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Nota di contenuto	Mechanical behavior of honeycomb panels under tensile stress -- Mechanical characterization of aircraft structures with composite -- Help system for the evaluation of the brooks and corey unsaturated permeability estimation model -- High temperature magnetic properties of dysprosium iron garnet (dyig) revisited: a simple mean-field analysis -- Structural and optical properties study of zno nanocomposites electrodeposited on porous silicon substrates -- Preparation of silica-carbon nanotubes colloidal solutions: application to kevlar® reinforcement -- Smart drug delivery systems for improved solubility of valsartan -- Natural frequencies of functionally graded plate composed of a mixture of titanium (ti-6al-4v) and zirconia (zro2) -- Statistical analysis using weibull method of jute yarns loaded under tensile tests -- Study of the mechanical properties of the sand concrete lightened by lignocellulosic materials -- Improvement of the thermal properties of polypropylene nanocomposites by thevalorization of a local nanoclay -- Natural frequencies of functionally graded plate composed of a mixture of titanium (ti-6al-4v) and zirconia (zro2) --

Zno thin films grown by plasma sputtering process for optoelectronic applications: effect of substrate type -- Dynamic behavior analysis of fgm clamped nano-plates based on elastic foundations -- Simulation of the electrical parameters of organic photovoltaic cells -- Structural, optical, electrical and mechanical properties of zno co-doped ag, mg thin films: annealing temperature effect -- Sol-gel synthesis of sn doped zno thin films and thier structural, morphological and optical proprieties -- Analyses of the micromechanics of stress transfer in single fiber pull-out tests -- Hydrogels with enhanced adhesive and rheological properties for transdermal drug delivery systems design -- Tio2 nano-films morphology -- Study of vibrational and mechanical properties of lixo3 (x = nb, ta): application to surface acoustic wave (saw) devices -- Application of copper thin layer electrical resistance sensorfor corrosion monitoring in aggressive environments -- Fp-lapw study of optoelectronic and elastic properties of gdcro3 cubic perovskite: gga+u and hybrid functionals investigation -- Design of multi-band gap absorber layer for single-junction a-si:h solar cell -- Effect of sodium sulfate in a mortar incorporating metakaolin -- Effects of rare earth (ce, er, eu) doping on structural and optical properties of zno aerogels synthesized in supercritical isopropanol -- Optimisation of the preparation conditions of the hydrogels based on osa starch/gelatin -- Study of the mechanical properties of the sand concrete lightened by lignocellulosic materials -- Study of the influence of operational parameters on the adsorption of a dye by a biomaterial -- Synthesis of lead-free ceramics of the perovskite type for piezoelectric applications by conventional solid-state reaction -- Sol gel synthesis and thermal treatment effect on ce3+ doped gdbo3 nanoclusters obtained in silica glass Ca-alginate-carob galactomannans beads to preserve viability during digestive hostility transit and cholesterol uptake ability of probiotics bacteria -- Identification of defects and fatigue of aluminum plates by control of vibration characteristics -- Study of dynamic behavior milling for an aluminum alloy part of type 6061-t6.

Sommario/riassunto

This book presents the proceedings of the 4th International Symposium on Materials and Sustainable Development ISMSD2019 (CIMDD2019), will include a 3-day Conference (12 - 14 November). Organized by the Research Unit: Materials, Processes and Environment and M'hamed Bougara University of Boumerdes (Algeria) in partnership with University of Reims - Champagne-Ardenne (France), this symposium follows the success of CIMDD 2013-2015-2017 and continues the traditions of the highly successful series of International Conferences on the materials, processes and Environment. The Symposium will provide a unique topical forum to share the latest results of the materials and sustainable development research in Algeria and worldwide. .