

Self-organization of nonlocal energy fluxes instead of Newton's reductionism

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The inside energy content of the extended particle obeys Umov's estimate of 1873 $mc^2/\gamma \approx mc^2 (1-0.5\beta^2) \leq mc^2$ under low velocities despite $\gamma mc^2 \approx mc^2 (1+0.5\beta^2) \geq mc^2$ for the total kinetic energy. Geodesic auto-accelerations in mechanics / gravitation of nonlocal energy fluxes drive the probe body toward equipartition of kinetic energies of inside chaos, mc^2/γ , and its ordered translation, $mc^2[\gamma-\gamma^2(-1)]$. Adaptive thermomechanics of delocalized elementary energies due to competing degrees of freedom for inside chaos and translational order should replace Newton's reductionism of point mass without inside energy variables.

Based on "Gravitational attraction until relativistic equipartition of internal and translational kinetic energies", *Astrophys. Space Sci.* 363:39 (2018).

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