

Global dynamics below the ground state for the Zakharov system in four dimensions

Kenji Nakanishi¹

¹ Kyoto University

This talk is based on joint work with Ioan Bejenaru, Zihua Guo and Sebastian Herr. We study the Zakharov system in \mathbb{R}^4 , where it has a few critical obstructions for analysis by the Strichartz estimate in the energy space. However, by a weak compactness argument, well-posedness and scattering were proven for small data in the energy space [1]. For large radial data below the ground state, deriving a global Strichartz estimate with potential solving the wave equation, we prove a Kenig-Merle type dichotomy into scattering and grow-up, with a distinction given by the wave mass.

References

- [1] IOAN BEJENARU, ZIHUA GUO, SEBASTIAN HERR, AND KENJI NAKANISHI, *Well-posedness and scattering for the Zakharov system in four dimensions*, Anal. PDE **8** (2015), no. 8, 2029–2055.