



Seminar general

HADRONIZATION of the QUARK-GLUON PLASMA

M. APOSTOL

IFIN-HH, DFT

The quark-gluon plasma formed in atomic nuclei by high-energy nuclear collisions is analyzed through its various stages of evolution. The threshold energy for ignition of the nuclear quark-gluon plasma is derived, the subsequent expansion and cooling of the plasma are described, and the condensation mechanism of the quarks into hadrons is presented. It is shown that the hadronization process is a phase transition of the first kind, dominated by hadrons with the simplest structure. The transition temperature is derived, and the phase transition is characterized. A few introductory notes are also given, concerning the excitation of heavy atomic nuclei, statistical equilibrium and condensation of matter.

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