

KIC 008453191

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})
008453191-01	OBS	7043.01	5.776768	131.541627	140138.6	7.123	12056.8	6599.4	2.07	6263	115.38	1338.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008453191-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

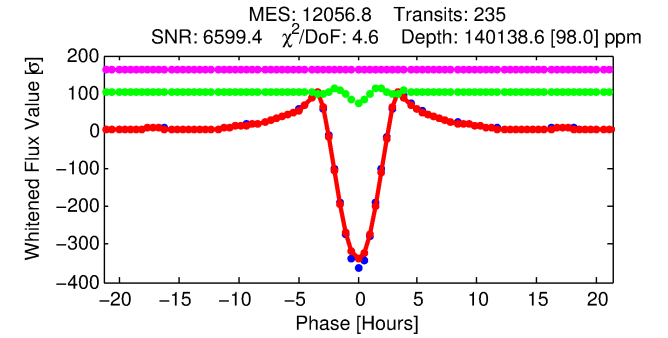
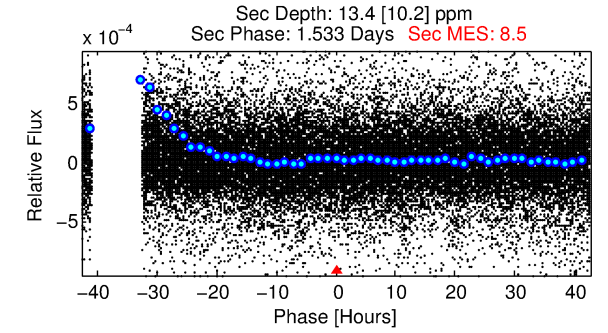
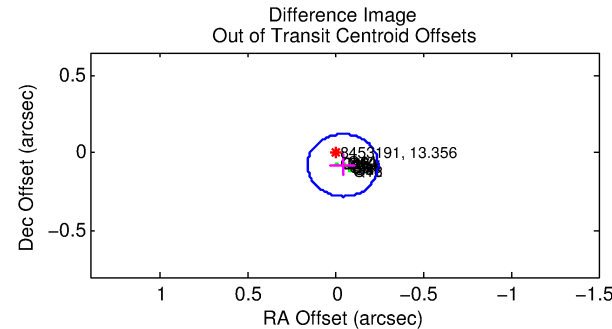
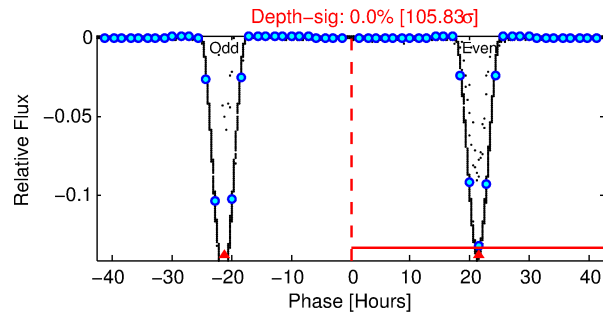
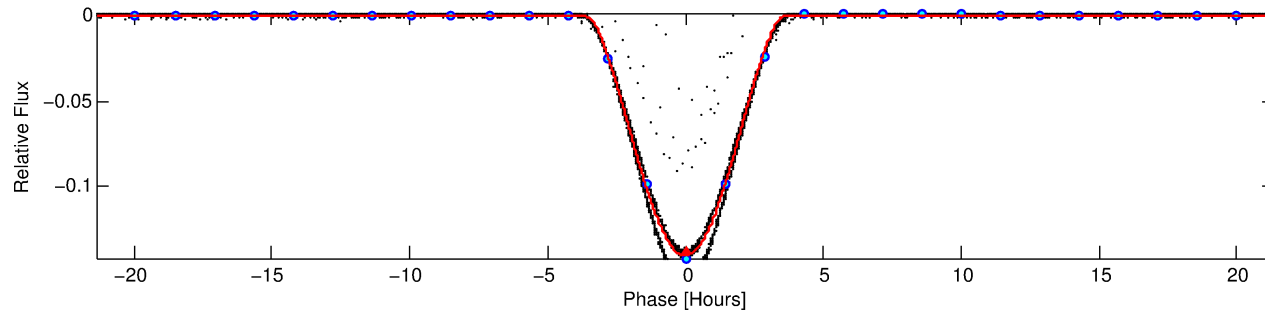
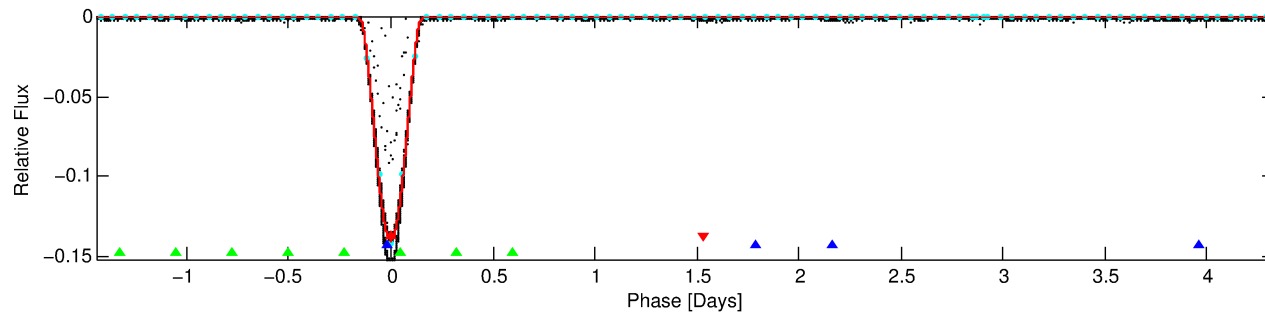
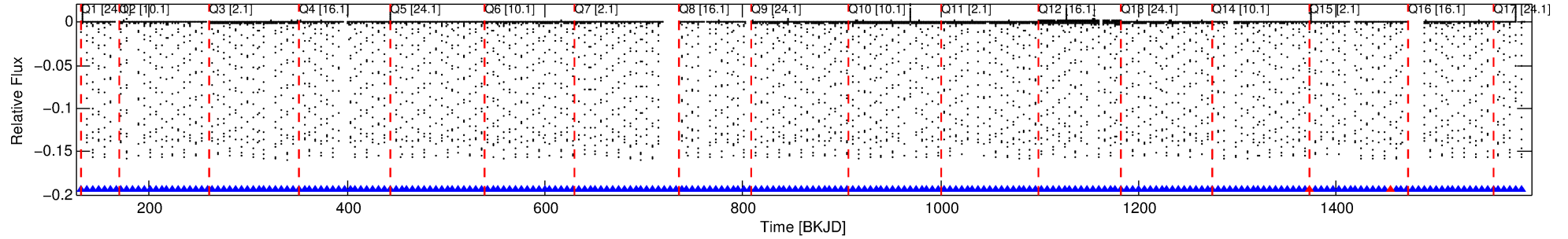
Ephemeris Match Information For 008453191-01

No Significant Match Found

DV One-Page Summary

KIC: 8453191 Candidate: 1 of 3 Period: 5.777 d
KOI: K07043.01 Corr: 0.999

Kp: 13.36 R*: 2.07 Rs Teff: 6263.0 K Logg: 3.88 Fe/H: -0.340



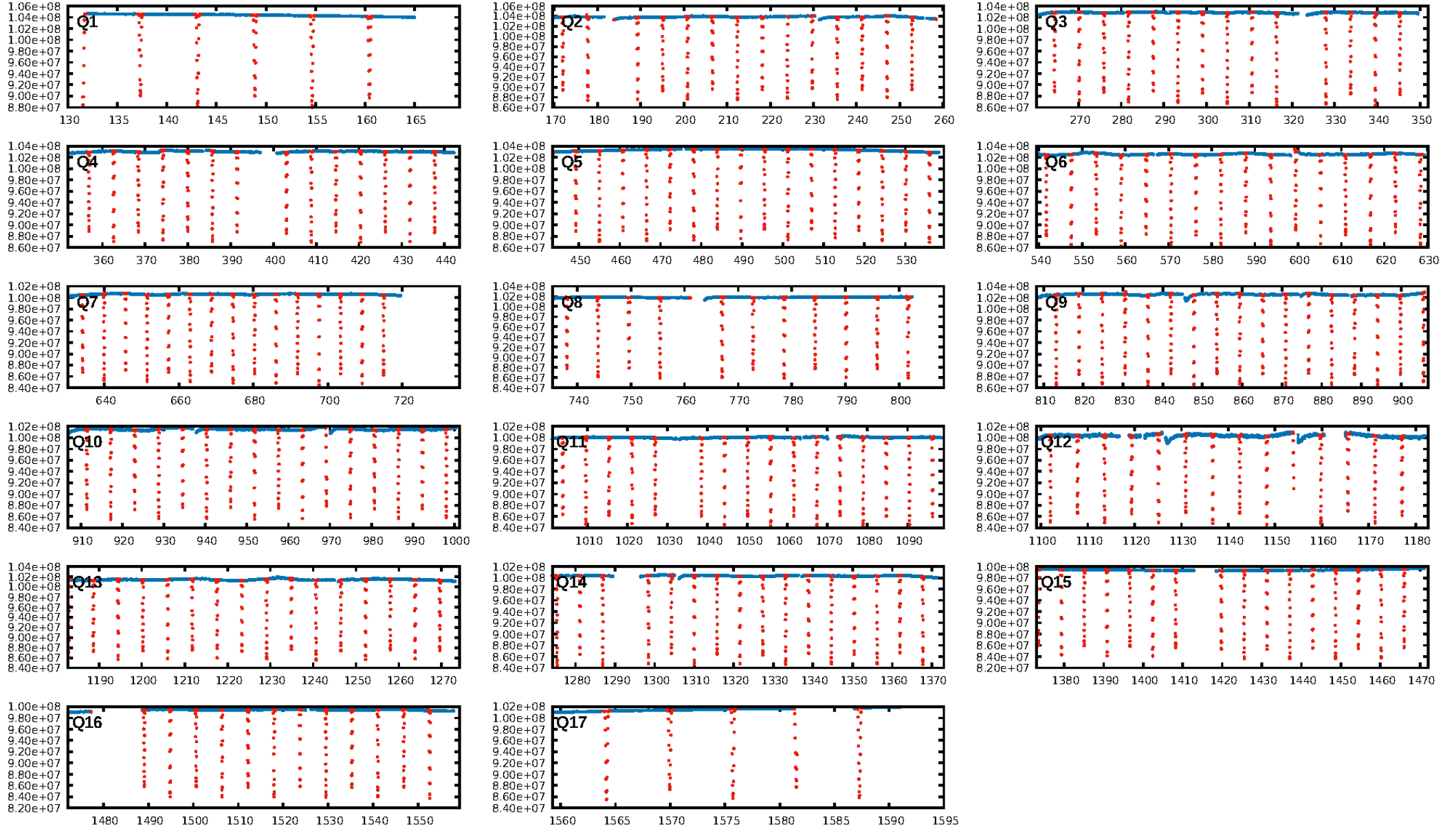
DV Fit Results:

