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ENVIRONMENTAL RADIOACTIVITY MEASUREMENTS ON THE SOUTH-WEST COAST OF SRI LANKA

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In Sri Lanka several high background areas are known to occur and seasonal variations of the radiation levels are reported. The radioactivity in these areas are due to naturally occurring radionuclides ^{232}Th , ^{238}U and their decay products.

One of the products of decay of ^{238}U is radon-222 which is an inert gas and therefore diffuses out of the earth and mixes with the atmosphere. This gas is an alpha emitter and disintegrate producing the radioactive nuclei ^{218}Po (RaA), ^{214}Pb (RaB), ^{214}Bi (RaC), ^{214}Po (Ra C¹). These nuclides produce a radioactive aerosol in air (3). Ra A and RaC' are alpha emitters and it is reported, that inhalation causes a health hazard.

The present investigations in Beruwela on the South-West Coast have been carried out (1) to investigate variation of background radiation with time (2) to find out the distribution of background radiation anomalies in Beruwela area and (3) to measure the levels of radon daughters on the South-West Coast by alpha counting of air samples.

From the continuous gamma radiation recordings obtained, it is evident there is a marked variation of radiation levels with time on the beach in contrast to the natural background radiation areas. This is closely linked with the pattern of deposition on monazite sand on the beach.

The iso-dose contour map of Beruwela area has shown us that high radiation anomalies are found closer to the hinterland while normal levels are towards the inland.

The levels of Ra A, Ra B, and Ra C in several localities are given and enhanced levels were found in high background areas.

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