Report on DHCAL option for ILD

Present situation

Hardware :

Detector: Construction of 3mm-thick, small and large ($1M^2$) of

GRPC/MGRPC realized.

Electronics readout: ILC-like electronics was designed, produced and successfully tested in test beam

Mechanics : A mechanical design for the DHCAL à la Videau was elaborated. Stress, deformation studies realized.

Integration : detailed study of optimization is under way

A fully equipped 1M2 GRPC/MGRPC is currently under test

Report on DHCAL option for ILD

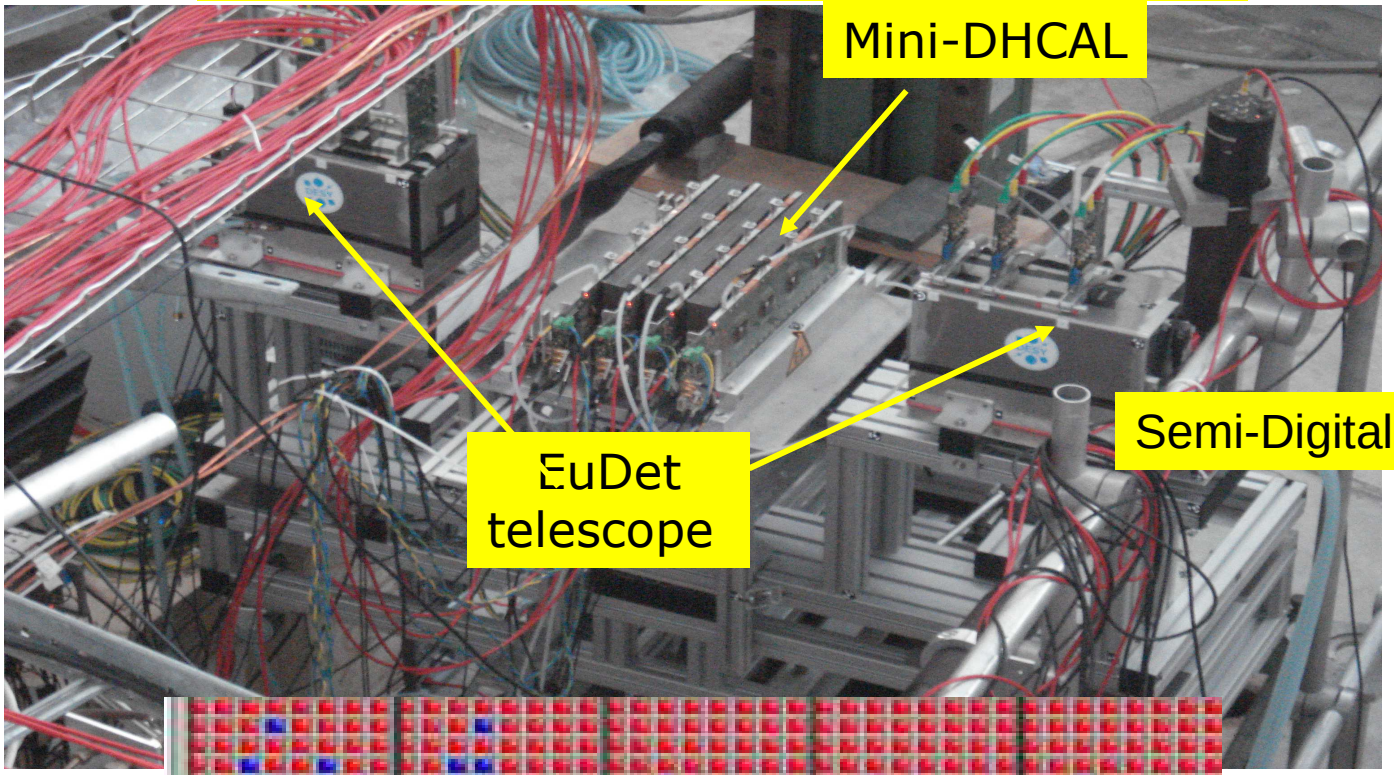
Present situation

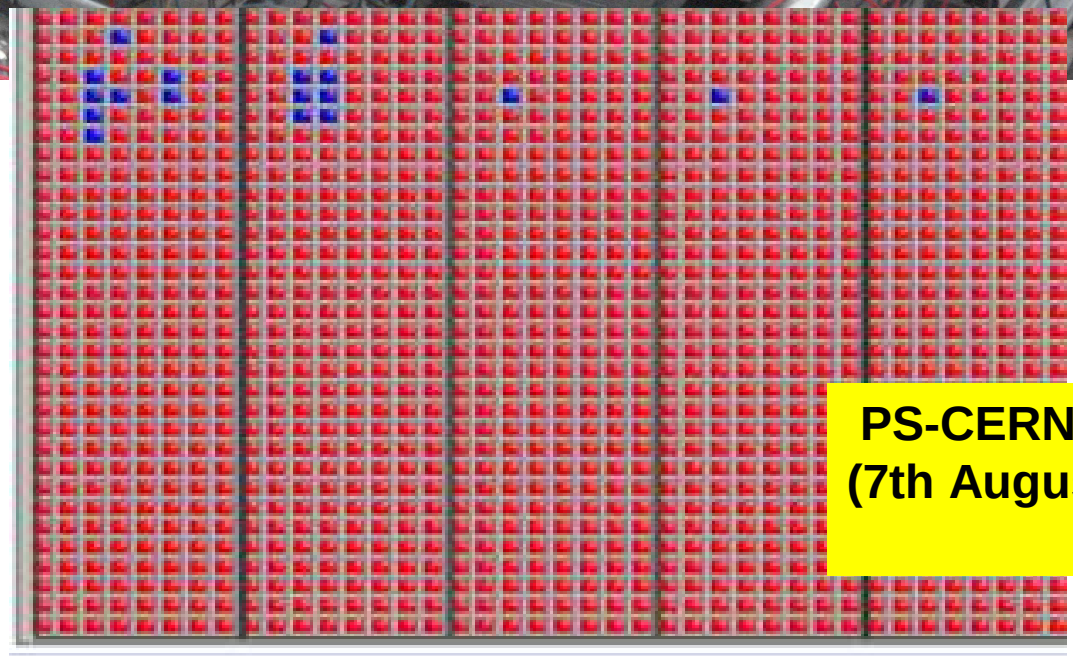
Softdware :

A **DHCAL** with realistic detector is implemented in **MOKKA**.
(for both Videau and Tesla geometries)

Reconstruction tools and **PFA** adaptation to the semi-digital readout and optimization will start soon in collaboration with **Mark Thomson**

