

Characterisation of UFSD4 production by FBK

Wednesday, 2 March 2022 16:00 (20 minutes)

In this contribution, I present the latest production of Ultra-Fast Silicon Detectors, UFSD4, manufactured by Fondazione Bruno Kessler. The production comprises of 18 wafers; on each wafer there are R&D structures and 12 full sensors prototypes for the Endcap Timing Layer of the CMS experiment at the High Luminosity LHC. Each of this 12 sensors has $16 \times 16 \times 1.3 \times 1.3 \text{ mm}^2$ pads. The new batch has been tested on wafer at FBK and additional measurements are ongoing in Torino on diced structures, to perform both static and dynamic characterisation. Data have been analysed to study the production yield and the gain layer uniformity, with the aim of verifying that UFSD4 meets the requirements for the CMS sensors.

Primary author: TORNAGO, Marta (Universita e INFN Torino (IT))

Co-authors: STAIANO, Amedeo (Universita e INFN Torino (IT)); SIVIERO, Federico (INFN - National Institute for Nuclear Physics); BORGHI, Giacomo (Fondazione Bruno Kessler); DALLA BETTA, Gian-Franco (INFN and University of Trento); PATERNOSTER, Giovanni (Fondazione Bruno Kessler); MENZIO, Luca (Universita e INFN Torino (IT)); PANCHERI, Lucio (University of Trento and TIFPA-INFN); FERRERO, Marco (Universita e INFN Torino (IT)); MANDURRINO, Marco (INFN); CENTIS VIGNALI, Matteo (FBK); BOSCARDIN, Maurizio (FBK Trento); CARTIGLIA, Nicolo (INFN Torino (IT)); ARCIDIACONO, Roberta (Universita e INFN Torino (IT)); SOLA, Valentina (Universita e INFN Torino (IT)); COSTA, marco (University of Torino)

Presenter: TORNAGO, Marta (Universita e INFN Torino (IT))

Session Classification: LGAD

Track Classification: LGAD