

Title (en)
METHOD FOR DETECTING BODY MOVEMENTS OF A SLEEPING PERSON

Title (de)
VERFAHREN ZUR DETEKTION VON KÖRPERBEWEGUNGEN EINER SCHLAFENDEN PERSON

Title (fr)
PROCÉDÉ POUR LA DÉTECTION DE MOUVEMENTS CORPORELS D'UNE PERSONNE QUI DORT

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Application
EP 19701961 A 20190121

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Abstract (en)
[origin: WO2019140476A1] The invention relates to a method for detecting body movements of a sleeping person (1), three-dimensional images of the person (1) being continually created at successive capturing times (t1,..., tp) by means of an image-capturing unit directed at the person (1) and determined distance measurement values (d1,..., dn) being provided, in particular pixel by pixel, wherein: a) a two- or three-dimensional height profile (H) of the person (1) is created, a number of at least two points in space being defined in the height profile (H), which points lie on the surface of the person (1) or on the surface of an object located on or next to the person (1), and for each of the capturing times (t1,..., tp) the height profile (H) in question being stored in a data structure and being kept available, a range that indicates a specified body part or body area of the person (1) in dependence on a reference point or reference range (Z1) being selected as a first region of interest (ROI1); b) time periods (Z1, Z2, Z3) of changes of the height profile (H) of the first region of interest (ROI1), the size of which exceeds a specified first threshold value (THZ), and time intervals (L1, L2, L3) between said time periods (Z1, Z2, Z3) are determined; c) for each of the time intervals (L1, L2, L3) a noise value (n(x,y)) of the height profile (H) is determined pixel by pixel; d) further time periods (Y1, Y2, Y3) of changes of the height profile (H), the size of which exceeds a second threshold value (THY), in the time intervals (L1, L2, L3) are determined, taking into consideration the noise value (n(x,y)) in question pixel by pixel; and e) the time periods (Z1, Z2, Z3) and further time periods (Y1, Y2, Y3) of changes of the height profile (H), which time periods were identified in steps b) and d), are registered as body movements of the person (1).

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