Detector induced assymetry in CP violation measurements

Eugenia Spedicato, Lina Maria Ortiz Parra, Jonah Blank
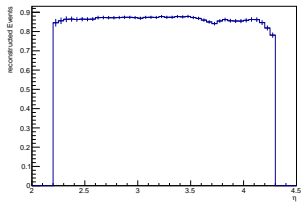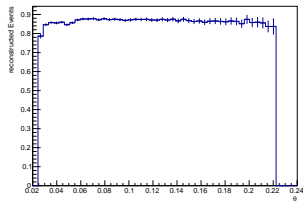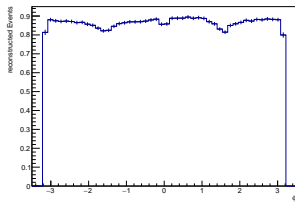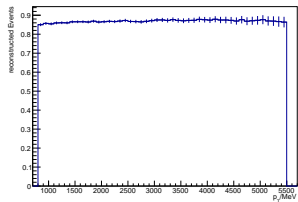
December 18, 2019

Total

Efficiencies

Polarity	ϵ_π	ϵ_K	$\epsilon_{\pi,s}$	ϵ_{D^0}	ϵ_{D^*}
UP	86.61 ± 0.15	84.65 ± 0.14	76.61 ± 0.13	73.33 ± 0.13	56.26 ± 0.11
DOWN	86.61 ± 0.17	84.67 ± 0.16	76.54 ± 0.15	73.33 ± 0.15	56.23 ± 0.12
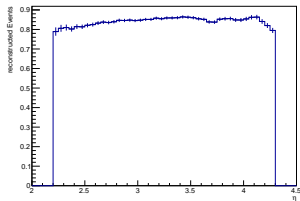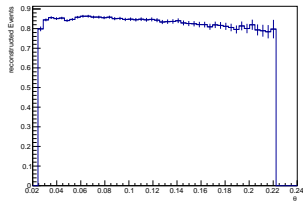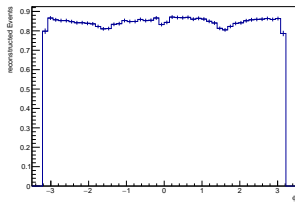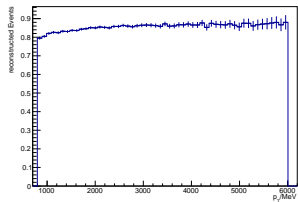
π-efficiency

K-efficiency

soft π-efficiency
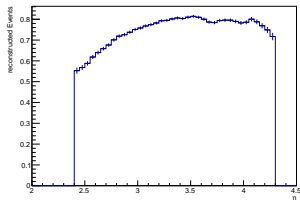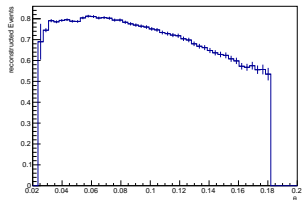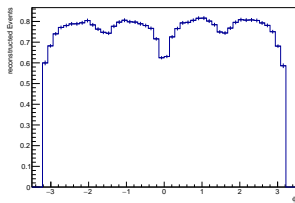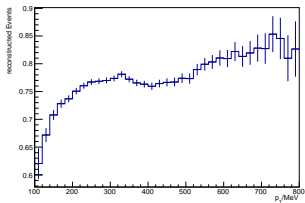
D^0-efficiency
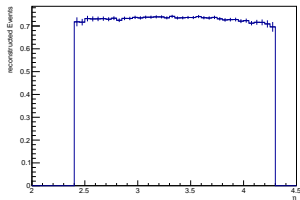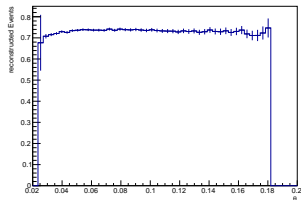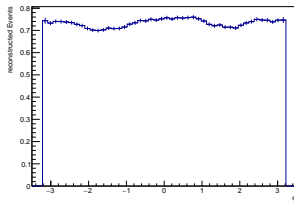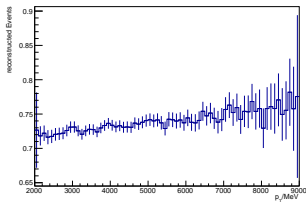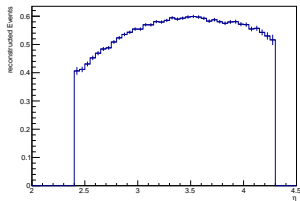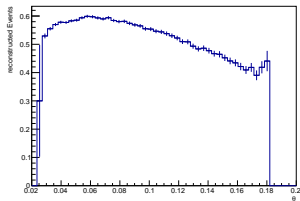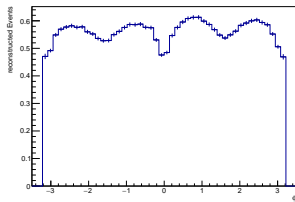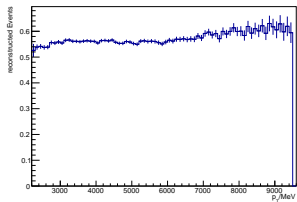
D^*-efficiency

