ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Presentation about the Workplacement

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"Well-posedness of a system of Helmholtz equations in the framework of nonlinear acoustics"

N.2.01 | Wednesday, 26 June 2024 | 12:00 p.m.

Abstract

This work placement revolved around exploring the fundamentals of both linear and nonlinear acoustics as well as methods and techniques which are used to show well-posedness of the underlying mathematical models. Many prominent models for describing phenomena in nonlinear acoustics are based on the (nonlinear) Westervelt equation. In case of a periodic sound excitation it is possible to find an approximate solution to it by considering a finite system of Helmholtz equations. Under (relatively) weak assumptions this system has a unique solution. I will outline the proof of well-posedness for the finite system of Helmholtz equations using fixed-point arguments.

Barbara Kaltenbacher and the Department of Mathematics look forward to seeing you at the talk!