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The new Atomic Mass Evaluation (AME2020)

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Systematic study of the masses of exotic nuclei far from the valley of stability reveals interesting phenomena such as new decay models, disappearance of traditional shell gaps and emergence of new magic numbers, and breakdown of isospin symmetry. With the advent of the new radioactive ion beam facilities built worldwide, numerous projects of mass measurements of short-lived nuclei have been carried out and reshape our understanding of how nuclei are formed. The latest Atomic Mass Evaluation (AME2020) [1,2] was recently published, which provides the most up-to-date knowledge for nuclear masses. In this conference, the evaluation procedure will be briefly reviewed and the main influence of new mass data on the AME will be discussed. Some mass data deviating from the smooth trends of the mass surface will also be mentioned and pertinent experiments are called for.

[1] W.J. Huang, M. Wang, F.G. Kondev, G. Audi, S. Naimi, Chin. Phys. C 45, 030002 (2021)

[2] M. Wang, W.J. Huang, F.G. Kondev, G. Audi, S. Naimi, Chin. Phys. C 45, 030003 (2021)

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