

Auger Youngsters Meeting 2024 (Siegen)



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Measuring the delayed neutron component in extensive air showers

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The study of ultra-high-energy cosmic rays allows for the probing of hadronic interactions at energies far exceeding those achievable by human-made accelerators.

Different models can be tested by measuring the electromagnetic or muonic signal in air showers.

In the Scintillator Surface Detectors (SSDs), we observe subluminal pulses that could originate from a late neutron component.

This opens up a new possibility of testing hadronic interaction models through the hadronic component of air showers.

In this talk, we will examine the measurements of subluminal pulses and make a first attempt to compare them to predictions of dedicated neutron simulations.

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