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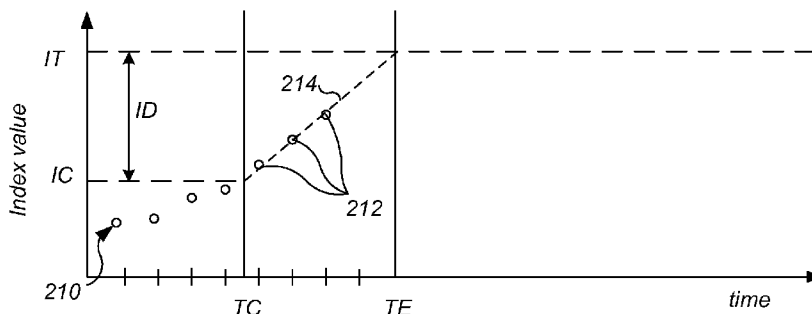


FIG. 8

(57) Abstract: A method of controlling polishing includes storing a library having a plurality of reference spectra, polishing a substrate, measuring a sequence of spectra of light from the substrate during polishing, for each measured spectrum of the sequence of spectra, finding a best matching reference spectrum using a matching technique other than sum of squared differences to generate a sequence of best matching reference spectra, and determining at least one of a polishing endpoint or an adjustment for a polishing rate based on the sequence of best matching reference spectra. Finding a best matching reference spectrum may include performing a cross-correlation of the measured spectrum with each of two or more of the plurality of reference spectra from the library and selecting a reference spectrum with the greatest correlation to the measured spectrum as a best matching reference spectrum.

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PCT/US2011/046646**A. CLASSIFICATION OF SUBJECT MATTER****H01L 21/304(2006.01)i, H01L 21/66(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: reference, spectra, match, endpoint, cross-correlation, library

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007-0224915 A1 (JEFFREY DAVID et al.) 27 September 2007 See abstract; paragraphs [0006],[0007],[0102],[0103]	1, 11, 12, 14
A	fig.10A	2-10, 13, 15
Y	JP 2001-287159 A (NIKON CORP) 16 October 2001 See paragraphs [0018]-[0033]	1, 11, 12, 14
A	claim 1; fig.1 and 2	2-10, 13, 15
Y	US 2010-0130100 A1 (DAVID JEFFREY DRUE et al.) 27 May 2010 See abstract; paragraphs [0081],[0100],[0123]	1, 11, 12, 14
A	claim 12; fig.1, 2, 7A	2-10, 13, 15

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

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