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## Investigation of Oxygen Contamination Impact on Acceptor Removal

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Radiation tolerance of Low Gain Avalanche Detectors (LGADs) is one of the major challenges in the development of precise timing tracking detectors for future hadron collider experiments. A widely accepted hypothesis for acceptor removal attributes the deactivation of implanted boron to the formation of boron-oxygen complexes, which introduce donor-like defect levels. To investigate the role of oxygen contamination, prototype sensors with varying concentration of oxygen were fabricated. In addition, the Partially Activated Boron (PAB) method—which aims to reduce oxygen-induced defects by cleaning oxygen with inactive boron—was applied to some samples. These prototypes were irradiated, and the acceptor removal coefficients were evaluated and compared across different samples. In this talk, I will present the results from these new prototypes, with a focus on the correlation between oxygen contamination and acceptor removal behavior.

### Type of presentation (in-person/online)

online presentation (zoom)

### Type of presentation (I. scientific results or II. project proposal)

I. Presentation on scientific results

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