New developments in the G4 Low Energy Electromagnetic Classes

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New developments for 4 classes

- Polarized Compton Effect* .
- Rayleigh Scattering :

  Sampling modification of polar angle distribution*.

  Introduce Polarization#.
- Photoelectric Effects :

  Introduce polar angle distribution #.

  Introduce Polarization#.
- Pair Production .

  Modification of polar angle distribution #.

  Introduce Polarization#.

* in the current release. # proposal.

Conclusion

✓ *The classes reproduce very well the theoretical expectation.*

✓ *Unpolarized beam after Compton and Rayleigh scattering, produced polarized radiation, so the polarization is always important to take into account.*

✓ *The Stokes parameters provide a suitable method to calculate the polarization of the scattered radiation.*

✓ *Photoelectric class reproduce, in a first order, experimental data.*

✓ *For Pair Production process, more work it is necessary to extend the azimuthal distribution and polarization process to lower energies.*