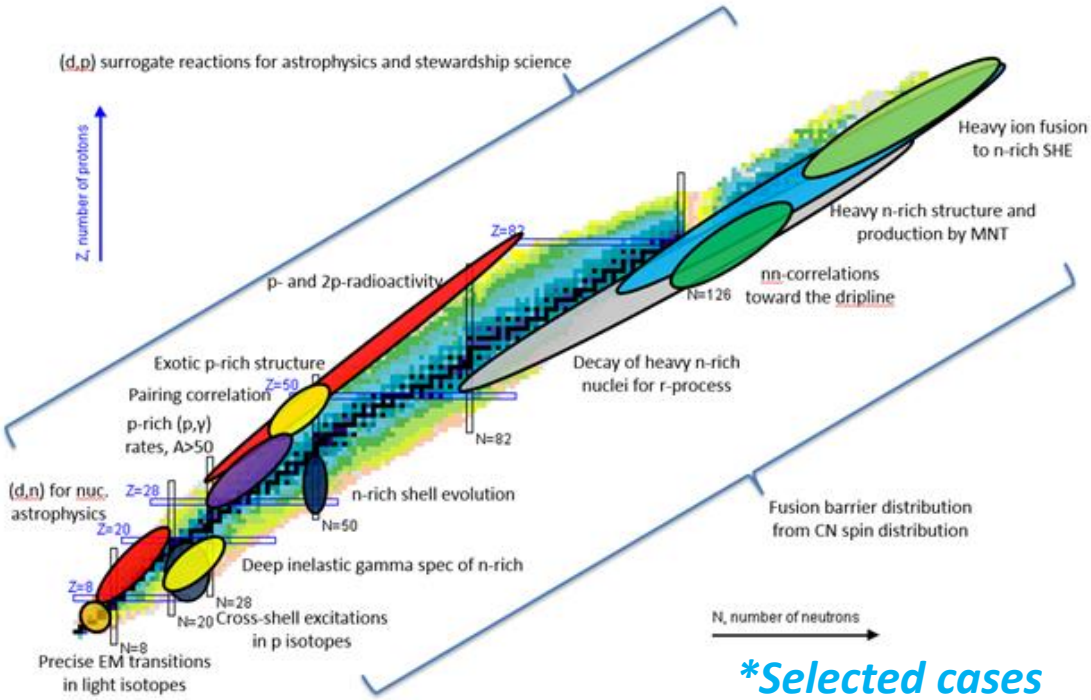
# ReA12 Recoil Separator WG Progress since last LEC in 2013

- Physics case for a recoil separator formulated
  - Community interest questionnaires collected (Winter – Spring 2014)
  - Text, figures, references for whitepaper collected (Summer 2014)
- Comparison of proposed systems and selection based on the needs of the physics cases
  - Writing workshop in June 2014 – recommended ISLA
  - Separate working group meeting in July 2014 – selected ISLA
- NSAC Long Range Plan Town Hall Meeting in August 2014
  - ISLA whitepaper released before the Meeting (linked from lecmeeting.org).
  - Full ReA12 Upgrade included as explicit recommendation
- Updated whitepaper published in hardcopy in Spring 2015 (ask for one)
- SBIR grant to develop and evaluate models of novel dipole designs for ISLA – preliminary work completed July 2015
- More funding is needed to move from conceptual design to complete a true preliminary design of ISLA.

# ReA12 Recoil Separator WG Physics case overview (selected)

- Precise measurements of electromagnetic transitions.
- Transfer studies of shell evolution, pairing and n-n correlations.
- Astrophysical processes: r, rp, vp, cosmochronometers, etc.
- Multi-nucleon transfer with FRIB beams to n-rich SHEs to work toward the island of stable heavy elements.
- Fusion evaporation with FRIB beams, esp. to n-deficient species (p- and 2p-radioactivity)
- And more… including a majority of the NSAC RIB taskforce benchmarks




*Selected cases

***ReA12 with FRIB beams will make these studies possible, but only if we have a flexible spectrometer to remove unreacted beam and identify the products. ISLA can meet these needs. A strong community supports ISLA construction.***

# ReA12 Recoil Separator WG
# Next steps for ISLA

- Organizational and presentation aspects
  - Website - FRIBUO
  - Working group name update to reflect selected system concept
  - Working group membership – keep a more formal list.

- Continue to make and improve the case for ISLA and search for funds to start the preliminary design of ISLA as soon as possible.
  - Proposals to DOE-SC-NP for experimental equipment to be located at FRIB must be submitted by FRIB itself based on a ranked list (produced by the FRIB SAC).
  - In the context of other projects and likely—but currently non-public—prioritizations, it may be difficult to secure DOE funding for ISLA before FY 2017. Proceed in consultation with:
    - FRIB direction
    - FRIB SAC
  - The success of ISLA depends on the full energy upgrade of the reaccelerator at NSCL/FRIB.

- Work with the ReA12 upgrade effort to support the science case and speed approval of the full ReA12 upgrade. Two ways:
  - Circulate a draft letter endorsing strongly the full ReA12 upgrade
  - Add Appendix to Whitepaper to layout physics cases of ISLA by ReA Energy
  - Consider coordinating on a statement in the ReA12 whitepaper about need for spectrometer
  - Individually contribute to the ReA upgrade effort (Hiro Iwasaki @ NSCL)
    - By Sep. 30 – ReA upgrade whitepaper physics cases (one-page documents)
    - By Nov. 30 – Whitepaper draft to be distributed to colleagues
    - Early 2016 – Whitepaper should be finalized
    - Funding proposal [to NSF] is nominally independent of this schedule.