



Figure 3.7: PV power system voltage with positive and negative

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4. Conclusion

In this we study of simulation of a hybrid Photovoltaic (PV)-fuel cell generation system employing an electrolyzer for hydrogen generation is designed and simulated. The system is applicable for remote areas or isolated loads. Fuzzy regression model (FRM) is applied for maximum power point tracking to extract maximum available solar power from PV arrays under variable insolation conditions. The system incorporates a controller designed to achieve permanent power supply to the load via the PV array or the fuel cell. The electrolyzer can be used to generate H₂ during excess of power from PV. The generated H₂ can be stored in a tank for lower insolation levels or at night FC operation.

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