of the III-IV phase line.[2]

II. EXPERIMENTAL

A high purity KCN single crystal which was obtained from Susman and Hinks[11] was crushed with a mortar and pestle and loaded into a die inside a glove box, then pressed into pellets of 0.63 cm diameter. The pressure apparatus, a double acting piston-in-cylinder, has been described previously.[9,12] The only new feature was the method of heating the pressure chamber and sample and the temperature control. This was accomplished by heating a large bath of water and pumping the water through channels in an aluminum jacket around the binding ring. A thermocouple placed against the Al_2O_3 pressure chamber monitored the temperature and was used in a feedback circuit to control an auxiliary heater that kept the thermocouple reading constant to within $\pm$ 2°C.

The pressure at the sample was determined from a calibration of the pressure cell. This was accomplished by making several diffraction measurements of either pure NaCl in the sample chamber or mixtures of materials containing NaCl. The pressure was determined from the NaCl lattice spacing using Decker's equation of state.[13] In all cases the pressure versus load was repeatable to within $\pm$ 0.5 kbar to 30 kbar.

The neutron beam time of flight techniques have also been described.[12,14] The time of flight spectrometer was calibrated by taking diffraction patterns of Si and Ge[15] in the same position as the KCN sample. Diffraction spectra of KCN were taken at