

Preface

Thin films, thin layers and coatings have been used for more than a century, because of their very special characteristics of the thickness, structure and geometry, for developing advanced functional applications. The phenomenal rise in thin film researches is no doubt due to their extensive applications in the diverse fields such as microelectronics, manufacture of integrated circuits, coatings, photonic, and magnetic devices. Advanced, computers, high-resolution TV, sensitive broadband imaging systems, miniaturized electricity generators, flat-panel displays, photovoltaic cells, and medical electronics are but a few examples of miniaturized device technologies that depend on the use of thin film materials.

This volume focuses on manufacturing, processing techniques, physical properties, applications of thin films (thin layers of wear resistant, conducting, or semiconductor material) and provides an overview of thin film materials and their properties, design and manufacture across a wide variety of application areas.

In particular, the topics of interest include:

- Fabrication of thin films by electrospinning,
- Thin film for solar energy conversion,
- Optical and electrical investigation of thin film;
- Applications of PVD/ALD layers;
- Low friction thin layers.