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(57) Abstract :

As an alternate to conventional power sources, this invention aims to harness mechanical energy dissipated through human footsteps by using the piezoelectric phenomenon. An arrangement of sensors along with an appropriate mechanical coupling design, serves as the basis for the piezoelectric energy harvesting tile that harnesses energy from mechanical motion. The electric energy generated when appropriate load is applied on the tile is captured via the load circuit designed to cumulate irregular pulses of power from the piezoelectric stacks, rectify them, stores them in a capacitor and convert accumulated energy to a constant DC output when a xed voltage level has reached on a storage capacitor. This energy can be utilized to power different electronic devices which consume low power. The Harvesting unit is a doormat provided at a suitable height so when a visitor steps on it the doorbell is activated and it notifies the user of their presence.

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