

AbstractID: 1647 Title: Modifications to ITS Monte Carlo code to simulate Brachytherapy seed configurations

The ITS ACCEPT code has the flexibility to simulate problems involving complex geometries using combinatorial geometry code in three dimensions. This is very useful for simulating brachytherapy seed configurations. However, the source configuration in the public distribution is limited to point or disc source. In this work, we present modifications made to the source code to incorporate different source simulations. A relatively simple code modification was made to simulate almost all brachytherapy configurations simply by changing the input file. Typical source geometries include solid and surface configurations of cylindrical, spherical and coiled objects. Successful simulations were performed for model 6711 I-125, Model 200 Pd-103 and Genetra® Pd-103 coil from Radiomed®. Results of the simulations compared well with published data. This paper addresses the testing and validation of the modifications.