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## **Vorticity influence on the dynamics of quark-gluon plasma in relativistic heavy-ion collisions**

Huge orbital angular momenta and vorticity are produced in noncentral heavy-ion collisions, thus the dynamics of quark-gluon plasma (QGP) must be influenced. Within the framework of parton cascade Boltzmann Approach of MultiParton Scatterings (BAMPS), we calculate the elliptic flow and spectra of QGP for Au + Au collisions at  $\sqrt{s_{\mathrm{NN}}} = 200$  GeV. Vorticity is implemented according

to participant number asymmetry via Monte Carlo techniques. We find that vorticity can decrease the expansion along x axis while almost has no influence on the expansion along y axis, as well as enhance the yield of partons. Besides the initial geometrical eccentricity of the nuclear overlap region which is usually considered as the origin of elliptic flow, our results show that vorticity have significant effect which can lead to a decrease of  $v_2$ .

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