Review of gravitational electric energy and application perspectives on modern buildings

ABSTRACT

Recently, exploitation of the renewable energy resources has been underlined in high-rise buildings, the contribution of building in energy conservation has witnessed increased advances in the recent years in both residential and commercial sectors. The increasing demand for building services and comfort levels as well as due to growth in population and the time that the people spent inside that commercial buildings and homes, which leads to upward trends for more demand on energy and continue in future. Therefore, the conservation of energy in buildings nowadays is a major objective for energy policy over all levels. From the viewpoint of energy conception efficiency and user's safety, highlighting of Gravitational Energy (GE) is a meaningful, but considered as a big challenging problem. This paper presents an investigation based on the current state of the art regarding the possibilities of energy generations in the buildings with multilevel parking. Therefore, the research divides the potential and kinetic energy of the climbed down vehicles in such buildings into mainly related technologies for utilizing all possible energy which could convert to electricity. Thus, the research Check the feasibility, energy management and control strategies of the Regenerative Braking System (RBS) in railways, Electric Vehicle (EV), and elevators depending on the modern research works. From this paper survey, it can be revealed that the RBS as a GE systems with multi-converter devices are active for the recipient energy systems to improve efficiency, quality and reliability of the power source.

Keyword: Gravitational energy; Brake regenerative system; Energy-efficient railway transport system; Brake regenerative in vehicles; Regenerative breaking energy