

An improved self-stretching GEM assembly technique

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Summary

We have improved the self-stretching GEM assembly technique that was initially developed at CERN for the CMS GEM upgrade project. With this improved technique, we can build GEM detectors at a scale of > 1m that still preserve very good gain uniformity. The technique results in high-quality stretching of GEM foils and good gas tightness in GEM detectors. This report presents details of the improved self-stretching technique for large-size GEM assembly and some test results of a large-size GEM prototypes built with this technique.

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