

OUR MISSION

Catalyze the transition
of quantum sensors
into successful
commercial products



Focus on Sensing

Providing near-term value



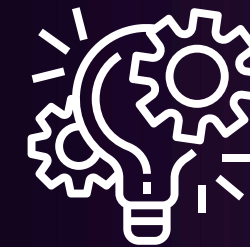
IP Development

Create foundational IP



Portfolio Companies

Market-specific team
and strategy

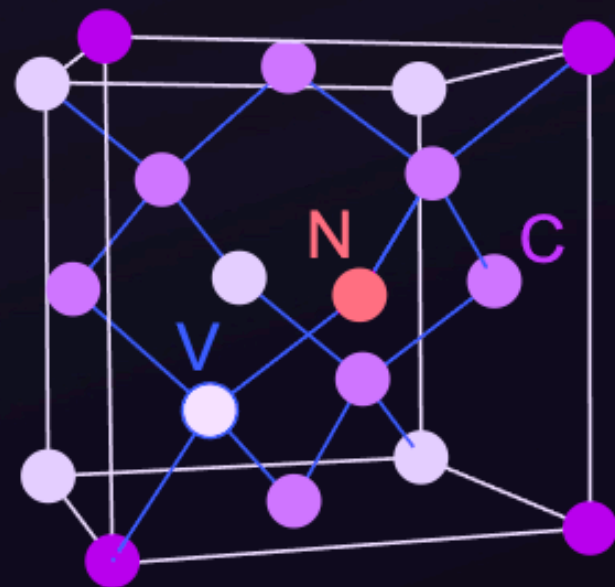


Technology Platform Maturation

Internal R&D, government
