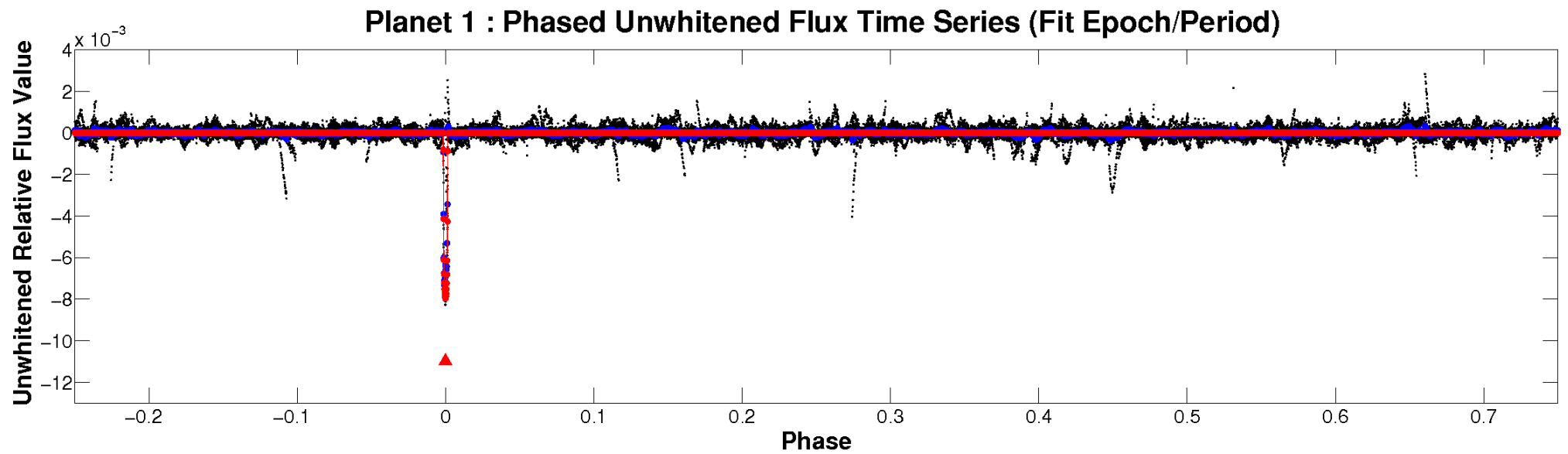


ALT Odd/Even

TCE 006471021-01

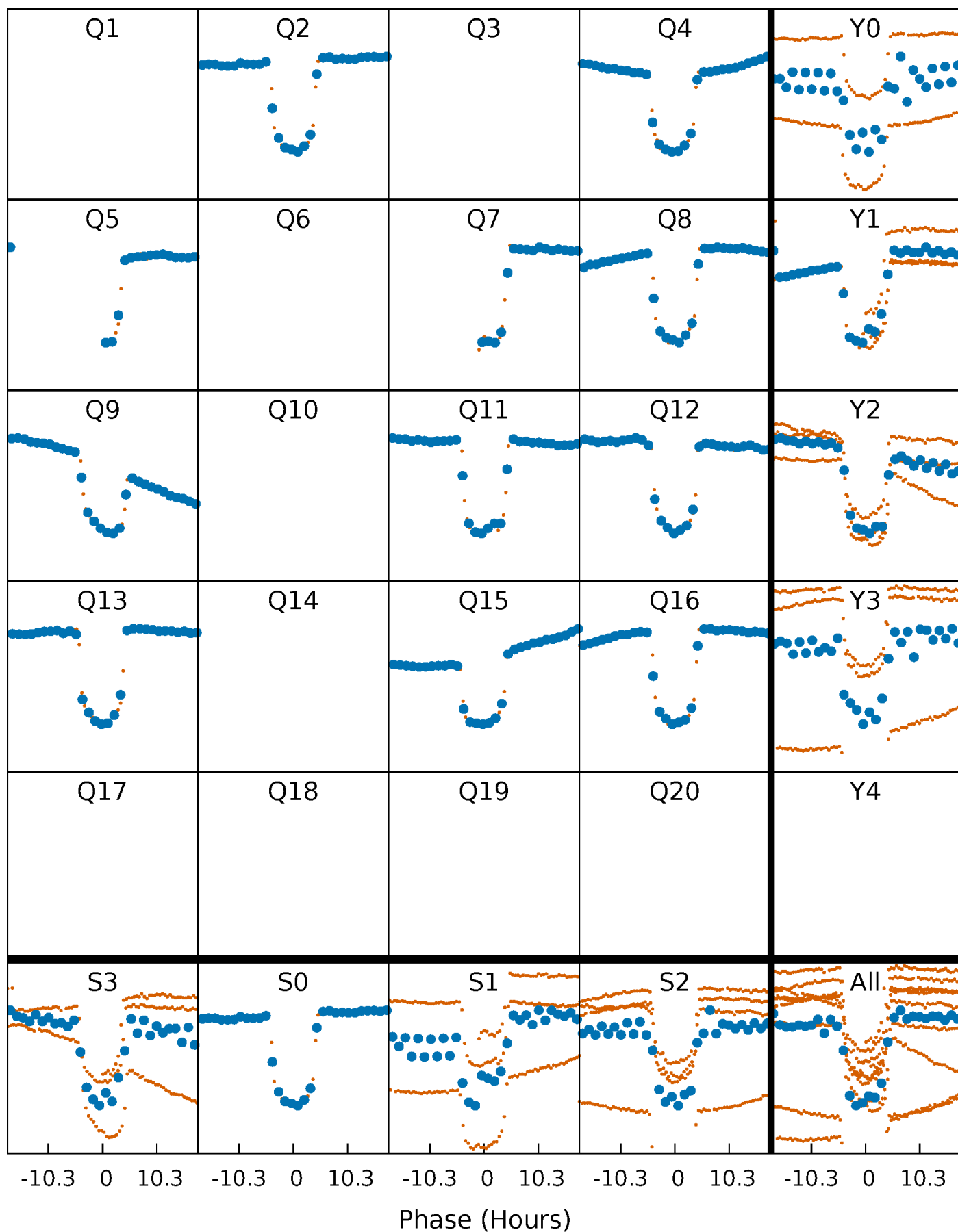


Non-Whitened Vs. Whitened Light Curve



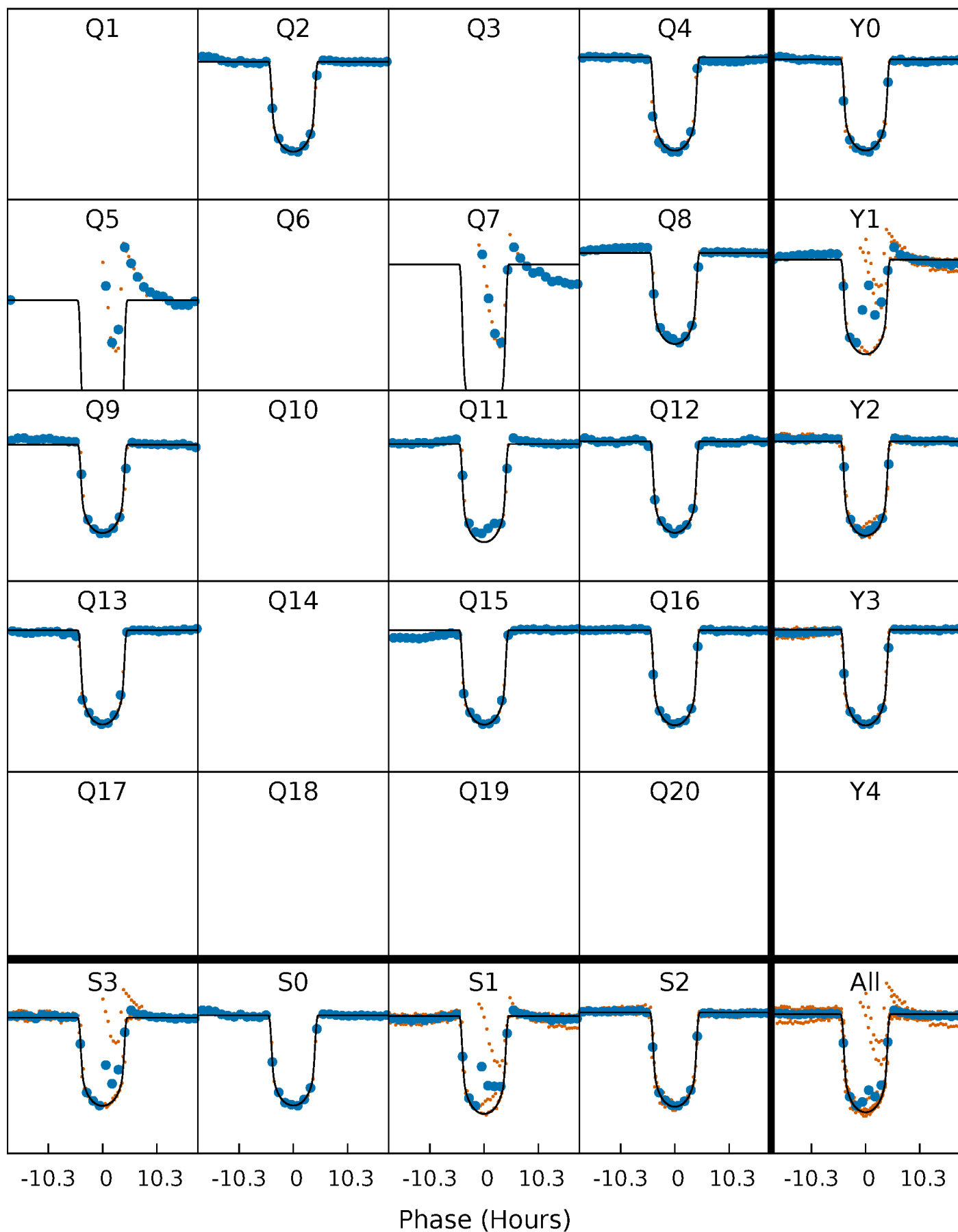
PDC Quarter-Phased Transit Curves

