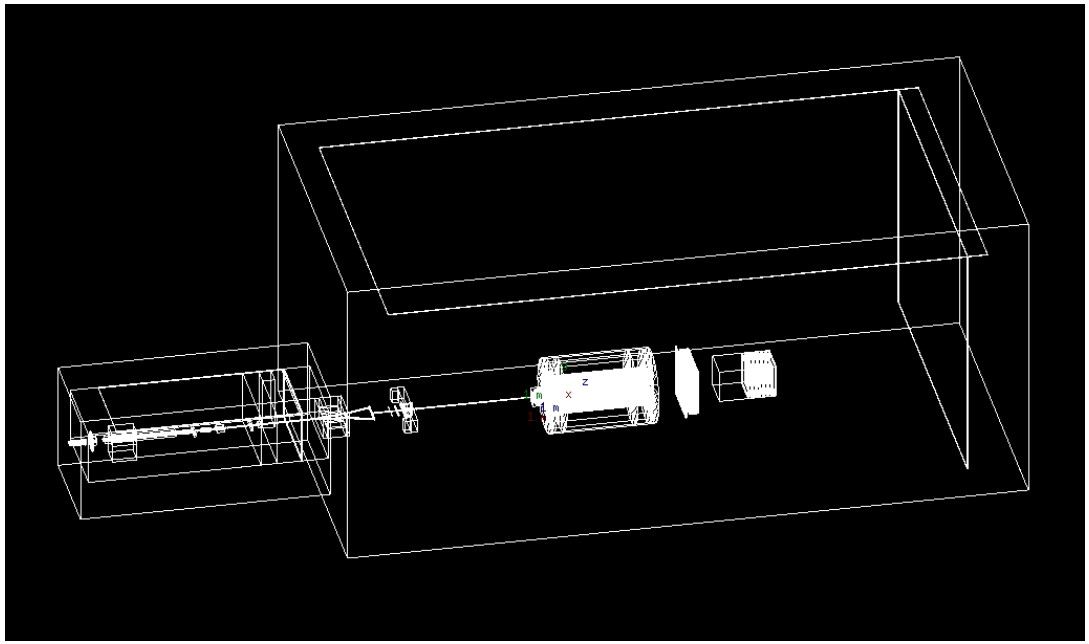
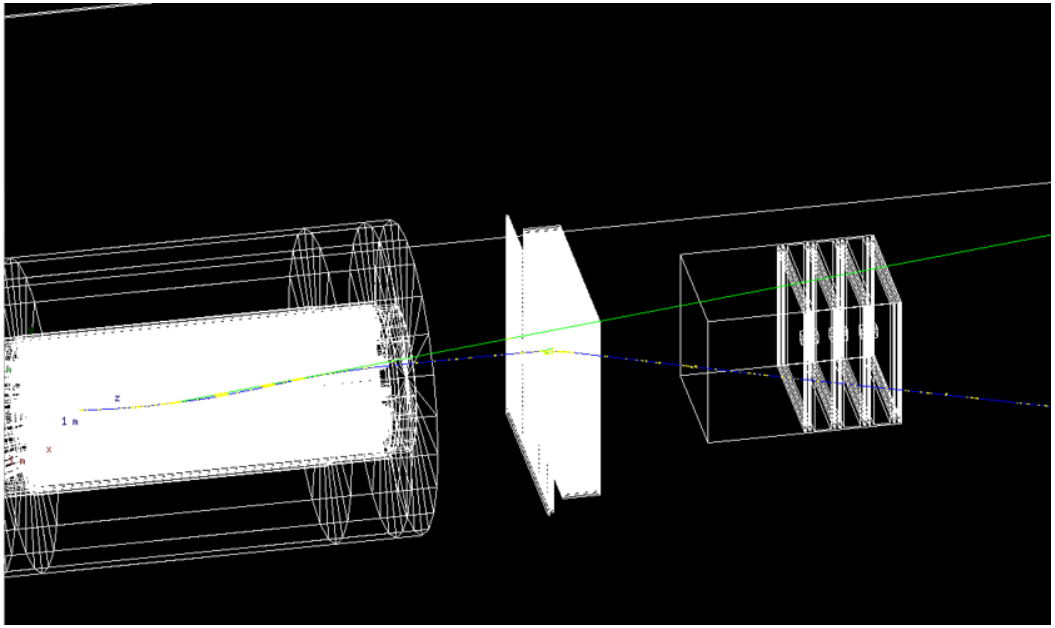
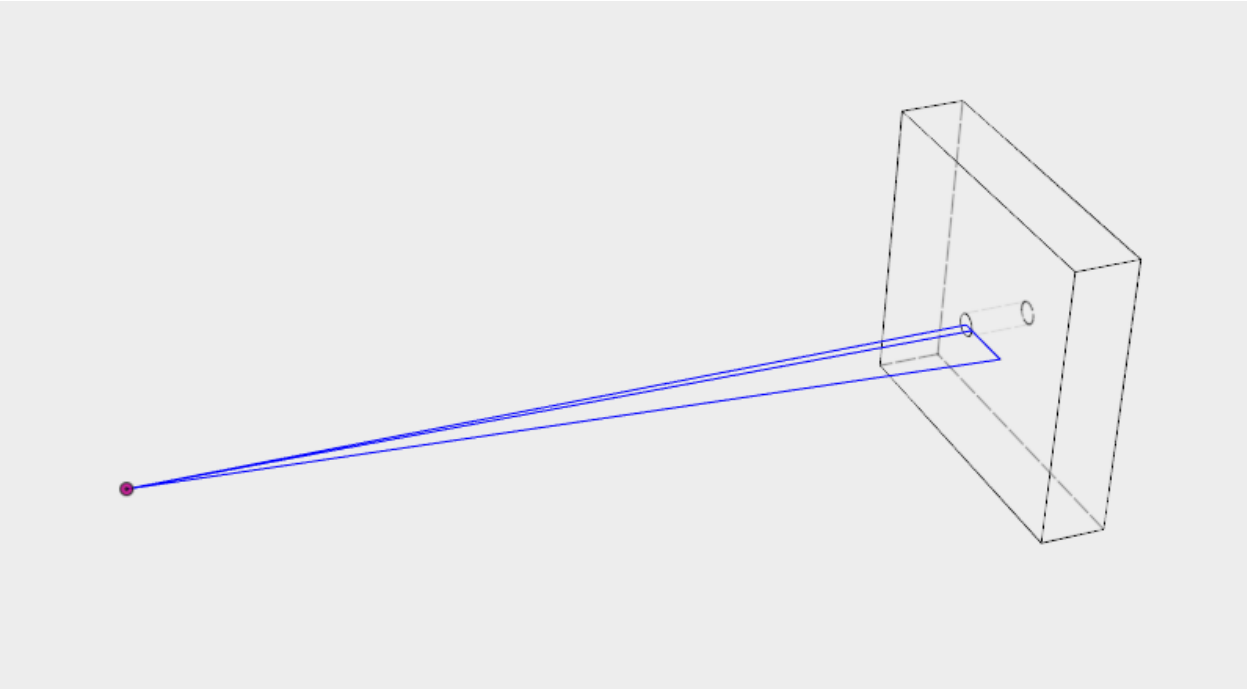
CPP Simulation Update

