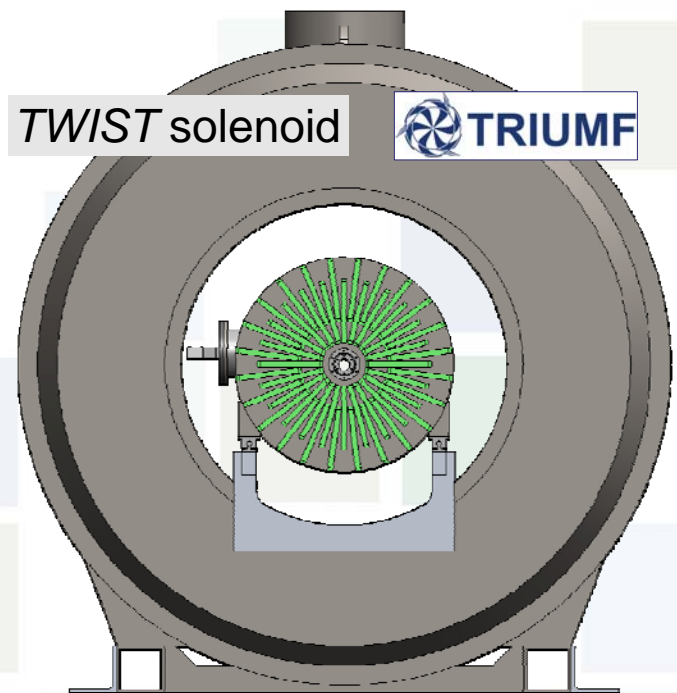


# Active Target Time Projection Chamber by 2012

- Next-generation device: target and detector in one
  - Tracks charged particles emerging from reactions
- Unique ability to detect and identify large mass range over a broad dynamic range with high resolution and  $4\pi$  acceptance
  - Readout electronics for 10000 channels in collaboration with labs in France, Germany, UK and Japan; electron amplification and pad structure in collaboration with labs in Canada and France
- Enables 4 of the 17 science benchmarks
  - 1 Shell structure
  - 6 Equation of state
  - 14 Weakly-bound nuclei
  - 16 The rp process
- Replacement value: \$1.5M (FY14)



## High resolution and high efficiency for reaccelerated and fast beam experiments