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OVERMOS - CMOS Hi-Res MAPS detectors for HEP applications

Tuesday 12 December 2017 14:00 (20 minutes)

The OVERMOS project investigates the use of MAPS, fabricated using a standard low voltage and high resistivity substrate 180nm CMOS technology, for tracking and vertexing in HEP applications.
Following a description of the main features of the proposed CMOS technology, which should guarantee high charge collection efficiency even after high level of dose of radiation, we will detail the design of the OVERMOS test pixel structures, which include active pixels, with in-pixel RO electronics, and basic pixel arrays.
Alongside, 3D TCAD simulation results related to charge collection and DC characteristics of the pixel structures will be shown.
Next, we will present experimental results for the fabricated OVERMOS test structures, including charge collection efficiency obtained using laser injection, and comparison of performances before and after neutron irradiation.

Authors: VILLANI, Enrico Giulio (STFC - Rutherford Appleton Lab. (GB)); Dr VILLANI, E. Giulio (STFC Rutherford Appleton Laboratory); WILSON, Fergus (STFC - Rutherford Appleton Lab. (GB)); DOPKE, Jens (STFC - Rutherford Appleton Lab. (GB)); ZHANG, Zhige (STFC - Rutherford Appleton Lab. (GB)); WORM, Steven (University of Birmingham); SEDGWICK, Iain (STFC); Dr MCMAHON, Stephen (STFC - Rutherford Appleton Lab. (GB)); SELLER, Paul (RAL); FRENCH, Marcus Julian (STFC - Rutherford Appleton Lab. (GB)); LIANG, Zhijun (Chinese Academy of Sciences (CN)); Dr XIU , qing lei; Dr ZHU, Hongbo (Insitute of High Energy Physics, CAS, Beijing, China)

Presenter: VILLANI, Enrico Giulio (STFC - Rutherford Appleton Lab. (GB))

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