and industry partners

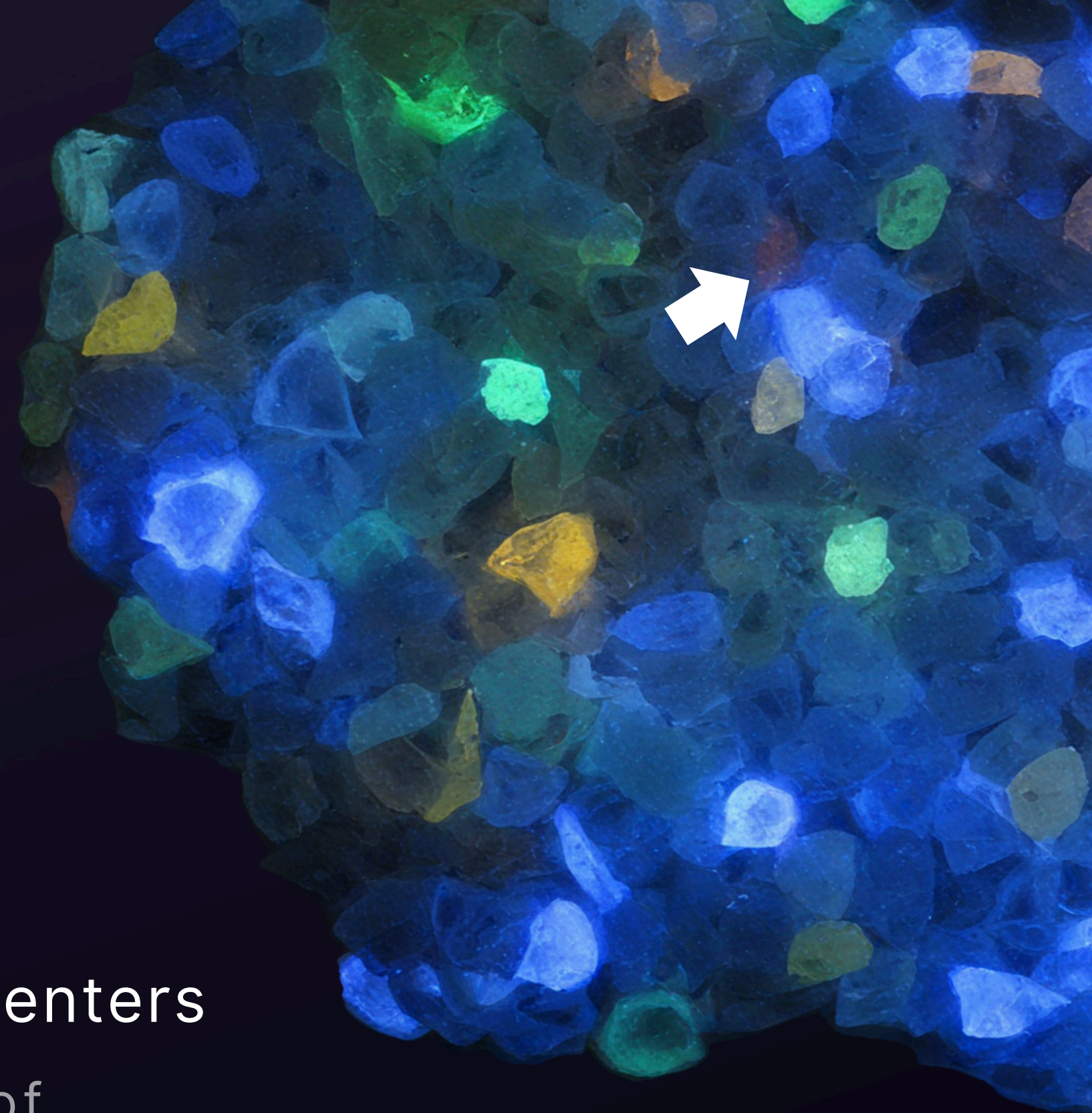
PLATFORM TECHNOLOGY

Quantum Defects in Diamond



Nitrogen Vacancy (NV) Centers

Optically-probed sensors of
magnetic and electric fields,
temperature, pressure, and strain



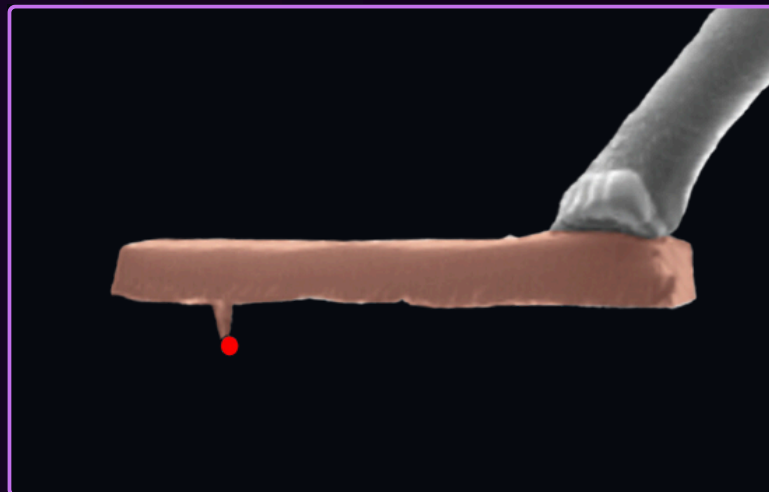
10-micron diamonds excited with
UV light. Different colors
indicate different defects.

