

Monthly Progress Report for November 1954: Critical Assembly Research

J. E. Carothers

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November 1954



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Work performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under Contract W-7405-ENG-48.

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CRITICAL ASSEMBLY RESEARCH

J. Carothers [REDACTED]

48/216

(4) Critical Assembly

The measurements made with various sources in the Celeste assembly have been extended to a study of the counter response and of the spatial distribution of the flux from the assembly. The desirability of such work was indicated by the different values of the multiplication obtained by different counters. Work thus far has indicated a definitely greater efficiency for 100 Kev neutrons than for 1 - 3 Mev neutrons for the Hansen counters. This is contrary to expectations and further work will be carried on.

The measurements of neutron emission from oralloy and tuballoy have been continued during November with an improved counter which has greatly increased the counting rate.

A one-group multiregion adjoint flux problem analogous to Sand is being coded for preliminary check of the utility of the adjoint with source in neutronics problems.

II. CHEMISTRY

None

III. INSTRUMENTATION AND RESEARCH TOOL DEVELOPMENT

Work on the small fission chamber is awaiting allocation of oralloy (1 gram) for the chamber.

Preliminary design work has been started on a dry box to enclose the horizontal assembly machine. This box will be used when the Li^6D cubes are received for the bulk measurements.

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