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Railway applications — Calculation of braking performance (stopping, slowing and stationary braking) —

Part 2: General algorithms utilizing step by step calculation

Applications ferroviaires — Calcul des performances de freinage (freinage d'arrêt, de ralentissement et d'immobilisation) —

Partie 2: Algorithmes généraux utilisant le calcul pas à pas

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Foreword

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This document was prepared by Technical Committee ISO/TC 269, *Railway applications*, Subcommittee SC 2, *Rolling stock*.

A list of all parts in the ISO 20138 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document describes methodologies for calculation of braking performance such as stopping distance, deceleration, power and energy for railway rolling stock.

The objective of this document is to enable the railway industry and operators to work with common calculation methods.

The ISO 20138 series consists of two parts (ISO 20138-1 and this document) which complement each other.

This document describes the step by step calculation methods for railway applications applicable to all countries. In addition, the algorithms provide a means of comparing the results of other braking performance calculation methods.

The methodology of step by step calculation is based on numerical time integration.

The step by step calculation method cannot be used for stationary braking. This document considers an example for stationary braking of a multiple unit in accordance with ISO 20138-1.

When calculating stopping and slowing distances using the step by step calculation method, it is intended that both ISO 20138-1 and this document be considered.