

Neutron monitoring and spectrometry: from radiation protection environments to medical fields

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Abstract

RAYLAB is an Italian innovative small enterprise, spin off of Politecnico di Milano. Our core mission is to design and develop cutting-edge solutions that elevate the performance and quality of radiation protection technologies. In this presentation we will highlight RAYLAB's innovations: DIAMON is the world's first active neutron spectrometer capable of providing real-time field direction distribution and spectrum assessment; STARLITE is the new compact, light and smart neutron monitor, designed for ease of use and efficiency.

RAYLAB's commitment to innovation extends beyond conventional radiation protection applications. The company is partner of NECTAR: an EU-funded project that proposes a completely alternative and revolutionary strategy to address Alzheimer Disease, investigating a therapy based on ionizing radiations. We will present the status of the project, related to RAYLAB's contribution for the development of high neutron flux detection systems able to perform active spectrometry and dosimetry of neutron fields. These devices are specifically tailored for monitoring of low-energy neutron beams, which are critical in neutron-based radiation therapy.