

1032-83-119

Garret Eugene Sobczyk* (garret.sobczyk@udlap.mx), Departamento de Actuaría, Física y Matemática, Santa Catarina Martir, Cholula, Puebla 72820, and **Tolga Yarman** (tyarman@gmail.com), Istanbul, Akfirat. *Grand Unification: Mass-Energy and Space-Time in Einstein's Special Theory of Relativity*. Preliminary report.

GIVEN: 1) Einstein's Special Theory of Relativity in Minkowski Space-Time. 2) A *Strict Conservation of Mass-Energy* as governed by Einstein's famous equation $E = m_0c^2$, where m_0 is the *rest mass* of a body as measured free from the gravitational interactions of all other bodies, and c is the constant speed of light. 3) A relativistic form of Newton's Law of Gravitational attraction and conservation of momentum. WE WILL DERIVE FOR A TWO BODY UNIVERSE: 1) How the rest masses must be decreased by the gravitational binding energy between them as the two bodies fall freely from positions of rest from far away. 2) The equations of motion for the two bodies. We will discuss other aspects of this beautiful new theory.

REFERENCES:

[1] T. Yarman, *The End Results of General Relativity Via Just Energy Conservation and Quantum Mechanics*, Foundations of Physics Letters, Vol. 19, No. 7. December 2006.

[2] —, *The general equation of motion via the special theory of relativity and quantum mechanics*, Ann. Fond. Louis de Broglie **29** (3) (2004).

[3] W. Baylis, G. Sobczyk, *Relativity in Clifford's Geometric Algebras of Space and Spacetime*, International Journal of Theoretical Physics, Vol. 43, No. 10, Oct. 2004, pp1386-1399. (Received August 18, 2007)