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The Optical Properties of Aluminum Oxide Templated Nanostructures MAHNAZ EL-KOUEDI, BRANDY BROGLIN, JERRY HEATH, J. TRES BRAZELL, Department of Chemistry, UNC-Charlotte — The optical properties of aluminum oxide templated nanostructures has been investigated with the specific goal of using the associated structures for enhanced transmission of light, and Surface Enhanced Raman Spectroscopy (SERS). We will present fabrication and characterization data for three different nanostructures based on the synthesis of anodic aluminum oxide (AAO) templates. These structures include self-assembled metal coated masks with sub-wavelength apertures for the enhanced transmission of light, striped Au/Ag nanowire arrays and nano-textured aluminum surfaces for SERS studies. Characterization using electron and atomic force microscopies, as well as absorbance, reflectance and Raman spectroscopy will be presented.

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