$\hat{H} = \hbar[D(\hat{S}_z^2 - \frac{2}{3}I_3) + E(\hat{S}_x^2 - \hat{S}_y^2) + \gamma_{nv}\vec{B}\cdot\hat{\vec{S}}]$
$\Delta E_{[m_s=+1]} = +g_e\mu_B \mid \vec{B}\cdot\hat{u} \mid$
$\Delta E_{[m_s=-1]} = -g_e\mu_B \mid \vec{B}\cdot\hat{u} \mid$
$\Delta E_{[m_s=0]} = 0$
$\hat{H} = \hbar[D(\hat{S}_z^2 - \frac{2}{3}I_3) + \gamma_{nv}B_z\hat{S}_z]$
$m_s = +1$
$m_s = -1$
$\Delta\nu_i = \nu_{i[+1]} - \nu_{i[-1]}$
$B_i = \Delta\nu_i/\gamma_{nv}$

$$\begin{cases} \Delta\nu_i = \nu_{i[+1]} - \nu_{i[-1]} \\ \\ B_i = \Delta\nu_i/2\gamma_{nv} \end{cases} \tag{1}$$

$[\hat{u}_1, \hat{u}_2, \hat{u}_3, \hat{u}_4]; [-1, -1,\ 1,\ 1]$

$$\begin{cases} \vec{B}\cdot\hat{u}_{list}[i]_1 = B_1 \\ \vec{B}\cdot\hat{u}_{list}[i]_2 = B_2 \\ \vec{B}\cdot\hat{u}_{list}[i]_3 = B_3 \end{cases} \tag{2}$$

$$\begin{cases} \vec{B}\cdot\hat{u}_1 = B_i \\ \vec{B}\cdot\hat{u}_2 = B_i \\ \vec{B}\cdot\hat{u}_3 = B_i \end{cases} \tag{3}$$

$\vec{B}\cdot\hat{u}_{list}[i]_4 = B_4$
NV^0
NV^-
$\theta_1 = 109.5°/2 = 54.75°$
$\theta_2 = 180° - 54.75° = 125.5°$

Calculated			Hall	
$B_x\ [mT]$	$B_y\ [mT]$	$B_z\ [mT]$	$B_x\ [mT]$	$B_z\ [mT]$
0.27 ± 0.17	0.00 ± 0.17	0.00 ± 0.17	0.27 ± 0.11	0.13 ± 0.11
0.29 ± 0.19	0.00 ± 0.19	0.00 ± 0.19	0.28 ± 0.11	0.15 ± 0.11
0.31 ± 0.17	0.00 ± 0.17	0.00 ± 0.17	0.30 ± 0.12	0.17 ± 0.11
0.33 ± 0.16	0.00 ± 0.16	0.00 ± 0.16	0.30 ± 0.12	0.14 ± 0.11
0.36 ± 0.32	0.00 ± 0.32	0.00 ± 0.32	0.32 ± 0.12	0.11 ± 0.11
0.39 ± 0.33	0.00 ± 0.33	0.00 ± 0.33	0.38 ± 0.12	0.21 ± 0.11
0.59 ± 0.32	0.00 ± 0.32	0.00 ± 0.32	0.58 ± 0.13	0.21 ± 0.11
0.79 ± 0.28	0.00 ± 0.28	0.00 ± 0.28	0.80 ± 0.14	0.30 ± 0.12
1.04 ± 0.33	0.00 ± 0.33	0.00 ± 0.33	0.90 ± 0.15	0.30 ± 0.12
1.16 ± 0.33	0.00 ± 0.33	0.00 ± 0.33	1.10 ± 0.15	0.22 ± 0.11

Calculated			Hall	
B_x $[mT]$	B_y $[mT]$	B_z $[mT]$	B_x $[mT]$	B_z $[mT]$
3.60 ± 0.18	0.58 ± 0.19	-1.78 ± 0.18	3.50 ± 0.28	-1.70 ± 0.01
4.00 ± 0.18	0.70 ± 0.20	-2.43 ± 0.19	4.10 ± 0.30	-2.40 ± 0.02
5.42 ± 0.18	0.56 ± 0.17	-3.08 ± 0.17	5.30 ± 0.36	-3.00 ± 0.05
8.01 ± 0.19	1.09 ± 0.18	-3.33 ± 0.18	7.80 ± 0.49	-3.40 ± 0.07
8.53 ± 0.15	0.79 ± 0.16	-4.62 ± 0.15	8.00 ± 0.50	-4.70 ± 0.13
9.95 ± 0.17	0.66 ± 0.20	-5.85 ± 0.19	9.90 ± 0.59	-5.70 ± 0.18
12.01 ± 0.15	0.68 ± 0.16	-9.12 ± 0.17	11.70 ± 0.68	-9.00 ± 0.35