

# **Beta-Delayed Proton Emission**

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Beta-delayed proton emission was first observed thirty-six years ago. At the time, its unique signature opened a window onto the new world of exotic nuclei: on-line isotope separation was not yet available to isolate newly produced nuclides, but a readily separable decay mode was a fine alternative. In the first two decades after its discovery, beta-delayed proton decay was a rich source of spectroscopic information on nuclei far from stability, yielding everything from analog states and atomic masses to level densities and excited-state lifetimes in the femtosecond region. However, with the advent of more sophisticated methods for production and isolation of exotic nuclei, the importance of beta-delayed protons as an identifier of new nuclei effectively disappeared. Nevertheless, the potential spectroscopic value of the process remains undiminished. In fact, as the number of known beta-decaying nuclei steadily increases, beta-delayed proton emission is seen to be a widely occurring phenomenon. Its usefulness needs to be rediscovered.

The talk will present an overview of beta-delayed proton emission, its occurrence, its usefulness and its potential for the future.