IEEE KITCHENER-WATERLOO

IEEE MTT-Chapter Presentation

Prof. Hirofumi Akagi

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"Trends in Power Electronics in Japan"

The emergence of power semiconductor devices such as insulated-gate bipolar transistors (IGBTs) or injection-enhanced gate transistors 9IEGTs) and gate-commutated turn-off (GCT) thyristors enables power conversion systems to expand into utility and industry applications.
This talk focuses on the state-of –the- art power electronics and its applications to industry and utility in Japan, for example, trends in 600-V IGBT, a 1.4 GW HVDC transmission system using light-triggered thyristors, a 10-MW railway power conditioner using GCTs, a 200-MJ/20-MW flywheel energy storage system for line-frequency regulation, and so on. This talk also includes the personal views and expectations of the speaker.

Biography

Hirofumi Akagi was born in Okayama, Japan in 1951. He received his B.S. degree from Nagoya Institute of Technology in 1974, and his M.S. and Ph. D. degrees from Tokyo Institute of Technology in 1976 and 1979, in all electrical engineering. In the same year, Dr. Akagi joined Nagaoka University of Technology as an Assistant and then Associate Professor. In 1987, he was a Visiting Scientist at Massachusetts Institute of Technology for ten months. From 1991 to 1999, he was a Professor at Okayama University.
>From March to August of 1996, he was a Visiting Professor at the University of Wisconsin-Madison, and then Massachusetts Institute of Technology. Since January 2000, he has been a Professor at Tokyo Institute of Technology.
Over the past twenty years, Dr. Akagi has conducted comprehensive research on static power converters, ac motor drives, high-frequency resonant inverters for induction heating and corona discharge treatment processes, and utility applications of power electronics such as active filters for power conditioning and FACTS (Flexible AC Transmission Systems) devices.
Dr. Akagi has published over 130 peer-reviewed journal papers, including 54 IEEE Transactions papers in the field of power electronics. He is a recipient of the IEEE IAS Transactions prize paper award for 1991, and the IEEE PELS Transactions prize paper award for 1998, along with seven IEEE IAS committee prize paper awards from the industrial power converter committee and the industrial drive committee.
He was elected as a Fellow of the IEEE in 1996, and a Distinguished Lecturer of both IEEE IAS and PELS societies for 1998-1999. He has been serving as an At-Large Member of the IEEE PELS Administrative Committee since 1999.

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TIME: 3:00-4:00 pm

LOCATION: EIT 3142

Invited by Prof. Magdy Salama
Department of Electrical and Computer Engineering