Period = 5.77677 [0.00000] d
Epoch = 131.5416 [0.0000] BKJD
Rp/R* = 0.5103 [0.0301]
a/R* = 7.58 [0.04]
b = 0.91 [0.04]
Seff = 1338.76 [701.54]
Teq = 1542 [202] K
Rp = 115.38 [38.20] Re
a = 0.0665 [0.0210] AU
Ag = 0.00 [0.00] [-442.58σ]
Teffp = 530 [103] K [-4.46σ]

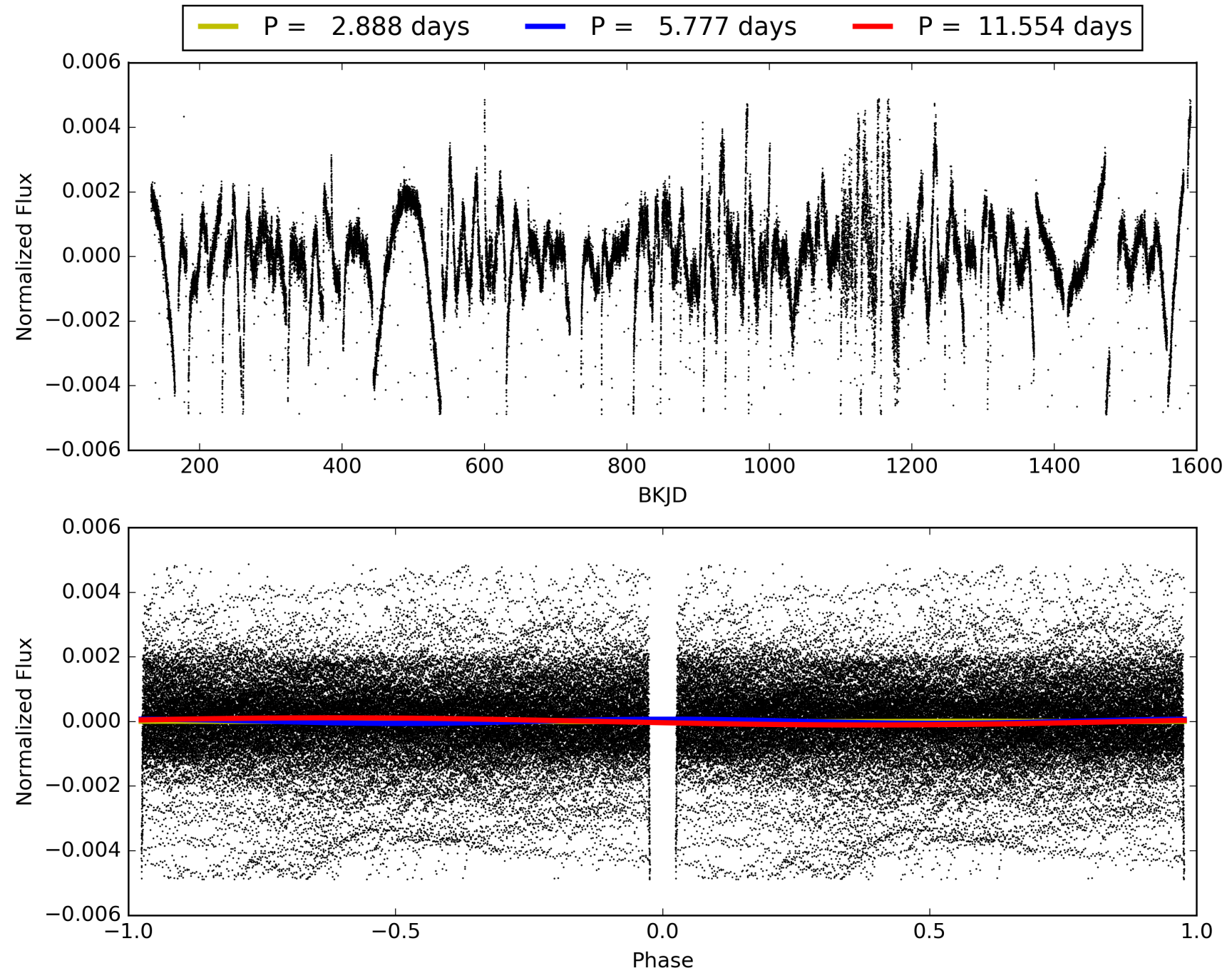
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [100.55σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [222/224]
GhostDiagnostic-chr: 3.909
Centroid-sig: N/A
Centroid-so: 0.359 arcsec [644.28σ]
OotOffset-rm: 0.090 arcsec [1.34σ]
KicOffset-rm: 0.067 arcsec [0.97σ]
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 008453191-01, PDC Light Curves

