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The Square Kilometre Array (SKA): a co-design vehicle for exascale computing

Wednesday, 13 April 2011 09:45 (45 minutes)

Overview

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Impact

Steve Rawlings is a Professor of Astrophysics at the University of Oxford and a Tutor in Physics at St Peter's College Oxford. He has research expertise in extragalactic astrophysics and observational cosmology in which he has published over 200 papers. He has published and edited books used by undergraduates and researchers. He was Head of Astrophysics at Oxford between 2005 and 2010, and has served on many UK committees including the PPARC Science Committee 2001-2003. He has chaired many international science committees: currently he is Chair of the European Square Kilometre Array (SKA) Consortium, Chair of the Science Advisory Committees for the two largest European radio astronomy groups (ASTRON, The Netherlands; MPIfR, Germany), and is global scientific coordinator of the SKA project. His current research interests centre on the design and science exploitation of SKA pathfinders.

Description of the work

The presentation will describe the science aims of the Square Kilometre Array (SKA), explaining its complementarity to physics experiments such as the Large Hadron Collider (LHC) at CERN. Like the LHC, the SKA will generate significant data processing challenges, and like the LHC it can benefit from e-infrastructures underlying a collaborative approach to solving these challenges. I will explain how some new approaches to the analysis of data from experiments with SKA pathfinders are kick-starting the needed collaboration between radio astronomers and the wider science and computing communities.

Session Classification: Plenary