

KIC 007951018

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})
007951018-01	OBS	1553.01	52.758771	156.306481	5775.7	6.638	237.6	232.2	1.14	6228	8.74	20.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007951018-01	OBS	PC	0.33	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.

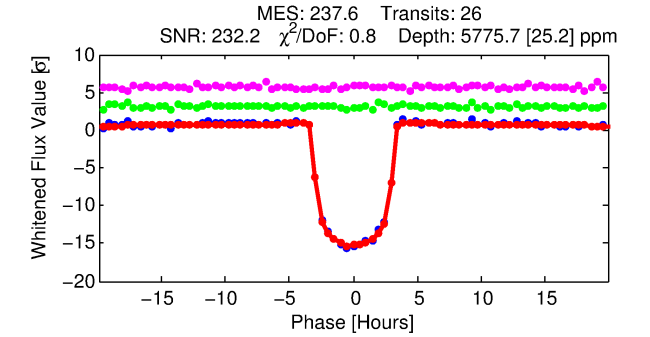
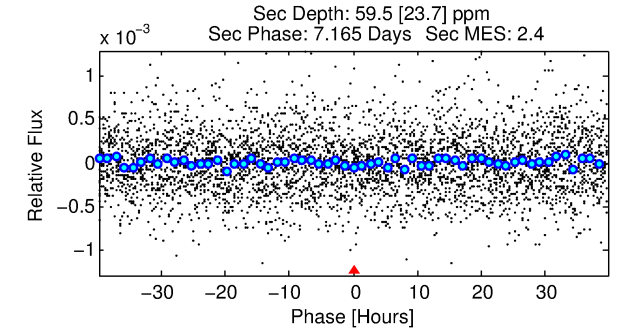
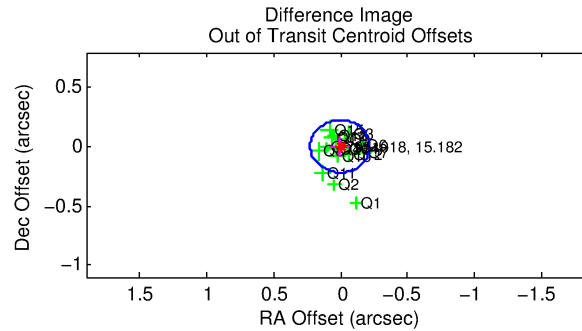
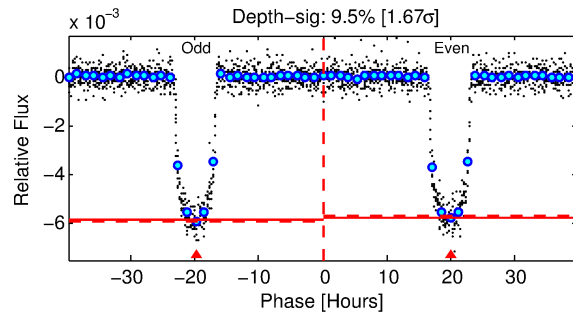
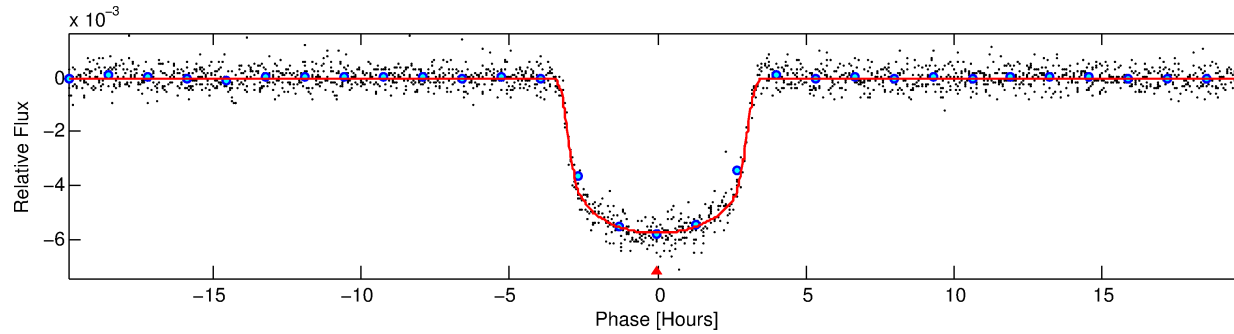
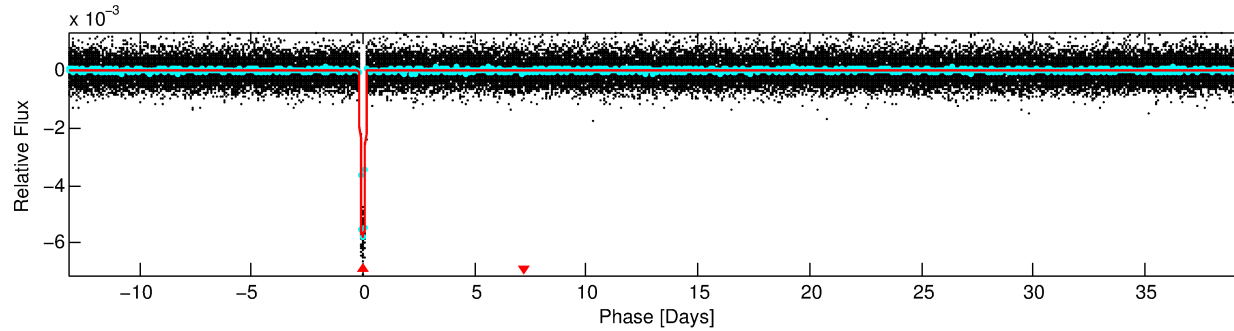
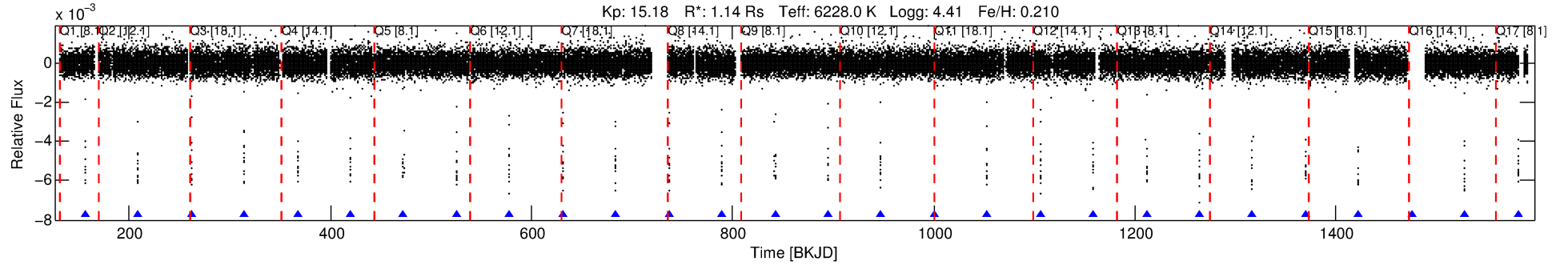
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007951018-01

No Significant Match Found

DV One-Page Summary

KIC: 7951018 Candidate: 1 of 1 Period: 52.759 d
KOI: K01553.01 Corr: 1.000



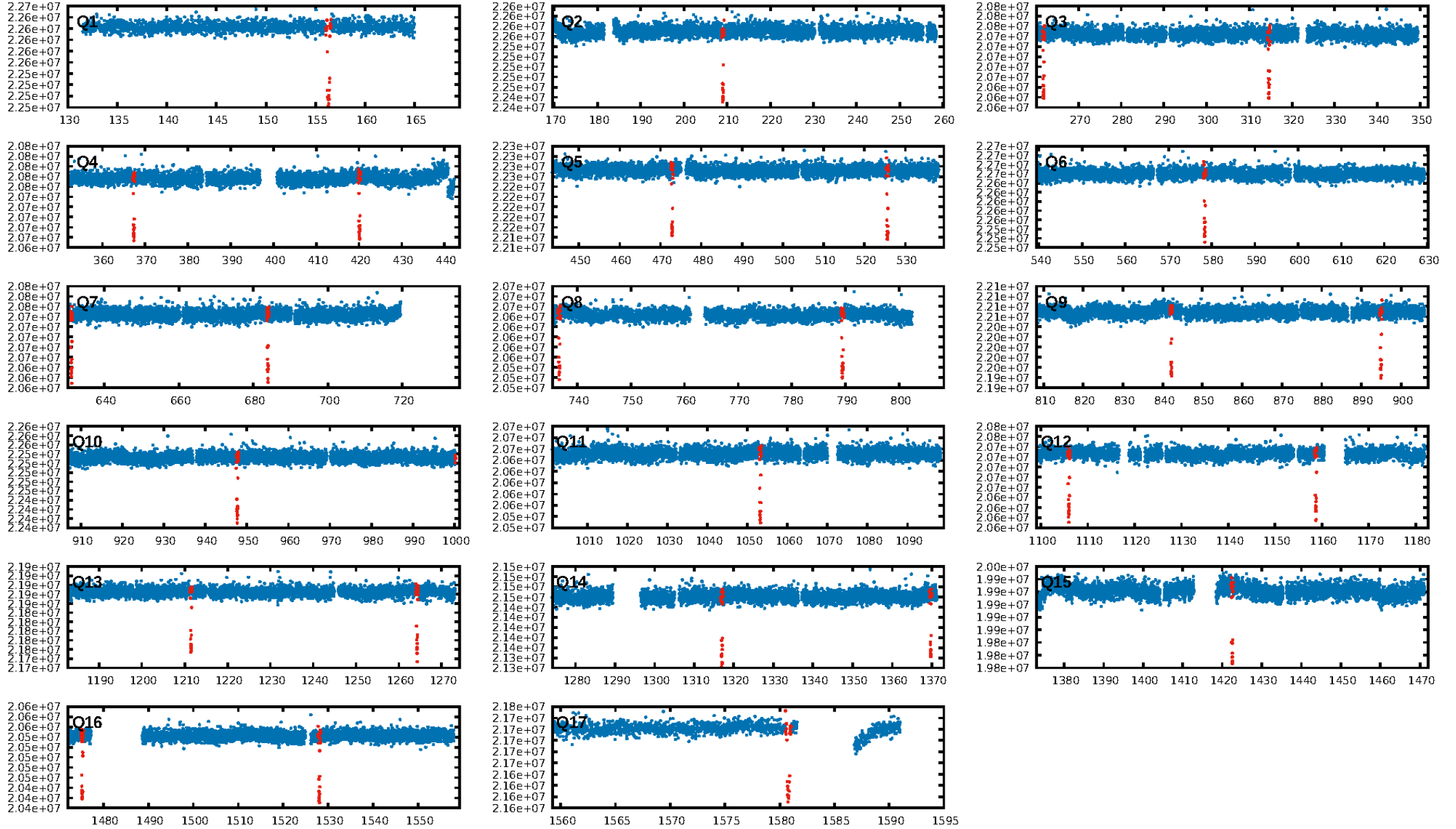
DV Fit Results:

