

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

Abstract

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The invention relates to a method for transferring a thin film onto a support substrate, comprising the following steps: - providing a bonded structure comprising a donor substrate and the support substrate, assembled by direct bonding at the respective front faces thereof, following a bonding interface
10 extending along a main plane, the donor substrate comprising a buried fragile plane substantially parallel to the main plane and formed by a step of implanting light species including co-implantation of hydrogen ions at a first dose and a first implantation energy, and of helium ions at a second dose and a second implantation energy; - applying a fracture heat treatment to the
15 bonded structure so as to induce spontaneous separation along the buried fragile plane, linked to a growth of microcracks in said plane by thermal activation, the separation leading to the transfer of a thin film from the donor substrate onto the support substrate. The method is notable in that the step of implanting light species further comprises localized implantation of hydrogen
20 ions at a third dose and a third energy in order to form an overdosed local region in the buried fragile plane, the third dose corresponding to more than three times the first dose such that the overdosed local region constitutes a starting point for the separation.

25 Fig. 3