A Sensitive Search for CP Violation in Hyperon Decays

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The HyperCP collaboration at Fermilab is performing a precision search for CP violation in hyperon decays. With a data sample five-hundred times larger than any previously analyzed, a sensitive search for CP violation has been made by comparing the proton and antiproton angular decay distributions from 118 million $\Xi^- \to \Lambda\pi^- \to p\pi^-\pi^-$ and 42 million $\overline{\Xi}^+ \to \overline{\Lambda}\pi^+ \to \overline{p}\pi^+\pi^+$ decays. We report on new results from these searches.