Period = 52.75877 [0.00004] d
Epoch = 156.3065 [0.0006] BKJD
Rp/R* = 0.0704 [0.0010]
a/R* = 61.39 [3.81]
b = 0.35 [0.16]
Seff = 20.13 [8.60]
Teq = 540 [58] K
Rp = 8.74 [2.91] Re
a = 0.2943 [0.0814] AU
Ag = 37.16 [20.97] [1.72 σ]
Teffp = 2062 [220] K [6.68 σ]

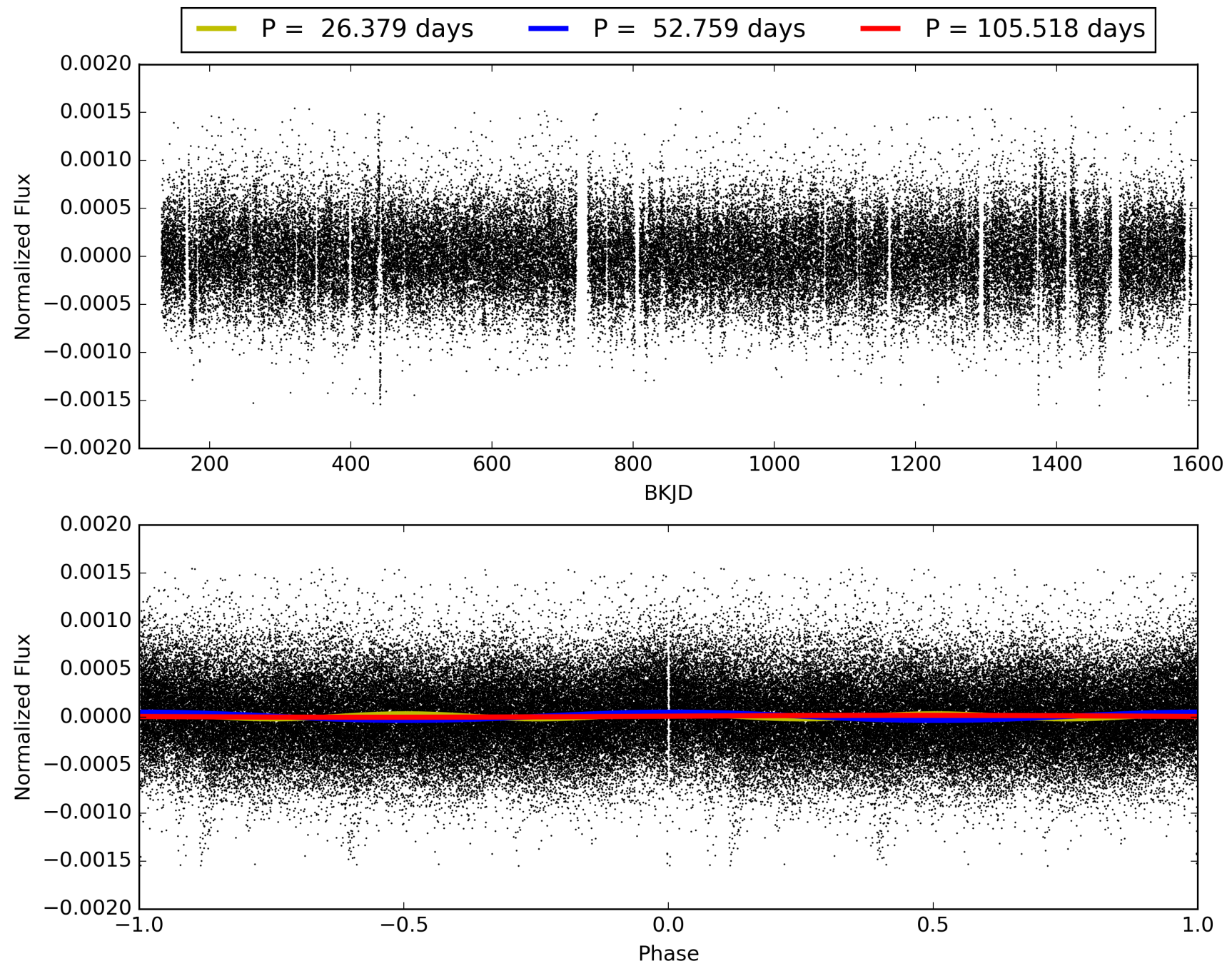
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 5.229
Centroid-sig: 60.8%
Centroid-so: 0.180 arcsec [3.45 σ]
OotOffset-rm: 0.007 arcsec [0.09 σ]
KicOffset-rm: 0.056 arcsec [0.75 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007951018-01, PDC Light Curves

