

ION BEAM IMPLANTATION USING CONICAL MAGNETIC SCANNING

Abstract of the Disclosure

Method and apparatus for use in treating a workpiece implantation surface by causing ions to impact the workpiece implantation surface. Ions emitted by an ion source (12) are accelerated away from the ion source to form an ion beam (14). A magnetic field is created for intercepting the ions in the ion beam exiting the source and selectively deflecting the ions away from an initial trajectory in a generally arcuate scanning motion. The magnetic field is created by synchronized energization of first and second current carrying coils (110, 112) located along an inner surface (S) of a ferromagnetic support (120). The beam (14) is deflected away from the initial trajectory by a controlled amount in a time varying manner to cause the beam (14) to sweep through an arcuate path (182) and impact the workpiece (13).

Figure 1