wherein at least said step of determining is performed by a digital computer processor, said step of determining being performed by a vigilance algorithm operable by the digital computer processor, and wherein said vigilance algorithm is adapted to correlate said data set or apply a combinational logic sequence to said data set to detect a pattern in said data set which is associated with a low vigilance state of the subject that is below said predetermined vigilance threshold value; and

wherein said vigilance algorithm incorporates at least one look up table which comprises a reference movement data set and a set of vigilance states with one state of said set of vigilance states above said predetermined low vigilance state threshold value and another state of said set of vigilance states below said predetermined low vigilance state threshold value.

27. A method for determining a vigilance state of a subject, said method comprising the steps of:

monitoring at least one physiological variable of a subject;

deriving from said at least one physiological variable a data set representing a one of a set of physiological states of said subject corresponding to the at least one physiological variable;

determining from said data set when a vigilance state of said subject crosses a predetermined vigilance threshold value; and,

providing a vigilance state output signal when the vigilance state of said subject crosses the predetermined vigilance threshold value;

wherein at least said step of determining is performed by a digital computer processor, said step of determining being performed by a vigilance algorithm operable by the digital computer processor, said vigilance algorithm being adapted to determine a vigilance probability factor output as a function of a weighted set of movement data values.

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