Title:	A unified formalism to study transverse momentum spectra in heavy-ion collision
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Abstract:	The study of transverse momentum spectra is crucial to understand the nature of matter produced during heavy-ion collisions. The pT-spectra in a heavy-ion collision consists of a low pT-region where soft processes dominate particle production, whereas the high pT-region is mostly dominated by hard processes. Single and multi-component models based on statistical thermodynamics are extensively used to characterize the spectra. In this work, we have introduced a unified non-extensive statistical approach using the Pearson distribution as a tool to study pT-spectra. The goodness-of-fit of the proposed distribution as compared to previously used models makes it an interesting method providing strong insights into the underlying physics of heavy-ion collisions. This generalized approach provides a strong correlation with other observables by comparing the predictions of the methods in pT-distributions with various harmonics of azimuthal distributions.
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