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Recent ATLAS results on flow measurements in lead-lead and proton-lead collisions

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ATLAS has performed a detailed measurement of event-by-event flow in lead-lead collisions at the LHC. The Fourier coefficients, v_2 - v_4 , of the azimuthal angle distribution of charged particles measured in the ATLAS inner detector ($|\eta| < 2.5$) are extracted in each of 48 million minimum-bias Pb+Pb collisions. The v_2 - v_4 distributions are measured for a variety of centrality intervals over three transverse momentum ranges, $p_T > 0.5$ GeV, $p_T > 1$ GeV and $0.5 < p_T < 1$ GeV. The measurements of the v_n distributions, unfolded for experimental resolution will be presented. The relationship between the shapes of the v_n distributions and the collision geometry and initial-state fluctuations will be discussed. The results will be compared with theoretical calculations of initial-state eccentricity distributions and theoretical calculations of the v_n distributions using hydrodynamics.

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