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Nanostructure synthesis by supersonic cluster beam deposition and non-thermal laser ablation

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***Abstract*:** Here we tackle some of the open problems by presenting the results obtained in the synthesis of NP and coating deposition by two physical synthesis methods, SCBD and femtosecond (fs) pulsed laser deposition (fs-PLD), where the material ablation mechanism is differing from the ns-PLD counterpart. In the former we employed SCBD to synthesize bactericidal coatings based on Ag and Ag/Ti bi-metal NP directly on the surface of different substrates, characterizing the physical and the bactericidal properties of the coating. In the latter we show that ambient pressure fs-PLD allows to obtain fractal TiO_2 nanostructures in crystalline form at room temperature on silicon substrates. Moreover, we rationalize the fractal formation mechanism and the role of substrate conductivity by comparing the experimental results with Montecarlo simulations of NP diffusion. The perspectives and possible applications of such methods will be discussed.

Fecha: ***Miércoles 27 de Abril***
Hora: ***11:15***