NV-DIAMOND SENSING

Tailoring the diamond geometry to the application

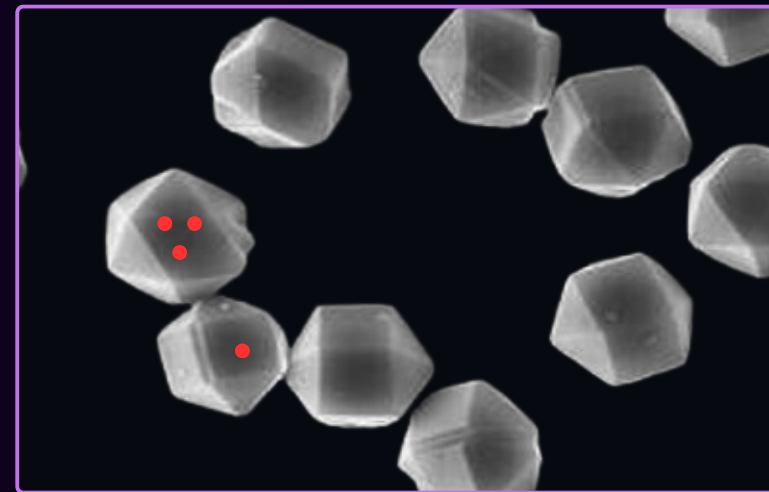
Single NV

AFM-style raster scanning
50 – 100 nm resolution



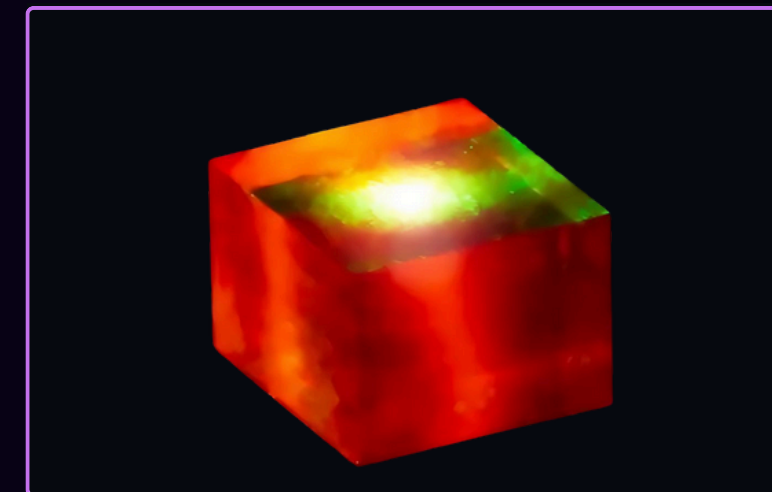
Nanodiamonds

Intracellular probe,
largely of temperature

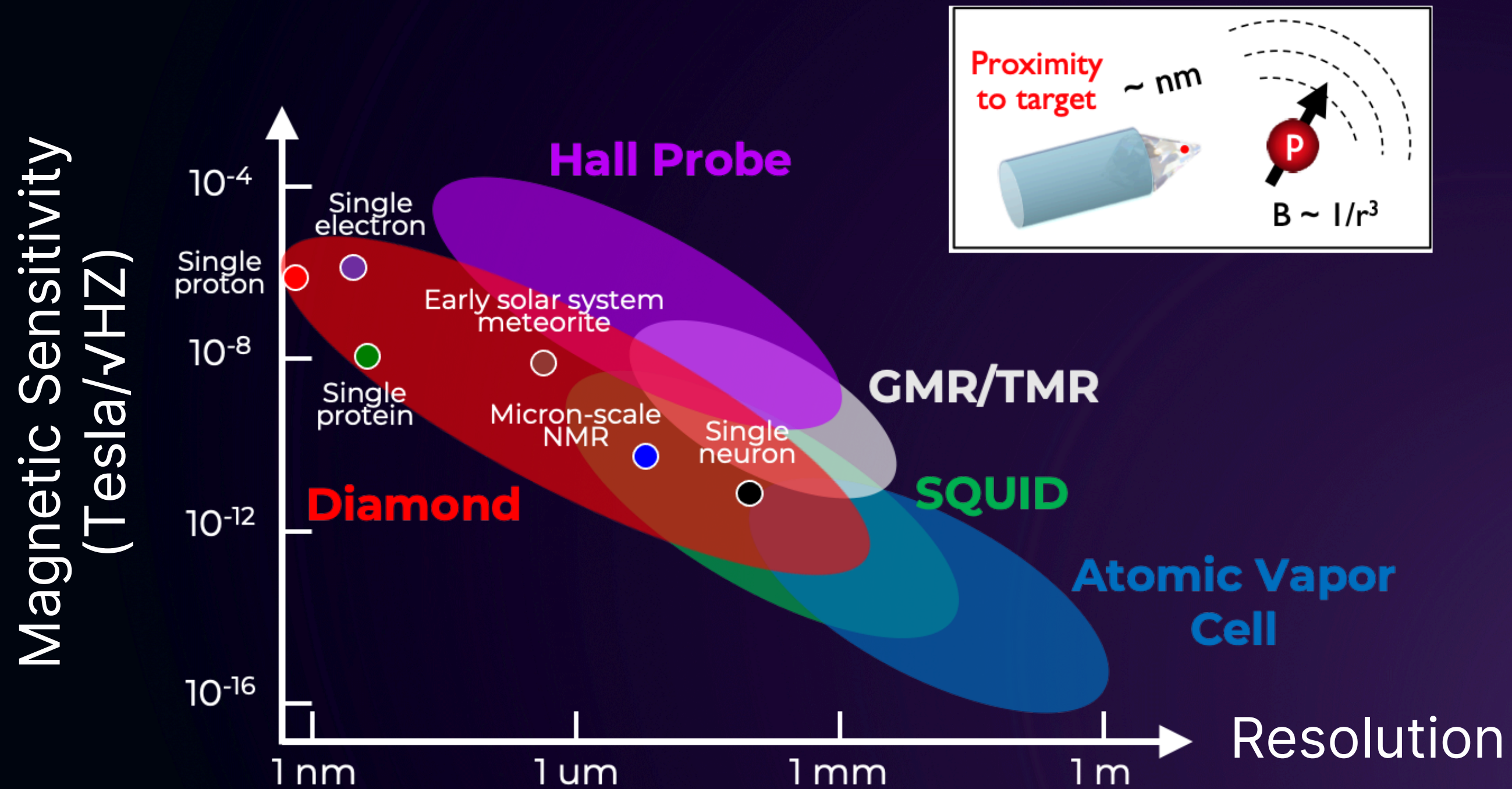


