Mass resolution and momentum resolution for Λ
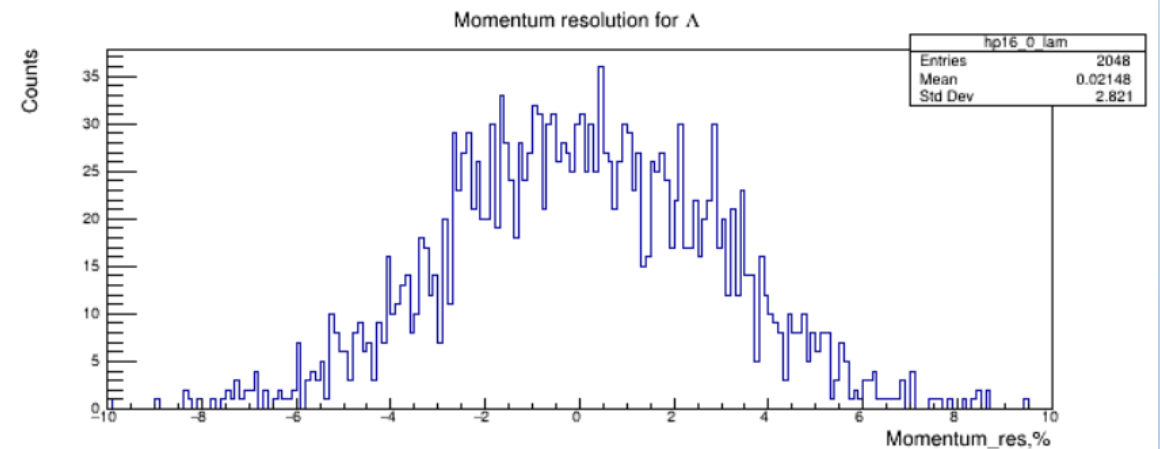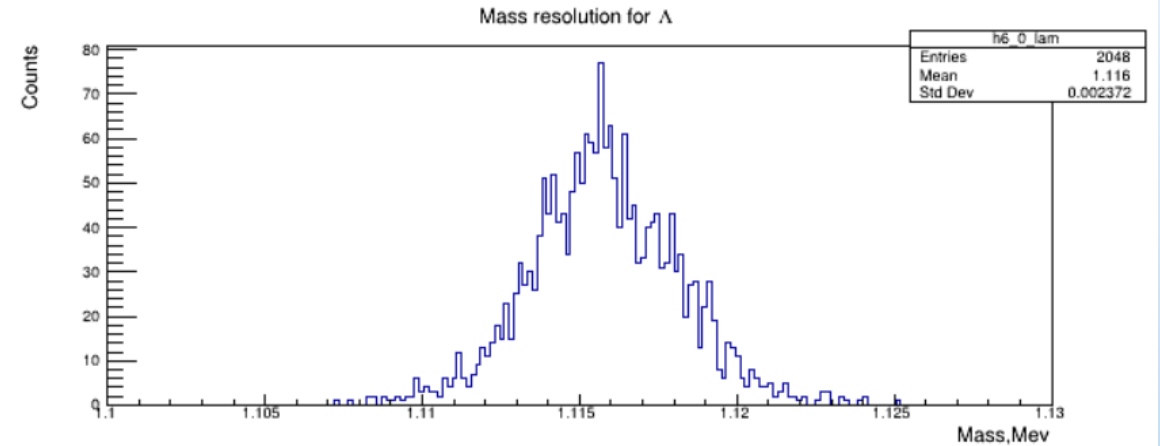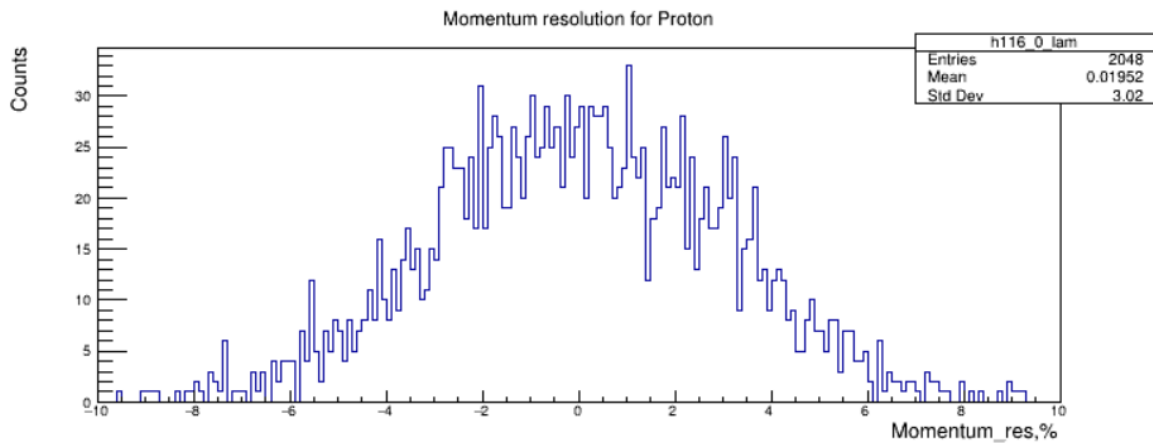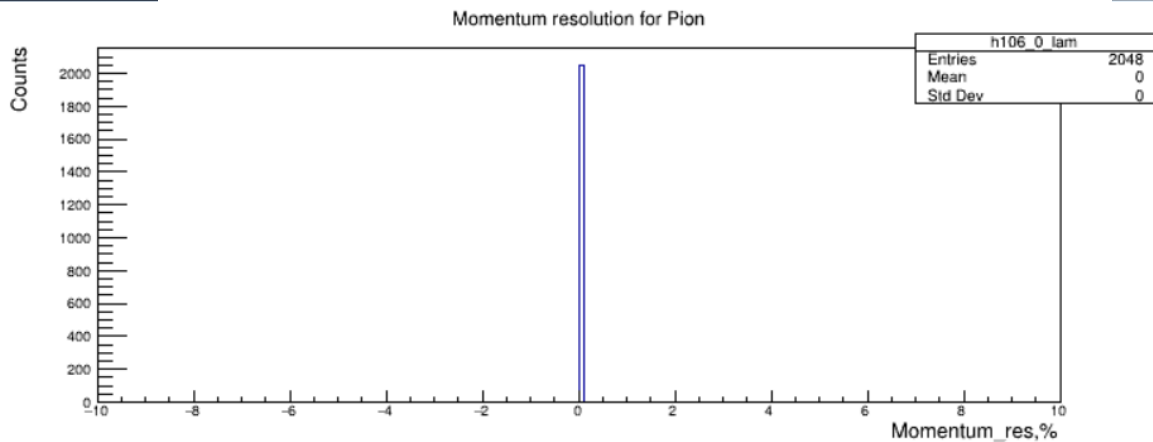
Khukhaeva Anastasia

