Neutron time of flight spectrometer at Dhruva reactor

The neutron time of flight spectrometer at Dhruva reactor is employed for inelastic neutron scattering experiments to determine the phonon density of states of materials.

An array of indigenously developed forty ^{3}He filled one metre long position sensitive detectors provides horizontal coverage of 40^{o} to 114^{o}. The detector signal is stored in an indigenous multichannel time recording unit which is started synchronously with each pulse from the neutron Fermi chopper.

Neutron time of flight facility showing (left) Fermi chopper and radiation shielding, and (right) arrangement of detectors.