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## Total absorption studies of beta decays for applications and nuclear structure

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Gamma-ray detection plays a key role in many experimental nuclear physics studies and practical applications. As an example in this talk I will present recent results of the application of the total absorption technique to beta decay studies, which are relevant for reactor applications.

The total absorption technique is based on the use of highly efficient, calorimeter-like detectors. It aims for the detection of the full gamma cascades that follow the beta decay. The application of this technique is presently the only way we know to avoid the Pandemonium effect; a systematic error associated to the low peak efficiency of high-resolution gamma setups.

Avoiding Pandemonium is necessary for practical applications like the prediction of the decay heat in a reactor during operation and after shut down, and the prediction of the neutrino-spectrum from a reactor. I will present some of the examples of studies we have performed recently along this line, discuss their impact and show their implications for nuclear structure and astrophysics.

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