中国科学院数学与系统科学研究院应用数学所

偏微分方程及其应用中心

学术报告

报告题目： Construction of multi-bubble blow-up solutions to the L^2-critical half-wave equation

报 告 人： 苏一鸣 副教授
浙江工业大学

时　　间： 2023 年 12 月 15 日（星期五）上午 11:00-12:00

地　　点： 腾讯会议：695-437-096

摘　　要： We study the bubbling phenomena for the L^2-critical half-wave equation in dimension one. Given arbitrarily finitely many distinct singularities, we construct blow-up solutions concentrating exactly at these singularities. This provides the first examples of multi-bubble solutions for the half-wave equation. In particular, the solutions exhibit the mass quantization property.Unlike the single-bubble or NLS cases, different bubbles exhibit the strongest interactions for the L^2-critical half-wave equation in dimension one. We find that there exists a narrow room between the orders $|t|^{2+}$ and $|t|^{3-}$ for the remainder in the geometrical decomposition. Based on this, a novel bootstrap scheme is introduced to address the multi-bubble non-local structure. The talk is based on a joint work with Cao Daomin and Zhang Deng.