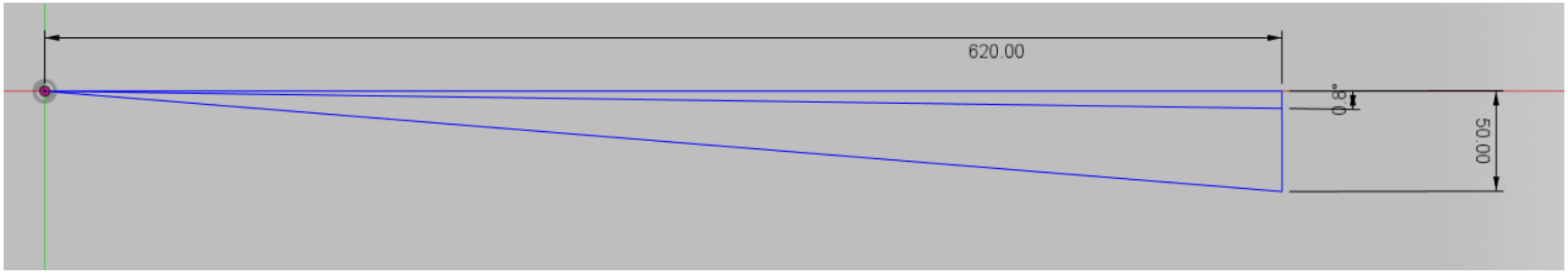
- General Simulation is running
- Implemented angular and energy cuts in event file
- Have not yet considerably altered detector geometry

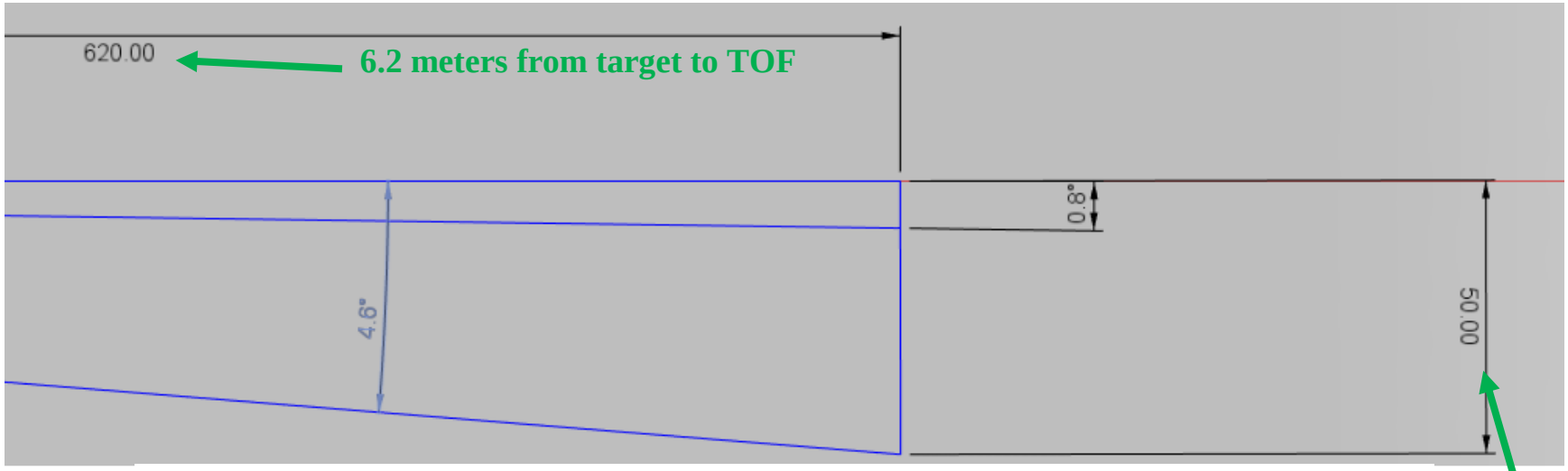




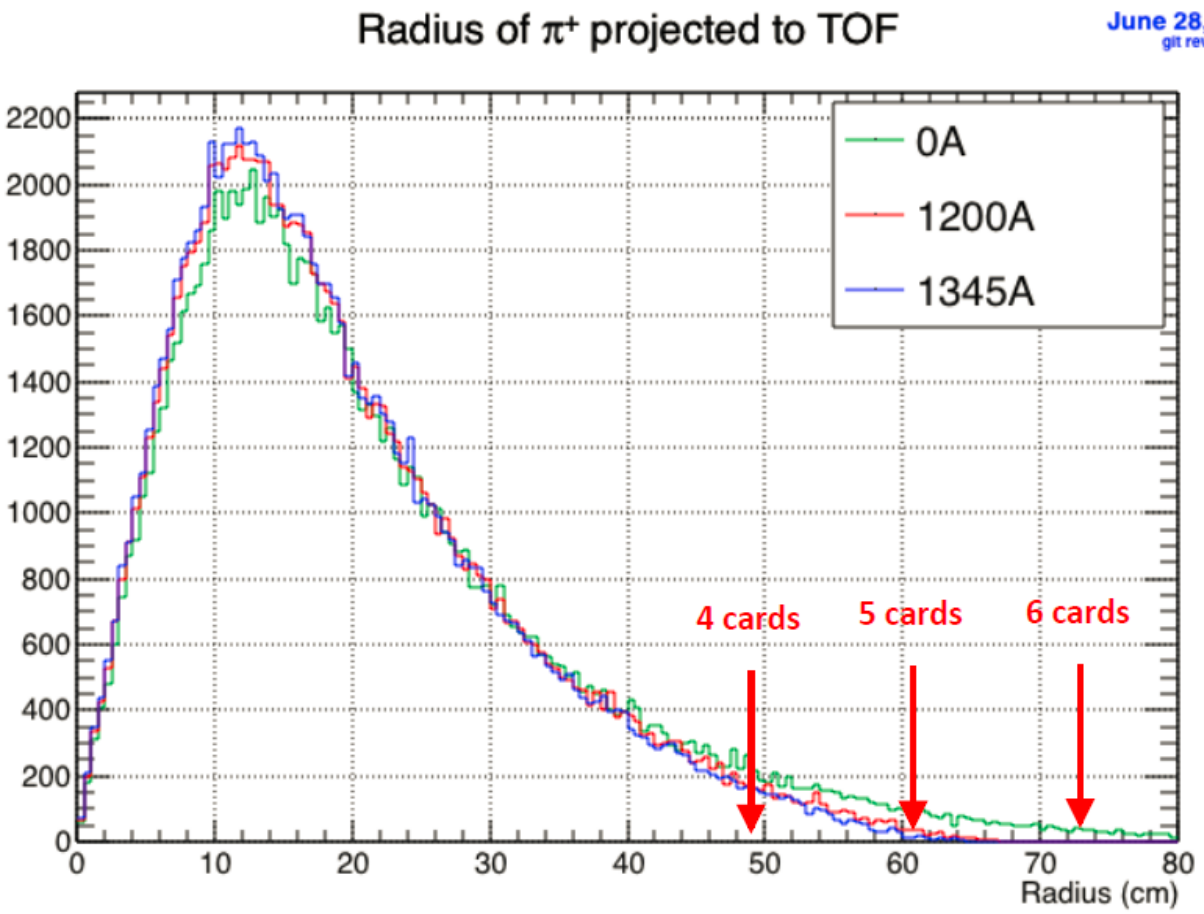
Angular cuts – remove low and high polar angle tracks:



