Table of contents

Energy manifestation forms: Change (Transfer Movement), Potential (Rest Duration), Temperature, Light, Sound, Mass, Charge, Information, Communication, ...

Energy Total:

$$
\begin{aligned}
E_{Tot} &= motion + rest = linear + rotational + vibration + spin + ... = \\
Work &+ Heatchange = (F \cdot \Delta r) \mp \Delta Q = E_{kin} + E_{pot} = E_{magn} + E_{elec} = pv \\
&\overset{macro(continuum)}{=} \\
\frac{1}{2}\frac{p^2}{m} &= \frac{1}{2}m\left(\omega A\right)^2 \\
&\overset{thermal}{=} \frac{1}{2}fbT \overset{micro(quantum)}{=} \\
\hbar\omega = h\nu &= \frac{1}{2}\frac{(\hbar k)^2}{m} = \overset{relativistic}{=} \\
\sqrt{(pc)^2 + (mc^2)^2} &\overset{Entropy}{=} \\
... &\overset{distribtion Fermion}{=} \\
... &\overset{distribtion Boson}{=} \\
... &\overset{distribtion Boltzmann}{=} \\
...
\end{aligned}
\tag{1}
$$

1