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## Cooling at BNL<sup>1</sup>

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Cooling stored hadron beams leads to improvement in the luminosity of colliders. At BNL, in collaboration with various other institutions, we carry out research and development of various techniques aimed at cooling RHIC, the Relativistic Heavy Ion Collider. These include electron cooling, microwave stochastic cooling and optical stochastic cooling. In this talk I will describe the challenges associated with cooling a high-energy ion beam, the techniques being pursued and the benefits to the RHIC program, including a possible electron ion collider, eRHIC.

<sup>1</sup>Work done under the auspices of the US DOE