

The analysis of kinematic parameters of the vehicle occupants on impact with a rigid barrier

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Abstract

This paper studies the kinematic parameters of the vehicle occupants in case of a frontal impact between a vehicle and a concrete barrier. The main objective is to determine the head and thorax acceleration of vehicle occupants during the impact with a rigid barrier. To achieve the scope of the study a frontal damping system was used.

Keywords: frontal impact, occupants safety, frontal damping

References

1. Todorut A 2008 *Dinamica accidentelor de circulatie (UT. Press Cluj-Napoca chapter 1)* 12
[Go to reference in article](#)
[Google Scholar](#)
2. Zuchowski A and Jackowski J 2011 *Analysis of properties of operation of the supporting equipment for the seat belts Journal of Kones* **18** 697-704
[Go to reference in article](#)
[Google Scholar](#)
3. Gaiginschi R 2009 *Reconstruct si expertiza accidentelor rutiere (Editura tehnica Bucuresti chapter 2)* 75-86
[Go to reference in article](#)
[Google Scholar](#)
4. Ilie S 2012 *Modelarea fenomenelor de impact ale autovehiculelor (Editura Agir Bucuresti chapter 2)* 66-74
[Go to reference in article](#)
[Google Scholar](#)
5. Cavanaugh J M and Yoganandan N 2015 *Accidental Injury: Biomechanics and Prevention (New York: Springer) Thorax injury biomechanics* 331-372
[Go to reference in article](#)
[Google Scholar](#)