

395. Title:Terahertz-wave generation by surface-emitted four-wave mixing in optical fiber

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Abstract:We propose a novel terahertz-wave source through the four-wave mixing effect in a conventional single-mode optical fiber pumped by a dual-wavelength laser whose difference frequency lies in the terahertz range. Surface-emitted geometry is employed to decrease absorption loss. A detailed derivation of the terahertz-wave power expression is presented using the coupled-wave theory. This is a promising way for realizing a reasonable narrow-band terahertz-wave source.