

Technical Section III (16:00 h LT Brasilia)

1. Multiresolution operators applied in adaptive grid generation for Earth-magnetosphere simulations, Muller Moreira Lopes, INPE / CAP PNPd-CAPES, Brazil.
2. Adaptive multiresolution simulation of resistive magnetohydrodynamics equations, Anna Karina Fontes Gomes, IFSP, Brazil.
3. Adaptive global magnetic-hydrodynamic simulations using sparse point representation, Maibys Sierra Lorenzo, Centro de Física Atmosférica e Meteorologia do Institut de Cuba, Cuba.
4. Adaptive solution of Initial value problems by A dynamical Galerkin scheme, Rodrigo Pereira Universidade Federal Fluminense, UFF, Brazil.

Closing Section

Updates and additional information at: <http://www.inpe.br/wwlet/2021/en/>

Free Registration Link

<http://www.inpe.br/wwlet/2021/en/>

Organizers

Multiscale and Wavelets SBMAC Group

About the SBMAC Committee: “Análise Multiescala e Wavelets - Teoria, Desenvolvimento e Aplicações”

The WWlet is an initiative of this committee, that emerged from the growing interest of several scientific communities in wavelet techniques applied in signal/image processing and in adaptive methods in partial differential equations. Our aim is to explore the concepts of these analyzes and their theoretical, numerical and computational aspects, expanding them broadly for the different purposes of the work segments of the Brazilian community. Information of SBMAC Committee can be found at sbmac.org.br/comites/comite-analise/.

We also have regular meetings during the year at some institutions (e.g. INPE, UEM) and undergraduate, master, doctorate, post-doctorate and research positions on wavelet topics and applications. E-mail: wwlet@inpe.br

Sponsors

FAPESP, CAPES and CNPq, Brazil.

X WWLET

Wavelets

&

Applications

in Signal Processing, Numerical Methods and
Scientific Computing to Partial Differential
Equations

<http://www.inpe.br/wwlet/2021/en/>

November 10th – 11th, 2021

São José dos Campos, SP, Brazil
(online format)

About

The Organizing Committee of X WWlet in 2021 is pleased to invite you to participate in the event Wavelet Applications in Signal Processing, Numerical Methods and Scientific Computing to Partial Differential Equations on November 10-11th, 2021 and to be held in São José dos Campos, São Paulo, Brazil as a remote activity in Zoom platform. Since its first edition in 2007, WWlet has been regularly organized and sponsored by CNPq, CAPES, FAPESP and SBMAC.

In the last few decades wavelets techniques have become an important research area in numerical analysis and an important tool in modern signal processing. Wavelets applied to the solution of partial differential equations can provide an alternative tool for developing adaptive methods, which enable an adaptive refinement of the solution according to its local regularity.

One of the main goals of this event is to explore concepts of wavelet analysis and its theoretical, numerical and computational aspects applied to the field of partial differential equations and signal processing.

Material from the events are available in INPE library software are available at github.

Program

November, 10th

Open Section (08:45 h LT Brasilia)

Lecture I (09:00 h LT Brasilia)

- Recurrent Wavelet Neural Network for Time Series Prediction, Eniuce Menezes de Souza, UEM, Brazil.

Break

Technical Section I (11:00 h LT Brasilia)

1. Sub-dynamics in Multiple Time Scale Dynamical Systems and your Associations with Frequency Sub-bands via Continuous Wavelet Transform, Luciano A. Magrini, IFSP, Brazil.
2. The use of wavelet technique for Pc5-pulsation electrodynamical characterization analysis at low-latitude conjugate stations, E. Camacho, Observatório Nacional, Brazil.

Technical Section II (14:00 h LT Brasilia)

1. Detection of fragmentation of the QRS-complex using different entropy and complexity quantifiers based on the Wavelet Transform, Gisela Clemente, La Plata National University, Argentina.

2. A case study of a gravity wave induced by Amazon forest orography and low level jet Generation, Hardiney dos Santos Martins, IFPA, Brazil.
3. Alternatives to build wavelet bases adapted to one-dimensional pattern, Angela León-Mecías, Havana University, Cuba.
4. Establishing a methodological approach to characterize South America Geomagnetic Disturbances, Odim Mendes, INPE, Brazil.

November, 11th

Lecture III (10:00 h LT Brasilia)

- Multiscale approximations and applications, Jacques Liandrat, Ecole Centrale Marseille, France.

Break

Lecture IV (14:00 h LT Brasilia)

- A Wavelet-Adaptive Method for Multiscale Simulation of Turbulent Flows in Flying Insects, Kai Schneider, Aix-Marseille University, France.

Break