4 different projections of $\vec{B}$ over the 4 possible NV axes $\rightarrow$ 4 classes of resonances

$\vec{B}$

Class 1
Class 2
Class 3
Class 4

Frequency (MHz)

Magnetic field (G)

$\dfrac{E(-1)-E(0)}{h}$ $\dfrac{E(+1)-E(0)}{h}$

PL (norm.)

MW frequency (MHz)

Position of the 8 lines: $\rightarrow$ 3D reconstruction of $\vec{B}$