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**An update on the Majorana-Gerda simulation package (MaGe)**[1]
MICHAEL MARINO, University of Washington, MAJORANA COLLABORATION — The Majorana collaboration is proposing to build an experiment to search for neutrinoless double-beta decay ($0\nu\beta\beta$) from $^{76}$Ge using segmented HPGe detectors. The collaboration has partnered with the Gerda collaboration[2] to create a joint simulation package (MaGe) based upon CERN's Geant4[3] simulation engine and Root[4] analysis software. MaGe provides an adaptable and comprehensive simulation environment to model detector response, pulse formation, and background processes for a variety of detector parameters and geometries. This presentation will include an introduction to the important components of MaGe and present the latest results for background simulations of the Majorana reference design as well as its expected sensitivity to $0\nu\beta\beta$ decay of $^{76}$Ge. A complementary talk will be given addressing verification of the simulation package.

[1]This work is supported by the DOE Office of Nuclear Physics.
[2]Gerda Collaboration, Proposal to LNGS, available (12 Jan 2006) http://www.mpi-hd.mpg.de/ge76/proposal_21sept.pdf
[3]Geant4 - A Simulation Toolkit, Nuclear Instruments and Methods A 506 (2003) 250-303
[4]ROOT - An Object Oriented Data Analysis Framework, Nuclear Instruments and Methods A 389 (1997) 81-86

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