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# Directed and Elliptic flow measurements in the BM@N experiment with highly non-uniform azimuthal acceptance

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High-baryonic-density strongly interacting matter is created in collisions of heavy ions, and its properties can be probed through the azimuthal anisotropy of produced particle momenta. This anisotropy is commonly quantified via the Fourier coefficients of the particle azimuthal angle distribution. However, the measured coefficients are susceptible to significant biases introduced by the detector setup. In my talk, I address this challenge by reviewing existing correction techniques and then proposing an upgraded approach based on Principal Component Analysis to account for non-uniformities in the detector azimuthal acceptance. The performance of this new correction is evaluated using high-statistics Monte-Carlo simulations of the BM@N experimental setup, processed through a full chain of data-like reconstruction.

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