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ADVANCED COMPOSITE MATERIAL SIMULATION

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Abstract. The talk will be oriented to describe a new, wide and integrated numerical procedure for the analysis of composite material structures. It will be described a very powerful tool to represent the behavior of several kind of composite structures, including the classical and new kind of composites material structures. It will be introduce the characteristic behavior of this materials and its numerical treatment (mixing and homogenization theory, mapping anisotropic theory, inelastic compression instability, delamination of the composite material, etc.). This presentation will summarize twenty years of continuous research in this subject and shows an integrated formulation for the simulation of the composite material structures behavior.