Supplementary Material

Low field depolarization of electronic spins through dipole-dipole coupling

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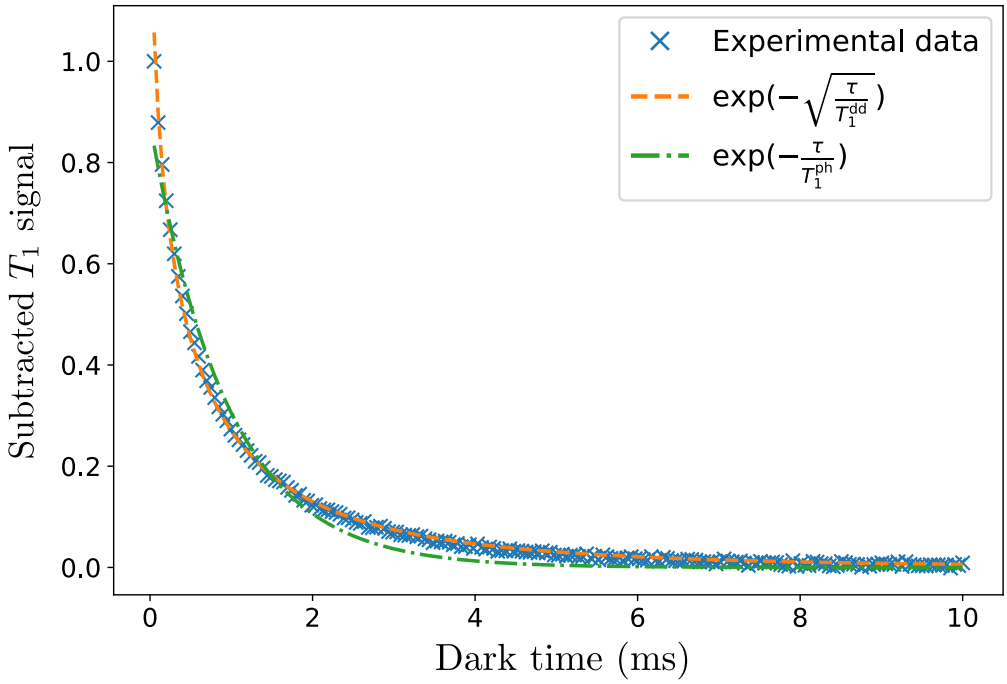

FIG. 1. T_1 measurement in zero magnetic field with purely exponential and purely stretched exponential fits

