Special Issue

Recent Progress in Magnetron Sputtering of Coatings and Thin Films

Message from the Guest Editors

Magnetron sputtering is a type of physical vapor deposition (PVD). With its advantages of easy operation, high film quality, and strong repeatability, it has become a commonly used method for preparing various functional thin films. Among various target materials, magnetic target materials have broad application prospects in electronic devices, magnetic storage, sensors, and other fields due to their unique magnetic, electrical, and mechanical properties. However, the high magnetic permeability of magnetic targets can interfere with the distribution of magnetron sputtering equipment, thereby affecting plasma confinement and sputtering efficiency. This results in multiple challenges during film formation. In addition, with the existence of numerous scientific issues that have yet to be clarified in classical magnetron sputtering depositions (e.g., process control and stability, nanostructuration mechanisms, connection between film morphology and properties, or upscaling procedures from the laboratory to industrial scales), we have edited a specialized volume containing state-of-the-art research containing innovative fundamental and applied research topics.

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Deadline for manuscript submissions

25 August 2026

Coatings

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 6.1

mdpi.com/si/262648

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.
Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

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