عنوان مقاله:

Development of a New Finite Element Model for EEVC WG17 Legform Impactor

محل انتشار:

شانزدهمین کنفرانس سالانه بین المللی مهندسی مکانیک (سال: 1387)

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نویسندگان:

Alireza Noorpoor - *Assistant professor Department of Automotive Engineering University of Science and Technology*

Akbar Abvabi - *M.S Student Department of Automotive Engineering University of Science and Technology*

Mehdi Saeed Kiasat - *Assistant professor Faculty of Marine Technology Amirkabir University of Technology*

خلاصه مقاله:

Development, calibration and validation of a threedimensional finite element model of the Legform impactor for pedestrian crash with bumper are presented. In orde r to prevent lower extremity injuries to a pedestrian when struck by a car, it is important to elucidate the loadi ngs from car front structures on the l wer extremities and the injury mechanism caused by these loadings. An impact test procedure with a legform addressing lower limb injuries in car pedestrian accidents has been proposed by EEVC/WG17. Lower limb injury is becoming an increasingly important concern in vehicle safety for both occupants and pedestrians. A finite element model of the human lower limb was developed using Ls- dyna. Total mass of legform impactor is 13.4 kg .The technical specifications, including the mass of femur and tibia, the location of the centre of gravity, moment of inertia of the impactors, are determined. The results .show that the technical specifications of the legform impactor fulfilled the EEVC-WG17 requirements

کلمات کلیدی:

Legform impactor, Pedestrian safety, Finite element model, Knee joint