

488.

标题: Superconducting YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub> Thin Film Detectors for Picosecond THz Pulses

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摘要: Ultra-fast THz detectors from superconducting YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-δ</sub> (YBCO) thin films were developed to monitor picosecond THz pulses. YBCO thin films were optimized by the introduction of CeO<sub>2</sub> and PrBaCuO buffer layers. The transition temperature of 10 nm thick films reaches 79 K. A 15 nm thick YBCO microbridge (transition temperature-83 K, critical current density at 77 K-2.4 MA/cm<sup>2</sup>) embedded in a planar log-spiral antenna was used to detect pulsed THz radiation of the ANKA storage ring. First time resolved measurements of the multi-bunch filling pattern are presented.

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