Title: Cutting Cosmological Correlators

Speakers: Harry Goodhew

Series: Cosmology & Gravitation

Date: December 05, 2022 - 12:00 PM

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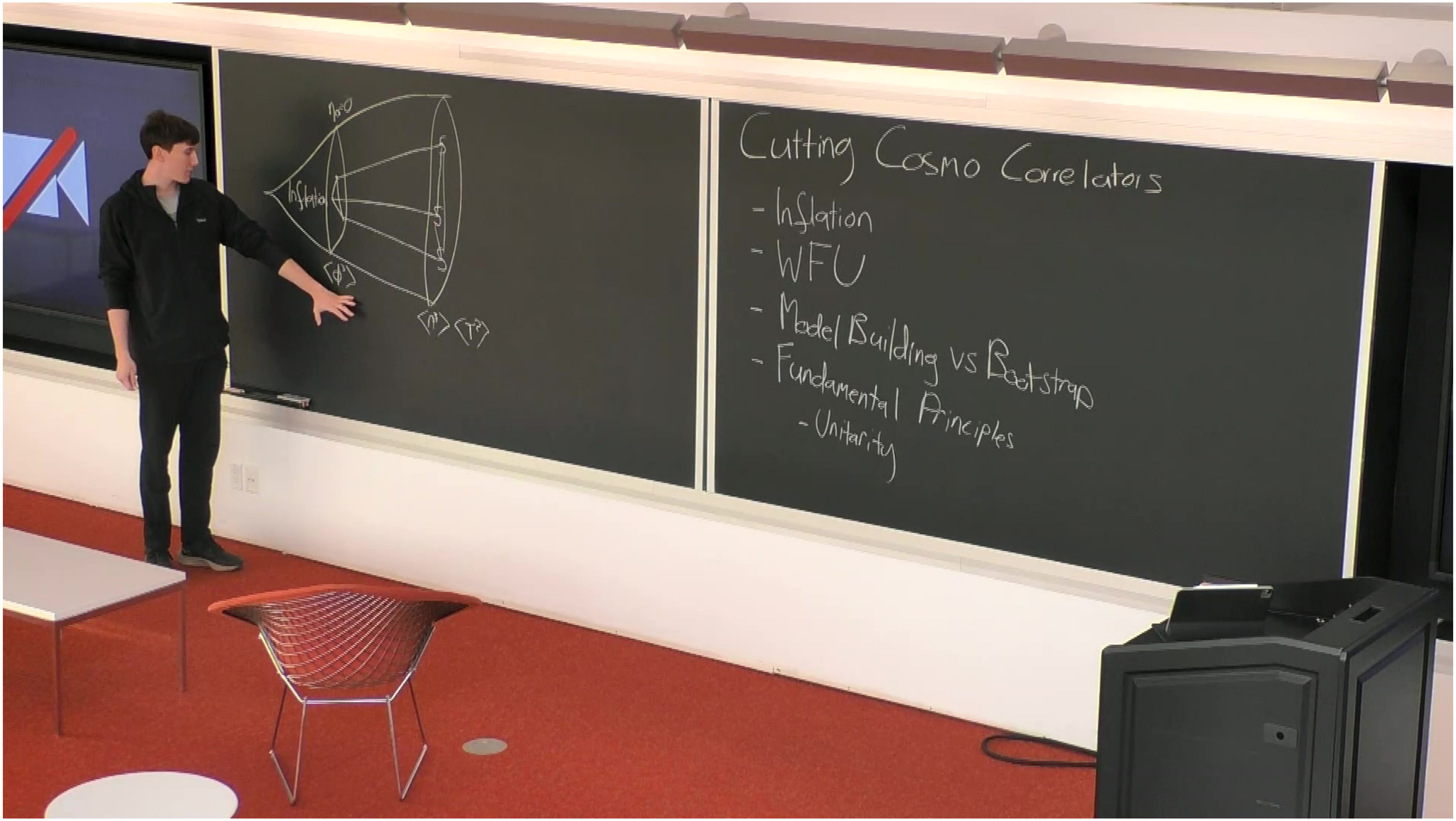
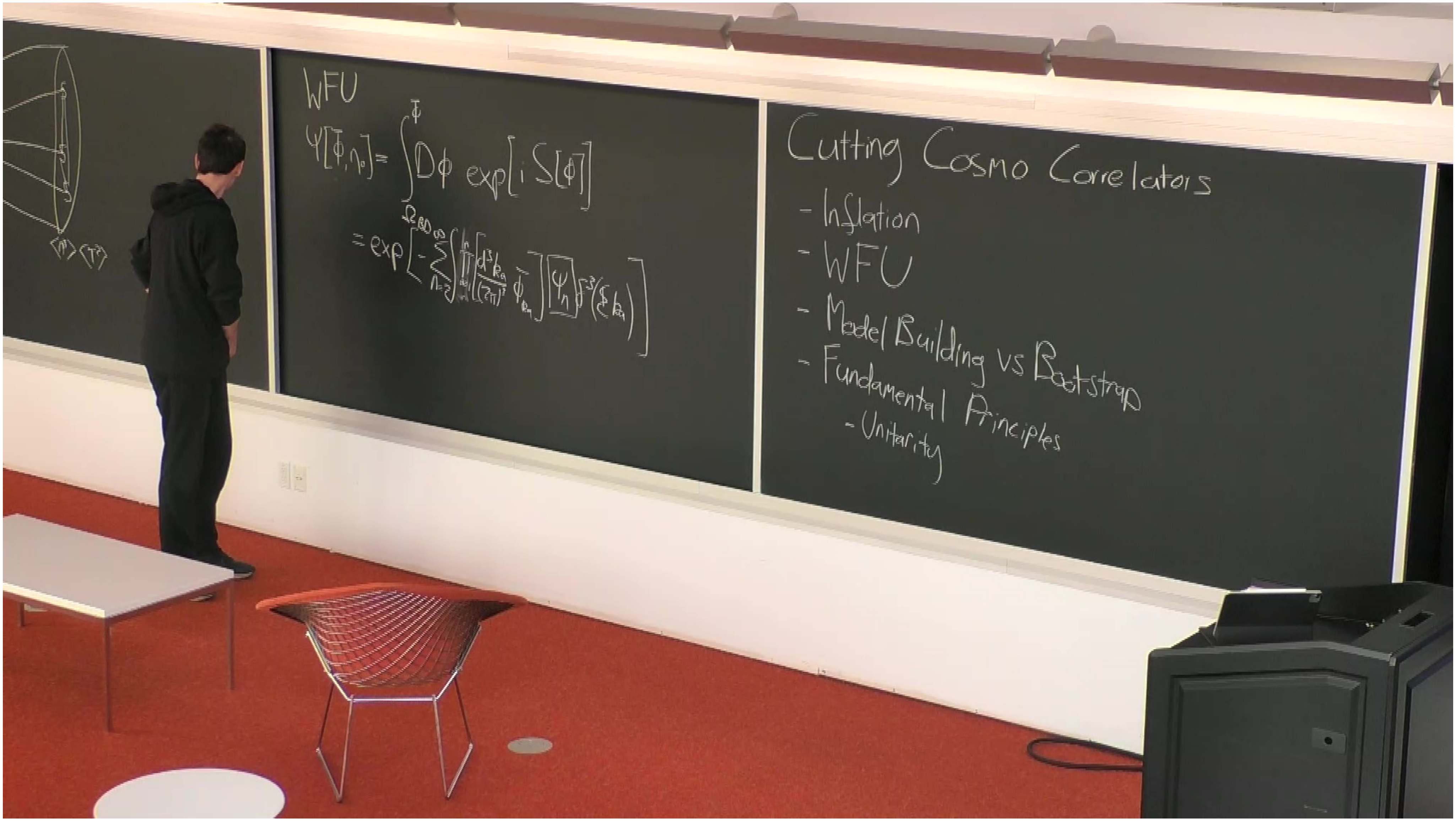
