

## Karlsruher PDE-Seminar

# Waves in non smooth media

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We shall discuss several problems, motivated by control theoretical issues, related with wave propagation in non smooth media.

When waves propagate in smooth media, the evolution of energy can be understood along rays of Geometric Optics. But, as we shall see, for some rough media, waves can get trapped in the interior of the domain where they evolve, never reaching the boundary. This makes boundary observation and control impossible.

This is due to the existence of concentrated quasi-modes that are also an impediment for dispersive properties to hold.

We shall also discuss closely related issues emerging in the context of numerical approximation, describing how the geometry of the mesh may affect propagation properties of numerical solutions.

**Termin:** Montag, 4. Mai 2015, 14:00 Uhr

**Ort:** Gebäude 20.30 SR 1.067

**Gastgeber:** Die Dozenten des Schwerpunkts Partielle Differentialgleichungen