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Reconstructing Drell-Yan Data at SeaQuest[1] TYLER HAGUE, Abilene Christian University and Argonne National Laboratory, SEAQUEST/FERMILAB E-906 COLLABORATION — SeaQuest is a fixed target experiment at Fermi National Accelerator Laboratory. Using the 120-GeV main injector, SeaQuest will study the nucleon sea through proton-proton and proton-deuterium Drell- Yan reactions. The Drell-Yan process occurs when a quark and an antiquark annihilate into a virtual photon that then decays into a lepton pair. From these Drell-Yan cross sections, the ratio of the d-bar to the u-bar quark distributions can be extracted. From measurements on several nuclear targets, the energy loss of fast quarks in the nucleus can be deduced. The MySQL database for SeaQuest and a new approach utilizing database commands for track reconstruction will be described. Reconstruction occurs within the database using dynamically created queries to create temporary tables. These are used to construct partial tracks at each station that can be combined into full tracks. Typically the wire chambers at each station will be used for tracking and the hodoscopes will be used for the trigger. In addition, track reconstruction with only hodoscopes is being developed for monitoring hodoscope efficiencies.

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