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## Characteristics of natural radiation background at the Research and Education mine Reiche Zeche (Germany) performed within the BSUIN project.

**Katarzyna Szkliniarz<sup>1</sup>**, Kinga Polaczek-Grelik<sup>1</sup>, Agata Walencik-Łata<sup>1</sup>, Jan Kisiel<sup>1</sup>, Toni Mueller<sup>2</sup>, Falk Schreiter<sup>2</sup>, and Robert Hildebrandt<sup>3</sup>

<sup>1</sup>University of Silesia in Katowice, Institute of Physics, Poland ([katarzyna.szkliniarz@us.edu.pl](mailto:katarzyna.szkliniarz@us.edu.pl))

<sup>2</sup>TU Bergakademie Freiberg, Germany

<sup>3</sup>Central Mining Institute, Department of Underground Research and Surface Maintenance, Poland

The Reiche Zeche mine is one, out of 6 Underground Laboratories (ULs) participating in the BSUIN (Baltic Sea Underground Innovation Network) project. The main goal of BSUIN is to improve the utilisation of Underground laboratories operating in the Baltic Sea Region by creating an umbrella organisation, an association, to represent the underground locations. To improve the utilisation the ULs, the sites have been characterized to understand the possibilities of the sites. Of of the studied characteristics is natural background radiation. The Reiche Zeche mine is located at a depth of 150 m (410 m w.e.) in the eastern part of the Erzgebirge Mountains, Germany. The measurements of natural background radiation (NBR) were performed: (1) in-situ by using portable HPGe semiconductor spectrometer and RAD7 electronic radon detector, and (2) in the laboratory, where the concentration of radioisotopes in water and rock samples was determined. The laboratory measurements were done in the Institute of Physics, University of Silesia (Poland) by using a liquid scintillation  $\alpha/\beta$  counter (LSC), gamma-ray spectrometry and  $\alpha$ -particle spectrometry. The obtained results of natural radioactivity in Reiche Zeche (BSUIN UL) will be presented.