

The Shortest Embarrassing Papers on Special Relativity. 3/12

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Antonio Leon. Retired Professor. Independent researcher in the fundamentals of science.

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Abstract. Einstein's statement of the Principle of Relativity is proved inconsistent.

A spherical bubble of a fluid F1 is in equilibrium inside another liquid fluid F2, both in their proper reference frame RF_0 . The spherical shape of F1 is an immediate consequence of the isotropy of the hydrostatic pressure: that pressure is the same in all directions. In no other inertial system in relative motion with respect to RF_0 the bubble of F1 will be spherical, it will be contracted in the direction of the relative velocity, which is incompatible with the isotropy of the hydrostatic pressure. Thus, the proper reference frame of a fluid is special: it is the only one in which hydrostatic isotropy can be observed. Consequently, such isotropy proves the inconsistency of the Principle of Relativity as established by Einstein [1, p. 895].

Reference:

[1] A. Einstein. Zur Elektrodynamik bewegter Körper. Ann. Phys., 17:891–921, 1905.