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

GB/T 14410.9-2009

**Flight dynamics -- Concepts, quantities and symbols -- Part 9:
Models of atmospheric motions**

飞行力学 概念、量和符号 第9部分：大气扰动模型

(English Translation)

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Foreword

GB/T 14410 "Flight mechanics - Concepts, quantities and symbols" is divided into nine sections.

- Part 1. Axis systems and motion state variables;
- Part 2. Forces, moments, their coefficients and derivative;
- Part 3. aircraft stability and control;
- Part 4. flight performance;
- Part 5. flight measurement;
- Part 6. Aircraft geometry;
- Part 7. Flight points and flight envelope;
- Part 8. dynamic characteristics of the aircraft;
- Part 9. atmospheric disturbance model.

This section GB/T Part of 914,410.

The partial modification using ISO 1151-9. section 1998 "Flight dynamics - Concepts, quantities and symbols - Part 9. aircraft along the trajectory of the atmosphere Perturbation model. " this section contrast ISO 1151-9:1998 has the following technical changes.

- a) increase the "surface boundary layer wind shear," "Turbulence-related functions," "Turbulence spectral function", "von Karman turbulence model" and "Dresser Dayton turbulence model "and other definitions;
- b) the "scope" of "the impact of aircraft along the flight path of the atmospheric disturbance model" to "the impact of aircraft flight characteristics of atmospheric disturbance model";
- c) an increase in the English index.

This part is proposed by the China Aviation Industry Corporation.

This section is under the jurisdiction of China Aviation Technology Institute.

This section is drafted. Beijing University of Aeronautics and Astronautics, China Aviation Technology Institute Comprehensive, China Aviation Industry Development Research Center.

1 Scope

GB/T 14410 provisions of this part of the concept of the impact of aircraft flight characteristics of atmospheric disturbance models, quantities and symbols.

This section applies to fixed-wing aircraft, other aircraft can use the reference.

2 Normative references

The following documents contain provisions which, through reference GB/T 14410 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 14410.1-2008 Flight mechanics - Concepts, quantities and symbols - Part 1. Axis systems and motion state variables GB/T 14410.8-2009 Flight mechanics - Concepts, quantities and symbols - Part 8. dynamic characteristics of the aircraft

3 Terms and definitions, symbols

The following terms and definitions, symbols applicable to GB/T 14410 in this section.

No. Description Symbol Definition or 3.1.1 Steady wind Wind speed (GB/T 14410.1-2008 in 3.3.1.8) vectors do not change with time the wind model.

3.1.2

Constant wind

constantwind

Wind speed (GB/T 14410.1-2008 in 3.3.1.8) does not change with time and space vector the wind varied between models.

3.1.3

When the average wind speed meanwindvelocity in general, the definition of the atmospheric motion is the mean change over time.

$V_p w = 1T \int$

Here, V_p represents the wind velocity vector w ; T is the reference time interval value.

Note: The model is characterized by the wind wind velocity varies only with time on its reference trajectory, any when the wind speed is a little mean equal.

$V_p w$