Title (en)

METHOD FOR OPTIMIZING THE CONTACT SURFACES OF SHROUD SEGMENTS, WHICH ABUT AGAINST ONE ANOTHER, OF ADJACENT BLADES OF A GAS TURBINE

Title (de)

VERFAHREN ZUR OPTIMIERUNG DER KONTAKTFLÄCHEN VON ANEINANDER ANSTOSSENDEN DECKBANDSEGMENTEN BENACHBARTER SCHAUFELN EINER GASTURBINE

Title (fr)

PROCÉDÉ D'OPTIMISATION DES SURFACES DE CONTACT DE SEGMENTS D'ENVELOPPE D'AUBES VOISINES D'UNE TURBINE À GAZ

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Application

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Abstract (en)

[origin: WO2010060867A1] The invention relates to a method for optimizing the contact surfaces of shroud segments (14), which abut against one another, of adjacent blades (10, 10') of a rotor blade row of a gas turbine. Said optimization is achieved by means of a series of steps, specifically: a 3D model of the individual blades (10, 10') is firstly provided. A calculation of the geometry of the individual blades (10, 10') is then carried out on the basis of the provided 3D model taking into consideration at least the centrifugal and/or temperature and/or pressure loadings of the blade which occur during operation. An optimization of the contact surfaces of the shroud segments (14), which abut against one another, of adjacent blades (10, 10') in the loaded state of the blade (10, 10') then takes place, said optimization relating to those contact surfaces which serve functionally as locking surfaces (F2, F2') and relating to those contact surfaces which are arranged at both sides of the locking surfaces and which serve functionally as wedge surfaces (F1, F1'; F3, F3'). Finally, the required geometry of the locking surfaces (F2, F2') and of the wedge surfaces (F1, F1'; F3, F3') in the unloaded state of the blades (10, 10') is determined.

IPC 8 full level

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