

# Multiplicity Fluctuations and Resonances in Heavy-Ion Collisions

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The number of particles produced in ultra-relativistic nucleus-nucleus collisions is well described by the statistical model. In this model, the particle yields depend on temperature and chemical potential. However, statistical physics can also predict multiplicity fluctuations, which can subsequently be compared to experimental data. Our primary aim research is to provide information on how to compute multiplicity fluctuations within the statistical model. In this talk, the grand canonical variance of the proton and baryon number multiplicity distribution in the Hadron Resonance Gas will be provided, along with the elaboration of the DRAGON programme, which we use to update the list of hadrons and resonance decays. Furthermore, a further outlook of my diploma thesis will be provided.

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