Abstract Submitted
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Genesis light noble gas measurements.[1] JENNIFER MABRY, ALEX MESHIK, CHARLES HOHENBERG, Washington University — Models of planetary evolution require knowledge of the base reservoir of the solar system, which is dominated by the sun. Currently, the only way to accurately determine the composition of trace elements in the sun is by examining the solar wind (SW). Previous solar wind measurements have come from lunar samples which varied by 5-10% or spacecraft measurements which are not precise enough to differentiate from the planetary reservoirs. The Genesis mission directly collected the SW for about 852 days using ultra-pure collectors[1]. From these samples, we have precisely measured the $^{20}Ne/^{22}Ne$ and $^{36}Ar/^{38}Ar$ ratio of the solar wind, obtaining values of 13.972 ± 0.025 and 5.501 ± 0.005 respectively[2]. We are currently determining diffusion rates of light noble gases in the Genesis collectors to find out if any significant diffusive losses have occurred. [1]Jurewicz A. et al. *Space Sci. Rev.* **105**, 535 (2003). [2]Meshik A. et al. *Science* **318**, 433 (2007).

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