

Title (en)

WARNING BEFORE PUMP LIMIT OR IN CASE OF BLADE FAILURE ON A TURBOMACHINE

Title (de)

WARNUNG VOR PUMGRENZE ODER SCHAUFELSCHADEN BEI EINER TURBOMASCHINE

Title (fr)

AVERTISSEMENT AVANT LIMITE DE POMPAGE OU EN CAS DE DEFAILLANCE D'AUBE SUR UNE TURBOMACHINE

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Application

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Abstract (en)

[origin: WO03038282A1] The invention relates to a method for determining a pump limit warning (W) on a turbocompressor or a warning in case of blade failure. According to said method, at least two measuring signals (p_1 , p_2 , p & tilde & 1, p & tilde & 2), for example pressure measuring signals, are determined. A periodicity value (W_1 ; W & tilde & 1) is calculated by means of at least one of said measuring signals (p_1 , p_2 ; p & tilde & 1, p & tilde & 2), which indicates a measure for the occurrence of periodic changes in the signal level of the at least one measuring signal (p_1 , p_2 ; p & tilde & 1, p & tilde & 2) on a first predetermined time lag (t_1). A correlation value (W_2 ; W & tilde & 2) is calculated by means of the at least two measuring signals (p_1 , p_2 ; p & tilde & 1, p & tilde & 2), which indicates a measure for the similarity of the at least two measuring signals (p_1 , p_2 ; p & tilde & 1, p & tilde & 2) on a second predetermined time lag (t_2). The pump limit warning (W) or the blade failure warning (W) is then determined by means of said periodicity value (W_1 ; W & tilde & 1) and said correlation value (W_2 ; W & tilde & 2). A method, for operating a gas turbine or a turbomachine, as well as a turbocompressor and a gas turbine present corresponding features. According to said invention, a calculation method is provided for recognizing an emerging pump state of said turbocompressor or a blade failure in due time, such that another appropriate measures can be taken for avoiding pumping or for the reparation thereof.

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