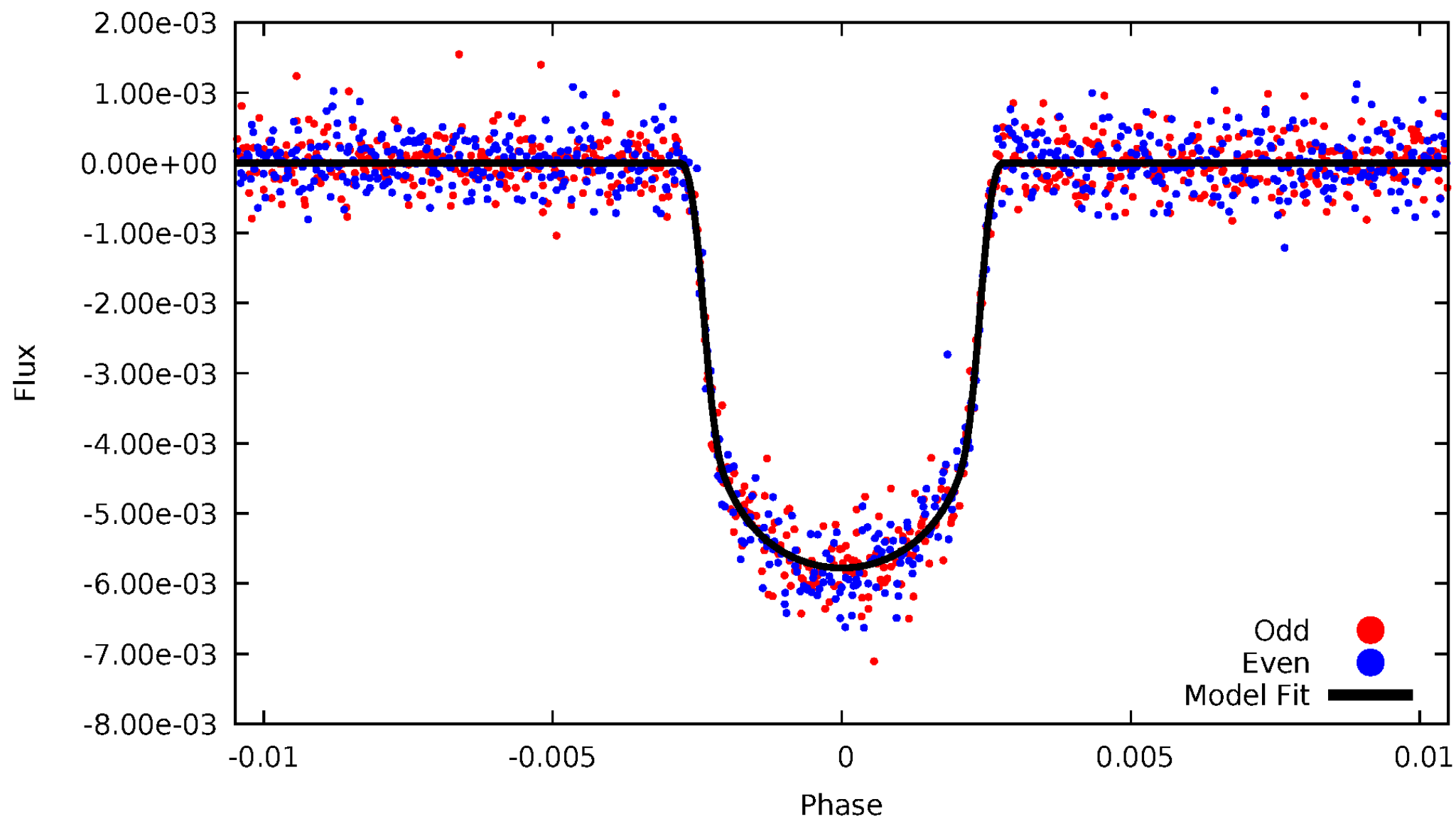


TCE 007951018-01



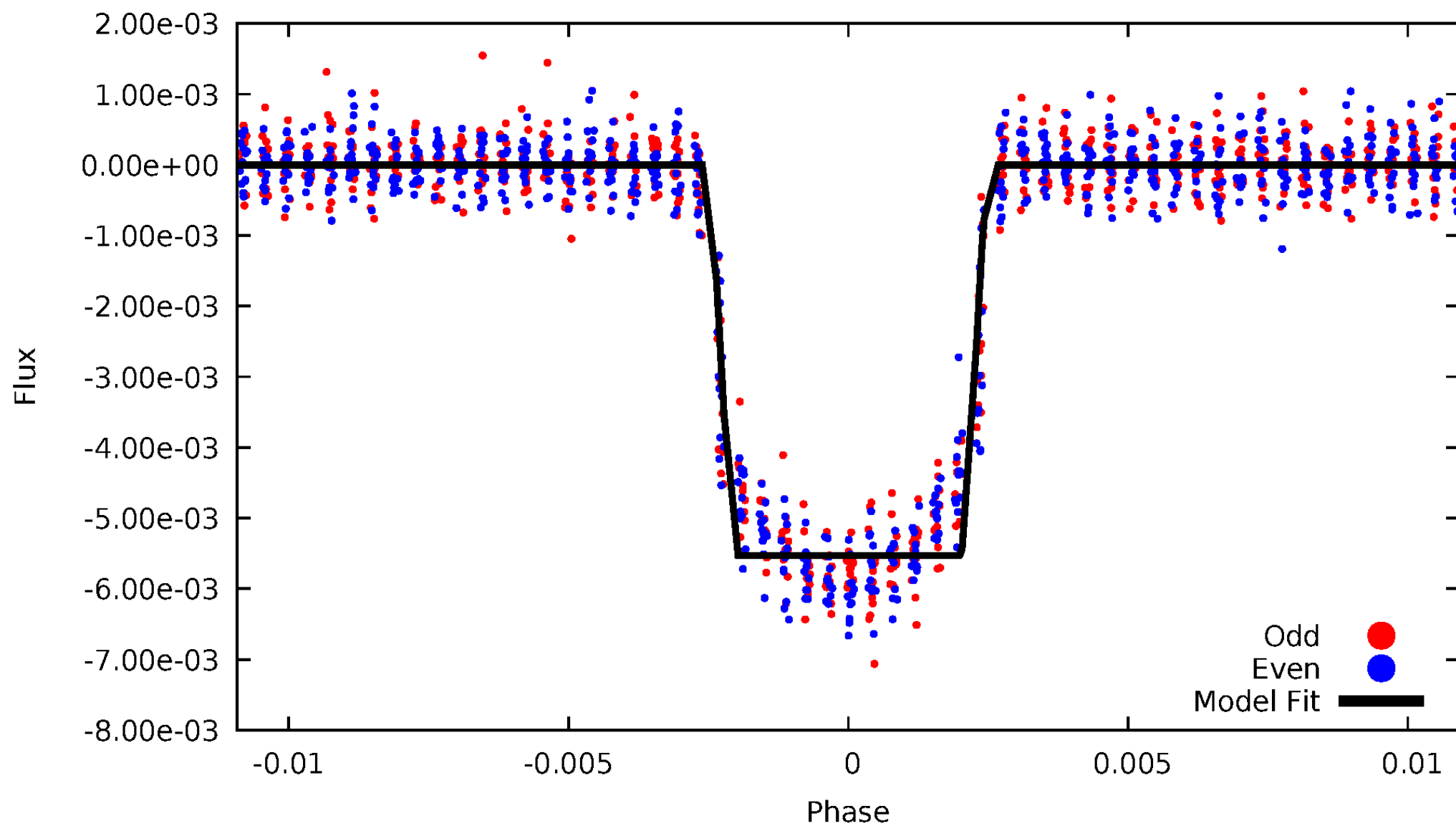
DV Odd/Even

TCE 007951018-01

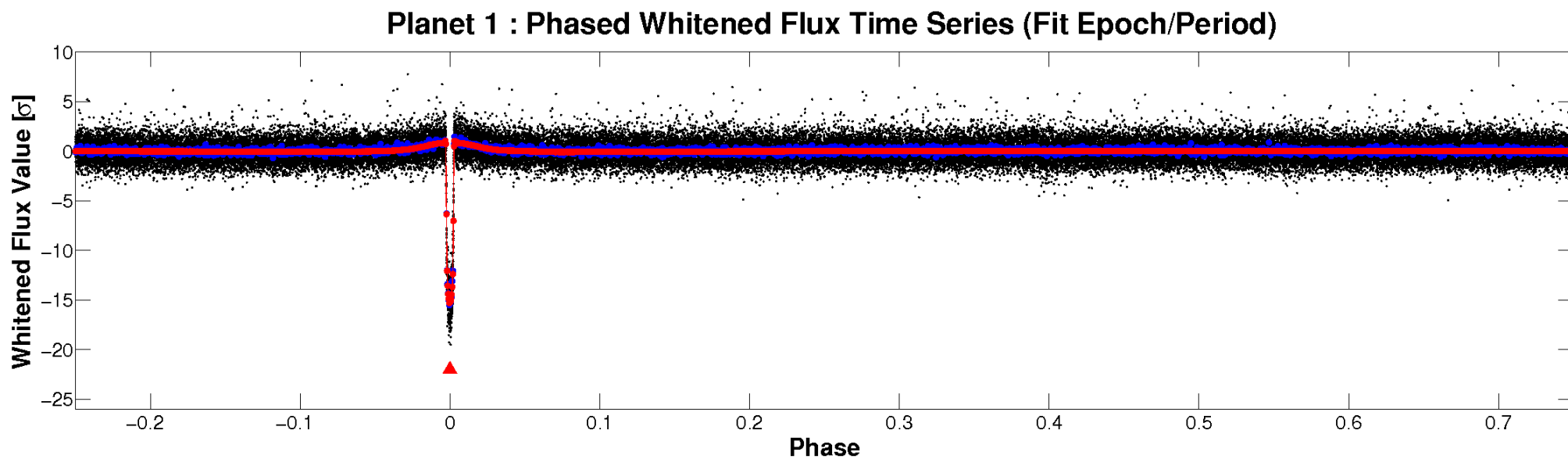
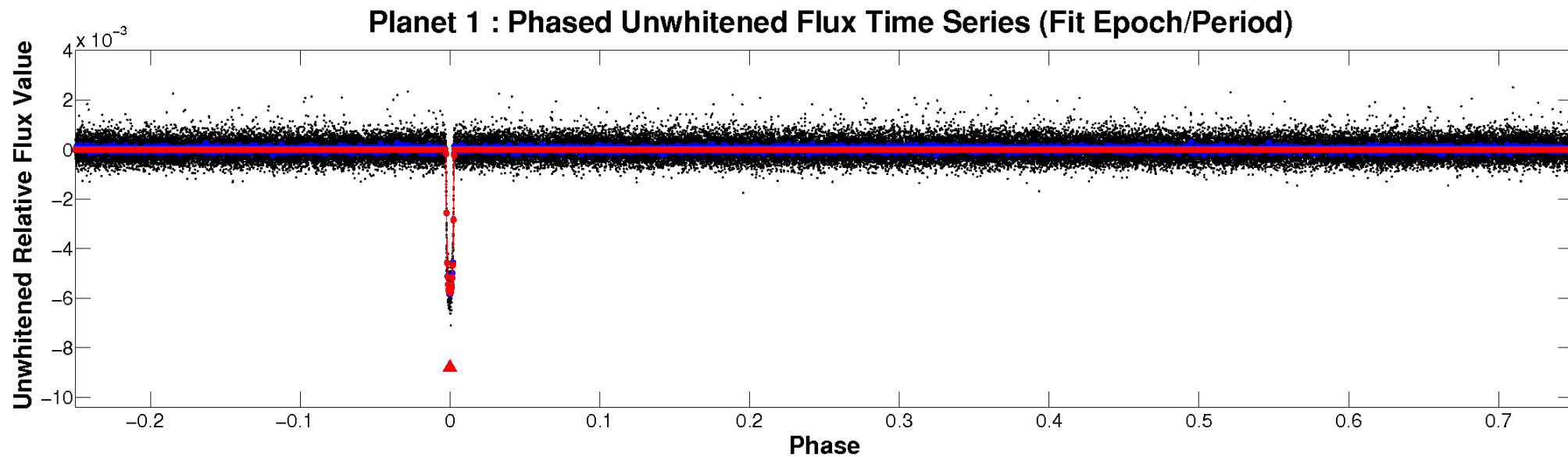


