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	Optimal Shape Design in Phosphate Production -- 7 Ruben Sanchez at al., Adjoint-based sensitivity analysis in high-temperature fluid flows with participating media.
Sommario/riassunto	This book presents recent research work that is focused on mathematical solution strategies in the important areas of "Prognostic MR Thermometry for Thermal Ablation of Liver Tumours" and "Energy-efficient High Temperature Processes via Shape Optimization". It is addressed to people who are interested in modern mathematical solutions for real-life applications. In particular, mathematical modelling, simulation and optimization are currently successfully used in various fields of application, such as the energy or health sector. Here, mathematics is often the driving force for new innovations and is most relevant for the success of many interdisciplinary projects. The presented chapters demonstrate the power of this emerging research field and show how society can benefit from applied mathematics.