

Preface

The designation “*nontraditional machining*” refers to a group of processes that removes material by various methods involving electrical, thermal, chemical and mechanical energy (or combinations of these energies). Currently, typical applications of nontraditional machining methods include high accuracies, good surface finish and complex geometries, parts machined without burrs or residual stresses as well as work materials that cannot be machined by conventional methods. In general, the nontraditional processes are characterized by high specific energies and low removal rates when compared to conventional machining processes. Today, nontraditional macro and micromachining processes present great importance to automotive, aircraft, moulds and dies and other advanced industries placed in all industrialized or emerging countries.

[Chapter 1](#) of the book describes *Laser-Assisted Manufacturing: Fundamentals, Current Scenario and Future Applications*. [Chapter 2](#) is dedicated to *Laser Beam Machining*. [Chapter 3](#) describes *Laser Cutting of Triangular Geometry in Aluminum Foam*. [Chapter 4](#) contains information on *Micro-Electrical Discharge Machining*. [Chapter 5](#) describes *Prototype Machine for Micro-EDM*. [Chapter 6](#) contains information on *Abrasive Water Jet Milling*. Finally, [Chap.7](#) is dedicated to *A New Approach for the Production of Blades by Hybrid Processes*.

The present book can be used as a research book for final undergraduate engineering course or as a topic on manufacturing at the postgraduate level. Also, this book can serve as a useful reference for academics, researchers, manufacturing, industrial, materials and mechanical engineers, professionals in nontraditional machining and related industries. The scientific interest in this book is evident for many important centers of research, laboratories and universities as well as industry. Therefore, it is hoped this book will inspire and enthuse others to undertake research in this field of nontraditional machining processes.

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Research Advances

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