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# Spectrum of the muon decay in orbit

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In a free muon decay, the daughter electron energy is limited to about half the muon mass. If the decaying muon is bound in an atom, the binding effects significantly distort the electron spectrum and increase the maximum energy to almost the full muon mass. A new theoretical determination of that spectrum will be presented. The high-energy electrons are a background in searches for the muon-electron conversion. Experimental plans for those searches will be discussed. Also the electron spectrum of an exotic muon decay with an emission of a majoron will be presented.
This talk is based on results obtained with D. Bryman, M. Dowling, X. Garcia i Tormo, and W. Marcia

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