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Facultad de Ingeniería Mecánica Automotriz

Artículo Investigación Para la obtención del Título de Ingeniería en

Mecánica Automotriz

Simulación Dinámica de Conducción Eficiente

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ABSTRACT

Introduction: The project was carried out with the purpose of determining factors and scenarios to obtain the greatest amount of efficient drivers and reduce the number of aggressive drivers, thereby seeking to reduce possible road risks, reduce vehicle emissions, pollution auditory that they possess, this seeks to obtain an environmental and economic impact.

Materials and methods: The article was carried out, based on the identification of a general population number or sample in which aggressive and efficient drivers are found, taking into account these values a mathematical model of dynamic simulation in the software was developed Vensim® [9], where tests were performed modifying the different variables present during the investigation to achieve the stable simulation model. Which allows us to demonstrate with the results the graphs of a stable model and an efficient model showing a greater number of efficient conductors and a higher contact coefficient.

Results Analysis: The results show the difference between variables and actors of aggressive and efficient drivers is influenced by the initial number of efficient drivers. Efficient driving, not only depends on the engine operating parameters; as well as the geographical condition where a vehicle is driven. The simulation, focused on efficient driving, allows to obtain the interaction between variables and actors that determine this type of driving.

Conclusions: Using the data, it is concluded that if the results of the research are optimized, in a controlled sample the fulfillment of the objectives will be in a shorter time with a much greater impact on the society in which the simulation is applied dynamic.

Keywords: dynamic simulation, efficient driving, aggressive driving, fuel consumption, polluting emissions