

Abstract Submitted
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**Measurement of Light Anti-quark Asymmetry in $p+p(d) \rightarrow \mu^+ + \mu^-$
Drell-Yan Process in Fermilab E-906/SeaQuest Experiment** CHIRANJIB
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TION — The Fermilab E-906/SeaQuest experiment will measure the anti-quark
structure of the nucleon which eventually will give unique insight into the origin of
the sea quarks. The predecessor E866/NuSea experiment showed a clear asymmetry
of the ratio $\frac{\bar{d}}{\bar{u}}$ for Bjorken $x < 0.2$ while it approaches unity for $x > 0.25$, indicating
clear deviations from the phenomenological models. The E-906/SeaQuest exper-
iment will measure the Drell-Yan cross section in p-p and p-d scattering and will
determine the $\frac{\bar{d}}{\bar{u}}$ asymmetry over $0.04 < x < 0.45$, thus extending the available E-866
measurements to a higher x region. The experiment will use the 120 GeV/c proton
beam extracted from the Fermilab Main Injector on liquid hydrogen and deuterium
targets. A lower beam energy compared to E-866 will produce a factor of almost 50
times more Drell-Yan events in E-906 and hence, a significant improvement in the
statistical uncertainty will be achieved. The experiment will start taking data in
2011 and the physics motivation as well as the current status, primarily the design
and status of the cryogenic targets will be presented. The expected results from
E906/SeaQuest experiment will also be addressed.

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