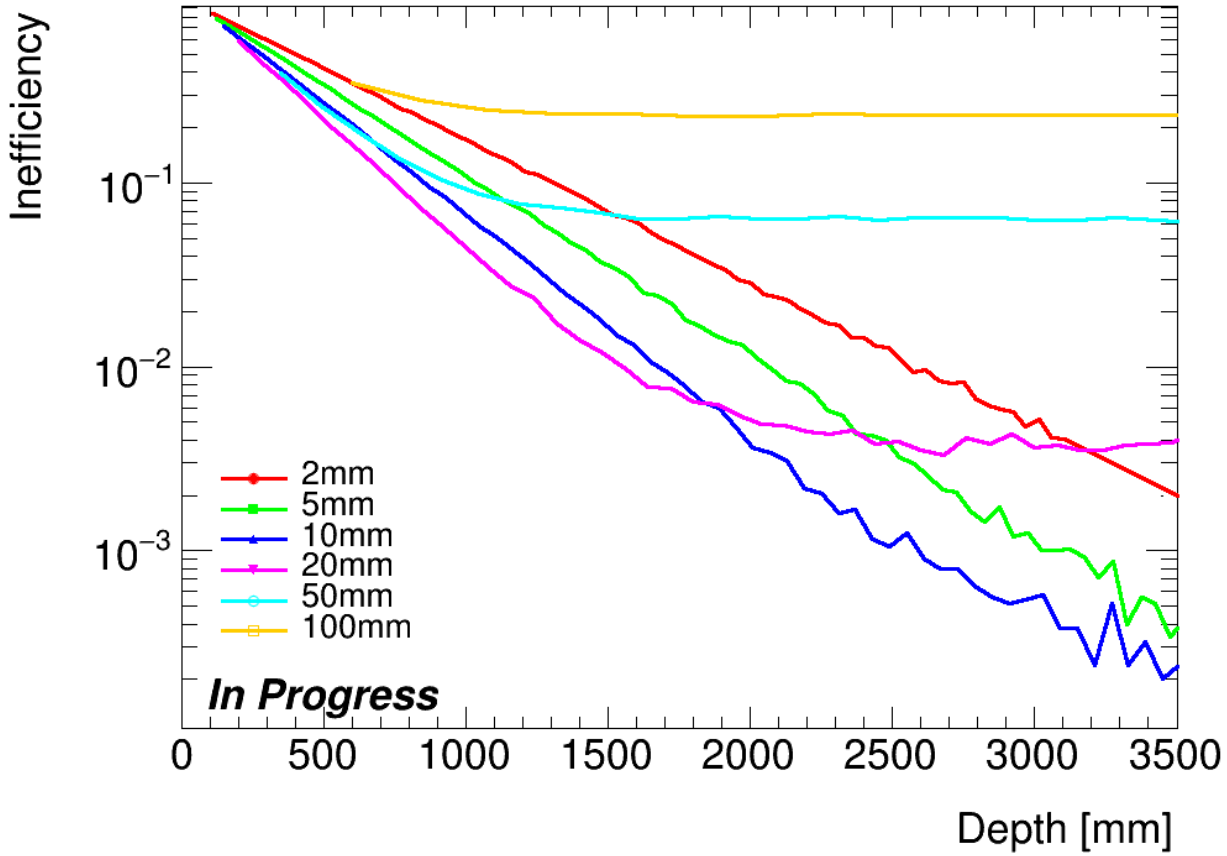
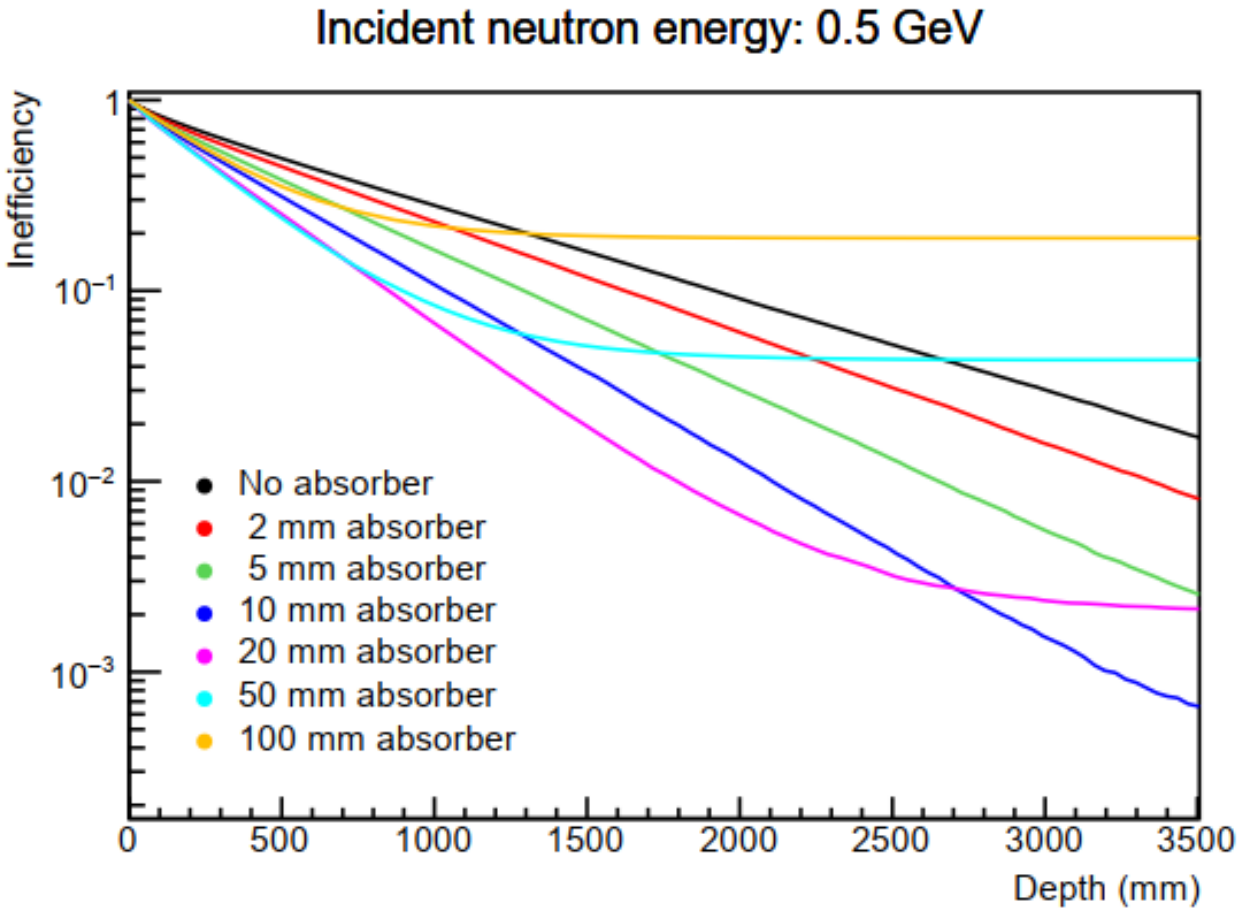
ITEMS & Setting

