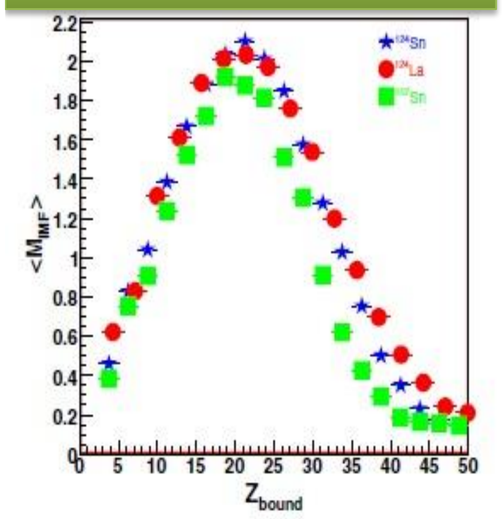
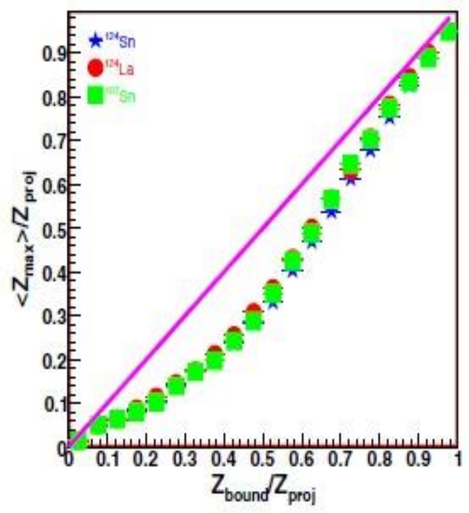
Effect of charge asymmetry on nuclear fragmentation at 600 MeV/nucleon

