

MAGNETIC MEASUREMENTS ON IRON PLATE NEUTRINO SPARK CHAMBER MAGNET

Some magnetic measurements have been carried out on the iron plate neutrino spark chamber magnet. The general view and some dimensions are given in Fig. 1.

The measurements were carried out partly with search coils and an electronic integrator and partly with a Hall probe. The results are given in Fig. 2 - 7 which are hoped to be self-explanatory together with the following captions.

Figure captions

- Fig. 2 Average flux density in plate No 10 at  $z = 76.5$  cm as a function of excitation current.
- Fig. 3 a Horizontal distribution of the stray field and the field between plate 12 and plate 13 at  $z = 62$  cm and  $z = 138$  cm.
- Fig. 3 b Horizontal distribution of the stray field and the field between the plates at various positions along the beam direction at  $z = 0$ .
- Fig. 4 Vertical distribution of the field between plate 12 and 13 at  $y = 25$  and  $75$  cm.
- Fig. 5 Distribution of the field between plates horizontally in the beam direction.
- Fig. 6 Field distribution in the 3 mm slit under plate 12 (see also Fig. 1).
- Fig. 7 Field direction at various positions between plate 12 and 13.

Acknowledgement is due to R. Gerst for assisting in the measurements which were requested by Dr. G. von Dardel and carried out in consultation with B. Langeseth.

R. Grüb

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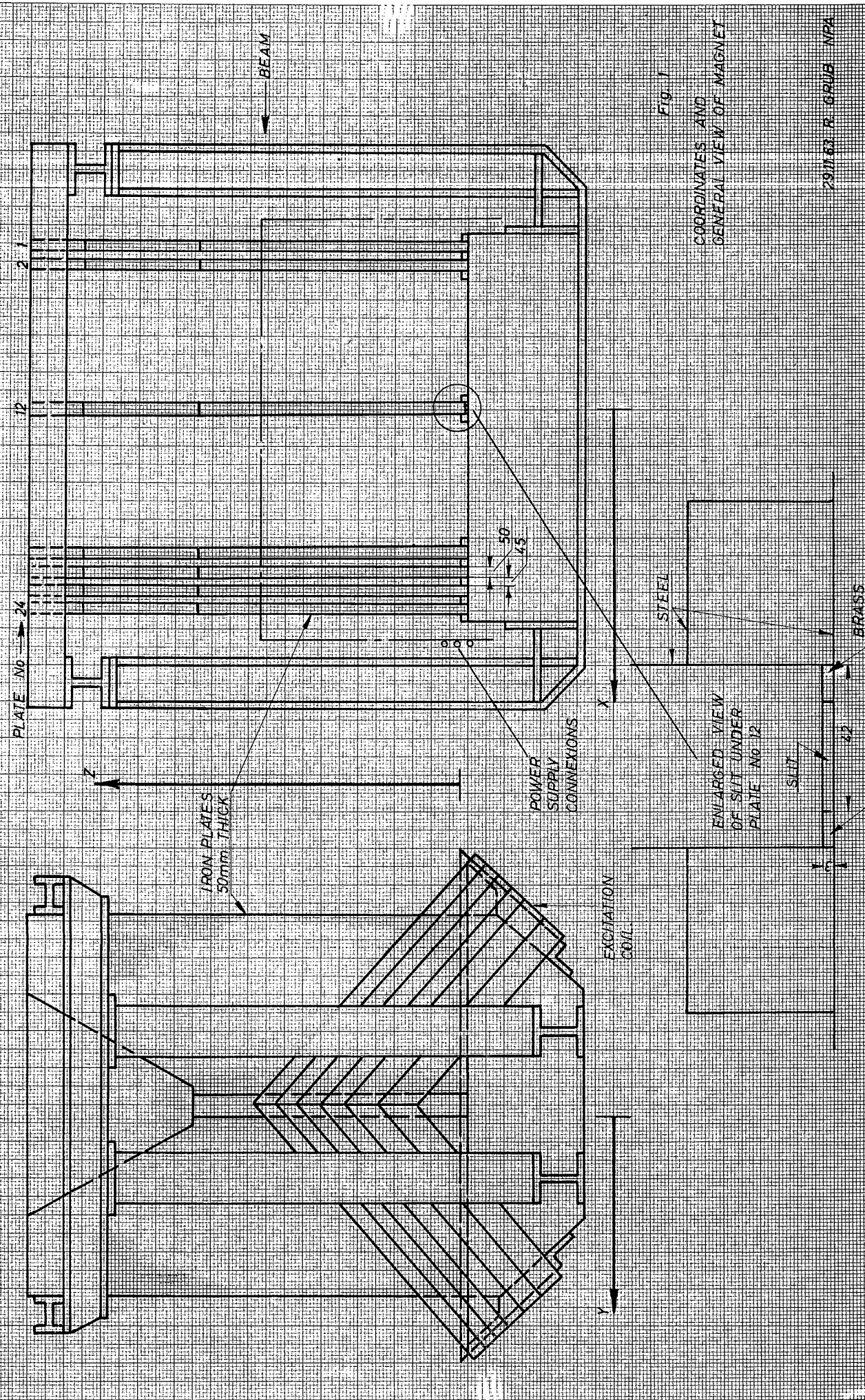
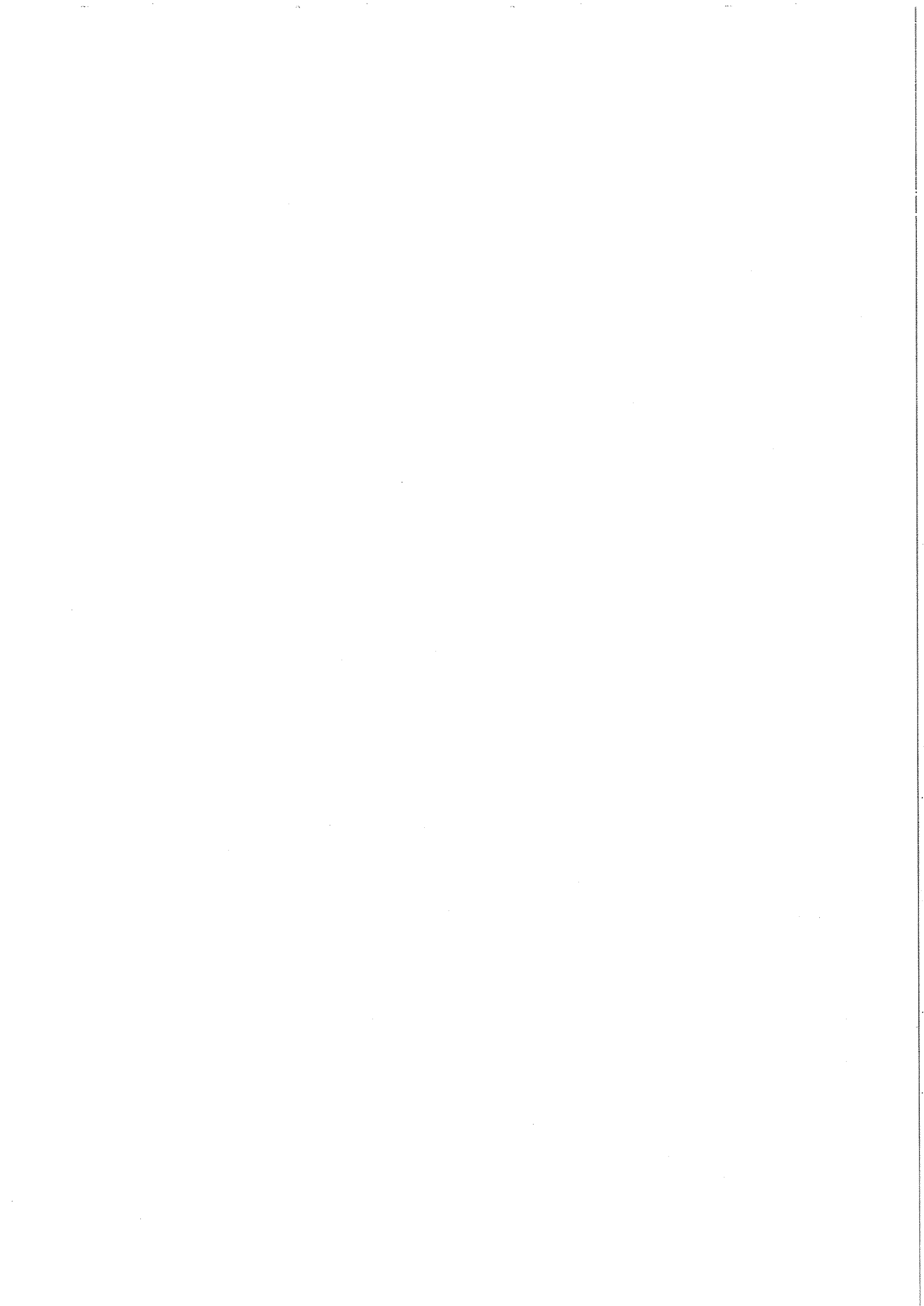
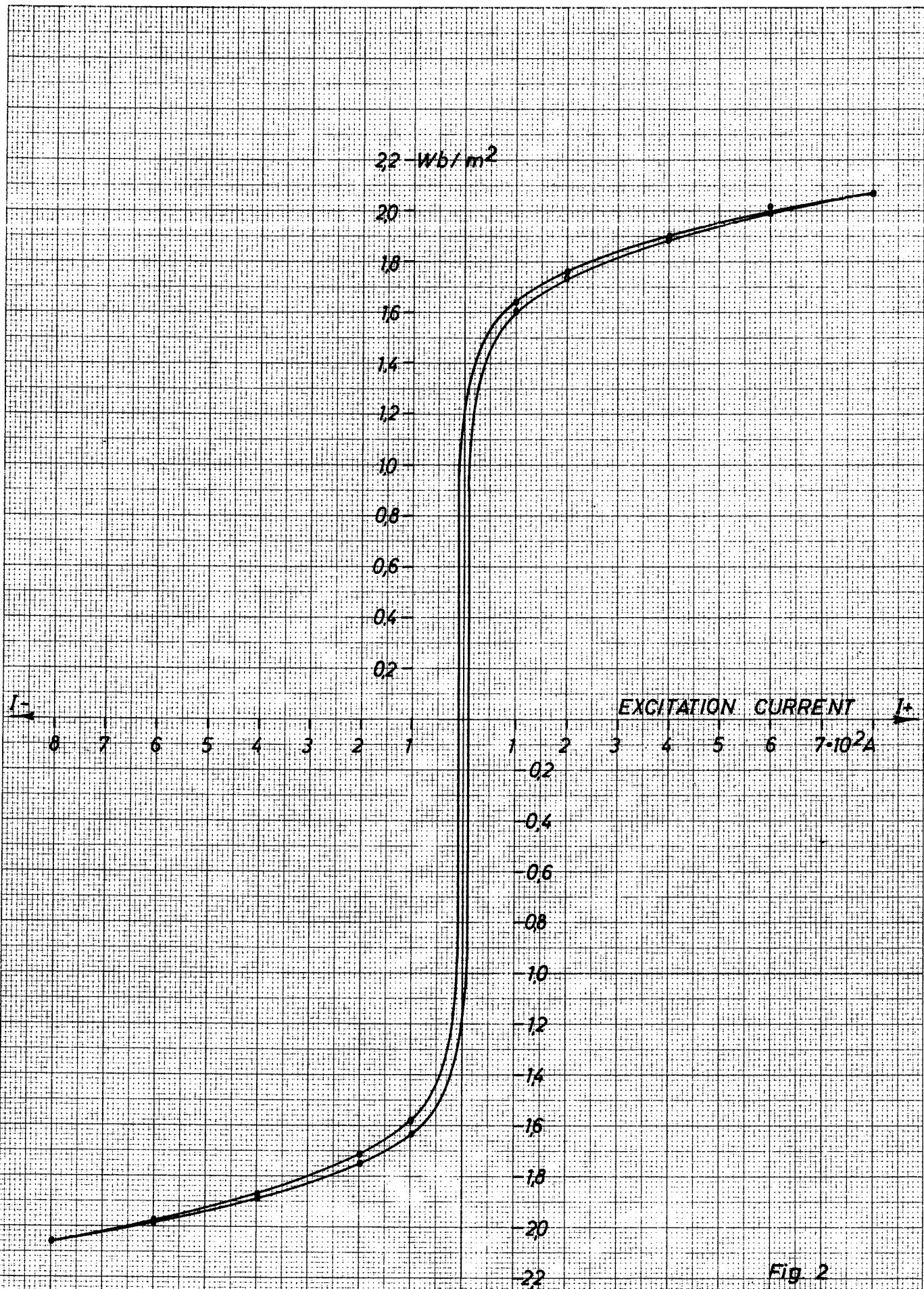