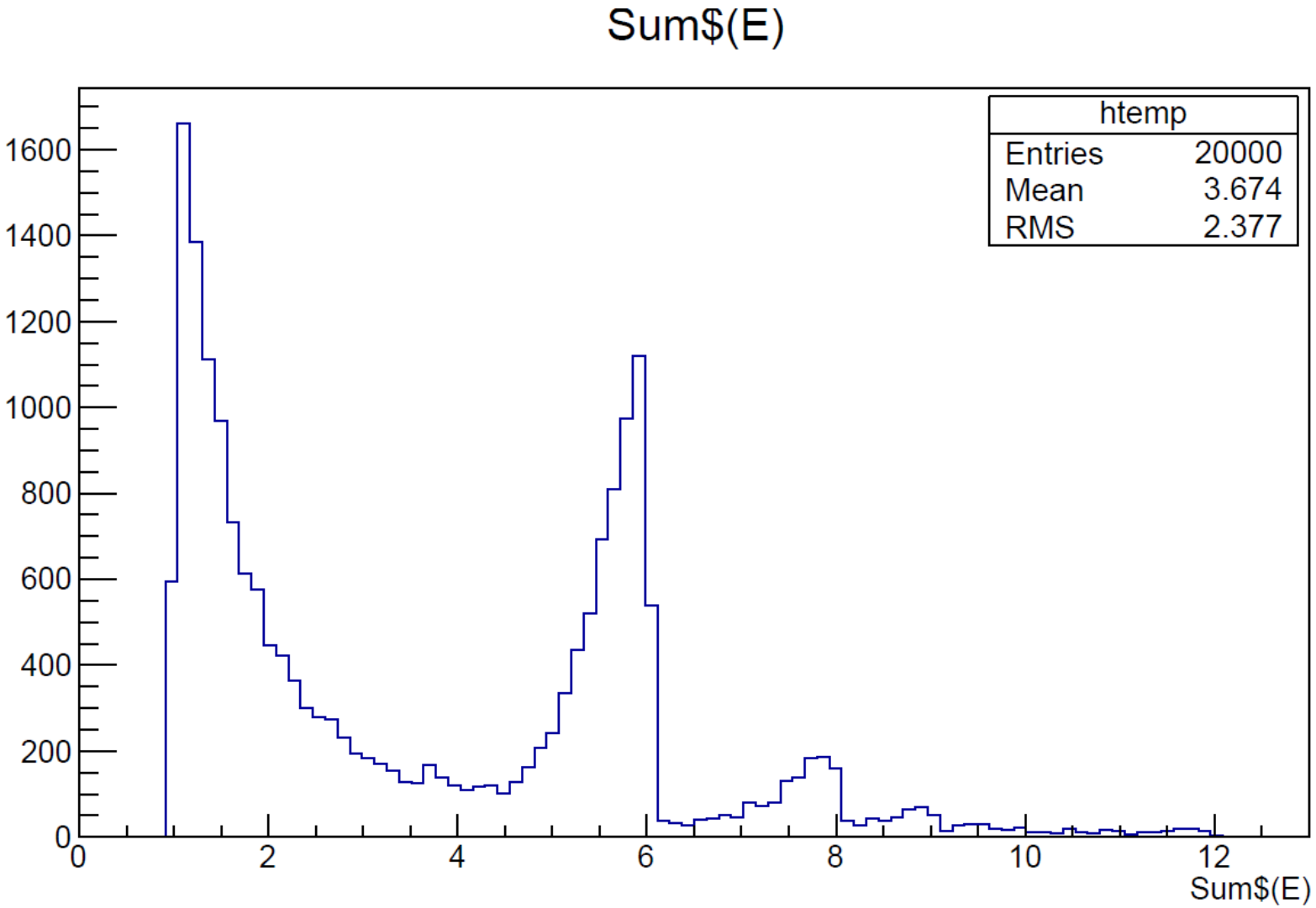




50 cm from beam axis

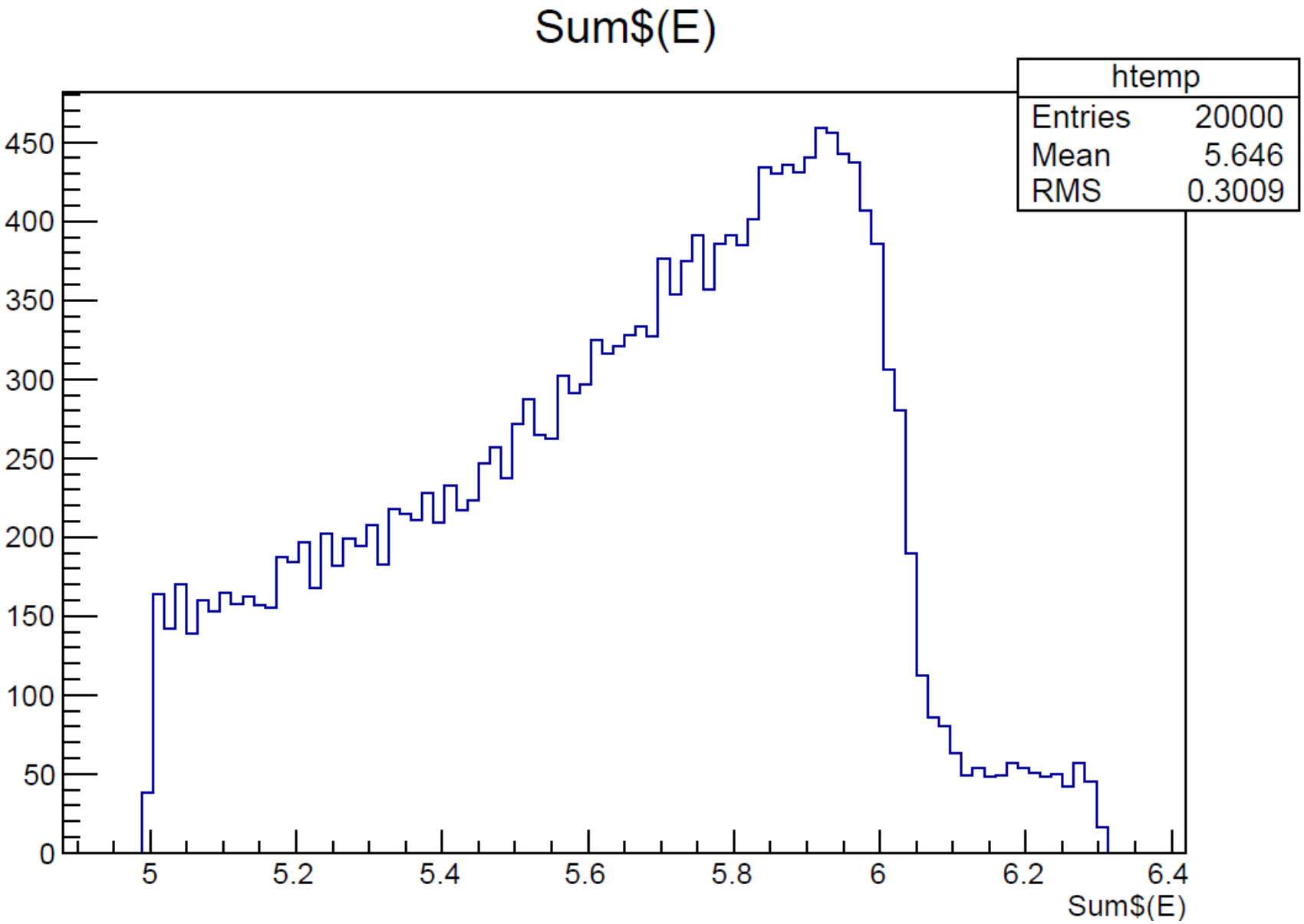


Energy Cuts



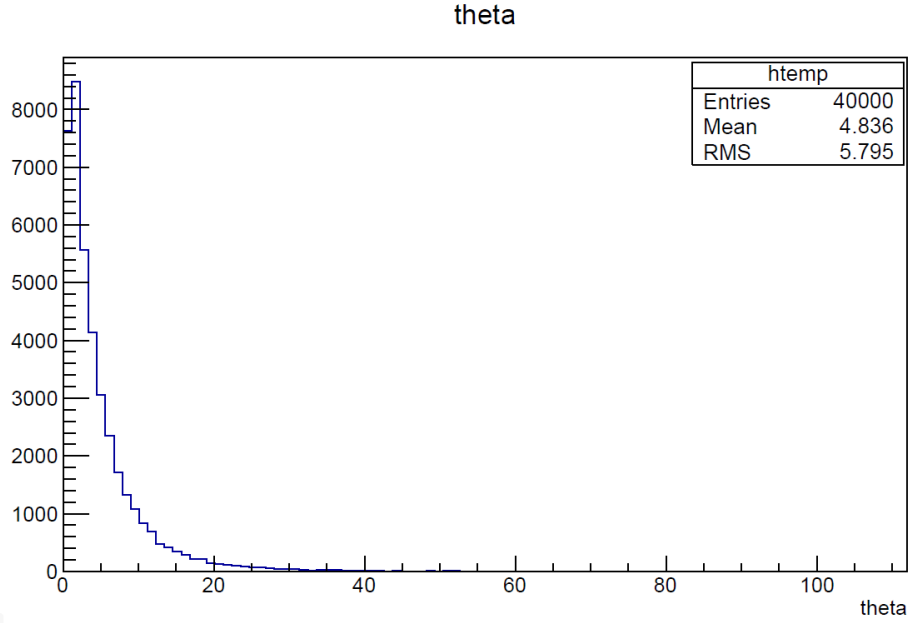
