Charge sharing distance in silicon pixel detector.[1] YUNHAO LI[2],
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TEAM[4] — A simple model of charge sharing in a thin silicon pixel detector has been
developed for a magnetic field free condition. This model was developed to under-
stand the results that has been obtained from Fermilab test beam. Knowing the
mean charge distribution in the planar sensor, we integrate the charge sharing that
occurs from one pixel to another. The model includes thermal condition, minimum
charge threshold in silicon, electron mobility, and different incidence angles. The
model implements charge diffusion, and it's all based on energy loss per unit dis-
tance in silicon. The model can be used for different pixel shapes and thicknesses.
We can show sharing dependence on the bias voltage and the single pixel threshold.

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