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(54) Title: A HIGHER ORDER DISPERSION COMPENSATION DEVICE

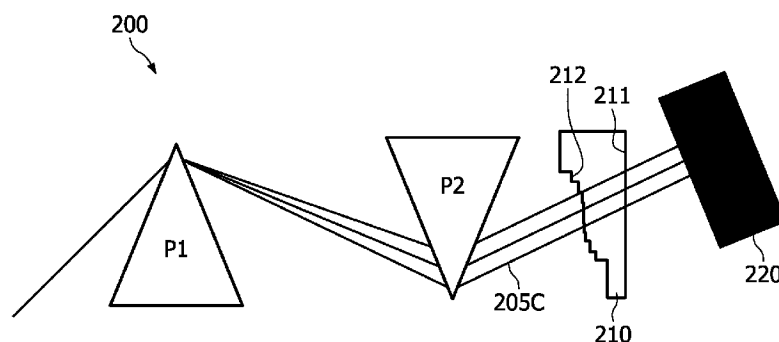


FIG. 2

(57) Abstract: The present invention relates to a higher-order dispersion compensation device (210), the device being adapted to cooperate with a pair of optical components (P1, P2), e.g. a pair of prisms, being arranged to compensate first-order dispersion by separating different wavelengths spatially. The compensation device (210) has the form of a phase plate, wherein the phase change for each wavelength is adjusted by designing the height (h) at the corresponding position (x) of the plate so as to substantially compensate for higher-order dispersion. The invention is advantageous for obtaining a higher-order dispersion compensation device which is relatively simple to construct and use making it a quite cost-effective device. The invention also relates to a corresponding optical system and method for compensating dispersion where this is important, e.g. in a multiple-photon imaging system.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 G02B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 873 825 A (JONES ROBERT PATRICK ET AL) 25 March 1975 (1975-03-25) the whole document	1, 3-7, 11-15
X	US 4 655 547 A (HERITAGE JONATHAN P [US] ET AL) 7 April 1987 (1987-04-07) the whole document	1-15
A	R. WOLLESCHENSKY ET AL.: "Characterization and optimization of a laser-scanning microscope in the femtosecond regime" APPLIED PHYSICS B, vol. 67, 1998, pages 87-94, XP002563679 the whole document	1-15
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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- *G* document member of the same patent family

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 92/15903 A1 (BELL COMMUNICATIONS RES [US]) 17 September 1992 (1992-09-17) figures page 1, line 16 - page 2, line 27 page 8, line 26 - line 33 -----	1-15
X	US 5 132 824 A (PATEL JAYANTILAL S [US] ET AL) 21 July 1992 (1992-07-21) column 1, line 42 - column 2, line 39 -----	1,11,15
A	WO 98/30931 A1 (TELLIUM INC [US]) 16 July 1998 (1998-07-16) abstract; figures -----	1-15
A	M. MÜLLER ET AL: "Dispersion pre-compensation of 15 femtosecond optical pulses for high-numerical-aperture objectives" JOURNAL OF MICROSCOPY, vol. 191, no. 2, August 1998 (1998-08), pages 141-150, XP002563680 abstract page 143, left-hand column - page 146, left-hand column figures 2,3 -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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