

## EXTRAPOLATION OF HADRON PRODUCTION MODELS TO ULTRA-HIGH ENERGY

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QCD-inspired models of high-energy hadron production can be used to predict, among others, cross sections, mean production multiplicities and multiplicity fluctuations. These quantities are closely related due to the QCD factorization theorem and Abramovski-Gribov-Kancheli cutting rules. Focussing on the SIBYLL interaction model, we discuss the importance of the low- $x$  extrapolation of parton densities and different shadowing/saturation scenarios. Some recent results from accelerator experiments are considered in the light of possible implications for high energy extensive air showers. Although most of the results are calculated with the SIBYLL model, they apply in general to QCD-inspired interaction models and predictions of other models are also shown.