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[22] Electromagnetic processes of nuclear excitation

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Since their first identification in 1921, long-lived nuclear excited states, known as isomers, have held promise for realization of compact energy storage as they can hold these excitations for millions of years and beyond, also surpassing the age of the Universe; however, a process that could efficiently exploit their potential has yet to be discovered.

We explore and propose several electromagnetic processes of nuclear excitation, including those that use the atomic surrounding, as possible tools that may enable the activation of isomers and the indirect manipulation of their lifetime.

Theoretical Work

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