

Abstract

A film formation method includes disposing, in a chamber (12), a target (20) including yttrium and a substrate (W) that is an object on which a film is to be formed, introducing at least oxygen into the chamber (12), applying a prescribed bias voltage to the substrate (W), evaporating a surface of the target (20) in oxygen to form an yttrium oxide film on the substrate (W), and setting an oxygen partial pressure in the chamber (12) during the evaporation to less than 0.4 Pa such that an O/Y ratio that is a ratio of oxygen to yttrium in the yttrium oxide film on the substrate (W) is 1.5 or less.