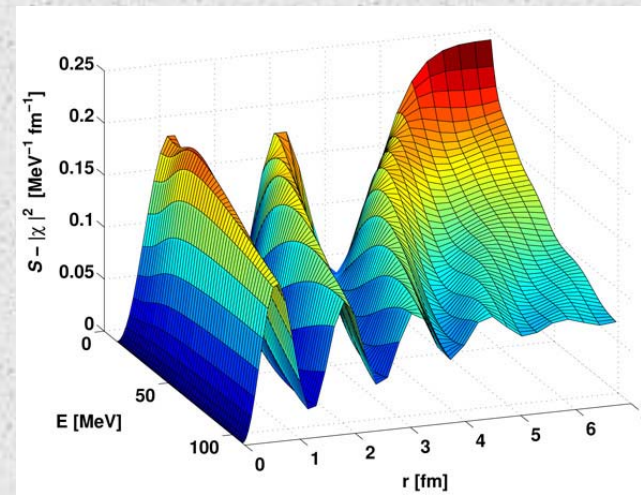
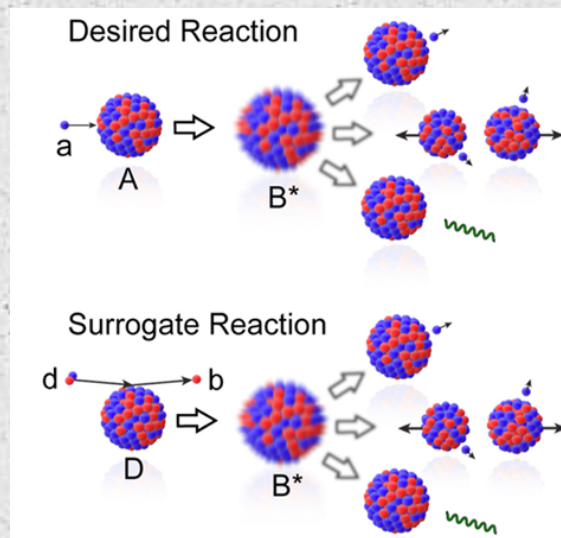


INT Workshop INT-15-58W

Reactions and Structure of Exotic Nuclei

March 2 - March 13, 2015



Why and why now?

Goal is to forge deeper links between nuclear reactions and nuclear structure theory. Researchers will explore, discuss and debate current state-of-the-art methods in understanding and describing nuclear structure and reactions as well as their inextricable links.

Summer 2014:

Town Meeting in College Station of
Low Energy Nuclear Physics and Nuclear Astrophysics Communities

January 2015:

White Papers: <http://www.lecmeeting.org/>

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First paragraphs:

3.2.3 Nuclear Reaction Theory

The understanding of the properties of nuclei and the reactions employed to study them is essential for a complete description of nuclei. Over the last decade models for nuclear reactions have been refined, and new avenues for describing reactions are being pursued in both the reaction and the structure theory community. Several avenues for extending *ab-initio* structure calculations into the continuum regime are currently being explored and theoretical as well as computational effort will be directed towards fully exploiting those approaches.

Reaction theory is needed to describe elastic and inelastic scattering processes, the fusion of nuclei, as well as the transfer of a nucleon or clusters of nucleons between projectile and target. The complexity of the problem usually requires eliminating possible reaction channels from explicit consideration by introducing effective interactions. The underlying dynamics of the remaining degrees of freedom can then be properly treated with methods of few-body dynamics.

What do we need to do to progress the field?

What are key experiments?

Natural synergies in the reaction and structure communities?

New collaborations?



Work on a path forward
&

Enjoy!