

Abstract Submitted
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Stimulated Decay of Isomeric Materials for Sensor Power MARC LITZ, Army Research Laboratory, NINO PEREIRA, EcoPulse Inc, GEORGE MERKEL, Army Research Laboratory — We are exploring the feasibility of using the energy that can be stored in nuclear isomers for driving low-power batteries. We investigate the use of SiC direct-energy-converters, in conjunction with isomeric materials as the power source for long-lived, low-power, low-maintenance battery applications. The paper discusses our selection of the isomer that seems most promising, estimates of the energy cost compared to the alternatives, and the radiation measurements made to date. This approach differs dramatically from suggestions for use of isomeric materials in explosives applications. The fact that an increased decay rate, and energy release, can be stimulated by external radiation is the characteristic of the isomeric state that motivates this effort. Transportation of these energetic materials would be made easier by stimulating the higher decay rate at the point of use.

Marc Litz
Army Research Laboratory

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