

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)
Specialized Technologies, Including Nanotechnology (8)

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OBTAINING IRON NANOPARTICLES FROM "AZERCHAY" GREEN TEA LEAVES

Abstract

The definition of nanotechnology is that matter may now be altered through certain chemical or physical processes to create materials with special features that can be used in a number of applications. The main reason limiting nanoparticles' broad use is their high surface area to volume ratio. Green synthesis is preferable to chemical and physical methods because it is accessible, environmentally friendly, easy to scale up for large-scale synthesis, and devoid of dangerous chemicals or high pressures, energies, or temperatures. Better performance, crystal growth control, and stability are all attainable with green chemicals. This has inspired research into synthetic methods that allow for finer control of form and size. To make low-dimensional iron nanoparticles, we used an extract from the leaves of Azerbaijani green tea, or "AZERCHAY." Energy dispersive spectroscopy (EDS) and scanner electron microscopy (SEM) were employed as experimental techniques to examine the characteristics of the generated nanoparticles (EDS).