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Current status of electromagnetic shower simulations with CORSIKA 8

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To simulate electromagnetic showers in CORSIKA 8, an interface to the lepton and photon propagator PROPOSAL has been written.

Thereby, PROPOSAL provides interaction cross sections, continuous energy losses, a description of multiple scattering, and the production of secondary particles in stochastic interactions for both the electromagnetic and the muonic shower component.

This contribution presents a validation of electromagnetic showers simulated with CORSIKA 8, looking at both the electromagnetic and the associated muonic component.

For this, shower parameters such as longitudinal and lateral profiles are presented and compared to showers simulated with CORSIKA 7.

Hereby, it will be highlighted which simulation results already show a good agreement, but also discussed in which areas further investigations of the results are going to be necessary.

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