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

GB/T 46254-2025

**Technical method of tropical cyclone intensity analysis using
geostationary meteorological satellite data**

静止气象卫星热带气旋定强技术方法

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Foreword

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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: National Satellite Meteorological

Center, National Meteorological Center, Unit 31016 of the Chinese People's Liberation Army, and Zhejiang Provincial Meteorological Bureau. Shandong Provincial Meteorological Bureau. The main drafters of this document are. Wang Xin, Xu Yinglong, Liu Ruihui, Luo Ling, Li Feng, Cao Zhiqiang, Xiang Chunyi, Lü Xinyan, Gao Yang, Zhang Yang, and Han Bowen. Geostationary meteorological satellite tropical cyclone intensity determination technology and methods

1 Scope

GB/T 46254-2025 is the Chinese national standard covering estimating the strength of a typhoon from a satellite image - the cloud pattern classification and the eye and cold-cloud measurements behind it, the objective algorithms alongside the analyst's judgement, and the intensity value with its uncertainty. Almost every typhoon over open ocean is rated this way, because nothing is out there to measure it directly. First edition, under the China Meteorological Administration, already in force. Issued on 5 October 2025, it has been in force since 5 October 2025.

This document specifies the data source requirements and tropical cyclone cloud type classification, and describes the method for determining the intensity of tropical cyclones using geostationary meteorological satellites. This document applies to tropical cyclone intensity determination 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 Describes the circulation center of a tropical cyclone cloud system or vortex cloud system.

3.2 Curved band pattern; CB pattern It has a curved, ribbon-like shape, and its interior is composed of organized fragmented or convective clouds.

Note. This cloud type appears when a tropical cyclone is in the tropical depression to typhoon stage.

3.3 Shear pattern; Pattern The cloud formation where the center of a tropical cyclone is exposed outside the high clouds. Note

1. This is characterized by upper-level convective clouds being distributed only on one side of lower-level clouds, and the side of the upper-level clouds with lower-level cloud lines being partially exposed and separated from the upper-level convective clouds. The area surrounding the center of the tropical cyclone has a steep boundary on one side and a

cirrus anvil extending into the distance on the other. Note

2. This cloud type appears when the tropical cyclone is in the stage of tropical depression to severe tropical storm.

3.4 Eye pattern; E pattern The cloud pattern in the center, resembling an eye, is clearly visible. Note

1. This is characterized by a closed ring of bright white convective clouds surrounding the center of a tropical cyclone (CSC), with a clear or cloudless eye region inside the ring. The brightness temperature of the closed ring-shaped cloud region is relatively high. The intraocular region has a low brightness temperature. Note

2. This cloud type appears when a tropical cyclone is in the typhoon to super typhoon stage.

3.5 In visible light cloud images, there are large areas of dense, bright white cloud formations without obvious steep boundaries. Note

1. It is characterized by dense, bright white upper-level clouds, with the outer low-level cloud circulation extending to form the center of a tropical cyclone and being completely covered by dense cloud systems. Note

2. This cloud type appears when a tropical cyclone is in the tropical storm to typhoon stage.

3.6 In the enhanced infrared cloud imagery, specifically for enhanced infrared cloud imagery analysis, the tropical cyclone center (CSC) appears to fall completely within the cloud region.