

ABSTRACT

SPUTTERING TARGET COMPRISING OXIDE PHASE DISPERSED IN Co OR
Co ALLOY PHASE, MAGNETIC THIN FILM MADE OF Co OR Co ALLOY PHASE
AND OXIDE PHASE, AND MAGNETIC RECORDING MEDIUM USING THE SAID
THIN FILM

A sputtering target comprising an oxide phase is dispersed in Co or a Co alloy phase, wherein the sputtering target is configured from a metal matrix phase containing Co, and a phase containing SiO₂ and having an oxide which forms particles and is dispersed in an amount of 6 to 14 mol% (hereinafter referred to as the "oxide phase"), the sputtering target contains, in addition to components configuring the metal matrix phase and the oxide phase, a Cr oxide scattered in or on a surface of the oxide phase in an amount of 0.3 mol% or more and less than 1.0 mol%, and an average area of the respective particles contained in the oxide phase is 2.0 μm² or less. The provided sputtering target comprising an oxide phase is dispersed in Co or a Co alloy phase can reduce arcing, obtain a stable discharge in a magnetron sputtering device, and reduce the amount of particles that is generated during high density sputtering.

Fig 1