

Millimeter Wave Wireless Communications (Prentice Hall Communications Engineering And Emerging Technologies)

Theodore Rappaport

NYU WIRELESS. He has written several textbooks, including Wireless Communications: Principles and Practice and Millimeter Wave Wireless Communications (2014)

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He has written several textbooks, including Wireless Communications: Principles and Practice and Millimeter Wave Wireless Communications (2014).

In the private sector he co-founded TSR Technologies, Inc. and Wireless Valley Communications, Inc. In the academic setting he founded academic wireless research centers at Virginia Tech, the University of Texas at Austin, and New York University.

His 2013 paper, "Millimeter Wave Mobile Communications for 5G Cellular: It Will Work!" has been

called a founding document of...

Wireless

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Wireless communication (or just wireless, when the context allows) is the transfer of information (telecommunication) between two or more points without the use of an electrical conductor, optical fiber or other continuous guided medium for the transfer. The most common wireless technologies use radio waves. With radio waves, intended distances can be short, such as a few meters for Bluetooth, or as far as millions of kilometers for deep-space radio communications. It encompasses various types of fixed, mobile, and portable applications, including two-way radios, cellular telephones, and wireless networking. Other examples of applications of radio wireless technology include GPS units, garage door openers, wireless computer mice, keyboards and headsets, headphones, radio receivers, satellite...

Electrical engineering

Statistics, and Random Processes for Electrical Engineering. Prentice Hall. ISBN 978-0-13-147122-1. Malaric, Roman (2011). Instrumentation and Measurement

Electrical engineering is an engineering discipline concerned with the study, design, and application of equipment, devices, and systems that use electricity, electronics, and electromagnetism. It emerged as an identifiable occupation in the latter half of the 19th century after the commercialization of the electric telegraph, the telephone, and electrical power generation, distribution, and use.

Electrical engineering is divided into a wide range of different fields, including computer engineering, systems engineering, power engineering, telecommunications, radio-frequency engineering, signal processing, instrumentation, photovoltaic cells, electronics, and optics and photonics. Many of these disciplines overlap with other engineering branches, spanning a huge number of specializations including...

Terahertz radiation

conventional engineering wisdom, for a fixed aperture it is more efficient in bits per second per watt to use higher frequencies in the millimeter wave and terahertz

Terahertz radiation – also known as submillimeter radiation, terahertz waves, tremendously high frequency (THF), T-rays, T-waves, T-light, T-lux or THz – consists of electromagnetic waves within the International Telecommunication Union-designated band of frequencies from 0.1 to 10 terahertz (THz), (from 0.3 to 3 terahertz (THz) in older texts, which is now called "decimillimetric waves"), although the upper boundary is somewhat arbitrary and has been considered by some sources to be 30 THz.

One terahertz is 10^{12} Hz or 1,000 GHz. Wavelengths of radiation in the decimillimeter band correspondingly range 1 mm to 0.1 mm = 100 μm and those in the terahertz band 3 mm = 3000 μm to 30 μm . Because terahertz radiation begins at a wavelength of around 1 millimeter and proceeds into shorter wavelengths...

Signal processing

Ali H. Sayed, and Babak Hassibi, Linear Estimation, Prentice-Hall, NJ, 2000, ISBN 978-0-13-022464-4. Signal Processing for Communications – free online

Signal processing is an electrical engineering subfield that focuses on analyzing, modifying and synthesizing signals, such as sound, images, potential fields, seismic signals, altimetry processing, and scientific measurements. Signal processing techniques are used to optimize transmissions, digital storage efficiency, correcting distorted signals, improve subjective video quality, and to detect or pinpoint components of interest in a measured signal.

Optical fiber

Physics and Technology "Fibre optic technologies"; Mercury Communications Ltd, August 1992. "Photonics & the future of fibre"; Mercury Communications Ltd

An optical fiber, or optical fibre, is a flexible glass or plastic fiber that can transmit light from one end to the other. Such fibers find wide usage in fiber-optic communications, where they permit transmission over longer distances and at higher bandwidths (data transfer rates) than electrical cables. Fibers are used instead of metal wires because signals travel along them with less loss and are immune to electromagnetic interference. Fibers are also used for illumination and imaging, and are often wrapped in bundles so they may be used to carry light into, or images out of confined spaces, as in the case of a fiberscope. Specially designed fibers are also used for a variety of other applications, such as fiber optic sensors and fiber lasers.

Glass optical fibers are typically made by drawing...

Wikipedia:Reference desk/Archives/Science/January 2006

CRC Press, 1995. Stallings, William, Cryptography and Network Security (3rd Ed.), Prentice Hall, 2003. Cheers, —Ruud 20:33, 16 January 2006 (UTC) Thanks

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