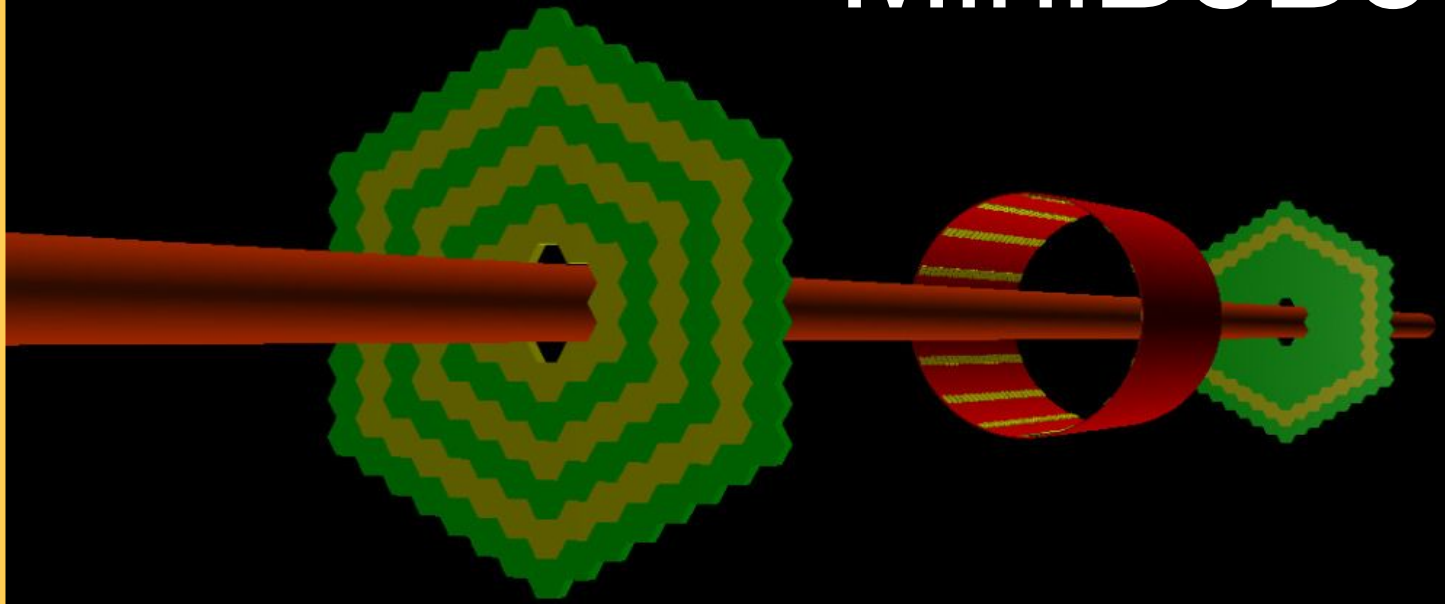
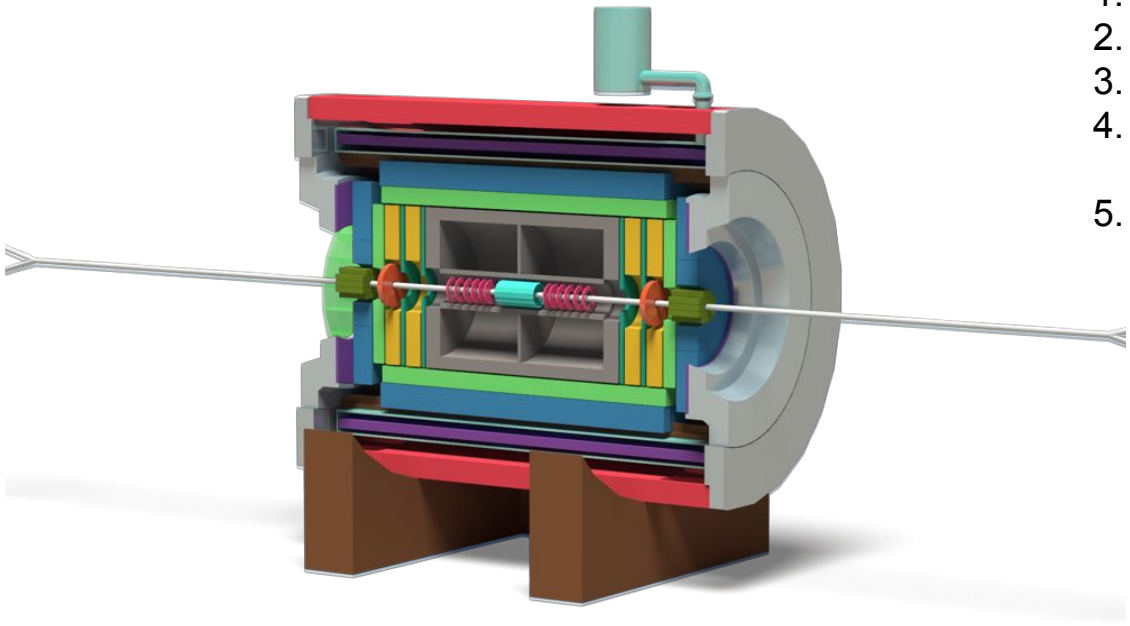
MiniBeBe

