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Total Absorption Spectroscopy at Isolde; Past, Present and Future

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Total Absorption Spectroscopy (TAS) is an essential technique to measure beta decay BGT distributions free of systematic errors ("Pandemonium Problem").The TAS spectrometer "Lucrecia", the largest TAS spectrometer presently operating, was installed at ISOLDE with this purpose. The scientific programme so far has been focused on the investigation of ground states nuclear shapes. They are deduced from the comparison between the experimental BGT and theoretical calculations assuming different deformations for the parent state. It started in the mass region A≈70 (Refs. 1 and 2) and it continues today with studies in the A≈190 region. Some preliminary results will be presented on nuclei 78Sr, 76Rb, 78Rb, 188, 190 and 192Pb. In the next future we plan to continue this experimental programme in the A≈190 region (Ref. 3), with the studies of 182,184,186Hg and 186Pb. Furthermore we plan to initiate a research programme in the region "below"132Sn, and to study the possibility of contributing to the geo-neutrino studies (Ref. 4). These ideas will be briefly presented.

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