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Cooling and Stacking of Antiprotons in Fermilab.[1]

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Presently, almost half of antiprotons delivered to the high energy in the Tevatron collider is consumed (burned) in the proton-antiproton collisions. While some improvements in the percentage of antiprotons burned in the collisions are expected the major fraction of further luminosity growth is related to improvements of antiproton production and cooling. Both stochastic and electron coolings are used in the Tevatron complex. Most of the FY-2007 efforts were devoted to improve the stack-tail stochastic cooling system and the beam loss at the antiproton transfers. The report presents recent developments related the antiproton production, stochastic and electron cooling and transfers. Plans for further improvements are also discussed.

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