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Exploration of polarization properties and Stark effect of blue quantum emitters in hexagonal boron nitride

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This study explores the polarization properties and Stark effect of blue quantum emitters within hexagonal boron nitride (hBN), highlighting their potential as future tunable quantum light sources. The emitters are created by lattice defects in hBN using focused electron beam irradiation. Photoluminescence (PL) spectroscopy reveals unique polarization properties in both absorption and emission spectra. Furthermore, the application of a vertical electric field allows a detailed analysis of the Stark effect, revealing distinct polarizability and electric dipole moments. These findings make a significant contribution to the development of tunable quantum light sources.

Primary author: HUANG, Hua-Wei (National Tsing Hua University)

Co-authors: Mr YANG, Chia-Fu (National Tsing Hua University); Mr GUO, Ming-Hao (National Tsing Hua University); Mr CHOU, Tzu-Chieh (National Tsing Hua University); Prof. HSU, Wei-Ting (National Tsing Hua University)

Presenter: HUANG, Hua-Wei (National Tsing Hua University)

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