Abstract Submitted
for the SES16 Meeting of
The American Physical Society

Comparison of two methods of parallelizing GEANT4 on beowulf computer cluster[1] SETH HULSEY, IVAN NOVIKOV, Western Kentucky Univ — Numerical techniques for problem solving have become an integral part of theoretical science and mathematical modeling. However, the rate of improvement of computer processor speeds have begun to plateau. Parallel and distributed computing have become the standard method to perform computationally expensive calculations. The beowulf cluster, a group of computers connected in a local network, is a simple means of creating a powerful machine for parallel computing. We describe the setup of GEANT4 simulation software on a beowulf cluster using the ROCKS cluster operating system and test two methods of distributing work throughout the cluster: a frontend-compute node method using TOP-C and a static scheduling method using MPI.

[1]This work is supported by the Kentucky Science and Engineering Foundation grant KSEF-148-502-16-388.

Seth Hulsey
Western Kentucky Univ

Date submitted: 07 Oct 2016 Electronic form version 1.4