Bench-top X-ray diffractometer
MiniFlex II+D/teX Ultra
—Great performance, small footprint—

1. Introduction

The compact and safe designed MiniFlex II benchtop X-ray diffractometer[1] provides the user with a remarkable degree of freedom—it can be installed almost anywhere you wish. This system will prevent user from radiation exposure by locking the door while X-rays are on. These features, among others, make it a very user-friendly system.

In contrast, the D/teX Ultra, a high-speed, solid state 1-D detector, is typically employed as a key component in high-end multipurpose systems. It shortens measurement time requirements considerably and makes it possible to collect high-intensity data[2].

The D/teX Ultra detector, previously available only with high-end "big iron" systems has been reengineered to be compatible with the compact MiniFlex II. Rigaku is pleased to introduce the MiniFlex II+D/teX Ultra, a compact, convenient benchtop system with the data collection power of a high-end instrument.

2. Features

Through reengineering, Rigaku was able to reduce the D/teX Ultra's width by approximately 45% (70 mm). The new, smaller D/teX Ultra enables the MiniFlex II +D/teX Ultra to collect high-intensity data at much higher speeds than a scintillation counter (SC). In addition, the MiniFlex II+D/teX Ultra features the MiniFlex II's newly-developed slit system and improved angular precision, making use of Rigaku's real time, 2θ angle correction technology.

Fig. 1. D/teX Ultra for MiniFlex II.

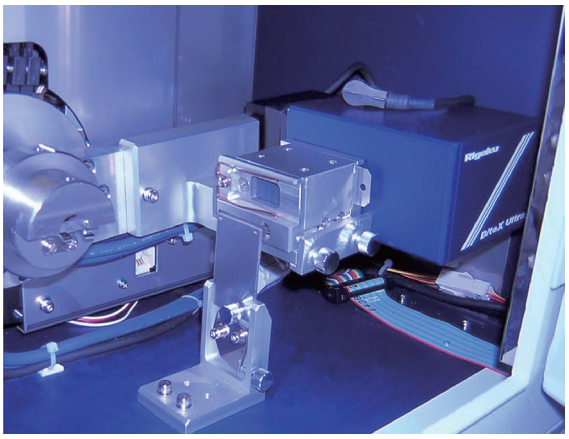

Fig. 2. Inside of MiniFlex II+D/teX Ultra.

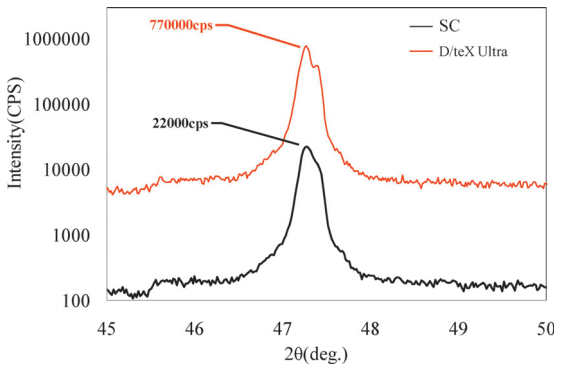

Fig. 3. Intensity comparison of D/teX Ultra and SC (Si Sample).

3. Intensity Comparison

Using the D/teX Ultra, it is possible to make 1-D measurements with 100 times the diffraction intensity of a scintillation counter. Rigaku's internal testing of the MiniFlex II showed that data collected with D/teX Ultra has approximately 30 times the intensity of an SC. Taking advantage of this capability, MiniFlex II+D/teX Ultra has shorter measurement times and a much improved ability to detect trace components in samples. For further detail, please refer to the technical article section of this issue[3].

References

(1) *Rigaku Journal (Japanese version),* **37** (2006), No. 2, 38–39.
(2) *The Rigaku Journal (English version)*, **24** (2008), No. 1, 30–32.
(3) Y. Namatame: *The Rigaku Journal (English version),* **27** (2011), No. 1, 6–8.