Milestone Report

Student ID: s0395005

Student Name: Supawan Annanab

Home University name: King Mongkut's Institute of Technology, Ladkrabang.

Title of research topic: Multipath Fading Reduction by Multiple Input Multiple Output in ITS Vehicle-to-Vehicle Communications

Keywords: ITS; diversity techniques; space time block coding

Objectives of Project: To evaluate the effective of multiple input multiple output for degradation of multipath in ITS.

Future goals and potential contributions: I will send the paper to the conference which is held on March. I must to finish all of the simulation and write the paper. I did the simulation and got the good results but it need to be improve by changing the modulation. First I used BPSK but now I am trying to develop by using DBPSK. I need to study about DBPSK and define the parameter for simulation. Then I will revise and write the paper send to the conference. Finally I will prepare for presentation.

Approaches & Methodology

1. Review of the theoretical fundamentals.
2. Definition of parameters to use in the models.
3. Development of algorithms.
4. Simulation of the models
5. Evaluation of the performance
6. Analysis the results
7. Writing the thesis

Plan

Month	Early	Middle	End
December	-	study about DQPSK	Definite DQPSK parameters
January	Simulating the program	Developing the program	Examine the results
February	Revising knowledgement	writing the paper	Preparing presentation

Status

I am studying on DQPSK and trying to define the parameters for simulation.

Reference

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2 .Karasawa Y, “Multipath Fading due to road surface reflection and fading reduction by means of space diversity in ITS vehicle to vehicle communications at 60 GHz” Electronics and communications in Japan, Part 1, Vol.85, No. 1, 2002

3. J.B.Anderson, “Array Gain and Capacity for Known Random Channels with Multi Element Arrays at the Both Ends,” IEEE J. Select Areas Commun.,vol.18,no.11,pp.2172-2178,November 2000.

4. Wireless Communications, Theodore S. Rappaport, Prentice Hall 1st edition.

5. Siavash M. Alamouti ,”A Simple Transmit Diversity Technique for Wireless Communications,” IEEE J. Select. Areas. Commun., vol. 16, pp.1451-1458 ,October 1998.