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This Week's Citation Classic

Ajzenberg-Selove F & Lauritsen T. Energy levels of light nuclei. VI. *Nuclear Phys.* **11**: 1-340, 1959.

The review discusses the nuclear reactions used to study the nuclei from ^{5}He to ^{24}Ne and presents in drawings and in tables the best values for the excitation energy, angular momentum, parity, isospin, lifetime and decay properties of all known states of these light nuclei. [The ***SCI***® indicates that this paper has been cited over 900 times since 1961.]

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"While working on my Ph.D. thesis at the University of Wisconsin, I had become aware of the extremely useful reviews of the light nuclei initiated by Professor Thomas Lauritsen and his colleagues at California Institute of Technology in 1948. I was completing my doctoral thesis, which contained some results which were at variance with the work reported in the latest ('50) review, in the spring of 1952, and I wrote to Tom Lauritsen asking if I might work with him that summer on a new version of the article. To my great surprise he said yes, and as soon as I had completed the Ph.D. oral I went on my first trip west by bus and train. It was a marvelous experience to work at Caltech with Tom Lauritsen. His kindness, patience, and gentle sense of humor provided the background against which my professional life was determined. Charlie Lauritsen, Willi Fowler, Bob Christy, and the other physicists at Caltech provided an exciting atmosphere in which we worked extremely hard during the day, and shared the warm camaraderie of innumerable evening parties, most often at the Lauritsens' home. The frequent earthquakes that summer of 1952, which I, an ex-European, found upsetting, added to the fun. Because Tom had neglected to say that I am a woman when he put my appointment through the Office of the Dean, I became the first woman appointed to the staff of the Physics Department at Caltech.

"At the end of the summer of 1952 I went for one year to teach at Smith College and then took appointments at Boston University, Haverford College, and the University of Pennsylvania. I worked with Tom Lauritsen for 21 years, until his death in 1973, on new versions of the reviews of the light nuclei. We worked separately, except during the summer of 1954, and did this in a truly symbiotic fashion. We sent each other comments on the papers we were evaluating, discussing some at length and marking others as "see also" or HST. We tore each other's manuscripts to shreds, Tom more effectively than I, and remained the best of friends.

"In 1952, the first in our joint set of papers was some 80 pages long. The 1959 article cited above was 340 pages. The subsequent papers, having to cope with an information explosion, could no longer deal with all the nuclei from ^{5}He to ^{24}Ne in a single manuscript. Instead evaluations are now prepared on 2-6 mass chains at a time (a mass chain includes all the nuclei with the same total number of nucleons, A: i.e., ^{6}H, ^{6}He, ^{6}Li, ^{6}Be) and each of these evaluations is usually a complete issue of *Nuclear Physics*. Every year some 1500 scientific papers deal with the properties of the nuclei with A = 5-20. Yet our knowledge of these nuclei is still incomplete and more information is needed to understand these nuclei better, and to use them in practical applications such as fusion and nuclear medicine. It is a tribute to Tom Lauritsen that the series of evaluated reviews he started in 1948 have been useful to nuclear scientists."