

Finding Localization on the Koch Snowflake

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1. Localization
2. Numerical Approximations

Localization

Intuitive Conception

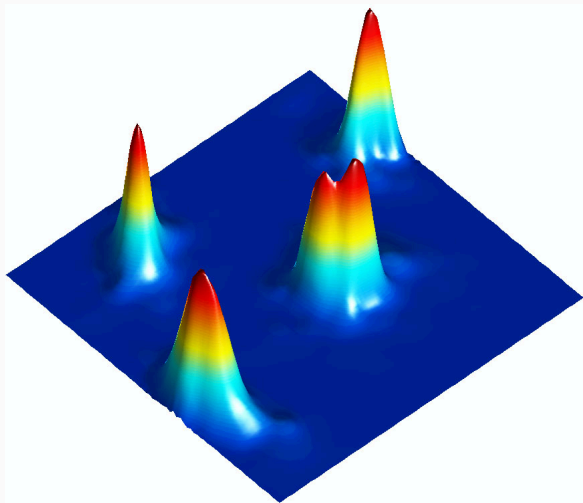


Fig.[1]: Eigenmodes localized in subregions.

Methods for Finding Localization

- Multiplicity of Eigenvalues
- Solution to $Lu = 1$

What is Multiplicity

Image Image

Something about u

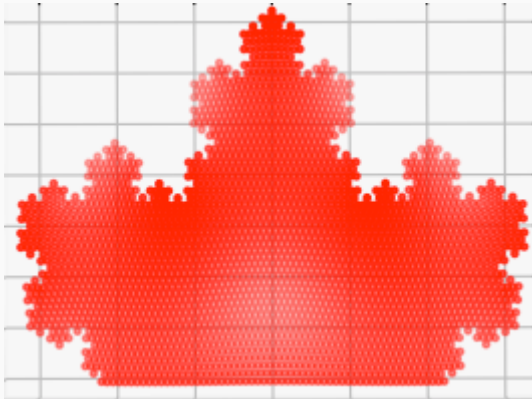
- u gives an upper bound for the energy.
- u determines localization.

Numerical Approximations

- Use similar algorithm to construct matrix that corresponds to upper half of the entire snowflake.
- Compute eigenvectors using simple datastructures.

Restricting to the Upperhalf

Consider only the region above the horizontal axis.



- Fug.[1] : <https://www.quantamagazine.org/mathematicians-tame-rogue-waves-lighting-up-future-of-leds-20170822/>

More to come.

-Thank you for your attention!