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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: ELECTROMAGNETIC WAVE DETECTION SYSTEMS AND METHODS

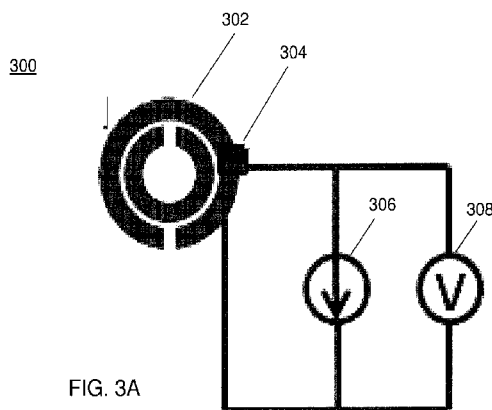


FIG. 3A

(57) Abstract: Systems and methods for detecting electromagnetic waves are disclosed. A system for use in detecting an electromagnetic wave includes an inductive device and a spintronic device. The inductive device generates an induced electromagnetic field when the inductive device receives the electromagnetic wave. The spintronic device has an impedance that changes when exposed to the induced electromagnetic field from the inductive device. The change in impedance is indicative of the electromagnetic wave received by the inductive device. Another system for use in detecting or transmitting an electromagnetic wave includes a conductive device and an inductive device. The inductive device is configured to generate an induced electromagnetic wave when the inductive device receives an electromagnetic wave passed by the conductive device. Another system for detecting electromagnetic wave permittivity or permeability of an object includes a pair of antennas and an inductive device.



WO 2011/103406 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/025410**A. CLASSIFICATION OF SUBJECT MATTER****G01R 29/08(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)

G01R 29/08; G01D 5/20; G01R 33/00; H01F 5/00; G01R 33/09; A61B 5/055; G01R 33/34; H01L 29/82; G01R 27/26; G01B 7/30; G01R 33/02

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: inductive, spintronic, electromagnetic and impedance

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002-0158626 A1 (IAN SHAY et al.) 31 October 2002 See abstract and claims 1-46	1-26
A	EP 0549911 A1 (BRITISH NUCLEAR FUELS PLC) 07 July 1993 See abstract and claims 1-17	1-26
A	EP 1467218 A2 (TPL, INC.) 13 October 2004 See abstract and claims 1-14	1-26
A	JP 2007-508534 A (CENTRE NATIONAL D'ETUDES SPATIALES) 05 April 2007 See abstract and claims 1-8	1-26
A	JP 10-033497 A (PICKER INTERNATL INC.) 10 February 1998 See abstract and claims 1-10	1-26
A	KR 10-2009-0077607 A (KOREA INSTITUTE OF SCIENCE AND TECHNOLOGY) 15 July 2009 See abstract and claims 1-19	1-26

 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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Date of the actual completion of the international search

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Information on patent family members

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