

KIC 009157634

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})
009157634-01	OBS	0526.01	2.104709	133.162839	813.1	1.923	120.5	132.2	0.97	5703	3.34	822.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009157634-01	OBS	PC	1.00	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.

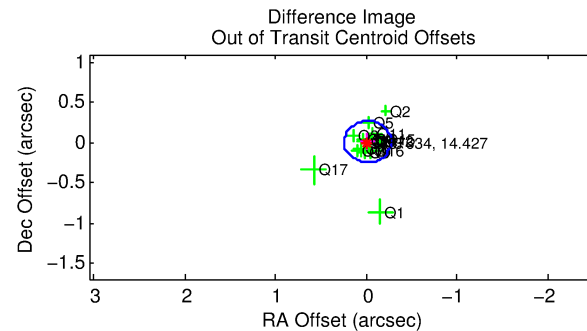
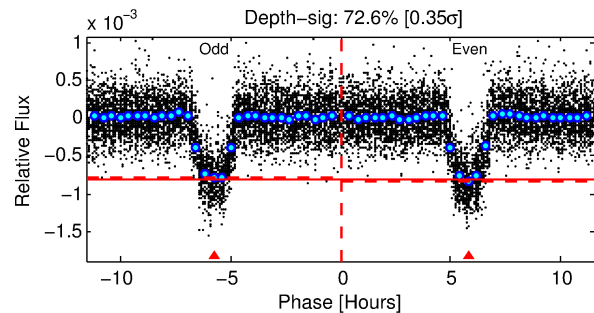
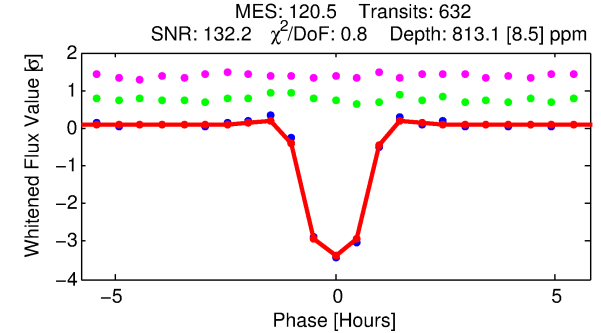
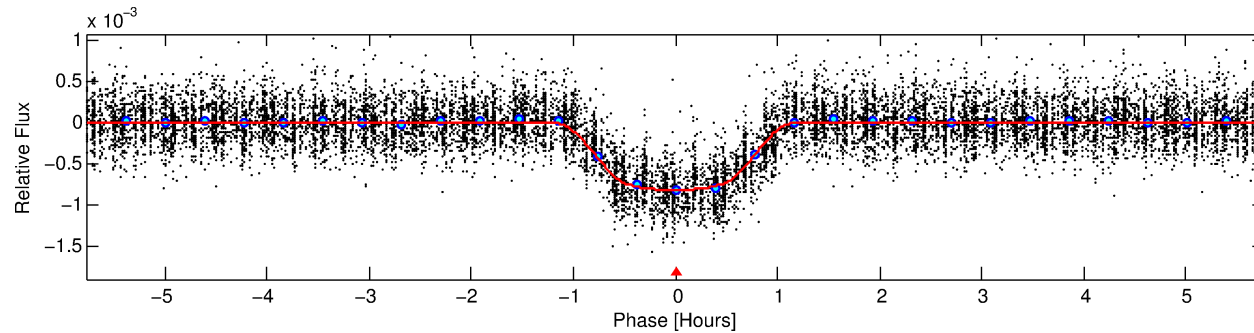
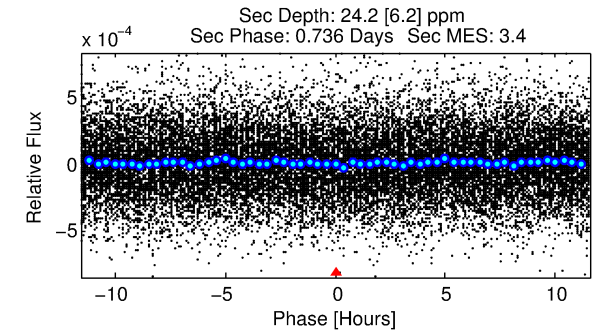
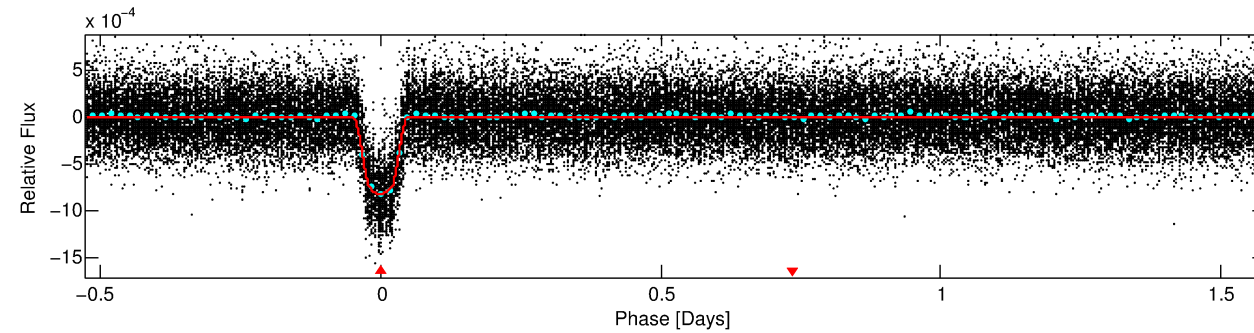
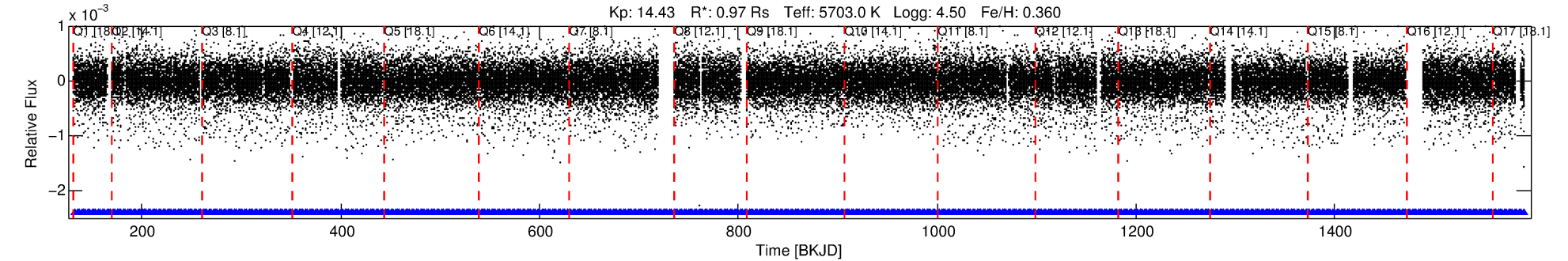
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009157634-01

No Significant Match Found

DV One-Page Summary

KIC: 9157634 Candidate: 1 of 1 Period: 2.105 d
KOI: K00526.01 Corr: 0.953



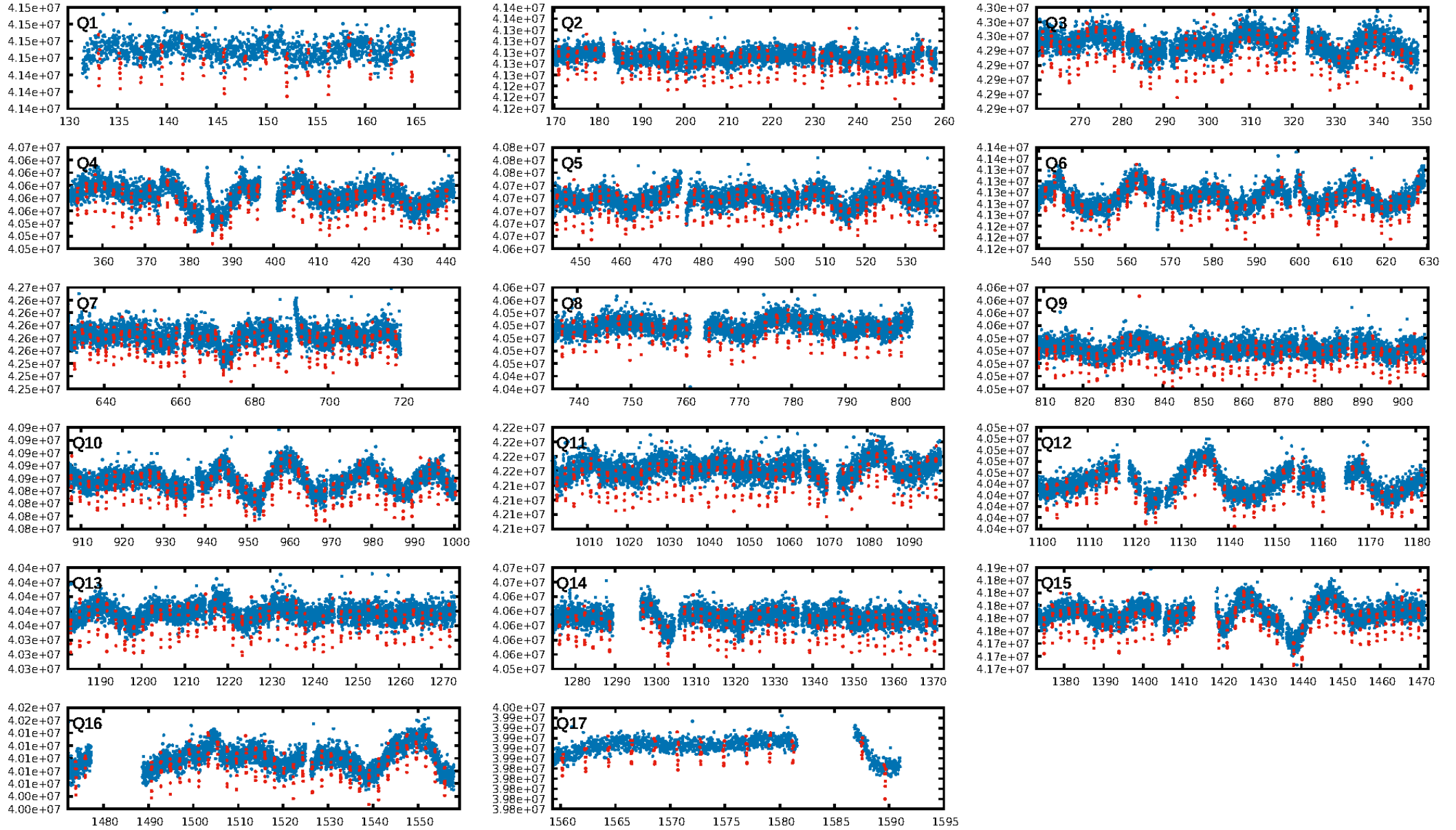
DV Fit Results:

