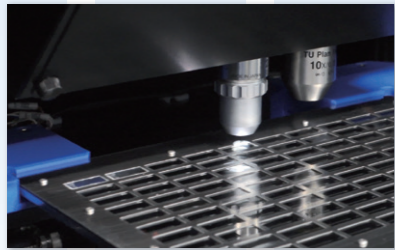
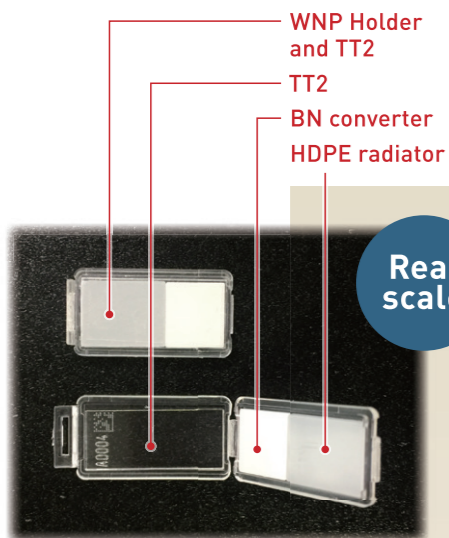


# Wide-range Neutron Pit (WNP) System



Wide-range Neutron Pit (WNP) is our original neutron dosimeter system. The dosimeter consists of TechnoTrak2 (TT2) detector and WNP holder. Two kinds of filters, radiator and converter are built into WNP holder, and enable to measure wide-range energy of neutron, namely fast to thermal neutrons. High Density Poly Ethylene (HDPE) and Boron Nitride (BN) are used for the radiator and converter, respectively. In addition, we suggest the efficient etching method and high accuracy microscope reader. The WNP System was developed based on CTC dosimetry service which meets ISO 21909-1.



WNP Holder and TT2

Real scale

### Products

- TechnoTrak2/WNP holder
- Reader (Microscope): TLS-1000
- Etching kit (optional)

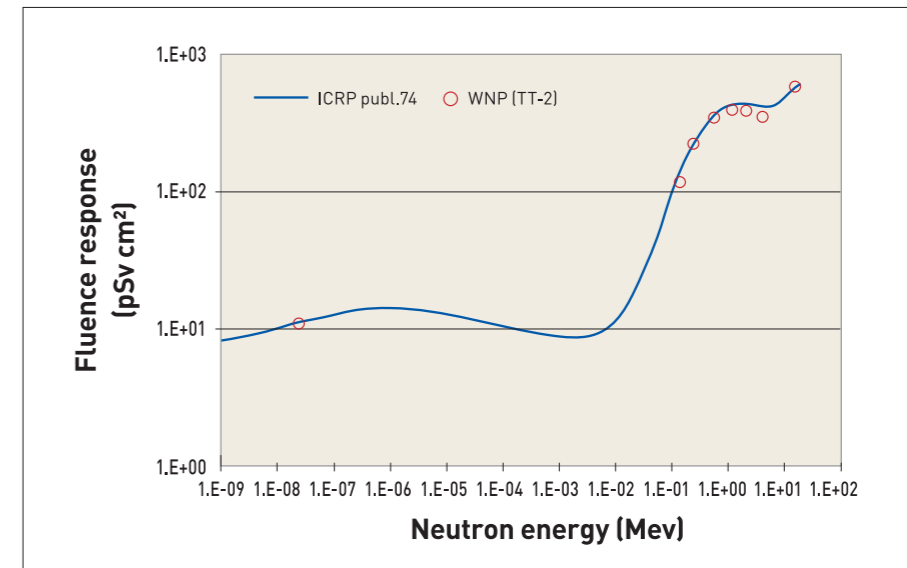
### Applications

- Neutron personal dosimetry



TLS-1000 Reader

### Excellent energy characteristic

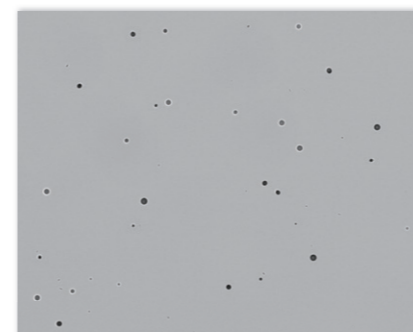


Energy characteristics of WNP

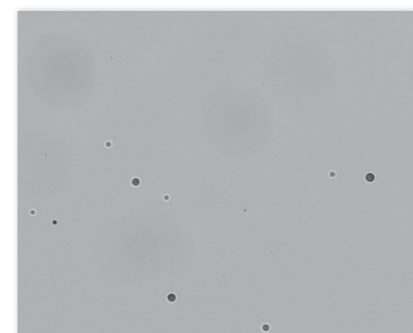
Result obtained by Oarai Research Center of Chiyoda Technol Corporation

### Advantages

- Pre-etching is not necessary because of almost no false pit.
- Automated separation between etch pit and dust.



Etch-pits by Cf-252 source



Etch-pits by thermal neutron

### Specifications

Dosimeter	Detector	TechnoTrak2 (TT2) 360 detectors/sheet 8.5 mm x 19 mm with ID number
	Holder	WNP Holder Radiator: High Density Poly Ethylene (HDPE) Converter: Boron Nitride (BN) Size: W11.5 x D22 x H3.5 mm
	Energy range	Neutron: 0.025 eV to 15 MeV
	Dose range	Fast neutron: 0.1 mSv to 60 mSv Thermal neutron: 0.1 mSv to 8 mSv
	Neutron sensitivity ( <sup>241</sup> Am-Be)	1240 ± 30(1σ) etch-pits/cm <sup>2</sup> /mSv (with HDPE)
Reader	Background noise	20 ± 20(1σ) etch-pits/cm <sup>2</sup>
	ID	1 alphabet and 4 digits number
	Dissolution	0.550 μm/pixel
	Viewing field	1.268 mm <sup>2</sup> (1.126 mm x 1.126 mm)
	Auto focus	Contrast mode/Surface detection mode
	ID reading	Automatic ID recognition unit
	Readout time	It can measure 100 TT2 detectors within 2 hours successively.
	Continuous reading	100 detectors
	Analysis function	PitFit2 can present the distribution chart of pit.
	Power supply	200 V, Power Consumption 500 VA or less
Power consumption	Max. 500 W	
Dimensions/weight (excluding PC unit)	W884 x D805 x H800 mm, 115 kg	
Imaging	Multi-layer imaging: Automatic recognition of adhered dusts in the image	