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	Nota di contenuto	Front matter -- Contents -- Chapter I Intuitive introduction to error structures -- Chapter II Strongly-continuous semigroups and Dirichlet forms -- Chapter III Error structures -- Chapter IV Images and products of error structures -- Chapter V Sensitivity analysis and error calculus -- Chapter VI Error structures on fundamental spaces space -- Chapter VII Application to financial models -- Chapter VIII Applications in the field of physics -- Back matter
	Sommario/riassunto	Many recent advances in modelling within the applied sciences and engineering have focused on the increasing importance of sensitivity analyses. For a given physical, financial or environmental model, increased emphasis is now placed on assessing the consequences of changes in model outputs that result from small changes or errors in both the hypotheses and parameters. The approach proposed in this book is entirely new and features two main characteristics. Even when extremely small, errors possess biases and variances. The methods presented here are able, thanks to a specific differential calculus, to provide information about the correlation between errors in different parameters of the model, as well as information about the biases introduced by non-linearity. The approach makes use of very powerful

mathematical tools (Dirichlet forms), which allow one to deal with errors in infinite dimensional spaces, such as spaces of functions or stochastic processes. The method is therefore applicable to non-elementary models along the lines of those encountered in modern physics and finance. This text has been drawn from presentations of research done over the past ten years and that is still ongoing. The work was presented in conjunction with a course taught jointly at the Universities of Paris 1 and Paris 6. The book is intended for students, researchers and engineers with good knowledge in probability theory.