Period = 2.10471 [0.00000] d
Epoch = 133.1628 [0.0002] BKJD
Rp/R* = 0.0314 [0.0009]
a/R* = 4.32 [0.49]
b = 0.90 [0.03]
Seff = 822.35 [316.40]
Teq = 1365 [131] K
Rp = 3.34 [0.91] Re
a = 0.0331 [0.0079] AU
Ag = 1.31 [0.59] [0.53 σ]
Teffp = 2258 [167] K [4.21 σ]

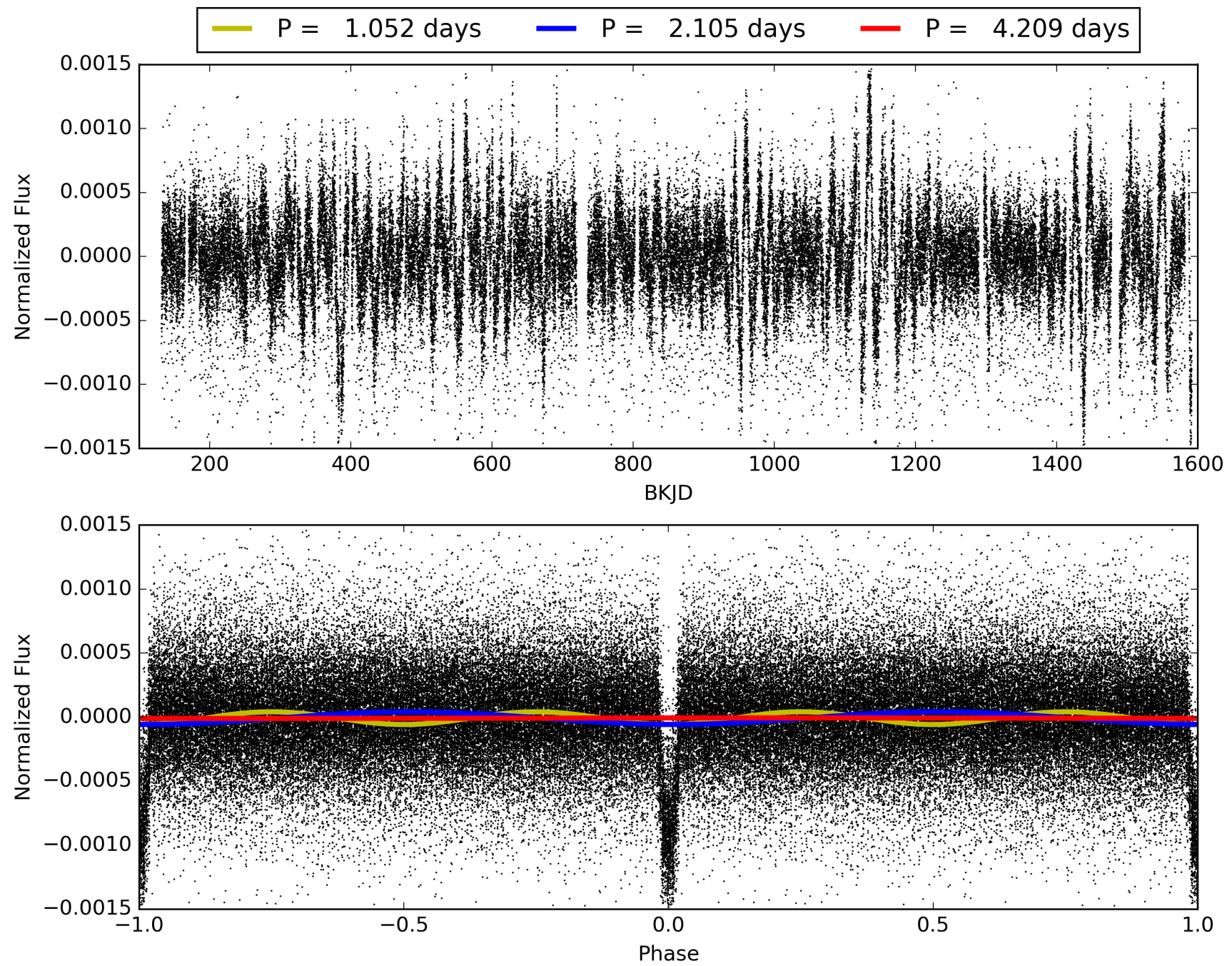
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [603/603]
GhostDiagnostic-chr: 4.676
Centroid-sig: N/A
Centroid-so: 0.377 arcsec [3.83 σ]
OotOffset-rm: 0.019 arcsec [0.22 σ]
KicOffset-rm: 0.118 arcsec [1.29 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 009157634-01, PDC Light Curves

