

Title (en)
LASER SYSTEM COMPRISING AN OPTICAL SYSTEM FOR THE SPECTRAL BROADENING OF PULSED LASER RADIATION AND METHOD FOR THE SPECTRAL BROADENING OF PULSED LASER RADIATION

Title (de)
LASERSYSTEM MIT OPTISCHEM SYSTEM ZUR SPEKTRALEN VERBREITERUNG VON GEPULSTER LASERSTRAHLUNG UND VERFAHREN ZUR SPEKTRALEN VERBREITERUNG VON GEPULSTER LASERSTRAHLUNG

Title (fr)
SYSTÈME LASER COMPRENANT UN SYSTÈME OPTIQUE POUR L'ÉLARGISSEMENT SPECTRAL D'UN RAYONNEMENT LASER PULSÉ ET PROCÉDÉ D'ÉLARGISSEMENT SPECTRAL D'UN RAYONNEMENT LASER PULSÉ

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Abstract (en)
[origin: WO2021170815A1] The invention relates to an optical system (3) for increasing contrast of pulsed laser radiation (9) using a non-linear elliptical polarisation rotation, comprising: a first polarisation adjustment lens (19) for adjusting an elliptical polarisation state (17B) of the pulsed laser radiation (9); a multipass cell (5) comprising two opposing mirrors (25A, 25B), forming a concentric resonator, which is passed through multiple times by the pulsed laser radiation (9) forming a plurality of intermediate focus zones (29), wherein the multipass cell (5) is filled with a gas (5A), which has an optical non-linearity, which brings about an intensity-dependent rotation of an orientation of the elliptical polarisation state (17B) of the pulsed laser radiation (9), such that the multipass cell (5) outputs beam parts with differently orientated elliptical polarisation states on the basis of the intensity-dependent rotation; and an optical beam splitting system (41) for splitting the beam parts with differently orientated elliptical polarisation states.

IPC 8 full level
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