

Title (en)

SILICON BASED CHARGE NEUTRALIZATION SYSTEMS

Title (de)

SILICIUMBASIERTE LADUNGSNEUTRALISIERUNGSSYSTEME

Title (fr)

SYSTÈMES DE NEUTRALISATION DE CHARGE À BASE DE SILICIUM

Publication

**EP 3275060 A1 20180131 (EN)**

Application

**EP 16723191 A 20160303**

Priority

- US 201514665994 A 20150323
- US 2016020552 W 20160303

Abstract (en)

[origin: WO2016153755A1] An embodiment of the invention provides a method for low emission charge neutralization, comprising: generating a high frequency alternating current (AC) voltage; transmitting the high frequency AC voltage to at least one non-metallic emitter (300a); wherein the at least one non-metallic emitter comprises at least 70% silicon by weight and less than 99.99% silicon by weight; wherein the at least one emitter comprises at least one treated surface section (310a) with a destroyed oxidation layer; and generating ions from the at least one non-metallic emitter in response to the high frequency AC voltage. Another embodiment of the invention provides an apparatus for low emission charge neutralization wherein the apparatus can perform the above-described operations.

IPC 8 full level

**H01T 19/00** (2006.01); **H01T 23/00** (2006.01)

CPC (source: EP)

**H01T 19/00** (2013.01); **H01T 23/00** (2013.01)

Citation (search report)

See references of WO 2016153755A1

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 2016153755 A1 20160929**; CN 107624083 A 20180123; CN 107624083 B 20200901; EP 3275060 A1 20180131; EP 3275060 B1 20181212; JP 2018518794 A 20180712; JP 2020095972 A 20200618; JP 2023038948 A 20230317; JP 6673931 B2 20200325; JP 7197530 B2 20221227; JP 7371213 B2 20231030; KR 102549253 B1 20230628; KR 20170131529 A 20171129; TW 201707320 A 20170216; TW 202110017 A 20210301; TW 202247555 A 20221201; TW I699056 B 20200711; TW I772814 B 20220801; TW I836527 B 20240321

DOCDB simple family (application)

**US 2016020552 W 20160303**; CN 201680028350 A 20160303; EP 16723191 A 20160303; JP 2017549685 A 20160303; JP 2020038190 A 20200305; JP 2022199129 A 20221214; KR 20177030293 A 20160303; TW 105109042 A 20160323; TW 109118430 A 20160323; TW 111127927 A 20160323