ALT Odd/Even

TCE 007951018-01

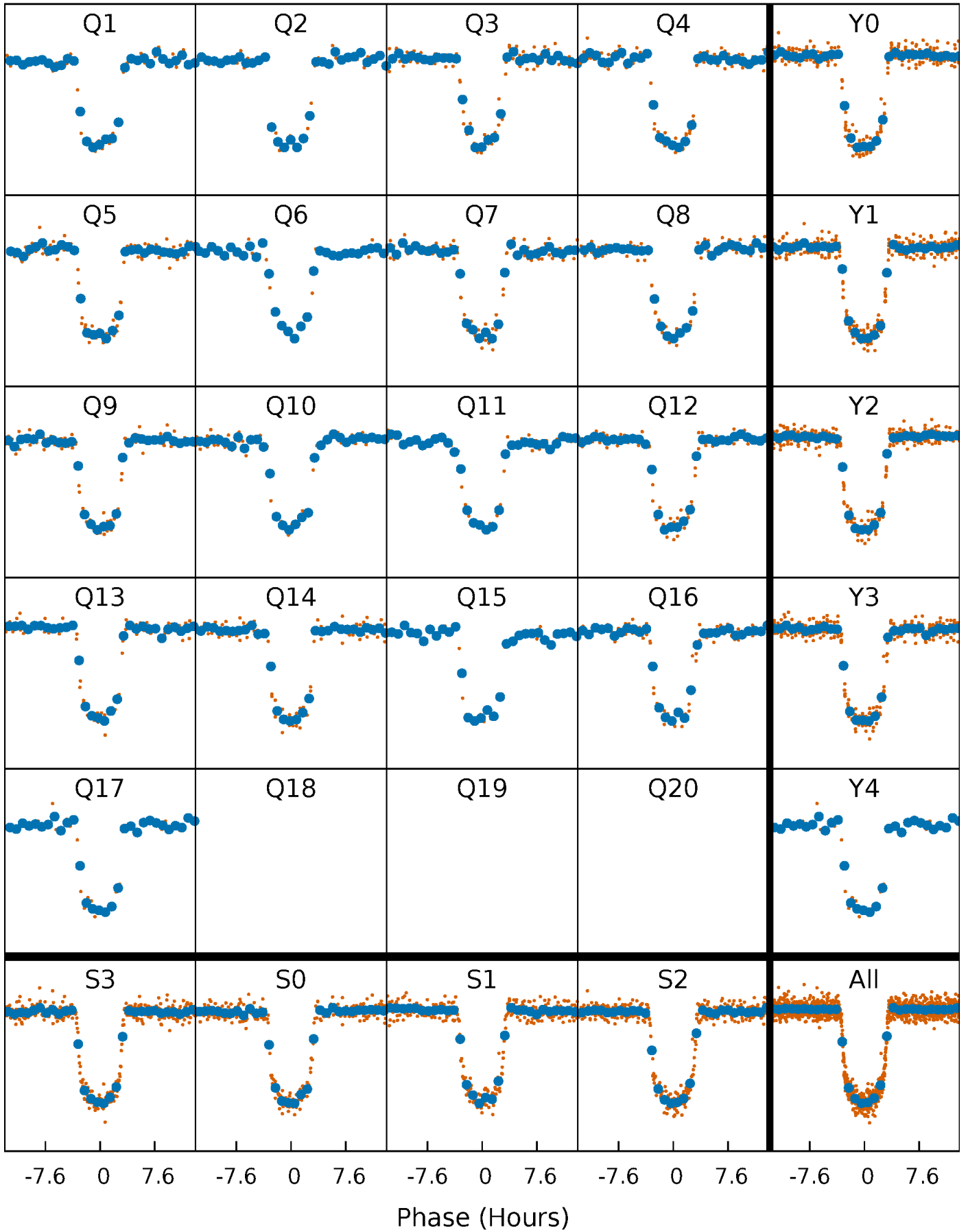


Non-Whitened Vs. Whitened Light Curve



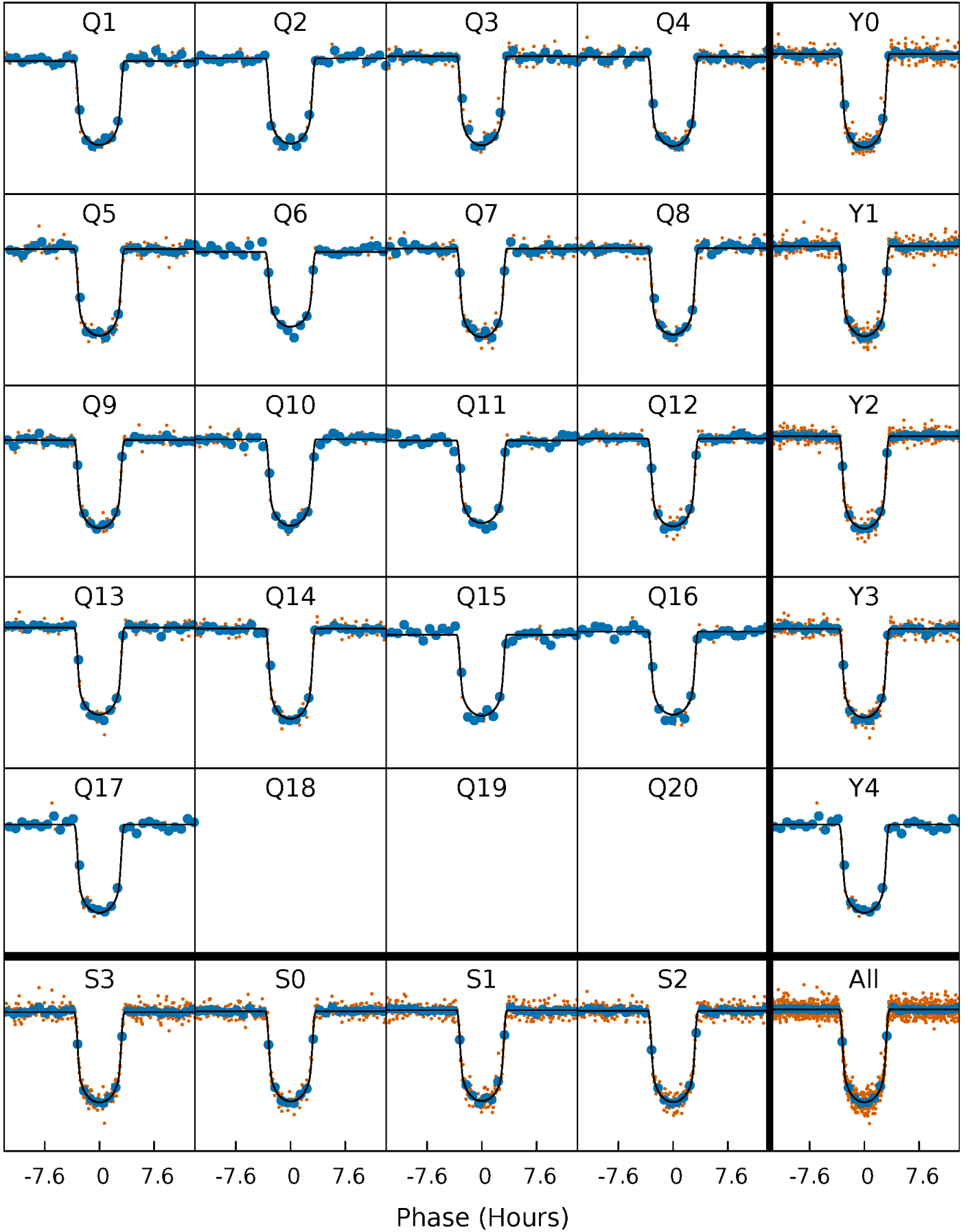
PDC Quarter-Phased Transit Curves

TCE 007951018-01 P= 52.758771 Days $T_0=156.306481$ (BKJD)



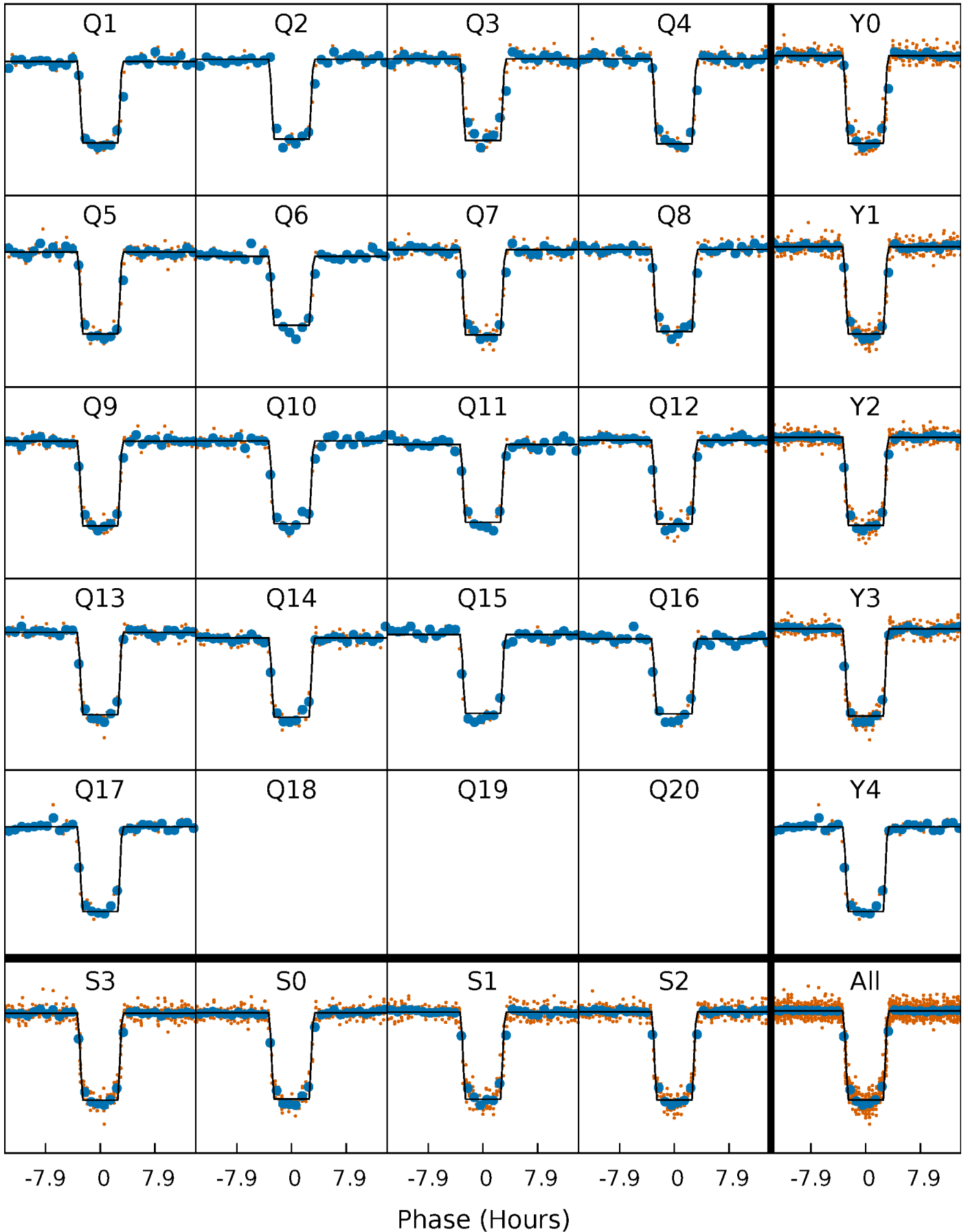
DV Quarter-Phased Transit Curves

TCE 007951018-01 P= 52.758771 Days $T_0=156.306481$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

