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Topic: Examination of MPP-algorithms for photovoltaic inverter concerning transmission efficiency

In the future, photovoltaics will make an increasing contribution to the electrical power supply all over the world. State of the art photovoltaic inverter normally use the specific radiation dependent V-I-characteristic of photovoltaic panels to achieve a high efficiency. Thereby, appropriate search algorithms called MPP tracker are used to determine the point of maximum power.
The aim of this project is the selection of an appropriate MPP algorithm for the required inverter topology in consideration of the influence of different photovoltaic panels.
Tasks:

- Literature research
- Behaviour of different photovoltaic panels (monocrystalline, polycrystalline, thin film) concerning MPP tracking
- Comparison and evaluation of known MPP algorithms concerning the attainable transmission efficiency (ratio of the actually used to the maximum available power of the photovoltaic panel)
- Selection and simulation of an appropriate MPP-algorithm for different photovoltaic panels and inverter topologies