Event input energy with no filtering

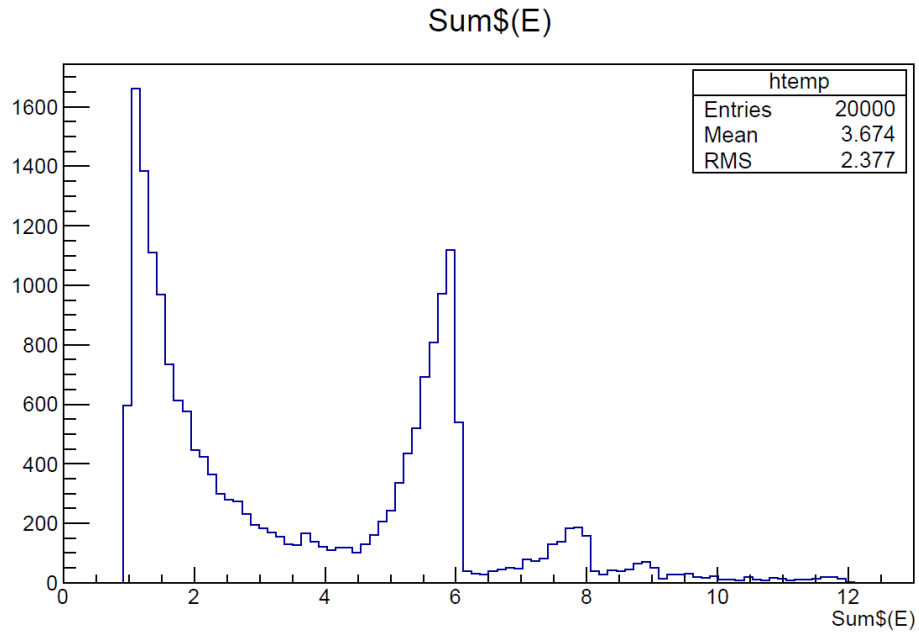
Able to apply cuts on input file for minimum and maximum energy