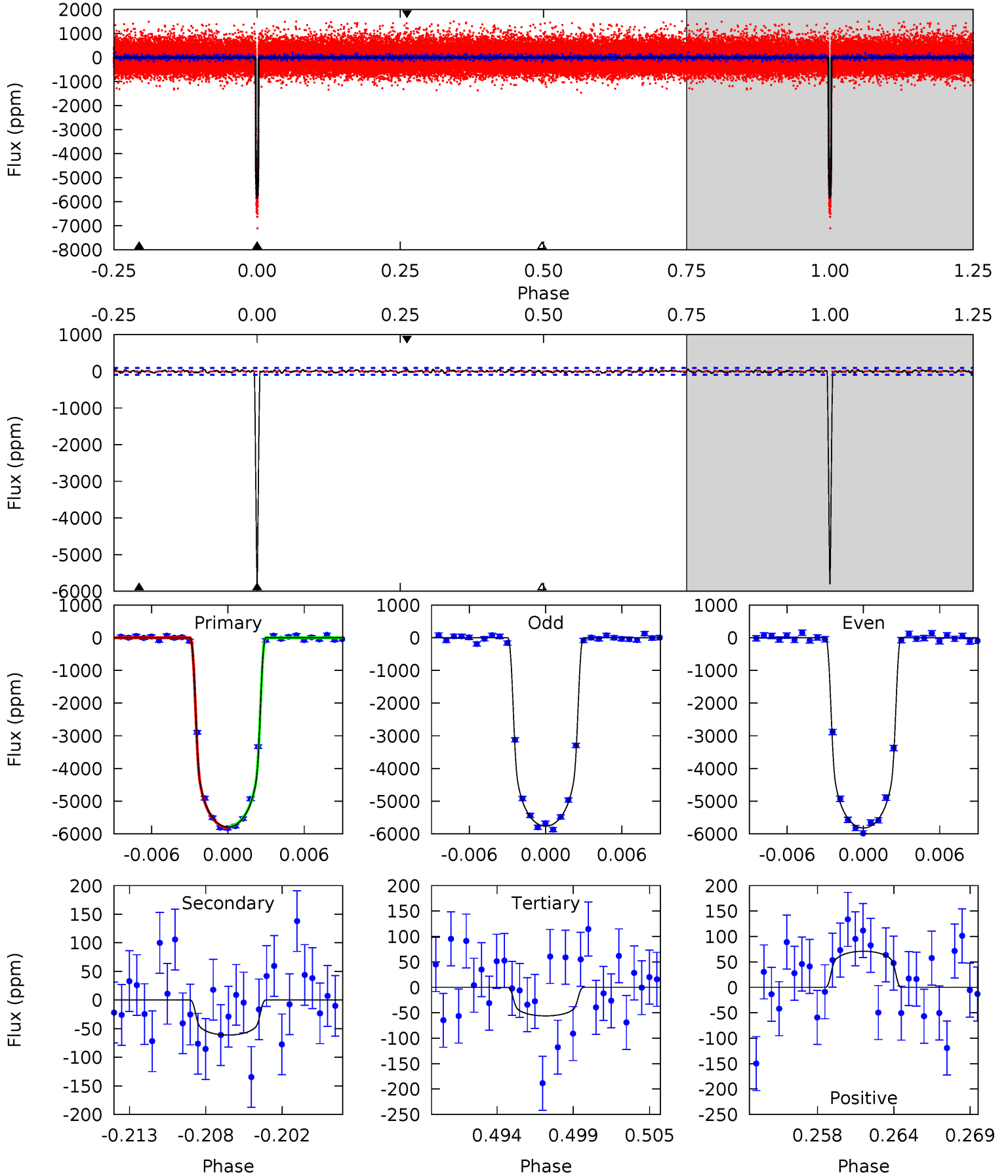
TCE 007951018-01 P= 52.759427 Days $T_0=156.297643$ (BKJD)



DV Model-Shift Uniqueness Test

007951018-01, P = 52.758771 Days, E = 103.547710 Days

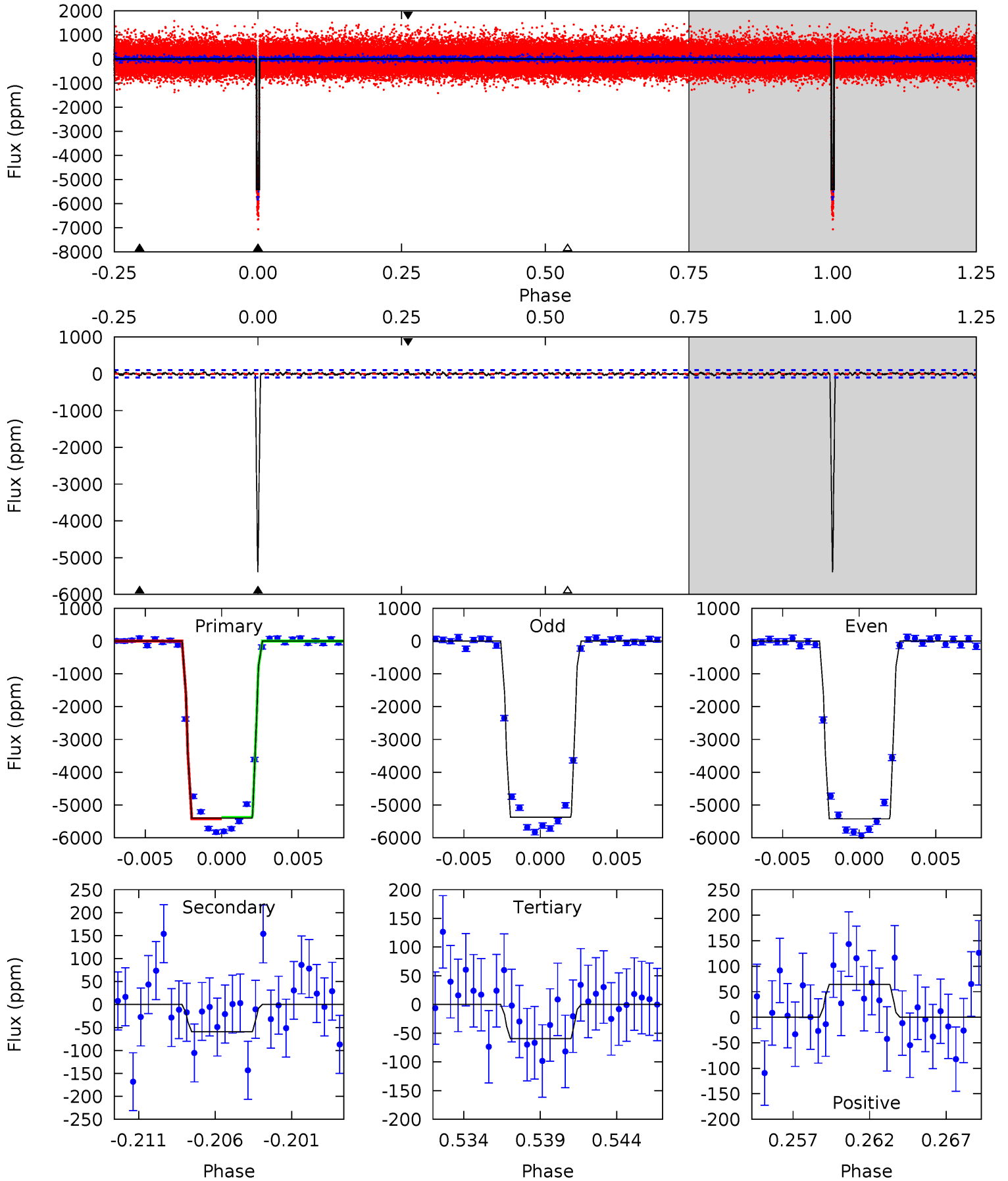
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
318.6	3.36	3.09	3.90	5.14	2.77	1.11	315.5	314.7	0.28	-0.54	1.52	1.00	0.01	0.86



Alt Model-Shift Uniqueness Test

007951018-01, P = 52.759427 Days, E = 103.538216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
276.3	3.04	3.04	3.30	5.16	2.80	0.93	273.3	273.0	0.00	-0.25	1.31	1.00	0.01	1.01



Stellar Parameters For KIC 007951018

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6228^{+174}_{-239}	$4.413^{+0.054}_{-0.216}$	$0.210^{+0.200}_{-0.350}$	$1.137^{+0.378}_{-0.126}$	$1.221^{+0.152}_{-0.169}$	$1.169^{+0.343}_{-0.662}$
	+3%/-4%	+1%/-5%	+95%/-167%	+33%/-11%	+12%/-14%	+29%/-57%
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 007951018-01 / KOI 1553.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-61 ± 18	$9.02^{+1.50}_{-0.80}$	771^{+54}_{-41}	2812^{+115}_{-141}	34^{+14}_{-12}
Alt.	-59 ± 20	$9.39^{+1.63}_{-0.69}$	770^{+55}_{-39}	2755^{+118}_{-135}	30^{+12}_{-11}

