

Response of Jets to Collective Flow in Heavy-Ion Collisions

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The highly-successful program of jet quenching in heavy-ion collisions relies upon a separation of energy scales between the jet p_T and the medium. At leading power in this high- p_T “eikonal” expansion, scattering in the medium leads to isotropic transverse momentum broadening and radiative energy loss, but the medium is approximately static in this limit. When extended to incorporate the first sub-eikonal order, however, scattering in the medium is sensitive to other degrees of freedom, including in particular the velocity field of the medium. In response to a flowing medium, jets experience both a net deflection in the direction of the flow and a velocity-dependent bias in their emitted radiation. In this talk, I will discuss the origin of these effects and their potential impact in heavy-ion phenomenology.

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