

Solution to the Einstein and Poincare Paradox of Superluminal Addition of Velocities*

V. BARANAUSKAS, State University Of Campinas - A new set of space and time quantized transformations is presented. It allows to incorporate the uncertainty associated to the space and time measurements, and for any quantization order it gives invariant transformations for which the light velocity is constant. Thus it is not in contradiction to the Michelson-Morley results. It gives linear functions with real solutions even above the light velocity value. In the low velocity range it may be approximated to the Galilean transformations and for high order quantization it gives conformity to Lorentz transformations. Its direct application to the composition of high velocities theory showed new results compared to the addition theorem of Einstein and Poincare (E-P). When the relative velocities are in the same range of values a close fitness to the E-P's theorem is demonstrated up to the c value. Above c a strong divergence from the E-P's result will be showed. Paradoxically when the E-P's theorem applies for the addition of superluminal velocities it gives a composition velocity towards the Galilean range, or in the limit to no movement. This paradox is now eliminated since the addition of superluminal velocities results also in a composed superluminal velocity. Also as result, a loss of symmetry in the commutation of superluminal velocities is demonstrated. We concluded that these results give a new insight to the concept of advanced accelerators and to the solution of some astrophysics problems.

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