

MnZn Ç™ Ũ – ° b0 (ò 63ñ&""á b Ø < X k Ñ ö

Frequency Dependence of the Complex Initial Permeability of MnZn Ferrite

◁.( ½& Satoshi Gotoh >' 5 2& Takashi Kawano >' n C %& Naoki Soga >'

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MnZn Ç™ Ũ – ° b0 (ò 63ñ&""á b Ø < X k Ñ ö c>\* Maxwell %o&i' b ] &0Ž ? } Ó u }  
€>\* ¥" b M 2>& •8 „>!\* š - >\*1 7Á"á [ ô l € • 0 (ò 63ñ&""á b)† ô ° 6 • 8  
c 1; ° b Ø < X k Ñ ö c>\* G € } †\*f Ö M € d ¥" Æ b 7Á&" ò • ? } \_ C G \ @ [ A > \*  
Í † | C ì # [ A • MnZn Ç™ Ũ – ° b œ > \* 1 MHz è W b ( V [ 2s A • 1; †  
W S 63ñ&""á b \* W c > \* ¶ b + - ! > 1; x & " h 1; b + Ö [ c 1 Â [ A ^ 8 7Á&" b ]  
& ^ ò • 0Ž Ò b) Ý > \* G € c ¥" b Ð j ß ^ 7Á&" ¼ " l ö [ ô r • ¶ b ¥" M 2 \_ P Â K  
S M' b M 2 1; [ 6 • \ 0Ž 5 [ A > \* 1 7Á"á b Ý @ ± A 8 G \ @ f ? W S

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Synopsis :

7KH KLJKHU WKH UHDO SDUW RI WKH FRPSOH[ LQLWLDO SHUPH  
lower is the frequency at which it begins to fall. This phenomenon has been explained  
by the domain wall resonance of the rotational resonance. The authors analyzed the  
frequency dependence of the permeability by taking into account of the behavior of the  
electromagnetic wave derived from the cross section radius, r, the resistivity, r and the  
FRPSOH[ SHUPLWWLYLW\ ÆH G KÍHL W\SLFDWH TXIDQXU FXUYH KD V  
certain frequency, fr, followed by a rapid fall. On the other hand, the resonant  
frequencies calculated from the rotational resonance and the domain wall resonance

# MnZn フェライトの複素初透磁率の周波数依存性\*

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29 (1997) 4, 220-224

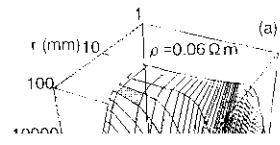
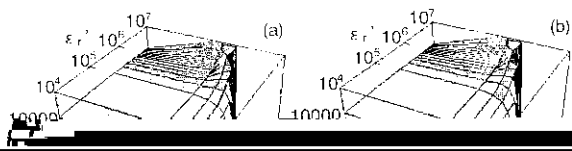
## Frequency Dependence of the Complex Initial Permeability of MnZn Ferrite

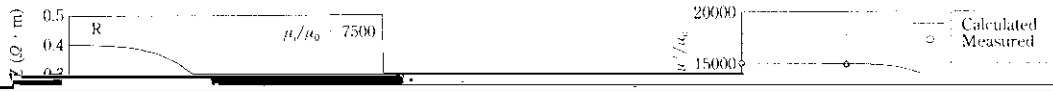
### 要旨

MnZn フェライトの複素初透磁率の周波数依存性は Maxwell 方

その中を周波数  $f$  (角周波数  $\omega = 2\pi f$ ) で正弦波的に変化しながら伝播する電磁場の空間分布を Maxwell の方程式から導く。







フェライトでの一般的な値、 $M_s = 0.42 \text{ T}$  を用いると、(7) 式は

$$f_r = 7.84 \times 10^3 / \mu_r \text{ (MHz)} \dots\dots\dots (8)$$

となる。(8) 式でわかるように自然共鳴周波数は  $M_s$  が一定の場合

