Topic II: Physics of light exotic nuclei

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STUDIECENTRUM VOOR KERNENERGIE
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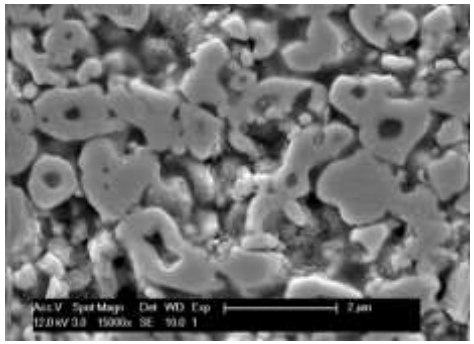
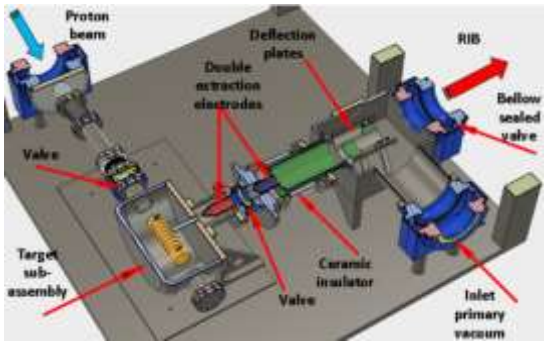
I. Cherednikov – ``*Identified applications of ISOL@MYRHHA facility in Phase 1*´´

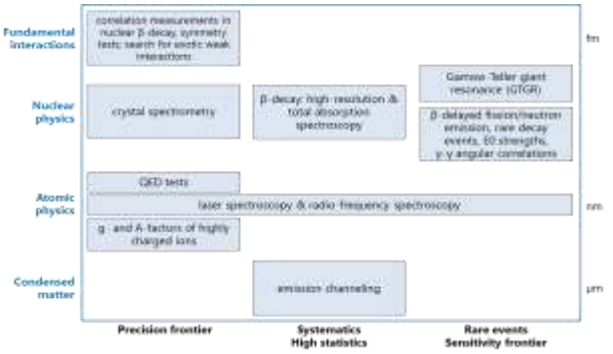
MYRHHA – an Accelerator Driven System providing up to 600 MeV protons & intensities of up to 4 mA

Phase 1 (2016-2024): 100-MeV accelerator + ISOL Target Station

- 100 MeV protons from LINAC on a target, 1^+ ion source & low-resolution mass separator
- Ideal for testing high power ISOL technology including high-intensity ion source, new target materials for long term, high power operation
- Physics focus on long experiments, precision frontier, sensitivity frontier, high stats



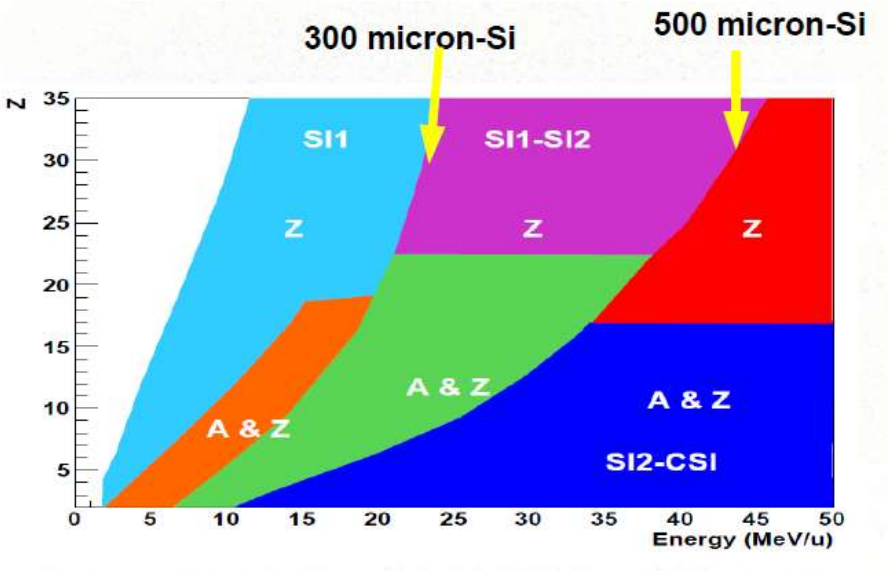




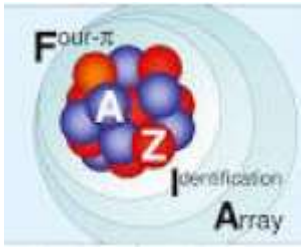
Topic V: Going to the limits!

