
Measuring The Refractive Index Of Liquid And Gas By Mie

Dual Interferometer System for Measuring Index of Refraction

Using the Geodimeter to Measure the Refraction Correction by Dispersion

A Solid-state System for Measurement of Integrated Refractive Index

A Survey of the Techniques for Measuring the Radio Refractive Index; NBS Technical Note 99

Experimental Measurement of the Refractive Index of Argon at Light Wavelengths of 6328\AA and 1.15μ

Evaluation of Refractive Index Measuring Methods for Wood Fibers

Naples, Italy, September 9-13, 2013, Proceedings

Effect of Refractive Index Variation on Two-Wavelength Interferometry for Fluid Measurements

A Survey of the Techniques for Measuring the Radio Refractive Index
Refractive Indices of Solids

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A New Method for Measuring the Index of Refraction of a Gas for Different Light-waves and the Results Obtained for Several Gases ...

Application of Moire Techniques for Measuring the Refractive Index of a Strongly Refracting Transparent Object

A Practical Guide to Experimental Geometrical Optics

Standard Method for Measurement of Refractive Index and Refractive Dispersion of Hydrocarbon Liquids

Measurement of the Chromatic Dispersion of Gradient Refractive Index Glass Using a Schlieren Technique

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High-Pressure Research

An Investigation of the Measurement of Refractive Index and Dispersion by a Photometric Technique

Handbook of Nonlinear Optical Crystals

A Survey of the Techniques for Measuring the Radio Refractive Index (Classic Reprint)

Progress in Image Analysis and Processing, ICIAP 2013

MEASUREMENT OF REFRACTIVE INDEX PARAMETERS FOR CALCULATING LIMITS.

Modern Interferometry for Length Metrology: Exploring Limits and Novel Techniques

Measurement of the Refractive Index of Air in a Thermal Boundary Layer

Holographic Measurement of the Refractive Index of Plasmas

The World of Physics

An Optical Device for Measuring Refractive-index Fluctuation in the Atmosphere

A Solid-state System for Measurement of Integrated Refractive Index

Measuring the Refractive Index of Thin Films Using an Optical Interferometer

Interferometric Measurement of Refractive Index

Applications in Geophysics

A Survey of the Techniques for Measuring the Radio Refractive Index

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Geometrical and Instrumental Optics

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LILLY TALAN

Dual Interferometer System for Measuring Index of Refraction

Hassell Street Press

An instrument is described that measures the average value of the refractive-index structure constant (C sub n squared) over optical paths from 80 to 800 meters. Corrections for the inner scale of turbulence and difficulties due to the saturation of scintillation, both present in previous optical techniques, are avoided by using an extended incoherent light source. (Author).

Using the Geodimeter to Measure the Refraction Correction by Dispersion CRC Press

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A Solid-state System for Measurement of Integrated Refractive Index Springer

Since the invention of the first laser 30 years ago, the frequency conversion of laser radiation in nonlinear optical crystals has become an important technique widely used in quantum electronics and laser physics for solving various scientific and engineering problems. The fundamental physics of three-wave light interactions in nonlinear optical crystals is now largely understood. This has enabled the production of the various harmonic generators, sum and difference frequency generators, and parametric oscillators based on nonlinear crystals that are now commercially available. At the same time, scientists continue an active search for novel high-efficiency optical materials. Therefore, in our opinion, there is a great need for a handbook of nonlinear optical crystals, intended for specialists and practitioners with an engineering background. This

book contains a complete description of the properties and applications of all nonlinear crystals reported in the literature up to the beginning of 1990. In addition, it contains the most important equations for calculating the main parameters (such as phase-matching direction, effective non-linearity, and conversion efficiency) of nonlinear frequency converters.