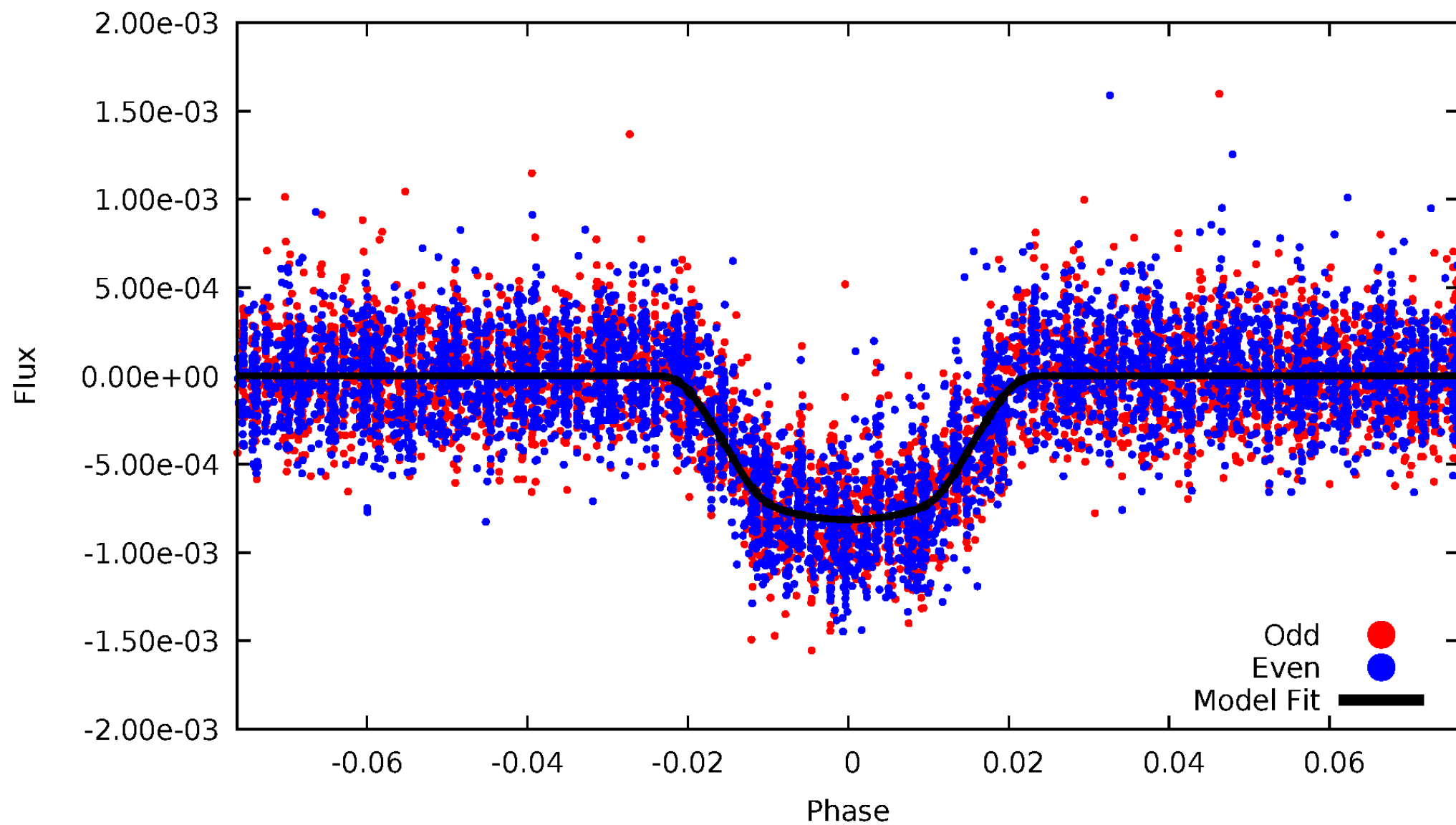


TCE 009157634-01



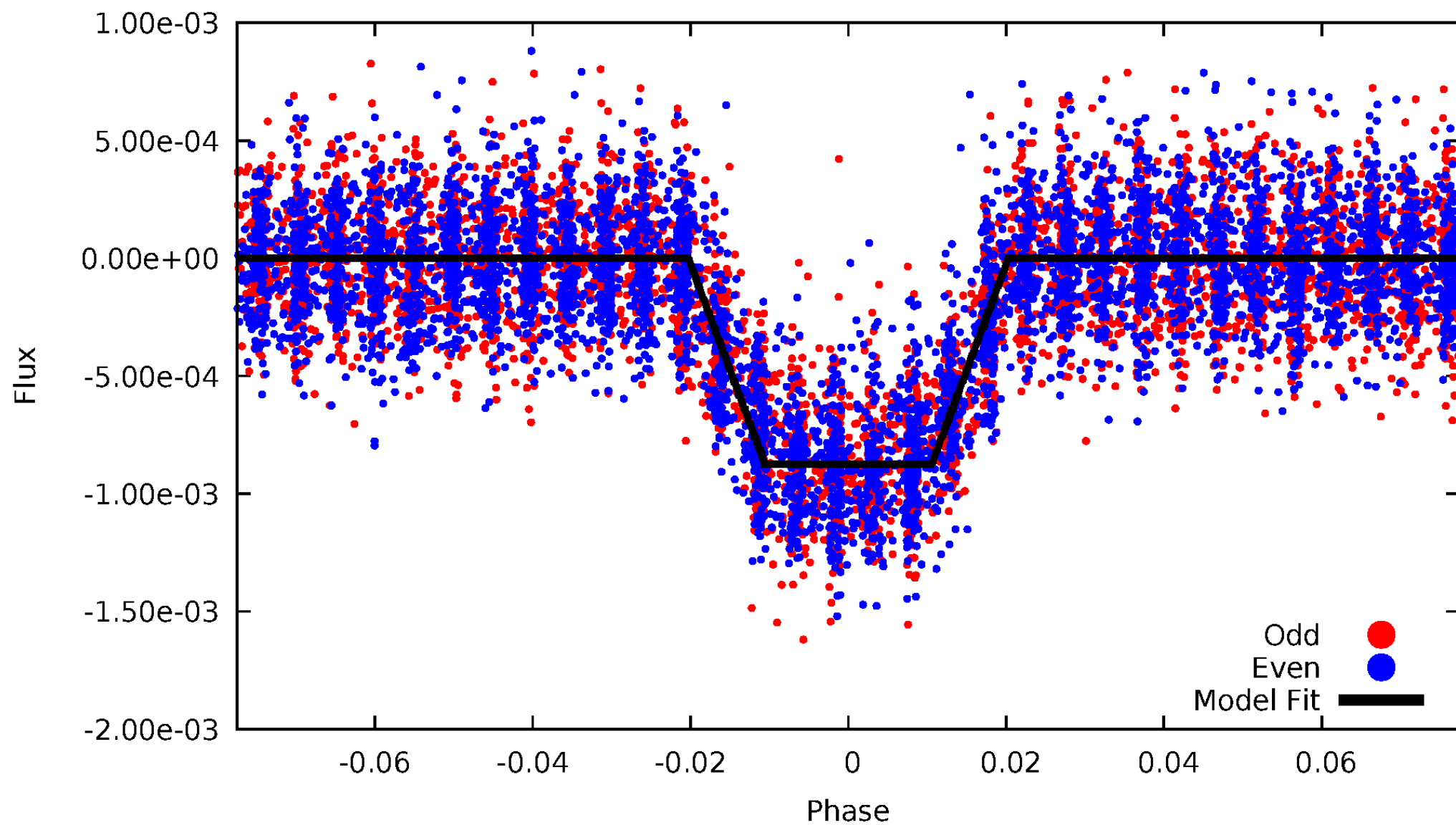
DV Odd/Even

TCE 009157634-01



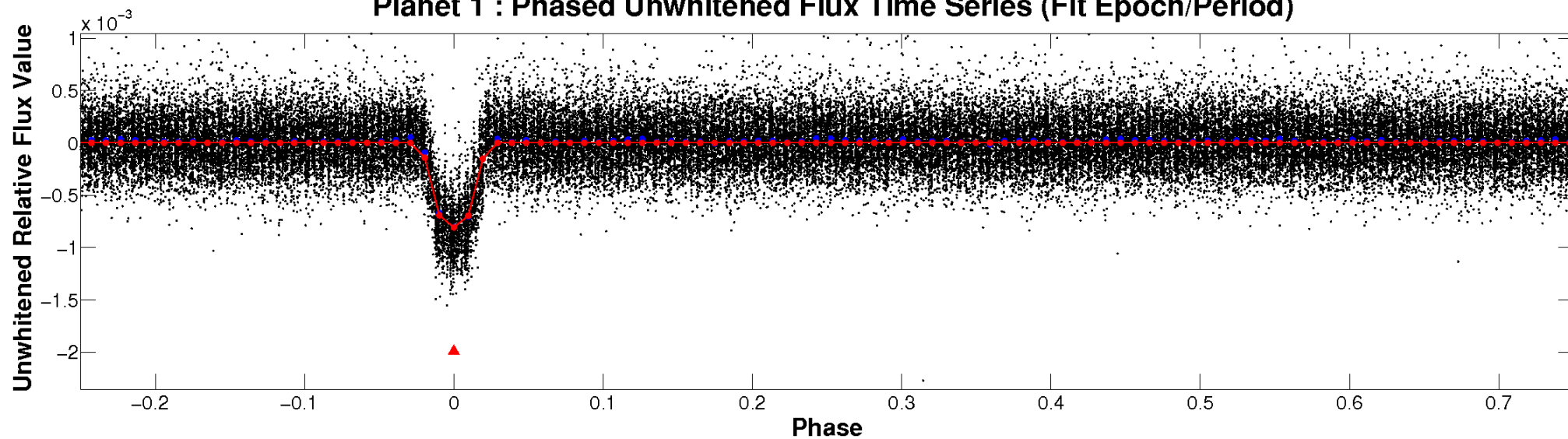
ALT Odd/Even

TCE 009157634-01

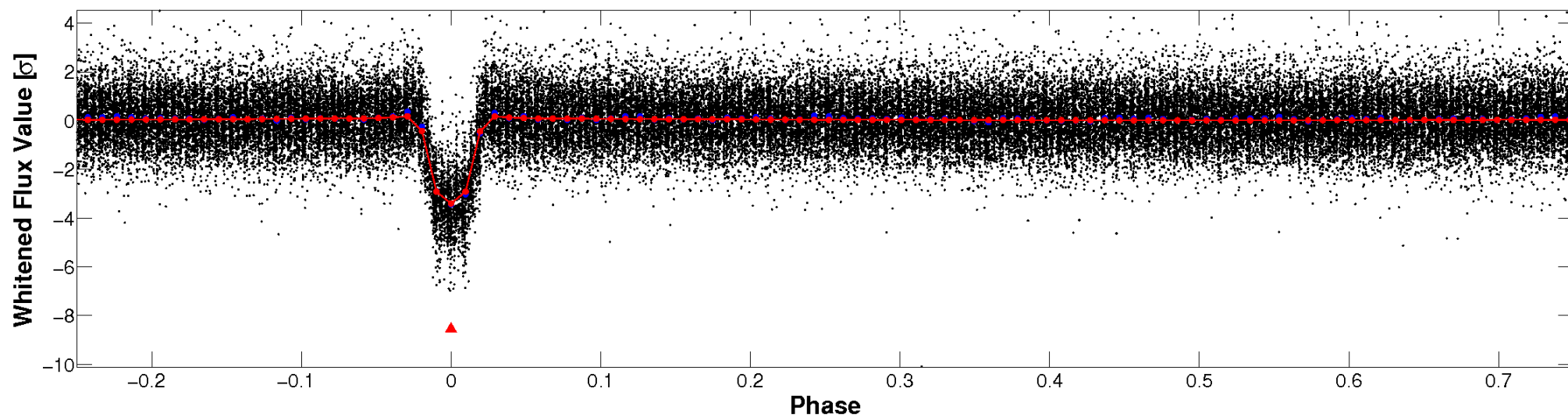


Non-Whitened Vs. Whitened Light Curve

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

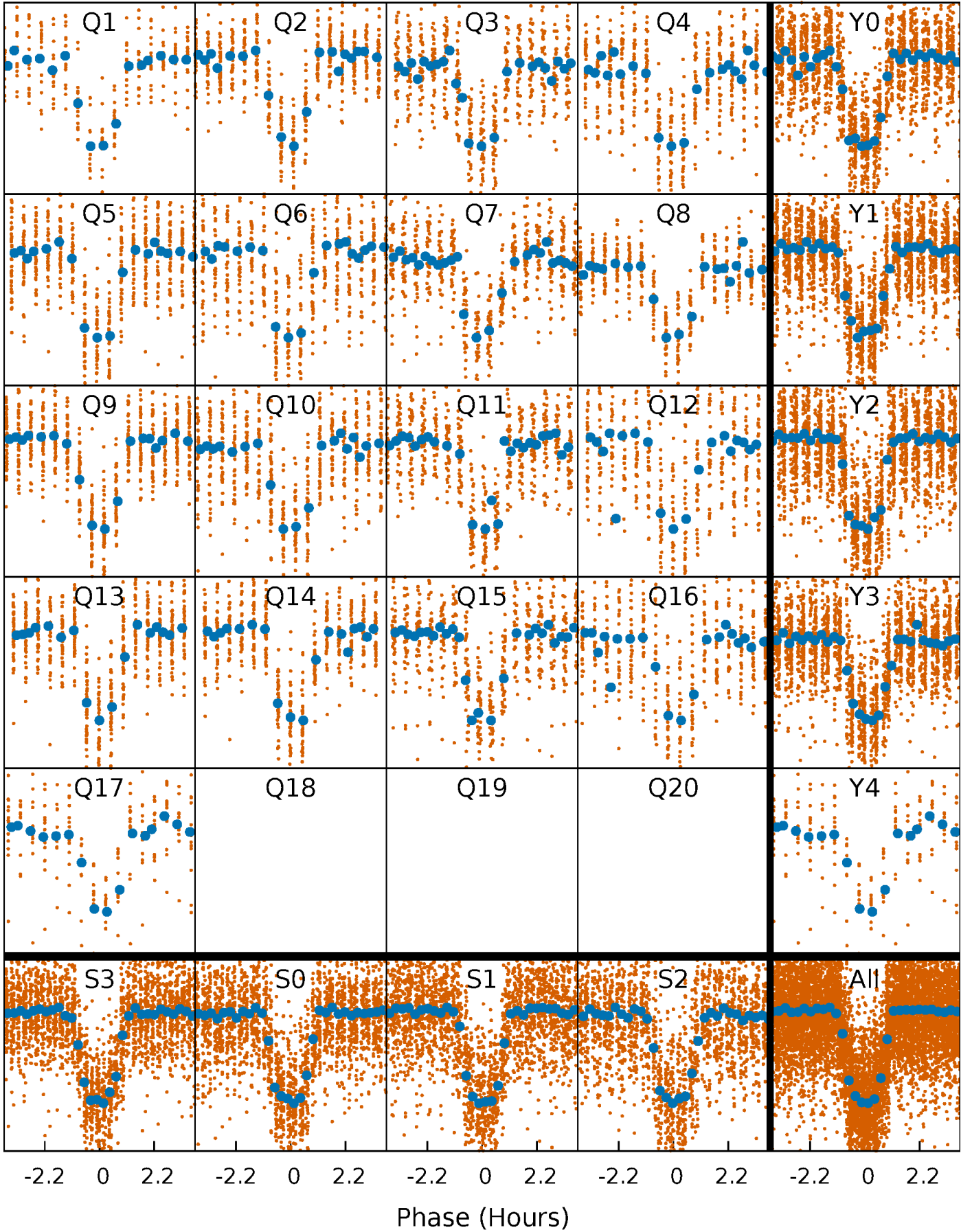


