

ABSTRACT

Vehicle-pedestrian collision is one of the most frequent and most severe types of road accidents. Many models, both theoretical and empirical, have been developed over the last thirty years to reconstruct this type of impact, but not all of them yield accurate results, with a spread averaging about ± 10 km/h. Many multibody software systems have been developed as well. They are very accurate and, when all of the parameters required by the software are available, are the best way to reconstruct the collision. However, full knowledge of the precise dynamics of pedestrian motion throughout the trajectory is not necessary. For a court expert, the data on conditions of pre-impact, impact and rest position are usually sufficient to make an adequate survey. The fuzzy approach presented in this paper is used to calculate the velocity of the impacting vehicle, considering the main parameters, all collectable on the scene of the accident, with a precision of about 3 km/h. Accordingly, this methodology represents a suitable tool for the purpose of accident reconstruction.