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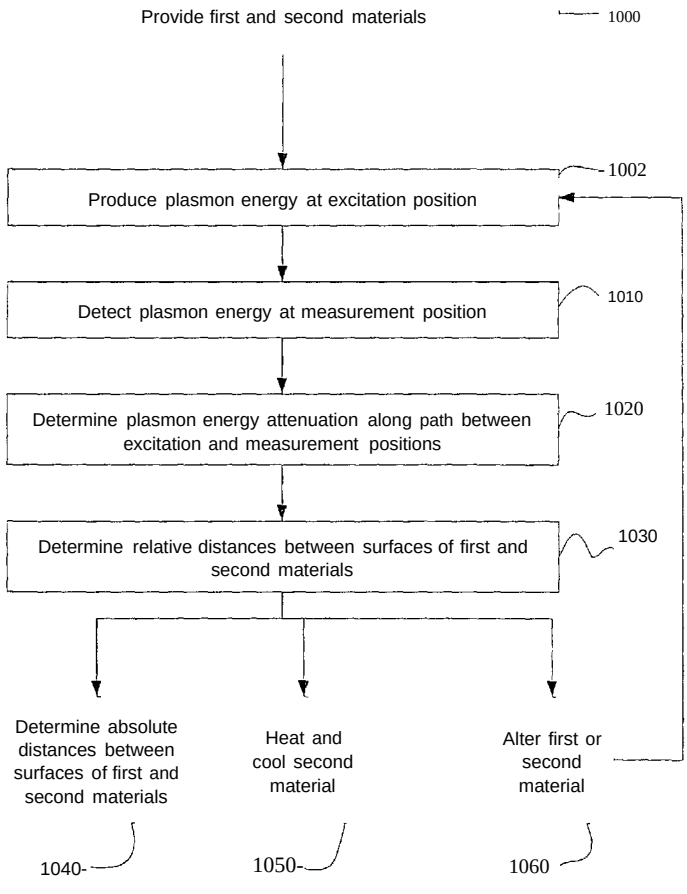
(54) Title: PLASMON TOMOGRAPHY



(57) Abstract: Plasmon energy is produced by exciting a plasmon resonance at least one excitation position on a first surface of a first material, and the plasmon energy is detected at at least one measurement position on the first surface after the plasmon energy has propagated from the at least one excitation position to the at least one measurement position An attenuation of plasmon energy is determined along a plurality of paths between the at least one excitation position and the at least one measurement position, and relative distances between the first surface and a second surface of a second material are determined at a plurality of points on at least one of the surfaces based on the determined attenuation of plasmon energy along the plurality of paths

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USPC - 356/614
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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USPC - 356/51, 311, 600, 601, 614

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)
USPTO PubWEST System (US, USPG-PUB, EPO, JPO), MicroPatent, IP com, DialogPro

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 6,980,716 B1 (DIAZ βt al) 27 December 2005 (27 12 2005) entire document	1-3, 5-10, 15
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Y		4, 11-14, 16-21
X	US 5,025,147 A (DURIG et al) 18 June 1991 (18 06 1991) entire document	22, 25-34, 36, 37, 43, 45, 46, 49, 50, 52, 54-57
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Y		23, 24, 35, 38-42, 44, 47, 48, 51, 53
Y	US 2004/0218185 A1 (YAMADA et al) 04 November 2004 (04 11 2004) entire document	11-14, 23-24, 38-41, 47, 48, 51, 53
Y	US 2002/0044285 A1 (PEDERSEN et al) 18 Apπl 2002 (18 04 2002) entire document	44, 53
Y	US 2006/0014084 A1 (FRENCH et al) 19 January 2006 (19 01 2006) entire document	16, 42
Y	US 2004/0228577 A1 (PEZESHKI et al) 18 November 2004 (18 11 2004) entire document	19
Y	US 2005/0191427 A1 (WADE et al) 01 September 2005 (01 09 2005) entire document	17-21
Y	US 2005/0281996 A1 (HARBRON et al) 22 December 2005 (22 12 2005) entire document	21
Y	US 2004/0141702 A1 (FULFLYIGIN et al) 22 July 2004 (22 07 2004) entire document	4
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