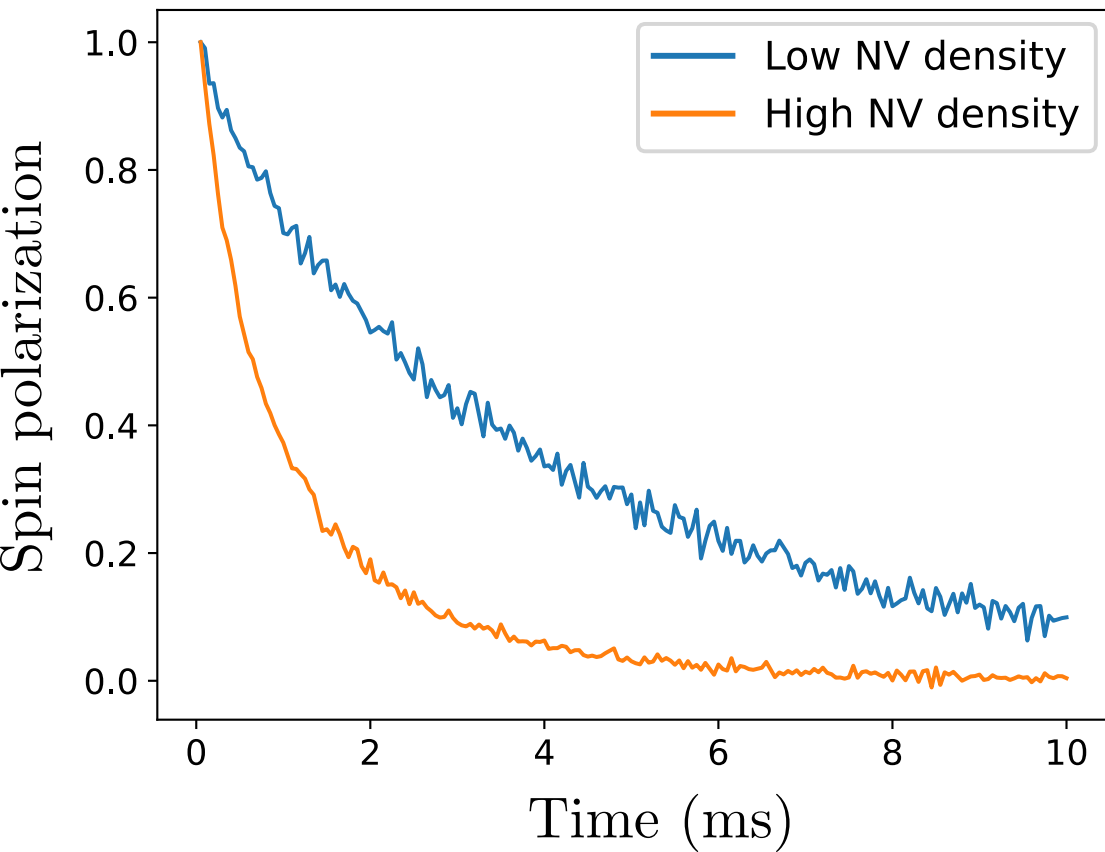


Spin polarization = difference in population between $|0\rangle$ and $|\pm 1\rangle$



When reaching a critical (~ 1 ppm) NV density :

- Lifetimes get shorter
- Polarization profile get non-exponential

Dipole-dipole coupling $J \approx 30$ kHz for $[\text{NV}] = 3$ ppm
→ Depolarization slower than the flip-flop rate