

Seminar, Winter term 2018/19

Boundary and Eigenvalue Problems

Dr. Rainer Mandel

Data

Date: Friday, 14:00-15:30 (preliminary)
Room: Seminar room 3.068, building 20.30 (preliminary)
Participants: Advanced Bachelor or Master students in mathematics
Requirements: Boundary and Eigenvalue Problems or Partial Differential Equations

Subject

The seminar is intended to extend and deepen the participants' knowledge about boundary and eigenvalue problems. A list of possible topics includes:

1. **Absence of eigenvalues for certain Schrödinger operators**
2. **Exponential decay of eigenfunctions**
3. **The Faber-Krahn inequality**
4. **The isoperimetric inequality and the best Sobolev constant for $p = 1$**
5. **The Polya-Szegö Inequality**
6. **The best Sobolev constant for $p \in (1, n)$**
7. **Weyl's law**
8. **Eigenvalue problems for nonsymmetric elliptic operators**
9. **Homogenization**
10. **Liouville Theorems**
11. **Morrey's Imbedding Theorem and the Moser-Trudinger Inequality**
12. **(... Other topics you are interested in ...)**

The topics will be selected according to the interests and preknowledge of the students; including other topics may be possible. If you are interested please come to a first meeting on

Friday, 29.06.2018, 1:15 pm (i.e. 13:15 Uhr), room 2.067, building 20.30.

Contact

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