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(57) Abstract :
Floating photovoltaic (FPV) systems has been more interest globally to meet the demand because of rapid price decrease as well as improved technology. The proposed system is designed for evaluating the FPV system performance and Maximum Power Point Tracking Controller (MPPT)controller. FPV systems are designed along with dams to meet load demand and save the location places and avoid water evaporation of dams. FPV generates electricity and excess solar energy feed to the electrolyzer for store the energy in the form of hydrogen. The generated hydrogen is stored in hydrogen tank which used to compensate load demand by fuel cell. The MPPT controller is used to extract maximum power from the FPV under different environmental conditions. The mayfly algorithm with Fractional Order Proportional Integral Derivative (FOPID) controller is utilized to extract maximum power in the FPV. The proposed system is implemented in MATLAB and performances is evaluated. The proposed method is compared with existing method such as Grey Wolf Optimization (GWO), Whale Optimization Algorithm (WOA) and Particle Swarm Optimization (PSO).

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