

Philosophical reading of physics

Thinking about Physics: Philosophy for physicists
Lecture I

2/02/2026

Introduction

- Foundation of Physics
- Series of Seminars
 - Readings
- Harmonise our different backgrounds
 - “More is different”

Philosophy of Physics

A discipline that wants to address the questions about what physics is really telling us about the structure of the world

- reasoning

1. Metaphysics (ontology)

2. Epistemology

Physics Concepts

- Thinking of the physics concepts as philosophers
vs. Instrumentalist approach
- Mathematical structure underdetermine the understanding of the ontological structure of a theory
(Quantum Mechanics)



Mathematical structure

Ontological view

World view



So many people today - and even professional scientists - seem to me like someone who has seen thousands of trees but has never seen a forest. Knowledge of the historical and philosophical context gives the kind of independence from the prejudices of one's own generation that most scientists suffer from. This independence created by philosophical insight is, in my opinion, the mark of distinction between a mere craftsman or specialist and a true seeker of truth.

(Einstein, letter to R. A. Thornton)

For the next seminar

1. Lawrence Sklar. Philosophy of Physics - Introduction
2. Alan Chalmers. What Is This Thing Called Science - Chapter 1

Link on Wisp: <https://wisp.ph.liv.ac.uk/index.php/s/fgXXpjLD6QYGQJp> (Lecture 1)

End of the first seminar