

Title (en)
CO2 BEAM SOURCE HAVING A CATALYST

Title (de)
CO2-STRAHLQUELLE MIT EINEM KATALYSATOR

Title (fr)
SOURCE DE FAISCEAU CO2 CODOTÉE D'UN CATALYSEUR

Publication
EP 4356489 A1 20240424 (DE)

Application
EP 21740429 A 20210617

Priority
EP 2021066414 W 20210617

Abstract (en)
[origin: WO2022262980A1] The invention relates to a CO2 beam source (1) comprising: at least one discharge tube (3) in which a laser gas is used as a laser medium; a fan (7) for supplying the laser gas into the at least one discharge tube (3) via at least one supply element (8, 9, 9') and for removing the laser gas (4) from the at least one discharge tube (3) via at least one removal element (10, 11) in a closed laser gas circuit; and at least one catalyst (18) for catalysing an oxidation of dissociation products which are created when the laser gas is excited, the at least one catalyst (18) comprising noble metal nanoparticles which are applied to a substrate. The at least one catalyst (18) is arranged inside the closed laser gas circuit so as to be spaced apart from the at least one discharge tube (3) in the flow direction of the laser gas, in order to reduce the deposition of degradation products formed in the at least one discharge tube (3) when the laser gas (4) is excited compared with an arrangement inside the at least one discharge tube (3). A temperature (T1, T2) of the at least one catalyst (18) is at least 60°C, preferably at least 100°C, and particularly preferably at least 150°C, when the CO2 beam source (1) is operated.

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See references of WO 2022262980A1

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