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Development of AMS procedure for measurement of ^{93}Zr WENTING LU, PHILIPPE COLLON, YOAV KASHIV, MATTHEW BOWERS, DANIEL ROBERTSON, CHRISTOPHER SCHMITT — The procedure for measuring ^{93}Zr ($t_{1/2}$ = 1.5 Ma) by AMS is currently being developed at the Nuclear Science Lab at the University of Notre Dame and we report on first experiments performed in this direction. AMS detection of ^{93}Zr can potentially be applied to address astrophysical and environmental issues: (1) the measurement of the ^{92}Zr(n,γ)^{93}Zr reaction cross-section at nucleosynthesis *s*-process relevant temperatures, (2) the search for potential live ^{93}Zr from a supernova in deep sea sediments, (3) hydrological and radioactive waste tracing. The measurement of ^{93}Zr requires adequate separation from its stable isobar ^{93}Nb. We are currently working on optimizing this separation by using the GasFilled Magnet technique with additional multiple dE measurements in a focal plane ionization chamber.

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