

First measurements of irradiated CNM LGADs with carbon enriched gain layer

Wednesday 21 June 2023 13:50 (20 minutes)

The latest CNM LGAD run (R15973) was dedicated to improvement of radiations hardness by introduction of carbon in gain layer. Several different carbon doses were used. The initial gain layer doping was chosen to have operational voltage at -30C around 110-130V, thus offering good temporal resolution and good radiation hardness. The first tests after neutron irradiations up to the equivalent fluences of $2.5 \times 10^{15} \text{ cm}^{-2}$ have shown improved radiation tolerance with respect to previous runs. The preliminary results of CV/IV analysis, charge collection and timing resolution will be shown.

Authors: HOWARD, Alissa Shirley-Ann (Jozef Stefan Institute (SI)); HITI, Bojan (Jozef Stefan Institute (SI)); Dr PELLEGRINI, Giulio (Centro Nacional de Microelectrónica (IMB-CNM-CSIC) (ES)); KRAMBERGER, Gregor (Jozef Stefan Institute (SI)); Mr VILLEGAS DOMINGUEZ, Jairo Antonio (Consejo Superior de Investigaciones Científicas (CSIC) (ES)); DEBEVC, Jernej (Jozef Stefan Institute (SI)); SKOMINA, Petja; Dr HIDALGO, Salvador (Instituto de Microelectronica de Barcelona (IMB-CNM-CSIC))

Presenters: HOWARD, Alissa Shirley-Ann (Jozef Stefan Institute (SI)); HITI, Bojan (Jozef Stefan Institute (SI)); KRAMBERGER, Gregor (Jozef Stefan Institute (SI))

Session Classification: LGAD