



C2. COMMISSION on SYMBOLS, UNITS, NOMENCLATURE, ATOMIC MASSES & FUNDAMENTAL CONSTANTS (SUNAMCO)

Citation for the award of a SUNAMCO Medal to Professor Aaldert H. Wapstra (awarded September 2004, Callaway Gardens, Pine Mountain, Georgia, USA)

Professor Aaldert H. Wapstra was awarded the SUNAMCO Medal in consideration of his many leading contributions, over nearly half a century, to the precise determination of atomic masses. These contributions have included critical reviews of both experimental and theoretical data concerning atomic masses and have culminated in the calculation of a unique set of recommended values for atomic masses and mass differences, now known as the Atomic Mass Evaluation (AME).

Professor Wapstra started this work in the mid-fifties and, with Everling, König and Mattauch, reported the first atomic mass evaluation in 1960 at the First International Conference on Atomic Masses. Since then he and other colleagues have provided periodic re-evaluations at fairly regular intervals, the most recent of which, with Audi, was published in 2003. Reports on this work have been a regular feature at subsequent International Conferences on Atomic Masses and International Conferences on Nuclei Far From Stability, both of which are now consolidated into the International Conferences on Exotic Nuclei and Atomic Masses (ENAM).

The AME provides a reliable, self-consistent set of masses for approximately 3000 isotopes based on experimental data and theoretical predictions and is the primary compendium of such data for all areas of science. In these reviews he and his colleagues have developed criteria and procedures to handle the often-inconsistent data in an impartial and objective manner. Recent versions have included projections based on the relevant theoretical calculations for unstable nuclei. It is primarily through his efforts that the AME has emerged in its modern form as a valuable reference work against which all measurements and theoretical predictions may be examined. Consistently the AME has been the second most cited reference work in all of nuclear physics.

This work has provided Professor Wapstra with a unique perspective on atomic masses and their use in science. His ability to present a lucid overall review of the subject has been particularly appreciated at many conferences, where he has given both introductory and conference summary lectures and has provided an invaluable guide to areas where further work was required.

His reputation as an authority on the subject has led to his service to the International Union of Pure and Applied Physics (IUPAP). In 1958 Professor Wapstra was appointed by the IUPAP Executive as a member of the Study Committee on Nuclidic Masses, which, in 1960, became the IUPAP Commission on Nuclidic Masses. Subsequently, in the early seventies, he served both as Secretary and as Chairman of that commission. Again in the nineties, he served as a member and as Secretary of the SUNAMCO Commission, which had been formed earlier by an amalgamation of the old Commission on Atomic Masses and Fundamental Constants and the old SUN Commission. Wapstra's broad perspective in nuclear physics also led to his appointment to the joint IUPAP-IUPAC Transfermium Working Group where he served as secretary.

The SUNAMCO Commission hereby recognizes his distinguished contributions to physics and to the international physics community.