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Coherent coupling between microwave and optical fields in NV centers in diamond[1] IGNAS LEKAVICIUS, DAVID GOLTER, THEIN OO, HAILIN WANG, Univ of Oregon — The spin and electronic structure of Nitrogen Vacancy centers in diamond has been shown to have promising properties for use in quantum information, including a ground state spin coherence lifetime on the order of milliseconds. Transitions in the ground state triplet occur at radio frequencies while transitions into the first excited state occur in the optical spectrum (637nm). The prevalent use of both frequency regimes as well as the benefits of using hybrid systems in quantum information encourages us to explore the coherent coupling between microwave and optical fields within the energy level structure of the NV center.

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