

Title (en)
GAS SPECIE ELECTRON-JUMP CHEMICAL ENERGY CONVERTER

Title (de)
CHEMISCHER GASSPEZIEN-ELEKTRONENSPRUNGENERGIEWANDLER

Title (fr)
CONVERTISSEUR D'ENERGIE CHIMIQUE DE TRANSITION ELECTRONIQUE D'UNE ESPECE DE GAZ

Publication
EP 1415350 A4 20051228 (EN)

Application
EP 02734364 A 20020510

Priority
• US 0214907 W 20020510
• US 29005801 P 20010510

Abstract (en)
[origin: WO02091479A1] An apparatus and method for extracting energy is provided. In one aspect the method includes using chemical reactions to generate vibrationally excited molecules (101), such as high-quantum-number-vibrationally-excited gas molecules in a region. The vibration energy in the vibrationally excited molecules is converted into hot electrons when the excited molecules contact a conductor (103). A geometry is provided so that the excited molecules may travel, diffuse or wander into a conductor (103) before losing a useful fraction of the vibrational energy. Optionally, the generating and the converting process may be thermally separated, at least in part. The short lived hot electrons are converted into longer lived entities such as carriers and potentials in a semiconductor, where the energy is converted into a useful form.

IPC 1-7
H01L 31/00; **H02N 11/00**

IPC 8 full level
H01L 29/66 (2006.01); **H01L 49/00** (2006.01); **H01M 14/00** (2006.01); **H02N 1/00** (2006.01); **H02N 11/00** (2006.01); **F02M 27/00** (2006.01)

CPC (source: EP)
H01L 29/66 (2013.01); **H02N 11/002** (2013.01); **F02M 27/00** (2013.01)

Citation (search report)
• [XD] US 6222116 B1 20010424 - ZUPPERO ANTHONY C [US], et al
• [X] US 6114620 A 20000905 - ZUPPERO ANTHONY C [US], et al
• [X] WO 0128677 A1 20010426 - NEOKISMET LLC [US]
• See references of WO 02091479A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 02091479 A1 20021114; CA 2447065 A1 20021114; CA 2447065 C 20060620; CN 100416862 C 20080903; CN 1618131 A 20050518; EP 1415350 A1 20040506; EP 1415350 A4 20051228; JP 2004538623 A 20041224; JP 4828087 B2 20111130; RU 2004101291 A 20050527

DOCDB simple family (application)
US 0214907 W 20020510; CA 2447065 A 20020510; CN 02802348 A 20020510; EP 02734364 A 20020510; JP 2002588636 A 20020510; RU 2004101291 A 20020510