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Decay studies at and beyond the limits of known nuclei¹

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Studies of spontaneous nuclear decays make an important contribution to our understanding of atomic nuclei. These studies can be made at very low rates allowing us to reach and investigate the structure of very exotic isotopes offering the last verification points before extrapolating theories into unknown regions. There is also a strong need for nuclear decay data in astrophysics and applied research related to the nuclear fuel cycle. The recent results obtained using decay spectroscopy methods on nuclei very far from beta stability will be presented. Among these investigations, there are new studies near exotic doubly-magic nuclei ^{78}Ni and ^{100}Sn , on nuclei around proton drip line and in the super heavy element region. The examples of results representing applied nuclear spectroscopy field will be given, too.

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