Ensemble NV

Wide-field imaging
and bulk sensors

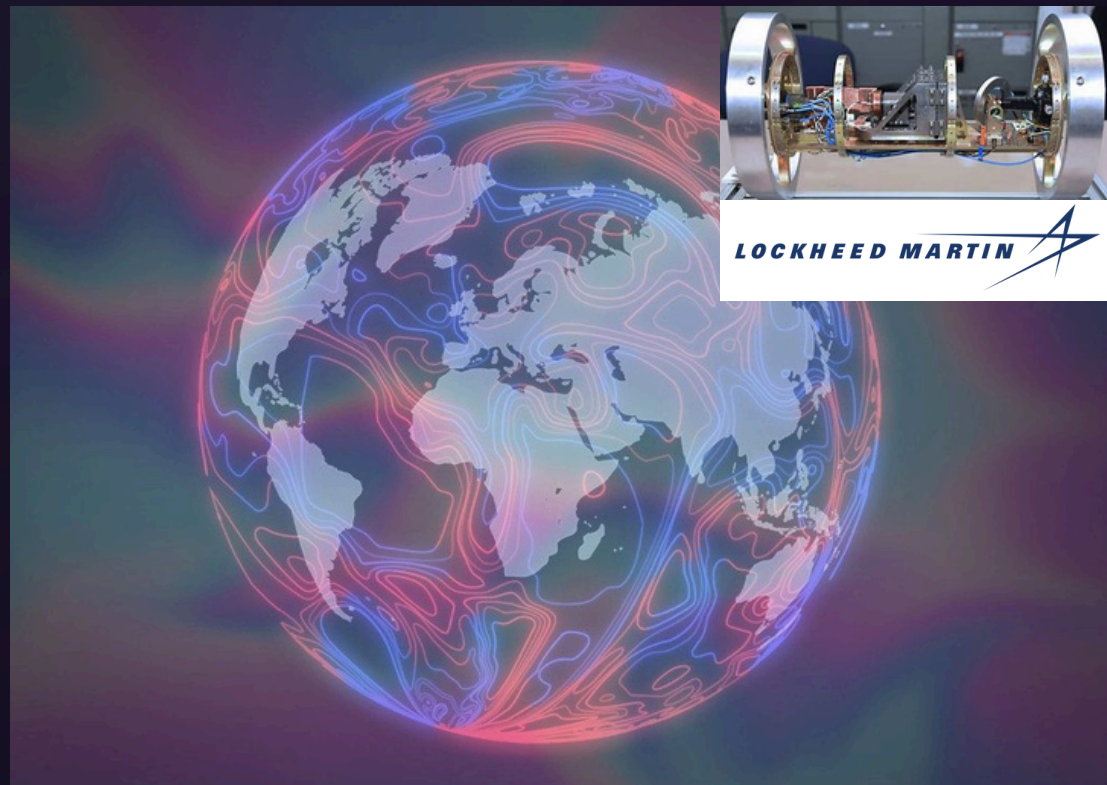


UNIQUE COMBINATION OF SENSITIVITY AND SPATIAL RESOLUTION

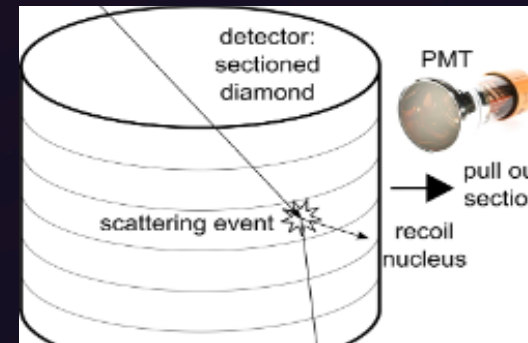


SURVEY OF APPLICATIONS

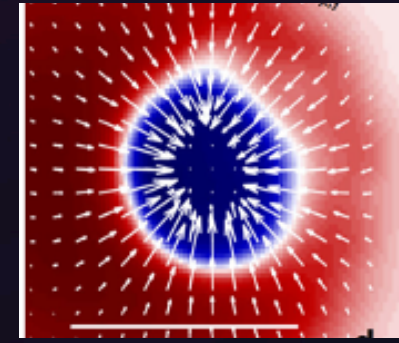
Magnetic Navigation and Surveying



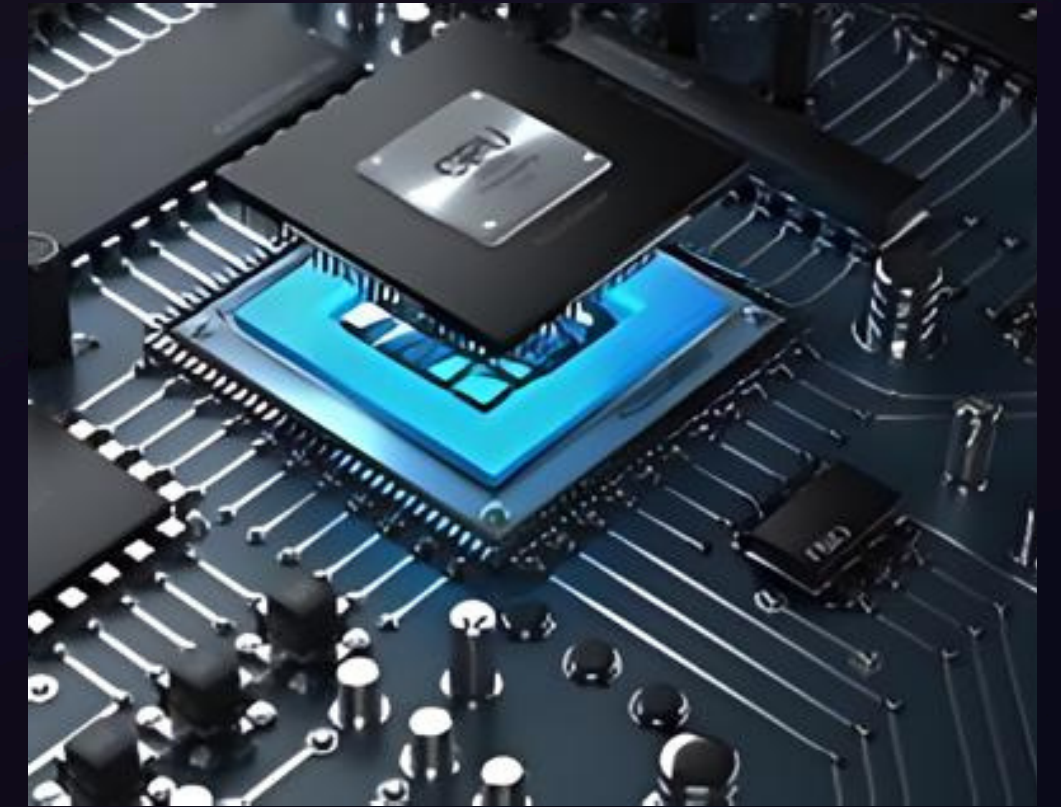
