Zeeman-Effekt

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0.1 Preparation

0.1.1 Selection rules for dipole transitions

A transition is (in dipole approximation) possible, only if the following selection rules are obeyed.

$$\Delta J \quad = 0, \pm 1 \quad J = 0 \to 0 \text{ is forbidden} \tag{1}$$

$$\Delta M_J = 0, \pm 1 \quad M = 0 \to 0 \text{ is forbidden if } \Delta J = 0 \tag{2}$$

$$\Delta l \quad = \quad \pm 1 \tag{3}$$