Charge: +

Efficiencies

Polarity	ϵ_π	ϵ_K	$\epsilon_{\pi,s}$	ϵ_{D^0}	ϵ_{D^*}
UP	86.63 ± 0.21	85.01 ± 0.21	76.26 ± 0.19	73.00 ± 0.18	55.71 ± 0.15
DOWN	86.57 ± 0.24	85.38 ± 0.23	76.71 ± 0.22	72.92 ± 0.21	56.09 ± 0.17
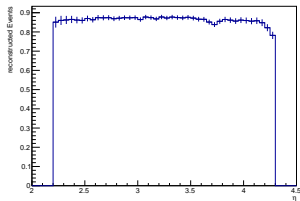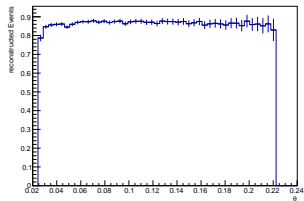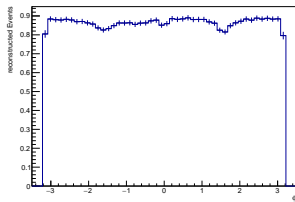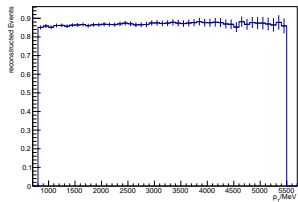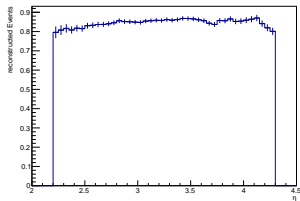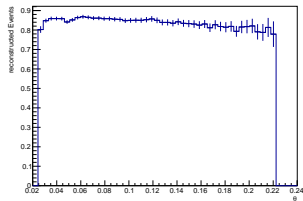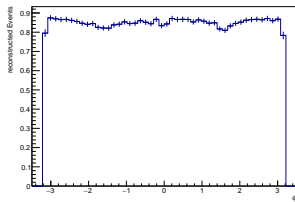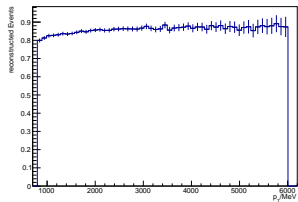
π-efficiency

