Preface

This special edition is devoted to problems of ensuring the functional stability and reliability of silicon carbide devices, as well as the analysis of specific applications of them as part of sensors in conditions of hard radiation and for use in quantum research.

The collection is organised into two chapters.

The first chapter addresses critical aspects of performance degradation, long-term stability, and reliability evaluation in SiC-based power devices, and the second chapter explores the expanding role of SiC in frontier technologies and extreme environments.

The special edition combines issues related to the reliability and stability of silicon carbide-based electronic devices with an analysis of engineering solutions for their applications in frontier technologies and extreme conditions, providing readers with a comprehensive overview of current advances and future directions of applications.