GRPC Mini-DHCAL test at CERN



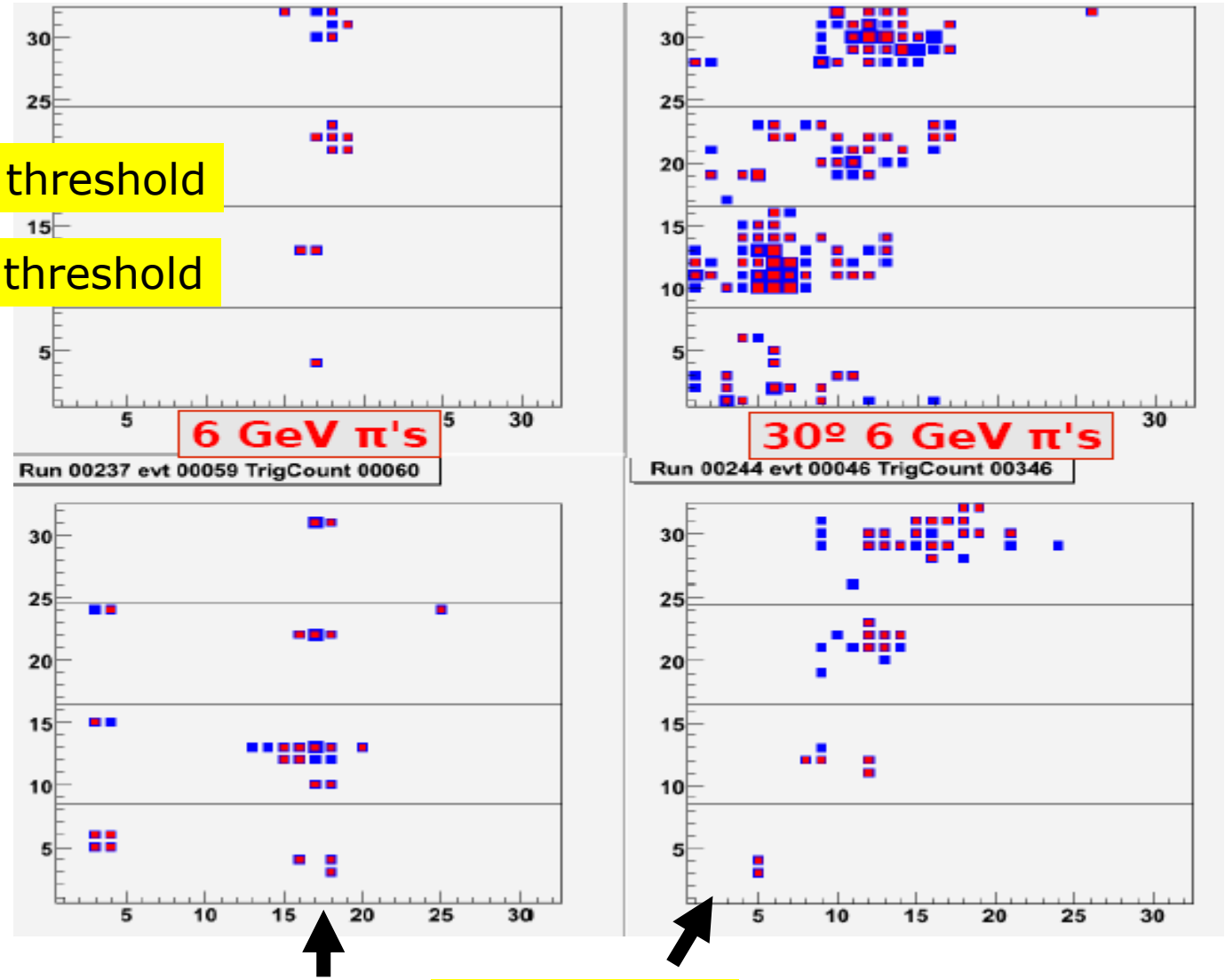


PS-CERN
(7th August-25th July 2008)

