Residual gas analysis on MgO films obtained by CVD method operated under air atmosphere

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ABSTRACT

Magnesium oxide (MgO) films are utilized for the anti-plasma sputtering coating with excellent ability of secondary electron emission in plasma display panels (PDP). The crystalline state of MgO is easily deliquesced by water addition, supplied from atmosphere. Therefore, the deliquescence rate mainly influences lifetime of PDP operation. The MgO polycrystalline films were synthesized using the CVD method operated under atmosphere. The whisker type samples and continuous film type sample were obtained in this study. Although, the infrared absorption spectra indicated no existence of water molecule or hydroxyl termination on the sample, the thermal desorption spectroscopy revealed a possibility of existence of very small amount of water molecule and/or hydroxyl termination.

KEYWORDS: MgO, H_2O, TDS, CVD

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