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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Talks -- The Importance of Aliasing in Structured Quantization Index Modulation Data Hiding -- Watermark Embedding for Black-Box Channels -- Image Steganography and Steganalysis: Concepts and Practice -- On the Integration of Watermarks and Cryptography -- I: DRM I -- Content-Dependent Anti-disclosure Image Watermark --

Performance Measurement of Watermark Embedding Patterns -- II: Theory -- Image Fusion Based Visible Watermarking Using Dual-Tree Complex Wavelet Transform -- Optimal Data-Hiding Strategies for Games with BER Payoffs -- Robust Wavelet-Based Information Hiding through Low-Density Parity-Check (LDPC) Codes -- III: Non-St+Stego -- Natural Language Watermarking Using Semantic Substitution for Chinese Text -- Resilient Information Hiding for Abstract Semi-structures -- Model-Based Steganography -- IV: Systems -- Authentication of 3-D Polygonal Meshes -- Use of Motion Estimation to Improve Video Watermarking for MPEG Encoders -- A Robust Printed Image Watermarking Based on Iterative Halftoning Method -- A Feature-Watermarking Scheme for JPEG Image Authentication -- V: Estimation -- An Intelligent Watermark Detection Decoder Based on Independent Component Analysis -- Coefficient Selection Methods for Scalable Spread Spectrum Watermarking -- Performance Analysis of Order Statistical Patchwork -- Rotation-Tolerant Watermark Detection Using Circular Harmonic Function Correlation Filter -- VI: Perception+Audio -- On Perceptual Quality of Watermarked Images -- An Experimental Approach -- Audio Watermarking Based on Music Content Analysis: Robust against Time Scale Modification -- Multi-bit Video Watermarking Based on 3D DFT Using Perceptual Models -- EM Estimation of Scale Factor for Quantization-Based Audio Watermarking -- VII: DRM II -- Semi-fragile Watermarking for Tamper Proofing and Authentication of Still Images -- Secure Video Watermarking via Embedding Strength Modulation -- On the Insecurity of Non-invertible Watermarking Schemes for Dispute Resolving -- Posters -- RST-Resistant Image Watermarking Using Invariant Centroid and Reordered Fourier-Mellin Transform -- Robust Audio Watermarking Using Both DWT and Masking Effect -- Normalization Domain Watermarking Method Based on Pattern Extraction -- Robust Watermarking with Adaptive Receiving -- A Robust Logo Multiresolution Watermarking Based on Independent Component Analysis Extraction -- Highly Reliable Stochastic Perceptual Watermarking Model Based on Multiwavelet Transform -- Metadata Hiding for Content Adaptation -- Echo Watermarking in Sub-band Domain -- Modification of Polar Echo Kernel for Performance Improvement of Audio Watermarking -- Increasing Robustness of an Improved Spread Spectrum Audio Watermarking Method Using Attack Characterization -- Enhancement Methods of Image Quality in Screen Mark Attack -- A Method to Improve the Stego-Image Quality for Palette-Based Image Steganography -- A Secure Steganographic Scheme against Statistical Analyses -- A Three-Dimensional Watermarking Algorithm Using the DCT Transform of Triangle Strips -- High Quality Perceptual Steganographic Techniques -- A Watermarking Scheme Applicable for Fingerprinting Protocol -- A New Digital Watermarking for Architectural Design Drawing Using LINEs and ARCs Based on Vertex -- Public Watermark Detection Using Multiple Proxies and Secret Sharing -- Towards Generic Detection Scheme in Zero Knowledge Protocol for Blind Watermark Detection -- Lossless Watermarking Considering the Human Visual System -- Data-Hiding Capacity Improvement for Text Watermarking Using Space Coding Method.

## Sommario/riassunto

We are happy to present to you the proceedings of the 2nd International Workshop on Digital Watermarking, IWDW 2003. Since its modern re-appearance in the academic community in the early 1990s, great progress has been made in understanding both the capabilities and the weaknesses of digital watermarking. On the theoretical side, we all are now well aware of the fact that digital watermarking is best viewed as a form of communication using side information. In the case

of digital watermarking the side information in question is the document to be watermarked. This insight has led to a better understanding of the limits of the capacity and robustness of digital watermarking algorithms. It has also led to new and improved watermarking algorithms, both in terms of capacity and imperceptibility. Similarly, the role of human perception, and models thereof, has been greatly enhanced in the study and design of digital watermarking algorithms and systems. On the practical side, applications of watermarking are not yet abundant. The original euphoria on the role of digital watermarking in copy protection and copyright protection has not resulted in widespread usage in practical systems. With hindsight, a number of reasons can be given for this lack of practical applications.

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