

TITLE OF INVENTION: METHOD FOR TRANSFERRING A THIN FILM TO A SUPPORT SUBSTRATE

Abstract

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The invention relates to a method for transferring a thin film to a support substrate, comprising: - joining a donor substrate (1) and the support substrate (2) by direct bonding of their respective front faces (1a, 2a) via a bonding interface (3), to form a bonded assembly (100) having a local unbonded area (31) within this bonding interface (3), the donor substrate (1) further comprising a buried brittle plane (11), - separating along the buried brittle plane (11), the separation being initiated in the local unbonded area (31) after microcrack growth in said plane (11) by thermal activation, and leading to the transfer of a thin film (10) from the donor substrate (1) to the support substrate (2). The method is remarkable in that the local unbonded area (31) is generated by at least one roughened area (31a) produced by scanning a laser beam over at least one of the front faces (1a, 2a) of the donor (1) and support (2) substrates prior to their assembly, the scanning extending over an area of at least 100 micrometers by 100 micrometers and at most 500 micrometers by 500 micrometers.

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Fig. 4