

Experiment 10: The Photovoltaic cell

A photovoltaic cell is a device which converts light energy into electrical energy. The device is illustrated in Fig. 4.1.

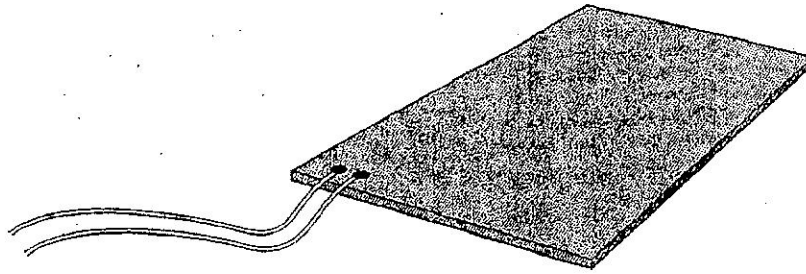


Fig. 4.1

It is proposed that a number of these cells be fitted to the roof of a house to make use of the energy from sunlight. However, the angle which the Sun's rays make with the surface of a cell changes during daylight hours. This affects the performance of a cell.

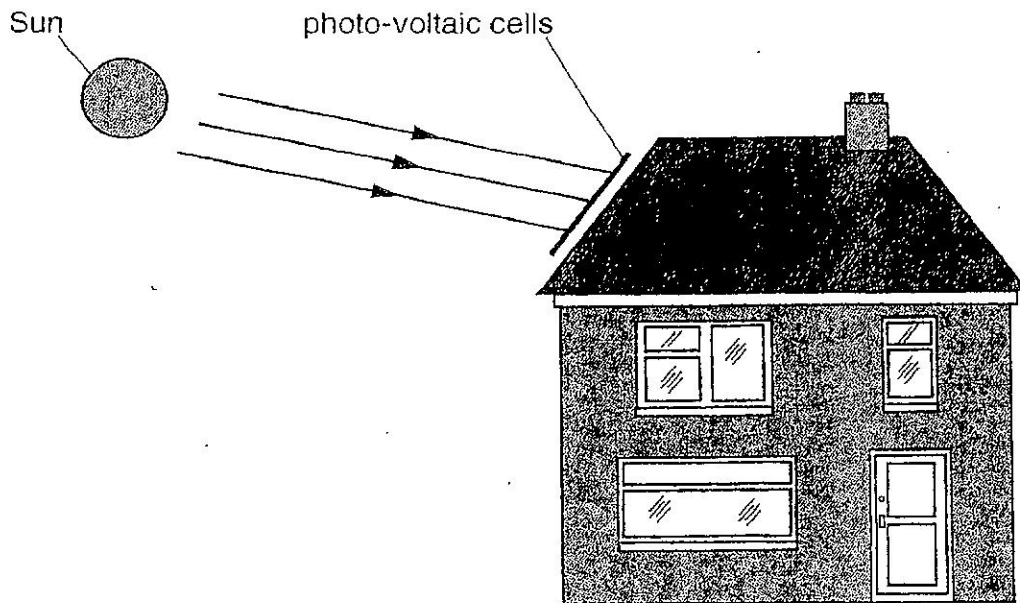


Fig. 4.2

Design a laboratory experiment to investigate how the useful power output of a cell varies with the angle which the incident rays make with the surface of the cell. In your account you should pay particular attention to

- (a) the method of measuring the power output of the cell,
- (b) the method of measuring the angle which the incident rays make with the surface of the cell,
- (c) the procedure to be followed,
- (d) the control of variables.