Title (en)

APPARATUS FOR CONTROLLING A TRAINING DEVICE

Title (de)

VORRICHTUNG ZUR STEUERUNG EINES TRAININGSGERÄTS

Title (fr)

DISPOSITIF POUR COMMANDER UN APPAREIL D'ENTRAÎNEMENT

Publication

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Application

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Abstract (en)

[origin: WO2022179860A1] The invention relates to an apparatus for controlling a training device (2), said apparatus comprising: - the training device, which is designed to receive a mechanical effort (9) expended by a person (8) performing a physical exercise; - a support unit (6) which is designed to support the exercise and/or to make the exercise more difficult; - an exertion measuring device (5) which is designed to measure mechanical exertion data BD(t) of an exertion expended by the person during the exercise, where t is time; - a body sensor (7) which is designed to measure physiological data PD(t) of the body of the person; - a computing unit (3) in which a mathematical model of the form mPD(t+ T)= a10 +Σx Bx(t) is stored which includes (Formula I) and (Formula II), the computing unit (3) being designed to adjust the coefficients axi, the summand a10, and the delays τxi at least in part, and the delay T individually for each person, by means of an optimisation algorithm (11) in such a manner that mPD(t+T) approximates the measured physiological data PD(t+T), and to make a forecast mPD{t+T) of the physiological data PD(t+T) on the basis of said model; and a control unit (4) which is designed to take a predefined reference variable for the physiological data PD(t), to take the forecast mPD(t+T) as a control variable, and to control a support u(t) of the support unit as a manipulated variable.

IPC 8 full level

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