G. Casini – ``*Nuclear fragment production and identification at Fermi energies*´´

FAZIA – a ”moveable” charged-particle array – nuclear EOS, reaction channels, studying how hot fragments form and decay in the nuclear medium



- Large acceptance, charge Z and mass A even for heavy fragment
- High dynamic range (energy of ejecta)
- Low detection and identification thresholds
- System of telescopes (CsI, Si…)

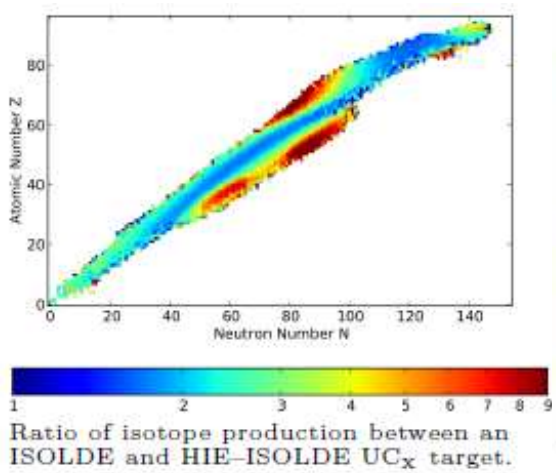


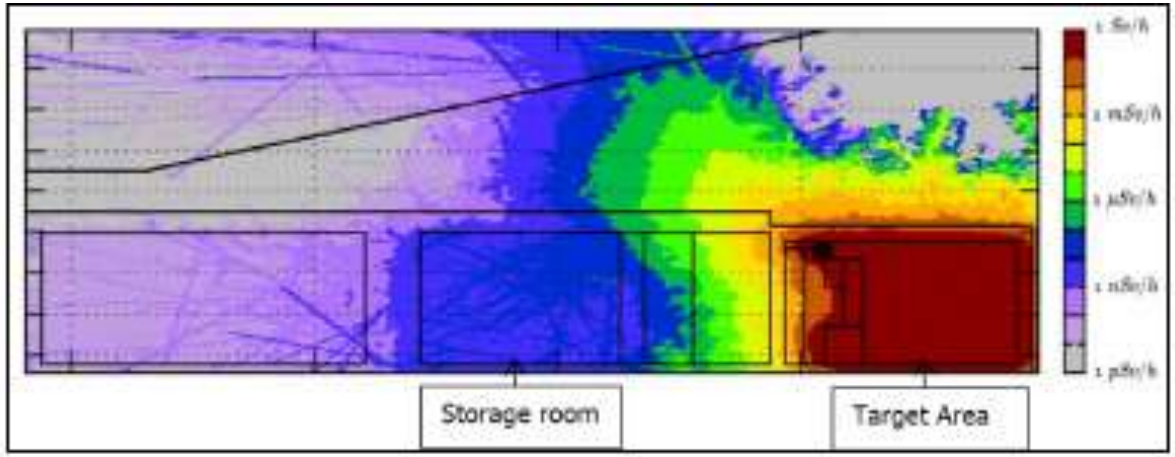
- Simple connection to readout electronics
- Moveable array
- FAZIA at LNS-INFN
- FAZIA at GANIL (2017-2021) coupled to INDRA

Topic X: Applications – very important!

R. Augusto – ``*CERN-MEDICIS, an overview*´´

CERN-MEDICIS – the ”lost protons” of ISOLDE for secondary target irradiation





- 90% of the protons delivered to ISOLDE are ”dumped” – can be used for secondary target irradiation – isotope collections for R&D in life sciences and medical applications
- FLUKA Monte-Carlo particle transport and interaction code used at every stage of the facility design
- Target design, isotope inventory, leaks and shielding flaws (proximity of HIE-ISOLDE)
- Extend such modeling to EURISOL-DF