A Survey of the Techniques for Measuring the Radio Refractive Index; NBS Technical Note 99

Academic Press

High pressure liquid

chromatography—frequently called high performance liquid chromatography (HPLC or, LC) is the premier analytical technique in pharmaceutical analysis and is predominantly used in the pharmaceutical industry. Written by selected experts in their respective fields, the Handbook of Pharmaceutical Analysis by HPLC Volume 6, provides a complete yet concise reference guide for utilizing the versatility of HPLC in drug development and quality control. Highlighting novel approaches in HPLC and the latest developments in hyphenated techniques, the book captures the essence of major pharmaceutical applications (assays, stability testing, impurity testing, dissolution testing, cleaning validation, high-throughput screening). A complete reference guide to HPLC Describes best practices in HPLC and offers 'tricks of the trade' in HPLC operation and method development Reviews key HPLC pharmaceutical applications and highlights currents trends in HPLC ancillary techniques, sample preparations, and data handling

Experimental Measurement of the Refractive Index of Argon at Light Wavelengths of 6328Å and 1.15r

Springer

High-Pressure Research: Applications in Geophysics contains the papers presented during a U.S.-Japan joint seminar held in Honolulu, Hawaii, 6-9 July 1976. The seminar brought together scientists engaged in high pressure-high temperature research to exchange ideas on the latest state-of-the-art developments, their experimental results, and their latest interpretations with regard to the significance of these results to the geophysical sciences in general. Four formal sessions were held. Of the forty-two papers presented at the seminar, thirty-nine appear as contributed papers and three as abstracts in this volume. The papers in Session I examine the geophysics and geochemistry of the crust and upper mantle. The contributions in Session II focus on phase transitions related to Earth's deep interior. Session III is devoted equations of state and shock wave experiments while Session IV covers instrumentation, pressure calibration, and standardization.

Evaluation of Refractive Index Measuring Methods for Wood Fibers A Practical Guide to Experimental Geometrical Optics

A solid-state phase system is presented which is capable of indicating the variability of the integrated refractive index over line-of-sight propagation paths with extreme reliability.

Naples, Italy, September 9-13, 2013, Proceedings Nelson Thornes

A concise, yet deep introduction to geometrical optics, developing the practical skills and research techniques routinely used in modern laboratories. Suitable for both students and self-learners, this accessible text teaches readers how to build their own optical laboratory, and design and perform

optical experiments.

Effect of Refractive Index Variation on Two-Wavelength Interferometry for Fluid Measurements Springer

The second interferometer is a Mach-Zehnder interferometer with a tunable HeNe laser light source. This interferometer measures the optical path length (OPL) of the test sample in the cuvette in transmission as a function of five wavelengths in the visible spectrum. This is done using phase-shifting interferometry. Multiple thickness regions are used to solve 2π phase ambiguities in the OPL.

Elsevier

Geometrical and Instrumental Optics

A Survey of the Techniques for Measuring the Radio Refractive Index Createspace Independent Publishing Platform

Accurate measurement of long baselines

by optical methods requires a correction for the refractive index of the path. The atmosphere is dispersive to light in the visible spectrum and the effect may be useful for determining the refraction correction in distance measurements. This research investigates the feasibility of using the Geodimeter to measure dispersion with sufficient accuracy to determine refractive index to 1 ppm. (Author).

Refractive Indices of Solids Institute of Physics Publishing

Of the several common methods for measurement of the index of refraction of solid optical materials, only one, the minimum deviation method, can conveniently be used for materials whose refractive index exceeds 1.8. The minimum deviation method requires that a large prism of the optical material be constructed; this is not always possible or feasible for some crystalline optical materials that are of current interest. A

method for measurement of index of refraction is presented which requires a thin flat plate of the optical material and is unlimited in the range of refractive index it can cover. The method uses a two-beam interferometer to determine the optical path length through the flat plate by tipping away from normal incidence through a measured angle. It may be used in the visible portion of the spectrum directly, or extended to other spectral regions with the use of a suitable detector. (Author).

A Survey of the Techniques for Measuring the Radio Refractive Index Academic Press

This work covers the history of optical communications, fibres and fiber cables, and compares optical fibres with other transmission media. It also discusses optical fibre materials, reliability and manufacture, illustrates the design, construction and properties of recent cables used for optical fibre, describes fibre splicing and presents automated fibre splicing machines, and more.

