



SELECTION OF PARAMETERS FOR OFFSET CRASH ANALYSIS USING DESIGN OF EXPERIMENT

Author(s): **Muhammad Sohail Ahmed**

Volume: **1**

No: **4**

Pages: **23-32**

Date: **January & July 1996**

Abstract:

This paper describes the parameters that influence the offset crash. A study is conducted on eleven different design parameters using one of the classical Design of Experiment (DOE) technique, fractional factorial method. Finite element simulation for full and offset crash is performed on different experiment runs. A reduced number of parameters that show significant affect on full and offset crash are discussed and their limits established.

This paper discusses the relationship between the offset crash and the full barrier, in order to achieve Offset mean crash load closer to Full mean crash load, for the same structural architect:. The parameters shown to influence the design are: thickness of rails, thickness of front cross member, thickness of rear cross member and the front cross member height. The paper also discusses the important parameters that influence them. Mathematical models for Offset and Full crash load are developed and verified using multivariate analysis.

For more information, contact:

Prof Muhammad Masood Rafi

Editor, NED University Journal of Research

Ph: +92 (21) 9261261-8 Ext:2277; Fax: +92 (21) 9261255

Email: NED-Journal@neduet.edu.pk

Website: <http://www.neduet.edu.pk/NED-Journal>