

Abstract for the general public

The main advantage of using random measurements is that the reference frame can be eliminated. This is important, for example, for objects in relative motion, such as satellite-Earth quantum communications. The aim of the project is to provide reference frame-independent tools useful for analysing non-classical properties of quantum states. As a result of such analysis, it will be possible to determine the suitability of quantum systems for use in super-efficient information processing protocols.