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Nota di contenuto	<p>Intro -- Supervisor's Foreword -- Abstract -- Acknowledgements --</p> <p>Contents -- 1 Introduction -- References -- 2 Nuclear Isomers -- 2.1 Classification and Nature of Isomers -- 2.1.1 Spin Traps -- 2.1.2 K-Isomers -- 2.1.3 Shape Isomers -- 2.2 Essence and Significance of Nuclear Isomers as Long Duration ... -- References -- 3 Nuclear Excitation by Electron Capture -- 3.1 From the Origins to the Present Day: A Recipe for the Future -- References -- 4 Nuclear Excitation by Free Muon Capture -- 4.1 Why Muons? -- References -- 5 Nuclear Excitations in Optical-Laser Generated Plasma -- 5.1 Search of Suitable Isotopes -- 5.2 Design of the Experimental Setup -- 5.3 Alignment Procedure -- 5.4 Plasma Hydrodynamic Model: Properties and Evolution ... -- 5.5 Nuclear Excitation Rates in Plasma Environment -- 5.6 Experimental Prototyping -- 5.7 Experimental Results -- References --</p> <p>6 Beyond Dichotomies: Reflections and Takeaways -- References -- Appendix Appendix -- A.1 <math>I=0</math> Superscript plus minus+ - Isomeric States -- A.2 <math>0 \rightarrow 0</math> Isomeric Transitions -- A.3 Recoupling coefficients for NEEC-EXI -- A.3.1 <math>\boldsymbol{N}</math> Subscript e I e Baseline bold equals bold <math>0 \rightarrow 0</math> Isomeric Transitions -- A.3.2 <math>\boldsymbol{N}</math> Subscript normal e normal I normal e Baseline equals bold 1 <math>\rightarrow</math> bold <math>\boldsymbol{N}</math> Subscript normal e normal I normal e Baseline equals bold 2 Isomeric Transitions -- A.3.3 <math>\boldsymbol{N}</math> Subscript normal e normal I normal e Baseline equals bold 2 <math>\rightarrow</math></p>

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Figures -- Appendix Curriculum Vitae.

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