## EM Low Energy status for 9.6

## □ Physics constructors

- Removal of G4EMLowEnergyMUPhysics constructor; replaced by : G4EMLowEPPhysics constructor
  - Livermore + new Monash U. Compton model
- also users will be proposed to use G4EmStandard\_option4

## □ Gamma processes

- Livermore Photoelectric, Pair production & Rayleigh upgraded (usage of physics vectors, spline interpolation when possible...) – significant speed improvement maintaining % level accuracy
- Livermore Compton ?
- Monash U.: G4LowEPComptonModel
- Microdosimetry processes for e- and ions in Silicon
  - Extended coverage to relativistic energies
- Common atomic deexcitation interface
  - **Full review : Livermore & Penelope give now similar for fluorescence spectra**
- □ Shell Ionisation cross section models
  - Extension up to 100 MeV for protons and alphas (A. Taborda et al.)
  - Inclusion of dominant M1-5 shells (A. Taborda et al.)
- Requires G4LEDATA 6.32