CLEANING APPARATUS USING A LASER BEAM

ABSTRACT

A cleaning apparatus includes an excimer laser to output a laser beam. The laser beam is s-polarized and irradiated at an incident angle, for example, of 5 degrees onto a surface of a hard disk substrate. Because of the small incident angle, a laser beam irradiation area on the substrate is large but low in laser density. Also, because of using s-polarized beam, the reflected laser beam is high in energy as compared to that of a p-polarized beam, and hence high in capability of removing contaminants. Furthermore, because energy absorption to the substrate is reduced as compared to that of a p-polarized beam, it is possible to increase irradiation energy density. Thus increased is the capability of removing contaminants.

Figure 1