Take energy deposited in 5 µm x 5 µm cells from Geant4

Apply charge spread
$E_{post\ charge\ spread}$

Effect of charge spread:
$\Sigma(E_{neighbours}) \approx (50\%\ to\ 80\%) \times E_{init}$

Sum energy post charge spread in 5 µm x 5 µm cells

Add noise to signal hits

Effect of noise:
σ_{noise} = 120 eV, or 40 e-
(1 e- ≈ 3 eV)

Add noise only hits: $P(noise) = 10^{-6}$
$=>10^6$ hits in LDC-like detector

Register those pixels with hits above threshold

5 µm simulation grid