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Response to "Limitations on the Use of the THOR Critical Assembly for Validation of $n + {}^{239}Pu$ Cross Sections"

The integral testing of ENDF/B-V ^{239}Pu Revision 2 was undertaken to further validate this evaluated data file. Our philosophy in doing so was calculation of *all* Los Alamos National Laboratory fast critical assemblies sensitive to ^{239}Pu nuclear data so as to provide as wide a spectrum of conditions for data testing as possible. Thus, the validation of the ^{239}Pu Revision 2 evaluated data file did not rest on results obtained from one assembly but from the general improvement achieved for five assemblies. As noted in our paper,[1] "The average eigenvalue for such assemblies is now essentially unity and their scatter has been reduced significantly."

For an isolated consideration of the THOR assembly, we certainly agree that the calculated results are sensitive to evaluated thorium data as well as to ^{239}Pu cross sections. Keshavamurthy and Ganesan have illustrated this point well,[2] although their comparisons could be affected by their use of the ENDF/B-IV data file for ^{239}Pu for which there are known problems. The most conclusive test of nuclear data in the THOR assembly would thus occur through use of improved evaluations for both ^{239}Pu and ^{232}Th.

E. D. Arthur
P. G. Young
D. G. Madland
R. E. MacFarlane

Los Alamos National Laboratory
Theoretical Division
Los Alamos, New Mexico 87545

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