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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32591-2016

**Railway applications -- Current collection systems -- Validation
of simulation of the dynamic interaction between pantograph
and overhead contact line**

轨道交通 受流系统 受电弓与接触网动态相互作用仿真的验证

(English Translation)

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed by the National Railway Administration.

This standard is nationalized by the National Technical Committee for Traction Electrical Equipment and Systems (SAC/TC278).

The main drafting unit of this standard. China Railway Fourth Survey and Design Institute Group Co., Ltd.

This standard participates in the drafting unit. CSR Zhuzhou Electric Locomotive Co., Ltd., China Railway Electrification Survey and Design Institute Co., Ltd., China Railway Institute of Locomotive and Rolling from the Institute of Scientific Research, China Railway Fifth Survey and Design Institute Group Co., Ltd., China North Vehicle Group Datong Electric Locomotive Co., Ltd.

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1 Scope

This standard specifies the functional requirements for the following simulation models that assess the performance of the pantograph and catenary.

--- input and output parameters;

- the reference standard value for evaluating the results of the simulation method;

Comparison of test results;

Comparison between simulation methods.

This standard is applicable to the rail vehicle flow system which is in contact with the overhead contact net by the pantograph and is not suitable for rigid overhead contact systems and trolleybus system.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 21561.1-2008 Rail Transit Locomotive Vehicles Pantograph Characteristics and Tests Part 1. Trunk Locomotive Vehicles Received Bow (IEC 60494-1.:2002, IDT) GB/T 32592-2016 Requirements and Verification of Dynamic Interactions between Pantograph and Catenary in Rail Transit System

3 Terms and definitions

The following terms and definitions apply to this document.

Contact point

Skateboard and contact line between the mechanical contact point.

Contact force

The vertical force applied by the pantograph to the overhead contact is the sum of all the contact points.

Static force

Under the action of the pantograph boom device, the bow is applied upwardly to the vertical force on the contact line. At the same time the pantograph rises the locomotive is still.

[GB/T 21561.1-2008, definition 3.3.5] 3.4 Aerodynamic force an additional vertical force acting on the pantograph due to the air flow around the pantograph.

Average contact strength meanvalueofcontactforce F_m the arithmetic mean of the contact force.