

Experiment E835 at the Fermilab Antiproton Accumulator has collected a large sample of charmonium states using a gas hydrogen jet and the virtually monoenergetic stochastically cooled antiproton beam. The experiment has made the most precise measurement of mass and width for the $\chi_c(1P)$ states available to date. We will present an improved measurement of the $\chi_{c(0)}(3147)$ width, measurements of the decay of the $\chi_{c(0)}(3147)$ to $\pi^0\pi^0$, $\eta\eta$ and $\gamma\gamma$ and the final result of our measurement of the width of the η_c . Preliminary results on selected exclusive decay modes of $\psi(2S)$ will also be presented. These studies contribute to a clearer and improved understanding of the nature of the proton-antiproton annihilation process.