



TOHOKU
UNIVERSITY

Kinken Powder Diffractometer for High Efficiency and High Resolution Measurements

T1-3 HERMES



Applications

- ❑ Refine crystal and magnetic structure
- ❑ Determine light elements' position in compounds containing heavy elements
- ❑ Determine ionic conduction pathways
- ❑ Structure analysis of small quantity samples (50 mg)
- ❑ Wide Q -regime measurements of liquids, amorphous, etc.

monochromator	vertically focused, horizontally flat total height: 20 cm, mosaic: 10' take-off angle: 116° Ge(331) ($\lambda = 2.20 \text{ \AA}$) Ge(551) ($\lambda = 1.34 \text{ \AA}$)
collimations	1st: 12' 2nd: open 3rd: 18' – 24'
angle range	$1.5 < 2\theta_s < 152.5^\circ$ ($0.075 < Q < 5.5 \text{ \AA}^{-1}$) Ge(331) ($0.12 < Q < 9.1 \text{ \AA}^{-1}$) Ge(551)
distances	monochromator-sample: 234 cm sample-detector: 135 cm
detector	^3He -type detector (150 tubes)
sample environment	4K GM (2.5 – 300 K) cryofurnace (20 – 700 K) Yashima Lab furnace (RT – 1500 C) other common sample environments

Other characteristics

- Mail-in Service provided
- Structure analysis on behalf of users
- Supports for young scientists and newcomers
- Collaboration with project research