SILICON COATING ON AIR BEARING SURFACE FOR MAGNETIC THIN FILM HEADS

ABSTRACT

A silicon coating on an air bearing surface for magnetic thin film heads (200). A thick silicon layer is provided to replace metallic layers such as TiW as an overcoat for thin film heads. The silicon layer will provide a durable head-disk interface and act as a reflective surface for fly height measurement. The silicon layer can be planarized with the pole tips to avoid any magnetic spacing loss. The thickness of the silicon coating is preferably between 125 and 6500 angstroms thick. The slider body (300) may be fabricated from silicon such that the silicon coating is substantially identical to the silicon slider body, thereby preventing thermal mismatch therebetween. The silicon coating is preferably applied using a magnetron sputtering technique which provides a high rate of deposition of silicon to form a dense, low stress silicon layer.

Fig. 2.