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

GB/T 19531.1-2026

Replacing GB/T 19531.1-2004

**Technical requirements for the observation environment of
seismic stations - Part 1: Seismometry**

地震台站观测环境技术要求 第1部分：测震

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 1 of GB/T 19531 "Technical Requirements for Seismic Station Observation Environment". GB/T 19531 has published the following... part.

1.Seismic Measurement;

2.Electromagnetic Observations;

3.Observation of Crustal Deformation;

4.Subsurface Fluid Observation. This document replaces GB/T 19531.1-2004 "Technical Requirements for Seismic Station Observation Environment - Part

1.Seismometry", and is consistent with GB/T 19531.1- Compared to.2004, aside from structural adjustments and editorial changes, the main technical changes are as follows:

a) The definitions of "ground noise" and "ground noise level" have been changed (see 3.1, 3.2, and

3.1.2 in the.2004 edition);

b) Wave interference sources were removed; the minimum distance between the seismometer placement location and the wave interference source is shown in Table 1 of the.2004 edition.

c) New types of interference sources have been added, and the minimum distance between the seismometer placement location and the wind farm interference source is specified in

Table 1.

- d) The attenuation relationship of ground noise level with depth was added (see Chapter 7);
- e) The method for calculating environmental noise levels has been changed (see Appendix A, 4.1 of the 2004 edition, Appendix A);

1 Scope

GB/T 19531.1-2026 is the Chinese national standard covering protecting a seismometer from everything that is not an earthquake - the distances required from roads, railways, quarries, industry and wind-shaken trees, and the vault and thermal conditions the instrument sits in. A station's usefulness is decided by its noise floor, and its noise floor is decided by what is built near it. It replaces GB/T 19531.1-2004 and has been in force since 1 May 2026. It was issued on 28 January 2026 and has been in force since 1 May 2026, replacing GB/T 19531.1-2004. The document is under the responsibility of the China Earthquake Administration. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the technical specifications for the seismic observation environment of seismic stations, as well as the minimum distance between the seismometer placement location and major sources of interference. The requirements are specified, and the corresponding testing and calculation methods are described. This document applies to the site selection and protection of the observation environment for seismic stations (ground velocity observation).

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 18207 (all parts) Terminology for Earthquake Prevention and Disaster Reduction

GB/T 29716.1-2013 Mechanical Vibration and Shock Signal Processing Part

3 Terms and Definitions

The terms and definitions defined in GB/T 18207 (all parts) and the following terms and definitions apply to this document.

3.1 ground noise Ground vibrations caused by non-earthquake sources.

3.2 ground noise level The root mean square value of the power spectral density of the ground noise (3.1) velocity record in the frequency band of

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