Einladung zum

Würzburger Mathematischen Kolloquium

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

Prof. Dr. Ben Schweizer

Universität Dortmund

Dispersive behavior of waves in heterogeneous media

Mittwoch, 24. Juni 2015 • 16:15 Uhr

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

Inhaltsangabe

The wave equation describes the propagation of sound waves, of elastic waves, or electromagnetic waves. If the waves propagate in a medium, we must consider the wave equation with x-dependent coefficients. Waves in a homogeneous medium (x-independent coefficients) can be described with the help of a Fourier transform: The behavior is special in the sense that all waves travel with the same speed, i.e. no dispersive effects occur. The situation is different in heterogeneous media: Waves cannot be expanded in a Fourier series – the natural replacement is a Bloch transformation. With this tool, we demonstrate that the heterogeneous medium shows indeed dispersive effects. Our long-time homogenization result provides explicit formulas which are also confirmed by numerical tests.

www.mathematik.uni-wuerzburg.de/kolloquium.html

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

Die Dozentinnen und Dozenten der Mathematik