“Frontmatter”
Electrical Engineering Dictionary.
Ed. Phillip A. Laplante
Boca Raton: CRC Press LLC, 2000

IPR2023-00694
Theta EX2010

Product Manager: *Karen Feinstein*
Project Editor: *Ibrey Woodall*
Packaging design: *Jonathan Pennell*

These files shall remain the sole and exclusive property of CRC Press LLC, 2000 Corporate Blvd., N.W., Boca Raton, FL 33431. The contents are protected by copyright law and international treaty. No part of the *Electrical Engineering Dictionary CRCnetBASE* CD-ROM product may be duplicated in hard copy or machine-readable form without prior written authorization from CRC Press LLC, except that the licensee is granted a limited, non-exclusive license to reproduce limited portions of the context for the licensee's internal use provided that a suitable notice of copyright is included on all copies. This CD-ROM incorporates materials from other sources reproduced with the kind permission of the copyright holder. Credit to the original sources and copyright notices are given with the figure or table. No materials in this CD-ROM credited to these copyright holders may be reproduced without their written permission.

WARRANTY

The information in this product was obtained from authentic and highly regarded sources. Every reasonable effort has been made to give reliable data and information, but the publisher cannot assume responsibility for the validity of all materials or the consequences of their uses.

© 2000 by CRC Press LLC

No claim to original U.S. Government works
International Standard Book Number 0-8493-2170-0
International Standard Series Number 1097-9568

© 2000 by CRC Press LLC

IPR2023-00694
Theta EX2010

(MAT), Radon transform, separable image transform, sine transform, slope transform, top hat transform, transform, Walsh transform, wavelet transform.

image understanding the interpretation by a computer of the contents of an image. The process seeks to emulate people's ability to intelligently extract information from or make conclusions about the scene in an image. Also called image interpretation.

imaginary power *See* reactive power.

imaging modalities the general physical quantity that the pixels in an image represent; the type of energy an image processing system converts during image acquisition. The most common modality is visible light, but other modalities include invisible light (infrared or x-ray), sound (ultrasound) and magnetism (nuclear magnetic resonance). *See also* computed tomography (CT), fluoroscopy, image acquisition, magnetic resonance imaging (MRI), multispectral image, nuclear magnetic resonance, positron emission tomography (PET), synthetic aperture radar (SAR), tomography, ultrasound, X-ray image.

IMC *See* internal model control.

immediate addressing an addressing mode where the operand is specified in the instruction itself. The address field in the instruction holds the data required for the operation.

immediate operand a data item contained as a literal within an instruction.

immersed flow a flow of electrons emitted from an electron gun exposed to the focusing magnetic fields.

immittance a response function for which one variable is a voltage and the other a current. Immittance is a general term for both impedance and admittance and is generally used where the distinction is irrelevant.

immunity to a disturbance an equipment or systems capability to operate if an electromagnetic disturbance occurs.

impact excitation excitation of an atom or molecule resulting from collision by another particle such as an electron, proton, or neutron.

IMPATT diode acronym for impact avalanche and transit time diode. Negative resistance device used at high frequencies used to generate microwave power. Typically used in microwave cavity oscillators.

impedance (1) electrical property of a network that measures its ability to conduct electrical AC current for a given AC voltage. Impedance is defined as the ratio of the AC voltage divided by the AC current at a given point in the network. In general, impedance has two parts: a real (resistive) part and an imaginary (inductive or capacitive "reactive") part. Unless the circuit is purely resistive (made up of resistors only), the value of impedance will change with frequency.

(2) in an antenna, usually defined at the input to an antenna, the impedance is the ratio of the applied (or induced) voltage to the current flowing into (or out of) the antenna input. More generally, it is defined as the ratio of the electric field to the magnetic field.

impedance inverter circuit whose input impedance, when terminated with a load, is inversely proportional to said load impedance — typically implemented with a quarter-wave transmission line.

impedance matching one of the main design activities in microwave circuit design. An impedance matching network is made up of a combination of lumped elements (resistors, capacitors, and inductors), or distributed elements (transmission lines of vary-

©2000 by CRC Press LLC

IPR2023-00694
Theta EX2010