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Patent Number(s): FR2972094-A1

Title: Terahertz image sensor i.e. multi-directional terahertz image sensor, for detection of terahertz radiation to detect weapon concealed by garment, has antennas provided with differently oriented axes of maximum sensitivity in group of pixels

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Abstract: NOVELTY - The sensor has a matrix of photosensitive pixels (Px) arranged in rows and columns, where each pixel comprises an anisotropic antenna (2) e.g. bow-tie antenna, for sensing electromagnetic radiation with an axis (SM) of maximum sensitivity. The matrix comprises a group (C) of pixels, in which antennas are provided with differently oriented axes of maximum sensitivity. A control circuit is utilized for storing signals representative of same scene seen by the pixels at different times.

USE - Terahertz image sensor i.e. multi-directional terahertz image sensor, for detection of terahertz radiation in medical imaging and civil security imaging for detecting a weapon concealed by a garment.

ADVANTAGE - The matrix comprises the group of pixels, in which antennas are provided with differently oriented axes of maximum sensitivity, thus improving performance of detection of the radiation by the sensor, and enabling to collect more information on the radiation of the scene. The sensor does not require a matrix memory for temporary storage of the pixel output signals, thus allowing the sensor to be implemented in a simple manner.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for managing a multi-directional terahertz image sensor.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view of a multi-directional terahertz image sensor.

Group of pixels (C)

Matrix of photosensitive pixels (Px)

Axis of maximum sensitivity (SM)

Anisotropic antenna (2)

Detection device (4)

Derwent Class Code(s): S05 (Electrical Medical Equipment); U13 (Integrated Circuits); W02 (Broadcasting, Radio and Line Transmission Systems); W04 (Audio/Video Recording and Systems); W07 (Electrical Military Equipment and Weapons)

Derwent Manual Code(s): S05-D02X; U13-A01H; W02-B05; W02-B08R3; W04-M01B; W04-M01D; W07-F05C

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