

Review on Gravitational wave propulsion

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Abstract:

This paper sums up aftereffects of past examinations, including proposed models, so as to construct an advanced hypothetical structure for Gravitational Wave Propulsion. The structure comprises of groups of generators of gravitational waves, which have been hypothesized yet require experimentation, and models of push age. High effectiveness generators depend on cognizant sources, for example synchronized MEMS oscillators, the HTSC Gaser, in light of cognizant turn 2 changes in s-wave/d-wave superconductors, and the atomic electromagnetic wave to gravitational wave up-changing over transducer, in view of dineutrons. After gravitational wave age is effectively demonstrated in the research center, it will be possible to apply an idea created in the field of cosmology. It was discovered that the back-ground vitality thickness may offer mass to the graviton, which thus may permit gravitons to produce push. Nearby foundation vitality thickness can be expanded by accusing materials of high dielectric steady in closeness to the wave producing components. Centered Gravitational Waves may likewise create singularities, where the radiation is changed over into a coulomb-like gravitational field. Gravitational singularities will set a n-body floating framework among themselves, the rocket, and the rest of the assortments of the universe, with clear propulsive impacts. Uses of the current examination will prompt an extraordinary drive framework fit for empowering the quick investigation of the nearby planetary group, the neighborhood star framework, and potentially the entire system.

On a general basis, a vehicle traveling in space requires energy and a reaction mass to accelerate and reach useful speeds. Usually the reaction mass is the mass of the propellant, which in most circumstances has also the role of energy source. Vehicles that are not required to carry reaction masses are more efficient and lightweight, but conventional ones are limited in scope. It is a fact that, after extraordinary developments, space travel by rocket technology has reached its limits and a new paradigm is required to make a big step forward in space propulsion; a step that should enable the exploration of nearby star systems and possibly the whole galaxy. These goals may seem unreachable with the current understanding of physics. Anyway with an open mind and a pragmatic approach, it is well known that we are dealing with opinions that are often suggested by the lack of interdisciplinary approaches to complex problems. It often happened that when so called theoretical limits were found wrong, accidental discoveries have shown why the good theory was erroneously applied the first time. An alternative to accidental discoveries are pieces of knowl-

edge gathered from hundreds of research papers from different disciplines combined in an unusual way to create new concepts. They are normally rejected by experts of their single research field, thus painstaking efforts are required to simply communicate the new concept and let it grow in the laboratories. At the end of the last century numerous theoretical efforts have started to show that Gravitational Waves (GWs) have not only astronomical and astrophysical relevance, but they also have technological applications. Among them, several theories have approaches identified for telecommunication, imaging, material processing, and space propulsion. This paper summarizes results of past analyses, including proposed examples, in order to build a modern theoretical framework for Gravitational Wave Propulsion. The framework consists of families of generators of gravitational waves, which have been theorized but still require experimentation, and models of thrust generation. High efficiency generators are based on coherent sources, for instance synchronized MEMS oscillators, the HTSC Gaser, based on coherent spin-2 transitions in s-wave/d-wave superconductors, and the nuclear electromagnetic wave to gravitational wave up-converting transducer, based on dineutrons. After gravitational wave generation is successfully proven in the laboratory, it will be possible to apply a concept developed in the field of cosmology. It was found that the background energy density may give mass to the graviton, which in turn may allow gravitons to produce thrust. Local background energy density can be increased by charging materials with high dielectric constant in close proximity to the wave generating elements. Focused Gravitational Waves may also produce singularities, where the radiation is converted into a coulomb-like gravitational field. Gravitational singularities will set an n-body gravitating system among themselves, the spacecraft, and the remaining bodies of the universe, with obvious propulsive effects. Applications of the present analysis will lead to a unique propulsion system capable of enabling the fast exploration of the solar system, the local star system, and possibly the whole galaxy.