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## Study of path-length dependent energy loss of jets in p-Pb and Pb-Pb collisions with ALICE

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It is well established that hard partons lose energy as they traverse the quark-gluon plasma (QGP). However, while there has been significant work to describe the mechanism by which this occurs, the relative contributions of the microscopic processes have yet to be constrained experimentally. One way to address this question is to exploit the theoretically derived relationship between the parton energy loss mechanism and its associated path-length dependence. The ALICE experiment has taken a multipronged approach to studying this path-length dependence in Pb-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV by exploring the link between soft and hard observables. These efforts include the incorporation of flow-like observables into traditional jet measurements, as well as jet-like correlations.

This talk will present the  $v_2$  measurement for charged particles at midrapidity in p-Pb and Pb-Pb collisions, which show significant non-zero values from high to low  $p_T$  for the first time that may be due to path-length dependent jet quenching. Jet yields measured with Event-Shape Engineering selections, which use the  $q_2$  vector to classify events with varying anisotropies but similar bulk properties, will be shown to further explore this possibility. Additionally, results for correlations between hard trigger  $\pi^0$ s and recoil hadrons will be compared with respect to the event-plane angle. Jet constituent yields calculated from jet-hadron correlations with low momentum jets will also be considered.

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