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



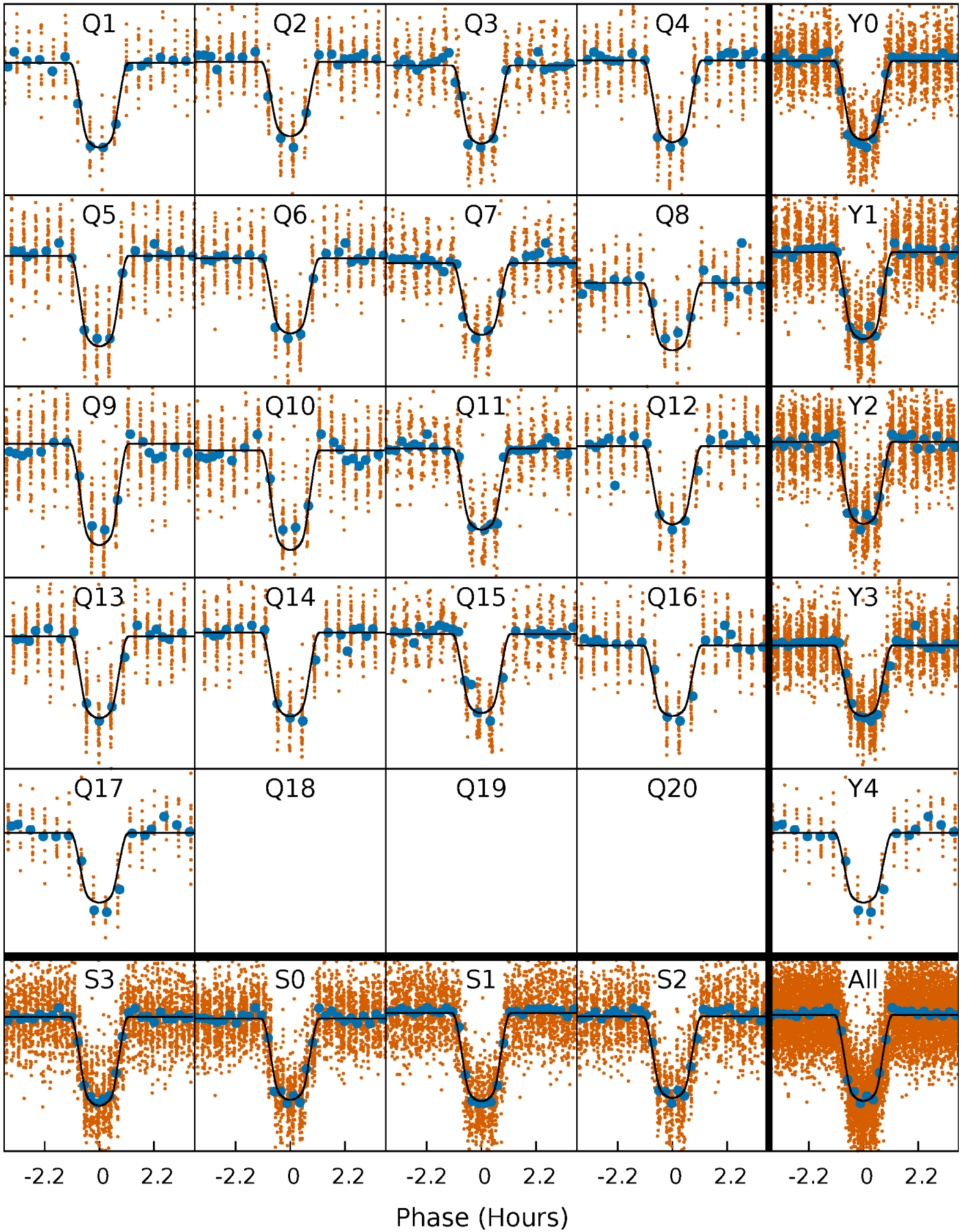
PDC Quarter-Phased Transit Curves

TCE 009157634-01 $P = 2.104709$ Days $T_0 = 133.162838$ (BKJD)



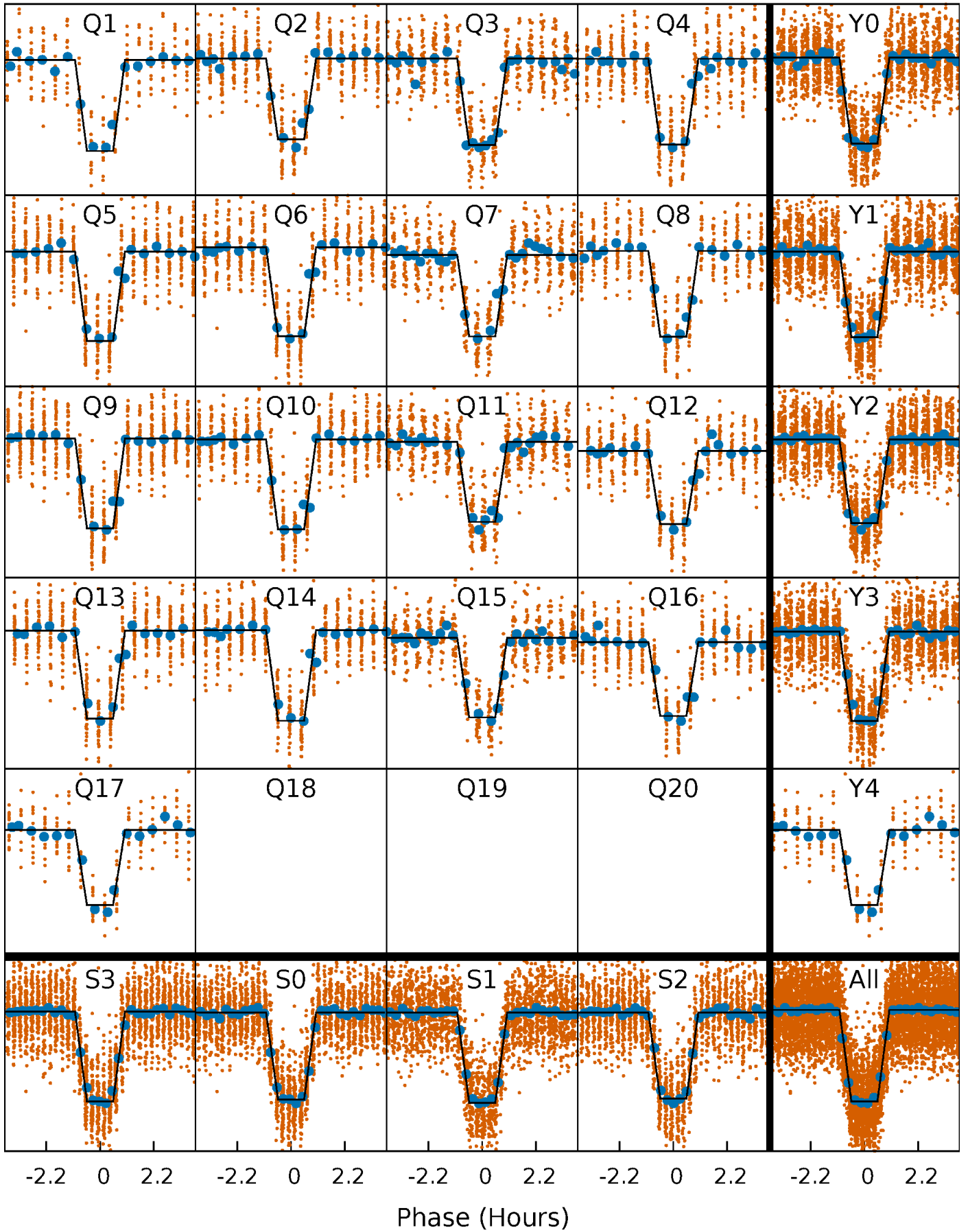
DV Quarter-Phased Transit Curves

TCE 009157634-01 P= 2.104709 Days $T_0=133.162838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

