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Faculty of Electrical and Computer Engineering, Communications Lab

RF and Photonics Engineering

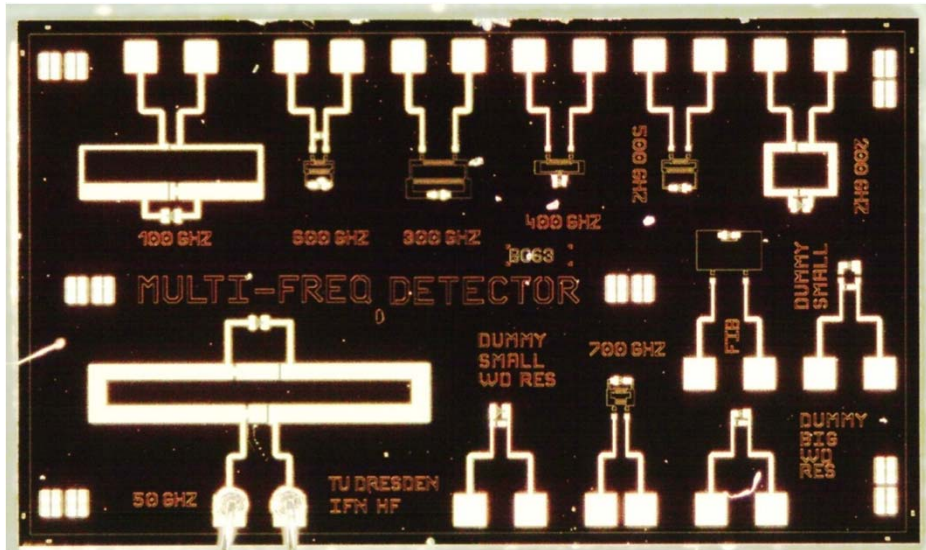
Measurement of Coherent THz Radiation using On-Chip Spectrometer

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Zeuthen, 19.-21.07.2017



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concept
Exzellenz aus
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Spectrum of coherent THz radiation is a good measure for the longitudinal electron bunch shape

unpublished results

Using a commercially available GaAs process → comparably cheap

- Multi-detector chip design, on-chip antennas for frequency discrimination
- Schottky diodes provide room temperature operation and good sensitivity
- High video bandwidth possible (GHz)

Recorded charge-dependent spectra follow expected shape (even without calibration)

Wide range with sufficient SNR