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Performance of Boron-10 based Neutron Coincidence Counters

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Helium-3 gas-filled detectors have been used in neutron coincidence counting for non-destructive assay for over 30 years. With the current shortage of ^3He gas, GE's Reuter-Stokes business developed a 10B lined proportional counter and a 10B hybrid coincidence counter, in which a small amount of ^3He is added to a 10B detector to enhance the neutron sensitivity.

GE's Reuter-Stokes business modelled, designed, built and tested prototype coincidence counters using the 10B lined detectors and the 10B hybrid detectors. We will present these systems and their applications for non-destructive assay.

Country or International Organization

General Electric

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