TCE 006471021-01 P=125.629784 Days $T_0=253.346608$ (BKJD)



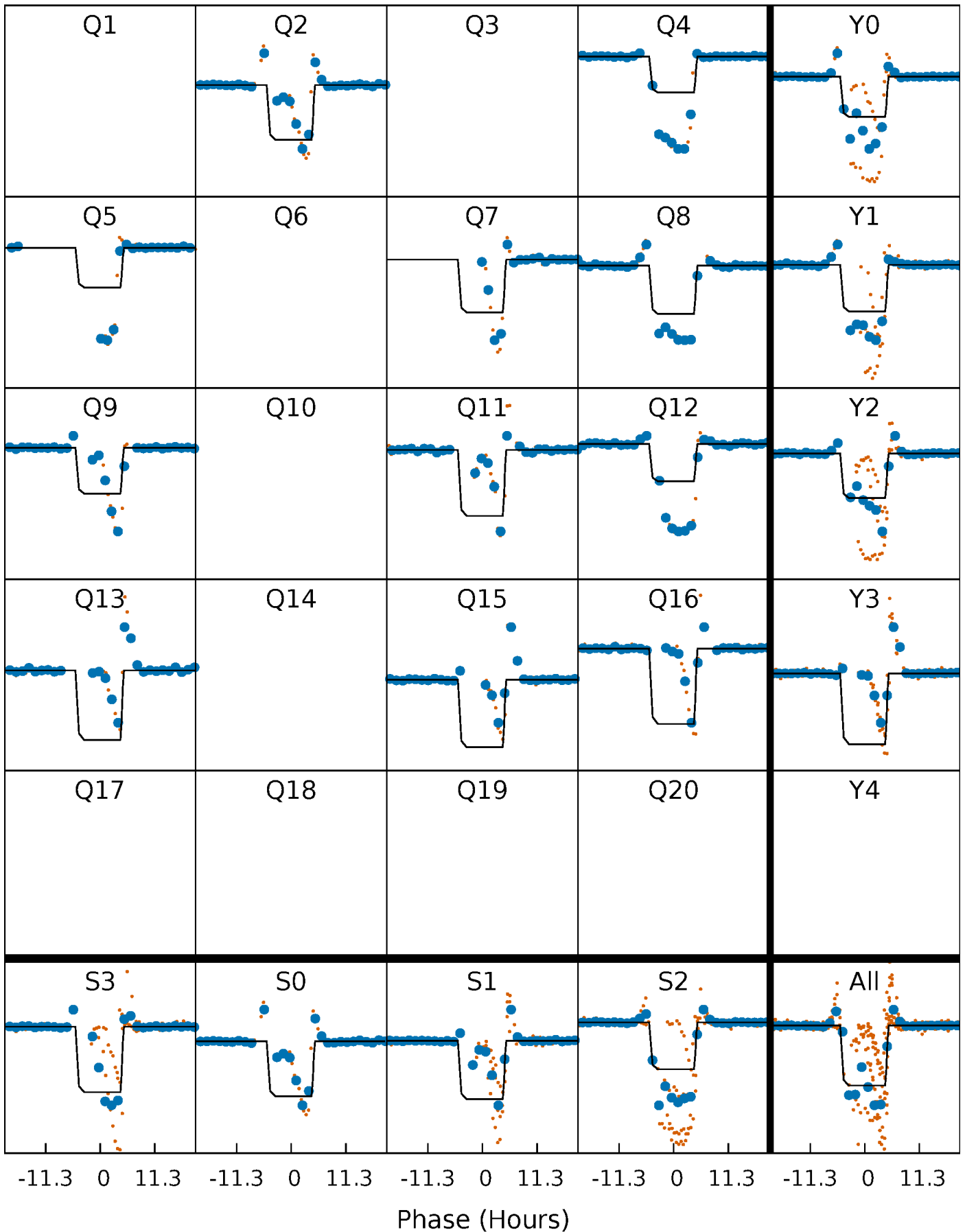
DV Quarter-Phased Transit Curves

TCE 006471021-01 P=125.629784 Days $T_0=253.346608$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

