

Cosmogenic Induced Backgrounds for the MAJORANA DEMONSTRATOR Experiment

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Content

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 ^{76}Ge isotope is used as both detector and source. The isotopes ^{68}Ge and ^{60}Co 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 ^{76}Ge detectors and the extraction of the low energy events from our early data sets.

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Summary

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