

Threshold for blowup for the supercritical cubic wave equation

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In this talk, we discuss recent results concerning singularity formation for the focusing cubic wave equation in the energy supercritical regime. In [1] we found an explicit non-trivial self-similar blowup solution, which is defined on the whole space and exists in all supercritical dimensions $d \geq 5$. Furthermore, for $d = 7$ we proved its stability along a co-dimension one Lipschitz manifold of initial data. Based on numerical experiments performed in [2] we conjecture that this manifold is in fact a threshold between finite-time blowup and dispersion.

References

- [1] I. Glogić and B. Schörkhuber, Co-dimension one stable blowup for the supercritical cubic wave equation, *arXiv:1810.07681v2*, Preprint 2018
- [2] I. Glogić, M. Maliborski and B. Schörkhuber, Threshold for blowup for the supercritical cubic wave equation, *arXiv:1905.13739*, Preprint 2019