Contribution ID: **255** Type: **Poster**

Calculation of induced gamma atom displacement in solids considering nonhomogeneous threshold displacement energies

Tuesday 24 October 2017 16:00 (15 minutes)

An extension to the Monte Carlo assisted Classical Method (MCCM) methodology was developed and implemented. The extension allows to calculate the atom displacement per atom (dpa) profiles considering threshold displacement energies which are spatially inhomogeneous. Calculation of the dpa profiles was performed using both, the standard methodology and extended one for gammas of 1.25, 3, 7 and 12 MeV energies for the $BaTiO_3$ ceramic. Significant differences for the oxygen sublattice in all the energy range were found, being these ones the highest ones. In general, the dpa profiles calculated at the same sample deep and energy with the standard MCCM are between one or two orders higher than the ones calculated through the extension.

Authors: RODRIGUEZ RODRIGUEZ, Arturo (Instituto Superior de Tecnologías y Ciencias Aplicadas (InSTEC), Universidad de La Habana, Havana, Cuba.); CRUZ INCLAN, Carlos M. (Center of Technological Applications and Nuclear Development, CEADEN, Cuba.); GONZÁLEZ LAZO, Eduardo (Center of Technological Applications and Nuclear Development, CEADEN, Havana, Cuba.); PIÑERA-HERNÁNDEZ, Ibrahin (Center of Technological Applications and Nuclear Development, Cuba & University of Antwerp, Belgium.); ABREU ALFONSO, Yamiel (Center of Technological Applications and Nuclear Development, CEADEN, Cuba.); LEYVA FABELO, Antonio (Center of Technological Applications and Nuclear Development, CEADEN, Cuba.)

Presenter: RODRIGUEZ RODRIGUEZ, Arturo (Instituto Superior de Tecnologías y Ciencias Aplicadas (InSTEC), Universidad de La Habana, Havana, Cuba.)

Session Classification: Poster Session - NUC

Track Classification: Nuclear Structure, Nuclear Reactions and Exotic Nuclei