

32

Accession number:20123715432073

Title:THz reflection properties measurement of several kinds of optical brackets

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Source title:Zhongguo Jiguang/Chinese Journal of Lasers

Abbreviated source title:Zhongguo Jiguang

Volume:39

Issue:SUPPL.1

Issue date:June 2012

Publication year:2012

Article number:s111001

Language:Chinese

ISSN:02587025

CODEN:ZHJIDO

Document type:Journal article (JA)

Publisher:Science Press, 18,Shuangqing Street,Haidian, Beijing, 100085, China

Abstract:Optical brackets are important parts of a terahertz (THz) experiment system. It is of great significance to improve the experimental accuracy by studying the reflection properties of the common optical brackets and taking proper measures to reduce reflection impacts. In this paper, a variety of common optical brackets, such as a square filter fixed bracket, a triangle block, two stainless steel connected rods and several rod bases et al., are measured in the reflection experiments by using contrast measurement method. The reflectivity of the optical brackets with incident angles of 45°; using 2.52 THz laser have been obtained approximately. It can be inferred from the results that the smooth stainless steel connecting rods have a relatively higher reflectivity. The reflectivity of the rod with a diameter of 25 mm is about 43%. For the painting rod base with uneven surface and a diameter of 25 mm, the reflectivity is 0.62%. The reflectivity of the diamond-shaped stripe area of the lift rod base is only 0.35%.

Number of references:14

Main heading:Fasteners

Controlled terms:Experiments - Gas lasers - Measurements - Reflection

Uncontrolled terms:Contrast measurements - Experiment system - Incident angles - Optical brackets - Reflection properties - Steel connecting rods - Tera Hertz - THz lasers - Uneven surfaces

Classification code:943 Mechanical and Miscellaneous Measuring Instruments - 942 Electric and Electronic Measuring Instruments - 941 Acoustical and Optical Measuring Instruments - 944 Moisture, Pressure and Temperature, and Radiation Measuring Instruments - 901.3 Engineering Research - 711 Electromagnetic Waves - 605 Small Tools and Hardware - 744.2 Gas Lasers

DOI:10.3788/CJL201239.s111001

Database:Compendex

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