



Contribution ID: 75

Type: poster

## U, Th and other element evaluation in wild mushroom from a naturally high radioactive region in Brazil

Thursday 22 September 2011 17:30 (1h 30m)

Mushrooms are fungi species which have high capacity to retain elements and radionuclides such as  $^{137}\text{Cs}$ ,  $^{238}\text{U}$ ,  $^{232}\text{Th}$ , from the environment. Studies have demonstrated that wild mushrooms can be used as environmental indicators and monitors to evaluate contamination and quality of ecosystems. Several studies have determined a high level of radionuclide in agricultural products in the Poços de Caldas region, which has seventy, identified radiological anomalies. The present study, which aimed at U, Th, As, La, Fe, Zn, Se, Cr, Cs, Co, Rb, and Sc bioaccumulation mushroom capacity, was based on the determination of these elements content in 15 wild mushroom samples collected in different points from Poços de Caldas Plateau region, without concern to radiological anomalies location. These elements were chosen due to their relative abundance in the Plateau soil. The analytical methodology employed was Instrumental Neutron Activation Analysis. Accuracy and precision of the analyses were verified with IAEA Mushroom Reference Material. The results obtained are discussed considering the geological context of the region and there was a large element level variation among the analyzed mushroom samples. The highest elemental concentrations, mainly of U and Th, occurred in samples collected in rural areas, where most radioactive anomalies are known to be located. Data showed that the wild mushroom can be used as a bio-indicator of the environmental radioactive contamination.

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**Session Classification:** Poster Section 2

**Track Classification:** Radioanalytical Chemistry and Nanoparticles