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Using R-function to study the high-resolution spectrometer HRS acceptance for the 12 GeV era experiment E12-06-114 at JLab GULAKHSHAN HAMAD, Ohio Univ — The aim of this study is to module the High-Resolution Spectrometer (HRS) acceptance in an accelerator based study of the internal structure of the proton to the 1% level. The HRS acceptance is a 4-D region of space, depending on the four correlated target variables (ytg, θtg, φtg, δtg). Making the 4-D acceptance region impossible to visualize. The R-function provides a convenient way to make a single cut and select electrons in the 4D-space. Preliminary results show that the R-value spectrum from experimental data agrees with R-value spectrum from the simulation. In future, we will optimize the simulation for better agreement with the experiment.

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