

Radioactive Contamination by ^{137}Cs in Marine Sediments Taken up from Cuba's North and South Coast

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Abstract : In aquatic ecosystems, the main indicators of pollution are contaminated sediments, which are the primary repository of radionuclides and chemical elements in the marine environment. Radioactive Contamination Factor (RCF) has been proposed as a suitable unit to measure the magnitude of radioactive contamination at global scale, caused mainly by more than 2,000 nuclear explosions tests performed during the 1945-65 period. It is obtained as percentage of contaminant radioactivity (^{137}Cs) compared to natural radioactivity (^{40}K), both expressed in Bq/g of marine sediments conditioned in Marinelli containers and detected in both NaI(Tl) and HPGe detectors. So, in this paper samples of marine sediments were taken up along the occidental Cuban coasts and analyzed by gamma spectrometry for the determination of gamma-emitting radioisotopes with energies between 60 and 2000 keV. The results proved that the proposed method is simple and suitable to evaluate radioactive contamination. Also, the RCF values provide an appropriate indicator to predict which pollution levels in the future will be and if the rate will go down as disintegrates the ^{137}Cs present when only 2,4 half-lives have passed away.

Keywords : Cuba, gamma spectrometry, marine sediments, radioactive pollution

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