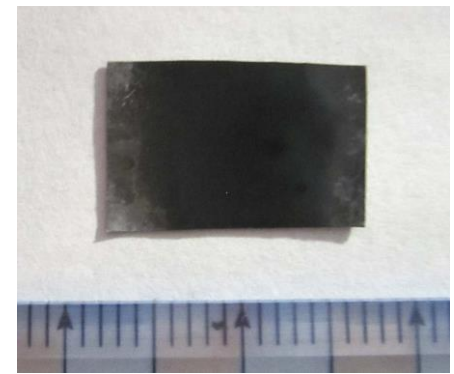


“Black body” with nano-micro size metal protuberance and its manufacturing method

Capable of absorbing more than 95% of “ultraviolet” to “visible” to “infrared” light!

Example



Overview

“Black bodies” are substances that can completely absorb all kinds of light, and carbon nanotube (CNT) black bodies are known as substances that can almost completely absorb light. CNT black bodies can absorb more than 98% of light (electromagnetic waves) in a wide wavelength range of 200 nm-200 μ m from “ultraviolet” to “visible” to “far-infrared” light. CNT black bodies can be used for shielding cameras and optical equipment, infrared absorbers, thermal infrared sensors, and cooling electronic equipment. However, CNT black bodies are fine powders, and there have been some problems such as difficulties in manufacturing and handling them.

This invention provides a nano-micro metal “black body” capable of absorbing light over a wide wavelength range from “ultraviolet” to “visible” to “infrared” light, and capable of selectively adjusting the absorption direction of light.

Product Application

- Shielding of cameras and optical equipment
- Infrared absorbing material and thermal infrared sensor
- Cooling of electronics

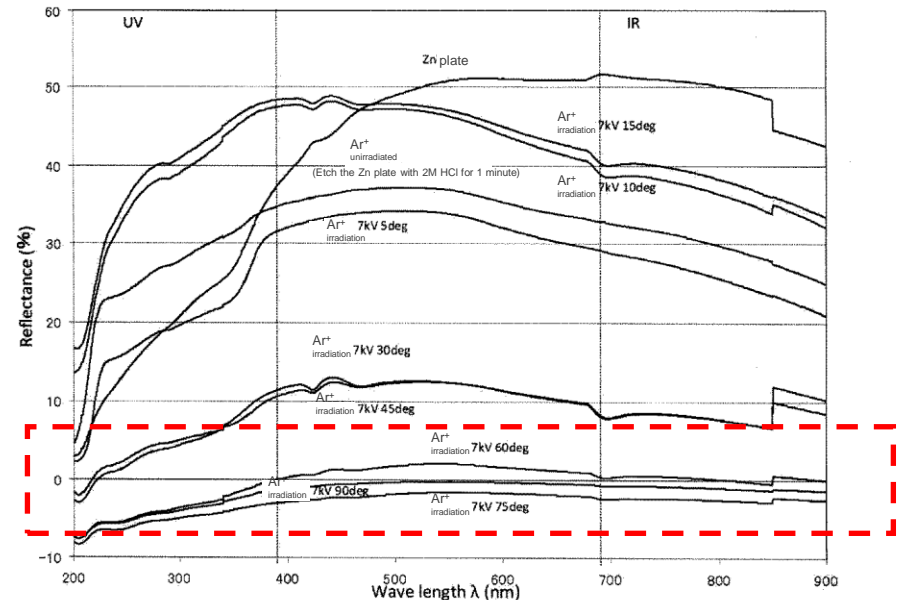
IP Data

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Features • Outstandings

Experimental data

Samples available!



Graph showing the reflectance of light incident from the normal direction on the zinc plate treated under each condition
 →The Ar ion beam 60°, 75°, and 90° irradiators showed good light absorption performance (light reflectance less than 2%) of more than 98% over a wide wavelength range from “ultraviolet” to “visible” to “infrared” light.

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