

Direct Photon and high-pT Particle Production with ALICE

Friday, 5 December 2014 10:45 (45 minutes)

Direct-photons produced in the hot fireball of a heavy-ion collision leave the medium unscathed. They are therefore believed to provide information about the very early stage of the collisions. In particular, the direct photon pT spectrum at low pT ($1 < pT < 4$ GeV/c) might contain information about the initial temperature of the quark-gluon plasma. A further diagnostic tool is the azimuthal anisotropy of direct photons. A large azimuthal anisotropy of low-pT direct-photons similar in magnitude to the pion anisotropy would suggest that direct-photon mostly come from the late stage of the collision. This would be at variance with current hydrodynamic models and therefore constitute a puzzle. Another way to study properties of the hot medium is the measurement of jet and high-pT particle production in pp and A-A collisions. Results from p-A collisions play an important in differentiating between effects from hot and cold nuclear matter. The ALICE experiment at the LHC is ideally suited to measure photon production, especially at low pT. In the study of jet and high-pT particle production ALICE profits from its excellent particle identifications capabilities. The current status of results on direct photon and high-pT particle production from ALICE will be presented in this talk.

Summary

Overview of ALICE results on direct photon and high-pT particle production

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Session Classification: Plenary Session