Navjot K. Dhillon and Sakshi Gautam

Department of Physics, Panjab University , Chandigarh - 160014

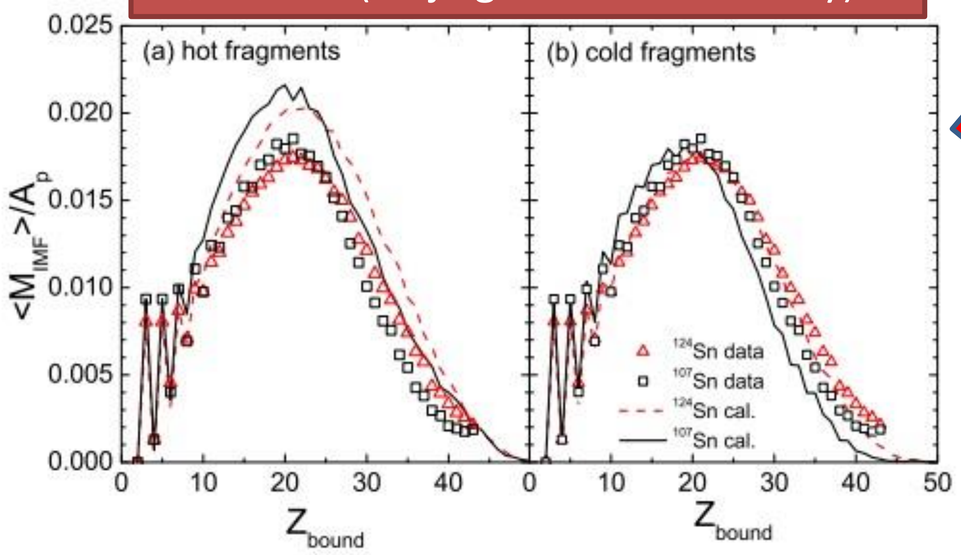
Motivation



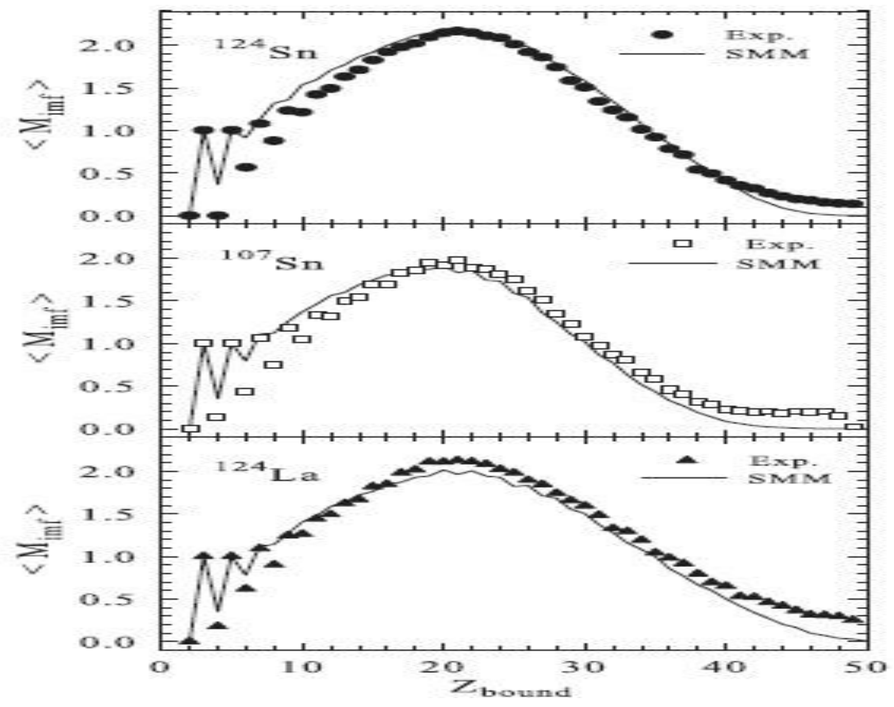


Data obtained from experiment performed at GSI with ALADIN spectrometer to study projectile fragmentation using beams of ^{107}Sn, ^{124}Sn, ^{124}La and ^{nat}Sn as target at 600 MeV/nucleon.

IQMD-BNU(Beijing Normal University)



Statistical Multifragmentation Model (SMM)

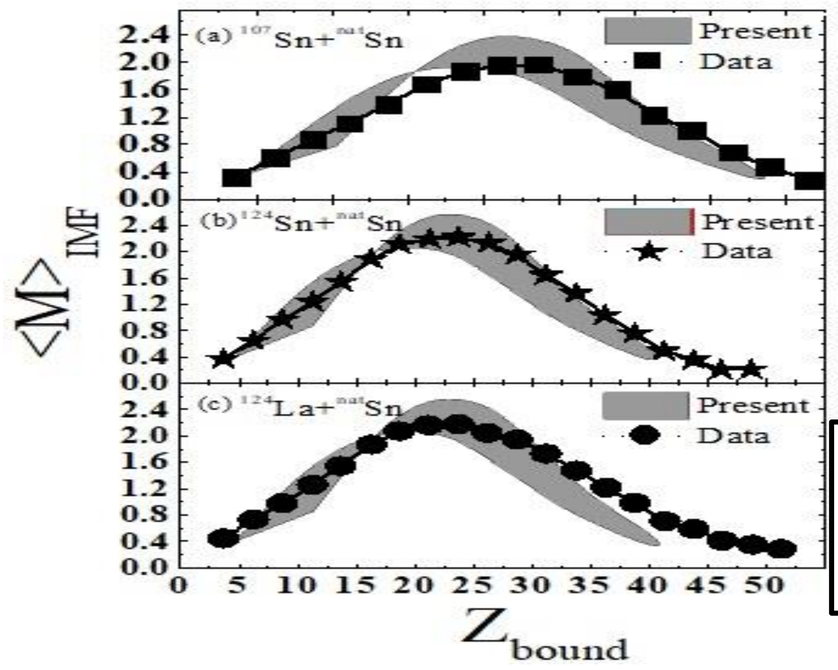


W. Trautmann *et al*., Nucl. Phys. A **787**, 575 (2007), R. Ogul *et al*., Phys. Rev. C **56**, 1972 (1997), J. Su *et al*., Phys. Rev. C **98**, 014610 (2018).

