Abstract Submitted
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Fifty Years of the Tangherlini Transformations – an Alternative Version of Special Relativity DMITRI RABOUNSKI, GREGORY MALYKIN — In 1958, Frank Robert Tangherlini, the US physicist, suggested an original procedure of synchronizations of clocks at two distant inertial frames, which differs from Einstein's method (Tangherlini F.R., PhD thesis, Stanford Univ., 1958; Malykin G.B. Prog. Phys., 2009, v.1, L9, v.2, L14). Einstein's method uses light signals, while Tangherlini's method uses faster-than-light signals, e.g. phase light spots produced by a rotating laser (Malykin G.B. Phys. Usp., 2004, v.47(7), 739) or even super-light speed tachyons. As a result, Tangherlini has obtained the so-called Tangherlini transformations from one inertial frame to another, different from the Lorentz transformations. In particular, the Tangherlini transformations allow an anisotropy of the velocity of light observed in a moving inertial frame, and they give a proper explanations to all known interference experiments of Special Relativity. We emphasize the Tangherlini transformations due to the possibility of a weak anisotropy of the velocity of light as claimed by the Grenoble group (Navia C.E. et al., Prog. Phys., 2007, v.1, 53), and the anisotropy of the Cosmic Microwave Background.

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