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High-X measurement of the anti-quark distributions in the nucleon: An extension of E866/NuSea measurements[1] LARRY DONALD ISENHOWER, Abilene Christian University, E906 COLLABORATION — The quark-level structure of the nucleon has been studied by various methods. Fixed-target Drell-Yan scattering can kinematically select events which specifically probe the target's antiquark distributions and is ideally suited to study these effects. The Fermilab E906 detector is under construction at the NM4 area at Fermilab. It is planned for the experiment to begin taking data in June 2010. E866/NuSea yielded a number of important physics results, including the first measurement of the cross section ratio of proton-proton to proton-deuterium collisions over a large kinematic range, allowing the extraction of the ratio of anti-down to anti-up quarks in the proton. The increase in the Drell-Yan cross section at 120 GeV/c will allow the extension of the range of the light anti-quark ratios to larger Bjorken-x. The apparatus to be used will be discussed, along with the expected impacts these measurements should have on our understanding of the nucleon.

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