K-efficiency

soft π-efficiency
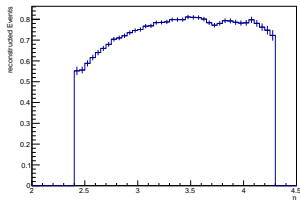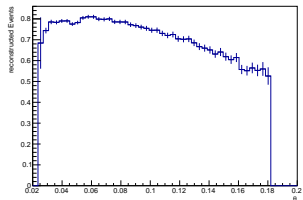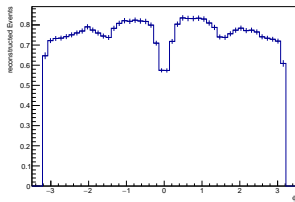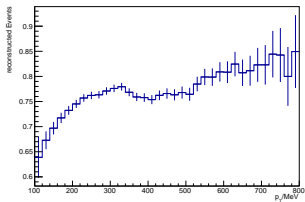
D^0-efficiency
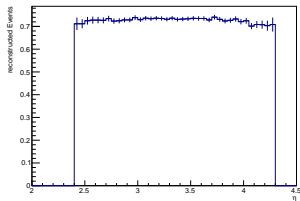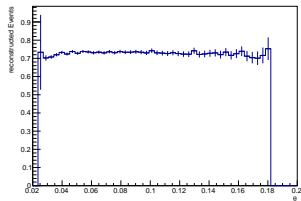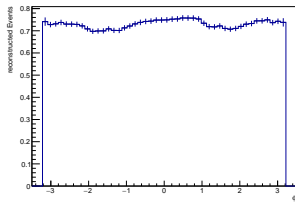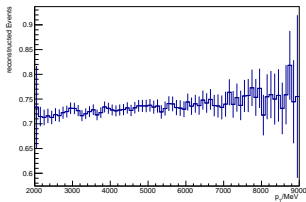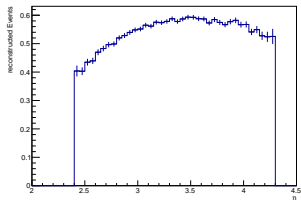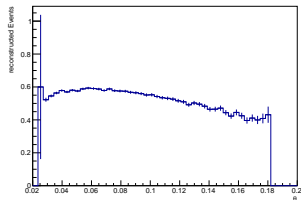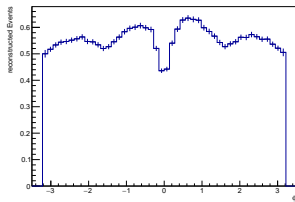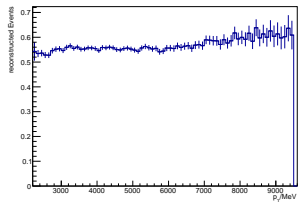
D^*-efficiency

Charge: -

Efficiencies

Polarity	ϵ_π	ϵ_K	$\epsilon_{\pi,s}$	ϵ_{D^0}	ϵ_{D^*}
UP	86.60 ± 0.21	84.30 ± 0.20	76.97 ± 0.19	73.65 ± 0.19	56.81 ± 0.15
DOWN	86.64 ± 0.24	83.95 ± 0.23	76.36 ± 0.22	73.74 ± 0.21	56.38 ± 0.17