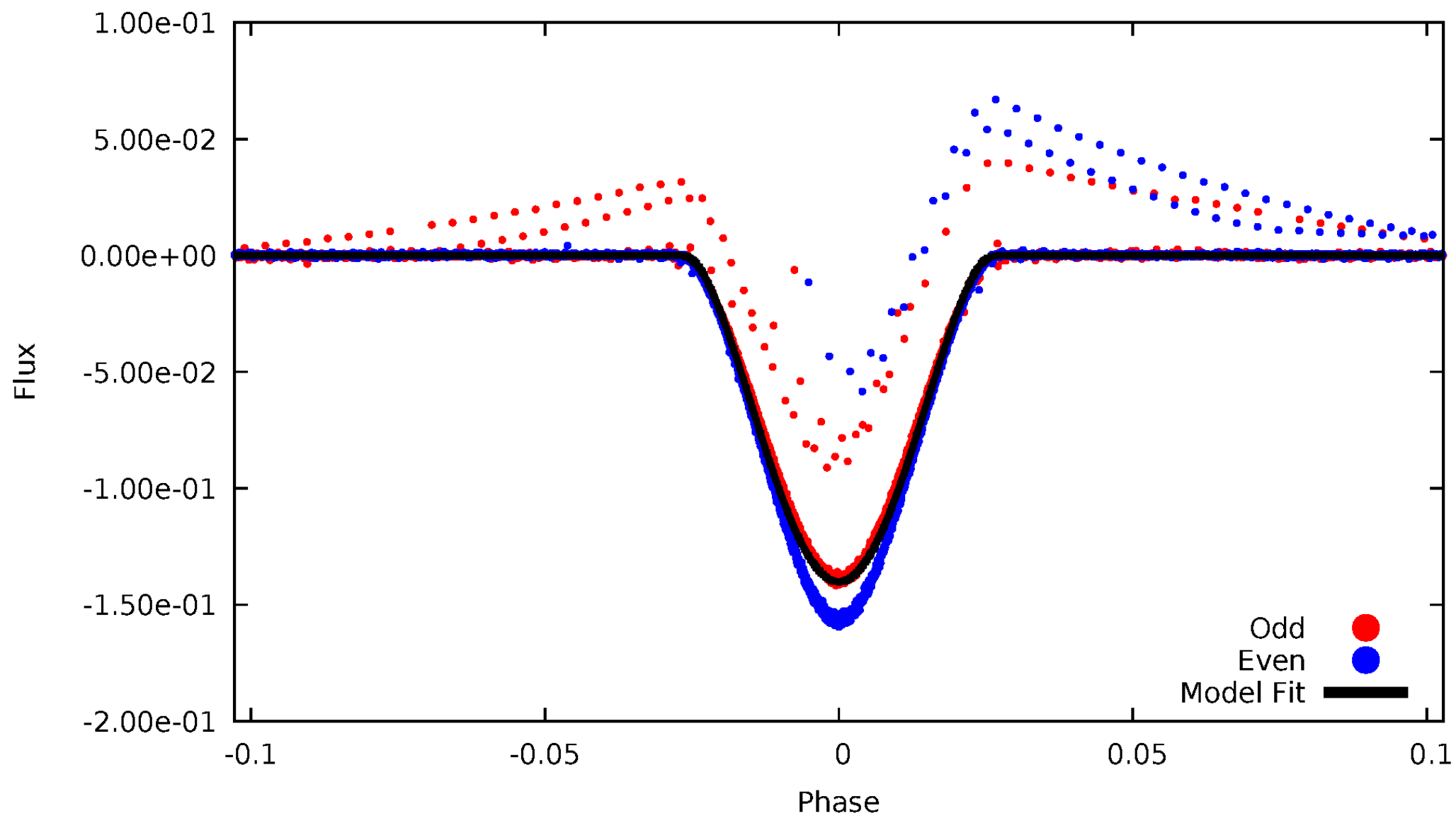


TCE 008453191-01



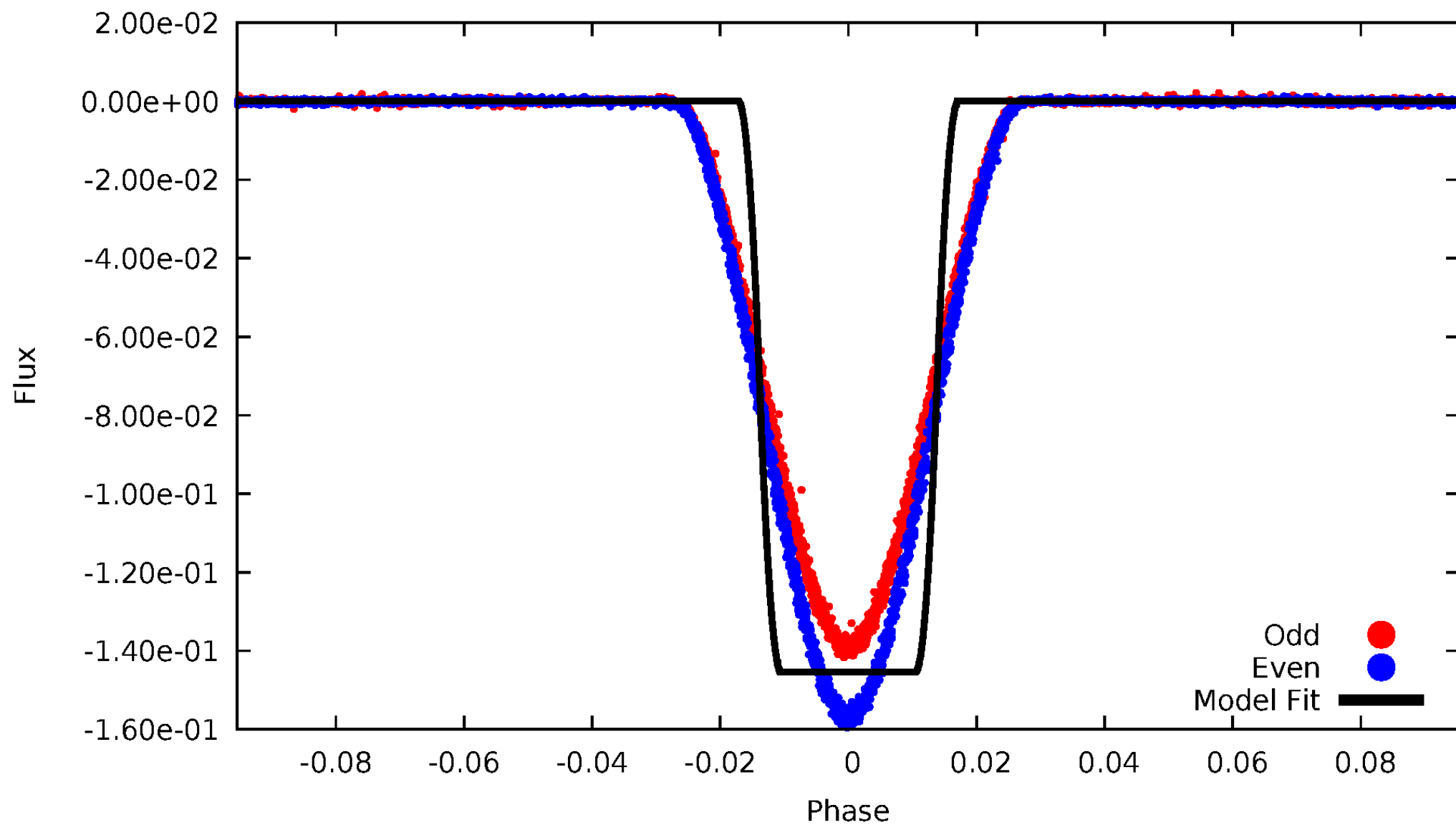
DV Odd/Even

TCE 008453191-01



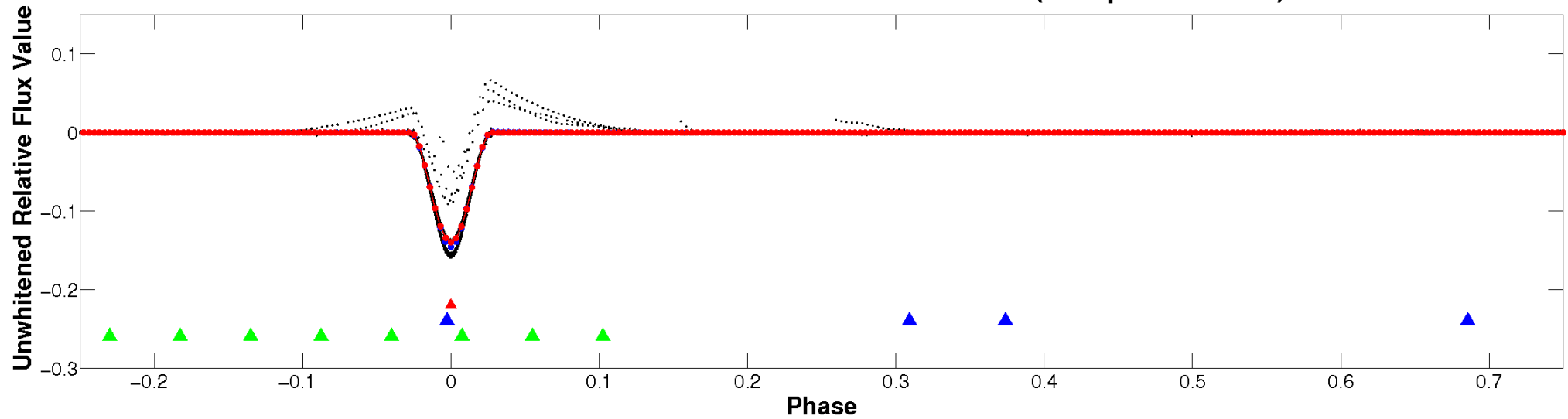
ALT Odd/Even

TCE 008453191-01

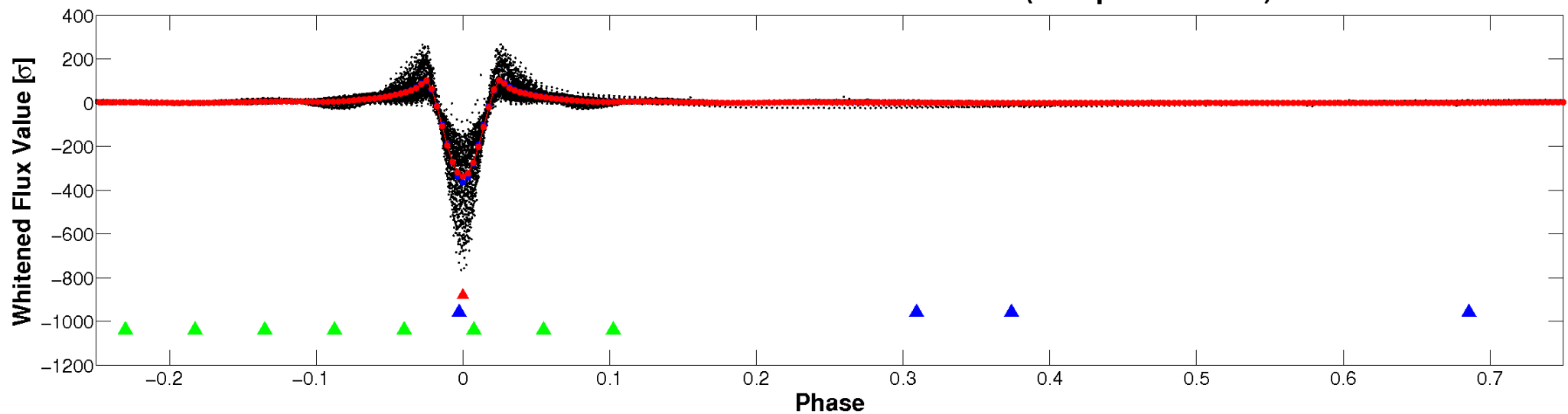


Non-Whitened Vs. Whitened Light Curve

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

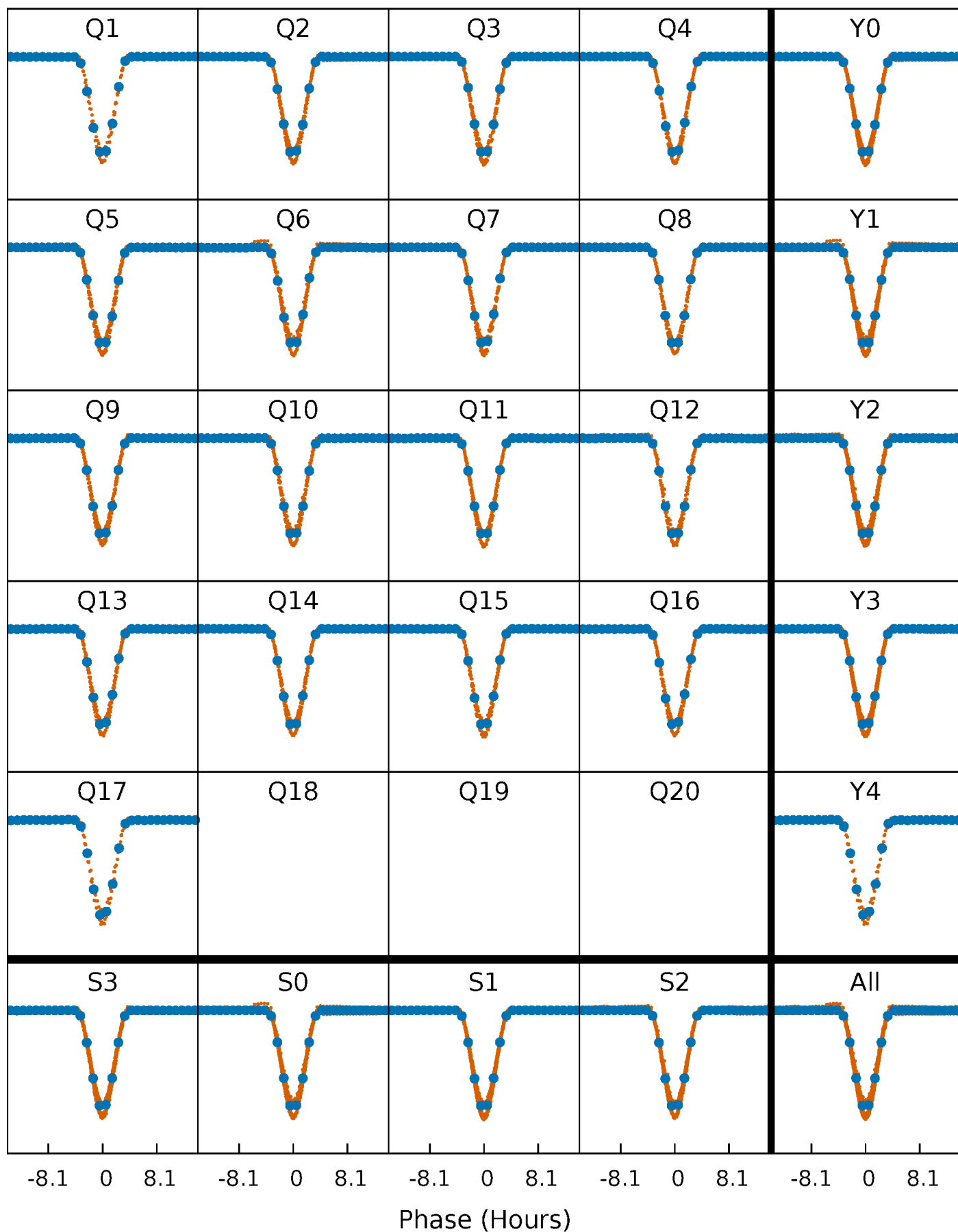


