

---

# Overview of applications of the 2D Wavelet Transform Modulus Maxima method

Andre Khalil\*<sup>1</sup>

<sup>1</sup>University of Maine – United States

## Abstract

As an extension of the 1D version developed in the nineties by A. Arneodo and his group, the 2D Wavelet-Transform Modulus Maxima (WTMM) method was first introduced ~20 years ago and has since been applied as a multifractal scaling method, a segmentation method, and as a method to characterize anisotropic signatures. An overview of the applications where the method was used will be presented, including the morphological analysis of atomic hydrogen in the Galactic disk, for which the method was first introduced to the astrophysics field in the mid 2000s.

**Keywords:** fractals, multifractals, wavelets, WTMM, anisotropy, segmentation

---

\*Speaker