

## **Oscillatory solutions: Analysis and applications**

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Oscillations are likely to appear in sequences of consistent approximations to conservation laws describing the motion of perfect (inviscid) fluids. Taking this fact for granted, we develop a machinery how to describe and finally also effectively compute oscillatory solutions.

On the example of the compressible Euler system, we show how oscillations as well as concentrations may develop. We introduce the concept of Young and oscillatory defect measures and their unification within the theory of dissipative solutions. Then we discuss the method of averaging based on the abstract analytical results of Banch-Sachs and Komlos. Finally, we apply the theory to several examples of numerical schemes.