

## Calculated energy loss of swift fullerene ions beam in InP.

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The bombardment of semiconductors with fullerenes has been used to induce the formation of tracks [1,2]. It is now accepted that the electronic excitation and ionization that gives rise to the slowing down of the projectile is essential to calculate the track diameter. In the case of cluster beams, like fullerenes, the electronic excitation induced by each of the cluster components is enhanced, for certain projectile energies and target thicknesses, by the so called vicinage effects. Here we use a simulation code to study the energy lost by a fullerene ion beam in InP, paying special attention to the vicinage effects where they are significative. The code describes classically the movement of the cluster components under the influence of the self-retarding force, the Coulomb explosion, the wakes forces responsible for the vicinage effects and the multiple scattering.

[1] A. Dunlop, G. Jaskierowicz and S. Della-Negra, *Nucl. Instr. and Meth B* **146** (1998) 302

[2] S. Dhamodaran, A. P. Pathak, A. Dunlop, G. Jaskierowicz and S. Della-Negra, *Nucl. Instr. and Meth B* **256** (2007) 229