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STATUS OF THE ATOMIC MASS EVALUATION

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At ENAM'95 we announced our new publication policy of regular updates. In December 1995 we published thus the first update of the mass table (Nucl. Phys. **A595**) where one could find many new data and as announced an improved treatment of the isomers.

The isomer matter was a continuous subject of worry for us, since any mistreatment could have not unimportant consequences on the ground-state masses. We decided therefore to concentrate our effort on these isomers and this effort lead to a complete revision and evaluation of those ground-state and isomeric properties that could allow to identify which states are involved in a mass measurement. This is how we achieved in September 1997, in collaboration with Jean Blachot, from the "Nuclear Data Sheets" evaluators group, and Olivier Bersillon, a publication of the NUBASE evaluation (Nucl. Phys. **A624**).

Our effort now concentrates on preparing a new evaluation, where, besides several revisions following the work on NUBASE, many important new mass measurements, some of which have influence on extended regions of the chart, will be included. The publication should appear in the course of year 1999.

The number of new results that were published since the 1995 atomic mass evaluation (AME'95) is impressive. Among them it worth mentioning the region of medium-A proton-rich nuclides where an enormous amount of new data have been published. They are due to the measurements on proton decays by the Argonne group and their new data on isomeric situations in alpha decay, and also to the ISOLTRAP experiment at CERN that has now been able to measure the masses of rare-earth elements, of which ^{148}Dy, ^{149}Dy and ^{150}Ho are more particularly interesting. It follows from these, and also from a preview we had of the GSI-ESR experiment, a re-evaluation of all the alpha-chains in this region.

Striking to our imagination is the challenge in determining the masses of some very exotic nuclides, like ^{100}Sn at GANIL or the very heavy ^{277}112 at GSI-SHIP.

A short outlook on the near future brings our attention on two experiments. The above mentioned new storage-ring mass experiment at GSI has already delivered a few results but is supposed to give soon an impresive number (many dozens) of mass values for yet unknown nuclides. Last but not the least, the expected start-up of the MISTRAL experiment at CERN should provide new insight in the most exotic regions of very short-lived nuclides.