

**Development of the ISIS Synchrotron Diagnostics,** D. ADAMS, A.I. BORDEN, A.H. KERSHAW, C.M. WARSOP, D.M. WRIGHT, Rutherford Laboratory - Developments of the diagnostics system on the 800 MeV High Intensity Proton Synchrotron of ISIS, the Spallation Neutron Source at the Rutherford Appleton Laboratory, are described. Substantial hardware upgrades including addition of many fast digitiser channels, improved position monitor amplification, automated signal switching, a DEC Alpha Workstation, and improved software for data processing and display are outlined. The applications of the new system with both normal high intensity beams and specially configured low intensity diagnostic beams are also summarised. The new information provided by the system is expected to be a significant aid in operational set-up and optimisation of the machine.