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How to Engineer Optomechanical Coupling Using NV Defects

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Coupling optical and mechanical modes of microresonators is usually engineered by harnessing their intrinsic nonlinear material response. We propose to harness a new coupling mechanism, in which relies an ensemble of nitrogen vacancies (NVs) induces the effective nonlinearity in diamon.

Author: SCHMIDT, Mikolaj (Macquarie University)

Co-authors: Prof. POULTON, Christopher (University of Technology Sydney); Prof. BURGARTH, Daniel (Macquarie University); Prof. BRENNEN, Gavin (Macquarie University); Prof. STEEL, Michael (Macquarie University)

Presenter: SCHMIDT, Mikolaj (Macquarie University)

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