

ABSTRACT

METHOD AND APPARATUS TO IMAGE ATOMIC-LEVEL METAL CONTAMINANTS

Small metallic patches embedded in a mainly non-metallic surface may be detected and mapped by placing a wire coil at the free end of a cantilever, with a fine tip made of a ferro-magnetic material located at its center. An alternating current is passed through the coil so that when it is near a metallic patch eddy currents are induced in the patch. These produce a small magnetic moment in the patch which pulls the tip towards the surface. This movement of the tip is detected by observing a light beam that is reflected off the surface of the cantilever. By plotting the output of a photodetector, sensitive to small changes in the reflected beam's position, as a function of the tip's location over the surface, a map of the metallic patches is produced.

(FIGURE 1 IS SUGGESTED FOR PUBLICATION)