Abstract: The initial conditions of our universe appear to us in the form of a classical probability distribution that we probe with cosmological observations. In the current leading paradigm, this probability distribution arises from a quantum mechanical wavefunction of the universe. In this talk I will discuss how we can adapt flat space bootstrapping techniques to the quantum fluctuations in the early universe, in particular showing that the requirement of unitary time evolution, colloquially the conservation of probabilities, fixes the analytic structure of the wavefunction and of all the cosmological correlators it encodes.

Zoom link: https://pitp.zoom.us/j/95812107239?pwd=bVZMcWdHTVM0Y0tFZGMxS2FCVGF0Zz09


Cutting Cosmo Correlators
- Inflation
- WFU
- Model Building vs Bootstrap
- Fundamental Principles
- Unitarity
Inflation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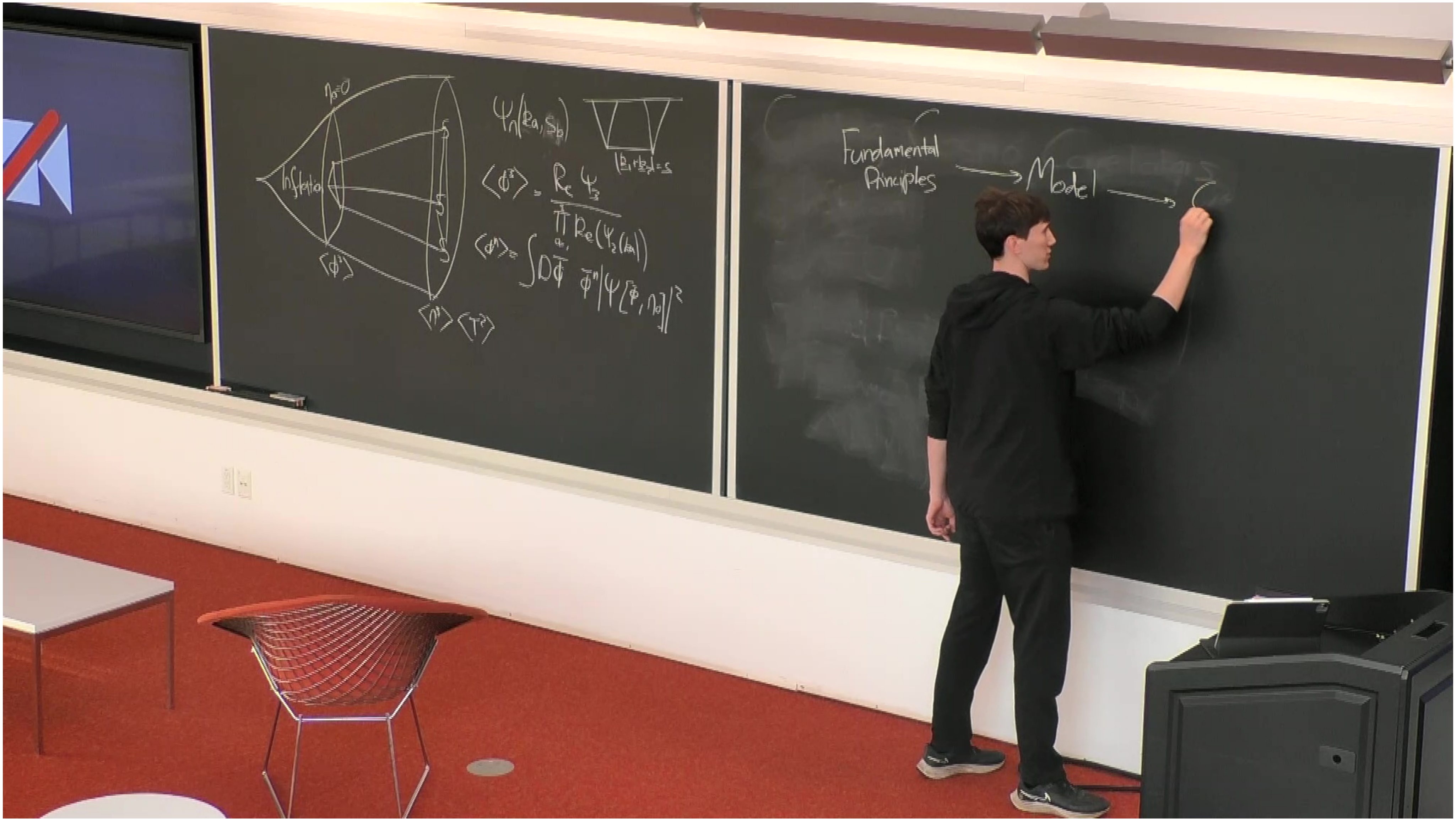
