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A United Nations Safety Compliant Urban Vehicle Design

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Abstract : Pedestrians are the fourth group among road traffic users that most suffer accidents. Their death rate is even higher than the motorcyclists group. This gives motivation for the development of an urban vehicle capable of complying with the United Nations Economic Commission for Europe pedestrian regulations. The conceptual vehicle is capable of transporting two passengers and small parcels for 100 km at a maximum speed of 90 km/h. This paper presents the design of this vehicle using the finite element method specially in connection with frontal crash test and car to pedestrian collision. The simulation is based in a human body FE.

Keywords : electric urban vehicle, finite element method, global human body model, pedestrian safety, road safety
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