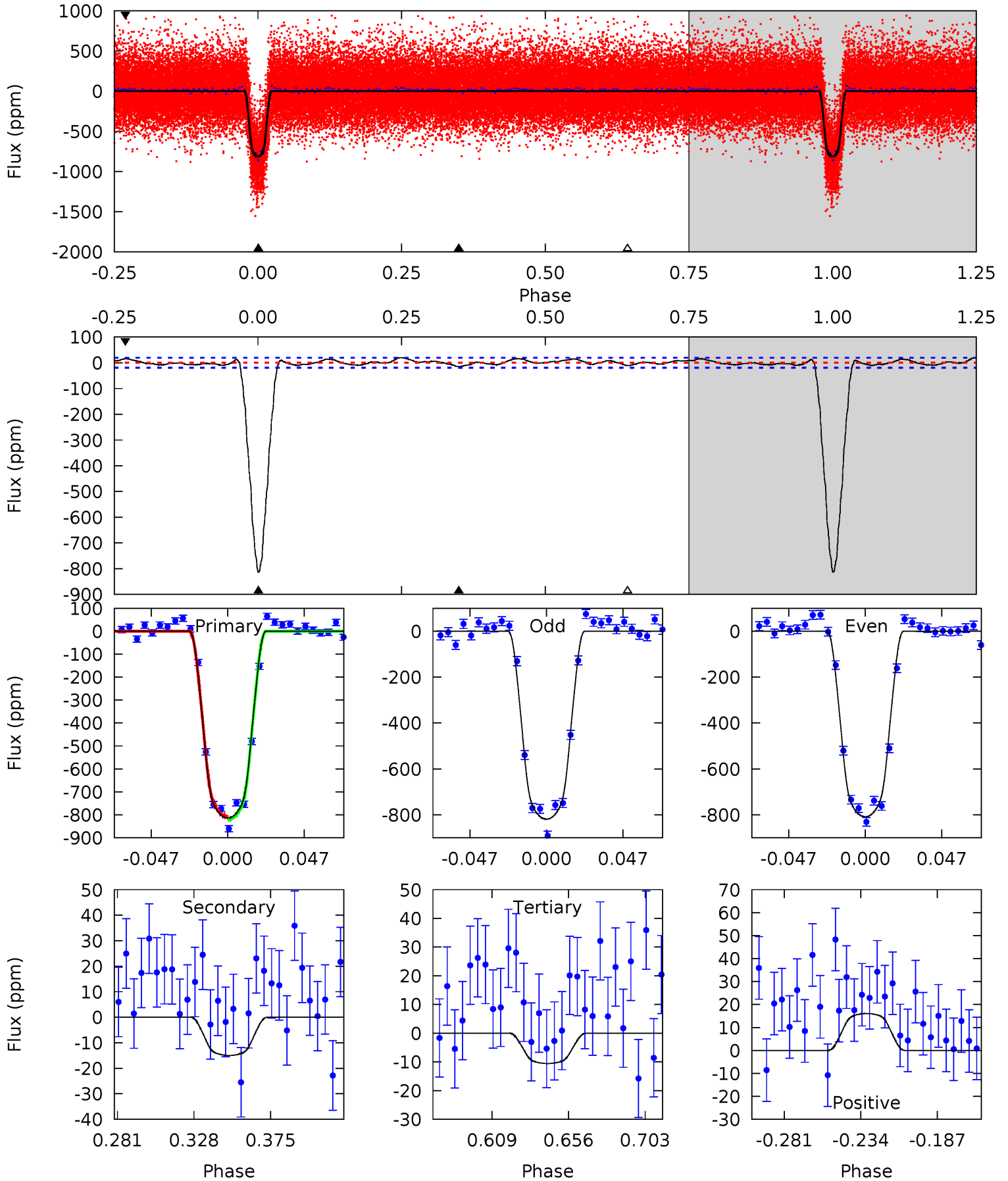
TCE 009157634-01 P= 2.104713 Days $T_0=133.162168$ (BKJD)



DV Model-Shift Uniqueness Test

009157634-01, P = 2.104709 Days, E = 131.058129 Days

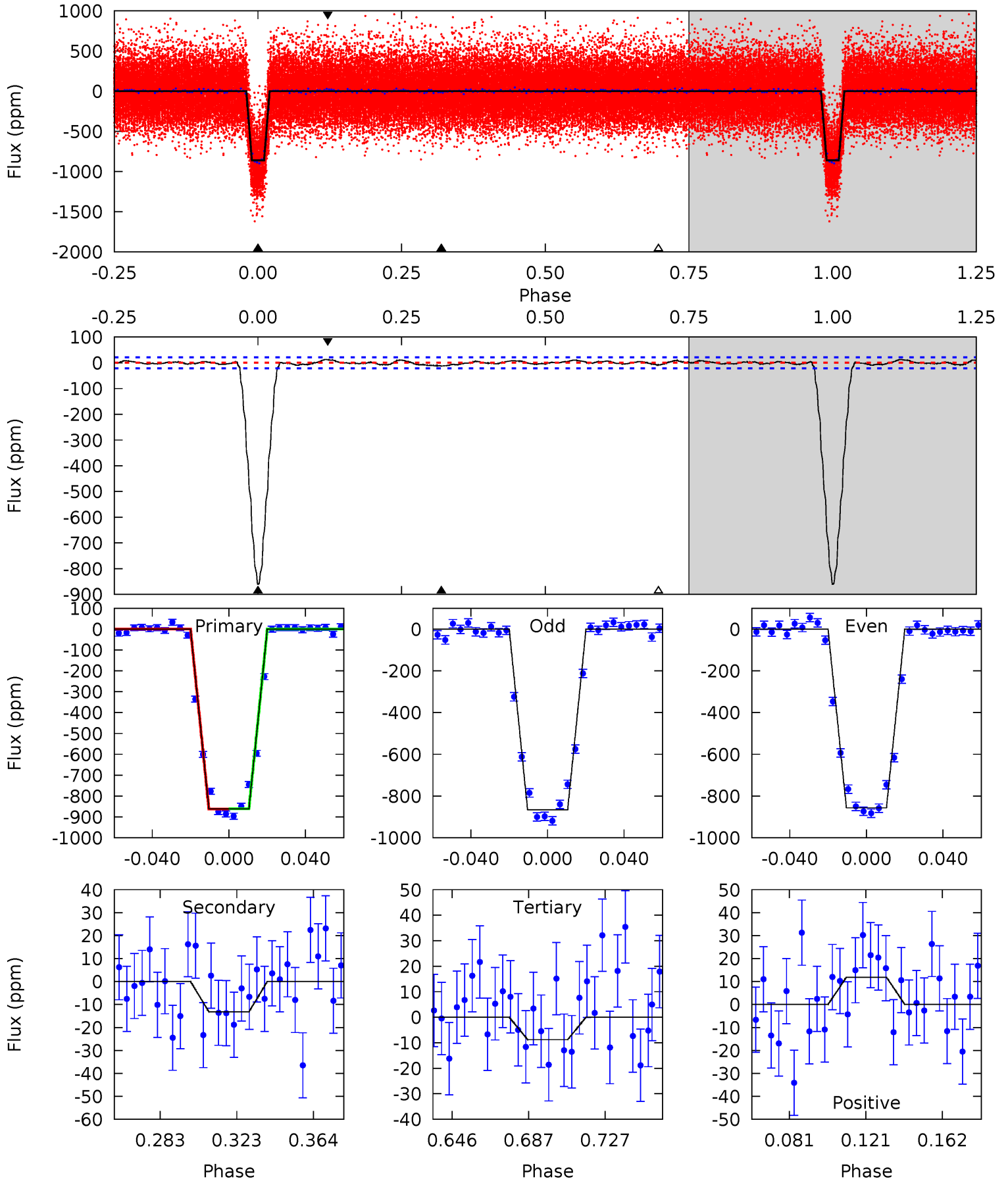
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
198.0	3.64	2.57	3.92	4.72	1.99	1.80	195.4	194.1	1.08	-0.27	1.27	0.99	0.02	1.60



Alt Model-Shift Uniqueness Test

009157634-01, P = 2.104713 Days, E = 131.057455 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
191.3	2.93	1.95	2.64	4.75	2.05	1.05	189.4	188.7	0.99	0.29	1.09	0.99	0.01	0.15



Stellar Parameters For KIC 009157634

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5703^{+154}_{-188}	$4.498^{+0.036}_{-0.204}$	$0.360^{+0.100}_{-0.300}$	$0.975^{+0.264}_{-0.088}$	$1.091^{+0.089}_{-0.133}$	$1.658^{+0.317}_{-0.834}$
	+3%/-3%	+1%/-5%	+28%/-83%	+27%/-9%	+8%/-12%	+19%/-50%
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 009157634-01 / KOI 0526.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-15 ± 4	$3.44^{+0.49}_{-0.27}$	1949^{+122}_{-91}	2565^{+140}_{-226}	$0.719^{+0.240}_{-0.244}$
Alt.	-13 ± 4	$3.23^{+0.46}_{-0.24}$	1948^{+133}_{-83}	2571^{+169}_{-262}	$0.722^{+0.283}_{-0.265}$

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 $A_{obs} \gg 1.0$

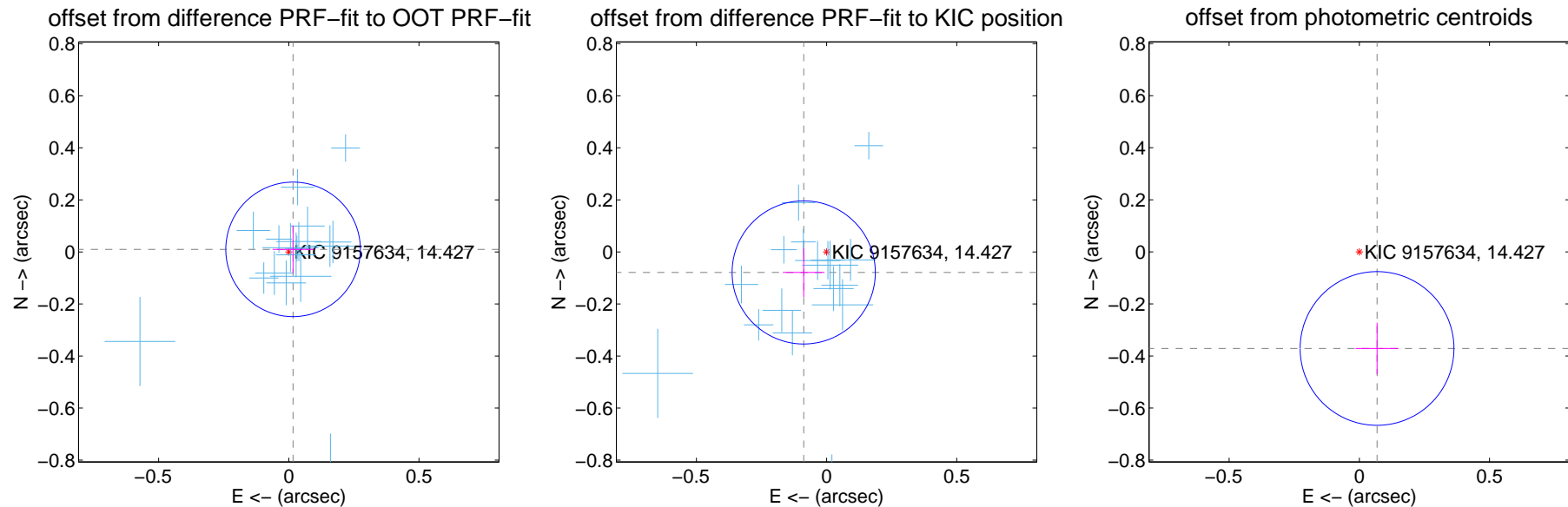
DV Centroid Data

Supplemental centroid analysis for 009157634-01. Kepler magnitude: 14.43. Transit SNR 132.24

