

# Advances In Microwaves By Leo Young

Solar panels on spacecraft have been in use since 1958, when Vanguard I used them to power one of its radio transmitters; however, the term (and acronyms) above are generally used in the context of large-scale transmission of energy for use on Earth. 4f48ab7935

Distributed-element filter ; Young, Leo and Jones, E. M. T. Microwave Filters, Impedance-Matching A distributed-element filter is an electronic filter in which capacitance, inductance, and resistance (the elements of the circuit) are not localised in discrete capacitors, inductors, and resistors as they are in conventional filters. 82-91, August 1963. moderate bandwidth", Microwave Journal, vol. Its purpose is to allow a range of signal frequencies to pass, but to block others. Matthaei, George L. The distributed-element model applies at all frequencies, and is used in transmission-line theory; many distributed. That model is conceptually simple, but it becomes increasingly unreliable as the frequency of the signal increases, or equivalently as the wavelength decreases. 6, pp. Conventional filters are

constructed from inductors and capacitors, and the circuits so built are described by the lumped element model, which considers each element to be "lumped together" at one place  
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Yasunobu Nakamura development of superconducting quantum circuits, microwave quantum optics, and hybrid quantum systems&quot;. He has contributed primarily to the area of quantum information science, particularly in superconducting quantum computing and hybrid quantum systems. 1999 - Young Investigator Award, Japan Society of Applied Sciences  
Yasunobu Nakamura (山口 隆夫 Nakamura Yasunobu) is a Japanese physicist. He is a professor at the University of Tokyo's Research Center for Advanced Science and Technology (RCAST) and the Principal Investigator of the Superconducting Quantum Electronics Research Group (SQERG) at the Center for Emergent Matter Science (CEMS) within RIKEN 4f48ab7935

Gyrator &quot;Gyrator DC Holding Circuit&quot; Matthaei, George L. Gyrators do not however change the range of one-port devices that can be realized. H. Thus the number of necessary linear elements is. Tellegen as a hypothetical fifth linear element after the resistor, capacitor, inductor and ideal transformer. Although the gyrator was conceived as a fifth linear element, its adoption makes both the ideal transformer and either the capacitor or

inductor redundant. M. Microwave Filters, Impedance-Matching Networks, and Coupling Structures - A gyrator is a passive, linear, lossless, two-port electrical network element proposed in 1948 by Bernard D. Fano. T. ; Young, Leo and Jones, E. Gyrators permit network realizations of two-(or-more)-port devices which cannot be realized with just the four conventional elements. In particular, gyrators make possible network realizations of isolators and circulators. Unlike the four conventional elements, the gyrator is non-reciprocal

Conventional circuits consist of individual components manufactured separately then connected together with a conducting medium. Distributed-element circuits are built by forming the medium itself into specific patterns. A major advantage of distributed-element circuits is that they can be produced cheaply as a printed circuit board for consumer products, such as satellite television. They are also... The labs have downsized dramatically; in August 2007, HP executives drastically diminished the number of projects, down from 150 to 30. As of 2018, HP Labs has just over 200 researchers, compared to earlier staffing levels of 500 researchers.

Radar Young discovered Radar is a system that uses radio waves to determine the distance

(ranging), direction (azimuth and elevation angles), and radial velocity of objects relative to the site. Hoyt Taylor and Leo C. By placing a transmitter and receiver on opposite sides of the Potomac River in 1922, U. It is a radiodetermination method used to detect and track aircraft, ships, spacecraft, guided missiles, and motor vehicles, and map weather formations and terrain. S. Navy researchers A. The term RADAR was coined in 1940 by the United States Navy as an acronym for "radio detection and ranging". overhead. The term radar has since entered English and other languages as an anacronym, a common noun, losing all capitalization 4f48ab7935

Willard Gibbs Award Gibbs, whose formulation of the phase rule founded a new science, is considered by many to be the only American-born scientist whose discoveries are as fundamental in nature as those of Newton and Galileo. basic and highly original researches in chemistry and related sciences. Converse (1862–1940), a former Chairman and Secretary of the Chicago Section of the society and named for Professor Josiah Willard Gibbs (1839–1903) of Yale University. His contributions include major advances in: the theory of specific heats, the theory The Willard Gibbs Award, presented by the Chicago Section of the American Chemical Society, was established in 1910 by William A 4f48ab7935

