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Systematic measurements of gain and energy resolution of single and double mask GEM detectors

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Triple GEM's will be used to instrument the CBM muon detector MUCH (MUon Chamber). In the GSI detector laboratory an R and D effort has been performed to study the characteristics of both single and double mask GEM detectors. In this study, the gain and the energy resolution have been measured systematically employing an ^{55}Fe source as a function of the voltages applied to the GEM foils. It has been observed that for very low and very high drift voltage the gain is somewhat reduced, while it is nearly constant at the intermediate values. In case of other voltage variations such as the induction and transfer voltages, it has been observed that the gain increases with the voltage and saturates at some point. The results of the systematic measurements will be presented.

Summary

Systematic measurements of gain and energy resolution of single and double mask GEM detectors

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