Fig. 1  
COORDINATES AND  
GENERAL VIEW OF MAGNET

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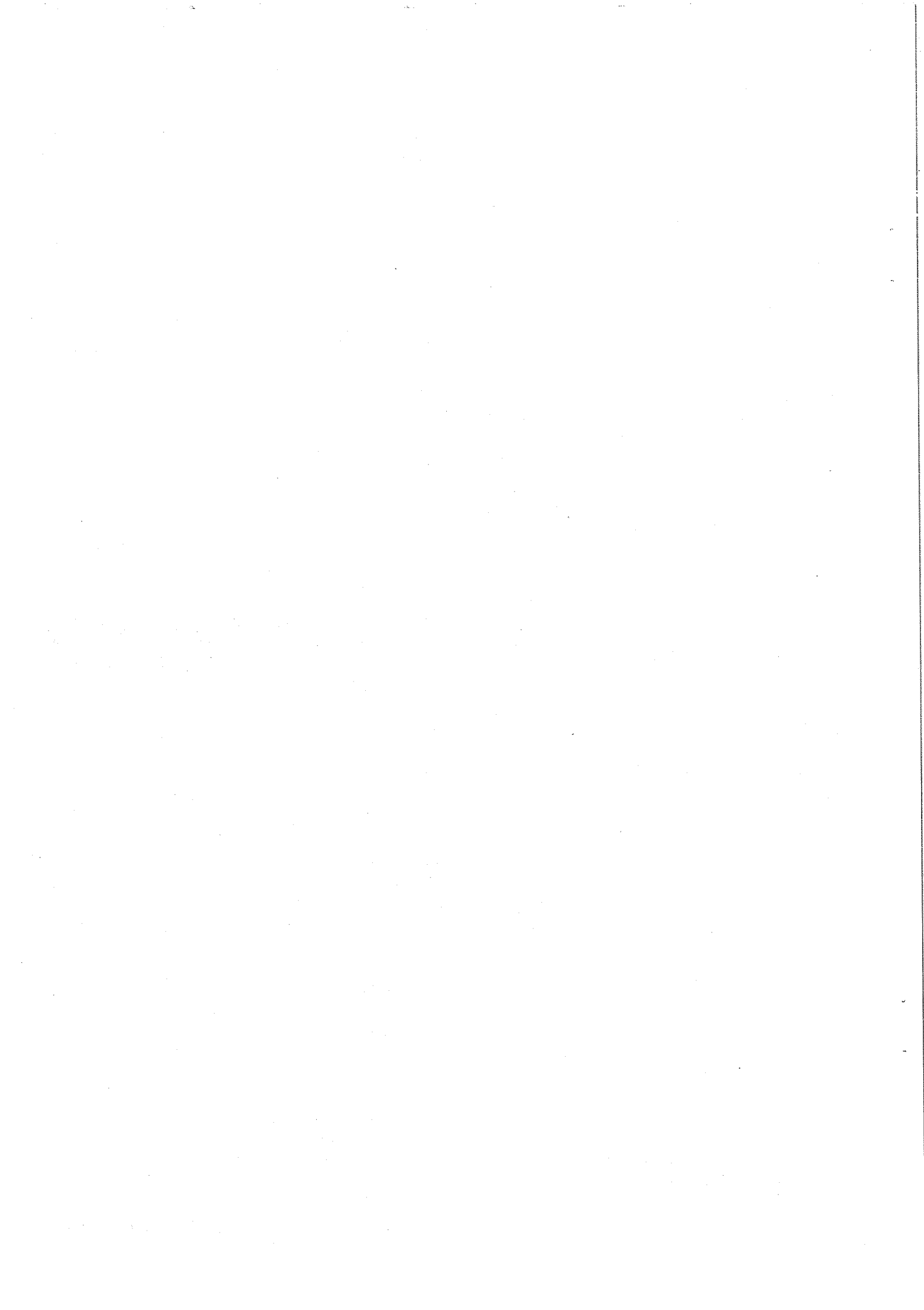


