

Plenary Talk PV V Wed 9:00 E415
The device-independent scenario: quantum information in-formation processing based on Bell Theorem — ●ANTONIO ACIN — ICFO - The Institute of Photonic Sciences

Bell theorem implies the existence of quantum correlations that cannot be explained by classical physics, this phenomenon often known as Bell non-locality. Despite its fundamental importance, the role of

Bell non-locality in standard quantum information theory is, perhaps surprisingly, marginal. Bell non-locality is however the fundamental resource for device-independent quantum information processing, in which devices are seen as quantum black boxes processing classical information. The talk introduces the main concepts and tools of the device-independent scenario and its relevance for the certification of quantum systems and technologies.