

Title (en)

METHOD FOR MANUFACTURING OF A PRE-ALIGNED X-RAY OPTICAL CORRECTION PLATE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER IM VORAUS AUSGERICHTETEN RÖNTGENOPTISCHEN KORREKTURPLATTE

Title (fr)

PROCÉDÉ DE FABRICATION D'UNE PLAQUE DE CORRECTION OPTIQUE DE RAYONS X PRÉ-ALIGNÉS

Publication

**EP 3540743 A1 20190918 (EN)**

Application

**EP 18162404 A 20180316**

Priority

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Abstract (en)

It is described a method for manufacturing of an optical correction plate arrangement (13) comprising the steps of arranging a set of lenses (3) comprising at least a first lens (3a) and an optical correction plate arrangement holder (5) with respect to an optical axis (A) which coincides with a path of light. The set of lenses (3) is then aligned so that light impinging the set of lenses (3) on the first lens (3a) and leaving the set of lenses (3) is focused at a focal distance or an imaging distance. Afterwards, the aberrations of the set of lenses (3) are measured. An optical correction plate arrangement blank is positioned into the optical correction plate arrangement holder (5) in a default support position, wherein the optical correction plate arrangement blank comprises a substrate (15), wherein the substrate (15) comprises a photoactive coating (17). A region of the photoactive coating (17) which is aligned to the optical axis (A) is exposed by the light before impinging the set of lenses (3) by the first lens (3a), by the light while travelling within the set of lenses (3) or by the light after leaving the set of lenses (3). After the exposure, the optical correction plate arrangement blank is transformed into an optical correction plate arrangement (13) based on the measured aberration, wherein a part of the optical correction plate arrangement (13) is adapted to at least partially compensate the aberrations of the set of lenses (3), wherein said part is aligned to the exposed region (19) of the substrate (15). In addition, a lens box assembly (1) comprises a set of lenses (3) and an optical correction plate arrangement holder (5). Optical correction plate arrangement blanks and optical correction plate arrangement (13) may be re-inserted into the holder (5) with a high reproducible accuracy regarding their position.

IPC 8 full level

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CPC (source: EP)

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Citation (applicant)

A. SCHROPP ET AL.: "Full spatial characterization of a nanofocused x-ray free-electron laser beam by ptychographic imaging", SCIENTIFIC REPORTS, vol. 3, 2013, pages 1633

Citation (search report)

- [XAI] EP 1024522 A1 20000802 - NIKON CORP [JP]
- [A] US 4902100 A 19900220 - REYNOLDS GEORGE O [US], et al

Cited by

US12014839B2; WO202327277A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

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