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DIMENSIONAL ANALYSIS OF A BUS STRUCTURE

¹Díaz, V., ¹Gauchía, A., *Olmeda, E., ¹Boada, M.J.L., ¹Boada, B.L.

¹Research Institute of Vehicle Safety (ISVA), Mechanical Engineering Department, Carlos III University, Spain

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ABSTRACT - Nowadays, design and experimental testing in bus structures are needed to verify regulations as established for bus approval. However, experimental testing of these types of vehicles can be very expensive due to the required installations and also due to some of the destructive approval tests. One of the techniques used to reduce the number of tests in a real vehicle is the usage of the finite element method. However, the finite element models (FEM) have to be validated by experimental tests. Therefore, in this investigation a dimensional analysis is proposed to evaluate the bus structure behavior by means of a bus scale model and, therefore, avoiding to carry out experimental testing on the real bus structure.