π-efficiency
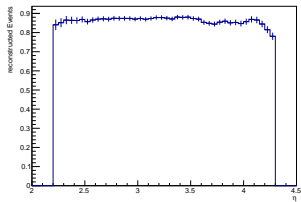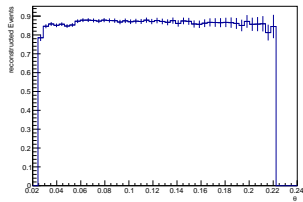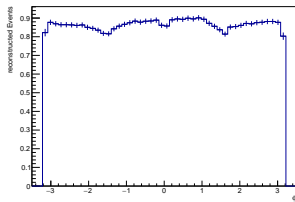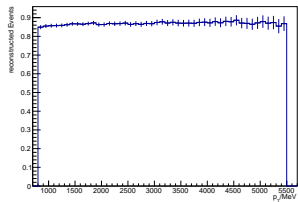
K-efficiency
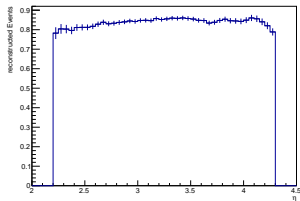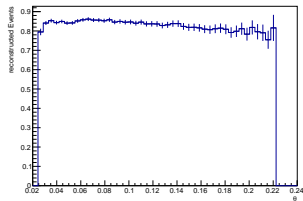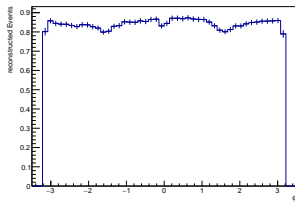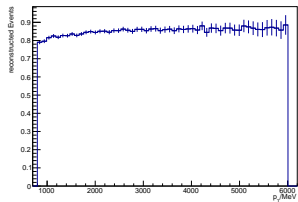
soft π-efficiency
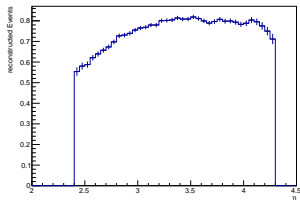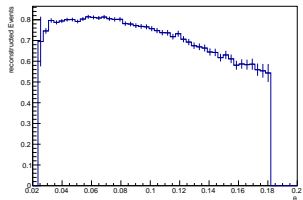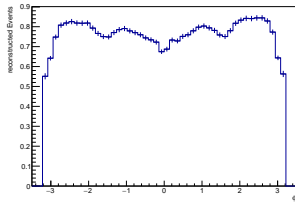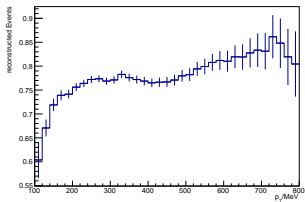
D^0-efficiency
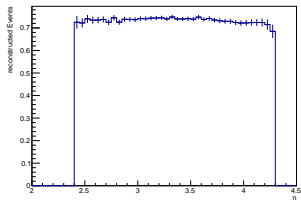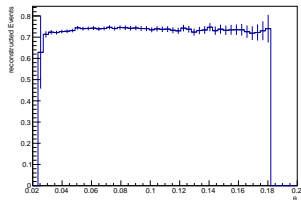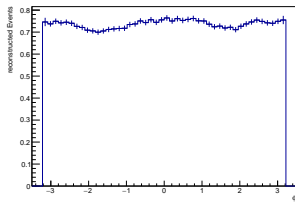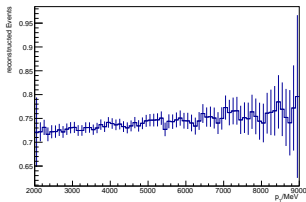
D^*-efficiency
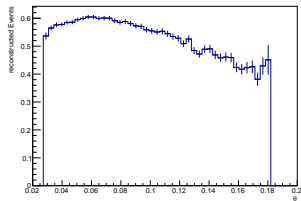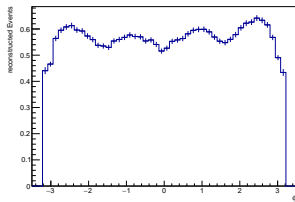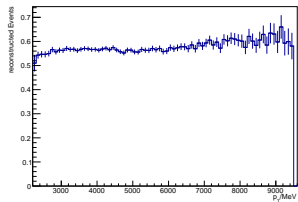
Deviation
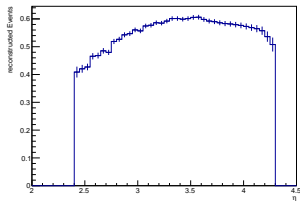
Table: The deviation $\frac{\epsilon_+ - \epsilon_-}{\epsilon_+ + \epsilon_-}/10^{-3}$

Polarity	π	K	softπ	D^0	D^*
UP	0.2 ± 2.9	4 ± 3	-5 ± 3	-4 ± 3	-10 ± 2
DOWN	-0.4 ± 3.3	8 ± 3	2.3 ± 3.0	-6 ± 3	-2.5 ± 2.4