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Einladung zum Vortrag
im Oberseminar Analysis

Tent space maximal regularity for the Stokes operator on the half-space

Jonas Lenz
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Introduced by Coifman, Meyer and Stein in 1984, tent spaces play an important role in harmonic analysis, see, e.g., [1]. In their paper, Auscher and Frey provide an alternative proof to the famous result of Koch and Tataru on the Navier-Stokes equations, c.f., [2].

It is then a natural and interesting question whether it is possible, using the ideas of Auscher and Frey, to establish the Koch-Tataru Theorem in the presence of a boundary, e.g., on the half-space. One step in that proof is the boundedness of the maximal regularity operator on the tent space $T^{\infty,2}$.

In this talk I will present an approach to this result in the half-space setting and extensions thereof to different (weighted) tent spaces. One challenge is to define the Stokes semigroup as the natural way via the Helmholtz projection is not useful in our setting. This is joint work with Patrick Tolksdorf.

References

[1] P. Auscher and D. Frey. *On the well-posedness of parabolic equations of Navier-Stokes type with* BMO^{-1} *data.* J. Inst. Math. Jussieu **16** (2017), no. 5, 947–985.

[2] H. Koch and D. Tataru. *Well-posedness for the Navier-Stokes equations.* Adv. Math. **157** (2001), no. 1, 22–35.

Alle Interessierten sind herzlich eingeladen!

Datum: Donnerstag, 16.11.2023

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