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Characteristics of natural radiation background at the Callio Lab (Finland) performed within the BSUIN project

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The BSUIN (Baltic Sea Underground Innovation Network) aims to enhance the accessibility of the underground laboratories in the Baltic Sea region for innovation, business and science. One of the BSUIN project activities is characterization of natural background radiation (NBR) in underground facilities. In this talk results from NBR measurements performed in Callio Lab, Pyhäsalmi, Finland, at the depth of 4100 m w.e. will be presented. The in-situ gamma spectra were collected with the use of HPGe semiconductor spectrometer, whereas the concentration of radon were measured with RAD7 electronic detector. In addition, the water and rock samples were taken for laboratory analysis in Institute of Physics, University of Silesia, Poland. The concentration radioisotopes in water samples were performed by using a liquid scintillation α/β counter (LSC) and α -particle spectrometry, while the concentration of radioisotopes in rock samples were performed by using laboratory gamma ray spectrometry and also α -particle spectrometry.