

UPDATE: Status and plans of electromagnetic interactions

Photohadronic interaction

- [Issue !411](#), PROPOSAL produces a pseudoparticle in $\gamma^{(*)}A$ interaction, which is currently ignored
- Felix Riehn has written a draft [PR 430](#), such that the PROPOSAL interface calls Sibyll above 80 GeV
- Still to do
 - Use other hadronic models
 - Check the physics
 - Do something for low energies

Mandatory EM Topics from the [Roadmap](#) discussed at the last General Call

- Photohadronic interaction
- LPM effect
- Validation of e & μ multiple scattering
- Validation of EM showers

LPM effect

- LPM effect for bremsstrahlung in homogeneous media already in PROPOSAL
- LPM effect for photo pair production currently being implemented (Jean-Marco & Alexander)
- Implementation for inhomogeneous media depends on fixing `cascade.inl`

New PROPOSAL release 7.3.0

- Jean-Marco presented new release at last EM call
- [Pull request](#) for new version was merged into master on Tuesday
- (Selected) Changes from 7.0.5 to 7.3.0
 - Photohadronic interaction, Koch & Motz parametrization of photopair production, muon photopairproduction, stochastic deflection, ...
 - Countless small improvements and bugfixes

Validation of EM showers and e & μ multiple scattering

- Scripts developed by Lars and Jean-Marco for EM shower parameters and lateral distributions are basically ready
- Once `cascade.inl` is fixed, we will resume this line of work