

Tuesday Discussion

July 16, 2013

- FRIB experiments: to measure matter radii and or charge radii for unstable nuclei
- HI sym E observables at low density
- Warm nonuniform matter at low densities

Radii of exotic nuclei

- measured total cross sections for sodium isotopes up to Sodium³² (skin \sim .3-.4 fm) and Magnesium isotopes.
- electron scattering to get charge radii
- isotope shifts of atomic spectra give difference in charge radii
- theorists should investigate reach of different isotopes to determine L from matter radii and or charge radii.
- role of deformation?
- look at correlation of matter radii or skins vs L for different A ranges.

proton nucleus elastic scattering

- Nickel 70 experiment at GSI worked and measured beyond first dif minimum
- How far out in scattering angle is necessary to get matter radii? What beam intensity is needed?
- Look at neutron rich Calcium isotopes and normalize to CREX parity violating measurement for ^{48}Ca .

mass measurements and L

- How sensitive are new neutron rich mass measurements to S, L. How neutron rich does one need to get before one has enough lever arm to get new information?
- Separation energies at say 1 MeV instead of drip line at 0 MeV
- L dependence of r-process masses and path?