

Anomalies Analysis of PV Butterfly Modules via Infrared Imaging

- Bachelor Thesis -

Introduction

The development of new photovoltaic technologies also brings new challenges. The new PV Modules called Butterfly PV modules are characterised by two module halves connected in parallel, which leads to higher efficiency when shaded. However, infrared images show thermal anomalies during weak shadings that lead to new failure patterns in these modules.

The aim of this bachelor work is to investigate the causes and effects of these anomalies and to reproduce them experimentally.

Requirements

- Student of materials science, physics or a similar subject
- Basic knowledge of solar modules, electrical circuitry
- Enthusiasm for experimenting with cameras and electrical measuring devices

You will achieve

- Practical experience in experimenting and measuring solar modules
- Analytical thinking for fault diagnosis
- Data analysis, image processingSimulation of various fault scenarios
- Project planning

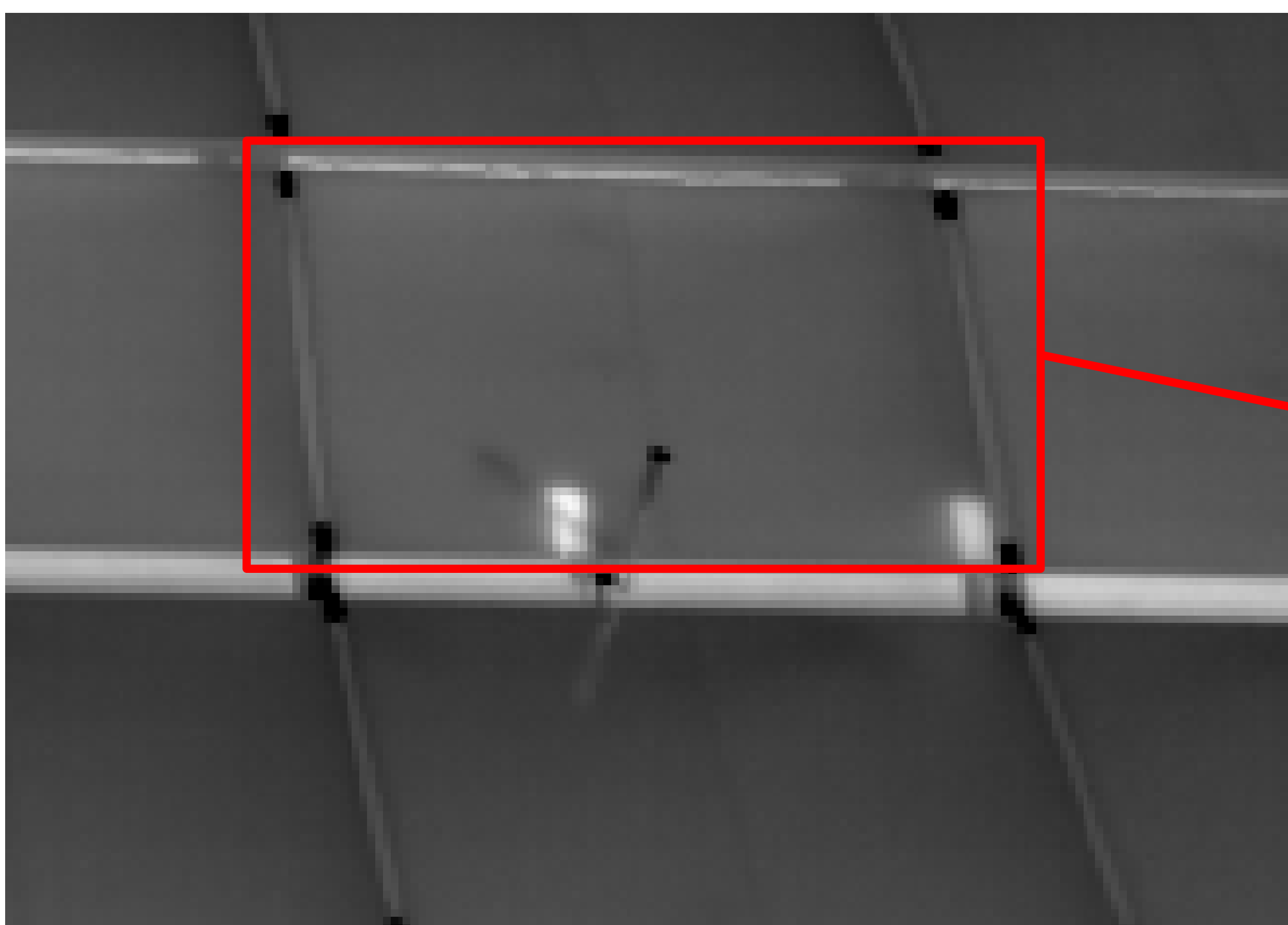
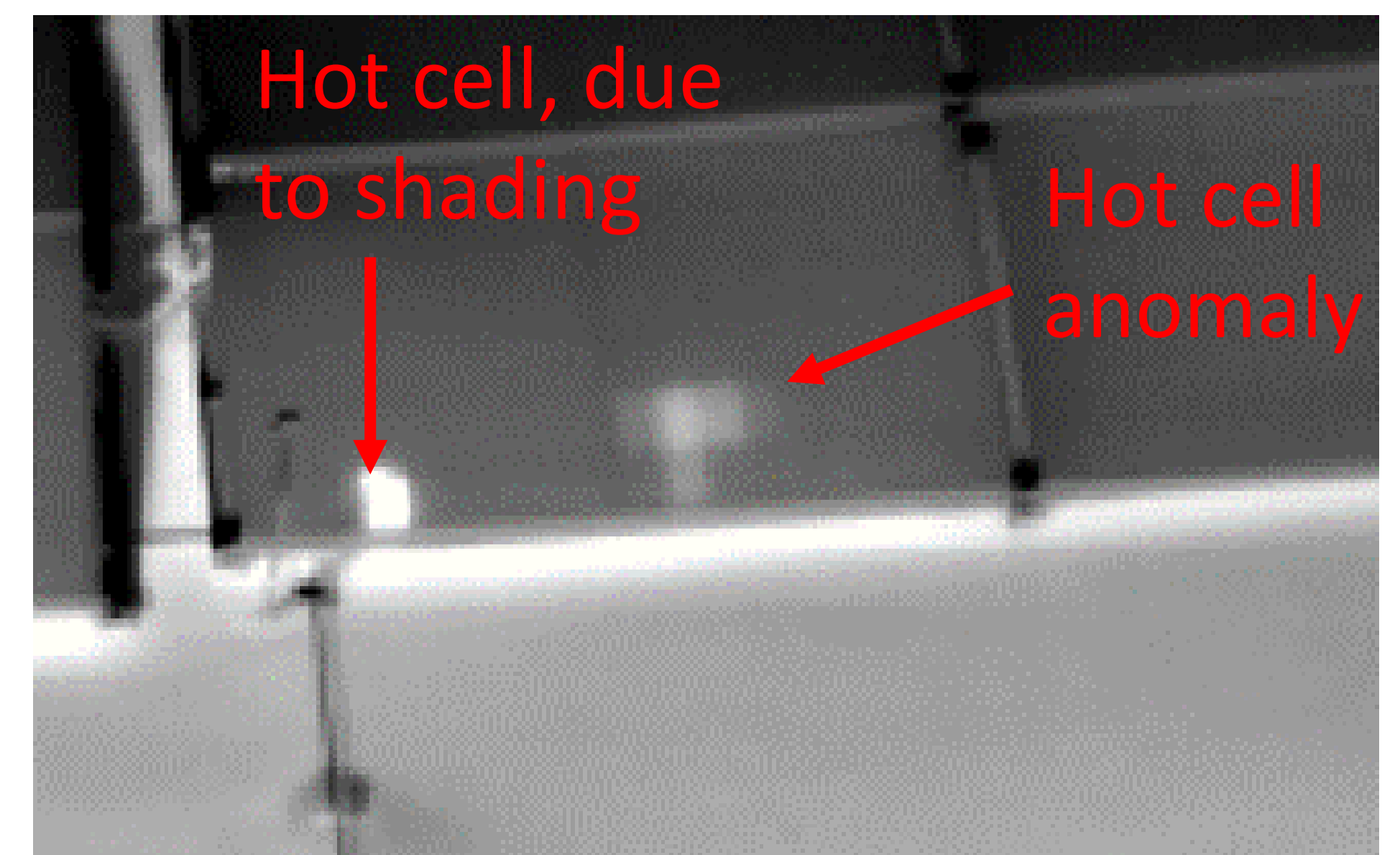


