

ABSTRACT

There is provided a sputtering apparatus which is capable of forming, with good uniformity of film thickness distribution, an insulator film having further improved crystallinity. Inside a vacuum chamber 1 in which is provided an insulator target 4, there is disposed a stage 2 for holding a substrate W to be processed so as to face the insulator target. The sputtering apparatus has: a driving means 3 for driving to rotate the stage; a sputtering power source E1 for applying HF power to the insulator target; and a gas introduction means 13, 14 for introducing a reactive gas into the vacuum chamber. The sputtering apparatus is characterized in that a distance d3 between the substrate and the insulator target is set to a range between 40 mm - 150 mm.