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**New paper reconsiders the mechanics of time dilation and shows that time is property of matter**

**Trinity, FL** – “*Gravitational and Kinematic Time Dilation*”, published in the *Journal of Astrophysical Mechanics* by Dimiter Bayramov, shows that the time-keeping operation of an atomic clock is affected by the density and velocity of Earth’s gravitational flow.

The paper reconsiders the operation of an atomic clock in Earth’s gravitational flow and shows that due to the lower gravitational medium flow density and velocity in Earth orbit, a cesium-133 atomic clock experiences lower gravitational pressure and ticks few nanoseconds faster in Earth orbit compared to the same clock at Earth’s surface. When moving across the gravitational medium flow, the cesium-133 atomic clock loses a few nanoseconds, compared to a stationary clock, due to the higher fundamental medium kinematic pressure, acting on the cesium-133 atomic energy level twisters.

The article derives probability equations for atomic clock time dilation in Earth orbit, which show close correlation to the time dilation equations in the Theory of Relativity.

Based on the research, the author reconsiders the concept of time as property of matter, which is our natural understanding of time - the terrestrial life forms (complex organic matter) own their life-time. The phenomenon of time dilation is caused by the interaction between matter’s twister constructs and the fundamental medium.

The research also reviews some well-known time-dilation experiments.

**Call for papers:** The Journal of Astrophysical Mechanics invites papers, adhering to the physical fundamentals outlined on the journal website - <http://www.bolgarino.com/PhysicalFundamentals.htm> and in the first journal issue article - “Introduction to the Flow Theory of Matter and Gravity”.

Interested readers can find the new journal issues – at the journal web site - <http://www.bolgarino.com/jasme.html> and on Amazon.

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