

The RMI_Toolbox, a modern software system, was developed in 1991 in C/C++ languages for calculation of characteristic parameters of photons, electrons, positrons and heavy ions, and for Monte Carlo simulation of the penetration of these particles in matter. In absence of funding, neither the RMI_Toolbox, nor the accompanying book on radiation material interaction calculations was prepared for distribution. Compared to other electron-gamma shower codes used in medical physics, the electron-gamma shower code of the RMI_Toolbox even today is the most modern, most transparent, and flexible software.

Many of the features already incorporated, or reported to be under development in the RMI_Toolbox in 1991, has been implemented in the EGS code system in the last seven years. (E.g. improved bremsstrahlung calculation, improved correction for density effect, representation of target geometry with CT images or CAD drawings etc). Translation of EGS4 into C with f2c created a code that is hard to understand, and has the same old code structure, and disadvantages EGS4 had before.

In 1997 we began a feasibility study, to improve even further the software of the RMI_Toolbox, to find the most adequate language for development, make it object oriented to the possible highest degree, replace UNIX-like commands with windows based user interface, while assuring 100% transportability to any platform.

We are presenting the surprising results of our feasibility study, and reporting about the completion of the first version of the new updated electron-gamma shower simulation code of the RMI_Toolbox.