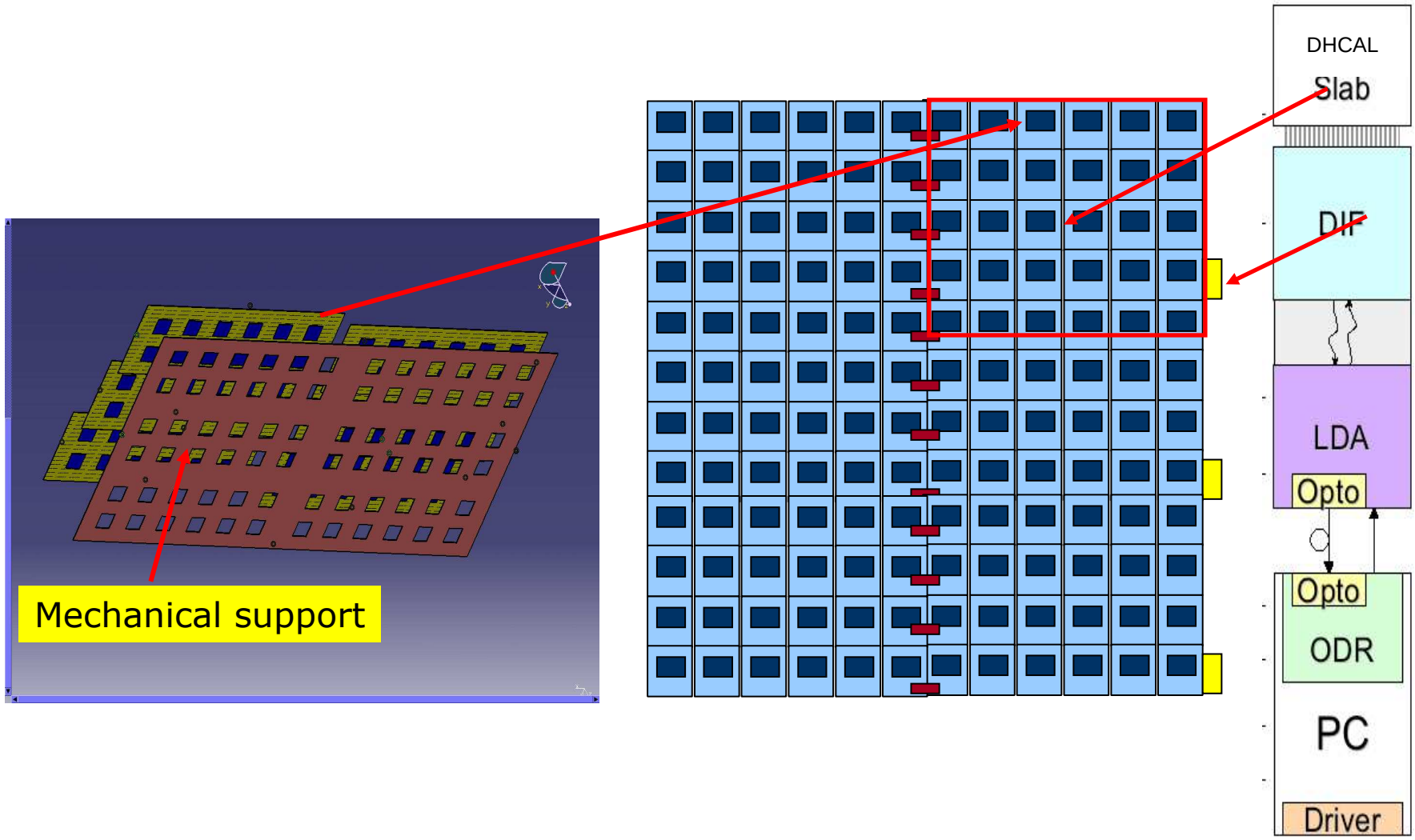
GRPC Mini-DHCAL test at CERN

Blue: 1st threshold

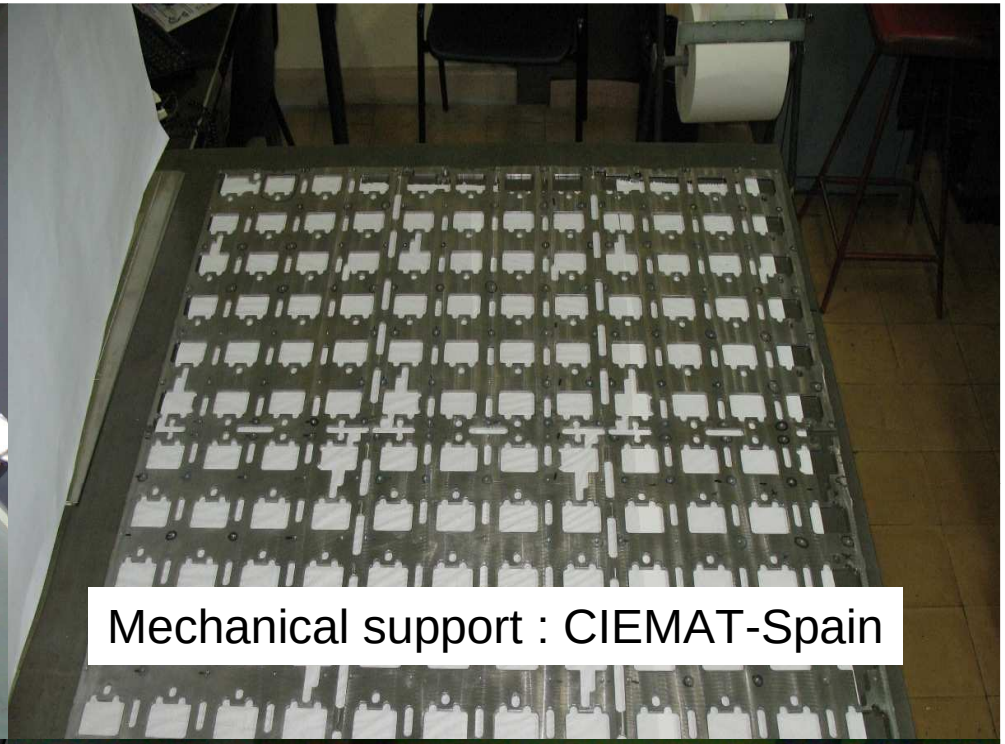
Red: 2d threshold



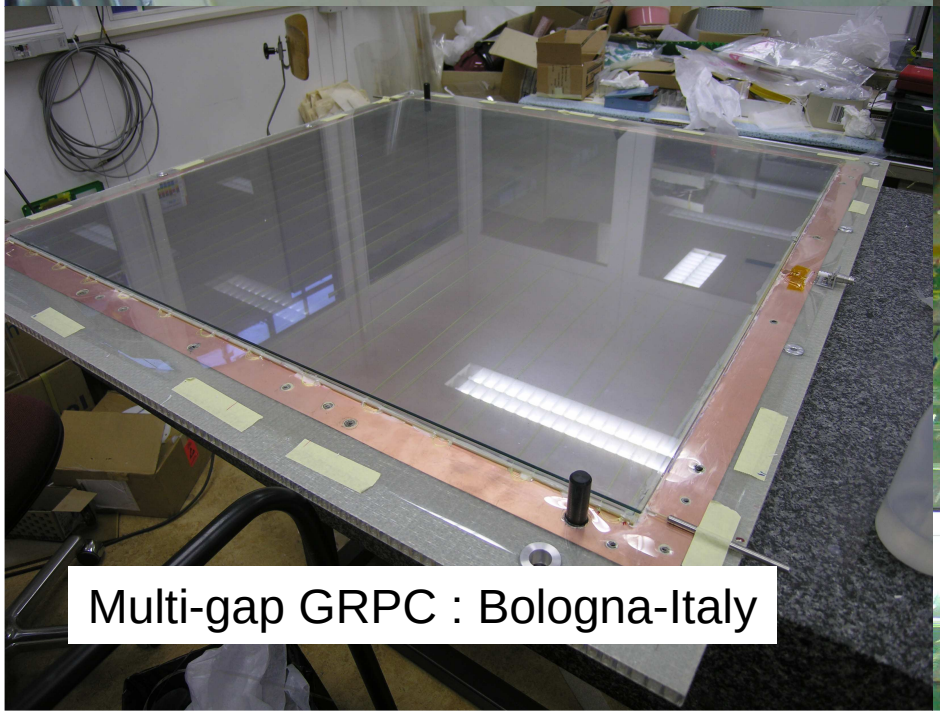
1M^2 GRPC project



