

Title (en)

DEVICE FOR GENERATING PULSES IN THE MID-INFRARED AND ASSOCIATED GENERATING METHOD

Title (de)

VORRICHTUNG ZUR ERZEUGUNG VON IMPULSEN IM MITTELINFRAROT UND ZUGEHÖRIGES ERZEUGUNGSVERFAHREN

Title (fr)

DISPOSITIF DE GÉNÉRATION D'IMPULSIONS DANS LE MOYEN INFRAROUGE ET PROCÉDÉ DE GÉNÉRATION ASSOCIÉ

Publication

EP 4370974 A1 20240522 (FR)

Application

EP 22751049 A 20220712

Priority

- FR 2107663 A 20210715
- EP 2022069507 W 20220712

Abstract (en)

[origin: WO2023285483A1] The invention relates to a device (1) for generating at least one pulse in the mid-infrared, comprising an optical source (2) that emits at least one source pulse having a first spectral component of wavelength λ_1 and a second spectral component of wavelength λ_2 , a non-linear crystal (3) configured to generate said at least one pulse at a wavelength λ_{MIR} in the mid-infrared via a difference-frequency-generation process, and a first optical parametric amplifier (5). According to the invention, the generating device (1) comprises at least one retarder (42) placed between the non-linear crystal (3) and the first optical parametric amplifier (5), the retarder (42) generating an optical delay suitable for synchronizing in the first optical parametric amplifier (5) said at least one pulse of wavelength λ_{MIR} with pump radiation at the first wavelength λ_1 or at the second wavelength λ_2 .

IPC 8 full level

G02F 1/35 (2006.01); **G02F 1/39** (2006.01)

CPC (source: EP KR US)

G02F 1/3501 (2013.01 - US); **G02F 1/3507** (2021.01 - EP KR); **G02F 1/3534** (2013.01 - EP KR US); **G02F 1/39** (2013.01 - EP KR US)

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)

FR 3125373 A1 20230120; **FR 3125373 B1 20240830**; EP 4370974 A1 20240522; JP 2024524664 A 20240705; KR 20240070497 A 20240521; US 2024353732 A1 20241024; WO 2023285483 A1 20230119

DOCDB simple family (application)

FR 2107663 A 20210715; EP 2022069507 W 20220712; EP 22751049 A 20220712; JP 2024501778 A 20220712; KR 20247001624 A 20220712; US 202218578567 A 20220712