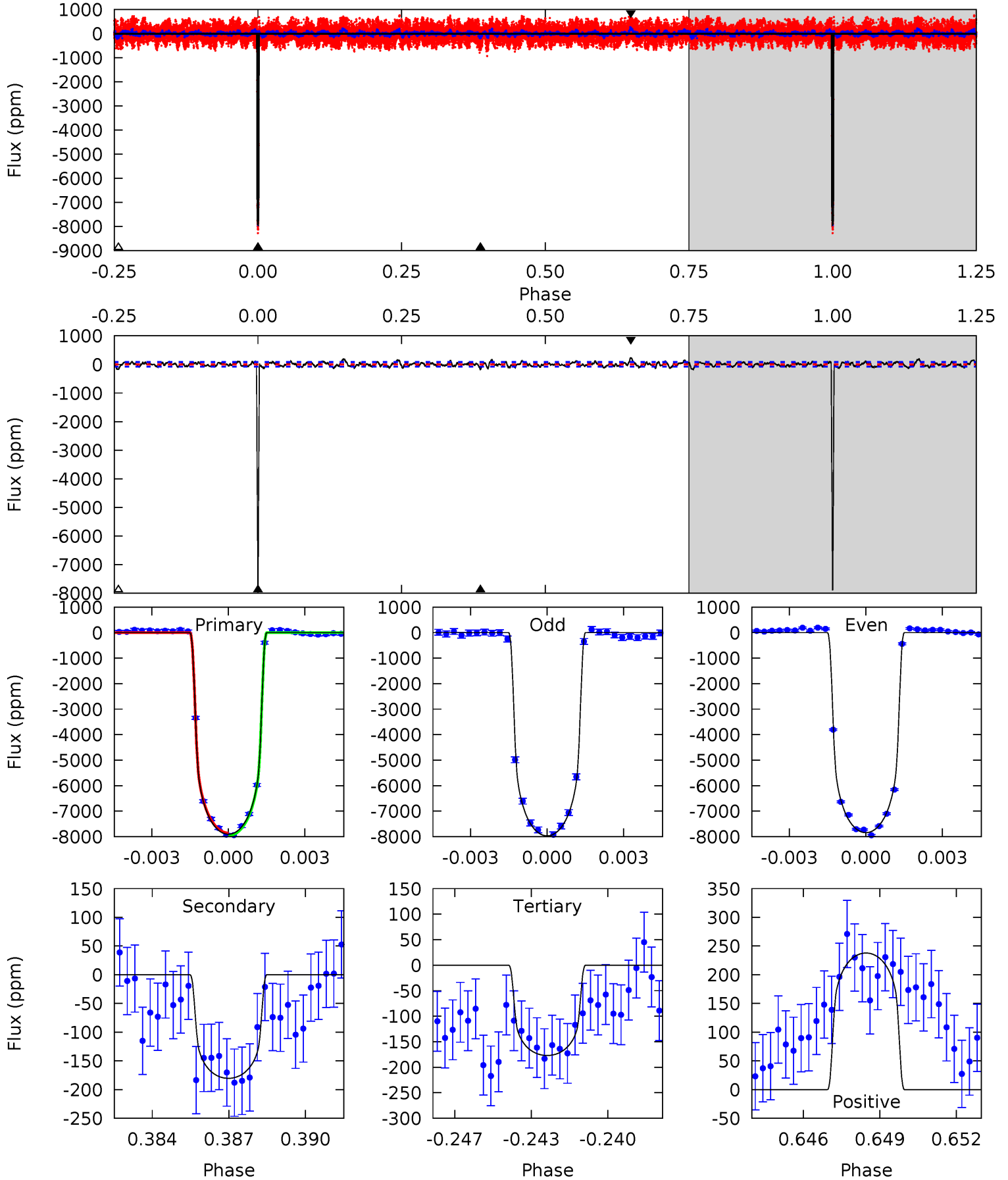
TCE 006471021-01 P=125.625112 Days $T_0=253.352965$ (BKJD)



