Color in electronic display systems: advantages of multi-primary displays

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Abstrak

This book explores the principles, design, and image processing of multi-primary displays, and introduces the reader to the intricacies of the typical imaging pathways which influence display design and the perception of color within a display system.
Early chapters introduce the concepts behind human perception, color science, and lighting, which are necessary to fully understand multi-primary displays. The reader is also introduced to digital capture and transmission systems to better understand the ecosystem in which multi-primary displays exist. Subsequent chapters introduce the reader to current display technologies, including LCD, OLED, and inorganic LED displays. The working principles, performance, and upcoming advances are discussed for each of these technologies to provide the reader with a clear understanding of the tradeoffs which are necessary when considering multi-primary displays. This discussion is followed by an in-depth discussion of the image processing technology necessary to implement multi-primary displays. The book concludes with chapters that clearly discuss the advantages and limitations of multi-primary displays for direct view, virtual reality, and augmented reality displays.
The book provides a broad viewpoint across the entire display ecosystem, explaining the interactions among system components to provide a rationale for the further development of multi-primary displays.
Whether the reader is interested in broadening their understanding of display systems or the development of multi-primary displays, the text provides and understandable and practical summary of important display system concepts.