07/12/2020

Issues

- The momentum resolution for Λ in dependence of momentum for proton and pion while the mass resolution for Λ is 2.5 MeV has been considered.
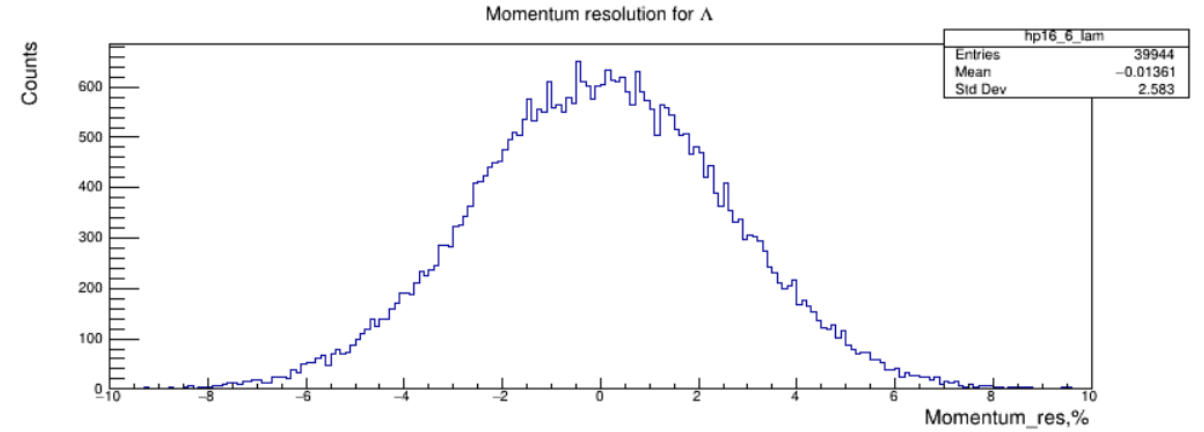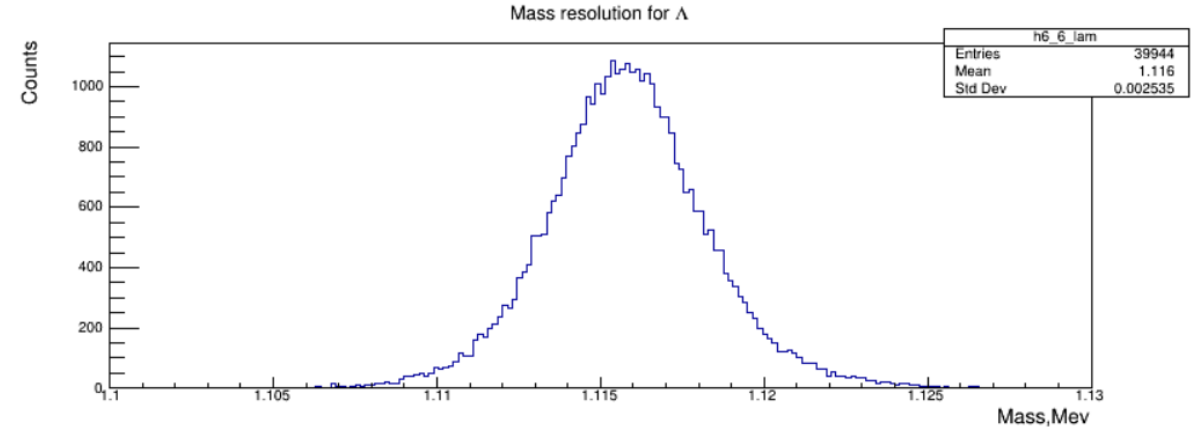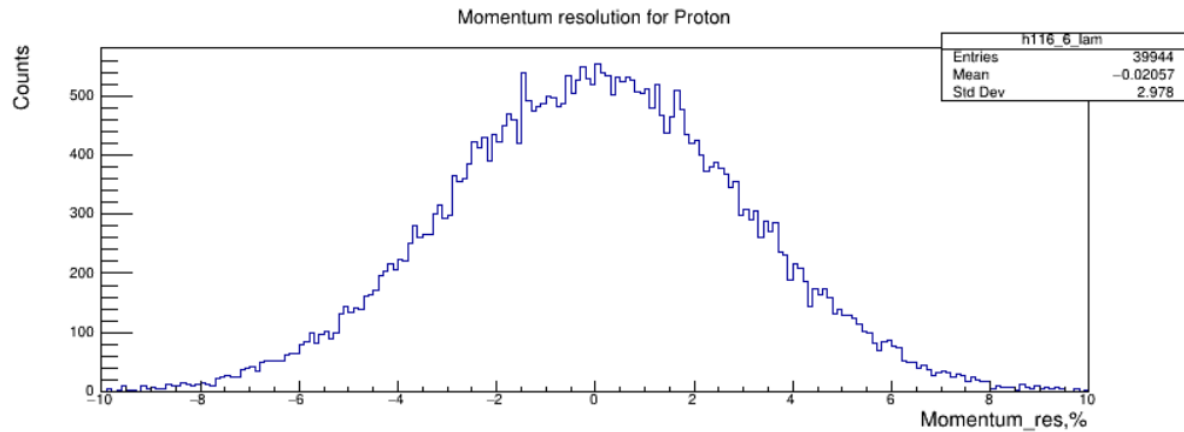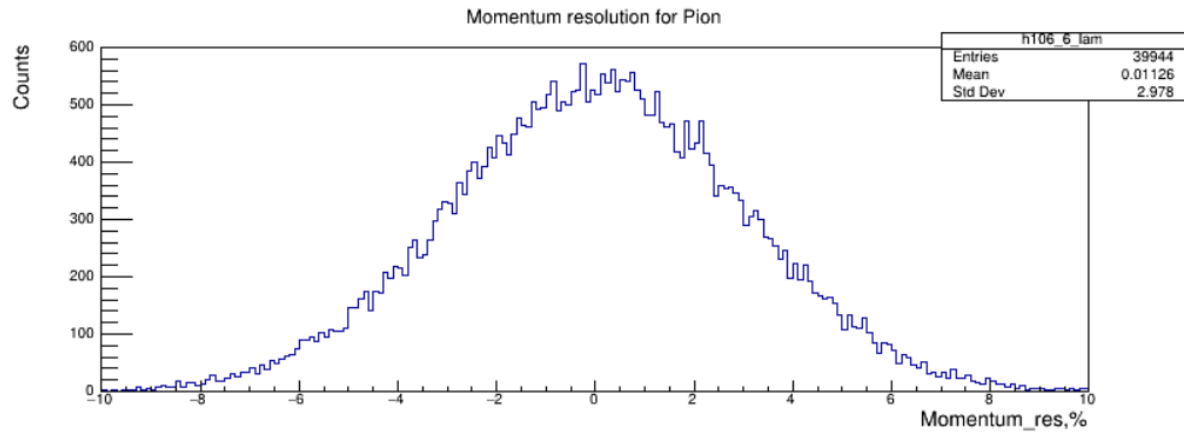
- Preliminary histograms have been obtained.

