

ANSI S2.1-2000
ISO 2041:1990

AMERICAN NATIONAL STANDARD

Vibration and shock—Vocabulary

(A Nationally Adopted International Standard)

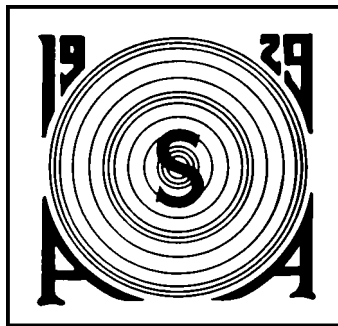
NAIS STANDARD
ANSI S2.1-2000
ISO 2041:1990

Accredited Standards Committee S2, Mechanical Vibration and Shock

Standards Secretariat
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Vibration and Shock—Vocabulary

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Secretariat

Acoustical Society of America (ASA)

Approved July 28, 2000

American National Standards Institute, Inc. (ANSI)

Abstract

This International Standard defines terms, in English and French, relating to vibration and shock. An alphabetical index is provided for each of the two languages.

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Foreword

[This Foreword is not part of the Nationally Adopted International Standard (NAIS), *Vibration and Shock—Vocabulary, ANSI S2.1-2000, ISO 2041:1990*.]

This Nationally Adopted International Standard (NAIS) comprises a part of a group of definitions, standards, and specifications for use in acoustical work. It has been adopted by the American National Standards Institute utilizing the Accredited Standards Committee Procedure, under the Secretariat of the Acoustical Society of America.

Accredited Standards Committee S2, Mechanical Vibration and Shock, under whose jurisdiction this NAIS Standard was adopted, has the following scope:

Standards, specification, methods of measurement and test, and terminology in the field of mechanical vibration and shock, and condition monitoring and diagnostics of machines, but excluding those aspects which pertain to biological safety, tolerance and comfort.

This standard is in harmony with International Standard ISO 2041:1990 *Vibration and Shock—Vocabulary*, which was developed by Working Group 1 of Technical Committee 108/ of the International Organization for Standardization (ISO/TC 108/WG 1).

At the time this NAIS Standard was submitted to Accredited Standards Committee S2, Mechanical Vibration and Shock, for final approval, the membership was as follows:

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Individual Experts of Accredited Standards Committee S12, Noise, were:

P. K. Baade
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D. L. Johnson

Suggestions for improvement of this NAIS Standard will be welcomed. Send suggestions for improvement to Accredited Standards Committee S12, Noise, in care of the ASA Standards Secretariat, 120 Wall Street, 32nd floor, New York, New York 10005-3993, USA. Telephone: +1 212 248 0373; FAX: +1 212 248 0146.

Vibration and shock — Vocabulary

Scope

This International Standard defines terms, in English and French, relating to vibration and shock. An alphabetical index is provided for each of the two languages.

1 General

1.1 displacement; relative displacement: A vector quantity that specifies the change of position of a body, or particle, with respect to a reference frame.

NOTES

1 The reference frame is usually a set of axes at a mean position or a position of rest. In general, the displacement can be represented by a rotation vector, a translation vector, or both.

2 A displacement is designated as **relative displacement** if it is measured with respect to a reference frame other than the primary reference frame designated in the given case. The **relative displacement** between two points is the vector difference between the displacements of the two points.

1.2 velocity; relative velocity: A vector that specifies the time-derivative of displacement.

NOTES

1 The reference frame is usually a set of axes at a mean position or a position of rest. In general, the velocity can be represented by a rotation vector, a translation vector, or both.

2 A velocity is designated as **relative velocity** if it is measured with respect to a reference frame other than the primary reference frame designated in a given case. The **relative velocity** between two points is the vector difference between the velocities of the two points.

1.3 acceleration: A vector that specifies the time-derivative of velocity.

NOTES

1 The reference frame is usually a set of axes at a mean position or a position of rest. In general, the acceleration can be represented by a rotation vector, a translation vector, or both.

2 An acceleration is designated as **relative acceleration** if it is measured with respect to a reference frame other than the inertial reference frame designated in a given case. The **relative acceleration** between two points is the vector difference between the accelerations of the two points.

Vibrations et chocs — Vocabulaire

Domaine d'application

La présente Norme internationale définit, en anglais et en français, les termes relatifs aux vibrations et aux chocs. Un index alphabétique est donné dans les deux langues.

1 Généralités

1.1 déplacement; déplacement relatif: Grandeur vectorielle qui définit le changement de position d'un corps ou d'un point matériel par rapport à un système de référence.

NOTES

1 Le système de référence est habituellement un système d'axes se rapportant à une position moyenne ou à une position de repos. En général, le déplacement peut être représenté par un vecteur rotation, un vecteur translation ou les deux.

2 Un déplacement est dit **déplacement relatif** s'il est mesuré par rapport à un système de référence autre que le système de référence absolu que l'on a choisi. Le **déplacement relatif** entre deux points est la différence vectorielle entre les déplacements de ces deux points.

1.2 vitesse; vitesse relative: Vecteur qui représente la dérivée du déplacement par rapport au temps.

NOTES

1 Le système de référence est habituellement un système d'axes se rapportant à une position moyenne ou à une position de repos. En général, la vitesse peut être représentée par un vecteur rotation, un vecteur translation ou les deux.

2 Une vitesse est dite **vitesse relative**, si elle est mesurée dans un système de référence autre que le système de référence absolu que l'on a choisi. La **vitesse relative** entre deux points est la différence vectorielle entre les vitesses de ces deux points.

1.3 accélération: Vecteur qui représente la dérivée d'une vitesse par rapport au temps.

NOTES

1 Le système de référence est habituellement un système d'axes se rapportant à une position moyenne ou à une position de repos. En général, l'accélération peut être représentée par un vecteur rotation, un vecteur translation ou les deux.

2 Une accélération est dite **accélération relative** si elle est mesurée par rapport à un système de référence autre que le système de référence d'inertie que l'on a choisi. L'**accélération relative** entre deux points est la différence vectorielle entre les accélérations de ces deux points.