

# Single-spin magnetic resonance using Nitrogen-Vacancy centers in diamond

*Tuesday 14 January 2020 15:00 (15 minutes)*

Nitrogen-Vacancy centers in diamond are fluorescent crystal defects with a unique property: Their electron spin ( $S = 1$ ) can be polarized and read out optically in a fluorescence microscope. This optically-detected magnetic resonance (ODMR) effect is so sensitive that a single defect can be recorded at ambient temperature and pressure.

We will discuss the potential, recent achievements and current challenges of this single-spin magnetic resonance technology giving an insight into the areas of NMR/EPR spectroscopy and nanoscale sensing.

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