

## ПРИЛОЖЕНИЕ

### Формфакторы изовекторных $1\hbar\omega$ переходов из $1p$ -оболочки

$$F_J(q) = f_{SN} \times f_{cm} \times \sqrt{\frac{3}{4\pi}} C_J(y) P_J(y) \exp(-y);$$

$$y = \left( \frac{qb}{2} \right)^2$$

$$f_{SN} = \left( 1 + \frac{q^2}{q_N^2} \right)^{-1} = \left( 1 + \frac{2y}{q_N^2 b^2} \right)^{-1}; q_N \approx 855 \text{ MeV};$$

$$f_{CM}(q) = \exp\left( \frac{1}{A} \left( \frac{qb}{2} \right)^2 \right) = \exp\left( \frac{y}{A} \right); b = \sqrt{\frac{\hbar}{\mu\omega}}$$

$$C_J(y)$$

$M_J^{Coulomb}(q)$	$T_J^{el}$	$T_J^{mag}$
$\left( 1 + \frac{q^2}{8M^2} \right) (1 - 2g) y^{J/2}$	$\frac{1}{bM} y^{\frac{J-1}{2}}$	$\frac{1}{bM} y^{\frac{J}{2}}$

P(y)

J	$\langle 1d_{s_{1/2}} \  O_J \  1p_{3/2} \rangle$	$\langle 1d_{3/2} \  O_J \  1p_{3/2} \rangle$	$\langle 2s_{1/2} \  O_J \  1p_{3/2} \rangle$
1	C	$2(1 - \frac{2}{5}y)$	$\frac{2\sqrt{2}}{3}(1-y)$
	E	$-\sqrt{2} \left[ (1 - \frac{4}{5}y) - gy(1 - \frac{2}{5}y) \right]$	$-\frac{2}{3} \left[ (1+y) + gy(1-y) \right]$
2	M	$-\frac{2}{15}\sqrt{70} \left[ 1 + g(\frac{3}{2} - \frac{5}{7}y) \right]$	$-\frac{2}{3}\sqrt{3} \cdot g(1-y)$
3	C	$-\frac{4\sqrt{6}}{15}$	0
	E	$\frac{4\sqrt{2}}{15}(1 - \frac{1}{2}gy)$	0
4	M	$\frac{2}{7}g\sqrt{14}$	0

$P(y)$ 

J	$\langle 1d_{5/2} \  O_J \  1p_{1/2} \rangle$	$\langle 1d_{3/2} \  O_J \  1p_{1/2} \rangle$	$\langle 2s_{1/2} \  O_J \  1p_{1/2} \rangle$
1	C 0	$\frac{2\sqrt{5}}{3}(1-\frac{2}{5}y)$	$\frac{2}{3}(1-y)$
	E 0	$-\frac{\sqrt{10}}{3} \left[ (1-\frac{4}{5}y) - gy(1-\frac{2}{5}y) \right]$	$-\frac{\sqrt{2}}{3} [(1+y) + 2gy(1-y)]$
2	M $\frac{4}{15}\sqrt{5} \cdot [g(3-y) - 1]$	$\frac{2\sqrt{2}}{\sqrt{15}} \cdot \left[ \frac{1}{2} - y - 1 \right]$	0
3	C $-\frac{2}{15}\sqrt{30} \cdot$	0	0
	E $\frac{2}{15}\sqrt{10} \cdot [1 + 2gy]$	0	0