A New Method for Measuring the Index of Refraction of a Gas for Different Light-waves and the Results Obtained for Several Gases ... Forgotten Books

This clear and easy to follow text has been revised to meet modern exam requirements: - New material on forces, machines, motion, properties of matter, electronics and energy - Actual GCSE and Standard Grade exam questions - Problem-solving investigations - Practice in experimental design

Application of Moire Techniques for Measuring the Refractive Index of a Strongly Refracting Transparent Object Cambridge University Press

A Practical Guide to Experimental Geometrical Optics Cambridge University Press

A Practical Guide to Experimental Geometrical Optics

Modern Interferometry for Length Metrology: Exploring limits and novel techniques gives an overview of refined traditional methods and novel techniques in the field of length and distance metrology. Within the book advanced solutions, which can be used for various applications and can help provide a comprehensive understanding of both metrology and interferometry, have been developed and discussed.

Standard Method for Measurement of Refractive Index and Refractive Dispersion of Hydrocarbon Liquids

Excerpt from A Survey of the Techniques for Measuring the Radio Refractive Index

The radio refractive index can be measured either directly or indirectly. The former method is utilized by radio frequency refractometers; the latter method involves measurement of temperature, pressure and humidity and conversion to refractive index. In terms of convenience and accuracy the direct method is superior; however, lack of the universal use of refractometers requires the use of weather service type of data for the bulk of refractive index structures. Meteorological sensing is limited mainly by the inaccuracy in measuring humidity which under ideal conditions appears to limit the accuracy to ± 1 N. Gradient measurements utilizing radiosondes reflects an accuracy no better than ± 3 N units. Radio frequency refractometers are capable of accuracies as much as an order of magnitude better than that achieved by meteorological sensors. Lightweight refractometers have been devised for balloon-borne and dropsonde measurements reflecting accuracies inferior to the conventional refractometer but superior to the radiosonde. About the Publisher

Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Measurement of the Chromatic Dispersion of Gradient Refractive Index Glass Using a Schlieren Technique

Two wavelength interferometry can in principle be used to measure changes in both temperature and concentration in a fluid, but measurement errors may be large if the fluid dispersion is small. This paper quantifies the effects of uncertainties in dn/dT and dn/dC on the measured temperature and concentration when using the simple expression $dn = (dn/dT)dT + (dn/dC)dC$. For the data analyzed here, ammonium chloride in water from -5 to 10 (exp infinity) $^{\circ}C$ over a concentration range of 2-14% and for wavelengths 514.5 and 633 nm, it is shown that the gradients must be known to within 0.015% to produce a modest 10% uncertainty in the measured temperature and concentration. These results show that real care must be taken to ensure the accuracy of refractive index gradients when using two wavelength interferometry for the simultaneous measurement of temperature and concentration. Mercer, Carolyn R. Glenn Research Center NASA/TM-1998-207925,

NAS 1.15:207925, E-11213 RTOP
274-00-00...

On the Method of Measuring Refractive Index 1

Linearly polarized light remains linearly polarized after reflection from a transparent material at oblique incidence. The reflected polarization angle is determined from the extinction position of the analyzer. If the incident polarization angle is 45° , the reflected polarization angle gives the ratio of the reflected p-wave to s-wave. This value can be used to determine the index of refraction from Fresnel equations. With our instrument, the uncertainty in the deduced refractive index is ± 0.0004 . This method is fast, convenient and versatile enough to provide accurate results on small laboratory samples. In addition to measuring the refractive index, the method is sufficiently accurate to characterize the homogeneity of transparent materials.

High-Pressure Research

This two volume set (LNCS 8156 and 8157) constitutes the refereed proceedings of the 17th International Conference on Image Analysis and

Processing, ICIAP 2013, held in Naples, Italy, in September 2013. The 162 papers presented were carefully reviewed and selected from 354 submissions. The papers aim at highlighting the connection and synergies of image processing and analysis with pattern recognition and machine learning, human computer systems, biomedical imaging and applications, multimedia interaction and processing, 3D computer vision, and understanding objects and scene.

An Investigation of the Measurement of Refractive Index and Dispersion by a Photometric Technique

This book highlights the basics of crystal optics methods and refractive index (RI) measurement techniques in various solids, as well as their scientific and technological applications. In addition to new techniques for cases when traditional techniques are impractical, such as for highly refracting powders, anomalous dispersion of light in the studied solid, or for colloids, it also describes conventional methods of RI measurement.

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