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Cosmogenic Induced Backgrounds for the MAJORANA DEMONSTRATOR Experiment

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Neutrino-less double beta ($0\nu\beta\beta$) decay experiments probe for such rare events that the suppression and understanding of backgrounds are major experimental concerns. Cosmogenic induced isotopes have the potential to be a major background for such experiments. For the MAJORANA DEMONSTRATOR Experiment 76Ge isotope is used as both detector and source. The isotopes 68Ge and 60Co are cosmogenically produced when the Germanium materials are near Earth's surface. The decay of these isotopes can mimic events in the $0\nu\beta\beta$ region of interest. For this reason, the enriched materials were minimized and closely monitored for surface exposure time during detector production. Cosmogenic induced backgrounds, primarily tritium, also have a major impact for any low energy campaign for the MAJORANA DEMONSTRATOR. In this talk I will present the estimation of cosmogenic backgrounds for the enriched 76Ge detectors and the extraction of the low energy events from our early data sets.

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Primary author: Dr WHITE, Brandon (Los Alamos National Laboratory)

Presenter: Dr WHITE, Brandon (Los Alamos National Laboratory)

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