Singular integrals, randomness and weights

Welcome

Conference poster (pdf, 1 MB)

Conference picture (jpg, 5 MB)

Aim of the workshop

The aim of the workshop is to exchange some latest ideas in the analysis of singular integrals and related objects, including themes like:

- decomposition into simpler (dyadic, probabilistic, ...) model operators;
- "rough" environments (weighted, metric, or vector-valued spaces);
- sharp quantitative estimates;
- Tb theorems, testing conditions;
- applications in other areas of Analysis.

Organization

The workshop is organized by the Harmonic Analysis research group at the University of Helsinki.

It is funded by the European Research Council through the ERC Starting Grant ``Analytic-probabilistic methods for borderline singular integrals''.

Main speakers

50 + 5 minutes (talk + time for questions)

- ~~M. Lacey (Georgia Institute of Technology, U.S.A.)~~ *cancelled*
- A. Lerner (Bar-Ilan University, Israel): *On estimates of Calderon-Zygmund operators by dyadic positive operators* (see the beamer slides)
- C. Pérez (Universidad de Sevilla, Spain): *Sharp two weight estimates for Singular Integral Operators*
- S. Pott (Lunds universitet, Sweden): *On Toeplitz products on Bergman space and two-weighted inequalities for the Bergman projection* (see the beamer slides)
- A. Rosén (Linköpings universitet, Sweden): *Layer potentials beyond singular integral operators*
- M. Veraar (Technische Universiteit Delft, the Netherlands): *Traces and embeddings of anisotropic function spaces with weights*

Further speakers

40 + 5 minutes (talk + time for questions)

- J. Dziubanski (University of Wroclaw, Poland): *On atomic decompositions for Hardy spaces associated with certain Schrödinger operators*
- A. Grau de la Herran (Helsingin yliopisto, Finland): *Generalized local Tb Theorems for Square functions (see the beamer slides)*
- R. Korte (Helsingin yliopisto, Finland): *Strong A_\infty-weights are A_\infty-weights on metric spaces* (see the beamer slides)
- H. Martikainen (Helsingin yliopisto, Finland): *Non-homogeneous T1 theorem for bi-parameter singular integrals*
- P. Mattila (Helsingin yliopisto, Finland): *Singular integrals and removability for Lipschitz harmonic functions in Heisenberg groups*
- M. Mirek (University of Wroclaw, Poland): *Discrete analogues in harmonic analysis*
- M. Reguera (Lunds universitet, Sweden): *Sharp Békollé estimates for the Bergman projection* (see the beamer slides)
- E. Saksman (Helsingin yliopisto, Finland): *A basis for Dirichlet-Hardy spaces \mathcal{H}^p*
- P. Shmerkin (University of Surrey, United Kingdom): *Local entropy averages and the local distribution of measures* (see the beamer slides)
- J. Verdera (Universitat Autònoma de Barcelona, Catalonia): *A new characterization of Sobolev spaces in \mathbb{R}^n*

Abstracts of the talks (pdf, 0.1 MB)