- 500MeV H⁻ cyclotron since 1974
- Only ISOL facility in North America
- Highest power Isotope Separation On-Line (ISOL) facility worldwide
- ISOL with > 5 MeV/u accelerated beams
- Adding 50MeV 500kW e-Linac
Cyclotron Availability in 2013

Availability: Actual 95.7% Goal >90%
Dose during Shutdowns

Improvement mostly due to:
- operating at 480 MeV
- reducing tank spills
- 2014 reduced # of tank jobs
ARIEL e-linac
ISIS New Vertical Injection Line

3-year project, successfully completed in May 2011

December 14, 2014
Upgrade was completed in 2 winter shutdowns, initially a 5-year project
Cyclotron Upper Bearing Maintenance
Fall Protection System
• Achieved beam intensity stability ±1% in BL2A and ±2% in BL1A by suppressing $\nu_r = 3/2$ resonance, and introducing active regulation.
3/2 Resonance Correction in the Cyclotron

Problem: Radial variation of the current density was strongly modulated due to 3/2 resonance crossing.

Solution: A linear combination of two HCs, displaced azimuthally, provided full correction.

Resonance correction: Simulation
Cyclotron Main Magnet Power Supply

Number 1 item based on Risk Assessment analysis of accelerator infrastructure
The Ancient Spartan youth pledge

“άμμες δε γ' εσόμεθα πολλώ κάρρονες”

Πλούταρχος, Λυκούργος, 21

“we shall become much better (than you)”
Thank you!
Merci!