Dark matter detector



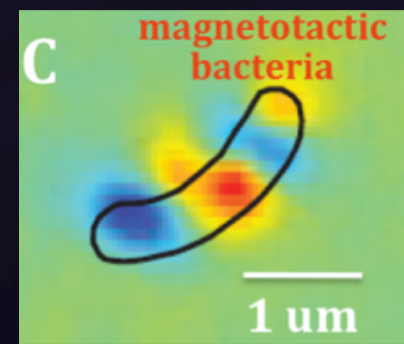
Materials



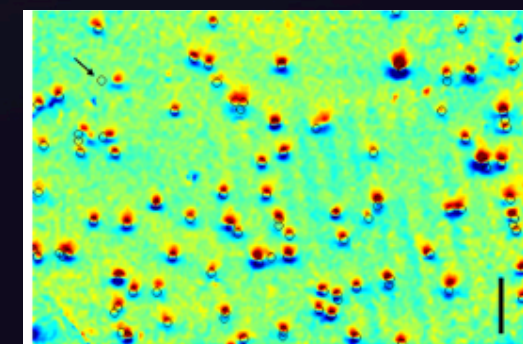
Nondestructive Testing



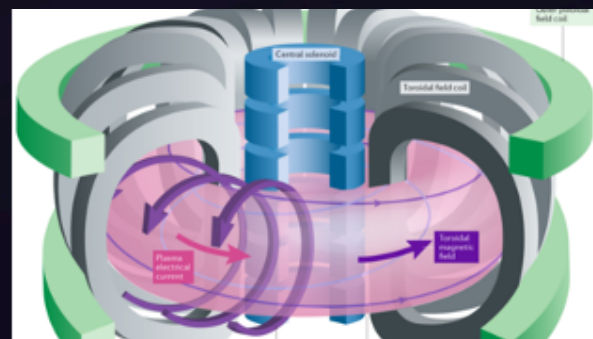
Live cell imaging



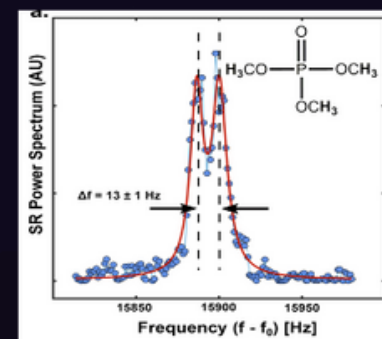
Clinical bioassay



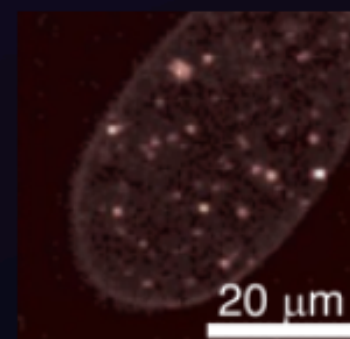
