Frame Signatures of Physical Entities

(Source: http://www.scienceandresearchdevelopmentinstitute.com/tab.pdf)

( )	⇔ Signature	Unit	t^{-1} ($\partial t^{-1}, \widetilde{\nabla\times}$)	m^{-1} (∇)	$\nabla\times$	$\nabla\bullet$
(‾/ ~)	~	Group A:	1	~/ _	~	0
		Time (s)				
		Mass (s (kg → s))				
		Electric Charge (C)				
		Electric Polarization, P (C)				
		Force (N)				
		Velocity, c, v				
		(Magnetic) Vector Potential, A				
(~~)	‾	Group B:	~	1	0	–
		Length (m)				
		Momentum, $\hbar k$ (kgm/s → m)				
		Power (W)				
		Resistance (Ω)				
		Magnetic Charge ($\overline{C}$)				
		Electric Potential (V) (quantity of charge)				
		Scalar Potential (V)				
(~/ _)	1/ ~	Group E:	1/ _	~/ _ _		0
		Frequency (Hz)				
		⊙ Magnetic Flux Density ($T = Wb/m^2$)				
		⊙ Magnetic Field Strength, B ($T = Wb/m^2$)				
(1/ ~ ~)	1/ _	Group F:	~/ _ _	1/ _ _	0	
		Magnetic Field, H (A/m)				
		Magnetization Density (A/m)				
		⊙ Intensity (VA/m^2)				
		⊗ Electric Charge Density, Volume ~				
		⊗ Mass Density, Volume ~				
		⊙ Poynting Vector (W/m^2)				
		Wave Number ($2\pi/\lambda$)				
		∇ , ∇ • , ∇ ×				
(‾/ ~~)	1	Group G:	1/ ~	1/ _	n.a.	n.a.
	mixed	Acceleration				
	yonder	Current (A, C/s)				
	yonder	⊗ Energy Density, Vol ~				
	local	Electric Field Strength (V/m)				
	yonder	Electric Field Strength ($\partial A/\partial t$)				

( )	⇔ Signature	Unit	t^{-1} ($\partial t^{-1}, \widetilde{\nabla\times}$)	m^{-1} (∇)	$\nabla\times$	$\nabla\bullet$
(¯ ¯/ ~)	~~~	Group C:	¯	~		
		Energy (J)				
		Magnetic Flux ($Wb = V \times s$)				
		Magnetic Flux Quantum, $\hbar/2e$				
		Electric Dipole Moment (C m)				
		$G = c^3$ (kg $\rightarrow$ s)				
(~/_ _)	1/ ~~~	Group D:	1/_ _	~/_ _ _		
		$\odot$ Energy Density (Volume = ¯)				
		$\odot$ Electric Flux Density (C/m^2)				
		$\odot$ Electric Displacement, D (C/m^2)				
		$\odot$ Polarization Density (C/m^2)				
		Pressure ($Pa = kg/m^2,\ kg \rightarrow s$)				
	1/ _ _	Group H:	~/ _ _ _	1/ _ _ _		
		$\odot$ Electric Volume Current Density, $\boldsymbol{j}$ (A/m^2)				
		$\odot$ Magnetic Charge Volume Density ($\overline{C}/m^3$)				
		∇^2				
		Material Constants:				
	~	Permeability, μ, μ_0 (H/m)	¯/ ~			
	1/ ~~~	Permittivity, ϵ, ϵ_0 (F/m)	~/_ _			
	1/ ~	Capacitance (F)	~/ _			
	1/ _	Conductance	~/ ~ ~ ~			
	~~	Inductance (H)	¯ ¯/ ~			

Text to the Table: Frame signatures of various classical measured or related entities. Entities marked with a bar (¯) are presumed to be visible to the quantum observer while those marked with a tilde (~) are not. The latter may instead be reckoned by a yonder (non-local) observer. Using the rules ¯ = ~ ~ and ~ = ¯ / ~ two alternative, equivalent signatures are indicated in the two columns at the left of the named entities. In the four columns at the right, the effects on the signatures by operating with t^{-1}, m^{-1} (or gradient, ∇; m = meter), the vector product ($\nabla\times$) and the scalar product ($\nabla\bullet$) are indicated. The classical entities fall into 8 groups of identical signature. Those belonging to Group A and B can be unambiguously interpreted in terms of the present two-dimensional theory whereas the composite ones, e.g. Group C and D, can not. A composite entity may be transferred to the local (¯) or yonder (~) frame using the vector product as indicated in the first column to the right or by factorizing in a material constant, indicating that the classical notation either needs revision for the present purposes or that it comprises a physical process. In the case of the various densities, the physicality of which remains ambiguous, the notation $\odot$ is used for dividing by local length (m) while $\otimes$ is used for a possible equivalent length in the yonder frame. The notation $\widetilde{\nabla x}$, applicable to Group A, B, E, and F is used for $1/\partial t$ since time is presumed to be vectorial and perpendicular to the momentum frame. Examples of how to identify the momentum observer and the yonder frame with the help of these signatures can be found at http://www.scienceandresearchdevelopmentinstitute.com/cosmoa.html , e.g. papers # 13 & 16. This Table derives from copyrighted work and may be modified and republished for research purposes provided the source is indicated.