



Contribution ID: 2

Type: **Presentation**

## **Air shower predictions of QGSJET-III and model uncertainties for $X_{\max}$**

*Tuesday, 23 January 2024 09:00 (20 minutes)*

I shall discuss new theoretical approaches implemented in the QGSJET-III Monte Carlo generator and present selected model results regarding secondary hadron production in hadron-proton and hadron-nucleus collisions. The predictions of the model for basic characteristics of proton-induced extensive air showers (EAS) will be compared to the ones of QGSJET-II and of other cosmic ray interaction models. In the second part of my talk, I shall concentrate on potential model uncertainties regarding predictions for EAS maximum depth.

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**Session Classification:** Generators & Theory