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Gravitational Radiation and Nuclear Fusion

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The papers[1,2,3] model a particle in a way that enables calculation of the quantum states generated by the gravitational interaction. Modeling involves no extra assumptions or constructions other than the equations of quantum mechanics and the equations of the relativistic theory of gravitation with Λ-term. The demonstration is made by the existence of the spectrum of stationary states in the proper gravitational field at numerical values of $K \approx 5.1\times 10^{31}$ Nm^2kg^{-2} and $\Lambda = 4.4\times 10^{29}$ m^{-2}. In the future, it can be used as a part when building a more complex picture of the world (in particular, when using the unremovable curvature on a quantum level as a building element).

It is believed that according to General Relativity (GR), only system with variable quadrupole or higher multipole moments can generate gravitational radiation. As it follows from above, the fallacy of this formula lies not in using the quadrupole approximation but rather in the calculation scheme. The presence of stationary states in the proper gravitational field makes it possible to correctly calculate the power of gravitational radiation in the strict quantum approximation proceeding from the spectrum of transitions between stationary states, and already with the constant K. A system can emit only at certain quantum states. This is an axiom of quantum mechanics as well as the existence of an elementary radiation source which possesses these states. No gravitational waves with the constant G exist or can exists that are allegedly emitted by a system of bodies with a variable but arbitrary quadrupole moment.

Moreover, GR does not give any quantitative estimates on the spectrum of radiation of gravitational waves. For them the noise of unknown origin is given out, and the frequencies of such jamming change from time to time, and the classical theory does not predict them. Gravitational radiation can be excited in a dense high-temperature plasma[1,3] and amplified under certain conditions. However the amplification will cause the radiating system to compress. Hence, with the gravitational radiation being amplified, one will observe not the gravitational radiation itself, but only the result of its action. In this case, the quantitative characteristics of the

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spectrum of gravitational radiation can be determined by the broadening of the spectrum of electromagnetic radiation.[3] The very fact of plasma compression by a radiated gravitational field can be used for the purpose of thermonuclear fusion.[3]

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