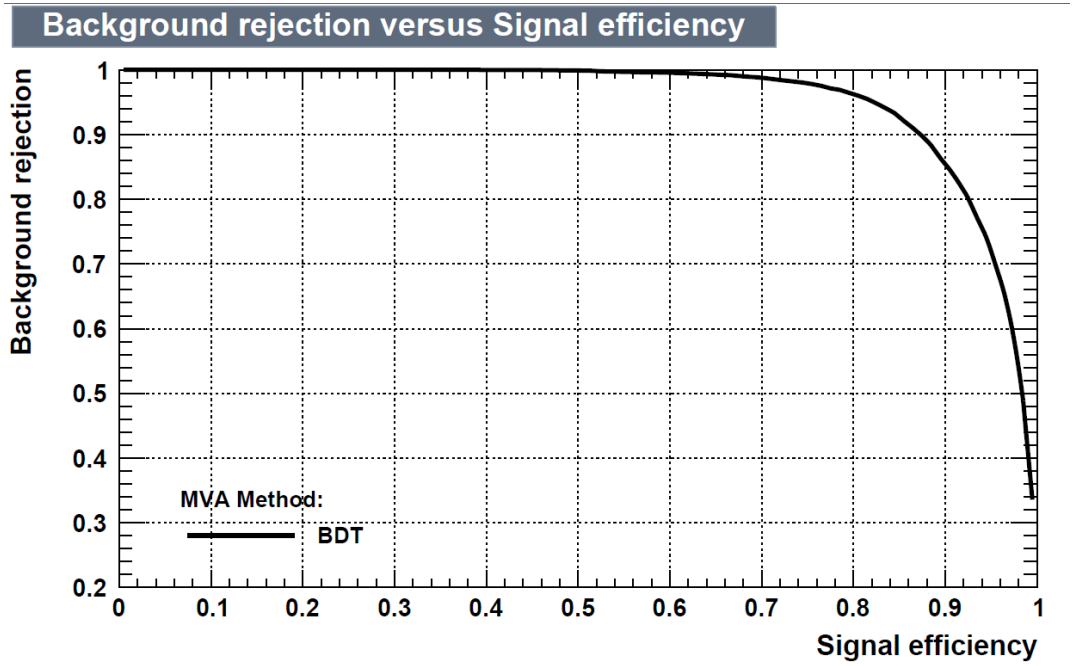


Event input energy with 5 GeV minimum and 6.3 GeV maximum

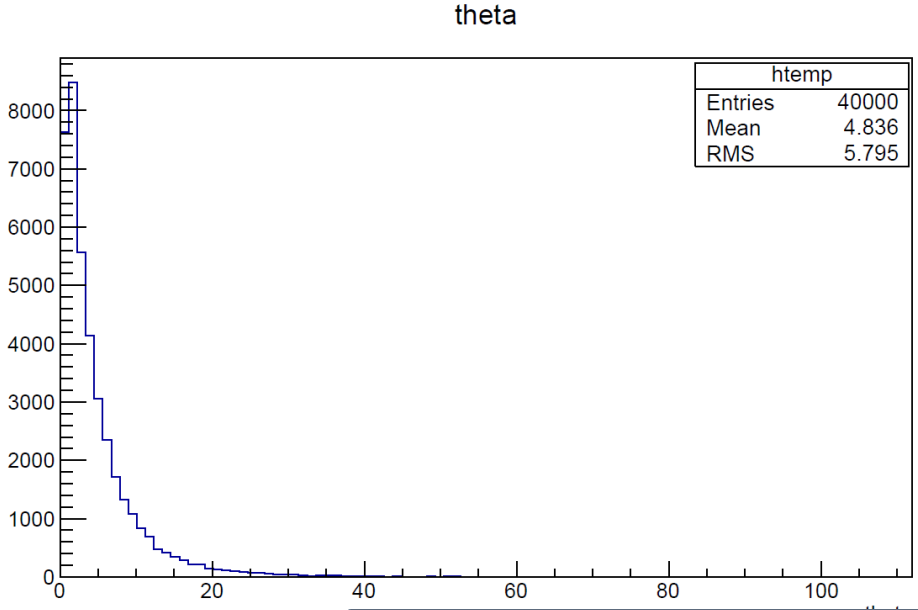
Results – no angular or energy cuts

