ID de Contribution: **13**   Type: **Non spécifié**

Spectral comparison results on quantum graphs

mercredi 26 juin 2024 11:30 (55 minutes)

By now, quantum and metric graphs have become popular models in different areas of mathematics and other areas of science such as physics. Being a (typically) complex structure which is locally one-dimensional, they in some sense interpolate between one- and higher-dimensional aspects known, for example, from the study of manifolds. In this talk, our main goal is to compare the spectrum of different Schrödinger operators defined on a given metric graph in a suitable way. Establishing so-called local Weyl laws - which prove interesting in their own right - we shall derive an explicit expression for the limiting mean-value of eigenvalue distances. We will first look at finite compact metric graphs and then move on to a certain class of infinite metric graphs. As we will see, some things might change in the infinite setting. Furthermore, we shall discuss some application of the results regarding inverse spectral theory. Namely, we derive some seemingly novel Ambarzumian-type theorems on graphs. This talk is based on recent work with Patrizio Bifulco (Hagen).

Orateur: KERNER, Joachim