

Title (en)

DEVICE AND METHOD FOR BEAM SHAPING AND BEAM MODULATION DURING LASER MATERIAL PROCESSING

Title (de)

VORRICHTUNG UND VERFAHREN ZUR STRAHLFORMUNG UND STRAHLMODULATION BEI EINER LASERMATERIALBEARBEITUNG

Title (fr)

DISPOSITIF ET PROCÉDÉ DE FORMATION ET DE MODULATION DE FAISCEAU DANS LE TRAITEMENT DE MATÉRIAUX AU LASER

Publication

EP 3887087 A1 20211006 (DE)

Application

EP 19809449 A 20191125

Priority

- DE 102018220336 A 20181127
- EP 2019082372 W 20191125

Abstract (en)

[origin: WO2020109209A1] The present invention relates to a device and a method for beam shaping and beam movement during laser material processing with a laser beam source (1) for continuously emitting a laser beam (2), a first optical deflection element (3), a second optical deflection element (4), and an optical focusing element (5) arranged between the second optical deflection element (4) and a workpiece surface (7) to be processed. The second optical deflection element (4) is configured to displace a point of incidence of the laser beam (2) on the workpiece surface (7), and the first optical deflection element (3) is configured to alter a position of a focal plane of the laser beam (2) relative to the workpiece surface (7) by means of a translational movement and/or to change an intensity distribution within a beam cross section of the laser beam.

IPC 8 full level

B23K 26/082 (2014.01); **B23K 26/064** (2014.01); **G02B 26/10** (2006.01); **G02B 27/09** (2006.01)

CPC (source: EP US)

B23K 26/046 (2013.01 - EP); **B23K 26/0643** (2013.01 - EP US); **B23K 26/0648** (2013.01 - EP US); **B23K 26/082** (2015.10 - EP); **B23K 26/14** (2013.01 - EP); **B23K 26/242** (2015.10 - EP); **B23K 26/26** (2013.01 - EP); **B23K 26/38** (2013.01 - EP); **G02B 26/101** (2013.01 - EP); **G02B 26/105** (2013.01 - EP); **G02B 27/0983** (2013.01 - EP)

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)

DE 102018220336 A1 20200109; EP 3887087 A1 20211006; US 2022037846 A1 20220203; WO 2020109209 A1 20200604

DOCDB simple family (application)

DE 102018220336 A 20181127; EP 19809449 A 20191125; EP 2019082372 W 20191125; US 201917297487 A 20191125