TOP STUDENT PROJECTS

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PROJECT TITLE

SOLAR PANEL CLEANER



Team 48

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PROBLEM STATEMENT

Solar panels experience reduced efficiency due to dust accumulation, which blocks sunlight and decreases power output. Manual cleaning methods are labor-intensive and time-consuming, while existing automatic cleaning systems are often costly and rely on water, increasing operational expenses. Therefore, there is a need for a low-cost, fully automatic, and waterless solar panel cleaning system to maintain optimal performance and improve energy generation.

SOLUTION

A low-cost automatic solar panel cleaning system is developed to remove dust and maintain panel efficiency. The system uses a DC motor-driven cleaning mechanism with an automatic control unit that switches the cleaning process ON and OFF as required. Regular cleaning improves power generation, reduces manual effort, minimizes maintenance time, and enhances the lifespan of solar panels. The design is energy-efficient, easy to install, and suitable for both residential and commercial solar installations.





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