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Systematic Properties of the Tsallis Distribution: Energy Dependence of Parameters

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Summary

Changes in the transverse momentum distributions with beam energy are studied using the Tsallis distribution as a parameterization. The dependence of the Tsallis parameters q , T and the volume are determined as a function of beam energy. The Tsallis parameter q shows a weak but clear increase with beam energy with the highest value being approximately 1.15. The Tsallis temperature and volume are consistent with being independent of beam energy within experimental uncertainties.

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