



EM VALIDATION RESULTS FOR GEANT4-10-04-REF-07

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EM physics in 10.4ref07

■ Utils

- *Moved few virtual methods from inline to source*
- *Added extra EM parameters and UI commands + few fixes*
- *CPU optimisation in G4EmElementSelector*
- *An attempt (likely wrong) to optimise computation of physics interaction length*
 - *After ref-07 we return this code to 10.4/10.5beta valiant*

■ Standard

- *Minor fixes in 5D model*
- *New ion ionisation models – fixed Coverity reported problems*
- *Mihaly Novak make a revision of bremsstrahlung models G4SeltzerBergerModel, G4eBremssrahlungModel, G4PairProductionRelModel, G4DipBurstGenerator, expected substantial CPU speedup*

■ EM physics lists

- *Added gamma super process and included into Opt1 EM physics*

■ Results: <https://geant4-tools.web.cern.ch/geant4-tools/emtesting/>

- *Opt1 results for shower shape are affected – super process code needs evaluations*
- *Slightly reduced resolution – needs more evaluations*