

SEMINÁŘ OTF

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## Scaling Features In High Energy Hadron And Nucleus Collisions

### Abstrakt

Results of analysis of experimental data on inclusive cross sections of high- $p_T$  hadrons, jets, and direct photons produced in  $pp/\bar{p}p$  and  $AA$  collisions are presented in the framework of  $z$ -scaling. The data were obtained at ISR, SppS, RHIC, and Tevatron. New properties of  $z$ -presentation of the inclusive spectra will be shown. A physical interpretation of the variable  $z$  and the scaling function  $\psi(z)$  is given. A microscopic scenario of hadron and nucleus collisions at a constituent level in terms of momentum fractions is discussed. The  $z$ -scaling reflects structure of the colliding objects, interaction of their constituents, and particle formation. The observed regularity manifests general properties of self-similarity, locality, and fractality of hadron interactions at high energies. The obtained results could be used for searching for new physics phenomena in high energy hadron and nucleus collisions in soft and hard regions at U70, RHIC, Tevatron, and LHC.

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