



Contribution ID: 5

Type: **Presentation**

# PSD of slow neutrons based on 10B-RPC

*Thursday, 23 October 2025 09:45 (15 minutes)*

The development of a new generation of neutron sources and the limited supply of  $^3\text{He}$  have led to the development of new technologies for the detection of slow neutrons. Magnetron sputtering of enriched  $^{10}\text{B}$  boron carbide allows for the production of homogeneous films with a density of  $2.4\text{--}2.5\text{ g/cm}^3$ . In this study, the applicability of the 10B-RPC as a slow neutron detector has been demonstrated, and the main parameters of the system have been determined, as well as a method for identifying neutron events has been developed. Due to its Low cost, scalability and implementation of inclined geometry make the 10B-RPC a promising detector for covering large areas of cold reflectometers.

**Primary author:** PETROVA, Maria (FLNP JINR)

**Presenter:** PETROVA, Maria (FLNP JINR)

**Session Classification:** DETECTORS AND HOUSINGS