

Πιθανά Θέματα Εργασιών (projects)

Σημείωση: Οδηγίες και διευκρινίσεις για τις εργασίες θα δοθούν σε επόμενο φυλλάδιο.

* Network Coding

- R. Ahlswede, N. Cai, S.-Y. R. Li, and R. W. Yeung, "Network information flow," *IEEE Trans. Inf. Theory*, vol. IT-46, pp. 1204–1216, 2000.
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- <http://www.ifp.uiuc.edu/~koetter/NWC/index.html>

* Channel capacity when channel is unknown or partially known

- Amos Lapidoth, and Prakash Narayan, Reliable Communication Under Channel Uncertainty, IEEE TRANSACTIONS ON INFORMATION THEORY, VOL. 44, NO. 6, OCTOBER 1998
- Lapidoth, A. Telatar, I.E., The compound channel capacity of a class of finite-state channels, IEEE Transactions on Information Theory, IT-44(3), pp. 973-983, May 1998
- Medard, M. The Effect upon Channel Capacity in Wireless Communications of Perfect and Imperfect Knowledge of the Channel, Trans. Inf. Theory, IT 46(3), May 2000

* Capacity of fading channels **κ. Τζάνος-Βρυωνάκης**

- Goldsmith & Varaiya, Capacity of Fading Channels with Channel Side Information, Trans. Inf. Theory 43(6), Nov 1997
- Randall Berry, Robert Gallager, Communication Over Fading Channels With Delay Constraints (2002)
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* Capacity of discrete channels with memory

- Βιβλίο Gallager κεφ. 4
- Βιβλίο Ash κεφ. 7

* Relay channel

- T. M. Cover and A. A. El Gamal, "Capacity theorems for the relay channel," *IEEE Trans. Inf. Theory*, vol. IT-25, no. 5, pp. 572-584, Sep. 1979.

* Relay Networks

- A. S. Avestimehr, S. N. Diggavi, and D. N. C. Tse, "Wireless network information flow", under review.
- A. S. Avestimehr, S. N. Diggavi, and D. N. C. Tse, "A deterministic approach to wireless relay networks," under review.
- N. Ratnakar and G. Kramer, "The multicast capacity of deterministic relay networks with no interference," *IEEE Trans. Inf. Theory*, vol. 52, no. 6, pp. 2425–2432, June 2006.
- G. Kramer, M. Gastpar, and P. Gupta, "Cooperative strategies and capacity theorems for relay

networks," *IEEE Trans. Inform. Theory*, Feb. 2004.

- G. Kramer, M. Gastpar, and P. Gupta, "Cooperative strategies and capacity theorems for relay networks", *IEEE Transactions on Information Theory*, 51(9):3037-3063, September 2005.

* Cognitive radio

- J. Mitola, III and G. Q. Maguire, Jr., "Cognitive radio: Making software radios more personal," *IEEE Personal Comm*, vol. 6, pp. 13–18, Aug. 1999.

- N. Devroye, P. Mitran, and V. Tarokh, "Achievable rates in cognitive radio channels," *IEEE Trans. Inf. Theory*, vol. IT-52, pp. 1813–1827, May 2006.

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* Capacity of wireless ad-hoc networks

- P. Gupta and P.R. Kumar, The Capacity of Wireless Networks, *IEEE Transactions on Information Theory*, 46(2):388–404, March 2000

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* MIMO Capacity

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- A. Goldsmith, S. Jafar, N. Jindal, and S. Vishwanath, "Fundamental Capacity of MIMO Channels," *IEEE Journal on Selected Areas in Communications, Special Issue on MIMO systems*, 2003.

* Capacity Calculation for Discrete Memoryless Channels

- S. Arimoto, An algorithm for calculating the capacity of an arbitrary discrete memoryless channel, *IEEE Trans. Inf. Theory*, IT-18:14-20, 1972

- Gallager 4.5

* Duality between MAC and BC

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* Channel Capacity per unit cost

- S.Verdu, On Channel Capacity per unit cost, IEEE Trans. Inf. Theory IT-36(5) Sep 1990.

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* Quantum Information Theory **κ. Μπερδεμπές**