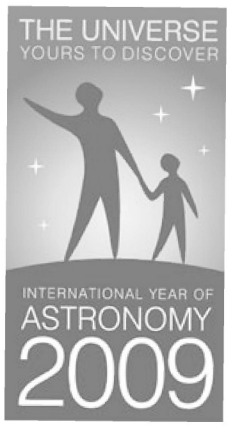
The Australian Institute of Physics
Tasmanian Branch

UTAS
School of Mathematics and Physics

Particle Astronomy – the Second Window



Dr Marc Duldig
Australian Antarctic Division

November 19, 2009, 8 PM
Physics Lecture Theatre 1
Sandy Bay Campus, University of Tasmania

ABSTRACT:
Traditional astronomy relies on light to bring information to the observer. This covers the whole electromagnetic spectrum from radio and infra-red through the familiar visible night sky to ultra-violet, X-rays and gamma rays.
However, there is another spectrum available to astronomers – the cosmic ray spectrum. Cosmic rays are particles travelling almost at the speed of light and they carry different kinds of information about their sources and where they have been in their travels to Earth. We will talk about what they are, how they come to travel so fast and what they are telling about the universe around us. We will hear a little history about several Nobel Prizes they led to, how they tell us about the sun and its surroundings, and how, even today, they are still interacting with the big bang! Finally we will hear some aspects of cosmic ray effects that are used every day for practical purposes like sample dating, climate change research and why you increase your radiation dose every time you fly in a jet plane.

SPEAKER PROFILE:
Dr Marc Duldig is a world leader in Cosmic Ray modulation research and is responsible for cosmic ray observatories in Australia and Antarctica. He is a member of several key international cosmic ray global network collaborations. Marc is a Senior Principal Research Scientist with the Australian Antarctic Division where he manages the atmospheric component of the Division's climate program as well as the cosmic ray observatories. He is Vice President of the Australian Institute of Physics and a Secretary of the Astronomical Society of Australia. He is married with 3 adult step-children, an 11 year old daughter and 2 Alaskan Malamutes and enjoys skiing with his family.

Lecture sponsored by the Australian Institute of Physics, the Astronomical Society of Australia and the School of Mathematics and Physics.

ALL WELCOME