Special Issue

Cold-Sprayed Coating on Metals: Mechanism, Process, and Application

Message from the Guest Editor

Cold spray (CS) technology is defined as a solid-phase particle deposition process without melting. CS technology, which began as a new type of thermal spraying method, has now been established as a new additive manufacturing technology called cold spray additive manufacturing (CSAM). The range of applications of CS technology extends beyond thermal spraying. The bonding mechanism in the solid-phase particle layering process can be understood as a mechanochemical phenomenon. Bonding is thought to occur when the deformation of the particles, the resulting change in the chemical state of the particle surface, and stabilization by contact all occur in an extremely short time. Understanding and controlling this unique phenomenon play critical roles in the development of this academic field and its industrial applications. In this Special Issue, we focus on metallic materials in CS technology. We welcome research results that explain cold spray deposition mechanisms based on the various unique properties of metals. Any approach for this purpose is welcome. We expect excellent research results based on your abilities as researchers to think deeply and widely.

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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