

Title (en)

PROCESS AND EQUIPMENT FOR PRODUCING HYDROGEN FROM SOLAR ENERGY

Title (de)

VERFAHREN UND VORRICHTUNG ZUR PRODUKTION VON WASSERSTOFF AUS SONNENENERGIE

Title (fr)

PROCEDE ET EQUIPEMENT POUR PRODUIRE DE L'HYDROGENE A PARTIR DE L'ENERGIE SOLAIRE

Publication

**EP 1966079 A2 20080910 (FR)**

Application

**EP 06847151 A 20061226**

Priority

- FR 2006002891 W 20061226
- FR 0513403 A 20051226

Abstract (en)

[origin: FR2895392A1] The production of hydrogen by water dissociation reaction from solar radiation in a treatment chamber, comprises focussing solar radiation for dissociating water vapor molecules, submitting photo catalytic target to focussed solar radiation, dissociating hydrogen and oxygen from the water vapor molecules of a boundary layer in contact with the surfaces at the target, and selective extracting of the hydrogen and oxygen produced by selective extraction membrane. The dissociation reaction is carried out at an area pressure of 3-15 bars and at 300-1000[deg]C. The production of hydrogen by water dissociation reaction from solar radiation in a treatment chamber, comprises focussing solar radiation for dissociating water vapor molecules, submitting photo catalytic target to focussed solar radiation, dissociating hydrogen and oxygen from the water vapor molecules of a boundary layer in contact with the surfaces at the target, and selective extracting of the hydrogen and oxygen produced by selective extraction membrane. The dissociation reaction is carried out at an area pressure of 3-15 bars and at 300-1000[deg]C. A surface volume of the selective membrane with hydrogen and/or oxygen are defined to obtain an ionic current density of 1 A/cm<sup>2</sup>. The focussed rate of the solar radiation is 500-3000. The dissociation rate of the water vapor molecules of the boundary layer is increased by the application of an electric field between the selective permeable membranes for oxygen and hydrogen. An independent claim is included for an apparatus for the production of hydrogen.

IPC 8 full level

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