

Title (en)

ELECTROMAGNETIC ENERGY DISTRIBUTIONS FOR ELECTROMAGNETICALLY INDUCED MECHANICAL CUTTING

Title (de)

ELEKTROMAGNETISCHE ENERGIEVERTEILUNGEN FÜR ELEKTROMAGNETISCH AUSGELOSTES MECHANISCHES SCHNEIDEN

Title (fr)

DISTRIBUTIONS D'ENERGIE ELECTROMAGNETIQUE POUR DECOUPAGE MECANIQUE A INDUCTION ELECTROMAGNETIQUE

Publication

EP 1711118 A4 20080528 (EN)

Application

EP 05705483 A 20050110

Priority

- US 2005000849 W 20050110
- US 53500404 P 20040108

Abstract (en)

[origin: WO2005070151A2] Output optical energy pulses including relatively high energy magnitudes and steep slope at the beginning of each pulse are disclosed. As a result of the relatively high energy magnitudes which lead each pulse, the leading edge of each pulse includes a relatively steep slope. This slope is preferably greater than or equal to 5. Additionally, the full-width half-max value of the output optical energy distributions are between .025 and 250 microseconds and, more preferably, are about 50-70 microseconds. A flashlamp is used to drive the laser system, and a current is used to drive the flashlamp. A flashlamp current generating circuit includes a solid core inductor which has an inductance of about 50 microhenries and a capacitor which has a capacitance of about 50 microfarads. The output optical energy pulses cut target surfaces by interacting with fluid that is located above, on and/or in the target surface. Methods are disclosed for therapeutically treating tissue with pulses of electromagnetic energy.

IPC 8 full level

A61B 18/18 (2006.01); **A61B 18/04** (2006.01); **A61B 18/20** (2006.01); **C23C 14/00** (2006.01); **C23C 14/32** (2006.01); **A61B 18/00** (2006.01); **A61C 1/00** (2006.01)

CPC (source: EP)

A61B 18/20 (2013.01); **A61B 2018/00011** (2013.01); **A61C 1/0046** (2013.01)

Citation (search report)

- [X] WO 9857526 A2 19981217 - BIOLASE TECH INC [US]
- [X] US 2002149324 A1 20021017 - RIZOIU IOANA M [US], et al
- [A] US 4005333 A 19770125 - NICHOLS RICHARD W
- See references of WO 2005070151A2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2005070151 A2 20050804; **WO 2005070151 A3 20051020**; AU 2005206809 A1 20050804; AU 2005206809 B2 20100401; CA 2553125 A1 20050804; EP 1711118 A2 20061018; EP 1711118 A4 20080528; JP 2007521119 A 20070802

DOCDB simple family (application)

US 2005000849 W 20050110; AU 2005206809 A 20050110; CA 2553125 A 20050110; EP 05705483 A 20050110; JP 2006549534 A 20050110