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Abstract
The dielectric characteristics of layer structured bismuth material SrBi2Ta1.8V0.2O9 have been well developed. SrBi2Ta1.8V0.2O9 ceramic was used as the target material and SrBi2Ta1.8V0.2O9 thin film was deposited on ITO glass substrate by R.F. magnetron sputtering method at room temperature for 10~40 min. A 200-600nm thin film was obtained by rapid thermal annealing (RTA) process at 600oC with different time in oxygen using the raising temperature rate of 900oC/min. The crystallization and dielectric characteristics of SrBi2Ta1.8V0.2O9 thin film were developed with the aid of X-ray diffraction patterns, SEM, and impendence analyzer.
The crystal intensities of SrBi2Ta1.8V0.2O9 thin film depends on the deposited time and annealing temperatures. The deposited SrBi2Ta1.8V0.2O9 thin film has the dielectric characteristics of dielectric constant 122~245 and dielectric loss 4.5~12.3 x 10-3.
In this study, the optimum deposited and annealing condition are:
Deposited time = 40min,
Annealing temperature = 600oC,
Annealing time = 10 min.
Advisory Committee Cheng-Fu Yang - advisor

Chien-Min Cheng - advisor

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