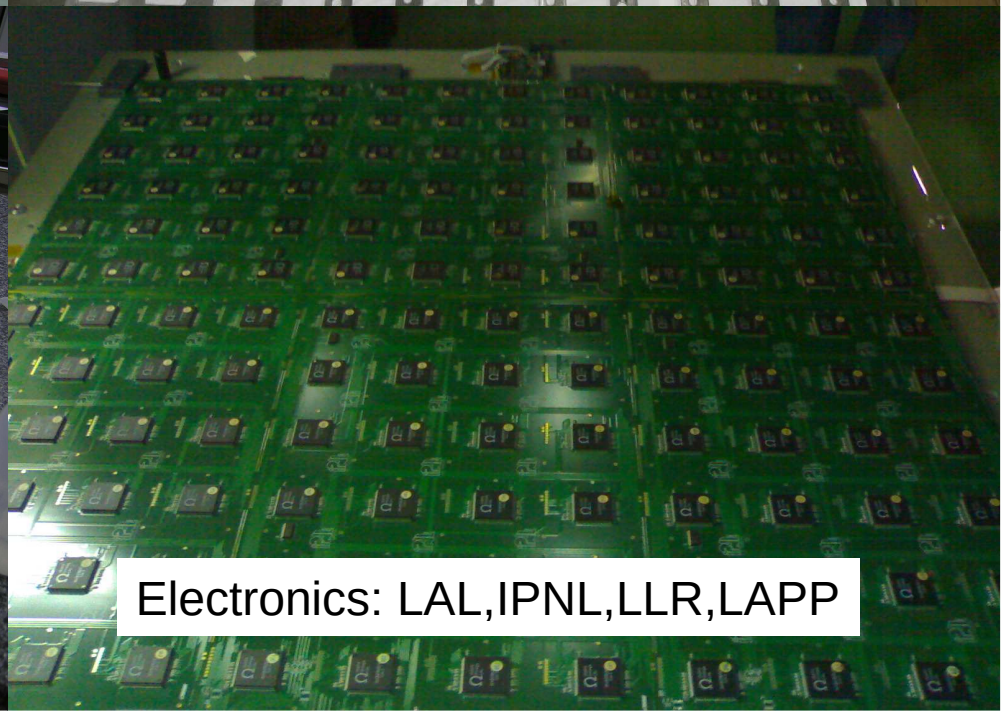
GRPC : IPNL-France, IHEP-Russia



Mechanical support : CIEMAT-Spain



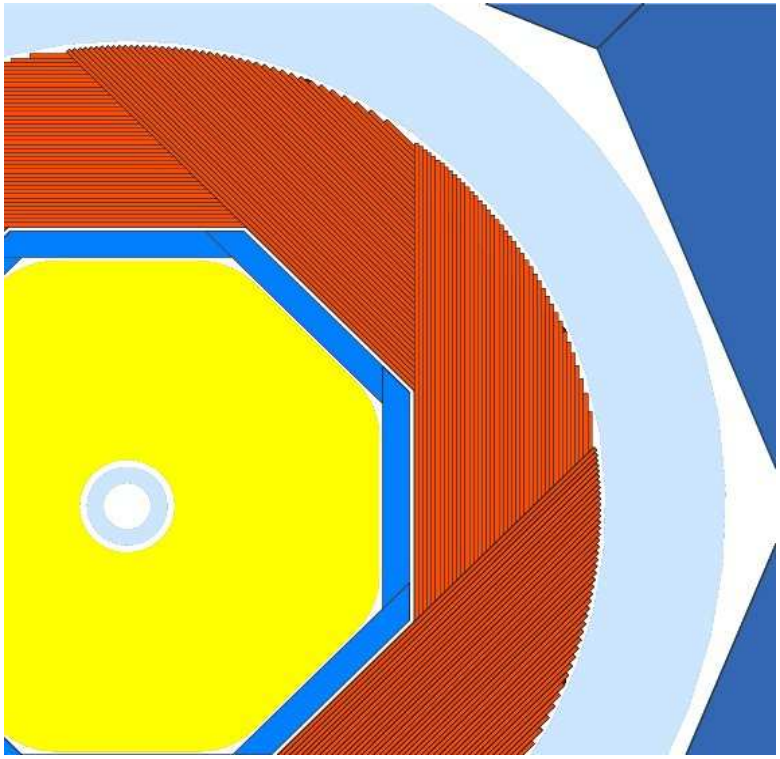
Multi-gap GRPC : Bologna-Italy

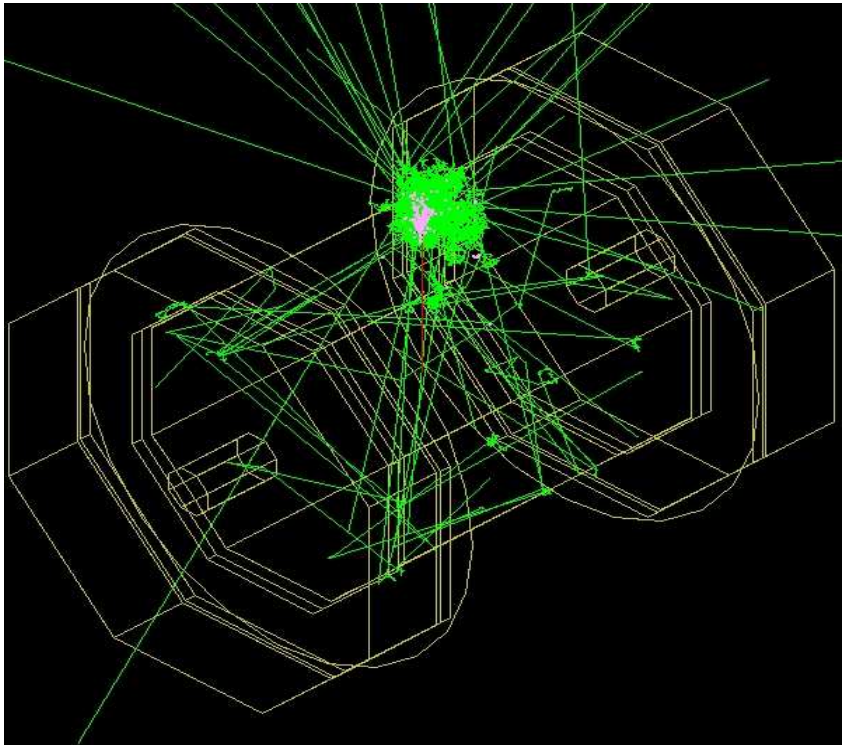


Electronics: LAL,IPNL,LLR,LAPP

First 1M^2 GRPC with 1cm^2 granularity
144X64 =9216 channels

DHCAL in MOKKA





Report on DHCAL option for ILD

What is needed:

- For the LOI

Full Production of one or two physics channels with DHCAL is necessary to prepare for the **LOI.**

- Future

A technological prototype (ILC-like) of $1M^3$ ro be built by 2010. The essential part of the funding is already provided by the French ANR agency (Agence Nationale de la Recherche)