

Title (en)

METHOD FOR OPERATING A FUEL CELL SYSTEM, AND ANALYSIS UNIT FOR A FUEL CELL SYSTEM

Title (de)

VERFAHREN ZUM BETREIBEN EINES BRENNSTOFFZELLENSYSTEMS, AUSWERTEEINHEIT FÜR EIN BRENNSTOFFZELLENSYSTEM

Title (fr)

PROCÉDÉ DE FONCTIONNEMENT DE SYSTÈME DE PILES À COMBUSTIBLE ET UNITÉ D'ANALYSE POUR SYSTÈME DE PILE À COMBUSTIBLE

Publication

**EP 4189758 A1 20230607 (DE)**

Application

**EP 21751770 A 20210716**

Priority

- DE 102020209740 A 20200803
- EP 2021069990 W 20210716

Abstract (en)

[origin: WO2022028859A1] The invention relates to a method for operating a fuel cell system with at least one fuel cell which is supplied with hydrogen via an anode path and with oxygen via a cathode path. Anode exhaust gas exiting the fuel cell is recirculated, but from time to time a part of the anode exhaust gas is introduced into an exhaust gas path, which conducts the cathode exhaust gas, by purging the exhaust gas out of the anode path. The hydrogen concentration of the exhaust gas is measured in the exhaust gas path using a hydrogen sensor. According to the invention, the hydrogen and/or nitrogen concentration of the anode gas in the anode path before the last purge is calculated on the basis of the measured hydrogen concentration, the quantity of gas introduced into the exhaust gas path from the cathode path and from the anode path, and the quantity of hydrogen which is freshly supplied to the anode path. The invention additionally relates to an analysis unit for a fuel cell system for carrying out the method according to the invention.

IPC 8 full level

**H01M 8/04089** (2016.01); **H01M 8/0444** (2016.01); **H01M 8/04746** (2016.01)

CPC (source: EP US)

**H01M 8/04097** (2013.01 - EP US); **H01M 8/04231** (2013.01 - US); **H01M 8/04462** (2013.01 - EP US); **H01M 8/0447** (2013.01 - EP); **H01M 8/04753** (2013.01 - EP); **H01M 8/04761** (2013.01 - US); **H01M 8/1007** (2016.02 - EP); **H01M 2008/1095** (2013.01 - US); **Y02E 60/50** (2013.01 - EP)

Citation (search report)

See references of WO 2022028859A1

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**DE 102020209740 A1 20220203**; CN 116114090 A 20230512; EP 4189758 A1 20230607; JP 2023536246 A 20230824; JP 7488956 B2 20240522; KR 20230047145 A 20230406; US 2023352709 A1 20231102; WO 2022028859 A1 20220210

DOCDB simple family (application)

**DE 102020209740 A 20200803**; CN 202180058028 A 20210716; EP 2021069990 W 20210716; EP 21751770 A 20210716; JP 2023504590 A 20210716; KR 20237007129 A 20210716; US 202118019360 A 20210716