

# Preparation of Science Manuscripts for the IEEE Open Journal of Engineering in Medicine and Biology (OJEMB)

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This work was supported in part by the U.S. National Science Foundation under Grant BS123456

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$$\int_0^{r_2} F(r, \phi) dr d\phi = [\sigma r_2 / (2\mu_0)] \int_0^{+\infty} \exp(-\lambda|z_j - z_i|) \lambda^{-1} J_1(\lambda r_2) J_0(\lambda r_1) d\lambda \quad (1)$$

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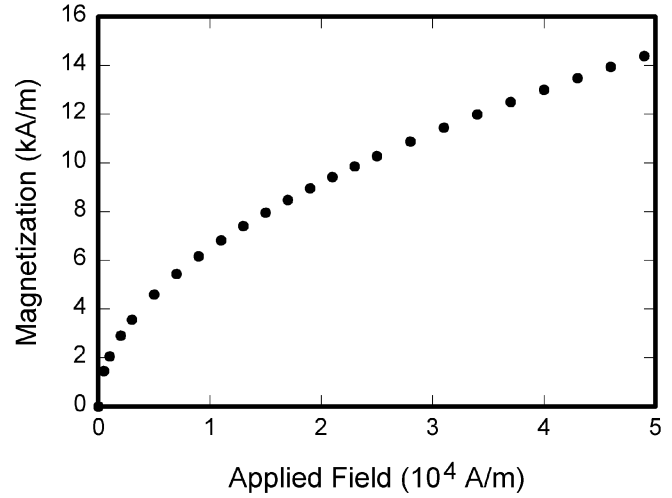


Fig. 1: Magnetization as a function of applied field. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

UNITS FOR MAGNETIC PROPERTIES

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI <sup>a</sup>
Φ	magnetic flux	1 Mx → 10 <sup>-8</sup> Wb = 10 <sup>-8</sup> V · s
B	magnetic flux density, magnetic induction	1 G → 10 <sup>-4</sup> T = 10 <sup>-4</sup> Wb/m <sup>2</sup>
H	magnetic field strength	1 Oe → 10 <sup>3</sup> /(4π) A/m
m	magnetic moment	1 erg/G = 1 emu → 10 <sup>-3</sup> A · m <sup>2</sup> = 10 <sup>-3</sup> A/m
M	magnetization	1 erg/(G · cm <sup>3</sup> ) = 1 emu/cm <sup>3</sup> → 10 <sup>3</sup> A/m
4πM	magnetization	1 G → 10 <sup>3</sup> /(4π) A/m
σ	specific magnetization	1 erg/(G · g) = 1 emu/g → 1 A · m <sup>2</sup> /kg
j	magnetic dipole moment	1 erg/G = 1 emu → 4π × 10 <sup>-10</sup> Wb · m
J	magnetic polarization	1 erg/(G · cm <sup>3</sup> ) = 1 emu/cm <sup>3</sup> → 4π × 10 <sup>-4</sup> T
χ, κ	susceptibility	1 → 4π
χ <sub>p</sub>	mass susceptibility	1 cm <sup>3</sup> /g → 4π × 10 <sup>-3</sup> m <sup>3</sup> /kg
μ	permeability	1 → 4π × 10 <sup>-7</sup> H/m = 4π × 10 <sup>-7</sup> Wb/(A · m)
μ <sub>p</sub>	relative permeability	μ → μ <sub>r</sub>
w, W	energy density	1 erg/cm <sup>3</sup> → 10 <sup>-1</sup> J/m <sup>3</sup>
N, D	demagnetizing factor	1 → 1/(4π)

TABLE I: Vertical lines are optional in tables. Statements that serve as captions for the entire table do not need footnote letters.

<sup>a</sup>Gaussian units are the same as cg emu for magnetostatics; Mx = maxwell, G = gauss, Oe = oersted; Wb = weber, V = volt, s = second, T = tesla, m = meter, A = ampere, J = joule, kg = kilogram, H = henry.

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