

Operational Experience of Penning H⁻ Ion Sources at ISIS, R. SIDLOW, Rutherford Appleton Laboratory, U.K. - Over the past eleven years the performance of the Penning H⁻ ion source has kept pace with the development of the ISIS Pulsed Spallation Neutron Source to its current consistent and reliable operation at 200 μ A. To maximise availability of the Spallation Source it has been necessary to develop a number of ion-sources that have a high consistency of performance. These can be changed quickly when ISIS is operational without the need for retuning of the high intensity accelerators. Design features of the source to obtain the required output current and duty cycle with an acceptable lifetime are described together with operational experience. Consistent repeatable performance for a number of sources has been achieved by improved refurbishment techniques and quality control.