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Title: Colour Centers and their Applications

Abstract: Colour centers in wide bandgap materials such as diamond, silicon carbide and 2-dimensional materials have emerged as a promising system to realize a wide variety of quantum technologies which include quantum sensors, quantum simulators, quantum computers and quantum communication systems. In this lecture I will provide an introduction to the physics of colour centers and methods to control their quantum dynamics. Building on this I will outline a few possible technological applications for colour centers that are currently under active development.