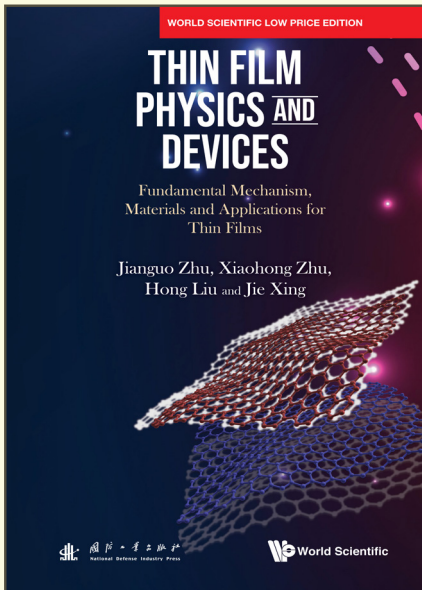


Thin Film Physics and Devices

Fundamental Mechanism, Materials and Applications for Thin Films



By **Jianguo Zhu, Xiaohong Zhu, Hong Liu and Jie Xing**
(Sichuan University, China)

ISBN	9781944660376
Extent	708pp
Binding	Paperback
Year	2023
Price	Rs. 1895

ABOUT THE BOOK

Thin films have an extremely broad range of applications from electronics and optics to new materials and devices. Collaborative and multidisciplinary efforts from physicists, materials scientists, engineers and others have established and advanced a field with key pillars constituting (i) the synthesis and processing of thin films, (ii) the understanding of physical properties in relation to the nanometer scale, (iii) the design and fabrication of nano-devices or devices with thin film materials as building blocks, and (iv) the design and construction of novel tools for characterization of thin films.

Against the backdrop of the increasingly interdisciplinary field, this book sets off to inform the basics of thin film physics and thin film devices. Readers are systematically introduced to the synthesis, processing and application of thin films; they will also study the formation of thin films, their structure and defects, and their various properties — mechanical, electrical, semiconducting, magnetic, and superconducting. With a primary focus on inorganic thin film materials, the book also ventures on organic materials such as self-assembled monolayers and Langmuir–Blodgett films.

This book will be effective as a teaching or reference material in the various disciplines, ranging from Materials Science and Engineering, Electronic Science and Engineering, Electronic Materials and Components, Semiconductor Physics and Devices, to Applied Physics and more. The original Chinese publication has been instrumental in this purpose across many Chinese universities and colleges.

READERSHIP

Undergraduate and graduate students, researchers, and engineers interested in the interdisciplinary fields of Thin Film Physics and Devices.

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- Some Kinds of Important Functional Film Materials
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