338. Title:Transmission measurements of hollow-core THz Bragg fibers
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Abstract:We report on the terahertz (THz) spectral characteristics of hollow-core THz Bragg fibers. Two types of high-index contrast Bragg fibers were fabricated: one based on the index contrast between a polymer and air, and the second based on the contrast between a pure polymer and a polymer composite doped with high-index inclusions. The THz transmission of these waveguides is compared to theoretical simulations of ideal and nonideal structures. Waveguide dispersion is low, and total loss measurements allow us to estimate an upper bound of 0:05 cm-1 for the power absorption coefficient of these waveguides in certain frequency bands. We discuss multimode regimes, coupling losses, fabrication difficulties, and how bending losses will ultimately be the discriminant between different THz waveguiding strategies.