

Title: Investigations on the Anthropogenic Radionuclide Levels in Brazilian Marine Samples

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Poster Presentation

Abstract:

INVESTIGATIONS ON THE ANTHROPOGENIC RADIONUCLIDE LEVELS IN BRAZILIAN MARINE SAMPLES. Figueira, R.C.L.; Cunha, I.I.L.; Furtado, V.V. Instituto de Pesquisas Energéticas e Nucleares - IPEN-CNEN/SP
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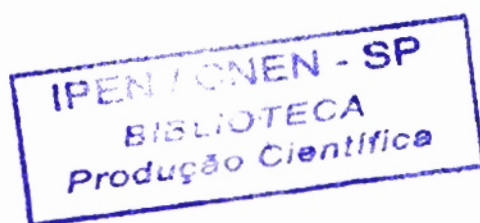
Monitoring programs are been performed in brazilian marine samples concerned with investigations on radionuclide levels in marine samples. Radiochemical methods for precise determinations of Cs-137, Sr-90 and Pu-239 have been already implemented. Since 1991, samples of seawater, fish and sediment are been collected at different locations of brazilian coast.

Results of systematic measurements of these radionuclides have showed that artificial artificial radioactivity in Brazil is low and it is due to the global fallout. The average concentration of Cs-137 is of 1.2 Bq.m^{-3} in seawater; ranged from 13 to 220 mBq.kg^{-1} in fish, and from 0.2 to 1.5 Bq.kg^{-1} for sediments. Levels of Sr-90 in seawater is of 1.8 Bq.m^{-3} and in fish varied from 19 to 75 mBq.kg^{-1} . Sediments present levels of Sr-90 lower than 0.8 Bq.kg^{-1} and for Pu-239 of 0.05 Bq.kg^{-1} .

The data generated represent reference values for our country and are used to evaluate the magnitude of doses by both ingestion or exposition of these radionuclides.

The analytical quality is verified by regular participation in the international intercomparisons, runned by International Atomic Energy Agency and World Health Organization.

In this project, a study for Cs-137 radionuclide dispersion in the surface water was also developed. The model (OCEAN program) simulates the surface water contamination caused by routine or accidental releases. For the simulation model, the program was applied in the North Sea, based on the published transfer coefficient data. Results obtained shown that the model provides a good response to evaluate the radionuclide dispersion in the marine environment.



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