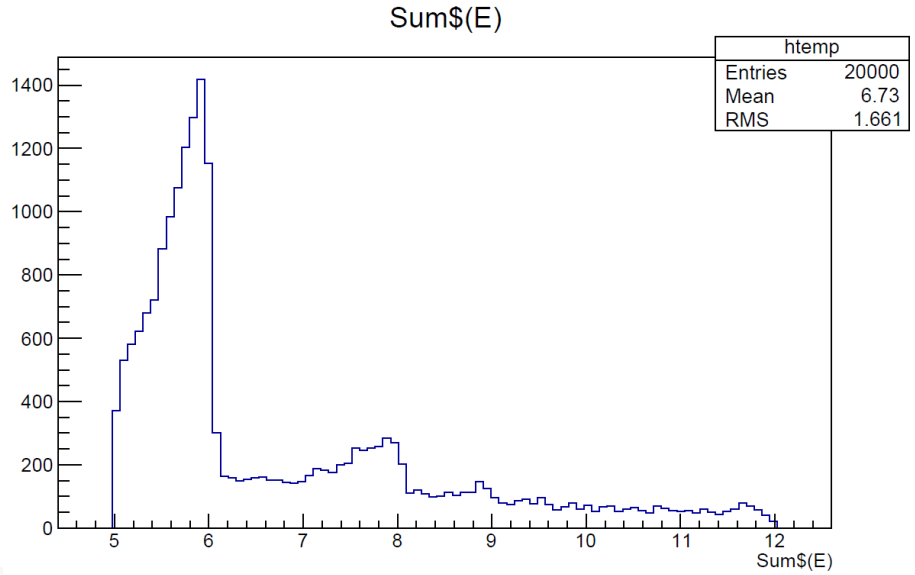


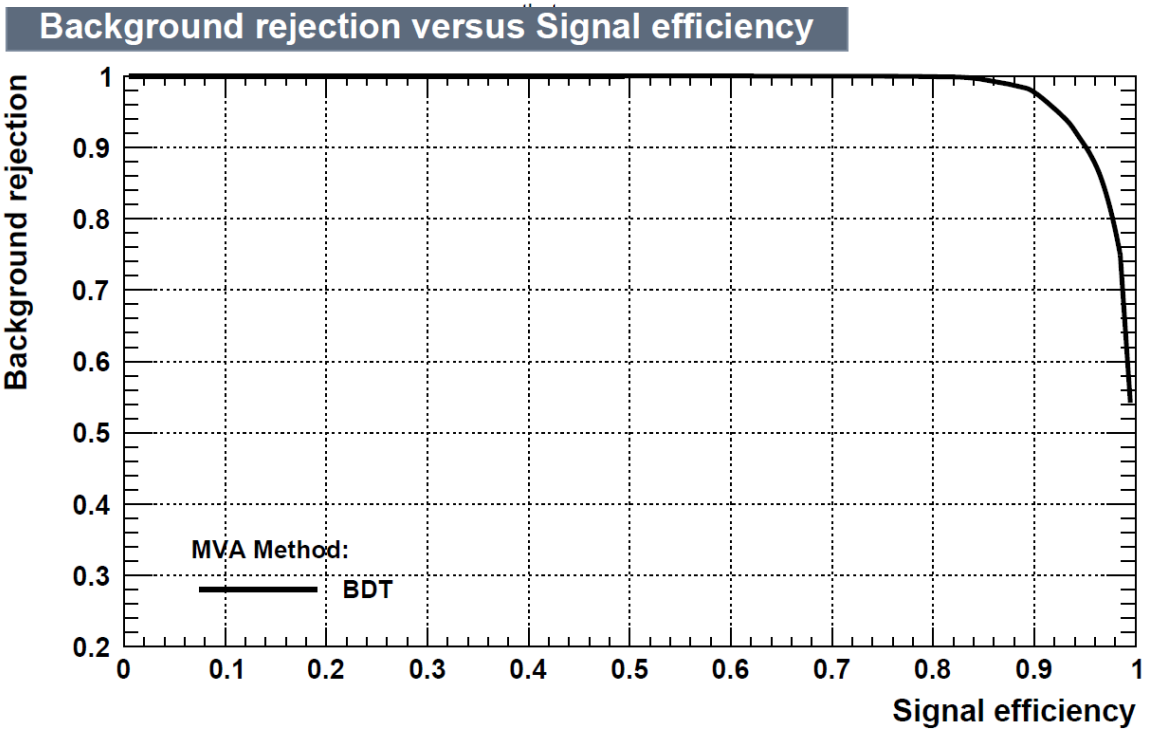




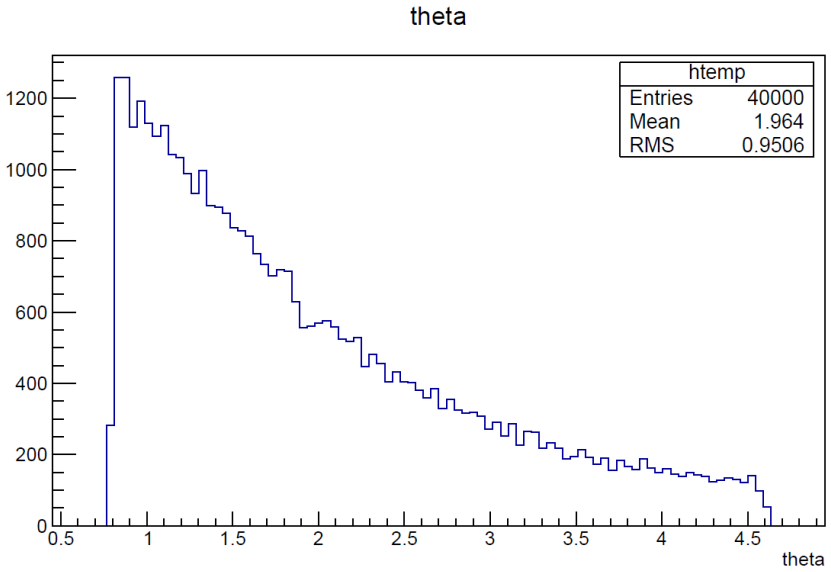
Results – no angular cuts, 5 GeV minimum energy

