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Nota di contenuto	Chapter 1- Preliminary Results -- Chapter 2- The Ornstein-Uhlenbeck Operator and the Ornstein-Uhlenbeck Semigroup -- Chapter 3- The Poisson-Hermite Semigroup -- Chapter 4- Covering Lemmas, Gaussian Maximal Functions, and Calderón-Zygmund Operators -- Chapter 5- Littlewood-Paley-Stein Theory with respect to d -- Chapter 6- Spectral Multiplier Operators with respect to d -- Chapter 7- Function Spaces with respect to d -- Chapter 8- Gaussian Fractional Integrals and Fractional Derivatives -- Chapter 9- Singular Integrals with respect to d -- Appendix -- References -- Index.
Sommario/riassunto	Authored by a ranking authority in Gaussian harmonic analysis, this book embodies a state-of-the-art entrée at the intersection of two important fields of research: harmonic analysis and probability. The book is intended for a very diverse audience, from graduate students all the way to researchers working in a broad spectrum of areas in analysis. Written with the graduate student in mind, it is assumed that the reader has familiarity with the basics of real analysis as well as with classical harmonic analysis, including Calderón-Zygmund theory; also some knowledge of basic orthogonal polynomials theory would be convenient. The monograph develops the main topics of classical harmonic analysis (semigroups, covering lemmas, maximal functions, Littlewood-Paley functions, spectral multipliers, fractional integrals and

fractional derivatives, singular integrals) with respect to the Gaussian measure. The text provide an updated exposition, as self-contained as possible, of all the topics in Gaussian harmonic analysis that up to now are mostly scattered in research papers and sections of books; also an exhaustive bibliography for further reading. Each chapter ends with a section of notes and further results where connections between Gaussian harmonic analysis and other connected fields, points of view and alternative techniques are given. Mathematicians and researchers in several areas will find the breadth and depth of the treatment of the subject highly useful.