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Nota di contenuto	PART I: Basics Science of Positron Emission Tomography -- Current status of PET Technology -- Current status and future directions of PET in clinical practice -- PART II: Solid State Digital PET Instrumentation, Technology and Clinical Practice -- Introduction to silicon photomultipliers for time-of-flight PET -- New Generation Silicon Photomultiplier-based Clinical PET/CT and PET/MR Systems -- Solid State Digital Photon Counting PET/CT -- Siemens Biograph Vision 600 -- PART III: Future Prospective of PET/CT Instrumentation and Technology -- Future Prospects of TOF PET Instrumentation and Technology.
Sommario/riassunto	This book is a guide to new and emerging PET technology, instrumentation, and its place in clinical practice. PET technology is currently moving from the conventional photomultiplier tube (PMT) detector based PET to the new generation, solid state light sensor detector. This is a technological leap and holds significant implications for the use of PET imaging. This book introduces and describes the emerging and new generation of PET instrumentations and technologies across manufactures, focusing on solid-state PET detector designs, system characteristics, and clinical practices as well as future advanced Time-of-Flight (TOF) PET technologies. Organized into three

sections, the basics of PET imaging; solid state digital PET instrumentation, technology, and clinical practice; and a look to the future of PET imaging, chapters present a full picture of PET imaging, where we are and where we will be. Nuclear medicine physicians, physicists, and technologists can use this book to better understand future PET systems, novel PET technologies, and potential game changes of clinical PET practice.