Title (en)

A CHEMICAL SENSOR USING CHEMICALLY INDUCED ELECTRON-HOLE PRODUCTION AT A SCHOTTKY BARRIER

Title (de)

CHEMISCHER SNESOR BASIEREND AUF DER CHEMISCH INDUZIERTEN GENERIERUNG VON ELEKTRON-LOCHPAAREN IN EINEM SCHOTTKY-ÜBERGANG

Title (fr)

DETECTEUR CHIMIQUE UTILISANT UNE PRODUCTION DE TROUS D'ELECTRONS INDUITE CHIMIQUEMENT AU NIVEAU D'UNE BARRIERE DE SCHOTTKY

Publication

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Application

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Priority

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Abstract (en)

[origin: WO0154171A1] Electron-hole production at a Schottky barrier has recently been observed experimentally as a result of chemical processes. This conversion of chemical energy to electronic energy may serve as a basic link between chemistry and electronics and offers the potential for generation of unique electronic signatures for chemical reactions and the creation of a new class of solide state chemical sensors. Detection of the following chemical species was established: hydrogen, deuterium, carbon monoxide, molecular oxygen. The detector (1b) consists of a Schottky diode between an Si layer and an ultrathin metal layer with zero force electrical contacts.

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