

Background

In the project Energieoptimiertes Quartier Margarethenhöhe (EnQM), a part of the Margarethenhöhe district's listed buildings is energetically optimised in cooperation with IAS.

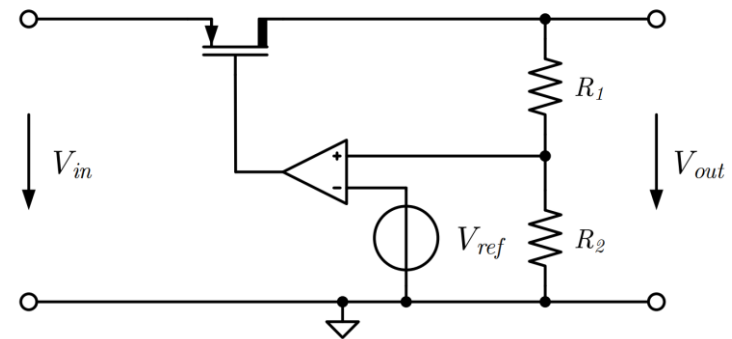
Solar cells will be integrated into the roof tiles and equipped with their own IC containing a step-up converter and a MPPT. Several different supply voltages are required on the IC, which are to be generated with minimal use of external components.

Due to the low power consumption of their control mechanisms, linear voltage regulators are ideal for this purpose.

Task

The focus of this work is the design of a monolithically integrated linear voltage regulator that provides a stable voltage which can be used for the integrated circuits.

Particular focus should be set on the sensitivity to supply voltage modulation and load fluctuations. In addition, the stability of the voltage regulator as well as the influence of the output load are to be investigated. The circuit will be designed, implemented and investigated in Cadence Virtuoso.



Contact / Supervisor

Leo Rolff, M.Sc.

Kopernikusstr. 16, 52074 Aachen

ICT Cubes 2. Floor, Room 207

☎ 0241 80-27744

✉ leo.rolff@ias.rwth-aachen.de