

	cgs Gauss 単位系 (E-B 対応)	SI 単位系 (E-H 対応)	SI 単位系 (E-B 対応)
Faraday の法則	$\nabla \times \mathbf{E} = -\frac{1}{c} \frac{\partial \mathbf{B}}{\partial t}$	$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$	$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t}$
Maxwell-Ampère の法則	$\nabla \times \mathbf{B} = \frac{1}{c} \frac{\partial \mathbf{E}}{\partial t} + \frac{4\pi}{c} \mathbf{J}_t$	$\nabla \times \mathbf{H} = \frac{\partial \mathbf{D}}{\partial t} + \mathbf{J}_f$	$\nabla \times \mathbf{B} = \frac{1}{c^2} \frac{\partial \mathbf{E}}{\partial t} + \mu_0 \mathbf{J}_t$
Gauss の法則	$\nabla \cdot \mathbf{E} = 4\pi \rho_t$	$\nabla \cdot \mathbf{D} = \rho_f$	$\nabla \cdot \mathbf{E} = \frac{1}{\epsilon_0} \rho_t$
磁場	$\nabla \cdot \mathbf{B} = 0$	$\nabla \cdot \mathbf{B} = 0$	$\nabla \cdot \mathbf{B} = 0$
Biot-Savart の法則	$\mathbf{B} = \frac{1}{c} \int \frac{\mathbf{I}_t d\boldsymbol{\ell} \times \hat{\mathbf{r}}}{r^2}$	$\mathbf{H} = \frac{1}{4\pi} \int \frac{\mathbf{I}_f d\boldsymbol{\ell} \times \hat{\mathbf{r}}}{r^2}$	$\mathbf{B} = \frac{\mu_0}{4\pi} \int \frac{\mathbf{I}_t d\boldsymbol{\ell} \times \hat{\mathbf{r}}}{r^2}$
Lorentz 力	$q^e (\mathbf{E} + \frac{1}{c} \mathbf{v} \times \mathbf{B})$	$q^e (\mathbf{E} + \mathbf{v} \times \mathbf{B})$	$q^e (\mathbf{E} + \mathbf{v} \times \mathbf{B})$
constitutive relation	$\mathbf{D} = \epsilon \mathbf{E} = \mathbf{E} + 4\pi \mathbf{P}$	$\mathbf{D} = \epsilon \mathbf{E} = \epsilon_0 \mathbf{E} + \mathbf{P}$	$\mathbf{D} = \epsilon \mathbf{E} = \epsilon_0 \mathbf{E} + \mathbf{P}$
電気感受率	$\mathbf{P} = \chi^e \mathbf{E}, \epsilon = 1 + 4\pi \chi^e$	$\mathbf{P} = \epsilon_0 \chi^e \mathbf{E}, \frac{\epsilon}{\epsilon_0} = 1 + \chi^e$	$\mathbf{P} = \epsilon_0 \chi^e \mathbf{E}, \frac{\epsilon}{\epsilon_0} = 1 + \chi^e$
constitutive relation	$\mathbf{B} \text{ [G]} = \mu \mathbf{H} = \mathbf{H} \text{ [Oe]} + 4\pi \mathbf{M} \left[\frac{\text{emu}}{\text{cm}^3} \right]$	$\mathbf{B} \text{ [T]} = \mu \mathbf{H} = \mu_0 (\mathbf{H} + \mathbf{M}) \left[\frac{\text{N}}{\text{A} \cdot \text{m}} = \frac{\text{Wb}}{\text{m}^2} \right]$	$\mathbf{B} \text{ [T]} = \mu \mathbf{H} = \mu_0 (\mathbf{H} + \mathbf{M}) \left[\frac{\text{N}}{\text{A} \cdot \text{m}} = \frac{\text{Wb}}{\text{m}^2} \right]$
