



Λ & K_s^0 reconstruction at BM@N in Run 6

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Data set



Magnetic field: 1200 ± 30 A (0.59 T)

Gas in GEM: Ar+CO₂

Beam / Target: C / Cu (2205k events), $E_{kin} = 4$ AGeV

Beam / Target: C / C (2050k events), $E_{kin} = 4$ AGeV

Beam / Target: C / Al (1730k events), $E_{kin} = 4$ AGeV

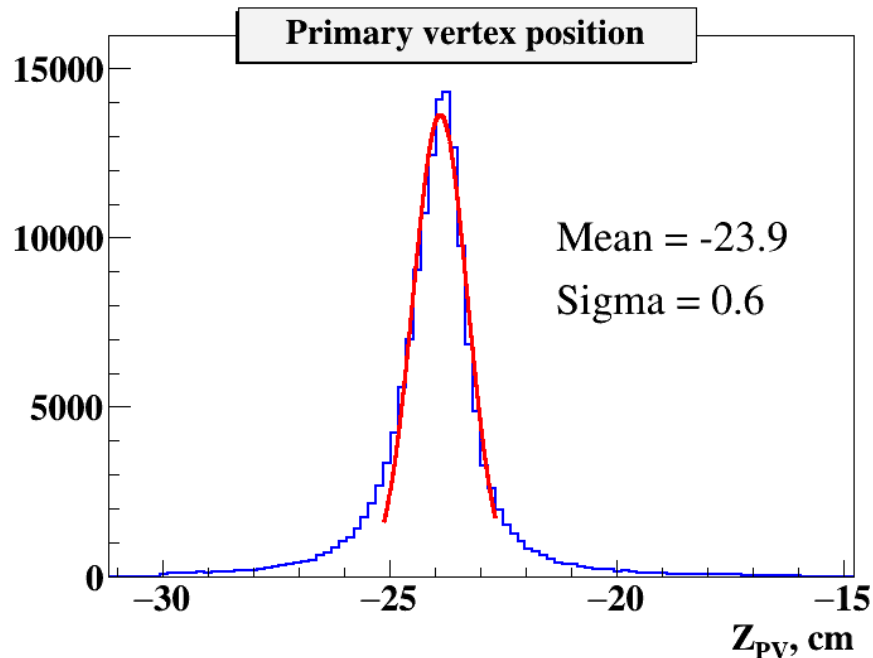
GEM position from target: 51-86-116-151-181-216 cm

Silicon detector position from target: 30 cm

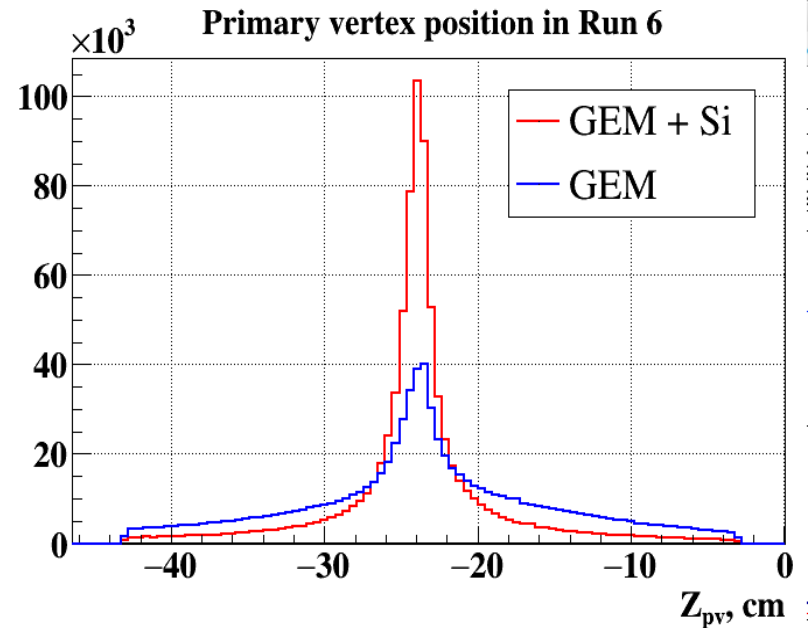
Primary Vertex reconstruction



Primary Vertex with Si detector & Pile-up suppression.

