

# IEEE TRANSACTIONS ON INFORMATION THEORY

A Journal Devoted to the Theoretical and Experimental Aspects of Information Transmission, Processing, and Utilization<sup>1</sup>



JULY 2010

VOLUME 56

NUMBER 7

IETTAW

(ISSN 0018-9448)



## PAPERS

### Shannon Theory

S. I. Bross, A. Lapidot, and S. Tinguely  
M. Effros, A. Goldsmith, and Y. (E.) Liang

A. Khisti and G. W. Wornell  
A. D. Sarwate and M. Gastpar  
A. Steiner, A. Sanderovich, and S. S. (Shitz)

R. Timo, K. Blackmore, and L. Hanlen

Y. Yu

Broadcasting Correlated Gaussians	3057
Generalizing Capacity: New Definitions and Capacity Theorems for Composite Channels	3069
Secure Transmission With Multiple Antennas I: The MISOME Wiretap Channel	3088
Rateless Codes for AVC Models	3105
The Multisession Multilayer Broadcast Approach for Two Cooperating Receivers—How Many Sessions Are Required?	3115
Word-Valued Sources: An Ergodic Theorem, an AEP, and the Conservation of Entropy	3139
Squeezing the Arimoto–Blahut Algorithm for Faster Convergence	3149

### Coding Theory and Techniques

A. Barg and A. Mazumdar  
P. Beelen, S. R. Ghorpade, and T. Høholdt  
M. Bogaerts

A. de Oliveira Moura and M. Firer  
S. El Rouayheb, A. Sprintson, and C. Georghiades

Y. Fujiwara and C. J. Colbourn  
M. Gadouleau and Z. Yan  
H. K. Kim, J. Y. Lee, and D. Y. Oh

G. S. Rajan and B. S. Rajan  
C. Schlegel and S. Zhang  
K. W. Shum, W. S. Wong, and C. S. Chen  
A. Tanatmis, S. Ruzika, H. W. Hamacher, M. Punekar, F. Kienle, and N. Wehn  
L. J. García Villalba, J. R. Fuentes Cortez, and M. Blaum

Codes in Permutations and Error Correction for Rank Modulation	3158
Affine Grassmann Codes	3166
Isometries and Construction of Permutation Arrays	3177
Duality for Poset Codes	3180
On the Index Coding Problem and Its Relation to Network Coding and Matroid Theory	3187
A Combinatorial Approach to X-Tolerant Compaction Circuits	3196
Constant-Rank Codes and Their Connection to Constant-Dimension Codes	3207
Optimal Single Deletion Correcting Code of Length Four Over an Alphabet of Even Size	3217
Multigroup ML Decodable Collocated and Distributed Space-Time Block Codes	3221
On the Dynamics of the Error Floor Behavior in (Regular) LDPC Codes	3248
A General Upper Bound on the Size of Constant-Weight Conflict-Avoiding Codes	3265
A Separation Algorithm for Improved LP-Decoding of Linear Block Codes	3277
On the Efficiency of Shortened Cyclic Single-Burst-Correcting Codes	3290

请阅后放回:

排架号 **722** 处

IEEE

<b>Communications</b>		
S. A. Jafar and S. Vishwanath	Generalized Degrees of Freedom of the Symmetric Gaussian $K$ -User Interference Channel	3297
T. T. Kim and M. Skoglund	On the DMT-Optimality of Nondynamic DF Relaying in Asymmetric Nakagami Fading Channels	3304
<b>MIMO Transmission</b>		
V. Aggarwal and A. Sabharwal	Power-Controlled Feedback and Training for Two-Way MIMO Channels	3310
N. Lee, J.-B. Lim, and J. Chun	Degrees of Freedom of the MIMO Y Channel: Signal Space Alignment for Network Coding	3332
K.-K. Leung, C. W. Sung, M. Khabbazián, and M. A. Safari	Optimal Phase Control for Equal-Gain Transmission in MIMO Systems With Scalar Quantization: Complexity and Algorithms	3343
O. Lévéque, C. Vignat, and M. Yüksel	Diversity-Multiplexing Tradeoff for the MIMO Static Half-Duplex Relay	3356
Z. Shi, W. Xu, S. Jin, C. Zhao, and Z. Ding	On Wireless Downlink Scheduling of MIMO Systems With Homogeneous Users	3369
<b>Communication Networks</b>		
M. N. Khormuji and M. Skoglund	On Instantaneous Relaying	3378
B. Sadiq and G. de Veciana	Large Deviations Sum-Queue Optimality of a Radial Sum-Rate Monotone Opportunistic Scheduler	3395
F. Xue and J. Shi	On the Product-Determinant-Sum of Central Wishart Matrices and Its Application to Wireless Networks	3413
<b>Source Coding</b>		
H.-I. Su and A. El Gamal	Distributed Lossy Averaging	3422
N. K. Vereshchagin and P. M. B. Vitányi	Rate Distortion and Denoising of Individual Data Using Kolmogorov Complexity	3438
<b>Quantum Information Theory</b>		
S. P. Desrosiers and F. Dupuis	Quantum Entropic Security and Approximate Quantum Encryption	3455
V. Giovannetti, S. Lloyd, and L. Maccone	Quantum Private Queries: Security Analysis	3465
D. Leung, J. Oppenheim, and A. Winter	Quantum Network Communication—The Butterfly and Beyond	3478
<b>Signal Processing</b>		
Y. Lyubarskii and R. Vershynin	Uncertainty Principles and Vector Quantization	3491
J. Vía, D. Ramírez, and I. Santamaría	Properness and Widely Linear Processing of Quaternion Random Vectors	3502
<b>Compressed Sensing</b>		
T. T. Cai, L. Wang, and G. Xu	Stable Recovery of Sparse Signals and an Oracle Inequality	3516
R. Gribonval and K. Schnass	Dictionary Identification—Sparse Matrix-Factorization via $\ell_1$ -Minimization	3523
J. Wright and Y. Ma	Dense Error Correction Via $\ell^1$ -Minimization	3540
H. Xu, C. Caramanis, and S. Mannor	Robust Regression and Lasso	3561
<b>Detection and Estimation</b>		
W. Greblicki	Nonparametric Input Density-Free Estimation of the Nonlinearity in Wiener Systems	3575
G. N. Karystinos and A. P. Liavas	Efficient Computation of the Binary Vector That Maximizes a Rank-Deficient Quadratic Form	3581
<b>Sequences</b>		
K. Cai, G. Weng, and X. Cheng	Binary Almost-Perfect Sequence Sets	3594
C. Ding, Y. Yang, and X. Tang	Optimal Sets of Frequency Hopping Sequences From Linear Cyclic Codes	3605
M. Sawa	Optical Orthogonal Signature Pattern Codes With Maximum Collision Parameter 2 and Weight 4	3613
<b>Pattern Recognition, Statistical Learning and Inference</b>		
E. R. Rafajłowicz, M. Pawlak, and A. Steland	Nonparametric Sequential Change-Point Detection by a Vertically Trimmed Box Method	3621
<b>Corrections</b>		
X. Guo and X.-G. Xia	Correction to “On Full Diversity Space-Time Block Codes With Partial Interference Cancellation Group Decoding”	3635