

NEUTRON ACTIVATION ANALYSIS AT THE IBR-2 REACTOR

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Neutron activation analysis (NAA), owing to its high accuracy, reproducibility, and non-destructive nature, is a widely employed analytical technique in environmental, material, archaeological, geological, and nanotoxicological studies. The presentation will highlight the key favorable features of NAA and describe the principles of its implementation on the Regata facility at the IBR-2 reactor. Examples of NAA applications will be presented, including its use for the assessment of heavy metal deposition through active and passive moss biomonitoring, water biomonitoring, the development of wastewater treatment approaches, analysis of medicinal plants, archeological objects and extraterrestrial materials. In addition, the effects of metal nanoparticles on various living organisms will be discussed. This information is addressed to researchers interested in the applications of NAA, as well as to those seeking an analytical technique suitable for environmental, biomedical, geological, and related studies.