

Title (en)
METHOD FOR PRODUCING A COMPOSITE STRUCTURE COMPRISING A THIN LAYER OF MONOCRYSTALLINE SIC ON A CARRIER
SUBSTRATE OF POLYCRYSTALLINE SIC

Title (de)
VERFAHREN ZUR HERSTELLUNG EINER VERBUNDSTRUKTUR MIT EINER DÜNNEN SCHICHT AUS MONOKRISTALLINEM SIC AUF EINEM
TRÄGERSUBSTRAT AUS POLYKRISTALLINEM SIC

Title (fr)
PROCEDE DE FABRICATION D'UNE STRUCTURE COMPOSITE COMPRENANT UNE COUCHE MINCE EN SIC MONOCRISTALLIN SUR UN
SUBSTRAT SUPPORT EN SIC CRISTALLIN

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Application
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Abstract (en)
[origin: WO2021105575A1] The invention relates to a method for producing a composite structure (1) comprising a thin layer (10) of monocrystalline silicon carbide placed on a carrier substrate (20) of silicon carbide. The method comprises: a) a step of provision of an initial substrate (11) of monocrystalline silicon carbide, b) a step of epitaxial growth of a donor layer (110) of monocrystalline silicon carbide on the initial substrate (11), so as to form a donor substrate (111), c) a step of ion implantation of light species into the donor layer (110), so as to form a buried brittle plane (12) delimiting the thin layer (10), d) a step of formation of a support substrate (20) of silicon carbide on the free surface of the donor layer (110), comprising a deposition at a temperature of between 400°C and 1100°C, e) a step of separation along the buried brittle plane (12), so as to form both the composite structure (1) and the remainder of the donor substrate (111'), f) a step of chemical-mechanical treatment(s) of the composite structure (1).

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