Abstract Submitted
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The Atomic Mass Evaluation (AME2012): Status and Perspectives[1] F.G. KONDEV, ANL-Argonne, USA, G. AUDI, CSNSM-Orsay, France, M. WANG, X. XU, IMP-Lanzhou, China, A.H. WAPSTRA[2], NIKHEF, Netherlands, M. MACCORMICK, IPN-Orsay, France, B. PFEIFFER, GSI-Darmstadt, Germany — The atomic mass is a fundamental property of the nucleus that has wide applications in natural sciences and technology. The new evaluated mass table, AME2012, has been recently published as a collaborative effort between scientists from China, Europe and USA, under the leadership of G. Audi. It represents a significant update of the previous AME2003 evaluation by considering a large number of precise experimental results obtained at existing Penning Trap and Storage Ring facilities, thus expending the region of experimentally known masses towards exotic neutron- and proton-rich nuclei. Since the presence of isomers plays an important role in determining the masses of many nuclei, a complementary database, NUBASE2012, that contains the isomer-level properties for all nuclei was also developed. This presentation will briefly review recent achievements of the collaboration, present on-going activities, and reflect on ideas for future developments and challenges in the field of evaluation of atomic masses.

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