Harsh Environments



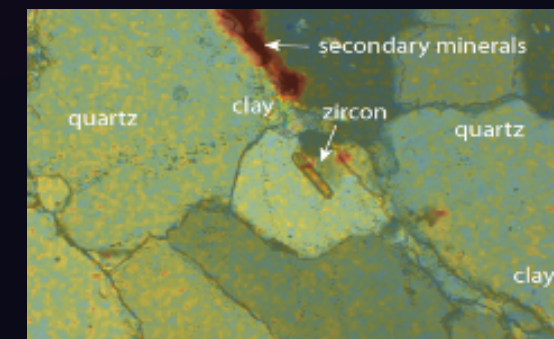
NMR of Cells



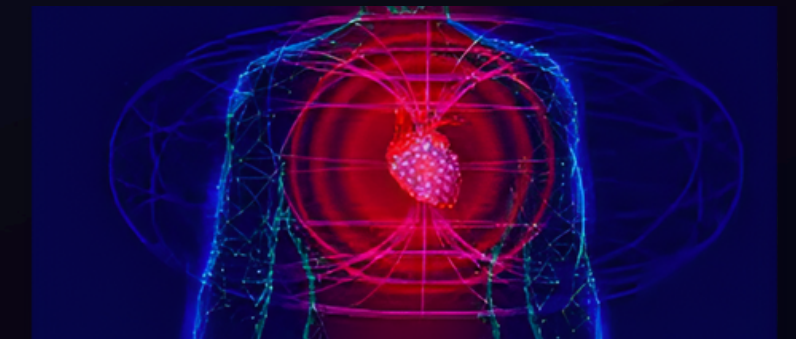
In-vitro Thermometry



Geoscience

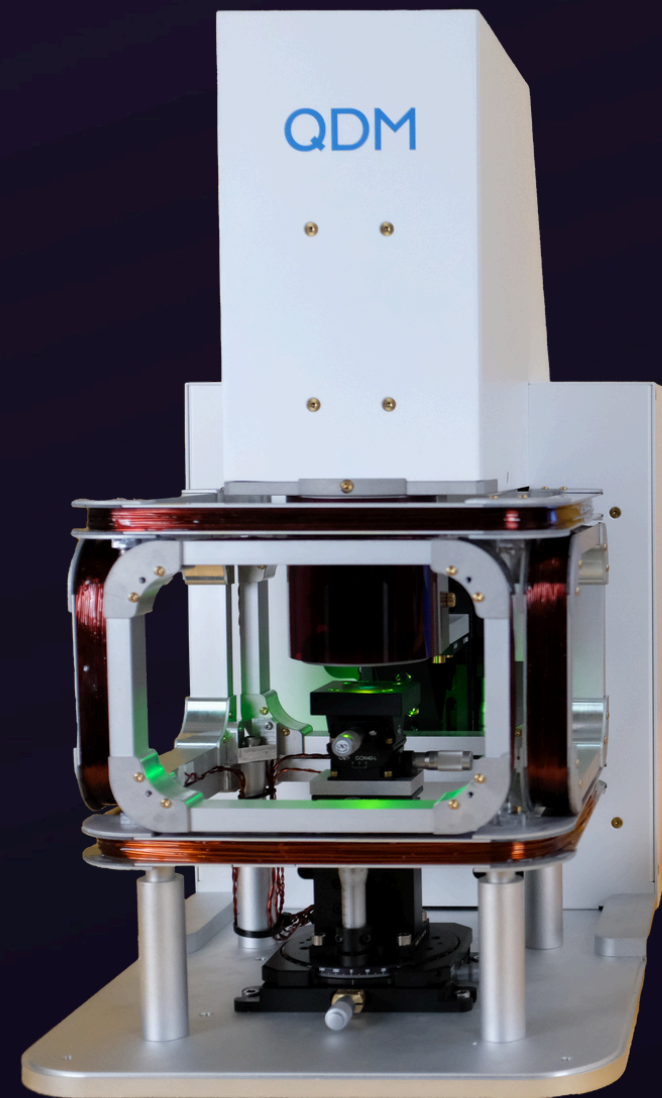


MEG/MCG



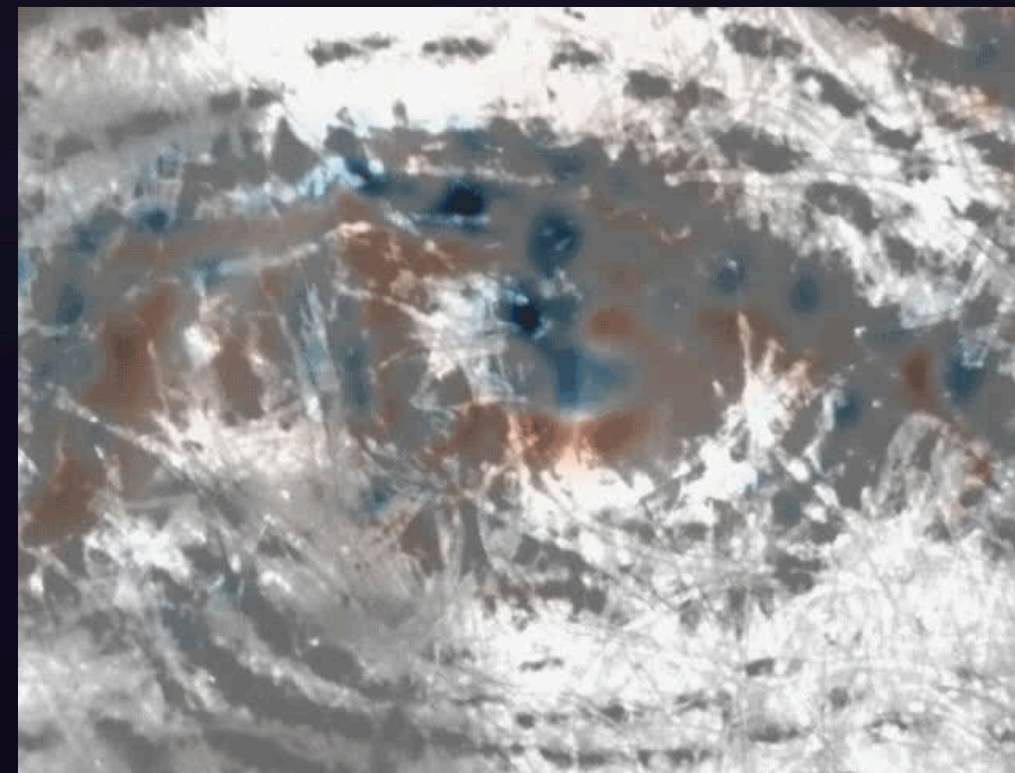
WIDEFIELD MAGNETIC IMAGING

Quantum Diamond Microscope
