Seminarium Zakładu Fizyki Teoretycznej

Departament Badań Podstawowych
Narodowego Centrum Badań Jądrowych

12 czerwca 2019 r. (środa), godz.12:15
NCBJ, sala 404, **Pasteura 7**

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„Evolution equations for medium-induced QCD cascades and their solutions"

ABSTRACT:
I am going to discuss evolution equations for inclusive distribution of gluons as produced by jet traversing quark-gluon plasma. We reformulate the original equations in such a form that the virtual and unresolved-real emissions as well as unresolved collisions with medium are resumed in a Sudakov-type form factor. The resulting integral equations are then solved most efficiently with use of newly developed Markov Chain Monte Carlo algorithms implemented in a dedicated program called MINCAS. Their results for a gluon energy density are compared with an analytical solution and a differential numerical method. Some results for gluon transverse-momentum distributions are also presented. They exhibit interesting patterns not discussed so far in the literature, in particular a departure from the Gaussian behaviour - which does not happen in approximate analytical solutions.

Serdecznie zapraszamy,

M. Kowal, W. Piechocki, J. Skalski, L. Szymanowski