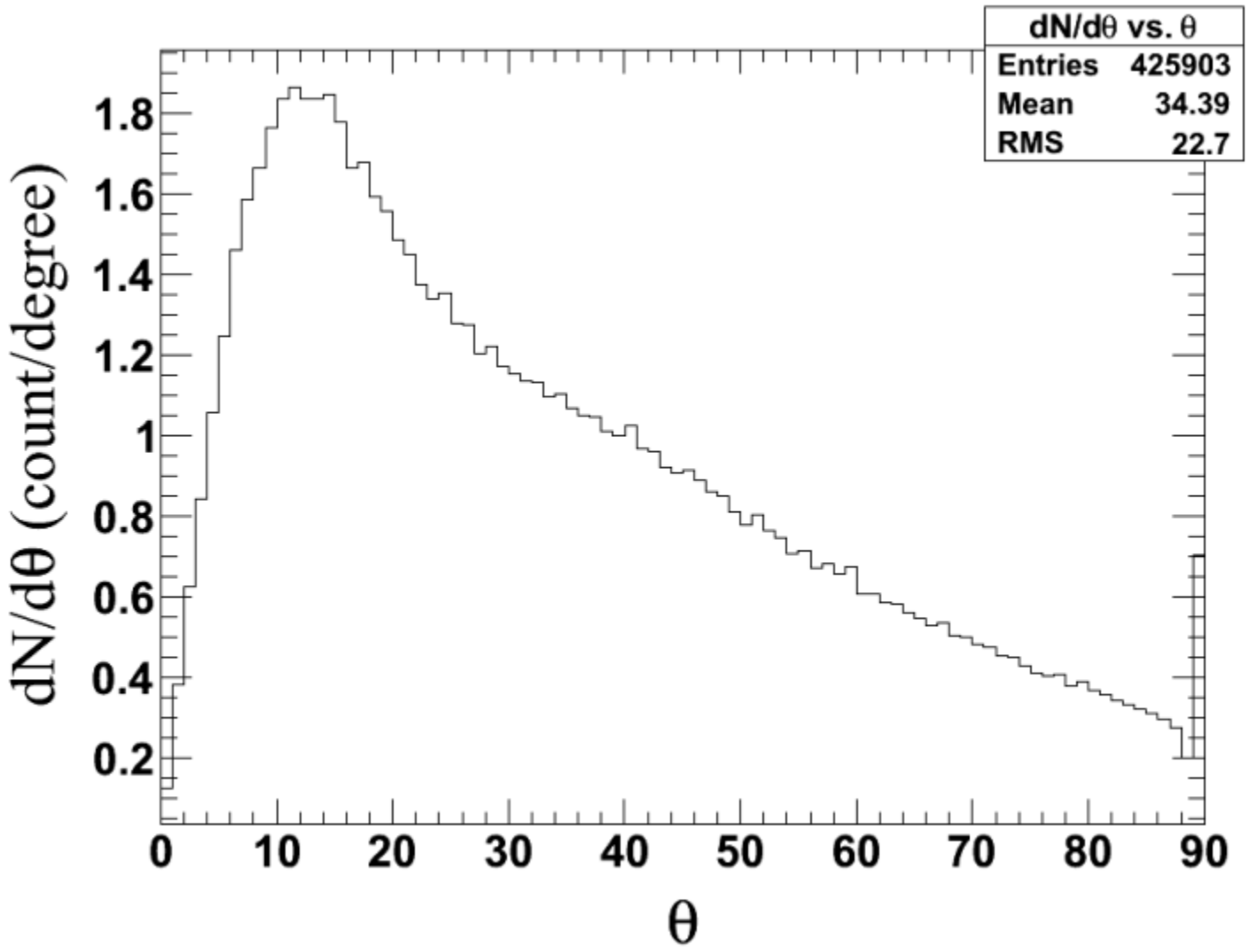
2012_11_05_LAMPS_Meeting

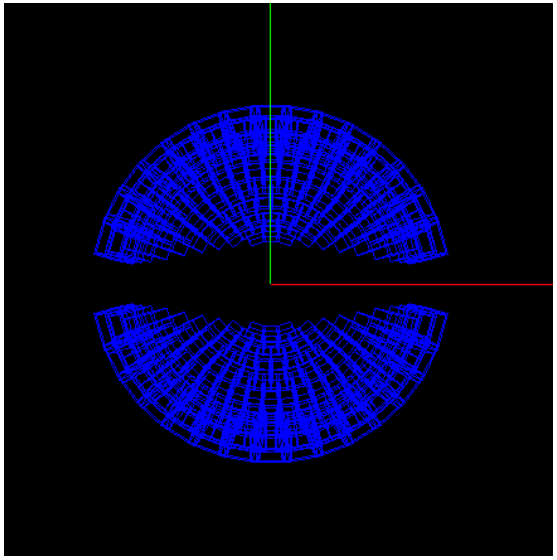
LAMPS-L design

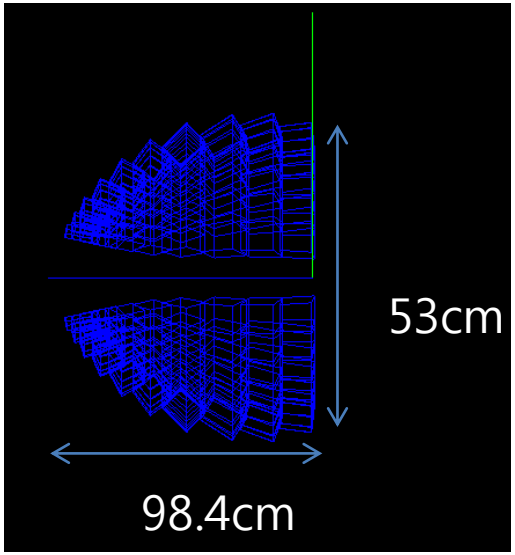
고려대학교
주은아

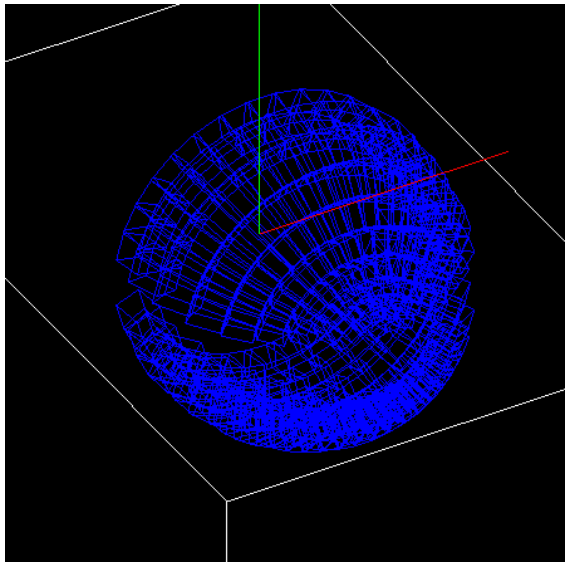
IQMD AuAu 150MeV
(charged particle only)



DayOne Design







- 10 rings
- N_{ch}(p, d, t, α, pi+, pi-) < 0.2
- 135 channels
- Thickness 10cm

CsI in HiRA

Particles with higher energy, that will punch through the 1.5 mm Si detector, are detected in the CsI(Tl) scintillation crystals. CsI(Tl) was chosen as the stopping material as it has reasonable energy resolution, can be machined to appropriate dimensions, is far less hygroscopic than other crystals such as NaI, and has a light output well suited for photodiode readout. The CsI(Tl) detectors used in HiRA were manufactured by Scionix. Figure 9 shows a schematic side and front view of the CsI(Tl) crystals used in HiRA. The trapezoidal crystals are 3.5 cm x 3.5 cm on the front and 3.9 cm x 3.9 cm in the rear with a thickness of 4 cm. Behind each crystal is a 3.9 cm x 3.9 cm x 1.3 cm light guide which has been attached using BC 600 optical cement. A 1.8 cm x 1.8 cm silicon photodiode was glued to the photodiode with RTV615 silicon rubber glue. Each crystal is individually wrapped in cellulose nitrate membrane filter paper. The four crystals are then wrapped together with Teflon tape. The front surface of the crystal array is covered with aluminized Mylar foil. The light guides were painted with BC-620 reflective paint.

fragments produced in the H(^{70}Br,d)^{69}Br reactions at E/A=65 MeV. This arrangement covers laboratory angles out to approximately 30° with a detection efficiency of 60–70%. Three other angular arrangements have been employed

Question

- Gamma detector의 재질은?