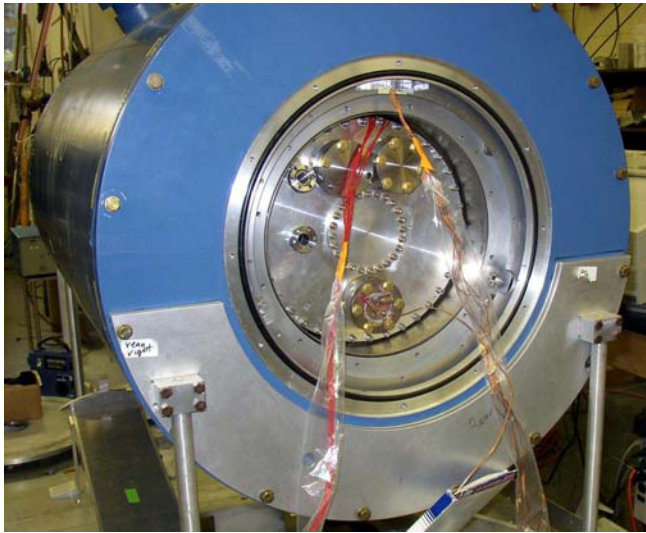


Experimental Facilities for Neutron Experiments

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Progress on the n-⁴He spin rotation experiment

We have assembled the great majority of components for this experiment over the last 6 months. The pictures below various parts of the equipment for this experiment.



4K liquid helium cryostat and 2K target insert for n-⁴He spin rotation experiment. All parts are nonmagnetic and individually tested using fluxgate magnetometers. A tilted feedthrough provides access for a rotating pump shaft to operate a centrifugal pump to move the liquid at low temperature.

Liquid helium target chambers before installation. Teflon guides conduct strings that are pulled to move the fluxgate magnetometers and the target drain pipes



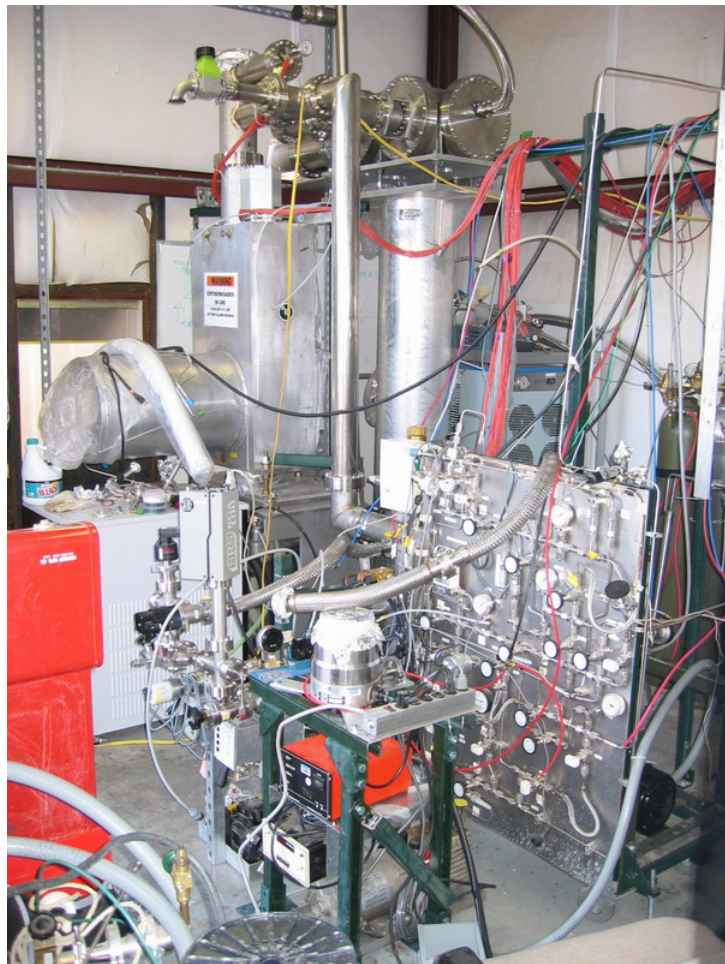


Neutron guides assembled from float glass. These guides conduct neutrons into and out of the nonmagnetic target region and clean the neutron phase space of high-divergence neutrons which can cause systematic effects in the measurement.

Progress on the NPDGamma experiment.

The final hardware project for the experiment is the liquid hydrogen target. Over the last 6 months Los Alamos has constructed long vent stacks to allow for the safety testing of the target before neutron running on Flight Path 13 at LANSCE.

Picture of liquid hydrogen target, gas handling system, and burst disks and vent valves for hydrogen safety.





Vent stack in a shed outside of the LANSCE neutron guide hall. This stack is required for the liquid hydrogen target test before introduction of the hydrogen target onto the beamline.

Vent lines inside the experimental hall at LANSCE for the NPDGamma experiment.

