



NCSP Related Nuclear Data Research at RPI

Overview Talk

Y. Danon

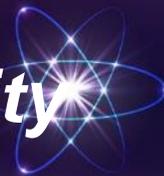
February 15-17, 2022



Presented by:
Y. Danon
Rensselaer Polytechnic Institute, Troy, NY, 12180

NCSP TPR, February 15-17 2022, remote.

Overview of 2021 activity



• ND1 – Cross section measurements (\$471K+\$71K)

- Measurements in preparation/progress ([Appendix-B](#))
 - Fe-54 capture measurement completed.
 - Fe-54 transmission was needed and completed
 - Fe-54 data analysis and resonance fitting in progress.
 - **Technical Talk by Sukhjinder Singh**
- **Evaluation work on Zr isotopes (Gregory Siemers)**
- **Improvement to SAMMY URR capabilities (Alec Golas)**
- **Lead isotopes evaluation (Peter Brain)**

Chromium (⁵³ Cr)	RPI	
Iron (⁵⁴ Fe)	RPI	RPI
	IRSN	IRSN

Lead (^{204,206,207,208} Pb)	ORNL	ORNL	ORNL
	RPI	RPI	RPI
	BNL	BNL	BNL
	NNL	NNL	NNL
	IRSN	IRSN	IRSN

• ND2 –Thermal region cross section measurements (\$0K+\$12.9K)

- [Appendix-B thermal scattering](#)
 - Completed transmission measurements of:
 - Polyethylene, polystyrene, Lucite, and YHx
 - **Technical Talk by Dominik Fritz**

Polystyrene (C ₈ H ₈)	ORNL
	RPI

Polyethylene (C ₂ H ₄)	RPI	
Yttrium Hydride (YH _x)	RPI	RPI

• ND3 – LINAC refurbishment (\$0K+\$30.4K)

- [Improve NCSP and NR nuclear data measurement capabilities](#)
 - Major purchases completed or in progress, some delivered (Klystrons, Modulators, Accelerator Sections)
 - Working on onsite testing and deployment.
 - Current completion date is projected to the end of 2024

Spending



- From FY21 Q4 Report:
 - Spent: \$544,932
 - Carryover to 2022: \$114K
 - ND1 - \$71K
 - ND2 - \$13K
 - ND3 - \$30K (no including FAA)

