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Patent Number(s): JP2012152262-A

Title: Perspiration state measuring method for terahertz time-domain spectroscope to measure terahertz wave from skin of biological body, involves detecting absorption of terahertz wave, and measuring information regarding perspiration state

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Abstract: NOVELTY - The method involves detecting a frequency spectrum of a circularly polarized wave component of a terahertz wave of 0.15-1 terahertz (THz) band. Absorption of the terahertz wave in an axial mode is detected from the frequency spectrum when an eccrine sweat gland acts as a helical antenna, where perspiration occurs in the eccrine sweat gland. Information regarding perspiration state is measured. The frequency spectrum is comprised of multiple absorption lines, where the information regarding the perspiration state is measured by comparing absorption factors of the absorption lines.

USE - Perspiration state measuring method for a terahertz time-domain spectroscope to measure a terahertz wave from skin of a biological body.

ADVANTAGE - The method enables increasing the absorption of the electromagnetic waves in the axial mode when the electromagnetic waves are injected into the skin, thus measuring the information regarding the perspiration state with high sensitivity by comparing reflection coefficients of the absorption lines. The method enables utilizing the electromagnetic waves of 0.15-1 THz band such that the spatial resolution is high. The terahertz wave can permeate clothes such that the frequency spectrum measurement of the terahertz wave from the clothes top or the shoe sole is ensured. The method enables facilitating analyzing biometric information such as blood pressure, heart rate and psychological condition from the information regarding the perspiration state.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a perspiration measuring apparatus.

DESCRIPTION OF DRAWING(S) - The drawing shows a graph illustrating a relationship between a reflectance and a frequency of a reflection spectrum measurement of a palm. '(Drawing includes non-English language text)'

Derwent Class Code(s): B04 (Natural products and polymers, testing, compounds of unknown structure); P31 (Diagnosis, surgery); S03 (Scientific Instrumentation, photometry, calorimetry); S05 (Electrical Medical Equipment)

Derwent Manual Code(s): B11-C07B2; B12-K04A; S03-E05; S05-D01

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