

Einladung zum Würzburger Mathematischen Kolloquium

Julius-Maximilians-Universität Würzburg • Fakultät für Mathematik und Informatik

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Prodipprofessor this semester

Diffeomorphisms of unit circle, shape analysis, and some non-linear PDEs

Mittwoch, der 30. Okt. 2019 • 16:15 Uhr

Raum SE 40, Mathematik Ost, Emil-Fischer-Str. 40, Campus Hubland-Nord

Inhaltsangabe:

In the talk, we explain how univalent functions can be used to analyze plain shapes. In turn, the univalent functions defined on the unit disc are closely related to the group of oriented preserving diffeomorphisms of the unit circle. A moving plain shape gives rise to a curve on the group of diffeomorphisms. The requirement to describe a shape modulo its rotation and/or scaling leads to a curve subordinated to some constraints. A geodesic curve of the motion of a shape is a solution to a non-linear partial differential equation. The choice of metric leads to different PDEs, that are generalizations of equations originated in fluid dynamics, such as inviscid Burgers' equation, Camassa-Holm, Hunter-Saxton, and KdV.



<https://www.mathematik.uni-wuerzburg.de/de/aktuelles/kolloquium/>



Zu diesem Vortrag laden wir Sie herzlich ein.
Im Anschluss an den Vortrag stehen Tee und Kaffee im Foyer vor dem SE 40 bereit.

Die Dozentinnen und Dozenten der Mathematik