

## **Abstract**

Quantum theory shows many interesting features like the uncertainty principle, entanglement or nonlocality. In order to understand these features, several attempts have been made to formulate quantum theory within a more general framework of probabilistic theories. Such a framework allows to formulate postulates and study their consequences in a general setting. In the past, generalized probabilistic theories have mostly been studied to understand the nonlocality of quantum theory. In this thesis, we quantify the nonlocality of bipartite quantum states. More precisely, when a set of measurements is performed on a bipartite quantum state, it results in a joint probability distribution which characterizes quantum correlations. We study the nature of the correlations in terms of Bell inequalities and the Genuine inequalities that quantifies the nonlocality of the quantum correlations.