

OBTAINING SUBMICRON FILMS ON THE BASE OF YIG BY DROPLET EPITAXY

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To obtain films based on yttrium iron garnet (YIG) method was used droplet epitaxy. Initially produced solution-melt (S-M) YIG-based low lead boron-barium solvent. By rapid cooling the S-M was obtained by homogeneous glassy mass.

The technique of growing YIG film includes the following steps. In the isothermal zone of the furnace slowly introduced GGG substrate. After thermal stabilization included its rotation in two alternating directions. Next in the isothermal zone furnace is introduced loop with the glass drop of S-M. The temperature in the isothermal zone close to the temperature of growth YIG films by liquid phase epitaxy. Glassy drop of S-M melts, drips on GGG substrate, evenly spread out and begin the process of epitaxial YIG films. Discharge of residues of the drop with substrate is carried out by rotating the Stock with a large angular velocity. In conclusion, the sample was slowly removed from furnace. The magnetic and dynamic property of the films grown by droplet epitaxy does not differ from the characteristics of the films obtained by classical liquid phase epitaxy.

9.7 cm

13.4 cm

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