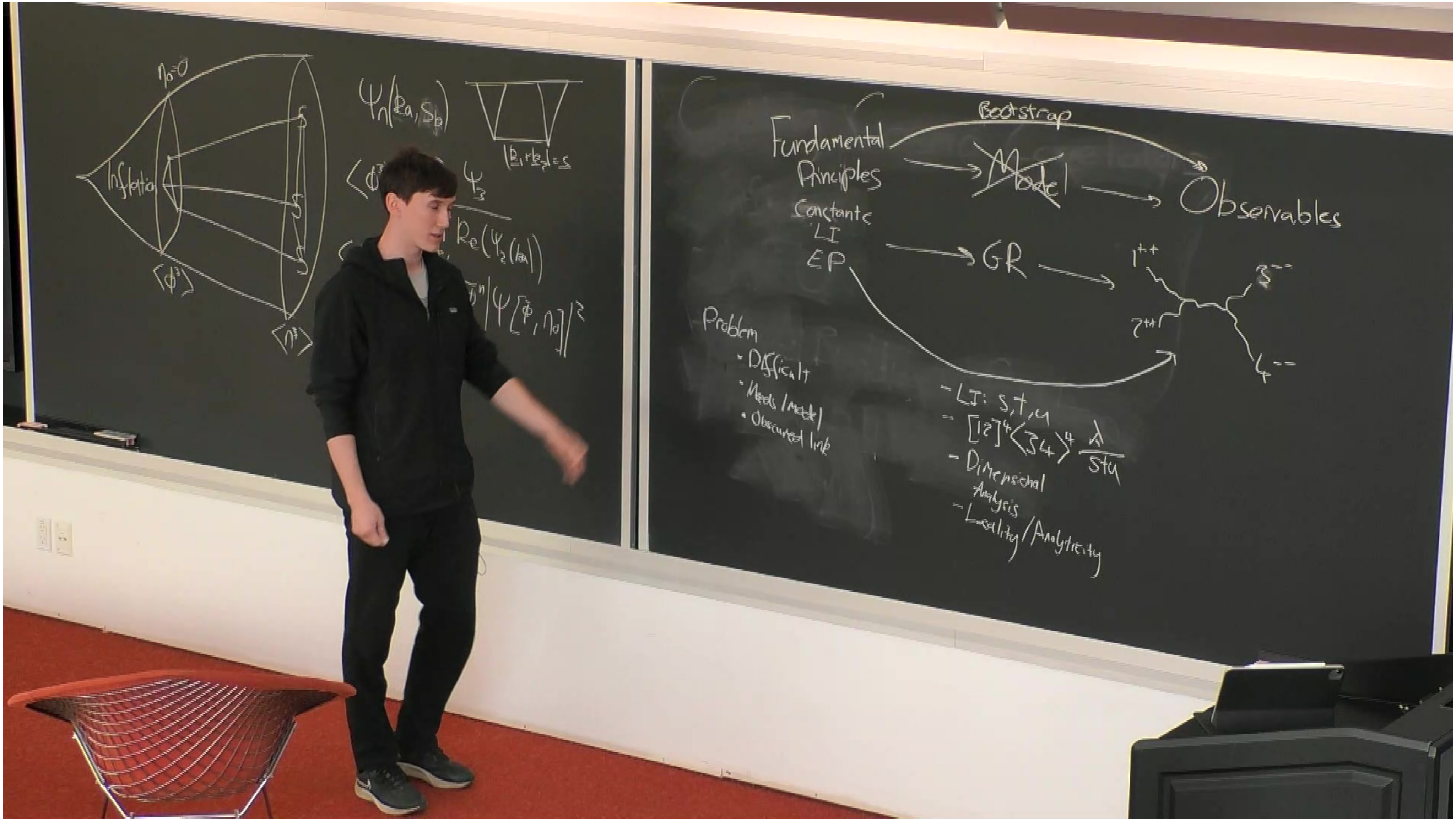
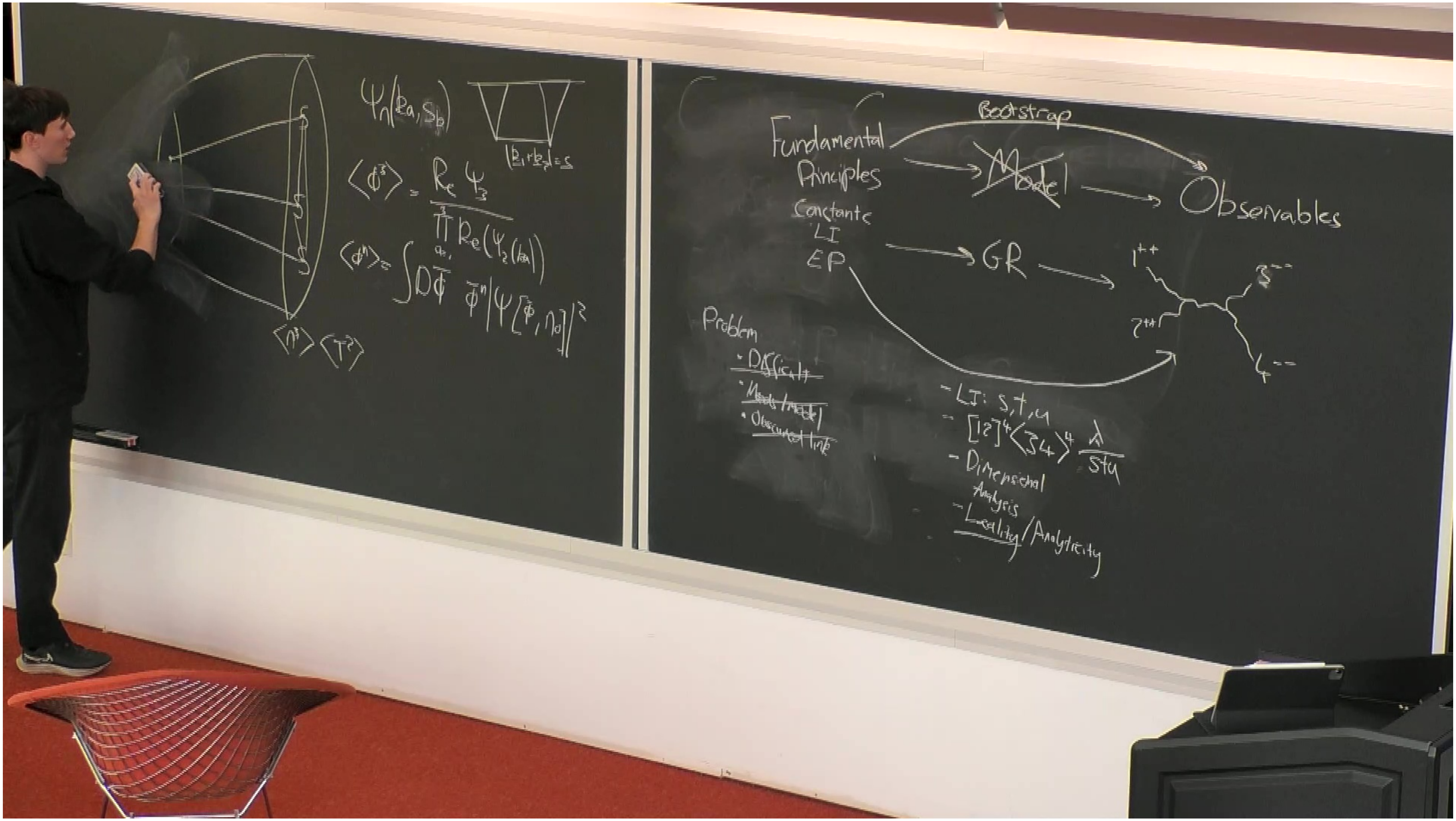
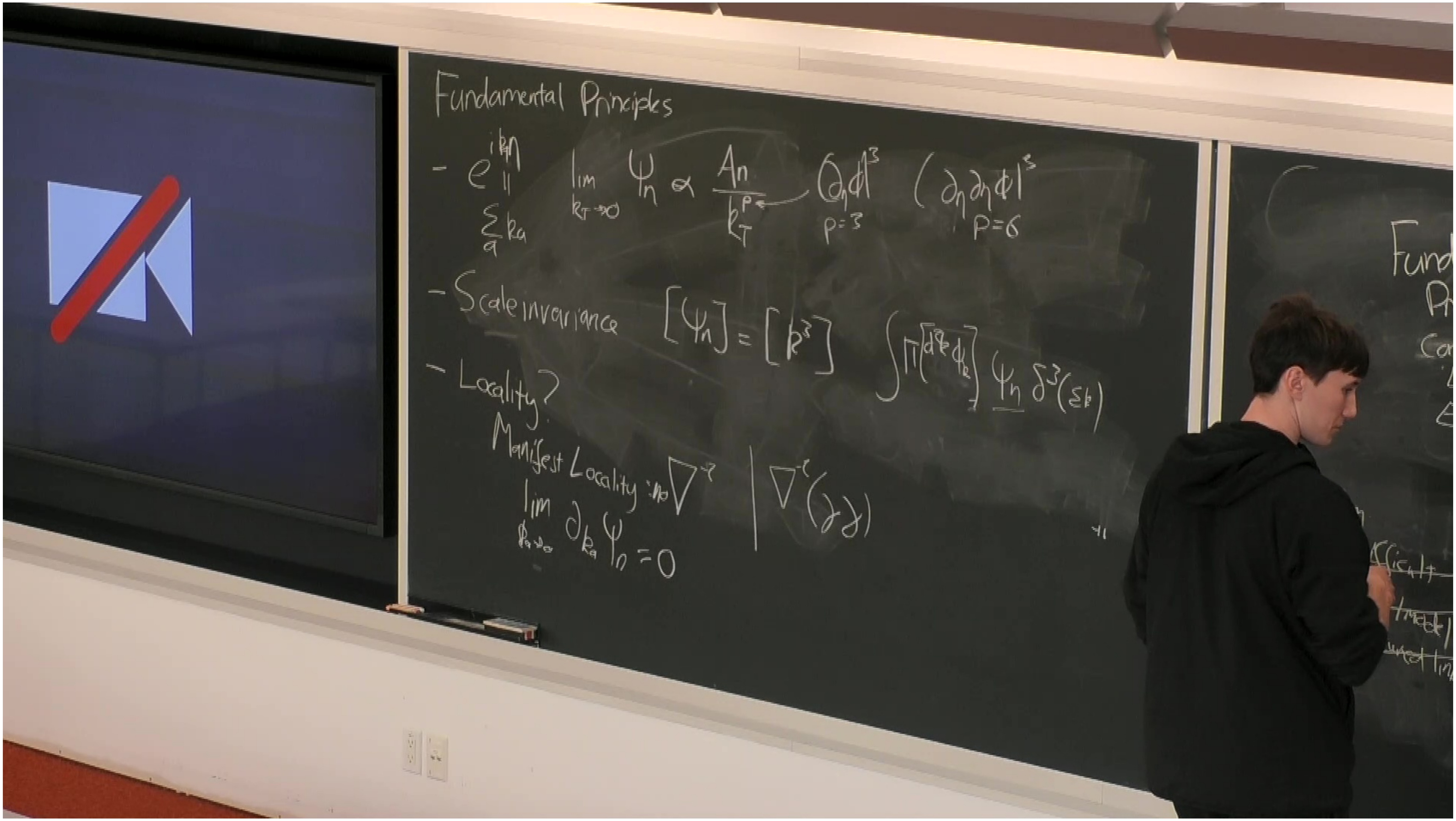
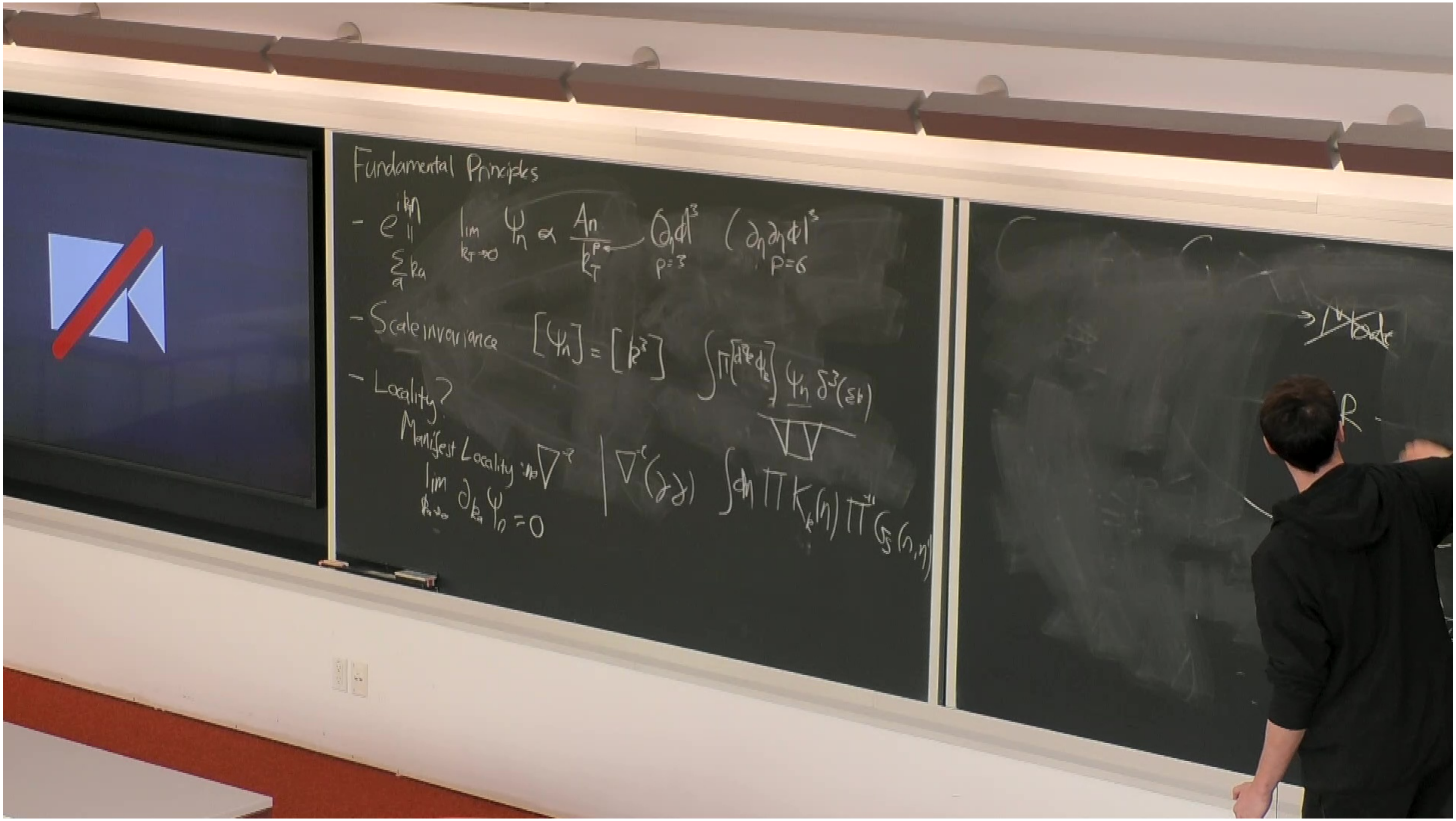

Fundamental Principles
Model


Inflation
Bootstrap
Fundamental Principles
Model
Observables
GR
Problem
