

Fabrication of Yb_2O_3 Films by MOCVD Method

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Yb_2O_3 films were deposited on Ni and SrTiO_3 single crystal by MOCVD (metal organic chemical vapor deposition) method using H_2O vapor. The using H_2O vapor instead of oxygen gas was to avoid the oxidation of Ni substrate. The Yb_2O_3 films were successfully deposition on both the metal and SrTiO_3 single crystal substrates without oxidation of Ni substrate. Yb_2O_3 films were grown at the high temperature above 900°C . The (400) Yb_2O_3 film grown at the deposition temperature above 950°C . The working pressure and Ar flow rate were 10Torr and 600sccm, respectively. While Yb_2O_3 (222) film grown at low temperatures. The crystallographic orientation and surface morphology will be discussed in detail.

Keywords : Yb_2O_3 , buffer layer, MOCVD

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