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# Direct Photon measurement in p+p and perspectives for Pb+Pb with the ALICE calorimeters

Content :

The ALICE experiment at LHC is currently taking p+p collisions data at sqrt(s) = 7 TeV and at the end of the year Pb+Pb collisions at sqrt(s_NN)=2.76 TeV.
ALICE was designed for a comprehensive studies of the quark matter using different probes, including direct photons, i.e. the photons produced in the initial hard parton scattering, and in the final-state rescattering and thermal emission in the quark-gluon fireball.
The measurement of direct photons cross section in p+p will constrain the initial and final state of pQCD calculations. In Pb+Pb collisions, the medium provides additional sources of photons such as thermal photons and photons generated in the interaction of hard scattered partons with the medium. Fragmentation photons, issued from the fragmentation of partons (mainly quarks at LHC energies), will be suppressed due to the quenching of the parton in the strongly interacting medium. Finally, prompt photons produced in Compton (main contribution at LHC energies) and Annihilation processes, which yield should not be modified in Pb+Pb collisions with respect to p+p collisions, and their tagging with jets could help us to do precise measurements of medium induced modifications on the jet structure.

The ALICE electromagnetic calorimeters PHOS and EMCAL can perform the measurement of direct photons in a wide kinematic range. In this presentation, we will discuss the feasibility of the measurement with the calorimeters and the analysis techniques under use in both p+p and Pb+Pb collisions and present status of this analysis in p+p collisions.

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