Abstract Submitted
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Improvement of Environmental Monitoring for the SeaQuest Detector[1] ELIZABETH CARLISLE, Abilene Christian University, SEAQUEST COLLABORATION — SeaQuest (E906), is a fixed target experiment at Fermilab that uses the Drell-Yan process to measure the anti-down to anti-up quark asymmetry in the nucleon sea. Recording environmental conditions is important for a particle physics detector, since detector performance and response can vary depending on conditions such as temperature and pressure. SeaQuest uses many drift chambers, and monitoring their performance can be aided by having these environmental measurements. Due to the size of the detector hall, there are vertical temperature gradients, so temperature must be measured at varying heights. Another important need is to monitor temperature in electronics racks to know when they are overheating. The requirements of the equipment to be used were that it had to be ethernet based and rely only on non-proprietary software. Also, in order to be used during a data run, it had to be fast enough to be recorded between beam spills. This poster will focus on our solution for measuring environmental conditions, such as decreasing the sensor readout from 17.5 seconds to 6.9 seconds.

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