

# ELECTRIC FIELD GRADIENTS IN METALS

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The following table is a compilation of quadrupole interaction frequencies:

$$\nu_Q = \frac{e \cdot Q \cdot V_{zz}}{h} \quad (1)$$

observed in pure metals and at the site of dilute impurities in metallic host lattices. In eq. (1)  $e$  is the positive elementary charge,  $Q$  the spectroscopic nuclear quadrupole moment and  $V_{zz}$  the principal component of the electric field gradient at the nuclear site. The axial asymmetry parameter  $\eta$  is given by:

$$\eta = \frac{V_{xx} - V_{yy}}{V_{zz}}$$

Data published up to June 1986 have been taken into account. All experimental values are expressed in terms of the quadrupole interaction frequency as defined by eq. (1). The entries are listed order of increasing atomic and mass number of the probe. Energy, spin, half-life and where available the quadrupole moment of the level are given for each probe. Where no reference is given the values for the quadrupole moments have been taken from ref. [310]. The columns of the table contain the following quantities:

1. Chemical symbol of the host lattice
2. Absolute value of the quadrupole interaction frequency in MHz. In all cases where the sign of  $\nu_Q$  has been determined it is given in the table.
3. Temperature of the host lattice in degrees K
4. Remarks, mainly designation of the applied method. The following abbreviations are used:

ME	Mößbauer effect
NMR	Nuclear magnetic resonance
$\beta$ -NMR	NMR observed by resonant destruction of the asymmetry of $\beta$ -radiation from polarized nuclei
NQR	Nuclear quadrupole resonance
NO	Nuclear orientation
TDPAD	Time differential perturbed angular distribution
SOPAD	Stroboscopic observation of perturbed angular distributions following nuclear reactions
IMPAC	Coulomb excitation recoil implantation perturbed angular correlation technique
IPAC	Integral perturbed angular correlation

TDPAC	Time differential perturbed angular correlation
$\beta$ - $\gamma$ TDPAC	$\beta$ - $\gamma$ Time differential perturbed angular correlation
$e^-$ - $\gamma$ TDPAC	$e^-$ - $\gamma$ Time differential perturbed angular correlation
(T)	Indicates that the temperature dependence has been measured
(P)	Indicates that the pressure dependence has been measured
M	in some cases the parent activity is given
S.Cry.	$\nu_Q$ was measured in a single crystalline matrix. In all other cases a polycrystalline matrix was used.
Ded.	Deduced, using data given in the table

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Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^9\text{Be}$ (g.st., $3/2^-$ , $Q = +0.053(3)$ b)				
Be	0.0564(3)	295	NMR	[311]
	0.0618(18)	77	NMR	[40,217,218,219]
Probe: $^{12}\text{B}$ (g.st., $1^+$ , $t_{1/2} = 20.4$ msec, $Q = 0.0171(16)$ b)				
Be	0.0549(5)	293	$\beta$ -NMR, S. Cry.	[41,118]
	0.0556(5)	293	$\beta$ -NMR	[127]
Mg	0.0465(5)	293	$\beta$ -NMR, S. Cry.	[42,118]
	0.044(4)	293	Level mixing depolarization, S.Cry	[149]
Zn	0.095(3)	293	$\beta$ -NMR, S. Cry.	[89,118]
Nb	0.071(8)	293	$\beta$ -NMR	[99]
Mo	0.155(35)	293	$\beta$ -NMR	[99]
Ta	0.135(7)	293	$\beta$ -NMR	[99]
W	0.233(35)	293	$\beta$ -NMR	[99]
Probe: $^{13}\text{B}$ (g.st., $3/2^-$ , $t_{1/2} = 17.3$ msec, $Q = 0.0478(46)$ b)				
Mg	0.130(2)	293	$\beta$ -NMR,S. Cry.	[42]
Probe: $^{12}\text{N}$ (g.st., $1^+$ , $t_{1/2} = 11$ msec)				
Be	0.237(10)	293	$\beta$ -NMR, S. Cry.	[89,118]
Mg	0.051(3)	293	$\beta$ -NMR, S. Cry.	[89,118]
	0.0578(24)	293	Level mixing depolarisation, S. Cry.	[149]
	0.0593(33)	293	$\beta$ -NMR, S. Cry.	[149]
Nb	0.640(73)	293	$\beta$ -NMR	[99]
Ta	0.607(87)	293	$\beta$ -NMR	[99]
Probe: $^{19}\text{F}$ (ex.st: 197 keV, $5/2^+$ , $t_{1/2} = 87$ nsec, $Q = -0.12(2)$ b)				
Be	6.30(-)	293	IMPAC	[80]
Zn	8.54(-)	293	IMPAC	[80]
	+8.4(10)	293	IMPAC, S. Cry., (T)	[6,128]
In	2.55(-)	293	IMPAC	[80]
Sn	4.95(-)	293	IMPAC	[80]
Probe: $^{25}\text{Mg}$ (g.st., $5/2^+$ , $Q = +0.22(-)$ b)				
Mg	0.324(6)	4.2	NMR	[57]
	0.230(-)	293	NMR	[58,129]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{43}\text{Sc}$ (ex.st: - , $19/2^-$ , $t_{1/2} = 469$ nsec, $Q = 0.199(14)\text{b}^{[312]}$ )				
Ti	8.59(19)	293	TDPAD	[312]
	8.37(34)	493	TDPAD	[312,313]
Zn	6.3(7)	493	TDPAD	[313]
Cd	10.2(4)	493	TDPAD	[313]
Probe: $^{44}\text{Sc}$ (ex.st: 68 keV, $1^+$ , $t_{1/2} = 153$ nsec, $Q = -0.21(2)$ b)				
Sc	1.90(10)	293	TDPAC	[1]
Ti	8.09(11)	296	TDPAC, (T)	[62]
Gd	10.4(1)	293	TDPAC, (T)	[96]
Probe: $^{45}\text{Sc}$ (g.st., $7/2^-$ , $Q = -0.22(1)$ b)				
Sc	2.02(3)	293	NMR	[100,219]
Y	5.20(-)	300	NMR	[100]
Probe: $^{43}\text{Ti}$ (ex.st: - , $19/2^-$ , $t_{1/2} = 553$ nsec, $Q = 0.30(7)\text{b}^{[312]}$ )				
Ti	8.0(16)	293	TDPAD	[312]
Probe: $^{47}\text{Ti}$ (g.st., $5/2^+$ , $Q_{5/2} = +0.29(1)\text{b}$ )				
Ti	11.5(5)	4.2	NMR	[448]
Probe: $^{49}\text{Ti}$ (g.st., $7/2^+$ , $Q_{7/2} = +0.24(1)$ b)				
Ti	9.4(5)	4.2	NMR	[448]
Probe: $^{47,49}\text{Ti}$ (g.st., $5/2^+, 7/2^+$ , $Q_{5/2} = +0.29(1)\text{b}$ , $Q_{7/2} = +0.24(1)$ b)				
Ti	7.7(-)	4	NMR, Average: $^{47}\text{Ti}, ^{49}\text{Ti}$	[121]
Probe: $^{55}\text{Mn}$ (g.st., $5/2^-$ , $Q = +0.40(2)$ b)				
$\alpha$ -Mn	8.44(-)	98	NMR, (T), site A, $\eta = 0.3$	[401]
	10.54(-)	98	NMR, (T), site B, $\eta = 0.5$	[401]
$\beta$ -Mn	1.71(1)	293	NMR, (T)	[210]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{54}\text{Fe}$ (ex.st: 6528 keV, $10^+$ , $t_{1/2} = 525$ nsec, $Q = +0.297(4)b^{[314,315]}$ )				
Zn	38.3(28)	480	TDPAD	[314]
Cd	45.3(9)	293	TDPAD	[315]
Probe: $^{57}\text{Fe}$ (ex.st: 14 keV, $3/2^-$ , $t_{1/2} = 98$ nsec, $Q = +0.082(8)b^{[397,398]}$ )				
Be	-13.0(6)	297	ME, (T)	[130,73,117]
			ME, (P)	[235]
Sc	(+)18.56(22)	290	ME, (T)	[271,300]
	6.0(5)	300	ME, (T)	[433]
Ti	-2.3(5)	300	ME	[61,395,59]
	2.6(2)	300	ME, (T), subst. site	[432]
	8.8(2)	300	ME, (T), interst. site	[432]
	2.22(42)	293	TDPAC	[131]
$\epsilon$ -Fe	3.96(68)	48	ME, high press. phase at $p = 176$ kbar	[240,281]
Co	-0.74(3)	299	ME, (T)	[133]
Zn	+12.3(7)	300	ME	[53,59,395]
	11.34(14)	293	ME, (T)	[317,134]
Ge	8.8(9)	293	ME	[59]
Y	7.0(7)	293	ME	[59,234]
Zr	15.30(19)	293	ME, (T)	[59,318,395]
Tc	-3.0(5)	293	ME	[308]
Ru	-3.3(1)	300	ME	[61]
Cd	+12.5(7)	293	ME	[59]
	13.7(9)	293	TDPAC	[215,395]
In	6.6(4)	293	ME	[135,59]
Sn	-	78	ME	[278]
Sb	30.39(4)	293	ME, (T)	[369]
Te	10.44(23)	293	ME, (T)	[280]
Gd	6.7(2)	293	ME	[375]
Tb	11.6(2)	293	ME, (T)	[375]
Dy	11.6(2)	293	ME	[375]
Ho	11.6(2)	293	ME	[375]
Er	11.2(2)	293	ME	[375]
Lu	10.7(2)	293	ME	[375]
	7.0(9)	293	ME	[59]
Hf	7.7(9)	293	ME	[59]
Re	-2.3(5)	300	ME	[61]
	8.1(9)	293	ME	[59]
Os	-3.5(1)	300	ME	[61]
Tl	8.1(7)	293	ME	[59]
Probe: $^{59}\text{Co}$ (g.st., $7/2^+$ , $Q = +0.42(3) b$ )				
Co	2.90(7)	4.2	NMR, (T)	[136]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{60}\text{Co}$ (g.st., $5^+$ , $t_{1/2} = 5.7$ y, $Q = +0.44(5)$ b)				
Co	-3.1(4)	~0	NO	[349,241]
Probe: $^{65}\text{Zn}$ (g.st., $5/2^-$ , $t_{1/2} = 244$ d, $Q = -0.023(2)$ b)				
Zn	pos. $\nu_Q$	~0	NO	[125]
Probe: $^{67}\text{Zn}$ (g.st., $5/2^-$ , $Q = +0.150(15)$ b)				
Zn	13.620(83)	-	NQR	[226]
	12.73(4)	4.2	NMR	[396,456]
	12.19(2)	4.2	NMR	[457]
	+12.34(3)	4.2	ME	[333,282,316,222]
	70.(-)	4.2	Spec. Heat	[150,220]
Probe: $^{67}\text{Zn}$ (ex.st: 605 keV, $9/2^+$ , $t_{1/2} = 333$ nsec, $Q = +0.60(7)$ b)				
Zn	45.5(4)	300	TDPAD, (T)	[17,192]
Cd	39.5(4)	310	TDPAD, (T)	[11,264]
Probe: $^{69}\text{Zn}$ (ex.st: 439 keV, $9/2^+$ , $t_{1/2} = 14$ h, $Q = -0.45(7)$ b <sup>[332]</sup> )				
Zn	-41.2(21)	~0	NO, S. Cry.	[332,125,181]
Probe: $^{66}\text{Ga}$ (ex.st: 1464 keV, $7^-$ , $t_{1/2} = 81$ nsec, $Q = 0.78(4)$ b <sup>[319]</sup> )				
$\alpha$ -Ga	103.8(50)	77	TDPAD, $\eta = 0.179$	[319]
Probe: $^{66}\text{Ga}$ (ex.st: 1230 keV, $7^-$ , $t_{1/2} = 91$ nsec, $Q = 0.72(2)$ b <sup>[319]</sup> )				
Zn	97.(6)	293	TDPAD	[233]
$\alpha$ -Ga	96.2(24)	77	TDPAD, $\eta = 0.179$	[233]
Gd	83.(4)	293	TDPAD	[233]
Sn	42.3(20)	293	TDPAD	[233]
Probe: $^{69}\text{Ga}$ (g.st., $3/2^-$ , $Q = +0.168(-)$ b)				
$\alpha$ -Ga	21.6476(10)	285	NQR, (T), $\eta = 0.171(2)$	[60,188]
	21.68(-)	273	NQR, (P,T), $\eta = 0.171$	[221,202,151]
$\beta$ -Ga	12.5(-)	77	NQR, (T), not corr. for $\eta$	[97]
	9.9(-)	250	NQR, (P)	[103]
$\alpha$ -Ga	13.6414(10)	285	NQR, $\eta = 0.171(2)$	[60,151]
	14.26(-)	4.2	NQR, not corr. for $\eta$	[188]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
$\beta$ -Ga	7.82(-)	77	NQR, (T), not corr. for $\eta$	[97]
Probe: $^{67}\text{Ge}$ (ex.st: 734keV, $9/2^+$ , $t_{1/2} = 70\text{nsec}$ , $Q = 1.3(3)\text{b}^{[320]}$ )				
Zn	86.6(8)	633	TDPAD, (T)	[8,263]
Cd	56.3(6)	383	TDPAD, (T)	[11,264]
In	22.6(6)	328	TDPAD, (T)	[11,264]
Sn	39.8(5)	448	TDPAD	[11,264]
Sb	20.3(3)	469	TDPAD	[11,86]
Probe: $^{69}\text{Ge}$ (ex.st: 398 keV, $9/2^+$ , $t_{1/2} = 2.8\text{msec}$ , $Q = 1.0(2)\text{b}$ )				
Zn	88.24(65)	374	TDPAD, (T)	[192,8,108]
	77.70(23)	576	SOPAD, (T)	[64]
$\alpha$ -Ga	70.8(8)	253	TDPAD, $\eta = 0.697(5)$	[8,447]
In	21.4(1)	298	TDPAD, (T)	[109]
Sn	38.05(5)	305	TDPAD, (T)	[109]
	38.49(12)	298	SOPAD-beat,TDPAD	[91]
Sb	21.1(2)	298	TDPAD	[109,86]
Tl	6.52(5)	296	TDPAD, (T)	[109,321]
Bi	10.35(5)	326	TDPAD, (T)	[109]
Probe: $^{71}\text{Ge}$ (ex.st: 175 keV, $5/2^+$ , $t_{1/2} = 84\text{nsec}$ , $Q = 0.23(5)\text{b}^{[320]}$ )				
Zn	17.(3)	633	TDPAD	[8]
$\alpha$ -Ga	15.5(4)	253	TDPAD, $\eta = 0.7(-)$	[8]
Probe: $^{71}\text{As}$ (ex.st: 1004 keV, $9/2^+$ , $t_{1/2} = 20\text{nsec}$ )				
$\alpha$ -Ga	71.(4)	288	TDPAD, $\eta = 0.738(5)$	[75,447]
Bi	51.(6)	293	TDPAD	[297]
Probe: $^{73}\text{As}$ (ex.st: 428 keV, $9/2^+$ , $t_{1/2} = 5.6\text{msec}$ )				
Zn	20.2(4)	653	TDPAD	[322]
$\alpha$ -Ga	84.6(6)	288	TDPAD, $\eta = 0.738(5)$	[75,447]
Probe: $^{75}\text{As}$ (g.st., $3/2^-$ , $Q = +0.314(6)\text{b}^{[330]}$ )				
As	46.9(6)	1	Spec. Heat	[142,152,139]
	45.444(4)	298	NQR, (T)	[140,141,303]
Probe: $^{75}\text{As}$ (ex. st: 280 keV, $5/2^-$ , $Q = 0.30\text{b}^{[450]}$ )				
$\alpha$ -Ga	36.(13)	293	TDPAC	[450]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{77}\text{As}$ (ex. st: 264 keV, $5/2^-$ , $Q < 0.75\text{b}^{[450]}$ )				
$\alpha$ -Ga	90.(13)	293	TDPAC	[450]
Probe: $^{77}\text{Se}$ (ex.st: 248 keV, $5/2^-$ , $t_{1/2} = 9\text{nsec}$ )				
As	700.(60)	293	TDPAC	[407]
Probe: $^{77}\text{Br}$ (ex.st: 130 keV, $5/2^-$ , $t_{1/2} = 9\text{nsec}$ )				
Zn	83.0(20)	293	$M = ^{77}\text{Kr}$ , TDPAC	[363,37]
$\alpha$ -Ga	72.(2)	293	$M = ^{77}\text{Rb}$ , TDPAC	[366]
Cd	66.5(20)	293	$M = ^{77}\text{Kr}$ , TDPAC	[363]
Probe: $^{79}\text{Kr}$ (ex.st: 147 keV, $5/2^-$ , $t_{1/2} = 79\text{nsec}$ , $Q = 0.41(3)\text{b}^{[185]}$ )				
Zn	87.0(6)	293	TDPAC, (T)	[107,275,358]
$\alpha$ -Ga	73.3(5)	293	TDPAC, $\eta = 0.15(3)$	[291]
Cd	44.0(8)	293	TDPAC, (T)	[107,275]
Sb	31.(1)	293	TDPAC	[107]
Probe: $^{83}\text{Kr}$ (ex.st: 9 keV, $7/2^-$ , $t_{1/2} = 147\text{nsec}$ , $Q = +0.459(6)\text{b}$ )				
	103.(5)	293	$e^- \gamma$ TDPAC	[185]
Probe: $^{80}\text{Rb}$ (ex.st: - keV, 6, $t_{1/2} = 2.4\text{msec}$ )				
$\alpha$ -Ga	50.8(1)	293	TDPAD	[294]
Probe: $^{90}\text{Zr}$ (ex.st: 3589 keV, $8^+$ , $t_{1/2} = 135\text{nsec}$ , $Q = 0.51(6)\text{b}$ )				
Y	31.4(10)	293	TDPAD	[387]
Zr	45.5(4)	0	TDPAD, (T), extrapolated value ( $T^{3/2}$ -rule)	[391]
Cd	39.7(13)	293	TDPAD	[387]
Gd	24.2(4)	293	TDPAD	[387]
Lu	27.5(6)	293	TDPAD	[387]
Hf	44.4(4)	293	TDPAD	[387]
Re	48.5(8)	293	TDPAD	[387]
Probe: $^{91}\text{Zr}$ (g.st., $5/2^+$ , $Q = -0.21(2)\text{b}^{[228]}$ )				
Zr	18.7(3)	4.2	NMR	[227]
Probe: $^{90}\text{Nb}$ (ex.st: 1881 keV, $11^-$ , $t_{1/2} = 477\text{nsec}$ )				
Zr	5.848(54)	293	TDPAD	[445]



Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{91}\text{Nb}$ (ex.st: 2035 keV, $17/2^-$ , $t_{1/2} = 3.4\text{msec}$ )				
Zr	62.9(26)	293	TDPAD	[445]
Probe: $^{92}\text{Mo}$ (ex.st: 2761 keV, $8^+$ , $t_{1/2} = 188\text{nsec}$ , $Q = 0.35(2)\text{b}^{[36]}$ )				
Zr	16.0(10)	293	TDPAD	[36]
Probe: $^{94}\text{Mo}$ (ex.st: 2953 keV, $8^+$ , $t_{1/2} = 98\text{nsec}$ , $Q = 0.52(3)\text{b}^{[36]}$ )				
Zr	23.7(13)	293	TDPAD	[36]
Probe: $^{99}\text{Tc}$ (g.st., $9/2^+$ , $Q = 0.34(17)\text{b}^{[399]}$ )				
Tc	5.716(-)	293	NMR	[143,219]
Probe: $^{99}\text{Ru}$ (ex.st: 90 keV, $3/2^+$ , $t_{1/2} = 21\text{nsec}$ , $Q = +0.23(5)\text{b}^{[287]}$ )				
Be	32.5(4)	295	TDPAC, (T)	[212]
Sc	104.4(3)	291	TDPAC, (T)	[259,300]
Ti	29.(3)	4.2	ME	[298]
	20.8(-)	293	TDPAC	[323]
Zn	26.8(5)	293	TDPAC, (T)	[328]
	21.0(10)	293	TDPAC	[1]
Y	30.4(4)	293	TDPAC, (T)	[259]
Zr	25.(11)	4.2	ME	[298]
	19.7(-)	293	TDPAC, (T)	[323]
Ru	5.4(3)	293	TDPAC, (T)	[324,1]
Cd	25.4(6)	293	TDPAC	[328,1]
Sn	24.0(15)	293	TDPAC	[1]
	15.4(6)	293	TDPAC	[328]
Sb	79.0(20)	293	TDPAC	[1]
La	27.8(6)	293	TDPAC	[304]
Gd	28.71(60)	308	TDPAC, (T)	[146,374]
Tb	29.95(50)	290	TDPAC, (T)	[146]
Dy	30.22(27)	290	TDPAC, (T)	[146]
Ho	28.67(41)	290	TDPAC, (T)	[146]Er
	28.25(44)	290	TDPAC, (T)	[146]
Lu	26.76(45)	290	TDPAC, (T)	[146]
Hf	31.(4)	4.2	ME	[298]
Re	8.6(-)	293	TDPAC, (T)	[323]
Os	8.4(-)	293	TDPAC, (T)	[323]
Probe: $^{103}\text{Ru}$ (g.st., $3/2^+$ , $t_{1/2} = 39.2\text{ d}$ , $Q = +0.59(2)\text{b}^{[453]}$ )				
Ru	-14.7(5)	~0	NO, S. Cry.	[453]

