

WG 5.2.1 Meeting Simulation - Phase-I

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WG 5.2.1 Simulation Phase-I

What is Phase-I ?

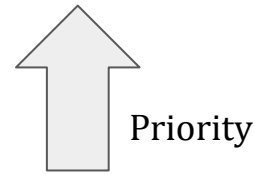
- 1) Radiation interaction with LGAD and other structures and hits output
 - a) Geant-4
- 2) Electrical field inside LGAD and I(t) output
 - a) TCAD
- 3) Standardize a format in a framework for data exchange between packages**
- 4) Document the steps and results here :

https://ultra-fast-silicon-detectors.gitlab.io/documentation/ufsd_online_documentation/

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Geant-4 simulation :

- 1) Geometry definition (GDML ?)
- 2) Material definition (GDML ?)
- 3) Radiation
 - a) High energy hadrons/electrons (GeV)
 - b) Low energy X-Rays (\sim keV)
 - c) Low energy protons, ions (few Mev)
- 4) Physical process
- 5) Do we need the Electrical field as well (3c) ?
- 6) Output (hits) format and content
- 7) Framework integration



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TCAD simulation :

- 1) Geometry definition
- 2) Material definition
- 3) Operating conditions
- 4) Input (hits) from G4
- 5) Output Electrical field for G4
- 6) Output ($I(t)$)
- 7) Framework integration