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The Book Corner

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The Book Corner

Microthermal Field-Flow Fractionation: Analysis of Synthetic, Natural, and Biological Macromolecules and Particles, by Josef Janča, 247 pages. Price \$63.00.

This is an interesting book which deals with a unique branch of separation science. Field-flow fractionation (FFF) was invented by professor Calvin Giddings in 1966. The principle of FFF is based on the action of two factors working simultaneously: field force and fluid flow. In 1967, Giddings described thermal FFF and applied it to the separation of polystyrenes (*Sep. Sci.* 1967, 2, 797). Microthermal FFF is a new method for the separation, analysis, and characterization of macromolecules and particles.

This book is divided into five chapters totaling 247 pages. The book starts with a preface followed by chapter one which discusses the genesis of FFF, such as its origin, principles, and application. Chapter two deals with the general theory of FFF and discusses the separation process and driving field forces, transport phenomena, and theory of separation, retention, and other basic topics related to FFF. Chapter three deals with microthermal FFF and discusses topics such as theoretical aspects of miniaturization, efficiency, resolution, sample introduction, detectors, channel design and construction, and solvent delivery system. Chapter four, driving forces and competing mechanisms, discusses polarization mechanism, focusing mechanism, intervention of lift forces, increase of resolution, concentration effects, etc. Chapter five is an interesting one that deals with analytical methodology; fundamental principles, data analysis, comparison of microthermal FFF with other methods, optimization, and general applications.

The book is well written, illustrated, and referenced, easy to follow, and informative. The author should be commended on a job well done. I cannot but recommend the book for all separation scientists.

The book was published in 2008 by HNB Publishing, New York. The price is \$63.

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Reviewed by
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The Book Corner