

SECOND EDITION

COMPREHENSIVE

DICTIONARY

OF
ELECTRICAL
ENGINEERING

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Taylor & Francis
Taylor & Francis Group

Boca Raton London New York Singapore

CRC PRESS, a Taylor & Francis title, part of the Taylor and Francis Group.

Published in 2005 by
CRC Press
Taylor & Francis Group
6000 Broken Sound Parkway NW, Suite 300
Boca Raton, FL 33487-2742

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CRC Press is an imprint of Taylor & Francis Group

No claim to original U.S. Government works
Printed in the United States of America on acid-free paper
10 9 8 7 6 5 4 3 2 1

International Standard Book Number-10: 0-8493-3086-6 (Hardcover)
International Standard Book Number-13: 978-0-8493-3086-5 (Hardcover)
Library of Congress Card Number 2004058572

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Library of Congress Cataloging-in-Publication Data

Comprehensive dictionary of electrical engineering / editor-in-chief Phillip A. Laplante.-- 2nd ed.
p. cm.

ISBN 0-8493-3086-6 (alk. paper)

1. Electric engineering--Dictionaries. I. Title: Electrical engineering. II. Laplante, Phillip A.

TK9.C575 2005
621.3'03--dc22

2004058572

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power splitter

power splitter passive device that accepts an input signal and delivers multiple outputs with equal power.

power supply an electronic module that converts power from some power source to a form which is needed by the equipment to which power is being supplied.

power supply unit (PSU) *See* power supply.

power system damping a torque action which works to reduce power system oscillations as time progresses.

power system oscillation variations in the machine rotor angle caused by small disturbances in the system. The oscillations are usually at low frequency.

power system security an operational index that determines the capability of a system to withstand equipment failures and external disturbances. It could be measured by the reserve capacity available or the number of operating constraint violations under a given prevailing condition or under a contingent probability of disturbances.

power system stabilizer a control device that provides an additional input signal to the AVR to damp power system oscillations.

power transfer function any function of input to output power in ratio form, expressed as a dimensionless ratio.

power transformer a transformer that is used to transmit power from one voltage level to another. Power transformers can be of either single phase or three phase design, and include either two or three windings.

Poynting vector a vector, proportional to the cross product between the electric and magnetic field intensity vectors, indicating the density and flow of electromagnetic power.

PPL *See* physical placement of logic.

PR function *See* positive real function.

practical intrafield predictor technique used to improve the image quality. In practical intrafield predictors, several issues are considered. For example, in two-dimensional images, prediction may not lead to significant improvements in entropy of the prediction error; however, there is a decrease in the peak prediction error. By choosing proper coefficients, it is possible to get improved prediction and a decay of the effects of the transmission bit errors in the reconstructed picture.

practical stability *See* uniform ultimate boundedness.

practical stabilization deterministic approach to robust systems design based on the use of Lyapunov functions. Design feedback control law ensures desirable behavior of the systems for all admissible variations of bounded uncertainty in the following sense.

There exists a neighborhood of the origin $\mathbf{B}(d)$ such that

(1) For any initial condition there exists a solution of the state equation for the closed-loop system in the given time interval.

(2) All solutions for a given set of initial conditions can be extended over infinite time interval.

(3) All solutions are uniformly bounded for the given set of initial conditions (*See* uniform boundedness).

(4) All solutions for the given set of initial conditions are uniformly ultimately bounded with respect to a ball $\mathbf{B}(d_0)$ with $d_0 > d$ (*See* ultimate boundedness).

(5) All solutions from the ball $\mathbf{B}(d_0)$ are uniformly stable.

If the given set of initial conditions could be extended to the whole state space, then the closed-loop system is globally practically stable for the designed control law.