The Analysis of Numerical Simulation on Frontal Impact Crashes

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ABSTRACT

The purpose of this study is to evidence each part of front dummy by using LS-DYNA finite element code, and compares the analyzed results with the documentations. The principal of this study is exploring the dynamic response of dummy in the car that has a front accident and the key of impacts are between chest and wheel, head and windshield, knee and dashboard. Besides, in order to find a reliable information for getting the less injury and designing effective protect equipments, for example: steering column, airbag etc. According to the procedure of sled and vehicle impact to process the simulation of analysis by FMVSS 208 and calculate the injury and AIS of head (HIC), chest (SI), pelvis (ares)max to explore the dynamic response and injury of each part of dummy in impact. The results of this study will be referential in establishing future vehicle safety laws and guiding the future development of safety technologies.

Keywords : LS-DYNA3D, Front Impact, Dummy, Human Injury

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