

**Thomas KAPPELER**

**Analytic extensions of frequencies of integrable PDEs and applications**

In form of a case study for the mKdV and the KdV2 equation we discuss a novel approach of representing frequencies of integrable PDEs which allows to extend them analytically to spaces of low regularity and to study their asymptotics. Applications include properties of the actions to frequencies map as well as wellposedness results in spaces of low regularity. This is joint work with Jan Molnar.