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{100}\text{Rh}$ (ex.st: 75 keV, $2^+$ , $t_{1/2} = 215\text{nsec}$ , $Q = 0.076(20)\text{b}^{[288]}$ )				
Be	8.86(5)	293	$e^-$ - $\gamma$ TDPAC, (T)	[79,203,329]
Zn	11.4(2)	293	TDPAC	[1]
	11.31(21)	293	$e^-$ - $\gamma$ TDPAC, (T)	[21]
Y	32.1(6)	293	TDPAC, (T), $\eta = 0.5$	[279]
Zr	8.1(4)	300	TDPAC, (T)	[426]
Ru	1.0(3)	293	TDPAC	[1]
Cd	8.83(9)	293	$e^-$ - $\gamma$ TDPAC, (T)	[85]
Gd	24.3(3)	300	TDPAC	[426]
Probe: $^{110}\text{Ag}$ (ex.st: 118 keV, $6^+$ , $t_{1/2} = 252\text{d}$ , $Q = +1.65(10)\text{b}$ )				
Co	-34.(3)	$\sim 0$	NO	[420]
Zn	+67.2(20)	$\sim 0$	NO	[368]
Probe: $^{105}\text{Cd}$ (ex.st: - keV, $21/2^+$ , $t_{1/2} = 5\text{msec}$ , $Q = 1.17(-)\text{b}^{[199]}$ )				
Cd	173.(1)	483	TDPAD	[199]
Probe: $^{107}\text{Cd}$ (ex.st: 845 keV, $11/2^-$ , $t_{1/2} = 70\text{nsec}$ , $Q = -0.94(-)\text{b}$ )				
Cd	139.(1)	483	TDPAD	[199,76]
Hg	151.6(10)	0	TDPAD, (T), extrapolated value ( $T^{3/2}$ -rule)	[231]
Probe: $^{107}\text{Cd}$ (ex.st: 2679 keV, $21/2^+$ , $t_{1/2} = 55\text{nsec}$ , $Q = 1.21(-)\text{b}$ )				
Cd	180.(9)	483	TDPAD	[199]
Probe: $^{109}\text{Cd}$ (g.st., $5/2^+$ , $t_{1/2} = 453\text{d}$ , $Q = +0.54(8)\text{b}^{/ded/}$ )				
Cd	+89.(11)	$\sim 0$	NO, S. Cry.	[88]
Probe: $^{109}\text{Cd}$ (ex.st: 463 keV, $11/2^-$ , $t_{1/2} = 10.6\text{msec}$ , $Q = -0.92(-)\text{b}$ )				
Cd	136.6(10)	483	TDPAD	[199]
Probe: $^{111\text{m}}\text{Cd}$ (ex.st: 396 keV, $11/2^-$ , $t_{1/2} = 48\text{min}$ , $Q = -0.85(9)\text{b}$ )				
Be	+43.(16)	$\sim 0$	NO, S. Cry.	[274]
Zn	-139.(15)	$\sim 0$	NO, S. Cry.	[274]
Probe: $^{111}\text{Cd}$ (ex.st: 247 keV, $5/2^+$ , $t_{1/2} = 84\text{nsec}$ , $Q = +0.83(13)\text{b}$ )				
Be	17.1(7)	293	$M=^{111}\text{Ag}$ , TDPAC	[5]
	52.5(15)	293	$M=^{111\text{m}}\text{Cd}$ , TDPAC	[5]
	54.6(5)	293	$M=^{111}\text{In}$ , TDPAC, S. Cry.	[2,5]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
	-16.0(2)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC, S. Cry.	[119,2]
	55.3(10)	293	M= <sup>111</sup> In, TDPAC, (T)	[79]
$\alpha$ -Mg	7.7(2)	298	M= <sup>111</sup> In, TDPAC, (T), Cd conc. dep.	[18,197]
	-7.0(10)	298	M= <sup>111</sup> Ag, TDPAC, S. Cry	[119]
	7.2(7)	150	M= <sup>111</sup> In, TDPAC	[452]
$\beta$ -Mg	167.0(2)	77	M= <sup>111</sup> In, TDPAC, (T), $\eta = 0.11(1)$	[452,455]
Ti	27.8(2)	296	M= <sup>111</sup> In, TDPAC, (T)	[19]
	+27.5(5)	293	M= <sup>111</sup> Ag, TDPAC, S. Cry.	[119]
Co	5.9(4)	295	M= <sup>111</sup> In, TDPAC	[47]
Zn	+132.2(14)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC, S. Cry.	[119]
	133.9(14)	298	M= <sup>111</sup> In, TDPAC, (T)	[20]
	133.1(10)	293	M= <sup>111</sup> In, TDPAC, (P)	[110,237,427]
$\alpha$ -Ga	137.50(42)	293	M= <sup>111</sup> In, TDPAC, (T), f(T)	[243,113,1,266]
$\beta$ -Ga	83.(1)	20	M= <sup>111</sup> In, TDPAC, site 1, $\eta = 0.92(2)$	[266]
	30.(2)	20	M= <sup>111</sup> In, TDPAC, site 2, $\eta = 0.8(1)$	[266]
As	117.8(11)	296	M= <sup>111</sup> In, TDPAC, (T)	[402,252]
	124.(2)	295	M= <sup>111m</sup> Cd, TDPAC	[276]
Y	14.2(3)	293	M= <sup>111</sup> In, TDPAC, (T,P)	[249,435]
Zr	14.1(2)	293	M= <sup>111</sup> In, TDPAC	[268]
	14.76(7)	293	M= <sup>111</sup> In, TDPAC, (T)	[327]
	+15.4(6)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC	[381]
Ru	22.6(3)	293	M= <sup>111</sup> In, TDPAC, (T)	[380]
Cd	+125.(4)	293	M= <sup>111</sup> Ag, TDPAC	[4]
			M= <sup>111m</sup> Cd, TDPAC	[1,24,154]
	126.0(10)	293	M= <sup>111</sup> In, TDPAC	[1,16]
	125.0(9)	298	TDPAC, (P), (T,P)	[71,258]
	124.66(48)	293	M= <sup>111</sup> In, TDPAC, (T)	[192,372,24,26,451]
	-		M= <sup>111</sup> In, TDPAC, (T)	
			in isotopically enriched Cd	[382]
	109.3(18)	483	TDPAD	[199,326]
In	17.85(10)	293	M= <sup>111</sup> In, TDPAC	[27,29,1,147]
	18.59(12)	273	M= <sup>111</sup> In, TDPAC, (T)	[192,372,190,26]
	18.3(12)	293	M= <sup>111</sup> In, TDPAC, (P)	[225,237]
	17.3(3)	293	M= <sup>111m</sup> Cd, TDPAC	[1]
			M= <sup>111</sup> In, Zirc. Pol.	[137]
Sn	+37.6(5)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ -TDPAC	[119]
	36.6(1)	293	M= <sup>111</sup> In, TDPAC, conc. dep.	[190,1]
	37.1(3)	293	M= <sup>111</sup> In, TDPAC, (P)	[110,237]
	37.44(20)	273	M= <sup>111</sup> In, TDPAC, (T)	[192,372]
Sb	108.94(71)	297	M= <sup>111</sup> In, TDPAC, (T), In, Cd conc. dep.	[183,252,285,1]
	-		M= <sup>111</sup> In, (T,P)	[422,438]
	-107.5(20)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC	[381]
	75.(1)	295	M= <sup>111m</sup> Cd, TDPAC	[276]
Te	29.0(5)	293	M= <sup>111</sup> In, TDPAC, $\eta = 0.20(5)$ , f(T)	[253,403]
	+22.7(21)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC, $\eta = 0.65$	[112]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
	55.35	297	M= <sup>111</sup> In,TDPAC, (T)	[182]
La	14.60(30)	19	M= <sup>111</sup> In,TDPAC	[440]
$\beta$ -Ce	12.5(7)	290	M= <sup>111</sup> In,TDPAC, (T)	[435]
Pr	12.92(20)	290	M= <sup>111</sup> In,TDPAC,(T,P)	[440,331,435]
Nd	13.00(10)	290	M= <sup>111</sup> In,TDPAC, (T,P)	[440,331,435]
Sm	20.0(2)	290	M= <sup>111</sup> In,TDPAC, (T,P)	[421]
Gd	24.3(4)	295	M= <sup>111</sup> In,TDPAC	[22,122,123,124,331]
	23.62(25)	298	M= <sup>111</sup> In,TDPAC, (T)	[196]
	24.7(1)	293	M= <sup>111</sup> In,TDPAC, (P)	[384]
Tb	25.9(4)	295	M= <sup>111</sup> In,TDPAC	[22,124]
	25.4(7)	298	M= <sup>111</sup> In,TDPAC, (T)	[196]
	25.3(3)	300	M= <sup>111</sup> In,TDPAC, (T, P)	[302,384]
Dy	27.5(4)	295	M= <sup>111</sup> In,TDPAC	[23,124]
	26.78(58)	298	M= <sup>111</sup> In,TDPAC, (T)	[196]
	25.8(1)	293	M= <sup>111</sup> In,TDPAC, (P)	[384]
Ho	23.4(6)	295	M= <sup>111</sup> In,TDPAC	[22,124]
	23.45(32)	290	M= <sup>111</sup> In,TDPAC, (T)	[257,196]
	23.4(2)	293	M= <sup>111</sup> In,TDPAC, (T, P)	[277,384]
Er	19.9(4)	295	M= <sup>111</sup> In,TDPAC	[22,124]
	19.32(43)	298	M= <sup>111</sup> In,TDPAC, (T)	[196]
	19.4(2)	293	M= <sup>111</sup> In,TDPAC, (P)	[384]
Lu	14.(1)	293	M= <sup>111</sup> In,TDPAC	[305]
Hf	+27.2(5)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC, S. Cry.	[267]
	28.8(5)	295	M= <sup>111</sup> In,TDPAC, (T)	[405]
Re	-29.2(6)	293	M= <sup>111</sup> Ag, $\beta$ - $\gamma$ TDPAC, S. Cry.	[119]
	29.73(14)	293	M= <sup>111</sup> In,TDPAC, (T)	[327]
Os	33.4(3)	300	M= <sup>111</sup> In,TDPAC, S. Cry.	[246,325,380]
Hg	112.(10)	77	M= <sup>111</sup> In,TDPAC	[1]
	110.(10)	77	M= <sup>111m</sup> Cd,TDPAC	[1]
Tl	7.8(8)	293	M= <sup>111</sup> In,TDPAC, (T,P)	[1,237,245]
Bi	80.27(99)	295	M= <sup>111</sup> In,TDPAC, (T)	[216,243]
	83.(2)	295	M= <sup>111m</sup> Cd,TDPAC	[276]
U	7.1(2)	293	M= <sup>111</sup> In,TDPAC, (T), $\eta = 1$	[429]
Probe: <sup>115m</sup> Cd (ex.st: 173 keV, 11/2 <sup>-</sup> , t <sub>1/2</sub> = 44.8d, Q = -0.54(5)b)				
Cd	-50.(15)	~0	NO	[88]
Probe: <sup>114</sup> In (g.st., 5 <sup>+</sup> , Q = +0.16(6)b <sup>[125]</sup> )				
In	-8.4(3)	-	NO	[125]
Probe: <sup>115</sup> In (g.st., 9/2 <sup>+</sup> , Q = +0.861(45)b)				
In	-45.36(-)	-	NQR	[189]
	45.24(1)	4.2	NQR, (T,P)	[95,70,186]
	29.50(-)	300	NMR	[187]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{115}\text{In}$ (ex.st: 828 keV, $3/2^+$ , $t_{1/2} = 6\text{nsec}$ , $Q = -0.67(9)\text{b}$ )				
Zn	-193.(13)	293	$\beta$ - $\gamma$ TDPAC, S. Cry.	[334]
Cd	-146.(5)	293	$\beta$ - $\gamma$ TDPAC, S. Cry.	[72]
	149.(6)	293	TDPAC	[1]
Te	-565.(62)	293	$\beta$ - $\gamma$ TDPAC, S. Cry., $\eta = 0.65$	[112]
Probe: $^{117}\text{In}$ (ex.st: 660 keV, $3/2^+$ , $t_{1/2} = 59\text{ nsec}$ , $Q = -0.64(4)\text{b}$ )				
Be	28.3(2)	293	TDPAC, (T), impl. tetr. interst. site	[383]
	38.1(2)	293	TDPAC, (T), impl. subst. site	[383]
Zn	181.7(15)	295	TDPAC, (T)	[77]
Cd	-132.(-)	293	TDPAC, 25 kbar	[119]
	146.(15)	294	TDPAC, (T)	[69]
	145.03(21)	290	TDPAC	[192,15,1]
	123.3(12)	303	TDPAD, (T)	[420]
In	21.0(5)	295	TDPAC	[1]
	34.3(10)	4.2	TDPAC	[192]
Sn	50.6(5)	298	TDPAC, (T)	[74,1]
Sb	109.8(10)	300	TDPAC, (T,P)	[430]
Bi	142.3(10)	300	TDPAC, (T,P)	[430]
Probe: $^{119}\text{In}$ (ex.st: 654 keV, $3/2^+$ , $t_{1/2} = 130\text{nsec}$ , $Q = 0.65(4)\text{b}$ )				
$\alpha$ -Ga	164.(3)	293	TDPAC	[296]
As	8.(1)	295	TDPAC	[276]
Cd	147.(3)	295	TDPAC	[276]
Sb	17.3(5)	295	TDPAC	[276]
Bi	38.(3)	295	TDPAC	[276]
Probe: $^{112}\text{Sn}$ (ex.st: 2552 keV, $6^+$ , $t_{1/2} = 14\text{nsec}$ , $Q = 0.29\text{b}$ )				
Cd	66.(3)	293	TDPAD, (T)	[56]
Probe: $^{113}\text{Sn}$ (ex.st: 731 keV, $11/2^-$ , $t_{1/2} = 89\text{ nsec}$ , $Q = 0.46(10)$ )				
Cd	104.8(55)	300	TDPAD, (T)	[192,65,81,82,335]
Sn	46.2(4)	311	TDPAD, (T)	[321,232]
Probe: $^{114}\text{Sn}$ (ex.st: 3088 keV, $7^-$ , $t_{1/2} = 765\text{ nsec}$ , $Q = 0.32(1)\text{b}$ )				
Cd	65.7(7)	550	TDPAD	[81]
	67.4(7)	480	TDPAD	[65]

