IEEE Distinguished Lecturer Presentation hosted jointly by the

IEEE Ottawa EMC Chapter, and the IEEE Ottawa MTT/AP Chapter

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Speaker : Professor Omar Ramahi, Electrical and Computer Engineering Department

University of Waterloo, Waterloo, Ontario, Canada

Topic : Electromagnetic Band Gap Structures for Noise Mitigation in

Printed Circuit Boards and Packages

Date : Tuesday May 4, 2010

Time : 6:00 PM to 8:00 PM

Location : FIDUS SYSTEMS Inc., 900 Morrison Drive,

Suite 203,Ottawa, Ontario, K2H 8K7

Admission: Free, and is on a first to reply basis.

Preference given to IEEE EMC/MTT/AP society members.

Seating is limited. E-mail Reservation is required.

Pizza and soft drinks will be served.

Contact : Dr. Syed Bokhari, Chairman, IEEE Ottawa EMC chapter

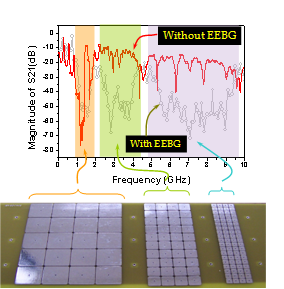
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Dr. Qiubo Ye, Chairman of the IEEE Ottawa MTT/AP Chapters

Qiubo Ye [qiubo.ye@crc.ca]

Abstract

 This talk explores how electromagnetic band gap (EBG) structures enabled

the design of power distribution networks that keep electromagnetic

interference and simultaneous switching noise due to high-speed digital

circuits to a minimum. The use of EBG structures, which are essentially

exotic types of polarization-dependent spatial filters, for reducing board

and package emissions will be explored as well. Succinct exposition of the

EBG theory will be discussed without elaborate mathematical analysis, yet

sufficient enough to give engineers design guidelines. Finally, recent

advances targeting miniaturized EBG structures and minimum area usage

will be addressed.

Biography

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Omar M. Ramahi received the BS degrees in Mathematics and Electrical and

Computer Engineering (summa cum laude) from Oregon State University,

Corvallis, OR. He received his M.S. and Ph.D. in Electrical and Computer

Engineering from the University of Illinois at Urbana-Champaign.

From 1990-1993, Dr. Ramahi held a visiting fellowship position at the

University of Illinois at Urbana-Champaign. From 1993 to 2000, he worked

at Digital Equipment Corporation (presently, HP), where he was a member

of the alpha server product development group. In 2000, he joined the

faculty of the James Clark School of Engineering at the University of

Maryland at College Park as an Assistant Professor and later as a

tenured Associate Professor. At Maryland he was also a faculty member

of the CALCE Electronic Products and Systems Center. Presently, he is a

Professor in the Electrical and Computer Engineering Department and holds

the NSERC/RIM Industrial Research Associate Chair, University of Waterloo,

Ontario, Canada. He holds cross appointments with the Department of Mechanical

and Mechatronics Engineering and the Department of Physics and Astronomy. He

has authored and co-authored over 200 journal and conference papers. He is a

co-author of the book EMI/EMC Computational Modeling Handbook, 2nd Ed.

(Springer-Verlag, 2001). Presently, he serves as an Associate Editor for the

IEEE Transactions on Advanced Packaging. Professor Ramahi is an elected IEEE

Fellow and is presently serving as an IEEE Electromagnetic Compatibility

Society Distinguished Lecturer.

Directions:

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