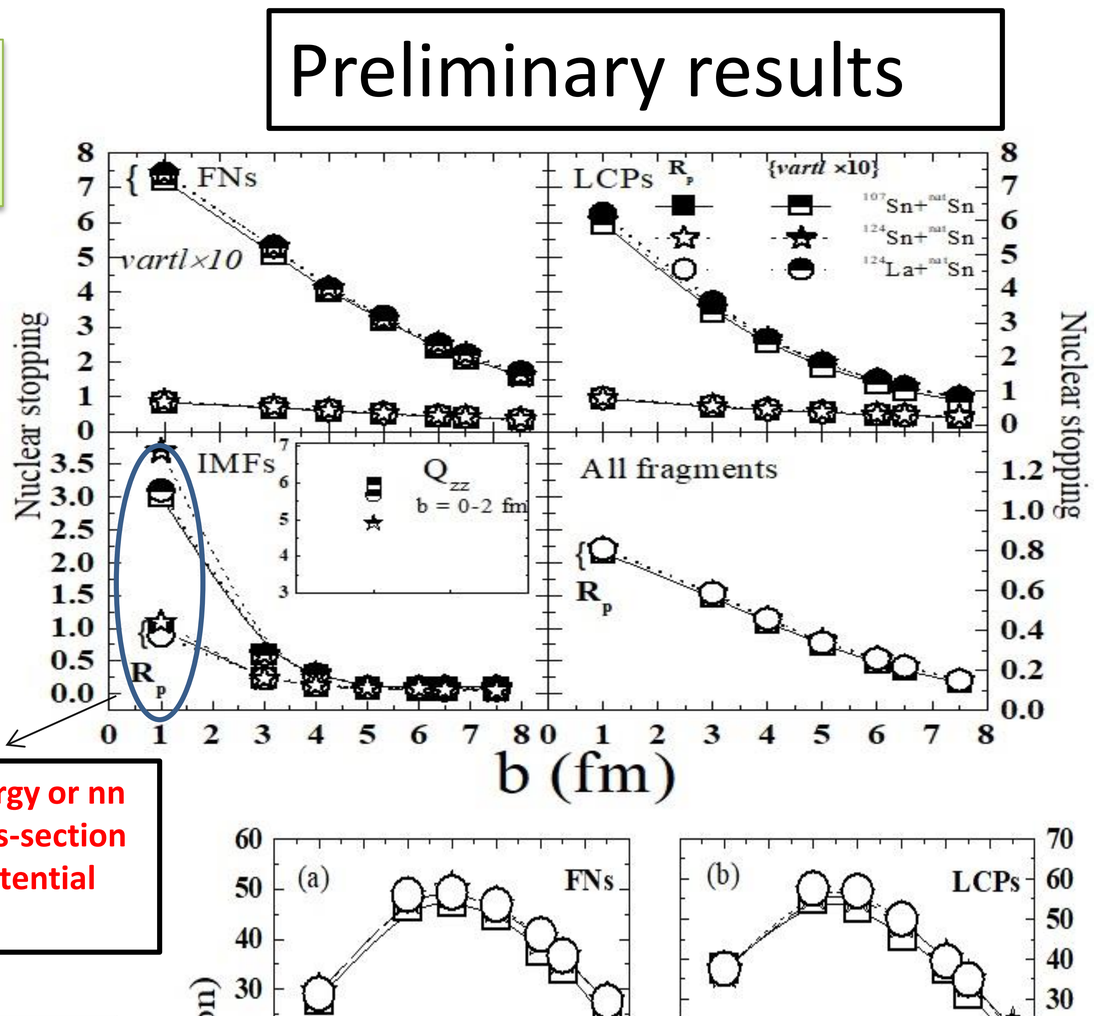
Aim: To disentangle the isospin effects among isobaric and isotopic pairs

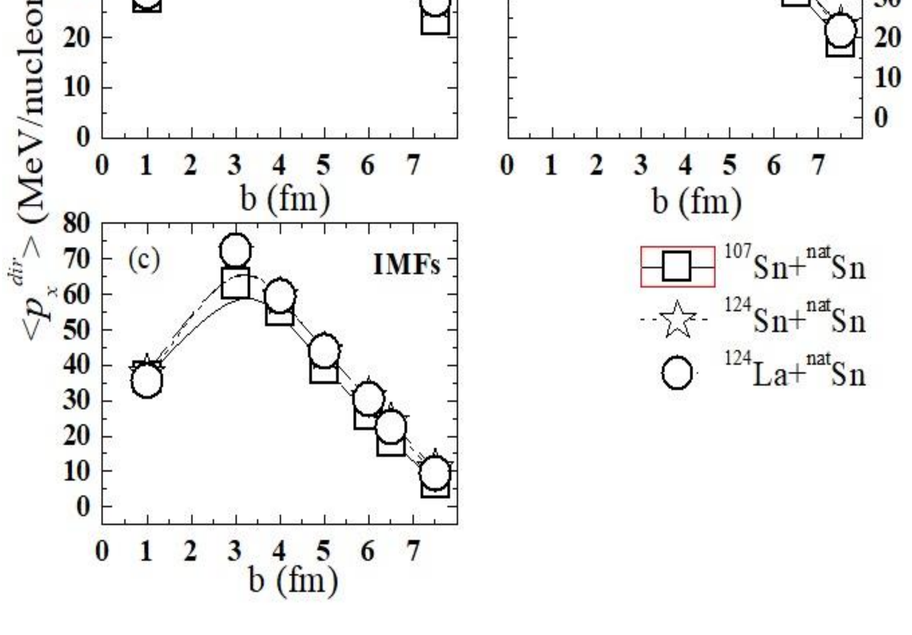
Preliminary results

IQMD* Model



Symmetry energy or nn scattering cross-section or Coulomb potential ?????





<u>Conclusion:</u> Observables like yield , flow and nuclear stopping of various fragments are probed to disentangle isospin effects at 600 MeV/nucleon. It was observed flow and yield is dominated by system total colliding mass whereas stopping of IMFs for isobaric pair differs at central collisions. The reason for this difference is still under investigation. Further, we are studying the transverse and elliptic flow of neutrons and protons to inspect the isospin sensitivity at high energy.

*C. Hartnack *et al*., Eur. Phys. J. A **1**, 151 (1998)