

DESY Group / GEM Module

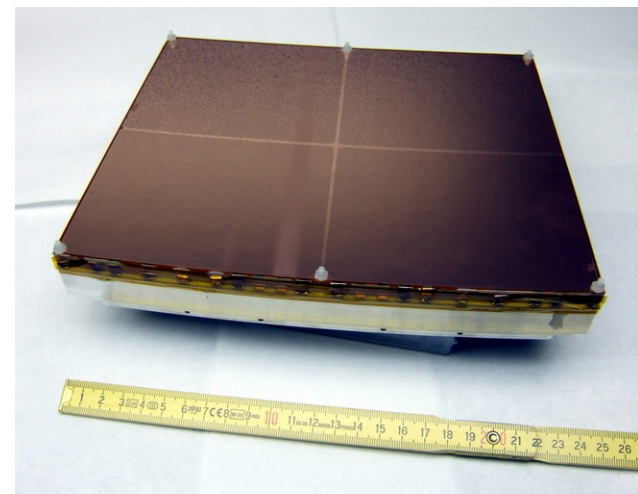
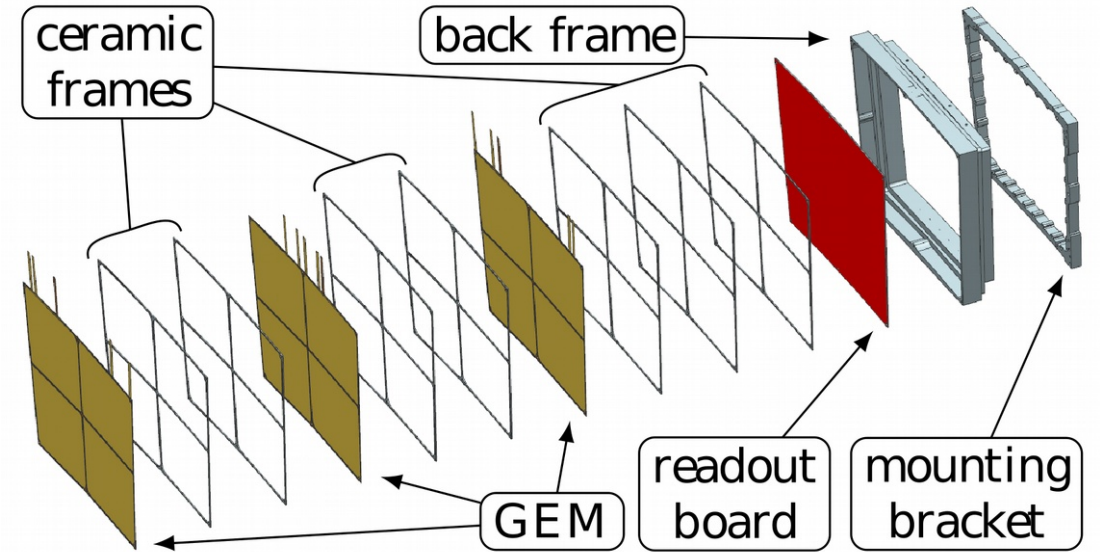
LCTPC Collaboration Meeting, 2020

Ralf Diener

DESY GridGEM Module

Idea / Basics

- Goals:
 - Minimal material budget
 - Maximal sensitive area
 - Minimal gaps
- Integrated, self supporting GEM/ceramics structure
 - Stack of 3 GEMs on thin ceramic frames
- Size, shape as planned for ILD TPC end plate
 - Area ~ 17 x 23 cm²
- Padplane
 - 28 rows
 - Pad size: 1,26 x 5,85 mm²



DESY GridGEM Module

Status

- Ceramic grid mounting works
 - Production techniques and tooling optimized (GEM stretching/gluing...)
- Stable operation
- Reproducibility
- Limit field distortions implementing guard rings
- Calibration possible by pulsing anode GEM
- Resolution in $r\phi$ and z and dE/dx
 - To do: momentum resolution

DESY GridGEM Module

Future Developments