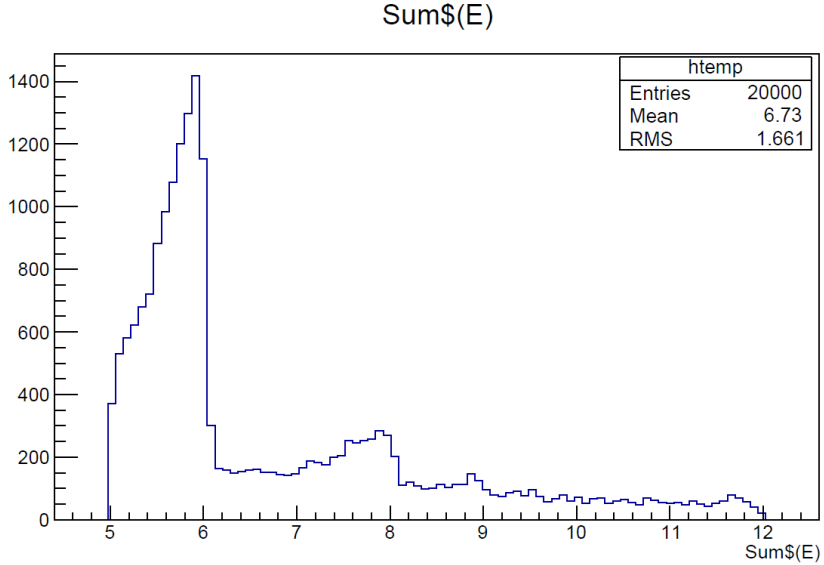


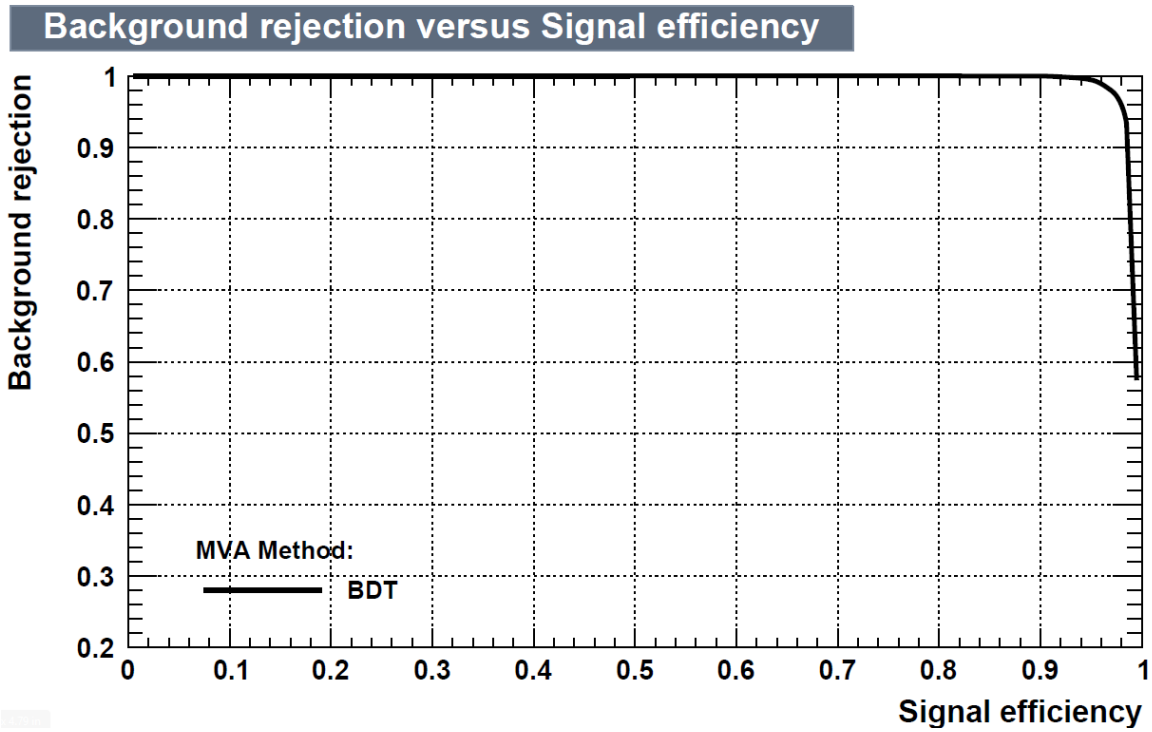




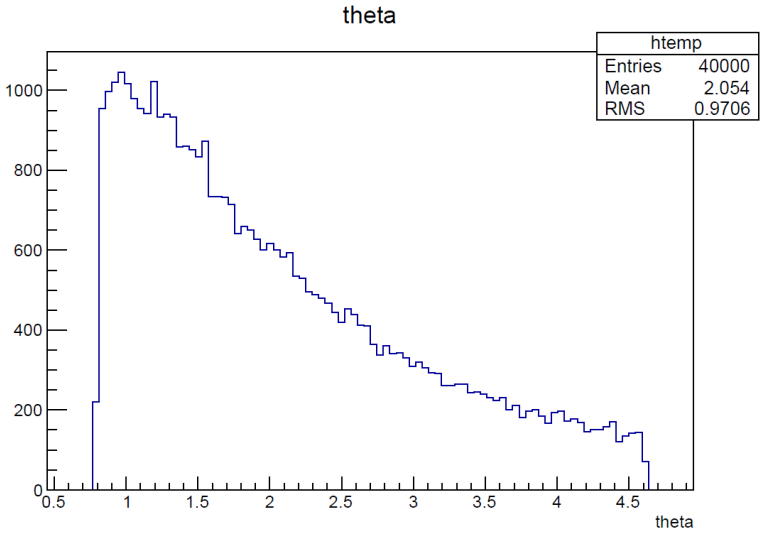
Results – 0.8° to 4.6° cut, 5 GeV minimum energy

