

Laboratory Report
Department of Nuclear Physics
The Australian National University, Canberra Australia

D.C. Weisser

The Australian National University is receiving shipment of the superconducting Linac equipment from Daresbury Laboratory. This includes four cryostats, ten split loop resonators, controllers and electronics manufactured by Applied Superconductivity Inc. The target date for operation is October 1995 to coincide with the 7th International Conference on Heavy Ion Accelerators to be held in Canberra, Australia. In exchange for the Linac and associated beam transport equipment, the British research staff will be entitled to 20% of the beam time at ANU for the next 5 years starting April 1, 1993.

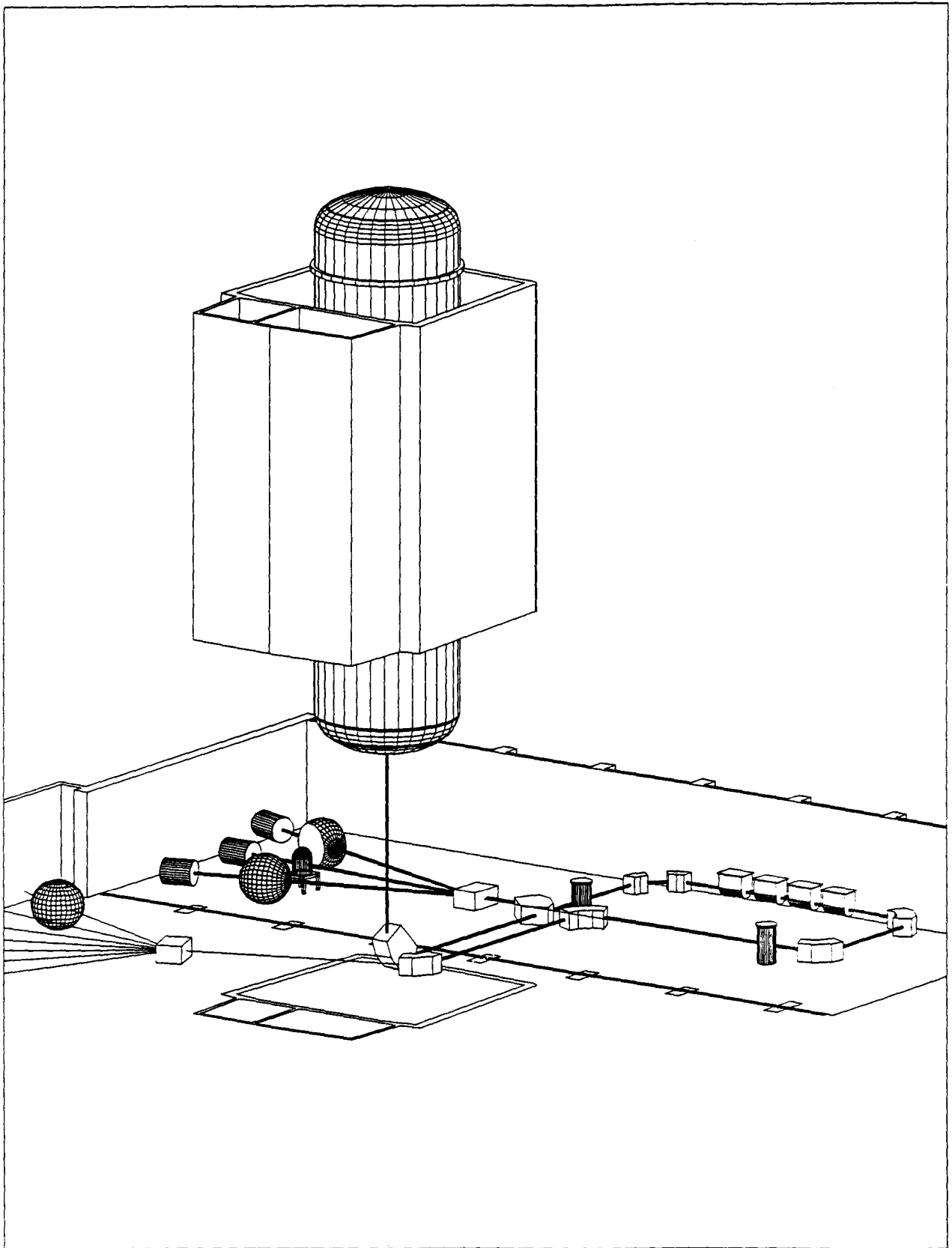
The layout of the linac is shown in figure 1. Three 90° dipoles have been installed as well as much of the helium refrigeration system. Cold testing of the lead plated resonator has started and a new lead plating facility has been completed.

The Linac will be injected by the existing 14UD Pelletron electrostatic accelerator. It normally operates up to 16 MV and has achieved 16.7 MV. A well developed beam pulsing system has been in use for many years in anticipation of Linac injection. It comprises a selectable chopper operating from 100ns to milliseconds. The pre tandem buncher is a double gridded, 3-frequency type using a fundamental of 9.375 MHz. It captures more than 50% of the DC beam in sub nano second pulses up to mass 58. A super buncher follows the tandem. It is based upon an ASI split loop resonator which is the sister of those received from Daresbury. It has achieved an intrinsic time resolution of 45 psec. Its function will be replaced by a niobium sputtered quarter wave resonator. The split loop will be replated and then used in the fourth accelerating module.

Cold tests of one cryomodule containing three lead plated split loops has demonstrated that they have not deteriorated during the shipment and storage.

The laboratory has a continuing program in Nb sputtering on quarter wave resonators. The first cold tests were performed this year and are reported in a poster paper at this conference. We intend to extend the capability of the Linac by adding four more cryostats containing Nb sputtered quarter wave resonators after the commissioning of the "Daresbury" Linac.

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The superconducting Linac injected by the 16 MV electrostatic accelerator
ANU, Canberra