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



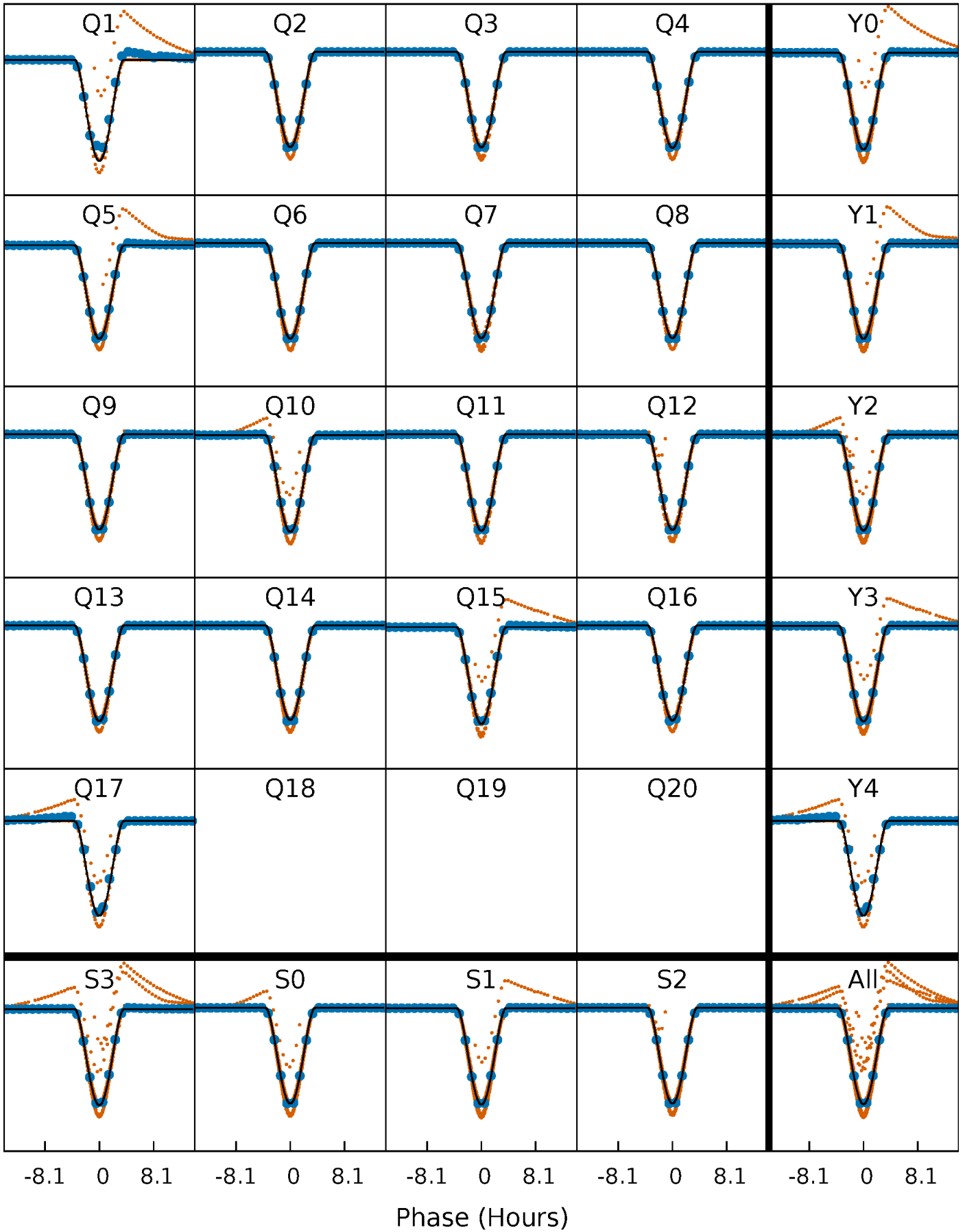
PDC Quarter-Phased Transit Curves

TCE 008453191-01 P= 5.776768 Days $T_0=131.541627$ (BKJD)



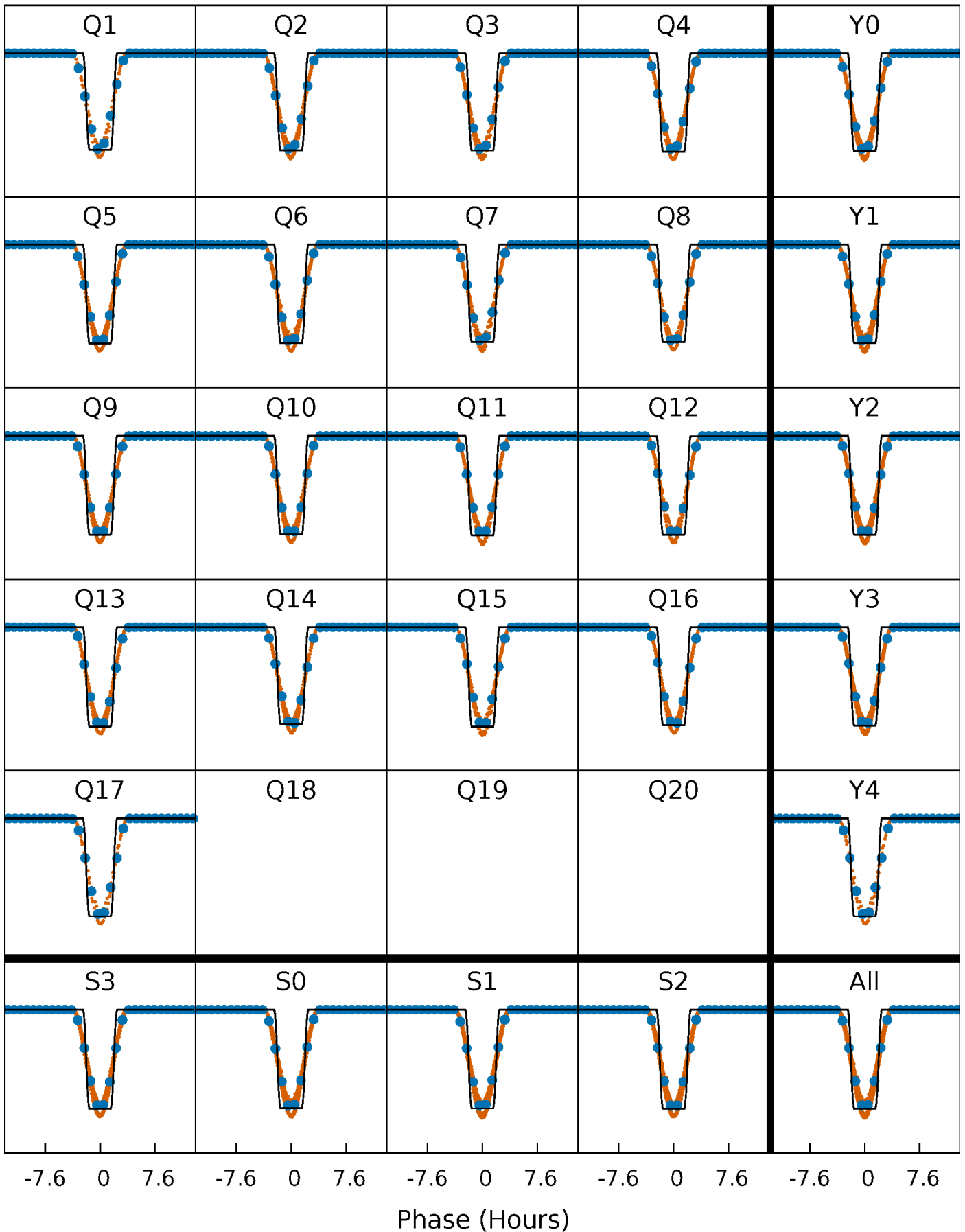
DV Quarter-Phased Transit Curves

TCE 008453191-01 P= 5.776768 Days $T_0=131.541627$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

