

## **Mappings of finite directional distortion**

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### **Abstract**

In our talk, we start with providing the main rigidity inherent of conformal mappings in higher-dimensional Euclidean spaces and presenting some properties of quasiconformal, quasiregular mappings, and mappings of finite distortion. Some background relating to the regularity feature of multidimensional mappings will be also discussed.

Our main tool for studying the above mapping classes rely on directional dilatations and extremal bounds for the conformal moduli. We also involve the multidimensional Teichmüller theorem on separating rings recently established in [1]. It allows us to investigate the boundary correspondence problems for mappings with weakened regularity assumptions, i.e., from Sobolev class  $W^{1,n-1}$ .

The talk is based on joint works with T. Sugawa and M. Vuorinen.

1. A. Golberg, T. Sugawa, M. Vuorinen, Teichmüller's theorem in higher dimensions and its applications, *Comput. Methods Funct. Theory*, **20** (2020), pp. 539–558.