磁化率 (磁気感受率)	$\mathbf{M} = \chi^m \mathbf{H}, \mu = 1 + 4\pi \chi^m$	$\mathbf{M} = \chi^m \mathbf{H}, \frac{\mu}{\mu_0} = 1 + \chi^m$	$\mathbf{M} = \chi^m \mathbf{H}, \frac{\mu}{\mu_0} = 1 + \chi^m$
誘電率	ϵ_0 は導入しない	$\epsilon_0 \simeq 8.854 \times 10^{-12} \left[\frac{\text{C}^2}{\text{N} \cdot \text{m}^2} = \frac{\text{F}}{\text{m}} \right]$	$\epsilon_0 \simeq 8.854 \times 10^{-12} \left[\frac{\text{C}^2}{\text{N} \cdot \text{m}^2} = \frac{\text{F}}{\text{m}} \right]$
透磁率	μ_0 は導入しない	$\mu_0 = 4\pi \times 10^{-7} \left[\frac{\text{Wb}}{\text{A} \cdot \text{m}} = \frac{\text{N}}{\text{A}^2} = \frac{\text{H}}{\text{m}} \right]$	$\mu_0 = 4\pi \times 10^{-7} \left[\frac{\text{Wb}}{\text{A} \cdot \text{m}} = \frac{\text{N}}{\text{A}^2} = \frac{\text{H}}{\text{m}} \right]$
電荷	$q^e \text{ [esu = statC]}$	$q^e \text{ [C]}$	$q^e \text{ [C]}$
磁荷	$q^m \text{ [emu]}$	$q^m \text{ [A} \cdot \text{m]}$	$(q^m \text{ [Wb = T} \cdot \text{m}^2])$
電場	$E = \frac{q_1^e}{r^2} \left[\frac{\text{statV}}{\text{cm}} \right]$	$E = \frac{1}{4\pi\epsilon_0} \frac{q_1^e}{r^2} \left[\frac{\text{N}}{\text{C}} = \frac{\text{V}}{\text{m}} \right]$	$E = \frac{1}{4\pi\epsilon_0} \frac{q_1^e}{r^2} \left[\frac{\text{N}}{\text{C}} = \frac{\text{V}}{\text{m}} \right]$
磁場	$B \text{ [G]} = H \text{ [Oe]} = \frac{q_1^m}{r^2}$	$H = \frac{1}{4\pi} \frac{q_1^m}{r^2} \left[\frac{\text{A}}{\text{m}} = \frac{\text{N}}{\text{Wb}} \right]$	$\left(B = \frac{1}{4\pi} \frac{q_1^m}{r^2} \text{ [T]} \right)$
電荷による Coulomb 力	$\frac{q_1^e q_2^e}{r^2} = E q_2^e \text{ [dyne]}$	$\frac{1}{4\pi\epsilon_0} \frac{q_1^e q_2^e}{r^2} = E q_2^e \text{ [N]}$	$\frac{1}{4\pi\epsilon_0} \frac{q_1^e q_2^e}{r^2} = E q_2^e \text{ [N]}$
磁荷による Coulomb 力	$\frac{q_1^m q_2^m}{r^2} = H q_2^m \text{ [dyne]}$	$\frac{\mu_0}{4\pi} \frac{q_1^m q_2^m}{r^2} = \mu_0 H q_2^m = B q_2^m \text{ [N]}$	$\frac{1}{4\pi\mu_0} \frac{q_1^m q_2^m}{r^2} = \frac{B q_2^m}{\mu_0} \text{ [N]}$
磁気 (双極子) モーメント	$\mathbf{m} = \frac{1}{c} I \mathbf{S} \text{ or } q^m \mathbf{r} \left[\text{emu} = \frac{\text{erg}}{\text{G}} \right]$	$\mathbf{m} = I \mathbf{S} \text{ or } q^m \mathbf{r} \text{ [A} \cdot \text{m}^2]$	$\mathbf{m} = I \mathbf{S} \left(\text{or } \frac{q^m \mathbf{r}}{\mu_0} \right) \text{ [A} \cdot \text{m}^2]$
磁化 (磁気分極)	$\mathbf{M} = \frac{\mathbf{m}}{V} \left[\frac{\text{emu}}{\text{cm}^3} \right]$	$\mathbf{M} = \frac{\mathbf{m}}{V} \text{ [A/m]}$	$\mathbf{M} = \frac{\mathbf{m}}{V} \left[\frac{\text{A}}{\text{m}} \right]$
