Special Issue

Magnetron Sputtering Process

Message from the Guest Editor

Ion irradiation is a key tool for controlling the nanostructure, phase content, and physical properties of refractory ceramic thin films grown at low temperatures by magnetron sputtering. However, in contrast to gas-ion bombardment, the effects of metalion irradiation on properties of refractory ceramic thin films have not been extensively studied due to (i) low metal-ion concentrations (a few percentage points) during standard direct-current magnetron sputtering (DCMS) and (ii) difficulties in separating metal-ion from gas-ion fluxes. Recently, the situation has changed dramatically thanks to the development of high-power impulse magnetron sputtering (HiPIMS), which provides highly ionized metal-ion plasmas. The discussion of this topic covers aspects ranging from the plasma measurements of the sputtering process to applications of magnetron-sputtered thin films. This Special Issue reviews the current status and future perspectives of the magnetron sputtering technique.

Guest Editor

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Message from the Editor-in-Chief

Magnetochemistry constitutes a multidisciplinary field where chemists and physicists not only study magnetic properties but also design and synthesize chemical compounds with desired magnetic properties.

Magnetochemistry is inviting contributions in any field related with this area, such as theoretical models, crystal engineering, molecular magnetism, SMM, SIM, SCM, SCO, magnetic nanostructures, magnetic MOFs, magnetic recording, qubits, magneto-caloric materials, etc. Our goal is to share your contribution in a timely fashion and in a manner that will be valued by the scientific community.

Editor-in-Chief

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