Abstract Submitted
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Magnetic imaging of magnetotactic bacteria using NV centers in diamond CHENCHEN LUO, Massachusetts Institute of Technology, PAULI KEHAYIAS, Harvard University, MATTHIEU AMOR, University of California, Berkeley, DAVID GLENN, Harvard University, ARASH KOMEILI, University of California, Berkeley, RONALD WALSWORTH, Harvard University — Nitrogen-vacancy (NV) centers in diamond can be used for room-temperature magnetometry with high spacial resolution (¡ 1 micron). We use NV magnetic microscopy to image the magnetic fields produced by magnetotactic bacteria (MTB), which produce intracellular chains of 50 nm ferromagnetic particles to orient themselves in the Earth's magnetic field. We will present recent advances on using this magnetic imaging tool to further understand how these particles are formed, how different genes and proteins influence particle formation, and other biomagnetism questions.

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