DV Model-Shift Uniqueness Test

006471021-01, P = 125.629784 Days, E = 127.716824 Days

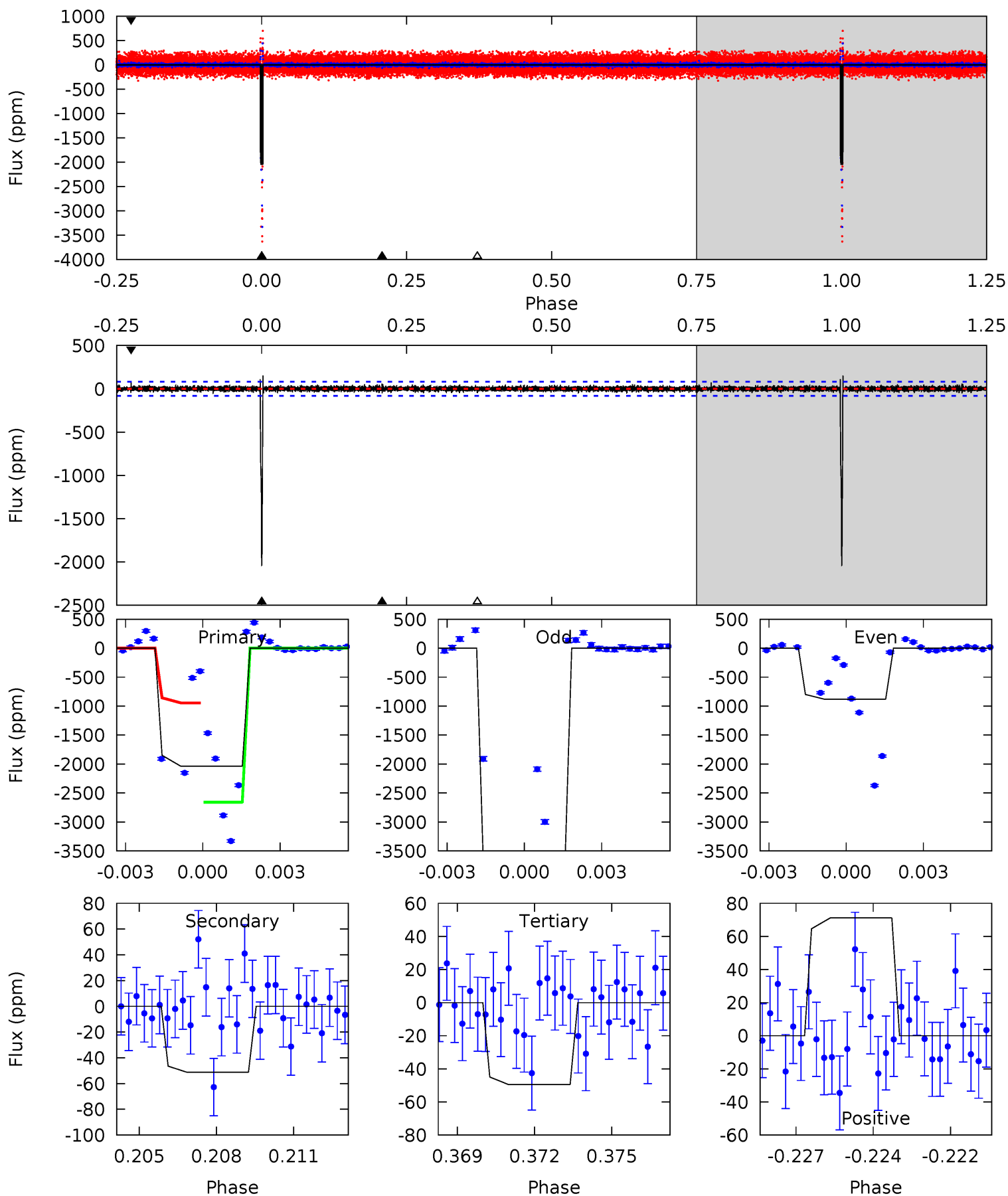
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
506.2	11.6	11.3	15.2	5.25	2.96	3.67	494.9	491.0	0.22	-3.68	3.96	0.84	0.03	3.18



Alt Model-Shift Uniqueness Test

006471021-01, P = 125.625112 Days, E = 127.727853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
132.5	3.33	3.22	4.63	5.27	3.00	0.94	129.3	127.9	0.11	-1.30	131.4	1.06	0.07	53.6



Stellar Parameters For KIC 006471021

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5819^{+69}_{-87}	$4.334^{+0.132}_{-0.108}$	$-0.020^{+0.150}_{-0.150}$	$1.111^{+0.163}_{-0.148}$	$0.972^{+0.073}_{-0.051}$	$0.997^{+0.550}_{-0.327}$
	+1%/-1%	+3%/-2%	+750%/-750%	+15%/-13%	+8%/-5%	+55%/-33%
Source	SPE75	SPE75	SPE75	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 006471021-01 / KOI 0372.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-180 ± 16	$9.78^{+0.85}_{-0.74}$	540^{+23}_{-23}	3023^{+45}_{-46}	246^{+47}_{-44}
Alt.	-51 ± 15	$5.91^{+0.53}_{-0.48}$	542^{+24}_{-24}	2926^{+123}_{-138}	190^{+71}_{-59}

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

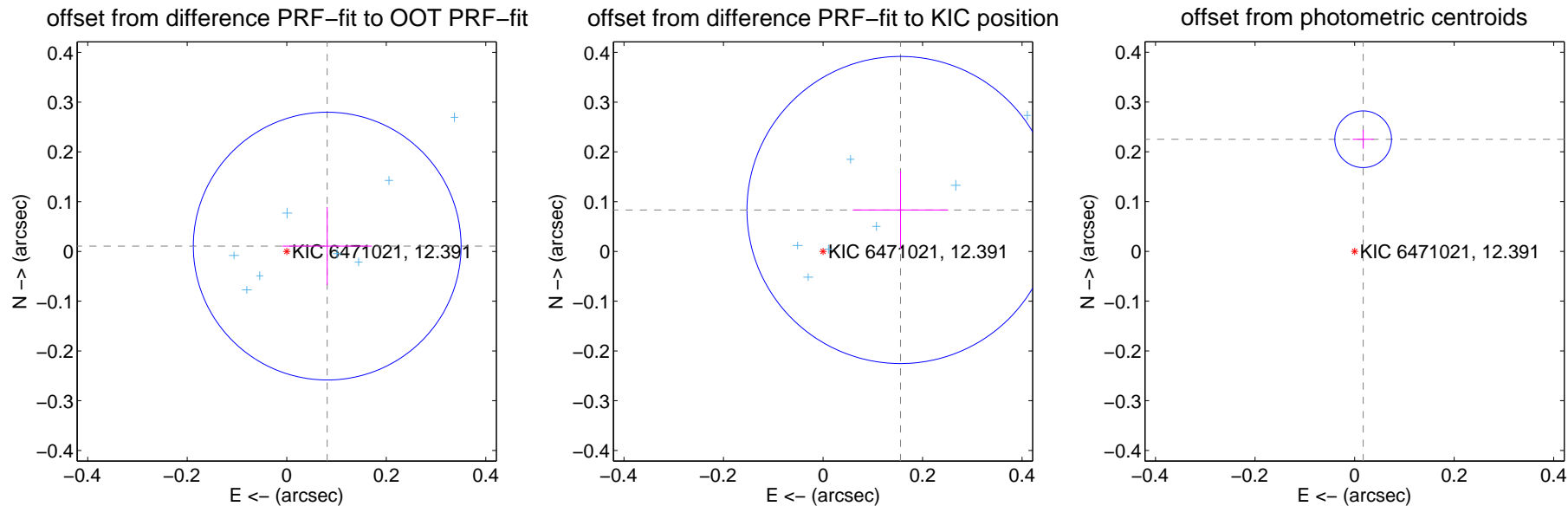
DV Centroid Data

Supplemental centroid analysis for 006471021-01. Kepler magnitude: 12.39. Transit SNR 311.90

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.082 ± 0.090	0.91	-0.081 ± 0.090	0.011 ± 0.078
PRF-fit source offset from KIC position	0.177 ± 0.103	1.72	-0.156 ± 0.096	0.083 ± 0.078
photometric centroid source offset	0.23 ± 0.02	11.90	-0.02 ± 0.02	0.23 ± 0.02



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.

