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Principal Component Analysis of Correlation Data without Nonflow Effects

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We extend the recently presented Principal Component Analysis (PCA)
method to reduce the nonflow effects present in the two-particle
correlation data. We illustrate this technique by applying it to
simulated pseudorapidity correlation data obtained with A Multi-Phase
Transport (AMPT) model for Pb-Pb collisions at the LHC energy 2.76 TeV.
Measurable subleading modes are seen in the
elliptic and triangular flows as a function of pseudorapidity.
Although we show here only two-particle correlation results, the technique is
applicable to also multi-particle correlations.

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