

Lessons Learnt about High Voltage Stability of the ANSTO FN Tandem Accelerator

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Care has been taken with all high voltage design and development work to ensure the ANTARES FN Tandem accelerator routinely produces the most stable ion beams possible. However, in recent times there have been instabilities in the terminal voltage related to discharges in acceleration tubes and spontaneous tank sparking. In some severe cases, tubes, charging power supplies and other beam handling instrumentation were damaged forcing a rethink about the way the accelerator is conditioned and operated. This presentation discusses the steps taken and the lessons learnt along the way to restoring stable terminal voltages with minimal sparking and the improvements made to the high voltage conditioning process and equipment.