

Title (en)

Method and apparatus for monitoring the temperature and velocity of plasma sprayed particles

Title (de)

Verfahren und Vorrichtung zur Überwachung der Temperatur und Geschwindigkeit von gespritzten Plasmateilchen

Title (fr)

Méthode et appareillage pour surveiller la température et la vitesse des particules au cours de la pulvérisation au plasma

Publication

EP 0542542 B1 19970507 (EN)

Application

EP 92310333 A 19921112

Priority

CA 2055267 A 19911112

Abstract (en)

[origin: EP0542542A1] A method and an apparatus for monitoring simultaneously the temperature and the velocity of sprayed particles. The system is comprised of a sensor head attached to the spray gun, an optical fibre transmitting the collected radiation to detection apparatus, and a protective detection cabinet having the detection apparatus that incorporates two detectors. A two-slit or multiple-slit mask is located in the sensor head at the end of the optical fibre. For the temperature measurements, the particle emitted radiation collected by the sensor head is transmitted to two photodetectors, filtered by interference filters at two adjacent wavelengths. The particle temperature may be computed from the ratio of the detector outputs. To measure the velocity, the two-slit system collects radiation emitted by the in-flight particles travelling in the sensor field of view, which generates a double peak light pulse transmitted through the optical fibre. The time delay between these two peaks may be evaluated automatically and the particle velocity computed knowing the distance between the two slit images. <IMAGE>

IPC 1-7

H05H 1/00

IPC 8 full level

H05H 1/00 (2006.01)

CPC (source: EP)

H05H 1/0025 (2013.01)

Cited by

EP1978790A1; US7070835B2; DE10140299A1; DE10140299B4; CN111006704A; US8689731B2; WO2010046693A1; US7688441B2; US6797939B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 0542542 A1 19930519; EP 0542542 B1 19970507; CA 2055267 A1 19930513; CA 2055267 C 19990112; DE 69219560 D1 19970612; DE 69219560 T2 19971113

DOCDB simple family (application)

EP 92310333 A 19921112; CA 2055267 A 19911112; DE 69219560 T 19921112