A computer program for Scanning Transmission Ion Microscopy Simulation

R.Wu, H.Shen, Y.Mi, M.D.Sun

Institute of Modern Physics, Fudan University, Shanghai 200433, P.R.China

With installation of the Scanning Proton Microprobe system at Fudan University, we are in the process of developing a three-dimension reconstruction based on Scanning Transmission Ion Microscopy (STIM-CT). As the first step, the theory model and a related computer program of STIM simulation had been established. This program was complied with the Visual C++, using the technique of OOP (Object Oriented Programming) and it was a standard multiple-document Windows program. So it could be run at the Window95, Windows NT 4.0 and other upgraded system versions. The drive mode was menu mode, using the multiple process technique. The stopping power theory is based on Bethe-Bloch formula. The improved cylindrical coordinate model was introduced in calculation instead of normal spherical or cylindrical coordinate model in order to simplify the calculation. The simulated results of some certain samples at several rotary angles are presented.