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Evolution of higher moments of multiplicity distribution

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With the help of a master equation we study the evolution of the multiplicity distribution. Particularly we focus on the third and fourth factorial moments from which all other kinds of moments can be calculated. Among them we also determine the skewness and the kurtosis. We first study how the third and the fourth moments thermalise when the kinetic temperature is fixed. Then we study the evolution of the moments in a situation with decreasing temperature. It is shown that the relaxation time is the same for all moments but moments of higher orders get initially further from the equilibrium value if temperature is changed. We thus issue a warning flag on extraction of temperature from the higher moments if they come from a rapidly cooling fireball.

Content type

Theory

Collaboration

Centralised submission by Collaboration

Presenter name already specified

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