There are 17 quarters with good PRF difference image offsets

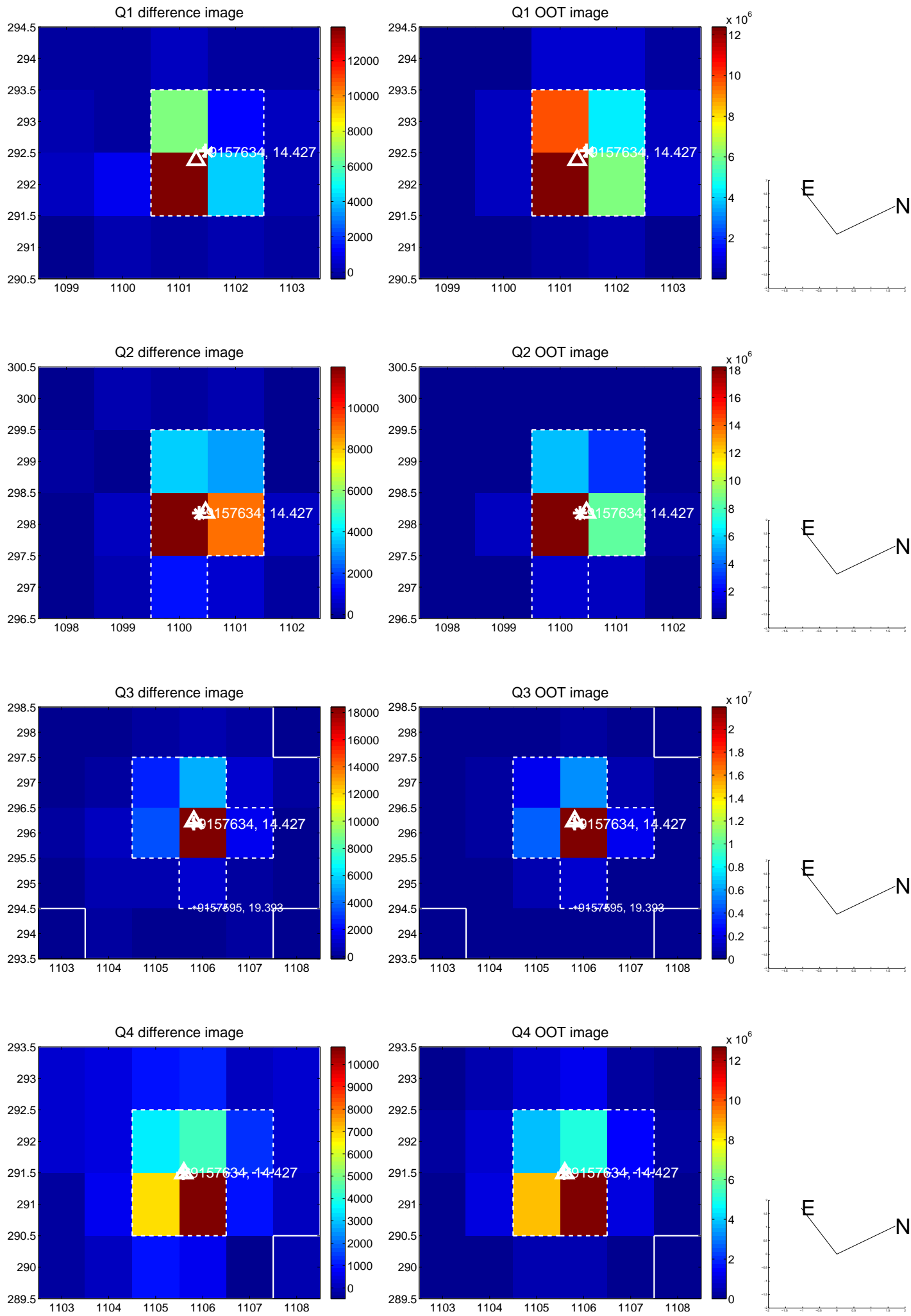
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.019 ± 0.086	0.22	-0.016 ± 0.079	0.010 ± 0.092
PRF-fit source offset from KIC position	0.118 ± 0.092	1.29	0.088 ± 0.080	-0.079 ± 0.095
photometric centroid source offset	0.38 ± 0.10	3.83	-0.07 ± 0.08	-0.37 ± 0.10

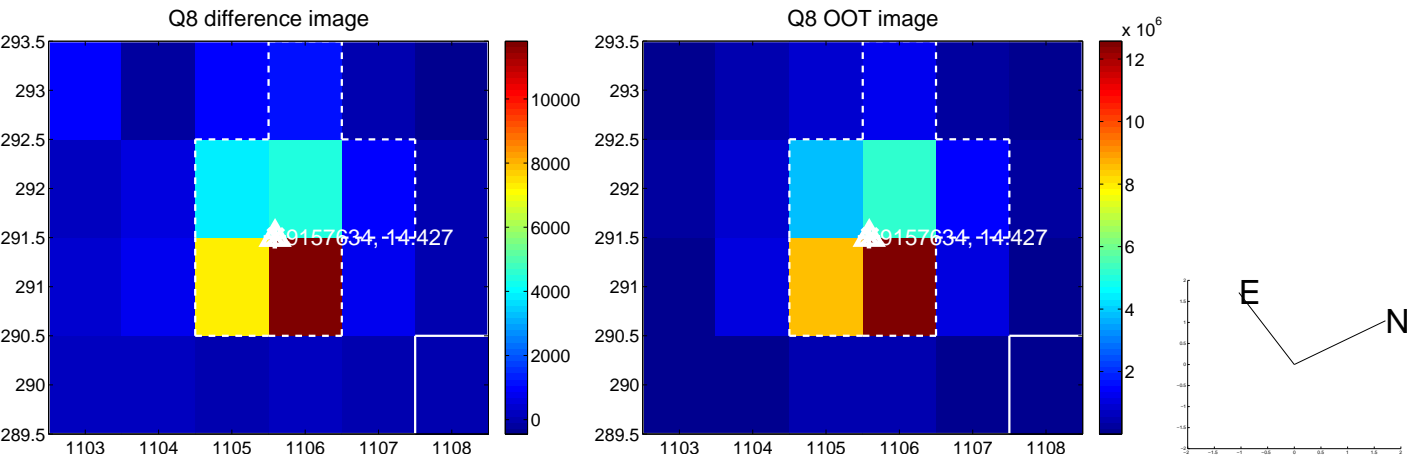
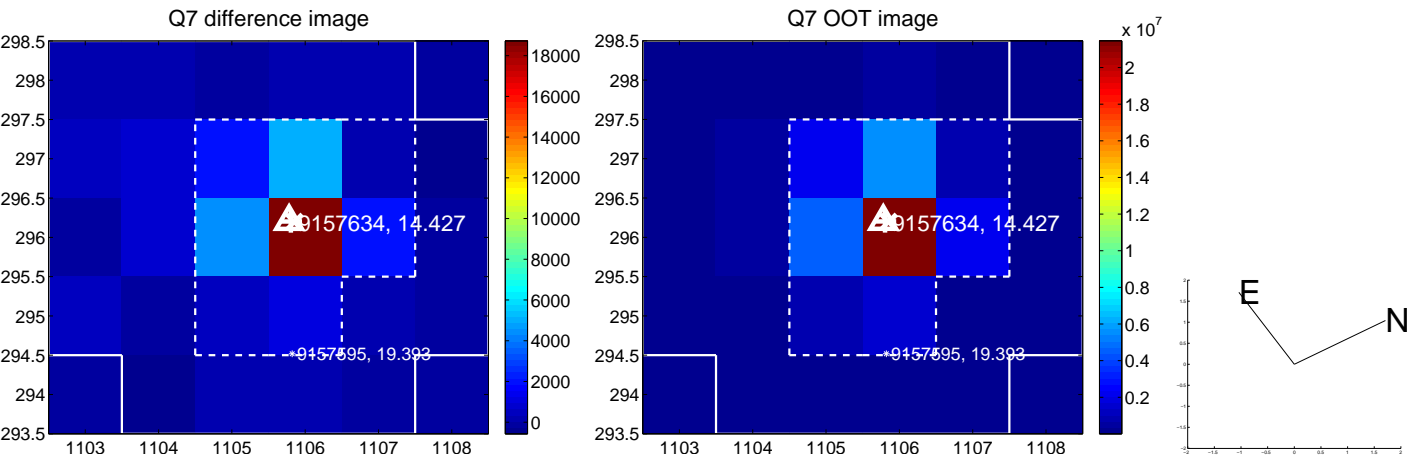
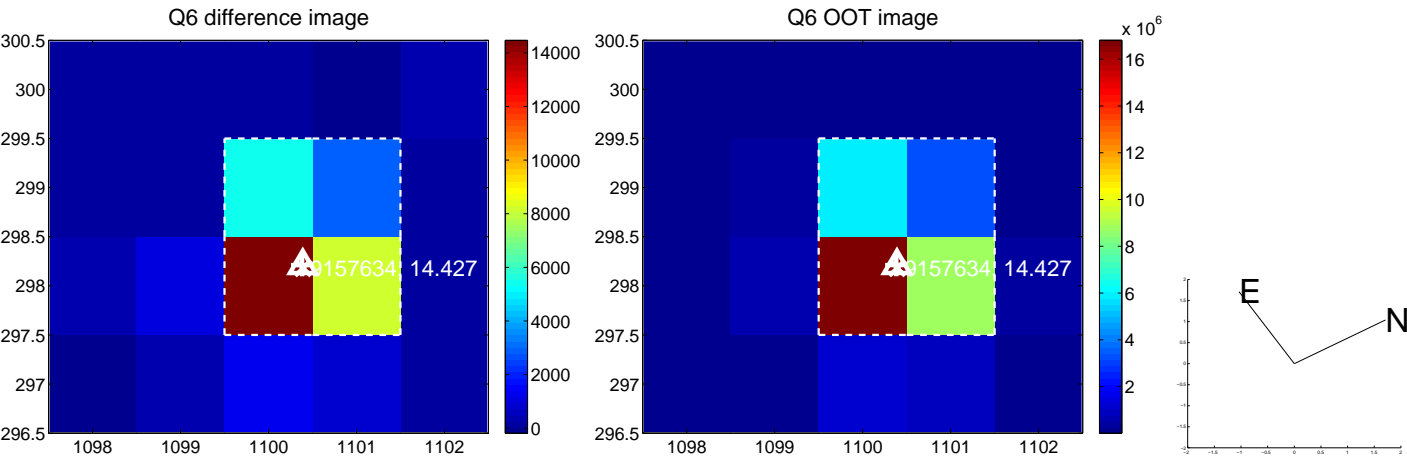
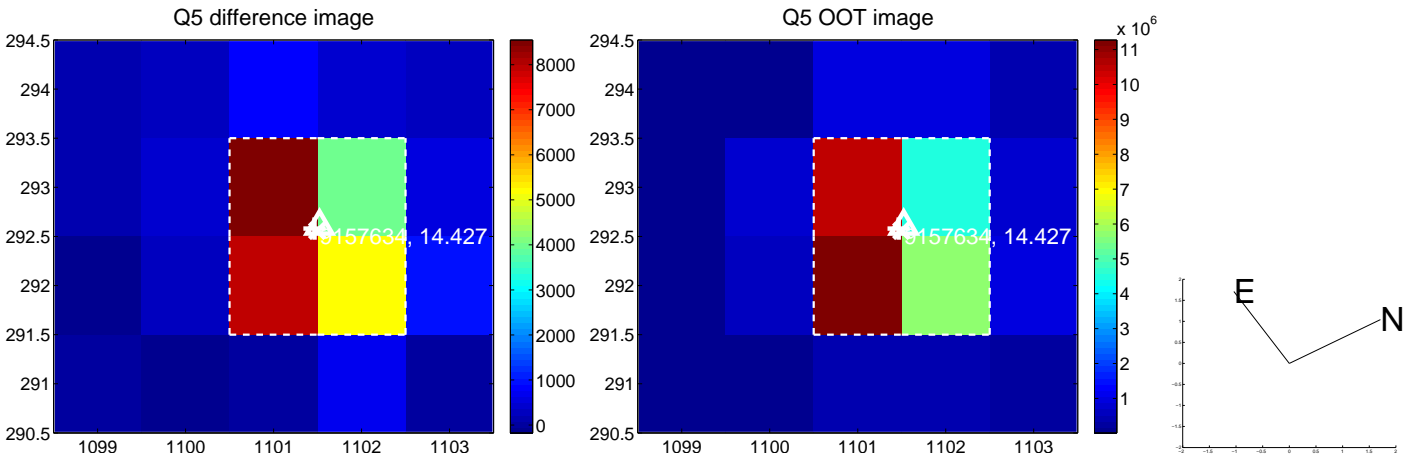