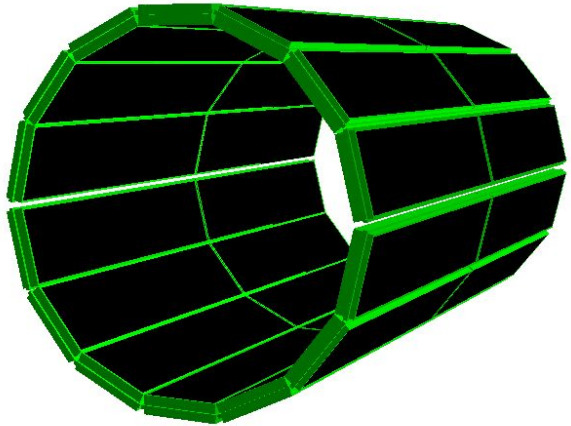


MexNICA Collaboration

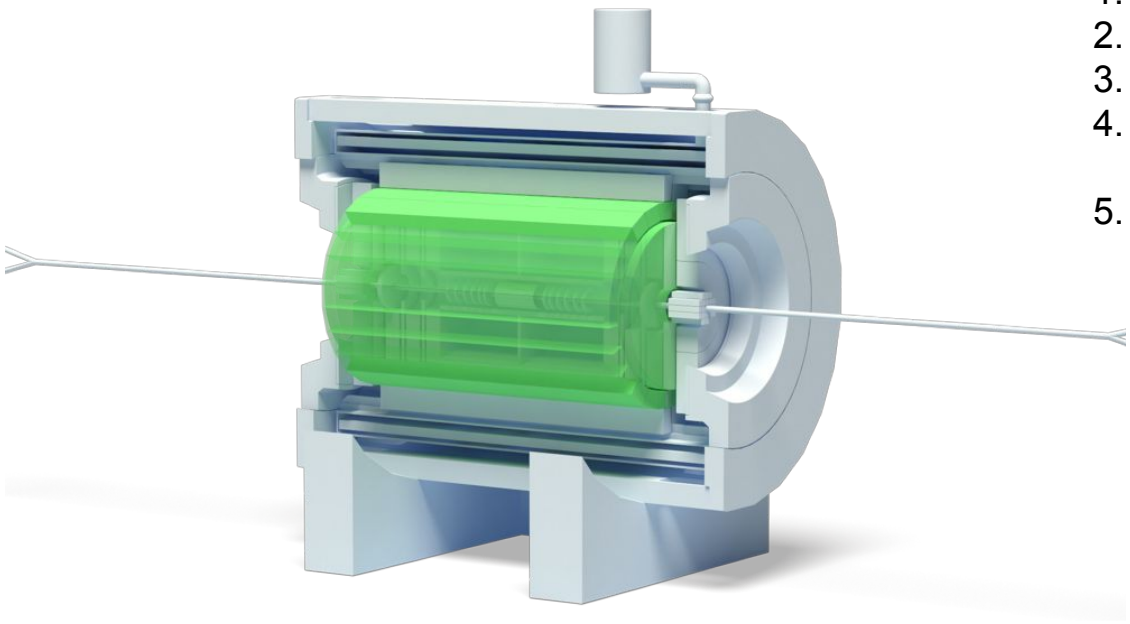
Trigger nivel 0 para el TOF



1. 1.2 m de radio.
2. 5 m de largo.
3. $|\eta|<1.4$
4. Identificar piones, kaones, protones y antiprotones.
5. Resolución temporal de 100 ps.



