IAA - Practical Project Proposal

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Abstract

The main objective of this Practical Project is extend and validate the propositions of the chosen paper for the Seminar.
Obtaining a constant approximation to the Multi-Rate Scheduling Problem through fast and simple algorithms (gWIS, orientWIS and orderWIS) designed under the protocol interference model to solve the Maximum-Weighted Independent Set of Links Problem

I. Introduction

[3]

II. Practical Project Tasks

This project are divided in two parts: one analytical and other experimental.

III. Objectives

The map described could be an improvement on theory. And maybe publishable.

A. Analytical

Into this part, the main task is the mapping of the Multi-Rate Scheduling [1] into a kind of input to the algorithms described at [2].

This map must preserve the approximation guaratees.

B. Experimental

Simulations will be made to verify and compare the three algorithms: **gWIS**, **orderWIS** and **orientWIS**.

References

[1] Olga Goussevskaia et al, *Wireless Multi-Rate Scheduling: From Physical Interference to Disk Graphs*, 3rd ed. Harlow, England: Addison-Wesley, 1999.

[2] Peng-Jun Wan et al, *Fast and Simple Approximation Algorithms for Maximum Weighted Independet Set of Links*, IEEE INFOCOM 2014 - IEEE Conference on Computer Communications.

[3] Manasses Ferreira, *Multi-Rate Scheduling*, GitHub Repository, https://github.com/mfer/mrs.git