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On the correlation of the angular and lateral distributions of electrons after multiple scattering allowing for energy losses

Thursday 30 July 2015 15:30 (1 hour)

We calculate analytically the correlation coefficient of the scattering angle and the lateral deflection for electrons being multiply scattered by small angles while losing energy.

We show that when average losses are assumed for the bremsstrahlung process the behaviour of the correlation coefficient with electron energy is completely different from that when only the ionisation losses are assumed. We also show how the correlation changes when fluctuations in the bremsstrahlung are allowed for. Based on these results an attempt to understand the correlation for electrons in EAS is made.

Collaboration

– not specified –

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Primary author: Prof. GILLER, Maria (University of Lodz)

Co-authors: Dr SMIALKOWSKI, Andrzej (University of Lodz); Mr LEGUMINA, Remigiusz (University of Lodz)

Presenter: Prof. GILLER, Maria (University of Lodz)

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