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Retinex theory; 2.4.3. Gamut conversion; 2.4.4. Probabilistic methods; 2.4.5. Method based on neural networks; 2.4.6. ACE: automatic color equalization
2.4.7. Methods combining several approaches2.5. Comparison of color constancy algorithms; 2.5.1. Algorithms evaluation; 2.5.2. Examples of applications with specific patterns; 2.6. Conclusion; 2.7. Bibliography; Chapter 3. Color Appearance Models; 3.1. Introduction; 3.2. The two perceptual phenomena of color appearance; 3.3. The main components of a CAM; 3.3.1. Chromatic adaptation models; 3.3.2. The perceptual attributes; 3.3.3. General architecture of CAMs standardized by the CIE; 3.4. The CIECAM02; 3.4.1. Input data; 3.4.2. The chromatic adaptation transform
3.4.3. The appearance attributes3.5. Conclusion; 3.6. Bibliography; Chapter 4. Rendering and Computer Graphics; 4.1. Introduction; 4.2. Reflection and representation models of light sources; 4.2.1. Concept of luminance; 4.2.2. Representation of the light sources; 4.2.3. Reflection and refraction models; 4.3. Simulation of light propagation; 4.3.1. Light propagation model: the rendering equation; 4.3.2. Solution of the rendering equation; 4.4. Display of results; 4.4.1. LDR and HDR Images; 4.4.2. Tone mapping; 4.4.3. Management of spectral aspects; 4.4.4. Computer graphics and perception
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5.8.1. Backside illumination: Sony, Omnivision

Sommario/riassunto

In this book the authors identify the basic concepts and recent advances in the acquisition, perception, coding and rendering of color. The fundamental aspects related to the science of colorimetry in relation to physiology (the human visual system) are addressed, as are constancy and color appearance. It also addresses the more technical aspects related to sensors and the color management screen. Particular attention is paid to the notion of color rendering in computer graphics. Beyond color, the authors also look at coding, compression, protection and quality of color images and videos.<b