

Design proposal for a microscope simulator speed electronics for the development of learning significant in nanotechnology

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Low-cost virtual tools of learning is a subject of pedagogic research of huge impact in knowledge transference of advanced engineering and science fields, i.e. nanotechnology. “Tecnoacademia” is a program of “Servicio Nacional de Aprendizaje SENA-Colombia” whose main objective is to train kids studying in Secondary Schools from vulnerable areas of Colombia. In context, this study carried out in “TecnoacademiaNodoCazucá”, proposes the design of an educational simulator of a scanning electron microscopy equipment SEM (JEOL NeoScope JCM 5000) to be implemented in the seedbeds of “Video JuegosSerios” of the physics and nanotechnology educational environments. It is expected apprentices to be able to identify the main parts, tools, fundamentals and correct using of SEM as a characterization technique.

Keywords: nanotechnology, SEM, simulator, characterization, virtual pedagogic tools.