

Project and poster abstract

I'm currently in my Master Studies at University of São Paulo (Brazil) under the supervision of Paulo Costa, my project is on Dual Energy Computed Tomography(DECT) phantom's developing to improve the quality protocols of this type of images in the Hospital of the School of Medicine of the University of São Paulo. My main goal is to simulate the acquisition process of DECT for tissue-equivalent phantom materials, which are obtained by the mixture of thermoplastic materials .

We have done some radiographic dual energy measurements with some CT materials, to study the dual energy subtraction and its material enhancement. Now we are simulating the radiation transport of a DECT scan using PENELOPE, a Monte Carlo code. The idea is to show how the simulation it's done, the preliminary results in the imaging reconstruction and the next steps in the DE image reconstruction.