



# THEMATIC PROGRAM IN MATHEMATICAL PHYSICS

*SPECTRAL THEORY, SEMI-CLASSICAL ANALYSIS,  
AND CONDENSED MATTER PHYSICS*

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## Mini-Courses

*November 2020 - March 2021*

## International Conference

Mathematics of Condensed Matter and Beyond (MCMB)

*February 22-25, 2021*

## Monthly Seminars

### **Seminar by Dr. Sara Maad Sasane (Lund University, Sweden)**

**Title: Perturbations of embedded eigenvalues for a magnetic Schrödinger operator on a cylinder**

**Date and Time: December 10 at 3:00pm**

**Registration Link: <https://aub.webex.com/aub/onstage/g.php?PRID=26fd56268321e70b412724cb5b8ed323>**

#### **Abstract:**

Perturbation problems for operators with embedded eigenvalues are generally challenging since the embedded eigenvalues cannot be separated from the rest of the spectrum. In this talk, I will describe a perturbation problem for embedded eigenvalues for a magnetic Schrödinger operator, when the underlying domain is a cylinder. The magnetic potential has an algebraic decay rate as the unbounded variable of the cylinder tends to infinity in both directions. We show that the set of nearby potentials, for which a simple embedded eigenvalue persists, forms a smooth manifold of finite codimension. This is joint work with Ari Laptev.