from Quantum Catalyzer



Brightfield and Magnetic

Collect magnetic and optical
images using the same optics
for co-registration



+10 μT



-10 μT



Large-Area Mapping

Image areas larger than a typical
4 mm diamond plate via tiling or
raster scanning

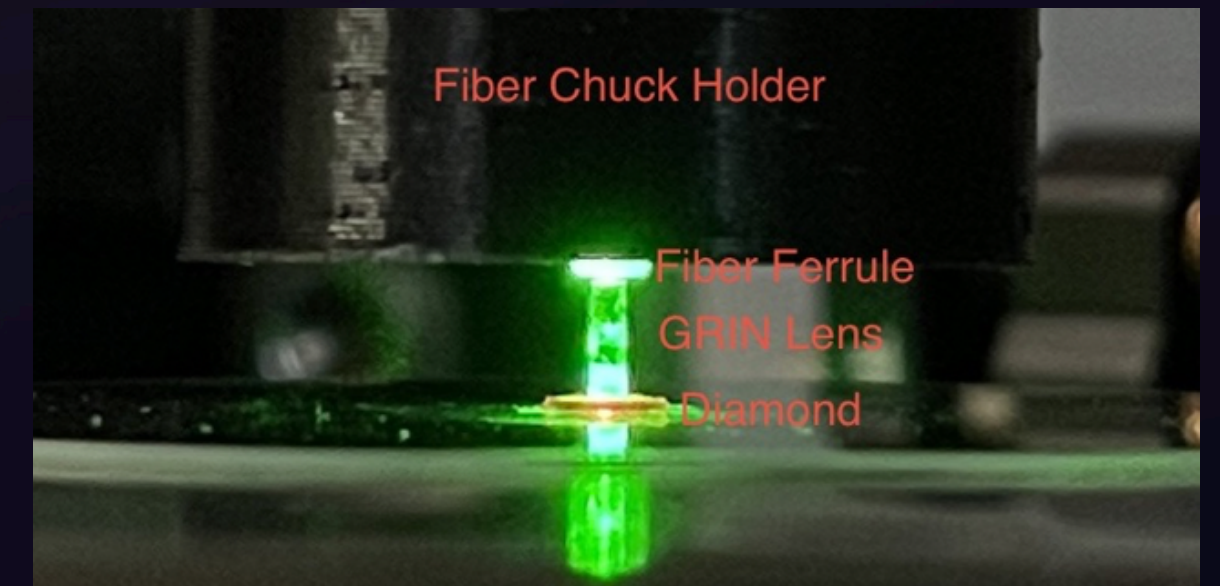
QUANTUM SENSING FOR INFRASTRUCTURE

Why Solid State Defects?

Exceptionally robust host material (thermal, radiation, pressure)

Optical readout may be less vulnerable to EMI

Calibration-free or calibrate-once sensing for long term accuracy



Sensors for environments that are challenging or inaccessible for existing technologies



THANK YOU