

ReA energy upgrade + ISLA ReA12 recoil separator joint WG session

- **ReA energy upgrade Conveners:**

A.Wuosmaa (U. of Connecticut), G.Rogachev (Texas A&M)

B.Kay (ANL), H.Iwasaki (NSCL/MSU)

- **ISLA ReA12 recoil separator Conveners:**

D.Bazin (NSCL/MSU), K.Gregorich (LBNL), D.Seweryniak (ANL)

M.Amthor (U.of Bucknell), W.Mittig (NSCL/MSU), J.Nolen (ANL)

Speakers:

“ReA3 status: where we are, where we are going” Antonio C.C. Villari (NSCL)

“ISLA update” Daniel Bazin (NSCL)

“Recent experience with ReA3 beam time structure”

Grigory Rogachev (TexasA&M)

“Solenoidal spectrometer” Ben Kay (ANL)

“A Update on the Physics Division Target Laboratory” John P.Greene (ANL)

“Layout considerations of ReA energy upgrade” Hiro Iwasaki (NSCL)

“final discussion”

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ReA3 update

- Performance (efficiency) has been tested and improved for the gas cell, the beam cooler buncher, EBIT, and accelerator & transport, ensuring efficient and reliable operation.
- Cyclotron stopper and advanced cryogenic gas stopper are being developed and tests are planned.
- EBIT timing structure has been improved with slow extraction for broad pulse widths (up to 100~200 ms).

From recent experiment with ANASEN at ReA3

- Recent experiment with the 4.5 A MeV ^{47}K beam (~20 kpps) was successfully performed. No issue for timing structure due to the EBIT improvement.

ISLA update

- Magnet mechanical design, possible layout with a swinger, and coupling to GRETA are under consideration.
- Aberration analysis was made for homogeneous dipoles and will be performed with realistic field based on preliminary magnet designs.

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Solenoidal spectrometer

- Highly versatile device for direct reaction studies with an option to combine with other systems (Apollo, gas target, ion chamber, etc)
- 4T solenoid available at ANL for possible use at ReAx
- Requirements for beam spot size, energy, and time resolution/period are discussed.
- Scope of the project including the coupling with AT-TPC as well as fast-beam measurements with a solenoidal spectrometer will be discussed and defined before LECM2017.

Updates on target activities

- Center for Accelerator Target Science (CATS) is being proposed to request additional personnel (postdoc with nuclear chemistry background) and more time for new research directions and community outreach (target requests).

Considerations of pre conceptual layout of ReA6-12

- Pre-conceptual layout will be brushed up. Input from users is welcome for possible plans and ideas for new equipment and measurements.