

Title (en)

DEVICE FOR DETECTING A TEMPERATURE, SYSTEM FOR PRODUCING AN OPTICAL ELEMENT, AND METHOD FOR PRODUCING AN OPTICAL ELEMENT

Title (de)

VORRICHTUNG ZUR ERFASSUNG EINER TEMPERATUR, ANLAGE ZUR HERSTELLUNG EINES OPTISCHEN ELEMENTES UND VERFAHREN ZUR HERSTELLUNG EINES OPTISCHEN ELEMENTES

Title (fr)

DISPOSITIF DE DÉTECTION D'UNE TEMPÉRATURE, SYSTÈME DE FABRICATION D'UN ÉLÉMENT OPTIQUE ET PROCÉDÉ DE FABRICATION D'UN ÉLÉMENT OPTIQUE

Publication

EP 4124210 A1 20230201 (DE)

Application

EP 20837950 A 20201216

Priority

- DE 102020203750 A 20200324
- EP 2020086441 W 20201216

Abstract (en)

[origin: WO2021190780A1] The invention relates to a device (20) for detecting a temperature on a surface (15) of an optical element (14) for semiconductor lithography, having - an optical element (14) with a face (16) irradiated with electromagnetic radiation (7, 8, 43), - a temperature sensing device (21) and - an element (22), the element (22) being designed to be temperature-controlled. According to the invention, the element (22) is arranged so that most of the intensity of the thermal radiation (25.2) detected by the temperature sensing device (21) and reflected by reflection off the surface (15) of the optical element (14) is emitted by the element (22). The invention further relates to a system (1) for producing a surface (15) of an optical element (14) for semiconductor lithography and to a method for producing a surface (15) of an optical element (14) of a projection illumination system (30), the surface (15) being tempered, and the surface temperature being detected according to the invention during tempering.

IPC 8 full level

G03F 1/24 (2006.01); **G01J 5/00** (2006.01); **G01J 5/58** (2006.01); **G02B 5/08** (2006.01); **G03F 1/72** (2006.01)

CPC (source: EP US)

G01J 5/0007 (2013.01 - EP); **G01J 5/061** (2013.01 - EP); **G01J 5/0859** (2013.01 - US); **G01J 5/59** (2022.01 - EP); **G01M 11/005** (2013.01 - EP);
G02B 5/0891 (2013.01 - EP); **G03F 1/24** (2013.01 - EP); **G03F 1/60** (2013.01 - EP); **G03F 1/72** (2013.01 - EP); **G03F 7/70175** (2013.01 - EP);
G03F 7/70316 (2013.01 - EP); **G03F 7/7085** (2013.01 - US); **G03F 7/70891** (2013.01 - US); **G03F 7/70975** (2013.01 - EP);
G01J 2005/0077 (2013.01 - EP); **G21K 1/062** (2013.01 - EP)

Citation (search report)

See references of WO 2021190780A1

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 102020203750 A1 20210930; EP 4124210 A1 20230201; US 2023018331 A1 20230119; WO 2021190780 A1 20210930

DOCDB simple family (application)

DE 102020203750 A 20200324; EP 2020086441 W 20201216; EP 20837950 A 20201216; US 202217950635 A 20220922