

Design and construction of the alternative control system for neutron diffractometers and spectrometers at PTBIN , Batan

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Abstrak

Design and construction of the alternative control system for neutron diffractometers and spectrometers at PTBIN - BATAN. The alternative control systems based on programmable peripheral interface (PPI) IC 8255 and programmable interval timer (PIT) IC 8253 have been developed to control the neutron diffractometer and spectrometer instruments at center of technology for nuclear industrial materials (PTBIN) - BATAN which had defective control systems. This alternative control system has been installed at four circle diffractometer / texture diffractometer (FCD/TD) , High resolution powder diffractometer (HRPD) and triple axis spectrometer (TAS). The control system components were assembled as a plug-in printed circuit board (PCB) at the ISA slot of a personal computer. IC PPI 8255 was programmed as a main counter and used as programmable monitor counter. The testing either with or without neutrons has shown that this alternative control system can be used to control the neutron diffractometers and spectrometer also the result shows that this system is in a good performance.