A Physical Model of the Metric Expansion of Space JOHN
LAUBENSTEIN, IWPD Research Center, Inc. — At the heart of IWPD's Scale
Metrics (ISM) theory is the realization that any orthogonal relationship may be
equivalently expressed as a linear relationship multiplied by a mathematical scalar.
This has significance in the relationship of a worldline to its 4-Velocity and ob-
served 3-Velocity, as well as in understanding the divergence between energy and
momentum as invariant mass increases. Spacetime may be depicted by taking the
time dimension within four-dimensional spacetime and rotating it until it becomes
embedded as a line segment (or ring) within the three spatial dimensions. This
allows velocity and momentum to be determined based upon a linear subtraction of
physical entities multiplied by a mathematical scalar (X). We will provide evidence
supporting the mathematical and physical significance of this scaling factor along
with the benefits of ISM theory. This model provides a physical explanation of the
metric expansion of space and addresses many of the current challenges in physics.
The model makes predictions that are currently testable with technologies already
in place.

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