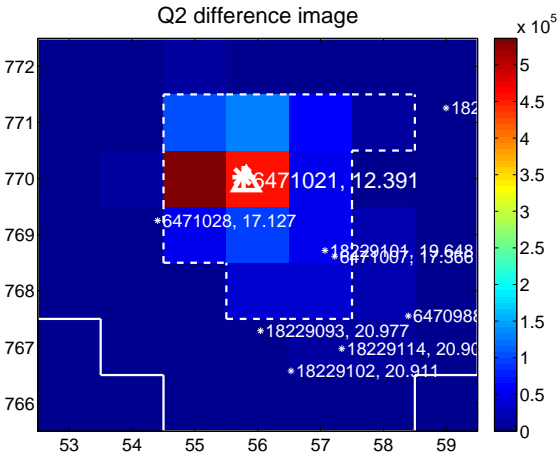
Q1 no difference image



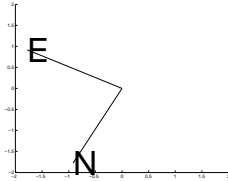
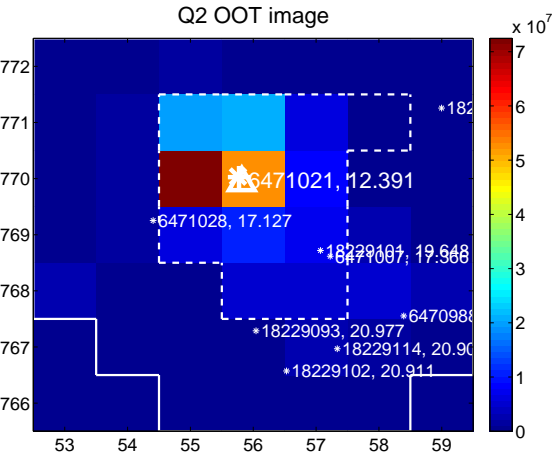
Q1 no OOT image



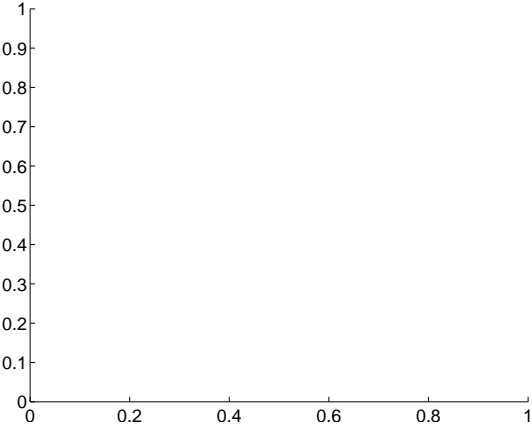
Q2 difference image



Q2 OOT image



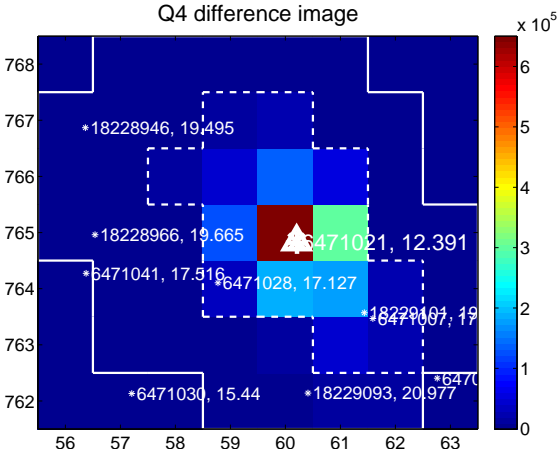
Q3 no difference image



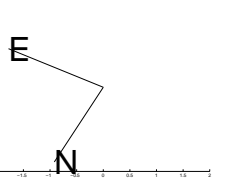
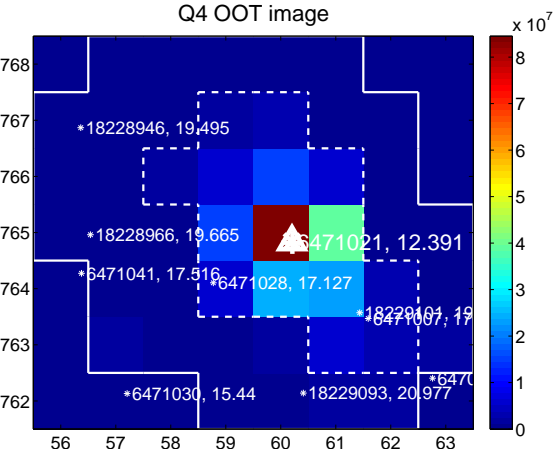
Q3 no OOT image



