

Title (en)

An ignition method, an ignition plug and an engine using an ignition plug

Title (de)

Zündverfahren, Zündkerze und eine Zündkerze verwendender Motor

Title (fr)

Procédé d'allumage, bougie d'allumage et moteur utilisant la bougie d'allumage

Publication

EP 2554832 A1 20130206 (EN)

Application

EP 11176514 A 20110804

Priority

EP 11176514 A 20110804

Abstract (en)

The invention relates to a method of igniting a spark in an electrical plug provided in a circuit and having a discharge gap for yielding a plurality of consecutive spatially distributed sparks per single ignition event, wherein the method comprises the steps of: applying a breakdown voltage pulses U to the discharge gap with a period of maximally 1 millisecond, said discharge voltage pulses having a leading edge; limiting conductivity current over the discharge gap to below of about 10 mA during an interval corresponding to the said leading edge or ensuring that a conductivity current across the discharge gap is substantially zero during an interval of at least 5% of the said period. The invention further relates to an ignition system comprising a power generator connected to a spark plug using an optional transmission line, preferably comprising coaxial cable. The invention still further relates to an internal combustion engine and a vehicle.

IPC 8 full level

F02P 15/08 (2006.01); **H01T 13/28** (2006.01); **H01T 13/38** (2006.01); **H01T 13/44** (2006.01); **H01T 13/52** (2006.01)

CPC (source: EP)

F02P 15/08 (2013.01); **F02D 41/3035** (2013.01); **F02P 3/005** (2013.01); **F02P 5/152** (2013.01); **F02P 9/007** (2013.01); **F02P 15/10** (2013.01); **F02P 17/00** (2013.01); **F02P 23/00** (2013.01)

Citation (applicant)

- RICHARD VAN BASSHUYSEN, FRED SHAFER: "Internal Combustion Engine Handbook", 2004, SAE INTERNATIONAL, pages: 417 - 421
- J. WARNATZ, U. MAAS, R. W. DIBBLE: "Combustion", 2006, SPRINGER

Citation (search report)

- [X] FR 1327226 A 19630517 - RENAULT
- [XI] FR 2904155 A1 20080125 - PEUGEOT CITROEN AUTOMOBILES SA [FR], et al
- [XI] EP 0763759 A2 19970319 - SUMITOMO ELECTRIC INDUSTRIES [JP], et al
- [XA] WO 2010090545 A1 20100812 - NEQ LAB HOLDING INC, et al
- [A] US 6131555 A 20001017 - TOZZI LUIGI P [US], et al
- [A] US 4774914 A 19881004 - WARD MICHAEL A V [US]
- [A] EP 2020503 A2 20090204 - NISSAN MOTOR [JP]
- [A] US 5947093 A 19990907 - WARD MICHAEL A V [US]

Cited by

US2016348569A1; DE102013015063B3; CN105579701A; US9903336B2; WO2016191047A1

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)

EP 2554832 A1 20130206

DOCDB simple family (application)

EP 11176514 A 20110804