

# Avviso di seminario

Dr. Maria Mironova

Lawrence Berkeley National Laboratory (USA - CA)

Lunedì 10 Giugno 2024

Ore 15:00

Aula Anni – Dipartimento di Fisica

## **- PIXEL ASIC DEVELOPMENT FOR THE ATLAS AND CMS HL-LHC UPGRADES -**

### ABSTRACT

The Phase-2 upgrades of ATLAS and CMS for the High-Luminosity LHC (HL-LHC), require a new tracker with robust readout electronics capable of withstanding extreme radiation (1 Grad), a high hit rate (3 GHz/cm<sup>2</sup>), and a high data rate readout (5 Gb/s). In a joint effort between ATLAS and CMS, pixel detector readout chips have been designed by the RD53 collaboration in 65 nm CMOS technology. Based on a half-sized demonstrator (RD53A), two chip variants were designed for ATLAS and CMS, respectively. The ATLAS pre-production readout chip, ITkPixV1, was characterized in detail, and informed by the results, the final ATLAS pixel readout chip, ITkPixV2, has been designed, submitted, and the first wafers were received in July 2023. This talk provides a summary of 10 years of ASIC development within the RD53 collaboration. It will highlight specifically the chip testing effort of ITkPixV2, which will be the final ASIC for the ATLAS ITk Pixel detector for HL-LHC.

Il seminario è rivolto a ricercatori e studenti.

**Organizzato da: Prof.ssa S. Spagnolo e Dott. G. Chiodini**