

## MPGD plans in Bonn

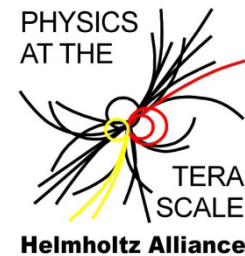
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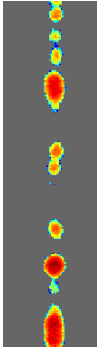
K. Desch • Universität Bonn • 11/09/07 • CERN MPGD workshop

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M.Ummenhofer, P. Wienemann, S.Zimmermann



**LCTPC**

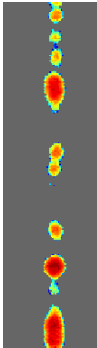




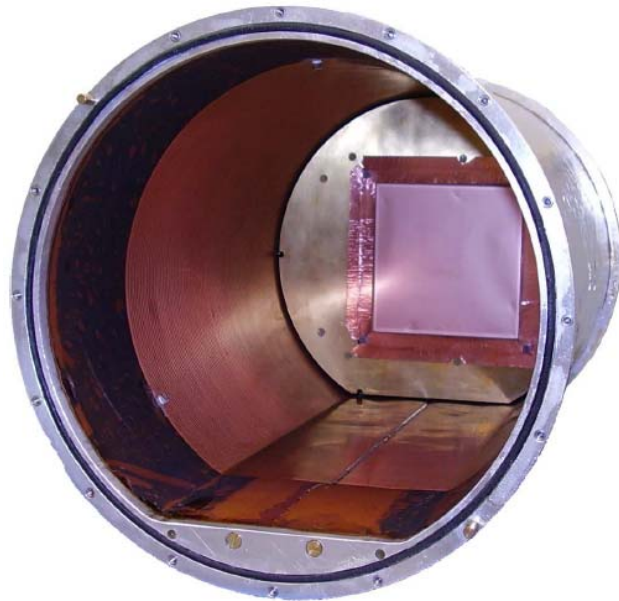
## MPGD R&D interests

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- new group since Oct 2006
- emerged from Freiburg group
  
- main interest:  
development of gaseous tracking detectors (TPCs) for HEP
  
- lines of development
  - GEM-based TPC-development (within LCTPC collaboration)
  - Pixel-Readout (Timepix) of GEMs (EUDET)
  - TPC simulation
  
- infrastructures in Bonn (under construction)
  - TPC lab
  - Cosmic, UV-Laser test stand
  - Microelectronics development
  - 3 GeV electron testbeam area

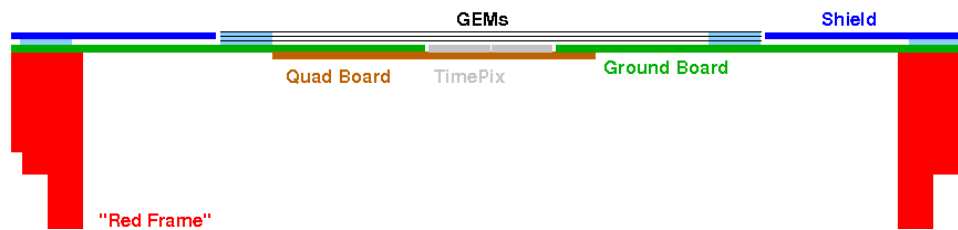
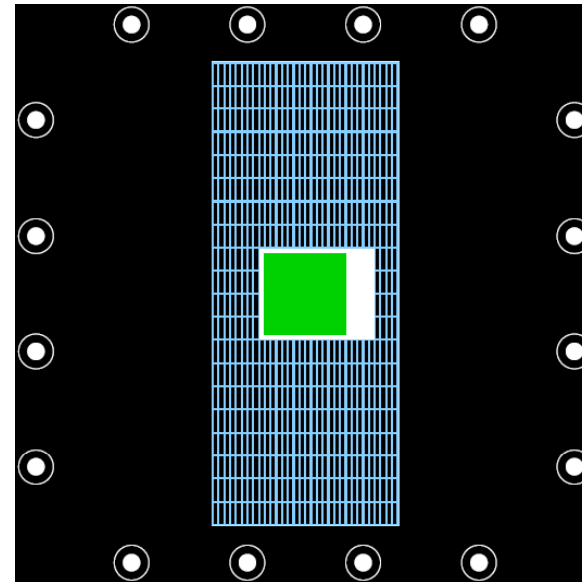


