

Integrated THz Spectrometer Based on Ultra-fast Y–Ba–Cu–O Detectors

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Integrated $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ detector arrays

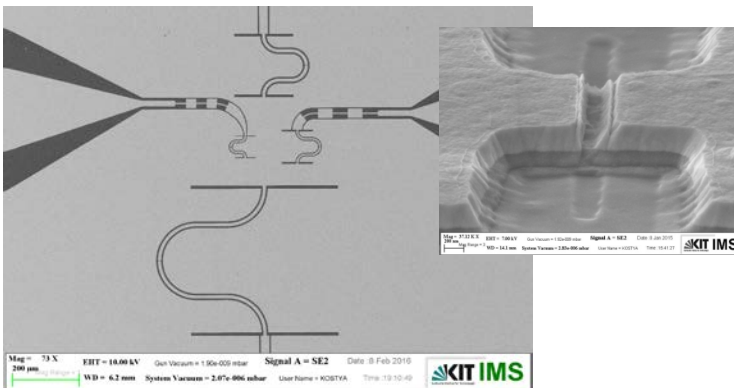
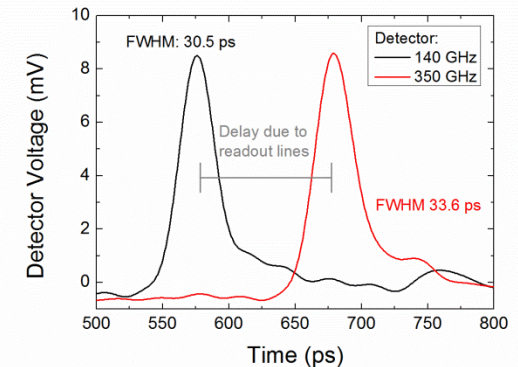
- THz spectroscopy for beam diagnostics
 - Fast response times + spectral resolution



- Integrated planar detector array

- Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ detectors : picosecond response time
- Frequencies: 140 GHz, 350 GHz, 650 GHz, 1.02 THz

- Multi-channel liquid-nitrogen-cooled detector system



Frequency-dependent bursting behaviour

- Evaluation of coherent radiation from a single bunch in a synchrotron storage ring: Single-shot + turn-by-turn

