Title (en)

METHOD AND DEVICE FOR MEASURING MAGNETIC FIELDS

Title (de)

VERFAHREN UND VORRICHTUNG ZUM MESSEN VON MAGNETFELDERN

Title (fr)

PROCÉDÉ ET DISPOSITIF DE MESURE DE CHAMPS MAGNÉTIQUES

Publication

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Application

EP 08756818 A 20080612

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- AT 9322007 A 20070615

Abstract (en)

[origin: WO2008151344A2] The invention relates to a method which makes use of the Zeeman effect for measuring magnetic fields, by way of dark resonances. According to said method, a measuring cell (14) is exposed to the magnetic field (B) to be measured and contains the atoms of a measuring medium in a buffer gas, a radiation source (11) being provided for exciting the atoms by radiation and being connected to the modulation frequency generator and emitting electromagnetic radiation with different frequencies. A frequency detector (17) is mounted downstream of the measuring cell (14) and comprises a control loop (18) for the frequency tuning to a dark resonance frequency. The invention is characterized in that at least one modulator (22) for modulating a comparatively high first modulation frequency with a lower second modulation frequency, thereby producing a double sideband structure, is mounted downstream of the modulation frequency generator (24) to couple a plurality of dark resonances using the electromagnetic radiation (12) modulated therewith, substantially only one frequency being detected according to the magnetic field-dependent frequency shift.

IPC 8 full level

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CPC (source: EP)

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