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Medium-induced jet energy loss and flavor conversion in e+A

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The jet produced in QCD medium will suffer multiple scatterings and induced parton splitting process. This process lead to not only energy loss of leading partons but also convert its flavor to others due to induced gluon and quark pair production. As a consequence, beside the suppression of leading hadron spectra, the flavor compositions of a jet should be modified. Through a numerical study of the medium-modified QCD evolution, the leading K^- strange meson spectra are found to be particularly sensitive to the induced flavor conversion in e+A collisions. This conversion can lead to increased number of gluons and sea quarks in a jet and enhance the K^- spectra to counter the effect of energy loss with large momentum fractions x_B where the struck quarks are mostly valence quarks of the nucleus.

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