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Foreword

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This document was prepared by Technical Committee ISO/TC 108, *Mechanical vibration, shock and condition monitoring*.

This fourth edition cancels and replaces the third edition (ISO 2041:2009), which has been technically revised.

The main changes compared to the previous edition are as follows:

— changes in format to conform to the ISO/IEC Directives, Part 2: 2018;

— correction of the formula in 3.1.58 (2.1.58 in the previous edition);

— addition of Figure 4 and Figure 5.

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Mechanical vibration, shock and condition monitoring — Vocabulary

1 Scope

This document defines terms and expressions unique to the areas of mechanical vibration, shock and condition monitoring.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 General terms

3.1.1
displacement
relative displacement
⟨vibration and shock⟩ time varying quantity that specifies the change in position of a point on a body with respect to a reference frame

Note 1 to entry: The reference frame is usually a set of axes within which a set of coordinates defines the change in position of a point on a body. In general, a rotation displacement vector, a translation displacement vector, or both can represent the displacement.

Note 2 to entry: A displacement is designated as a relative displacement if it is measured with respect to a reference frame other than the primary reference frame designated in a given case.

Note 3 to entry: Displacement can be:

— oscillatory, in which case simple harmonic components can be defined by the displacement amplitude (and frequency), or

— random, in which case the root-mean-square (rms) displacement (and band-width and probability density distribution) can be used to define the probability that the displacement will have values within any given range.

Note 4 to entry: Displacements of short time are defined as transient displacements. Non-oscillatory displacements are defined as sustained displacements, if of long duration, or as displacement pulses, if of short duration.

3.1.2
velocity
relative velocity
⟨vibration and shock⟩ rate of change of displacement

Note 1 to entry: In general, velocity is time-dependent.

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