

Development of an Integrated GEM Gas Amplification Structure

Summary

A gas amplification stage for a Time Projection Chamber (TPC) has been developed employing Gas Electron Multipliers (GEMs) which are mounted on thin ceramic frames. This allows for an integrated, stable amplification structure with minimal dead areas. Here, studies will be presented that focus on optimizing this GEM mounting scheme. The goal is a high flatness of the GEM foils and stability of the system. This ensures an even gain over the hole area and minimal field distortions. Further, tools and procedures are being developed to establish a reproducible high quality in the production processes.

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