

ON THE METHOD OF DETERMINING SAFETY CRITERIA AGAINST ROLLING STOCK DERAILMENT

Dobrinka Atmadzhova, PhD,
University of Transport (VTU Todor Kableshkov), Sofia, BULGARIA atmadzhova@abv.bg

Abstract: *The international regulations used to assess the dynamic behaviour of railway vehicles – UIC code 518 and EN 14363 – define a set of testing conditions. Under these regulations, the so-called normal method of assessing the movement safety is based on the measurement of forces Y_1 (horizontal-crosswise) and Q_1 (vertical) of the attacking wheel-rail contact. The so-called “nominal criterion” with participation of a horizontal nominal force called “frame” or “axial” is introduced as an initial (given) real criterion. The “frame”/“axial” force is transmitted between the axle and frame and the vertical force representing the resultant force at the contact point of attacking wheel. The vertical load on the two wheels of a wheel-axle and the geometric position of nominal force are taken into consideration. The introduction of Q_2/Q_1 as a diagnostic parameter in the system leads to improvement.*

Key words: *Railway vehicles, rolling stock, derailment, safety criteria against derailment.*