

# Multiresolution and wavelet techniques for plasma and fluid turbulence

Topics :

- Wavelet denoising of PIC codes
- Transport of Lagrangian particles in Shallow water and Hasegawa-Mima equations
- Coherent Vorticity and Current sheet Extraction of MHD turbulence, study of directional and scale dependent statistics using different wavelets (div-free, Crayalets, orthogonal versus biorthogonal bases)
- Development of adaptive multiresolution methods for PDEs (data structures, thresholding strategies, stability analysis)
- Wavelet regularization of 3d incompressible Euler equations

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