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

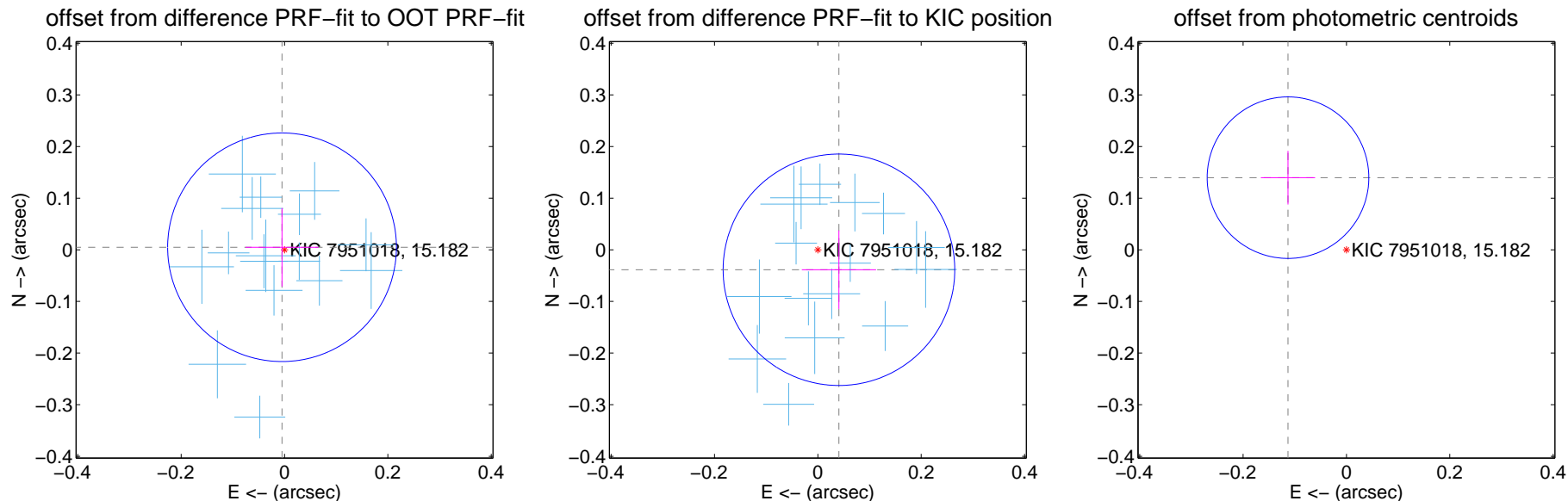
DV Centroid Data

Supplemental centroid analysis for 007951018-01. Kepler magnitude: 15.18. Transit SNR 232.21

There are 17 quarters with good PRF difference image offsets

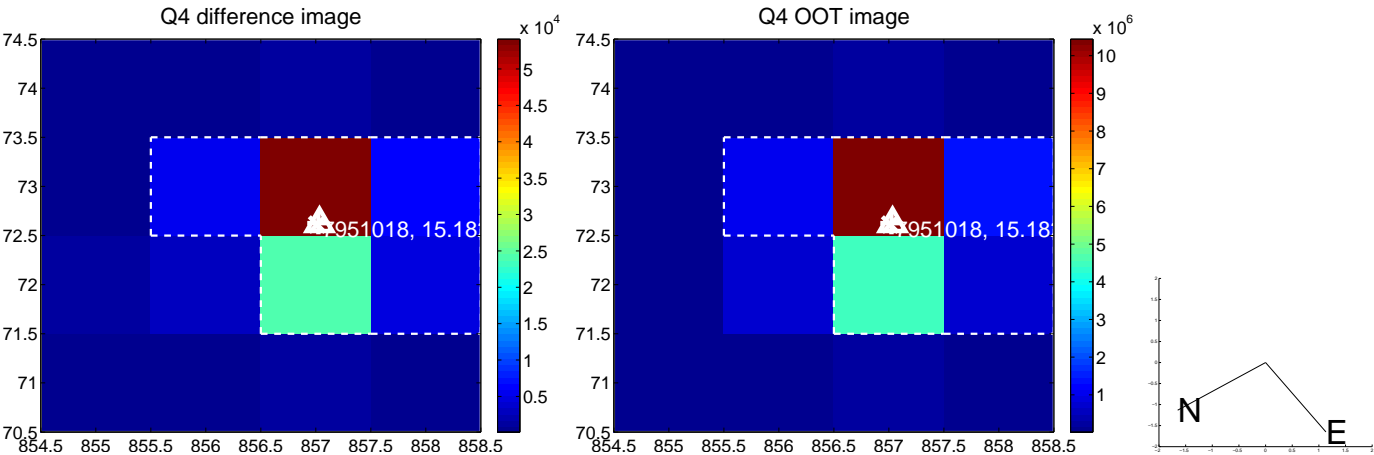
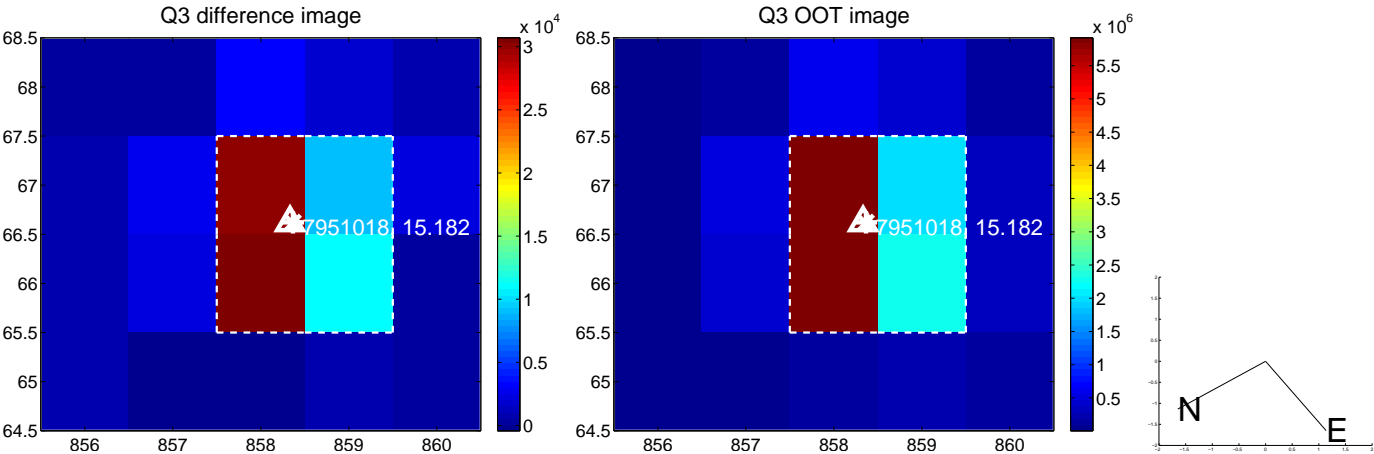
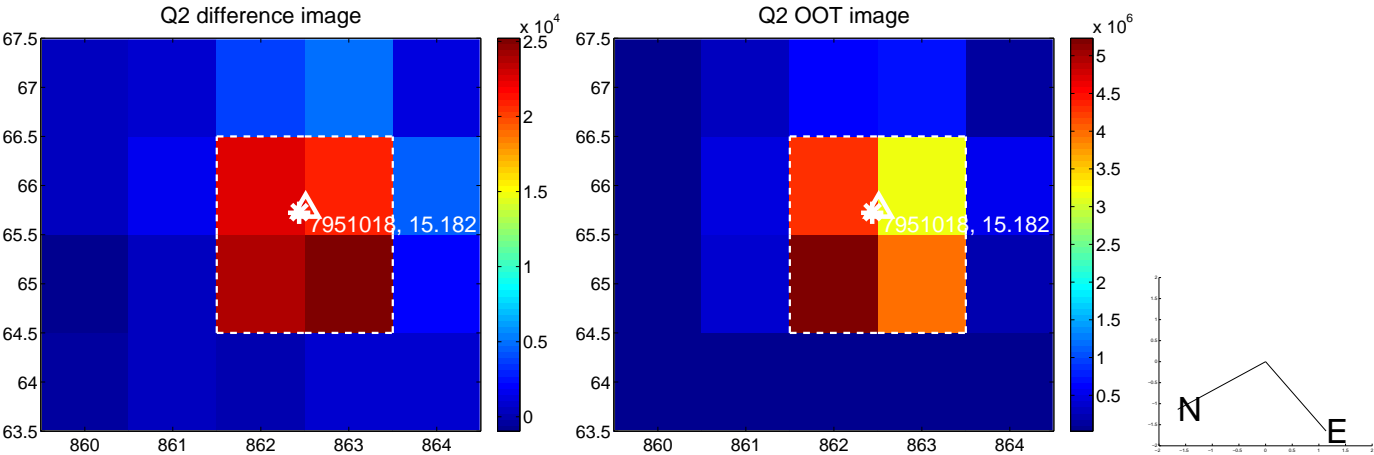
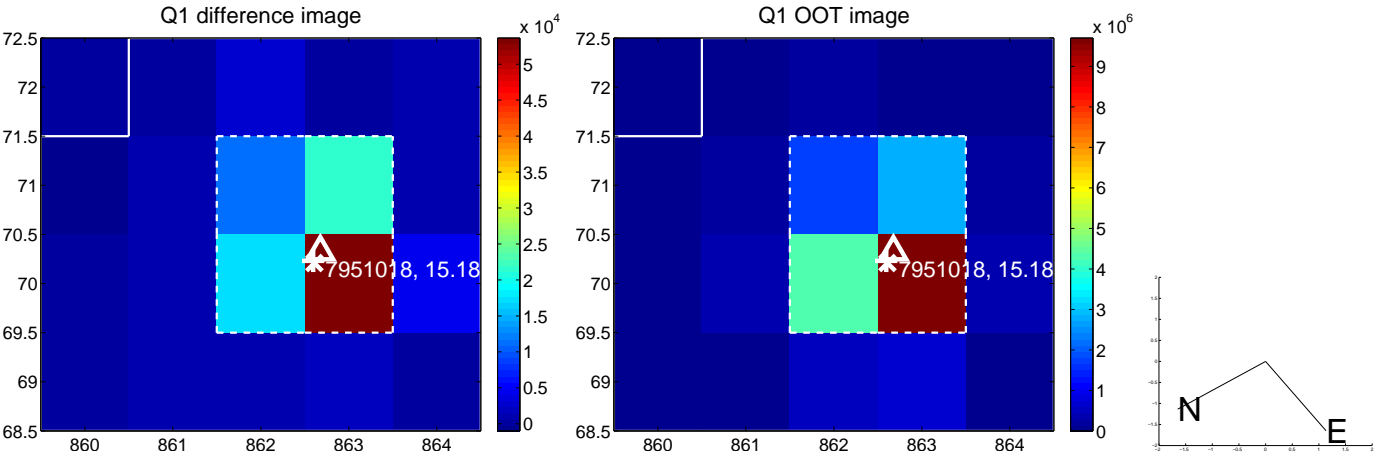
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.007 ± 0.074	0.09	0.005 ± 0.071	0.005 ± 0.076
PRF-fit source offset from KIC position	0.056 ± 0.075	0.75	-0.041 ± 0.072	-0.039 ± 0.076
photometric centroid source offset	0.18 ± 0.05	3.45	0.11 ± 0.05	0.14 ± 0.05

