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Two-pion Bose-Einstein correlations in PbPb collisions at 2.76 TeV with ALICE

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We present the first measurement of pion source radii in Pb-Pb collisions at the LHC. The radii were obtained by analyzing the Bose-Einstein enhancement in two-pion correlation functions. Like at lower energies, the radii drop with increasing transverse momentum, indicating the presence of collective expansion. In absolute terms, all three radii (R_out, R_side, R_long) are larger than at RHIC, roughly consistent with a linear scaling with the cube root of the particle multiplicity. The results, taken together with those obtained from the study of the multiplicity and the azimuthal anisotropy, indicate that the fireball formed in nuclear collisions at the LHC is hotter, lives longer, and expands to a larger size as compared to lower energies.

Primary author: MERCADO, Jorge (Heidelberg University)

Presenter: MERCADO, Jorge (Heidelberg University)

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