

## Magnetic Behaviour of $\text{Mn}_x\text{Zn}_{0.22}\text{Fe}_{2.78-x}$ ( $x=0.00\sim 0.08$ ) Thin Films Grown by Ferrite Plating Method

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We have performed ferrite plating of  $\text{Mn}_x\text{Zn}_{0.22}\text{Fe}_{2.78-x}\text{O}_4$  ( $x = 0.00 \sim 0.08$ ) films grown on the cover glass at substrate temperature range 90 °C. X-ray diffraction patterns of the films showed a single phase of polycrystalline spinel structure. The calculated lattice constants of  $\text{Mn}_x\text{Zn}_{0.22}\text{Fe}_{2.78-x}\text{O}_4$  films with  $x = 0.00$  and  $x=0.08$  were  $a=8.416$  and  $8.427$  Å, respectively. The deposition rate monotonically decreases as the concentration of  $\text{Mn}^{2+}$  in the reaction solution increases. As the Mn concentration increases from  $x = 0.00$  to  $x = 0.08$ , the  $M_s$  decreases from 419 to 394 emu/cm<sup>3</sup>.

### References

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