

T_CSUH Special Seminar

Texas Center for Superconductivity at the University of Houston

Mr. Stephen M. Harrison

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Superconducting Magnets in Space

Tuesday, October 23, 2007

Room 102, University of Houston Science Center
11.00 a.m. – 12.00 noon

Abstract

A brief introduction to Scientific Cryomagnetics Company will be given, followed by a review of some of the earlier attempts to use superconducting magnets in space. Our present and past projects will be shown emphasizing design, construction and cryogenics of some of the superconducting magnets built (or still under fabrication) by our company for space applications: Alpha Magnetic Spectrometer (AMS), Variable Specific Impulse Magnetoplasma Rocket (VASIMR), and X-Ray Evolving Universe Spectroscopy (XEUS). Future possibilities for applied superconductivity in space will be presented, with project overviews and possibility to discuss details during and after the seminar.

Bio

Mr. Harrison graduated with a first class degree in Engineering from Cambridge University in 1990, having specialized in aerodynamics and fluid mechanics. After a short period in the aerospace sector, he joined Oxford Instruments, where he worked as a cryogenic engineer in the special magnets group. There Mr. Harrison was responsible for the cryogenic systems for some very large and challenging detector magnets, including the CLAS torus magnet at the Jefferson Laboratory, the HADES torus at GSI in Germany, and the KLOE solenoid at INFN Frascati. He was also instrumental in the development of the HTS current leads program at CERN. In 2000, he started a new company - Scientific Magnetics - initially focusing on new applications for applied superconductivity, particularly in space. More recently, the company has expanded into new markets as well, and now supplies magnets and cryogenic systems for physical sciences while retaining a unique ability to design and deliver special or bespoke systems.

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