Contribution ID: **147** Type: **20 min.**

Self-similarity method in relativistic nuclear physics

Friday 19 September 2025 14:30 (30 minutes)

The self-similarity approach is used to describe particle production in relativistic particle collisions. The results are based on analysis of the vast experimental material obtained with the bubble chambers. The asymptotic properties of particle production which are intrinsically connected with the properties of the Lobachevsky geometry are demonstrated. It is stated that the Lobachevsky space is the most suitable space for description of relativistic systems.
The specific features of description of inclusive spectra of secondary particles based on the self-similarity solution for cumulative and subthreshold reactions in relativistic nuclear collisions are considered. The transition from non-cumulative to cumulative processes is considered on the basis of experimental data.
The considerations on the role of soft processes in experiments at the accelerator complex NICA are given.

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Session Classification: Dynamics of multiparticle production

Track Classification: Dynamics of multiparticle production