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Team 16: Kite Generator

Abstract

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Abstract

In recent years there has been a shift in energy away from fossil fuels to renewables, with a focus on wind and solar. There are several businesses looking into different options for harnessing wind energy due to the rapid growth of the industry. This project aims to look at the use of a solenoid kite generator to produce renewable wind power. In a solenoid kite generator, energy comes from the motion of a magnet within a copper layered tube, or solenoid. The motion of the magnet is caused by the oscillation of the kite, which is connected to the base through a tether. This magnet motion is then converted to usable power. The excess power is stored in a battery for later use. One main idea for the study of the solenoid kite generator is that its design will be easy to move and repair when compared with normal wind turbines. The team will design, build, and test a model of the solenoid to prove that its power depends on the velocity of the magnet. The team also plans to research the feasibility of scaling a solenoid kite generator vs current wind energy system. Research will be done on output power, cost and weight of the total system.