Abstracts

Terahertz pulse propagation in plastic photonic crystal fibers

H. Han, H. Park, M. Cho, J. Kim, I. Park and H. Lim. "Terahertz pulse propagation in plastic photonic crystal fibers." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1075-1078 vol.2.

Guided-wave single-mode propagation of sub-ps terahertz (THz) pulses in a plastic photonic crystal fiber has been experimentally demonstrated for the first time to the best of our knowledge. The plastic photonic crystal fiber is fabricated from high density polyethylene tubes and filaments. The fabricated fiber exhibits low loss and relatively low dispersive propagation of THz pulses within the experimental bandwidth of 0.1 /spl sim/ 3 THz. The measured loss and group velocity dispersion are less than 0.5 cm/sup -1/ and -0.3 ps/THz/spl middot/cm above 0.6 THz, respectively.

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