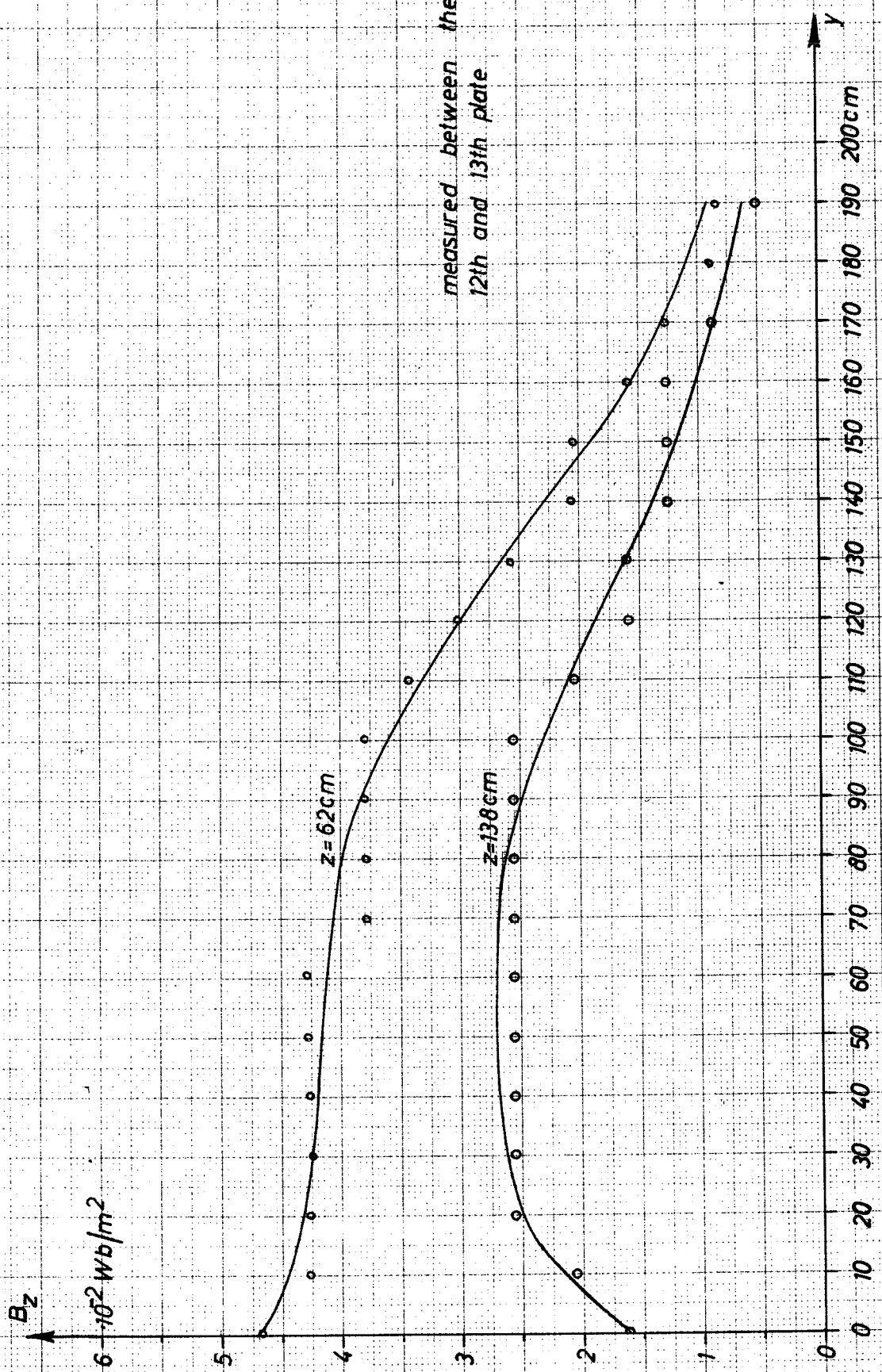


AVERAGE FLUX DENSITY  
 IN PLATE No. 10  
 POSITION:  $z = 76.5 \text{ cm}$ .

