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Autore	Raasch Juliane
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Sommario/riassunto	This work investigates the capability of the high-temperature superconductor YBCO to sense the evolution of the electrical field of THz pulses. A deposition process for ten unit-cell thin films and a sub- μm patterning process were developed to enable high sensitivities. The detector response to THz excitations and its electrical-field sensitivity were studied. This unique characteristic allows for the investigation of instabilities of the THz radiation emitted from synchrotron storage rings.