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

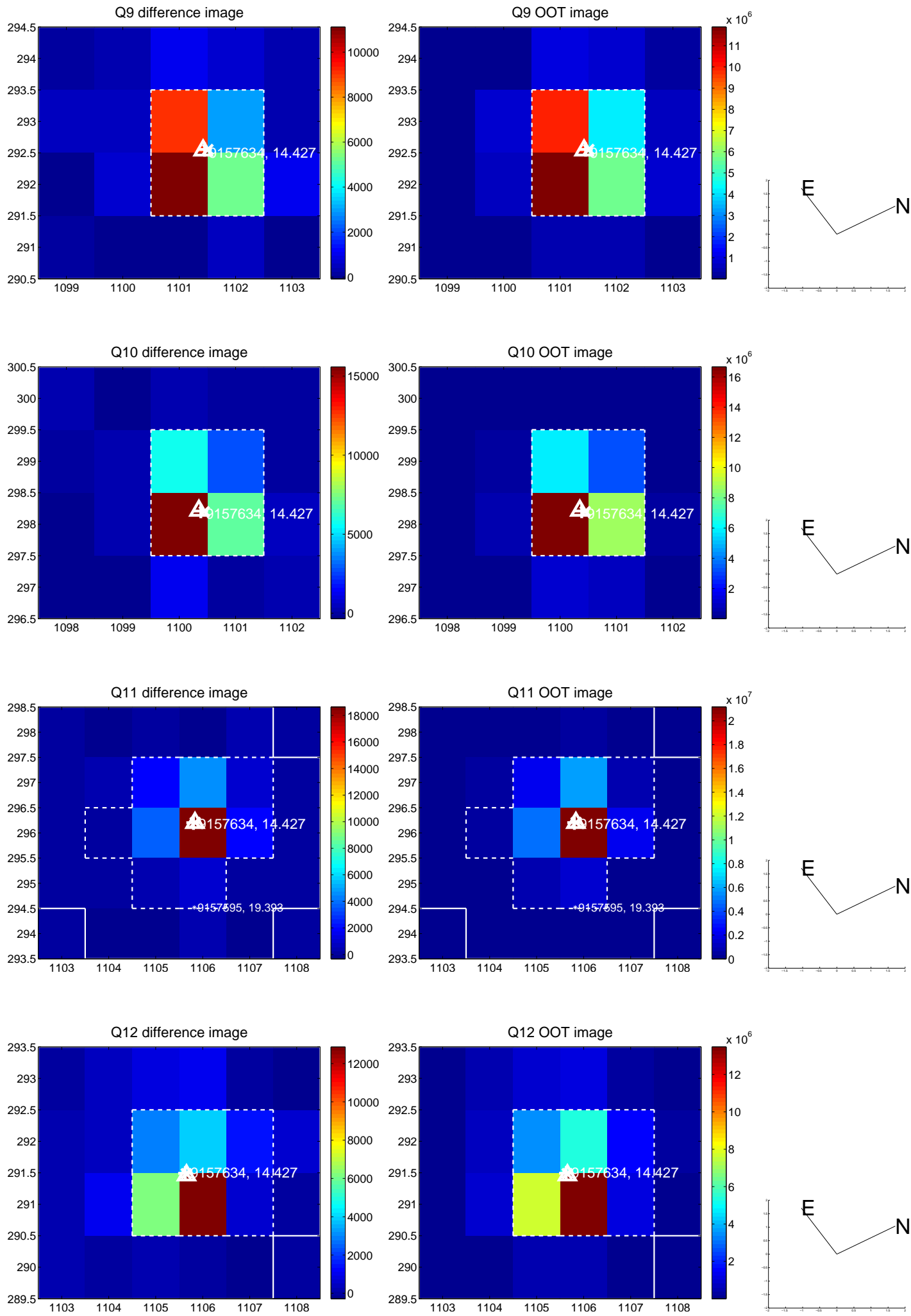
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