Fig. 2

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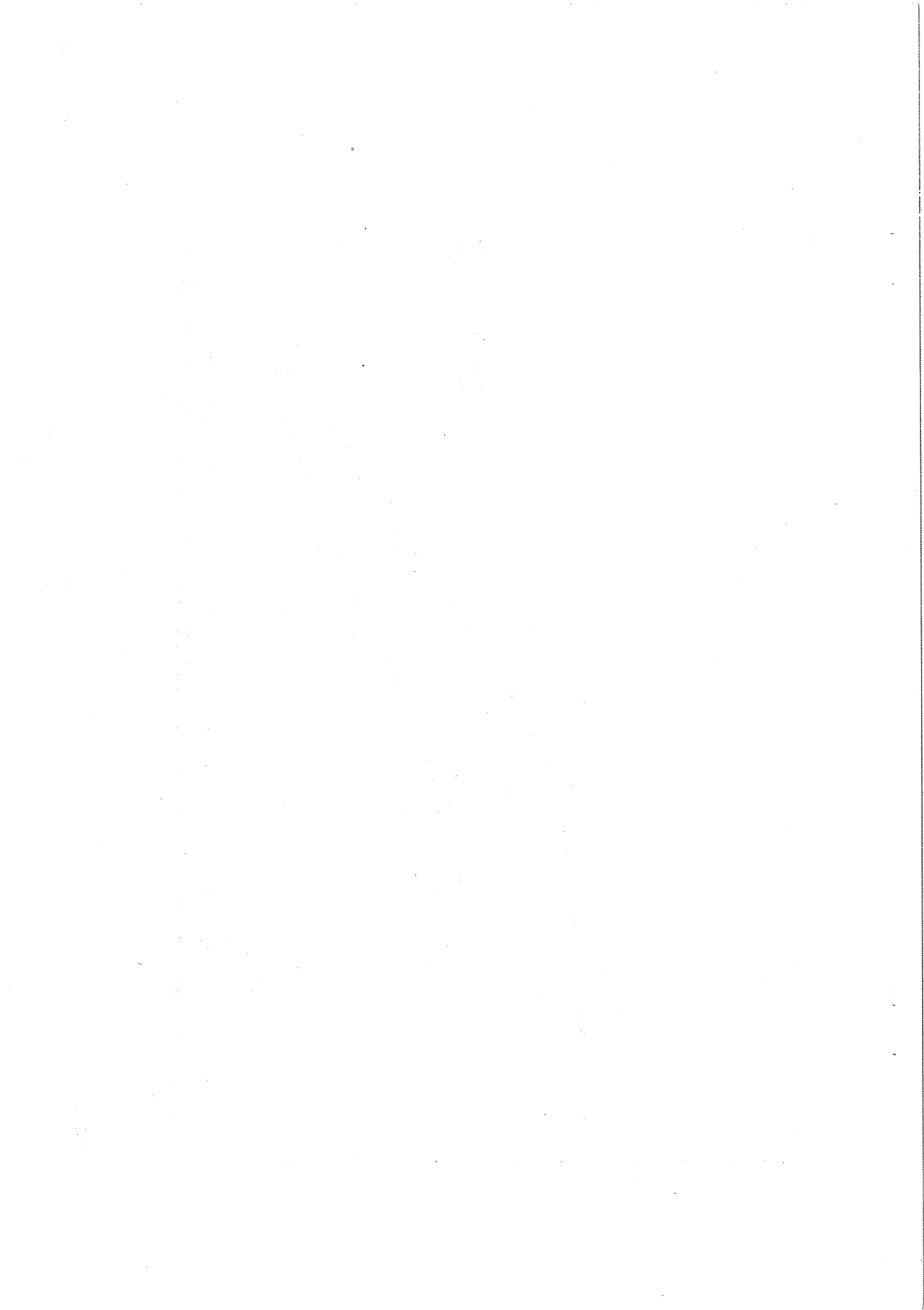




