Abstract Submitted
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Lorentzian geometry in four extended spatial dimensions DAVID BIRRELL, Windsor Bush Consulting — A vector space defined as inertial 4 space (I^4) is described as an extension of Minkowski four dimensional spacetime (M^4). I^4 shares metric signature (- + + +) with M^4 and is also shown as a subspace of a non-temporal symmetrical vector space defined as primary 4-space (P^4) where the momentum of mass is manifested as a wave. The collective 4-space geometry where $\exists P^4 : P^4 \rightarrow I^4 \rightarrow M^4$ is shown to be compatible with special relativity. In the 4-space system, the three spatial dimensions in an M^4 subspace can be considered a modified 3-brane embedded in a 4 dimensional bulk. The 4^{th} special dimensions is occupied by the wave property of mass resulting in the creation of a time dimension and the suppression of a space dimension.

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