

Title (en)

METHOD FOR AMPLIFYING AN ULTRASHORT LASER PULSE AND METHOD FOR DESIGNING AN AMPLIFICATION SYSTEM

Title (de)

VERFAHREN ZUM VERSTÄRKEN EINES ULTRAKURZEN LASERPULSES UND VERFAHREN ZUM AUSLEGEN EINES VERSTÄRKUNGSSYSTEMS

Title (fr)

PROCÉDÉ D'AMPLIFICATION D'UNE IMPULSION LASER ULTRACOURTE ET PROCÉDÉ DE CONCEPTION D'UN SYSTÈME D'AMPLIFICATION

Publication

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Application

EP 21704754 A 20210209

Priority

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Abstract (en)

[origin: WO2021160621A1] The invention relates to a method for amplifying an ultrashort laser pulse, comprising the following steps: a) temporally expanding an ultrashort laser pulse and obtaining a temporally expanded laser pulse; b) amplifying the temporally expanded laser pulse and obtaining an amplified temporally expanded laser pulse; c) compressing the amplified temporally expanded laser pulse and obtaining an amplified ultrashort laser pulse, wherein at least one amplification phase contribution, selected from the group consisting of an amplification dynamics phase contribution of the laser pulse, which results as the change of the non-linear phase because of amplification dynamics in step b), an amplification bandwidth phase contribution of the laser pulse, which results as the change of the non-linear phase because of an amplification bandwidth in step b), and a combination of the amplification dynamics phase contribution and the amplification bandwidth phase contribution, is compensated by d) imparting an additional phase contribution to the laser pulse before step c) and/or e) changing a spectrum of the laser pulse, such that the at least one amplification phase contribution after step c) is compensated.

IPC 8 full level

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CPC (source: EP KR US)

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Citation (search report)

See references of WO 2021160621A1

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