will be purged with helium gas and the extracted ^{36}Ar measured by neutron activation. This test should be a valid check on the chemical fate of an argon atom produced by low energy neutrino capture.

We have proposed measuring the neutrino capture cross-section using μ^+ decay neutrinos from the beam stop of the Los Alamos Meson Facility. We have studied various background effects for this experiment, but it now appears that the neutrino room will not be available to us for at least two years. We would like to mention that L. W. Alvarez[12] has proposed testing our detector with an intense source of ^{65}Zn neutrinos (E_ν = 1.45 MeV). A source of 10^6 curies would be required to obtain a signal corresponding to 10 SNU. Exposing our detector directly to a neutrino source would test both the calculated neutrino capture cross-section and the chemical procedures. Although this is a feasible experiment, because of the cost and source handling difficulties underground, we have decided for the present not to expend our resources on this experiment. Also we feel that there is little doubt that our chemical recovery procedures are effective for collecting ^{37}Ar produced by neutrino capture and that the previously mentioned C_2Cl_3 ^{36}Cl test should be an adequate check. The ^{65}Zn test would also check the cross-section calculations that determine the basic neutrino detection sensitivity. Yet there appears to be little question that the physical principles and the details of the calculations are correct.[13]

Old and New Proposals for Solar Neutrino Detection

The results reported from the Brookhaven Solar Neutrino experiment show that the flux of energetic neutrinos from the sun is lower than anticipated from the theory. Although there has been a large drop in the theoretically calculated neutrino flux in the last eight years, the present standard theory remains in disagreement with the experiment, and it is not apparent whether the solution to the problem lies in solar physics, nuclear reactions, or