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**Nanotechnology, an introduction
to nanostructuring techniques:
Michael Köhler, Wolfgang Fritzsche,
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This book provides readers with information on fabrication of nanostructures and methods for characterisation of the generated structures.

The most important fundamentals of microtechnology and chemistry, on which the understanding of shaping nanoscale structures is based, are described at the beginning of the book. Because the even surface is a key parameter in microtechnology, the technology to prepare planar surfaces is also discussed. Typical examples are so-called wafer, glass or silicon disks that are used in mass fabrication of micro-electronic chips. The preparation of thin layers, including layer deposition from the gas phase, evaporation, sputtering, chemical vapor deposition (CVD), galvanic deposition, spin coating and shadow-mask deposition techniques, are outlined. The authors also introduce the preparation of ultrathin layers by the

vacuum deposition processes, from the liquid phase, by the chemical surface modification and by the immobilization of nanoparticles. Readers can find details of structure generation and fabrication of lithographic masks, etching processes and packaging in the chapter dealing with microtechnology. Furthermore, the book is devoted to the preparation of nanostructures. The subtractive principle for microtechniques, with additive processes, can be transferred to nanotechnology. The principles of the lift-off process and nanotechnical shape-definition and construction are presented. The authors have reviewed the nanomechanical structure generation by cutting processes, surface-transport methods, reshaping processes, as well as printing processes. In summary, the book offers a general survey of nanolithography and scanning probe techniques.

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