

Title (en)

DEEP UV LASER INTERNALLY INDUCED DENSIFICATION IN SILICA GLASSES

Title (de)

INTERN BEWIRKTE VERDICHTUNG IN SILIKA-GLASARTEN MIT LASER IM TIEFEN UV-BEREICH

Title (fr)

DENSIFICATION PROFONDE INDUITE DE MANIERE INTERNE PAR UN LASER UV DANS DES VERRES DE SILICE

Publication

**EP 1266249 A1 20021218 (EN)**

Application

**EP 00970526 A 20000929**

Priority

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- US 15673799 P 19990930

Abstract (en)

[origin: WO0123923A1] A method of writing a light guiding structure (26) in a bulk glass substrate (4) including selecting a bulk glass substrate (4) made from a soft silica based material. An excimer laser beam (5) is focused at a focus point (3) within the substrate while translating the focus relative to the substrate along the scan path. The laser beam (5) is moved at a scan speed so as to induce an increase in the refractive index of the material along the scan path relative to that of the unexposed material, while at the same time incurring very little laser induced breakdown of the material along the scan path. Various optical devices, including waveguides, can be made in this way.

IPC 1-7

**G02B 6/02**

IPC 8 full level

**G02B 6/122** (2006.01); **G02B 6/13** (2006.01); **G02B 6/12** (2006.01)

CPC (source: EP KR)

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