Difficult
Locality / Analyticity


Bootstrap
Fundamental Principles
Model
Observables
Constants
LI
EP
GR
Problem
- LI: s,t,u
- Dimensional Analysis
- Locality / Analyticity


Fundamental Principles
- Scale invariance
- Locality?
Manifest Locality


Fundamental Principles
Scale invariance
Locality?
Manifest Locality
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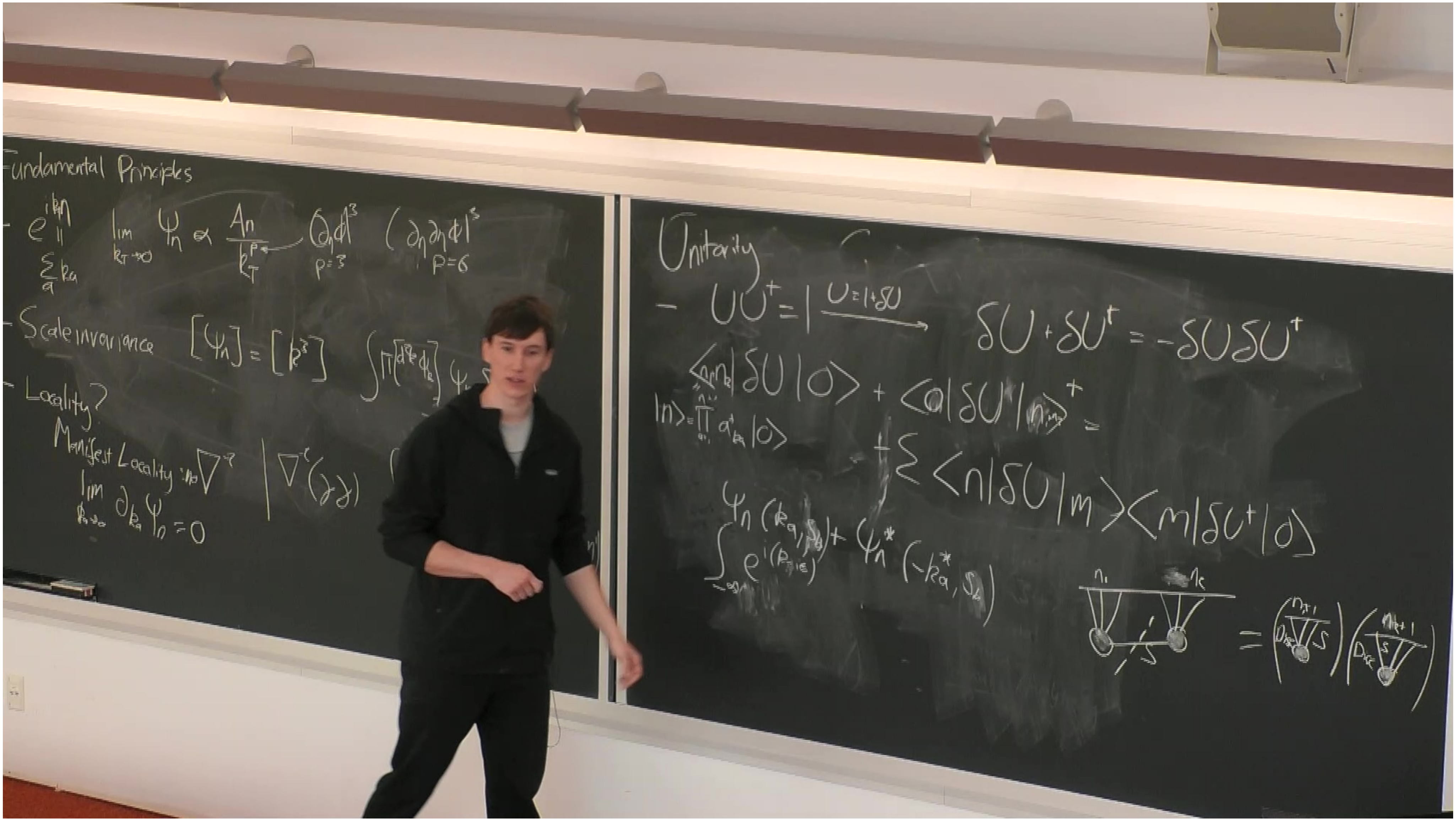
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Scale invariance
Locality?
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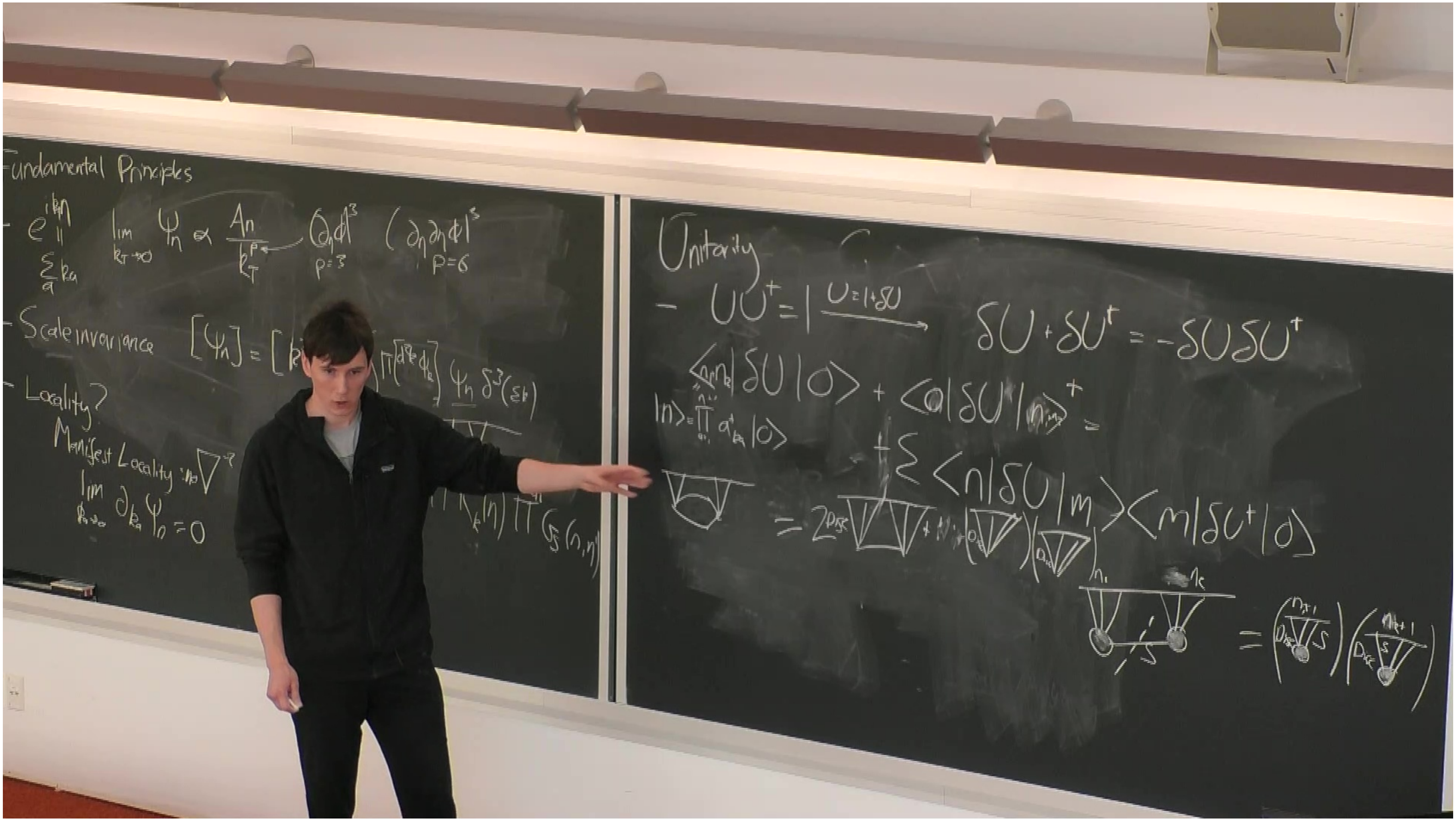
