

AbstractID: 1502 Title: EGSnrcMP, the new multi-platform version of EGSnrc

The EGSnrc system for the Monte Carlo simulation of coupled electron-photon transport is widely used in the Medical Physics community. One of the limitations of EGSnrc has been that it could only be used on Unix or Linux platforms. We have recently released EGSnrcMP, a new multi-platform version of EGSnrc that works on all major operating systems (Unix/Linux, Windows NT/2000/XP, Mac OSX). EGSnrcMP has a much improved installation process and also provides graphical user interfaces for working with the various EGSnrc user codes. In addition, EGSnrcMP provides the capability of using the same installation with different operating systems and/or compilers. By reworking EGSnrc, it can now be used with most compilers and without the static switches on standard compilers. This has led to significant improvements in execution speed. For example, the Intel 8.0 Fortran compiler and the new GNU compiler, version 3.4, produce executables that are up to a factor of two faster compared to older versions of the GNU or other commonly used compilers such as the one from Lahey. The presentation will also discuss a new built-in parallel processing implementation that increases the flexibility and also distributes the workload more evenly when the computing cluster is composed of CPUs with different speeds.