Figure 2: Infrared Anomalie

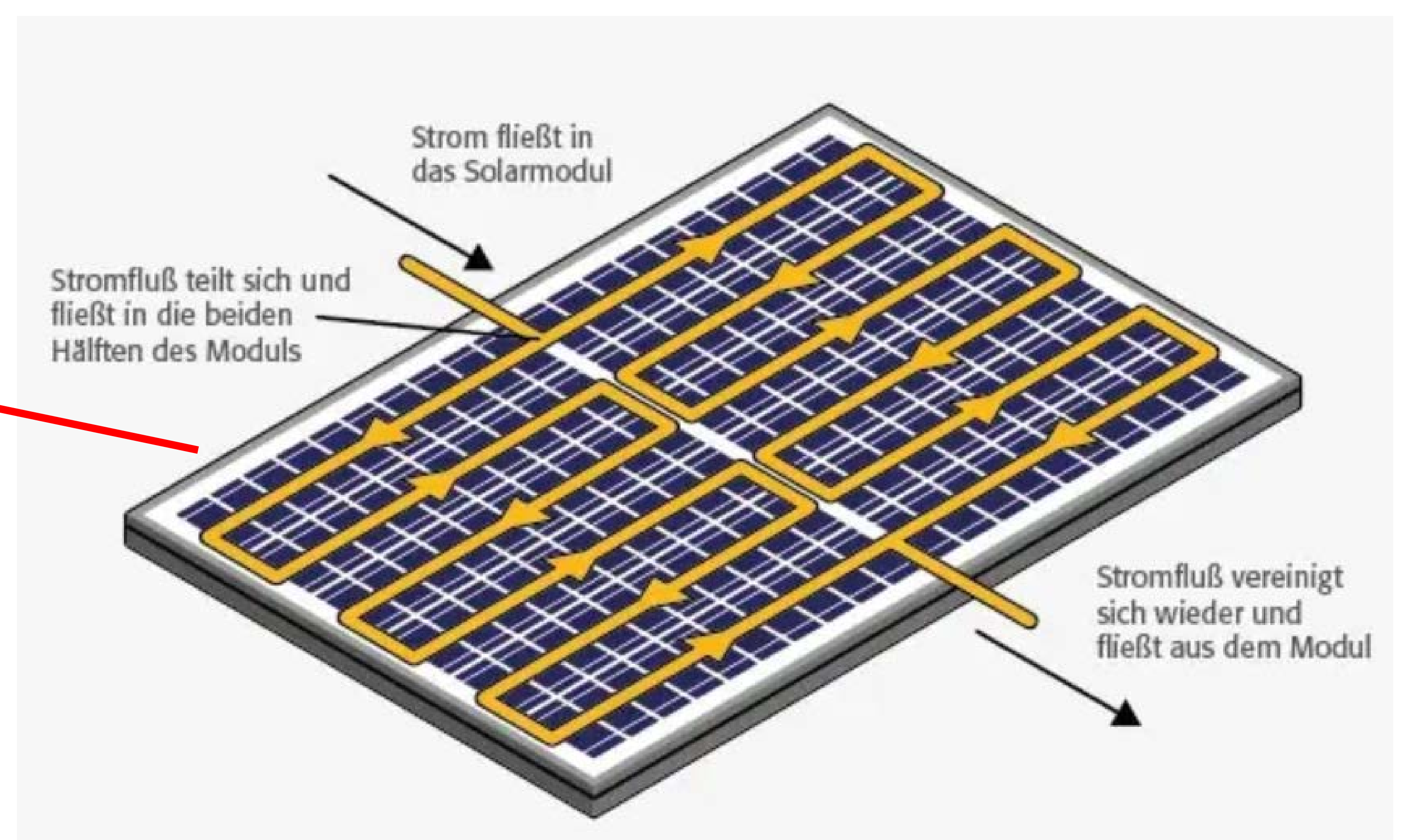


Figure 3: Butterfly module