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Method for air negative ion concentration observation - Capacitance inhalation

空气负离子观测方法 电容式吸入法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Meteorological Administration.

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Air negative ion observation method. Capacitive inhalation method

1 Scope

This document establishes the measurement principle of the capacitive inhalation method for measuring the concentration of negative ions in the air, describes the measurement method, and specifies the measurement Requirements on technical indicators, calibration methods, data recording, quality control and average value processing methods.

This document applies to the measurement of negative ion concentration in the air using the capacitive inhalation method.

2 Normative references

GB/T 4883

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 air ion

Positively or negatively charged gas molecules or molecular clusters or other fine particles suspended in the air.

[Source. GB/T 18809-2019, 3.1]

3.2 Air ion mobility

The migration rate of air ions in an electric field of unit strength (V/m).

Note. The unit is square meter per volt second [m2/(V-s)] or square centimeter per volt second [cm2/(V-s)].

[Source. GB/T 18809-2019, 3.3]

3.3 Negative air ions

Air ions with negative charge are referred to as negative ions.

[Source. GB/T 18809-2019, 3.4]

3.4 Critical air ion mobility

The minimum migration velocity of air ions that can be captured by an ion collector in a unit electric field.

4.1 Principle

The air containing ions is sucked into the capacitive ion collector. Under the action of the electric field, the air ion mobility is greater than the critical air