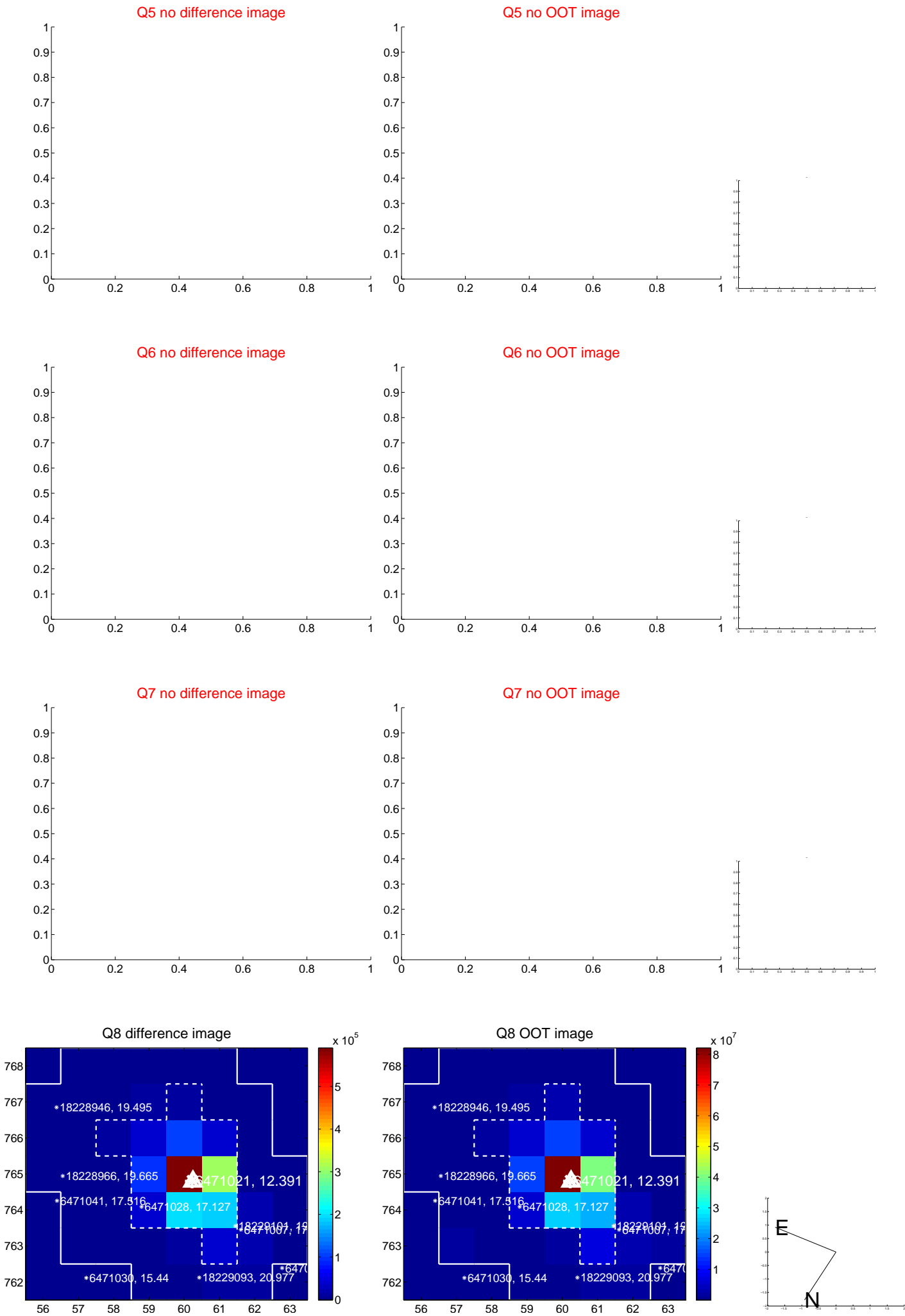
Q4 difference image



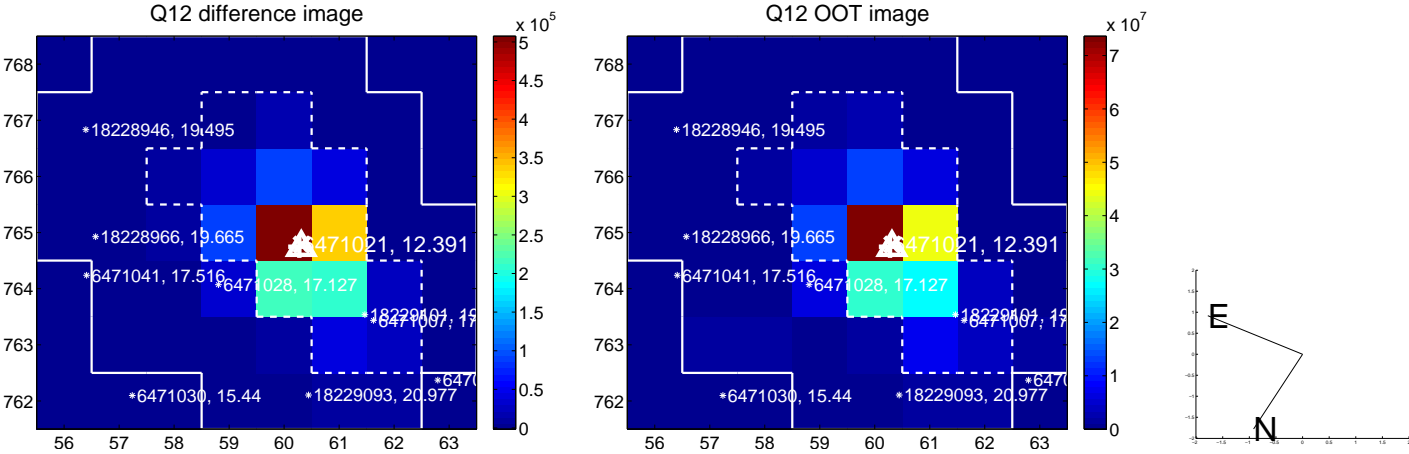
