Temperature Effects on the Optical Properties of Silicon Nanowires Prepared during Electroless Etching

V. H. Velez, and K. B. Sundaram

Department of Electrical and Computer Engineering,
University of Central Florida, Orlando, Florida 32816, USA

The geometry of silicon nanowires based structures present a growing interest due to the potential advantages over thin-films based solar cells during the photon absorption process in the visible optical range. These advantages include reduction of reflection, increase of light trapping and increase of light absorbed per area. In this study, optical reflectance in silicon nanowires is reported when these nanostructures are prepared at different temperatures by electroless etching using silver nitrate and hydrofluoric acid.