عنوان مقاله:

Investigation The Effect Of Using Thin Walled Tubes In High Speed Train For Improving Collision Energy Absorption By LS DYNA-3D Software

محل انتشار:

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خلاصه مقاله:

The purpose of this paper is investigating the effect and influence rates of utilizing thin walled energy absorption tubes for improving crashworthiness parameter by increasing energy absorption of the body in high speed railcars. In order to find this, a proper profile of available tubes is chosen and added to the structure of selected high speed train in Iranian railway network (Pardis Trainset) and then examined in the scenario of impact with other moving rolling stock. Because of the specific features of LS-DYNA 3D software at collision analysis, the dynamic simulation has been performed in LS-DYNA 3D. The results of the analysis clearly indicate the improvement of train crashworthiness as the energy absorption of structure increases more than 30 percent in comparison with the original body. This strategy delays and reduces the shock to the structure. The verification of the simulation is by using ECE R66 standard.

کلمات کلیدی:

Crashworthiness, Thin walled tube, High Speed Train, Dynamic Simulation, LS-DYNA 3D, Modern Technology

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