Trigger nivel 0 para el TOF



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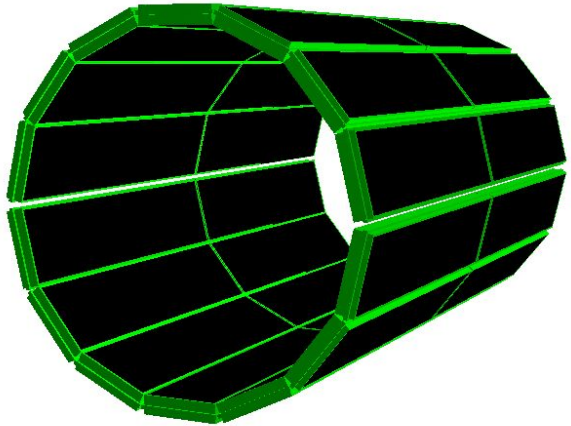
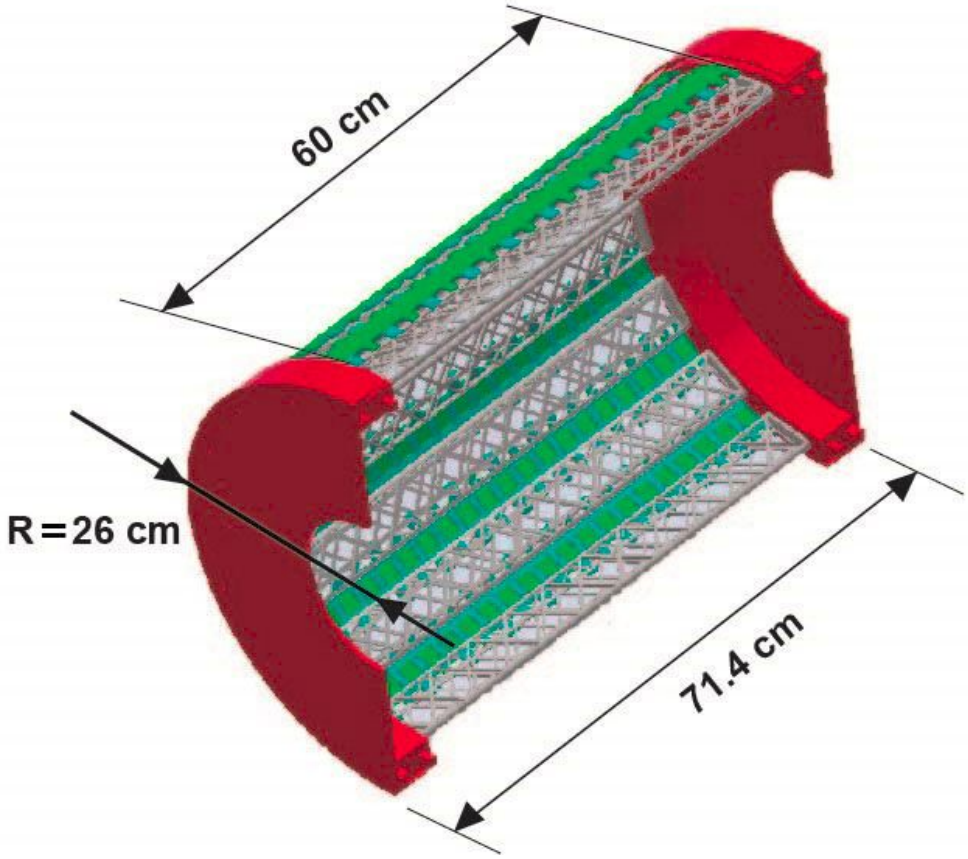
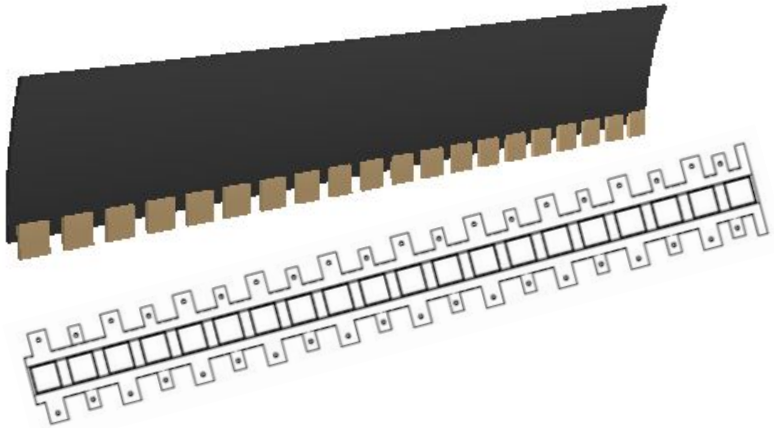
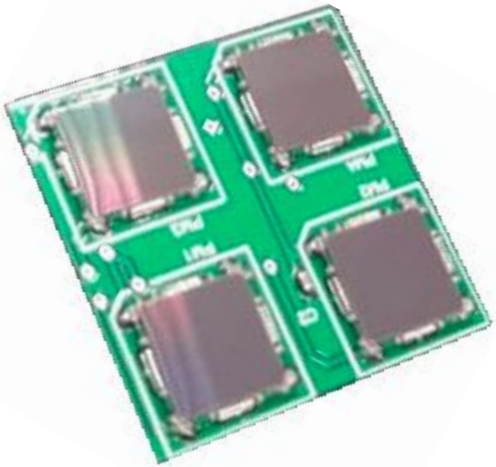


