

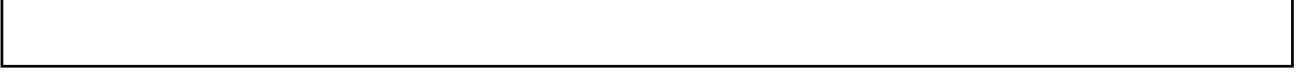
:  
 (1)  
 X ,5 20 $\mu$  m  
 (2)  
 (3)  
 2 3min 3 2 1 2  
 a)(111)[112] 1 (110)[001] 2  
 (100)[011] (100)[001] (100)[012] 1 b)(110)[001] 2  
 (100)[001] 1 850 17h  
 c)(110)[001] 2 8 $^{\circ}$  d)  
 (200)

Synopsis :

The characteristics of a new Kossel apparatus and technique are: (1) A camera loaded with a number of film cassettes and a divergent X-ray beam generated by scanning electron image enable one to obtain with ease Kossel diffraction patterns from a number of small areas election image enable one to obtain with ease Kossel diffraction patterns from a number of small areas (5 20 $\mu$

direction in an elongated secondary grain.

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# 透過 Kossel 法による方向性珪素鋼板の微小方位解析

Crystallographic Orientation Determination of Small Areas  
in Grain Oriented Silicon Steel by Transmission Kossel Technique

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## Synopsis:

The characteristics of a new Kossel apparatus and technique are:

- (1) A camera loaded with a number of film cassettes and a divergent X-ray beam generated by scanning electron image enable one to obtain with ease Kossel diffraction patterns from a number of small areas (5~20 $\mu$ m in diameter).
- (2) By adopting a modified aperture in the electron system, the high resolution in a scanning image and the

sharp contrast of Kossel patterns are simultaneously obtained.

- (3) Using the computer chart method, a crystallographic orientation can be determined in a time of 2~3 minutes.

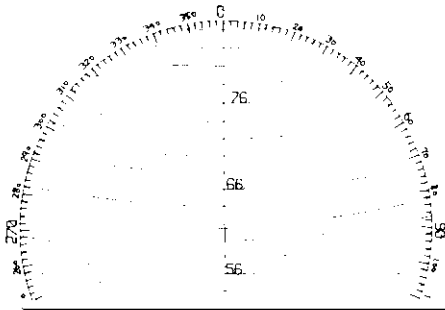
By using this apparatus, the orientation analysis of primary and secondary grains of 3% silicon steel was car-

再結晶の研究に適している。

Kossel線のうちSPの入射線は、 $(h, k, l)$ の結晶







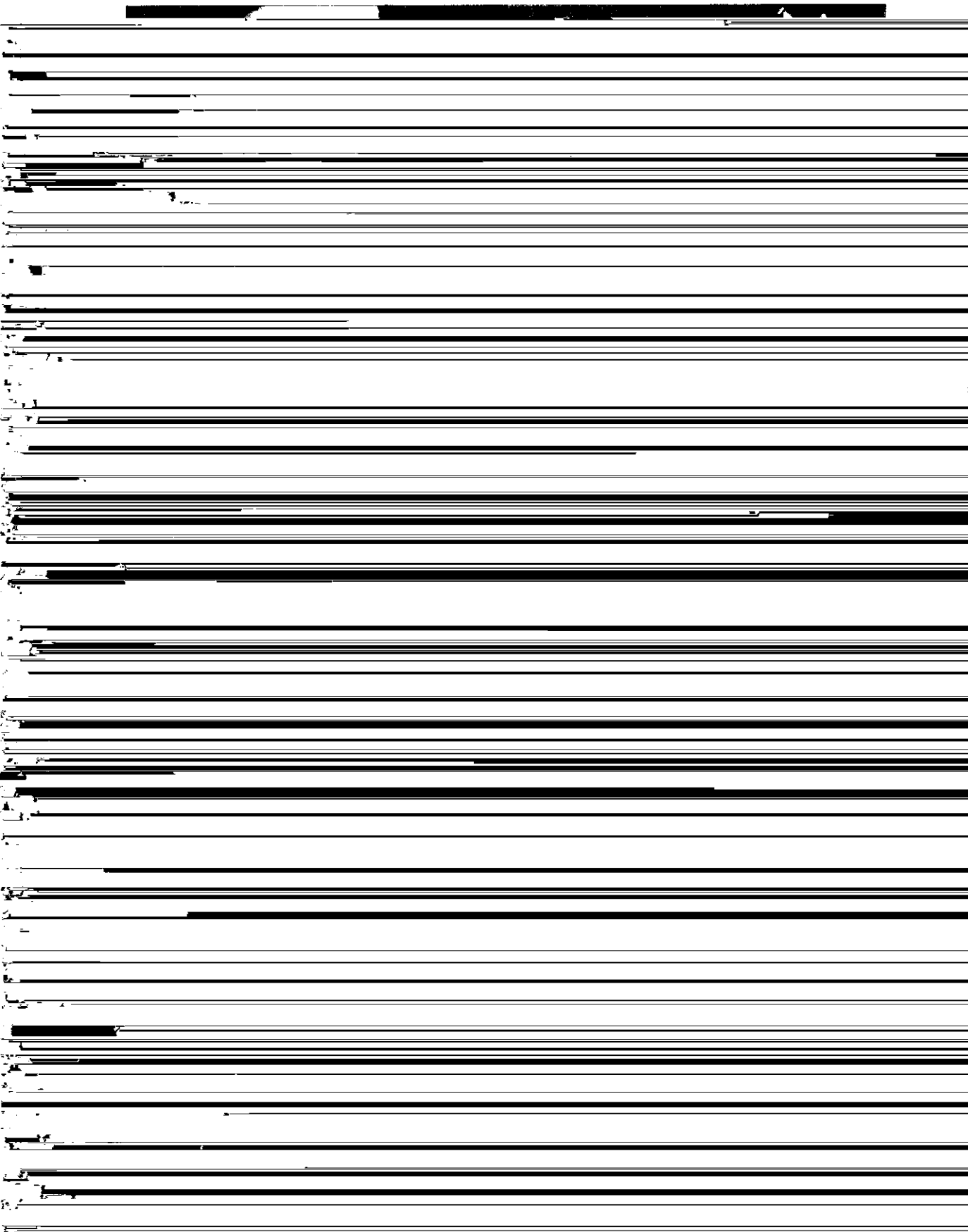
## 5. Kossel 装置による方位解析例

Kossel 装置を製作以来、現在までに約 1100 枚の撮影を行った。その中で得られたデータの一部を報告する。

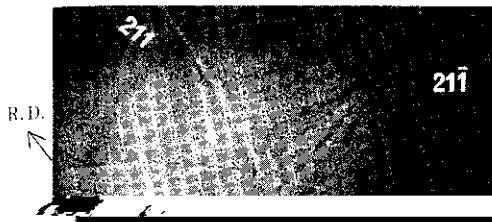
### 5・1 直視式回折装置と Kossel 装置の比較

(a)

(b)







R.D.  
↑

近い領域(B)に多く存在し、圧延方向の先端や、  
2 該粒の中心領域(A)ではほとんど見られない

110

119

電子像と Kossel 像の像質を同時に向上させるこ

うに、透過 Kossel 法に上入加印性柱差銅板を用いて、微小五位観察を行った。

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