THE SEARCH FOR CP VIOLATION IN HYPERON DECAYS: PRELIMINARY RESULTS FROM THE HYPERCP EXPERIMENT AT FERMILAB. C. Merrill Jenkins, Dept. of Physics, University of South Alabama, Mobile, Alabama 36688, for the HyperCP Collaboration.

The HyperCP Experiment has taken data in the Fermilab fixed target run that ended in September 1997. This experiment has collected approximately 67 billion triggers. The angular distributions of the proton (anti-proton) in the decays of $\Lambda/\overline{\Lambda}$ from $\Xi^-/\overline{\Xi}^+$ decays are measured. Any difference in these distributions is a signal for CP violation. Based on the data set collected, the experiment expects to have a sensitivity of approximately 1.7×10^{-4} for the CP violation asymmetry. A progress report of this experiment will be presented and mass plots of the $\Lambda/\overline{\Lambda}$ and $\Xi^-/\overline{\Xi}^+$ and other particles will be shown from data collected during this run. A summary of other physics topics will be given. This work was supported in part by the Department of Energy, grant number DE-FG02-96ER40970.