measured between the  
12th and 13th plate

Fig. 3a

$I = 850 \text{ A}$





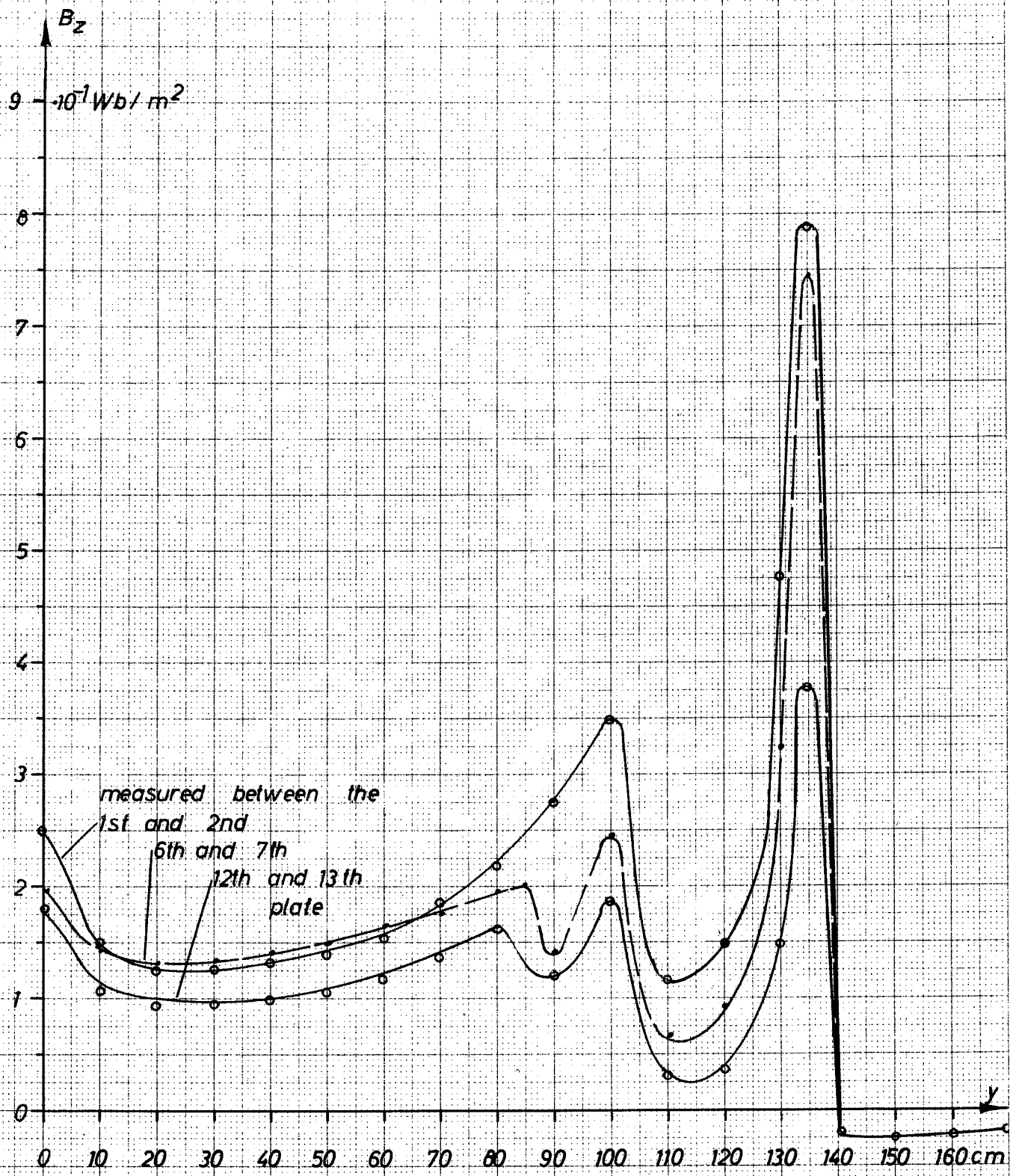
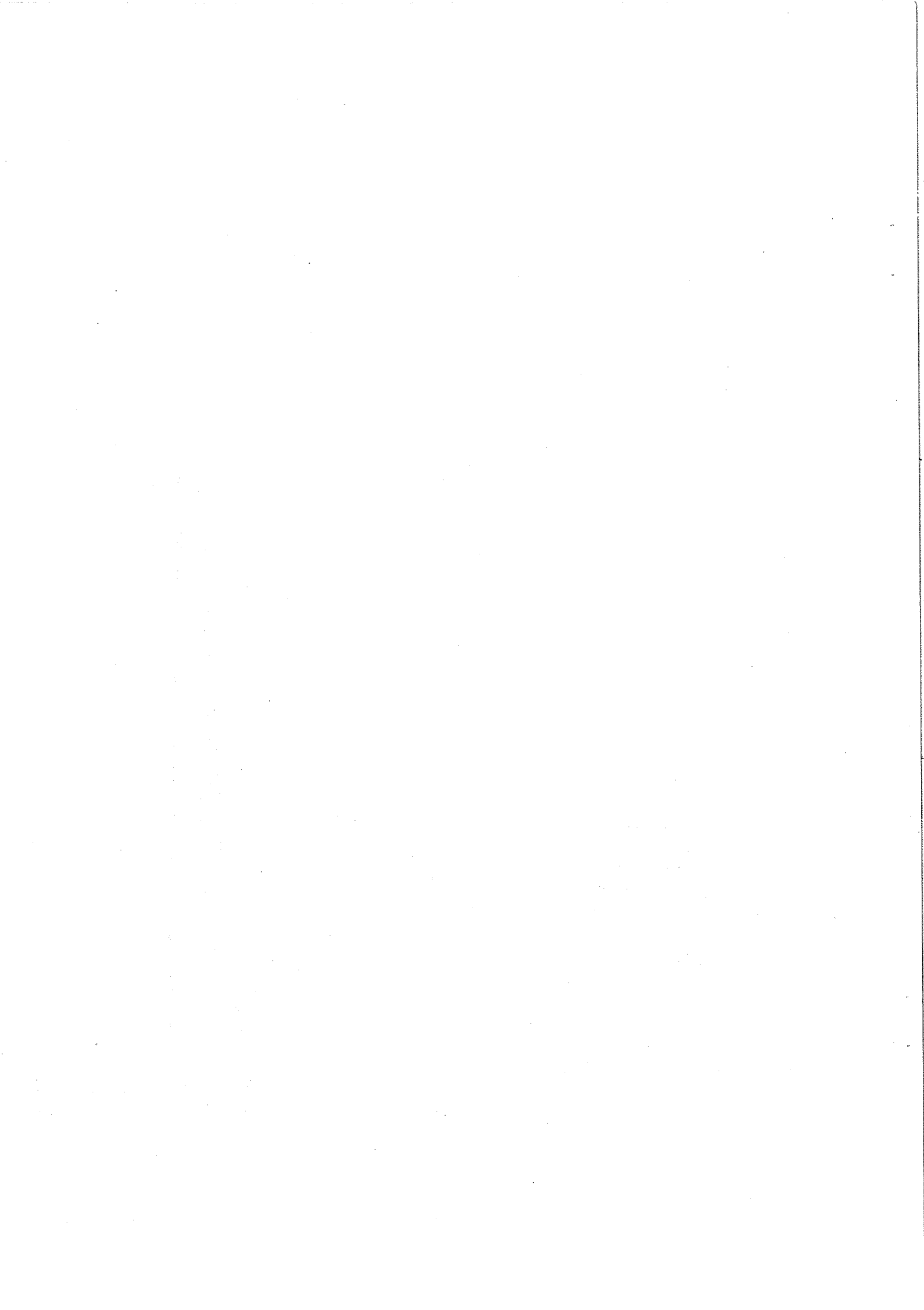
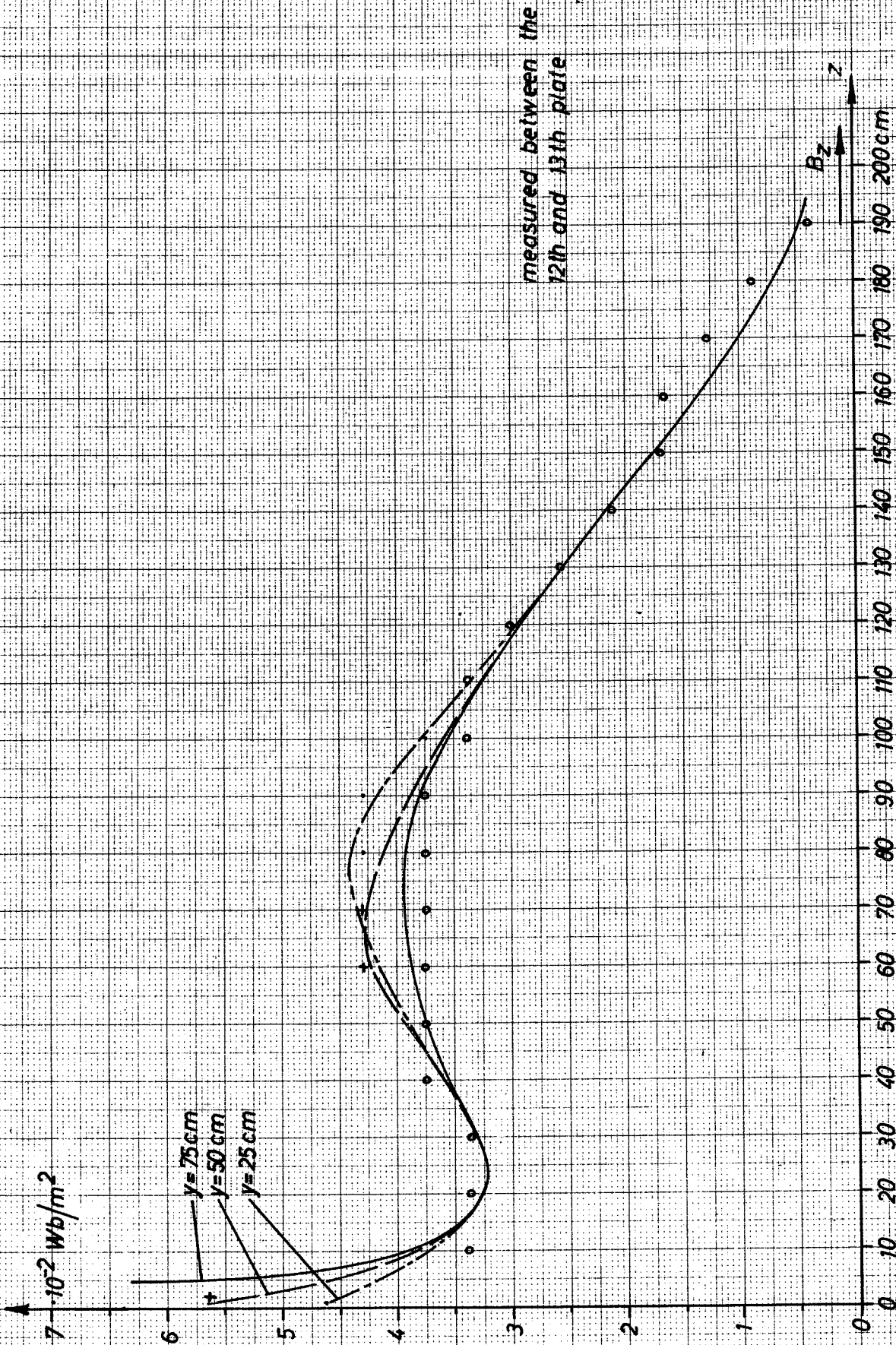


