Introduction

Extended Hypergeometric Functions and Orthogonal Polynomials presents a comprehensive and accessible resource for researchers and graduate students interested in exploring the rich connections between extended hypergeometric functions, orthogonal polynomials, and multivariable polynomials. Integrating all three fields and their applications in Maple, Mathematica, and MATLAB, this book fosters interdisciplinary understanding and inspires new avenues of research in mathematics, engineering, physics, and computer science. It also provides a glimpse into future research directions in these areas, including potential applications in emerging fields of applied mathematics and interdisciplinary collaborations. Each chapter begins with an introduction, includes sections on theory, followed by sections on applications, and ends with exercises, problems, references, and suggested readings.

Key Features

- Provides an integrated and up-to-date resource on extended hypergeometric functions, orthogonal polynomials, and multivariable polynomials for researchers, students, and practicing engineers.
- Presents emerging trends, new developments, techniques, and applications in the fields of special functions and orthogonal polynomials.
- Gives special attention to practical techniques for working with these functions and polynomials, including computational methods and applications to solve real-world problems.