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# A pedagogical approach to degrees of freedom

*Friday, June 16, 2023 4:30 PM (30 minutes)*

As one of the fundamental concepts in physics, degrees of freedom are commonly encountered in classical mechanics, statistical physics, and QFT. However, the concept is often introduced without a careful explanation. In this talk, I will present a pedagogical approach to understanding degrees of freedom by analyzing simple (but not trivial!) mechanical systems. We will emphasize the role played by topology and geometry, and demonstrate how this approach provides a physical introduction to topology.

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