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Implementation of Charge Carrier Mobility and Radiation Damage Models for Diamond Sensors in Allpix Squared

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We present the implementation of various charge carrier mobility models for diamond sensors in the Allpix Squared simulation framework. These models account for the electric field, temperature, and impurity concentration dependence of mobility to accurately simulate charge carrier propagation in diamond sensors. Furthermore, we implement "radiation damage model" parameters for polycrystalline structure and radiation damage in diamond sensors. Together with an appropriate mobility model, these parameters enable accurate simulation of signal loss resulting from reduced charge collection efficiency. Our simulation results show good agreement with existing literature data.

Will the talk be given in person or remotely?

In person

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