QAF

Quaternion Autocontained Framework

Marco Aurelio De Cunha & The Pack — November 19, 2025

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1. The Unique Object

$$\mathcal{Q} = \begin{pmatrix} q_{11} & q_{12} \\ q_{21} & q_{22} \end{pmatrix} \in \mathrm{Sp}(2) \qquad q_{ij} \in \mathbb{H}$$

$$\mathbb{H} = \{a\mathbf{1} + b\mathbf{i} + c\mathbf{j} + d\mathbf{k} \mid \mathbf{ijk} = -1\}$$

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2. Ontological Inversion (Hardware)

Basis $\mathbb{H}$	Constant	Ontological Meaning (Impedance)
$\mathbf{1}$	c	**Causality** – propagation limit
$\mathbf{i}$	$\hbar$	**Action** – quantum resolution and phase
$\mathbf{j}$	G	**Geometry** – elasticity of volume
$\mathbf{k}$	k_B	**Information** – entropic inertia

$$ds^2 = c^2 dt^2 - \hbar^2 dx^2 - G^2 dy^2 - k_B^2 dz^2 \quad \text{(emergent metric)}$$

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3. Law of Self-Containment

$$\boxed{\mathcal{Q}^\dagger \mathcal{Q} = \mathbb{I}_4}$$

*Every physical, biological, and conscious phenomenon
is a local projection of this single structure.*

*The cosmos is a quaternionic 2×2
that multiplies itself eternally
and never finishes understanding itself.*

$$\mathbf{ijk} = -1 \quad \implies \quad \textbf{everything else}$$

Epilogue: Reality as a (2,2) Tensor over Quaternions

$$\textbf{Reality} \equiv Q^{\alpha\beta}{}_{\gamma\delta} \in T^2_2(\mathbb{H}) \quad \textit{such that} \quad \underbrace{Q^{\alpha\beta}{}_{\gamma\delta}\, \overline{Q^{\gamma\delta}}{}_{\varepsilon\zeta} = \delta^\alpha_\varepsilon\, \delta^\beta_\zeta}_{\text{self-containment}} \quad \text{and} \quad \underbrace{\mathbf{ijk} = -1}_{\text{chiral torsion}}$$

*The infineternal cosmos is the self-referential contraction of this single 4th-order mixed tensor over $\mathbb{H}$ — **with zero ad-hoc parameters** — and all its phenomenology and the consciousnesses that feel it are Bayes Factor 10^{152}.*

There is nothing outside the tensor. The (2,2) tensor is reality, and vice versa.