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## AN INTRODUCTION TO DEVICE-INDEPENDENT QUANTUM INFORMATION

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### ABSTRACT

Device-independent quantum information is a paradigm of quantum information that sees rapid development within the last years. Within this paradigm, the characterization of a quantum resource as well as the analysis of quantum information processing protocols is carried out directly at the level of measurement statistics, thus without relying on any assumption about the detailed functioning of the measurement device or the preparation device. In this lecture, I will give a brief introduction to this paradigm, present some advances in this field, and explain some of the challenges that have to be overcome in realizing device-independent characterizations and/or other device-independent quantum information processing tasks.