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## Testing advanced cooling techniques

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An Coherent-electron Cooling (CeC) based on the FEL and micro-bunching instability had been proposed few years ago. Being a very flexible version of stochastic cooling, the CeC approach promises significant increase in the bandwidth and, therefore, significant shortening of cooling time in high-energy hadron colliders. In principle, it also can be considered as a possible final-stage cooling technique for muon colliders. In this paper we present our plans of simulating and testing the key aspects of this proposed techniques using the coherent-electron-cooling proof-of-principle experiment at BNL.

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