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Fabrication of of NV centers in diamond

Thursday, 11 July 2019 15:00 (2 hours)

Solid-state based single photon systems are at the heart of the second quantum revolution. There is great interest in research focusing on structurally embedded color centers in diamond, particularly NV^- centers. It has been shown that the excitation of these color centers generate non-classical states on demand, applicable in quantum information processes. Consequently, the emission properties of NV^- centers in diamond has been studied extensively over the years and show great promise in the ongoing pursuit of successfully manufacturing quantum based technological devices. In this study, we engineer NV^- centers in well-defined isolated regions within a pure type IIa diamond sample via ion implantation. We then characterize the fluorescence and photon distribution from a single fabricated color center. Ultimately, this will allow us to engineer isolated NV^- centers, depending on application, at desirable regions within a given sample.

Apply to be
 considered for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD, N/A)?

MSc

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