

the High Purity Germanium Background Measurement at the Italian ENEA Noble Gas Laboratory

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The ability to evaluate the concentrations of radioactive noble gases in the atmosphere is very important because it represents a powerful early warning tool in the event of a nuclear accident. Since there are currently no laboratories capable of carrying out this type of assessment in our country, a specific system has been set up for sampling, concentration, separation and analysis of radon in atmospheric samples with the aim of acquiring skills and abilities that could be transferred to the authorities responsible for radiometric surveillance. It will also allow us to assist control activities and alarm the population in case of a nuclear accident. In order to correctly evaluate an anomalous detection of radon, it is essential to know the value and the trend of the environmental background in the area of interest. Due to low concentrations, our efforts have been directed mostly at the reduction of the MDA of our measurement system, trying to improve the sensitivity and reduce the background noise. The methods used and the precautions applied to obtain ever more accurate measurements will be explained. Future plans for improvements will be also presented.

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Promotional text

Noble Gas

Oral preference format

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