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Titolo	Plasma Surface Metallurgy : With Double Glow Discharge Technology— Xu-Tec Process // by Zhong Xu, Frank F. Xiong
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Descrizione fisica	1 online resource (XX, 269 p. 226 illus., 94 illus. in color.)
Disciplina	621.89 620.11223
Soggetti	Tribology Corrosion and anti-corrosives Coatings Plasma (Ionized gases) Manufactures Metals Tribology, Corrosion and Coatings Plasma Physics Manufacturing, Machines, Tools, Processes Metallic Materials
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- Plasma Nitriding -- Double Glow Discharge Phenomenon and Its Applications -- Double Glow Plasma Surface Alloying/Metallurgy Technology -- Physical Basis of Plasma Surface Metallurgy -- Plasma Surface Metallurgy of Iron and Steel -- Plasma Surface Metallurgy High Speed Steel -- Plasma Surface Metallurgy of Titanium and Titanium Alloys -- Plasma Surface Metallurgy of Intermetallic Compounds -- Plasma Surface Metallurgy of Other Materials -- Gradient Ceramization of Metal Surface and Metallization of Ceramic Surface -- Industrial Applications and Equipment Scaling-ups of Xu-Tec Process -- Other technologies by Double Glow Discharge Plasma Phenomenon.
Sommario/riassunto	This book provides a comprehensive introduction to and technical

description of a unique patented surface-modification technology: plasma surface metallurgy with double-glow discharge plasma process, known as the Xu-Tec process. As such it promotes further attention and interest in scientific research and engineering development in this area, as well as industrial utilization and product commercialization. The Xu-Tec process has opened up a new material engineering field of "Plasma Surface Metallurgy". This surface-modification process can transform many low-grade and low-cost industrial engineering materials into "gold" materials with a high value and high grade or special functions. This improved material can be widely used in industrial production to improve the surface performance and quality of mechanical parts and manufacturing products, and to conserve expensive alloying elements for the benefit of all mankind. "This book will be valuable to those in the general area of surface metallurgy. The substantial description of the Xu-Tec process is very important and should assist in expanding the use of this superior technique. The in-depth explanation of glow discharges and their use in general will also serve as a valuable reference in the field." James E. Thompson, Prof. Fellow of the IEEE Dean of Engineering Emeritus University of Missouri, Columbia, Missouri, USA November, 2016 "A BREAKTHROUGH IN MAKING METAL TOUGHER". ---- SCIENCE & TECHNOLOGY Business Week, July 24, 1989 "NOVEL SURFACE ALLOYING PROCESS" --- THE LEADING EDGE TECHNOLOGY WORDWIDE Materials and Processing Report, Dec. 1987.

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