

Title (en)  
OPTIMIZED DIELECTRIC REFLECTIVE DIFFRACTION GRATING

Title (de)  
OPTIMIERTES DIELEKTRISCHES REFLEXIONSBEUGUNGSGITTER

Title (fr)  
RÉSEAU DE DIFFRACTION RÉFLÉCHISSANT DIÉLECTRIQUE OPTIMISÉ

Publication  
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Application  
**EP 10807464 A 20101213**

Priority

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Abstract (en)  
[origin: WO2011073554A1] The invention relates to a method for obtaining a reflective diffraction grating for light beam diffraction, said method including a stack of at least four planar dielectric material layers, an upper dielectric material layer being etched so as to form a diffraction grating, the etching period of which is predetermined, said method implementing the following steps: selecting the number and the nature of the dielectric material layers, including the etched layer; digitally computing the reflection and/or transmission efficiencies of at least one of the orders of diffraction for a sample of frequencies belonging to the spectral range of use for each predetermined diffraction grating configuration while varying the thicknesses of at least four of the dielectric material layers and at least one of the etching parameters of the grating; and selecting, from among the computed configurations, at least one configuration on the basis of a criterion depending on the provided use of the grating.

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Citation (search report)  
See references of WO 2011073554A1

Citation (examination)

- LYNDIN ET AL: "Design and fabrication of an all-dielectric grating with top-hat high diffraction efficiency over a broad spectral range", JOURNAL OF THE EUROPEAN OPTICAL SOCIETY - RAPID PUBLICATIONS, vol. 2, 07019, 9 July 2007 (2007-07-09), pages 07019-1 - 07019-5, ISSN: 1990-2573
- DATABASE INSPEC [online] THE INSTITUTION OF ELECTRICAL ENGINEERS, STEVENAGE, GB; 2010, MARTZ D H ET AL: "Large area high efficiency broad bandwidth 800 nm dielectric gratings for high energy laser pulse compression", Database accession no. 11428237 & 2010 CONFERENCE ON LASERS AND ELECTRO-OPTICS (CLEO), 21 December 2009 (2009-12-21), 2010 Conference on Lasers and Electro-Optics (CLEO) IEEE Piscataway, NJ, USA, pages 2 pp., ISBN: 978-1-55752-890-2

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