Energy Dispersive Full-Automatic Texture Analyzer

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Synopsis :

Energy dispersive full-automatic texture anal   yzer has newly been developed using Mo white X-ray diffraction. Pole figures of (110), (200) and (211) of   ÂFe can be analyzed from respective integral pe ak intensities measured at   the same time with the Ge detector system set up at 14° from incident

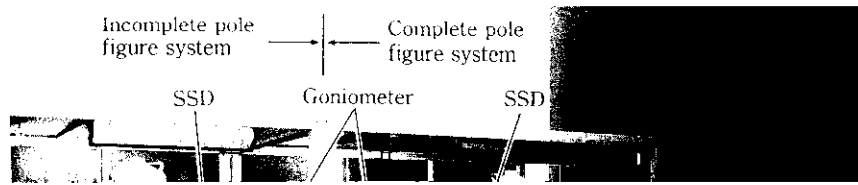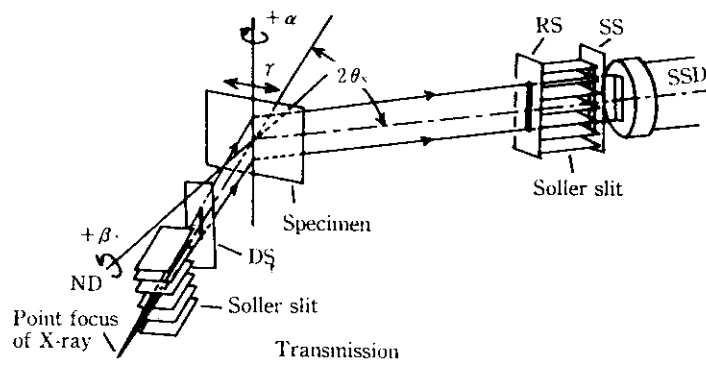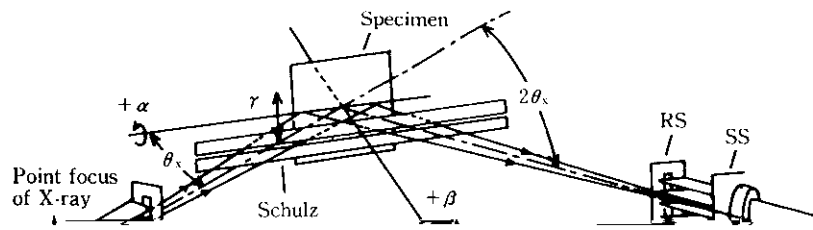# Energy Dispersive Full-Automatic Texture Analyzer*

Synopsis:

Energy dispersive full-automatic texture analyzer has newly been developed using Mo white X-ray diffraction. Pole figures of (110), (200) and (211) of α-Fe can be analyzed from respective integral peak intensities measured at the same time with the Ge detector system set up at 14° from incident X-ray beams, after escape peak

$$2d_{hkl} \sin \theta_{hkl} = \lambda_0 \cdots\cdots\cdots\cdots\cdots\cdots (1)$$

emitted as in excitation and escapes from the diode, and therefore escape peaks appear on the diffraction

Incomplete pole figure system | Complete pole figure system

SSD   Goniometer   SSD

Specimen

+α
γ
2θ

RS
SS

Point focus
of X-ray

θ

Schulz

+β

+α
γ
2θ

RS
SS

SSD

Soller slit

Specimen

+β

ND

DS

Point focus
of X-ray

Soller slit

Transmission

tored for each step of the α rotation.

On completion of the incomplete pole figure measurement of the first specimen, measurement of the next specimen proceeds in the same manner. Data analysis and incomplete pole figure drawing are carried out during the measurement of the next specimen. Incomplete

computer.

4 Complete Pole Figure of Cold-Rolled Steel Sheet

Figure 5 shows (110), (200) and (211) complete pole

5 Comparison of Measurement Time

A comparison of the measurement times of the two

6 Conclusions

(1) A fully automatic energy dispersive texture analyzer