- Momentum smearing by 3% for proton and 0% for pion(< 0.2 GeV).
- Momentum resolution for Λ σ_Λ = 2.8% and for proton σ_p = 3 %
- Proc_ p = (p_smear – p_ideal)/ p_ideal
- Proc_ Λ =(Λ _smear – Λ_ideal)/ Λ _ideal

Momentum resolution for Λ
3% proton and 3% pion
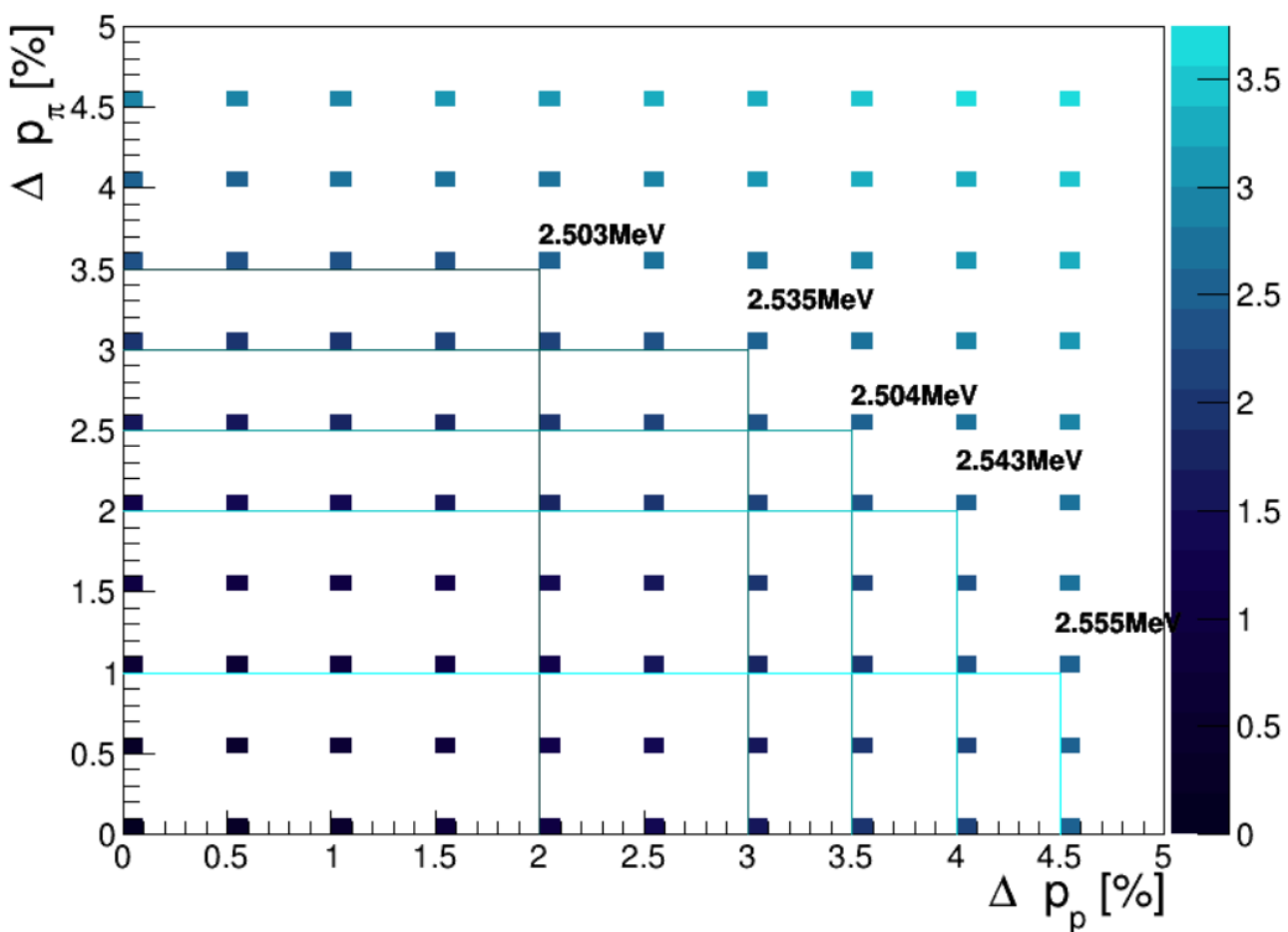

