

Title (en)

SUBSTRATE COATED WITH A COMPOSITE FILM, METHOD FOR MAKING SAME AND USES THEREOF

Title (de)

MIT EINEM ZUSAMMENGESETZTEN FILM VERSEHENES SUBSTRAT, VERFAHREN ZUR HERSTELLUNG UND VERWENDUNGEN.

Title (fr)

SUBSTRAT REVETU D'UN FILM COMPOSITE, PROCEDE DE FABRICATION ET APPLICATIONS

Publication

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Application

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Abstract (en)

[origin: WO03010103A1] The invention concerns a substrate coated with a composite film based on a mesoporous mineral layer containing nanoparticles formed in situ inside the layer. The composite film has a periodic lattice structure in the greater part of the thickness where the nanoparticles are present, structure wherein the nanoparticles are periodically arranged on a scale of domains of at least 4 periods in the thickness of the film. Said structure is obtainable from a mesoporous mineral layer with periodic structure on the scale of domains of at least 4 periods of pores forming a matrix on the substrate, by deposition of at least a precursor in the pores of the matrix layer; and growth of particles derived from the precursor with spatial distribution and dimension control by the structure of the pores of the matrix. The invention is applicable to materials for electronics, non-linear optics, magnetism.

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