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Measurement of angular correlations in proton-proton and proton-lead collisions with the ATLAS detector at the LHC

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ATLAS measurements of angular correlations between particle pairs at large pseudorapidity separation in pp and pPb collisions are presented. The data were collected using a combination of the minimum-bias and high track-multiplicity triggers. A detailed study of the dependence of two-particle correlations on the charged particle multiplicity, transverse momentum of the pair constituents and the pseudorapidity separation between particles forming a pair is shown. Measurements of multi-particle cumulants in the azimuthal angles of produced particles in wide pseudorapidity ($|\eta|<2.5$) and multiplicity ranges, with the aim to extract a single particle anisotropy coefficient, v1-v5, are also presented. These measurements can help to understand the origin of the long-range correlations seen in high-multiplicity pp and p+Pb collisions.

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