

# Preparation of Papers for IEEE TRANSACTIONS and JOURNALS (May 2007)

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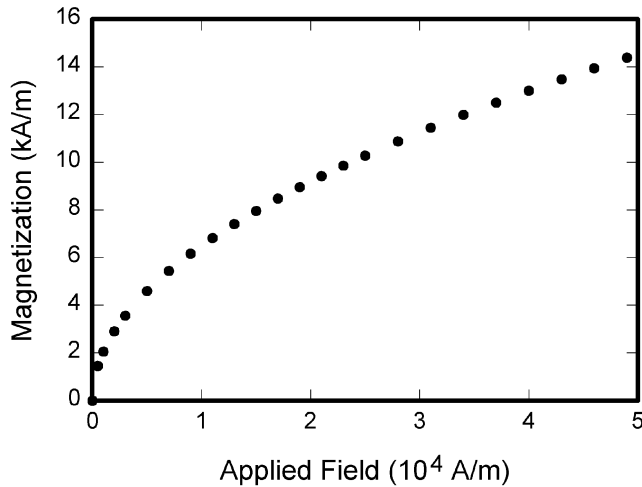


Fig. 1. Magnetization as a function of applied field. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

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The SI unit for magnetic field strength  $H$  is A/m. However, if you wish to use units of T, either refer to magnetic flux

TABLE I  
UNITS FOR MAGNETIC PROPERTIES

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI <sup>a</sup>
$\Phi$	magnetic flux	1 Mx $\rightarrow$ 10 <sup>-8</sup> Wb = 10 <sup>-8</sup> V·s
$B$	magnetic flux density, magnetic induction	1 G $\rightarrow$ 10 <sup>-4</sup> T = 10 <sup>-4</sup> Wb/m <sup>2</sup>
$H$	magnetic field strength	1 Oe $\rightarrow$ 10 <sup>3</sup> /(4 $\pi$ ) A/m
$m$	magnetic moment	1 erg/G = 1 emu $\rightarrow$ 10 <sup>-3</sup> A·m <sup>2</sup> = 10 <sup>-3</sup> J/T
$M$	magnetization	1 erg/(G·cm <sup>3</sup> ) = 1 emu/cm <sup>3</sup> $\rightarrow$ 10 <sup>3</sup> A/m
$4\pi M$	magnetization	1 G $\rightarrow$ 10 <sup>3</sup> /(4 $\pi$ ) A/m
$\sigma$	specific magnetization	1 erg/(G·g) = 1 emu/g $\rightarrow$ 1 A·m <sup>2</sup> /kg
$j$	magnetic dipole moment	1 erg/G = 1 emu $\rightarrow$ 4 $\pi$ × 10 <sup>-10</sup> Wb·m
$J$	magnetic polarization	1 erg/(G·cm <sup>3</sup> ) = 1 emu/cm <sup>3</sup> $\rightarrow$ 4 $\pi$ × 10 <sup>-4</sup> T
$\chi, \kappa$	susceptibility	1 $\rightarrow$ 4 $\pi$
$\chi_o$	mass susceptibility	1 cm <sup>3</sup> /g $\rightarrow$ 4 $\pi$ × 10 <sup>-3</sup> m <sup>3</sup> /kg
$\mu$	permeability	1 $\rightarrow$ 4 $\pi$ × 10 <sup>-7</sup> H/m = 4 $\pi$ × 10 <sup>-7</sup> Wb/(A·m)
$\mu_r$	relative permeability	$\mu \rightarrow \mu_r$
$w, W$	energy density	1 erg/cm <sup>3</sup> $\rightarrow$ 10 <sup>-1</sup> J/m <sup>3</sup>
$N, D$	demagnetizing factor	1 $\rightarrow$ 1/(4 $\pi$ )

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 cgs 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.

density  $B$  or magnetic field strength symbolized as  $\mu_0 H$ . Use the center dot to separate compound units, e.g., “A·m<sup>2</sup>.”

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Be aware of the different meanings of the homophones “affect” (usually a verb) and “effect” (usually a noun), “complement” and “compliment,” “discreet” and “discrete,” “principal” (e.g., “principal investigator”) and “principle” (e.g., “principle of measurement”). Do not confuse “imply” and “infer.”

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## IX. CONCLUSION

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## APPENDIX

Appendices, if needed, appear before the acknowledgment.

## ACKNOWLEDGMENT

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