



January, 2026 | CSEWG

# n+14N

---

PRESENTED BY

J. McDonnell, M. Pigni  
Oak Ridge National Laboratory



U.S. DEPARTMENT  
of ENERGY

ORNL IS MANAGED BY UT-BATTELLE LLC  
FOR THE US DEPARTMENT OF ENERGY



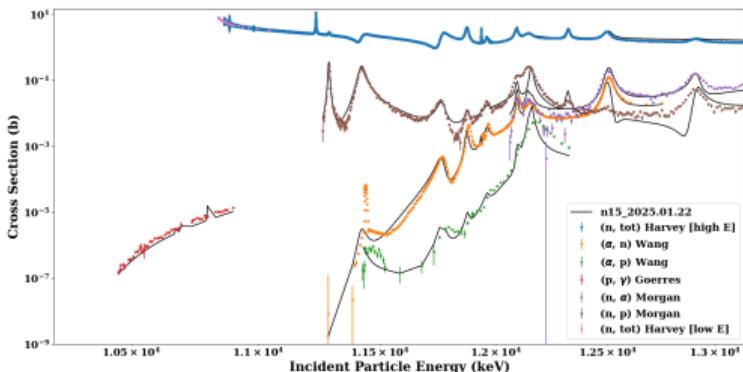
# Overview

- Current evaluation deficiencies
  - This evaluation will provide **resonance parameters** and **covariances** (resonance parameter covariance), which are not present in the current evaluation
  - Recent measurements by de Boer et al.<sup>a</sup> to be accounted for
  - Evaluation motivated by NCSP interest in actinide solutions, which contain nitrogen
- Timeframe
  - Collaboration with de Boer (Notre Dame)
  - New version available for testing **FY2026**.

---

<sup>a</sup>R. J. deBoer et al., Total cross section of  $^{14}\text{N} + n$  from 0.1 to 12 MeV, Phys. Rev. C 112, 025805 (2025).

# Examples



Case	Sensitivity	Reaction
LST-004-007	-0.072	$(n, \gamma)$
LST-003-009	-0.048	$(n, \gamma)$
PST-011-011	-0.037	$(n, \gamma)$
HST-001-004	0.0023	$(n, \text{el})$

The evaluation utilizes multiple incident channel features newly available in SAMMY.

Integral benchmarks in the LEU-SOL-THERM-003/4 series show sensitivity to capture channel, which will require attention.