- Goal : Effect of absorber thickness on neutron veto inefficiency
- Methods : Test with 500 MeV / 2000 MeV incident neutron with different absorber thickness and HCal total depth
- Setting : 5e4 events per depth point per absorber thickness
- Cut : HCAL_E_Max_Cell->at(0)<2.

500 MeV Incident Neutron



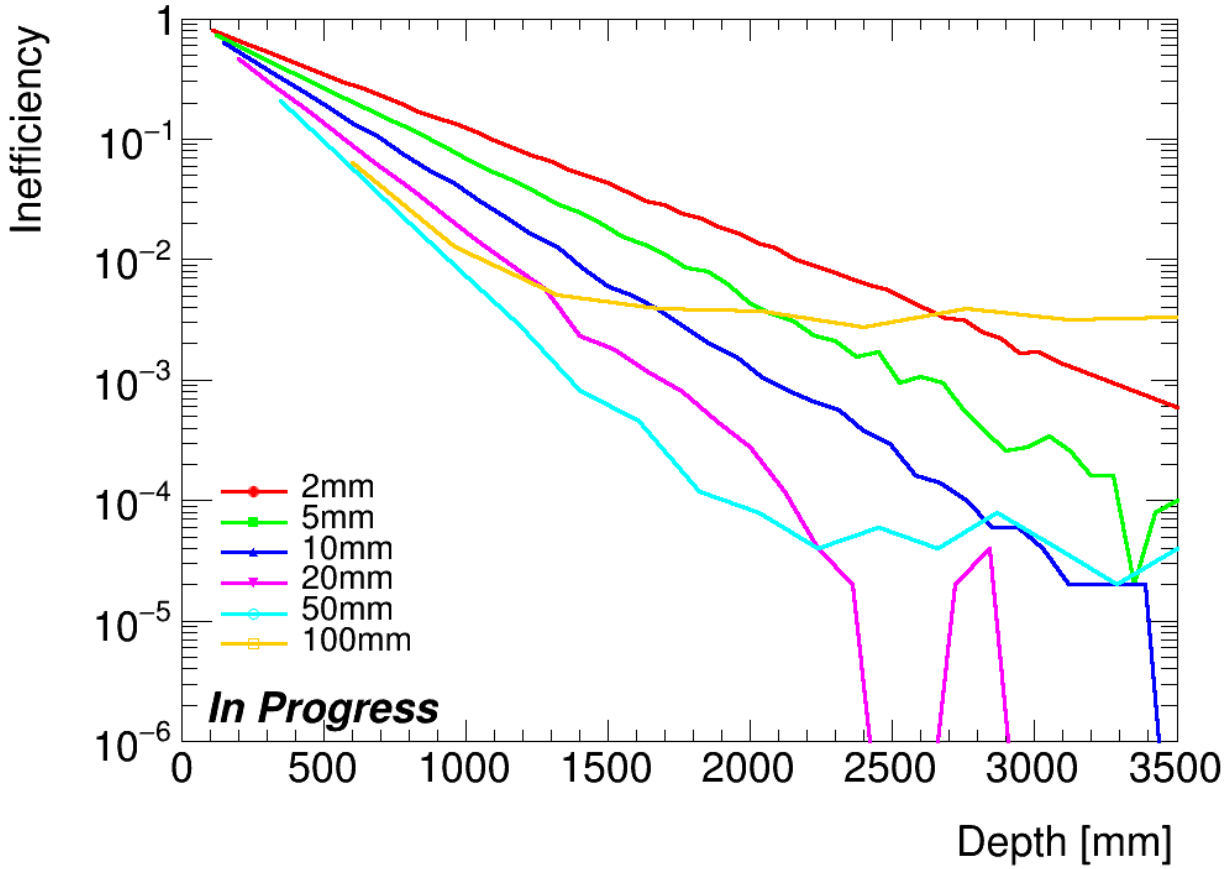
DS Framework



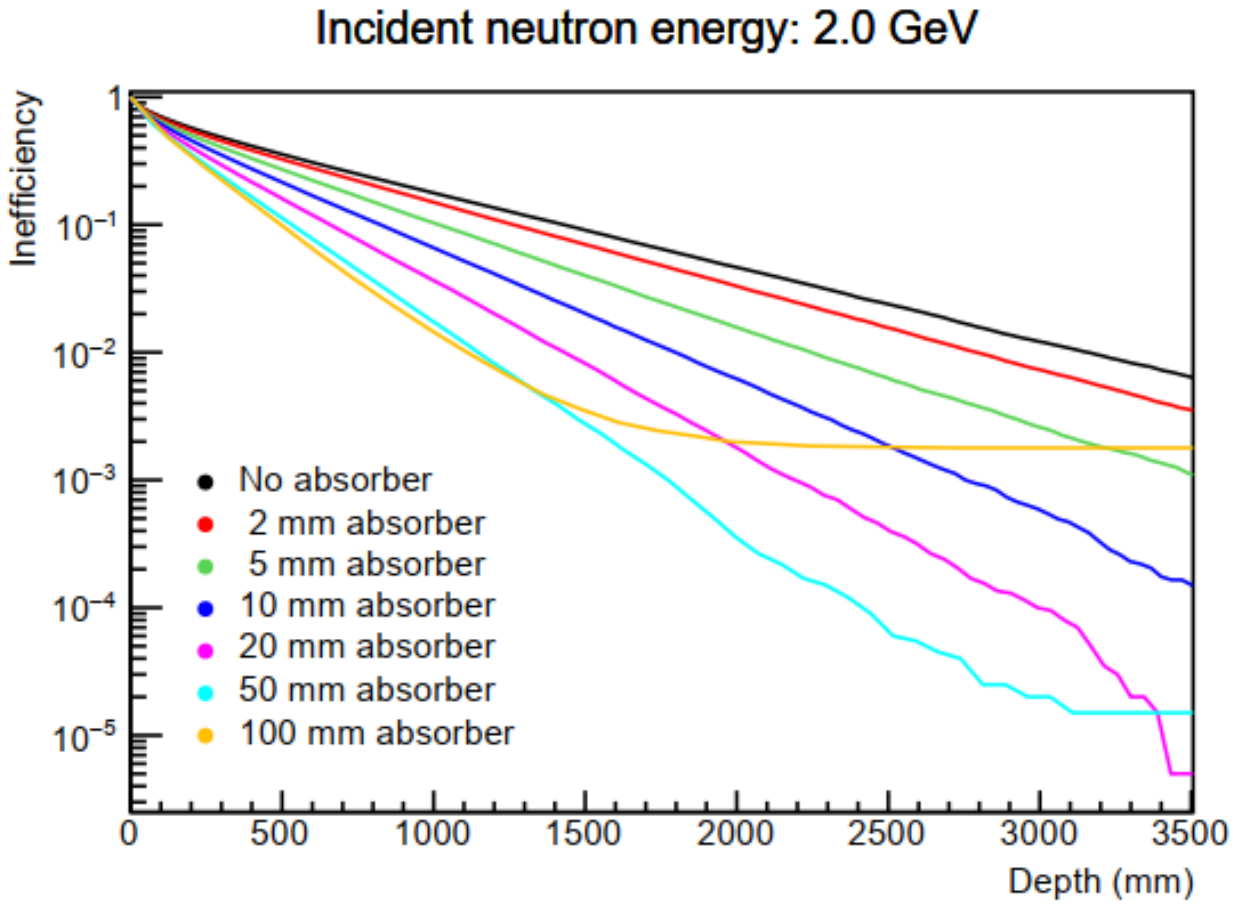
LDMX

https://arxiv.org/abs/1808.05219

2000MeV Incident Neutron



DS Framework



LDMX

https://arxiv.org/abs/1808.05219

Summary & Plans

- Similar trends are observed in our simulation with slightly better performance.

- Depth of ~3500 mm is sufficient (Depends on our requirements)

- Increase statistics to smooth the curve
- Study the veto inefficiency regarding different incident energies