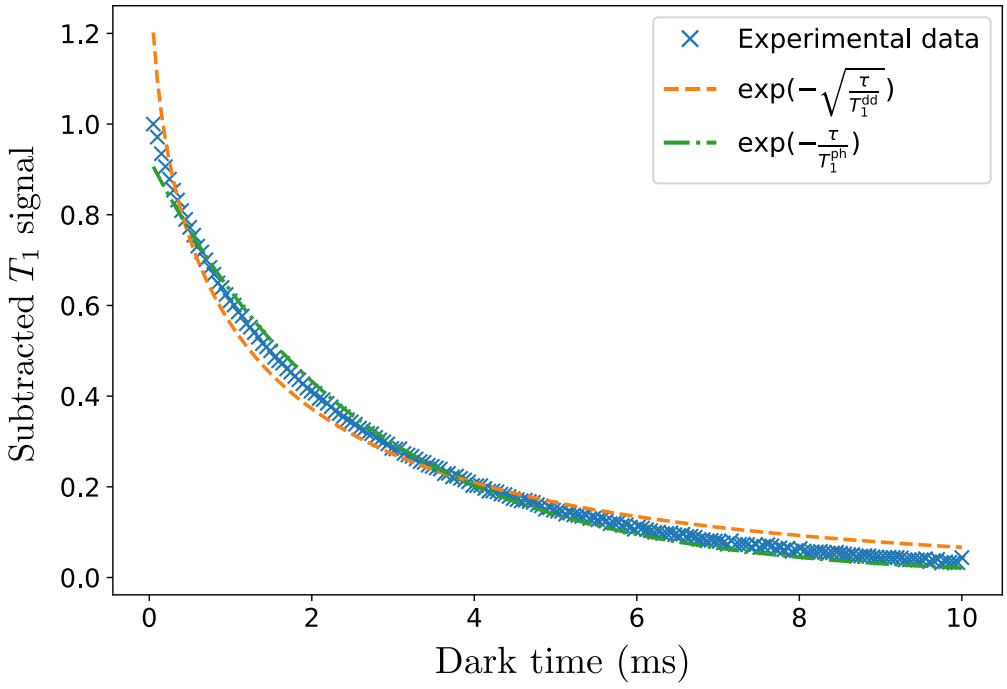

FIG. 2. T_1 measurement in non-zero magnetic field with purely exponential and purely stretched exponential fits

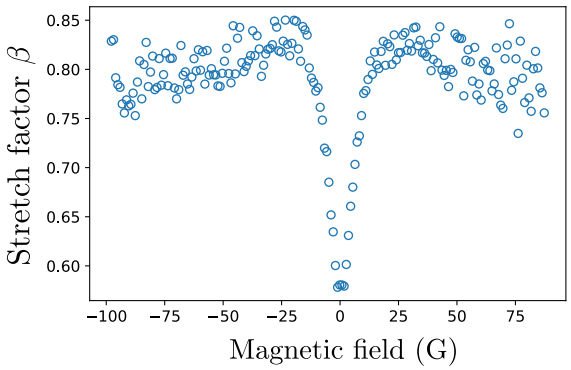

FIG. 3. Best stretch factor β for a T_1 fit of the form $f(\tau) = A\exp\left(-(\frac{\tau}{T_1})^{\beta}\right)$

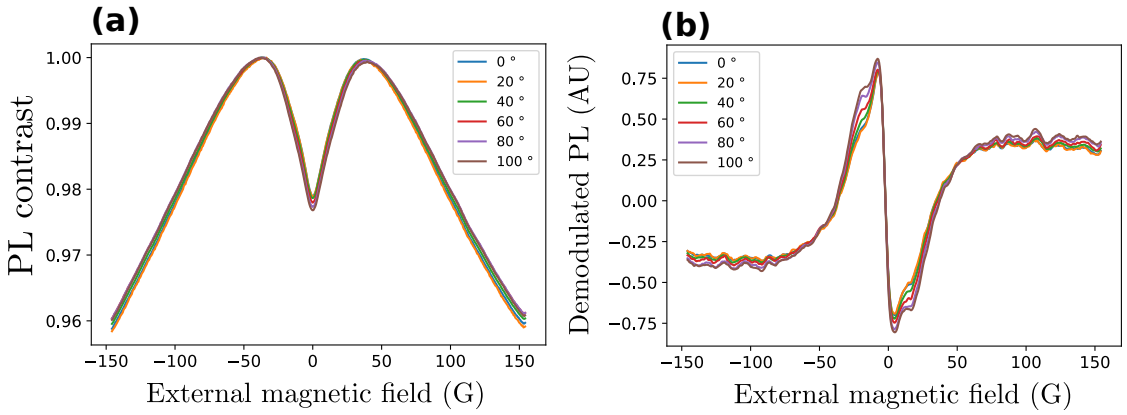

FIG. 4. Effect of the polarization of the incident laser. (a) Photoluminescence as a function of randomly oriented magnetic field for various polarization angle. (b) Demodulated PL in the same conditions

I. NV HAMILTONIAN

II. SAMPLES

III. EXPERIMENTAL SETUP

IV. DATA ANALYSIS

A. T_1 fitting Protocol

B. Estimation of fluctuators width

V. LES DÉTAILS QUI TUENT

A. Effect of laser polarization

B. Alignment of B

La faudrait p-e montrer ce qu'il se passe pour un décalage de quelques degrés. A voir si j'ai déja les plots

VI. FLUCTUATOR ET TOUT

A. 121 VS 22

B. 100 vs 0B