

# Investigations of the long-term stability of a GEM-TPC

## Summary

As readout for a Time Projection Chamber (TPC), a readout module has been developed using Gas Electron Multipliers (GEMs) for the gas amplification. A crucial requirement is the long term high voltage stability and reliability of these readout modules. The discharge behavior of 23 x 17 square centimeter large GEM foils has been studied under different operating conditions. These studies include long term measurements to study systematic effects as well as detailed measurements and calculations of the dynamic behavior of a GEM shortly after a discharge.

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