in the graphite which are not present in the carbon of CO_2. This would mean than in subtracting .56 cm^2 for the absorption of the carbon in CO_2, too much was subtracted and, therefore, the oxygen cross section is underestimated. If it is supposed that the boron impurity which is known to exist in the ACOT graphite is absent in the CO_2, then the oxygen cross section may be increased by .0005. Thus the final value of $\sigma_O^{(KT)}$ is .0016 $\pm$ .0004 x 10^{-24} cm^2.

The Absorption Cross Section of Aluminum for the Neutrons in the Pile

Ninety-six of the Al cans which are to be used for canning the metal for the "X" pile were placed inside the duraluminum tube used in the CO_2 experiment and the shift in the critical position measured. The shift found was 3.78 cm and, therefore $\sigma^{(KT)}$ of one can = .0785 cm^2. On the average one can weighs 14.8 grams and, therefore, $\sigma^{(KT)}$ for the Al = .24 x 10^{-24} cm^2.

Experiments in Progress

It has been observed that radioactive gases come out of the pile and some work is in progress to measure the source of this gas and the cross section for its formation. Some of this activity has been shown to be due to argon in the air and a far larger fraction of the activity is due to fission gases. Heavy water has been irradiated in the pile for some time and it is hoped to measure the deuterium absorption cross section by comparing quantitatively the amount of H^3 generated in deuterium and also in lithium for which the cross section for the formation of H^3 is known.