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Half-Lives of ^{101}Rh and ^{108m}Ag[1] ERIC NORMAN, Univ. of California, Berkeley, EDGARDO BROWNE, Lawrence Berkeley National Laboratory, HOWARD SHUGART, Univ. of California, Berkeley — Half-lives of short-lived nuclei can easily be measured by direct counting techniques, whereas those of long-lived naturally-occurring nuclei are usually determined by specific activity measurements. However, half-lives in the range of 1 – 1,000,000 years are notoriously difficult to determine. For example, published values for the half-life of ^{101}Rh range from 3.0 ± 0.4 years to 10 ± 1 years, and for ^{108m}Ag published values range from 127 ± 21 years to 438 ± 9 years. In order to resolve the issues of what the half-lives of these isotopes actually are, we set up two separate long-term gamma-ray counting experiments. Gamma-ray data were collected in time bins using high-purity Ge detectors and ORTEC PC-based data acquisition systems. We counted in this manner for a period of approximately 5 years for ^{101}Rh and 3 years for ^{108m}Ag. In this talk we will describe the details of these experiments and will present the final results for the half-lives of ^{101}Rh and ^{108m}Ag determined from these measurements.

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