Fig. 3b

$I=850 \text{ A}$   $z=0$

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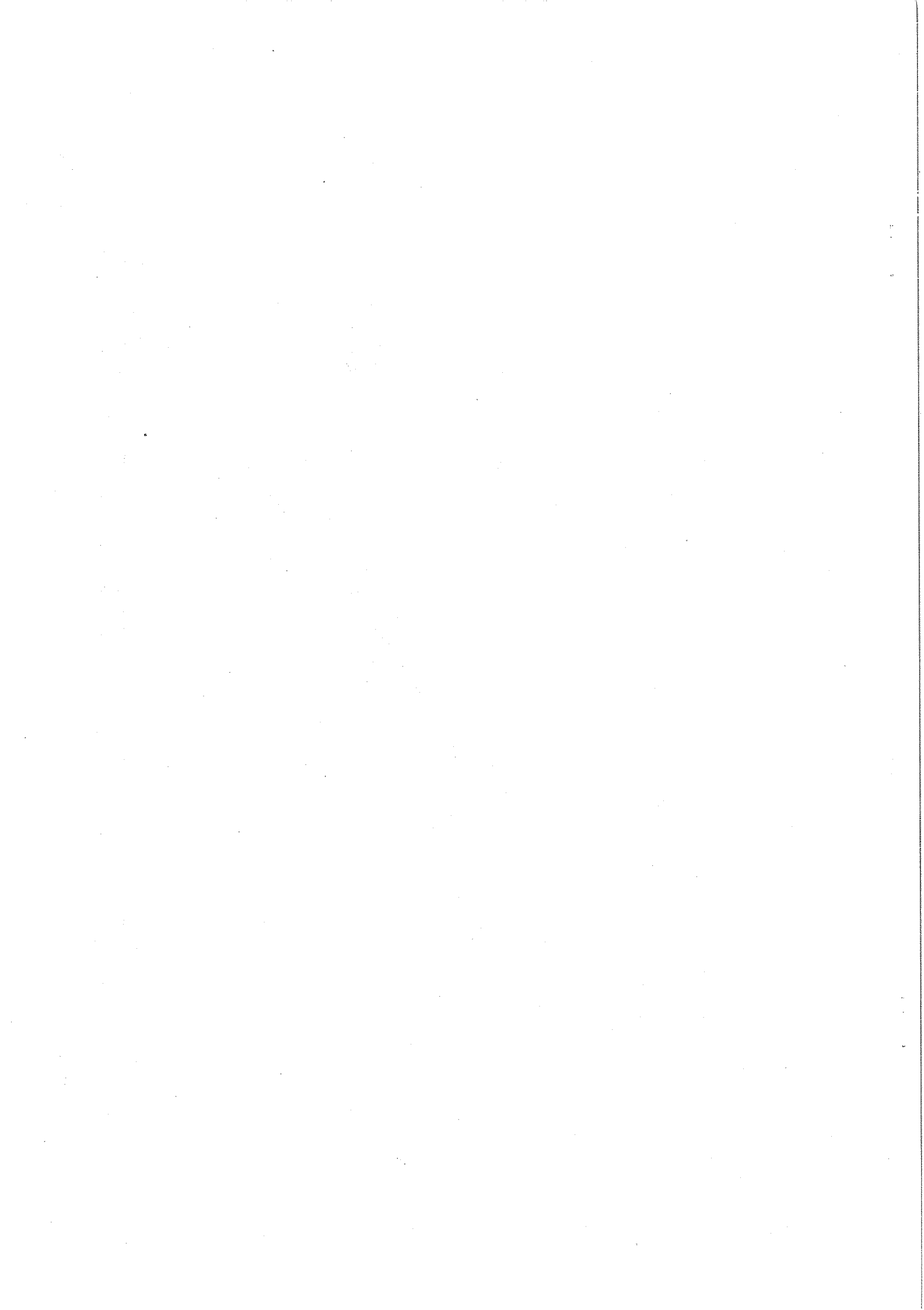




measured between the 12th and 13th plate

FIG. 4

$I = 650 \text{ A}$



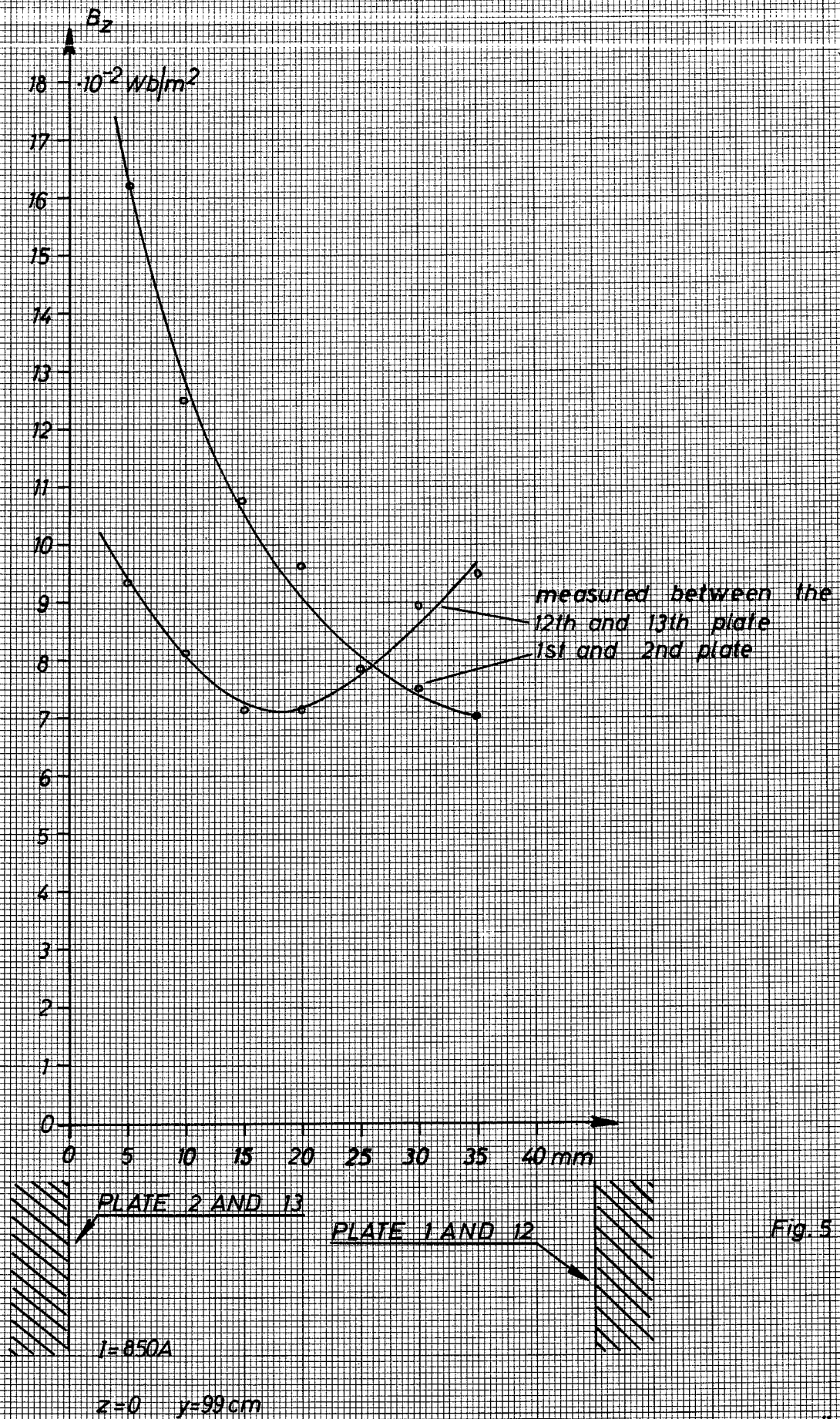
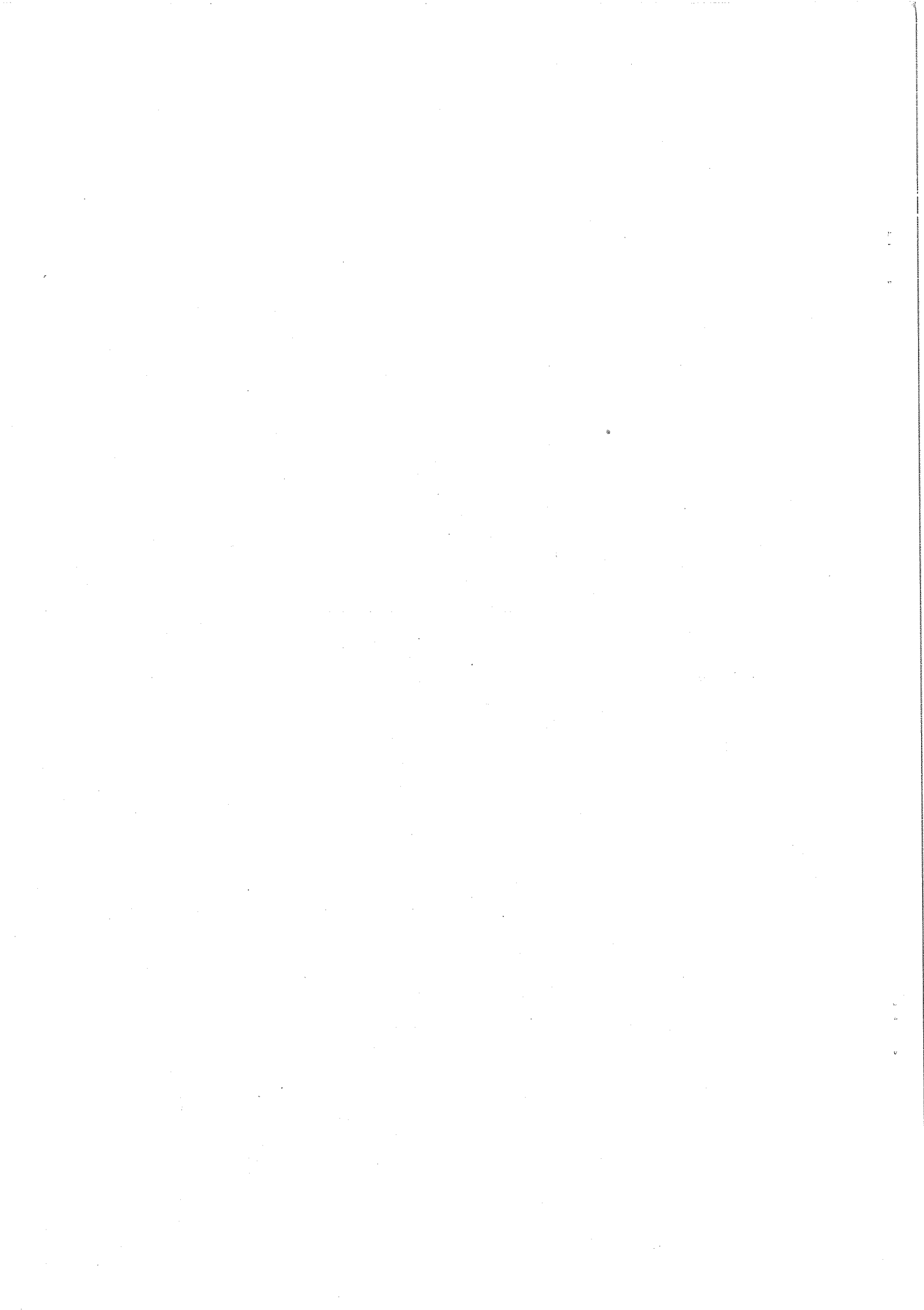