- Momentum smearing by 3% for proton and 3% for pion

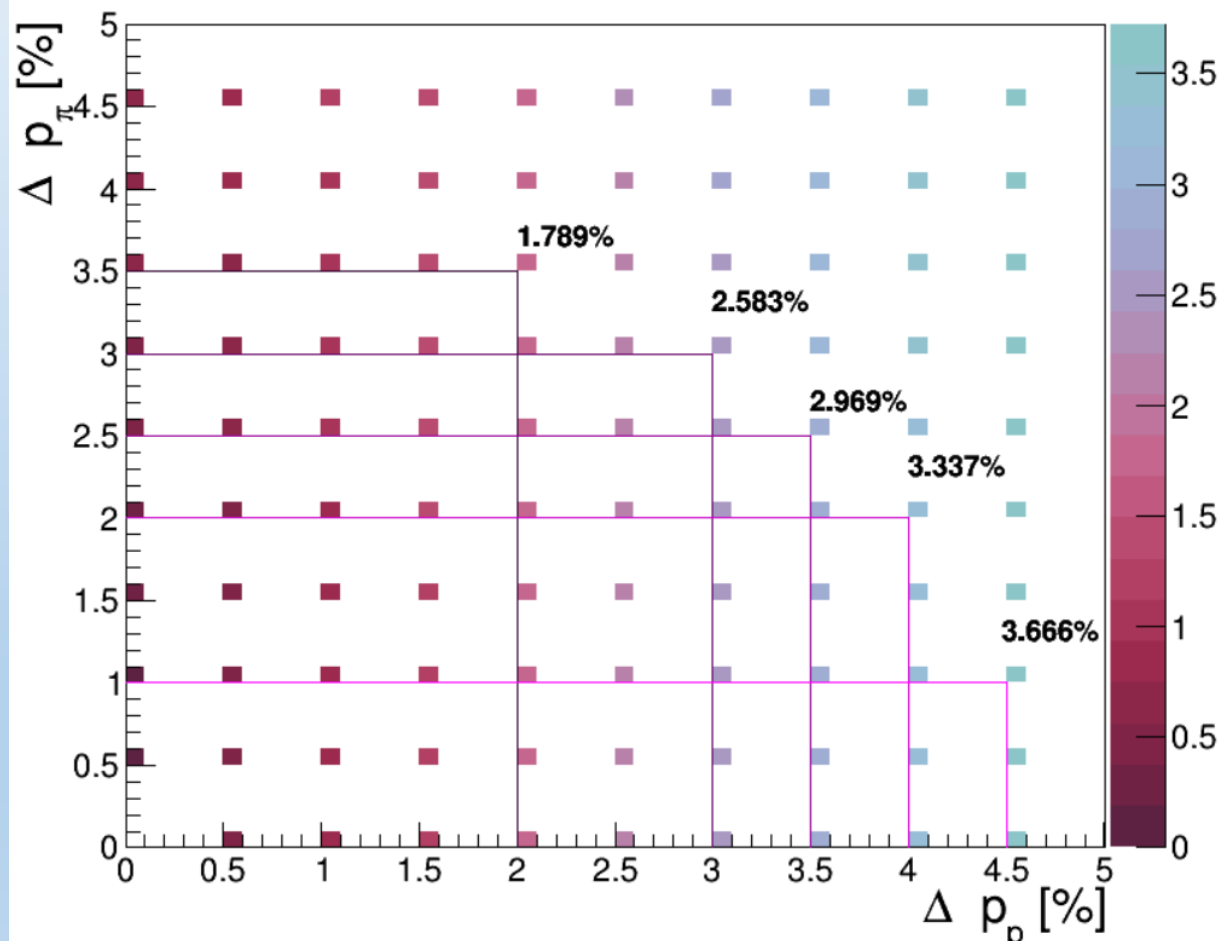- Momentum resolution for Λ σ_Λ = 2.6% and for proton σ_p = 3 %

- Proc_ p = (p_smear – p_ideal)/ p_ideal

- Proc_ Λ =(Λ _smear – Λ_ideal)/ Λ _ideal

Mass resolution for Λ

Momentum resolution for Λ

Results table

Momentum smearing for proton , %	Momentum smearing for pion , %	Mass resolution Λ , Mev	Momentum resolution Λ ,%
2 %	3.5%	2.503 +- 0.009	1.790 +- 0.006
3%	3%	2.535 +- 0.009	2.583 +- 0.009
3.5%	2.5%	2.504 +- 0.009	2.969+- 0.011
4%	2%	2.543 +- 0.009	3.337+- 0.012
4.5%	1%	2.555 +- 0.009	3.666 +- 0.013