

Performances of the latest FBK UFSD production

Tuesday 25 May 2021 05:12 (18 minutes)

Ultra-Fast Silicon Detectors (UFSD) are sensors based on the LGAD technology and designed to achieve concurrent precise timing and position measurements.

In the past 5 years, an intense R&D program has been carried out at FBK-Trento to optimize the design of UFSD, exploring specific features such as the gain layer design, radiation hardness, time resolution, production uniformity, and interpad distance. In this contribution, we present results on the above points from the latest FBK production, UFSD3.2. UFSD3.2 consists of 19 wafers of different thicknesses, from 25 to 55 micron, with shallow and deep gain implants, co-implanted with different carbon doses to maximize radiation hardness.

TIPP2020 abstract resubmission?

No, this is an entirely new submission.

Funding information

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Session Classification: Sensor Posters: SS Position

Track Classification: Sensors: Sensors: Solid-state position sensors