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Einstein's 1918 Position on the Role of Ether in Relativity Theory

TOM MORTON, Northrop Grumman Corp — In his 1918 “Dialog about Objections to the Theory of Relativity” Einstein emphasized the potential applicability of the Ether concept in General Relativity. He noted that “Lorentz brought a rigid substance embodying coordinate systems into play, but SRT denied the existence of all ether concepts. However, GRT is different, and empty space has physical qualities characterized as the components of gravitational potential. This situation can very well be interpreted by speaking of an ether whose state varies from point to point. However, one has to be careful not to attribute to this ether any matter-like properties such as a distinct velocity at each point.” This presentation seeks to identify the qualities required of an ether. Concepts might include ether as a cause of gravity, and as the source medium for the production of electric charge. The ether might conceivably take the form of a diffuse mixture of positive and negative electric charge.

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