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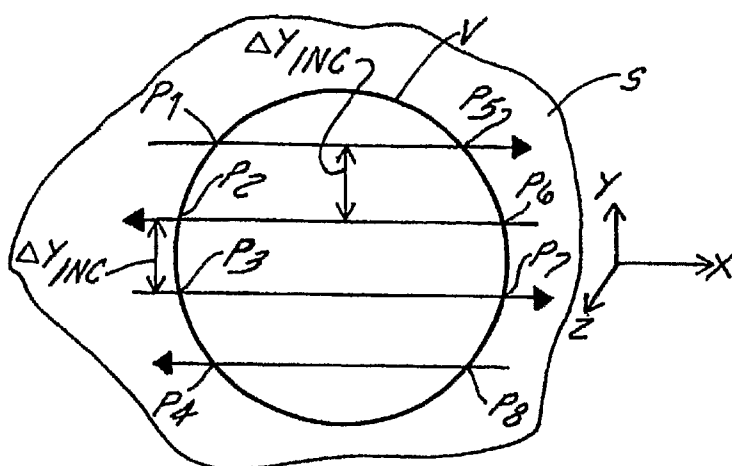
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(54) Title: METHOD AND APPARATUS FOR MEASURING A CHARACTERISTIC OF A SAMPLE FEATURE



(57) Abstract: An SPM based measuring technique for measuring surface features of a sample fits a curve to a family of feature edge points acquired as a result of an SPM scan of the surface feature. If two curves are fit on opposed edges of the feature of interest, the maximum or minimum distance between those curves can be determined to ascertain a dimension of interest such as a maximum via width, a minimum line width, etc. The scan is preferably a relatively low-resolution scan in the Y direction, typically having 8-12 scan profiles passing through the feature of interest low-resolution, which is about half that typically used by prior techniques. The low-resolution scan can be performed relatively rapidly and with high repeatability. Repeatability is also higher than with prior techniques, and the level of repeatability is

relatively insensitive to the resolution in the Y direction. Using a low-resolution scan also significantly reduces tip wear and increases throughput when compared to high-resolution scans.