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Sommario/riassunto	Germanium (Ge) chalcogenides are characterized by unique properties that make these materials interesting for a very wide range of applications from phase change memories to ovonic threshold switches and from photonics to thermoelectric and photovoltaic devices. In many cases, their physical properties can be finely tuned by doping or by changing the amount of Ge, which may therefore play a key role in determining the applications, performance, and even the reliability of these devices. In this book, we include 11 articles, mainly focusing on applications of Ge chalcogenides for non-volatile memories. Most of the papers have been produced with funding received from the European Union's Horizon 2020 Research and Innovation program under grant agreement n. 824957. In the Special Issue "BeforeHand: Boosting Performance of Phase Change Devices by Hetero- and Nanostructure Material Design", two contributions are related to the prototypical Ge2Sb2Te5 compound, which is the most studied composition, already integrated in many devices such as optical and electronic memories. Five articles focus on Ge-rich GeSbTe alloys, exploring the electrical and the structural properties, as well as the decomposition paths. Other contributions are focused on the effect of the interfaces and on nanowires.