# Prototype development

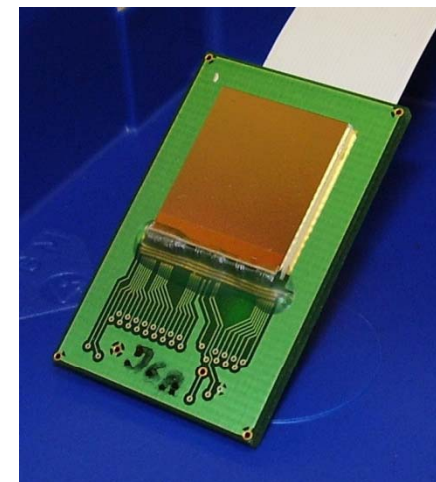


Fieldcage prototype (clone of Aachen prototype)

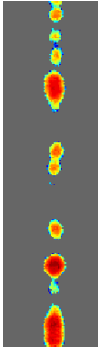
Prototype Pad/Pixel Plane #1



Quad-Board 3GEM Layout

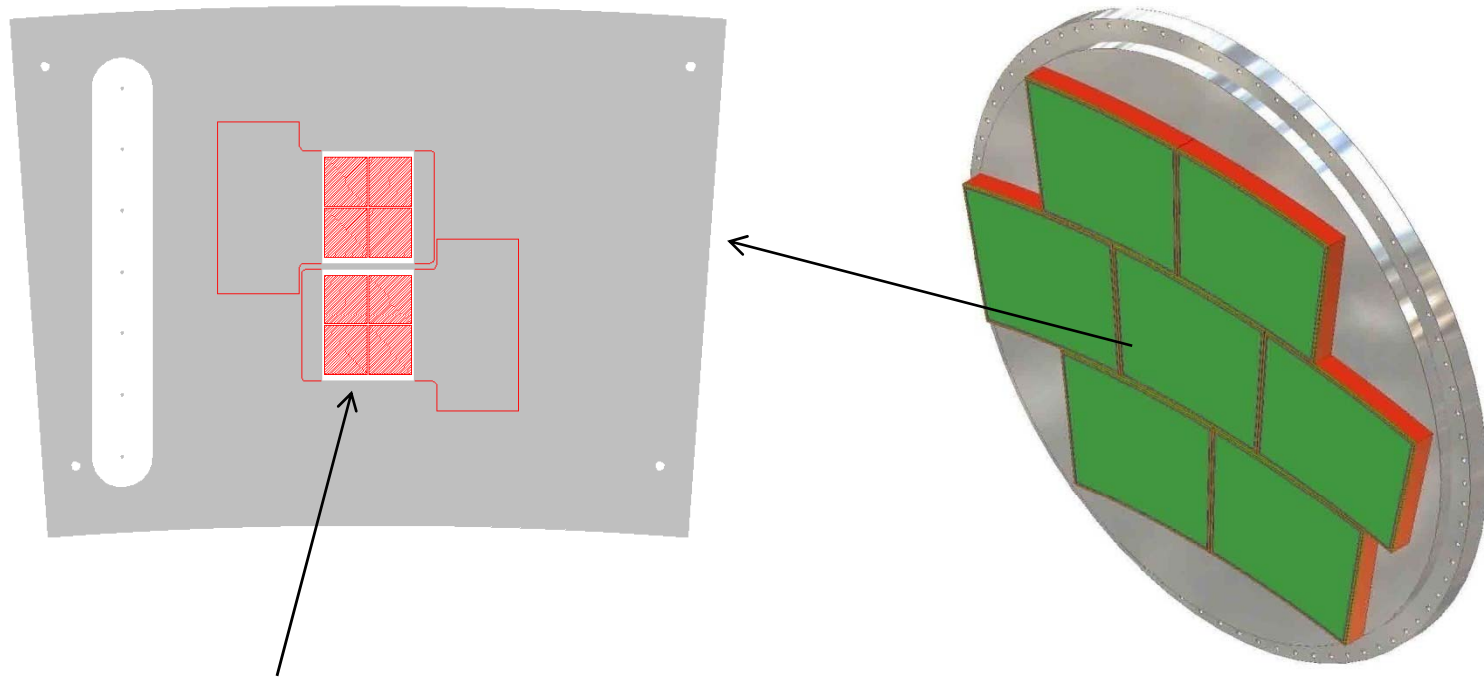


Timepix carrier

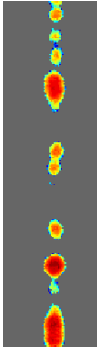


# EUDET Timepix module development

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2 Timepix Quad boards (NIKHEF) (8 Timepix Chips)  
below 3-GEM stack



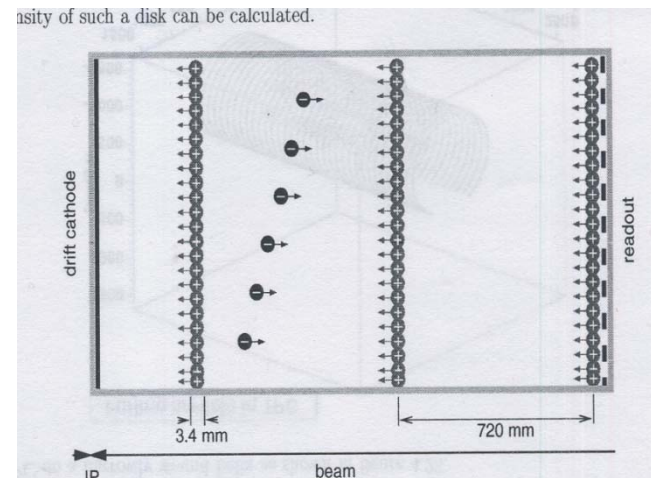
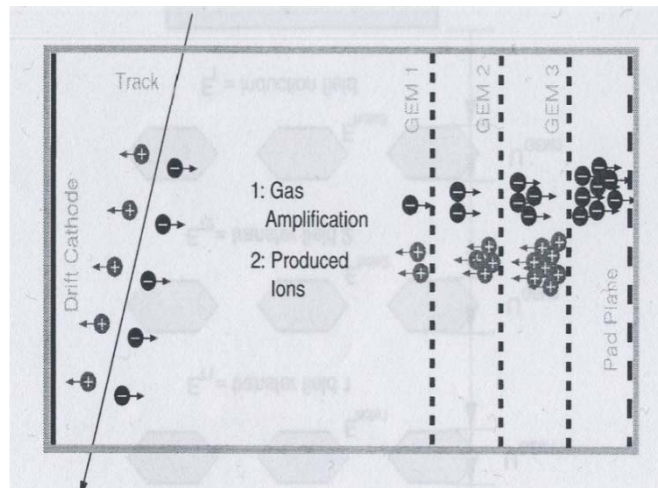
## TPC simulation: Marlin-TPC

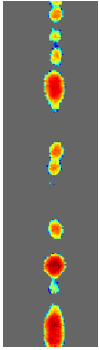
Goal: provide complete simulation, reconstruction and analysis framework for ILC TPC and prototypes

Modularity: collection of existing and new algorithms

Based on ILCsoft software framework (LCIO, MARLIN, GEAR, LCCD)

Example: simulation of the >impact< of ion backdrift on tracking





## Summary/Interests in MPGD R&D collaboration

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- new group working on MPGD detector R&D
- mainly „application driven“
- interested in testing new technologies
- sharing of (test) infrastructures + software