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NUCLEAR STANDARDS FOR NEUTRON MEASUREMENTS

REPORT OF A PANEL SPONSORED BY THE
INTERNATIONAL ATOMIC ENERGY AGENCY
BRUSSELS 8-12 MAY 1967

A TECHNICAL REPORT PUBLISHED BY THE
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- FORWORD -

The IAEA has, in its general program of promoting the peaceful uses of atomic energy, one part which is devoted to neutron research. Its object is to provoke continued study of those basic neutron properties upon whose better knowledge and understanding, future progress in atomic energy will ultimately depend.

To carry out this part of its general program effectively, using only the tools for international information exchange which it has at its disposal, the Agency depends upon the advice and assistance of its International Nuclear Data Committee.

Thus the Agency is presently occupied in several distinguishable ways in regard to nuclear data: it operates a neutron data center to promote systematically the collection and distribution of neutron information on a world-wide basis; it anticipates international conferences along the lines of the first one in Paris 1966, Nuclear Data for Reactors, on a regular basis as circumstances require.

The Panel on Standards, whose proceedings are reported in the following pages, represents a modest effort to promote greater precision in the values of those few quantities which are referred to (somewhat loosely) as standards, because they are basic for all high accuracy cross section determinations. The Agency accepts the view that periodic critical reviews of the type that this Panel has provided, are an essential part of progress in this area of precision measurements. The evaluation of the 2200 m/sec cross sections which the Agency promoted as its first nuclear data activity, is regarded as a related activity, so that in a sense the Panel on Standards does not so much represent the initiation of a new activity as an extension of an old one.

The Panel's real success can only be judged by the degree to which in the long term it stimulates interest in "standards". Within itself, however, the meeting represented considerable effort for which acknowledgements are gratefully extended as follows: to Panel participants for their work in preparing the basic working papers; to them and other visitors for contributing to the meeting and to subsequent discussions and summaries; to the Government of Belgium for providing space and facilities; to the EURATOM for its hospitality and for the visit to the B.C.M.N. at Geel;

to Dr. J. Spaepen of the B.C.M.N., Geel, for his invaluable advice and for his critical comments to the present report; to Dr. Spaepen's associates at Geel who contributed to the meeting in his absence due to an untimely accident; and to Dr. R. Batchelor of Aldermaston for serving as the Panel Chairman, for advising during the Panel's planning stages and for reading and commenting on the report.

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