Title (en)

Method for intentionally mistuning a turbomachine bladed rotor and rotors with intentionally mistuned blades

Title (de)

Verfahren zum Einstellen gezielter unterschiedlicher Eigenfrequenzen eines beschaufelten Rotors einer Turbomachine sowie Rotor

Title (fr)

Procédé pour introduire un désaccordage volontaire sur une roue aubagée de turbomachine. Roue aubagée présentant un désaccordage volontaire

Publication

EP 1589191 B1 20100908 (FR)

Application

EP 05103148 A 20050419

Priority

FR 0404130 A 20040420

Abstract (en)

[origin: EP1589191A1] The method involves determining an optimal value of standard deviation of frequency variation with respect to a maximum amplitude response of desired vibration on wheel according to operating conditions of the wheel inside a turbine engine. Blades having different natural frequencies are arranged on the wheel such that frequency distribution of the blades has a standard deviation equal to a value of variation determined statistically. An independent claim is also included for an impeller wheel having blades.

IPC 8 full level

F01D 5/10 (2006.01); **F01D 5/16** (2006.01); **F01D 25/04** (2006.01)

CPC (source: EP US)

F01D 5/10 (2013.01 - EP US); **F01D 5/16** (2013.01 - EP US); **F01D 25/04** (2013.01 - EP US); Y10S 416/50 (2013.01 - EP US); Y10T 29/49316 (2015.01 - EP US); Y10T 29/49318 (2015.01 - EP US); Y10T 29/49321 (2015.01 - EP US); Y10T 29/49774 (2015.01 - EP US)

Cited by

WO2014122028A1; CN108254144A; EP1988391A3; EP3572620A1; EP1965024A1; FR2913074A1; EP2762678A1; CN104968894A; US10954794B2; US8286347B2; US9835034B2; US10989227B2; US11111816B2

Designated contracting state (EPC)

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EP 1589191 A1 20051026; **EP 1589191 B1 20100908**; CA 2503659 A1 20051020; CA 2503659 C 20130129; DE 602005023373 D1 20101021; ES 2351507 T3 20110207; FR 2869069 A1 20051021; FR 2869069 B1 20081121; RU 2005111685 A 20061027; RU 2372492 C2 20091110; US 2005249586 A1 20051110; US 7500299 B2 20090310

DOCDB simple family (application)

EP 05103148 A 20050419; CA 2503659 A 20050418; DE 602005023373 T 20050419; ES 05103148 T 20050419; FR 0404130 A 20040420; RU 2005111685 A 20050419; US 10787705 A 20050418