

Hydrodynamics in small systems in ultra-relativistic hadron collisions

lundi 18 septembre 2023 10:00 (30 minutes)

I will give an outline of the evidence of the formation of a “fluid” in small systems in ultra-relativistic hadron collisions (p-p and pA), and argue that this forces us to radically rethink our view of hydrodynamics as an effective theory. I will argue that a re-derivation of hydrodynamics as a field theory can help us in understanding how a system with as few as 20 degrees of freedom can appear hydrodynamic.

I conclude proposing to test the hydrodynamic hypothesis “to the limit”, using the hydrodynamic initial state to characterize initial state quark wavefunctions of the hadron

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Classification de Session: Plenary