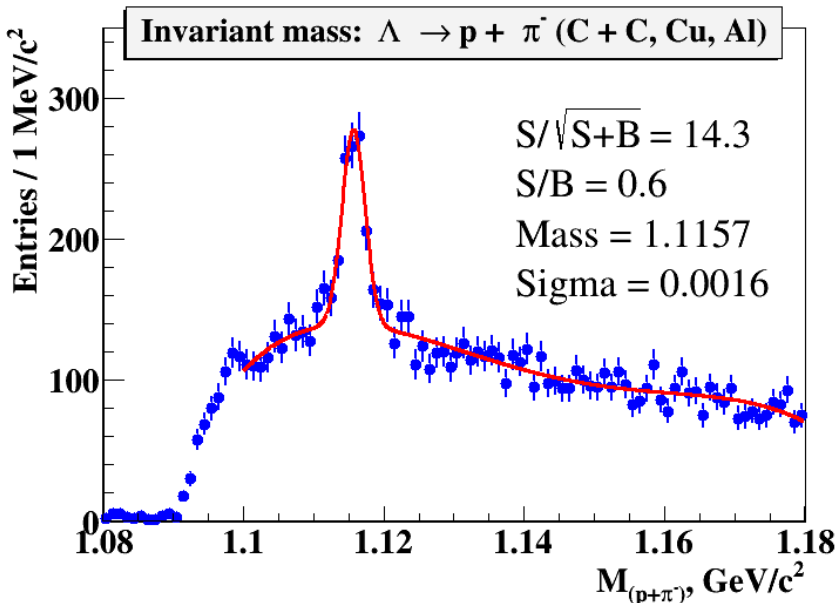
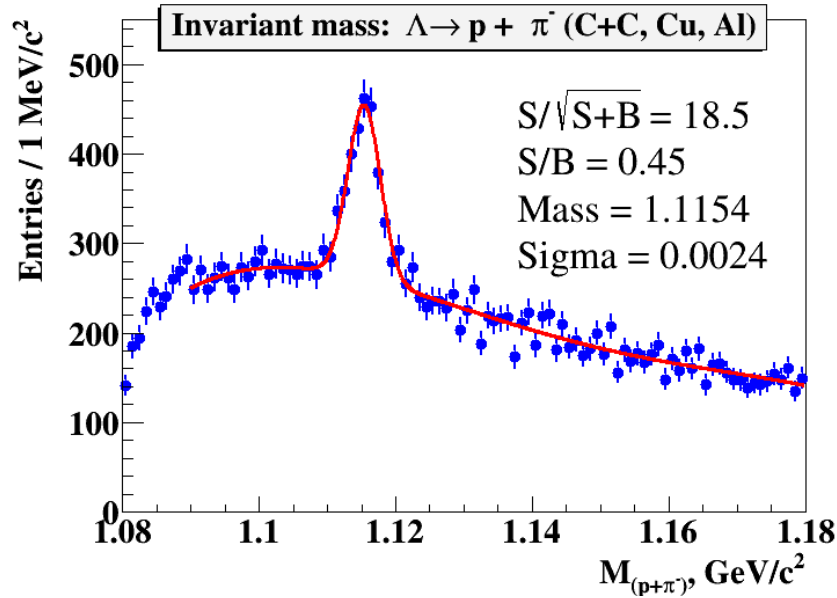


Primary Vertex with Si detector vs without Si detector.



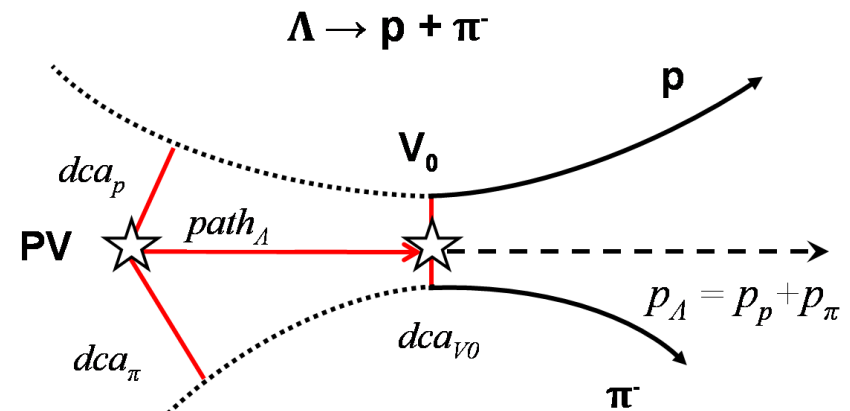
Использование кремниевого детектора позволяет не только уточнить положение PV, но и увеличить количество событий с Лямбда-кандидатами (≥ 1 положительный и ≥ 1 отрицательный трек) в 5-6 раз.

Λ reconstruction (C + Cu, C, Al)



Signal event topology defined selection criteria:

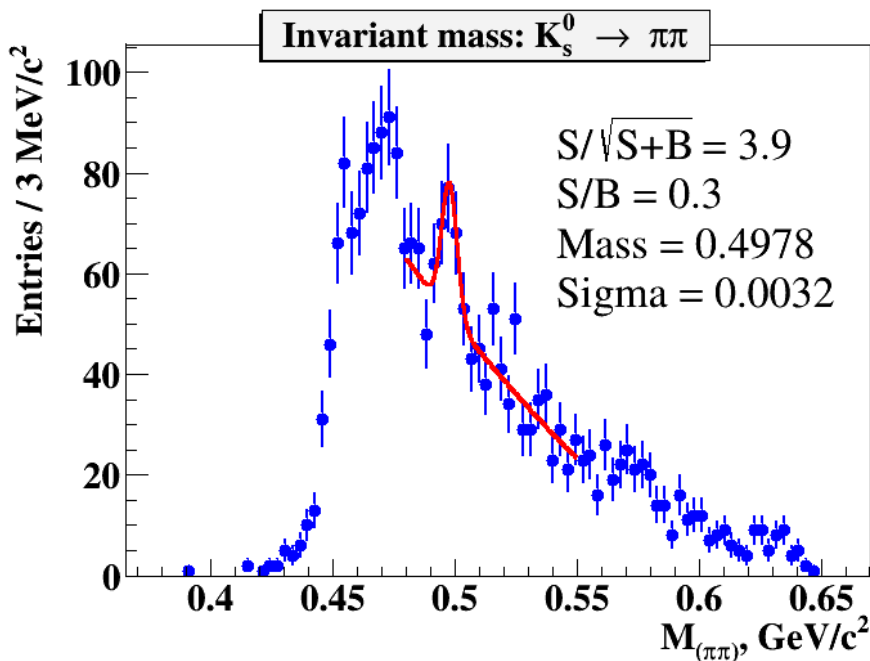
- ✓ relatively large distance of closest approach (DCA) to primary vertex of decay products
- ✓ small track-to-track separation in decay vertex
- ✓ relatively large decay length of mother particle



K_s^0 reconstruction (C + Cu, C, Al)



Preliminary



Thank you
for attention!

K_s^0 reconstruction (C + Cu, C, Al)



Preliminary

