THE FUTURE OF AUSTRALIAN NEUTRON MONITORING

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Australian neutron monitoring started in 1956 when the University of Tasmania established an IGY type monitor on Mt. Wellington, above Hobart, Tasmania. Ground-level neutron intensity has been monitored continuously since then at several sites, with equipment and stations being upgraded as finances permitted.

In 1999 the University of Tasmania decided to discontinue cosmic ray research in an orderly fashion. It is currently in the process of handing over all its neutron monitor equipment to the Australian Antarctic Division. The changeover, being conducted over a 3-year period, resulted in the closure during 2000 of the monitors at Brisbane and Darwin. Their components have been used to construct an 18-counter IQSY monitor on a new site at the Australian Antarctic Division headquarters at Kingston, in Southern Tasmania. It is planned to close the present Mt. Wellington and Hobart (sea-level) monitors in mid-2002. Their components will be used to upgrade the Mawson, Antarctica, monitor in the austral summer 2002-2003, from its present 6 to 18 counter configuration. The upgraded Mawson monitor will become a full member of the Space Ship Earth consortium.

An ongoing program, jointly operated by the University of Tasmania, the Australian Antarctic Division and the University of Delaware, runs a transportable neutron monitor each austral summer on a ship-borne round trip between Seattle and McMurdo, as part of a long term project to obtain a better understanding of the atmospheric absorption process as the primary rigidity spectrum changes during the solar cycle. A second transportable monitor will be constructed and the original one will be upgraded over the next several years.