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Sommario/riassunto	For over thirty years, IPSN and subsequently IRSN has played a major international role in the fi eld of nuclear power reactor core melt accidents through the undertaking of important experimental programmes (the most signifi cant being the Phébus- FP programme), the development of validated simulation tools (the ASTEC code that is today the leading European tool for modelling severe accidents), and the coordination of the SARNET (Severe Accident Research NETwork) international network of excellence. These accidents are described as «severe accidents» because they can lead to radioactive releases outside the plant concerned, with serious consequences for the general public and for the environment. This book compiles the sum of the knowledge acquired on this subject and summarises the lessons that

have been learnt from severe accidents around the world for the prevention and reduction of the consequences of such accidents, without addressing those from the Fukushima accident, where knowledge of events is still evolving. The knowledge accumulated by the Institute on these subjects enabled it to play an active role in informing public authorities, the media and the public when this accident occurred, and continues to do so to this day. The Institute for Radiological Protection and Nuclear Safety (IRSN) is a public body undertaking research and consultancy activities in the field of nuclear safety and radiation protection. It provides the public authorities with technical support. It also carries out various public service missions entrusted to it under national regulations. In particular, these include radiological monitoring of French territory and of workers, management of emergency situations, and provision of information to the public. IRSN expertise is available to partners and customers both in France and abroad.