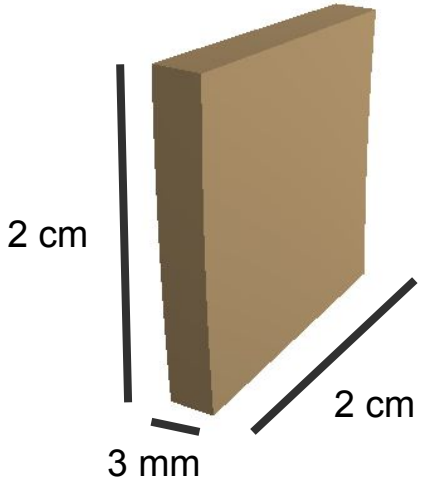


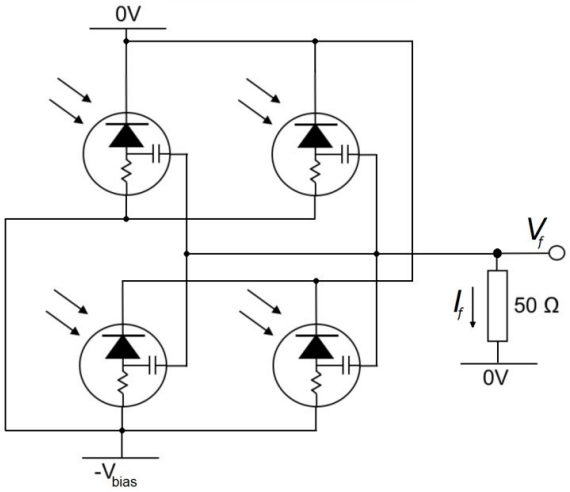
Estructura del miniBeBe

1. 25 cm de radio.
2. 60 cm de largo.
3. $|\eta|<1.01$
4. 16 tiras, cada una con 20 cuadros de plástico centellador.
5. Plástico centellador BC404 de 2 x 2 cm y 3 mm de ancho.
6. 4 Silicon Photo Multipliers (SiPMs) en cada cuadro de plástico centellador.



