

PHYSICS OF INFORMATION

Department

Department E

Main Team Members

- Aris Moustakas, Assistant Professor
- Dr. Panagiotis Mertikopoulos, Visiting researcher
- Spyridon Evangelatos, PhD candidate
- Apostolos Karadimitrakis, PhD candidate
- Lefteris Lampiris, MSc student
- Theodoros Karagioules, MSc student
- Vasilios Anagiannis, Graduate student

Short Description

Statistical physics, Random matrix theory and information theory with applications on telecommunications. Information transmission in optical fiber, detection of multiple sources in wireless sensor networks.

Selected Publications

- A Karadimitrakis, AL Moustakas, PP Vivo, "Outage Capacity for the Optical MIMO Channel", *IEEE Transactions on Information Theory*, vol.60, no.7, July 2014
- P Mertikopoulos, EV Belmega, AL Moustakas, S Lasaulce, "Distributed Learning Policies for Power Allocation in Multiple Access Channels", *IEEE Journal on Selected Areas in Communications*, vol.30, no.1, pp.96,106, January 2012
- B. M. Zaidel, R. R. Muller, A. L. Moustakas and R. deMiguel, "Vector Precoding for Gaussian MIMO Broadcast Channels: Impact of Replica Symmetry Breaking", *IEEE Trans. on Inform. Theory*, vol. 58, no 3, pp. 1413-1440, 2012.
- P. Kazakopoulos, P. Mertikopoulos, A. L. Moustakas and G. Caire, "Living on the edge: A large deviations approach to the outage MIMO capacity", *IEEE Trans. Inform. Theory*, vol. 57, no 4, 1984-2007, April 2011.
- P. Kazakopoulos and A. L. Moustakas, "Nonlinear Schroedinger equation with random Gaussian input: Distribution of inverse scattering data and eigenvalues", *Phys. Rev. E*, vol. 78, no 016603, Jul. 2008.

Research Projects

- CROWN, <http://crown-thales.uth.gr/>
- NEWCOM#, <http://www.newcom-project.eu/>
- SWINCOM, <http://excellence.minedu.gov.gr/thales/el/thalesprojects/380202>
- ASAPGONE, <http://www.digiteo.fr/chaieres-actuelles>