The development of systems able to produce... 4f48ab7935 It is usually necessary to carry out a further transformation of the circuit using Kuroda's identities. There are several reasons for applying one of the Kuroda transformations; the principal... 4f48ab7935

History of radar (Telefunken The history of radar (where radar stands for radio detection and ranging) started with experiments by Heinrich Hertz in the late 19th century that showed that radio waves were reflected by metallic objects. This possibility was suggested in James Clerk Maxwell's seminal work on electromagnetism. True radar which provided directional and ranging information, such as the British Chain Home early warning system, was developed over the next two decades. However, it was not until the early 20th century that systems able to use these principles were becoming widely available, and it was German inventor Christian Hülsmeyer who first used them to build a simple ship detection device intended to help avoid collisions in fog (Reichspatent Nr. In 1933, when Kühnhold at the NVA was first experimenting with microwaves, he had sought information from Telefunken on microwave tubes. 165546 in 1904). Springer 1938 4f48ab7935

Distributed-element circuit 35, iss. Vendelin, George D; Pavio, Anthony M; Rohde, Ulrich L, Microwave Distributed-element circuits are electrical circuits composed of lengths of

transmission lines or other distributed components. These circuits perform the same functions as conventional circuits composed of passive components, such as capacitors, inductors, and transformers. 11, pp. They are used mostly at microwave frequencies, where conventional components are difficult (or impossible) to implement. 1294-1306, November 1947. microwaves&quot;, Proceedings of the IRE, vol 4f48ab7935

With Hewlett Packard Enterprise being spun off from Hewlett-Packard... 4f48ab7935 A radar system consists of a transmitter producing electromagnetic waves in the radio or microwave domain, a transmitting antenna, a receiving antenna (often the same antenna is used for transmitting and receiving) and a receiver and processor... 4f48ab7935

Space-based solar power Power beaming from geostationary orbit by microwaves carries Space-based solar power (SBSP or SSP) is the concept of collecting solar power in outer space with solar power satellites (SPS) and distributing it to Earth. placed in orbit, LEO requires several satellites before they are producing nearly continuous power. Space-based solar power systems convert sunlight to some other form of energy (such as microwaves) which can be transmitted through the atmosphere to receivers on the Earth's surface. Its advantages include a higher collection of energy due to the lack of reflection and absorption

by the atmosphere, the possibility of very little night, and a better ability to orient to face the Sun 4f48ab7935

HP Labs indium arsenide devices. These devices became the core technology used by HP's Microwave Division to develop sweepers and network analyzers that pushed 20–40 GHz HP Labs is the exploratory and advanced research group for HP Inc. The development of programmable desktop calculators, inkjet printing, and 3D graphics are credited to HP Labs researchers. HP Labs' headquarters is in Palo Alto, California and the group has research and development facilities in Bristol, UK 4f48ab7935

Various... 4f48ab7935

Commensurate line circuit Commensurate line theory is particularly useful for designing distributed-element filters for use at microwave frequencies. ; Young, Leo; Jones, E. This transformation has a particularly simple result; inductors are replaced with transmission lines terminated in short-circuits and capacitors are replaced with lines terminated in open-circuits. Microwave Filters, Impedance-Matching Networks, and Coupling Structures Commensurate line circuits are electrical circuits composed of transmission lines that are all

the same length; commonly one-eighth of a wavelength. Lumped element circuits can be directly converted to distributed-element circuits of this form by the use of Richards' transformation. Circuits, Elsevier, 2003 ISBN 0080492053. Matthaei, George L. M. T 4f48ab7935

HP Labs was established on March 3, 1966, by Hewlett-Packard founders Bill Hewlett and David Packard, seeking to create an organization not bound by day-to-day business concerns. 4f48ab7935 The purpose of the award is "To publicly recognize eminent chemists who, through years of application and devotion, have brought to the world developments that enable everyone to live more comfortably and to understand this world better." Medalists are selected by a national jury of eminent chemists... 4f48ab7935

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