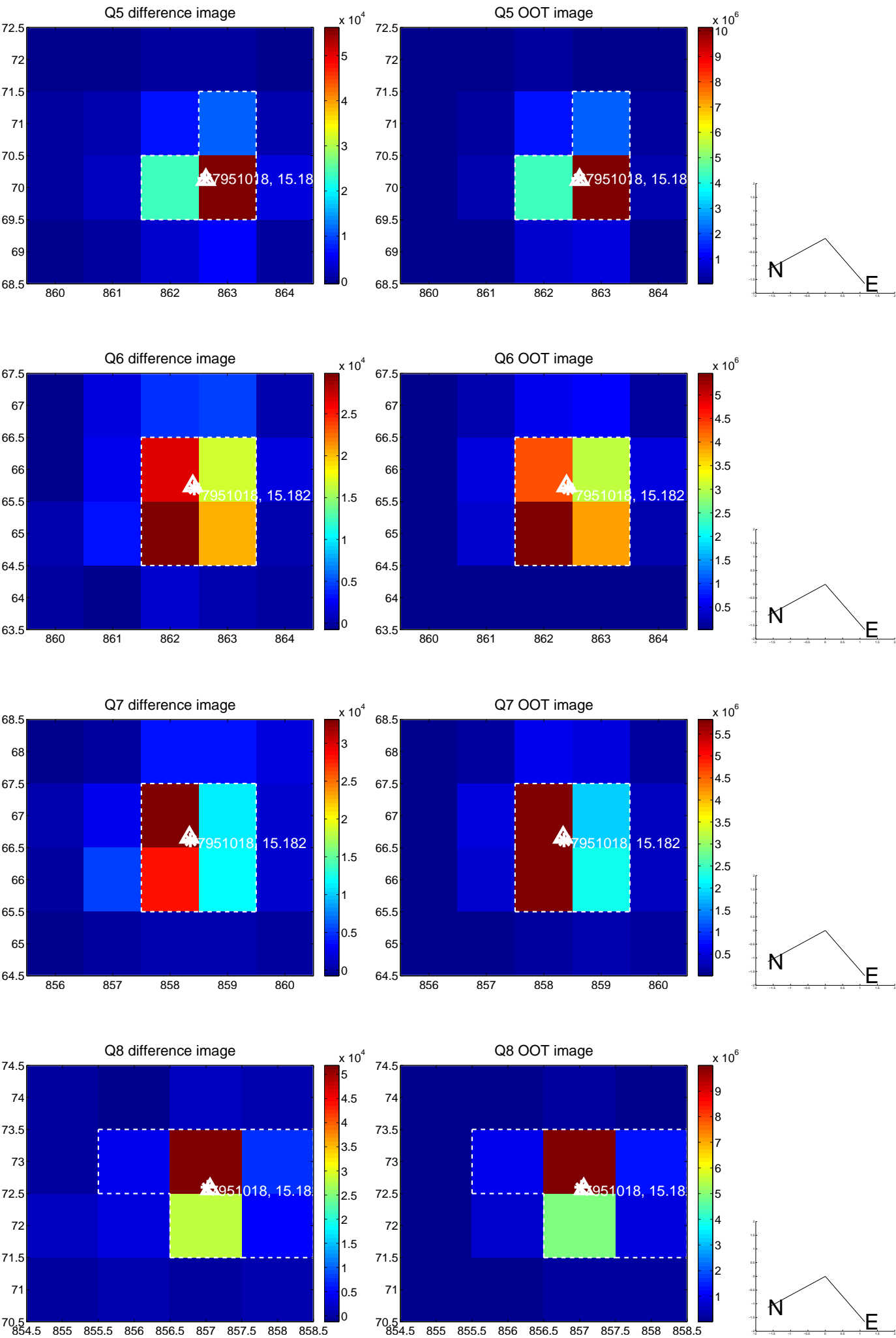


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

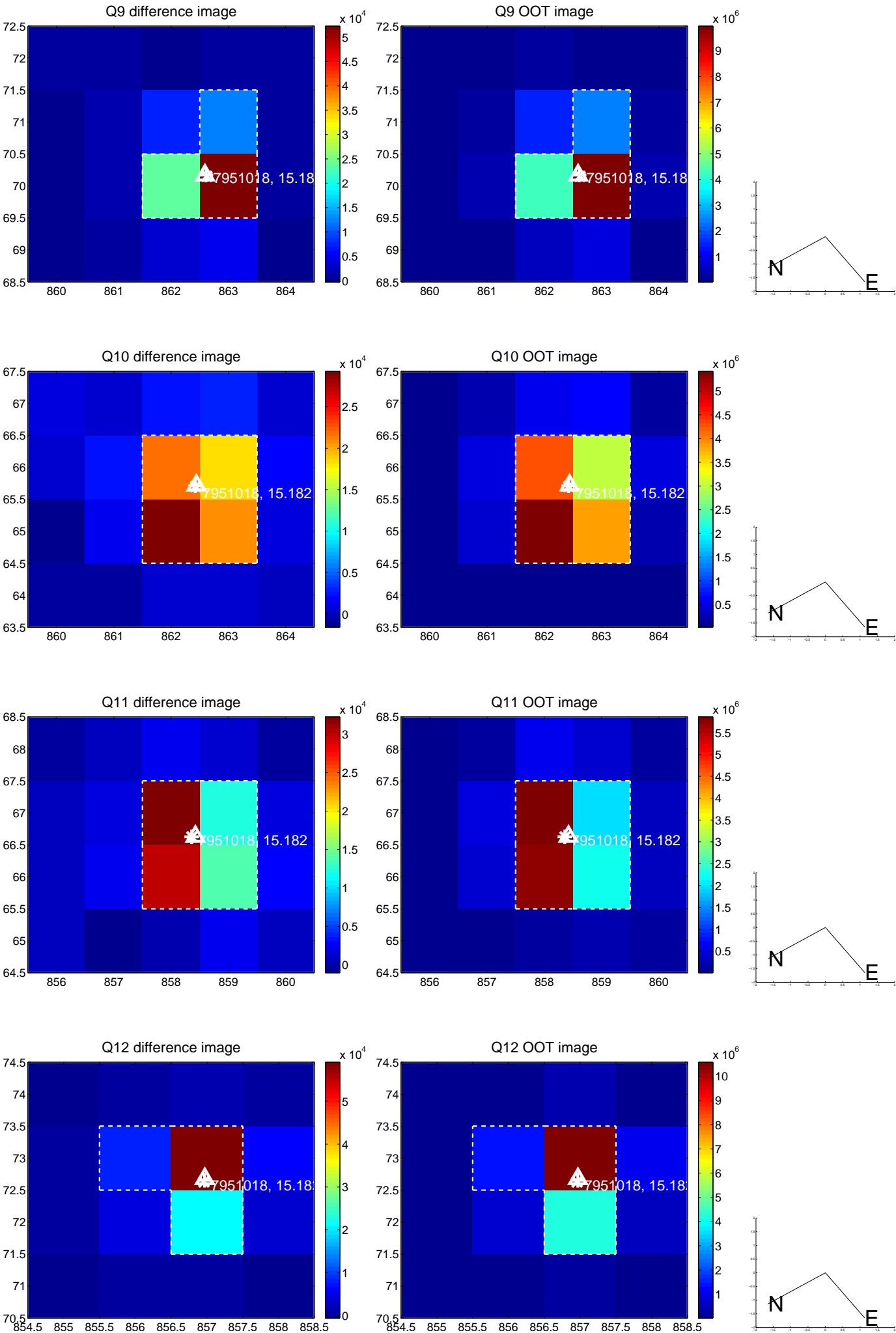
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



