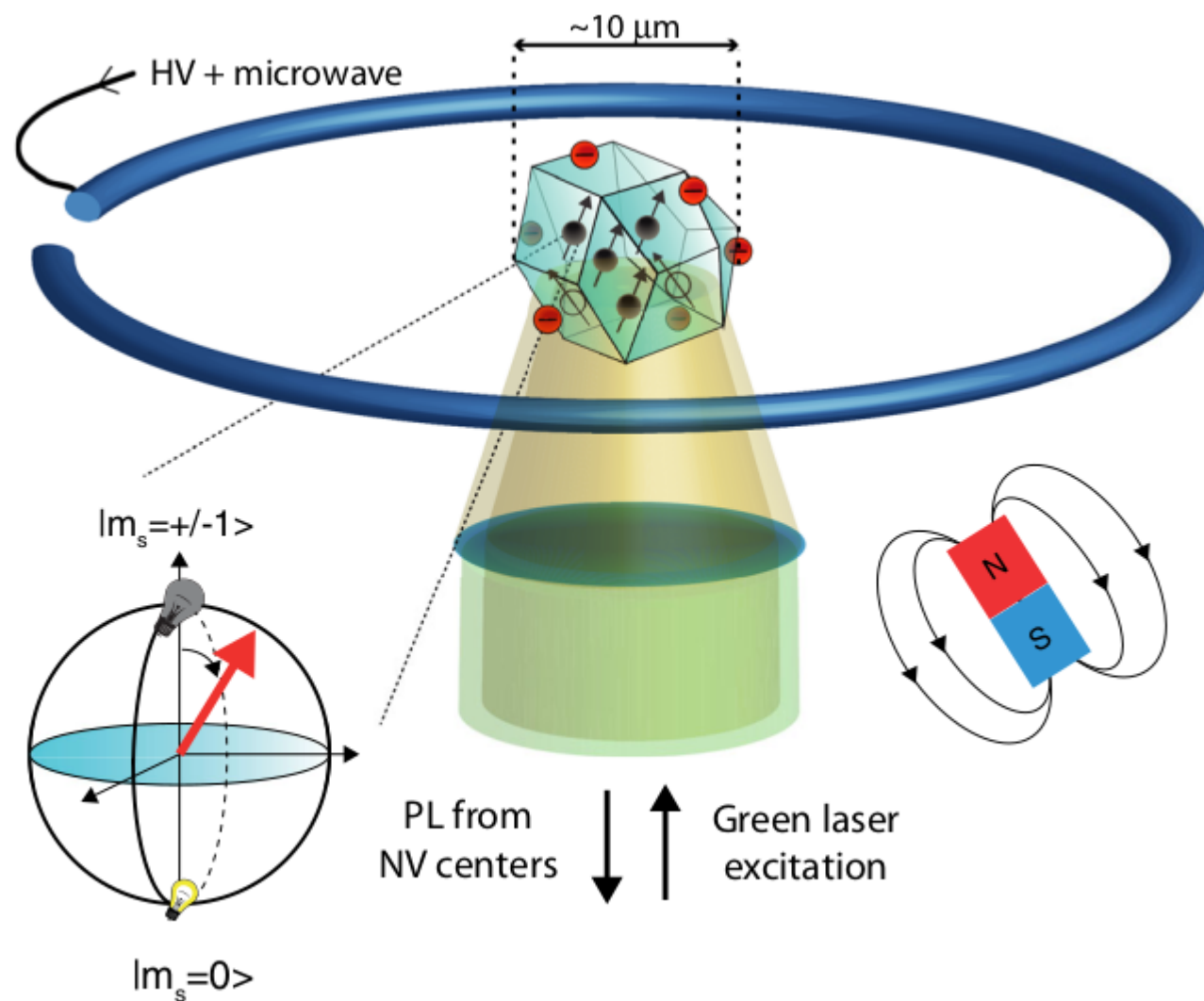


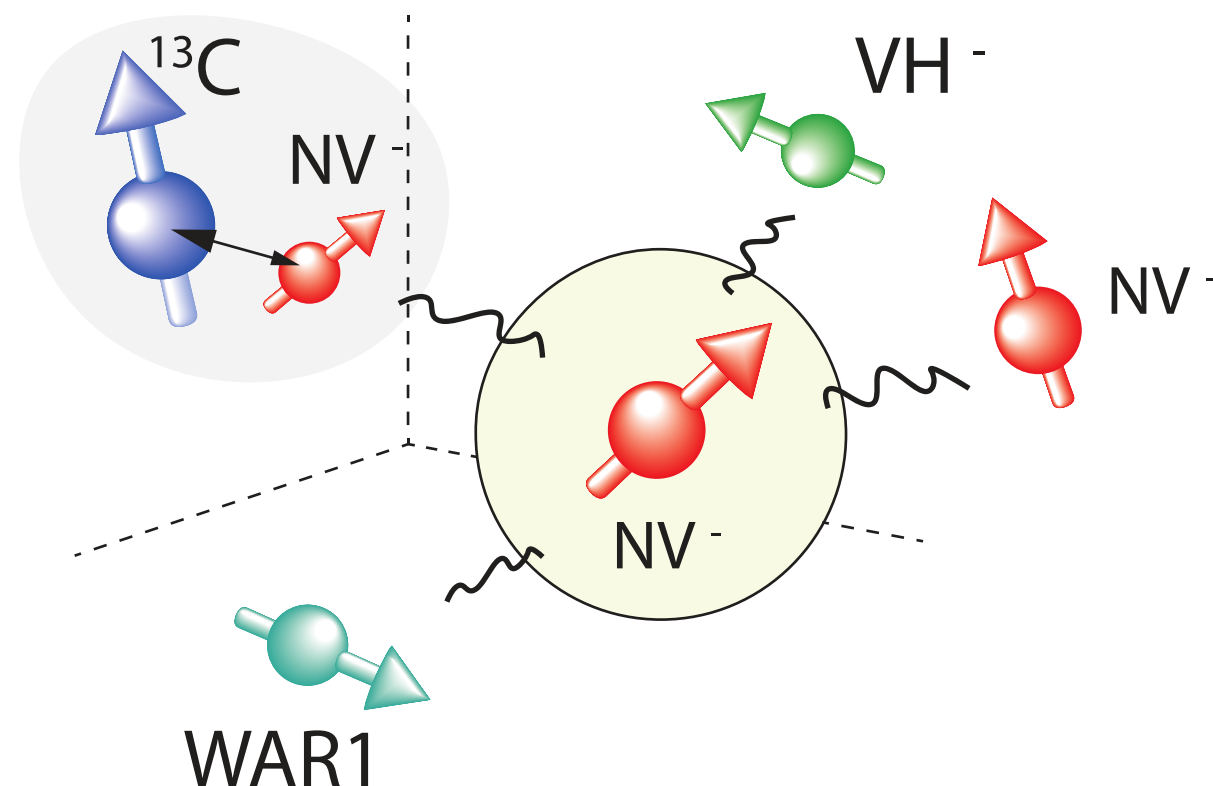
## Micro-diamond levitation in a Paul trap



Coupling the spin levels to the mechanical degrees of freedom of the diamond

- Cooling of the diamond motion
- Alignment of the diamond

## Probing dipolar interaction between spins in diamond



- "Dark" spin spectroscopy
- Thermalization dynamics of the spins