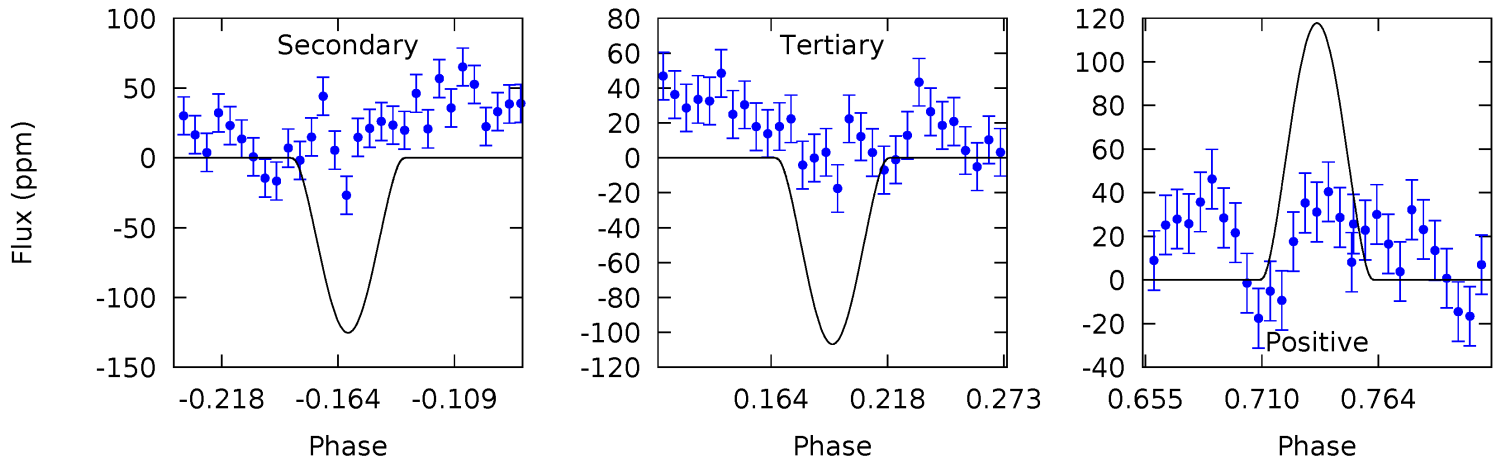
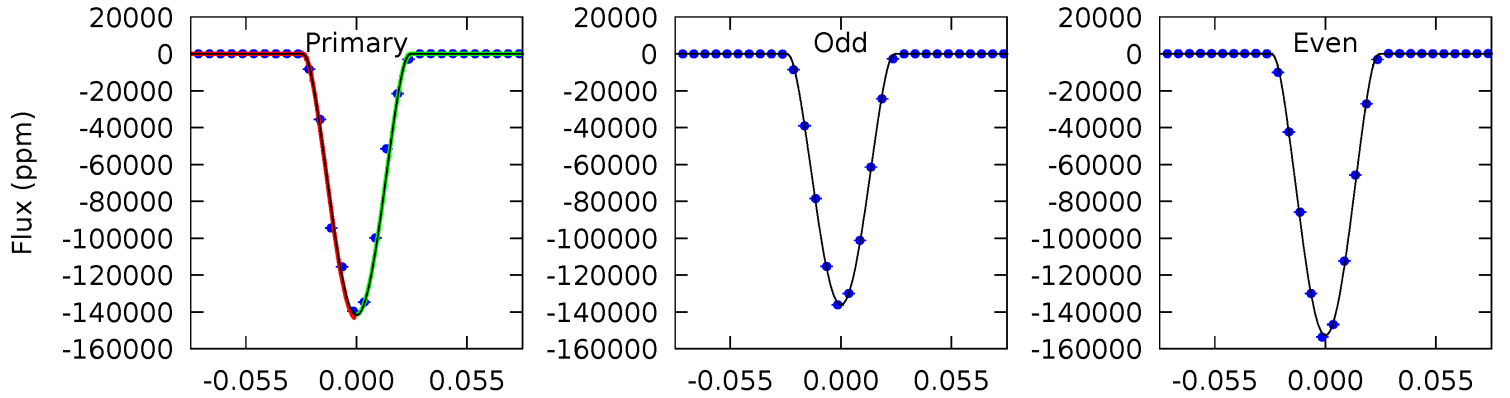
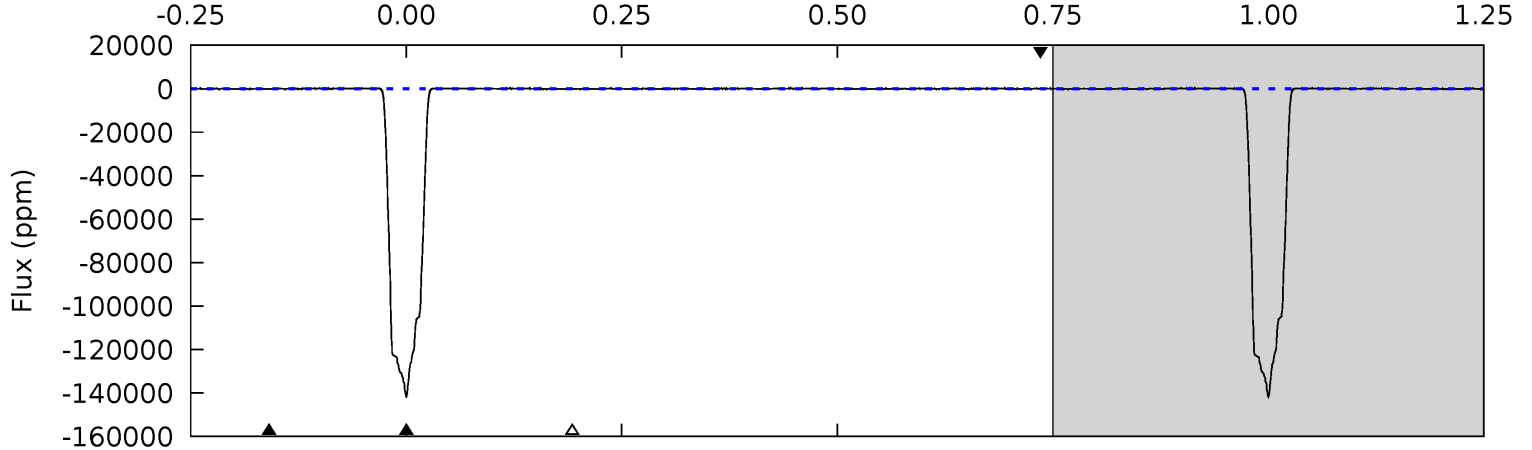
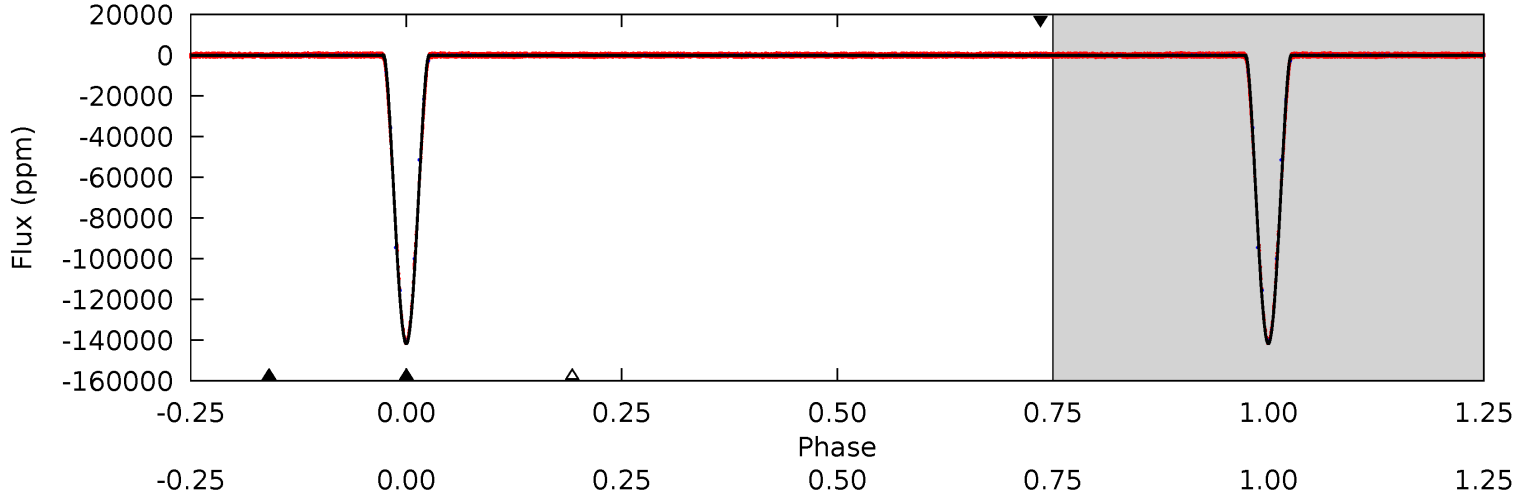
TCE 008453191-01 P= 5.776738 Days $T_0=131.545560$ (BKJD)