Zeeman エネルギー	$-\mathbf{m} \cdot \mathbf{B} \text{ [erg]} = (-\mathbf{m} \cdot \mathbf{H})$	$-\mathbf{m} \cdot \mathbf{B} \text{ [J]}$	$-\mathbf{m} \cdot \mathbf{B} \text{ [J]}$
磁束	$\Phi = BS \text{ [G} \cdot \text{cm}^2 = \text{Mx}]$	$\Phi = BS \text{ [Wb = V} \cdot \text{s = H} \cdot \text{A]}$	$\Phi = BS \text{ [Wb = V} \cdot \text{s = H} \cdot \text{A]}$
誘導起電力	$-\frac{1}{c} \frac{\partial \Phi}{\partial t} \left[\frac{\text{Mx}}{\text{cm}} = \text{statV} \right]$	$-\frac{\partial \Phi}{\partial t} \left[\frac{\text{Wb}}{\text{s}} = \text{V} \right]$	$-\frac{\partial \Phi}{\partial t} \left[\frac{\text{Wb}}{\text{s}} = \text{V} \right]$
Poynting ベクトル	$\frac{c}{4\pi} (\mathbf{E} \times \mathbf{H}) \left[\frac{\text{erg}}{\text{s} \cdot \text{cm}^2} \right]$	$\mathbf{E} \times \mathbf{H} \left[\frac{\text{J}}{\text{s} \cdot \text{m}^2} \right]$	$\frac{1}{\mu_0} \mathbf{E} \times \mathbf{B} \left[\frac{\text{J}}{\text{s} \cdot \text{m}^2} \right]$
電磁場エネルギー密度	$d\mathbf{u} = \frac{1}{4\pi} (\mathbf{E} \cdot d\mathbf{D} + \mathbf{H} \cdot d\mathbf{B}) \left[\frac{\text{erg}}{\text{cm}^3} \right]$	$d\mathbf{u} = \mathbf{E} \cdot d\mathbf{D} + \mathbf{H} \cdot d\mathbf{B} \left[\frac{\text{J}}{\text{m}^3} \right]$	$d\mathbf{u} = \mathbf{E} \cdot d\mathbf{D} + \mathbf{H} \cdot d\mathbf{B} \left[\frac{\text{J}}{\text{m}^3} \right]$
電子の電荷量	$e = 4.803 \times 10^{-10} \text{ [statC]}$	$e = 1.602 \times 10^{-19} \text{ [C]}$	$e = 1.602 \times 10^{-19} \text{ [C]}$
Bohr 磁子	$\mu_B = \frac{e\hbar}{2mc} = 9.274 \times 10^{-21} \left[\text{emu} = \frac{\text{erg}}{\text{G}} \right]$	$\mu_B = \frac{e\hbar}{2m} = 9.274 \times 10^{-24} \left[\text{A} \cdot \text{m}^2 = \frac{\text{J}}{\text{T}} \right]$	$\mu_B = \frac{e\hbar}{2m} = 9.274 \times 10^{-24} \left[\text{A} \cdot \text{m}^2 = \frac{\text{J}}{\text{T}} \right]$
	$\rho_t = \rho_f - \nabla \cdot \mathbf{P}$	$\rho_t = \rho_f - \nabla \cdot \mathbf{P}$	$\rho_t = \rho_f - \nabla \cdot \mathbf{P}$
	$\mathbf{J}_t = \mathbf{J}_f + \frac{\partial \mathbf{P}}{\partial t} + c \nabla \times \mathbf{M}$	$\mathbf{J}_t = \mathbf{J}_f + \frac{\partial \mathbf{P}}{\partial t} + \nabla \times \mathbf{M}$	$\mathbf{J}_t = \mathbf{J}_f + \frac{\partial \mathbf{P}}{\partial t} + \nabla \times \mathbf{M}$