

Title (en)  
METHOD FOR DETERMINING AN OUTLET TEMPERATURE OF AN UPSTREAM COMBUSTION STAGE IN A GAS TURBINE ENGINE HAVING AT LEAST TWO SERIALY ARRANGED COMBUSTION STAGES

Title (de)  
VERFAHREN ZUR BESTIMMUNG DER AUSTRITTSTEMPERATUR EINER VORGESCHALTETEN VERBRENNUNGSSTUFE IN EINER GASTURBINE MIT MINDESTENS ZWEI HINTEREINANDER ANGEORDNETEN VERBRENNUNGSSTUFEN

Title (fr)  
PROCÉDÉ POUR DÉTERMINER UNE TEMPÉRATURE DE SORTIE D'UN ÉTAGE DE COMBUSTION AMONT DANS UN MOTEUR À TURBINE À GAZ COMPORTANT AU MOINS DEUX ÉTAGES DE COMBUSTION DISPOSÉS EN SÉRIE

Publication  
**EP 3578762 A1 20191211 (EN)**

Application  
**EP 18176673 A 20180608**

Priority  
EP 18176673 A 20180608

Abstract (en)  
Method for determining an outlet temperature ( $T_{2}$ ) of an upstream combustion stage (21) in a gas turbine engine having at least two serially arranged combustion stages (21, 22), a compressor (10) fluidly communicated with and upstream a most upstream combustion stage (21), and a last expansion turbine (30) fluidly communicated with and downstream a most downstream combustion stage (22). The method comprises obtaining at least one first parameter representative of the inlet temperature ( $T_{3}$ ) of the most downstream combustion stage (22), obtaining at least one second parameter representative of the outlet temperature ( $T_{1}$ ) of the compressor (10), and obtaining the fuel massflows ( $\dot{m}_{Fuel,1}$ ,  $\dot{m}_{Fuel,2}$ ) and/or a fuel massflow ratio between the combustion stages (21,22). An outlet temperature ( $T_{2}$ ) of an upstream combustion stage (21) is obtained based upon said first and second parameters and the fuel massflows and/or the fuel massflow ratio.

IPC 8 full level  
**F01D 17/08** (2006.01); **F01D 21/00** (2006.01)

CPC (source: EP)  
**F01D 17/085** (2013.01); **F01D 21/003** (2013.01)

Citation (applicant)  
EP 0718470 A2 19960626 - ABB MANAGEMENT AG [CH]

Citation (search report)

- [XA] US 2013269362 A1 20131017 - WICHMANN LISA ANNE [US], et al
- [XA] US 8794008 B2 20140805 - EROGLU ADNAN [CH], et al
- [A] EP 3267107 A1 20180110 - ANSALDO ENERGIA IP UK LTD [GB]
- [A] EP 2385233 A1 20111109 - ALSTOM TECHNOLOGY LTD [CH]
- [A] US 2013239573 A1 20130919 - BRIGHENTI ANDREA [CH], et al

Citation (examination)  
EP 0718470 A2 19960626 - ABB MANAGEMENT AG [CH]

Cited by  
CN113107675A

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)  
**EP 3578762 A1 20191211**

DOCDB simple family (application)  
**EP 18176673 A 20180608**