

Thesis Proposal for the Master's Degree in Physics

Title: Assessing Radioactive Contamination in Building Materials through Monte Carlo Simulation Techniques

Abstract (max 10 lines):

This study focuses on Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) present in local construction materials from one of Europe's most polluted sites. A scaled-down building model, incorporating materials containing TENORM, was developed to simulate their potential radioactivity. For the first time, Monte Carlo simulations will be used to validate the model's accuracy and assess the levels of TENORM in these materials. This work aims to establish a novel approach for environmental and health risk assessment in the study area, with significant implications for public safety and regulatory practice, due to the potential reuse of these materials in civil constructions.

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Laboratory where the thesis is carried out: Laboratory of Particle Physics

Any participating external structures: ARPACAL, Ettore Majorana Physics Laboratory

Type of thesis:

compilation

research:

specify if experimental theoretical or data analysis