Exercise 8.2-1

Quick Questions to

8.2 Making Bulk Si Solar Cells

Here are some quick questions

- Discuss the basic requirements for mass production of solar cells including technical constraints resulting from economical boundary conditions
- Describe the essential production steps of a **mc-Si** solar cell. Start with suitable poly-**Si** and discuss essential problems encountered with the solutions. Use schematic drawings.
- Describe "anti reflection" technologies.
- Compare screen-printing for the deposition of the metallic grid on a **Si** solar cell to other layer deposition methods. *Hint:* Consider that a good solar cell may deliver **5 A** at **0.5 V** and consider how that converts into thickness requirements of the metal grid layer. The *specific* resistivity ρof a decent metal is about **2 μΩcm**, the resistance ***R*** for a cross sectional area of ***A*** **cm^2** and a length ***l*** is $R = \rho \cdot l / A$.