

# Assessment of Natural Radioactivity and Radiation Hazards in Coastal Sediments of Durrës, Albania

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## Abstract

With the increasing concerns about the potential environmental and health effects of ionizing radiation exposure, it is necessary to assess radiation levels in different areas. This particular study focused on Durrës, a well-known coastal city due to its thriving tourism industry and its proximity to industrial zones.

The research approach involved systematic measurements of gamma radiation using two advanced devices: the Inspector 1000 device and the Gamma radiation detection unit backpack. These portable radiation detectors are recognized for their accuracy and sensitivity. Over the past year, measurements were carried out four times annually to gather comprehensive data on radiation levels. Multiple sampling points were strategically selected along the Durrës coast to gain a complete understanding of radiation distribution patterns.

Preliminary findings suggest that radiation levels in the coastal area of Durrës fall within the acceptable range defined by international radiation safety standards. However, specific locations with high radiation, known as hotspots, were identified near industrial facilities. This emphasizes the potential influence of human activities on radiation distribution.

This study provides valuable insights into the current radiation conditions along the coast of Durrës, emphasizing the importance of ongoing monitoring to ensure the safety of residents, tourists, and the environment.

**Keywords:** Sediment, Durrës, Albania, Natural radionuclides, Gamma ray spectrometer, Radiation hazards.