

Special Issue

Recent Advances in Fibre Metal Laminates

Message from the Guest Editor

Fibre–metal laminates (FMLs) are “hybrid” composite laminates comprised of both fibre-reinforced and metallic layers. Aluminium-based FMLs—such as ARALL and GLARE—have been used successfully for decades in aeronautical applications thanks to their better structural performances compared to “pure” fibre-reinforced laminates and lower unit weights compared to metals. Today, novel classes of FMLs have been proposed to enhance—amongst other properties—their mechanical strength, fatigue life, fire resistance, and recyclability by using alternative metals, natural fibres and multiple types of reinforcement. Furthermore, FMLs with smart capabilities can be manufactured by incorporating, for instance, shape memory alloys (SMAs), optical fibres, and piezoelectric materials. New fields of applications can be envisaged in the automotive and energy sectors, as well as in biomedical engineering and microelectronics. Scientists working in the theoretical modelling, numerical simulation, and experimental testing of FMLs are kindly invited to submit their papers to this Special Issue.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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