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Nota di contenuto	Digital Video Quality; Contents; About the Author; Acknowledgements; Acronyms; 1 Introduction; 1.1 Motivation; 1.2 Outline; 2 Vision; 2.1 Eye; 2.1.1 Physical Principles; 2.1.2 Optics of the Eye; 2.1.3 Optical Quality; 2.1.4 Eye Movements; 2.2 Retina; 2.2.1 Photoreceptors; 2.2.2 Retinal Neurons; 2.3 Visual Pathways; 2.3.1 Lateral Geniculate Nucleus; 2.3.2 Visual Cortex; 2.4 Sensitivity to Light; 2.4.1 Light Adaptation; 2.4.2 Contrast Sensitivity; 2.5 Color Perception; 2.5.1 Color Matching; 2.5.2 Opponent Colors; 2.6 Masking and Adaptation; 2.6.1 Spatial Masking; 2.6.2 Temporal Masking 2.6.3 Pattern Adaptation 2.7 Multi-channel Organization; 2.7.1 Spatial Mechanisms; 2.7.2 Temporal Mechanisms; 2.8 Summary; 3 Video Quality; 3.1 Video Coding and Compression; 3.1.1 Color Coding; 3.1.2 Interlacing; 3.1.3 Compression Methods; 3.1.4 Standards; 3.2 Artifacts; 3.2.1 Compression Artifacts; 3.2.2 Transmission Errors; 3.2.3 Other

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## Sommario/riassunto

Visual quality assessment is an interdisciplinary topic that links image/video processing, psychology and physiology. Many engineers are familiar with the image/video processing; transmission networks side of things but not with the perceptual aspects pertaining to quality. Digital Video Quality first introduces the concepts of human vision and visual quality. Based on these, specific video quality metrics are developed and their design is presented. These metrics are then evaluated and used in a number of applications, including image/video compression, transmission and watermarking.<u

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