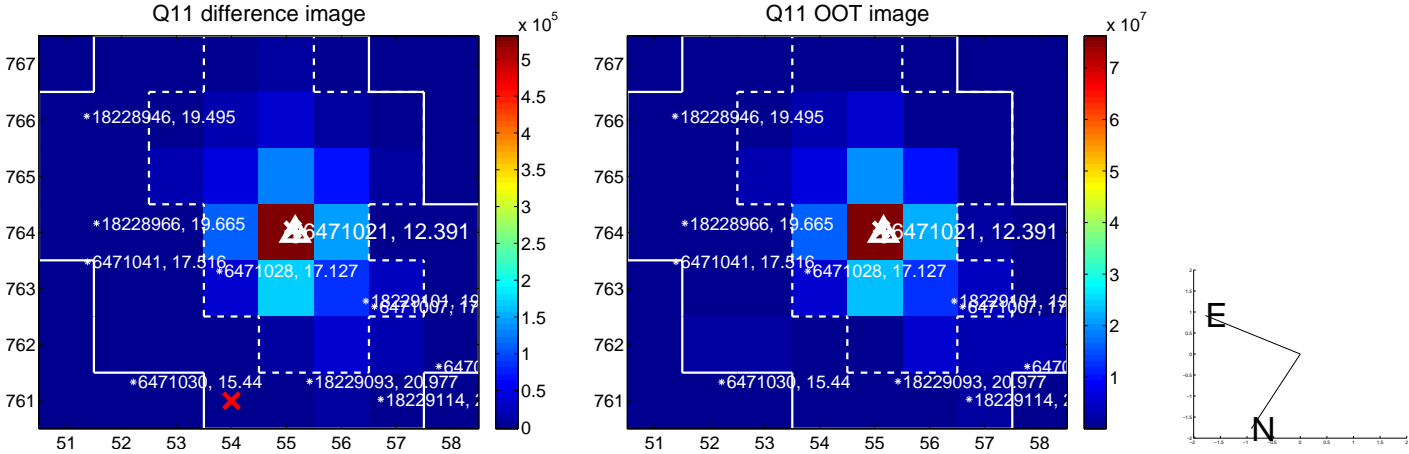
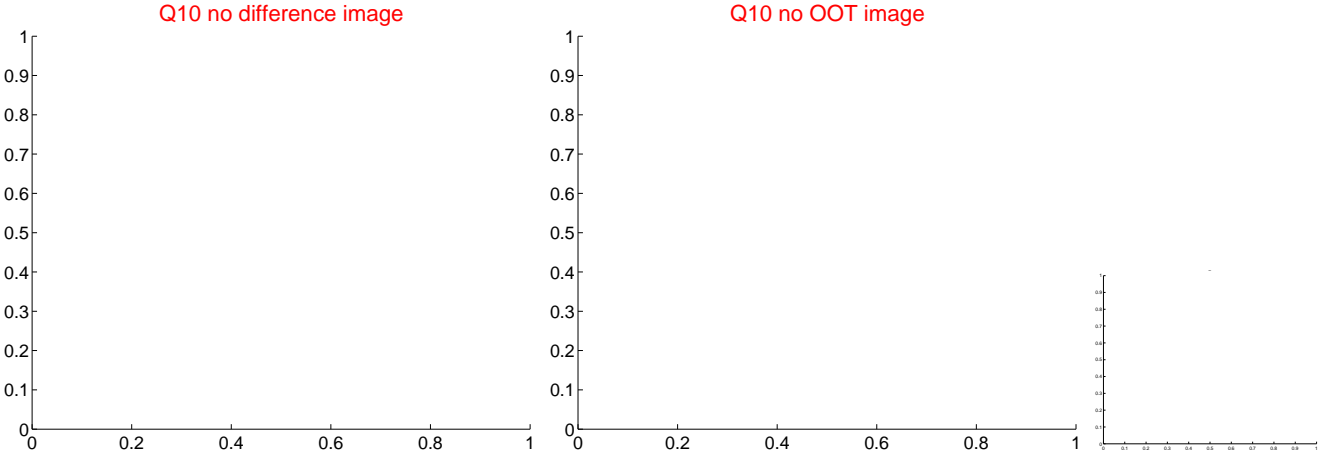
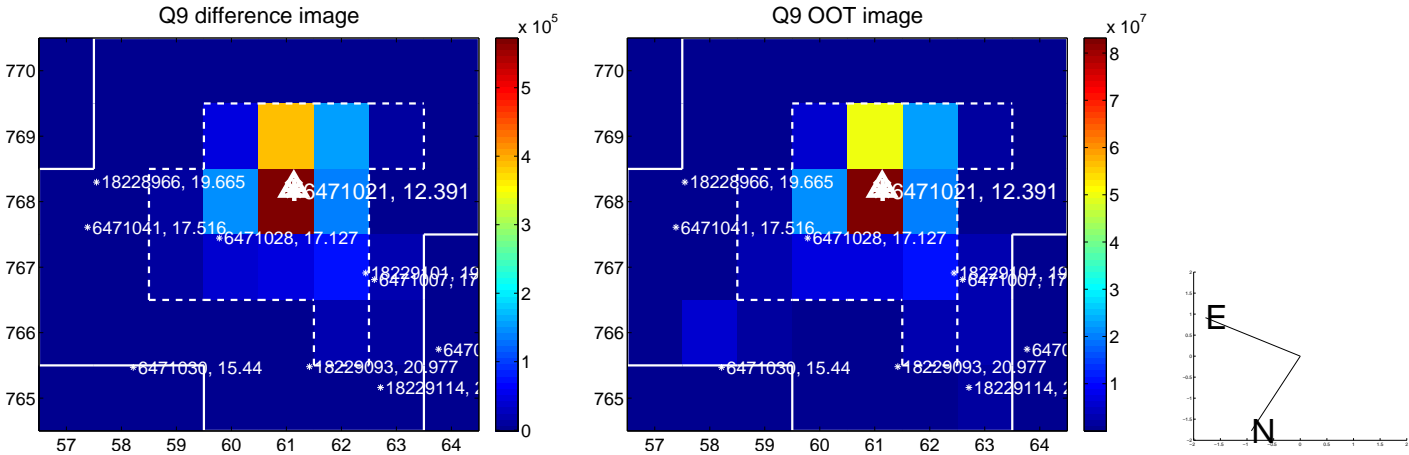
Q4 OOT image



