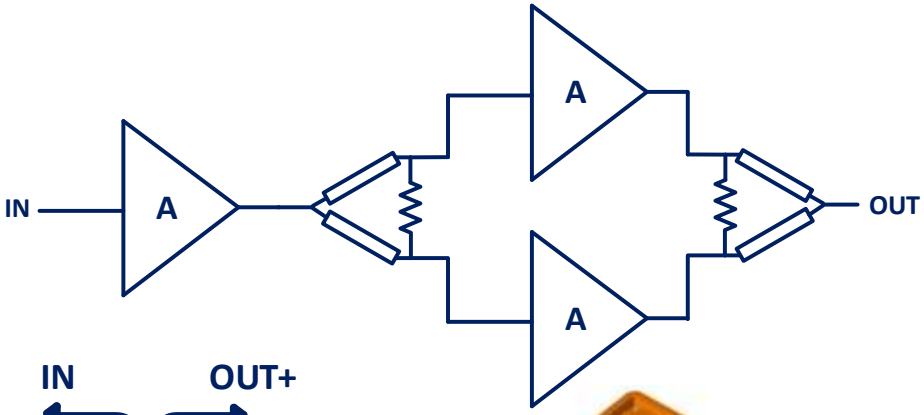
Karlsruher Institut für Technologie

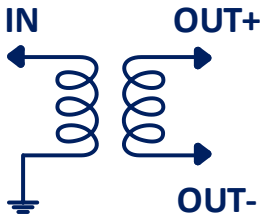
Bachelor Thesis

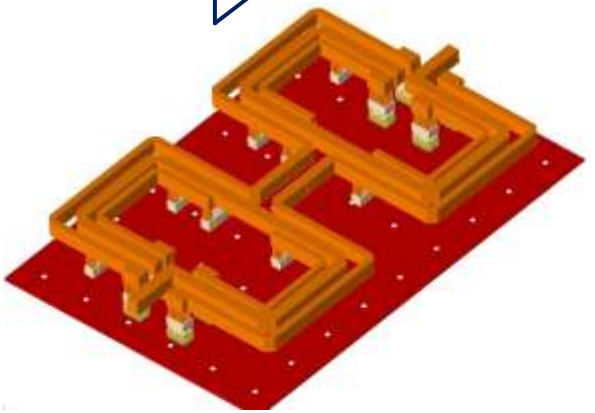
Design and Investigation of Wideband Passive Structures

The RFIC chips consist of active and passive circuit elements such as transistors, inductors, capacitors, transmission lines etc. In addition to these more pronounced elements, passive structures like transformer based BALUNs, couplers, power combiners/dividers and transformers are also often employed in RFIC design.

The aim of this thesis work is the theoretical analysis of these passive structures, as well as the design and EM simulations using a 0.13 µm SiGe BiCMOS technology. A wideband operation together with the state-of-the-art loss performance is targeted.







Requirements:

- Understanding of RF theory and passive components in RFIC design
- Basic knowledge of EM simulation tools, e.g. ADS Momentum, CST

Ansprechpartner

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