

# Environmental Measurements Using RaSens

Ibrahim Daniel<sup>1, a)</sup>, Štefan Čerba<sup>1, 2, b)</sup>, Marián Vojs<sup>3, c)</sup>, Denis Voltman<sup>3, d)</sup>, Jakub Luley<sup>1, 2, e)</sup>, Filip Révai<sup>1, 2, f)</sup> and Branislav Stríbrnský<sup>1, g)</sup>

<sup>1</sup>*Institute of Nuclear and Physical Engineering, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology in Bratislava*

<sup>2</sup>*Centre of Nuclear Technology and Applications, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology in Bratislava.*

<sup>3</sup>*Institute of Photonics and Electronics, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology in Bratislava*

<sup>a)</sup> *Corresponding author: [ibrahim.daniel@stuba.sk](mailto:ibrahim.daniel@stuba.sk)*

<sup>b)</sup> *[stefan.cerba@stuba.sk](mailto:stefan.cerba@stuba.sk)*

<sup>c)</sup> *[marian.vojs@stuba.sk](mailto:marian.vojs@stuba.sk)*

<sup>d)</sup> *[denis.voltman@stuba.sk](mailto:denis.voltman@stuba.sk)*

<sup>e)</sup> *[jakub.luley@stuba.sk](mailto:jakub.luley@stuba.sk)*

<sup>f)</sup> *[filip.revai@stuba.sk](mailto:filip.revai@stuba.sk)*

<sup>g)</sup> *[branislav.stibrnsky@stuba.sk](mailto:branislav.stibrnsky@stuba.sk)*

**Abstract.** RaSens is a modular platform developed as part of the STU-GUARD project aimed at becoming a useful tool in scenarios involving radiation threats, such as a leakage of radiation from a nuclear power plant or an act of terrorism. The devices have been developed for environmental applications, either as attachments to an unmanned aerial vehicle or as independent measuring nodes deployed in the affected area. In this paper, we present results from one of the earliest environmental measurements conducted near a nuclear power plant. During this experiment, 3 RaSens ENV devices were distributed over an area of 20 km<sup>2</sup> for 18 h to measure the effective dose rate of gamma radiation, as well as environmental parameters such as temperature, pressure, and humidity. From these locations, soil samples have also been collected and evaluated using an HPGe detector at STU. Based on the isotope activity identified in the soil, the dose rate has been estimated and compared with values measured by the RaSens devices.

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