Neutron Production in Extensive Air Showers

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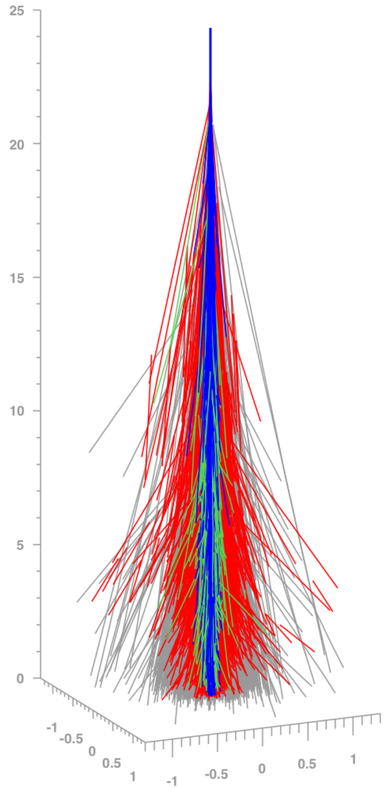

What is the contribution about?

Neutrons as sub-luminal shower particles

Why is it relevant/interesting?

Neutrons are a hadronic shower component

Neutrons produce late signals in scintillators at large lateral distance

What has been done?

Detailed simulation of the neutron component of air showers with FLUKA in energy range of the knee

What is the result?

Prediction of scaling of neutron yield with primary particle type, energy, lateral distance,

Prediction of typical arrival time delay