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**JIS K 0134** : 2002  
(JAIMA/JSA)

**General rules for near-infrared  
spectrophotometric analysis**

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## Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from the Japan Analytical Instruments Manufacturers' Association (JAIMA)/the Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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In the event of any doubts arising as to the contents,  
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## General rules for near-infrared spectrophotometric analysis

**1 Scope** This Japanese Industrial Standard specifies the general rules for the qualitative analysis or quantitative analysis of inorganic substances and organic substances using a near-infrared spectrophotometer<sup>(1)</sup>.

Note <sup>(1)</sup> A near-infrared ray refers to the range from 700 nm to 2 500 nm of wavelength (from 14 286 cm<sup>-1</sup> to 4 000 cm<sup>-1</sup> of wave number).

**2 Normative references** The standards given in the following contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) shall be applied.

JIS C 6802 *Safety of laser products*

JIS K 0050 *General rules for chemical analysis*

JIS K 0211 *Technical terms for analytical chemistry (general part)*

JIS K 0212 *Technical terms for analytical chemistry (optical part)*

JIS K 0215 *Technical terms for analytical chemistry (analytical instrument part)*

**3 Definitions** For the purposes of this Standard, the definitions in **JIS K 0211**, **JIS K 0212** and **JIS K 0215**, and the following definitions shall apply.

- a) **interferogram** A diagram which shows the signal from a Michelson interferometer with the optical path difference of light as abscissa, and the intensity of light as ordinate.
- b) **apodization** Mathematical operation which superimposes the suitable function on an interferogram in order to reduce strain, etc. of the spectrum produced due to the limited scanning distance which a Michelson interferometer has.
- c) **specular reflection method** A method for measuring the intensity of reflected light using the specular reflection (mirror reflection) of the light on the surface of specimen. Since a reflectance serves as a function of complex refractive index, it is necessary to use Kramers-Kronig transformation for changing to an absorption spectrum.
- d) **Kramers-Kronig transformation** A method for obtaining the absorption spectrum and/or the spectrum of refractive index from the spectrum of complex refractive index obtained by the measurement of reflection.
- e) **diffuse reflection method** A method for measuring the intensity of reflected light from the specimen using the diffuse light. In order to change to an absorption spectrum, Kubelka-Munk transformation is used.
- f) **Kubelka-Munk transformation** A method transforming the spectrum measured by the diffuse reflection method into an absorption spectrum.