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Anisotropy of the QGP droplet explored through high $p_\perp$ data

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Through analytical arguments, numerical calculations and comparison with experimental data, we show that the ratio of high $p_\perp$ observables $v_2/(1-R_{AA})$ reaches a well-defined saturation value at high $p_\perp$, which depends on the spatial anisotropy of quark-gluon plasma formed in ultrarelativistic heavy ion collisions. By using our recently developed DREENA framework, which can accommodate any temperature profile, we calculate this ratio for various temperature evolutions and demonstrate that it is robustly related to the time-averaged anisotropy of the evolving QGP, as seen by jets. With the future reduction of experimental errors, our method will provide a way to constrain an important bulk property of the medium – spatial anisotropy of QGP – directly from high pt experimental data.

Primary authors: STOJKU, Stefan (Institute of Physics, University of Belgrade); Dr AUVINEN, Jussi (Institute of Physics, University of Belgrade); Dr ZIVKOVIC, Lidija (Institute of Physics, University of Belgrade); Dr HUOVINEN, Pasi (Institute of Physics, University of Belgrade); Dr DJORDJEVIC, Magdalena (Institute of Physics, University of Belgrade)

Presenter: STOJKU, Stefan (Institute of Physics, University of Belgrade)

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