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**JJG**

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

**JJG 1181-2021**

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**Verification Regulation of  $\gamma$  Radiation Sources Used in Body  
Stereotactic Radiation Therapy  
(English Translation)**

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## **Introduction**

JJF1001 "General Metrology Terms and Definitions", JJF1002 "Rules for Writing National Metrology Verification Regulations", JJF1059.1 "Assessment and Expression of Measurement Uncertainty" together constitute the basic series supporting the formulation of this regulation specification:

This regulation is published for the first time:

Stereotactic body radiosurgery gamma radiation source of healing

## 1 Scope

This regulation is applicable to the first inspection of gamma radiation therapy source for body stereotaxic radiosurgery (hereinafter referred to as body gamma knife):

determination, follow-up verification and in-use inspection:

## 2 References

This procedure references the following documents:

JJF1001 General Metrology Terms and Definitions GB/T 17857-1999 Medical Radiology Terminology (Radiation Therapy, Nuclear Medicine and Radiation Dosimetry Equipment) WS582-2017 X, gamma ray stereotaxic radiotherapy system quality control testing specification YY0831.2-2015 Gamma Beam Stereotactic Radiotherapy System Part 2: Multi-source Gamma Beam Stereotactic Body Targeted Radiation Therapy System IAEA Technical Report No: 277 (Second Edition:1997) Absorbed Dosimetry of Photon and Electron Beams, International Use use the regulations for dated references, only the dated version applies to this regulation; for undated references document, its latest version (including all amendments) applies to this regulation:

## 3 Terminology and units of measurement

### 3.1 Terminology

The following terms and definitions defined in JJF1001 and JJF1035 are applicable to this regulation:

#### 3.1.1 collimator

A device for collimating a beam of radiation emerging from a source:

#### 3.1.2 focus

The intersection point of the beam axes:

A three-dimensional radiation field composed of several radiation sources arranged in a certain latitude and longitude:

3.1.4 superimposed penumbra penumbraoverlap the 20%~80% area of the maximum dose value of the superimposed radiation field is referred to as the penumbra:

### 3.2 Units of measurement

3.2.1 Unit of air kerma and absorbed dose: gray [ray]; symbol: Gy:

3.2.2 Time unit: second; symbol: s:

3.2.3 Temperature unit: Celsius; symbol: °C:

3.2.4 Air pressure unit: Pa [scal]; symbol: Pa: