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Type: **Talk**

The Takeya problem

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Let's think about a puzzle. Take a needle (yes, the same one you normally use to sew holes in your socks) and draw a random shape on paper such that the needle fits inside. The question is: can you rotate the needle in such a way that it will not go outside of the lines at any moment? No? Try to draw another shape. Yes? That's great. Now do it again, but this time let it be smaller. The idea is to find the smallest possible shape in which this rotation would be possible. Seems hard? Because it is. But I will not say anything more now. I will cover the topic of this problem, known as the Takeya problem, as well as its connections to harmonic analysis during my talk.

Field

Mathematics

Length

Long 20 min

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