Verification of the resolution function on the near backscattering TOF spectrometer DNA at J-PARC
- Commissioning experimental report -


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The Si crystal analyzer near backscattering TOF spectrometer DNA built at the spallation neutron source of the Japan Proton Accelerator Research Complex (J-PARC). DNA is the first Si crystal analyzer backscattering spectrometer with pulse shaping chopper installed at a spallation neutron source. It offers a high-energy resolution of about 3.0 micro eV by a pulse shaping single disk chopper with 10mm width slit @225Hz at currently, and about 1.5 micro eV by pulse shaping double disk choppers with 10mm width slits @300Hz at final design goal.

It was verified on the contribution of each of an analyzer crystal mirror crystalline and an incident neutron pulse time width using commissioning experimental results, to configure the energy resolution function. At the same time, we also will report the specification and current performance of DNA.


TOF incident neutron spectrum by a pulse shaping single disk chopper with 10mm width slit @225Hz and energy resolution spectra.