

Energy Harvesting Systems

Dr. Paul Mitcheson

Senior Lecturer, Imperial College London

日時: 2012年9月27日(木) 15:00-16:30

会場: 東京大学工学部2号館3階 31A会議室

要旨

The harvesting of energy for powering wireless sensors is of interest to industry and academia alike. Applications of such devices span diverse fields, from medical monitoring devices to process plant status monitoring sensors and to defence applications: the technology is of use anywhere where a running a power cable is impossible or prohibitively expensive and where battery replacement is too onerous.

In this talk I will give an overview of energy harvesting systems, concentrating on the work that has been done at Imperial College London over the last 10 years. I will cover several different types of harvesters, including vibration-driven (both low and high frequency), miniature wind turbine devices, a new thermoelectric device and devices which harvest energy from ambient radio frequency signals. In each case I will cover the system related aspects of these interesting multi-domain devices. Finally, an alternative method of powering wireless sensors, that of inductive wireless power transfer, will be briefly described.

