

Development of Vacuum Ultraviolet Laser Towards Th-229 Nuclear Clock (#12)

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“The Th-229 nucleus possesses the exceptionally low-energy first excited state (isomeric state) of approximately 8 eV, making it the only nucleus capable of being excited by lasers, and thus, it is expected to serve as a candidate for a nuclear clock. Last year, vacuum ultraviolet light with a wavelength of about 150 nm by the de-excitation from the isomeric state was observed for the first time, sparking research worldwide into laser excitation of the nucleus. Currently, our group is advancing research on the development of a vacuum ultraviolet laser for the direct excitation of the isomeric state, and in this presentation, we will discuss an overview of the laser development and its progress.”

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