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{115}\text{Sn}$ (ex.st: 619 keV, $7/2^+$ , $t_{1/2} = 3.28\text{msec}$ , $Q = 0.23(-)$ )				
Cd	47.7(5)	550	TDPAD	[81]
Probe: $^{116}\text{Sn}$ (ex.st: 2369 keV, $5^-$ , $t_{1/2} = 320\text{nsec}$ , $Q = 0.26(1)\text{b}$ )				
Cd	54.7(5)	480	TDPAD	[65]
	51.7(9)	550	TDPAD, (T)	[81,82,335]
In	14.8(14)	293	TDPAC	[35]
Sn	25.0(10)	293	TDPAC	[13]
Probe: $^{116}\text{Sn}$ (ex.st: 3548 keV, $10^+$ , $t_{1/2} = 904\text{nsec}$ , $Q = 0.50(-)\text{b}$ )				
Cd	105.8(10)	480	TDPAD, (T)	[65,335]
Probe: $^{118}\text{Sn}$ (ex.st: 2319 keV, $5^-$ , $t_{1/2} = 22\text{nsec}$ , $Q = 0.16(2)\text{b}$ )				
Sn	15.6(11)	293	TDPAC	[13]
Sb	12.(1)	293	TDPAC	[13]
Probe: $^{118}\text{Sn}$ (ex.st: 2572 keV, $7^-$ , $t_{1/2} = 217\text{nsec}$ , $Q = 0.28(-)\text{b}$ )				
Cd	56.4(8)	550	TDPAD	[81]
Probe: $^{118}\text{Sn}$ (ex.st: 3112 keV, $10^+$ , $t_{1/2} = 2.93\text{msec}$ , $Q = 0.37(-)\text{b}$ )				
Cd	75.3(7)	550	TDPAD	[81]
Probe: $^{119}\text{Sn}$ (ex.st: 24 keV, $3/2^+$ , $t_{1/2} = 19\text{nsec}$ , $Q = -0.094(4)\text{b}$ )				
Zn	-36.7(6)	77	ME	[376]
$\alpha$ -Ga	+28.8(5)	77	ME	[295]
Cd	-26.2(15)	77	ME	[376]
Sn	-17.6(38)	293	ME	[193]
	9.73(40)	296	ME, (T)	[230]
	9.07(30)	293	$e^-$ - $\gamma$ TDPAC	[25]
Sb	+9.5(25)	77	ME	[376]
Te	6.36(18)	300	$e^-$ - $\gamma$ TDPAC	[224]
Probe: $^{112}\text{Sb}$ (ex.st: - , $8^-$ , $t_{1/2} = 536\text{nsec}$ , $Q = 0.71(7)\text{b}$ <sup>[338]</sup> )				
Cd	5.9(2)	500	TDPAD	[388]
In	40.(1)	298	TDPAD	[338,292]
Sn	71.4(4)	303	TDPAD	[338,292]
Sb	139.1(15)	504	TDPAD	[338,250]
Bi	88.8(6)	370	TDPAD, (T)	[251]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{115}\text{Sb}$ (ex.st: -, $19/2^-$ , $t_{1/2} = 160\text{nsec}$ , $Q = 0.52(6)b^{[336]}$ )				
In	28.(10)	293	TDPAD	[343,338]
Bi	66.(3)	370	TDPAD	[336]
Probe: $^{120}\text{Sb}$ (ex.st: 88 keV, $3^+$ , $t_{1/2} = 247\text{nsec}$ , $Q = 0.41(4)b^{[338]}$ )				
Sn	42.4(2)	305	TDPAD, (T)	[247,372]
Probe: $^{121}\text{Sb}$ (g.st., $5/2^+$ , $Q = -0.36(4)b^{[337]}$ )				
Sb	71.613(1)	298	NQR, (T, P)	[98,104]
Probe: $^{122}\text{Sb}$ (g.st., $2^-$ , $t_{1/2} = 2.8\text{d}$ , $Q = +0.41(4)b^{[338]}$ )				
Zn	+37.7(13)	$\sim 0$	NO, S. Cry.	[437,458]
Sb	-31.6(20)	$\sim 0$	NO, S. Cry.	[458]
Probe: $^{123}\text{Sb}$ (g.st., $7/2^+$ , $Q = -0.46(5)b^{[ded]}$ )				
Sb	97.999(1)	4.2	NQR, (T)	[98]
Probe: $^{124}\text{Sb}$ (g.st., $3^-$ , $t_{1/2} = 60.2\text{d}$ )				
Zn	+80.9(35)	$\sim 0$	NO, S. Cry.	[437,458]
Sb	-74.(12)	$\sim 0$	NO	[458]
Probe: $^{115}\text{Te}$ (ex.st: 279 keV, $11/2^-$ , $t_{1/2} = 7.5\text{msec}$ )				
Sn	4.3(6)	295	TDPAD, (T)	[339,87]
Probe: $^{121}\text{Te}$ (ex.st: 443 keV, $7/2^+$ , $t_{1/2} = 85\text{nsec}$ )				
Sn	5.3(19)	295	TDPAD, (T)	[339]
Probe: $^{123}\text{Te}$ (ex.st: 489 keV, $7/2^+$ , $t_{1/2} = 31\text{nsec}$ )				
Sn	9.1(72)	295	TDPAD, (T)	[339]
Probe: $^{125}\text{Te}$ (ex.st: 35 keV, $3/2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = -0.31(2)b^{[283]}$ )				
S	681.(3)	4.2	ME	[93]
Se	596.(3)	4.2	ME	[93]
Te	416.(3)	4.2	ME	[93]
	434.(11)	4.8	ME, (T)	[144]
	442.(6)	4.2	ME, S. Cry., $\eta = 0.64(4)$	[138]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
		4.2	ME, (P), semicond.-metal trans.	[408]
Probe: $^{125}\text{Te}$ (ex.st: 321 keV, $9/2^-$ , $t_{1/2} = 1\text{nsec}$ , $Q = 0.12(+5-9)\text{b}$ )				
Gd	43.(11)	293	IPAC	[145]
Probe: $^{127}\text{I}$ (ex.st: 58 keV, $7/2^+$ , $t_{1/2} = 3\text{nsec}$ , $Q = -0.71(-)\text{b}$ )				
Te	693.(200)	293	IPAC	[156]
Probe: $^{129}\text{I}$ (g.st., $7/2^+$ , $Q = -0.553(-)\text{b}$ )				
S	-1460.(13)	4.2	ME, $\eta = 0.05(5)$ , p-s	[83]
	-1426.(10)	4.2	ME, $\eta = 0.14(3)$ , r-s	[83]
Se	-925.(10)	4.2	ME, $\eta = 0.50(2)$ , trigonal	[83]
	-1183.(10)	4.2	ME, $\eta = 0.18(3)$ , monoclinic	[83]
	1230.(10)	4.2	ME, $n < 0.02$ amorphous	[83]
Te	-396.(3)	4.2	ME, $\eta = 0.69(2)$	[83]
	-397.4(17)	4.2	ME, $\eta = 0.70(1)$	[341,157]
	-	4.2	ME, (P), semicond.-metal trans.	[461]
Probe: $^{129}\text{I}$ (ex.st: 28 keV, $5/2^+$ , $t_{1/2} = 17\text{nsec}$ , $Q = -0.685(-)\text{b}$ )				
Zn	+245.(15)	293	$\beta$ - $\gamma$ TDPAC	[342,111]
Cd	+259.(26)	293	$\beta$ - $\gamma$ TDPAC	[342]
Probe: $^{131}\text{I}$ (ex.st: 1797 keV, $15/2^-$ , $t_{1/2} = 6\text{nsec}$ , $Q = 0.75(-)\text{b}$ )				
Te	781.(57)	293	TDPAC, $\eta = 0.8$ , (recalculated for new spin value)	[1]
	-4060.(30)	293	$\beta$ - $\gamma$ TDPAC, $\eta = 0.72$	[111]
Probe: $^{132}\text{I}$ (ex.st: 278 keV, $1^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = -0.163(4)\text{b}^{[200]}$ )				
Zn	64.(32)	293	$\beta$ - $\gamma$ TDPAC, (T)	[342,111]
Cd	38.(23)	293	$\beta$ - $\gamma$ TDPAC	[342,111]
Te	-120.(4)	293	$\beta$ - $\gamma$ TDPAC, $\eta = 0.73$	[200]
Probe: $^{132}\text{I}$ (ex.st: 49 keV, $3^+$ , $t_{1/2} = 0.8\text{nsec}$ , $Q = 0.28(9)\text{b}^{[200]}$ )				
Zn	390.(110)	293	IPAC	[111]
Cd	430.(140)	293	IPAC	[111]
Te	190.(70)	293	IPAC, $\eta = 0.73$	[200]
Probe: $^{123}\text{Xe}$ (ex.st: 181 keV, $7/2^-$ , $t_{1/2} = 7.6\text{msec}$ )				
Cd	116.(2)	278	TDPAD	[293]



Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{125}\text{Xe}$ (ex.st: - , $7/2^+$ , $t_{1/2} = 200\text{nsec}$ )				
Cd	122.1(6)	552	TDPAD, (T)	[367/
Probe: $^{133}\text{Cs}$ (ex.st: 81 keV, $5/2^+$ , $t_{1/2} = 6\text{nsec}$ )				
Te	-430.(26)	293	$\beta$ - $\gamma$ TDPAC, $\eta = 0.65$	[112]
Probe: $^{133}\text{La}$ (ex.st: 535 keV, $11/2^-$ , $t_{1/2} = 60\text{nsec}$ , $Q = 1.4(2)\text{b}^{\text{ded/}}$ )				
La	50.2(5)	293	TDPAC	[38,393]
Probe: $^{139}\text{La}$ (g.st. $7/2^+$ , $Q = +0.22(3)\text{b}$ )				
La	7.8(3)	2	NMR	[39,158]
	7.25(-)	6	NQR	[159]
Probe: $^{134}\text{Ce}$ (ex.st: - , $10^+$ , $t_{1/2} = 308\text{nsec}$ , $Q = 1.32(12)\text{b}^{\text{[371]}}$ )				
Sn	54.8(24)	293	TDPAD, (T)	[371]
Probe: $^{136}\text{Ce}$ (ex.st: - , $10^+$ , $t_{1/2} = 2\text{msec}$ , $Q = 1.11(11)\text{b}^{\text{[371]}}$ )				
Sn	44.4(16)	293	TDPAD, (T)	[371]
Probe: $^{138}\text{Ce}$ (ex.st: - , $10^+$ , $t_{1/2} = 82\text{nsec}$ , $Q = 0.77(-)\text{b}^{\text{[371]}}$ )				
Sn	30.6(28)	293	TDPAD, (T)	[371]
Probe: $^{140}\text{Sm}$ (ex.st: - , $10^+$ , $t_{1/2} = 17\text{nsec}$ , $Q = 1.67(48)\text{b}^{\text{[340]}}$ )				
Gd	76.(8)	370	TDPAD, S. Cry.	[340]
Probe: $^{142}\text{Sm}$ (ex.st: - , $7^-$ , $t_{1/2} = 170\text{nsec}$ , $Q = 0.97(12)\text{b}^{\text{[340]}}$ )				
	52.(1)	370	TDPAD, S. Cry.	[340]
Probe: $^{152}\text{Sm}$ (ex.st: 121 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.666(16)\text{b}^{\text{[348]}}$ )				
Zn	66.(5)	293	IMPAC, S. Cry.	[51,172]
Cd	66.(14)	293	IMPAC, S. Cry.	[51,172]
Te	82.(19)	293	IMPAC, S. Cry.	[51,172]
Gd	105.(14)	293	IMPAC, S. Cry.	[51,172]
Probe: $^{154}\text{Sm}$ (ex.st: 82 keV, $2^+$ , $t_{1/2} = 3\text{nsec}$ , $Q = -1.87(4)\text{b}^{\text{[348]}}$ )				

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Zn	57.(3)	293	IMPAC, S. Cry.	[51,172]
Cd	57.(9)	293	IMPAC, S. Cry.	[51,172]
Te	71.(8)	293	IMPAC, S. Cry.	[51,172]
Gd	90.(10)	293	IMPAC, S. Cry.	[51,172,340]
Probe: $^{145}\text{Eu}$ (ex.st: 716 keV, $11/2^-$ , $t_{1/2} = 490\text{nsec}$ )				
Sm	12.5(4)	300	TDPAD, (T)	[286]
Probe: $^{144}\text{Gd}$ (ex.st: 3433 keV, $10^+$ , $t_{1/2} = 130\text{nsec}$ , $Q = -1.46(6)\text{b}$ )				
Gd	123.9(18)	324	TDPAD	[344,352]
Probe: $^{147}\text{Gd}$ (ex.st: 8587keV, $49/2^+$ , $t_{1/2} = 510\text{nsec}$ , $Q = 3.24(18)$ )				
Gd	250.(7)	413	TDPAD, (T), S. Cry.	[262,352]
Probe: $^{147}\text{Gd}$ (ex.st: 3582 keV, $27/2^-$ , $t_{1/2} = 27\text{nsec}$ , $Q = 1.26(8)\text{b}$ )				
Gd	100.4(65)	416	TDPAD, S. Cry.	[262,352]
Probe: $^{147}\text{Gd}$ (ex.st: 997 keV, $13/2^+$ , $t_{1/2} = 22\text{nsec}$ , $Q = 0.73(7)\text{b}$ )				
Gd	58.(6)	332	TDPAD, S. Cry.	[262,352]
Probe: $^{148}\text{Gd}$ (ex.st: 2695 keV, $9^-$ , $t_{1/2} = 17\text{nsec}$ , $Q = 1.01(5)\text{b}^{[352]}$ )				
Gd	80.0(35)	415	TDPAD, S. Cry.	[352]
Probe: $^{155}\text{Gd}$ (g.st., $3/2^-$ , $Q = +1.30(2)\text{b}^{[410,411]}$ )				
Sc	129.(2)	4.2	ME	[198]
Y	164.(2)	4.2	ME	[198]
Gd	+108.(1)	4.2	ME	[198]
	118.(-)	1.4	Spin echo	[211]
Lu	137.(2)	4.2	ME	[198]
Probe: $^{157}\text{Gd}$ (g.st., $3/2^-$ , $Q = +1.36(2)\text{b}^{[410,411]}$ )				
Gd	79.4(-)	1.6	NMR	[223]
Probe: $^{157}\text{Gd}$ (ex.st: 64 keV, $5/2^+$ , $t_{1/2} = 460\text{nsec}$ , $Q = +3.65(47)\text{b}$ )				
Gd	51.6(10)	4.2	ME	[54]
Probe: $^{158}\text{Gd}$ (ex.st: 80 keV, $2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = 1.96(-)\text{b}$ )				

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Gd	34.(17)	4.2	ME	[55]
Probe: $^{160}\text{Gd}$ (ex.st: 160 keV, $t_{1/2} = 3\text{nsec}$ , $Q = 0.49(12)\text{b}^{\text{ded/}}$ )				
Gd	41.(10)	250	IMPAC	[160]
Probe: $^{159}\text{Tb}$ (g.st., $3/2^+$ , $Q = +1.432(8)\text{b}^{\text{[413,414]}}$ )				
Tb	1344.(-)	4.2	NMR	[211]
	438.(-)	1	Spec. Heat	[205]
	271.(-)	1	Spec. Heat	[208]
	604.(-)	1	Spec. Heat	[206,239]
Probe: $^{160}\text{Tb}$ (g.st., $3^-$ , $t_{1/2} = 72\text{d}$ , $Q = 3.56(10)\text{b}^{\text{[434]}}$ )				
Tb	3354.(52)	$\sim 0$	NO	[434]
Probe: $^{161}\text{Dy}$ (ex.st: 26 keV, $5/2^-$ , $t_{1/2} = 29\text{nsec}$ , $Q = +2.46(19)\text{b}$ )				
Dy	2060.(160)	20	ME	[119,239]
Probe: $^{163}\text{Dy}$ (g.st., $5/2^-$ , $Q = +2.648(21)\text{b}^{\text{[413,415,416]}}$ )				
Dy	2720.(-)	4.2	NMR	[211]
Probe: $^{165}\text{Ho}$ (g.st., $7/2^-$ , $Q = +2.73(6)\text{b}$ )				
Ho	146.(-)	4.2	Spec. Heat	[207]
	167.(31)	1	Spec. Heat	[208]
	42.(-)	0.1	Spec. Heat	[209]
Probe: $^{154}\text{Er}$ (ex.st: - , $11^-$ , $t_{1/2} = 40\text{nsec}$ )				
Er	-	293	TDPAD, (T)	[386]
Probe: $^{166}\text{Er}$ (ex.st: 81 keV, $2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = -1.9(4)\text{b}$ )				
Er	+899.(97)	4.2	ME, (T)	[194,161]
Probe: $^{167}\text{Er}$ (g.st., $7/2^+$ , $Q = 3.565(29)\text{b}^{\text{[413,417]}}$ )				
Er	1484.(-)	4.2	NMR	[211]
Probe: $^{169}\text{Tm}$ (ex.st: 8 keV, $3/2^+$ , $t_{1/2} = 4\text{nsec}$ , $Q = -1.3(1)\text{b}$ )				
Tm	217.(-)	120	ME, (T) 59 - 156 K	[162]
	+1975.(-)	5	ME, (T) 5 - 60 K	[204,239]

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{170}\text{Yb}$ (ex.st: 84 keV, $2^+$ , $t_{1/2} = 1.6\text{nsec}$ , $Q = 2.12(36)\text{b}$ )				
Gd	188.(27)	4.2	ME	[244]
Probe: $^{172}\text{Yb}$ (ex.st: 79 keV, $2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = 2.16(37)\text{b}$ )				
Tm	240.(24)	296	TDPAC	[163,164]
	267.(6)	296	TDPAC, (T)	[28]
Probe: $^{172}\text{Yb}$ (ex.st: 1174 keV, $3^+$ , $t_{1/2} = 8\text{nsec}$ , $Q = 2.87(57)\text{b}$ )				
Tm	320.(12)	296	TDPAC	[163,164]
	328.(6)	296	TDPAC, (T)	[28]
Probe: $^{173}\text{Lu}$ (g.st., $7/2^+$ , $t_{1/2} = 1.4\text{y}$ , $Q = +3.6(1)\text{b}^{[404]}$ )				
Re	-1149.(100)	$\sim 0$	NO	[404]
Probe: $^{175}\text{Lu}$ (g.st., $7/2^+$ , $Q = +3.49(2)\text{b}^{[345]}$ )				
Tb	-329.(+76-42)	1.4	NMR	[346,347]
Dy	-329.(17)	1.4	NMR	[346,347]
Lu	429.(-)	1	Spec. Heat	[165]
Probe: $^{176}\text{Lu}$ (g.st., $7^-$ , $Q = +6.8(-)\text{b}^{(\text{ded})}$ )				
Lu	613.(-)	1	Spec. Heat	[165]
Probe: $^{176}\text{Lu}$ (ex.st: 127 keV, $1^-$ , $t_{1/2} = 3.7\text{h}$ , $Q = -1.47(1)\text{b}^{[238]}$ )				
Lu	-128(16)	$\sim 0$	NO	[238]
Probe: $^{177}\text{Lu}$ (g.st., $7/2^+$ , $t_{1/2} = 6.7\text{d}$ , $Q = +3.39(2)\text{b}^{[238]}$ )				
Zn	-180.(5)	$\sim 0$	NO, implanted at $T < 1\text{K}$	[390]
In	-21.(1)	$\sim 0$	NO, implanted at $T < 1\text{K}$	[390]
Lu	+307.(12)	$\sim 0$	NO	[332,125,238]
Re	neg. $v_Q$	$\sim 0$	NO	[309]
Os	neg. $v_Q$	$\sim 0$	NO	[309]
Probe: $^{177}\text{Lu}$ (ex.st: 970 keV, $23/2^-$ , $t_{1/2} = 161\text{d}$ , $Q = 4.23(67)\text{b}^{[332]}$ )				
Lu	+381.(42)	$\sim 0$	NO	[332]
Probe: $^{175}\text{Hf}$ (g.st., $5/2^-$ , $t_{1/2} = 70\text{d}$ , $Q = +2.67(33)\text{b}^{(\text{ded})}$ )				