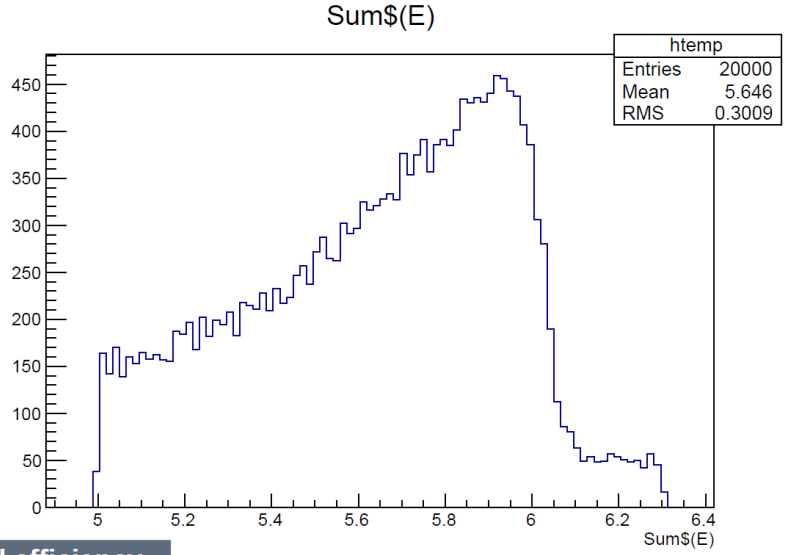


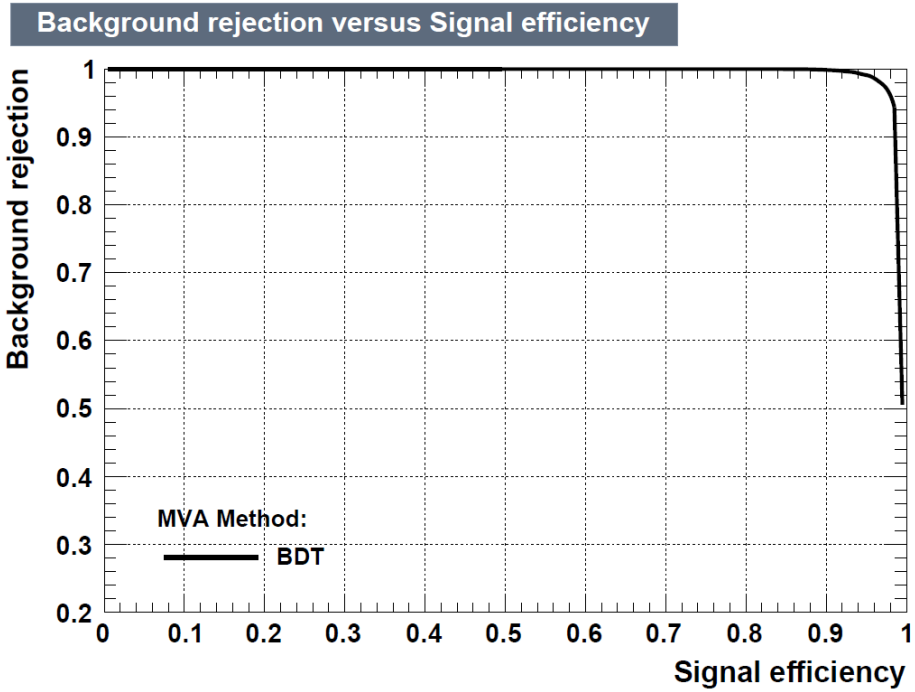




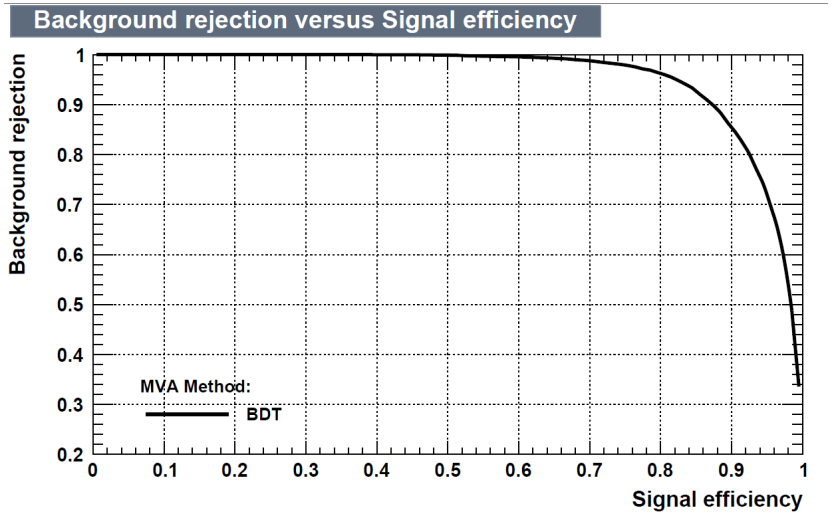
Results – 0.8° to 4.6° cut, 5 GeV – 6.3 GeV range



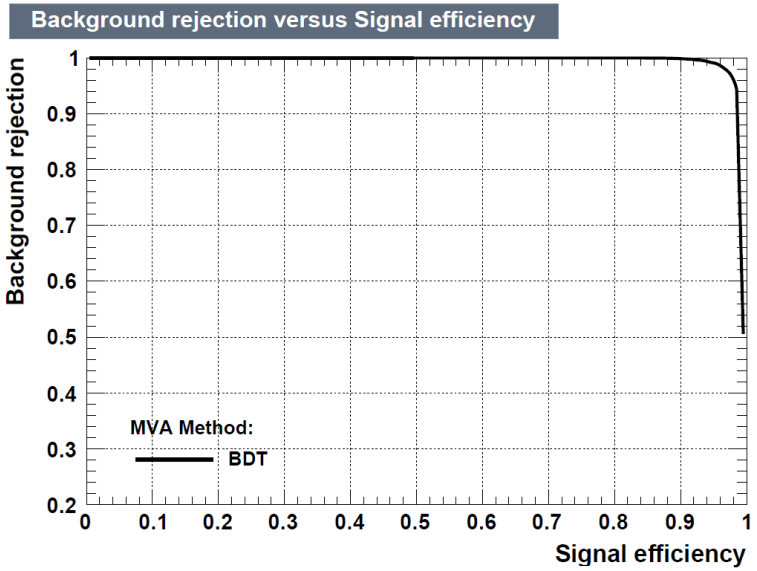




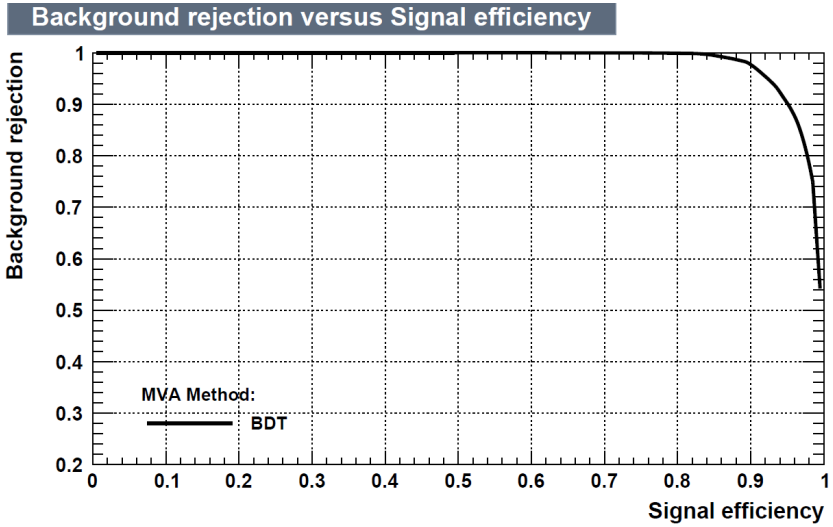
Summary of Background Rejection vs. Signal Efficiency Plots



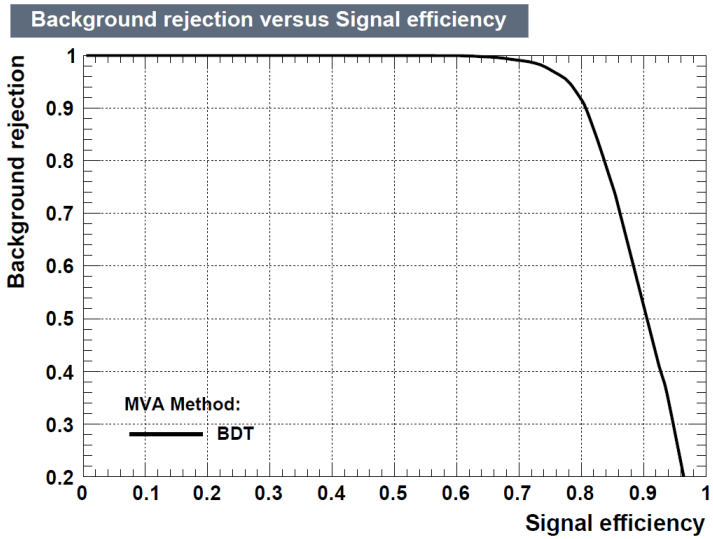
No angular or energy cutoffs



0.8° to 4.61° limits, 5-6.3 GeV limits



No angular cuts, 5 GeV min



0.8° to 4.61° limits, 5-6.3 GeV limits, **No MWPCs**

Future Work:

- Implement these cutoffs in the analysis, rather than in the input event files
- Start changing detector geometry to optimize efficiency