

Title (en)

CO2 LASER WITH RAPID POWER CONTROL

Title (de)

CO2-LASER MIT SCHNELLER LEISTUNGSSTEUERUNG

Title (fr)

LASER CO2 À COMMANDE DE PUISSANCE RAPIDE

Publication

EP 2810345 A1 20141210 (DE)

Application

EP 13712472 A 20130131

Priority

- DE 102012002470 A 20120203
- DE 2013000069 W 20130131

Abstract (en)

[origin: WO2013113306A1] The invention relates to a CO2 laser which allows for rapid power modulation, particularly highly efficient Q-switching. The key concept is the sub-division of the resonator into a high-power branch, containing inter alia the active medium (1), and a low-power feedback branch (14), in which the power-sensitive beam-shaping elements, particularly the modulators, are arranged. This is made possible by a suitable arrangement of a polarisation beam splitter (5) and a lambda/4-phase shifter (2). The free adjustability of an angle phi between said two components permits the extremely flexible realisation of various operating modes, particularly optimisation of the feedback degree during pulse generation.

IPC 8 full level

H01S 3/223 (2006.01); **B23K 26/02** (2014.01); **B23K 26/06** (2014.01); **H01S 3/08** (2006.01)

CPC (source: EP KR US)

B23K 26/032 (2013.01 - EP KR US); **B23K 26/0622** (2015.10 - EP KR US); **B23K 26/0626** (2013.01 - KR US); **B23K 26/066** (2015.10 - EP KR US); **B23K 26/067** (2013.01 - KR US); **B23K 26/704** (2015.10 - EP KR US); **H01S 3/08009** (2013.01 - EP KR US); **H01S 3/08054** (2013.01 - EP KR US); **H01S 3/10061** (2013.01 - KR US); **H01S 3/2232** (2013.01 - EP KR US); **H01S 3/0064** (2013.01 - EP KR US); **H01S 3/115** (2013.01 - EP KR US); **H01S 3/117** (2013.01 - EP KR US); **H01S 3/121** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2013113306A1

Citation (examination)

DE 102010002433 A1 20101007 - GIGAPHOTON INC [JP]

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2013113306 A1 20130808; **WO 2013113306 A8 20140109**; CN 104380544 A 20150225; CN 104380544 B 20171219; DE 102012002470 A1 20130808; EP 2810345 A1 20141210; JP 2015510693 A 20150409; JP 6473926 B2 20190227; KR 20140122239 A 20141017; US 2015014286 A1 20150115

DOCDB simple family (application)

DE 2013000069 W 20130131; CN 201380007900 A 20130131; DE 102012002470 A 20120203; EP 13712472 A 20130131; JP 2014555074 A 20130131; KR 20147021706 A 20130131; US 201314376298 A 20130131