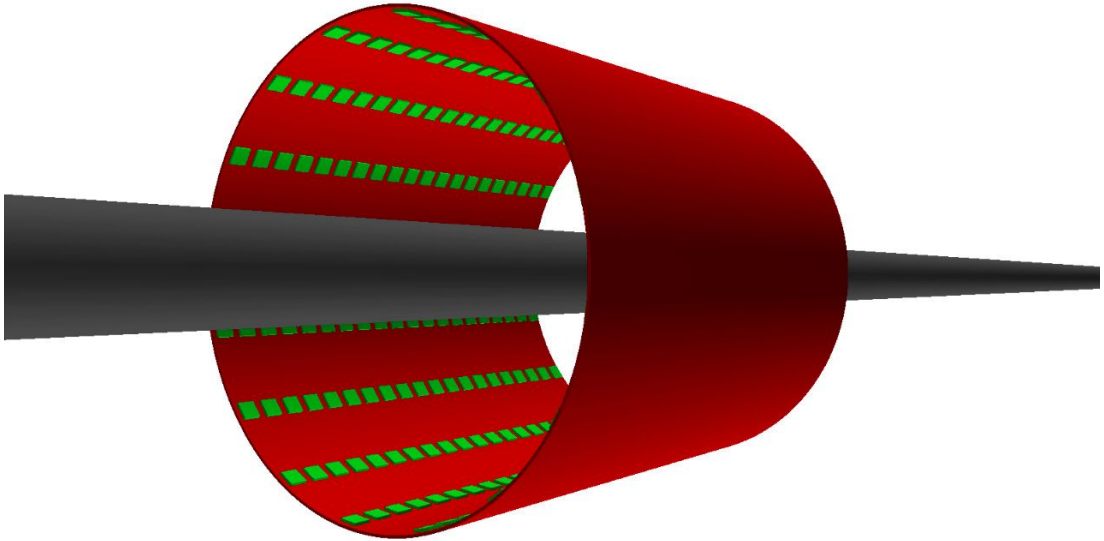



2 cm
2 cm
3 mm

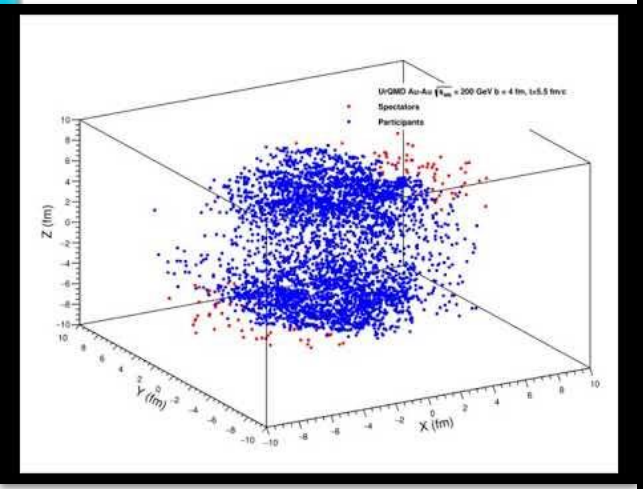

0V
V_f
I_f
50 Ω
0V
$-V_{bias}$

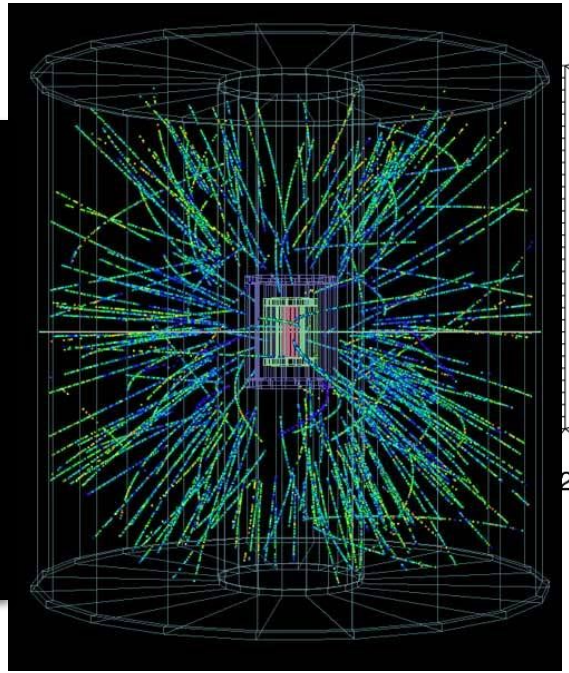
MpdRoot Framework

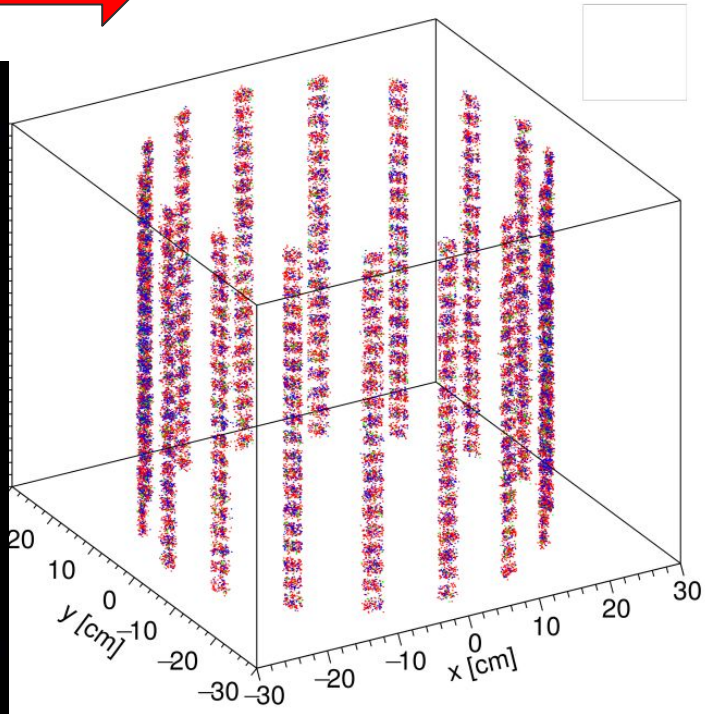
http://mpd.jinr.ru/



1. Diseñar la geometría en Geant4.
2. Elaborar las clases del miniBeBe en MpdRoot.
3. Transportar datos generados por UrQMD en el simulador MpdRoot.
4. Analizar la información que brinda la simulación.





