University of Birmingham

Professor Adrian Michael Cruise BSc, PhD, FRAS, FinstP, CPhys

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About

Mike Cruise is a member of international teams searching for gravitational waves using ground based and space based facilities. He has published over 100 research papers and a text book on The Principles of Space Instrument Design. Mike is a member of the European Space Agency Physical Sciences Working Group, European Space Agency Future Technology Advisory Panel, Chairman of Commission H (Fundamental Physics) in Cospar, Chair of the UKSA Exomars Oversight Panel, Deputy Chair of the UKSA SPAC and Treasurer of the Royal Astronomical Society.

Mike Cruise is a frequent speaker at public venues on Gravity, Gravitational Waves and Space Science.

Qualifications

- Chartered Physicist
- Fellow of the Institute of Physics
- Academician of the International Astronautics Academy
- Member of the International Astronomical Union
- Fellow of the Royal Astronomical Society
- PhD in Space Science Instrumentation
- BSc (first class) Physics

Biography

Mike Cruise obtained his BSc and PhD from University College London where he worked at the Millard Space Science Laboratory on instrumentation for X-Ray Astronomy. In 1985 he was appointed Deputy Director. In 1986 he left UCL to become leader of the Astrophysics Group at the Rutherford Appelton Laboratory, subsequently becoming the Associate Director for Space. In 1995 he was appointed to a chair at the University of Birmingham, followed by five years as Head of School and five years as Pro Vice Chancellor for Research and Knowledge Transfer.

He has received awards from ESA, NASA, BMFT and the Royal Aeronautical Society.

Mike Cruise has contributed significantly to a number of Space missions including Skylarks 921,922, 821,822,1104 Ariel V, Ariel VI, Hipparcos, AMPTE, ROSAT, Spektrum Roentgen Gamma, SOHO, Cluster, XMM-Newton, STEREO, LEGRI, SMEI. LISA Pathfinder and LISA.

Research

RESEARCH THEMES

- Gravitational Waves
- Gravity
- Space Instrumentation
- Fundamental Physics

RESEARCH ACTIVITY

Mike Cruise is part of the consortium which has built the payload for LISA Pathfinder, the technical pre-cursor to LISA- a space based gravitational wave observatory. He is also Co-I on the grants at Birmingham that fund the Advanced LIGO project- a ground based gravitational wave observatory due for completion in 2014.

Mike has pioneered the development of gravitational wave detectors for very high frequencies- above 1 MHz and has detectors observing at 14 GHz and at Optical frequencies in his laboratory at Birmingham.

Other activities

- Treasurer of the Royal Astronomical Society (RAS)
- Council member RAS
- Chair, Finance Committee RAS

- Chair Cospar Commission H (Fundamental Physics)
- Chair UKSA Exomars Oversight Panel
- Deputy Chair UKSA Science Programme Advisory Committee
- Member UKSA Aurac committee
- Member Cospar Science Advisory Committee
- Member European Space Agency Physical Sciences Working Group
- Member European Space Agency Future Technology Advisory Committee

Publications

Book

Principles of Space Instrument Design
A.M. Cruise, J.A.Bowles, C.V.Goodall and T.J. Patrick(408 pp) Cambridge University Press, Cambridge Aerospace Series
ISBN -13 978-0-521-45164-2.
Paperback as ISBN-13 978-0-521-02594-2.

Journal articles

1. All–sky search for gravitational wave bursts in the first joint LIGO-GEO-Virgo run
   Authors J Abadie et al including A M Cruise
   Physical Review D , 81, 10200
2. Searches for Gravitational Wave Bursts associated with short Gamma Ray Bursts during LIGO ‘s fifth science run and Virgo’s first science run
   Authors J Abadie et al including A.M.Cruise
   Astrophysical Journal, 715, 1453, 2010
3. Searches for Gravitational Wave Bursts associated with Gamma Ray Bursts using data from LIGO science run 5 and Virgo science run 1
   Authors J Abadie et al including A.M.Cruise
   Astrophysical Journal, 715, 1438, 2010
4. Searches for Gravitational Waves from known Pulsars with science run 5 LIGO data
   Authors B P Abbott et al including A M Cruise
   Astrophysical Journal 713, 671, 2010

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