

BOHR MAGNETON - DEFINITION

The **Bohr magneton** μ_B is a physical constant and the natural unit for expressing the magnetic moment of an electron caused by either its orbital or spin angular momentum.

$$\mu_B = \frac{e\hbar}{2m_e}$$

where e is the elementary charge, \hbar is the reduced Planck's constant, m_e is the electron rest mass.

The value of Bohr magneton in SI units is

$$9.27400968(20) \times 10^{-24} \text{ JT}^{-1}$$

The value of Bohr magneton

system of units	value	unit
SI ^[1]	$9.274\,009\,994(57) \times 10^{-24}$	$\text{J}\cdot\text{T}^{-1}$
CGS ^[2]	$9.274\,009\,994(57) \times 10^{-21}$	$\text{erg}\cdot\text{G}^{-1}$
eV ^[3]	$5.788\,381\,8012(26) \times 10^{-5}$	$\text{eV}\cdot\text{T}^{-1}$
atomic units	$\frac{1}{2}$	$\frac{e\hbar}{m_e}$

In atomic physics, the **Bohr magneton** (symbol μ_B) is a physical constant and the natural unit for expressing the magnetic moment of an electron caused by either its orbital or spin angular momentum.^{[4][5]} The Bohr magneton is defined in SI units by

$$\mu_B = \frac{e\hbar}{2m_e}$$

and in Gaussian CGS units by

$$\mu_B = \frac{e\hbar}{2m_e c}$$

where

e is the elementary charge,
 \hbar is the reduced Planck constant,
 m_e is the electron rest mass and
 c is the speed of light.