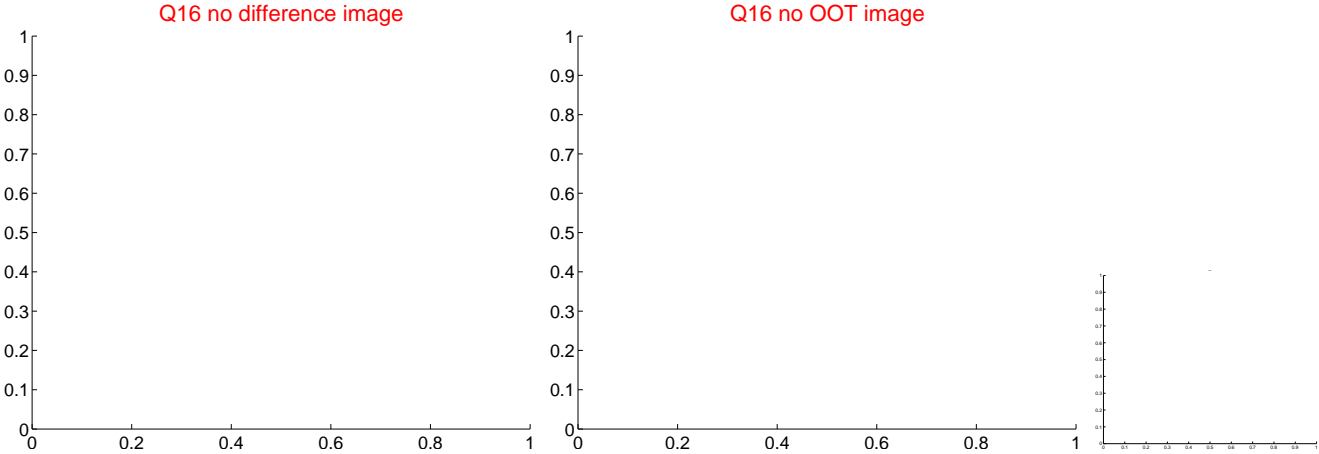
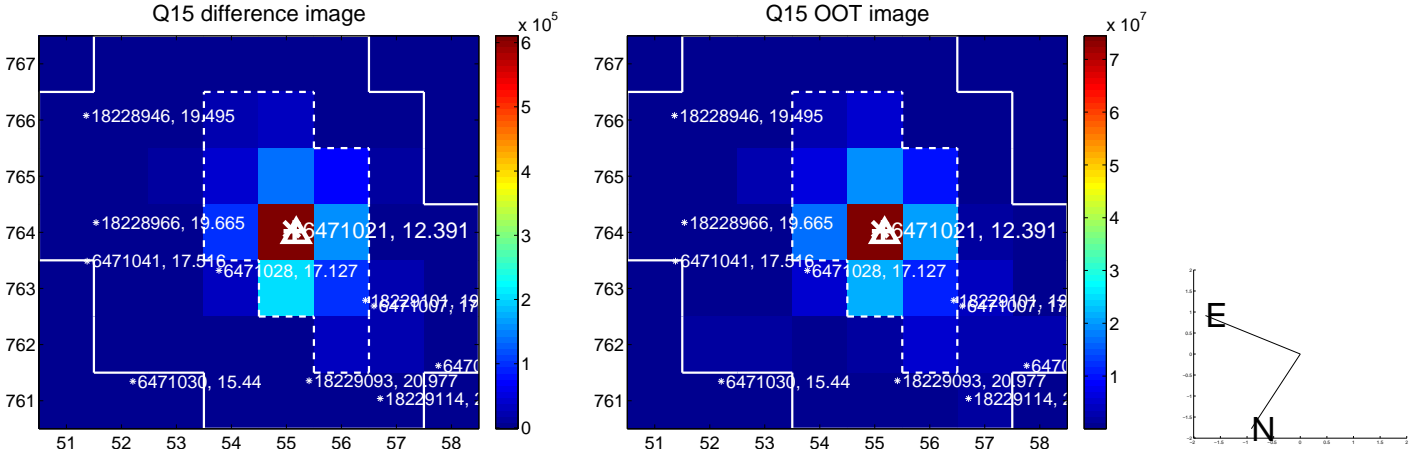
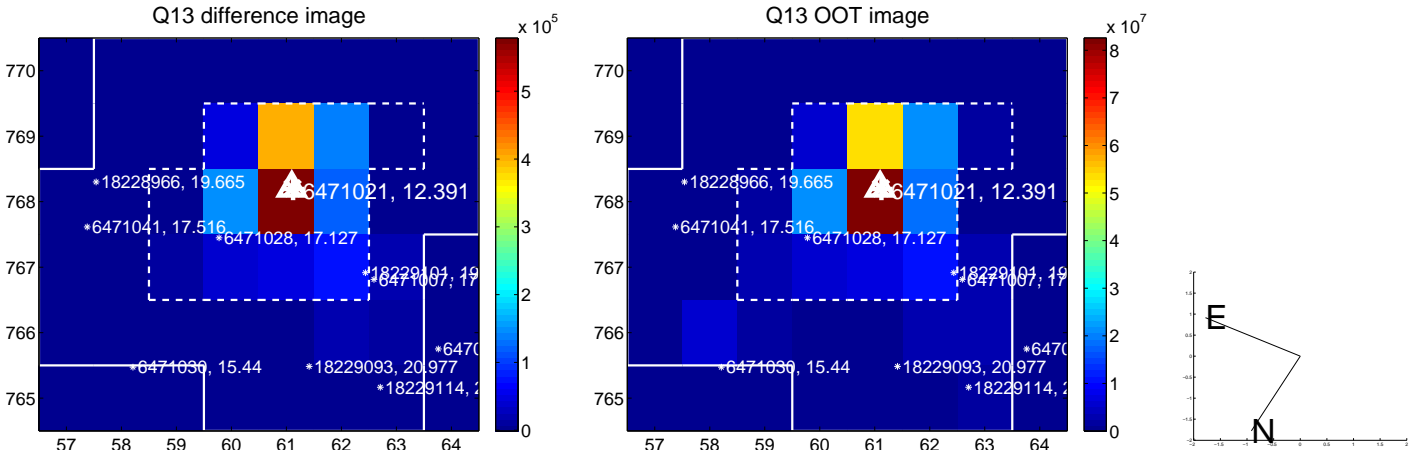
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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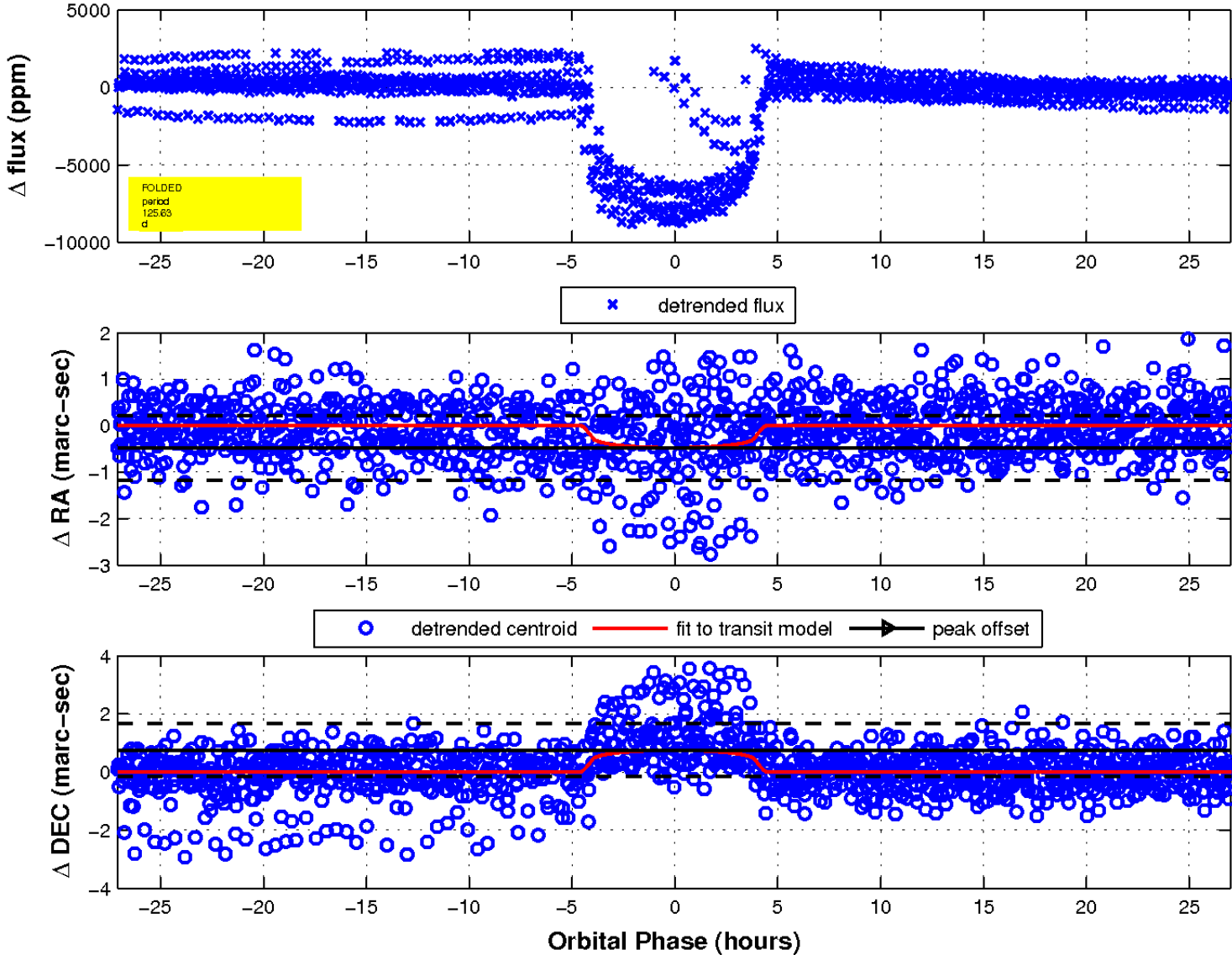
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

