**Core features of our universe:**

- Scale invariance
- Causality
- Impedance of space, 377 Ohms, $Z_0$
- Elasticity of time, $[\varepsilon]$ N/s, $Y_0$
- Unit of energy, photon, spin $\hbar$
- Unit of charge, electron, spin $\hbar/2$, charge -1
- Unit nucleon, proton, spin $\hbar/2$, charge +1
- Unit nucleon, neutron, spin $\hbar/2$, charge 0

**Force:** mediator(s)

- Electroweak: virtual photon, intermediate vector boson
- Gravistrong: temporal elasticity, $E_f 2.05 \times 10^{-7} E_0$

**Equivalence:**

$E_{in} = E_{out}$, conservation  
$E = mc^2 = h \times \nu$, energy mass photon-momentum equivalence  
$F = ma$, Newton’s second law  
$nabla \times E = dB/dt$, curl$(E)$ is rate-of-change$(B)$

**Entropy:**

$\Delta(S(t)) > 0$, change of entropy of a system over time is always positive

**Logic:**

- Gödel’s incompleteness, logic cannot assert its own consistency

**Probability:**

$P($unlikely event$|t \to \infty) \to 1$, Murphy’s law

**Math:**

- Green’s theorem, boundary integral is region contained
- Cauchy-Schwarz inequality, magnitude(inner product) is bounded by the product of the norms

**Miscellaneous:**

- Navier-Stokes equations, fluid mechanics  
- Impulse response, linear systems theory