

## **Two Step Actinide Target Concept for Testing at ISAC**

W.L. Talbert, D. D. Drake, H.-H. Hsu and M. T. Wilson

*TechSource, Inc., Santa Fe, NM*

Under a USDOE SBIR contract\* a concept has been developed for a two-step actinide target to be tested at ISAC. The target is intended to make available intense fission-product activities without interference from spallation products, and to operate under maximum ISAC beam intensities ( $100 \mu\text{A}$ ). From numerical simulations, the production of sub-actinide alpha activities is greatly suppressed for the two-step approach, and the production of actinide alpha activities is less than 7% of direct target production (despite a smaller beam intensity for the direct target, assumed to be  $10 \mu\text{A}$ ). A description of the target will be presented, along with the results of numerical simulations to evaluate design features and fission-product activity production rates. The current status of the target design will be discussed, as will issues associated with the thermal behavior under intense production beam conditions.

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