

Im

## Oberseminar Analysis

hält

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im Rahmen eines **Kolloquiums** zu seiner **Masterarbeit** einen Vortrag zum Thema

# Riesz\* homomorphisms in pre-Riesz spaces and their order adjoints

### Abstract:

The natural morphisms in the category of Riesz spaces are the Riesz homomorphisms. Van Haandel has generalized this notion to the setting of pre-Riesz spaces to Riesz\* homomorphisms. In this talk, we will discuss two different aspects on how to characterize Riesz\* homomorphisms in pre-Riesz spaces.

Intrinsically, Riesz\* homomorphisms are characterized as linear maps satisfying an inclusion for finite sets. Van Haandel claimed that it is sufficient to consider sets with at most two elements. We observe that this is not true, in general, which leads to the introduction of so-called *mild Riesz\* homomorphisms*. We compare geometric descriptions of mild Riesz\* and Riesz\* homomorphisms in (finite-dimensional) order unit spaces.

Riesz homomorphisms between Riesz spaces can be characterized via interval preserving order adjoints. We will discuss how far this characterization extends to the setting of pre-Riesz spaces. Moreover, we explore examples where the Riesz space-type results fail.

Datum: **Donnerstag, 19. Juni 2025**

Zeit: **16:40 Uhr**

Raum: **WIL A 124**

Kontakt: Prof. Dr. Ralph Chill

Alle Interessent:innen sind herzlich eingeladen.