CONSORZIO INTERUNIVERSITARIO PER LA FISICA SPAZIALE

UNIVERSITA' DEGLI STUDI DELL'AQUILA

IL MIO VOLER CERCAR OLTRE LA META

INTERNATIONAL SCHOOL OF SPACE SCIENCE

L'Aquila - ITALY

Frontend research at low radio frequency Radio astronomy: Science and technical challenges

3-7 April 2023

Programme and Lecturers

R. Vermeulen - International LOFAR Telescope (ILT)
Low frequency radio astronomy and the LOFAR telescope

R. van Weeren - Leiden University, The Netherlands
LOFAR surveys: a new window of observation of the Universe

F. de Gasperin - INAF- Istituto di Radioastronomia, Italy
LOFAR LBA: Sky Survey and Practical Use

M. Mevius - ASTRON, The Netherlands
Ionosphere Calibration

L. Morabito - Durham University, United Kingdom
Very Long Baseline Interferometry with LOFAR

A. Bonafede - DIFA University of Bologna, Italy
Polarization at low radio frequencies and cosmic magnetism

G. Taffoni - INAF- Osservatorio Astronomico di Trieste, Italy
Computational challenges in low frequency radio astronomy

P. Zucca - ASTRON, The Netherlands
Solar radio astronomy and space weather

C. Tiburzi - INAF- Osservatorio Astronomico di Cagliari, Italy
Pulsars at low radio frequencies

A. Rowlinson - University of Amsterdam and ASTRON, The Netherlands
Transients at low radio frequencies

V. Heesen - Hamburg University, Germany
Cosmic rays and magnetic fields in nearby galaxies

R. Morganti - ASTRON and University of Groningen, The Netherlands
Radio Galaxies at low radio frequencies

G. Brunetti - INAF- Istituto di Radioastronomia, Italy
Non-thermal phenomena in galaxy clusters and large-scale-structure

S. Camera - Physics Dept. University of Torino, Italy
The impact of low frequency observations in Cosmology

Foto: Santa Maria ad Cryptas, Fossa (AQ)

SCHOOL SECRETARIAT:
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THE DIRECTOR OF THE SCHOOL:
U. Villante

SCHOOL RATIONALE

In recent years, radio astronomy has been experiencing a golden age thanks to the advent of the precursors and pathfinders of the Square Kilometre Array (SKA). The pan-European LOFAR radio telescope is the largest SKA pathfinder in the low frequency band. LOFAR observations are entering uncharted observational territories, paving the way to the SKA science and technical challenges.
The School aims to provide a broad overview of the technical and scientific developments of radio astronomy at low frequencies, with particular reference to the LOFAR case. We will discuss the modern observational techniques of interest for low frequency radio astronomy and their challenges, and the impact of LOFAR observations in a multitude of important areas, from the physics of the Sun and compact objects, to galaxy clusters and cosmology.
The School will also provide an overview for students on the roadmap for the SKA, which will be the largest radio telescope ever built that will be operational from the next decade.

GENERAL INFORMATION

The School will be held online.
Applications, including a brief curriculum vitae, are due before February 28, 2023. See the website www.cifs-isss.org/application.asp for details.
The fee is 80 Euro.
Applications will be evaluated by the Scientific Committee of the International School of Space Science. All applicants will be notified by e-mail.
All participants must be aware of the measures adopted in Italy for the epidemiological emergency from Covid-19.
https://www.salute.gov.it/portale/nuovocoronavirus/homeNuovoCoronavirus.jsp?lingua=english

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