

Pandemonium free data for reactor applications

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Nuclear structure and practical applications require nuclear data free from the Pandemonium effect [1,2]. For both applications we need information on the Q value of the decay, the half-life and the beta decay probabilities to the different levels in the daughter nucleus. Pandemonium, in this context, means that the beta decay probabilities might be distorted because of the technique used for their determination. Two techniques are considered free from the Pandemonium distortion: the total absorption gamma-ray spectroscopy study of the beta decay and the measurement of the shape of the beta spectrum. In this contribution I will introduce how this problem is addressed experimentally and show some examples of recent measurements.

[1] J. Hardy, et al., Phys. Lett. B 71 (1977) 307

[2] A. Algora, et al., Eur. Phys. J. A (2021) 57:85

[3] G. Alcalá, et al., Phys. Rev. Letts. 135, 142502 (2025)

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