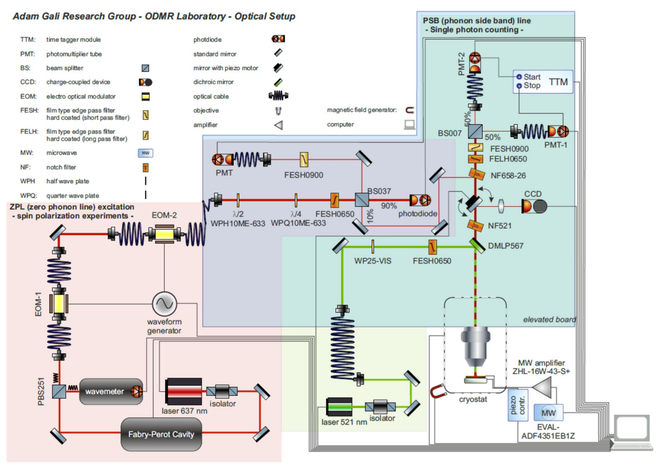
Wigner 121
Scientific Symposium

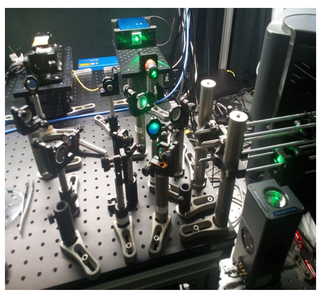
Wigner Research Centre for Physics
Institute of Solid State Physics and Optics
Quantum Information National Laboratory
Spin-photon interface project

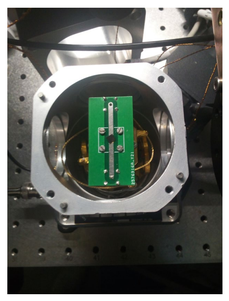
Objective and observation method

Development and characterization of optically-read solid-state quantum bits in the Optically Detected Magnetic Resonance (ODMR) laboratory

