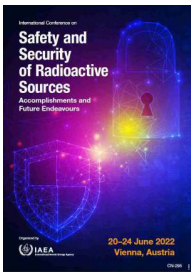

Contribution ID: **301** Type: **ICP (Interactive Content Presentations)**

A smart underwater sensor for localizing radioactive sources

Tuesday, 21 June 2022 10:30 (15 minutes)

A medium resolution spectrometer is developed for smart operations in areas close to the coasts providing rapid radioactivity maps of key natural and artificial; radionuclides. The system operates using a CeBr3 crystal, appropriate electronics for saving the sequential spectra in special memories as well as a self power unit for long term measurements. The system integrates a mini GPS system for rapid mapping after the survey and site characterization. A tool is also developed to support (near) real-time applications in areas with high concentrated radioactive sources. The system offers activity concentrations of all detected gamma-ray emitters in absolute units by combining simulation code. Two experimental points were used for validating the theoretical estimation along with gamma-ray energy. The tool (system and method) is tested in a region where low level radioactive sources were buried at a depth of 5cm and a first estimation of true and false alarm is given.

Country OR Intl. Organization

Greece

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