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Text of the abstract

Provided are a Fe-Pt-Ag based target and a preparation method thereof. The Fe-Pt-Ag based target includes Fe, Pt, Ag and a non-magnetic component. Based on a total atom number of the Fe-Pt-Ag based target, a content of Pt is 5 at% to 40 at%, and a content of Ag is 1 at% to 15 at%. Meanwhile, a content of sulfur of the Fe-Pt-Ag based target is less than 50 ppm, and a maximum area of Ag phase in a metallographic microstructure of the Fe-Pt-Ag based target is less than 10 μm^2 . By controlling the content of Pt, Ag and sulfur and the maximum area of Ag phase, the Fe-Pt-Ag based target can enhance the relative density, produce less falling particles during sputtering and enhance oxidation resistance ability.