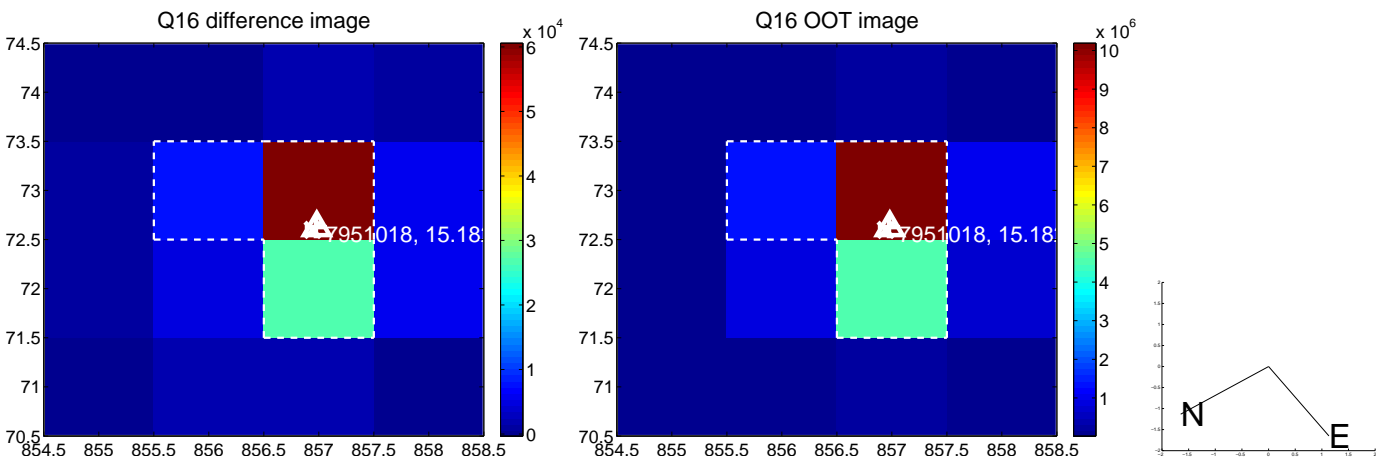
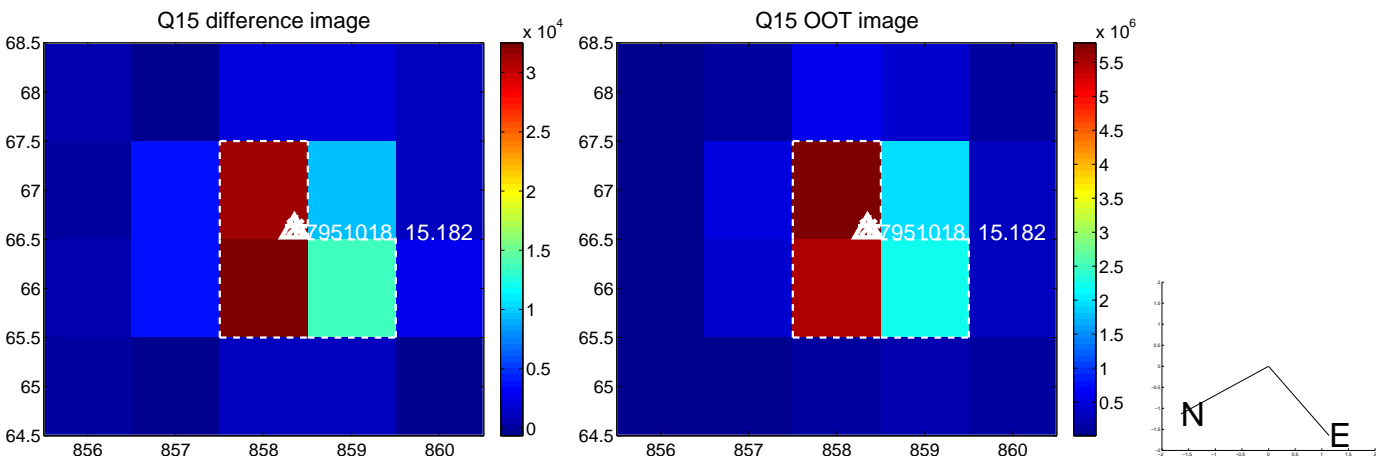
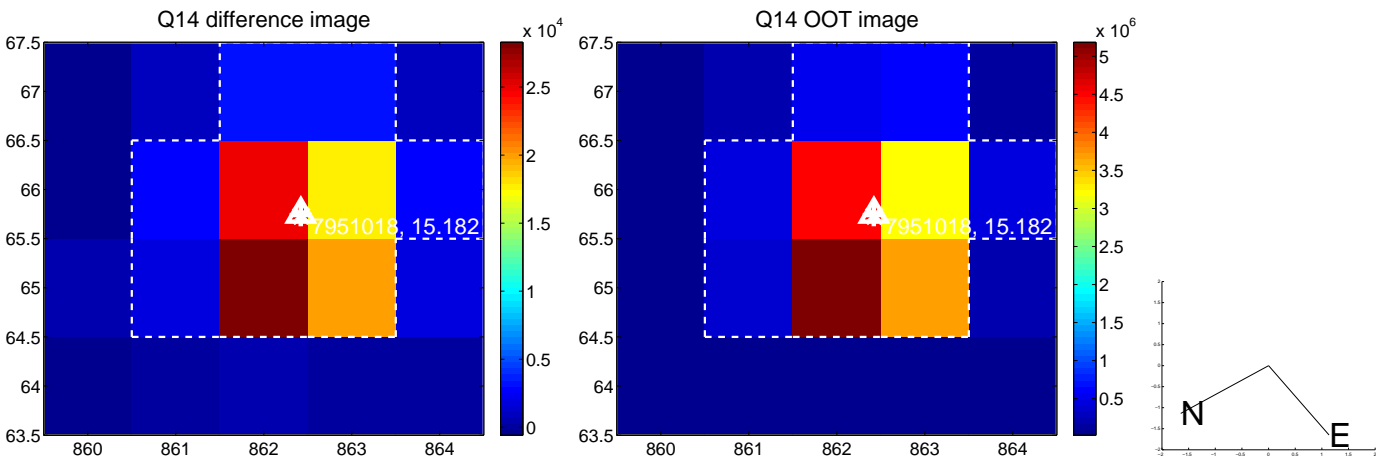
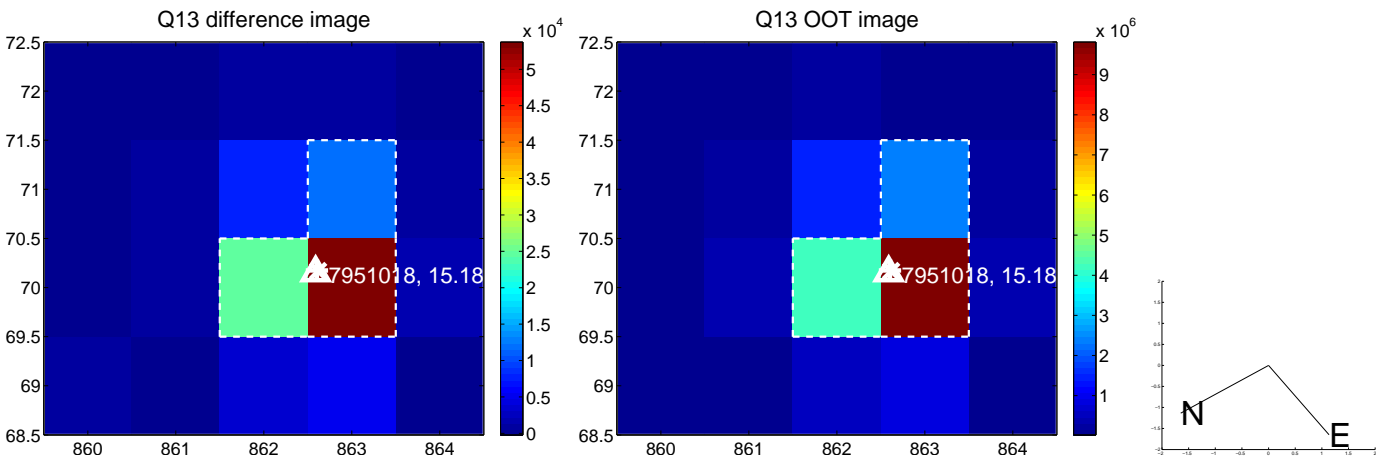
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



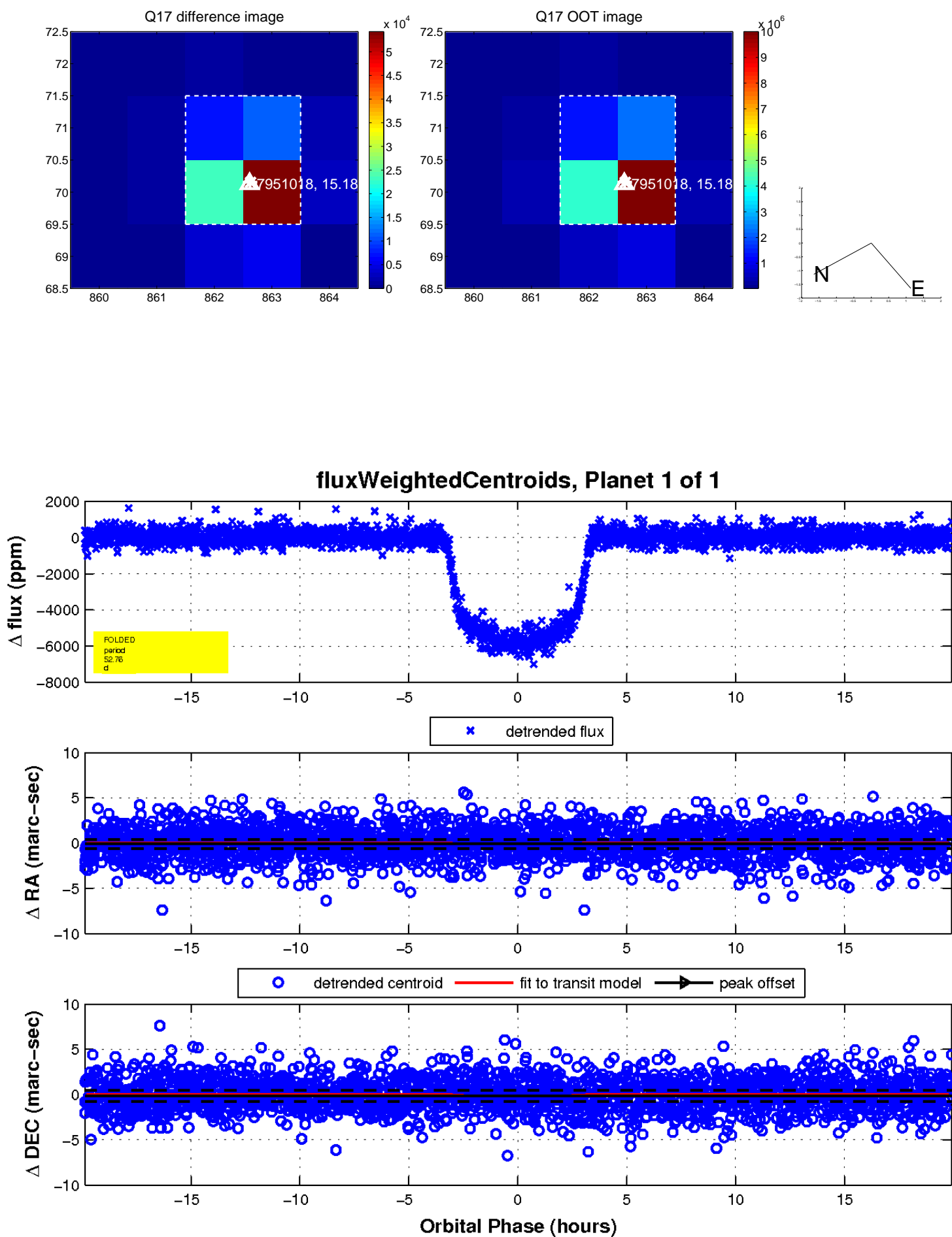
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UKIRT Image

Declination

