Domain Decomposition and Load Balancing in the AMTRAN Neutron Transport Code

JOHN COMPTON, CHRISTOPHER CLOUSE

Abstract: Effective spatial domain decomposition for discrete ordinate (Sn) neutron transport calculations has been critical for exploiting massively parallel architectures typified by the ASCI White computer at Lawrence Livermore National Laboratory. A combination of geometrical and computational constraints has posed a unique challenge as problems have been scaled up to several thousand processors. Carefully scripted decomposition and corresponding execution algorithms have been developed to handle a range of geometrical and hardware configurations.

Type of contribution: Talk
Location: Lecture Room, **Time:** Thursday, 24 July, 11:40

John Compton (Speaker)
Lawrence Livermore National Laboratory
Computations, L-98
7000 East Avenue
CA 94550 Livermore
UNITED STATES
mailto:compton1@llnl.gov