

LGAD design for harsh radiation environments using TCAD simulations.

Tuesday 22 November 2016 14:40 (20 minutes)

The extremely harsh radiation environment of the future trackers necessitates the upgrade of the existing silicon detector technologies. The LGAD detectors, based on their internal charge multiplication mechanism, have attracted a lot of interest in the silicon detector community. However, it has been reported that a rapid decrease in the LGAD gain with irradiation is limiting these devices as the possible detector candidates for future experiments. In this work, it is demonstrated, through the TCAD simulation results, that by tuning certain design parameters, LGAD can be made to sustain the high radiation environment.

Author: JAIN, Geetika (University of Delhi (IN))

Co-author: DALAL, Ranjeet (University of Delhi)

Presenter: BHARDWAJ, Ashutosh (University of Delhi (IN))

Session Classification: TCT & Device simulations