

ICP MS measurement of natural radioactivity at LNGS

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The assembly of physics experiments searching for rare events involves the selection of highly radio-pure materials. The possibility to measure natural radioactivity (potassium, thorium and uranium) in a wide range of materials and with the best available sensitivity is of basic importance in this field of research. Inductively coupled plasma mass spectrometry (ICP MS) allows the direct identification and quantification of almost all the stable elements and long-lived radionuclides in the periodic table in a wide variety of matrix. A quadrupole and a double focusing analyzer mass spectrometers are available at the Gran Sasso National Lab Chemistry Service. Depending on the sample nature, it's possible to achieve different levels of sensitivity. Some examples of applications will be presented.

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