Special Issue

Thermal Conditioning of Metals and EoL-Products for Improved Recycling Efficiency

Message from the Guest Editors

Today's recycling processes for metals often meet challenges. Organics are widely used on a daily basis for goods manufacturing in parts, limiting the feed speed into smelting operations or hindering the interaction of chemicals due to the hydrophobic character of these materials. The consequences are reduced efficiencies in the production lines and new components in waste streams. Processes surviving in the circular economy, however, must ensure high recovery rates, robustness, and safety as well as flexibility, process simplification of the subsequent steps, and, finally, waste reduction. A solution is the integration of prior thermal pre-treatment of the materials, which cover the areas of pyrolysis, thermolysis, and controlled dedicated incineration. The scientific basis of this is rather poor, and such implementation has not happened so far on a broad level, but fortunately, an increasing amount of research centers in the world have it on their agenda. This Special Issue addresses the newest research in the field of thermal pre-treatment of circular materials.

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Message from the Editorial Board

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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