1. Axiomatic quantum physics

We give an brief introduction of **axiomatic quantum physics** in the article. There are three main axioms in axiomatic quantum physics. At the first, we recall that a physical system is represented as a state, a mathematical components, and its time evolution, which is often determined by a differential equation of the state. In classic physics, the state is represented by a general coordinates $q = (q_1, ..., q_f)$ and general momentum $p = (p_1, ..., p_f)$.

Axiom 1.1: The **state** in quantum system is represented as an unit vector(:=**state vector**) in a complex Hilbert space $\mathcal{H}$. Note that for any state vector $\psi \in \mathcal{H}$ and a complex number α, φ and $\alpha\psi$ represent the same state.

Axiom 1.2: Any observable physical quantity is represented as an self-adjoint operator on $\mathcal{H}$.