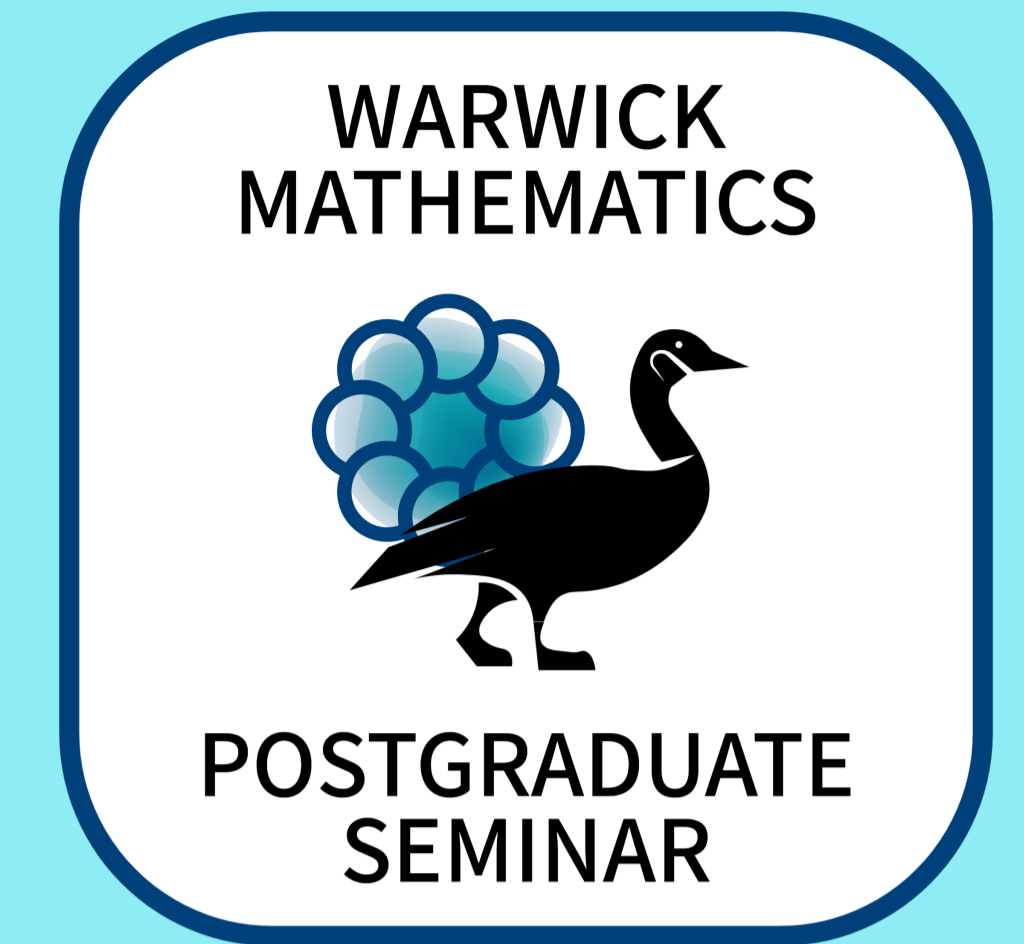


Beilinson spectral sequence and its reverse problems on \mathbb{P}^2

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Week 3 - Term 1



Abstract

Derived category is widely accepted as the natural environment to study homological algebra. We will study the structure of the bounded derived category of coherent sheaves on projective space via the semi-orthogonal decomposition (based on the Beilinson's theorem) and comparison (by a theorem by A. Bondal).

As an example we will give explicit free resolutions of some sheaves on \mathbb{P}^2 using the Beilinson spectral sequence. We will also discuss the reverse problem where we give a condition to when the complex given by the spectral sequence is a resolution of the ideal sheaf of three points.

Time

12 pm, 19th
October 2022

Location

Room B3.02

Organisers

Alvaro Gonzalez Hernandez
Katerina Santicola