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## **Metal-Based Composite Materials: Preparation, Structure, Properties, and Applications**

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This reprint is focused on analyzing modern trends and recent advances in the synthesis of new metal-based composite materials. Such composites are increasingly used in civil, automotive, and aerospace engineering, shipbuilding, robotics, nuclear power, portable energy devices, biomedicine, electronic devices, and portable aircraft. Non-ferrous metals are often used as the matrix of composites, aluminum, magnesium, nickel, titanium, and their alloys can act as modifiers with boron, carbon structures, borides, carbides, nitrides, and oxides of refractory metals and high-strength steel. For high-temperature composites, tungsten or molybdenum fibers are used. Despite the large number of scientific works, new methods for the synthesis of such composites in order to improve and optimize their structure and properties are still needed. In this regard, completed works of experimental and theoretical orientation, aimed at the development and optimization of methods for the synthesis of composite materials, as well as the search for new materials, were welcomed for inclusion in this reprint.



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