Contribution ID: **36** Type: **not specified**

A Validation of Heavy Ion Capabilities in PHITS via Fragmentation Cross Section Calculations

Wednesday, 30 April 2014 12:10 (25 minutes)

The performance of the Monte Carlo code system PHITS is validated for heavy ion transport capabilities by performing simulations and comparing results against experimental data from heavy ion reactions of benchmark quality. These data are from measurements of isotope yields produced in the fragmentation of a 140 MeV/u 48Ca beam on a beryllium target and on a tantalum target. The results of this study show that PHITS performs reliably.

This material is based on work supported by the U.S. Department of Energy Office of Science under Cooperative Agreement DE-SC0000661

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Session Classification: Session 6. Code Benchmarking and Intercomparison, Convener: Robert Grove