Special Issue

Complex Concentrated Alloys for Thin Films: Applications and Properties

Message from the Guest Editors

Complex concentrated alloys (CCAs), also called multi-principal alloys (MPAs) or high-entropy alloys (HEAs), represent a distinct design concept in which the component elements are present in a high proportion, forming microstructures predominantly rich in solid solutions. The uniqueness of the concept is provided by the hypothesis that the high mixing entropy determines the prevalent formation of solid solutions instead of intermetallic compounds. Complex concentrated alloys are no longer a novelty from a scientific point of view, but present significant difficulties regarding the understanding of the mechanisms underlying the microstructure formation and the properties they develop. The present Special Issue aims to offer the opportunity to publish research results of great interest in the field of the deposition of complex concentrated alloys. New alloy compositions or innovative synthesis methods are welcome, as well as the presentation of modeling and simulation concepts for deposition processes, in various conditions or geometries. Structure–process–property correlations are crucial for the design of future CCA thin films.

Guest Editors

Dr. Dumitru Mitrica
National R&D Institute for Non-Ferrous and Rare Metals, 077145 Pantelimon, Romania

Dr. Ana Maria Julieta Popescu
National R&D Institute for Non-Ferrous and Rare Metals, 077145 Pantelimon, Romania

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Applied Sciences
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
applsci@mdpi.com

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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