

Randomness in Quantum Mechanics: Philosophy, Physics and Technology

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This lecture covers recent developments in the area of quantum randomness, which is an extraordinarily interdisciplinary area that belongs not only to physics, but also to philosophy, mathematics, computer science, and technology. For this reason the article contains three parts that will be essentially devoted to different aspects of quantum randomness, and even directed, although not restricted, to various audiences: a philosophical part, a physical part, and a technological part. For these reasons the lecture is composed on an elementary level, combining very elementary and non-technical descriptions with a concise review of more advanced results. In this way readers of various provenances (at least in physics) will be able to gain while listening to it.