

## ***Broad Summary: Nuclear Astrophysics Briefs***

- Common theme of measuring nuclear properties relevant to astrophysics (cross sections, decay rates, masses)
  - Broad impact across the astrophysical landscape
- Continue to exploit existing world-unique devices for measurements, with plans to capitalize on major facility upgrades long-term (ARIEL, FRS/Super FRS)
  - Plans for modest-scale detector upgrades (LaBr, OGS, digital DAQ), ~500k - 1M funding scale
- Lots of cross-connection between astro/structure – same devices used for both, sometimes even in same experiment
- Storage ring offers opportunity for a major new facility with unique capabilities
- “Back and forth” between experiment & theory

## *Common/Highlighted Recommendations*

- Continued funding for major facility projects and DG programs – essential to maintain critical mass of HQP for operations.
  - Mostly “cheap” programs (100-300k/yr)
- Need to bridge the gap between RTI/CFI for new equipment (~500k-1M too high for RTI, too low for CFI)
  - Specific recommendation to dispense with CFI and funnel all funds through NSERC.
- Completion/operation of ARIEL as highest priority
- Funding for storage ring as major new facility for astrophysics

# *Societal Benefits*

- Workforce training
  - Data analysis/coding
  - Electronics
  - Radiation detection
  - Complex mechanical systems
  - Project management
  - Collaborative work on challenging problems
  - ???
  
- Technical developments
  - Novel radiation detectors
  - ???