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Distinction between Clock and Time, and a Suggested Experiment with Different Types of Clocks in GPS FLORENTIN SMARAN-DACHE, The University of New Mexico — The clock is an instrument for measuring the time, instrument that may not run perfectly (accurately) under certain conditions (like, say, in strong electromagnetic field, in strong gravitational field, in extremely high or low temperature, pressure, etc.), but this does not mean that time itself runs slower or faster as Einstein's Theory of Relativity asserts. We are referring to an absolute time, i.e. time measured not with respect to ether or nonether, but with respect to an absolute mathematical reference frame. Several types of clocks could run at a more slowly rate in a moving frame of reference than other types of clocks; it depends on the construction material and functioning principle of each type of clock. Relativists say that "gravity slows time". This is incorrect, since actually gravity slows today's types of clocks. And one type of clock is slowed more or less than another type of clock. Not only gravity but other (electric, magnetic, etc.) fields or various medium composition elements or structures may slow or accelerate clocks that are in that medium. The clocks used today in the satellites for the GPS necessitate a correction with respect to the Earth clocks. But in the future, when new types of clocks will be built based on different construction material and functioning principle, the correction of the GPS clocks would be different. In order to make the distinction between "clock" and "time", we suggest a Exper**iment # 1** with different types of clocks for the GPS clocks, in order to prove that the resulted dilation and contraction factors are different from those obtained with today's cesium atomic clock.

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