

# What is Quantum Mechanics?

Ishaan Shah

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## Abstract

We will construct the basic elements of Quantum Mechanics using finite dimensional complex vector spaces. We will then explain what superposition states are, what the uncertainty principle is, and what Bell's inequality is. For more information see [Aar].

## References

- [Sha11] Shankar. *Principles of Quantum Mechanics*. Plenum Press, 2011. ISBN: 0306447908.
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- [Woi17] Peter Woit. *Quantum Theory, Groups and Representations : An Introduction*. Springer, 2017. ISBN: 3319646109.
- [Aar] Scott Aaronson. *PHYS771 Lecture 9 : Quantum*. URL: <https://www.scottaaronson.com/democritus/lec9.html>. (accessed: 07.26.2018).