

Advanced Functional Nanomaterials School

Yachay Tech University-2020

Carbon Nanomaterials: structure and growth, Raman spectroscopy, properties and applications

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Abstract

This course will be dedicated to the study of carbon nanomaterials: primarily fullerenes, carbon nanotubes and graphene. We will first address their synthesis methods, their structure and their electronic and optical properties, emphasizing how the reduction of size leads to dramatic changes in these properties. We will discuss why optical spectroscopies (absorption, Raman and photoluminescence) are powerful techniques to study these materials. Finally we will review the main physical and chemical properties of carbon nanomaterials and related possible applications.