

Title (en)
METHOD AND DEVICE FOR TREATING TWO-PHASE FRAGMENTED OR PULVERIZED MATERIAL BY NON-ISOTHERMAL REACTIVE PLASMA FLUX

Title (de)
VERFAHREN UND VORRICHTUNG ZUR BEHANDLUNG VON ZWEIPHASIGEM FRAGMENTIERTEM ODER STAUBFÖRMIGEM GUT DURCH NICHTISOTHERMISCHEN REAKTIVEN PLASMAFLUSS

Title (fr)
PROCEDE ET DISPOSITIF DE TRAITEMENT DE MATIERE FRAGMENTEE OU PULVERISEE BIPHASEE PAR FLUX DE PLASMA REACTIF NON ISOTHERMIQUE

Publication
EP 2923535 A1 20150930 (FR)

Application
EP 13821115 A 20131118

Priority
• FR 1203092 A 20121119
• FR 1302349 A 20131009
• FR 2013000299 W 20131118

Abstract (en)
[origin: WO2014076381A1] Method and device implemented in a reactor for the plasma treatment of carried fragmented material or of pulverized elements by a support gas where the main element is an intermediate temperature plasma (PIT) generator fed by a source of electric pulses, the amplitude of whose current is limited and for which the generating frequency, the duration of the pulses and the duration of the time spans between the pulses are determined in such a way as to generate a nonthermal plasma (PIT) of large extent, the plasma and the carrier gas flux (4) laden with the fragments of material or of pulverized elements to be treated (5) moving along helical trajectories coaxial with the axis of the reactor at controlled angles α and β respectively relative to the plane perpendicular to the axis of the reactor, the angles α and β being able to vary in a given manner according to the properties of the material to be treated and the technological parameters and the dimensions of the reactor. Use of the invention both for the combustion of combustible powders in the boilers of electric power plants and for the generation of solid or gaseous combustible products, of given properties and dimensions, effected through the organization of plasmochemical reactions on fragments or pulverized elements of organic materials in the reactor.

IPC 8 full level
H05H 1/42 (2006.01); **B01J 19/08** (2006.01); **B01J 19/24** (2006.01)

CPC (source: EP US)
B01J 19/088 (2013.01 - EP US); **B01J 19/2405** (2013.01 - EP US); **C10B 19/00** (2013.01 - US); **C10J 3/18** (2013.01 - EP US); **C10J 3/487** (2013.01 - EP US); **C10L 5/04** (2013.01 - US); **C10L 5/442** (2013.01 - US); **C10L 9/083** (2013.01 - EP US); **H05H 1/42** (2013.01 - EP US); **B01J 2219/0809** (2013.01 - EP US); **B01J 2219/0869** (2013.01 - EP US); **B01J 2219/0879** (2013.01 - EP US); **B01J 2219/0894** (2013.01 - EP US); **C10J 2300/0906** (2013.01 - EP US); **C10J 2300/0916** (2013.01 - EP US); **C10J 2300/092** (2013.01 - EP US); **C10J 2300/1238** (2013.01 - EP US); **C10L 2200/0469** (2013.01 - US); **C10L 2290/02** (2013.01 - US); **C10L 2290/06** (2013.01 - US); **C10L 2290/38** (2013.01 - US); **Y02E 50/10** (2013.01 - EP US); **Y02E 50/30** (2013.01 - EP US)

Citation (search report)
See references of WO 2014076381A1

Cited by
WO2023155975A1; WO2022248981A1

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 2014076381 A1 20140522; CN 105027685 A 20151104; CN 105027685 B 20190405; EP 2923535 A1 20150930; FR 2998440 A1 20140523; FR 2998440 B1 20220311; FR 2998441 A1 20140523; US 2016145520 A1 20160526; US 9732299 B2 20170815

DOCDB simple family (application)
FR 2013000299 W 20131118; CN 201380070970 A 20131118; EP 13821115 A 20131118; FR 1203092 A 20121119; FR 1302349 A 20131009; US 201314647069 A 20131118