DV Model-Shift Uniqueness Test

008453191-01, P = 5.776768 Days, E = 125.764859 Days

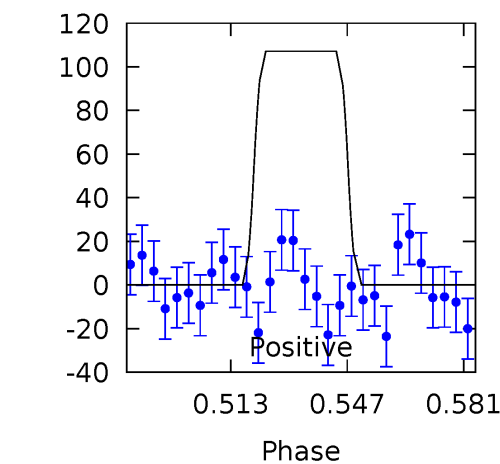
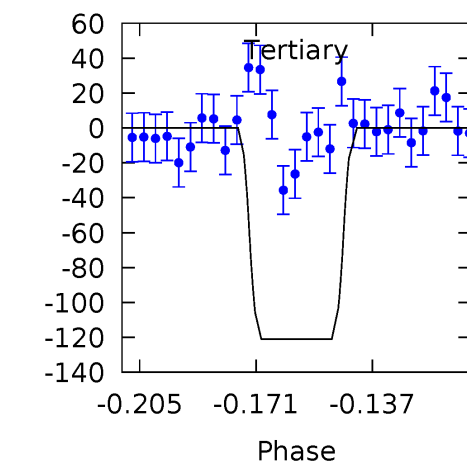
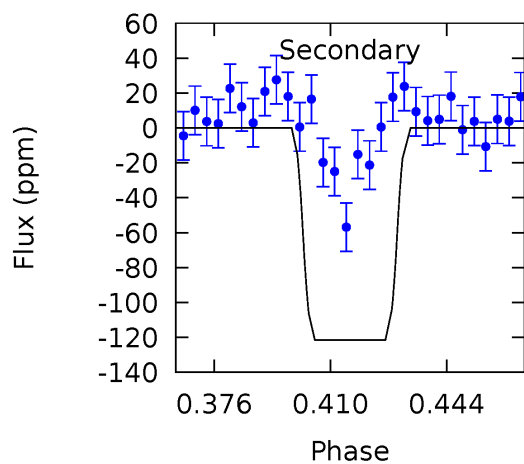
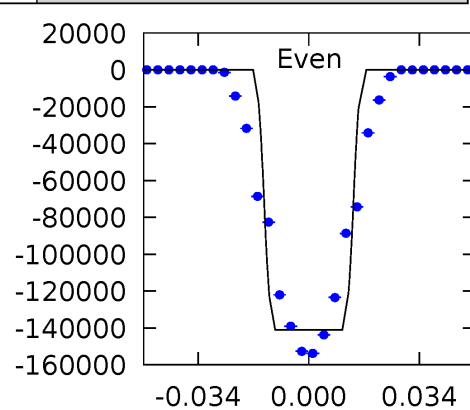
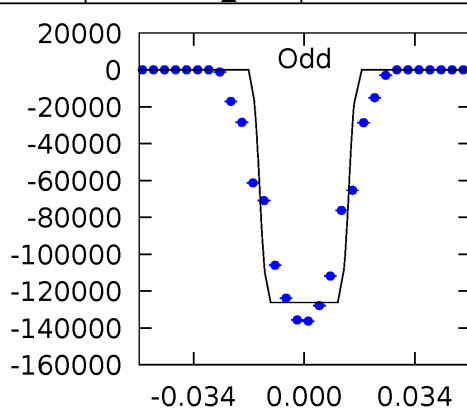
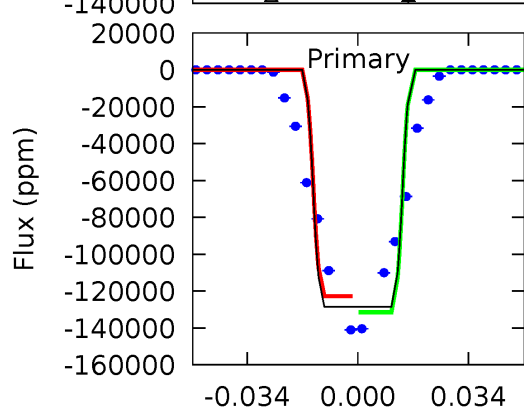
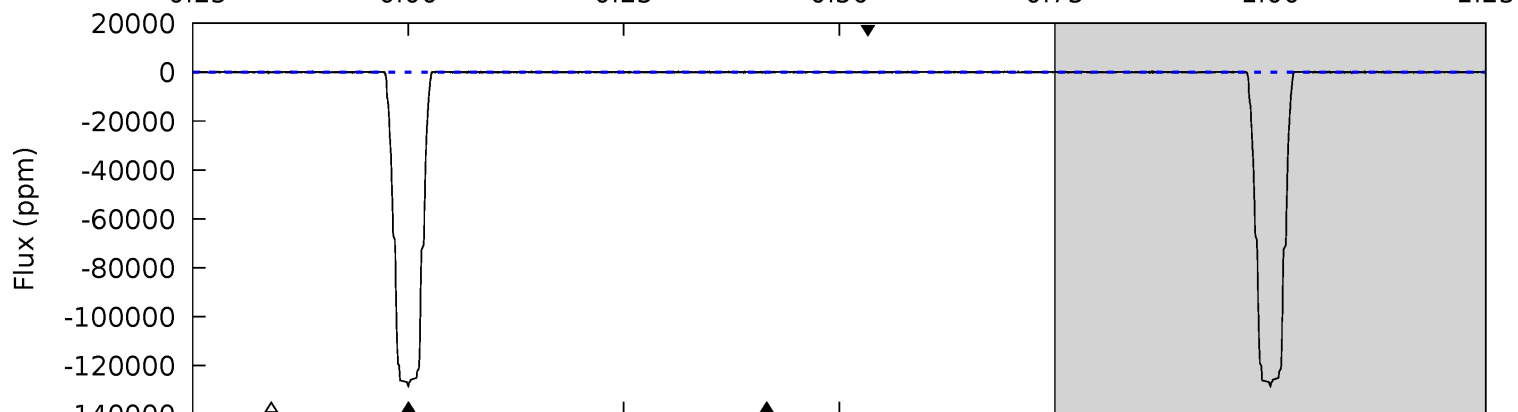
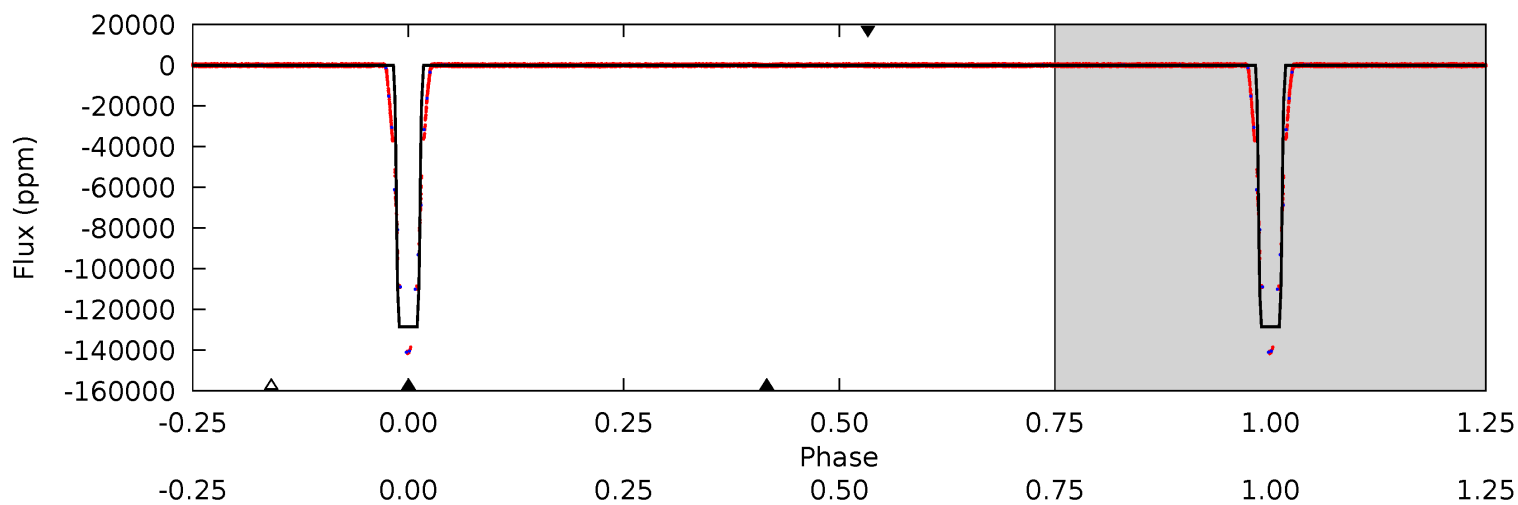
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15296	13.5	11.5	12.7	4.69	1.92	4.27	15284	15283	2.00	0.82	1584	1.03	0.00	0



Alt Model-Shift Uniqueness Test

008453191-01, P = 5.776738 Days, E = 125.768822 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5698	5.39	5.36	4.75	4.79	2.12	1.45	5693	5693	0.03	0.64	787.0	1.03	0.00	0



Stellar Parameters For KIC 008453191

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6263^{+194}_{-194}	$3.875^{+0.300}_{-0.100}$	$-0.340^{+0.350}_{-0.250}$	$2.072^{+0.450}_{-0.675}$	$1.173^{+0.229}_{-0.188}$	$0.186^{+0.356}_{-0.069}$
	+3%/-3%	+8%/-3%	+103%/-74%	+22%/-33%	+20%/-16%	+192%/-37%
Source	PHO1	FLK73	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 008453191-01 / KOI 7043.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-125 ± 9	$113.23^{+15.18}_{-21.68}$	2115^{+144}_{-183}	-2540^{+119}_{-88}	$0.025^{+0.011}_{-0.005}$
Alt.	-122 ± 23	$83.06^{+14.25}_{-14.59}$	2116^{+139}_{-190}	-2518^{+133}_{-89}	$0.043^{+0.023}_{-0.012}$

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

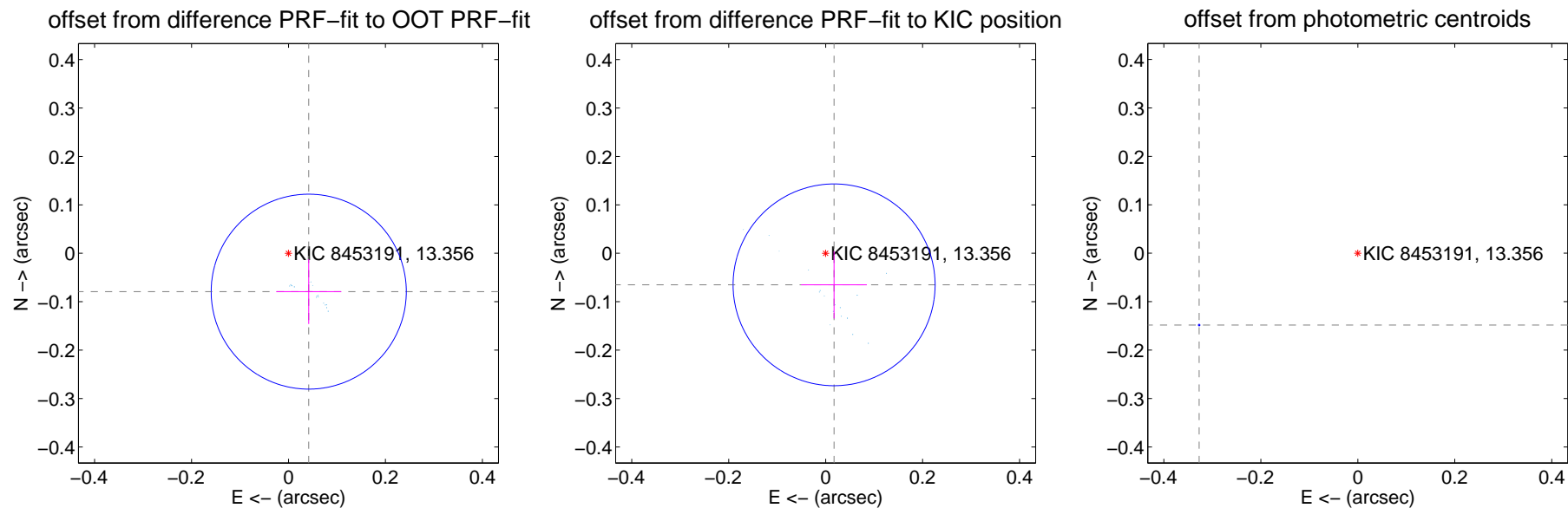
DV Centroid Data

Supplemental centroid analysis for 008453191-01. Kepler magnitude: 13.36. Transit SNR 6599.41

