



Contribution ID: 33

Type: Oral

Depleted monolithic CMOS sensors and very low power readout architectures

Friday 23 June 2023 09:25 (25 minutes)

The implementation of fully-depleted monolithic active sensors on a commercial CMOS technology paves the way for the development of innovative and cost-effective solutions for photon and charge particle detection. The INFN ARCADIA Collaboration developed sensor technology, CMOS IP and scalable architectures on a 110nm technology node at LFoundry, deploying pixel and strip test structures with pixel size in the range 10-50um and substrate thickness from 100 up to 400um. The design and experimental results of a MAPS demonstrator, featuring a 512x512 25um pixel matrix and a data push readout, and a monolithic pixelised strip demonstrator featuring an analogue readout, will be presented. We will discuss the opportunities for the use of the ARCADIA FD-MAPS technology in future timing, tracking and X-ray detection systems in space instruments.

Eligibility for "Best presentation for young researcher" prize

No

Presenters: DA ROCHA ROLO, Manuel Dionisio; DA ROCHA ROLO, Manuel Dionisio (Universita e INFN Torino (IT))

Session Classification: Research and Development of novel instrumentation for particle measurements in space

Track Classification: Research and Development of novel approaches and instruments for particle and high-energy radiation measurements in space