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Short-lived radioactive molecules: A sensitive laboratory for the study of fundamental symmetries

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Molecules containing heavy and deformed radioactive nuclei are predicted to provide enhanced sensitivity to explore the nuclear electroweak structure as well as to test the violation of fundamental symmetries. However, experimental measurements of such radioactive systems are scarce, and in most of the cases, quantum-chemistry calculations constitute the only source of available information. This contribution will expose recent achievements in laser spectroscopy of radioactive molecules at CRIS, ISOLDE-CERN. Laser spectroscopy measurements of short-lived radium fluoride molecules (RaF) will be presented. The impact of these results in EDM searches and symmetry-violating measurements will be discussed.