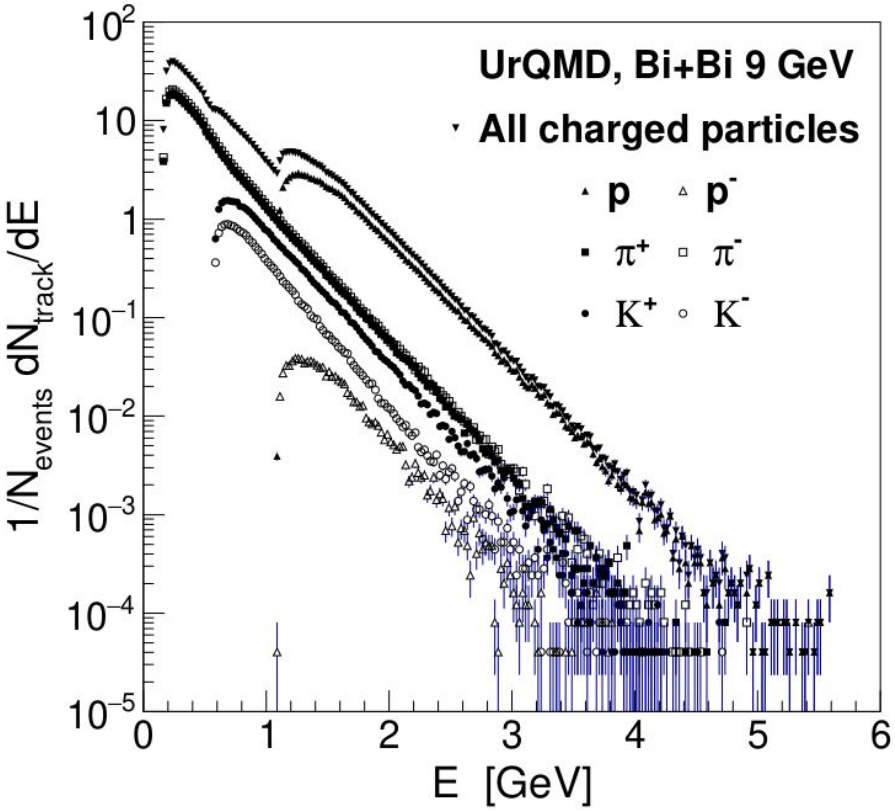


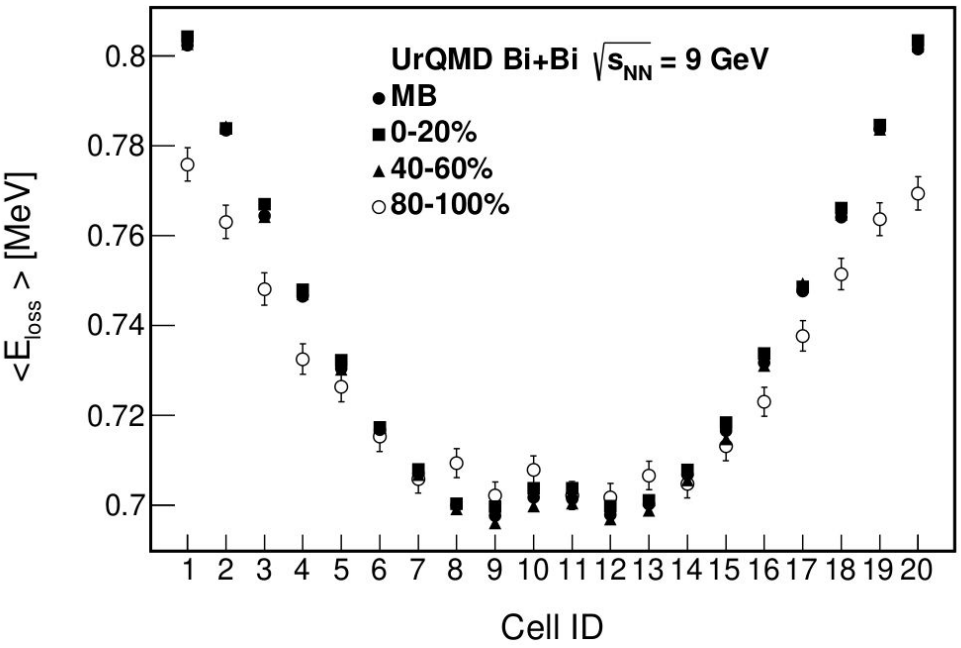
UrQMD

MpdRoot

Análisis

Análisis:


UrQMD, Bi+Bi 9 GeV
All charged particles
p
p-
π+
π-
K+
K-
1/Nevents dNtrack/dE
E [GeV]


UrQMD Bi+Bi √sNN = 9 GeV
MB
0-20%
40-60%
80-100%
<Eloss> [MeV]
Cell ID

The conceptual design of the miniBeBe detector at NICA-MPD

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[1] *Instituto de Ciencias Nucleares*

Muchas Gracias