

Title (en)

METHOD AND LASER SYSTEM FOR GENERATING OUTPUT LASER PULSES USING AN OPTICAL COMPONENT WITH TEMPERATURE-DEPENDENT POWER EFFICIENCY, AND ASSOCIATED COMPUTER PROGRAM PRODUCT

Title (de)

VERFAHREN UND LASERSYSTEM ZUM ERZEUGEN VON AUSGANGSLASERPULSEN MIT EINER OPTISCHEN KOMPONENTE MIT TEMPERATURABHÄNGIGER LEISTUNGSEFFIZIENZ UND ZUGEHÖRIGES COMPUTERPROGRAMMPRODUKT

Title (fr)

PROCÉDÉ ET SYSTÈME LASER POUR GÉNÉRER DES IMPULSIONS LASER DE SORTIE À L'AIDE D'UN COMPOSANT OPTIQUE AYANT UNE EFFICACITÉ DE PUISSANCE DÉPENDANT DE LA TEMPÉRATURE, ET PRODUIT PROGRAMME D'ORDINATEUR ASSOCIÉ

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Application

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Abstract (en)

[origin: WO2022174961A1] The invention relates to a method for generating output laser pulses (3) from input laser pulses (2), each having previously known pulse energies and pulse intervals, the input laser pulses (2) successively passing through an optical component (1) with temperature-dependent power efficiency, heating the optical component (1) in the process and emerging from the optical component (1) as output laser pulses (3). According to the invention, a current temperature (T) or a current temperature difference of the optical component (1) or a temperature-dependent current parameter are calculated using all the preceding input or output laser pulses (2, 3) which have contributed to the current heating of the optical component (1), and the power of a current input laser pulse (2) is set using the calculated current temperature (T), the calculated current temperature difference or the calculated current parameter such that the associated output laser pulse (3) has a pulse energy which deviates from a predefined pulse energy by less than 5%. In a laser system (4), a control unit (7) is programmed such that the method is carried out accordingly.

IPC 8 full level

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