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Be	-173.(20)	~0	NO	[273]
Zn	+211.(10)	~0	NO	[273]
Lu	+364.(24)	~0	NO	[236,305]
Hf	+603.(75)	~0	NO	[94]
Re	-540.(43)	~0	NO	[404]
Probe: $^{176}\text{Hf}$ (ex.st: 88 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -2.02(7)\text{b}^{\text{ded/}}$ )				
Hf	-435.(6)	492	ME	[34]
	-455.(17)	4.2	ME	[45]
Probe: $^{177}\text{Hf}$ (ex.st: 113 keV, $9/2^-$ , $t_{1/2} = 0.5\text{nsec}$ , $Q = 3.3(-)\text{b}^{\text{[301]}}$ )				
Lu	310.(310)	293	IPAC	[301]
Probe: $^{178}\text{Hf}$ (ex.st: 93 keV, $2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = -1.95(2)\text{b}^{\text{[394]}}$ )				
Be	-202.(27)	4.2	ME	[265]
Sc	-367.(23)	4.2	ME	[298]
Ti	-390.(9)	4.2	ME	[265]
Ru	220.(23)	4.2	ME	[265]
Zr	-403.(14)	4.2	ME	[265]
Hf	-444.(3)	4.2	ME	[45,34,167]
	-505.(39)	77	ME, $\eta$ assumed 0	[459]
	193.(17)	295	IMPAC, S. Cry.	[431]
Os	317.(18)	4.2	ME	[265]
Probe: $^{180}\text{Hf}$ (ex.st: 93 keV, $2^+$ , $t_{1/2} = 2\text{nsec}$ , $Q = -1.92(6)\text{b}^{\text{ded/}}$ )				
Hf	-354.(83)	293	IMPAC, S. Cry.	[46,431]
	-434.(15)	4.2	ME	[45]
Probe: $^{180}\text{Hf}$ (ex.st: 1142 keV, $8^-$ , $t_{1/2} = 5.5\text{h}$ , $Q = +4.39(26)\text{b}^{\text{ded/}}$ )				
Hf	+990.(60)	~0	NO	[94]
Probe: $^{178}\text{Ta}$ (g.st., $1^+$ , $t_{1/2} = 9.3\text{m}$ , $Q = +0.65(6)\text{b}^{\text{[404]}}$ )				
Re	-103.(10)	~0	NO	[404]
Probe: $^{181}\text{Ta}$ (g.st., $7/2^+$ , $Q = +3.28(6)\text{b}^{\text{[354]}}$ )				
Ru	-378.(10)	293	ME	[44]
Hf	+442.(24)	293	ME, S. Cry.	[44]
Re	-520.(5)	293	ME, S. Cry., (T)	[43,44,406]
Os	-578.(10)	293	ME	[44]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{181}\text{Ta}$ (ex.st: 482 keV, $5/2^+$ , $t_{1/2} = 11\text{nsec}$ , $Q = +2.36(5)\text{b}^{[460]}$ )				
Be	227.0(22)	293	TDPAC, S. Cry.	[78]
	228.9(34)	293	$e^- \gamma$ TDPAC, (T)	[79]
Mg	14.7(2)	293	TDPAC, (T)	[423]
Sc	313.(13)	300	TDPAC, (T, P)	[201,105]
Ti	345.(3)	296	TDPAC, (T)	[19,63]
	333.(2)	296	TDPAC, (T), $\alpha$ -Ti, $\eta = 0.12$	[49]
Se	282.(20)	298	TDPAC, (T)	[424]
Zn	746.6(57)	300	TDPAC, (T)	[213]
Y	358.1(17)	300	TDPAC, (T, P)	[201,105]
Zr	280.(2)	296	TDPAC, (T), $\omega$ -Zr, site A	[50]
	382.(2)	296	TDPAC, (T), $\omega$ -Zr, site B	[50]
	276.2(21)	300	TDPAC, (P), $\omega$ -Zr, site A	[52]
	386.6(24)	300	TDPAC, (P), $\omega$ -Zr, site B	[52]
	312.(3)	296	TDPAC, (T), $\alpha$ -Zr, $\eta = 0.12$	[48,63]
	314.3(14)	300	TDPAC, (P), $\alpha$ -Zr	[9,101]
	303.9(15)	293	TDPAC	[120]
Ru	250.(3)	293	TDPAC, (T)	[380]
Te	593.3(28)	297	TDPAC, site 1	[256]
	425.0(42)	297	TDPAC, site 2	[256]
Gd	399.(22)	293	TDPAC, (T)	[14,148,299]
Tb	365.(6)	293	TDPAC	[14]
	358.(6)	290	$e^- \gamma$ TDPAC	[270,425]
	362.(2)	300	TDPAC, (T, P)	[302]
Dy	399.(7)	293	TDPAC, (T)	[14,148]
Ho	395.9(14)	293	TDPAC, (T)	[409,14,148,350]
Tm	386.(2)	293	TDPAC, (T)	[373/
Er	387.3(71)	293	TDPAC, (T)	[14,148,350]
Lu	302.8(16)	300	TDPAC, (T, P)	[201,105,351]
Hf	311.0(11)	293	TDPAC, $\eta = 0$	[120]
	354.(3)	293	TDPAC, $\eta = 0.3$	[30,169,171]
	332.2(4)	300	TDPAC, (T)	[31,168]
	320.(13)	293	TDPAC, IPAC, (T)	[170]
	322.(4)	300	TDPAC, (T)	[63]
	333.0(3)	293	TDPAC, (P)	[441,90]
Re	378.1(7)	300	TDPAC, (T, P)	[106]
	382.(3)	290	TDPAC, (T)	[32]
Os	389.(2)	300	TDPAC	[33]
	396.(4)	293	TDPAC, (T)	[380]
Probe: $^{182}\text{W}$ (ex.st: 100 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -2.05(-)\text{b}^{[51]}$ )				
Zn	-395.(56)	293	IMPAC, S. Cry.	[51,172]
Cd	406.(55)	293	IMPAC, S. Cry.	[51,172]
Te	288.(46)	293	IMPAC, S. Cry.	[51,172]
Gd	-358.(38)	293	IMPAC, S. Cry.	[51,172]

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{184}\text{W}$ (ex.st: 111 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.60(-)\text{b}^{[51]}$ )				
Zn	-309.(32)	293	IMPAC, S. Cry.	[51,172]
Cd	344.(52)	293	IMPAC, S. Cry.	[51,172]
Te	257.(28)	293	IMPAC, S. Cry.	[51,172]
Gd	-267.(22)	293	IMPAC, S. Cry.	[51,172]
Probe: $^{186}\text{W}$ (ex.st: 123 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.64(-)\text{b}^{[51]}$ )				
Zn	-316.(25)	293	IMPAC, S. Cry.	[51,172]
Cd	368.(51)	293	IMPAC, S. Cry.	[51,172]
Te	289.(27)	293	IMPAC, S. Cry.	[51,172]
Gd	-289.(19)	293	IMPAC, S. Cry.	[51,172]
	neg. $v_Q$	293	IMPAC, S. Cry.	[46]
Probe: $^{182}\text{Re}$ (g.st., $2^+$ , $t_{1/2} = 12.7\text{h}$ , $Q = +1.89(22)\text{b}^{[305]}$ )				
Lu	+311.(24)	$\sim 0$	NO	[305]
Re	-223.(7)	$\sim 0$	NO	[305]
Probe: $^{182}\text{Re}$ (ex.st: -, $7^+$ , $t_{1/2} = 64\text{h}$ , $Q = +4.1(5)\text{b}^{[404]}$ )				
Re	-502.(30)	$\sim 0$	NO	[404]
Probe: $^{183}\text{Re}$ (g.st., $5/2^+$ , $t_{1/2} = 71\text{d}$ , $Q = +2.3(10)\text{b}^{[116]}$ )				
Re	-281.(20)	$\sim 0$	NO	[404,116]
Probe: $^{184}\text{Re}$ (g.st., $3^-$ , $t_{1/2} = 38\text{d}$ , $Q = +3.6(14)\text{b}^{[116]}$ )				
Re	-340.(22)	$\sim 0$	NO	[404,116]
Probe: $^{185,187}\text{Re}$ (g.st., $5/2^+$ )				
Re	-246.(2)	1	Spec. Heat, Average: $^{185,187}\text{Re}$	[174,175,176,155]
Probe: $^{185}\text{Re}$ (g.st., $5/2^+$ , $Q = +2.19(2)\text{b}^{[354]}$ )				
Re	271.430(13)	4.2	Nuclear Acoustic Res., (T)	[446]
	269.5(7)	2.0	Nuclear Acoustic Res., (T)	[173,364]
Probe: $^{186}\text{Re}$ (g.st., $1^-$ , $t_{1/2} = 92\text{h}$ , $Q = +0.681(6)\text{b}^{[355]}$ )				
Re	-73.(7)	$\sim 0$	NO	[404,116]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{187}\text{Re}$ (g.st., $5/2^+$ , $Q = +2.07(2)b^{[354]}$ )				
Re	255.478(13)	4.2	Nuclear Acoustic Res., (T)	[446]
	255.2(5)	2.0	Nuclear Acoustic Res., (T)	[173,364,446]
Probe: $^{187}\text{Re}$ (ex.st: 206 keV, $9/2^-$ , $t_{1/2} = 570\text{nsec}$ )				
Re	376.(6)	293	TDPAC	[1]
Probe: $^{188}\text{Re}$ (g.st., $1^-$ , $t_{1/2} = 16.9\text{h}$ , $Q = +0.572(6)b^{[355]}$ )				
Re	-92.(10)	$\sim 0$	NO	[116]
Probe: $^{183}\text{Os}$ (g.st., $9/2^+$ , $t_{1/2} = 13\text{h}$ , $Q = +3.11(11)b^{\text{ded/}}$ )				
Lu	+403.(20)	$\sim 0$	NO	[305]
Re	-289.(10)	$\sim 0$	NO	[305]
Probe: $^{186}\text{Os}$ (ex.st: 137 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.63(3)b^{[353]}$ )				
Re	+151.(13)	4.2	ME	[242,68]
Os	+179.(9)	4.2	ME	[242]
	136.(13)	4.2	IPAC	[184]
Probe: $^{188}\text{Os}$ (ex.st: 155 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.17(22)b^{\text{ded/}}$ )				
Zn	461.(37)	293	IMPAC, S. Cry.	[51,172]
Cd	218.(19)	293	IMPAC, S. Cry.	[51,172]
Te	234.(19)	293	IMPAC, S. Cry.	[51,172]
Gd	461.(42)	293	IMPAC, S. Cry.	[51,172]
Re	+108.(20)	4.2	ME	[68]
Probe: $^{190}\text{Os}$ (ex.st: 187 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = -1.34(17)b$ )				
Zn	592.(48)	293	IMPAC, S. Cry.	[51,172]
Cd	229.(24)	293	IMPAC, S. Cry.	[51,172]
Te	229.(24)	293	IMPAC, S. Cry.	[51,172]
Gd	458.(53)	293	IMPAC, S. Cry.	[51,172]
Probe: $^{191}\text{Os}$ (g.st., $9/2^-$ , $t_{1/2} = 15\text{d}$ , $Q = +2.53(16)b^{[353]}$ )				
Os	-278.(9)	$\sim 0$	NO	[353,362]
Probe: $^{192}\text{Os}$ (ex.st: 206 keV, $2^+$ , $t_{1/2} = 1\text{nsec}$ , $Q = 1.30(26)b$ )				
Zn	489.(57)	293	IMPAC, S. Cry.	[51,172]
Cd	153.(89)	293	IMPAC, S. Cry.	[51,172]



Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Te	153.(89)	293	IMPAC, S. Cry.	[51,172]
Gd	401.(85)	293	IMPAC, S. Cry.	[51,172]
Probe: $^{193}\text{Os}$ (g.st., $3/2^-$ , $t_{1/2} = 32\text{h}$ , $Q = +0.87(15)\text{b}^{[353]}$ )				
Os	-96.(15)	$\sim 0$	NO	[353]
Probe: $^{184}\text{Ir}$ (g.st., $5^-$ , $t_{1/2} = 3.2\text{h}$ , $Q = +2.0(3)\text{b}^{[357]}$ )				
Re	-175.(26)	$\sim 0$	NO	[357]
Probe: $^{185}\text{Ir}$ (g.st., $5/2^-$ , $t_{1/2} = 14.4\text{h}$ , $Q = -2.5(3)\text{b}^{[357]}$ )				
Re	+219.(20)	$\sim 0$	NO	[357]
Probe: $^{186}\text{Ir}$ (g.st., $5^+$ , $t_{1/2} = 16.3\text{h}$ , $Q = -2.41(20)\text{b}^{[362]}$ )				
Re	+218.(11)	$\sim 0$	NO	[306,305]
Os	+175.(10)	$\sim 0$	NO	[362]
Probe: $^{187}\text{Ir}$ (ex.st: 434 keV, $11/2^-$ , $t_{1/2} = 152\text{nsec}$ , $Q = 3.1(3)\text{b}$ )				
Cd	650.(8)	293	TDPAC	[37]
Os	258.(12)	293	TDPAC	[214]
Probe: $^{188}\text{Ir}$ (g.st., $2^-$ , $t_{1/2} = 41.5\text{h}$ , $Q = +1.19(10)\text{b}^{/ded/}$ )				
Re	-107.8(33)	$\sim 0$	NO	[306]
Probe: $^{189}\text{Ir}$ (g.st., $3/2^+$ , $t_{1/2} = 13.3\text{d}$ , $Q = +0.95(8)\text{b}^{/ded/}$ )				
Re	-85.9(36)	$\sim 0$	NO	[306]
Probe: $^{190}\text{Ir}$ (g.st., $4^+$ , $t_{1/2} = 12.1\text{d}$ , $Q = +2.73(23)\text{b}^{/ded/}$ )				
Re	-247.(74)	$\sim 0$	NO	[306]
Probe: $^{192}\text{Ir}$ (g.st., $4^-$ , $t_{1/2} = 74.17\text{d}$ , $Q = +2.36(11)\text{b}^{[454]}$ )				
Ru	-133.(6)	$\sim 0$	NO, S. Cry.	[453]
Probe: $^{193}\text{Ir}$ (g.st., $3/2^+$ , $Q = +0.752(9)\text{b}^{[413,392,418]}$ )				
Be	108.(1)	4.2	ME	[300]
Sc	725.(5)	4.2	ME, (T)	[126]
Ti	111.(2)	4.2	ME	[126,298]
Co	-36.(10)	4.2	ME	[298]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Y	363.(2)	4.2	ME	[126]
	+347.(7)	4.2	ME	[298]
Zr	114.(2)	4.2	ME	[126,298]
Ru	49.(5)	4.2	ME	[298]
Gd	+313.(3)	4.2	ME	[244,272]
Tb	259.(5)	4.2	ME	[272]
Dy	313.(5)	4.2	ME	[272]
Ho	320.(5)	4.2	ME	[272]
Er	302.(5)	4.2	ME	[272]
Lu	281.(3)	4.2	ME	[126]
Hf	195.(3)	4.2	ME	[126,298]
Re	-76.(7)	4.2	ME	[298]
Os	-49.(9)	4.2	ME	[298]
	56.4(24)	4.2	ME	[3,92]
Probe: $^{184}\text{Au}$ (ex.st: - keV, $1^-$ , $t_{1/2} = 67\text{nsec}$ )				
Cd	158.(8)	293	TDPAC	[214]
Probe: $^{195\text{m}}\text{Au}$ (ex.st: 319 keV, $11/2^-$ , $t_{1/2} = 31\text{sec}$ , $Q = +1.20(24)$ )				
Cd	+302.(60)	~0	NO	[370]
Probe: $^{197}\text{Au}$ (g.st., $3/2^+$ , $Q = +0.594(10)\text{b}$ )				
Be	31.(12)	4.2	M= $^{197}\text{Pt}$ ,ME, subst. site	[114]
	+278.(8)	4.2	M= $^{197}\text{Hg}$ ,ME, int. site 1	[114]
	+560.(11)	4.2	M= $^{197}\text{Hg}$ ,ME, int. site 2	[114]
Sc	166.(4)	4.2	ME	[356]
Ti	64.(14)	4.2	ME	[298]
Co	-14.(6)	4.2	ME	[298]
Zn	(+)200.(30)	4.2	ME	[377]
Y	+297.(9)	4.2	ME	[298]
Zr	258.(6)	4.2	ME	[298]
Ru	50.(20)	4.2	ME	[298]
Cd	+155.(6)	4.2	ME	[377]
Te	263.(37)	4.2	ME	[261]
Gd	206.(10)	4.2	ME	[177]
	+207.(10)	4.2	ME	[284]
Tb	309.(10)	4.2	ME	[284]
Dy	170.(10)	4.2	ME	[284]
Ho	205.(15)	4.2	ME	[284]
Er	132.(15)	4.2	ME	[284]
Lu	+300.(3)	4.2	ME	[298]
Hf	222.(37)	4.2	ME	[298]
Re	-43.(17)	4.2	ME	[298]

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{197}\text{Au}$ (ex.st: 279 keV, $11/2^-$ , $t_{1/2} = 7.7\text{sec}$ , $Q = +1.35(22)\text{b}$ )				
Cd	+380(58)	~8	NO	[370]
Probe: $^{198}\text{Au}$ (g.st., $2^-$ , $t_{1/2} = 2.7\text{d}$ , $Q = +0.52(4)\text{b}^{\text{ded/}}$ )				
Zn	+162(5)	~0	NO	[400]
Cd	+130(4)	~0	NO	[400]
Probe: $^{199}\text{Au}$ (g.st., $3/2^+$ , $t_{1/2} = 3.1\text{d}$ , $Q = +0.43(4)\text{b}^{\text{ded/}}$ )				
Zn	+127(3)	~0	NO	[400]
Cd	+107(3)	~0	NO	[400]
Probe: $^{188}\text{Hg}$ (ex.st: 2918 keV, $12^+$ , $t_{1/2} = 30\text{nsec}$ )				
Bi	132(6)	~0	TDPAD, (T)	[428]
Probe: $^{195}\text{Hg}$ (ex.st: 176 keV, $13/2^+$ , $t_{1/2} = 41\text{d}$ , $Q = +1.90(20)\text{b}^{\text{ded/}}$ )				
Cd	+556(60)	~0	NO	[370]
Probe: $^{197}\text{Hg}$ (ex.st: 134 keV, $5/2^-$ , $t_{1/2} = 7\text{nsec}$ , $Q = -0.081(6)\text{b}^{\text{[289,269]}}$ )				
Be	54(1)	293	$e^-$ - $\gamma$ TDPAC	[115,254]
	pos. $v_Q$	293	$e^-$ (pol.)- $\gamma$ TDPAC	[269]
Ti	13.8(9)	293	$e^-$ - $\gamma$ TDPAC	[66]
Zn	33.1(6)	293	$e^-$ - $\gamma$ TDPAC, (T)	[66,255]
Cd	23.0(6)	293	$e^-$ - $\gamma$ TDPAC, (T)	[66]
Sn	24.7(6)	293	$e^-$ - $\gamma$ TDPAC	[66]
Sb	16.3(9)	293	$e^-$ - $\gamma$ TDPAC	[229]
Hg	126(3)	77	$e^-$ - $\gamma$ TDPAC, low temp.impl., nonsubst. site	[102]
Probe: $^{197}\text{Hg}$ (ex.st: 299 keV, $13/2^+$ , $t_{1/2} = 24\text{h}$ , $Q = +1.47(13)\text{b}$ )				
Be	-110(20)	~0	NO	[254]
Zn	+480(20)	~0	NO	[307]
Cd	+430(30)	~0	NO	[307]
In	+104(5)	~0	NO	[273]
Sb	+70(7)	~0	NO	[229]
Re	-110(15)	~0	NO	[307]
Probe: $^{199}\text{Hg}$ (ex.st: 158 keV, $5/2^-$ , $t_{1/2} = 2\text{nsec}$ , $Q = +0.95(7)\text{b}^{\text{[290]}}$ )				
Be	344(6)	293	$e^-$ - $\gamma$ TDPAC, $M=^{199}\text{Tl}$	[254]
	-29.7( )	293	$p$ - $\gamma$ TDPAC, $M=^{199}\text{Au}$	[254]
Zn	+346(9)	293	$p$ - $\gamma$ TDPAC, $M=^{199}\text{Au}$	[255]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Hg	593(100)	77	IPAC	[178]
	210(20)	77	TDPAC	[1]
	198(40)	77	TDPAC	[67]
Probe: $^{192}\text{Tl}$ (ex.st: 251 keV, $8^-$ , $t_{1/2} = 296\text{nsec}$ , $Q = 0.44(7)\text{b}^{[360]}$ )				
In	33.1(16)	293	TDPAD, (T)	[360]
Tl	24.0(15)	0	TDPAD, extrapolated value ( $T^{3/2}$ -rule), (T)	[360,359]
Bi	-	293	TDPAD	[385]
Probe: $^{194}\text{Pb}$ (ex.st: - keV, $12^+$ , $t_{1/2} = 360\text{nsec}$ , $Q = 0.49(4)\text{b}^{[442]}$ )				
Hg	187(4)	216	TDPAD	[442]
Probe: $^{196}\text{Pb}$ (ex.st: 2700 keV, $12^+$ , $t_{1/2} = 269\text{nsec}$ , $Q = 0.65(4)\text{b}$ )				
Hg	249(5)	223	TDPAD	[10]
Probe: $^{198}\text{Pb}$ (ex.st: 2800 keV, $12^+$ , $t_{1/2} = 224\text{nsec}$ , $Q = 0.75(4)\text{b}$ )				
Hg	283(3)	223	TDPAD	[10]
Probe: $^{200}\text{Pb}$ (ex.st: - keV, $9^-$ , $t_{1/2} = 535\text{nsec}$ , $Q = 0.40(2)\text{b}^{[442]}$ )				
Hg	164.8(6)	186	TDPAD	[442]
Probe: $^{200}\text{Pb}$ (ex.st: 3100 keV, $12^+$ , $t_{1/2} = 194\text{nsec}$ , $Q = 0.79(3)\text{b}$ )				
Hg	322.8(16)	186	TDPAD	[132]
Probe: $^{201}\text{Pb}$ (ex.st: - keV, $25/2^-$ , $t_{1/2} = 55\text{nsec}$ , $Q = 0.46(5)\text{b}^{[442]}$ )				
Hg	188(18)	186	TDPAD	[442]
Probe: $^{203}\text{Pb}$ (ex.st: - keV, $21/2^+$ , $t_{1/2} = 42\text{nsec}$ , $Q = 0.86(4)\text{b}^{[442]}$ )				
Hg	342(7)	198	TDPAD	[442]
Probe: $^{204}\text{Pb}$ (ex.st: 1274 keV, $4^+$ , $t_{1/2} = 260\text{nsec}$ , $Q = 0.44(2)\text{b}^{[132]}$ )				
As	65(15)	293	$M=^{204}\text{Bi}$ , TDPAC	[1]
Cd	(118)	293	$M=^{204\text{m}}\text{Pb}$ , TDPAC	[1]
In	41(1)	293	$M=^{204\text{m}}\text{Pb}$ , TDPAC	[1]
Sn	71.2(15)	293	$M=^{204\text{m}}\text{Pb}$ , TDPAC	[1]
Sb	33.3(10)	293	$M=^{204}\text{Bi}$ , TDPAC	[1]
Hg	224.5(10)	0	$M=^{204\text{m}}\text{Pb}$ , TDPAC and TDPAD,	