There are 17 quarters with good PRF difference image offsets

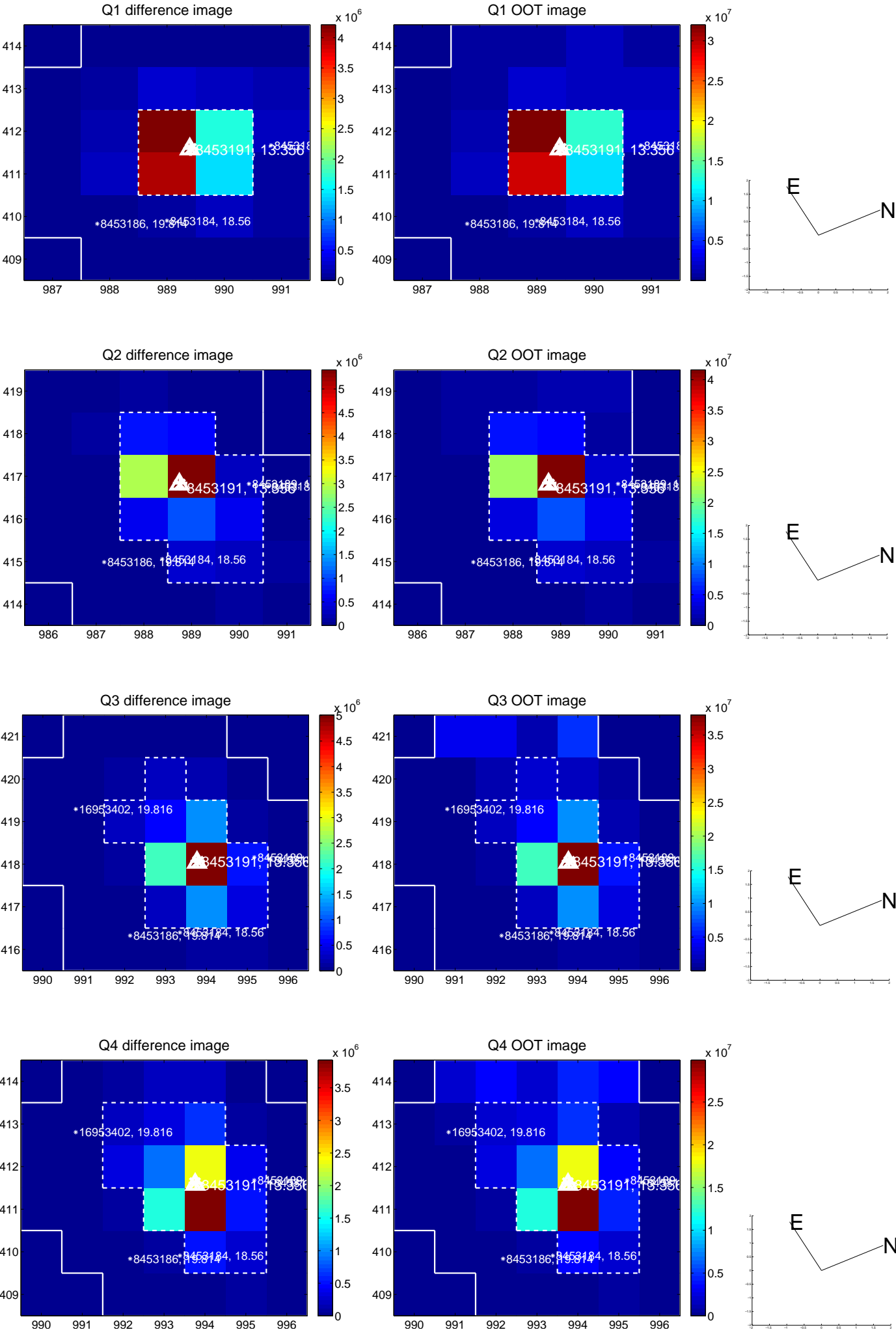
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.090 ± 0.067	1.34	-0.042 ± 0.067	-0.079 ± 0.067
PRF-fit source offset from KIC position	0.067 ± 0.069	0.97	-0.017 ± 0.068	-0.065 ± 0.070
photometric centroid source offset	0.36 ± 0.00	644.28	0.33 ± 0.00	-0.15 ± 0.00

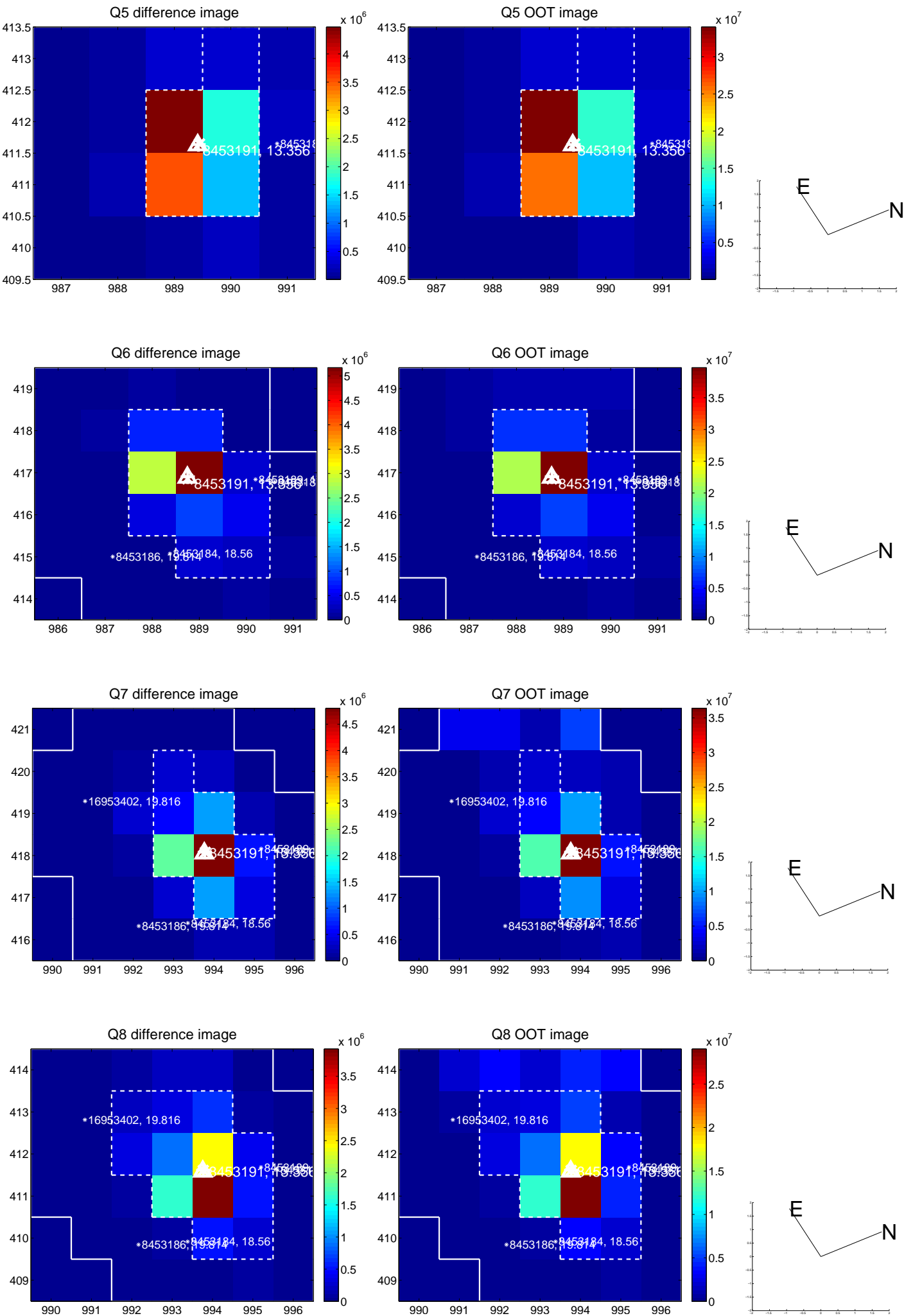


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

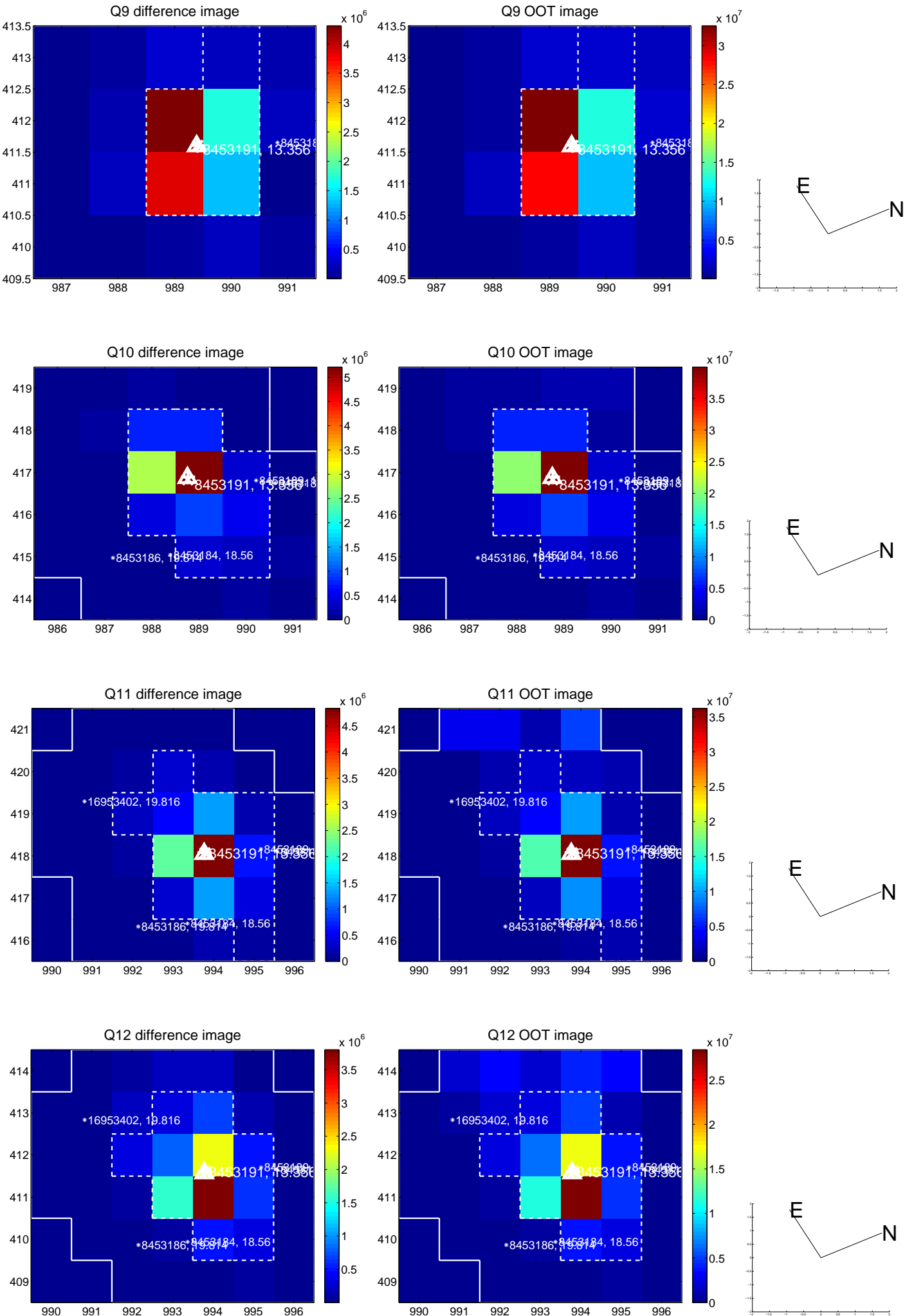
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



