

Title (en)
AUTONOMOUS GARMENT WITH ACTIVE THERMAL CONTROL AND POWERED BY SOLAR CELLS

Title (de)
AUTONOMES KLEIDUNGSSTÜCK MIT AKTIVER THERMOSTEUERUNG UND ENERGIEVERSORGUNG DURCH SOLARZELLEN

Title (fr)
VETEMENT AUTONOME A COMMANDE THERMIQUE ACTIVE ET ALIMENTE PAR DES CELLULES SOLAIRES

Publication
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Application
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Abstract (en)
[origin: WO2005034662A1] The invention refers to an autonomous system and to a method that allows the active thermal control of garments using solar cells as the power source. In the simplest configuration, the system includes a piece of clothing with solar cells (1), a thermal module able to generate heat and cold (3, 4, and 5), and a unit for controlling and monitoring the internal environment (6). In order to increase versatility and to optimize operation conditions, the system includes batteries (2) that can be charged by the solar cells or externally, increasing energy autonomy and improving performance in low radiation conditions. Proper distribution of electric resistors (3) and refrigeration pipes (7) allow a fine-tuning regulation of temperature inside the garment. The garment is developed not only for standard conditions but also for extreme heat and cold environments, being optimised wither for standard solar radiation or other relevant spectral source.

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