

## Biography of Ingo Wolff



**Ingo Wolff** studied Electrical Engineering at the Technical University Aachen, Germany. He received his Diplom-Engineer degree (Dipl.-Ing.) in 1964, his doctoral degree (Dr.-Ing.) in 1967 and his Habilitation degree in 1970, all from the Technical University Aachen. From 1974 to 2003 he has been a full professor for Electromagnetic field Theory at the Duisburg University, Duisburg, Germany. In 1999 to 2003 he has been the elected president (rector) of the Duisburg University. In 2002 he received the IEEE MTT-S Microwave Career Award. Since 1992 he is (in parallel to his activities at the Duisburg University) the president of IMST GmbH, Kamp-Lintfort, Germany, a privately held research and development company in wireless and microwave technologies. Since 2009 he is the chairman of the Informationstechnische Gesellschaft (ITG) of the VDE, Germany and a member of the executive committee of the VDE.

### “Integrated Beam Steerable Antennas in LTCC-Technology”

**ABSTRACT:** Beam steerable antennas are an essential part of communication systems in which at least one communication partner is in a moving position. This e.g. is the case for satellite communications from a fixed point on earth to a satellite in a non-stationary orbit or from a moving partner on earth (e.g. an automobile, a train, a ship or an airplane). Different solutions are available for these applications like switchable antennas, phased array antennas and antennas on the basis of digital beam forming. In this talk integrated digital beam forming antennas in LTCC-technology for application at frequencies of 20 GHz to 30 GHz will be described which contain all needed parts from the patch antenna, the passive microwave circuitry, the active microwave and RF circuits down to the digital steering part of the antenna and also a cooling system in one ceramic package. Modules with 64 radiators, each separately controlled, can be used to form larger antennas with several hundred radiators. The design of the antenna system and the used integration technique (Low Temperature Cofired Ceramic, LTCC-Technology) will be described; measurements and first results of test flights with an airplane will be demonstrated.

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