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Numerical Simulation of Truck Collision with Road Blocker

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Abstract : In this study, the crash of a medium heavy vehicle onto a designed Road blocker (vehicle barrier) is studied numerically. Structural integrity of the Road blocker is studied by nonlinear dynamic methods under the loading conditions which are defined in the standards. NASTRAN® and LS-DYNA® which are commercial software are used to solve the problem. Outer geometry determination, alignment of the inner part and material properties of the road blocker are studied linearly to yield design parameters. Best design parameters are determined to achieve the most structurally optimized road blocker. Strain and stress values of the vehicle barrier are obtained by solving the partial differential equations.

Keywords : vehicle barrier, truck collision, road blocker, crash analysis
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