Titel: Manifestations of dynamical localization in the random XXZ quantum spin chain

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Abstract:
We study random XXZ quantum spin chains in the Ising phase. We prove droplet localization, a single cluster localization property that holds in an energy interval near the bottom of the spectrum. We establish dynamical manifestations of localization in the energy window of droplet localization, including non-spreading of information, zero-velocity Lieb-Robinson bounds, and general dynamical clustering. A byproduct of our analysis is that this droplet localization can happen only inside the droplet spectrum. (Joint work with Alex Elgart and Gunter Stolz.)