



Design of Landmine Robot with Battery Swapping and Solar Charging Using MPPT Technique

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Abstract: This paper presents a battery swapping and solar charging robot system. A camera mounted on the robot provides visual information to help the user control the robot remotely through any user terminals with Internet connections. The robot sends visual information to a server through a Wi-Fi network. The server transmits visual information to the user through the Internet. RF transmitter and RF receiver also used here to transmit and receive the command and data. Proximity sensor is used to detect the landmines. A six degree-of-freedom manipulator mounted on a four-wheeled robot base is used to remove the landmines. The battery gets electricity from atmospheric temperature using solar panel with MPPT. Robot can swap the dead battery with charged one by using manipulator. By using MPPT technique battery can get maximum electricity power from atmospheric temperature.

Keywords: Landmine robot, Battery swapping, solar charging, Human assistance

