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This book covers a broad range of interdisciplinary topics, focusing on atoms and molecules in intense laser fields, excitation processes in intense laser fields, photonics and materials, high-order harmonics generation, XFEL, high-power lasers and their applications, and quantum computing. This seventeenth volume features contributions from world-renowned researchers on topics such as applications of attosecond and femtosecond laser pulses, coherence and dynamics in quantum systems, and applications of super-intense laser fields. The PUILS series delivers up-to-date reviews of progress in this emerging interdisciplinary research field, spanning atomic and molecular physics, molecular science, and optical science, which has been stimulated by the recent developments in ultrafast laser technologies. Each volume compiles peer-reviewed articles authored by researchers at the forefront of each of their own subfields of ultrafast intense laser science. Every chapter opens with an overview of the topics to be discussed, so that researchers unfamiliar with the subfield, especially graduate students, can grasp the importance and attractions of the research topic at hand; these are followed by reports of cutting-edge discoveries.
