Special Issue

Advances in Properties of Thin Film Materials

Message from the Guest Editor

The idea of thin film deposition emerged to solve the problem of cutting the weight and cost of bulk materials. Thin films deposited on solids can improve their surface properties such as optical, mechanical, electrical, and magnetic properties. One recent fruitful idea in thin film technology was the concept of a multilayer thin film of different materials. This approach allows us to obtain multiple properties in one thin film simultaneously. High mixing entropy results in the stability of solid solutions and the prevention of intermetallic phases during the crystallization process. The diversity of high-entropy alloy element composition endows it with many useful properties such as high-temperature strength, wear and corrosion resistance, high hardness, and ductility. These characteristics greatly expand the application range of compound thin film and coatings. Keywords:

- thin solid films
- thin film deposition
- physical vapor deposition
- chemical vapor deposition
- nanocomposites
- multilayered thin films
- high-entropy alloys
- optical filters
- hard coatings

Guest Editor

Dr. Vasiliy Pelenovich
Institute of Technological Sciences, Wuhan University, Wuhan 430072, China

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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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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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