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Measurement of nuclear excitation functions for proton induced reactions (E_p = 40 – 90 MeV) on Nb and Cu

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Abstract

XXXXX

Keywords: Nb+p, Cu+p, Niobium, Copper, Aluminum, Nuclear cross sections, Proton activation, Proton transport, Stacked target activation, Monitor foils, Medical isotope production, MCNP, LANL

1. Introduction

XXXXXX [1].

2. Experimental methods and materials

2.1. Stacked-target design

XXXXXX

2.2. Measurement of induced activities

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2.3. Proton dosimetry

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2.4. Proton transport calculations

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2.5. Calculation of measured cross sections

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2.6. Systematic uncertainties

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3. Results

XXXXXX

4. Conclusions

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5. Acknowledgements

Stephen Graves - consulting for methodology, guidance.

Appendix A. Decay data

Table of decay data used for observed gamma rays.

Appendix B. Measured excitation functions

Plots of the cross sections measured in this work are presented here, in comparison with literature data and reaction modeling codes.

References

[1] D. Updegraff, S. A. Hoedl, Nuclear Medicine without Nuclear Reactors or Uranium Enrichment, Tech. rep., Center for Science, Technology, and Security Policy, American Association for the Advancement of Science, Washington, DC (jun 2013).

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