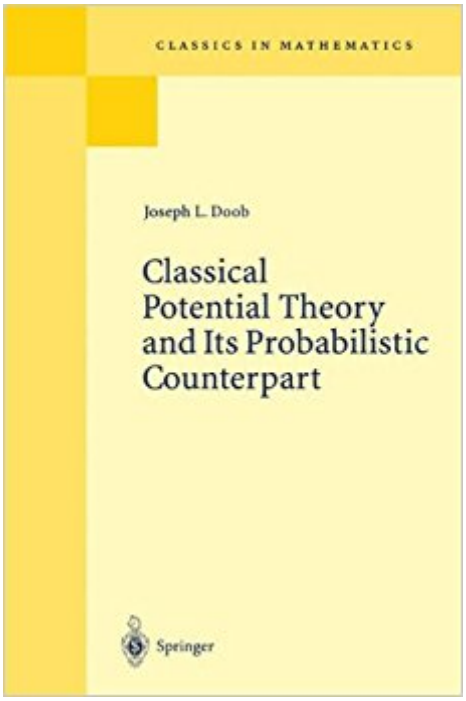
Classical Potential Theory And Its Probabilistic Counterpart (Classics In Mathematics)



Synopsis

From the reviews: "Here is a momumental work by Doob, one of the masters, in which Part 1 develops the potential theory associated with Laplace’s equation and the heat equation, and Part 2 develops those parts (martingales and Brownian motion) of stochastic process theory which are closely related to Part 1". --G.E.H. Reuter in Short Book Reviews (1985)

Book Information

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Customer Reviews

From the reviews: "In the early 1920’s, Norbert Wiener wrote significant papers on the Dirichlet problem and on Brownian motion. Since then there has been enormous activity in potential theory and stochastic processes, in which both subjects have reached a high degree of polish and their close relation has been discovered. Here is a momumental work by Doob, one of the masters, in which Part 1 develops the potential theory associated with Laplace’s equation and the heat equation, and Part 2 develops those parts (martingales and Brownian motion) of stochastic process theory which are closely related to Part 1". G.E.H. Reuter in Short Book Reviews (1985) "This huge book written in several years by one of the few mathematicians able to do it, appears as a precise and impressive study (not very easy to read) of this bothsided question that replaces, in a coherent way, without being encyclopaedic, a large library of books and papers scattered without a uniform language. Instead of summarizing the author gives his own way of exposition with original complements. This requires no preliminary knowledge. ...The purpose which the author explains in

his introduction, i.e. a deep probabilistic interpretation of potential theory and a link between two great theories, appears fullfilled in a masterly manner". Metrika (1986) "It is good news that DoobÃ¢â ¬â„¢s monumental book is now available at a very reasonable price. The impressive volume (846 pages!) is still the only book concentrating on a thorough presentation of the potential theory of the Laplace operator Ã¢â ¬Â| . The material in the chapters on conditional Brownian motion and Brownian motion on the Martin space cannot easily be found in that depth elsewhere. A long appendix on various topics (more than 50 pages) and many historical notes complete this great Ã¢â ¬Ëœencyclopedia Ã¢â ¬â„¢." (Wolfhard Hansen, Zentralblatt MATH, Vol. 990 (15), 2002)

Biography of Joseph L. Doob Born in Cincinnati, Ohio on February 27, 1910, Joseph L. Doob studied for both his undergraduate and doctoral degrees at Harvard University. He was appointed to the University of Illinois in 1935 and remained there until his retirement in 1978. Doob worked first in complex variables, then moved to probability under the initial impulse of H. Hotelling, and influenced by A.N Kolmogorov's famous monograph of 1933, as well as by Paul LÃƒÂ©vy's work. In his own book Stochastic Processes (1953), Doob established martingales as a particularly important type of stochastic process. Kakutani's treatment of the Dirichlet problem in 1944, combining complex variable theory and probability, sparked off Doob's interest in potential theory, which culminated in the present book. (For more details see: http://www.dartmouth.edu/~chance/Doob/conversation.html)

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