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**Measuring the Half Life of $^{60}$Fe for Stellar and Early Solar System Models** K. OSTDIEK, P. COLLON, W. BAUDER, M. BOWERS, W. LU, D. ROBERTSON, University of Notre Dame, S. AUSTIN, Michigan State University, J. GREEN, Argonne National Laboratory, W. KUTSCHERA, Vienna Environmental Research Laboratory, M. PAUL, Hebrew University of Jerusalem, A. WALLNER, The Australian National University — Radioisotopes, produced in stars and ejected through core collapse supernovae (SNe), are important for constraining stellar and early Solar System (ESS) models. The presence of these isotopes, specifically $^{60}$Fe, can identify progenitors of SN types, give evidence for nearby SNe, and can be a chronometer for ESS events. The $^{60}$Fe half-life, which has been in dispute in recent years, can have an impact on calculations for the timing for ESS events, the distance to nearby SN, and the brightness of individual, non-steady state $^{60}$Fe $\gamma$ ray sources in the Galaxy. To measure such a long half life, one needs to simultaneously determine the number of atoms in and the activity of an $^{60}$Fe sample. We have undertaken a half-life measurement at Notre Dame and have successfully measured the $^{60}$Fe concentration of our samples using Accelerator Mass Spectrometry (AMS). We will couple this result with an ongoing activity measurement using isomeric decay in $^{60}$Co rather than the traditional $^{60}$Co grow-in decay. I will present our AMS data and the most recent results of the activity measurement.

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