



TEACHING ELECTROMAGNETISM BY IMAGES SIMULATIONS IN THE TELECOMMUNICATIONS TECHNICAL COURSE

Prof. Marco Antonio Gomes Teixeira da Silva
Fluminense Federal Institute
marcoagts@gmail.com

Prof. Dr. Suzana da Hora Macedo
Fluminense Federal Institute
shmacedo@iff.edu.br

Prof. Msc. Evanildo dos Santos Leite
Fluminense Federal Institute
eleite.iff@gmail.com

Abstract

Electromagnetism teaching is developed based on vector calculations studied in university courses. However, electromagnetism is also a high school theme and it is an important issue in technical courses in which calculations of electromagnetism's laws are not in the curriculum. The purpose of this research is the electromagnetism teaching-learning process using animated visual interfaces, allowing the introduction of visual algebra concepts in Telecommunications technical course. Using the theory to provide the Meaningful Learning through computational resources, a methodology using simple application software was developed. The Learning Object was created and the learning was analyzed by questionnaires. It was verified that the interface provided to the students to identify the relation of electromagnetic spectrum compared with real devices operation brought advantages.

Keywords: Electromagnetism. Meaningful learning. Learning Object.