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(57) Abstract :
 MULTI-MODAL ENERGY HARVESTING MECHANISM WITH VARIABLE GEOMETRICAL CONFIGURATIONS ABSTRACT A multi-modal energy harvesting system (100) is disclosed, comprising a mechanical energy harvester (102) for converting mechanical vibrations into electrical energy, a thermal energy harvester (104) for converting temperature gradients into electrical energy, and a solar energy harvester (106) for converting sunlight into electrical energy. The system integrates these diverse energy sources through a control unit (108) designed to optimize their combined output. Additionally, the system includes a variable geometrical configuration mechanism (110) that adjusts the spatial arrangement and orientation of the energy harvesters to maximize energy capture efficiency under varying environmental conditions. This comprehensive approach allows for efficient energy harvesting from multiple sources, enhancing the system's adaptability and performance in dynamic environments. FIG. 1

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