Fig. 5

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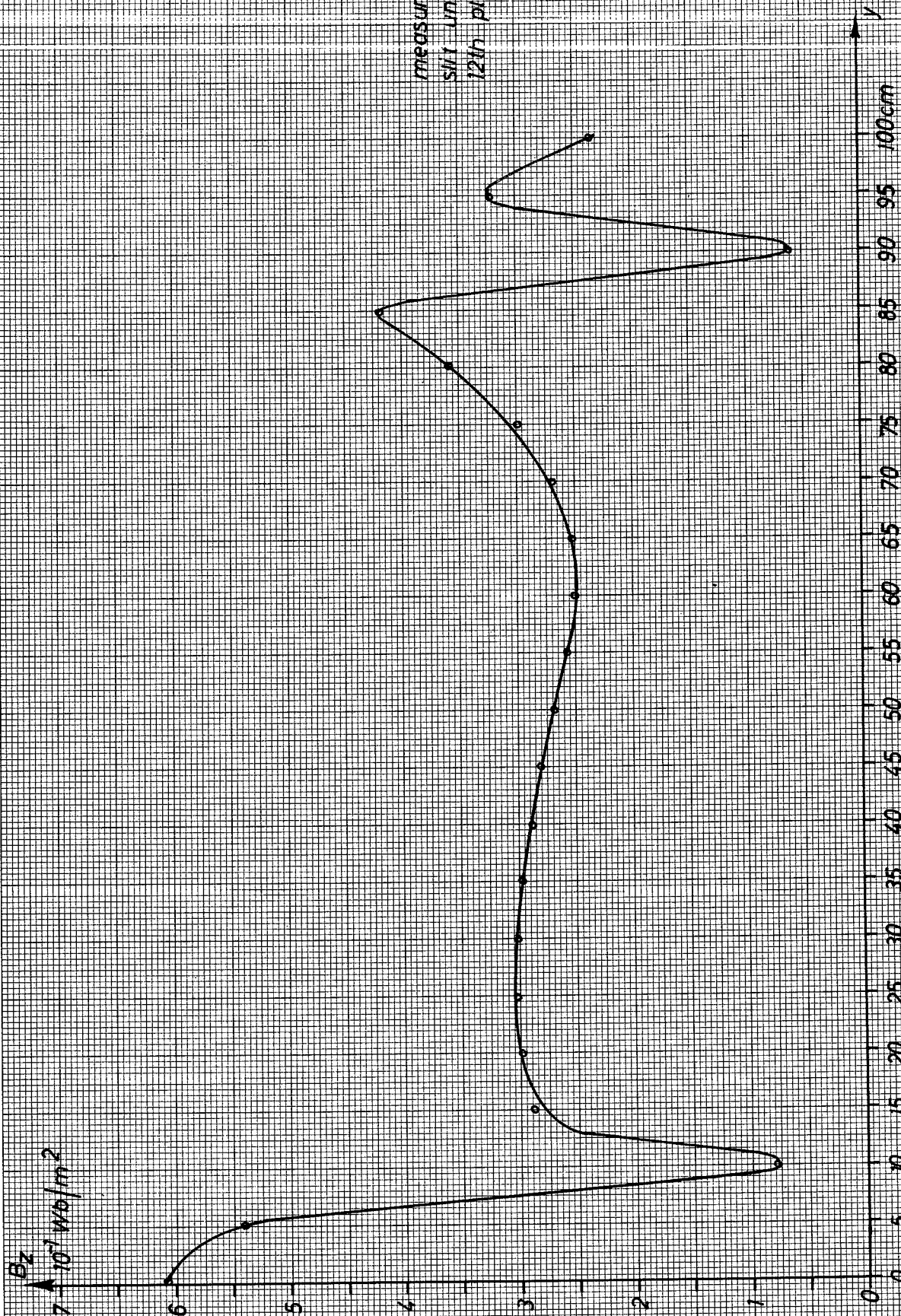
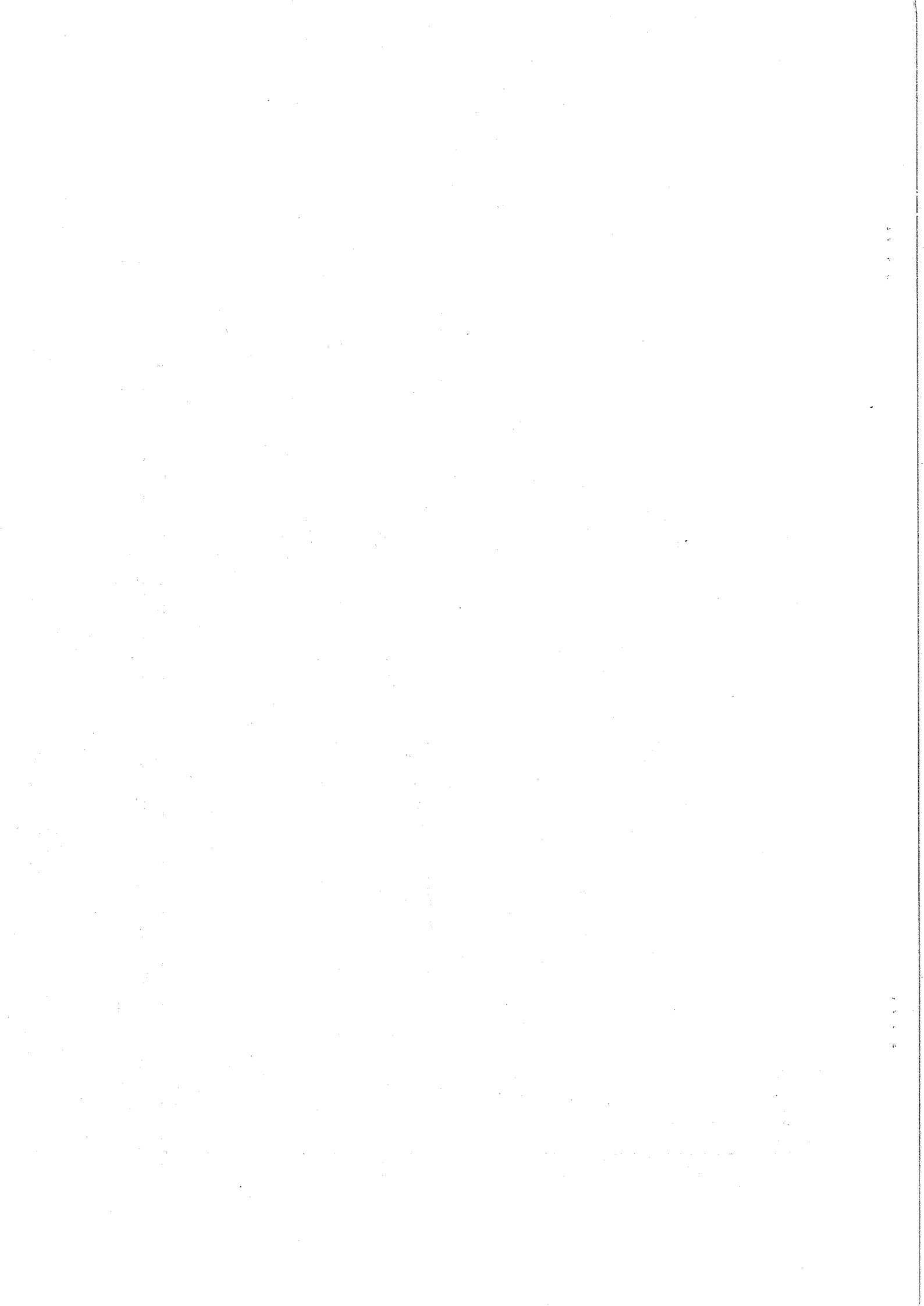
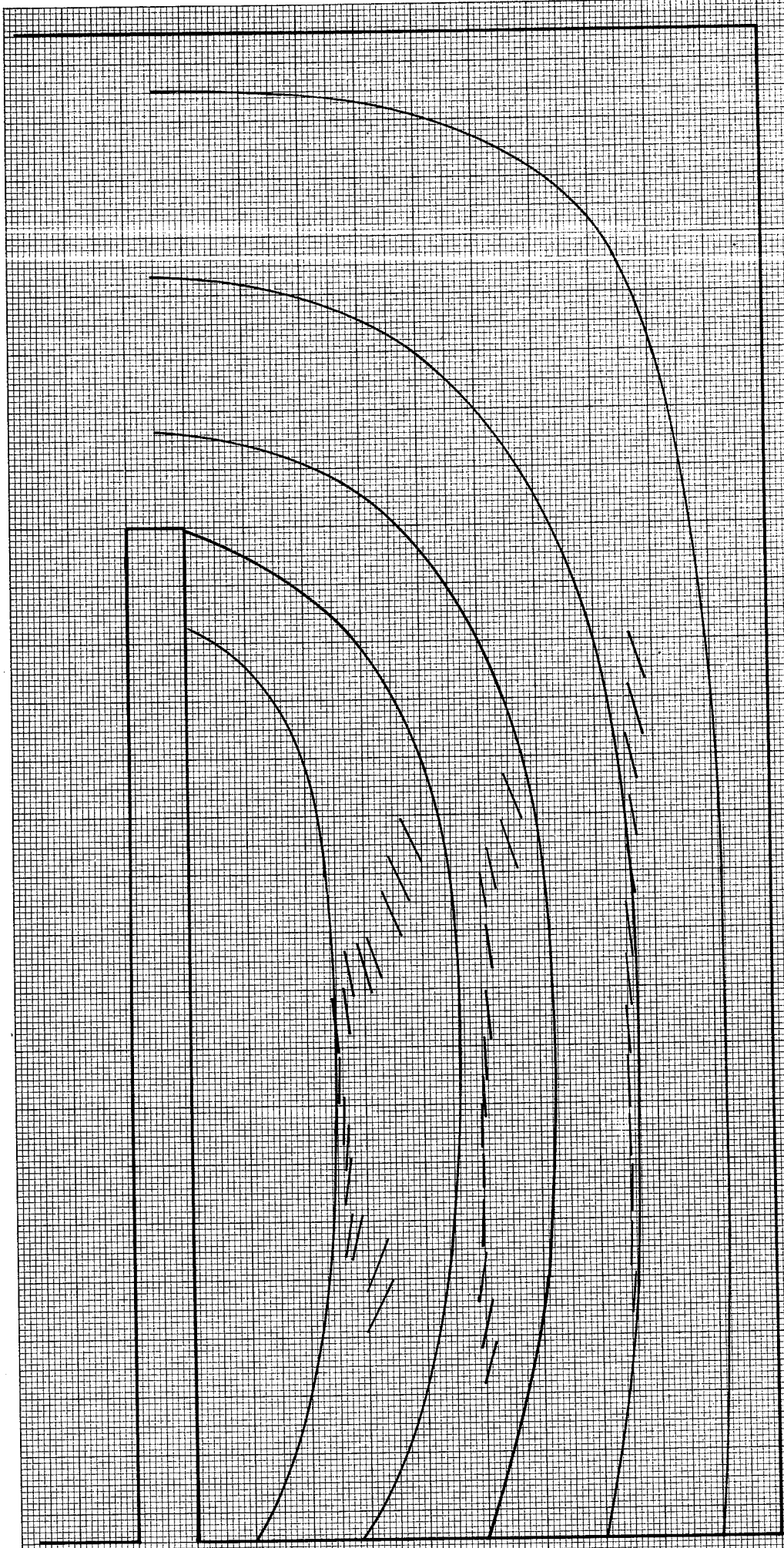


Fig. 6

I = 850A







MAGNETIC FIELD DIRECTION, SHORT (BROKEN) LINES INDICATE MEASUREMENTS WITH HALL PROBE BETWEEN PLATE NO 12 AND 13. FULL LINES MEASURED ON ANALOGUE MODEL.

J = 850A

Fig. 7

