

Table of Contents

Fundamentals of Steganography

- An Information-Theoretic Approach to Steganography and Watermarking ... 1
Thomas Mittelholzer
- One-Time Hash Steganography 17
Natori Shin

Steganography: Paradigms and Examples

- Steganography Secure against Cover-Stego-Attacks 29
Elke Franz and Andreas Pfitzmann
- Secure Steganographic Methods for Palette Images 47
Jiri Fridrich and Rui Du
- Attacks on Steganographic Systems 61
Andreas Westfeld and Andreas Pfitzmann

Beyond Symmetric Steganography

- Developments in Steganography 77
Joshua R. Smith and Chris Dodge
- An Asymmetric Public Detection Watermarking Technique 88
Teddy Furon and Pierre Duhamel
- Zero Knowledge Watermark Detection 101
Scott Craver

Watermarking: Proving Ownership

- Proving Ownership of Digital Content 117
André Adelsbach, Birgit Pfitzmann and Ahmad-Reza Sadeghi
- Error- and Collusion-Secure Fingerprinting for Digital Data 134
Hans-Jürgen Guth and Birgit Pfitzmann

Watermarking: Detection and Decoding

- Computing the Probability of False Watermark Detection 146
Matt L. Miller and Jeffrey A Bloom
- Optimum Decoding of Non-Additive Full Frame DFT Watermarks 159
*Alessia De Rosa, Mauro Barni, Franco Bartolini, Vito Cappellini
and Alessandro Piva*

Watermark Detection after Quantization Attacks 172
Joachim J. Eggers and Bernd Girod

Content-Based Watermarking for Image Authentication 187
Pedro Lamy, Jose' Martinho, Tiago Rosa and Maria Paula Queluz

Watermarking: Embedding Techniques

Fast Robust Template Matching for Affine Resistant Image Watermarks .. 199
Shelby Pereira and Thierry Pun

A Stochastic Approach to Content Adaptive
 Digital Image Watermarking 211
*Sviatoslav Voloshynovskiy, Alexander Herrigel, Nazanin Baumgaertner
 and Thierry Pun*

Performance Improvement of Spread Spectrum Based
 Image Watermarking Schemes through M-ary Modulation 237
Martin Kutter

Watermarking: New Designs and Applications

On the Design of a Watermarking System: Considerations
 and Rationales 253
Jean-Paul Linnartz, Geert Depovere and Ton Kalker

A Bayesian Approach to Affine Transformation Resistant Image
 and Video Watermarking 270
*Gabriella Csurka, Frédéric Deguillaume, Joseph J. K. Ó Ruanaidh
 and Thierry Pun*

Enhanced Intellectual Property Protection for Digital Circuits
 on Programmable Hardware 286
John Lach, William H. Mangione-Smith and Miodrag Potkonjak

Watermarking: Improving Robustness

Robust Watermarking for Images Based on Color Manipulation 302
*Sebastiano Battiato, Dario Catalano, Giovanni Gallo
 and Rosario Gennaro*

Recovery of Watermarks from Distorted Images 318
Neil F. Johnson, Zoran Duric and Sushil Jajodia

Cocktail Watermarking on Images 333
*Chun-Shien Lu, Hong-Yuan Mark Liao, Shih-Kun Huang
 and Chwen-Jye Sze*

Watermarking and Software Protection

Hiding Signatures in Graph Coloring Solutions	348
<i>Gang Qu and Miodrag Potkonjak</i>	
Robust Object Watermarking: Application to Code	368
<i>Julien P. Stern, Gaël Hachez, François Koeune and Jean-Jacques Quisquater</i>	
Software DisEngineering: Program Hiding Architecture and Experiments ..	379
<i>Enriquillo Valdez and Moti Yung</i>	

The Difficulty of Separating Private and Public Information

Chaffing at the Bit: Thoughts on a Note by Ronald Rivest	395
<i>John McHugh</i>	
An Entropy-Based Framework for Database Inference	405
<i>Ira S. Moskowitz and LiWu Chang</i>	
Covert Information Transmission through the Use of Standard Collision Resolution Algorithms	419
<i>Talat Mert Doğu and Anthony Ephremides</i>	
The Cocaine Auction Protocol: On The Power Of Anonymous Broadcast ..	434
<i>Frank Stajano and Ross Anderson</i>	

Stego-Engineering

Protecting Secret Keys in a Compromised Computational System	448
<i>W. P. R. Mitchell</i>	
StegFS: A Steganographic File System for Linux	463
<i>Andrew D. McDonald and Markus G. Kuhn</i>	
Nonbinary Audio Cryptography	478
<i>Yvo Desmedt, Tri V. Le and Jean-Jacques Quisquater</i>	
Author Index	491