MICRO AREA X-RAY RESIDUAL STRESS MEASUREMENT USING MULTILAYER MIRROR OPTICS

Katsunari Sasaki[1 2], Yukio Hirose[1] Ryoichi Monzen[1] Akira Hosokawa[1] and Toshihiko Sasaki[1]

[1] Division of Innovative Technology and Science, Graduate School of Natural Science & Technology, Kanazawa University, Kanazawa 920-1192, Japan
[2] Rigaku Corporation, Akishima 196-8666, Japan

The multilayer optics, depositing alternating layers of light-element and heavy-element-containing materials onto an appropriately curved substrate, is well known as a strong X-ray optics which produces very high characteristic X-ray flux mainly in the protein crystallography. Recently the use of this optics for material property study such as residual stress and pole figure are started but still there are few applications.

Measuring residual stress requires uniformity of grain direction distribution and narrowing the X-ray irradiation area results both X-ray flux and accuracy problem. To fix these problem both X-ray flux and sample oscillation using high accuracy goniometer is required.

We will introduce the qualitative analysis and residual stress applications using high accuracy goniometer with CrKα multilayer optics and discuss about the problems such as irradiated area and X-ray intensity using Imaging Plate cylindrical two-dimensional detector system.

The abstract is submitted for the **ICRS8**.

DXC Web and affiliated web site is permitted.

Speaker,
Katsunari Sasaki
Rigaku Corporation, Akishima, Tokyo 196-8666, Japan
TEL:+81-425-45-8103 FAX:+81-426-1498
katsu@rigaku.co.jp

Poster session is preferred. (**ICRS**)

I would like to publish this paper in **ICRS** proceedings.