



Contribution ID: 185

Type: **Poster DTS**

A Low-Power LGAD–Timepix Dosimeter for Biological Space Radiation Monitoring

Monday 3 November 2025 18:40 (3 minutes)

ALCYONE, an EU-funded project under the Horizon Europe program, investigates the impact of prolonged space exposure on biological systems, which is a critical challenge for future long-duration space missions. The project focuses on the development of a miniaturized on-chip micro-incubator to monitor and control environmental conditions for four types of cell cultures. To ensure precise radiation monitoring, a novel high-resolution dosimeter based on fine-pitch trench-isolated LGADs, coupled with Timepix front-end chips, has been developed and will be presented. The detector is seamlessly integrated into a compact, high-performance system-on-chip platform, enabling real-time processing of radiation fluence and dose.

Speed talk:

I am unwilling/unable to present a speed talk

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Session Classification: Poster