Fundamental Principles
Scale invariance
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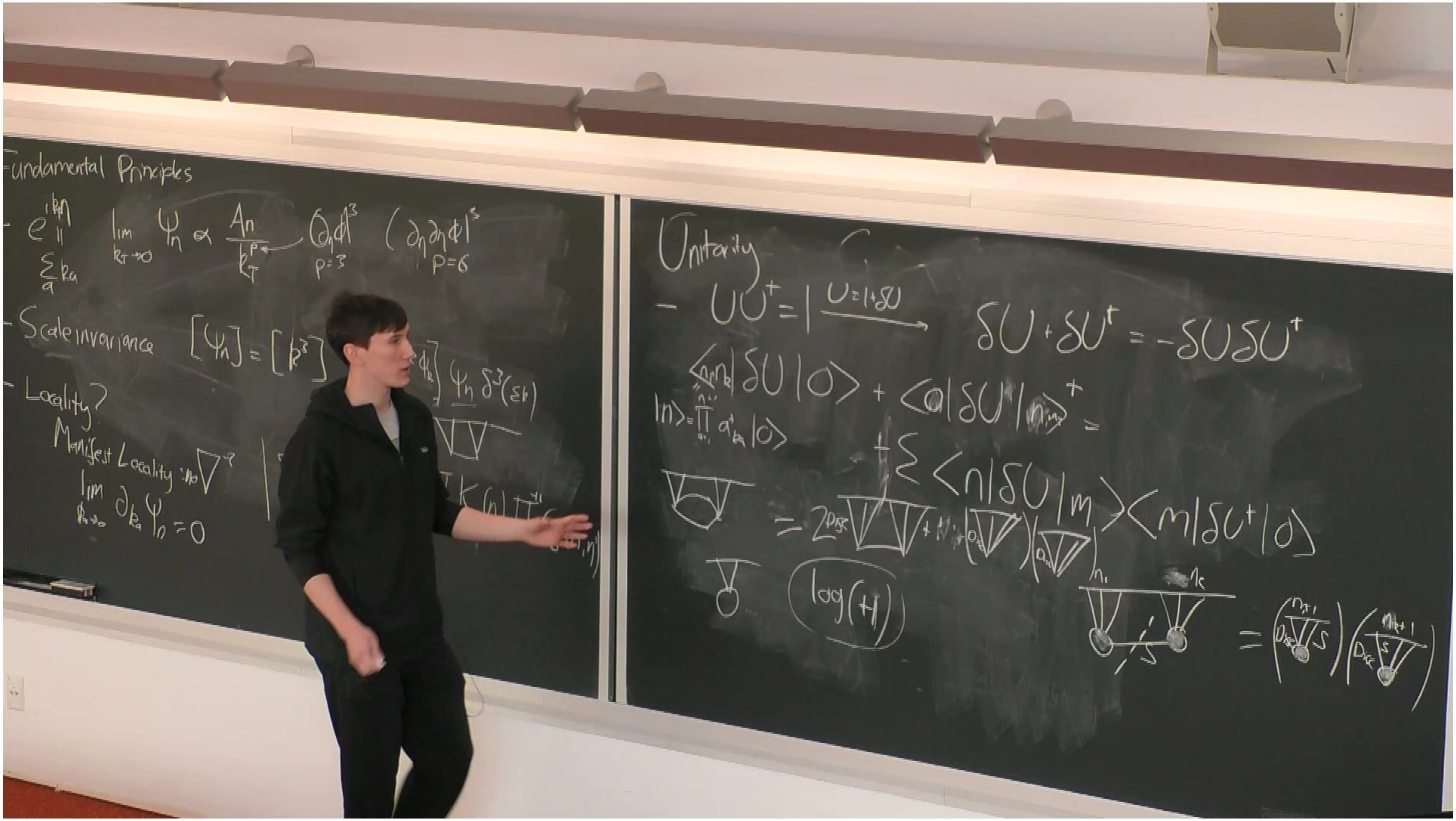
Unitarity


Fundamental Principles
Scale invariance
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Unitarity
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