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# Special Functions and Their Applications

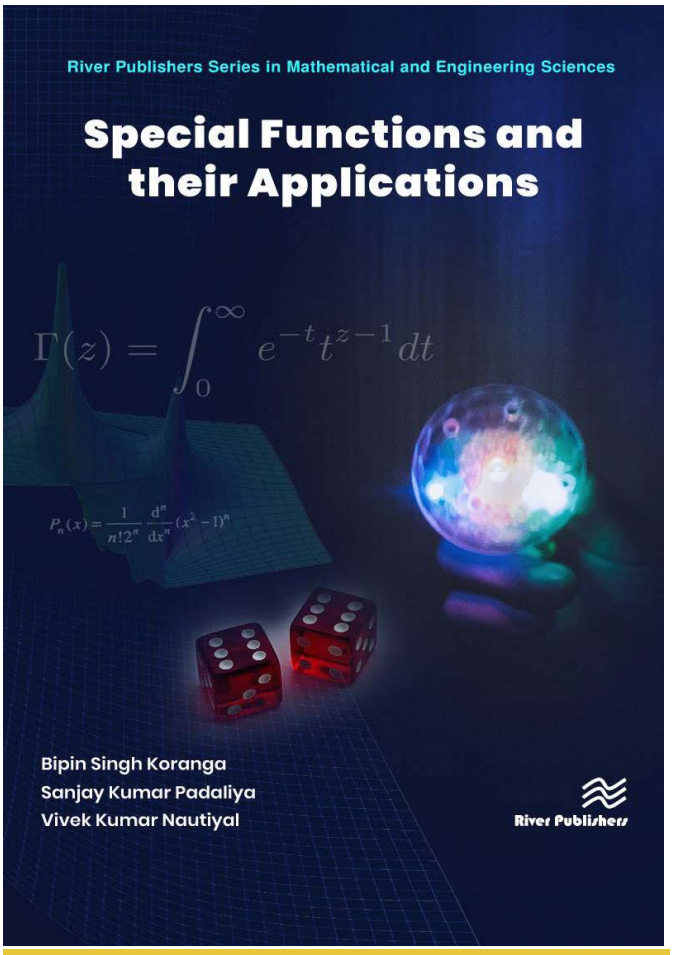
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Special functions are mathematical functions that have established names and notations due to their importance in mathematical analysis, functional analysis, geometry, physics, or other applications. This short text gives clear descriptions and explanations of the Gamma function, the Probability Integral and its related functions, Spherical Harmonics Theory, The Bessel function, Hermite polynomials and Laguerre polynomials. Each chapter finishes with a description of how the function is most commonly applied and a set of examples for the student to work through.




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