



Global COE program "Electronic Devices Innovation" Global Seminar

SQUIDs: From Jumbos to the Nanoscale

Sponsored by Osaka University global COE program "Electronic Devices Innovation" (CEDI)

20 May, 2008, 16:30 – 18:30, Room B303

Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, Japan

Speaker

Dr Edward Romans

London Centre for Nanotechnology & Department of Electrical Engineering,
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Abstract

Superconducting quantum interference devices (SQUIDs) possess unrivalled magnetic flux sensitivity over a wide range of frequencies from dc up to MHz and beyond. The talk will outline the full range of SQUID development activities taking place in my group in the UK and describe many possible applications. At one extreme we have developed a fully mobile SQUID system that can be used to inspect curved aircraft structures such as the wing of the new generation of superjumbo-jets. At the other extreme we are developing a range of nano-scale SQUID sensors fabricated by focussed ion-beam (FIB) milling. These can be used for a variety of applications: as single photon detectors, in quantum information processing, in spintronics and in fundamental measurements of nano-scale magnetism.

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