

Abstract Details

Title: Design of a Two Post ROPS Structure through FEA OPEC Standard (Code-4)

Authors: Mohammad Shariq and Amit Kumar

Abstract: The aim is to design and analyze a safety device for Tractors i.e. a rear mounted two post Roll over Protective Structure, (ROPS) thru FEA as per the OECD (Organization for Economic Co-operation and Development) - (Code-4). A two post Rops structure is modeled thru Pro-e with rectangular cross section for a given material. This Rops structure is analyzed thru FEA for roll over conditions. Implicit technique is applied for solving the FE model. Material non linearity is considered for capturing plastic behavior of the structure. Internal energy v/s Displacement curve is plotted to estimate the energy absorbed while applying load or enforced displacement thru the ground line. Deformed structure is checked for any intrusion with the zone of clearance as per standard.

Keywords: OPEC standard (Code-4), FEA Analysis, ROPS, Tractor Safety.