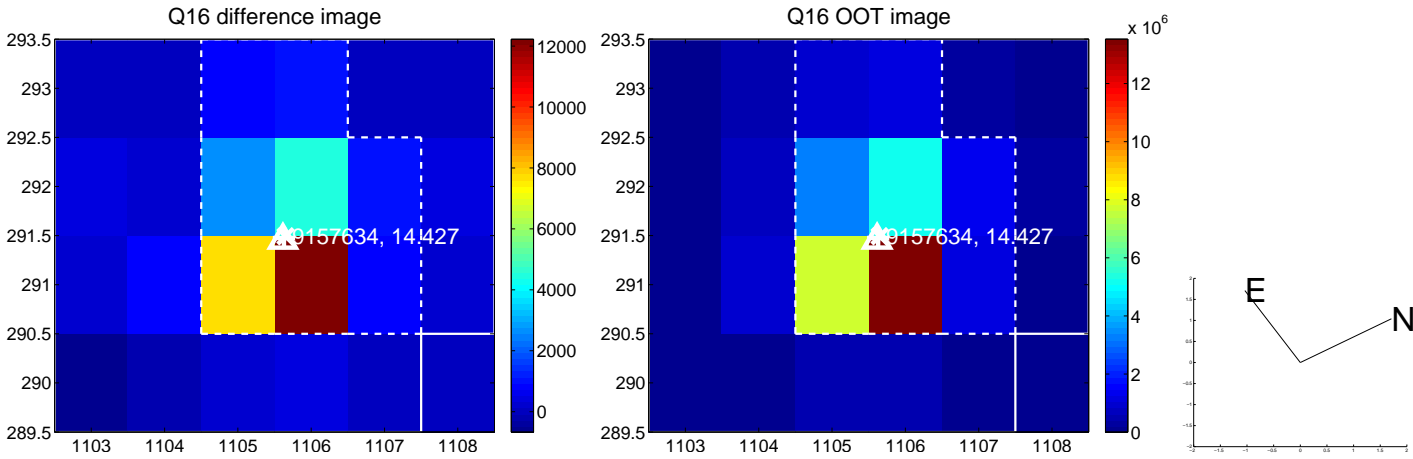
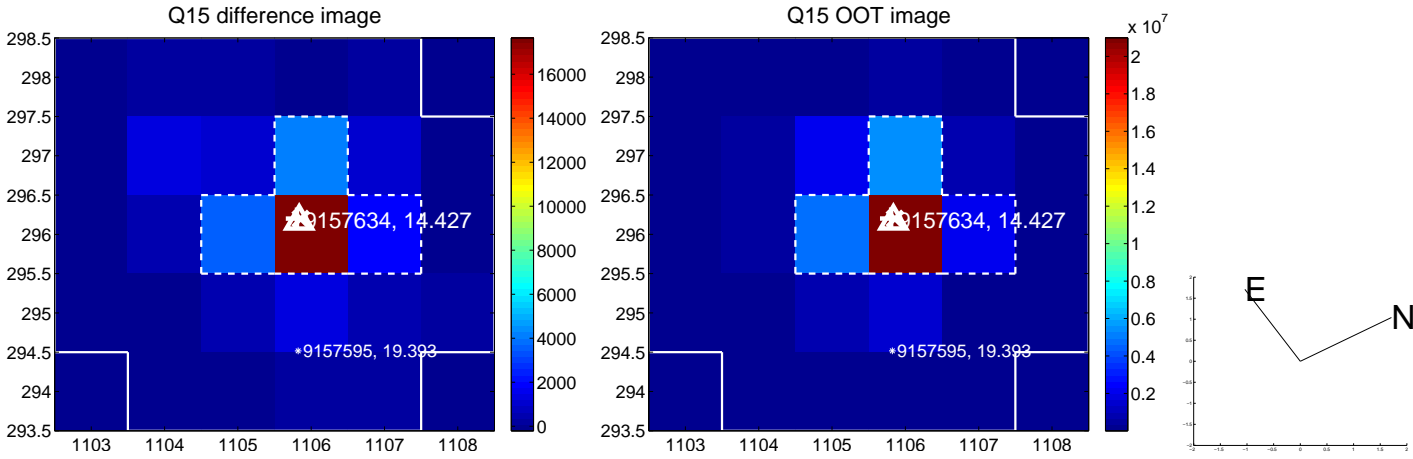
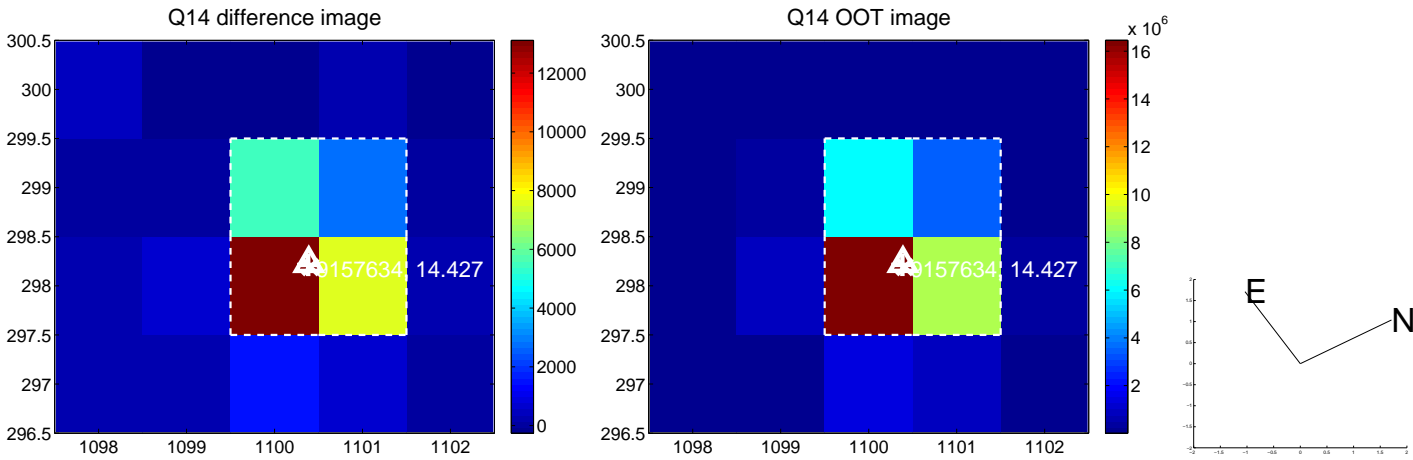
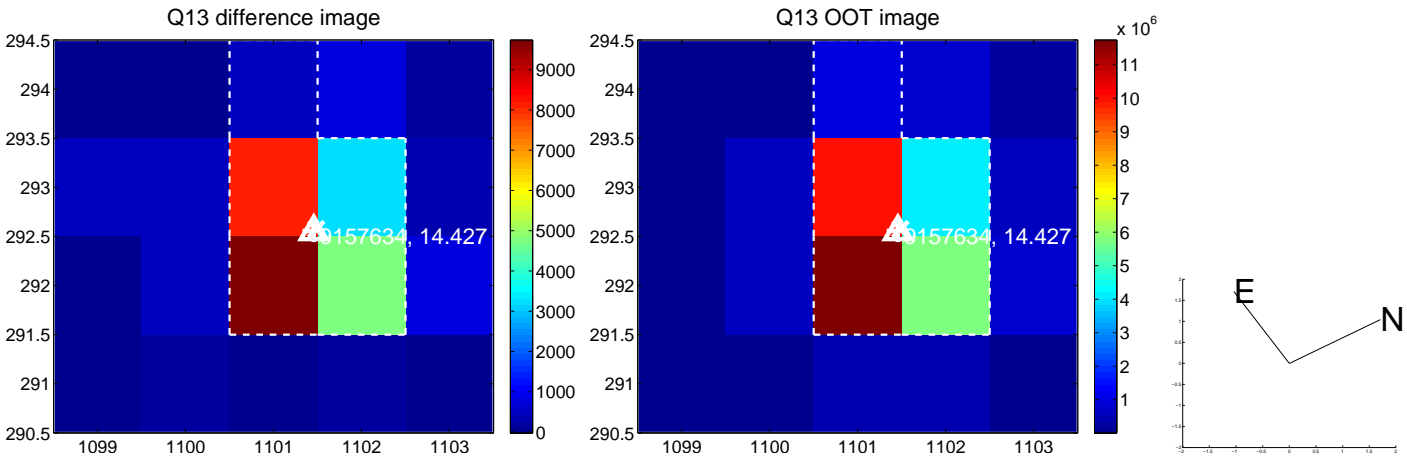
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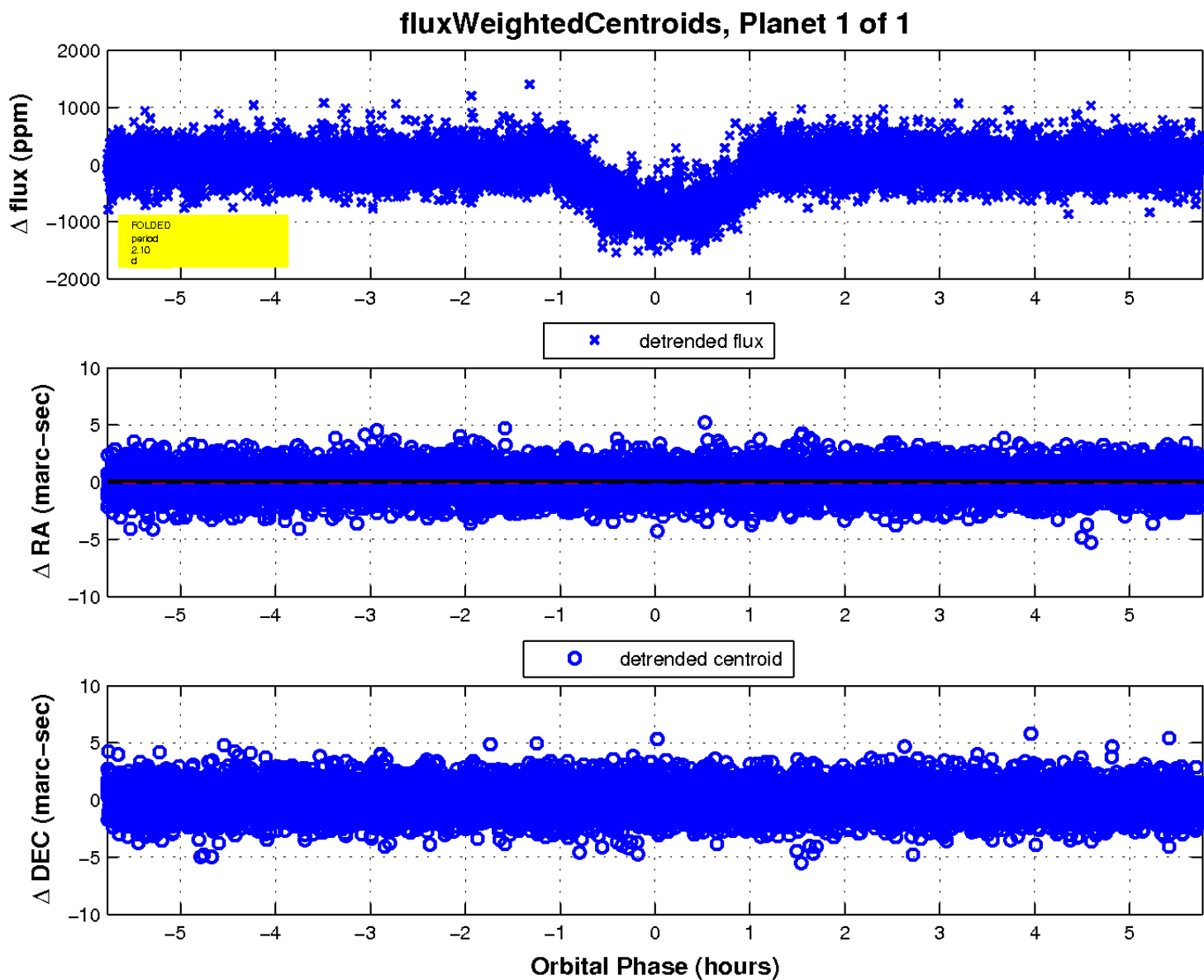
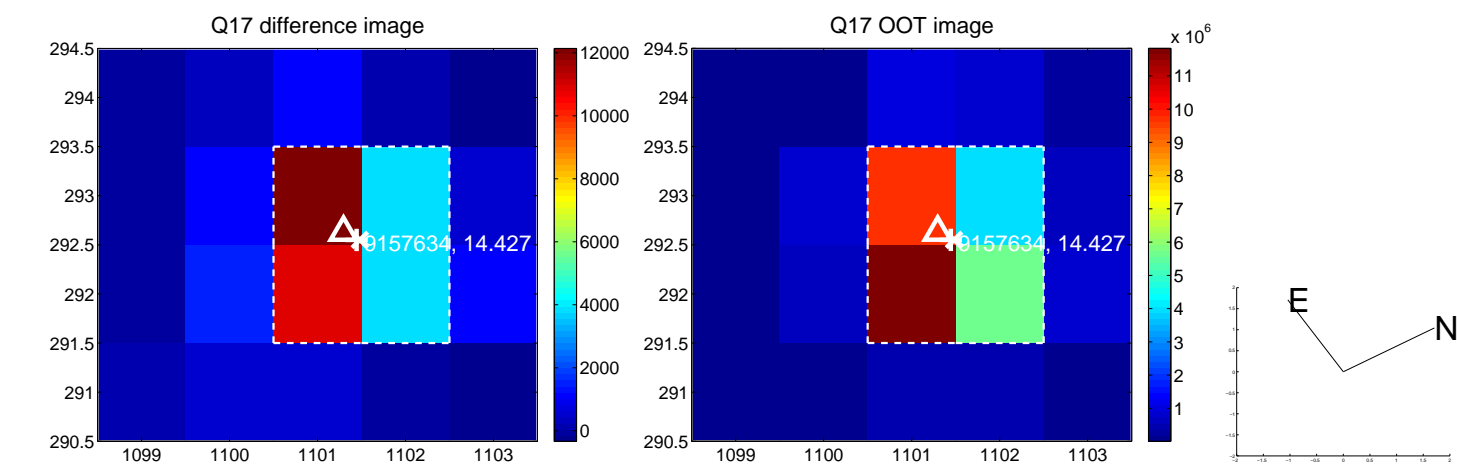
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UKIRT Image

Declination