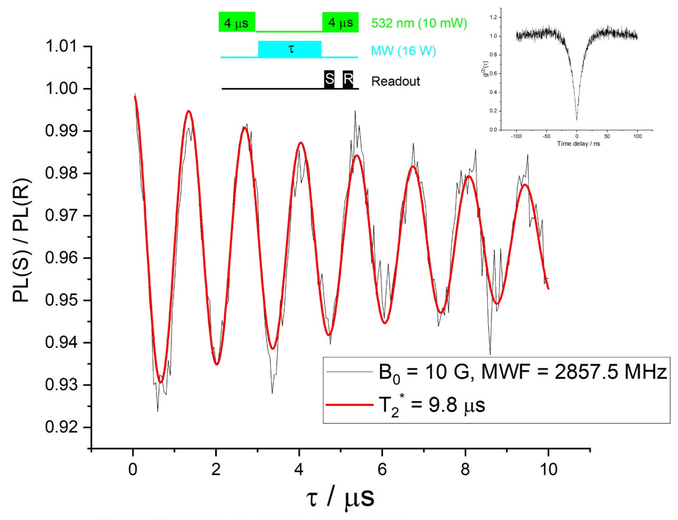
Diamond NV^- centers

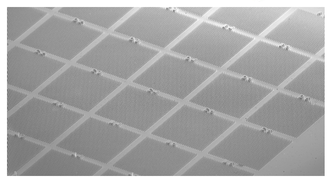






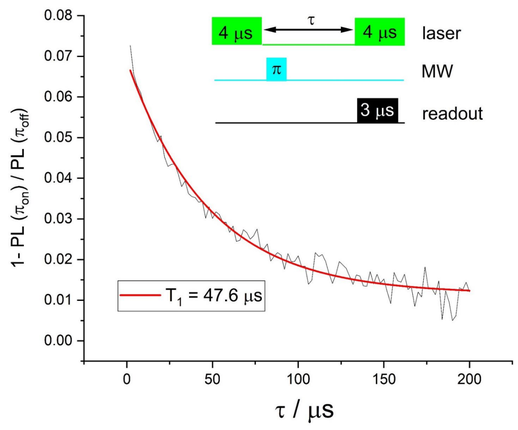
Single NV^- center Rabi oscillation

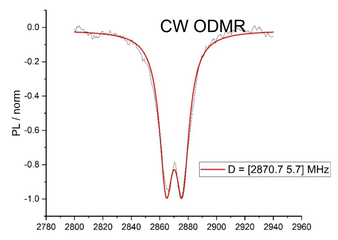


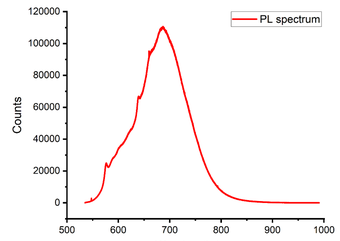


Diamond pillar membrane with single NV^- centers @QZabre

Nanodiamonds T1 relaxometry



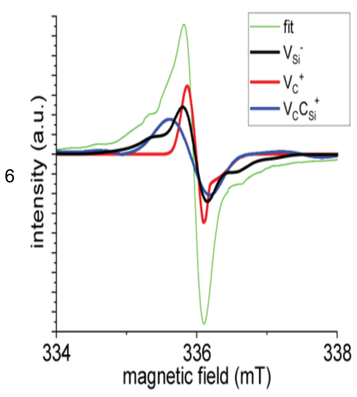




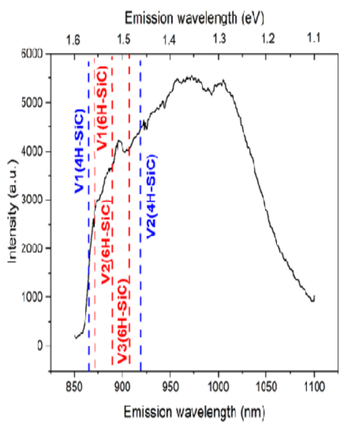
Towards creation of SiC qubits for quantum biosensing

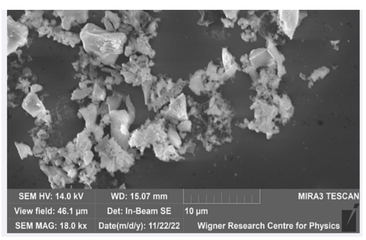
Creation of qubits

Contribution of different types of vacancies in EPR spectrum



PL spectrum of silicon-vacancy qubits

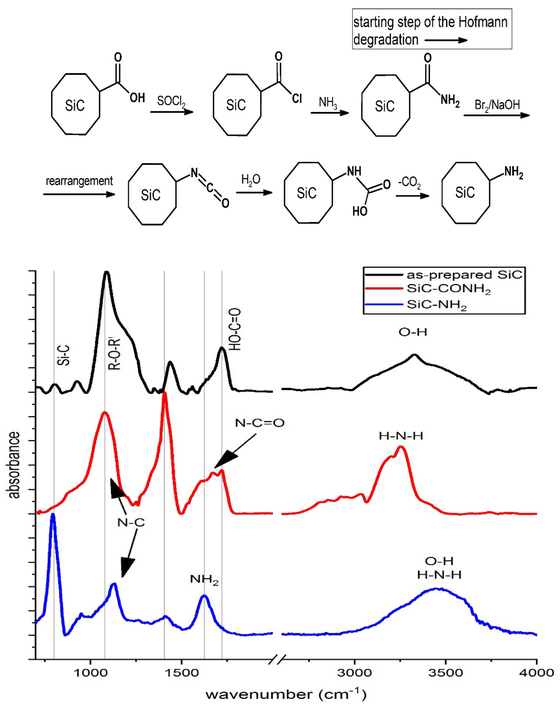




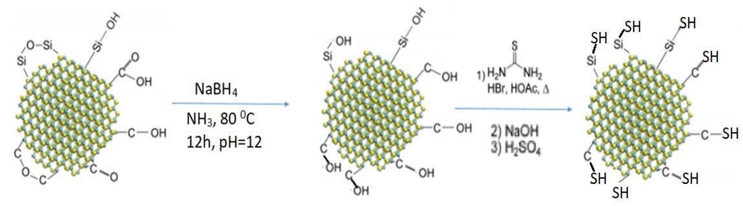
SEM image of bulk SiC particles

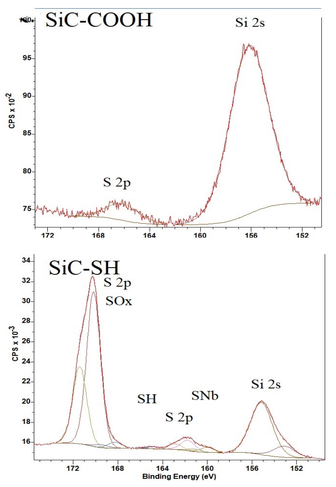
Functionalization of ultrasmall SiC nanoparticles

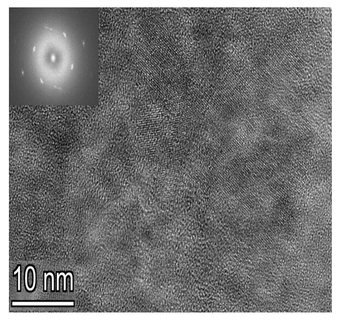
Reaction scheme ($-NH_2$)



Reaction scheme thiol (-SH)







Publications of the group

Nain Mukesh, Bence G. Márkus, Nikoletta Jegenyes, Gábor Bortel, Sarah M. Bezerra, Ferenc Simon, David Beke and Adam Gali, Formation of Paramagnetic Defects in the Synthesis of Silicon Carbide, *Micromachines* 14, 1517 (2023)

Szabolcs Czene, Nikoletta Jegenyes, Olga Krafcsik, Sándor Lenk, Zsolt Czigány, Gábor Bortel, Katalin Kamarás, János Rohonczy, David Beke, Adam Gali, Amino-Termination of Silicon Carbide Nanoparticles, *Nanomaterials* 13, 1953 (2023)

Full publication list: https://scholar.google.com/citations?user=1aWvISwAAAAJ&hl=en

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MTA Centre of Excellence