

# Modern SpaceTime and Planck's Constant

Ken S. Tucker

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I'll denote post 1983 SpaceTime as Modern SpaceTime, (acronym MST), as explained in this article, <http://physics.trak4.com/>

A remarkable result is MST predicting Planck's constant " $h \approx n * ERG * SECOND$ ", to be invariant. ( $n = 6.625 * 10^{-27}$ ).

I'll write that invariant as,

$$h = P_\mu x^\mu \quad , \quad \mu = \{ 0, 1, 2, 3 \} \quad (1)$$

with  $P_\mu$  being 4-momentum, and  $x^\mu$  being a finite 4D displacement.

Herein we'll define a "SECOND" to be " $x^0 = 1$ " and  $n * ERG = P_0 =$  a rest mass.

Expanding "h" in Space and Time gives,

$$h = P_i x^i + P_0 x^0 \quad , \quad \{i = 1, 2, 3\}, \quad (2)$$

wherein  $P_i = P * (dx_i/ds = U_i)$ .

In MST  $U_i = 0$ , therefore  $P_i = 0$ , leaving only these terms to define "h",  $h = P_0 x^0 = n * ERG * SECOND$ , in accord with accepted physical definition.

The above proves MST (Modern SpaceTime) to be consistent with Quantum Theory.

I think that is important because MST is based on International SpaceTime Standards set forth in 1983, explained-interpreted in the ref'd paper.

If it's agreeable, I'd like to extend the standard  $P_0 =$  rest mass.