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

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Classification for solar activity level

太阳活动水平分级

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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.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Meteorological Administration.

This document is under the jurisdiction of the National Technical Committee on Standardization of Satellite Meteorology and Space Weather (SAC/TC347).

This document was drafted by the National Satellite Meteorological Center and the 61741 Unit of the Chinese People's Liberation Army.

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Introduction

Solar activity of varying intensities can have varying degrees of impact on Earth's middle and upper atmosphere, ionosphere, and magnetic field. In order to...

By classifying solar activity levels across different timescales, we can promote more efficient and orderly development of space weather monitoring and early warning systems, and improve our ability to respond to space weather events.

The comprehensive management level and emergency response capabilities for interstellar disasters provide a reference for relevant departments such as satellite launch, aerospace, navigation and communication.

Therefore, this document is hereby formulated.

Solar activity level classification

1 Scope

This document defines the classification of solar activity levels for days, weeks, months, and years.

This document applies to space weather monitoring and early warning. It can also be used as a reference for other space weather-related work.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 solar activity

A series of processes that occur in the solar atmosphere, which influences interplanetary space and Earth.

[Source. GB/T 32452-2015, 3.7.2.5]

3.2 solar activity level

Solar activity at different time scales is measured based on physical quantities observed in the sun.

3.3 solar flare

The phenomenon of sudden brightening of localized regions of the solar atmosphere is often accompanied by enhanced electromagnetic radiation and particle emission.

[Source. GB/T 31157-2014, 2.1]

3.4 Solar soft X-ray flare

Solar flares occurring in the soft X-ray band.

[Source. GB/T 31157-2014, 2.2]

3.5 FX

Outside Earth's atmosphere, at a distance of one astronomical unit from the Sun, solar soft X-ray flares occur in the wavelength range of 1×10^{-10} m to 8×10^{-10} m.

The peak value of the electromagnetic radiation flux within the enclosure.

Note 1. Represented by the symbol FX, the Chinese unit is Joules/(m²-s), and the English unit is J/(m²-s).

Note 2.1 astronomical unit = 149,598,000 km.

[Source. GB/T 31157-2014, 2.3]

3.6 Solar soft X-ray flare index

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