

TSKS13 WIRELESS COMMUNICATIONS

VT117

Information about the project work

A compulsory moment in the course "Wireless Communications" is a conduction of a project work. The purpose of this work is twofold. The first is to train the future engineers with relatively small amount of steering, retrieve information from some research paper within a radio communication related topic and summarize this in a written report. The second purpose is to gain some more experience on giving an oral presentation and on summarizing the project work under some time limitations. Besides, the work should give deeper insights in some radio communication area.

In other words, the project work involves reading and analyzing of a research paper and some of the references therein in the field of wireless communications as well as written and oral presentation of them. The projects are performed individually.

The project work includes:

1. Choice of a research paper
2. Search for most relevant references
3. Reading of the chosen papers
4. Writing of a report about the topic
5. An oral presentation of the work (10 - 15 min)

The project work is compulsory. Well performed project gives extra credits for the written examination. The number of extra credits is up to 4 depending on the quality of the written report and the oral presentation.

List of the research papers:

1. Jing Ma; Ying Jun Zhang; Xin Su; Yan Yao; , "On capacity of wireless ad hoc networks with MIMO MMSE receivers," *Wireless Communications, IEEE Transactions on* , vol.7, no.12, pp.5493-5503, December 2008
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2. Pham, T.D.; , "Statistical behavior and performance of adaptive antennas in multipath environments," *Microwave Theory and Techniques, IEEE Transactions on* , vol.47, no.6, pp.727-731, Jun 1999

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3. Ahmad A. Farhoodi; Mehrzad Biguesh; , "ML Detection in MIMO Communication Systems with Imperfect Channel Knowledge," *Signal Processing and Information Technology, 2006 IEEE International Symposium on* , vol., no., pp.745-748, Aug. 2006
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4. Taniguchi, T.; Kitagawa, J.; Karasawa, Y.; , "Wireless baseband transmission MIMO communication system," *Circuits and Systems for Communications, 2008. ECCSC 2008. 4th European Conference on* , vol., no., pp.256-259, 10-11 July 2008
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5. Jiang Xuehua; Chen Peijiang; , "Research and Simulation of MIMO-OFDM Wireless Communication System," *Information Technology and Applications, 2009. IFITA '09. International Forum on* , vol.1, no., pp.83-86, 15-17 May 2009
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6. Rao, R.M.; Lang, S.; Daneshrad, B.; , "Field Measurements with a 5.25 GHz Broadband MIMO-OFDM Communication System," *Wireless Communications, IEEE Transactions on* , vol.6, no.8, pp.2848-2859, August 2007
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8. Ji Li; Conan, J.; Pierre, S.; , "Mobile Station Location Estimation for MIMO Communication Systems," *Wireless Communication Systems, 2006. ISWCS '06. 3rd International Symposium on* , vol., no., pp.561-564, 6-8 Sept. 2006
doi: 10.1109/ISWCS.2006.4362361
URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4362361&isnumber=4362243>
9. Lozhkin, A.N.; , "Iterative (Turbo) and "Single-Shot" Receivers for MIMO Communication Systems: Comparative Analysis," *Vehicular Technology Conference, 2006. VTC-2006 Fall. 2006 IEEE 64th* , vol., no., pp.1-5, 25-28 Sept. 2006
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10. Rodriguez, J.-V.; Martinez, S.G.; Garca-Pardo, C.; Molina-Garcia-Pardo, J.-M.; Juan-Llacer, L.; , "Comparison of Various Urban Radiowave Propagation Models With Measurements," *Antennas and Wireless Propagation Letters, IEEE* , vol.8, no., pp.977-980, 2009
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