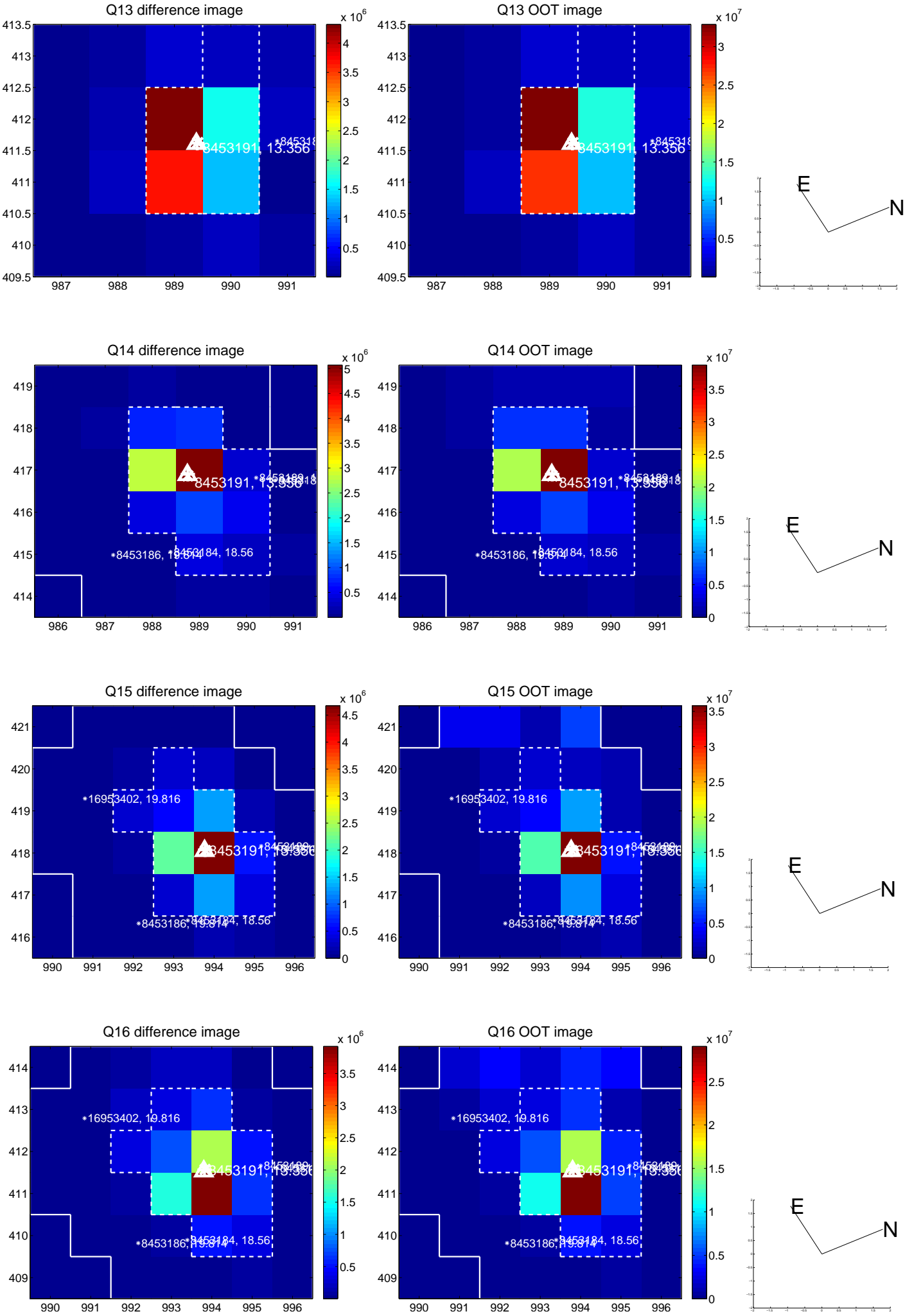
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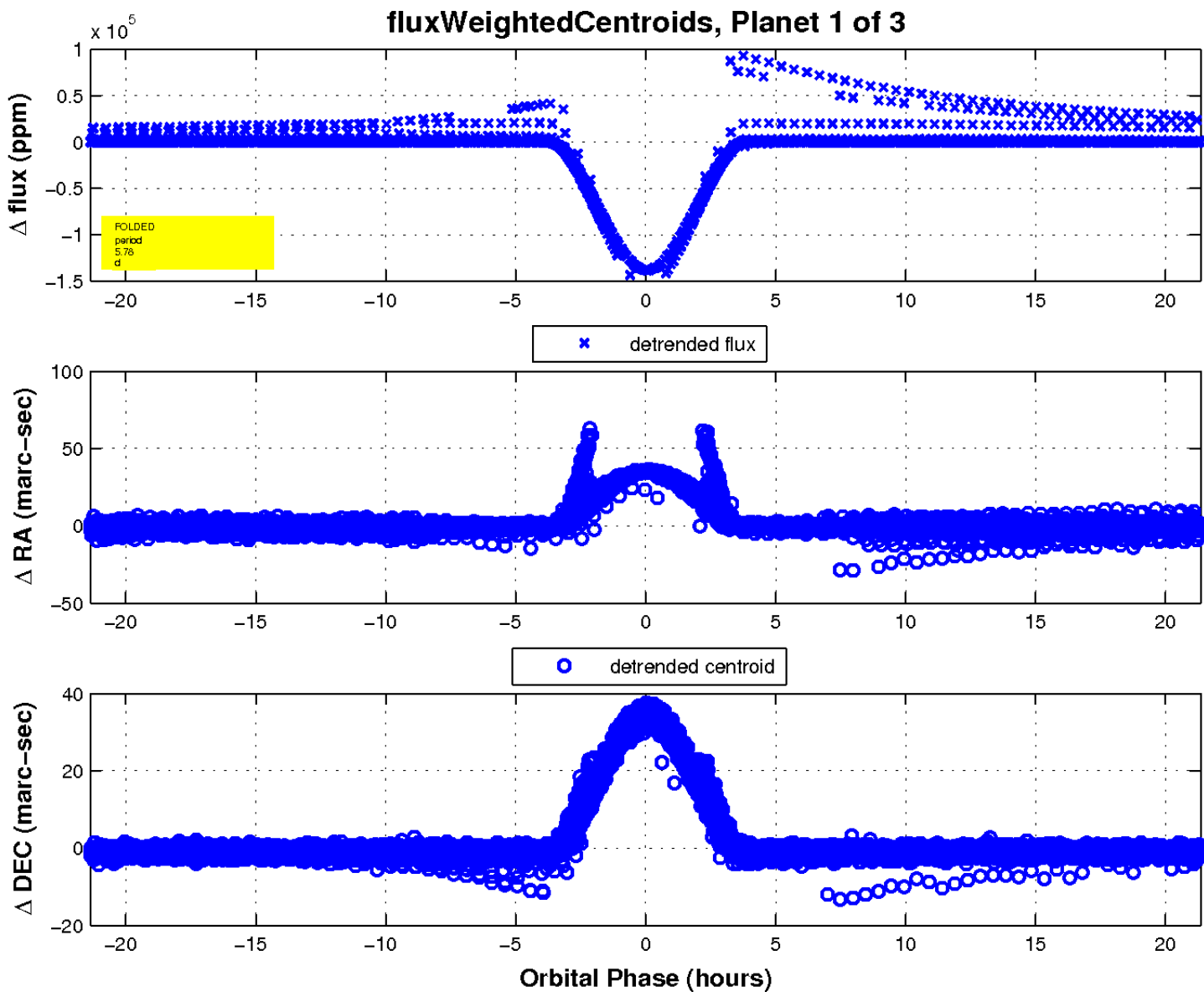
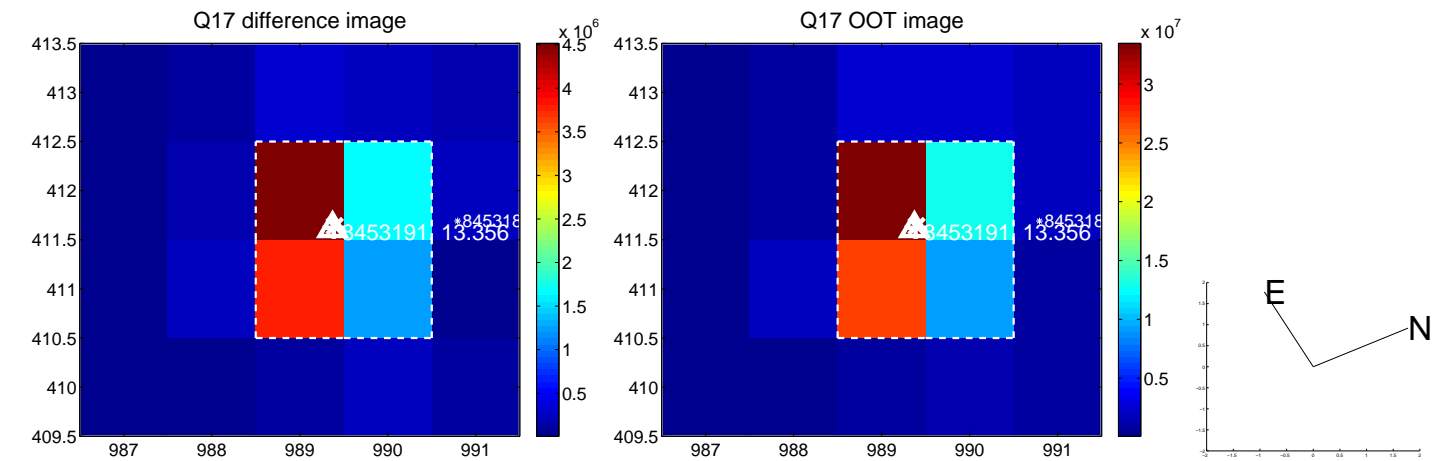
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UKIRT Image

