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(54) Title: METHODS AND APPARATUS FOR THE IN-PROCESS DETECTION OF WORKPIECES

(57) Abstract

An apparatus for use with a chemical mechanical planarization (CMP) system includes a light source that generates an interrogation signal and directs the interrogation signal toward a polishing pad configured to process a workpiece during the CMP procedure. A reflected signal produced in response to the interrogation signal is received by a detector, and the optical characteristics of the reflected signal are processed and analyzed to determine whether extraneous material is present within an area of the polishing pad. The apparatus may employ alternative light sources and processing techniques to advantageously operate in conjunction with a variety of polishing pads having different physical characteristics.

