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**Gravitational radiation of the relativistic theory of gravitation, the registration of radiation and applied aspects** STANISLAV FISENKO, IGOR FISENKO, RUSTEM RYMKULOV, Rusthermosynthesis — This report is a systematic and complemented summary of the earlier published works by the authors [1,2]. The concept of gravitational radiation as a radiation of one level with the electromagnetic radiation is based on theoretically proved and experimentally confirmed fact of existence of electron's stationary states in own gravitational field, characterized by gravitational constant $K=10^{42}G$ (G — Newtonian gravitational constant) and by irremovable space-time curvature. The received results strictly correspond to principles of the relativistic theory of gravitation and the quantum mechanics. The given work contributes into further elaboration of the findings considering their application to dense high-temperature plasma of multiple-charge ions. This is due to quantitative character of electron gravitational radiation spectrum such that amplification of gravitational radiation may take place only in multiple-charge ion high-temperature plasma.

[1] Fisenko S.I., Fisenko I.S., IJTAP, Vl. 2 (2), (2012), The discrete energy spectrum of the gravitational radiation in the relativistic theory of gravitation, p.p. 32-39
[2] Fisenko S.I., Fisenko I.S., JMP, V.4, 4 ( 2013), Method of forming stable states of dense high-temperature plasma,p.p.481-485.

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