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## Direct Photons in Pb-Pb collisions with ALICE

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Direct photons produced in the hot fireball of a heavy-ion collision leave the medium unscathed. Therefore, they are believed to provide information about the very early stage of the collisions. In particular, the direct photon  $p_T$  spectrum at low  $p_T$  ( $1 < p_T < 4$  GeV/c) might contain information about the initial temperature of the quark-gluon plasma and its space-time evolution. With current state-of-the-art hydrodynamic models a simultaneous description of the yield and flow of low  $p_T$  direct photons is difficult to achieve, a finding which is referred to as “photon puzzle”. In this talk direct photon spectra measured in Pb-Pb collisions at 2.76 TeV are presented. Two independent methods were used, the photon conversion method based on the reconstruction of electron-positron pairs from converted photons and the reconstruction in the electromagnetic calorimeter PHOS. With both methods direct photon spectra were obtained for three centrality classes. The statistical significance of the direct excess is quantified in each case taking into account correlated systematic uncertainties.

### **On behalf of collaboration:**

ALICE

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