

ICS 17.140

CCS A 59



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

GB/T 25079-2010

**Acoustics -- Application of new measurement methods in
building and room acoustics -- MLS and SS methods**

声学 建筑声学和室内声学中新测量方法的应用 mls和ss方法

(English Translation)

Issued on: September 2, 2010

Implemented on: April 1, 2011

Issued by: Standardization Administration of China

Table of Contents

Introduction	
Introduction	
1 Scope	
2 Normative references	
3 Terms, Definitions and Abbreviations	
4 Especially	
Theory 2	
6 Impulse Response Measurement	
7 Frequency response function measuring	
8 Precision	
9 11 test reports	
Appendix A (normative) Maximum length sequence Law	
Appendix B (normative) swept sine law	
References	

Foreword

This standard is identical with ISO 18233:2006 "Acoustics Building acoustics and room acoustics in the new measurement methods in use MLS and SS Method "(in English).

This standard is equivalent to using international standards were editorial changes.

The Standard Annexes A and B are normative appendix.

This standard was proposed by the Chinese Academy of Sciences.

This standard by the National Standardization Technical Committee of Acoustics (SAC/TC17) centralized.

This standard was drafted. Institute of Acoustics, Chinese Academy of Building Research.

Introduction

Analytical methods used to measure the random signal from the sound propagation phenomenon began to develop in 1960, but due to lack of effective initially calculated to Force, these methods can only be applied to well-equipped laboratories.

With digital circuits, the development of a powerful general-purpose computer, and digital

signal processing components in the field of acoustic measurement applications, Based on such measuring instruments expanded digital signal processing applications matures. Currently, special equipment and can be transported on a general purpose computer Line professional software already adopted these measurements, and has been applied widely.

Compared with traditional methods, the new method has many advantages, for example. suppress background noise and extended measuring range. But if you do not comply with certain Guidelines, it may not be reliable results. At the same time, compared with the traditional method, the new method may be time-varying and changing environmental conditions more sensitive.

This standard is intended for the construction of new acoustics and room acoustics measurement methods given in the relevant requirements and guidelines, and the requirements and guidelines can be Measuring device suitable for the application of these methods.

Even the traditional methods and measuring equipment and experienced people may not realize that some applications of the new method of difficulties and limitations, each user should be encouraged on the basis of new theoretical method we have a deeper understanding of, and should be encouraged to give equipment manufacturers More guide device applications, and the measured results unreliable timely warning is given as a design target Equipment.

This standard gives the requirements for sound insulation in buildings and building components measured reverberation time and related physical quantity measuring methods applied in new and guidelines Then, references are given about the content of the measurement, standards and the number of points the traditional method of selecting the location and the measurement conditions.

Acoustics in building acoustics and room acoustics MLS and SS application methods of new measurement methods

1 Scope

This standard specifies the application guide measuring the acoustic characteristics of the building and of building elements of the new approach and requirements, but also gives the excitation signal Selection, signal processing and environmental control guidelines and requirements, as well as linear and invariant aspects of the system under test when requested.

This standard applies to the following measurements, such as airborne sound insulation between rooms and the amount of the external walls of the room reverberation time and other room acoustical parameters Measurement, reverberation chamber sound absorption, vibration and differential loss measurements factors.

The method defined in this standard may be used instead, such as GB/T 19889 (all parts), ISO 3382 (all parts) and GB/T 21228.1 Traditional methods defined.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 3241 octave and fractional octave filters (eqv IEC 61260:1995, GB/T 3241-1998)
Electric, acoustic performance and test methods GB/T 3785 sound level meter (IEC 61672-1, NEQ)

3.1 Terms and Definitions

The following terms and definitions apply to this standard.

3.1.1

Traditional methods classicalmethod Direct traditional measurement methods to determine the rate of decay of sound pressure levels or by random noise or pulse signal in response to the record.

3.1.2

New Method First, using various deterministic signal for obtaining the measured impulse response of the system to obtain the desired sound level measurements and decay rates.

Note: The new method has the traditional methods do not have some other inherent characteristics, such as the new method can avoid noise interference from other sound sources.

3.1.3

Effective SNR effectivesignal-to-noiseratio SNR signal-to-noiseratio Excitation source generated by the square mean and a new method of signal portions obtained by the same manner as the signal sources and non-excitation of unwanted portion Than the mean score of the party, taking the logarithm of base 10 multiplied by 10.

Note 1: The effective SNR expressed in decibels.

Note 2: In the new method of testing procedure is based on the traditional method of establishing, with an effective SNR instead of the usual ratio.

3.1.4

Peak-to-noise ratio of peak-to-noiseratio by the excitation sources and new methods of signal portions of the signal peak of the square by the same method and the non-excitation

source generated is not required Ratio of the square mean part of the access to the base 10 multiplied by 10.

Note: The effective peak-to-noise ratio expressed in decibels.