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Electron and gamma radiation damage assessments on composite YBCO - Nano/C samples

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Present work deals with the scientific problems and the "states of arts"on regard the knowledge of the physical and structural behaviors of composite materials based on superconducting $YBa_2Cu_3O_7$ (YBCO) and carbon nanostructured compounds (wires and onnions), as well as, their electron and gamma radiation response, which are nominated as YBCO-Nano/C.
Based in the application of radiation transport simulation codes relying on the Monte Carlo Methods, and the Monte Carlo assisted Classical Method (MCCM) an assessment of the radiation damage in terms of displacements per atom (dpa) rate spatial distributions, as well as, of the energy deposition distribution in the composite YBCO-Nano/C is presented.
A simple structural model of the composite YBCO-Nano/C is introduced and justified, where a comparison among the behaviors its different physical properties with the irradiation treatment is discussed.

Authors: VALDÉS ALBUENRES, Jorge Luis (Instituto Superior de Tecnologías y Ciencias Aplicadas, Cuba.); CRUZ INCLÁN, Carlos M. (Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear, Cuba.); LEYVA FABELO, Antonio (Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear, Cuba.); PIÑERA HERNÁNDEZ, Ibrahin (Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear, Cuba & University of Antwerp, Belgium.)

Presenters: VALDÉS ALBUENRES, Jorge Luis (Instituto Superior de Tecnologías y Ciencias Aplicadas, Cuba.); CRUZ INCLÁN, Carlos M. (Centro de Aplicaciones Tecnológicas y Desarrollo Nuclear, Cuba.)

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