

Abstract of Presentation

Name:

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Presentation Title:

ADVANCED STRUCTURAL MATERIALS FOR
TRANSPORTATION AND ENERGY GENERATION

Abstract :

High energy prices in the foreseeable future will act as a driving force to reduce weight in transportation through the use advanced structural materials with outstanding mechanical properties (stiffness, strength, toughness) per unit weight. In addition, structural materials should also provide support for non-structural applications, leading to the development of hybrid structural materials or multimaterials on different scales of integration and smart materials (whose structural function is supported by sensors and actuators). Finally, optimization of the processing and design can be achieved through the use of advanced numerical simulation tools (virtual processing and virtual testing).

This presentation summarizes the current state-of-the-art in Spain in these areas, with special emphasis in the following topics:

- Structural nanocomposites
- Structural composites
- Lightweight metallic alloys