



**POLITECNICO
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Dipartimento di
Scienze Matematiche
G. L. Lagrange

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**Online
seminar**

Monday **May 10, 2021** at 16:30

Hosted on: **Zoom**

Patrik WAHLBERG

Politecnico di Torino

Microlocal and Macrolocal Analysis

Prof. Nicola introduces the seminar.

Abstract

The talk is a survey of certain parts of microlocal analysis, from the point of view of the short-time Fourier transform (STFT). The STFT manifests various versions of the Uncertainty Principle. We discuss the (smooth) wave front set as a limit of information from the STFT, with perfect localization in the variable but only directional localization in the covariable. Then we take a global point of view of the STFT and discuss function spaces and wave front sets defined in terms of the STFT. They encode smoothness and decay comprehensively. Finally we give some applications to linear evolution PDEs.

Biography

Patrik Wahlberg is associated professor at DISMA from february 2021.

His research interests concern pseudodifferential operators, microlocal analysis, harmonic analysis, and time-frequency analysis. He is also interested in applications in linear partial differential equations, signal analysis and quantum mechanics.