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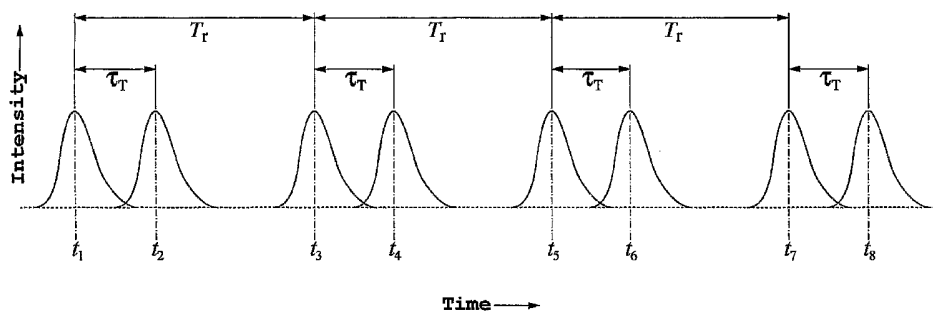
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS AND METHOD FOR JOINT AND TIME DELAYED MEASUREMENTS OF COMPONENTS OF CONJUGATED QUADRATURES OF FIELDS OF REFLECTED/SCATTERED AND TRANSMITTED/SCATTERED BEAMS BY AN OBJECT IN INTERFEROMETRY



(57) Abstract: A method of interferometrically obtaining measurements for properties associated with a spot on or in an object, the method involving: receiving a sequence of M optical pulses separated in time; from each pulse in the sequence of M optical pulses, generating an n-tuplet of measurement pulses, and an n-tuplet of reference pulses, wherein each measurement pulse has a corresponding reference pulse aligned with it in time; from each pulse of each n-tuplet of reference pulses for the sequence of M optical pulses, generating a reference beam; from each pulse of each n-tuplet of measurement pulses for the sequence of M optical pulses, (a) generating a measurement beam; (b) directing the measurement beam onto the spot to thereby produce a return measurement beam from the spot; and (c) combining the return measurement beam with the corresponding reference beam that was derived from the reference pulse corresponding to that measurement pulse to generate an interference beam, wherein the sequence of M n-tuplets of measurement pulses forms n interleaved sequences of M measurement pulses, and wherein the method further involves, for each of the n interleaved sequences of M measurement pulses, introducing a combination of phase shifts between the measurement beams and corresponding reference beams.



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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G01B 11/02**(2006.01)

USPC: 356/511

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)
U.S. : 356/511, 489, 495, 512-515

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,252,222 B1 (KASAPI et al) 26 June 2001 (26.06.2001), Figures 3, 4B	1-25
A	US 6,108,087 A (NIKOONAHAD et al) 22 August 2000 (22.08.2000), see entire document	1-25

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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Continuation of B. FIELDS SEARCHED Item 3:
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