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## Transverse momentum correlations in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV

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We report on the first study of transverse momentum differential correlation,

$$la\Delta p_t\Delta p_t$$

$ra$ , in Pb - Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV measured with the ALICE detector at the CERN Large Hadron Collider. We measure the two-particle correlation functions for  $++$ ,  $--$ , and  $+-$  charged particle pairs as a function of the pair azimuthal,  $\Delta\phi$ , and pseudorapidity,  $\Delta\eta$ , differences, and study their evolution with collision centrality. We find that similarly to number two-particle correlations, the

$$la\Delta p_t\Delta p_t$$

$ra$  correlations shape and amplitude exhibit a strong dependence on collision centrality. We further observe they too exhibit near-side ridge-like and double away-side peak structures in most central collisions. We carry out Fourier decompositions of the correlation dependence on  $\Delta\phi$  as a function of  $\Delta\eta$  and find the harmonics coefficients are essentially constant for  $\Delta\eta > 0.6$ . We compare the measured harmonic coefficients with flow coefficients  $v_2, v_3, v_4$  obtained with the reaction plane method and find that, up to scaling factors that depend on the order of the coefficients, they have identical collision centrality dependence.

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