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
			extrapolated value ( $T^{3/2}$ -rule), (T)	[132,1]
Tl	12.31(5)	292	TDPAD, (T)	[449]
	12.(-)	293	M= $^{204m}\text{Pb}$ , TDPAC	[179]
	12.2(9)	293	M= $^{204m}\text{Pb}$ , TDPAC	[180]
	13.4(3)	293	M= $^{204m}\text{Pb}$ , TDPAC	[1]
Bi	17.5(5)	293	M= $^{204}\text{Bi}$ , TDPAC	[1]
	17.9(8)	293	M= $^{204m}\text{Pb}$ , TDPAC	[1]
Probe: $^{205}\text{Pb}$ (ex.st: - keV, $25/2^-$ , $t_{1/2} = 217\text{nsec}$ , $Q = 0.63(3)\text{b}$ )				
Hg	248.4(15)	202	TDPAD	[442]
Probe: $^{206}\text{Pb}$ (ex.st: 4027 keV, $12^+$ , $t_{1/2} = 198\text{nsec}$ , $Q = 0.51(3)\text{b}$ )				
Hg	201.6(8)	202	TDPAD	[132]
Probe: $^{202}\text{Bi}$ (ex.st: - keV, $10^-$ , $t_{1/2} = 3.04\text{msec}$ , $Q = 0.12(2)\text{b}$ <sup>[443]</sup> )				
Bi	12.5(12)	480	TDPAD	[443]
Probe: $^{202}\text{Bi}$ (ex.st: - keV, $17^+$ , $t_{1/2} = 310\text{nsec}$ , $Q = 0.40(2)\text{b}$ <sup>[443]</sup> )				
Bi	41.5(20)	480	TDPAD	[443]
Probe: $^{206}\text{Bi}$ (g.st., $6^+$ , $Q = -0.19(5)\text{b}$ )				
Zn	-210.3(20)	~0	NO	[437]
Probe: $^{209}\text{Bi}$ (g.st., $9/2^-$ , $Q = -0.38(1)\text{b}$ )				
Bi	48.8(-)	300	NQR, (T)	[141]
	50.4(12)	4.2	NQR	[153]
	25(-)	2	Spec. Heat	[166]
Probe: $^{200}\text{Po}$ (ex.st: - keV, $8^+$ , $t_{1/2} = \sim 100\text{nsec}$ , $Q = 1.38(7)\text{b}$ <sup>[443]</sup> )				
Bi	389(8)	466	TDPAD	[442]
Probe: $^{202}\text{Po}$ (ex.st: - keV, $8^+$ , $t_{1/2} = -$ )				
Bi	155(10)	400	TDPAD	[248]
Probe: $^{204}\text{Po}$ (ex.st: - keV, $8^+$ , $t_{1/2} = 143\text{nsec}$ , $Q = 1.14(5)\text{b}$ <sup>[443]</sup> )				
Bi	322(4)	466	TDPAD	[442]
Probe: $^{205}\text{Po}$ (g.st., $5/2^-$ , $t_{1/2} = 1.8\text{h}$ , $Q = +0.17(-)\text{b}$ )				

Host	$v_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Be	-42(17)	~0	NO, implanted at T<1K	[389]
Probe: $^{206}\text{Po}$ (ex.st: - keV, $8^+$ , $t_{1/2} = 212\text{nsec}$ , $Q = 1.02(4)\text{b}^{[443]}$ )				
Tl	10.3(-)	373	TDPAD, (T)	[7]
Bi	287(2)	466	TDPAD	[365]
Probe: $^{207}\text{Po}$ (g.st., $5/2^-$ , $t_{1/2} = 5.7\text{h}$ , $Q = +0.28(-)\text{b}$ )				
Be	-70(20)	~0	NO, implanted at T<1K	[389]
Zn	+42(3)	~0	NO, implanted at T<1K	[389]
Probe: $^{208}\text{Po}$ (ex.st: 1533 keV, $8^+$ , $t_{1/2} = 350\text{nsec}$ , $Q = 0.90(4)\text{b}^{[443]}$ )				
Tl	7.75(-)	373	TDPAD, (T)	[7]
Bi	253(2)	466	TDPAD	[365]
Probe: $^{209}\text{Po}$ (ex.st: 1473 keV, $17/2^-$ , $t_{1/2} = 88\text{nsec}$ , $Q = 0.39(8)\text{b}$ )				
Sn	36.(4)	293	TDPAD	[12]
Probe: $^{210}\text{Po}$ (ex.st: 1473 keV, $6^+$ , $t_{1/2} = 42\text{nsec}$ )				
Bi	50.(4)	293	TDPAC, (P)	[439,427]
Probe: $^{210}\text{Po}$ (ex.st: 1557 keV, $8^+$ , $t_{1/2} = 96\text{nsec}$ , $Q = 0.57(2)\text{b}^{[443]}$ )				
Sn	50.(8)	293	TDPAD	[12]
Tl	6.42(-)	373	TDPAD, (T)	[7]
Bi	161(6)	478	TDPAD	[443]
Probe: $^{210}\text{Po}$ (ex.st: 2840 keV, $11^-$ , $t_{1/2} = 20\text{nsec}$ , $Q = 0.85(12)\text{b}$ )				
Sn	72.(11)	293	TDPAD	[12]
Bi	240.(30)	478	TDPAD	[443]
Probe: $^{210}\text{Po}$ (ex.st: 4372 keV, $13^-$ , $t_{1/2} = 93\text{nsec}$ , $Q = 0.90(7)\text{b}^{[443]}$ )				
Sn	60.(9)	293	TDPAD	[12]
Bi	253.(20)	478	TDPAD	[443]
Probe: $^{208}\text{At}$ (g.st., $6^+$ , $t_{1/2} = 1.63\text{h}$ )				
Be	+144(32)	~0	NO, implanted at T<1K	[378]
Zn	-36.5(95)	~0	NO, implanted at T<1K	[378]

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Probe: $^{209}\text{At}$ (g.st., $9/2^-$ , $t_{1/2} = 5.4\text{h}$ )				
Be	+147.(8)	~0	NO, implanted at $T < 1\text{K}$	[378]
	-208.(22)	~0	NO, implanted at $T > 293\text{K}$	[379]
Zn	-40.8(10)	~0	NO, implanted at $T < 1\text{K}$	[378]
Cd	-10.4(50)	~0	NO, implanted at $T < 1\text{K}$	[378]
Probe: $^{209}\text{At}$ (ex.st: 1428 keV, $21/2^-$ , $t_{1/2} = 24\text{nsec}$ , $Q = 0.78(8)\text{b}$ )				
Bi	126.(5)	470	TDPAD	[361]
Probe: $^{209}\text{At}$ (ex.st: 2429 keV, $29/2^+$ , $t_{1/2} = 794\text{nsec}$ , $Q = 1.50(15)\text{b}$ )				
Bi	242.(2)	470	TDPAD	[442]
Probe: $^{210}\text{At}$ (g.st., $5^+$ , $t_{1/2} = 8.3\text{h}$ )				
Be	+105(8)	~0	NO, implanted at $T < 1\text{K}$	[378]
	-142.(12)	~0	NO, implanted at $T > 293\text{K}$	[379]
Zn	-29.4(13)	~0	NO, implanted at $T < 1\text{K}$	[378]
Cd	-7.5(50)	~0	NO, implanted at $T < 1\text{K}$	[378]
Probe: $^{210}\text{At}$ (ex.st: 1363 keV, $11^+$ , $t_{1/2} = 25\text{nsec}$ , $Q = 0.65(8)\text{b}$ <sup>[361]</sup> )				
Bi	104(6)	470	TDPAD	[361]
Probe: $^{210}\text{At}$ (ex.st: 2550 keV, $15^-$ , $t_{1/2} = 490\text{nsec}$ , $Q = 1.22(12)\text{b}$ )				
Bi	196(2)	470	TDPAD	[442]
Probe: $^{211}\text{At}$ (ex.st: 1417 keV, $21/2^-$ , $t_{1/2} = 34\text{nsec}$ , $Q = 0.53(5)\text{b}$ )				
Bi	-	470	TDPAD	[442]
Probe: $^{211}\text{At}$ (ex.st: 2641 keV, $29/2^+$ , $t_{1/2} = 54\text{nsec}$ , $Q = 1.01(19)$ )				
Bi	163(7)	530	TDPAD	[361]
Probe: $^{208}\text{Rn}$ (ex.st: - keV, $8^+$ , $t_{1/2} = 490\text{nsec}$ , $Q = 0.41(5)\text{b}$ <sup>[443]</sup> )				
Bi	20(1)	470	TDPAD	[443]
Probe: $^{210}\text{Rn}$ (ex.st: - keV, $8^+$ , $t_{1/2} = 630\text{nsec}$ , $Q = 0.32(4)\text{b}$ <sup>[443]</sup> )				
Bi	15.6(8)	470	TDPAD	[443]
Probe: $^{210}\text{Rn}$ (ex.st: - keV, $17^-$ , $t_{1/2} = 1.1\text{msec}$ , $Q = 0.89(10)\text{b}$ <sup>[443]</sup> )				

Host	$\nu_Q$ [MHz]	Host Temp. [K]	Remarks	Ref.
Bi	44(2)	470	TDPAD	[443]
Probe: $^{211}\text{Rn}$ (ex.st: - keV, $17/2^-$ , $t_{1/2} = 596\text{nsec}$ , $Q = 0.19(2)\text{b}^{[443]}$ )				
Bi	9.4(4)	470	TDPAD	[443]
Probe: $^{211}\text{Rn}$ (ex.st: - keV, $63/2^-$ , $t_{1/2} = 201\text{nsec}$ , $Q = 1.60(22)\text{b}$ )				
Bi	79.(5)	470	TDPAD	[443]
Probe: $^{212}\text{Rn}$ (ex.st: 1671 keV, $8^+$ , $t_{1/2} = 900\text{nsec}$ , $Q = 0.18(2)\text{b}^{[443]}$ )				
Bi	8.9(4)	470	TDPAD	[443]
Probe: $^{231}\text{Pa}$ (g.st., $3/2^+$ , $Q = -1.72(-)\text{b}(\text{th})^{[260]}$ )				
Pa	850(70)	4.2	ME	[260]



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